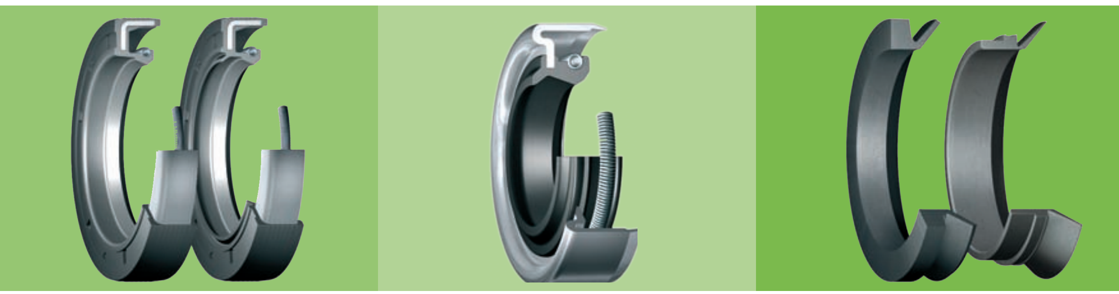
Industrial shaft seals



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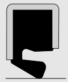
Industrial shaft seals

HMSA 10 RG



HDS7

Welcome

The business of the SKF Group consists of the design, manufacture and marketing of the world's leading brand of rolling bearings, with a global leadership position in complementary products such as seals for rotating machine components and hydraulic seals. SKF also holds an increasingly important position in the market for linear motion products, high precision aerospace bearings, machine tool spindles, plant maintenance services, and is an established producer of high-quality bearing steel.

The SKF Group maintains specialized business operations to meet the needs of the global marketplace. SKF supports specific market segments with ongoing research and development efforts that have led to a growing number of innovations, new standards and new products.

The SKF brand now stands for more than ever before, and means more to you as a valued customer. While SKF maintains its leadership as the hallmark of quality bearings throughout the world, new dimensions in technical advances, product support and services have evolved SKF into a truly solutions-oriented supplier, creating greater value for customers. These solutions encompass ways to bring greater productivity to customers, not only with breakthrough application-specific products, but also through leading edge design simulation tools and consultancy services, plant asset efficiency maintenance programs, and the industry's most advanced supply management techniques.
The SKF brand still stands for the very best in rolling bearings, but it now stands for much more:

SKF – the knowledge engineering company

The Group has a global ISO 14001 environmental certification. Individual divisions have been approved for quality certification in accordance with either ISO 9000 or QS 9000. Some 80 manufacturing sites worldwide and sales companies in 70 countries make SKF a truly international corporation.

In addition, our 7 000 distributors and dealer partners around the world, the e-business marketplace and global distributions system, put SKF close to customers for the supply of both products and services. In essence, SKF solutions are available wherever and whenever our customers need them.

Overall, the SKF brand now stands for more than ever before. It stands for the knowledge engineering company ready to serve you with world-class product competencies, intellectual resources, and the vision to help you succeed.

Seals and sealing technology are essential parts of the capabilities of SKF. Seals from SKF stand for excellence and leadership. The SKF brand symbolize consistent endeavor to achieve total quality in all processes and imply three main benefits for our customers:

Reliability – thanks to modern, efficient products, based on worldwide application know-how, optimized materials, forward-looking designs and the most advanced production techniques.

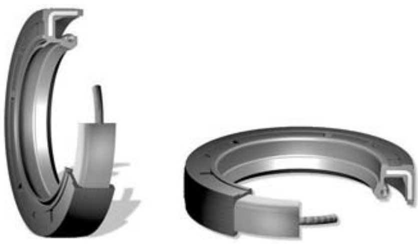
Market lead – an advantage of our products and services. Our customers increase operating time, reduce down-time, improve output and product quality.

Cost effectiveness – resulting from the favorable ratio between our product quality plus service facilities, and the purchase price of the product.

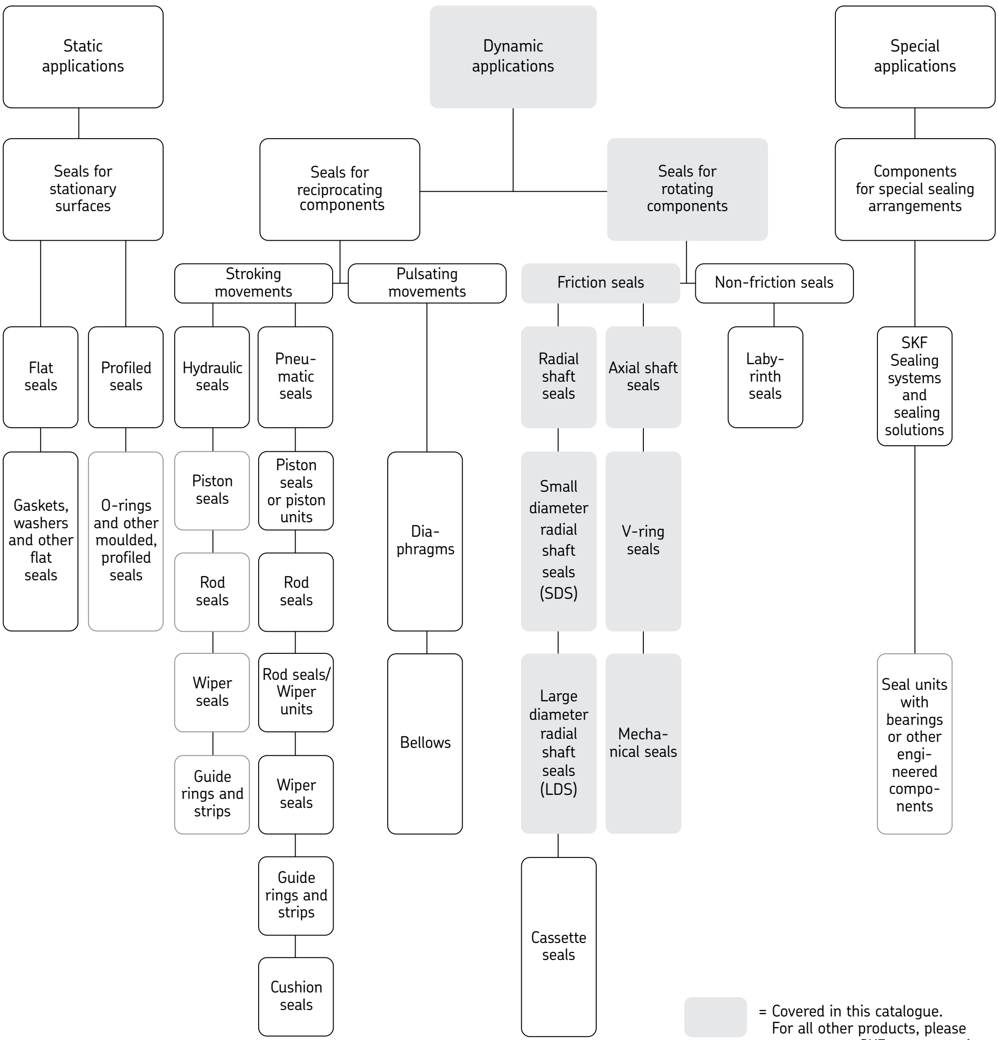
Bearing arrangements of all types do not only consist of bearings but include the associated components, such as shafts and housings, as well as seals. The performance of the seal is of decisive importance where lubricant cleanliness is concerned and this cleanliness has considerable influence on bearing life, as can be seen, for example, when the SKF Life Theory is applied.

For the designer, this means that bearings and seals must be considered as constituting a system. When designing the sealing arrangement and selecting the seal, the bearing arrangement and the requisite bearing life must not be neglected. For SKF, this means that even greater attention is now being paid to the question of how bearings and bearing arrangements should be sealed, as well as to the question of sealing in general.
This catalogue contains information and recommendations regarding the selection and application of seals. Obviously, it is not possible to cover all the aspects sufficiently in detail to deal with all eventualities so that reference is made in many places to the SKF application engineering service.

Welcome with your inquiry to SKF – the knowledge engineering company.



Industrial seals product structure



= Covered in this catalogue.
For all other products, please contact your SKF representative for further information.

Industrial shaft seals

Product data – General

Contents

Industrial shaft seal designs

The seals shown in this catalogue are intended for the sealing of openings between a rotating and a stationary component or between two components in relative motion. The tasks of the seals are

- ☐ to retain lubricant,
- ☐ to exclude contaminants,
- ☐ to separate fluids or gases, and
- ☐ to withstand differences in pressure.

The seals should also perform adequately with a minimum of friction and wear even in critical applications or under unfavourable operating conditions.

In order to meet these different requirements, SKF shaft seals for rotating machine components are produced in many designs, materials and executions. Each of these designs and their material combinations has specific properties which make it more, or less, suitable for a particular application. The main groups are:

Radial shaft seals
- ☐ Small diameter seals (SDS, for shaft diameters up to 200 mm/8 inch),
- ☐ Large diameter seals (LDS, for shaft diameters over 200 mm/8 inch),
- ☐ Radial shaft seals, PTFE material.

Axial shaft seals
- ☐ Mechanical seals,
- ☐ V-ring seals,
- ☐ Axial clamp seals.

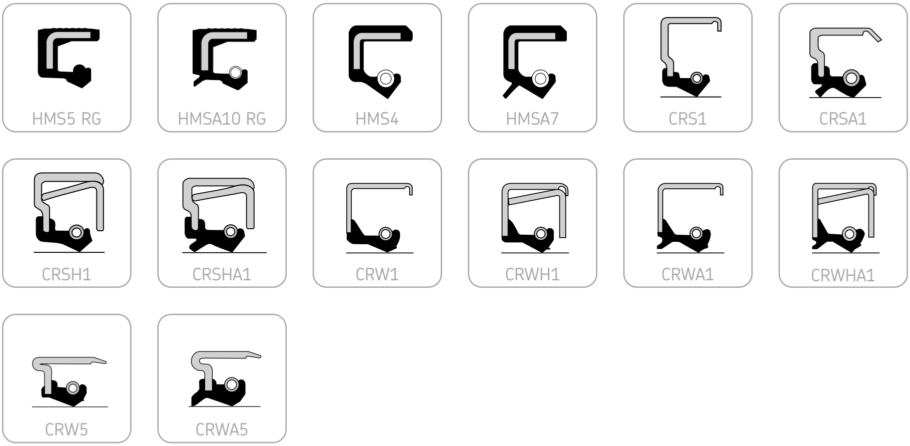
Wear sleeves are also manufactured as special accessories.

The inclusion of a single design to the SKF range of seals is not an indication of its availability; this should always be checked before ordering. The products shown in the size listing tables in this catalogue are the more popular metric and inch sizes. Information about the complete range will be found in our standard range stock list, which can be supplied on request.

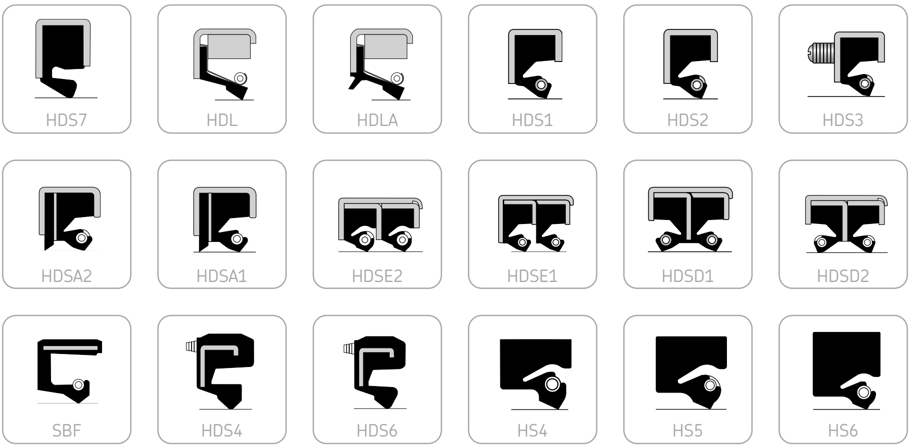
Industrial shaft seals, profile overview

Radial shaft seals

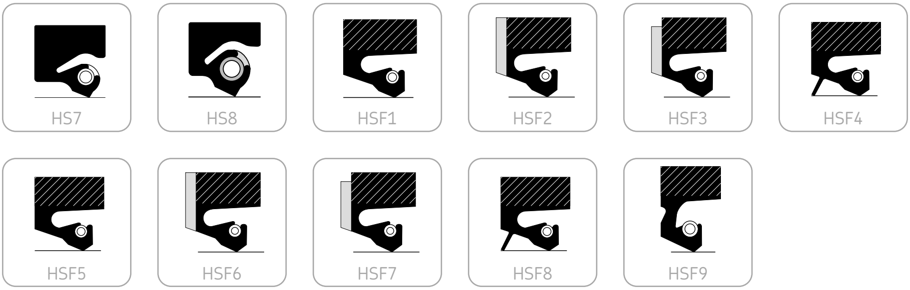
Small diameter seals, standard program



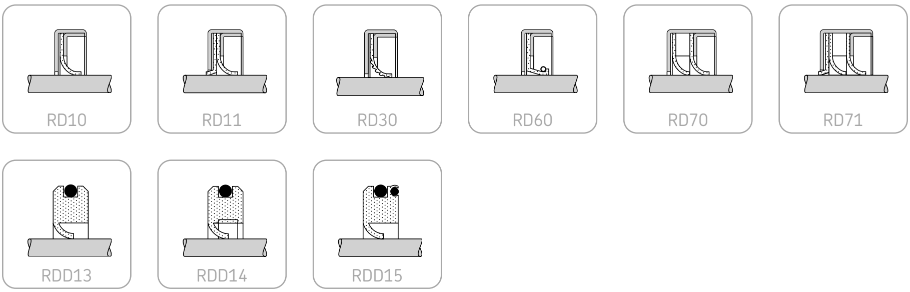
Large diameter seals, standard program



Large diameter seals, standard program



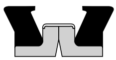
Radial shaft seals, PTFE materials



Industrial shaft seals, profile overview

Axial shaft seals

Mechanical seals


HDDF

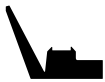
V-ring seals

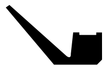

VR1


VR2

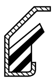

VR3


VR4

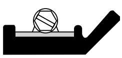

VR5

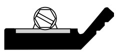

VR6


MVR1


MVR2

Axial clamp seals


CT1


CT3


CT4

Selection of seal design and material

The choice of an appropriate seal design and material is depending on the applications' predominant operating conditions, such as

- type of lubrication,
- sliding velocity at the sealing surface (counterface),
- vertical or horizontal mounting,
- misalignment or deviation from coaxiality of the shaft.

The seal environment must also be taken into account, for example, whether

- chemical or mechanical factors and/or
- thermal conditions

can influence seal performance. The available space, requirements regarding sealing efficiency and finally the viable cost must be considered.

Depending on the application one or other of the influences will dominate so that universally valid rules for the selection of the appropriate type or design of seal cannot be given. The following comments regarding the properties of the different seals should, however, give some guidance.

The selection matrix with permissible operating conditions for small diameter radial shaft seals (SDS) on **pages 98** and **99**, for large diameter radial shaft seals (LDS) on **pages 100** to **103** provides an overview of the seals, their design features and their suitability for various operating conditions.

It has not been possible to include all design variants in the matrix; rather a representative selection has been chosen. Detailed information on the variants as well as the seals shown in the matrix will be found in the introductory texts preceding each table section. Since only a limited number of symbols have been used in the matrix for reasons of clarity and space, it has not been possible to exactly differentiate between the various seal types.

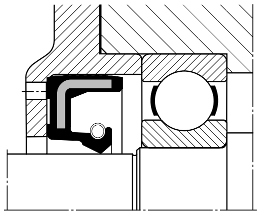


Fig 1. HMS5 seal

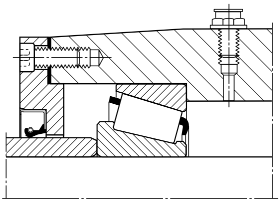


Fig 2. CRW1 seal

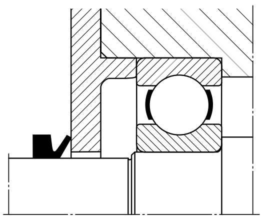


Fig 3. V-ring seal

Grease retention

Greases have a relatively high viscosity and are thus relatively easy to retain in the bearing arrangement. This means that the demands on the seal are moderate, so that almost any type of seal will suffice.

Spring-loaded radial shaft seals, e.g. the HMS5 or the CRW1 (**fig 1 and fig 2**) design, are suitable for retaining greases. When frequent relubrication is required, the lip of at least one of the seals should be arranged to point away from the grease so that excess grease can escape via this seal lip. In this way a build-up of grease, and consequently of heat, can be avoided. When the lubrication of a seal lip cannot be guaranteed, the use of seals having an additional, secondary lip, where the space between the primary and secondary lips is filled with grease, is recommended. Because of the unfavourable heat transfer conditions with grease lubrication it is recommended that the permissible circumferential speeds quoted for oil lubrication should be halved.

In addition to radial shaft seals, with or without garter spring, V-ring seals (**fig 3**) or felt seals are also suitable for grease retention.

Oil retention

Lubricating oils, particularly relatively low-viscosity oils, are much more difficult to retain in a bearing arrangement than greases. Therefore, spring-loaded radial shaft seals are used almost exclusively, e.g. SKF seals of the CRW1 (**fig 4**), HMS5 (**fig 5**) or HDS3 designs.

For very arduous conditions where circumferential (peripheral) speeds are relatively low the HDDF (**fig 6**) mechanical seals are also suitable for oil retention.

Normally, CRW1 radial shaft seals with the hydrodynamically formed Waveseal lip are adequate. The Waveseal lip has a sinusoidally formed lip edge which produces a pumping action to the inside as well as the outside, irrespective of the direction of rotation of the shaft (or the housing). When it is desired to protect the sealing position against dust or fine solid contaminants, it is recommended to use a radial shaft seal with a secondary (dust) lip, e.g. of the CRWA1 design.

V-ring seals (**fig 7**) may also be used to retain oil. In this case they should be arranged on the oil side and should be axially supported on the shaft.

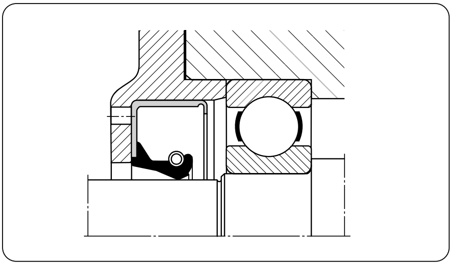


Fig 4. CRW1 seal

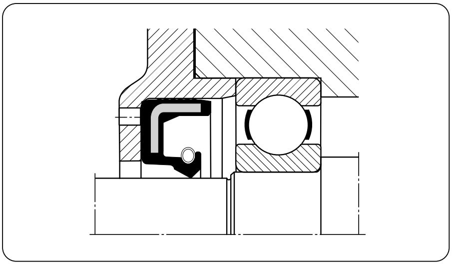


Fig 5. HMS5 seal

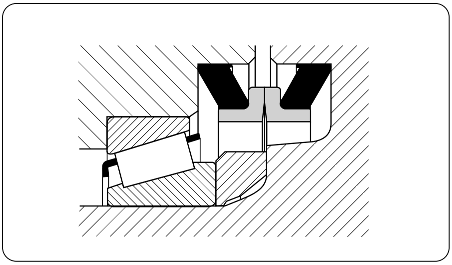


Fig 6. HDDF mechanical seal

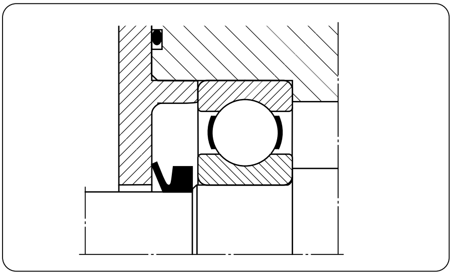


Fig 7. V-ring seal

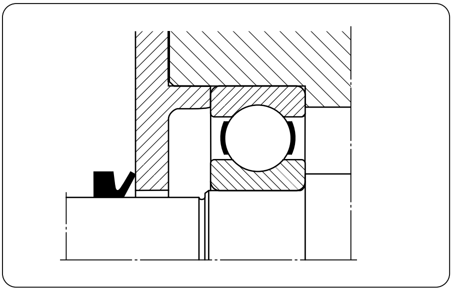


Fig 8. V-ring seal

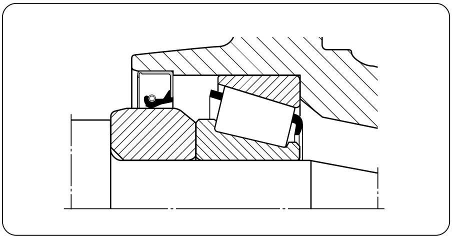


Fig 9. CRW1 seal

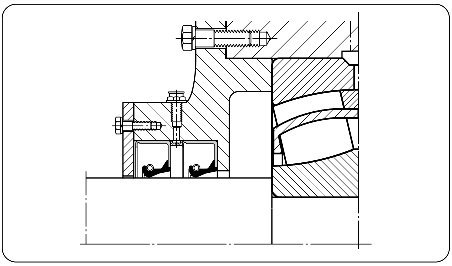


Fig 10. CRW1 seals in tandem

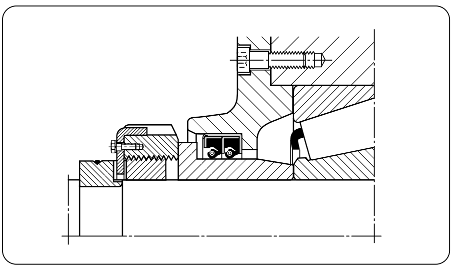


Fig 11. HDSE2 seal

Contaminant exclusion

V-ring seals (**fig 8**) are eminently suitable for excluding contaminants. They rotate with the shaft, act as flingers and seal against a surface which is at right angles to the shaft.

Radial shaft seals which are primarily intended to exclude contaminants should be mounted with the lip pointing outwards. For low-speed applications and normal operating conditions, any radial shaft seal may be used.

For difficult conditions, the use of SKF Waveseal designs, e.g. the CRW1 (**fig 9**) or CRWH1 designs, which have hydrodynamic sealing aids, is recommended, or alternatively the heavy-duty HDS seals. To reinforce sealing efficiency two seals may be arranged in tandem (**fig 10**), or a double-lip seal with its two lips in tandem, e.g. of the HDSE (**fig 11**) design, may be used.

A V-ring or axial clamp seal (CT) can also protect the primary seal from coarse contaminants. The side of the housing or the shell of a radial shaft seal can serve as the counterface for the lips of the V-ring and CT seals.

Retention and exclusion

In many applications, the exclusion of contaminants is just as important as lubricant retention. The use of a seal with a secondary (dust) lip in addition to the primary lip, such as in the CRWHA1 (**fig 12**) will often suffice.

Another way of mastering the problem of simultaneous retention and exclusion is to use two seals aranged in opposite directions, e.g. two CRW1 (**fig 13**) or two HDS2 (**fig 14**) radial shaft seals.

Highly efficient double action seals are also obtained by using two opposing V-ring seals (**fig 15**) with a thrust washer machined on both sides situated in between the seals.

Under extremely difficult conditions the use of the HDDF mechanical seals, (**fig 6**), is recommended, providing that the sliding velocity of the mating surfaces lies within the permissible range.

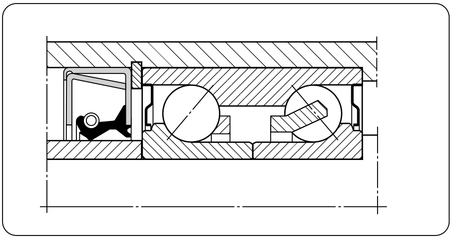


Fig 12. CRWHA1 seal

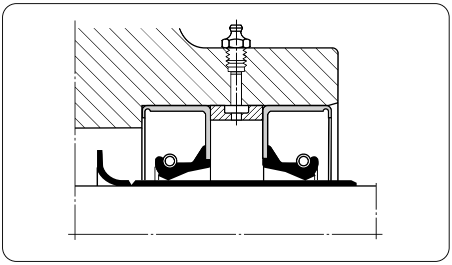


Fig 13. CRW1 seal

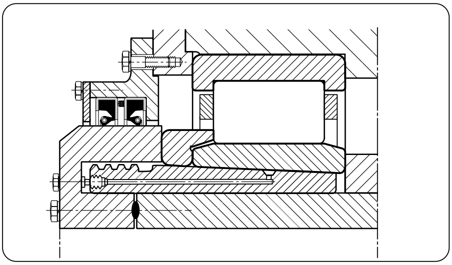


Fig 14. HDS seals

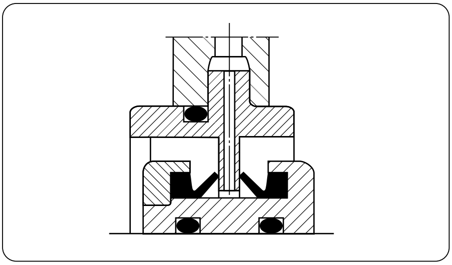


Fig 15. V-ring seals

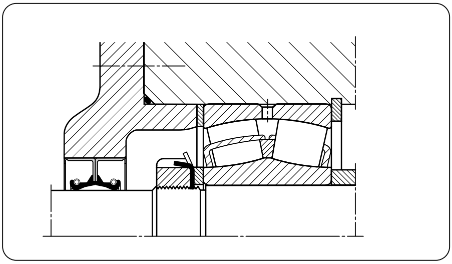


Fig 16. CRW1 seals

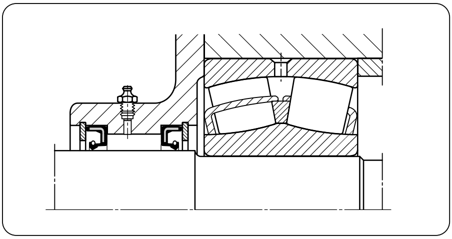


Fig 17. HMS5 seals

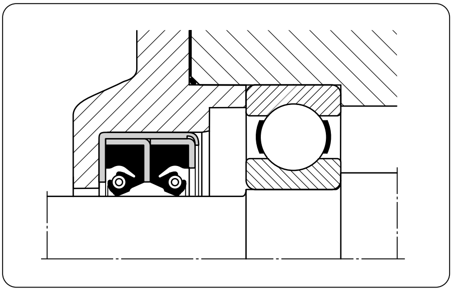


Fig 18. HDSD1 seal

Separation of two liquids

In cases where two liquids have to be kept separate there are two alternatives, depending on the available space and the required efficiency.

Either two separate seals (**fig 16, fig 17**) may be used with their lips facing in opposite directions, or double lip seals of the HDSD1 (**fig 18**) design can be used. Again, the lips point in opposite directions.

In both alternatives, the lips must be spring loaded. In case one or other of the lips occasionally runs dry, i.e. one of the liquids is temporarily absent, it is recommended that grease be applied in the space between the two lips during installation, so that adequate lubrication of the lips is always assured.

Circumferential and rotational speed

The permissible rotational speeds are determined by the diameter of the sealing surface and the permissible circumferential speeds at the sealing position.

The permissible circumferential speeds depend mainly on the design and material of the sealing lip which govern the heat generation at the seal contact. They also depend on the material and condition of the counterface. The lubrication of the lip as well as the type and characteristics of the medium being sealed also have an influence, as the medium may be able to transport heat away from the lip contact.

Diagram 1 shows a comparison of the permissible circumferential speeds for various seal designs assuming normal seal operation, e.g. grease or oil retention and no pressure differential across the seal.

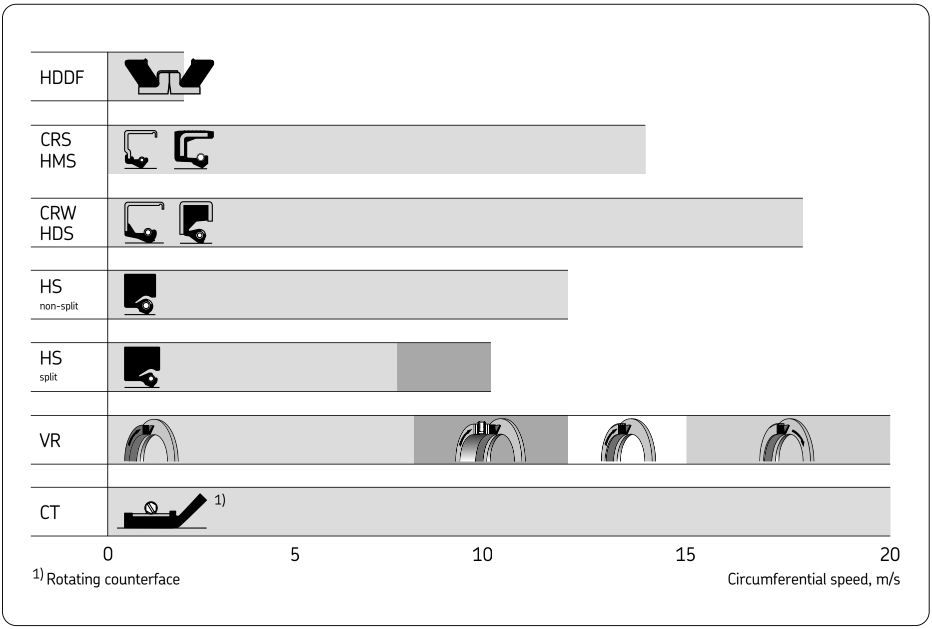


Diagram 1

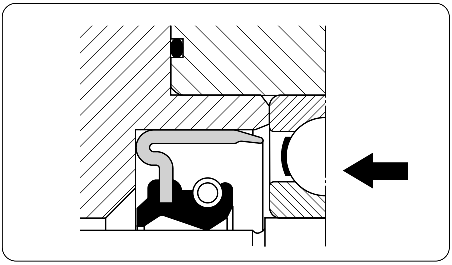


Fig 19. CRWA5 seal

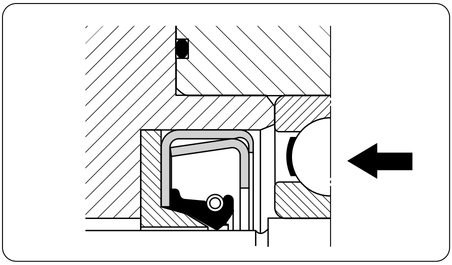


Fig 20. CRWH1 seal + support ring

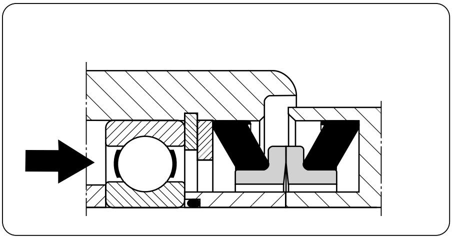


Fig 21. HDDF mechanical seal

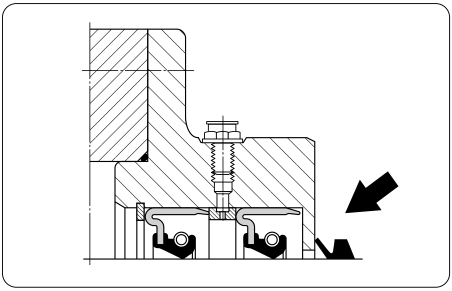


Fig 22. CRW5 seals + V-ring seal

Pressure

A difference in pressure from one side of the sealing position to the other usually means that radial shaft seals of a particular design with garter spring have to be used, as other standard seal types can normally only withstand a pressure differential of the order of 0,07 MPa at relatively slow speeds.

Generally, for positions where a pressure differential exists, CRW5 or CRWA5 (**fig 19**) seals are recommended as these can withstand pressures of up to 0,63 MPa at speeds of up to 5 m/s.

When subjected to pressure, the lip of the seal will be pressed harder against its counterface causing more friction and a rise in underlip temperature. When speeds are high this will lead to accelerated wear and will appreciably shorten the service life of the seal and its counterface. Where there is a pressure differential, the pressure and circumferential speed should be carefully matched.

Temporary pressure differentials may make it necessary to use a second seal, for example, an additional radial shaft seal with the lip pointing towards the higher pressure or a V-ring seal (**fig 22**) with its lip directed towards the lower pressure.

When subjected to pressure, shaft seals should be axially located at the low pressure side (**fig 20** and **fig 21**) to prevent them from being pressed out of the housing. In the case of standard radial shaft seals, additional radial support for the seal may be beneficial as this will prevent excessive distortion of the seal under pressure and excessive lip pressure on the counterface.

Available space

In many cases, the space available for the seal is insufficient to allow the use of standard radial shaft seals having dimensions to ISO 6194 or DIN 3670. Special designs of radial shaft seals must then be used (**fig 23, fig 24**), or V-ring seals (**fig 25**), which can be positioned outside the actual sealing position, are also suitable.

Where V-ring seals (**fig 25**) can be used, exceptionally economic sealing arrangements can be produced, and additionally, the V-rings are extremely easy to install. The V-ring seals axially and the lip exerts a light pressure against the counterface which may be a stationary or rotating machine component.

Where space is limited radially or axially, and where shafts have large diameters, seals of the HS8 design may be used (**fig 26**).

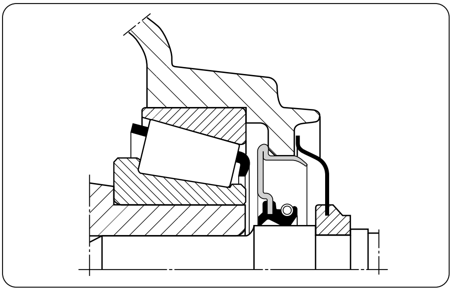


Fig 23. CRW special seal

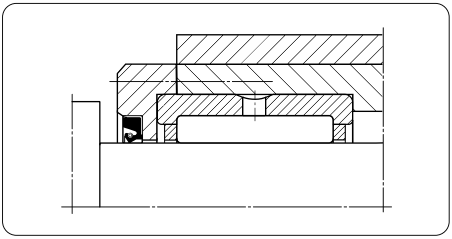


Fig 24. HMS special seal

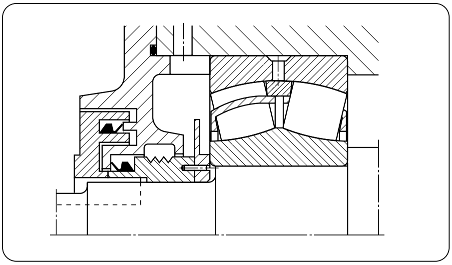


Fig 25. V-ring seals

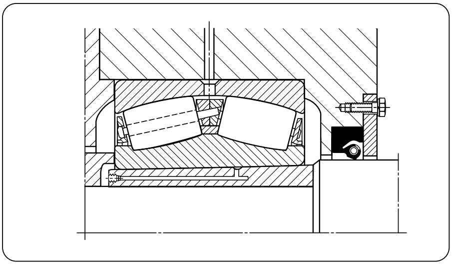


Fig 26. HS8 seal

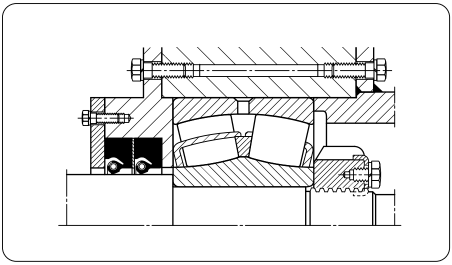


Fig 27. HS8 seals

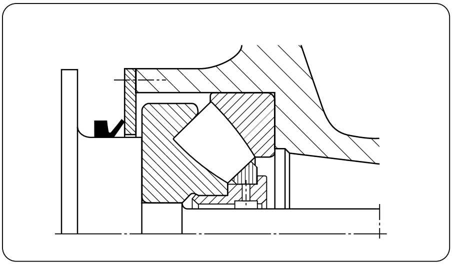


Fig 28. V-ring seal

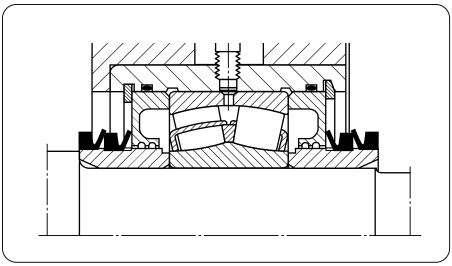


Fig 29. V-ring seals

Installation restrictions

For applications where the design is such that the seal cannot be installed via the shaft end, or where it is only possible with difficulty, the elastic V-ring seals may be suitable, or any of the split radial shaft seals of the HS6, HS7 and HS8 (**fig 26, fig 27**) designs may be used.

These radial shaft seals are made of elastomer only without any reinforcement. They are therefore particularly simple to install. After positioning on the shaft, they are held together by the garter spring which is joined either by a threaded or control wire connector or by a hook and eye. They should be retained axially in the housing bore by an end cover, which may be either in one piece or split.

Split HS radial shaft seals are suitable for circumferential speeds at the sealing lip of up to 7,5 or 10 m/s. They are available for shaft diameters from approximately 170 to approximately 4.570 mm.

V-ring seals are elastic and can be stretched. They can therefore be installed by passing them over other components (**fig 28**). However, should V-ring replacement require the time consuming removal of several components, it is more advantageous to mount one or two replacement V-rings on the shaft, when making the first installation (**fig 29**). When the time comes to replace a worn V-ring, it can easily be cut through and removed and the replacement ring can be simply and quickly moved to the correct position.

Arrangement

Generally speaking, all the seals listed in the product tables are suitable for use on horizontal as well as vertical shafts. However, the axial clamp CT seals should only be used as secondary (auxiliary) seals on horizontal shafts.

Seals on vertical shafts are usually more exposed to the surrounding media, e.g. rain water from the outside or lubricating oil from the bearing side, than seals on horizontal shafts.

V-ring seals (**fig 30, fig 31**) have an interference fit on the shaft and rotate with it. They have a flinger action and are therefore particularly suitable as primary or secondary seals on vertical shafts.

At relatively low speeds, the HDDF mechanical seals (**fig 32**) can efficiently retain grease and prevent the ingress of contaminants at vertical sealing positions.

Highly efficient sealing arrangements, e.g. for submersible pumps, can be achieved using radial shaft seals in tandem with a V-ring (**fig 33**) for added protection.

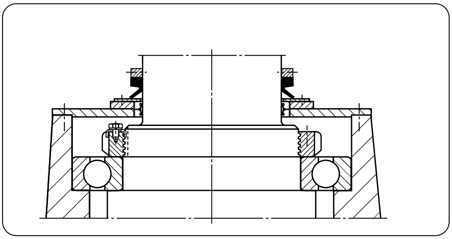


Fig 30. V-ring seal

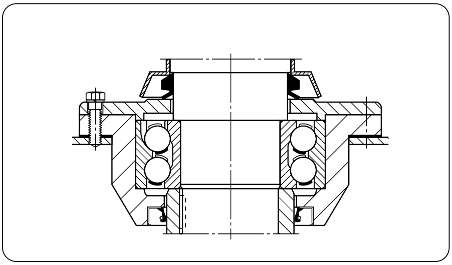


Fig 31. V-ring seal

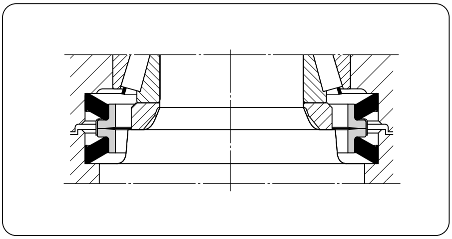


Fig 32. HDDF mechanical seal

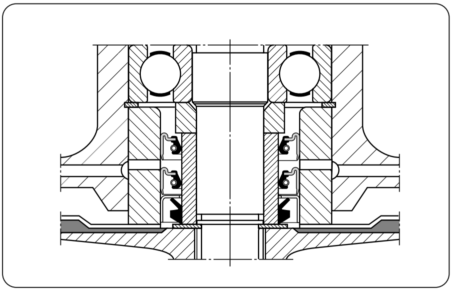


Fig 33. CRW5 seals + V-ring seal

Counterface design

The sealing efficiency and life of a seal are largely influenced by the

- ☐ surface finish and tolerance grade as well as the
- ☐ material and hardness

of the surface on which the sealing lip is to run, and also by the

- ☐ coaxiality deviation and
- ☐ runout of the shaft.

Too smooth a surface can lead to lubricant starvation at the lip/counterface contact and too rough a surface will wear the lip. Also, the surface should be without machine lead (directionality, grooves running diagonally towards or away from the seal lip) as this would cause leakage, depending on the direction of rotation.

Deviations from true coaxiality as well as misalignment of the shaft with respect to the housing bore result in uneven stressing of the lip of radial shaft seals. Part of the circumference of the lip will be unloaded thus reducing its pressure against the shaft whilst the remainder of the lip circumference will be more heavily loaded and the width of the path traced by the lip on the shaft will increase.

The runout of the shaft should be kept within narrow limits, particularly at high speeds, as there is a risk otherwise that the lip will not be able to follow the shaft in spite of the flexibility of the lip. The result will be gap formation between lip and shaft and a loss of sealing efficiency.

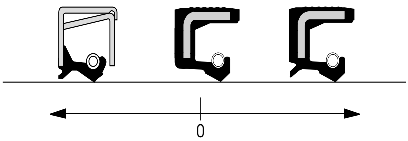
In contrast to radial shaft seals, V-ring seals and axial clamp seals are not affected by normal coaxiality deviations or runout.

Axial movement

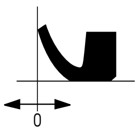
Axial movement of the shaft relative to the housing bore will not detract from the sealing power of radial shaft seals (**fig 34**), provided that the total surface in contact with the lip has the same quality with respect to hardness and surface finish.

The amount of axial movement that can be accommodated by V-ring seals and axial clamp seals is limited by the permissible displacement of the seal relative to its counterface (see product tables).

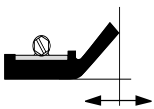
Fig 34. Axial movement



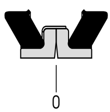
Radial shaft seals



V-ring seals



Axial clamp seals



Mechanical seals

Seal materials

Shells

The outer and inner shells (case and reinforcement) of SKF radial shaft seals are made from deep-drawn carbon steel sheet as standard. The free surfaces are treated to protect them from corrosion during normal handling and storage.

SKF radial shaft seals which are to be used in corrosive environments can be equipped instead with stainless steel shells to special order and subject to factory approval.

Garter springs

The garter spring of SKF radial shaft seals is made of hard-drawn steel wire as standard. The exceptions are the large radial shaft seals of the HDS and HS designs where the standard garter spring is made of stainless steel.

In the product tables, those seals which have a garter steel, different from the standard one, are indicated under the heading “Notes”.

Bore-Tite®

Bore-Tite is a water-based polyacrylate sealant and is used as a coating on the outside diameter of some of the SKF radial shaft seals as standard. This non-hardening pliable sealant helps to fill small imperfections in the housing bore. BoreTite can be used at temperatures up to +200 °C and is resistant to most oils, greases, aqueous acids and alkalis, alcohols and glycols. It is not compatible with aromatics ketones and esters, although splashes of these substances that can be wiped off quickly have little or no effect. The Bore-Tite layer has a thickness of between approximately 0,03 to 0,07 mm.

Adhesives

In its endeavour to make its production processes as environmentally friendly as possible, SKF uses adhesives and bonding agents which are almost exclusively water-based. When used in the presence of fluids containing water, e.g. cutting fluids or cooling emulsions, and when operating temperatures are in the region of +65 °C or above, the nitrile rubber component of a seal may loosen from the carbon or stainless steel shell, although the nitrile rubber itself will not be affected.

Sealing lip materials

The sealing lips of SKF seals are generally made of elastomer materials. However, thermoplastic materials such as PTFE are gaining in importance. Thermoplastics are mainly used for special seals intended for particular applications where there are demands for high thermal or chemical resistance.

SKF seals are generally produced from the materials listed in **Table 1**. These materials have characteristic properties making them particularly suitable for specific applications; these characteristics are briefly described in the following. By changing the actual formulation and blending it is possible to modify the following properties:

- ☐ resistance to swelling,
- ☐ elasticity,
- ☐ chemical resistance,
- ☐ thermal resistance,
- ☐ behaviour in the cold, and/or
- ☐ gas permeability

of the elastomers to suit individual requirements. Details regarding the chemical resistance of the sealing lip materials to the various media encountered in operation will be found in the section “Chemical resistance”.

A code is used to identify the material of the sealing lip of SKF seals, see **Table 1**. The codes also appear in the designations of the metric radial shaft seals. For seals where a combination of materials is used, a combination of the code letters is used, e.g. RD.

Table 1. SKF Sealing lip materials

Composition of basic material	Designation according to SKF	IS01629 IS01043.1, DIN 7728 Part 1	ASTM[1] D1418 ASTM D1600
Acrylonitrile-butadiene rubber (nitrile rubber)	R	NBR	NBR
Hydrogenated acrylonitrile-butadiene rubber (Duratemp®)	H	WNBR	NEM
Carboxylated nitrile rubber (Duralip®)	D	X-NBR	X-NBR
Polyacrylate elastomer	P	ACM	ACM
Silicone rubber	S	MVQ	VMQ
Fluoro rubber	V	FPM	FKM
Polytetrafluoro-ethylene	T	PTFE	PTFE
Leather	L	–	–
Felt	F	–	–

[1] American Society for Testing and Materials

Nitrile rubber

The term nitrile rubber is used in this catalogue for acrylonitrile butadiene rubber. This material has very good engineering properties and is the "universal" seal material. It is a copolymer produced from acrylonitrile and butadiene. It shows good resistance to the following media:

- most mineral oils and greases with a mineral oil base,
- normal fuels: petrol, diesel and light heating oils,
- animal and vegetable oils and fats, and
- hot water.

It also tolerates short-term dry running of the sealing lip. The permissible operating temperature range is –50 to +100 °C; for brief periods temperatures of up to +120 °C can be tolerated.

Duralip®

Duralip is a carboxylated nitrile rubber developed by SKF which combines the good technical properties of nitrile rubber with a particularly high resistance to wear. It is mainly used for large seals having a bore diameter of 200 mm or more. Seals of this material should be chosen when abrasive substances such as sand, soil, scale etc. can reach the surface on which the sealing lip runs.

Duratemp®

Duratemp is a hydrogenated nitrile rubber which has appreciably improved wear resistance compared with nitrile rubber so that seals made of Duratemp have long life. Duratemp is also more resistant to heat, ageing and hardening in hot oil or ozone. Mixtures of oil in air may have a negative effect. The upper operating temperature limit is +150 °C, which is appreciably higher than that of ordinary nitrile rubber.

Duratemp is mainly used for large radial shaft seals.

Polyacrylate elastomer

Polyacrylate elastomer is more heat resistant than nitrile rubber or Duralip. The operating temperature range lies between –40 and +150 °C and in some fluids the upper limit may be extended to +175 °C. Seals of polyacrylate are resistant to ageing and ozone and are also suitable for use with lubricants containing EP additives. They should not be used to seal against water, acids or alkalis etc. Dry running should also be avoided.

Silicone rubber

Silicone rubber is characterised by high thermal resistance and can be used at temperatures between –70 and +160 °C. Another interesting property of silicone rubber is that it absorbs lubricant and thus reduces friction and wear to a minimum.
SKF silicone rubber seals are particularly suitable for service at very low or very high temperatures and for low-friction sealing of bearing arrangements. They are not very resistant to oxidised oils or to certain EP additives, however, and they should be protected against abrasive substances. The lip should not be allowed to run dry.

Fluoro rubbers (LongLife®)

Fluoro rubbers are characterised by their high thermal and chemical resistance. Their resistance to ageing and ozone is also very good and their gas permeability is very slight.

SKF fluoro rubber seals have exceptionally good properties even under harsh environmental conditions and can withstand operating temperatures of up to +200 °C. The seals are also resistant to oils and hydraulic fluids, fuels and lubricants, mineral acids and aliphatics as well as aromatic hydrocarbons which would cause seals made of other materials to fail. They will also tolerate dry running of the lip for short periods. The seals should not be used in the presence of esters, ethers, ketones, certain amines and hot anhydrous hydrofluorides.

Because of their useful properties, SKF produces fluoro rubber seals for all common shaft diameters from 3 to 1.575 mm.

At temperatures above 300 °C, fluoro rubber gives off dangerous fumes. This can occur, for example, if a welding torch is used when dismounting a bearing. Although the fumes are only produced at high temperatures, once heated the seals will be dangerous to handle even when they have cooled down. If it is necessary to handle fluoro rubber seals which have been subjected to excessive temperatures, the following should be observed:

- protective goggles and gloves should always be worn,
- the remains of seals should be put in an airtight plastic container which should be marked with a suitable symbol for “material will etch”,
- respect the information given on the appropriate safety data sheet.

If there is unintentional contact, hands should be washed with soap and plenty of water and water should also be used as an eye bath. A doctor should always be consulted. This also applies if, during heating of the seals, the vapours have been inhaled. SKF takes no responsibility for the improper handling of fluoro rubber seals nor for any injury resulting therefrom. The user is responsible for the correct use of the product during its service life and its proper disposal.

Polytetrafluoro-ethylene

Polytetrafluoro-ethylene, PTFE, is a thermoplastic polymer, the chemical resistance of which is far superior to that of any of the materials so far described. The operating temperature range extends from –70 to +200 °C and may go up to +260 °C. The effects of overheating are as described under fluoro rubber.

PTFE has a smooth dirt-resistant surface and a very low coefficient of friction. The seals will tolerate dry running and also provide insulation against the passage of electric current.

SKF seals of PTFE, or with PTFE sealing lips, are made to special order and represent tailored solutions to specific problems.

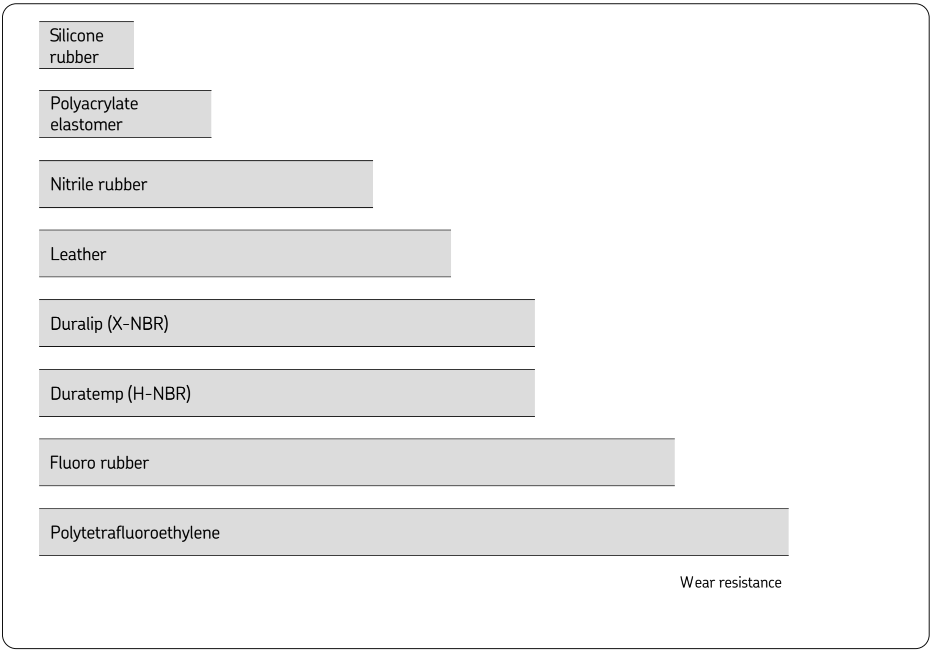
Wear resistance

The wear resistance of seals is largely determined by the material from which the sealing lip is made and is also influenced by the surface finish of the counterface, the type of lubrication, the circumferential speed, the temperature and the pressure differential.

A comparison of the wear resistance of the various materials used by SKF for the sealing lips is shown in **Diagram 2**. It is valid for seals of the same size operating under identical conditions. Although the use of SKF seals made of the wear resistant LongLife materials fluoro rubber or PTFE is initially more expensive than if nitrile rubber seals are used, the total costs may be lower because of reduced maintenance and less downtime.

More detailed information on the material properties will be found in the section "Materials".

Diagram 2



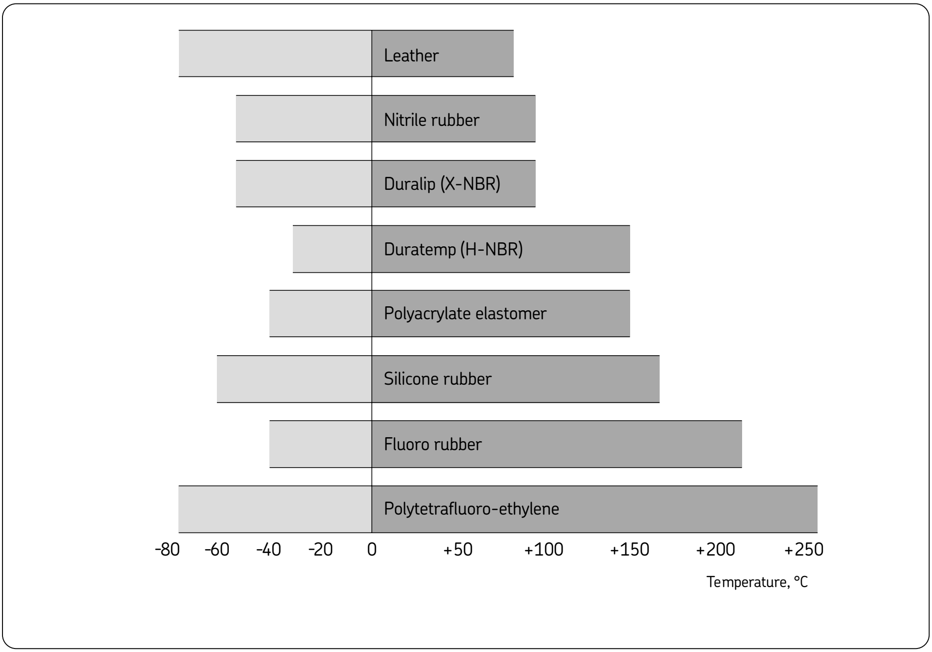
Operating temperatures

Low as well as high temperatures influence the effectiveness of seals. At low temperatures, the sealing lip will lose its elasticity and become hard and brittle. Sealing efficiency will decrease and the seal will become more susceptible to mechanical damage. The static seal between the seal outside diameter and the housing bore may also be affected if the materials are different and shrink at different rates. To avoid such problems when aluminium alloy housings are used, for example, radial shaft seals with an elastomeric outside diameter are recommended.

Friction, the circumferential speed of the seal lip, temperature, the viscosity of the medium being sealed as well as the specific heat transfer along the shaft all influence the temperature at the sealing position and the temperature between the lip and lubricant film on the counterface. High temperatures generally lead to a breakdown of the lubricant film. Lack of lubrication is one of the most common causes of premature seal failure. For applications where temperatures are continuously high, special high-temperature lip materials should be used, e.g. SKF LongLife seals of fluoro rubber (FPM) or polytetrafluoro-ethylene (PTFE).

To illustrate the thermal resistance of the various materials normally used by SKF, the permissible operating temperature ranges are shown in **Diagram 3**.

Diagram 3



Chemical resistance

In the table “Chemical resistance” (**from page 33 to page 43**) information will be found about the chemical resistance of SKF seal materials to most of the substances encountered in industrial applications. The information is based on in-house testing and the experience of users, as well as information from the suppliers of the various materials. Unless otherwise stated, the information is valid for media of commercial purity and quality.

The chemical resistance of seals is also influenced by temperature as well as pressure and the amount of media present. Other factors which are important when selecting a suitable seal material include:

- the type of service, static or dynamic,
- the circumferential speed of the sealing lip,
- the shaft and housing materials,
- the surface finish of the counterface.

Therefore, the information contained in the table “Chemical resistance” can only be considered as a rough guide. In case of doubt, particularly if previous experience is lacking, or where well-proven seals are to be used under different operating conditions, it is advisable to contact SKF for advice.

Explanation

RT = room temperature
1 = minor effect
2 = moderate effect
3 = static only
4 = not recommended
5 = insufficient data, test before use

Chemical resistance

Medium	Temperature	Lip material			
	°C	R D H	V	P	S
A					
Acetaldehycle	RT	4	4	4	2
Acetamide	RT	1	2	4	2
Acetic acid, 100 % (glacial)	60	3	3	4	2
Acetic acid, 30 %	RT	2	2	4	1
Acetic acid, 3 % (vinegar)	RT	2	1	4	1
Acetic anhydride	RT / 80	3	4	4	3
Acetone	RT	4	4	4	3
Acetophenone	RT	4	4	4	4
Acetylene	60	1	1	5	2
Acrylonitrile	RT / 60	4	3	4	4
Adipic acid (aq)	RT	1	1	5	5
Alum (aq)	100	1	1	4	1
Aluminium acetate (aq)	RT	2	4	4	4
Aluminium chloride (aq)	RT	1	1	1	2
Aluminium fluoride (aq)	RT	1	1	5	2
Aluminium nitrate (aq)	RT	1	1	5	2
Aluminium phosphate (aq)	RT	1	1	5	1
Aluminium sulphate (aq)	RT / 60	1	1	4	1
Ammonia (anhydrous)	RT	2	4	4	3
Ammonia gas	RT	1	4	4	2
Ammonia gas	80 / 100	4	4	4	1
Ammonium carbonate (aq)	RT / 60	2	5	4	5
Ammonium chloride (aq)	RT / 60	1	1	5	5
Ammonium chloride (dry) (sal ammoniac)	RT	1	1	1	2
Ammonium nitrate (aq)	RT	1	5	2	5
Ammonium persulphate (aq)	RT	4	5	4	5
Ammonium phosphate (aq)	RT / 60	1	5	5	1
Ammonium sulphate (aq)	100	1	4	4	5
Amyl acetate	RT	4	4	4	4
Amyl alcohol	60	2	2	4	4
Aniline	60 / 100	4	3	4	4
Aniline dyes	RT	4	2	4	3
Aniline hydrochloride	RT	2	2	4	4
Aniline hydrochloride	100	4	5	5	5
Animal fats	80	1	1	1	2
Aqua Regia	RT	4	5	4	4
Arsenic acid	RT / 60	1	1	3	1
Arsenic trichloride (aq)	RT	1	5	5	5
Asphalt (liquid)	100	2	2	4	4
B					
Barium chloride (aq)	RT / 60	1	1	1	1
Barium hydroxide (aq)	RT / 60	1	1	4	1
Barium sulphate	RT / 60	1	1	4	1
Barium sulphide (aq)	RT / 60	1	1	4	1

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
Beer	RT	1	1	4	1
Benzaldehyde	RT / 60	4	4	4	4
Benzene	RT	4	1	4	4
Benzene sulphonic acid	RT	4	1	4	4
Benzoic acid	RT / 60	4	1	4	4
Benzoyl chloride	RT	4	1	4	5
Benzyl alcohol	RT / 60	4	1	1	2
Benzyl benzoate	50 / 60	4	1	4	5
Benzyl chloride	RT	4	1	4	4
Blast furnace gas	100	4	1	4	1
Borax (aq)	RT / 60	2	1	5	2
Bordeaux mixture	RT	2	1	4	2
Boric acid	60 / 100	1	1	4	1
Brake fluid, ATE	80	4	4	4	1
Brake fluid, glycol ether	80	4	5	4	1
Brine (sodium chloride, aq)	RT / 50	1	1	4	1
Bromine, anhydrous (liquid/gaseous)	RT	4	1	4	4
Bromine trifluoride	RT	4	4	4	4
Bromine water	RT	4	1	4	4
Bromobenzene	RT	4	1	4	4
Bunker oil	60	1	1	1	2
Butadiene (gaseous or liquified)	RT	4	1	4	4
Butane (gaseous or liquified)	RT	1	1	1	4
Butter (animal fat)	RT / 80	1	1	1	2
Butyl acetate	RT	4	4	4	4
Butyl acrylate	RT	4	4	4	5
Butyl alcohol	RT	2	1	4	2
Butyl amines	RT	3	4	4	4
Butylene	RT	2	1	4	4
Butyl stearate	50	2	1	5	5
Butyraldehyde	RT	4	4	4	4
C					
Calcium acetate (aq)	RT	2	4	4	4
Calcium bisulphite (aq)	RT	1	1	4	1
Calcium chloride (aq)	60	1	1	1	1
Calcium hydroxide (aq)	RT	1	1	4	1
Calcium hypochlorite (aq)	RT / 60	2	1	4	2
Calcium nitrate (aq)	RT / 40	1	1	1	2
Cane sugar liquors	RT / 60	1	1	4	1
Carbon dioxide	RT	1	1	5	2
Carbon disulphide	RT	3	1	3	4
Carbonic acid	RT	2	1	1	1
Carbon monoxide	60	1	1	5	1
Carbon tetrachloride	RT / 60	3	1	4	4
Castor oil	RT	1	1	1	1

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
Cellosolve (ethyl glycol)	RT	4	3	4	4
Cellosolve acetate (ethyl glycol acetate)	RT	4	4	4	4
Chlorine (dry)	RT	4	1	4	4
Chlorine (wet)	RT	4	1	4	4
Chlorine dioxide	RT	4	1	4	5
Chlorine trifluoride	RT	4	4	4	4
Chloroacetic acid	60	4	4	4	5
Chloroacetone	RT	4	4	4	4
Chlorobenzene	RT	4	1	4	4
Chlorobromomethane	RT	4	1	4	4
Chlorobutadiene	RT	4	1	4	4
Chloroform	RT	4	1	4	4
Chlorosulphonic acid	RT	4	4	4	4
Chlorotoluene	RT	4	1	4	4
Chromic acid	60	4	1	4	3
Citric acid	60 / 70	1	1	5	1
Cobalt chloride (aq)	RT	1	1	4	2
Coconut oil	50 / 80	1	1	1	1
Cod liver oil	RT	1	1	1	2
Coke oven gas	80	4	1	4	2
Copper acetate (aq)	RT	2	4	4	4
Copper chloride (aq)	RT	1	1	1	1
Copper sulphate (aq)	60	1	1	4	1
Corn oil	RT / 60	1	1	1	1
Cottonseed oil	RT / 70	1	1	1	1
Cresol	50 / 70	4	1	4	4
Cumene (isopropylbenzene)	RT	4	1	4	4
Cyclohexane	RT	1	1	1	4
Cyciohexanol	RT	3	1	5	4
Cyclohexanone	RT	4	4	4	4
p-Cymene	RT	4	1	4	4
D					
Decahydronaphthalene (decalin)	RT / 60	4	1	5	4
Detergent	RT	1	1	4	1
Developing fluids (photography)	RT	1	1	5	1
Diacetone alcohol	RT	4	4	4	2
Dibenzyl ether	RT	4	4	5	5
Dibutyl amine	RT	4	4	4	3
Dibutyl ether	RT	4	3	3	4
Dibutyl phthalate	RT / 60	4	3	4	2
Dibutyl sebacate	RT / 60	4	2	4	2
o-Dichlorobenzene	RT	4	1	4	4
Dicyclohexylamine	RT	3	4	4	5
Diethyl amine	RT	2	4	4	2
Diethyl benzene	RT	4	1	5	4

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
Diethyl ether	RT	4	4	3	4
Diethyl sebacate	RT	2	2	4	2
Diisopropyl benzene	RT	4	1	5	5
Dimethyl aniline (Xylidine)	RT	3	4	4	4
Dimethyl ether	RT	1	2	4	1
Dimethyl formamide	RT / 60	2	4	4	2
Dimethyl phthalate	RT	4	2	4	5
Dioctyl phthalate	RT / 60	3	2	4	3
Dioctyl sebacate	RT / 60	4	2	4	3
Dioxane	RT / 60	4	4	4	4
Dioxolane	RT	4	4	4	4
Dipentene	RT	2	1	4	4
Diphenyl oxide	RT	4	1	4	3
Dowtherm oils	100	4	1	4	3
Dry cleaning fluids	40	3	1	4	4
E					
Epichlorohydrin	RT	4	4	4	4
Ethane	RT	1	1	1	4
Ethanol (denatured alcohol)	RT	1	1	4	1
Ethanolamine (monoethanolamine)	RT	2	4	4	2
Ethanolamine (di- and triethanolamine)	50	5	4	4	2
Ethyl acetate	RT	4	4	4	2
Ethyl acrylate	RT	4	4	4	2
Ethyl benzene	RT	4	1	4	4
Ethyl benzoate	RT	4	1	4	4
Ethyl chloride	RT	1	1	4	4
Ethylene	RT	1	1	5	5
Ethylene chloride	RT	4	2	4	4
Ethylene chlorohydrin	RT	4	1	4	3
Ethylene diamine	RT	1	4	4	1
Ethylene glycol	RT	1	1	2	1/2
Ethylene glycol	100	1	1	3	1/2
Ethylene oxide	RT	4	4	4	4
Ethylene trichloride	RT	4	1	4	4
Ethyl ether	RT	3	4	4	4
Ethyl formate	RT	4	1	5	5
Ethyl glycol (Cellosolve)	RT	4	3	4	4
Ethyl glycol acetate (Cellosolve acetate)	RT	4	4	4	4
Ethyl silicate	RT	1	1	5	5
F					
Fatty acids	100	2	1	5	3
Ferric chloride (aq)	RT	1	1	1	2
Ferric nitrate (aq)	RT	1	1	1	3
Ferric sulphate (aq)	RT	1	1	1	2

Chemical resistance

Medium	Temperature	Lip material			
	°C	R D H	V	P	S
Fish oil	RT	1	1	5	1
Fluorine (liquified)	RT	4	2	4	4
Fluorobenzene	RT	4	1	4	4
Fluorosilic acid	60	1	1	5	4
Formaldehyde	RT	3	1	4	2
Formaldehyde, 37 %	below 100	2	1	4	2
Formic acid	RT / 60	2	3	5	2
Fuels					
– Aero engine fuels JP:					
– JP3 (MIL-J-5624 G)	RT	1	1	2	4
– JP4 (MIL-J-5624 G)	RT	1	1	2	4
– JP5 (MIL-J-5624 G)	RT	1	1	2	4
– JP6 (MIL-F-25656 B)	RT / 60	1	1	5	4
– ASTM reference fuels:					
– ASTM-A (MIL-S-3136 B Typ 1)	RT / 60	1	1	2	4
– ASTM-B (MIL-S-3136 B Typ 111)	RT / 60	1	1	5	4
– ASTM-C	RT / 60	2	1	4	4
– Diesel fuel	60	1	1	2	2
– Fuel oil	60	1	1	1	4
– Gasohol (10 % ethanol or methanol)	RT	2	3	4	4
– Kerosene	RT	1	1	1	4
– Mineral oil	100	1	1	1	2
– Petrol	RT	1	1	4	4
Fumaric acid	RT	1	1	4	2
Furan	RT	4	5	4	5
Furfural	RT	4	4	4	4
Furfuran	RT	4	5	4	5
G					
Gelatine (aq)	40	1	1	4	1
Glucose	RT	1	1	5	1
Glue	RT	1	1	5	1
Glycerin	100	1	1	3	1
Glycols	100	1	1	4	1/2
H					
n-Hexaldehyde	RT	4	4	5	2
Hexane	RT / 60	1	1	1	4
1-Hexene	RT	2	1	1	4
Hexyl alcohol	RT	1	1	4	2
Hydraulic fluids					
– Hydraulic oils (acc. to DIN 51524)	80	1	1	1	3
– Hydraulic fluids (acc to DIN 51502):					
– HFA (oil in water emulsion)	55	1	1	5	5
– HFB (water in oil emulsion)	60	1	1	5	5

Chemical resistance

Medium	Temperature	Lip material			
	°C	RDH	V	P	S
– HFC (aqueous Polymer solutions)	60	1	1	5	1
– HFD (phosphoric esters)	80	4	2/4	4	4
– Skydrol 500	80	4	4	4	3
– Skydrol 7000	80	4	2	4	3
Hydrazine	RT	2	4	5	3
Hydrobromic acid	RT / 60	4	1	4	4
Hydrochloric acid (conc.)	RT	3	1	4	3
Hydrochloric acid (conc.)	80	4	2	4	4
Hydrocyanic acid (Prussic acid)	RT	2	1	4	3
Hydrofluoric acid (conc.)	RT	4	1	4	4
Hydrofluoric acid (conc.)	100	4	3	4	4
Hydrofluoric acid (anhydrous)	100	4	4	4	4
Hydrogen gas	RT	1	1	2	3
Hydrogen peroxide (90 %)	RT	4	2	4	2
Hydrogen sulphide (wet)	RT / 100	4	4	4	3
Hydroquinone	RT	4	2	4	5
Hypochlorous acid	RT	4	1	4	5
I					
Iodine pentafluoride	RT	4	4	4	4
Isobutyl alcohol	RT	2	1	4	1
Isooctane	RT	1	1	1	4
Isophorone	RT	4	4	4	4
Isopropyl acetate	RT / 80	4	4	4	4
Isopropyl alcohol	RT / 60	2	1	4	1
Isopropyl chloride	RT	4	1	4	4
Isopropyl ether	RT/60	2	4	3	4
L					
Lactic acid	RT	1	1	4	1
Lactic acid	100	4	1	4	2
Lard	80	1	1	1	2
Lavender oil	RT	2	1	2	4
Lead acetate (aq)	RT / 60	2	2	4	4
Lead nitrate (aq)	RT	1	5	5	2
Linoleic acid	RT	2	2	5	2
Linseed oil	RT / 60	1	1	1	1
Lubricants					
– ASTM oil No. 1	100	1	1	1	3
– ASTM oil No. 2	100	1	1	1	3
– ASTM oil No. 3	100	1	1	1	3
– ATF oils, type A	100	1	1	1	4
– ATF oils, type I	100	1	1	1	4
– ATF oils, type II	100	1	1	1	4
– ATF oils, type F	100	1	1	1	4
– ATF oils, type Mercon	100	1	1	1	4

Chemical resistance

Medium	Temperature °C	Lip material R D H	 V	 P	 S
– EP lubes	100	2	1	1	4
– Fluorolube	100	1	2	5	1
– Grease MIL-G-7118 A	80	1	1	3	3
– Grease MIL-G-7711 A	80	1	1	1	3
– Lubricating oils (petroleum)	100	1	1	1	4
– Red oil (MIL-H-5606)	100	1	1	1	4
– RJ-1 (MIL-F-25558 B)	100	1	1	1	4
– RP-1 (MIL-F-25576 C)	100	1	1	1	4
– Motor oil SAE 30	100	1	1	1	1
– Transmission oil SAE 90	100	1	1	1	4
– Transmission oil MIL-L-23699 A	100	1	1	3	3
– Silicone greases	120	1	1	1	3
– Silicone oils	120	1	1	1	3
– Transformer oil (Pyranol)	60	4	1	5	4
– Transformer oil	60	1	1	2	2
– Transmission fluid type A	RT	1	1	1	2
– Turbine oil	100	2	1	1	4
M					
Magnesium chloride (aq)	100	1	1	5	1
Magnesium hydroxide (aq)	100	2	1	4	5
Magnesium sulphate (aq)	100	1	1	4	1
Maleic acid	100	4	1	4	5
Maleic anhydride	60	4	4	4	5
Malic acid	RT	1	1	4	2
Mercury	RT / 60	1	1	5	5
Mercury chloride (aq)	RT / 60	1	1	5	5
Mesityl oxide	RT	4	4	4	4
Methane	RT	1	2	1	4
Methanol (methyl alcohol)	60	1	4	4	1
Methyl acetate	RT	4	4	4	4
Methyl acrylate	RT	4	4	4	4
Methyl aniline	RT	4	2	4	5
Methyl bromide	RT	2	1	3	5
Methyl cellosolve (methyl glycol)	RT	3	4	4	4
Methyl chloride	RT	4	2	4	4
Methyl cyclopentane	RT	4	2	4	4
Methylene chloride	RT	4	2	4	4
Methyl ethyl ketone	RT	4	4	4	4
Methyl formate	RT	4	5	5	5
Methyl glycol (Cellosolve)	RT	3	4	4	4
Methyl isobutyl ketone	RT	4	4	4	4
Methyl methacrylate	RT	4	4	4	4
Methyl salicylate	RT	4	5	5	5
Milk	RT	1	1	4	1
Mustard gas	RT	5	5	5	1

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
N					
Naphtha	RT	2	1	2	4
Naphthalene	60	4	1	5	4
Naphthalenic acid	RT	2	1	5	4
Natural gas	RT	1	1	2	1
Neat-s-foot oil	RT / 60	1	1	1	2
Nickel acetate (aq)	RT	2	4	4	4
Nickel chloride	RT	1	1	4	1
Nickel sulphate (aq)	RT / 60	1	1	4	1
Nitric acid (conc.)	RT	4	3	4	4
Nitric acid (fuming)	RT	4	4	4	4
Nitric acid (dilute)	RT	4	1	4	2
Nitrobenzene	50	4	2	4	4
Nitroethane	RT	4	4	4	4
Nitrogen	20	1	1	1	1
Nitrogen tetroxide	RT	4	4	4	4
Nitromethane	RT	4	4	4	4
O					
Octadecane	RT / 50	1	1	2	4
n-Octane	RT	2	1	4	4
Octyl alcohol	RT	2	1	4	2
Oleic acid	70	1	2	2	4
Olive oil	60	1	1	1	3
Oxalic acid	70	2	1	5	4
Oxygen	RT	2	1	2	1
Oxygen	above 100	4	2	4	2
Ozone	RT	4	1	2	1
P					
Palmitic acid	60	1	1	4	4
Peanut oil	RT / 50	1	1	1	1
Perchloric acid	RT	4	1	4	4
Perchloroethylene	RT / 60	2	1	4	4
Petroleum	below 120	1	1	2	2
Petroleum	above 120	4	2	4	4
Petroleum ether	RT / 60	1	1	1	4
Petroleum gas (liquified)	RT	1	1	3	3
Phenol	60 / 100	4	1	4	4
Phenyl ethyl ether	RT	4	4	4	4
Phenyl hydrazine	RT / 60	4	1	4	5
Phoron (diisopropylidene acetone)	60	4	4	4	4
Phosphoric acid, 20 %	50 / 60	2	1	5	2
Phosphoric acid, 45 %	50 / 60	4	1	5	3
Phosphorus trichloride	RT	4	1	5	5
Pickling solution	RT	4	2	4	4

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
Picric acid	RT	4	1	5	4
Pinene	RT	2	1	4	4
Pine oil	RT	4	1	5	4
Piperidine	RT	4	4	4	4
Potassium acetate (aq)	RT	2	4	4	4
Potassium chloride (aq)	RT / 60	1	1	1	1
Potassium cyanide (aq)	RT / 50	1	1	1	1
Potassium dichromate (aq)	RT	1	1	1	1
Potassium hydroxide (aq)	60	2	4	4	4
Potassium nitrate (aq)	RT / 60	1	1	1	1
Potassium sulfate (aq)	RT / 60	1	1	4	1
Propane	RT	1	1	1	4
Propyl acetate	RT	4	4	4	4
Propyl alcohol	RT / 60	1	1	4	1
Propylene	RT	4	1	4	4
Propylene oxide	RT	4	4	4	4
Prussic acid (hydrocyanic acid)	RT	2	1	4	3
Pyridine	RT	4	4	4	4
Pyroligneous acid	RT	4	4	4	5
Pyrrole	RT	4	4	4	2
R					
Rapeseed oil	RT	2	1	2	4
Refrigerants (acc. to DIN 8962)					
– R 11	RT	2	1	5	4
– R 12	RT	1	2	1	4
– R 13	RT	1	1	5	4
– R 13 B1	RT	1	1	5	4
– R 14	RT	1	1	5	4
– R 21	RT	4	4	5	4
– R 22	RT	4	4	2	4
– R 31	RT	4	4	5	5
– R 32	RT	1	4	5	5
– R 112	RT	3	1	5	4
– R 113	RT	1	2	5	4
– R 114	RT	1	2	5	4
– R 114 B2	RT	2	2	5	4
– R 115	RT	1	2	5	5
– R C 318	RT	1	2	5	5
S					
Salicylic acid	RT	2	1	5	5
Sea water	RT	1	1	4	1
Silver nitrate (aq)	RT	2	1	1	1
Soap solution	RT	1	1	4	1
Sodium acetate (aq)	RT	2	4	4	4

Chemical resistance

Medium	Temperature °C	Lip material RDH	V	P	S
Sodium bicarbonate (aq)	60	1	1	5	1
Sodium bisulphite (aq)	100	1	1	4	1
Sodium carbonate (soda)	RT / 60	1	1	5	1
Sodium chloride (aq)	RT / 100	1	1	5	1
Sodium cyanide (aq)	RT	1	1	5	1
Sodium hydroxide (aq)	RT	2	2	3	2
Sodium hypochlorite (aq)	RT / 50	2	1	4	5
Sodium metaphosphate	RT / 60	1	1	5	2
Sodium nitrate (aq)	RT / 60	2	5	5	4
Sodium phosphate (aq)	RT / 60	1	1	4	4
Sodium silicate (aq)	RT / 60	1	1	5	5
Sodium sulphate (aq) (Glauber's salt)	RT / 60	1	1	4	1
Sodium thiosulphate (aq)	RT / 50	2	1	4	1
Soyabean oil	RT	1	1	1	1
Stannic chloride (aq)	RT / 80	1	1	5	2
Stannous chloride (aq)	RT / 80	1	1	5	2
Steam	below 150	4	4	4	3
Steam	above 150	4	4	4	4
Stearic acid	60	2	2	4	2
Stoddard solvent	RT	1	1	1	4
Styrene	RT	4	2	4	4
Sucrose solution	RT / 60	1	1	4	1
Sulphur	RT / 60	4	1	4	3
Sulphur chloride (aq)	RT	3	1	4	3
Sulphur dioxide (dry)	RT / 60	4	1	4	2
Sulphur dioxide (liquified)	RT / 60	4	1	4	2
Sulphur dioxide (wet)	RT / 60	4	1	4	2
Sulphur hexafluoride	RT	2	1	4	2
Sulphuric acid (conc.)	RT / 50	4	1	4	4
Sulphuric acid (20 %) (battery acid)	60	4	1	4	4
Sulphuric acid (dilute)	RT	3	1	2	4
Sulphurous acid	RT / 60	4	1	4	4
Sulphur trioxide	RT	4	1	4	2
T					
Tannic acid	RT / 60	1	1	4	2
Tar, bituminous	RT	2	1	4	2
Tartaric acid	60	1	1	5	1
Tepineol	RT	2	1	5	5
Tetrabromoethane	RT	4	1	4	4
Tetrabromomethane	RT	4	1	5	4
Tetrabutyl titanate	RT	2	1	5	5
Tetrachloroethylene	60	4	2	4	4
Tetraethyl lead	RT	2	1	5	5
Tetrahydrofuran	RT	4	4	4	4
Tetrahydronaphthalene (Tetralin)	RT	4	1	5	4

Chemical resistance

Medium	Temperature °C	Lip material R D H	V	P	S
Thionyl chloride	RT	4	2	4	5
Titanium tetrachloride	RT	2	1	4	4
Toluene	RT	4	1	4	4
Toluene diisocyanate	RT	4	4	4	4
Triacetin	RT	2	1	4	5
Tributoxy ethyl phosphate	RT	4	1	4	5
Tributyl phosphate	RT / 60	4	4	4	4
Trichloroacetic acid	60	5	4	4	4
Trichloroethane	RT	4	1	4	4
Trichloroethylene	RT	4	1	4	4
Tricresyl phosphate	RT / 60	4	1	4	3
Triethanol amine	RT	2	4	4	5
Triethyl aluminium	RT	4	2	4	5
Triethyl borane	RT	4	1	4	5
Trinitrotoluene	RT	4	2	4	5
Trioctyl phosphate	RT/60	4	2	4	3
Tung oil (China wood oil)	RT	1	1	1	4
Turpentine	RT	1	1	2	4
V					
Varnish	RT	2	1	4	4
Vegetable oil	60	1	1	1	2
Vinyl acetylene	RT	1	1	5	2
Vinyl chloride	RT	4	1	5	5
W					
Water	100	1	1	4	1
Whisky	RT	1	1	4	1
White oil	RT / 80	1	1	1	4
Wine	RT	1	1	4	1
Wood oil	RT	1	1	1	4
X					
Xylene	RT	4	1	4	4
Xylidine (di-methyl aniline)	RT	3	4	4	4
Z					
Zeolites	RT	1	1	5	5
Zinc acetate (aq)	RT	1	1	4	4
Zinc chloride (aq)	RT	1	1	4	1
Zinc sulphate (aq)	RT	1	1	4	1

Storage and handling of seals

General

The following guidelines for the storage and cleaning of seals are valid for natural and/or synthetic rubber elastomer materials and correspond to those standardised in ISO 2230 – 1973 and DIN 7716. DIN 9088 – Aerospace: guidelines for the permissible storage times of elastomer products - should also be observed.

The following stipulations to DIN 7716 in respect of storage facilities and actual storage are valid for long-term storage. For shorter periods (up to 6 months), e.g. in production or delivery stores with a continuous flow of materials, these recommendations can be applied, except for those relating to the storage facilities and temperature; there should, however, be no detrimental change to the appearance or function of the products.

Under unfavourable storage conditions or through improper handling most products of natural or synthetic rubber will change their physical properties. This can lead to a shortening of life, or the products may be rendered unusable, for example, as a result of hardening or softening, permanent deformation, peeling, cracks or other surface damage. These changes can be brought about by the influence of oxygen, ozone, heat, light, moisture, solvents etc. or by storing the products under stress or load. Properly stored elastomer products, on the other hand, generally retain their properties virtually unchanged for several years.

Store

The actual store should be cool, dry, moderately ventilated and there should be little dust. Outdoor storage without protection is not permitted.

The appropriate storage temperature depends on the elastomer concerned. The most favourable storage temperature for synthetic rubber seals is in the range +15 to +25 °C. Higher temperatures must be avoided as well as lower temperatures.

Elastomer products which have been subjected to low temperatures during transport or storage may have become stiff. They should, therefore, be allowed to warm up and be kept at a temperature of at least +20 °C before being used. Preferably, this should be done before they are unpacked to avoid condensation on the products themselves.

In heated storage rooms the products should be shielded from the heat source. There should be at least 1 m between the packages and the source of heat. Where a heater with fan is used, the distance should be greater. Storage in damp rooms should be avoided because of the risk of condensation. A relative humidity of under 65 % is best.

The seals should be protected from light, particularly from direct sunlight or artificial light with a high proportion of UV radiation. Any windows in the store should, therefore, be covered with a red or orange coating (never blue). Ordinary light bulbs are to be preferred for illumination.

The seals should be wrapped or stored in airtight containers or otherwise be protected against atmospheric changes and particularly against draught. This is especially important for products which have a surface that is large in relation to the volume.

As ozone is particularly damaging, steps should be taken to see that no ozone is produced in the store e.g. as a result of using electric motors or other equipment which can produce sparks or other electric discharges. Combustion fumes and vapours which can produce ozone as a result of photochemical processes should be exhausted. For this reason solvents, fuels, lubricants, chemicals, acids, disinfectants etc. should not be stored in the same room as the seals.

It should be observed that elastomer products should not be subjected to tension, compression or other forms of loading in storage, as these can produce permanent deformations and cracks. Seals should therefore not be hung on hooks during storage. Certain metals, especially copper and manganese, damage elastomer products. Contact with these metals should thus be avoided and the seals should be covered with layers of paper or polyethylene to prevent such contact.

In case it is necessary to repack the seals, packaging and covering materials should not contain substances which are damaging the seals, e.g. copper or alloys containing copper, petroleum, oil etc. The packaging materials should not contain softeners.

If the products are powdered, then the powder must not contain damaging substances. Suitable powders are talcum, chalk, finely divided glimmer and rice starch.

Seals which are made of different materials should not be in contact with each other. This is particularly important where the seals have different colours.

Seals should be stored for as short a period as possible. Where long-term storage is involved, care should be taken to see that newly arrived products are kept separate from those already in storage.

Cleaning and maintenance

Elastomer products should be cleaned, if necessary, using warm soapy water (not above 30 °C) and allowed to dry off at room temperature.

Solvents such as trichloroethylene, carbon tetrachloride or hydrocarbons should not be used, nor should sharp-edged objects, wire brushes, emery cloth or sandpaper.

Elastomer/metal combinations can be cleaned using a 1:10 mixture of glycerine in alcohol.

Questionnaire form

From

Company:

Address:

Name: Department:

Telephone: Telefax:

Date:

To

1. Application

Where is the seal to be used (machine, equipment etc.)

☐ New design ☐ Design modification

☐ Drawing/sketch enclosed

2. Lubricant

2.1 Type: Designation

2.2 Normal lubricant temperature: °C min: °C max: °C

2.3 Temperature cycle:

2.4 Lubricant volume (oil level):

2.5 Internal pressure: MPa

2.6 Pressure cycle:

3. Deviations of position and form

3.1 Deviation of coaxiality of shaft/housing bore:

3.2 Shaft runout:

4. External conditions

4.1 External pressure: MPa

4.2 Ambient temperature: °C min: °C max: °C

4.3 Medium to be excluded (e.g. dust, mud, water etc.):

5.	**Shaft**	
5.1	Diameter (d_1):	min: mm max: mm
5.2	Material:	
5.3	Type of surface:	Hardness:
5.4	Surface roughness:	R_a µm R_z µm $R_{max.}$ µm
5.5	Chamfer/transition:	
5.6	Shaft rotation (where applicable):	Speed: r/min min: r/min max: r/min
	Direction of rotation:	☐ clockwise ☐ anti-clockwise ☐ alternating
	Oscillation:	Angle of oscillation degrees Frequency r/min
6.	**Housing**	
6.1	Bore diameter (d_2):	min: mm max: mm
6.2	Depth of bore (width):	min: mm max: mm
6.3	Material:	
6.4	Surface roughness:	R_a µm R_z µm $R_{max.}$ µm
6.5	Chamfer/transition:	
6.6	Housing rotation (where applicable):	Speed: r/min min: r/min max: r/min
	Direction of rotation:	☐ clockwise ☐ anti-clockwise ☐ alternating
	Oscillation:	Angle of oscillation degrees Frequency r/min
7.	**Seal**	
7.1	Design/type:	
7.2	Material:	Shell/outside diameter: Seal lip:
7.3	Additional requirements:	☐ Bore-Tite ☐ Shaft wear sleeve
8.	**Quantity**	
8.1	Once only:	☐ Number of seals:
8.2	Continuous:	☐ Number of seals per annum:
8.3	Supply date:	
8.4	Other information:	

Radial shaft seals

- Small diameter seals (SDS)
- Large diameter seals (LDS)

Contents

Radial shaft seals

General

Radial shaft seals are used between rotating and non-rotating machine components **(fig 35)**.

They are made up of

- a cylindrical outer covering of sheet steel (shell) or elastomer which seals statically against the housing bore and enables the requisite interference fit of the seal in the housing bore to be obtained as well as facilitating proper installation,
- the sealing lip of elastomer which provides dynamic and static sealing against the shaft. The lip has a sealing edge, which is formed by pressing, cutting or grinding and is normally pressed against the counter-surface on the shaft with a defined radial force by a garter spring. The edge of the sealing lip and the shaft counter surface form the most important functional area of a radial shaft seal. The sealing effect of the lip can be enhanced by providing the contact area of the lip with hydrodynamic aids which may be designed for single direction operation, or for alternating directions of shaft rotation.

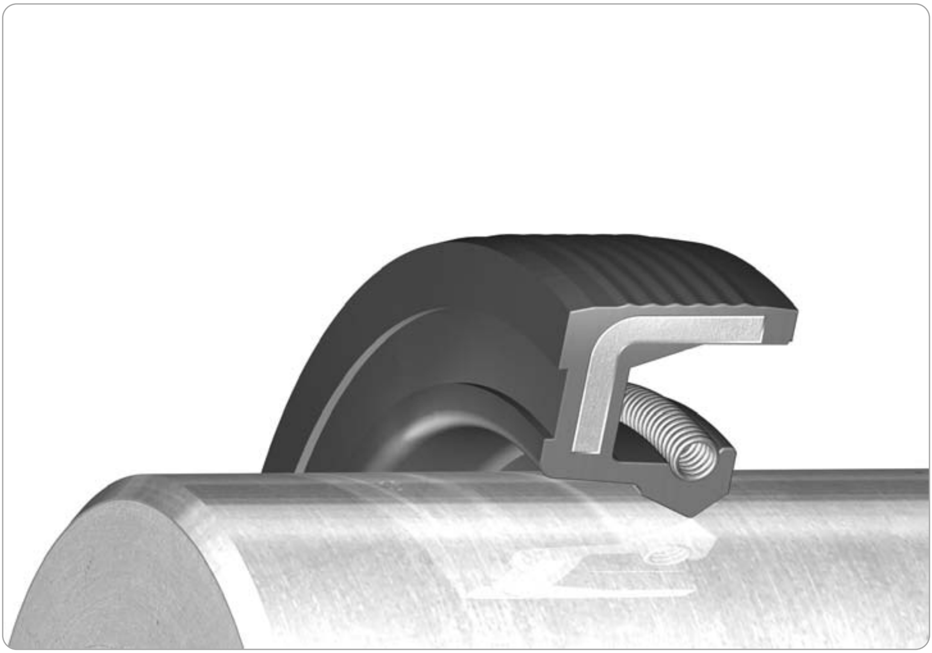


Fig 35

An additional sealing lip may also be provided to protect the sealing contact proper from dust and other fine solid contaminants. A suitable lubricant in the space between the primary sealing lip and the secondary lip can reduce wear and delay corrosion. Where hydrodynamic aids have been provided it should be remembered that a pressure deficit can be produced in the space between primary and secondary lips which will increase the radial force. This situation can be avoided by providing breathing holes in the secondary lip. It should also be remembered that contaminants which have penetrated past the secondary lip will eventually cause damage in the counter surface region.

A build-up of heat can also occur between the two lips which promotes premature wear. Radial shaft seals are used throughout industry in a multitude of applications. Because of the importance of radial shaft seals for the operational reliability and service life of machines and equipment, both seal manufacturers and users are equally interested in some degree of standardization. This has led to the establishment of the national and international standards and recommendations listed in (**Table 2**, **page 55**). These cover boundary dimensions, tolerances, material specifications and test methods and the terminology shown in **(fig 37)** and **(fig 38)** as well as the six most common radial shaft seal forms as shown in **(fig 36)**.

It should be noted that the terminology found in SKF publications and used here differs in some instances from the ISO standard. The terms used by SKF and in this catalogue which differ from ISO are given in bold type after the relevant ISO term in **fig 36 and 37**.

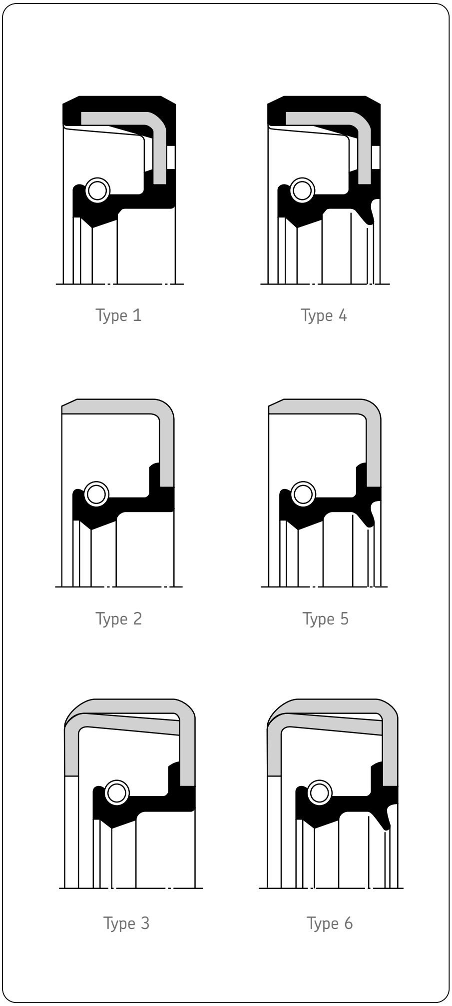


Fig 36

Metal clad seal with spring-loaded lip (ISO = metal cased rotary shaft lip seal); ISO terminology

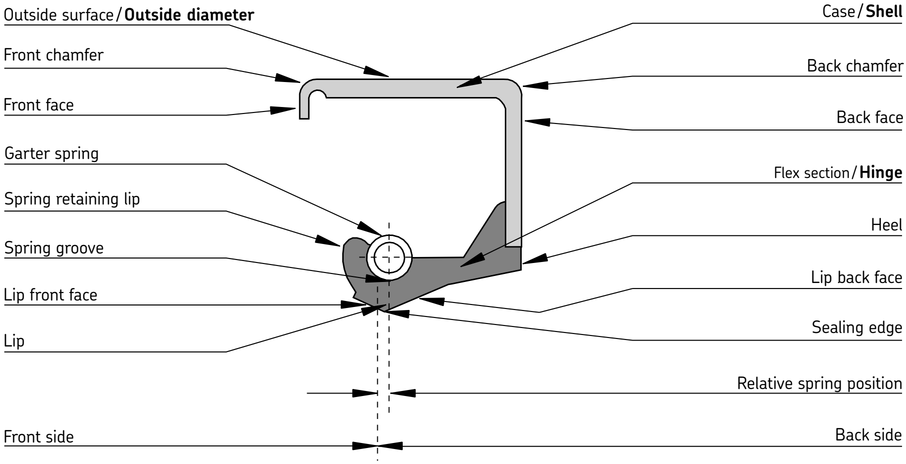


Fig 37

Rubber outside diameter shaft seal with spring-loaded lip and secondary lip
(ISO = rubber covered rotary shaft lip seal); ISO terminology for parts not shown in fig 3

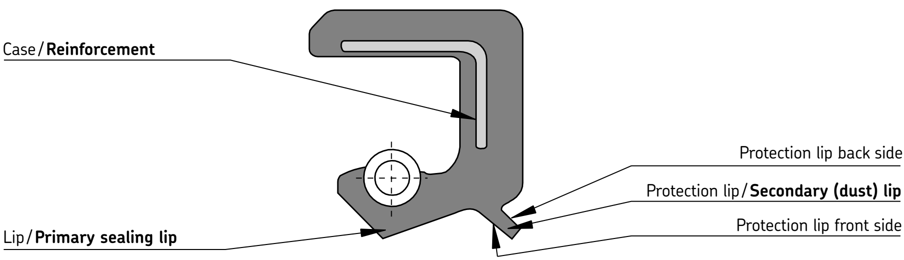


Fig 38

Table 2. Standards and other documents relating to radial shaft seals

Document [1)]	Title
ISO 6194/1–1982	Rotary shaft lip type seals – Nominal dimensions and tolerances
ISO 6194/2–1991	Rotary shaft lip type seals – Vocabulary
ISO 6194/21–1988	Rotary shaft lip type seals – Storage, handling and installation
ISO 6194/4–1988	Rotary shaft lip type seals – Performance test procedures
ISO 6194/5–1990	Rotary shaft lip type seals – Identification of visual imperfections
SAE J946–1980	Application guide to radial lip seals
RMA OS–4,1984	Application guide for radial lip type shaft seals
RMA OS–7,1982	Storage and handling guide for radial lip type shaft seals
RMA OS–8,1977	Visual variations guide for rotating shaft seals
DIN 3760	Radial-Wellendichtringe (Radial shaft seals)
DIN 3761	Radial-Wellendichtringe für Kraftfahrzeuge (Radial shaft seals for motor vehicles), Parts 1 to 15. This standard covers all aspects including vocabulary, material requirements and test methods.

[1)] RMA = Rubber Manufacturers Association
SAE = Society of Automotive Engineers

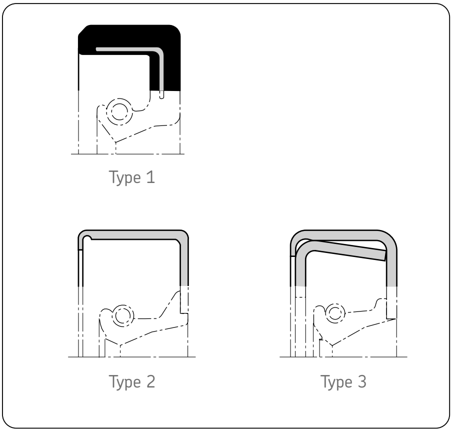


Fig 39

SKF radial shaft seals are produced in different designs, variants and sizes. The designs differ in the form and execution of the outside diameter and the sealing lip.

Outside diameter design
The standard range of small radial shaft seals produced by SKF covers five different outside diameter executions. These are Types 1, 2 and 3 to ISO 6194/1 (Forms A, B and C to DIN 3760 and DIN 3761, Part 2) **(fig 39)**.

Radial shaft seals with an elastomeric outside diameter, Type 1 and Type 4 (Forms A and AS) have a particularly wide range of application. They allow a tight fit in the housing bore when the housing material has a higher coefficient of thermal expansion than steel and/or when the housing is split. They are also recommended in all cases where the requisite tolerances for the housing bore, e.g. for the surface roughness, cannot be achieved.

Radial shaft seals with metallic outside diameter (shell), Type 2 (Form B), are multipurpose seals which can be used for most applications. They are relatively easy to install and, provided housing bore meets the accuracy reqirements, they will fit tightly and centrically in the bore.

The radial shaft seals with metallic shell and secondary reinforcement in the side face, Type 3 (Form C), offer advantages where operating conditions are difficult and/or rough. They have higher radial stiffness than Type 2 and are available for shaft diameters of approximately 50 mm and above.

As the static sealing effect between the metallic shell and the housing bore is somewhat limited, particularly against thin fluids and media which can “creep”, most SKF seals with metallic shell are coated with “Bore-Tite”, a water-based paint-like sealant, see **page 26**.

Besides the three standardized designs already described, SKF also produces large seals, where the outside diameter is specially designed to meet the requirements for large diameter applications. See page **198.**

Garter springs

SKF radial shaft seals have garter springs made of drawn carbon steel or stainless steel (X 3 CrNiN 17 8, Material No. 1.4319; SAE 30302) spring wire.

The carbon steel springs are standard. In cases where a seal has a non-standard garter spring, this is noted in the product tables.

Bore-Tite coating

Bore-Tite is a water-based polyacrylate material and is used as a coating on the seal steel outside diameter of part of the CR radial shaft seal range. Bore-Tite is green in colour, does not harden and serves to fill slight irregularities in the housing bore. For further details see **page 26**.

Dimensions

SKF radial shaft seals are produced in a very wide range of dimensional variants for shaft sizes in the range 5 to 4.600 mm (1/4 to 180 inch). The range also includes standard sizes according to ISO 6194/1:1982 and DIN 3760:1996 (shaft diameter range 6 to 500 mm incl.)

In the diameter range 1/2 to 6 inch the inch size radial shaft seals conform to recommendations laid down in SAE J946. The dimensions of the larger seals are not covered by any ISO, DIN or SAE standards. However, the dimensions of the large seals shown are generally accepted.

Tolerances

SKF radial shaft seals are manufactured with the outside diameter tolerances given in **Table 3** for metric seals and **Table 4, page 58** for inch-size seals. These correspond, where standardised, to the values given in ISO 6194/1:1982 and DIN 3760:1996 and SAE J946.

The width tolerances correspond to ISO 6194/1:1982 and SAE J946.

Metric sizes:

Seal width	Tolerance
$b \leq 10$ mm	±0,3 mm
$b > 10$ mm	±0,4 mm

Inch sizes:

Seal width	Tolerance
$b \leq 0{,}400$ inch	±0,015 inch
$b > 0{,}400$ inch	±0,020 inch

Symbols:

d_2	nominal outside diameter
Δd_2m	mean outside diameter deviation: arithmetical difference between the mean outside diameter and the nominal
Vd_2s	outside diameter variation (roundness tolerance): arithmetical difference between the largest and smallest single outside diameters measured at three or more points equally spaced around the circumference

Table 3. Outside diameter tolerances for metric seals

Outside diameter		Seals with outside diameter of steel			elastomer		
d_2 over	incl.	Δ_{d2m} high	low	V_{d2s} max	Δ_{d2m} high	low	V_{d2s} max
mm		mm			mm		
	50	+0,20	+0,08	0,18	+0,30	+0,15	0,25
50	80	+0,23	+0,09	0,25	+0,35	+0,20	0,35
80	120	+0,25	+0,10	0,30	+0,35	+0,20	0,50
120	180	+0,28	+0,12	0,40	+0,45	+0,25	0,65
180	300	+0,35	+0,15	0,0025 d_2	+0,45	+0,25	0,80
300	500	+0,45	+0,20	0,0025 d_2	+0,55	+0,30	1
500	630	+0,50	+0,22	0,0025 d_2	–	–	–
630	800	+0,50	+0,24	0,0025 d_2	–	–	–
800	1.000	+0,55	+0,25	0,0025 d_2	–		–
1.000	1.250	+0,60	+0,27	0,0025 d_2	–	–	–
1.250	1.600	+0,65	+0,30	0,0025 d_2	–	–	–

Table 4. Outside diameter tolerances for inch size seals

Outside diameter		Seals with outside diameter of steel			elastomer		
d_2 over	incl.	Δ_{d2m} high	low	V_{d2s} max	Δ_{d2m} high	low	V_{d2s} max
in		in			in		
	2	+0,007	+0,003	0,005	+0,011	+0,005	0,010
2	3	+0,008	+0,003	0,006	+0,013	+0,007	0,014
3	5	+0,009	+0,003	0,007	+0,013	+0,007	0,020
5	7	+0,010	+0,004	0,012	+0,016	+0,008	0,025
7	12	+0,012	+0,005	0,015	+0,016	+0,008	0,025
12	20	+0,016	+0,006	0,002 d_2	–	–	–
20	40	+0,016	+0,006	0 002 d_2	–	–	–
40	60	+0,018	+0,006	0,002 d_2	–	–	–

Sealing lip design
The form and design of the sealing lips are based on knowledge gained through research and development activities as well as very wide practical experience obtained by SKF in close cooperation with users. The distance between the lip and the seal back face, the strength of the flex section, the angle of the lip **(fig 37, page 54)** and the tension in the spring are chosen so that the pressure distribution in the sealing lip/counter surface contact required for satisfactory sealing can be established.

The sealing lips of SKF radial shaft seals are produced in several materials and two different designs. The various materials are described on page 27. The two designs differ in the execution of the seal lip edge. The “conventional” sealing lip **(fig 40)**, has a straight edge whereas the edge of the SKF Waveseal design **(fig 41)**, has a special hydrodynamic form so that the lip describes a sinusoidal path on its counter surface.

The Waveseal design from SKF represents one of the most important developments in radial shaft seals. The sealing lip is pressed and its special form produces a relative movement of the sealing lip on the counterface, imparting hydrodynamic properties. Waveseals are suitable for both directions of rotation; they pump the lubricant back into the bearing arrangement and expel contaminants. The sinusoidal form of the sealing lip considerably extends the path **(fig 41)** on the counter surface and at the same time reduces the specific surface pressure in the sealing lip/counter surface contact.

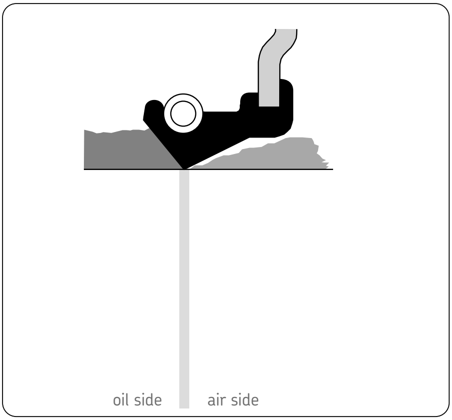


Fig 40. Conventional sealing lip with straight edge

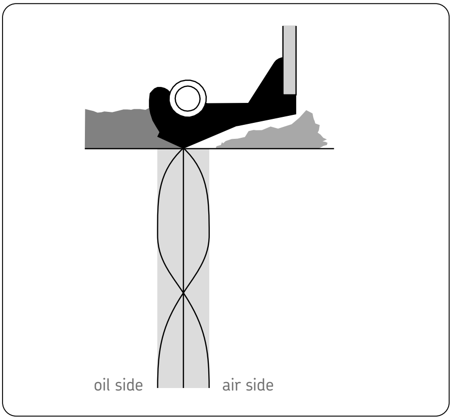


Fig 41. SKF Waveseal lip with sinusoidal edge

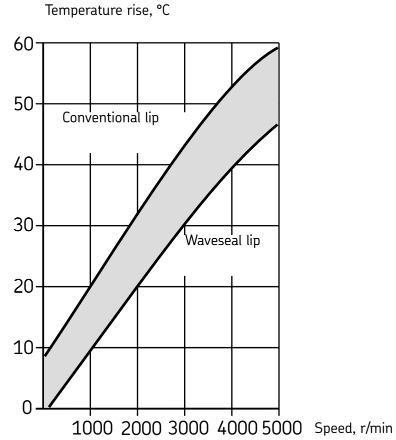


Diagram 4. Temperature rise at sealing lip/counterface contact for conventional and Waveseal lips as a function of rotational speed for a 76 mm diameter shaft with SAE 30 engine oil

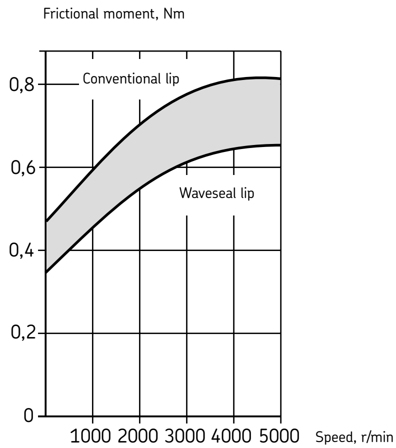


Diagram 5. Frictional moment at sealing lip/counterface contact for conventional and Waveseal lips as a function of rotational speed for a 76 mm diameter shaft with SAE 30 engine oil

As a consequence, Waveseals produce up to 20% less friction and up to 30% lower temperatures than conventional seals; see also **Diagram 4** and **Diagram 5**. These advantages prevent the formation of deep tracks in the counter surface and provide much longer service lives.

Waveseals are available for shaft diameters of 6 to 310 mm. Their use is specially recommended where demands for operational reliability and long service life for machines and equipment are high.

SKF seals with conventional spring-loaded lip meet normal demands and provide efficient sealing even under unfavorable operating conditions.

To strengthen the sealing effect, some SKF radial shaft seals are provided with hydrodynamic aids on the contact surface of the sealing lip. These have either a right-hand twist for a clockwise direction of rotation of the shaft, or a left-hand twist for anti-clockwise shaft rotation, seen from the lip contact. The degree of improvement depends not only on the form of the spiral flutes but also on the circumferential speed, the pressure conditions and the media being sealed.

Secondary (dust) lips

SKF radial shaft seals with conventional and Waveseal lips can also be supplied as standard with an additional lip as shown in **fig 38**, **page 54**. On Waveseals, the secondary lip forms a narrow gap to the counter surface and there is practically no contact. Because of this, the seals can be operated at the same speeds as single-lip radial shaft seals without causing higher temperatures; they provide enhanced sealing.

Coaxiality and runout

The deviation from coaxiality and the runout of the shaft are two of many operating parameters which affect seal performance and life. They should therefore be kept within narrow limits, particularly at sealing positions where there is a pressure differential across the seal. The total deviation should never exceed 1,3 times the value of the permissible deviation from coaxiality.

Coaxiality

Deviations from coaxiality, i.e. the difference between the center lines of the shaft and housing bore, cause force to be irregularly distributed on the sealing lip (**fig 42**). This means that one section of the sealing lip will be subjected to more force, causing an enlargement of the contact between lip and counter surface, whereas the opposite section will be correspondingly unloaded and its sealing effect reduced. Guideline values for the permissible coaxiality deviations for SKF seals can be obtained from **Diagram 6, page 62**.

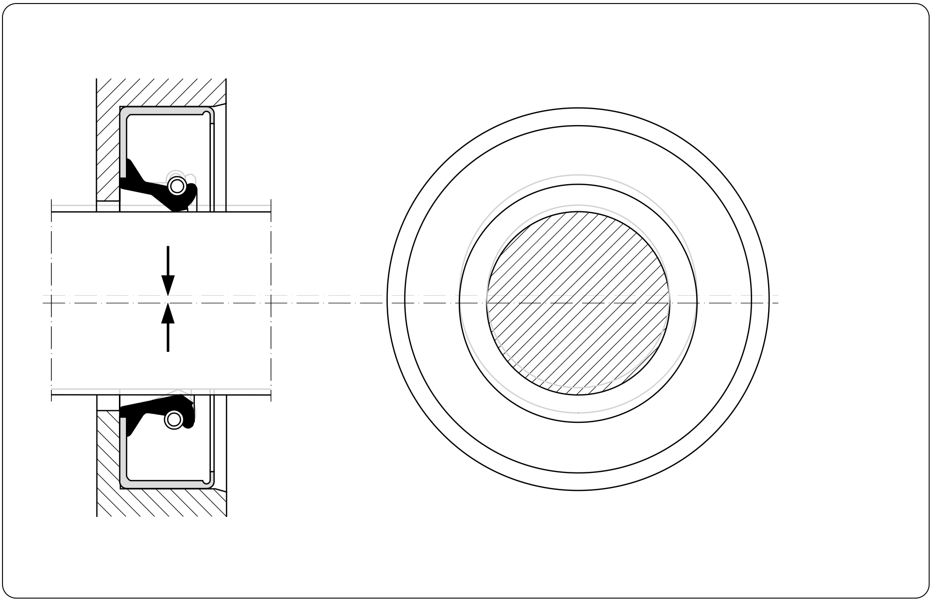


Fig 42. Coaxiality

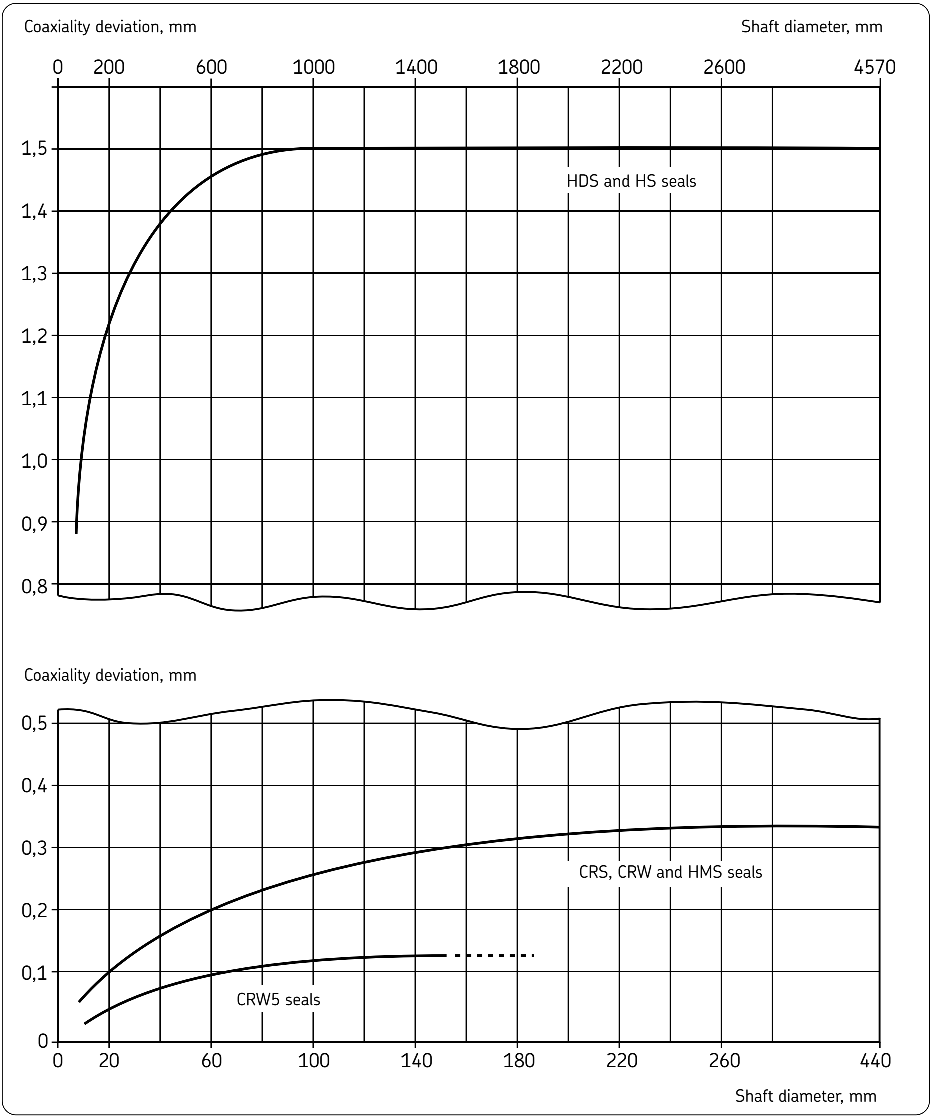


Diagram 6. Maximum permissible deviation from coaxiality as a function of shaft diameter

Runout

Runout describes the dynamic eccentricity of the shaft. Particularly at high speeds, there is a danger that the sealing lip, because of its inertia, will not be able to follow the shaft counter surface **(fig 43)**. If the eccentricity is such that the distance between sealing lip and shaft becomes larger than that required to maintain a hydrodynamic lubricant film, the medium being sealed will escape through the gap. It is therefore advisable to arrange the seal in close proximity to the bearing and to keep bearing play at a minimum. Permissible runout values can be obtained from **Diagram 7, page 64**. These values are reduced for narrow seals but may be increased by choosing suitable elastomers and appropriate design measures.

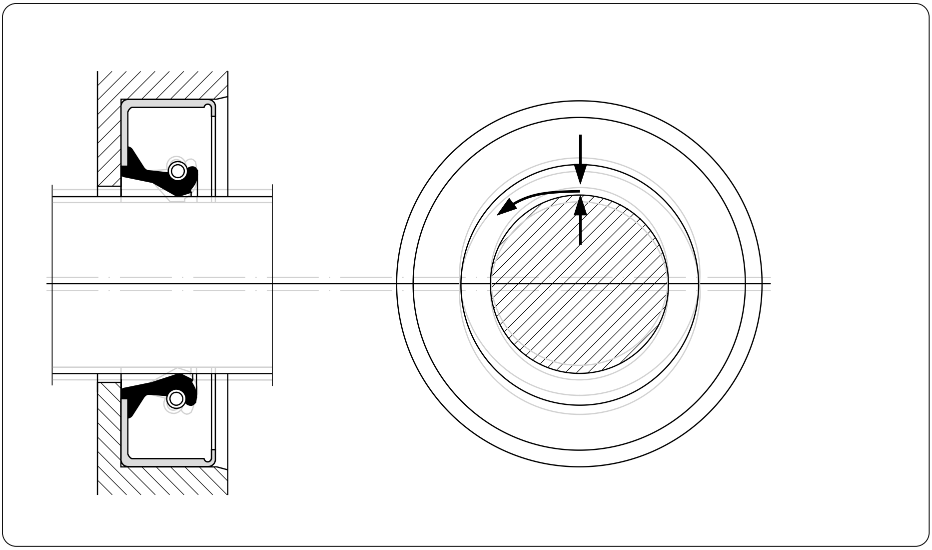


Fig 43. Runout

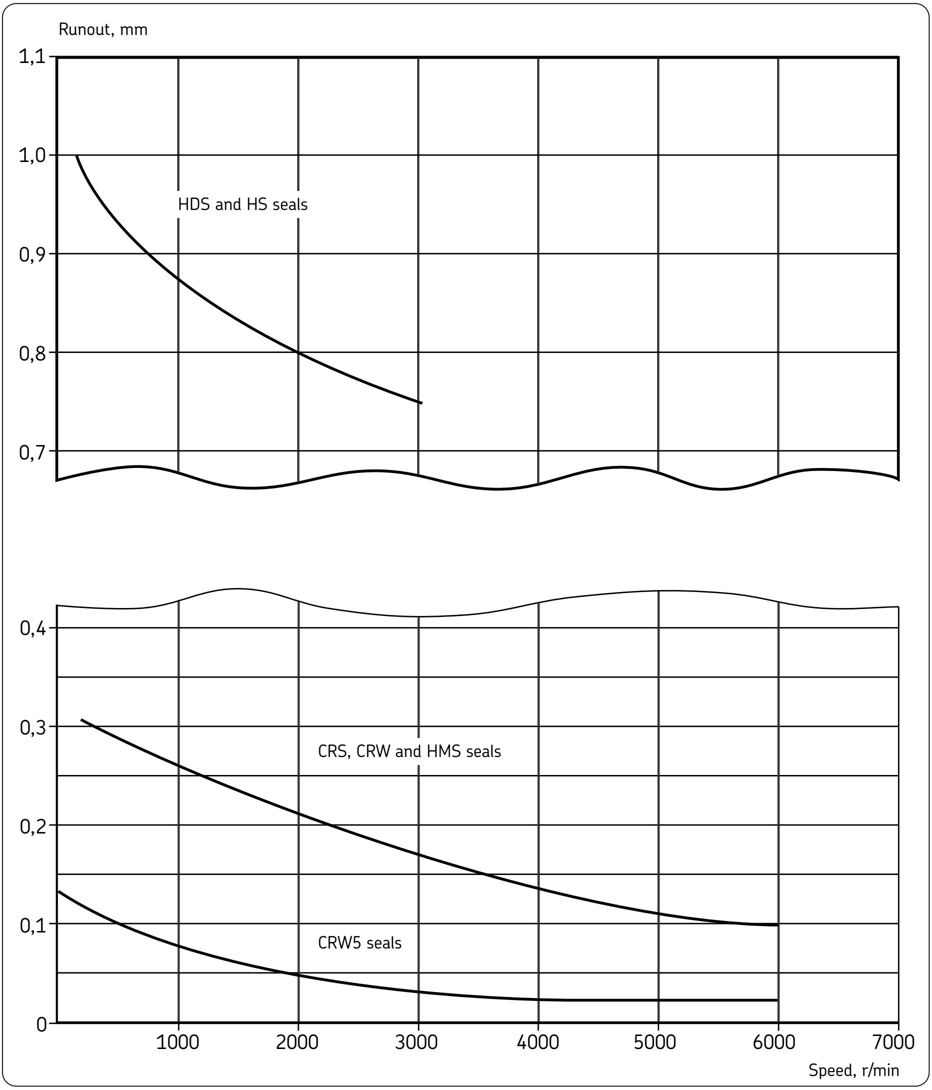


Diagram 7. Maximum permissible runout as a function of rotational speed

Axial movement
Small movements of the shaft with respect to the housing in the axial direction do not affect seal performance, provided that the total counter surface meets the same demands in respect of hardness, accuracy and surface finish.

Permissible speed
Guideline values for the permissible rotational and circumferential speeds for the different seal designs will be found in the section “Overview of SKF radial shaft seals”. If the circumferential speeds given in the overview are not sufficient for a particular sealing position, **Diagram 8** on **page 66** may be used. The diagram gives circumferential and rotational speeds related to the material of the sealing lip. The values are valid for spring-loaded lips which are well lubricated by a mineral oil, where adequate lubricant supply ensures that heat does not build up and where the pressure is the same on both sides of the seal (pressure differential = 0). In case of doubt, e.g. when the circumferential speed of the sealing lip is relatively high and there is no experience available in house, it is advisable to consult SKF.

It will be seen from **Diagram 8** that higher circumferential speeds are permitted for large-diameter shafts than for shafts with smaller diameters. This is because the cross section of the shaft does not increase linearly with the increase in diameter but by the square of the increase in diameter, so that the heat removal capacity of a large shaft is much better than that of a small shaft.

Generally, SKF Waveseals can be operated at higher circumferential speeds than those obtained from **Diagram 8** because of the hydrodynamic form of the lip.

The values obtained from **Diagram 8** should be reduced if

- radial shaft seals with a secondary, contacting lip are used,
- lubrication is poor or grease lubrication is used, i.e. when there is little cooling of the sealing lip and poor heat transfer,
- the counterface does not meet the demands in respect of surface finish or running accuracy,
- there is a pressure differential across the seal.

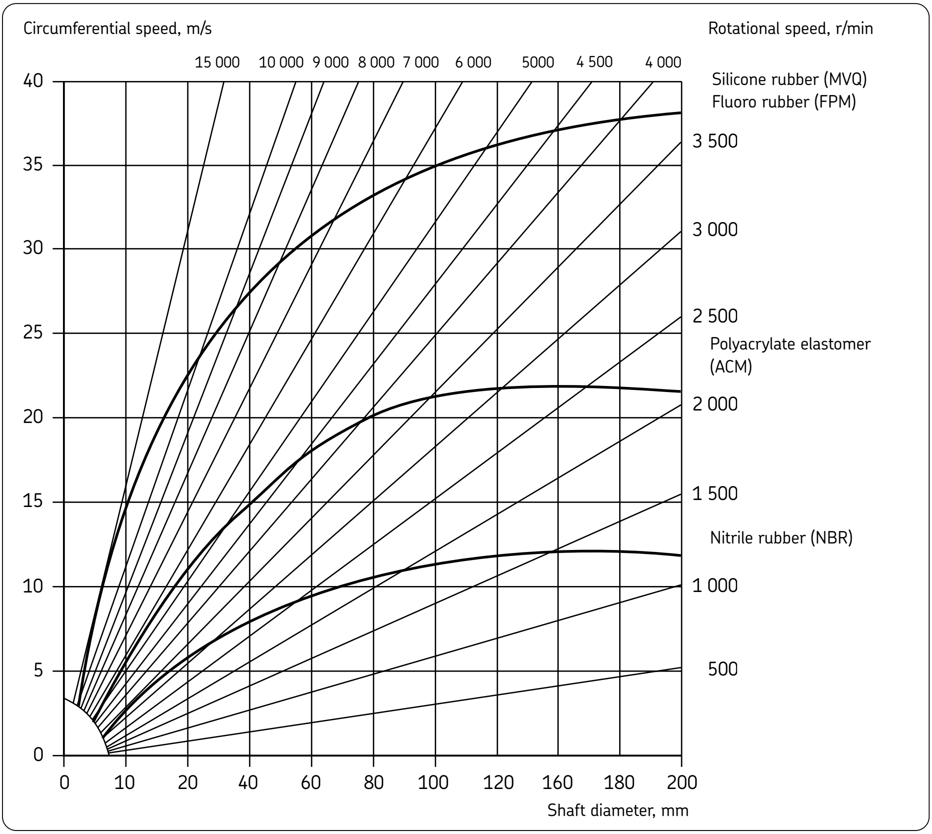


Diagram 8. Permissible speeds for spring-loaded seal lips where no pressure differential exists across seal in operation
For permissible speeds for large diameter seals (shaft diameter > 200 mm / 8 inch) see seal selection chart starting on **page 100.**

Lubrication

In order for a radial shaft seal to be able to seal efficiently over a long period it is necessary to lubricate the sealing lip. This prevents actual lip counter surface contact and reduces friction as well as wear to the lip and counter surface. Dry running of sealing lips made of standard materials should be avoided at all costs. Because of this, the counter surface should be coated with a suitable lubricant when the seal is being installed, so that the sealing lip is lubricated right from the beginning.

The medium being sealed is not only intended to lubricate the seal but also transport the heat generated by friction in the lip/counter surface contact. Thus, the medium must be able to reach the sealing lip in sufficient quantities from the very beginning.

In applications where the seal has to retain oil or grease, lip lubrication is not normally a problem. Some rolling bearings, e.g. angular contact ball bearings, taper roller bearings and spherical roller thrust bearings, as well as gears, have a pumping action by virtue of their design. This means that the sealing lip can either be starved of lubricant or be subjected to excessive quantities of lubricant. In both cases steps need to be taken at the design stage in order to ensure that lubricant actually reaches the contact, or that excess quantities are removed.

Where lubricant starvation has to be prevented, lubrication ducts can be provided. Where there is too much lubricant, a flinger can be installed between bearing and seal.

When lubricants are not being sealed, grease or oil must be supplied separately so that the lip can be lubricated. In exceptional cases and where seals with a secondary (dust) lip or two sealing lips are used it may be sufficient to provide an initial fill of grease between the two lips.

Lubrication of paired arrangements

If two radial shaft seals are to be mounted in a common housing bore either in tandem or in a back-to-back arrangement, care must be taken to see that neither of the sealing lips can run dry at any time. To eliminate any risk of dry running, the free space between the seals or sealing lips should be filled with a suitable lubricating grease.

To guarantee lubricant supply to the sealing lips in operation and to prevent dry running, the use of a spacer ring between the two seals is recommended. This ring should be provided with lubrication holes or an annular groove and lubrication holes (**fig 44**), so that grease can be supplied to the space between the sealing lips, e.g. via a grease nipple.

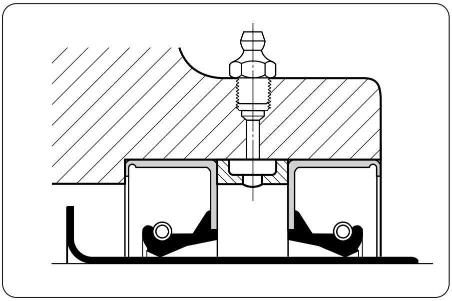


Fig 44

Friction

The lip of a radial shaft seal must always exert a certain pressure on the counterface if efficient sealing is to be obtained. The friction resulting from this lip pressure is only part of the total friction in the contact and thus of the total power loss at the sealing position. The other contributing factors include

- the type of medium being sealed,
- the pressure differential across the seal,
- the circumferential speed,
- the surrounding temperature,
- the lubrication and
- the condition of the counterface.

Diagram 9 gives an indication of the frictional losses which may be expected when a radial shaft seal with conventional sealing lip is properly installed and fully lubricated.

During the running-in phase for the sealing lip, which lasts a few hours, the frictional losses are somewhat higher.

For the seals intended for high pressure differentials, the losses are generally higher than shown in the diagram. For Waveseal designs, on the other hand, the losses are generally lower than indicated.

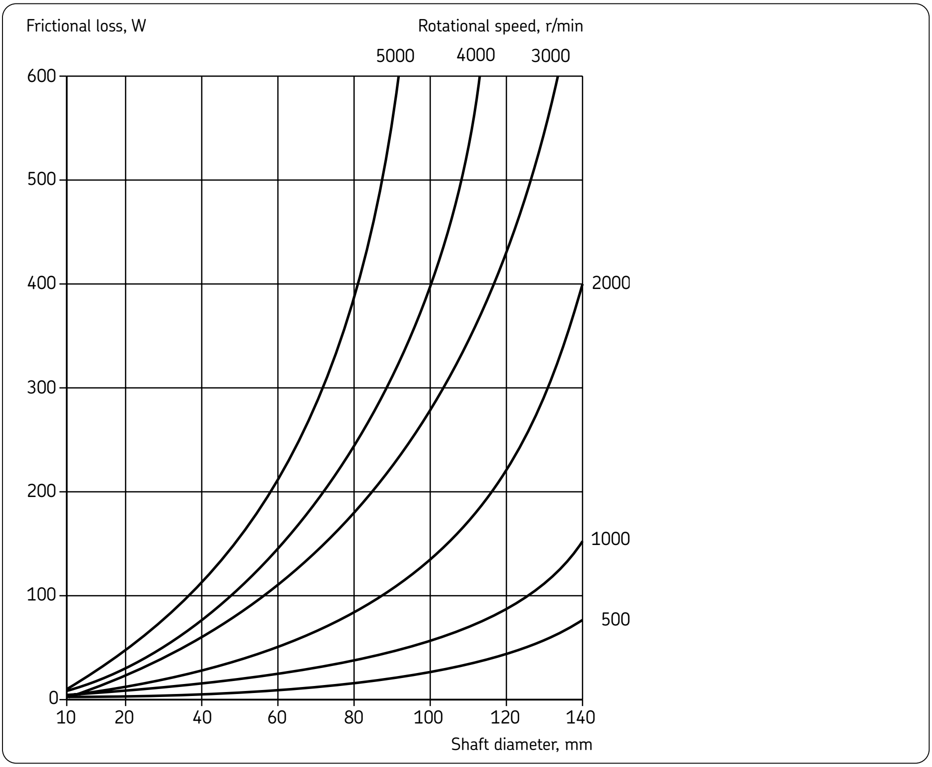


Diagram 9. Frictional losses of radial shaft seals as a function of rotational speed and shaft diameter

Chemical and thermal resistance

The most important factor when selecting the appropriate elastomer for a radial shaft seal is its chemical resistance to the medium to be sealed or excluded. The operating temperature is another important factor. Heat accelerates ageing of the elastomer and increases the reactivity and aggressiveness of the sealed medium.

As radial shaft seals are mainly used to seal

- ☐ lubricating oils and greases,
- ☐ hydraulic fluids (including non-flammable fluids)

as well as a few other media, guideline values are given in **Table 5, page 70** for the permissible operating temperatures, i.e. temperatures at which the SKF seals are still chemically resistant. The temperature range quoted for a group of media means that the sealing material is resistant when continuously operated within this particular range.

The ☐ means that, within the group of media, there are some which are compatible with the elastomer, but also some which have a detrimental effect on the elastomer.

The ■ means that the seal material is not resistant to media belonging to this group.

At the lower temperature limit quoted the basic material will not be destroyed and will be fully operational when the temperature is increased again.

For the resistance of seal materials to media not given in **Table 5**, reference should be made to the section “Chemical resistance” or information will be supplied on request.

Table 5. Chemical and thermal resistance, radial shaft seals lip materials

Medium to be sealed	Permissible operating temperatures (continuous) for SKF radial shaft seal lip materials[1]			
	R (NBR)	P (ACM)	S[2] (MVQ)	V (FPM)
–	°C			
Mineral oil based lubricants				
Motor oils	100	130	150	170
Gear oils	80	120	130	150
Hypoid gear oils	80	120	■	150
Automatic transmission fluids (ATF oils)	100	130	□	170
Greases	90	□	□	□
Hydraulic fluids	90	120	□	150
Fire resistant hydraulic fluids				
Oil in water emulsions and aqueous polymer solutions	70	■	60	□
Anhydrous fluids	■	■	■	150
Other media				
Fuel oils EL and L	90	□	■	□
Water	90	■	■	100
Alkaline washing solutions	90	■	■	1.100
Permissible temperature range				
for seal lip min:	–30	–40	–60	–40
max:	+100	+150	+160	+200

1) R = nitrile rubber
P = polyacrylate elastomer
S = silicone rubber
V = fluoro rubber
2) Silicone rubber seals can only be used when oxygen can reach the sealing position

■ Lip material not resistant
□ Lip material not resistant to some media in this group

Seals under pressure

Where a pressure is exerted on the seal, the lip will be pressed harder against the counter surface and the actual contact will be enlarged, so that friction and temperature in the contact will increase.

Therefore, the guideline values for speeds obtained from Diagram 5 do not apply.

Guideline values for seals under pressure can be obtained from **Table 6**. The values are for solid shafts, good heat removal via the medium being retained, and where the counterface meets the demands regarding surface finish and running accuracy.

SKF radial shaft seals of the CRW5 and CRWA5 designs can withstand differential pressures of 0,6 MPa (**fig 46**).

Where there is a pressure differential across the seal, a shoulder, spacer ring or retaining ring should be used at the low pressure side of the seal to prevent it from being pressed out of the housing bore (**fig 45**).

An additional steel shell (**fig 47**) which supports the sealing lip makes it possible to use other radial shaft seals under pressure. This solution is rather expensive but can be appropriate where there is no suitable pressure seal available, or where quantities are not sufficient for cost effective production.

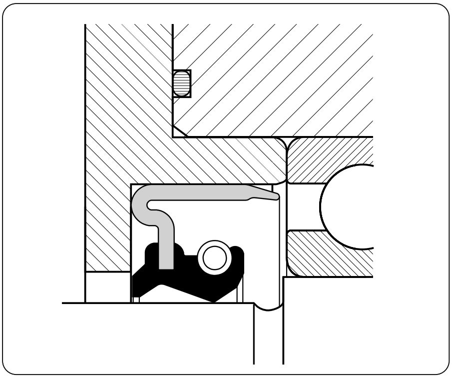


Fig 45

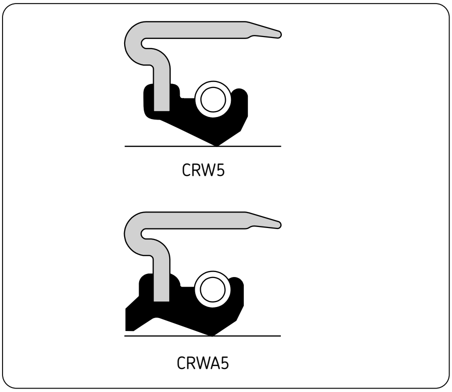


Fig 46

Table 6. Permissible speeds for seals under pressure

Pressure differential max	Shaft speed permissible	Circumferential speed max
MPa	r/min	m/s
0,02	3.000	5,6
0,035	2.000	3,2
0,05	1.000	2,8

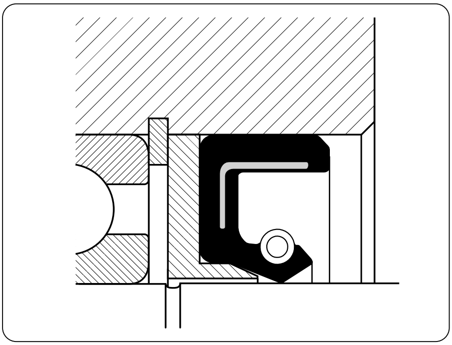
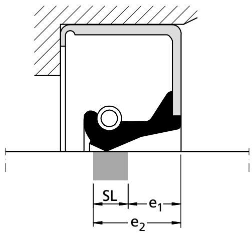
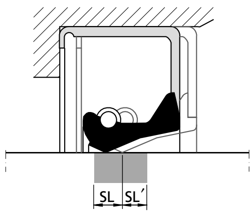


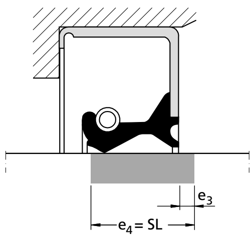
Fig 47

Shaft requirements – small diameter seals (SDS)

Table 7. Counterface for small diameter radial shaft seals







Seal width b	Counterface 1) e1	e2 min	e3	e4 min
mm	mm			
7–7,938	3,5	6,1	1,5	7,6
8	3,5	6,8	1,5	8,3
9,525–10	4,5	8,5	2	10,5
11,112–12	5	10	2	2
12,7	5	11	2	13
14,288–15	6	12	3	15
20	9	16,5	3	19,5

1) SL'~ washer width

General

To achieve reliable sealing and sufficiently long service life, the counterface for small radial shaft seals on the shaft should meet the requirements outlined in the following. The counterface is considered to be the extent of the surface of a shaft, or sleeve mounted on a shaft, over which the edge of the sealing lip can run, taking into account all permissible deviations and movements – surface SL, see **Table 7**, as well as an additional surface SL' which may be required in the case of repairs or inspection.

Tolerances

The diameter of the shaft d1 at the counterface should be machined to the tolerances given in **Table 8** for metric seals and in **Table 9** for inch size seals.

If components which are to be mounted with an interference fit are to be passed over the counterface the shaft diameter should be reduced by 0,2 mm. The seal which was originally chosen can still be used without its sealing properties being impaired.

Surface roughness

The surface roughness to ISO 4288–1985 of the counterface for radial shaft seals should be kept within the following limits:

R_a	0,2 to 0,63 µm
R_z	0,8 to 2,5 µm
R_{max}	6,3 µm

The lower values for R_a and R_z are minimum values as otherwise lubricant supply to the sealing lip will be affected. The temperature rise caused by inadequate lubrication, particularly at high circumferential speeds, would lead to hardening and cracking of the lip and thus to premature seal failure. If the surfaces are too rough there will be excessive seal lip wear and seal life will be shortened. If the value R_{max} is exceeded leakage may occur.

Table 8. Counterface tolerances for metric seals

Shaft diameter Nominal d_1		Diameter tolerance (h 11) Deviation		Circularity tolerance (IT 8) Deviation
over	incl.	high	low	max
mm		µm		µm
6	10	0	– 90	22
10	18	0	–110	27
18	30	0	–130	33
30	50	0	–160	39
50	80	0	–190	46
80	120	0	–220	54
120	180	0	–250	63
180	250	0	–290	72

Table 9. Counterface tolerances for inch size seals

Shaft diameter Nominal d_1		Diameter tolerance Deviation		Circularity tolerance
over	incl.	high	low	max
in		in		in
	4	+0,003	–0,003	0,002
4	6	+0,004	–0,004	0,002
6	10	+0,005	–0,005	0,003

Surface finish

It is also important that the machining operation does not leave any directionality behind on the counter surface, as this could lead to leakage by pumping action, depending on the direction of rotation. A suitable surface can be achieved by plunge grinding; whole number ratios of the grinding wheel speed to the work piece speed should be avoided. The grinding wheel should be dressed using a cluster head dressing tool and the smallest possible lateral feed, or a profile dressing roll without lateral feed. The negative influence of directionality in any particular case can only be ascertained by test running under conditions of alternating rotation.

The counter surface should be free of any damage such as bruises, scratches, cracks, rust or raised sections. It is therefore important that it not only be carefully machined but also that it be properly protected until final mounting takes place. Such protection can, for instance, be provided by threading a cardboard tube over the counter surface, or preferably over the whole shaft.

Hardness and surface treatment

The surface hardness of the counter surface should normally be at least 55 HRC to EN 10109–1 (1995) or 600 HV and the hardened depth should be at least 0,3 mm. Under certain conditions, e.g. where speeds are low, lubrication good and contamination absent, counter surfaces having a lower hardness than 55 HRC may be suitable. Surfaces which are nitrided, phosphated or have a galvanised layer may also be suitable in special cases, but this must be determined for each specific case.

In case the counter surface cannot meet the demands outlined above, the use of a Speedi-Sleeve is recommended. These wear sleeves are made of stainless steel, have a surface hardness of 95 HRB and a surface roughness of 0,25 to 0,5 R_a µm. Because they are extremely thin walled, the seal chosen for the nominal shaft diameter can still be used. Detailed information on the Speedi-Sleeve will be found in the section “Wear sleeves”.

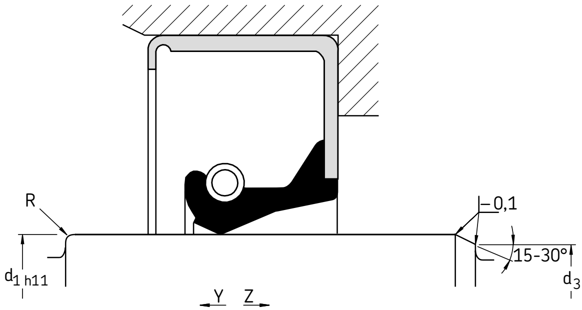
Lead-in chamfers

In order to be able to install radial shaft seals without damaging the seal lip it is recommended that the shaft ends or shoulders should be chamfered or rounded, see **Table 10**.

If the direction of installation is according to Z the values given in **Table 10** should be kept to. If the direction of installation is Y then the shaft end may be either rounded or chamfered.

If seals are to be installed over shaft shoulders or ends which have not been rounded or chamfered it is recommended that a mounting sleeve be used; see section “Mounting”.

Table 10. Lead-in chamfers and radii



Shaft diameter Deviation Nominal d_1		Diameter Difference [1] d_1–d_3 min	Radii Seal without dust lip R min	 Seal with dust lip R min
over	incl.			
mm		mm	mm	
	10	1,5	0,6	1
10	20	2	0,6	1
20	30	2,5	0,6	1
30	40	3	0,6	1
40	50	3,5	0,6	1
50	70	4	0,6	1
70	95	4,5	0,6	1
95	130	5,5	1	2
130	240	7	1	2

1) If the corner is blended rather than chamfered, the blended section should not be smaller than the difference in diameters d_1–d_3

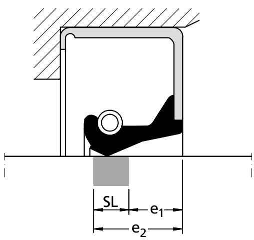
Shaft requirements, large diameter seals (LDS)

General
To achieve reliable sealing and sufficiently long service life, the counterface for large size radial shaft seals on the shaft should meet the requirements outlined in the following. The counterface is considered to be the extent of the surface of a shaft, or sleeve mounted on a shaft, over which the edge of the sealing lip can run, taking into account all permissible deviations and movements – surface SL, (**Table 11**), as well as an additional surface SL' which may be required in the case of repairs or inspection.

Tolerances
The diameter of the shaft d_1 at the counterface should be machined to the tolerances given in **Table 12** and **Table 13, page 78**.

If components, which are to be mounted with an interference fit, are to be passed over the counterface the shaft diameter should be reduced by 0,2 mm. The seal which was originally chosen can still be used without its sealing properties being impaired.

Table 11.



Seal width b from	incl.	Counterface[1)] e_1	e_2 min	e_3	e_4 min
mm		mm			
7	7,938	3,5	6,1	1,5	7,6
–	8	3,5	6,8	1,5	8,3
9,525	10	4,5	8,5	2	10,5
11,112	12	5	10	2	12
–	12,7	5	11	2	13
14,288	15	6	12	3	15
20	–	9	16,5	3	19,5

1) SL'~ washer width

Surface roughness
The surface roughness to ISO 4288 (DIN 4768) of the counterface for radial shaft seals should be kept within the following limits:

R_a 0,2 to 0,8 µm
R_z 1 to 4 µm
R_{max} 6,3 µm

The lower values for R_a and R_z are minimum values as otherwise lubricant supply to the sealing lip will be affected. The temperature rise caused by inadequate lubrication, particularly at high circumferential speeds, would lead to hardening and cracking of the lip and thus to premature seal failure. If the surfaces are too rough there will be excessive seal lip wear and seal life will be shortened. If the value R_{max} is exceeded leakage may occur.

Surface finish
It is also important that the machining operation does not leave any directionality behind on the counterface, as this could lead to leakage by pumping action, depending on the direction of rotation. A suitable surface can

Table 12. Counterface tolerances for large diameter radial shaft seals, metric sizes

Shaft diameter Nominal d_1 over	incl.	Diameter tolerance (h11) Deviation high	low	Circularity tolerance (IT8) Deviation max
mm		µm		µm
180	250	0	–290	72
250	315	0	–320	81
315	400	0	–360	89
400	500	0	–400	97
500	630	0	–440	110
630	800	0	–500	125
800	1 000	0	–560	140
1 000	1 250	0	–660	165
1 250	1 600	0	–780	195
1 600	2 000	0	–920	230
2 000	2 500	0	–1 100	280
2 500	3 150	0	–1 350	330
3 150	4 000	0	–1 650	410

be achieved by plunge grinding; whole number ratios of the grinding wheel speed to the workpiece speed should be avoided. The grinding wheel should be dressed using a cluster head dressing tool and the smallest possible lateral feed, or a profile dressing roll without lateral feed. The negative influence of directionality in any particular case can only be ascertained by test running under conditions of alternating rotation.

The counterface should be free of any damage such as bruises, scratches, cracks, rust or raised sections. It is therefore important that it be properly protected until final mounting takes place. Such protection can, for instance, be provided by threading a cardboard tube over the counterface, or preferably over the whole shaft.

Hardness and surface treatment
The surface hardness of the counterface should normally be at least 55 HRC or 600 HV and the hardened depth should be at least 0,3 mm. Under certain conditions, e.g. where speeds are low, lubrication good and contamination absent, counterfaces having a lower hardness than 55 HRC may be suitable. Surfaces which are nitrided, phosphated or have a galvanised layer may also be suitable in special cases, but this must be determined for each specific case.

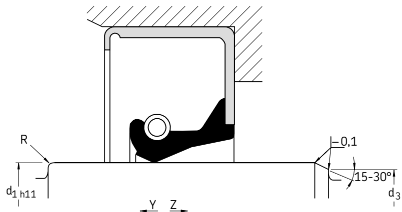
Table 13. Counterface tolerances for inch size seals

Shaft diameter Nominal d_1		Diameter tolerance (h11) Deviation		Circularity tolerance (IT8) Deviation
over	incl.	high	low	max
in		in		in
–	4	+0.003	–0.003	0.002
4	6	+0.004	–0.004	0.002
6	10	+0.005	–0.005	0.003

Lead-in chamfers
In order to be able to install radial shaft seals without damaging the seal lip it is recommended that the shaft ends or shoulders should be chamfered or rounded (**Table 14**). If the direction of installation is according to Z the values given in **Table 14** should be kept to. If the direction of installation is Y then the shaft end may be either rounded or chamfered.

If seals are to be installed over shaft shoulders or ends which have not been rounded or chamfered it is recommended that a mounting sleeve be used. For further information, please contact our technical department.

Table 14. Lead-in chamfers and radii



Shaft diameter Nominal d_1 over	incl.	Diameter difference[1] $d_1 – d_3$	Radii seal without dust lip R min	seal with dust lip R min
mm		mm		
130	240	7	1	2
240	500	11	2	3
500		13	5	5

[1] If the corner is blended rather than chamfered, the blended section should not be smaller than the difference in diameters $d_1 – d_3$

Housing bore requirements, small diameter seals (SDS)

General
The following requirements are designed to guarantee the requisite interference fit for the seal, the necessary static sealing and proper installation.

Tolerances
The bore diameter d_2 in the housing should be machined to tolerance H8, see **Table 15**. The circularity (out-of-round) should be 1 to 2 tolerance grades better than H8, depending on the conditions.

Surface finish
The surface roughness (to ISO 4288–1985 or DIN 4768–1990) of the housing bore should be kept within the limits specified below. These limits apply for radial shaft seals with an elastomeric outside diameter, or a metal case coated with Bore-Tite, as well as the HS seals made of elastomer.

R_a	1,6 to 6,3 µm
R_z	10 to 25 µm
R_{max}	25 µm

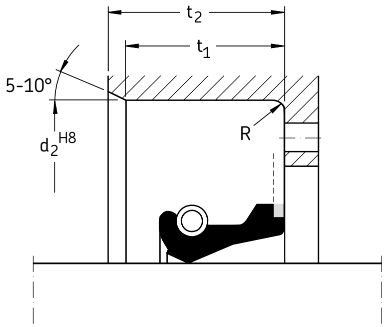
For seals with a steel shell without Bore-Tite or similar coating, the limits are

R_a	0,8 to 3,2 µm
R_z	6,3 to 10 µm
R_{max}	10 µm

Housing bores for seals with steel shells
To ensure that the seal can be installed without damaging it, the housing bore should have a 5 to 10° lead-in chamfers. The transition should be free from burrs and the transition R between the seal seating and the shoulder should be in accordance with the recommendations in **Table 15**. The depth of the housing bore t2 should be at least 0,3 mm greater than the seal width. The cylindrical section of the bore should have a width t1 which is at least 0,85 b.

Recesses in the housing shoulder, which must be considered at the design stage, considerably facilitate removal of a seal from the housing bore, see fig a in **Table 15**.

Table 15. Housing bore tolerances



Housing bore for metric seals

Nominal diameter d_2 over	incl.	Housing bore (ISO tolerance H8) Deviation high	low	Fillet radii R max
mm		µm		mm
10	18	+27	0	0,3
18	30	+33	0	0,3
30	50	+39	0	0,3
50	80	+46	0	0,4
80	120	+54	0	0,8
120	180	+63	0	0,8
180	250	+72	0	0,8

Housing bore for inch size seals

Nominal diameter d_2 over	incl.	Housing bore (ISO tolerance H8) Deviation high	low	Chamfer R max
in		in		in
	3	+0,001	–0,001	1/32
3	6	+0,0015	–0,0015	1/32
6	10	+0,002	–0,002	1/32
10	20	+0,002	–0,004	1/32

Housing bore requirements, large diameter seals (LDS)

General
The following requirements are designed to guarantee the requisite interference fit for the seal, the necessary static sealing and proper installation.

Housing bores for seals with steel shells
To ensure that the seal can be installed without damaging it, the housing bore should have a 5 to 10° lead-in chamfer. The transition should be free from burrs and the transition between the seal seating and the shoulder should have a radius not exceeding 0,8 mm.

The depth of the housing bore (t_2) should be at least 0,3 mm greater than the nominal seal width b. The cylindrical section (t_1) of the bore should have a width of at least 0,85 b, (**fig 48**).

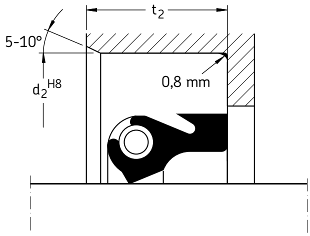
Recesses in the housing shoulder, which must be considered at the design stage, considerably facilitate removal of a seal from the housing bore, (**fig 49**).

Housing bores and end covers for HS and HSF seals of elastomers
To ease installation and prevent damage to the seals during mounting, the housing bore should have a lead-in chamfer of 5 to 10°, **fig 49**. The transition should be free of burrs and the transition between seal seating and housing shoulder should have a radius which does not exceed R = 0,8 mm.

In contrast to the other radial shaft seals the non-split and split HS and HSF seals must be axially clamped in the housing bore. This is usually achieved by an end cover screwed to the housing wall. The real width of the seal is between 0,4 and 0,8 mm larger than the nominal width of the seal housing groove (t_2). The axial clamping so achieved gives the HS and HSF seal the requisite firm fit in the housing and the correct form for efficient sealing.

The actual seal outside diameter is approximately 0,5 % to 2 % larger than the seal housing bore.
The end cover should be sufficiently thick-walled, depending on diameter and the axial clamping distance, wall thicknesses of between 6 and 12 mm have been found appropriate. The cover should be screwed to the machined housing wall following the recommendations given in **fig 49**. To provide additional protection to the sealing lip against coarse contaminants the inside diameter of the cover should be some 6 to 8 mm larger than the shaft diameter d_1. There are no limits regarding the outside diameter of the cover. To ease mounting and any subsequent seal replacement, it is recommended that the cover be made in two halves and an even number of screws used.

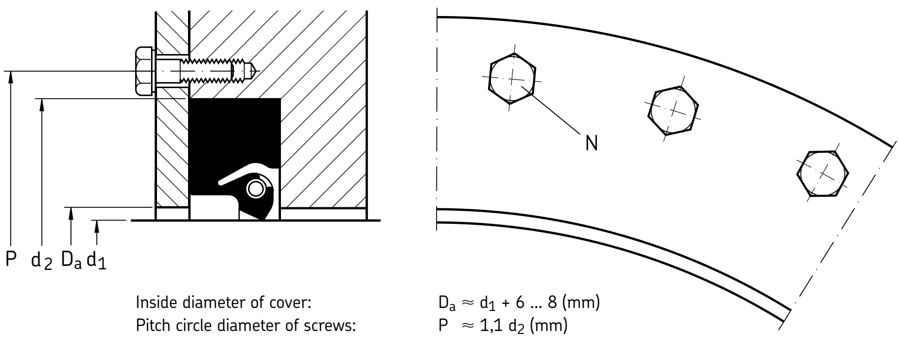
The end face should be made plane parallel and the machined housing wall should be at right angles to the housing bore.



	HS/HSF	other designs
t_1	0,85 b	0,85 b
t_2	b	b + 0,3

(b = nominal seal width)

Fig 48. Recommended dimensions for HS seals



Inside diameter of cover: $D_a \approx d_1 + 6 \ldots 8$ (mm)
Pitch circle diameter of screws: $P \approx 1{,}1\ d_2$ (mm)
No. of attachment screws: $N \approx 0{,}02\ P$

Fig 49. Cover plate recommendations

Tolerances

The bore diameter d_2 in the housing should be machined to tolerance H8 (**Table 16**). The circularity (out-of-round) should be 1 to 2 tolerance grades better than H8, depending on the conditions.

Surface finish

The surface roughness (to ISO 4288 or DIN 4768) of the housing bore should be kept within the limits specified to the right. These limits apply for radial shaft seals with an elastomeric outside diameter, or a metal case coated with Bore-Tite, as well as the HS seals made of elastomer.

R_a 1,6 to 6,3 µm
R_z 10 to 25 µm
R_{max} 25 µm

For seals with a steel shell without Bore-Tite or similar coating, the limits are

R_a 0,8 to 3,2 µm
R_z 6,3 to 10 µm
R_{max} 10 µm

Table 16. Housing bore tolerances for large diameter seals

Housing bore for metric size seals					Housing bore for inch size seals				
Nominal diameter d_2		Housing bore (ISO tolerance H8) Deviation		Chamfer R	Nominal diameter d_2		Housing bore Deviation		Chamfer R
over	incl.	high	low	max	over	incl.	high	low	max
mm		µm		mm	in		in		in
180	250	+72	0	0,8	6	10	+0.002	–0.002	1/32
250	315	+81	0	0,8	10	20	+0.002	–0.004	1/32
315	400	+89	0	0,8	20	40	+0.002	–0.006	1/32
400	500	+97	0	0,8	40	60	+0.002	–0.010	1/32
500	630	+110	0	0,8					
630	800	+125	0	0,8					
800	1 000	+140	0	0,8					
1 000	1 250	+165	0	0,8					
1 250	1 600	+195	0	0,8					
1 600	2 000	+230	0	0,8					
2 000	2 500	+280	0	0,8					
2 500	3 150	+330	0	0,8					
3 150	4 000	+410	0	0,8					
4 000	5 000	+500	0	0,8					

Mounting, small diameter seals

General

If radial shaft seals are to perform well in service they must be properly installed. This calls for experience, suitable tools and also cleanliness. The shaft counter surface and housing bore should meet the demands specified under “Shaft requirements” and “Housing bore requirements” and they should be clean.

To ease the installation of the seal in the housing bore and to guarantee initial lubrication it is recommended that the seal be immersed in a suitable lubricant, which is generally that which is to be retained by the seal. If this is not the case then the sealing lip and outside diameter of the seal should be lightly greased.

Seals which have a secondary lip should also be filled with grease between the primary and secondary lips. Silicone rubber seals and seals with hydrodynamic aids should not be treated in this way.

Generally, a mechanical or hydraulic press should be used with suitable tools to install the seal in its housing bore. It should be remembered that the pressure should be applied as close as possible to the outside diameter of the seal.

When pressing seals up against a shoulder or retaining ring it is advisable to use tools of the type shown in **fig 50 and 51**. The necessary ring dimensions will be supplied on request.

When the seal is to be flush with the wall of the housing bore, this must be at right angels to the housing bore axis and the outside diameter of the tool should be larger than the housing bore diameter (**fig 52**).

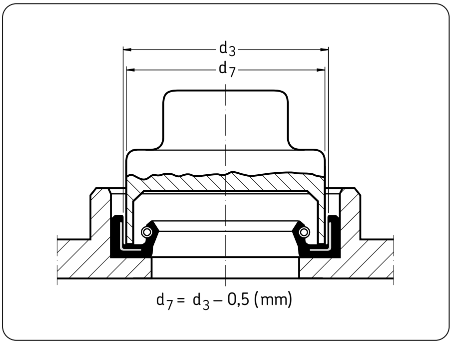


Fig 50

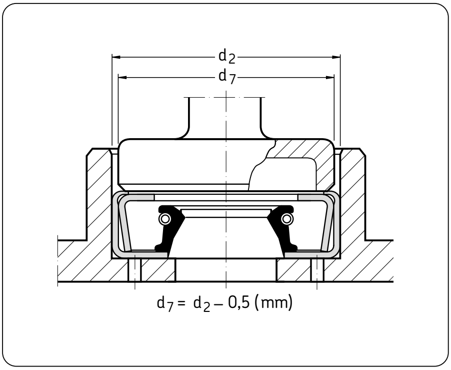


Fig 51

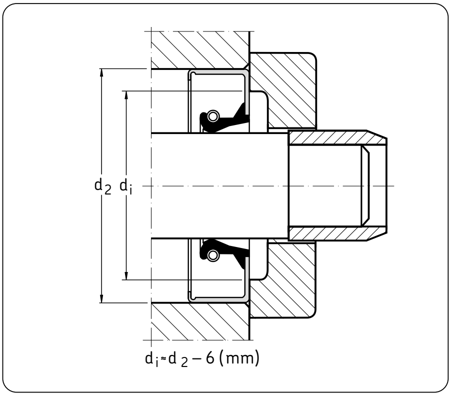


Fig 52

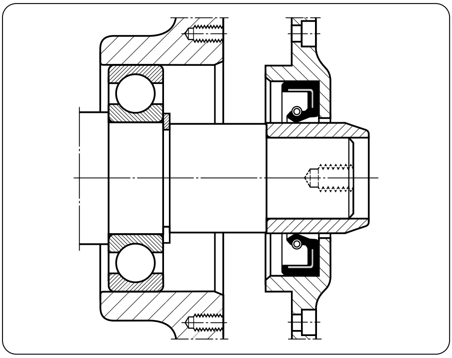


Fig 53

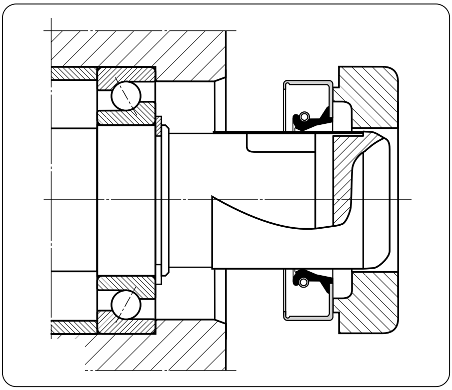


Fig 54

When installing seals on stepped shafts where the shoulders do not have the recommended chamfer or rounded transition, a mounting sleeve as shown in **fig 53** must be used. If the sealing lip has to pass over grooves, threads or gearing, thin-walled mounting sleeves of the type shown in **fig 54** can be used to prevent the lip from being damaged. The outside surface of the sleeve should be coated with the same lubricant as the seal and counter surface.

Radial shaft seals made of silicone rubber should always be installed using a mounting sleeve.

When a seal is to be mounted at a certain distance in a cylindrical opening in a housing, the tools should be according to **fig 55** and **fig 56**. The dimensions needed for designing the tools can be supplied on request.

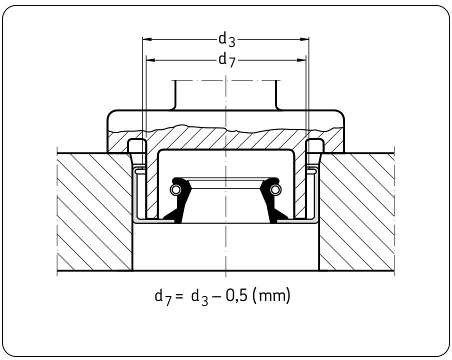


Fig 55

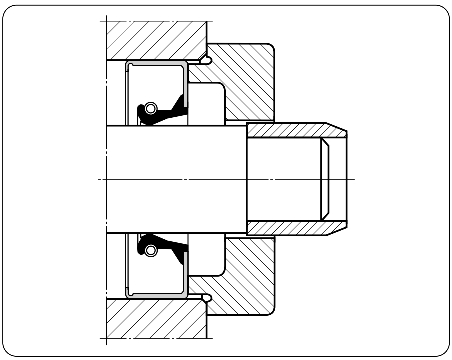


Fig 56

Mounting, large diameter seals

General

For the installation of large diameter metal or rubber-covered seals such as the HDS designs, first check the bore for proper specification and condition. Second, coat both the seal and bore lightly with lubricant (preferably the same lubricant as that to be retained by the seal). With large diameter seals the production of a special mounting tool may not be practical. In such cases, direct impacts on the seal case or elements must be avoided when mounting as this could damage the case or make the sealing lip unserviceable. Therefore, if no suitable press tool is available, the use of a wooden block, long enough to span the seal outer diameter, is recommended. It is important, when using this method, that hammer blows are applied evenly and sequentially to the wood piece around the seal circumference, to prevent the seal from tilting or skewing. SKF also recommends the use of a dead blow hammer for full energy transfer with less shock (**fig 57**).

In some applications, the hardware is designed for two seals in tandem, or a seal might have to be recessed further into the bore depth. In those cases the seal is first set flush with the housing using the method above. Then a shorter piece of wood should be used to drive it deeper into the bore utilizing a sequential pattern (**fig 58**).

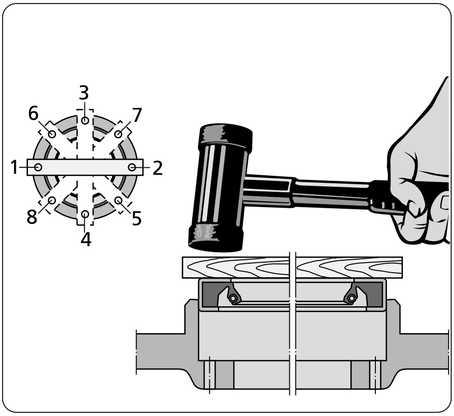
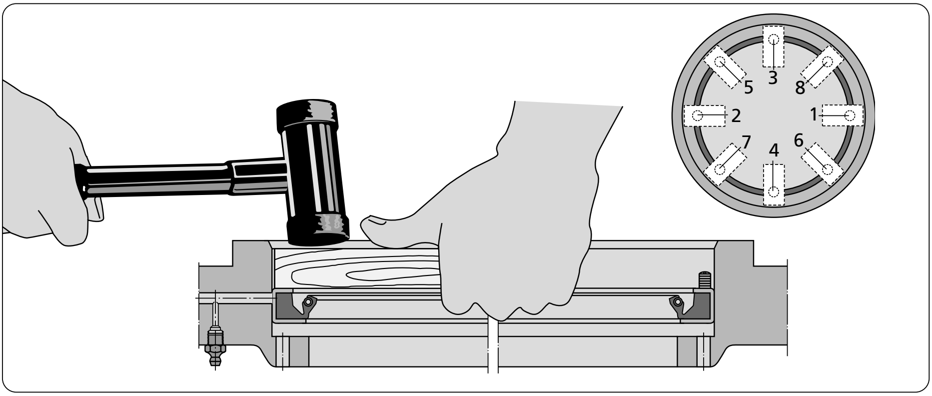
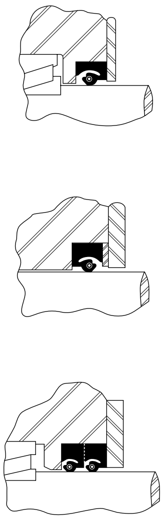


Fig 57

Fig 58





Type HS seal mounted to retain lubricant

Type HS seal mounted to exclude foreign material

Type HS seals in tandem arrangement for maximum lubricant retention

Fig 59. Ways of mounting HS seals

Different ways of mounting HS seals
HS seals are mounted in different ways depending on which purpose they are supposed to fulfil. The can e.g. either be mounted to retain lubricants or to exclude foreign materials **(fig 59)**.

Mounting split HS seals

Coat the HS seal and shaft counterface with a lubricant, preferably the same as that to be retained by the seal (**A, fig 60, page 90**).

Where appropriate, insert the spring in the Spring-Lock groove and position the spring connection, so that it is displaced with regard to the seal joint (**B**).

Put the HS seal in the correct position on the shaft. If necessary and if portable vulcanisation equipment is available, use this to join the ends of the HS seal, making sure that the ends are accurately aligned (**C**).

Join the ends of the garter spring in two different ways depending on the type of spring connector (**D**):

Threaded spring connector
Turn the spring ends through approximately three turns, one in the opposite direction to the other. Insert the one end into the other and, because they have already been turned, the ends will screw into position. Further tightening is possible if required, although the connection will hold even if the thin section is not completely screwed into the other end.

Hook-and-eye spring connector
Draw the ends of the spring together and insert the hook into the eye, taking care not to over-stretch the spring in the process, as this might impair seal performance. Springs with control wire connector: draw the ends of the seal together and insert the control wire into the other end of the spring.

Position the seal joint on the shaft so that it is in the 12 o'clock position and push the joint into the housing bore (**E**).

Starting at the 3 and 9 o'clock positions, push the rest of the seal into position (**E**), finishing simultaneously at the 6 and 12 o'clock positions. For shaft diameters of 1 200 mm (47 in) and above it may be preferable to fix the seal in the 12, 3, 6 and 9 o'clock positions before pushing home the remaining sections of the seal.

The seal in the housing bore is pushed until it contacts the housing shoulder, e.g. using a small block of wood.

Check the seal condition, particularly at the joint.

Put the end cover in position on the housing wall using the screws. Tighten the screws in turns, tightening opposite screws together, until the end cover abuts the housing wall (**F** and **G**) .

Multiple seal installation
When mounting two split seals in one cavity, the locations of the split joints should be staggered 30° to 60°. This will minimize the risk of leakage through the joint. The splits should be located towards the top of the bore. Grease the cavity between the seals to provide lip lubrication for the outer seal.

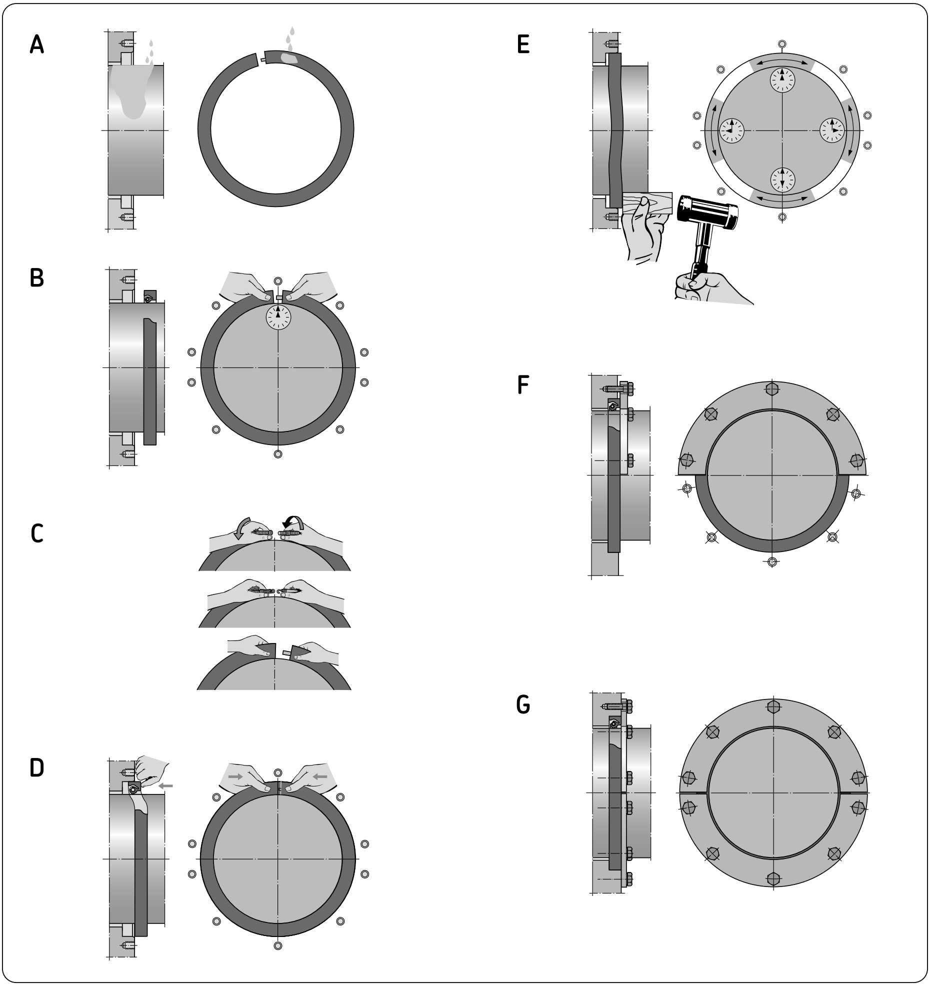


Fig 60

Paired mounting
If two radial shaft seals are to be mounted in a common housing bore either in tandem or in a back-to-back arrangement, care must be taken to see that neither of the sealing lips can run dry at any time. To eliminate any risk of dry running, the free space between the seals or sealing lips should be filled with a suitable lubricating grease.

To guarantee lubricant supply to the sealing lips in operation and to prevent dry running, the use of a spacing ring between the two seals is recommended. This ring should be provided with lubrication holes (**fig 61**), so that grease can be supplied to the space between the sealing lips, e.g. via a grease nipple. No spacer ring is required when using HDS3 seals as these have spacer lugs built into the large side face (**fig 62**).

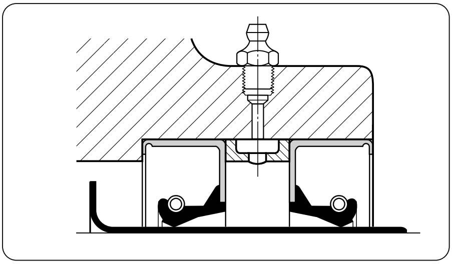


Fig 61. Spacing ring

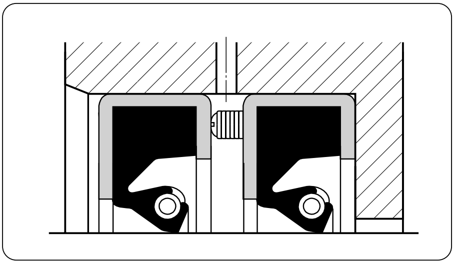


Fig 62. Spacer lugs

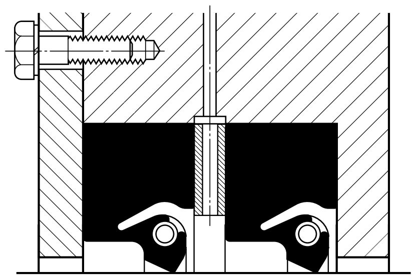


Fig 63. Spacing washer

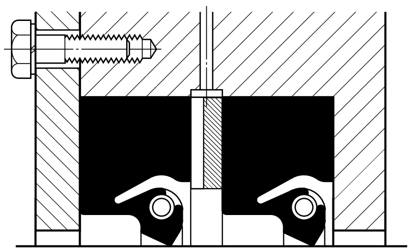


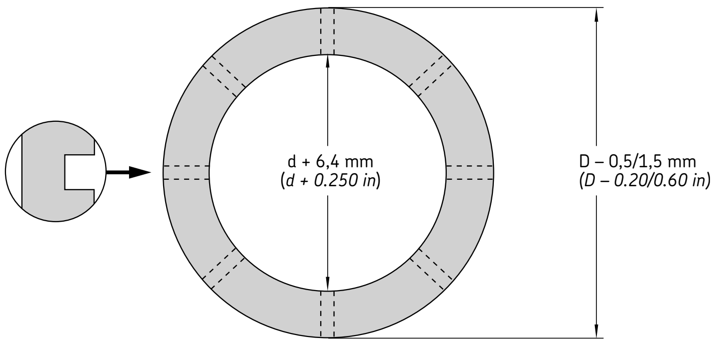
Fig 64. Spacing washer

Where two HS seals made of elastomer are to be mounted in the same housing bore it has been found advantageous to mount a spacing washer between the two seals (**fig 63 and 64**). Suitable washer dimensions can be determined based on the inside and outside diameters of the seal, d_1 and d_2 respectively:

washer inside diameter
= d_1 + 6 to 10 mm

washer outside diameter
= d_2 – 0,5 to 1,5 mm

The washer width must be determined with reference to the conditions but should always be such that lubrication holes can be provided in the circumference, or lubrication grooves in one side face (**fig 65**) to permit grease to be supplied from outside to the sealing lips, e.g. via a grease nipple. When determining washer width and the depth of the housing bore it is also necessary to take into consideration the axial displacement required when clamping the seals.



Details of spacer for central lubrication
A separator between two seals can be a slotted washer to provide lubrication circulation.

Fig 65. Details of spacer for central lubrication

Cover plates

All HS type seals, split and solid are 0,4 to 0,8 mm (0.016 to 0.031 in) wider than the bore depth and have outside diameters that are 2 % to 5 % larger than the seal housing bore. The end user is required to fabricate and use a cover plate for proper fit. The cover plate provides axial compression and supplements radial press fit to ensure maximum seal performance. It should be thick enough not to bend or distort. Generally, a thickness of 6,35 to 12,7 mm (0.250 to 0.500 in) is sufficient.

The plate should be secured with bolts, no more than 150 mm (6 in) apart, on a bolt circle located as close to the seal housing bore as practical. The cover plate should be flat and the housing bore depth uniform. Splitting the cover plate at 180° will make seal replacement easier, particularly in confined areas.

To block surges of lubricant towards the seal from the inside and to protect the seal from damage from the outside, it is recommended that the cover plate inner diameter be as close as practical to the shaft. Generally, 6,35 mm (0.250 in) over shaft diameter is sufficient in the presence of shaft misalignment and run out.

Sometimes, supplementary sealing needs to be added. It is impractical to machine the original housing to provide the seal cavity required. In such instances, the seal cavity may be incorporated into a new plate, which is bolted into place as illustrated (**fig 66**).

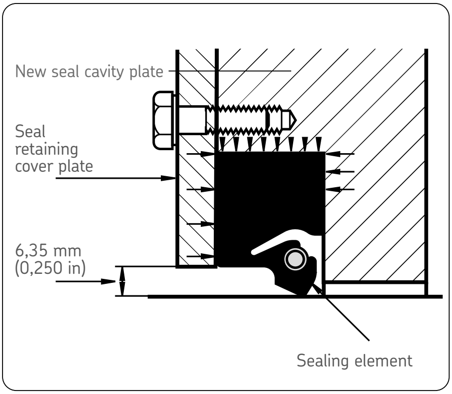


Fig 66

Protecting the counter surface against corrosion
Under normal storage conditions the seal counter surface should be protected against corrosion until the machine is to be used by coating it with a rust inhibiting medium.

The rust inhibition should last for a year with or without packaging.

The protective coating should be soluble in the medium which is to be sealed. Laquers or tars should not separate out as these might impair the sealing.

Where machines are to be transported for long periods (overseas) or stored in unfavorable conditions (e.g. outdoors), or where they are not in use for long periods, special corrosion inhibitors should be used which form tough, pliable and wax-like films that can be removed using neutral solvents. The solvents should leave an oily residue.

Removal
As radial shaft seals should never be re-used, their removal is seldom a problem as there is no need to be careful not to damage the seal. However, before beginning, it may be advisable to note the direction in which the seal is mounted so that the lip of the replacement seal can be mounted in the same direction. Small seals can generally be removed using a screwdriver. The dismounting of large-size seals is made easier if recesses have been provided in the housing shoulder, see picture in **table 15, page 81**, allowing access for a drift.

Replacement

Once a radial shaft seal has been removed during maintenance work, it should never be re-used. The lip of the replacement seal should not be allowed to run on the same path as the lip of the old seal. There are several ways to achieve this:

- rework the counterface (this entails removing the shaft),
- replace a ring which has served as a counter surface,
- use a Speedi-Sleeve,
- mount a spacer ring in the housing bore between the housing shoulder and the seal (**fig 67**),
- press in the new seal to a different depth in a cylindrical opening in the housing.

When necessary, the counter surface should always be displaced towards the side of the medium to be sealed.

When choosing replacement seals care should be taken to see that the design and material correspond to the original. In case of doubt, a higher quality seal should be used to ensure that it can withstand the operating conditions, e.g. with respect to pressure, temperature etc., and that it is compatible with the medium to be sealed.

Seals made of a different material should only be used if absolutely necessary. In such cases the recommendations given in **Table 17** may be followed. The order in which the materials are listed gives an indication of their suitability. Other choices can be made, but these may lead to a considerably shortened seal life.

If a seal of the same design is not available in the same width as the original, then a somewhat narrower seal can be used, or if the depth of the housing bore allows, a somewhat wider seal can be chosen as the replacement.

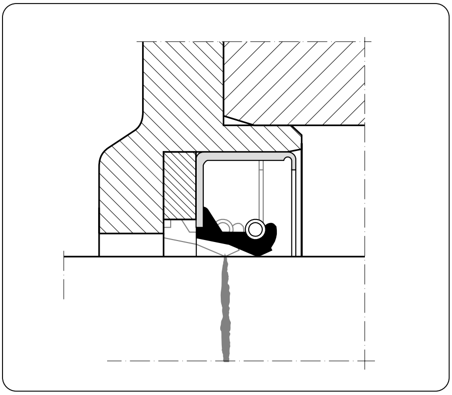


Fig 67

Table 17. Replacement scaling lip materials

Original	Replacement
Felt	Nitrile rubber Polyacrylate elastomer Fluoro rubber
Leather	Nitrile rubber Fluoro rubber
Nitrile rubber	Polyacrylate elastomer Fluoro rubber Silicone rubber
Polyacrylate elastomer	Fluoro rubber Silicone rubber
Silicone rubber	Fluoro rubber

Designation system

Metric radial shaft seals

The designations of all metric radial shaft seals from SKF are prefixed by the letter CR, followed by the size in millimeters (uncoded) and the suffixes for the type and design of the seal and the material of the lip, see **page 97**.

Inch-size radial shaft seals

Inch-size SKF radial shaft seals are identified by their drawing number which consists of from four to seven figures. The drawing number gives an indication of seal size, but not of type or material.

Four-figure numbers are used for radial shaft seals for
shaft diameters ≤ 1 in, e.g.
CR 3680: d1 = 0,375 in

Five-figure numbers are used for radial shaft seals for
shaft diameters ≥ 1 ≤ 10 in, e.g.
CR 41287: d1 = 4,125 in
CR 97545: d1 = 9,750 in

Six and seven-figure numbers are used for radial shaft seals for
shaft diameters ≥ 10 in, e.g.
CR 120061: d1 = 12 in
CR 1375242: d1 = 13,75 in

Designation system for metric radial shaft seals

CR	55 x 72 x 8	CRW	HA1	R	1

Prefix

CR

Seal size

55	Nominal diameter of seal (= shaft diameter)
72	Nominal outside diameter of seal (= housing bore diameter)
8	Width of sealing ring

Design

CRS	Seal with steel shell and one lip
CRW	Seal with steel shell and one Waveseal lip
D	Seal with steel shell and two lips, with two garter springs
HDS	Heavy-duty seal with steel shell and one lip
HDW	Heavy-duty seal with steel shell and one Waveseal lip
HM	Seal with one lip, without garter spring
HMS	Seal with one lip, with garter spring
HS	All-elastomer seal, non-split or split
SL	Seal with steel shell and PTFE lip

Variants

A	Secondary lip
B	Secondary lip directed in parallel with the primary lip
H	Additional inner shell
HA	H+A
D	Double lip, lips arranged in opposite directions
E	Double lip, lips arranged in same directions
R	Steel shell with elastomer coating
W	Waveseal lip

Execution

1	Normally indicates standard seal
2	For HDS seals; garter spring covered by Spring-Kover
3, 4 …	Other executions of seal body, outside diameter or spring groove

Lip material

D	Duralip (carboxylated nitrile rubber, X-NBR to ISO 1629)
H	Hydrogenated acrylonitrile-butadiene rubber (H-NBR to ISO 1629)
P	Polyacrylate elastomer (ACM to ISO 1629)
R	Acrylonitrile-butadiene rubber (NBR to ISO 1629)
RG	Acrylonitrile-butadiene rubber, grey colour
S	Silicone rubber (MVQ to ISO 1629)
T	Polytetrafluoro-ethylene (PTFE to ISO 1043)
V	Fluoro rubber (FPM to ISO 1629)

Execution

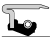
1, 2 …	Seals of the same size and design which differ in execution from the basic design are identified by a number e.g. R1

Seal selection chart
Radial shaft seals, small diameter seal range (SDS)

This matrix can only provide a rough guide and the final seal selection should only be made after a more detailed examination of sealing properties with respect to the actual operating conditions and environment. If several seal designs and materials are shown together then the ratings apply to the specified design/material.

Signs and symbols:

+++	Very well suited (very good)	R	Nitrile rubber
++	Well suited (good)	V	Fluoro rubber
+	Suitable (normal)		
–	Less suitable (satisfactory)		
– –	Unsuitable (poor)		

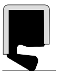
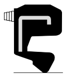
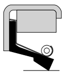
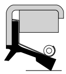
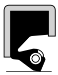
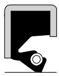
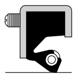
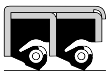
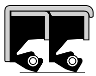
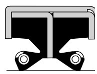
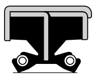
Seals types			Design: Shell (outside diameter) – Steel	Design: Shell (outside diameter) – Elastomer (Plastomer)	Design: Sealing lip – Design	Design: Sealing lip – Material	Design: Secondary lip – A = rubbing, B = non-rubbing
HMS5 	HMSA10 		–	R,V	normal	R,V	B (HMSA10)
HMS4 	HMSA7 		–	R,V	normal	R,V	A (HMSA7)
CRW1 	CRWH1 		+ Bore-Tite	–	Wave-seal	R,V	–
CRWA1 	CRWHA1 		+ Bore-Tite	–	Wave-seal	R,V	–
CRW5 	CRWA5 		+ Bore-Tite	–	Wave-seal	R,V	B (CRWA5)
CRS1 	CRSH1 		+	–	normal	R,V	–
CRSA1 	CRSHA1 		+	–	normal	R,V	A
RD10 	RD30 	RD60 	+	–	special	PTFE	–
RD11 	RD70 	RD71 	+	–	special	PTFE	B (RD11, RD71)
RDD13 	RDD14 	RDD15 	–	PTFE	special	PTFE	–

Suitability

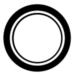
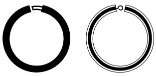
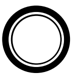
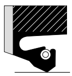
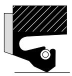
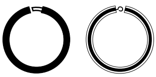
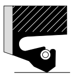
Sealing conditions					Pressure differential		Operating conditions						Media				
Tight fit	Rough surface	Thermal expansion	Split housing bore	Ease of installation	Housing bore/ outside diameter	Sealing lip/ counterface	Sliding speeds < 14 m/s (< 2 756 ft/min)	Sliding speeds > 14 m/s (> 2 756 ft/min)	Temperatures < 100°C (< 212°F)	Temperatures > 100°C (> 212°F)	Runout	Coaxiality deviation	Grease	Oil	Moderate particulate contamination	Heavy particulate contamination	Aggressive media
+++	+++	+++	+++	++	++	+	+	–	+	V	+	+	+++	+++	+++ HMSA10	+++	++ (V)
++	++	++	++	+	++	+	+	–	+	V	+	+	++	+++	++ HMSA7	+	++ (V)
+++ CRWH	+	–	– –	+	++	+++	++	+	+	V	+	+	++	+++	+	+	++ (V)
+++ CRWHA	+	–	– –	+	++	+++	++	+	+	V	+	+	++	+++	++	+	++ (V)
++	+	–	– –	+	++	+++	++	+	+	V	+	+	++	+++	+	+	++ (V)
+++ CRSH	–	–	– –	+	+	–	+	–	+	V	+	+	+	++	+	+	++ (V)
+++ CRSHA	–	–	– –	+	+	–	+	–	+	V	+	+	+	++	++	+	++ (V)
++	–	–	–	+	++	+++	+++	+++	+++	+++	+	+	+++	+++	–	+++	+++
++	–	–	–	+	++	+++	+++	+++	+++	+++	+	+	+++	+++	RD11 RD71	+++	+++
++ 1)	++ 1)	++ 1)	–	–	++	+++	+++	+++	+++	+++	+	+	+++	+++	–	+++	+++

1) together with a separate static seal

Seal selection chart
Radial shaft seals, large diameter seal range (LDS)

Standard design (preferred design)	Other basic line designs	Material code	Operating temperature range °C	Operating temperature range °F	Pressure difference MPa (psi)
 HDS7	 HDS6  HDS4	R D H	–40 to +121 –55 to +105 –40 to +149	–40 to +250 –65 to +225 –40 to +300	0,1 (15)
 HDL	 HDLA	R H V	–40 to +120 –40 to +150 –40 to +200	–40 to +250 –40 to +300 –40 to +400	0,1 (15)
 SBF		R V	–40 to +121 –40 to +204	–40 to +250 –40 to +400	0,1 (15)
 HDS2	 HDS1  HDS3	R D H V	–40 to +120 –54 to +105 –40 to +150 –40 to +205	–40 to +250 –65 to +225 –40 to +300 –40 to +400	0,1 (15)
 HDSA2	 HDSA1  HDSB2  HDSB1  HDSC2  HDSC1	R D H V	–40 to +120 –55 to +105 –40 to +150 –40 to +205	–40 to +250 –65 to +225 –40 to +300 –40 to +400	0,1 (15)
 HDSE2	 HDSE1  HDSD2  HDSD1	R D H V	–40 to +121 –54 to +107 –40 to +149 –40 to +204	–40 to +250 –65 to +225 –40 to +300 –40 to +400	0,1 (15)

Shaft To Bore Misalignment (STBM)	Runout (Dynamic eccen-tricity of shaft	Maximum shaft surface speed	Ease of installation	Ability to seal low viscosity lubricants and exclude water
mm (in)	mm (in)	m/s (ft/min)		
1,6 (0.062)	2,4 (0.093)	25 (>5 000) depending on the operating conditions	Excellent	Highly effective exclusion of water and particle contamination and excellent retention of grease
2,5 (0,1)	2,4 (0.093)	24 (>5 000) 25 (>5 000) 35 (>7 000)	Good	Excellent, including retention of light oils at high surface speeds and misalignment
1,5 (0.06)	2,4 (0.093)	25	Excellent	Excellent for oil or grease retention.
1,6 (0.062)	2,4 (0.093)	25 (>5 000)	HDS2, HDS3: Excellent HDS1: Good	Excellent for oil or grease retention.
1,6 (0.062)	2,4 (0.093)	25 (>5 000)	Excellent to good, varies with equipment design.	HDSA/B: Excellent for oil or grease retention with exclusion of light to moderate contamination. HDSC: Good grease retention, increased protection against contamination
1,6 (0.062)	2,4 (0.093)	25 (>5 000)	HDSD/SE2 Excellent HDSD/SE1: Good	HDSD: Excellent for oil or grease retention with exclusion of light to moderate contamination or separation of two media. HDSE: Good grease retention, increased protection against contamination

Standard design (preferred design)	Other basic line designs	Material code	Operating temperature range		Pressure tolerance
			°C	°F	MPa (psi)
 HS solid  HS5	 HS4	R D H V	–40 to +120 –55 to +105 –40 to +150 –40 to +205	–40 to +250 –65 to +225 –40 to +300 –40 to +400	HS4: 0,07 (11) HS5: 0,07 (11) for
 HS split  HS6  HS7  HS8		R D H V	–40 to +120 –55 to +105 –40 to +150 –40 to +205	–40 to +250 –65 to +225 –40 to +300 –40 to +400	0
 HSF Solid  HSF5	 HSF6  HSF7  HSF8  HSF9	R V	–40 to +120 –40 to +205	–40 to +250 –40 to +400	0,03 (5)
 HSF split  HSF1	 HSF2  HSF3  HSF4	R V	–40 to +120 –40 to +205	–40 to +250 –40 to +400	0

Shaft To Bore Misalignment (STBM)	Runout (Dynamic eccentricity of shaft	Maximum shaft surface speed	Ease of installation	Ability to seal low viscosity lubricants and exclude water
mm (in)	mm (in)	m/s (ft/min)		
1,6 (0.062)	2,4 (0.093)	HS4: 15 (3 000) HS5: 13 (2 500)	HS4: Good HS5: Good	HS4: Good HS4: Good
1,6 (0.062)	2,4 (0.093)	HS6: 10,2 (2 000) HS7: 7,5 (1 500) HS8: 10 (2 000)	HS6: Fair HS7: Excellent HS8: Good	HS6, HS8: Good to excellent for oil or grease HS7: Good (grease only)
1,5 (0.06)	2,4 (0.093)	15 (>3 000) depending on the operating conditions	Good to excellent	Excellent
1,5 (0.06)	2,4 (0.093)	15,2 (>3 000) depending on the operating conditions	Fair to good depending on the available space for mounting	Good to excellent

Small diameter radial shaft seals (SDS), standard designs

Series HMS5 and HMSA10

HMS5 RG

HMSA10 RG

Main features

New metric line of rubber outside diameter radial shaft seals, series HMS5 and HMSA10, designed in accordance with ISO 6194 and DIN 3760 for use in a wide range of applications within all industrial areas, e.g. gearboxes. The available size range of HMS5 and HMSA10 includes a full coverage of the ISO 6194 and DIN 3760 dimensions up to 250 mm shaft sizes. Main features are:

- ☐ New optimised seal material compound
- ☐ Spring loaded and trimmed sealing lip
- ☐ Balanced sealing lip and flex section
- ☐ Beaded outside diameter
- ☐ Secondary (dust) lip of type HMSA10

Design

The rubber outside diameter, provides optimised sealing ability in the housing, also at considerable surface roughness or a split housing.

The spring loaded sealing lip contributes to a quick response to handle dynamic runout and to maintain the sealing ability also at excessive wear. The lip is trimmed to achieve a sharp sealing edge.

Sealing lip and flex section are balanced to achieve good followability to withstand high dynamic runout and shaft to bore misalignment.

A beaded outside diameter provides an improved sealing ability and a secure retention in the bore. It also prevents spring back at assembly.

The secondary sealing lip is designed with zero lip/shaft interference in order not to create additional friction resulting in heat generation and energy losses.

Material

Metal insert:	Mild steel
Spring:	Spring steel
Sealing lips and outside diameter:	Acrylonitrile-butadiene rubber, hardness 75° Shore A, SKF material code NBR 3243. The compound has the designation suffix RG.

This new nitrile rubber compound SKF 3243 is the result of long experience and the latest findings from the SKF seal material developments. Main advantages are:

- ☐ Good resistance to ageing
- ☐ Very good compatibility to synthetic oils
- ☐ Very good pumping ability
- ☐ Good wear resistance

The pumping ability is defined by the time it takes for the seal to return a certain amount of oil from the airside to the oil side. The shorter the time the more effective is the seal. The microstructure of the SKF 3243 compound is resulting in that the seal will instantly pump back the oil.

The complete range of HMS5 and HMSA10 is also available in a fluoro rubber compound with the garter spring in stainless steel. This compound has the designation suffix V and is used in applications with temperatures beyond the limits of nitrile rubber.

Applications and operating conditions
Series HMS5 and HMSA10 are designed for optimum use in bearing applications lubricated with oil or grease in temperatures from –40 to +100 °C (104 to 212 °F), short-term up to 120 °C (248 °F), for synthetic lubricants maximum +80 °C (176 °F). The series is also appropriate for sealing lubricants with low viscosity or gaseous media.

Surface speed: up to 14 m/s (2 755 ft/min)
Operating pressure: max 0,03 MPa (5 psi)

These values are the maximum value for each service condition and should not occur together. Consideration must be taken to how the service conditions affect each other.

Machining directions

Recommendations according to ISO standard:

Shaft

Tolerance: h11
Surface roughness: Ra 0,2 to 0,63 µm
Rz 0,8 to 2,5 µm
Surface finishing: non-oriented, preferably by plunge-grinding

Housing bore

Tolerance: H8
Surface roughness: R_a 3,2 µm
R_z 12,5 µm

Recommendations according to DIN standard

Shaft

Tolerance: h11
Surface roughness: R_a 0,2 to 0,8 µm
R_z 1 to 5 µm
Hardness: min. 45 HRC
Surface finishing: non-oriented, preferably by plunge-grinding

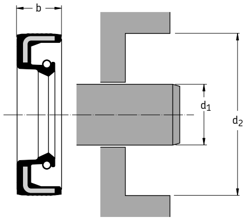
Housing bore

Tolerance: H8
Surface roughness: R_a 1,6 to 6,3 µm
R_z 10 to 20 µm

Installation
Careful fitting according to ISO 6194 or DIN 3760 is a prerequisite for proper functioning of the seal.

We recommend to use seals of type HMSA10 with a secondary lip in applications with increased demand on protection of the primary lip. Please note, that during installation, the cavity between the primary and secondary lip should be lubricated with a grease compatible with the oil/grease used in the application.

Series HMS5 and HMSA10



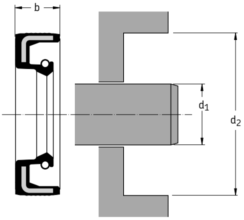
* To be followed by the design and material codes, indicating one of the four variants available for each dimension:

HMS5 RG without secondary lip, nitrile rubber
HMS5 V without secondary lip, fluoro rubber
HMSA10 RG with secondary lip, nitrile rubber
HMSA10 V with secondary lip, fluoro rubber
Example: CR 6x16x5 HMSA10 RG

** Design execution differs from the basic design and is indicated by a number, see also page 97.

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
6	16	5	**CR 6×16×5***	
	16	7	**CR 6×16×7***	•
	22	7	**CR 6×22×7***	•
7	16	7	**CR 7×16×7****	
	22	7	**CR 7×22×7***	•
8	18	5	**CR 8×18×5***	
	18	7	**CR 8×18×7***	
	22	7	**CR 8×22×7***	•
	24	7	**CR 8×24×7***	•
9	22	7	**CR 9×22×7***	•
10	19	7	**CR 10×19×7****	
	20	6	**CR 10×20×6***	
	20	7	**CR 10×20×7***	
	22	7	**CR 10×22×7***	•
	24	7	**CR 10×24×7***	
	25	7	**CR 10×25×7***	•
	26	7	**CR 10×26×7***	•
12	19	5	**CR 12×19×5****	
	22	5	**CR 12×22×5***	
	22	6	**CR 12×22×6***	
	22	7	**CR 12×22×7***	•
	24	7	**CR 12×24×7***	•
	25	7	**CR 12×25×7***	•
	28	7	**CR 12×28×7***	
	30	7	**CR 12×30×7***	•
	32	7	**CR 12×32×7***	
13	26	7	**CR 13×26×7***	
14	24	7	**CR 14×24×7***	•
	25	5	**CR 14×25×5***	
	28	7	**CR 14×28×7***	
	30	7	**CR 14×30×7***	•
15	24	7	**CR 15×24×7****	
	25	5	**CR 15×25×5***	
	25	6	**CR 15×25×6***	
	26	7	**CR 15×26×7***	•
	30	7	**CR 15×30×7***	•
	32	7	**CR 15×32×7***	
	35	7	**CR 15×35×7***	•
	40	10	**CR 15×40×10***	
16	28	7	**CR 16×28×7***	
	30	7	**CR 16×30×7***	•
	32	7	**CR 16×32×7***	
	35	7	**CR 16×35×7***	•
17	28	7	**CR 17×28×7***	
	29	5	**CR 17×29×5***	
	30	7	**CR 17×30×7***	
	32	7	**CR 17×32×7***	
	35	7	**CR 17×35×7***	
	40	7	**CR 17×40×7***	
	40	10	**CR 17×40×10***	
18	28	7	**CR 18×28×7***	
	30	6	**CR 18×30×6***	
	30	7	**CR 18×30×7***	•
	32	7	**CR 18×32×7***	
	35	7	**CR 18×35×7***	•
	40	7	**CR 18×40×7***	
19	30	7	**CR 19×30×7***	
	30	8	**CR 19×30×8***	
	32	7	**CR 19×32×7***	

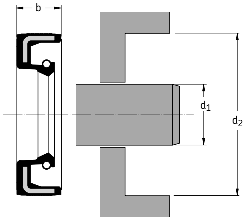
Series HMS5 and HMSA10



Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
20	30	5	**CR 20×30×5***	
	30	7	**CR 20×30×7***	•
	32	7	**CR 20×32×7***	
	34	7	**CR 20×34×7***	
	35	6	**CR 20×35×6***	
20	35	7	**CR 20×35×7***	•
	35	8	**CR 20×35×8***	
	35	10	**CR 20×35×10***	
	36	7	**CR 20×36×7***	
	38	7	**CR 20×38×7***	
	40	7	**CR 20×40×7***	•
	40	10	**CR 20×40×10***	
	42	7	**CR 20×42×7***	
	42	10	**CR 20×42×10***	
	47	7	**CR 20×47×7***	
	47	10	**CR 20×47×10***	
	52	7	**CR 20×52×7***	
	52	10	**CR 20×52×10***	
21	35	7	**CR 21×35×7***	
22	32	7	**CR 22×32×7***	
	35	7	**CR 22×35×7***	•
	36	7	**CR 22×36×7***	
	38	8	**CR 22×38×8***	
	40	7	**CR 22×40×7***	•
	40	10	**CR 22×40×10***	
	42	10	**CR 22×42×10***	
	47	7	**CR 22×47×7***	•
23	40	10	**CR 23×40×10***	
24	35	7	**CR 24×35×7***	
	37	7	**CR 24×37×7***	
	40	7	**CR 24×40×7***	
	42	8	**CR 24×42×8***	
	47	7	**CR 24×47×7***	

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
25	35	6	**CR 25×35×6***	
	35	7	**CR 25×35×7***	•
	37	5	**CR 25×37×5***	
	37	6	**CR 25×37×6***	
	37	7	**CR 25×37×7***	
25	38	7	**CR 25×38×7***	
	40	5	**CR 25×40×5***	
	40	7	**CR 25×40×7***	•
	40	8	**CR 25×40×8***	
	40	10	**CR 25×40×10***	
	42	6	**CR 25×42×6***	
	42	7	**CR 25×42×7***	
	42	10	**CR 25×42×10***	
	45	7	**CR 25×45×7***	
	45	8	**CR 25×45×8***	
	45	10	**CR 25×45×10***	
	46	7	**CR 25×46×7***	
	47	7	**CR 25×47×7***	•
	47	10	**CR 25×47×10***	
	50	10	**CR 25×50×10***	
	52	7	**CR 25×52×7***	•
	52	8	**CR 25×52×8***	
	62	10	**CR 25×52×10***	
	62	7	**CR 25×62×7***	
	62	8	**CR 25×62×8***	
	62	10	**CR 25×62×10***	
26	37	7	**CR 26×37×7***	
	38	5	**CR 26×38×5***	
	38	7	**CR 26×38×7***	
	42	7	**CR 26×42×7***	
	47	7	**CR 26×47×7***	
27	37	7	**CR 27×37×7***	
	42	10	**CR 27×42×10***	
	43	7	**CR 27×43×7***	
	47	10	**CR 27×47×10***	

Series HMS5 and HMSA10



* To be followed by the design and material codes, indicating one of the four variants available for each dimension:

HMS5 RG	without secondary lip, nitrile rubber
HMS5 V	without secondary lip, fluoro rubber
HMSA10 RG	with secondary lip, nitrile rubber
HMSA10 V	with secondary lip, fluoro rubber

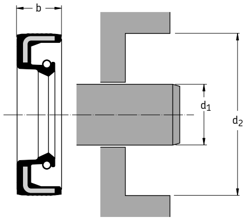
Example: CR 6x16x5 HMSA10 RG

** Design execution differs from the basic design and is indicated by a number, see also page 97.

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
28	38	7	**CR 28×38×7***	
	38	8	**CR 28×38×8***	
	40	7	**CR 28×40×7***	•
	40	8	**CR 28×40×8***	
	42	7	**CR 28×42×7***	
28	42	8	**CR 28×42×8***	
	44	6	**CR 28×44×6***	
	45	8	**CR 28×45×8***	
	47	7	**CR 28×47×7***	•
	47	10	**CR 28×47×10***	
	52	7	**CR 28×52×7***	•
	52	10	**CR 28×52×10***	
30	40	7	**CR 30×40×7***	•
	42	6	**CR 30×42×6***	
	42	7	**CR 30×42×7***	•
	42	8	**CR 30×42×8***	
	44	7	**CR 30×44×7***	
	45	7	**CR 30×45×7***	
	45	8	**CR 30×45×8***	
	46	7	**CR 30×46×7***	
	47	6	**CR 30×47×6***	
	47	7	**CR 30×47×7***	•
	47	8	**CR 30×47×8***	
	47	10	**CR 30×47×10***	
	48	8	**CR 30×48×8***	
	50	7	**CR 30×50×7***	
	50	8	**CR 30×50×8***	
	50	10	**CR 30×50×10***	
	52	7	**CR 30×52×7***	•
	52	8	**CR 30×52×8***	
	52	10	**CR 30×52×10***	
	55	7	**CR 30×55×7***	
	55	10	**CR 30×55×10***	
	62	7	**CR 30×62×7***	
	62	10	**CR 30×62×10***	
	72	10	**CR 30×72×10***	

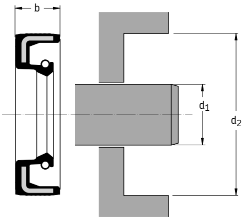
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
32	42	7	**CR 32×42×7***	
	43	7	**CR 32×43×7***	
	44	7	**CR 32×44×7***	
	45	7	**CR 32×45×7***	•
	45	8	**CR 32×45×8***	•
32	47	6	**CR 32×47×6***	
	47	7	**CR 32×47×7***	•
	47	8	**CR 32×47×8***	•
	47	10	**CR 32×47×10***	
	48	8	**CR 32×48×8***	
	50	8	**CR 32×50×8***	
	50	10	**CR 32×50×10***	
	52	7	**CR 32×52×7***	•
	52	8	**CR 32×52×8***	•
	55	10	**CR 32×55×10***	
	62	10	**CR 32×62×10***	
	72	7	**CR 32×72×7***	
33	45	7	**CR 33×45×7***	
	50	6	**CR 33×50×6***	
34	44	8	**CR 34×44×8***	
	48	8	**CR 34×48×8***	
	52	8	**CR 34×52×8***	
	62	10	**CR 34×62×10***	
35	45	7	**CR 35×45×7***	
	47	6	**CR 35×47×6***	
	47	7	**CR 35×47×7***	•
	47	8	**CR 35×47×8***	•
	48	8	**CR 35×48×8***	
	49	6	**CR 35×49×6***	
	50	7	**CR 35×50×7***	•
	50	8	**CR 35×50×8***	•
	50	10	**CR 35×50×10***	
	52	7	**CR 35×52×7***	•
	52	8	**CR 35×52×8***	•
	52	10	**CR 35×52×10***	

Series HMS5 and HMSA10



Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
35	55	7	**CR 35×55×7***	•
	55	8	**CR 35×55×8***	•
	55	10	**CR 35×55×10***	
	56	10	**CR 35×56×10***	
	58	10	**CR 35×58×10***	
	60	10	**CR 35×60×10***	
	62	7	**CR 35×62×7***	
	62	8	**CR 35×62×8***	
	62	10	**CR 35×62×10***	
	72	10	**CR 35×72×10***	
	72	12	**CR 35×72×12***	
	80	12	**CR 35×80×12***	
36	47	7	**CR 36×47×7***	
	50	7	**CR 36×50×7***	
	52	7	**CR 36×52×7***	
	58	10	**CR 36×58×10***	
	62	7	**CR 36×62×7***	
37	50	6	**CR 37×50×6***	
38	50	7	**CR 38×50×7***	
	52	7	**CR 38×52×7***	
	52	8	**CR 38×52×8***	
	54	10	**CR 38×54×10***	
	55	7	**CR 38×55×7***	•
	55	8	**CR 38×55×8***	•
	55	10	**CR 38×55×10***	
	58	8	**CR 38×58×8***	•
	58	10	**CR 38×58×10***	
	60	10	**CR 38×60×10***	
	62	7	**CR 38×62×7***	•
	62	8	**CR 38×62×8***	•
	62	10	**CR 38×62×10***	
	72	10	**CR 38×72×10***	
38,5	58	7	**CR 38.5×58×7***	
40	50	8	**CR 40×50×8***	
	52	6	**CR 40×52×6***	
	52	7	**CR 40×52×7***	•
	52	8	**CR 40×52×8***	•
	55	7	**CR 40×55×7***	•
	55	8	**CR 40×55×8***	•
	56	8	**CR 40×56×8***	
	58	7	**CR 40×58×7***	
	58	8	**CR 40×58×8***	
	58	10	**CR 40×58×10***	
	60	10	**CR 40×60×10***	
	62	6	**CR 40×62×6***	
	62	7	**CR 40×62×7***	•
	62	8	**CR 40×62×8***	•
	62	10	**CR 40×62×10***	
	65	10	**CR 40×65×10***	
	65	12	**CR 40×65×12***	
	68	8	**CR 40×68×8***	
	68	10	**CR 40×68×10***	
	72	7	**CR 40×72×7***	
	72	10	**CR 40×72×10***	
	80	10	**CR 40×80×10***	
	80	12	**CR 40×80×12***	
41	56	7	**CR 41×56×7***	
42	55	7	**CR 42×55×7***	
	55	8	**CR 42×55×8***	•
	56	7	**CR 42×56×7***	
	60	7	**CR 42×60×7***	
	62	7	**CR 42×62×7***	
	62	8	**CR 42×62×8***	•
	62	10	**CR 42×62×10***	
	65	10	**CR 42×65×10***	
	65	12	**CR 42×65×12***	
	66	10	**CR 42×66×10***	
	67	10	**CR 42×67×10***	
	72	8	**CR 42×72×8***	
	72	10	**CR 42×72×10***	

Series HMS5 and HMSA10



* To be followed by the design and material codes, indicating one of the four variants available for each dimension:

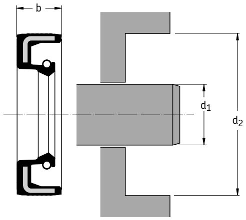
HMS5 RG without secondary lip, nitrile rubber
HMS5 V without secondary lip, fluoro rubber
HMSA10 RG with secondary lip, nitrile rubber
HMSA10 V with secondary lip, fluoro rubber
Example: CR 6x16x5 HMSA10 RG

** Design execution differs from the basic design and is indicated by a number, see also page 97.

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
43	62	8	**CR 43×62×8***	
44	60	10	**CR 44×60×10***	
	62	10	**CR 44×62×10***	
	65	10	**CR 44×65×10***	
45	55	7	**CR 45×55×7***	
	58	7	**CR 45×58×7***	
	60	7	**CR 45×60×7***	
	60	8	**CR 45×60×8***	•
	60	10	**CR 45×60×10***	
	62	7	**CR 45×62×7***	
	62	8	**CR 45×62×8***	•
	62	10	**CR 45×62×10***	
	65	8	**CR 45×65×8***	•
	65	10	**CR 45×65×10***	
	68	7	**CR 45×68×7***	
	68	10	**CR 45×68×10***	
	68	12	**CR 45×68×12***	
	72	8	**CR 45×72×8***	
	72	10	**CR 45×72×10***	
	75	8	**CR 45×75×8***	
	75	10	**CR 45×75×10***	
	80	10	**CR 45×80×10***	
	85	10	**CR 45×85×10***	
46	59	12	**CR 46×59×12***	
	65	10	**CR 46×65×10***	
47	65	10	**CR 47×65×10***	
	70	10	**CR 47×70×10***	

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
48	62	8	**CR 48×62×8***	•
	65	10	**CR 48×65×10***	
	68	10	**CR 48×68×10***	
	70	10	**CR 48×70×10***	
	72	7	**CR 48×72×7***	
	72	8	**CR 48×72×8***	
	72	10	**CR 48×72×10***	
50	62	7	**CR 50×62×7***	
	64	6	**CR 50×64×6***	
	65	8	**CR 50×65×8***	•
	65	10	**CR 50×65×10***	
	68	7	**CR 50×68×7***	
	68	8	**CR 50×68×8***	•
	68	10	**CR 50×68×10***	
	70	10	**CR 50×70×10***	
	72	8	**CR 50×72×8***	•
	72	10	**CR 50×72×10***	
	72	12	**CR 50×72×12***	
	75	10	**CR 50×75×10***	
	80	8	**CR 50×80×8***	
	80	10	**CR 50×80×10***	
	85	10	**CR 50×85×10***	
	90	10	**CR 50×90×10***	
52	63	8	**CR 52×63×8***	
	65	8	**CR 52×65×8***	
	68	8	**CR 52×68×8***	
	72	8	**CR 52×72×8***	
	72	10	**CR 52×72×10***	
	80	10	**CR 52×80×10***	
	85	10	**CR 52×85×10***	

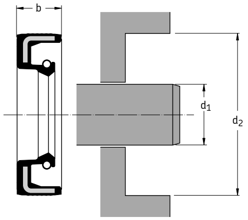
Series HMS5 and HMSA10



Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
55	68	8	**CR 55×68×8***	
	70	8	**CR 55×70×8***	•
	70	10	**CR 55×70×10***	
	72	8	**CR 55×72×8***	•
	72	10	**CR 55×72×10***	
	75	10	**CR 55×75×10***	
	78	10	**CR 55×78×10***	
	78	12	**CR 55×78×12***	
	80	8	**CR 55×80×8***	•
	80	10	**CR 55×80×10***	
	85	8	**CR 55×85×8***	
	85	10	**CR 55×85×10***	
	90	10	**CR 55×90×10***	
	100	12	**CR 55×100×12***	
56	72	8	**CR 56×72×8***	
57	67	7	**CR 57×67×7***	
58	72	8	**CR 58×72×8***	
	80	8	**CR 58×80×8***	
	80	10	**CR 58×80×10***	
	80	12	**CR 58×80×12***	
60	72	8	**CR 60×72×8***	
	75	8	**CR 60×75×8***	•
	80	8	**CR 60×80×8***	•
	80	10	**CR 60×80×10***	
	82	12	**CR 60×82×12***	
	85	8	**CR 60×85×8***	•
	85	10	**CR 60×85×10***	
	90	8	**CR 60×90×8***	
	90	10	**CR 60×90×10***	
	95	10	**CR 60×95×10***	
	110	8	**CR 60×110×8***	

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
62	80	10	**CR 62×80×10***	
	85	10	**CR 62×85×10***	
	90	10	**CR 62×90×10***	
63	85	10	**CR 63×85×10***	
	90	10	**CR 63×90×10***	
64	80	8	**CR 64×80×8***	
65	80	8	**CR 65×80×8***	
	85	10	**CR 65×85×10***	•
	85	12	**CR 65×85×12***	
	88	12	**CR 65×88×12***	
	90	10	**CR 65×90×10***	•
	95	10	**CR 65×95×10***	
65	100	10	**CR 65×100×10***	
68	90	10	**CR 68×90×10***	
70	85	8	**CR 70×85×8***	
	90	10	**CR 70×90×10***	•
	90	12	**CR 70×90×12***	
	92	12	**CR 70×92×12***	
	95	10	**CR 70×95×10***	•
	100	10	**CR 70×100×10***	
	110	10	**CR 70×110×10***	
	110	12	**CR 70×110×12***	
72	90	10	**CR 72×90×10***	
	95	10	**CR 72×95×10***	
	100	10	**CR 72×100×10***	

Series HMS5 and HMSA10



* To be followed by the design and material codes, indicating one of the four variants available for each dimension:

HMS5 RG	without secondary lip, nitrile rubber
HMS5 V	without secondary lip, fluoro rubber
HMSA10 RG	with secondary lip, nitrile rubber
HMSA10 V	with secondary lip, fluoro rubber

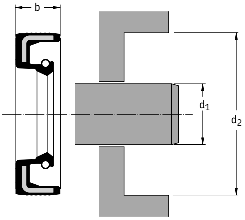
Example: CR 6x16x5 HMSA10 RG

** Design execution differs from the basic design and is indicated by a number, see also page 97.

Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
75	90	10	**CR 75×90×10***	
	95	10	**CR 75×95×10***	•
	95	12	**CR 75×95×12***	
	100	10	**CR 75×100×10***	•
	100	12	**CR 75×100×12***	
	105	10	**CR 75×105×10***	
	110	12	**CR 75×110×12***	
	120	12	**CR 75×120×12***	
78	100	10	**CR 78×100×10***	
80	95	10	**CR 80×95×10***	
	100	10	**CR 80×100×10***	•
	100	12	**CR 80×100×12***	
	105	10	**CR 80×105×10***	
	110	10	**CR 80×110×10***	•
	110	12	**CR 80×110×12***	
85	100	10	**CR 85×100×10***	
	105	12	**CR 85×105×12***	
	110	12	**CR 85×110×12***	•
	115	12	**CR 85×115×12***	
85	120	12	**CR 85×120×12***	•
	130	12	**CR 85×130×12***	
90	110	10	**CR 90×110×10***	
	110	12	**CR 90×110×12***	•
	115	12	**CR 90×115×12***	
	120	12	**CR 90×120×12***	•
95	115	12	**CR 95×115×12***	
	120	12	**CR 95×120×12***	•
	125	12	**CR 95×125×12***	•
100	120	10	**CR 100×120×10***	
	120	12	**CR 100×120×12***	•
	125	12	**CR 100×125×12***	•
	130	12	**CR 100×130×12***	•
	140	12	**CR 100×140×12***	
	150	12	**CR 100×150×12***	
105	130	12	**CR 105×130×12***	•
110	130	12	**CR 110×130×12***	•
	140	12	**CR 110×140×12***	•
	150	12	**CR 110×150×12***	
115	140	12	**CR 115×140×12***	•
120	140	12	**CR 120×140×12***	
	150	12	**CR 120×150×12**	
	160	12	**CR 120×160×12***	
125	150	12	**CR 125×150×12***	•
130	160	12	**CR 130×160×12***	•
	160	15	**CR 130×160×15***	
135	170	12	**CR 135×170×12***	•
140	160	12	**CR 140×160×12***	
	170	12	**CR 140×170×12***	•
	140	15	**CR 140×170×15***	
	180	12	**CR 140×180×12***	
145	175	15	**CR 145×175×15***	•
148	170	15	**CR 148×170×15***	
150	180	12	**CR 150×180×12***	
	180	15	**CR 150×180×15***	•

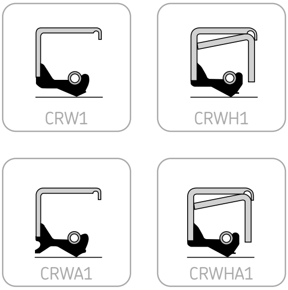
SKF

Series HMS5 and HMSA10



Dimensions shaft d_1	bore d_2	seal width b	SKF Designation	ISO/DIN
mm				
155	180	15	**CR 155×180×15***	
160	185	15	**CR 160×185×15***	
	190	15	**CR 160×190×15***	•
165	190	15	**CR 165×190×15***	
170	200	15	**CR 170×200×15***	•
180	210	15	**CR 180×210×15***	•
190	220	15	**CR 190×220×15***	•
	225	15	**CR 190×225×15***	
200	230	15	**CR 200×230×15***	•
210	240	15	**CR 210×240×15***	•
220	250	15	**CR 220×250×15***	•
230	260	15	**CR 230×260×15***	•
240	270	15	**CR 240×270×15***	•
250	280	15	**CR 250×280×15***	•
	285	15	**CR 250×285×15***	

Series CRW1



Features
SKF CRW1 radial shaft seals are low friction seals with Waveseal lip design for reduced heat generation and steel shell for easy installation and a firm and accurate seating in the housing bore. CRW1 seals are coated on the outside diameter with Bore-Tite, a non-hardening, water-based polyacrylate sealant, which helps to fill out small imperfections in the housing bore.

Primarily for lubricant retention but seals of CRWA1 and CRWHA1 designs are also suitable for exclusion of dust and light contamination.

CRW1: Seal with single steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip and carbon steel garter spring.

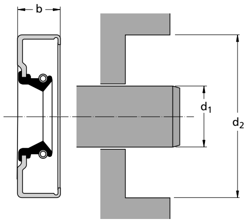
CRWH1: Seal with double steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip and carbon steel garter spring.

CRWA1: Seal with single steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip, carbon steel garter spring and non-rubbing secondary lip.

CRWHA1: Seal with double steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip, carbon steel garter spring and non-rubbing secondary lip.

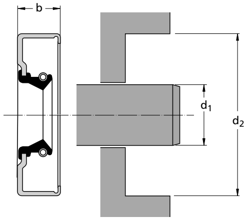
Further information about material, application and operating conditions for SKF CRW1 seals is shown in the seal selection chart on **page 98**.

Series CRW1 – Metric sizes



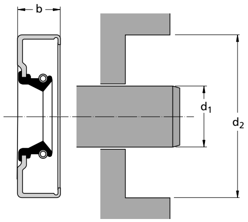
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
12	22	7	CRW1 V	**CR 12×22×7 CRW1 V**	
	22	7	CRW1 R	**CR 12×22×7 CRW1 R**	
	25	7	CRW1 R	**CR 12×25×7 CRW1 R**	Bore-Tite
	26	7	CRW1 R	**CR 12×26×7 CRW1 R**	Bore-Tite
	28	7	CRW1 R	**CR 12×28×7 CRW1 R**	Bore-Tite
	28	7	CRW1 P	**CR 12×28×7 CRW1 P**	Bore-Tite
	30	7	CRW1 R	**CR 12×30×7 CRW1 R**	Bore-Tite
	32	7	CRW1 R	**CR 12×32×7 CRW1 R**	Bore-Tite
	32	7	CRW1 V	**CR 12×32×7 CRW1 V**	Bore-Tite
	35	7	CRW1 R	**CR 12×35×7 CRW1 R**	Bore-Tite
14	26	7	CRW1 V	**CR 14×26×7 CRW1 V**	Bore-Tite
	26	7	CRW1 R	**CR 14×26×7 CRW1 R**	Bore-Tite
	27	6,5	CRW1 R	**CR 14×27×6,5 CRW1 R**	Bore-Tite
	28	7	CRW1 R	**CR 14×28×7 CRW1 R**	Bore-Tite
	30	7	CRW1 R	**CR 14×30×7 CRW1 R**	Bore-Tite
	32	7	CRW1 R	**CR 14×32×7 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 14×35×7 CRW1 R**	Bore-Tite
15	24	7	CRW1 R	**CR 15×24×7 CRW1 R**	Bore-Tite
	25	7	CRW1 P	**CR 15×25×7 CRW1 P**	Bore-Tite
	26	7	CRW1 R	**CR 15×26×7 CRW1 R**	Bore-Tite
	26	7	CRW1 V	**CR 15×26×7 CRW1 V**	Bore-Tite
	28	7	CRW1 R	**CR 15×28×7 CRW1 R**	Bore-Tite
	30	7	CRW1 R	**CR 15×30×7 CRW1 R**	Bore-Tite
	32	7	CRW1 R	**CR 15×32×7 CRW1 R**	Bore-Tite
	32	7	CRW1 V	**CR 15×32×7 CRW1 V**	Bore-Tite
	35	7	CRW1 R	**CR 15×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 P	**CR 15×35×7 CRW1 P**	Bore-Tite
	40	7	CRW1 R	**CR 15×40×7 CRW1 R**	Bore-Tite
16	28	7	CRW1 R	**CR 16×28×7 CRW1 R**	Bore-Tite
	30	7	CRW1 R	**CR 16×30×7 CRW1 R**	Bore-Tite
	30	7	CRW1 V	**CR 16×30×7 CRW1 V**	Bore-Tite
	32	7	CRW1 R	**CR 16×32×7 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 16×35×7 CRW1 R**	Bore-Tite
	40	7	CRW1 R	**CR 16×40×7 CRW1 R**	Bore-Tite
	40	7	CRWA1 R	**CR 16×40×7 CRWA1 R**	Bore-Tite

Series CRW1 – Metric sizes



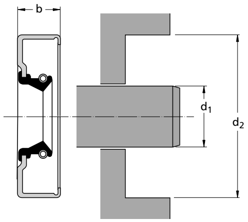
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
17	27	6,35	CRW1 R	**CR 17×27×6,35 CRW1 R**	Bore-Tite
	28	7	CRW1 R	**CR 17×28×7 CRW1 R**	
	28	7	CRW1 V	**CR 17×28×7 CRW1 V**	Bore-Tite
	30	7	CRW1 R	**CR 17×30×7 CRW1 R**	Bore-Tite
	32	7	CRW1 R	**CR 17×32×7 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 17×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 V	**CR 17×35×7 CRW1 V**	Bore-Tite
	40	7	CRW1 R	**CR 17×40×7 CRW1 R**	Bore-Tite
	47	7	CRW1 R	**CR 17×47×7 CRW1 R**	Bore-Tite
18	30	7	CRW1 R	**CR 18×30×7 CRW1 R**	Bore-Tite
	30	7	CRW1 V	**CR 18×30×7 CRW1 V**	Bore-Tite
	32	7	CRW1 R	**CR 18×32×7 CRW1 R**	Bore-Tite
	32	7	CRW1 V	**CR 18×32×7 CRW1 V**	Bore-Tite
	35	7	CRW1 R	**CR 18×35×7 CRW1 R**	Bore-Tite
	40	7	CRW1 R	**CR 18×40×7 CRW1 R**	Bore-Tite
19	32	6,35	CRW1 R	**CR 19×32×6,35 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 19×35×7 CRW1 R**	Bore-Tite
	38	7	CRW1 R	**CR 19×38×7 CRW1 R**	Bore-Tite
	40	6,35	CRW1 R	**CR 19×40×6,35 CRW1 R**	Bore-Tite
	52	7	CRWA1 R	**CR 19×52×7 CRWA1 R**	Bore-Tite
20	30	7	CRW1 R	**CR 20×30×7 CRW1 R**	Bore-Tite
	31	7	CRW1 R	**CR 20×31×7 CRW1 R**	Bore-Tite
	32	7	CRW1 R	**CR 20×32×7 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 20×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 V	**CR 20×35×7 CRW1 V**	Bore-Tite
	36	7	CRW1 R	**CR 20×36×7 CRW1 R**	Bore-Tite
	36	7	CRW1 V	**CR 20×36×7 CRW1 V**	Bore-Tite
	37	7	CRW1 R	**CR 20×37×7 CRW1 R**	Bore-Tite
	38	7	CRW1 R	**CR 20×38×7 CRW1 R**	Bore-Tite
	40	7	CRW1 R	**CR 20×40×7 CRW1 R**	Bore-Tite
	40	7	CRW1 V	**CR 20×40×7 CRW1 V**	Bore-Tite
	42	7	CRW1 R	**CR 20×42×7 CRW1 R**	Bore-Tite
	47	7	CRW1 R	**CR 20×47×7 CRW1 R**	Bore-Tite
	52	7	CRW1 R	**CR 20×52×7 CRW1 R**	Bore-Tite
	52	7	CRW1 P	**CR 20×52×7 CRW1 P**	Bore-Tite

Series CRW1 – Metric sizes



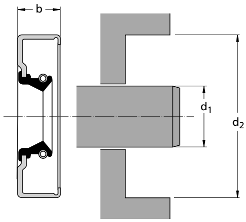
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
21	35	7	CRW1 R	**CR 21×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 V	**CR 21×35×7 CRW1 V**	Bore-Tite
	40	8	CRW1 R	**CR 21×40×8 CRW1 R**	Bore-Tite
22	31	7	CRW1 P	**CR 22×31×7 CRW1 P**	Bore-Tite
	32	7	CRW1 R	**CR 22×32×7 CRW1 R**	Bore-Tite
	35	7	CRW1 R	**CR 22×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 V	**CR 22×35×7 CRW1 V**	Bore-Tite
	38	7	CRW1 R	**CR 22×38×7 CRW1 R**	Bore-Tite
	38	7	CRW1 V	**CR 22×38×7 CRW1 V**	Bore-Tite
	40	6,35	CRW1 R	**CR 22×40×6,35 CRW1 R**	Bore-Tite
	40	6,35	CRW1 V	**CR 22×40×6,35 CRW1 V**	Bore-Tite
	42	7	CRW1 R	**CR 22×42×7 CRW1 R**	Bore-Tite
	45	8	CRW1 R	**CR 22×45×8 CRW1 R**	Bore-Tite
	45	8	CRW1 V	**CR 22×45×8 CRW1 V**	Bore-Tite
	47	8	CRW1 R	**CR 22×47×8 CRW1 R**	Bore-Tite
	50	8	CRW1 R	**CR 22×50×8 CRW1 R**	Bore-Tite
24	36	7	CRW1 V	**CR 24×36×7 CRW1 V**	Bore-Tite
	38	7	CRW1 V	**CR 24×38×7 CRW1 V**	Bore-Tite
	40	8	CRW1 R	**CR 24×40×8 CRW1 R**	
	47	8	CRW1 R	**CR 24×47×8 CRW1 R**	Bore-Tite
25	35	7	CRW1 R	**CR 25×35×7 CRW1 R**	Bore-Tite
	35	7	CRW1 V	**CR 25×35×7 CRW1 V**	Bore-Tite
	36	7	CRW1 R	**CR 25×36×7 CRW1 R**	Bore-Tite
	37	7	CRW1 R	**CR 25×37×7 CRW1 R**	Bore-Tite
	37	7	CRW1 V	**CR 25×37×7 CRW1 V**	Bore-Tite
	38	7	CRW1 R	**CR 25×38×7 CRW1 R**	Bore-Tite
	38	7	CRW1 V	**CR 25×38×7 CRW1 V**	Bore-Tite
	40	7	CRW1 R	**CR 25×40×7 CRW1 R**	Bore-Tite
	40	7	CRW1 R	**CR 25×40×7 CRW1 R**	
	40	7	CRW1 V	**CR 25×40×7 CRW1 V**	Bore-Tite
	42	8	CRW1 V	**CR 25×42×8 CRW1 V**	Bore-Tite
	42	8	CRW1 R	**CR 25×42×8 CRW1 R**	Bore-Tite
	45	7	CRW1 R	**CR 25×45×7 CRW1 R**	Bore-Tite
	47	6,35	CRW1 R	**CR 25×47×6,35 CRW1 R**	Bore-Tite
	48	8	CRW1 R	**CR 25×48×8 CRW1 R**	Bore-Tite
	48	8	CRW1 V	**CR 25×48×8 CRW1 V**	Bore-Tite
	50	8	CRW1 R	**CR 25×50×8 CRW1 R**	Bore-Tite
	52	8	CRW1 R	**CR 25×52×8 CRW1 R**	Bore-Tite

Series CRW1 – Metric sizes



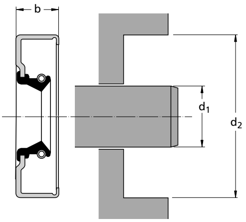
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
25	52	8	CRW1 V	**CR 25×52×8 CRW1 V**	Bore-Tite
	62	7	CRW1 R	**CR 25×62×7 CRW1 R**	Bore-Tite
	62	7	CRW1 V	**CR 25×62×7 CRW1 V**	Bore-Tite
27	42	7	CRW1 R	**CR 27×42×7 CRW1 R**	Bore-Tite
	42	7	CRW1 V	**CR 27×42×7 CRW1 V**	Bore-Tite
	43	8	CRW1 V	**CR 27×43×8 CRW1 V**	Bore-Tite
	45	8	CRW1 R	**CR 27×45×8 CRW1 R**	Bore-Tite
	45	8	CRW1 V	**CR 27×45×8 CRW1 V**	Bore-Tite
	52	8	CRW1 R	**CR 27×52×8 CRW1 R**	Bore-Tite
28	40	7	CRW1 R	**CR 28×40×7 CRW1 R**	Bore-Tite
	40	7	CRW1 V	**CR 28×40×7 CRW1 V**	Bore-Tite
	42	7	CRW1 R	**CR 28×42×7 CRW1 R**	Bore-Tite
	42	7	CRW1 V	**CR 28×42×7 CRW1 V**	Bore-Tite
	45	7	CRW1 R	**CR 28×45×7 CRW1 R**	Bore-Tite
	45	7	CRW1 V	**CR 28×45×7 CRW1 V**	Bore-Tite
	47	7	CRW1 V	**CR 28×47×7 CRW1 V**	Bore-Tite
	47	8	CRW1 R	**CR 28×47×8 CRW1 R**	Bore-Tite
	52	8	CRW1 R	**CR 28×52×8 CRW1 R**	Bore-Tite
30	40	7	CRW1 R	**CR 30×40×7 CRW1 R**	Bore-Tite
	40	7	CRW1 V	**CR 30×40×7 CRW1 V**	Bore-Tite
	42	7	CRW1 R	**CR 30×42×7 CRW1 R**	Bore-Tite
	42	7	CRW1 V	**CR 30×42×7 CRW1 V**	Bore-Tite
	45	8	CRW1 R	**CR 30×45×8 CRW1 R**	Bore-Tite
	45	8	CRW1 P	**CR 30×45×8 CRW1 P**	Bore-Tite
	47	7	CRW1 R	**CR 30×47×7 CRW1 R**	Bore-Tite
	47	8	CRW1 V	**CR 30×47×8 CRW1 V**	Bore-Tite
	48	8	CRW1 R	**CR 30×48×8 CRW1 R**	Bore-Tite
	50	8	CRW1 R	**CR 30×50×8 CRW1 R**	Bore-Tite
	50	8	CRW1 V	**CR 30×50×8 CRW1 V**	Bore-Tite
	52	8	CRW1 R	**CR 30×52×8 CRW1 R**	Bore-Tite
	55	7	CRW1 R	**CR 30×55×7 CRW1 R**	Bore-Tite
	55	7	CRW1 V	**CR 30×55×7 CRW1 V**	Bore-Tite
	56	8	CRW1 R	**CR 30×56×8 CRW1 R**	Bore-Tite
	58	8	CRWA1 R	**CR 30×58×8 CRWA1 R**	Bore-Tite
	60	8	CRW1 R	**CR 30×60×8 CRW1 R**	Bore-Tite
	62	7	CRW1 R	**CR 30×62×7 CRW1 R**	Bore-Tite
	62	7	CRW1 V	**CR 30×62×7 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 30×72×8 CRW1 R**	Bore-Tite
	72	12	CRWA1 V	**CR 30×72×12 CRWA1 V**	Bore-Tite

Series CRW1 – Metric sizes



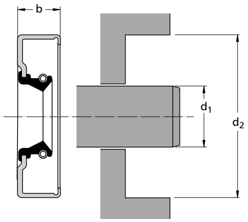
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
32	42	7	CRW1 R	**CR 32×42×7 CRW1 R**	Bore-Tite
	42	7	CRW1 V	**CR 32×42×7 CRW1 V**	Bore-Tite
	45	8	CRW1 R	**CR 32×45×8 CRW1 R**	Bore-Tite
	47	8	CRW1 R	**CR 32×47×8 CRW1 R**	Bore-Tite
	47	8	CRW1 V	**CR 32×47×8 CRW1 V**	Bore-Tite
	48	8	CRW1 R	**CR 32×48×8 CRW1 R**	Bore-Tite
	48	8	CRW1 V	**CR 32×48×8 CRW1 V**	Bore-Tite
	50	8	CRW1 R	**CR 32×50×8 CRW1 R**	Bore-Tite
	50	8	CRW1 V	**CR 32×50×8 CRW1 V**	Bore-Tite
	52	8	CRW1 R	**CR 32×52×8 CRW1 R**	Bore-Tite
	52	8	CRW1 V	**CR 32×52×8 CRW1 V**	Bore-Tite
	56	8	CRW1 R	**CR 32×56×8 CRW1 R**	Bore-Tite
	62	6,35	CRW1 R	**CR 32×62×6,35 CRW1 R**	Bore-Tite
34	48	8	CRW1 R	**CR 34×48×8 CRW1 R**	Bore-Tite
	48	8	CRW1 V	**CR 34×48×8 CRW1 V**	Bore-Tite
	55	8	CRW1 R	**CR 34×55×8 CRW1 R**	Bore-Tite
	56	8	CRW1 R	**CR 34×56×8 CRW1 R**	Bore-Tite
	56	8	CRW1 V	**CR 34×56×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 34×62×8 CRW1 R**	Bore-Tite
35	47	7	CRW1 R	**CR 35×47×7 CRW1 R**	Bore-Tite
	47	7	CRW1 V	**CR 35×47×7 CRW1 V**	
	48	8	CRW1 R	**CR 35×48×8 CRW1 R**	Bore-Tite
	48	8	CRW1 V	**CR 35×48×8 CRW1 V**	Bore-Tite
	50	8	CRW1 R	**CR 35×50×8 CRW1 R**	Bore-Tite
	50	8	CRW1 V	**CR 35×50×8 CRW1 V**	Bore-Tite
	52	8	CRWA1 P	**CR 35×52×8 CRWA1 P**	Bore-Tite
	52	8	CRW1 R	**CR 35×52×8 CRW1 R**	Bore-Tite
	52	8	CRWA1 R	**CR 35×52×8 CRWA1 R**	Bore-Tite
	54	7	CRW1 R	**CR 35×54×7 CRW1 R**	Bore-Tite
	54	8	CRW1 V	**CR 35×54×8 CRW1 V**	Bore-Tite
	55	8	CRW1 R	**CR 35×55×8 CRW1 R**	Bore-Tite
	55	8	CRW1 V	**CR 35×55×8 CRW1 V**	
	56	8	CRW1 R	**CR 35×56×8 CRW1 R**	Bore-Tite
	56	8	CRW1 V	**CR 35×56×8 CRW1 V**	Bore-Tite
	58	10	CRW1 R	**CR 35×58×10 CRW1 R**	Bore-Tite
	62	8	CRW1 V	**CR 35×62×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 35×62×8 CRW1 R**	Bore-Tite
	64	8	CRW1 R	**CR 35×64×8 CRW1 R**	Bore-Tite
	65	8	CRW1 R	**CR 35×65×8 CRW1 R**	Bore-Tite

Series CRW1 – Metric sizes



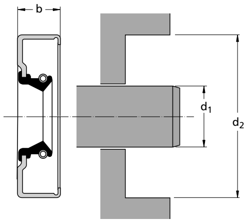
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
35	65	8	CRW1 V	**CR 35×65×8 CRW1 V**	Bore-Tite
	68	8	CRW1 R	**CR 35×68×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 35×68×8 CRW1 V**	Bore-Tite
	69	8	CRW1 R	**CR 35×69×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 35×72×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 35×72×8 CRW1 R**	Bore-Tite
	72	8	CRWA1 R	**CR 35×72×8 CRWA1 R**	Bore-Tite
	78	8	CRW1 R	**CR 35×78×8 CRW1 R**	Bore-Tite
	80	8	CRW1 R	**CR 35×80×8 CRW1 R**	Bore-Tite
36	50	7	CRW1 R	**CR 36×50×7 CRW1 R**	Bore-Tite
	50	8	CRW1 R	**CR 36×50×8 CRW1 R**	Bore-Tite
	52	8	CRW1 R	**CR 36×52×8 CRW1 R**	Bore-Tite
	52	8	CRW1 V	**CR 36×52×8 CRW1 V**	Bore-Tite
	54	8	CRW1 R	**CR 36×54×8 CRW1 R**	Bore-Tite
	54	8	CRW1 V	**CR 36×54×8 CRW1 V**	Bore-Tite
	58	8	CRW1 R	**CR 36×58×8 CRW1 R**	Bore-Tite
	60	8	CRW1 R	**CR 36×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 36×60×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 36×62×8 CRW1 R**	Bore-Tite
	65	8	CRW1 R	**CR 36×65×8 CRW1 R**	Bore-Tite
	68	8	CRW1 R	**CR 36×68×8 CRW1 R**	Bore-Tite
	72	8	CRWA1 R	**CR 36×72×8 CRWA1 R**	Bore-Tite
38	50	7	CRW1 R	**CR 38×50×7 CRW1 R**	Bore-Tite
	50	7	CRW1 V	**CR 38×50×7 CRW1 V**	Bore-Tite
	52	8	CRW1 R	**CR 38×52×8 CRW1 R**	Bore-Tite
	52	8	CRWA1 R	**CR 38×52×8 CRWA1 R**	Bore-Tite
	52	8	CRW1 V	**CR 38×52×8 CRW1 V**	Bore-Tite
	53	8	CRW1 R	**CR 38×53×8 CRW1 R**	Bore-Tite
	54	7	CRW1 P	**CR 38×54×7 CRW1 P**	
	55	8	CRW1 R	**CR 38×55×8 CRW1 R**	Bore-Tite
	55	8	CRW1 V	**CR 38×55×8 CRW1 V**	Bore-Tite
	56	8	CRW1 V	**CR 38×56×8 CRW1 V**	Bore-Tite
	56	8	CRW1 R	**CR 38×56×8 CRW1 R**	Bore-Tite
	58	8	CRW1 R	**CR 38×58×8 CRW1 R**	Bore-Tite
	58	8	CRW1 V	**CR 38×58×8 CRW1 V**	Bore-Tite
	60	8	CRW1 R	**CR 38×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 38×60×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 38×62×8 CRW1 R**	Bore-Tite
	62	8	CRWA1 R	**CR 38×62×8 CRWA1 R**	Bore-Tite

Series CRW1 – Metric sizes



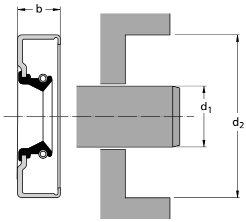
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
38	62	8	CRW1 V	**CR 38×62×8 CRW1 V**	Bore-Tite
	65	8	CRW1 R	**CR 38×65×8 CRW1 R**	Bore-Tite
	68	8	CRW1 R	**CR 38×68×8 CRW1 R**	Bore-Tite
	70	8	CRW1 R	**CR 38×70×8 CRW1 R**	Bore-Tite
	72	8	CRW1 R	**CR 38×72×8 CRW1 R**	Bore-Tite
	73	8	CRW1 R	**CR 38×73×8 CRW1 R**	Bore-Tite
	74	11	CRWA1 R	**CR 38×74×11 CRWA1 R**	Bore-Tite
	74	11	CRW1 V	**CR 38×74×11 CRW1 V**	Bore-Tite
	80	8	CRW1 R	**CR 38×80×8 CRW1 R**	Bore-Tite
	90	8	CRWA1 R	**CR 38×90×8 CRWA1 R**	Bore-Tite
40	52	7	CRW1 V	**CR 40×52×7 CRW1 V**	
	52	7	CRW1 R	**CR 40×52×7 CRW1 R**	Bore-Tite
	54	7	CRW1 R	**CR 40×54×7 CRW1 R**	Bore-Tite
	55	8	CRW1 R	**CR 40×55×8 CRW1 R**	Bore-Tite
	55	8	CRW1 V	**CR 40×55×8 CRW1 V**	Bore-Tite
	56	7	CRW1 V	**CR 40×56×7 CRW1 V**	Bore-Tite
	56	8	CRW1 R	**CR 40×56×8 CRW1 R**	Bore-Tite
	57	8	CRW1 R	**CR 40×57×8 CRW1 R**	Bore-Tite
	58	8	CRW1 R	**CR 40×58×8 CRW1 R**	Bore-Tite
	58	8	CRW1 V	**CR 40×58×8 CRW1 V**	Bore-Tite
	60	8	CRW1 R	**CR 40×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 40×60×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 40×62×8 CRW1 R**	Bore-Tite
	62	8	CRW1 V	**CR 40×62×8 CRW1 V**	Bore-Tite
	65	8	CRW1 R	**CR 40×65×8 CRW1 R**	Bore-Tite
	68	8	CRW1 R	**CR 40×68×8 CRW1 R**	Bore-Tite
	70	8	CRW1 R	**CR 40×70×8 CRW1 R**	Bore-Tite
	72	8	CRW1 R	**CR 40×72×8 CRW1 R**	Bore-Tite
	74	8	CRW1 R	**CR 40×74×8 CRW1 R**	Bore-Tite
	75	8	CRW1 V	**CR 40×75×8 CRW1 V**	Bore-Tite
	75	8	CRW1 R	**CR 40×75×8 CRW1 R**	Bore-Tite
	80	8	CRW1 R	**CR 40×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 40×80×8 CRW1 V**	
	90	8	CRW1 R	**CR 40×90×8 CRW1 R**	Bore-Tite
41	53	7	CRW1 R	**CR 41×53×7 CRW1 R**	Bore-Tite
	55	8	CRW1 R	**CR 41×55×8 CRW1 R**	Bore-Tite
	62	8	CRW1 R	**CR 41×62×8 CRW1 R**	Bore-Tite

Series CRW1 – Metric sizes



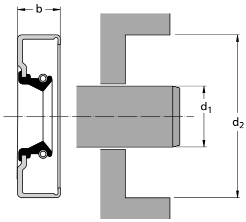
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
42	55	8	CRW1 R	**CR 42×55×8 CRW1 R**	Bore-Tite
	55	8	CRW1 V	**CR 42×55×8 CRW1 V**	Bore-Tite
	56	7	CRW1 V	**CR 42×56×7 CRW1 V**	Bore-Tite
	56	8	CRW1 R	**CR 42×56×8 CRW1 R**	Bore-Tite
	58	8	CRW1 R	**CR 42×58×8 CRW1 R**	Bore-Tite
	58	8	CRW1 V	**CR 42×58×8 CRW1 V**	Bore-Tite
	60	8	CRW1 R	**CR 42×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 42×60×8 CRW1 V**	Bore-Tite
	62	8	CRW1 R	**CR 42×62×8 CRW1 R**	Bore-Tite
	62	8	CRW1 V	**CR 42×62×8 CRW1 V**	Bore-Tite
	65	8	CRW1 R	**CR 42×65×8 CRW1 R**	Bore-Tite
	65	8	CRW1 V	**CR 42×65×8 CRW1 V**	Bore-Tite
	72	8	CRW1 V	**CR 42×72×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 42×72×8 CRW1 R**	Bore-Tite
43	57	8	CRW1 R	**CR 43×57×8 CRW1 R**	Bore-Tite
	60	8	CRW1 R	**CR 43×60×8 CRW1 R**	Bore-Tite
	69	8	CRW1 R	**CR 43×69×8 CRW1 R**	Bore-Tite
	73	8	CRW1 R	**CR 43×73×8 CRW1 R**	Bore-Tite
44	60	8	CRW1 R	**CR 44×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 44×60×8 CRW1 V**	
	62	8	CRW1 R	**CR 44×62×8 CRW1 R**	Bore-Tite
	65	8	CRW1 R	**CR 44×65×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 44×68×8 CRW1 V**	Bore-Tite
	70	8	CRW1 R	**CR 44×70×8 CRW1 R**	Bore-Tite
	72	8	CRW1 R	**CR 44×72×8 CRW1 R**	Bore-Tite
45	60	8	CRW1 R	**CR 45×60×8 CRW1 R**	Bore-Tite
	60	8	CRW1 V	**CR 45×60×8 CRW1 V**	Bore-Tite
	62	8	CRWA1 V	**CR 45×62×8 CRWA1 V**	Bore-Tite
	62	8	CRW1 R	**CR 45×62×8 CRW1 R**	Bore-Tite
	65	8	CRW1 R	**CR 45×65×8 CRW1 R**	Bore-Tite
	65	8	CRW1 V	**CR 45×65×8 CRW1 V**	Bore-Tite
	68	8	CRW1 R	**CR 45×68×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 45×68×8 CRW1 V**	Bore-Tite
	68	8	CRWA1 R	**CR 45×68×8 CRWA1 R**	Bore-Tite
	70	8	CRW1 R	**CR 45×70×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 45×72×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 45×72×8 CRW1 R**	Bore-Tite
	75	8	CRW1 R	**CR 45×75×8 CRW1 R**	Bore-Tite

Series CRW1 – Metric sizes



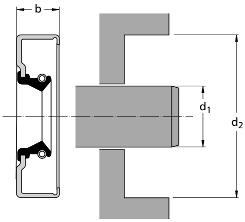
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
45	75	8	CRW1 V	**CR 45×75×8 CRW1 V**	Bore-Tite
	80	8	CRW1 R	**CR 45×80×8 CRW1 R**	Bore-Tite
	85	8	CRW1 R	**CR 45×85×8 CRW1 R**	Bore-Tite
46	60	8	CRW1 R	**CR 46×60×8 CRW1 R**	Bore-Tite
	65	8	CRW1 R	**CR 46×65×8 CRW1 R**	Bore-Tite
	68	8	CRW1 R	**CR 46×68×8 CRW1 R**	Bore-Tite
	72	8	CRW1 R	**CR 46×72×8 CRW1 R**	Bore-Tite
	73	8	CRW1 R	**CR 46×73×8 CRW1 R**	Bore-Tite
47	60	7	CRW1 R	**CR 47×60×7 CRW1 R**	Bore-Tite
	62	8	CRW1 R	**CR 47×62×8 CRW1 R**	Bore-Tite
	72	8	CRW1 R	**CR 47×72×8 CRW1 R**	Bore-Tite
48	62	8	CRW1 R	**CR 48×62×8 CRW1 R**	Bore-Tite
	62	8	CRW1 P	**CR 48×62×8 CRW1 P**	Bore-Tite
	65	8	CRW1 R	**CR 48×65×8 CRW1 R**	Bore-Tite
	65	8	CRW1 V	**CR 48×65×8 CRW1 V**	Bore-Tite
	68	8	CRW1 R	**CR 48×68×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 48×68×8 CRW1 V**	Bore-Tite
	70	8	CRW1 R	**CR 48×70×8 CRW1 R**	Bore-Tite
	70	8	CRW1 V	**CR 48×70×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 48×72×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 48×72×8 CRW1 V**	Bore-Tite
	80	8	CRW1 R	**CR 48×80×8 CRW1 R**	Bore-Tite
	82	8	CRWA1 R	**CR 48×82×8 CRWA1 R**	Bore-Tite
	90	8	CRW1 R	**CR 48×90×8 CRW1 R**	Bore-Tite
50	65	8	CRW1 R	**CR 50×65×8 CRW1 R**	Bore-Tite
	65	8	CRW1 V	**CR 50×65×8 CRW1 V**	Bore-Tite
	68	8	CRW1 R	**CR 50×68×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 50×68×8 CRW1 V**	Bore-Tite
	70	8	CRW1 R	**CR 50×70×8 CRW1 R**	Bore-Tite
	70	8	CRW1 V	**CR 50×70×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 50×72×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 50×72×8 CRW1 V**	Bore-Tite
	75	8	CRWA1 R	**CR 50×75×8 CRWA1 R**	Bore-Tite
	80	8	CRW1 R	**CR 50×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 50×80×8 CRW1 V**	Bore-Tite
	82	8	CRWA1 R	**CR 50×82×8 CRWA1 R**	Bore-Tite
	85	8	CRW1 R	**CR 50×85×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 50×90×8 CRW1 R**	Bore-Tite
	90	8	CRW1 V	**CR 50×90×8 CRW1 V**	Bore-Tite

Series CRW1 – Metric sizes



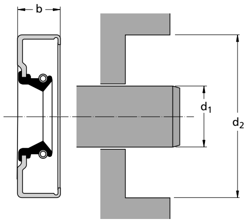
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
51	65	7	CRWA1 R	**CR 51×65×7 CRWA1 R**	Bore-Tite
	73	8	CRW1 R	**CR 51×73×8 CRW1 R**	Bore-Tite
	73	8	CRWA1 R	**CR 51×73×8 CRWA1 R**	Bore-Tite
	80	9,53	CRW1 R	**CR 51×80×9,53 CRW1 R**	Bore-Tite
	81	9,53	CRWH1 R	**CR 51×81×9,53 CRWH1 R**	Bore-Tite
	81	9,53	CRWHA1 R	**CR 51×81×9,53 CRWHA1 R**	Bore-Tite
	90	11,13	CRWH1 R	**CR 51×90×11,13 CRWH1 R**	Bore-Tite
	92	11,13	CRWH1 R	**CR 51×92×11,13 CRWH1 R**	Bore-Tite
52	68	8	CRW1 R	**CR 52×68×8 CRW1 R**	Bore-Tite
	68	8	CRW1 V	**CR 52×68×8 CRW1 V**	Bore-Tite
	70	8	CRW1 R	**CR 52×70×8 CRW1 R**	Bore-Tite
	72	8	CRWA1 V	**CR 52×72×8 CRWA1 V**	Bore-Tite
	72	8	CRW1 R	**CR 52×72×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 52×72×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 52×85×8 CRW1 R**	Bore-Tite
53	68	8	CRW1 V	**CR 53×68×8 CRW1 V**	Bore-Tite
54	65	8	CRW1 R	**CR 54×65×8 CRW1 R**	Bore-Tite
	65	8	CRW1 V	**CR 54×65×8 CRW1 V**	Bore-Tite
	68	8	CRW1 V	**CR 54×68×8 CRW1 V**	Bore-Tite
	73	11,13	CRW1 R	**CR 54×73×11,13 CRW1 R**	Bore-Tite
	73	11,13	CRWA1 R	**CR 54×73×11,13 CRWA1 R**	Bore-Tite
	81	9,53	CRWA1 R	**CR 54×81×9,53 CRWA1 R**	Bore-Tite
55	70	8	CRW1 R	**CR 55×70×8 CRW1 R**	Bore-Tite
	70	8	CRW1 V	**CR 55×70×8 CRW1 V**	Bore-Tite
	72	8	CRW1 R	**CR 55×72×8 CRW1 R**	Bore-Tite
	72	8	CRW1 V	**CR 55×72×8 CRW1 V**	Bore-Tite
	73	8	CRW1 V	**CR 55×73×8 CRW1 V**	Bore-Tite
	75	8	CRW1 R	**CR 55×75×8 CRW1 R**	Bore-Tite
	75	8	CRW1 V	**CR 55×75×8 CRW1 V**	Bore-Tite
	80	8	CRW1 R	**CR 55×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 55×80×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 55×85×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 55×90×8 CRW1 R**	Bore-Tite
	100	8	CRW1 R	**CR 55×100×8 CRW1 R**	Bore-Tite
56	75	8	CRW1 R	**CR 56×75×8 CRW1 R**	Bore-Tite

Series CRW1 – Metric sizes



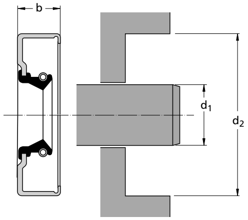
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
57	81	11	CRW1 R	**CR 57×81×11 CRW1 R**	Bore-Tite
	81	11	CRWA1 P	**CR 57×81×11 CRWA1 P**	Bore-Tite
	92	11	CRWH1 R	**CR 57×92×11 CRWH1 R**	Bore-Tite
	92	11	CRWHA1 R	**CR 57×92×11 CRWHA1 R**	Bore-Tite
	110	9,5	CRW1 R	**CR 57×110×9,5 CRW1 R**	Bore-Tite
58	72	8	CRW1 R	**CR 58×72×8 CRW1 R**	Bore-Tite
	72	8	CRW1 S	**CR 58×72×8 CRW1 S**	Bore-Tite
	75	8	CRW1 R	**CR 58×75×8 CRW1 R**	Bore-Tite
	80	8	CRW1 R	**CR 58×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 58×80×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 58×85×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 58×90×8 CRW1 R**	Bore-Tite
60	75	8	CRW1 R	**CR 60×75×8 CRW1 R**	Bore-Tite
	75	8	CRW1 V	**CR 60×75×8 CRW1 V**	Bore-Tite
	80	8	CRW1 R	**CR 60×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 60×80×8 CRW1 V**	Bore-Tite
	82	8	CRWA1 R	**CR 60×82×8 CRWA1 R**	Bore-Tite
	85	8	CRW1 V	**CR 60×85×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 60×85×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 60×90×8 CRW1 R**	Bore-Tite
	95	10	CRW1 R	**CR 60×95×10 CRW1 R**	Bore-Tite
	105	8	CRW1 R	**CR 60×105×8 CRW1 R**	Bore-Tite
	110	8	CRW1 R	**CR 60×110×8 CRW1 R**	Bore-Tite
62	80	8	CRW1 R	**CR 62×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 62×80×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 62×85×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 62×90×8 CRW1 R**	Bore-Tite
	90	11,13	CRWH1 R	**CR 62×90×11,13 CRWH1 R**	Bore-Tite
63	78	8	CRW1 R	**CR 63×78×8 CRW1 R**	Bore-Tite
	80	8	CRW1 R	**CR 63×80×8 CRW1 R**	Bore-Tite
	85	8	CRW1 R	**CR 63×85×8 CRW1 R**	Bore-Tite
	88	8	CRW1 R	**CR 63×88×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 63×90×8 CRW1 R**	Bore-Tite
65	80	8	CRW1 R	**CR 65×80×8 CRW1 R**	Bore-Tite
	80	8	CRW1 V	**CR 65×80×8 CRW1 V**	Bore-Tite
	85	8	CRW1 R	**CR 65×85×8 CRW1 R**	Bore-Tite
	85	8	CRW1 V	**CR 65×85×8 CRW1 V**	

Series CRW1 – Metric sizes



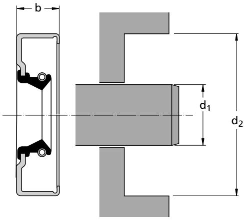
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
65	88	8	CRW1 R	**CR 65×88×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 65×90×8 CRW1 R**	Bore-Tite
	90	8	CRW1 V	**CR 65×90×8 CRW1 V**	Bore-Tite
	92	11,13	CRWH1 R	**CR 65×92×11,13 CRWH1 R**	Bore-Tite
	95	10	CRW1 R	**CR 65×95×10 CRW1 R**	Bore-Tite
	100	8	CRW1 R	**CR 65×100×8 CRW1 R**	Bore-Tite
	100	8	CRW1 V	**CR 65×100×8 CRW1 V**	Bore-Tite
	110	10	CRW1 R	**CR 65×110×10 CRW1 R**	Bore-Tite
	120	8	CRW1 R	**CR 65×120×8 CRW1 R**	Bore-Tite
68	85	8	CRW1 R	**CR 68×85×8 CRW1 R**	Bore-Tite
	88	8	CRW1 R	**CR 68×88×8 CRW1 R**	Bore-Tite
	90	8	CRW1 R	**CR 68×90×8 CRW1 R**	Bore-Tite
	90	8	CRW1 V	**CR 68×90×8 CRW1 V**	Bore-Tite
	95	10	CRW1 R	**CR 68×95×10 CRW1 R**	Bore-Tite
	95	10	CRW1 V	**CR 68×95×10 CRW1 V**	Bore-Tite
	100	10	CRW1 R	**CR 68×100×10 CRW1 R**	Bore-Tite
70	85	8	CRW1 R	**CR 70×85×8 CRW1 R**	Bore-Tite
	88	8	CRW1 R	**CR 70×88×8 CRW1 R**	Bore-Tite
	88	8	CRW1 V	**CR 70×88×8 CRW1 V**	Bore-Tite
	90	8	CRW1 R	**CR 70×90×8 CRW1 R**	Bore-Tite
	90	10	CRW1 V	**CR 70×90×10 CRW1 V**	Bore-Tite
	90	10	CRWHA1 P	**CR 70×90×10 CRWHA1 P**	Bore-Tite
	92	11	CRWH1 R	**CR 70×92×11 CRWH1 R**	Bore-Tite
	92	11	CRWH1 V	**CR 70×92×11 CRWH1 V**	Bore-Tite
	95	10	CRW1 R	**CR 70×95×10 CRW1 R**	Bore-Tite
	100	10	CRW1 R	**CR 70×100×10 CRW1 R**	Bore-Tite
	105	10	CRW1 R	**CR 70×105×10 CRW1 R**	Bore-Tite
	110	10	CRW1 R	**CR 70×110×10 CRW1 R**	Bore-Tite
	110	12,7	CRWHA1 R	**CR 70×110×12,7 CRWHA1 R**	
72	88	8	CRW1 R	**CR 72×88×8 CRW1 R**	Bore-Tite
73	92	11,13	CRWH1 R	**CR 73×92×11,13 CRWH1 R**	Bore-Tite
	110	11,13	CRWA1 P	**CR 73×110×11,13 CRWA1 P**	Bore-Tite
75	90	8	CRW1 R	**CR 75×90×8 CRW1 R**	Bore-Tite
	95	10	CRW1 R	**CR 75×95×10 CRW1 R**	Bore-Tite
	95	10	CRW1 V	**CR 75×95×10 CRW1 V**	Bore-Tite
	100	10	CRW1 R	**CR 75×100×10 CRW1 R**	Bore-Tite
	100	10	CRW1 V	**CR 75×100×10 CRW1 V**	Bore-Tite

Series CRW1 – Metric sizes



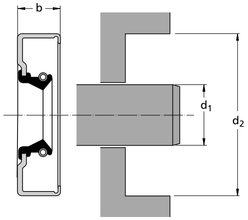
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
75	105	10	CRW1 R	**CR 75×105×10 CRW1 R**	Bore-Tite
	110	10	CRW1 R	**CR 75×110×10 CRW1 R**	Bore-Tite
	115	12	CRW1 R	**CR 75×115×12 CRW1 R**	Bore-Tite
80	100	10	CRW1 R	**CR 80×100×10 CRW1 R**	Bore-Tite
	100	10	CRW1 V	**CR 80×100×10 CRW1 V**	Bore-Tite
	105	10	CRW1 R	**CR 80×105×10 CRW1 R**	Bore-Tite
	105	10	CRW1 V	**CR 80×105×10 CRW1 V**	Bore-Tite
	110	10	CRW1 R	**CR 80×110×10 CRW1 R**	Bore-Tite
	120	10	CRW1 R	**CR 80×120×10 CRW1 R**	Bore-Tite
	125	10	CRW1 R	**CR 80×125×10 CRW1 R**	Bore-Tite
	125	10	CRW1 V	**CR 80×125×10 CRW1 V**	Bore-Tite
	130	12	CRWA1 R	**CR 80×130×12 CRWA1 R**	Bore-Tite
	140	12	CRW1 R	**CR 80×140×12 CRW1 R**	Bore-Tite
84	127	11	CRWH1 R	**CR 84×127×11 CRWH1 R**	Bore-Tite
85	105	10	CRW1 R	**CR 85×105×10 CRW1 R**	Bore-Tite
	105	10	CRW1 V	**CR 85×105×10 CRW1 V**	Bore-Tite
	110	10	CRW1 R	**CR 85×110×10 CRW1 R**	Bore-Tite
	110	10	CRWA1 V	**CR 85×110×10 CRWA1 V**	Bore-Tite
	120	12	CRW1 R	**CR 85×120×12 CRW1 R**	Bore-Tite
	125	12	CRW1 R	**CR 85×125×12 CRW1 R**	Bore-Tite
	130	12	CRW1 R	**CR 85×130×12 CRW1 R**	Bore-Tite
89	127	11,13	CRWH1 R	**CR 89×127×11,13 CRWH1 R**	Bore-Tite
89	127	11,13	CRWHA1 P	**CR 89×127×11,13 CRWHA1 P**	Bore-Tite
90	110	12	CRW1 R	**CR 90×110×12 CRW1 R**	Bore-Tite
	110	12	CRW1 V	**CR 90×110×12 CRW1 V**	Bore-Tite
	115	12	CRWA1 R	**CR 90×115×12 CRWA1 R**	Bore-Tite
	120	12	CRW1 R	**CR 90×120×12 CRW1 R**	Bore-Tite
	120	12	CRW1 V	**CR 90×120×12 CRW1 V**	Bore-Tite
	125	12	CRW1 R	**CR 90×125×12 CRW1 R**	Bore-Tite
	125	12	CRW1 V	**CR 90×125×12 CRW1 V**	Bore-Tite
	130	12	CRW1 R	**CR 90×130×12 CRW1 R**	Bore-Tite
	140	12	CRWA1 R	**CR 90×140×12 CRWA1 R**	Bore-Tite
92	127	11	CRWHA1 R	**CR 92×127×11 CRWHA1 R**	Bore-Tite
	127	11,13	CRWH1 R	**CR 92×127×11,13 CRWH1 R**	Bore-Tite

Series CRW1 – Metric sizes



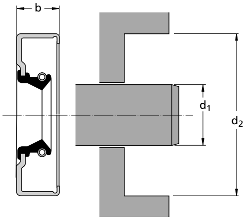
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
95	110	10	CRW1 R	**CR 95×110×10 CRW1 R**	Bore-Tite
	115	12	CRW1 R	**CR 95×115×12 CRW1 R**	Bore-Tite
	115	12	CRW1 V	**CR 95×115×12 CRW1 V**	Bore-Tite
	120	12	CRW1 R	**CR 95×120×12 CRW1 R**	Bore-Tite
	120	12	CRW1 V	**CR 95×120×12 CRW1 V**	Bore-Tite
	120	12	CRWA1 V	**CR 95×120×12 CRWA1 V**	Bore-Tite
	125	12	CRW1 R	**CR 95×125×12 CRW1 R**	Bore-Tite
	130	12	CRW1 R	**CR 95×130×12 CRW1 R**	Bore-Tite
	130	12	CRW1 V	**CR 95×130×12 CRW1 V**	Bore-Tite
	120	12	CRW1 V	**CR 98×120×12 CRW1 V**	Bore-Tite
	124	9,53	CRW1 R	**CR 99×124×9,53 CRW1 R**	Bore-Tite
100	120	12	CRW1 R	**CR 100×120×12 CRW1 R**	Bore-Tite
	120	12	CRW1 V	**CR 100×120×12 CRW1 V**	Bore-Tite
	125	12	CRW1 R	**CR 100×125×12 CRW1 R**	Bore-Tite
	125	12	CRW1 V	**CR 100×125×12 CRW1 V**	Bore-Tite
	127	11,13	CRWH1 R	**CR 100×127×11,13 CRWH1 R**	Bore-Tite
	130	12	CRW1 R	**CR 100×130×12 CRW1 R**	Bore-Tite
	135	12	CRWA1 R	**CR 100×135×12 CRWA1 R**	Bore-Tite
	140	12	CRWA1 R	**CR 100×140×12 CRWA1 R**	Bore-Tite
102	130	11	CRWH1 R	**CR 102×130×11 CRWH1 R**	Bore-Tite
105	127	11,13	CRWH1 R	**CR 105×127×11,13 CRWH1 R**	Bore-Tite
	130	12	CRW1 R	**CR 105×130×12 CRW1 R**	Bore-Tite
	130	12	CRW1 V	**CR 105×130×12 CRW1 V**	Bore-Tite
	135	12	CRWA1 R	**CR 105×135×12 CRWA1 R**	Bore-Tite
	140	12	CRWA1 R	**CR 105×140×12 CRWA1 R**	Bore-Tite
	160	12	CRW1 R	**CR 105×160×12 CRW1 R**	Bore-Tite
110	130	12	CRW1 R	**CR 110×130×12 CRW1 R**	Bore-Tite
	130	12	CRW1 V	**CR 110×130×12 CRW1 V**	Bore-Tite
	135	12	CRW1 V	**CR 110×135×12 CRW1 V**	Bore-Tite
	140	12	CRW1 V	**CR 110×140×12 CRW1 V**	Bore-Tite
	140	12	CRW1 R	**CR 110×140×12 CRW1 R**	Bore-Tite
	145	12	CRW1 R	**CR 110×145×12 CRW1 R**	Bore-Tite
	160	12	CRWH1 R	**CR 110×160×12 CRWH1 R**	Bore-Tite

Series CRW1 – Metric sizes



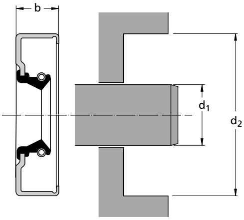
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
mm					
115	135	12	CRW1 R	**CR 115×135×12 CRW1 R**	Bore-Tite
	140	12	CRW1 R	**CR 115×140×12 CRW1 R**	Bore-Tite
	140	12	CRW1 R	**CR 115×140×12 CRW1 R**	
	140	12	CRW1 V	**CR 115×140×12 CRW1 V**	Bore-Tite
	145	12	CRW1 R	**CR 115×145×12 CRW1 R**	Bore-Tite
	150	12	CRW1 R	**CR 115×150×12 CRW1 R**	Bore-Tite
	160	12	CRW1 R	**CR 115×160×12 CRW1 R**	Bore-Tite
120	140	12	CRWA1 R	**CR 120×140×12 CRWA1 R**	Bore-Tite
	145	12	CRW1 R	**CR 120×145×12 CRW1 R**	Bore-Tite
	150	12	CRW1 R	**CR 120×150×12 CRW1 R**	Bore-Tite
	150	12	CRW1 V	**CR 120×150×12 CRW1 V**	Bore-Tite
	160	12	CRWH1 R	**CR 120×160×12 CRWH1 R**	Bore-Tite
125	150	12	CRW1 R	**CR 125×150×12 CRW1 R**	Bore-Tite
	150	12	CRW1 V	**CR 125×150×12 CRW1 V**	Bore-Tite
	160	12	CRW1 R	**CR 125×160×12 CRW1 R**	Bore-Tite
130	160	12	CRW1 R	**CR 130×160×12 CRW1 R**	Bore-Tite
	160	12	CRW1 V	**CR 130×160×12 CRW1 V**	Bore-Tite
	170	12	CRW1 R	**CR 130×170×12 CRW1 R**	Bore-Tite
140	160	12	CRW1 R	**CR 140×160×12 CRW1 R**	Bore-Tite
	170	12	CRW1 R	**CR 140×170×12 CRW1 R**	Bore-Tite
	170	12	CRW1 V	**CR 140×170×12 CRW1 V**	
143	181	12,7	CRWHA1 R	**CR 143×181×12,7 CRWHA1 R**	Bore-Tite
160	190	15	CRW1 V	**CR 160×190×15 CRW1 V**	Bore-Tite
162	200	14,3	CRWHA1 R	**CR 162×200×14,3 CRWHA1 R**	Bore-Tite
	200	15,88	CRWH1 R	**CR 162×200×15,88 CRWH1 R**	Bore-Tite
188	215	16	CRWH1 R	**CR 188×215×16 CRWH1 R**	Bore-Tite
203	254	15,88	CRWH1 R	**CR 203×254×15,88 CRWH1 R**	Bore-Tite
	254	15,88	CRWHA1 R	**CR 203×254×15,88 CRWHA1 R**	
216	254	15,88	CRWH1 R	**CR 216×254×15,88 CRWH1 R**	Bore-Tite
220	250	16	CRWH1 R	**CR 220×250×16 CRWH1 R**	Bore-Tite
280	320	20	CRWA1 R	**CR 280×320×20 CRWA1 R**	Bore-Tite
	320	20	CRWA1 V	**CR 280×320×20 CRWA1 V**	Bore-Tite

Series CRW1 – Inch sizes



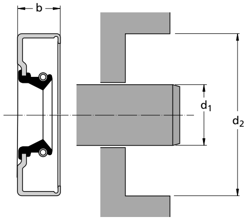
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.250	.749	.250	CRW1 V	**CR 2513**	
	.749	.250	CRW1 R	**CR 2514**	Bore-Tite
.375	.749	.250	CRW1 R	**CR 3687**	
	.749	.250	CRW1 V	**CR 3688**	Bore-Tite
	.750	.250	CRWA1 R	**CR 3680**	Bore-Tite
	.836	.188	CRW1 P	**CR 3719**	Bore-Tite
	.875	.250	CRW1 R	**CR 3725**	Bore-Tite
	.999	.250	CRW1 R	**CR 3751**	
	.999	.250	CRW1 V	**CR 3752**	Bore-Tite
	1.124	.250	CRW1 R	**CR 3806**	
.438	.875	.250	CRW1 P	**CR 4249**	Bore-Tite
	.875	.250	CRW1 R	**CR 4251**	
	.875	.375	CRWA1 R	**CR 4261**	
	.875	.375	CRWA1 V	**CR 4262**	Bore-Tite
	.999	.250	CRW1 V	**CR 4356**	Bore-Tite
	.999	.375	CRW1 P	**CR 4353**	Bore-Tite
	.999	.375	CRW1 R	**CR 4355**	Bore-Tite
	1.124	.250	CRW1 R	**CR 4390**	Bore-Tite
.500	.875	.250	CRW1 R	**CR 4931**	Bore-Tite
	.875	.250	CRW1 V	**CR 4932**	Bore-Tite
	.875	.250	CRWA1 V	**CR 4933**	Bore-Tite
	.875	.250	CRWA1 V	**CR 4935**	Bore-Tite
	.875	.250	CRW1 D	**CR 4936**	Bore-Tite
	.875	.313	CRWA1 R	**CR 4939**	Bore-Tite
	.987	.250	CRW1 R	**CR 4943**	Bore-Tite
	.999	.250	CRW1 V	**CR 4980**	Bore-Tite
	.999	.250	CRW1 R	**CR 4984**	Bore-Tite
	.999	.250	CRWA1 R	**CR 4985**	Bore-Tite
	1.124	.250	CRW1 P	**CR 5045**	Bore-Tite
	1.124	.250	CRWA1 R	**CR 5062**	Bore-Tite
	1.124	.250	CRW1 V	**CR 5066**	Bore-Tite
	1.124	.250	CRWA1 V	**CR 5067**	Bore-Tite
	1.124	.250	CRW1 R	**CR 5068**	Bore-Tite
	1.124	.313	CRW1 P	**CR 5046**	Bore-Tite
	1.250	.250	CRW1 R	**CR 5133**	Bore-Tite
	1.375	.250	CRW1 R	**CR 5150**	Bore-Tite
	1.375	.250	CRW1 V	**CR 5151**	Bore-Tite

Series CRW1 – Inch sizes



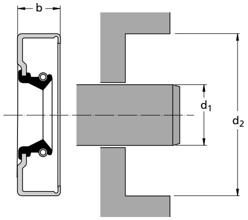
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.531	.999	.250	CRWA1 S	**CR 5321**	Bore-Tite
.546	.875	.250	CRW1 P	**CR 5385**	
.554	.999	.250	CRW1 R	**CR 5605**	Bore-Tite
.563	.875	.188	CRW1 D	**CR 5523**	Bore-Tite
	.999	.250	CRW1 R	**CR 5541**	Bore-Tite
	.999	.250	CRW1 V	**CR 5542**	Bore-Tite
	.999	.250	CRW1 R	**CR 5543**	Bore-Tite
	.999	.250	CRWA1 R	**CR 5606**	Bore-Tite
	1.124	.250	CRW1 V	**CR 5650**	Bore-Tite
	1.124	.250	CRW1 R	**CR 5652**	Bore-Tite
	1.124	.250	CRWA1 R	**CR 5662**	Bore-Tite
	1.250	.250	CRW1 R	**CR 5707**	Bore-Tite
	1.375	.250	CRW1 R	**CR 5756**	Bore-Tite
.594	1.124	.313	CRW1 R	**CR 5926**	Bore-Tite
	1.124	.313	CRW1 V	**CR 5927**	Bore-Tite
.625	.987	.250	CRW1 R	**CR 6134**	Bore-Tite
	.999	.250	CRWA1 V	**CR 6139**	Bore-Tite
	.999	.250	CRWA1 R	**CR 6141**	Bore-Tite
	.999	.250	CRW1 R	**CR 6143**	Bore-Tite
	1.063	.250	CRW1 R	**CR 6157**	Bore-Tite
	1.124	.250	CRW1 R	**CR 6203**	Bore-Tite
	1.124	.250	CRWA1 R	**CR 6204**	Bore-Tite
	1.124	.250	CRW1 V	**CR 6213**	Bore-Tite
	1.124	.250	CRWA1 V	**CR 6215**	Bore-Tite
	1.181	.250	CRWA1 R	**CR 6247**	Bore-Tite
	1.181	.256	CRWA1 V	**CR 6248**	Bore-Tite
	1.250	.250	CRW1 V	**CR 6309**	Bore-Tite
	1.250	.250	CRW1 R	**CR 6315**	Bore-Tite
	1.250	.250	CRWA1 R	**CR 6316**	Bore-Tite
	1.375	.250	CRW1 R	**CR 6372**	Bore-Tite
	1.375	.250	CRWA1 R	**CR 6373**	Bore-Tite
	1.375	.250	CRW1 V	**CR 6379**	Bore-Tite
	1.375	.250	CRWA1 V	**CR 6383**	Bore-Tite
	1.377	.250	CRWHA1 R	**CR 6391**	Bore-Tite
	1.499	.250	CRW1 R	**CR 6386**	Bore-Tite

Series CRW1 – Inch sizes



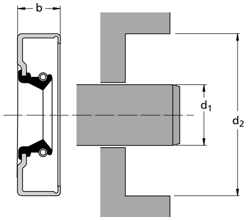
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.656	1.124	.313	CRW1 R	**CR 6521**	Bore-Tite
	1.250	.250	CRW1 R	**CR 6541**	Bore-Tite
	1.375	.313	CRW1 R	**CR 6556**	Bore-Tite
	1.575	.250	CRW1 R	**CR 6580**	Bore-Tite
.669	.999	.188	CRW1 R	**CR 6595**	Bore-Tite
	1.064	.250	CRW1 R	**CR 6728**	Bore-Tite
	1.064	.250	CRW1 R	**CR 6729**	Bore-Tite
	1.573	.281	CRW1 V	**CR 6597**	
.688	1.124	.190	CRW1 R	**CR 6738**	Bore-Tite
	1.124	.250	CRW1 R	**CR 6741**	Bore-Tite
	1.124	.250	CRW1 R	**CR 6743**	Bore-Tite
	1.124	.250	CRW1 V	**CR 6745**	Bore-Tite
	1.187	.188	CRW1 V	**CR 6770**	Bore-Tite
	1.188	.188	CRW1 R	**CR 6763**	Bore-Tite
	1.250	.250	CRWA1 R	**CR 6765**	Bore-Tite
	1.250	.256	CRWHA1 V	**CR 6751**	Bore-Tite
	1.250	.313	CRW1 R	**CR 6767**	Bore-Tite
	1.250	.313	CRW1 V	**CR 6768**	Bore-Tite
	1.252	.220	CRWH1 V	**CR 6769**	Bore-Tite
	1.375	.250	CRWA1 R	**CR 6814**	Bore-Tite
	1.375	.313	CRW1 R	**CR 6816**	Bore-Tite
	1.375	.313	CRW1 V	**CR 6817**	Bore-Tite
	1.499	.250	CRW1 R	**CR 6935**	Bore-Tite
	1.624	.250	CRWA1 R	**CR 6990**	Bore-Tite
.750	1.124	.188	CRW1 R	**CR 7414**	Bore-Tite
	1.124	.188	CRW1 V	**CR 7417**	Bore-Tite
	1.249	.188	CRW1 V	**CR 7467**	
	1.250	.188	CRW1 R	**CR 7439**	Bore-Tite
	1.250	.188	CRW1 R	**CR 7478**	
	1.250	.250	CRW1 R	**CR 7438**	Bore-Tite
	1.250	.250	CRW1 R	**CR 7440**	Bore-Tite
	1.250	.250	CRWA1 R	**CR 7443**	Bore-Tite
	1.250	.250	CRW1 V	**CR 7450**	Bore-Tite
	1.250	.250	CRWA1 V	**CR 7453**	Bore-Tite
	1.250	.250	CRWA1 V	**CR 7455**	Bore-Tite
	1.252	.188	CRW1 R	**CR 7469**	Bore-Tite
	1.260	.250	CRW1 R	**CR 7473**	Bore-Tite
	1.312	.250	CRW1 R	**CR 7474**	Bore-Tite

Series CRW1 – Inch sizes



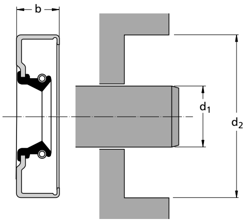
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.750	1.312	.250	CRWA1 R	**CR 7475**	Bore-Tite
	1.375	.250	CRW1 R	**CR 7512**	Bore-Tite
	1.375	.250	CRWA1 R	**CR 7513**	Bore-Tite
	1.375	.250	CRW1 V	**CR 7515**	Bore-Tite
	1.375	.250	CRWA1 V	**CR 7517**	Bore-Tite
	1.375	.250	CRWA1 P	**CR 7533**	Bore-Tite
	1.499	.250	CRW1 V	**CR 7567**	Bore-Tite
	1.499	.250	CRW1 R	**CR 7572**	
	1.499	.250	CRWA1 R	**CR 7573**	Bore-Tite
	1.575	.250	CRW1 R	**CR 7591**	Bore-Tite
	1.624	.250	CRW1 V	**CR 7623**	Bore-Tite
	1.624	.250	CRWA1 V	**CR 7624**	Bore-Tite
	1.624	.250	CRW1 R	**CR 7627**	Bore-Tite
	1.624	.250	CRWA1 R	**CR 7628**	Bore-Tite
	1.752	.250	CRW1 R	**CR 7636**	Bore-Tite
	1.752	.250	CRWA1 V	**CR 7638**	Bore-Tite
	1.828	.250	CRW1 R	**CR 7661**	Bore-Tite
	1.874	.250	CRW1 R	**CR 7690**	Bore-Tite
	2.047	.313	CRW1 R	**CR 7693**	Bore-Tite
.781	1.375	.313	CRW1 V	**CR 7824**	Bore-Tite
	1.375	.313	CRW1 R	**CR 7829**	
	1.499	.313	CRW1 R	**CR 7849**	Bore-Tite
	1.624	.313	CRW1 R	**CR 7872**	Bore-Tite
	1.828	.250	CRW1 P	**CR 7889**	Bore-Tite
.787	1.124	.188	CRW1 R	**CR 7740**	Bore-Tite
.813	1.187	.313	CRWA1 V	**CR 8013**	Bore-Tite
	1.250	.188	CRW1 R	**CR 8017**	
	1.250	.188	CRW1 P	**CR 8018**	Bore-Tite
	1.312	.250	CRW1 R	**CR 8027**	Bore-Tite
	1.375	.375	CRW1 V	**CR 8053**	Bore-Tite
	1.375	.375	CRW1 R	**CR 8060**	Bore-Tite
	1.499	.250	CRW1 R	**CR 8088**	
	1.624	.250	CRW1 V	**CR 8178**	Bore-Tite
	1.752	.375	CRW1 R	**CR 8215**	Bore-Tite
.875	1.250	.188	CRW1 R	**CR 8624**	Bore-Tite
	1.250	.250	CRW1 V	**CR 8621**	Bore-Tite
	1.308	.250	CRW1 V	**CR 8649**	Bore-Tite

Series CRW1 – Inch sizes



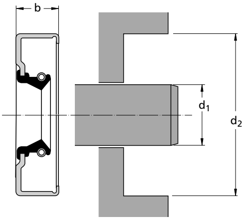
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.875	1.375	.250	CRW1 V	**CR 8646**	Bore-Tite
	1.375	.250	CRW1 R	**CR 8648**	Bore-Tite
	1.437	.250	CRW1 R	**CR 8691**	Bore-Tite
	1.499	.250	CRW1 R	**CR 8700**	Bore-Tite
	1.499	.250	CRWA1 R	**CR 8702**	Bore-Tite
	1.499	.250	CRW1 V	**CR 8704**	Bore-Tite
	1.499	.250	CRWA1 V	**CR 8707**	Bore-Tite
	1.499	.313	CRW1 R	**CR 8703**	
	1.502	.313	CRWA1 R	**CR 8748**	Bore-Tite
	1.575	.250	CRW1 R	**CR 8763**	Bore-Tite
	1.624	.250	CRWA1 R	**CR 8782**	Bore-Tite
	1.624	.250	CRW1 V	**CR 8795**	Bore-Tite
	1.624	.250	CRW1 R	**CR 8796**	Bore-Tite
	1.752	.250	CRW1 R	**CR 8821**	Bore-Tite
	1.828	.250	CRW1 R	**CR 8842**	Bore-Tite
	1.874	.250	CRW1 R	**CR 8860**	Bore-Tite
	2.000	.250	CRW1 R	**CR 8870**	Bore-Tite
	2.050	.375	CRWH1 V	**CR 8871**	Bore-Tite
.882	2.088	.313	CRWHA1 R	**CR 9000**	Bore-Tite
.938	1.375	.250	CRWA1 R	**CR 9244**	Bore-Tite
	1.500	.250	CRW1 R	**CR 9303**	Bore-Tite
	1.500	.250	CRW1 V	**CR 9304**	Bore-Tite
	1.624	.250	CRW1 R	**CR 9307**	Bore-Tite
	1.624	.250	CRW1 V	**CR 9308**	Bore-Tite
	1.752	.250	CRW1 R	**CR 9347**	Bore-Tite
	1.828	.250	CRW1 R	**CR 9409**	Bore-Tite
.950	1.358	.275	CRW1 P	**CR 9520**	Bore-Tite
.969	1.406	.250	CRWA1 P	**CR 9604**	Bore-Tite
	1.499	.313	CRW1 V	**CR 9611**	Bore-Tite
	1.499	.313	CRW1 R	**CR 9613**	
	1.624	.250	CRW1 R	**CR 9646**	Bore-Tite
	1.624	.250	CRW1 V	**CR 9647**	Bore-Tite
	1.686	.313	CRWA1 R	**CR 9663**	Bore-Tite
	1.686	.313	CRW1 R	**CR 9664**	Bore-Tite
	1.752	.250	CRW1 R	**CR 9667**	Bore-Tite
	1.828	.313	CRW1 R	**CR 9681**	Bore-Tite

Series CRW1 – Inch sizes



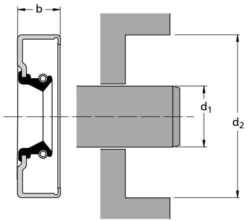
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.981	1.376	.313	CRW1 V	**CR 9888**	
.984	1.499	.250	CRW1 V	**CR 9686**	Bore-Tite
	1.749	.375	CRWA1 V	**CR 9803**	
1.000	1.367	.313	CRW1 R	**CR 9822**	Bore-Tite
	1.375	.250	CRW1 P	**CR 9826**	
	1.375	.250	CRW1 V	**CR 9831**	Bore-Tite
	1.437	.250	CRW1 V	**CR 9833**	Bore-Tite
	1.437	.250	CRW1 R	**CR 9837**	Bore-Tite
	1.437	.250	CRWA1 R	**CR 9838**	Bore-Tite
	1.437	.250	CRWA1 V	**CR 9847**	Bore-Tite
	1.496	.390	CRW1 R	**CR 9850**	Bore-Tite
	1.499	.250	CRW1 R	**CR 9852**	Bore-Tite
	1.499	.250	CRW1 V	**CR 9854**	Bore-Tite
	1.499	.250	CRW1 R	**CR 9876**	Bore-Tite
	1.499	.250	CRWA1 R	**CR 9878**	Bore-Tite
	1.499	.250	CRWA1 V	**CR 9879**	Bore-Tite
	1.499	.315	CRWA1 V	**CR 9862**	Bore-Tite
	1.499	.315	CRW1 V	**CR 9892**	Bore-Tite
	1.561	.250	CRW1 R	**CR 9894**	Bore-Tite
	1.575	.313	CRWA1 R	**CR 9907**	Bore-Tite
	1.624	.250	CRW1 R	**CR 9934**	Bore-Tite
	1.624	.250	CRWA1 R	**CR 9935**	Bore-Tite
	1.624	.250	CRW1 V	**CR 9937**	Bore-Tite
	1.624	.250	CRWA1 V	**CR 9939**	Bore-Tite
	1.686	.250	CRW1 R	**CR 9960**	Bore-Tite
	1.752	.250	CRW1 V	**CR 9982**	Bore-Tite
	1.752	.250	CRWA1 V	**CR 9983**	Bore-Tite
	1.752	.250	CRW1 R	**CR 9997**	Bore-Tite
	1.752	.250	CRWA1 R	**CR 9998**	Bore-Tite
	1.828	.250	CRW1 V	**CR 10046**	Bore-Tite
	1.828	.250	CRW1 P	**CR 10047**	Bore-Tite
	1.828	.250	CRW1 R	**CR 10049**	Bore-Tite
	1.828	.250	CRWA1 R	**CR 10050**	Bore-Tite
	1.851	.250	CRW1 R	**CR 10071**	Bore-Tite
	1.874	.250	CRW1 R	**CR 10075**	Bore-Tite
	1.938	.250	CRW1 R	**CR 10104**	Bore-Tite
	1.983	.250	CRWA1 V	**CR 10111**	Bore-Tite
	1.983	.313	CRWA1 R	**CR 10114**	Bore-Tite
	2.000	.250	CRW1 R	**CR 10123**	Bore-Tite

Series CRW1 – Inch sizes



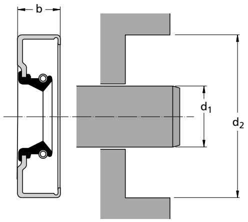
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.000	2.000	.250	CRWA1 R	**CR 10124**	Bore-Tite
	2.000	.250	CRWA1 R	**CR 10127**	Bore-Tite
	2.000	.250	CRW1 V	**CR 10128**	Bore-Tite
	2.000	.250	CRWA1 V	**CR 10129**	Bore-Tite
	2.047	.250	CRWA1 R	**CR 10157**	Bore-Tite
	2.062	.250	CRW1 R	**CR 10158**	Bore-Tite
	2.250	.250	CRW1 R	**CR 10169**	Bore-Tite
1.063	1.499	.250	CRW1 R	**CR 10515**	Bore-Tite
	1.499	.250	CRW1 V	**CR 10518**	Bore-Tite
	1.512	.256	CRW1 P	**CR 532866**	Bore-Tite
	1.561	.250	CRW1 R	**CR 10581**	Bore-Tite
	1.577	.250	CRW1 R	**CR 10583**	Bore-Tite
	1.624	.250	CRW1 R	**CR 10598**	Bore-Tite
	1.686	.250	CRW1 R	**CR 10632**	Bore-Tite
	1.752	.250	CRW1 R	**CR 10653**	Bore-Tite
	1.828	.250	CRW1 R	**CR 10681**	Bore-Tite
	1.828	.250	CRW1 V	**CR 10682**	Bore-Tite
	1.874	.250	CRW1 R	**CR 10700**	Bore-Tite
	1.979	.250	CRW1 R	**CR 10728**	Bore-Tite
	1.983	.250	CRW1 R	**CR 10733**	Bore-Tite
	2.000	.250	CRW1 R	**CR 10740**	Bore-Tite
	2.062	.250	CRW1 R	**CR 10766**	Bore-Tite
1.125	1.499	.188	CRW1 V	**CR 11059**	
	1.499	.188	CRW1 R	**CR 11061**	
	1.561	.250	CRW1 P	**CR 11066**	Bore-Tite
	1.561	.250	CRW1 R	**CR 11067**	Bore-Tite
	1.561	.250	CRW1 V	**CR 11071**	Bore-Tite
	1.565	.250	CRW1 R	**CR 11082**	Bore-Tite
	1.624	.250	CRW1 P	**CR 11111**	Bore-Tite
	1.624	.250	CRW1 R	**CR 11123**	Bore-Tite
	1.624	.250	CRWA1 R	**CR 11124**	Bore-Tite
	1.624	.250	CRW1 V	**CR 11133**	Bore-Tite
	1.624	.250	CRWA1 V	**CR 11134**	Bore-Tite
	1.733	.375	CRW1 R	**CR 11137**	Bore-Tite
	1.752	.250	CRW1 R	**CR 11138**	Bore-Tite
	1.752	.250	CRW1 V	**CR 11144**	Bore-Tite
	1.828	.250	CRW1 R	**CR 11170**	Bore-Tite
	1.828	.250	CRWA1 R	**CR 11171**	Bore-Tite
	1.828	.250	CRW1 V	**CR 11172**	Bore-Tite

Series CRW1 – Inch sizes



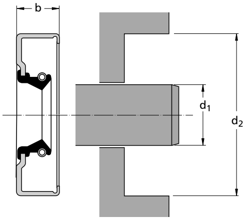
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.125	1.828	.250	CRWA1 V	**CR 11175**	Bore-Tite
	1.852	.313	CRWH1 R	**CR 11197**	Bore-Tite
	1.852	.313	CRWHA1 R	**CR 11200**	Bore-Tite
	1.874	.250	CRW1 V	**CR 11207**	Bore-Tite
	1.874	.250	CRWA1 V	**CR 11208**	Bore-Tite
	1.874	.250	CRW1 R	**CR 11209**	Bore-Tite
	1.874	.250	CRWA1 R	**CR 11223**	Bore-Tite
	1.983	.250	CRW1 R	**CR 11299**	Bore-Tite
	2.000	.250	CRW1 R	**CR 11340**	Bore-Tite
	2.000	.250	CRW1 V	**CR 11344**	Bore-Tite
	2.000	.374	CRWA1 V	**CR 12138**	Bore-Tite
	2.000	.375	CRWA1 R	**CR 11343**	Bore-Tite
	2.047	.313	CRWA1 R	**CR 11353**	Bore-Tite
	2.062	.250	CRWA1 V	**CR 11368**	Bore-Tite
	2.062	.313	CRW1 R	**CR 11366**	Bore-Tite
	2.125	.313	CRW1 R	**CR 11372**	Bore-Tite
	2.125	.313	CRW1 V	**CR 11373**	Bore-Tite
	2.250	.250	CRW1 R	**CR 11378**	Bore-Tite
	2.441	.250	CRW1 R	**CR 11392**	Bore-Tite
1.126	1.575	.236	CRWA1 R	**CR 11086**	Bore-Tite
1.156	1.686	.250	CRWA1 R	**CR 11518**	Bore-Tite
	1.752	.250	CRWA1 R	**CR 11514**	Bore-Tite
	1.874	.250	CRW1 R	**CR 11524**	Bore-Tite
	1.875	.375	CRWA1 R	**CR 11536**	
	2.000	.250	CRW1 R	**CR 11544**	Bore-Tite
	2.000	.250	CRWA1 R	**CR 11545**	Bore-Tite
	2.000	.250	CRW1 V	**CR 11550**	Bore-Tite
	2.062	.313	CRW1 R	**CR 11557**	Bore-Tite
1.175	2.031	.500	CRW1 R	**CR 11553**	Bore-Tite
1.178	2.073	.335	CRW1 S	**CR 11650**	Bore-Tite
1.188	1.561	.313	CRW1 V	**CR 11710**	
	1.686	.250	CRW1 P	**CR 11728**	Bore-Tite
	1.687	.250	CRW1 R	**CR 11730**	Bore-Tite
	1.752	.250	CRW1 R	**CR 11734**	Bore-Tite
	1.752	.250	CRW1 V	**CR 11736**	Bore-Tite
	1.828	.375	CRW1 R	**CR 11740**	Bore-Tite

Series CRW1 – Inch sizes



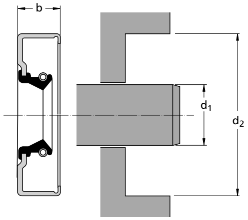
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.188	1.875	.250	CRW1 P	**CR 11763**	Bore-Tite
	1.875	.375	CRW1 R	**CR 11585**	Bore-Tite
	1.983	.250	CRW1 R	**CR 11776**	Bore-Tite
	1.983	.250	CRWA1 R	**CR 11777**	Bore-Tite
	2.000	.250	CRW1 R	**CR 11800**	Bore-Tite
	2.000	.250	CRWA1 R	**CR 11801**	Bore-Tite
	2.000	.250	CRW1 V	**CR 11806**	Bore-Tite
	2.062	.250	CRW1 R	**CR 11878**	Bore-Tite
	2.062	.250	CRW1 P	**CR 11879**	Bore-Tite
	2.125	.313	CRW1 R	**CR 11907**	Bore-Tite
	2.165	.250	CRW1 R	**CR 11911**	Bore-Tite
	2.250	.250	CRW1 R	**CR 11914**	Bore-Tite
	2.437	.250	CRW1 R	**CR 11923**	Bore-Tite
	2.441	.250	CRW1 R	**CR 11930**	Bore-Tite
1.190	2.125	.313	CRWHA1 R	**CR 11908**	Bore-Tite
1.234	2.250	.250	CRW1 R	**CR 12590**	Bore-Tite
1.250	1.625	.188	CRW1 R	**CR 12329**	Bore-Tite
	1.687	.250	CRW1 V	**CR 12335**	Bore-Tite
	1.687	.250	CRW1 R	**CR 12336**	Bore-Tite
	1.687	.250	CRWA1 V	**CR 12337**	Bore-Tite
	1.687	.313	CRWA1 R	**CR 12350**	Bore-Tite
	1.752	.250	CRW1 V	**CR 12340**	Bore-Tite
	1.752	.250	CRWA1 V	**CR 12343**	Bore-Tite
	1.752	.250	CRW1 R	**CR 12363**	Bore-Tite
	1.752	.250	CRWA1 R	**CR 12364**	Bore-Tite
	1.874	.250	CRW1 P	**CR 12382**	Bore-Tite
	1.874	.250	CRWA1 V	**CR 12383**	Bore-Tite
	1.874	.250	CRW1 R	**CR 12384**	Bore-Tite
	1.874	.250	CRWA1 R	**CR 12386**	Bore-Tite
	1.938	.250	CRW1 R	**CR 12391**	Bore-Tite
	1.955	.250	CRWA1 R	**CR 12396**	Bore-Tite
	1.983	.250	CRW1 R	**CR 12427**	Bore-Tite
	1.983	.250	CRWA1 R	**CR 12428**	Bore-Tite
	1.983	.250	CRW1 V	**CR 12432**	Bore-Tite
	2.000	.250	CRW1 V	**CR 12445**	Bore-Tite
	2.000	.250	CRWA1 V	**CR 12446**	Bore-Tite
	2.000	.250	CRW1 R	**CR 12456**	Bore-Tite
	2.000	.250	CRWA1 R	**CR 12458**	Bore-Tite

Series CRW1 – Inch sizes



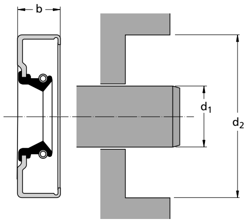
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.250	2.000	.438	CRW1 P	**CR 12483**	Bore-Tite
	2.062	.250	CRWA1 V	**CR 12531**	Bore-Tite
	2.062	.433	CRWHA1 V	**CR 12533**	Bore-Tite
	2.062	.438	CRWH1 R	**CR 12530**	Bore-Tite
	2.125	.250	CRW1 V	**CR 12544**	Bore-Tite
	2.125	.250	CRW1 R	**CR 12545**	Bore-Tite
	2.125	.250	CRWA1 R	**CR 12551**	Bore-Tite
	2.250	.250	CRW1 R	**CR 12577**	Bore-Tite
	2.327	.500	CRW1 R	**CR 12610**	Bore-Tite
	2.374	.313	CRW1 R	**CR 12613**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 12614**	Bore-Tite
	2.374	.315	CRW1 V	**CR 12612**	Bore-Tite
	2.437	.250	CRW1 R	**CR 12621**	Bore-Tite
	2.441	.250	CRW1 R	**CR 12631**	Bore-Tite
	2.500	.310	CRW1 V	**CR 12638**	Bore-Tite
	2.502	.313	CRW1 R	**CR 12637**	Bore-Tite
1.301	2.046	.492	CRWA1 R	**CR 12907**	Bore-Tite
1.313	1.828	.375	CRW1 P	**CR 13021**	Bore-Tite
	2.062	.313	CRW1 R	**CR 13050**	Bore-Tite
	2.062	.313	CRWA1 R	**CR 13052**	Bore-Tite
	2.062	.313	CRW1 V	**CR 13054**	Bore-Tite
	2.125	.313	CRW1 R	**CR 13092**	Bore-Tite
	2.250	.313	CRW1 R	**CR 13112**	Bore-Tite
	2.282	.250	CRWA1 R	**CR 13157**	Bore-Tite
1.328	2.031	.313	CRW1 R	**CR 13415**	
	2.061	.313	CRW1 R	**CR 13350**	Bore-Tite
	2.227	.313	CRW1 R	**CR 13418**	Bore-Tite
1.344	2.106	.313	CRW1 R	**CR 13421**	Bore-Tite
	2.125	.313	CRW1 R	**CR 13437**	Bore-Tite
1.365	1.956	.438	CRW1 R	**CR 13985**	Bore-Tite
	2.081	.313	CRW1 R	**CR 13598**	Bore-Tite
	2.261	.313	CRW1 R	**CR 13700**	Bore-Tite
1.375	1.750	.250	CRW1 R	**CR 13514**	Bore-Tite
	1.828	.250	CRWA1 V	**CR 13510**	Bore-Tite
	1.828	.313	CRW1 R	**CR 13537**	Bore-Tite

Series CRW1 – Inch sizes



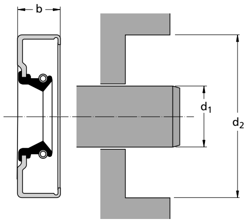
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.375	1.835	.250	CRW1 R	**CR 13536**	Bore-Tite
	1.873	.313	CRW1 V	**CR 13511**	Bore-Tite
	1.874	.250	CRW1 P	**CR 13512**	Bore-Tite
	1.874	.250	CRW1 R	**CR 13534**	Bore-Tite
	1.874	.250	CRW1 V	**CR 13538**	Bore-Tite
	1.874	.313	CRWA1 R	**CR 13535**	Bore-Tite
	1.938	.250	CRWA1 R	**CR 13552**	Bore-Tite
	1.955	.433	CRWA1 P	**CR 13527**	Bore-Tite
	1.983	.313	CRW1 P	**CR 13557**	Bore-Tite
	2.000	.313	CRWA1 P	**CR 13562**	Bore-Tite
	2.000	.313	CRW1 R	**CR 13568**	Bore-Tite
	2.000	.313	CRWA1 R	**CR 13569**	Bore-Tite
	2.000	.313	CRWH1 R	**CR 13571**	Bore-Tite
	2.000	.313	CRW1 V	**CR 13579**	Bore-Tite
	2.000	.313	CRWA1 V	**CR 13581**	Bore-Tite
	2.062	.313	CRW1 V	**CR 13582**	Bore-Tite
	2.062	.313	CRW1 R	**CR 13585**	
	2.062	.313	CRWA1 P	**CR 13588**	Bore-Tite
	2.062	.315	CRWA1 V	**CR 13607**	Bore-Tite
	2.106	.313	CRWA1 R	**CR 13602**	
	2.106	.313	CRW1 P	**CR 13614**	Bore-Tite
	2.125	.313	CRW1 R	**CR 13649**	Bore-Tite
	2.125	.313	CRWA1 R	**CR 13650**	Bore-Tite
	2.125	.313	CRWA1 V	**CR 13661**	Bore-Tite
	2.125	.313	CRW1 V	**CR 13663**	Bore-Tite
	2.250	.250	CRWA1 R	**CR 13698**	Bore-Tite
	2.250	.313	CRW1 R	**CR 13671**	Bore-Tite
	2.250	.313	CRWA1 R	**CR 13676**	Bore-Tite
	2.250	.313	CRW1 V	**CR 13688**	Bore-Tite
	2.250	.313	CRWA1 V	**CR 13691**	Bore-Tite
	2.250	.313	CRW1 P	**CR 13869**	Bore-Tite
	2.374	.313	CRW1 V	**CR 13734**	Bore-Tite
	2.374	.313	CRW1 R	**CR 13738**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 13739**	Bore-Tite
	2.437	.250	CRW1 R	**CR 13797**	Bore-Tite
	2.441	.313	CRW1 R	**CR 13810**	Bore-Tite
	2.441	.313	CRWA1 R	**CR 13812**	Bore-Tite
	2.502	.313	CRW1 R	**CR 13865**	Bore-Tite
	2.502	.313	CRW1 V	**CR 13867**	Bore-Tite
	2.502	.374	CRWA1 V	**CR 13856**	Bore-Tite
	2.562	.375	CRW1 R	**CR 13875**	Bore-Tite

Series CRW1 – Inch sizes



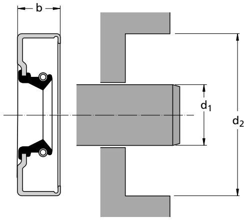
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.375	2.562	.375	CRWA1 R	**CR 13876**	Bore-Tite
	2.562	.375	CRWA1 V	**CR 13878**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 13882**	Bore-Tite
	2.686	.500	CRW1 R	**CR 13892**	Bore-Tite
	2.716	.313	CRW1 R	**CR 13900**	Bore-Tite
	2.812	.375	CRWHA1 R	**CR 13912**	Bore-Tite
	2.835	.313	CRWA1 R	**CR 13918**	Bore-Tite
	2.835	.313	CRW1 R	**CR 13920**	Bore-Tite
	2.835	.313	CRWA1 P	**CR 13925**	Bore-Tite
	2.875	.313	CRWA1 P	**CR 13929**	Bore-Tite
1.378	2.835	.313	CRWA1 V	**CR 13926**	Bore-Tite
1.417	2.616	.313	CRW1 R	**CR 14092**	Bore-Tite
1.438	2.062	.313	CRW1 V	**CR 14212**	
	2.062	.313	CRWA1 R	**CR 14214**	Bore-Tite
	2.125	.313	CRW1 R	**CR 14223**	Bore-Tite
	2.125	.313	CRWA1 V	**CR 14225**	Bore-Tite
	2.250	.313	CRWA1 R	**CR 14247**	Bore-Tite
	2.250	.313	CRWA1 V	**CR 14259**	Bore-Tite
	2.250	.313	CRW1 V	**CR 14260**	Bore-Tite
	2.250	.313	CRW1 R	**CR 14262**	Bore-Tite
	2.374	.313	CRW1 R	**CR 14282**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 14283**	Bore-Tite
	2.437	.313	CRW1 R	**CR 14363**	Bore-Tite
	2.502	.313	CRW1 R	**CR 14383**	Bore-Tite
	2.623	.313	CRW1 R	**CR 14404**	Bore-Tite
	2.686	.313	CRW1 R	**CR 14423**	Bore-Tite
	2.750	.313	CRW1 R	**CR 14458**	Bore-Tite
1.484	2.254	.313	CRW1 R	**CR 14907**	Bore-Tite
1.494	2.060	.270	CRW1 R	**CR 14789**	Bore-Tite
1.496	2.165	.315	CRWA1 R	**CR 550250**	Bore-Tite
1.500	1.874	.250	CRW1 R	**CR 14807**	
	1.918	.250	CRW1 V	**CR 14809**	
	1.983	.250	CRW1 V	**CR 14821**	Bore-Tite
	1.983	.250	CRWA1 R	**CR 14824**	Bore-Tite

Series CRW1 – Inch sizes



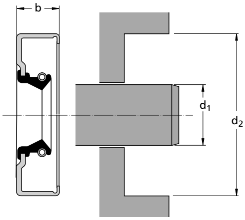
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.500	1.983	.313	CRW1 R	**CR 14832**	Bore-Tite
	2.000	.313	CRWA1 R	**CR 14846**	Bore-Tite
	2.000	.313	CRW1 R	**CR 14855**	Bore-Tite
	2.000	.313	CRW1 V	**CR 14861**	Bore-Tite
	2.048	.313	CRWA1 R	**CR 14858**	Bore-Tite
	2.062	.313	CRW1 R	**CR 14864**	Bore-Tite
	2.062	.313	CRW1 V	**CR 14867**	Bore-Tite
	2.125	.313	CRW1 R	**CR 14875**	Bore-Tite
	2.125	.313	CRWA1 R	**CR 14876**	Bore-Tite
	2.125	.313	CRW1 V	**CR 14886**	Bore-Tite
	2.125	.313	CRWA1 V	**CR 14887**	Bore-Tite
	2.222	.313	CRW1 R	**CR 14903**	Bore-Tite
	2.250	.313	CRW1 S	**CR 14935**	Bore-Tite
	2.250	.313	CRW1 R	**CR 14938**	Bore-Tite
	2.250	.313	CRWA1 R	**CR 14939**	Bore-Tite
	2.250	.313	CRW1 V	**CR 14940**	Bore-Tite
	2.250	.313	CRWA1 V	**CR 14942**	Bore-Tite
	2.260	.406	CRW1 R	**CR 14968**	Bore-Tite
	2.374	.313	CRW1 V	**CR 14992**	Bore-Tite
	2.374	.313	CRWA1 V	**CR 14994**	Bore-Tite
	2.374	.313	CRW1 R	**CR 15004**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 15005**	Bore-Tite
	2.374	.500	CRWH1 R	**CR 15039**	Bore-Tite
	2.377	.453	CRWA1 R	**CR 15041**	Bore-Tite
	2.437	.313	CRW1 R	**CR 15076**	Bore-Tite
	2.441	.313	CRW1 R	**CR 15092**	
	2.441	.313	CRWA1 R	**CR 15093**	Bore-Tite
	2.441	.313	CRW1 V	**CR 15097**	Bore-Tite
	2.502	.313	CRW1 V	**CR 15138**	Bore-Tite
	2.502	.313	CRW1 R	**CR 15141**	Bore-Tite
	2.502	.313	CRWA1 R	**CR 15142**	Bore-Tite
	2.561	.313	CRW1 R	**CR 15176**	Bore-Tite
	2.623	.313	CRW1 R	**CR 15194**	Bore-Tite
	2.686	.500	CRW1 R	**CR 15207**	Bore-Tite
	2.716	.438	CRW1 R	**CR 15204**	Bore-Tite
	2.750	.313	CRW1 R	**CR 15214**	Bore-Tite
	2.758	.313	CRW1 R	**CR 15230**	Bore-Tite
	2.835	.313	CRW1 R	**CR 15234**	Bore-Tite
	2.875	.313	CRW1 R	**CR 15235**	Bore-Tite

Series CRW1 – Inch sizes



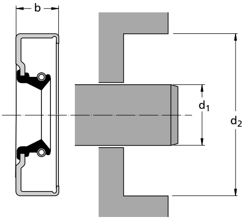
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.552	2.502	.500	CRWA1 R	**CR 15450**	Bore-Tite
	2.686	.500	CRW1 R	**CR 15460**	Bore-Tite
	2.750	.500	CRWHA1 P	**CR 15462**	Bore-Tite
1.563	2.062	.250	CRW1 V	**CR 15506**	Bore-Tite
	2.062	.250	CRW1 R	**CR 15508**	Bore-Tite
	2.125	.313	CRW1 R	**CR 15517**	
	2.125	.313	CRWA1 P	**CR 15518**	Bore-Tite
	2.250	.313	CRW1 R	**CR 15522**	Bore-Tite
	2.374	.313	CRW1 P	**CR 15540**	
	2.374	.313	CRW1 R	**CR 15542**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 15543**	Bore-Tite
	2.374	.313	CRWA1 V	**CR 15549**	Bore-Tite
	2.437	.313	CRW1 R	**CR 15592**	
	2.441	.500	CRWA1 R	**CR 15620**	Bore-Tite
	2.465	.374	CRWA1 P	**CR 15624**	Bore-Tite
	2.502	.313	CRWA1 R	**CR 15635**	Bore-Tite
	2.502	.313	CRW1 R	**CR 15655**	Bore-Tite
	2.502	.313	CRW1 V	**CR 15656**	Bore-Tite
	2.561	.313	CRW1 R	**CR 15677**	Bore-Tite
	2.623	.313	CRW1 R	**CR 15699**	Bore-Tite
	2.686	.313	CRW1 R	**CR 15707**	Bore-Tite
	2.750	.500	CRWH1 R	**CR 15761**	Bore-Tite
	2.875	.313	CRW1 R	**CR 15773**	Bore-Tite
	2.875	.313	CRWA1 P	**CR 15779**	Bore-Tite
1.578	2.082	.250	CRW1 R	**CR 15510**	Bore-Tite
	2.408	.313	CRWHA1 R	**CR 15557**	Bore-Tite
1.594	2.125	.313	CRW1 P	**CR 15915**	Bore-Tite
	2.437	.313	CRW1 P	**CR 15940**	Bore-Tite
	2.437	.313	CRW1 R	**CR 15955**	Bore-Tite
	2.502	.313	CRW1 R	**CR 15960**	Bore-Tite
	2.623	.313	CRW1 R	**CR 15968**	Bore-Tite
	2.758	.313	CRW1 R	**CR 15975**	Bore-Tite
1.618	2.531	.438	CRWA1 R	**CR 16040**	Bore-Tite
1.625	2.000	.250	CRW1 V	**CR 16039**	Bore-Tite
	2.000	.250	CRW1 R	**CR 16046**	
	2.116	.313	CRWA1 R	**CR 16047**	Bore-Tite

Series CRW1 – Inch sizes



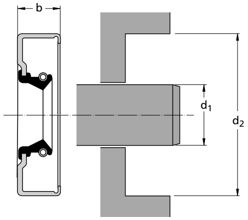
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.625	2.125	.250	CRW1 V	**CR 16048**	Bore-Tite
	2.125	.250	CRW1 R	**CR 16054**	Bore-Tite
	2.248	.313	CRWA1 R	**CR 16062**	Bore-Tite
	2.250	.313	CRW1 R	**CR 16061**	Bore-Tite
	2.250	.313	CRW1 V	**CR 16078**	
	2.250	.375	CRW1 P	**CR 16049**	Bore-Tite
	2.282	.313	CRW1 R	**CR 16083**	Bore-Tite
	2.374	.250	CRW1 R	**CR 16094**	
	2.374	.313	CRWH1 R	**CR 16072**	Bore-Tite
	2.374	.313	CRW1 V	**CR 16077**	Bore-Tite
	2.374	.313	CRW1 R	**CR 16084**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 16085**	Bore-Tite
	2.374	.313	CRWA1 P	**CR 16091**	
	2.374	.500	CRWH1 R	**CR 16079**	Bore-Tite
	2.437	.313	CRW1 R	**CR 16117**	Bore-Tite
	2.437	.313	CRWA1 R	**CR 16118**	Bore-Tite
	2.437	.313	CRW1 V	**CR 16119**	Bore-Tite
	2.437	.313	CRWA1 V	**CR 16120**	Bore-Tite
	2.441	.313	CRW1 R	**CR 16180**	Bore-Tite
	2.441	.313	CRWA1 R	**CR 16201**	Bore-Tite
	2.502	.313	CRWA1 V	**CR 16243**	Bore-Tite
	2.502	.313	CRW1 R	**CR 16245**	Bore-Tite
	2.502	.313	CRWA1 R	**CR 16246**	Bore-Tite
	2.502	.313	CRWA1 P	**CR 16247**	
	2.502	.374	CRWHA1 V	**CR 16257**	Bore-Tite
	2.502	.375	CRWHA1 R	**CR 16254**	Bore-Tite
	2.562	.313	CRWA1 V	**CR 16290**	Bore-Tite
	2.623	.313	CRW1 R	**CR 16314**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 16315**	Bore-Tite
	2.623	.313	CRW1 V	**CR 16316**	Bore-Tite
	2.686	.313	CRW1 R	**CR 16337**	Bore-Tite
	2.686	.313	CRW1 V	**CR 16338**	Bore-Tite
	2.750	.250	CRW1 R	**CR 16364**	Bore-Tite
	2.750	.313	CRWH1 R	**CR 16368**	Bore-Tite
	2.758	.313	CRW1 R	**CR 16374**	Bore-Tite
	2.875	.313	CRW1 R	**CR 16406**	Bore-Tite
	3.000	.313	CRWH1 R	**CR 16422**	Bore-Tite
1.645	2.656	.313	CRWA1 P	**CR 16500**	Bore-Tite

Series CRW1 – Inch sizes



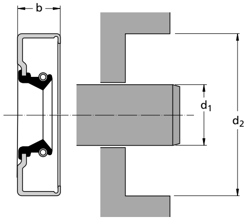
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.656	2.623	.375	CRWA1 P	**CR 16545**	Bore-Tite
	2.686	.313	CRW1 R	**CR 16556**	Bore-Tite
1.688	2.279	.500	CRWH1 R	**CR 16650**	Bore-Tite
	2.328	.313	CRWA1 R	**CR 16657**	Bore-Tite
	2.437	.250	CRW1 S	**CR 16692**	Bore-Tite
	2.437	.313	CRW1 R	**CR 16679**	Bore-Tite
	2.437	.313	CRWA1 R	**CR 16680**	Bore-Tite
	2.437	.469	CRW1 S	**CR 16696**	Bore-Tite
	2.502	.313	CRW1 R	**CR 16719**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 16814**	Bore-Tite
	2.623	.500	CRW1 R	**CR 16816**	Bore-Tite
	2.623	.500	CRWA1 V	**CR 16817**	Bore-Tite
	2.686	.313	CRW1 R	**CR 16842**	Bore-Tite
	2.716	.313	CRW1 R	**CR 16854**	Bore-Tite
	2.750	.313	CRW1 R	**CR 16900**	
	2.750	.375	CRWA1 R	**CR 16903**	Bore-Tite
	2.875	.313	CRW1 R	**CR 16999**	Bore-Tite
	3.061	.375	CRW1 R	**CR 17035**	Bore-Tite
	3.125	.375	CRWA1 R	**CR 17038**	Bore-Tite
1.704	3.034	.500	CRWA1 R	**CR 17100**	Bore-Tite
1.719	2.561	.315	CRWA1 R	**CR 17144**	Bore-Tite
1.750	2.250	.313	CRW1 R	**CR 17231**	Bore-Tite
	2.250	.313	CRW1 V	**CR 17234**	Bore-Tite
	2.374	.313	CRWA1 V	**CR 17261**	Bore-Tite
	2.374	.313	CRW1 R	**CR 17270**	Bore-Tite
	2.374	.313	CRWA1 R	**CR 17271**	Bore-Tite
	2.411	.375	CRW1 P	**CR 17280**	Bore-Tite
	2.437	.313	CRW1 R	**CR 17283**	Bore-Tite
	2.437	.313	CRW1 R	**CR 17284**	Bore-Tite
	2.437	.313	CRWA1 R	**CR 17285**	Bore-Tite
	2.437	.313	CRW1 V	**CR 17292**	Bore-Tite
	2.437	.313	CRWA1 V	**CR 17293**	Bore-Tite
	2.441	.313	CRW1 R	**CR 17315**	Bore-Tite
	2.441	.313	CRWA1 R	**CR 550154**	Bore-Tite
	2.441	.375	CRWA1 V	**CR 17320**	Bore-Tite
	2.502	.313	CRW1 V	**CR 17379**	Bore-Tite
	2.502	.313	CRWA1 V	**CR 17381**	Bore-Tite

Series CRW1 – Inch sizes



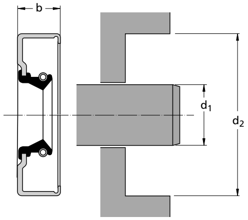
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.750	2.502	.313	CRW1 R	**CR 17386**	Bore-Tite
	2.502	.313	CRWA1 R	**CR 17387**	Bore-Tite
	2.502	.375	CRWHA1 V	**CR 17395**	Bore-Tite
	2.502	.375	CRW1 S	**CR 17399**	Bore-Tite
	2.561	.313	CRW1 R	**CR 17404**	Bore-Tite
	2.565	.313	CRWA1 R	**CR 17413**	Bore-Tite
	2.623	.313	CRW1 R	**CR 17442**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 17443**	Bore-Tite
	2.623	.313	CRW1 S	**CR 17444**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 17448**	Bore-Tite
	2.623	.375	CRWH1 R	**CR 17456**	Bore-Tite
	2.686	.313	CRW1 R	**CR 17484**	
	2.717	.438	CRWA1 R	**CR 17607**	Bore-Tite
	2.750	.313	CRWA1 R	**CR 17523**	Bore-Tite
	2.750	.313	CRW1 R	**CR 17557**	Bore-Tite
	2.750	.313	CRW1 V	**CR 17558**	Bore-Tite
	2.758	.313	CRW1 R	**CR 17605**	Bore-Tite
	2.810	.313	CRWA1 R	**CR 17624**	
	2.810	.313	CRWA1 V	**CR 17627**	Bore-Tite
	2.875	.313	CRW1 R	**CR 17653**	Bore-Tite
	2.875	.313	CRW1 V	**CR 17657**	Bore-Tite
	2.875	.375	CRWHA1 R	**CR 17645**	Bore-Tite
	2.981	.438	CRWHA1 R	**CR 17675**	
	2.997	.313	CRWHA1 R	**CR 17678**	Bore-Tite
	2.997	.313	CRW1 R	**CR 17695**	Bore-Tite
	3.000	.313	CRWA1 R	**CR 17699**	Bore-Tite
	3.000	.313	CRW1 R	**CR 17707**	Bore-Tite
	3.000	.313	CRW1 V	**CR 17709**	Bore-Tite
	3.061	.313	CRW1 R	**CR 17716**	Bore-Tite
	3.061	.375	CRWA1 R	**CR 17718**	Bore-Tite
	3.189	.313	CRW1 R	**CR 17746**	Bore-Tite
	3.543	.438	CRW1 R	**CR 17756**	Bore-Tite
	3.625	.438	CRW1 R	**CR 17761**	Bore-Tite
1.768	2.363	.313	CRWHA1 V	**CR 17780**	Bore-Tite
1.781	2.252	.313	CRWA1 R	**CR 17806**	Bore-Tite
	2.502	.313	CRWH1 R	**CR 17810**	Bore-Tite
	2.502	.313	CRWH1 V	**CR 17811**	Bore-Tite
	2.623	.313	CRW1 R	**CR 17821**	Bore-Tite
	2.686	.313	CRW1 R	**CR 17832**	

Series CRW1 – Inch sizes



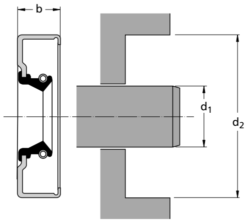
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.812	2.623	.374	CRWA1 V	**CR 17949**	Bore-Tite
1.813	2.279	.313	CRW1 R	**CR 18025**	Bore-Tite
	2.437	.313	CRW1 R	**CR 18039**	Bore-Tite
	2.562	.313	CRWA1 V	**CR 18049**	Bore-Tite
	2.623	.313	CRW1 R	**CR 18104**	Bore-Tite
	2.686	.313	CRWA1 P	**CR 18114**	Bore-Tite
	2.750	.313	CRW1 R	**CR 18159**	Bore-Tite
	2.875	.313	CRW1 R	**CR 18242**	Bore-Tite
	3.000	.375	CRWA1 P	**CR 18264**	Bore-Tite
1.844	2.623	.313	CRW1 R	**CR 18425**	Bore-Tite
	2.750	.313	CRW1 P	**CR 18444**	Bore-Tite
1.868	2.518	.315	CRWA1 P	**CR 18492**	Bore-Tite
1.875	2.398	.250	CRW1 R	**CR 18549**	Bore-Tite
	2.471	.313	CRWA1 R	**CR 18545**	Bore-Tite
	2.500	.313	CRW1 P	**CR 18555**	Bore-Tite
	2.502	.313	CRW1 R	**CR 18565**	Bore-Tite
	2.562	.313	CRWA1 V	**CR 18546**	Bore-Tite
	2.562	.313	CRW1 P	**CR 18562**	Bore-Tite
	2.623	.313	CRW1 R	**CR 18580**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 18581**	Bore-Tite
	2.623	.313	CRW1 V	**CR 18582**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 18584**	Bore-Tite
	2.623	.374	CRW1 S	**CR 18592**	Bore-Tite
	2.686	.313	CRW1 R	**CR 18626**	Bore-Tite
	2.750	.313	CRW1 V	**CR 18652**	Bore-Tite
	2.750	.313	CRW1 R	**CR 18657**	Bore-Tite
	2.750	.313	CRWA1 R	**CR 18658**	Bore-Tite
	2.750	.313	CRW1 P	**CR 18666**	Bore-Tite
	2.758	.313	CRW1 P	**CR 18671**	Bore-Tite
	2.758	.313	CRW1 S	**CR 18679**	Bore-Tite
	2.782	.438	CRWH1 R	**CR 18693**	Bore-Tite
	2.782	.438	CRWHA1 R	**CR 18695**	Bore-Tite
	2.875	.313	CRW1 V	**CR 18732**	Bore-Tite
	2.875	.313	CRW1 R	**CR 18733**	Bore-Tite
	2.875	.313	CRWA1 R	**CR 18734**	Bore-Tite
	2.875	.313	CRWA1 V	**CR 18737**	Bore-Tite
	2.997	.313	CRW1 R	**CR 18785**	Bore-Tite

Series CRW1 – Inch sizes



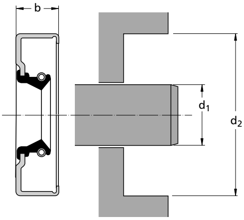
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.875	3.000	.313	CRW1 R	**CR 18817**	Bore-Tite
	3.000	.313	CRW1 V	**CR 18818**	Bore-Tite
	3.061	.313	CRWA1 R	**CR 18872**	Bore-Tite
	3.105	.500	CRWA1 R	**CR 18880**	Bore-Tite
	3.189	.469	CRWH1 R	**CR 18899**	Bore-Tite
	3.249	.484	CRWA1 R	**CR 18922**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 18916**	Bore-Tite
	3.496	.438	CRWA1 R	**CR 18924**	Bore-Tite
	3.500	.438	CRW1 R	**CR 18926**	Bore-Tite
1.893	2.434	.250	CRW1 R	**CR 19000**	
1.906	2.752	.375	CRWA1 P	**CR 19017**	Bore-Tite
1.915	2.533	.250	CRW1 R	**CR 19010**	Bore-Tite
1.938	2.412	.313	CRW1 R	**CR 19215**	Bore-Tite
	2.437	.250	CRW1 R	**CR 19210**	Bore-Tite
	2.437	.250	CRW1 R	**CR 19212**	Bore-Tite
	2.502	.375	CRWA1 R	**CR 19220**	Bore-Tite
	2.563	.313	CRW1 R	**CR 19211**	Bore-Tite
	2.623	.313	CRW1 R	**CR 19226**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 19227**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 19229**	Bore-Tite
	2.686	.300	CRW1 P	**CR 19244**	Bore-Tite
	2.686	.313	CRWA1 P	**CR 19234**	Bore-Tite
	2.686	.313	CRW1 R	**CR 19236**	Bore-Tite
	2.686	.313	CRWA1 R	**CR 19237**	Bore-Tite
	2.686	.313	CRWA1 V	**CR 19243**	Bore-Tite
	2.686	.375	CRW1 S	**CR 19240**	Bore-Tite
	2.750	.313	CRW1 R	**CR 19264**	Bore-Tite
	2.750	.313	CRW1 V	**CR 19267**	Bore-Tite
	2.875	.313	CRW1 R	**CR 19300**	Bore-Tite
	2.875	.313	CRWA1 R	**CR 19301**	Bore-Tite
	2.875	.313	CRWH1 V	**CR 19304**	Bore-Tite
	2.884	.313	CRWA1 P	**CR 19310**	Bore-Tite
	2.997	.313	CRW1 R	**CR 19350**	Bore-Tite
	3.000	.313	CRW1 R	**CR 19359**	Bore-Tite
	3.000	.313	CRWA1 R	**CR 19360**	
	3.000	.313	CRWA1 V	**CR 19368**	Bore-Tite
	3.061	.313	CRW1 R	**CR 19380**	Bore-Tite

Series CRW1 – Inch sizes



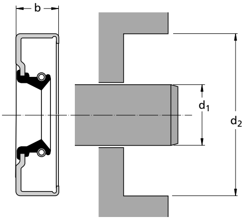
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.938	3.062	.500	CRW1 S	**CR 19438**	Bore-Tite
	3.125	.500	CRW1 R	**CR 19400**	Bore-Tite
	3.189	.313	CRW1 R	**CR 19407**	Bore-Tite
	3.251	.313	CRWA1 V	**CR 19433**	Bore-Tite
	3.251	.313	CRW1 R	**CR 19434**	Bore-Tite
	3.350	.469	CRWHA1 R	**CR 19445**	Bore-Tite
	3.543	.313	CRW1 R	**CR 19449**	Bore-Tite
1.969	2.623	.313	CRWA1 R	**CR 19607**	Bore-Tite
2.000	2.500	.438	CRW1 S	**CR 19739**	Bore-Tite
	2.502	.313	CRW1 P	**CR 19745**	Bore-Tite
	2.623	.313	CRW1 R	**CR 19760**	Bore-Tite
	2.623	.313	CRWA1 R	**CR 19762**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 19777**	Bore-Tite
	2.623	.313	CRWA1 V	**CR 19782**	Bore-Tite
	2.686	.375	CRW1 R	**CR 19778**	Bore-Tite
	2.716	.375	CRW1 R	**CR 19785**	Bore-Tite
	2.716	.375	CRWA1 R	**CR 19786**	Bore-Tite
	2.746	.375	CRW1 S	**CR 19807**	Bore-Tite
	2.750	.313	CRW1 V	**CR 19823**	Bore-Tite
	2.750	.313	CRW1 R	**CR 19831**	Bore-Tite
	2.750	.313	CRWA1 R	**CR 19832**	Bore-Tite
	2.750	.313	CRWA1 V	**CR 19839**	Bore-Tite
	2.750	.313	CRW1 V	**CR 19840**	Bore-Tite
	2.835	.469	CRWH1 R	**CR 19848**	Bore-Tite
	2.875	.313	CRW1 V	**CR 19884**	Bore-Tite
	2.875	.313	CRW1 R	**CR 19886**	Bore-Tite
	2.875	.313	CRWA1 R	**CR 19887**	Bore-Tite
	2.875	.375	CRWHA1 R	**CR 19896**	Bore-Tite
	2.875	.500	CRWH1 R	**CR 19900**	Bore-Tite
	2.880	.375	CRWA1 R	**CR 19922**	Bore-Tite
	2.880	.375	CRWA1 P	**CR 19923**	Bore-Tite
	2.997	.375	CRWH1 R	**CR 19969**	Bore-Tite
	2.997	.375	CRWHA1 R	**CR 19970**	Bore-Tite
	2.997	.375	CRWH1 V	**CR 19979**	Bore-Tite
	3.000	.313	CRW1 R	**CR 19992**	Bore-Tite
	3.000	.313	CRWA1 R	**CR 19993**	Bore-Tite
	3.000	.313	CRWA1 V	**CR 19995**	Bore-Tite
	3.000	.375	CRWH1 V	**CR 20002**	Bore-Tite
	3.000	.375	CRWH1 R	**CR 20004**	Bore-Tite

Series CRW1 – Inch sizes



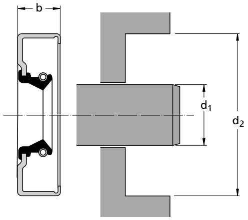
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.000	3.000	.375	CRWHA1 R	**CR 20005**	Bore-Tite
	3.061	.375	CRW1 R	**CR 20045**	Bore-Tite
	3.061	.500	CRWH1 R	**CR 20053**	Bore-Tite
	3.061	.500	CRWHA1 R	**CR 20054**	Bore-Tite
	3.125	.375	CRW1 R	**CR 20070**	Bore-Tite
	3.150	.375	CRW1 R	**CR 20079**	Bore-Tite
	3.189	.469	CRWH1 R	**CR 20098**	Bore-Tite
	3.189	.469	CRWHA1 R	**CR 20100**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 20109**	Bore-Tite
	3.371	.438	CRW1 V	**CR 20122**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 20124**	Bore-Tite
	3.371	.438	CRWHA1 R	**CR 20125**	Bore-Tite
	3.371	.438	CRWH1 V	**CR 20127**	
	3.543	.438	CRWH1 R	**CR 20140**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 20144**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 20158**	Bore-Tite
2.047	2.561	.315	CRW1 R	**CR 20420**	Bore-Tite
2.063	2.561	.313	CRW1 V	**CR 20520**	Bore-Tite
	2.750	.313	CRWH1 R	**CR 20530**	
	2.842	.438	CRWH1 R	**CR 20538**	Bore-Tite
	2.875	.438	CRWH1 R	**CR 20554**	Bore-Tite
	2.997	.438	CRWH1 R	**CR 20586**	Bore-Tite
	3.000	.375	CRW1 R	**CR 20594**	Bore-Tite
	3.000	.375	CRWA1 V	**CR 20599**	Bore-Tite
	3.061	.313	CRWH1 R	**CR 20643**	Bore-Tite
	3.125	.375	CRW1 R	**CR 20659**	Bore-Tite
	3.189	.375	CRW1 R	**CR 20702**	Bore-Tite
	3.251	.438	CRWHA1 R	**CR 20747**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 20749**	Bore-Tite
2.125	2.750	.375	CRW1 V	**CR 21063**	
	2.750	.500	CRWA1 R	**CR 21061**	Bore-Tite
	2.763	.250	CRW1 R	**CR 21069**	Bore-Tite
	2.875	.375	CRW1 S	**CR 21103**	Bore-Tite
	2.875	.438	CRW1 V	**CR 21091**	Bore-Tite
	2.875	.438	CRW1 R	**CR 21098**	Bore-Tite
	2.875	.438	CRWA1 R	**CR 21100**	Bore-Tite
	2.875	.438	CRWHA1 R	**CR 21108**	Bore-Tite
	2.997	.438	CRWH1 R	**CR 21134**	Bore-Tite

Series CRW1 – Inch sizes



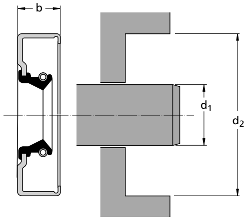
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.125	2.997	.438	CRWHA1 R	**CR 21136**	Bore-Tite
	3.000	.313	CRWHA1 V	**CR 21167**	Bore-Tite
	3.000	.375	CRW1 R	**CR 21163**	Bore-Tite
	3.000	.375	CRWA1 R	**CR 21164**	Bore-Tite
	3.000	.438	CRWH1 V	**CR 21171**	Bore-Tite
	3.000	.438	CRWH1 R	**CR 21172**	Bore-Tite
	3.000	.438	CRWHA1 R	**CR 21173**	Bore-Tite
	3.061	.438	CRWH1 V	**CR 21203**	Bore-Tite
	3.061	.500	CRW1 R	**CR 21210**	Bore-Tite
	3.061	.500	CRWA1 R	**CR 21211**	
	3.061	.500	CRWHA1 R	**CR 21213**	Bore-Tite
	3.125	.438	CRWH1 R	**CR 21234**	Bore-Tite
	3.125	.438	CRWHA1 P	**CR 21245**	Bore-Tite
	3.189	.375	CRWA1 R	**CR 21267**	Bore-Tite
	3.189	.375	CRWA1 V	**CR 21269**	Bore-Tite
	3.189	.469	CRWHA1 S	**CR 21270**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 21302**	Bore-Tite
	3.350	.438	CRWH1 R	**CR 21336**	Bore-Tite
	3.371	.375	CRWA1 R	**CR 21352**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 21353**	Bore-Tite
	3.543	.438	CRWH1 R	**CR 21358**	Bore-Tite
2.188	2.875	.438	CRWH1 R	**CR 21736**	Bore-Tite
	2.997	.438	CRWH1 R	**CR 21749**	Bore-Tite
	3.000	.375	CRWA1 R	**CR 21759**	Bore-Tite
	3.000	.375	CRWA1 V	**CR 21763**	Bore-Tite
	3.000	.500	CRWH1 R	**CR 21764**	Bore-Tite
	3.061	.500	CRWH1 R	**CR 21775**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 21840**	Bore-Tite
	3.350	.438	CRWH1 R	**CR 21890**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 21910**	Bore-Tite
2.250	2.875	.313	CRWA1 R	**CR 22328**	Bore-Tite
	2.891	.563	CRWA1 R	**CR 22319**	Bore-Tite
	2.997	.438	CRWH1 R	**CR 22338**	Bore-Tite
	2.997	.438	CRWHA1 R	**CR 22340**	Bore-Tite
	3.000	.375	CRW1 R	**CR 22353**	Bore-Tite
	3.000	.375	CRWA1 R	**CR 22354**	Bore-Tite
	3.000	.375	CRWA1 V	**CR 22361**	Bore-Tite
	3.000	.375	CRW1 V	**CR 22363**	Bore-Tite
	3.000	.438	CRWH1 R	**CR 22358**	Bore-Tite

Series CRW1 – Inch sizes



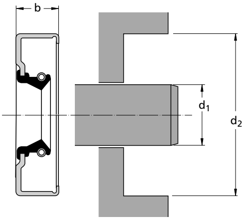
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.250	3.000	.438	CRWHA1 R	**CR 22359**	Bore-Tite
	3.000	.438	CRWH1 V	**CR 22367**	Bore-Tite
	3.061	.375	CRW1 R	**CR 22382**	Bore-Tite
	3.061	.438	CRWH1 R	**CR 22390**	Bore-Tite
	3.061	.438	CRWHA1 R	**CR 22391**	Bore-Tite
	3.061	.438	CRWHA1 S	**CR 22394**	Bore-Tite
	3.125	.375	CRWA1 R	**CR 22400**	Bore-Tite
	3.125	.375	CRWA1 V	**CR 22405**	Bore-Tite
	3.125	.500	CRWH1 R	**CR 22407**	
	3.189	.438	CRW1 R	**CR 22424**	Bore-Tite
	3.189	.438	CRWA1 P	**CR 22425**	Bore-Tite
	3.251	.375	CRW1 R	**CR 22440**	Bore-Tite
	3.251	.375	CRWA1 R	**CR 22441**	Bore-Tite
	3.251	.375	CRWA1 P	**CR 22450**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 22446**	Bore-Tite
	3.251	.438	CRWHA1 R	**CR 22448**	Bore-Tite
	3.251	.438	CRWH1 V	**CR 22449**	Bore-Tite
	3.350	.375	CRW1 P	**CR 22484**	Bore-Tite
	3.350	.438	CRWH1 R	**CR 22492**	
	3.350	.438	CRWHA1 R	**CR 22493**	Bore-Tite
	3.350	.438	CRWH1 V	**CR 22495**	Bore-Tite
	3.371	.438	CRWHA1 R	**CR 22532**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 22558**	Bore-Tite
	3.371	.438	CRWH1 V	**CR 22561**	Bore-Tite
	3.481	.438	CRWH1 R	**CR 22574**	Bore-Tite
	3.500	.438	CRWHA1 R	**CR 22582**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 22583**	Bore-Tite
	3.500	.438	CRWHA1 V	**CR 22590**	Bore-Tite
	3.565	.438	CRWA1 R	**CR 22610**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 22618**	Bore-Tite
	3.623	.438	CRWHA1 R	**CR 22619**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 22626**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 22644**	
	4.003	.438	CRWH1 R	**CR 22647**	Bore-Tite
2.313	2.997	.375	CRW1 R	**CR 23030**	Bore-Tite
	3.000	.438	CRWH1 V	**CR 23040**	Bore-Tite
	3.061	.313	CRW1 R	**CR 23046**	Bore-Tite
	3.125	.375	CRW1 R	**CR 23061**	Bore-Tite
	3.125	.375	CRWA1 V	**CR 23063**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 23093**	Bore-Tite

Series CRW1 – Inch sizes



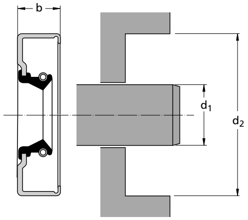
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.313	3.251	.438	CRWHA1 V	**CR 23099**	
	3.350	.438	CRWH1 R	**CR 23152**	Bore-Tite
	3.371	.438	CRW1 R	**CR 23167**	Bore-Tite
	3.374	.438	CRWHA1 R	**CR 23169**	Bore-Tite
	3.500	.313	CRW1 R	**CR 23184**	
	3.751	.500	CRW1 R	**CR 23277**	Bore-Tite
2.328	3.000	.395	CRW1 P	**CR 23300**	Bore-Tite
2.375	2.997	.438	CRWH1 R	**CR 23632**	Bore-Tite
	3.000	.375	CRW1 V	**CR 23641**	Bore-Tite
	3.061	.438	CRWH1 R	**CR 23644**	Bore-Tite
	3.061	.438	CRWH1 P	**CR 23645**	Bore-Tite
	3.061	.438	CRWH1 V	**CR 23655**	Bore-Tite
	3.125	.375	CRW1 R	**CR 23646**	Bore-Tite
	3.125	.375	CRW1 S	**CR 23659**	Bore-Tite
	3.125	.438	CRWH1 R	**CR 23652**	Bore-Tite
	3.125	.438	CRWHA1 R	**CR 23654**	Bore-Tite
	3.125	.438	CRWHA1 V	**CR 23656**	Bore-Tite
	3.189	.438	CRWH1 R	**CR 23666**	Bore-Tite
	3.251	.438	CRWHA1 V	**CR 23678**	Bore-Tite
	3.251	.453	CRW1 P	**CR 23685**	Bore-Tite
	3.350	.375	CRW1 R	**CR 23701**	Bore-Tite
	3.350	.375	CRWA1 R	**CR 23702**	Bore-Tite
	3.350	.375	CRW1 P	**CR 23703**	Bore-Tite
	3.350	.375	CRW1 S	**CR 23706**	Bore-Tite
	3.350	.438	CRWH1 R	**CR 23708**	Bore-Tite
	3.350	.438	CRWHA1 R	**CR 23710**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 23742**	Bore-Tite
	3.371	.438	CRWH1 V	**CR 23746**	Bore-Tite
	3.481	.438	CRWH1 R	**CR 23755**	Bore-Tite
	3.481	.438	CRWHA1 R	**CR 23756**	
	3.500	.375	CRWA1 P	**CR 23770**	Bore-Tite
	3.500	.375	CRWH1 V	**CR 23771**	Bore-Tite
	3.500	.375	CRWH1 R	**CR 23779**	Bore-Tite
	3.500	.438	CRWHA1 R	**CR 23782**	Bore-Tite
	3.543	.438	CRWH1 R	**CR 23808**	Bore-Tite
	3.543	.438	CRWHA1 V	**CR 23809**	Bore-Tite
	3.601	.438	CRW1 R	**CR 23820**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 23839**	Bore-Tite
	3.623	.438	CRWHA1 P	**CR 23841**	Bore-Tite

Series CRW1 – Inch sizes



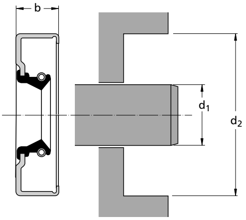
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.375	3.623	.438	CRWHA1 V	**CR 23843**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 23844**	Bore-Tite
2.438	3.125	.500	CRWH1 R	**CR 24255**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 24263**	Bore-Tite
	3.350	.375	CRW1 R	**CR 24286**	Bore-Tite
	3.350	.375	CRWA1 R	**CR 24287**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 24320**	Bore-Tite
	3.481	.438	CRWH1 R	**CR 24340**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 24370**	Bore-Tite
	3.500	.438	CRWH1 V	**CR 24372**	Bore-Tite
	3.543	.438	CRWH1 R	**CR 24445**	Bore-Tite
2.500	3.189	.438	CRWH1 R	**CR 24881**	Bore-Tite
	3.189	.438	CRWH1 V	**CR 24883**	Bore-Tite
	3.245	.438	CRWH1 R	**CR 24889**	Bore-Tite
	3.251	.375	CRW1 R	**CR 24897**	Bore-Tite
	3.251	.375	CRWA1 R	**CR 24898**	Bore-Tite
	3.251	.375	CRWA1 V	**CR 24899**	Bore-Tite
	3.251	.438	CRWH1 R	**CR 24910**	Bore-Tite
	3.251	.438	CRWHA1 R	**CR 24911**	Bore-Tite
	3.251	.438	CRWH1 V	**CR 24914**	Bore-Tite
	3.251	.438	CRWHA1 V	**CR 24916**	Bore-Tite
	3.251	.500	CRW1 V	**CR 24913**	Bore-Tite
	3.350	.438	CRWH1 R	**CR 24931**	Bore-Tite
	3.350	.438	CRWHA1 R	**CR 24932**	Bore-Tite
	3.351	.433	CRWH1 V	**CR 24926**	Bore-Tite
	3.371	.375	CRWHA1 R	**CR 24934**	
	3.371	.438	CRWHA1 V	**CR 24936**	Bore-Tite
	3.371	.438	CRWH1 R	**CR 24954**	Bore-Tite
	3.371	.500	CRWH1 S	**CR 24941**	Bore-Tite
	3.428	.375	CRWA1 P	**CR 24949**	Bore-Tite
	3.428	.375	CRWA1 R	**CR 24951**	Bore-Tite
	3.500	.375	CRWA1 V	**CR 24971**	Bore-Tite
	3.500	.438	CRW1 R	**CR 24980**	Bore-Tite
	3.500	.438	CRWA1 R	**CR 24982**	Bore-Tite
	3.500	.438	CRWH1 V	**CR 24984**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 24986**	Bore-Tite
	3.500	.438	CRWHA1 R	**CR 24988**	Bore-Tite
	3.500	.438	CRWH1 P	**CR 24989**	Bore-Tite
	3.500	.438	CRWHA1 V	**CR 24990**	Bore-Tite

Series CRW1 – Inch sizes



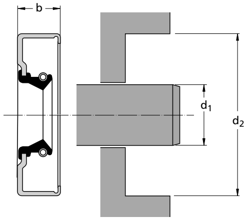
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.500	3.502	.406	CRW1 S	**CR 25082**	Bore-Tite
	3.543	.438	CRWH1 R	**CR 25043**	Bore-Tite
	3.543	.438	CRWHA1 P	**CR 25065**	
	3.544	.433	CRWA1 V	**CR 25037**	Bore-Tite
	3.623	.375	CRW1 R	**CR 25074**	Bore-Tite
	3.623	.375	CRWA1 R	**CR 25075**	Bore-Tite
	3.623	.375	CRWA1 V	**CR 25076**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 25071**	
	3.751	.438	CRWH1 R	**CR 25091**	
	3.876	.438	CRWH1 R	**CR 25100**	Bore-Tite
	3.876	.469	CRWHA1 P	**CR 25102**	Bore-Tite
	4.003	.375	CRWA1 R	**CR 25108**	Bore-Tite
	4.003	.375	CRWA1 V	**CR 25110**	Bore-Tite
2.563	3.481	.500	CRWHA1 R	**CR 25561**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 25577**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 25641**	Bore-Tite
	3.623	.469	CRWA1 P	**CR 25661**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 25713**	Bore-Tite
	3.751	.438	CRWHA1 R	**CR 25714**	Bore-Tite
	3.751	.438	CRWH1 V	**CR 25725**	Bore-Tite
	3.873	.438	CRWHA1 R	**CR 25745**	
	3.876	.438	CRWH1 R	**CR 25748**	Bore-Tite
2.598	3.481	.438	CRWHA1 P	**CR 25970**	Bore-Tite
2.607	3.350	.375	CRWH1 P	**CR 25950**	Bore-Tite
2.625	3.251	.438	CRWH1 R	**CR 26110**	Bore-Tite
	3.350	.375	CRW1 V	**CR 26122**	Bore-Tite
	3.350	.375	CRW1 R	**CR 26123**	Bore-Tite
	3.350	.375	CRWA1 R	**CR 26124**	Bore-Tite
	3.350	.438	CRW1 R	**CR 26128**	
	3.371	.438	CRWHA1 R	**CR 26153**	Bore-Tite
	3.374	.438	CRWHA1 R	**CR 26141**	Bore-Tite
	3.481	.438	CRWH1 R	**CR 26163**	Bore-Tite
	3.500	.375	CRW1 V	**CR 26177**	Bore-Tite
	3.500	.375	CRWA1 R	**CR 26186**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 26189**	Bore-Tite
	3.500	.438	CRWHA1 R	**CR 26190**	Bore-Tite
	3.500	.438	CRWA1 P	**CR 26191**	Bore-Tite

Series CRW1 – Inch sizes



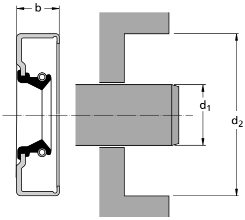
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.625	3.543	.438	CRWH1 R	**CR 26194**	Bore-Tite
	3.623	.375	CRW1 V	**CR 26204**	Bore-Tite
	3.623	.375	CRWA1 P	**CR 26220**	Bore-Tite
	3.623	.375	CRW1 R	**CR 26237**	Bore-Tite
	3.623	.375	CRWA1 R	**CR 26238**	Bore-Tite
	3.623	.438	CRWH1 V	**CR 26208**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 26209**	Bore-Tite
	3.623	.438	CRWHA1 R	**CR 26211**	Bore-Tite
	3.751	.375	CRWA1 R	**CR 26284**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 26297**	Bore-Tite
	3.751	.438	CRWHA1 R	**CR 26298**	Bore-Tite
	3.751	.438	CRWHA1 V	**CR 26299**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 26328**	Bore-Tite
	3.936	.438	CRWH1 R	**CR 26346**	Bore-Tite
	4.003	.375	CRWA1 R	**CR 26354**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 26356**	Bore-Tite
	4.370	.438	CRWHA1 R	**CR 26359**	Bore-Tite
	4.438	.438	CRWH1 R	**CR 26368**	Bore-Tite
2.688	3.751	.438	CRWH1 R	**CR 26761**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 26921**	Bore-Tite
	4.003	.469	CRWH1 R	**CR 26975**	Bore-Tite
2.750	3.481	.438	CRW1 R	**CR 27251**	
	3.500	.375	CRW1 R	**CR 27268**	Bore-Tite
	3.500	.375	CRWA1 R	**CR 27269**	Bore-Tite
	3.500	.375	CRWA1 V	**CR 27272**	Bore-Tite
	3.500	.438	CRWH1 R	**CR 27280**	Bore-Tite
	3.538	.438	CRWH1 R	**CR 27284**	Bore-Tite
	3.543	.438	CRWH1 P	**CR 27292**	Bore-Tite
	3.543	.438	CRWH1 V	**CR 27293**	Bore-Tite
	3.543	.438	CRWHA1 P	**CR 27295**	Bore-Tite
	3.544	.433	CRWHA1 V	**CR 27230**	Bore-Tite
	3.623	.438	CRWH1 V	**CR 27324**	Bore-Tite
	3.623	.438	CRWH1 R	**CR 27334**	Bore-Tite
	3.751	.438	CRW1 R	**CR 27361**	Bore-Tite
	3.751	.438	CRWA1 R	**CR 27362**	Bore-Tite
	3.751	.438	CRWH1 V	**CR 27365**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 27368**	Bore-Tite
	3.751	.438	CRWHA1 R	**CR 27370**	Bore-Tite
	3.751	.438	CRWA1 P	**CR 27377**	Bore-Tite

Series CRW1 – Inch sizes



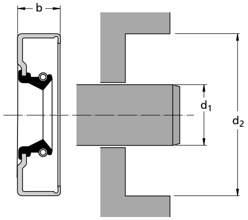
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.750	3.765	.438	CRWH1 R	**CR 27426**	Bore-Tite
	3.876	.433	CRWHA1 P	**CR 27452**	Bore-Tite
	3.876	.438	CRWA1 R	**CR 27467**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 27470**	Bore-Tite
	3.876	.438	CRWHA1 R	**CR 27471**	Bore-Tite
	3.936	.438	CRWH1 R	**CR 27525**	Bore-Tite
	3.937	.438	CRWA1 P	**CR 27526**	Bore-Tite
	4.003	.375	CRWA1 V	**CR 27539**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 27541**	Bore-Tite
	4.003	.438	CRWHA1 P	**CR 27565**	
	4.249	.438	CRWH1 R	**CR 27600**	Bore-Tite
	4.249	.438	CRWHA1 P	**CR 27601**	Bore-Tite
	4.331	.500	CRWHA1 R	**CR 27625**	Bore-Tite
	4.500	.469	CRWH1 R	**CR 28848**	Bore-Tite
2.813	3.751	.438	CRWH1 R	**CR 28035**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 28116**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 28175**	Bore-Tite
	4.249	.313	CRW1 R	**CR 28270**	Bore-Tite
	4.249	.438	CRWH1 R	**CR 28275**	Bore-Tite
	4.250	.438	CRWH1 P	**CR 28276**	Bore-Tite
2.844	3.939	.500	CRWA1 R	**CR 28425**	Bore-Tite
	3.939	.550	CRWHA1 R	**CR 28426**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 28464**	Bore-Tite
	4.003	.500	CRWH1 V	**CR 28474**	Bore-Tite
2.875	3.623	.438	CRWH1 R	**CR 28654**	Bore-Tite
	3.623	.438	CRWHA1 R	**CR 28655**	Bore-Tite
	3.751	.375	CRWA1 R	**CR 28669**	Bore-Tite
	3.751	.375	CRWA1 V	**CR 28670**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 28686**	Bore-Tite
	3.751	.438	CRWHA1 R	**CR 28687**	Bore-Tite
	3.751	.438	CRWH1 P	**CR 28697**	Bore-Tite
	3.751	.438	CRWH1 V	**CR 28698**	Bore-Tite
	3.751	.438	CRWHA1 V	**CR 28699**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 28745**	Bore-Tite
	3.876	.438	CRWHA1 R	**CR 28746**	Bore-Tite
	3.876	.438	CRWHA1 V	**CR 28748**	Bore-Tite
	4.003	.375	CRWA1 R	**CR 28778**	Bore-Tite
	4.003	.375	CRWA1 V	**CR 28779**	Bore-Tite

Series CRW1 – Inch sizes



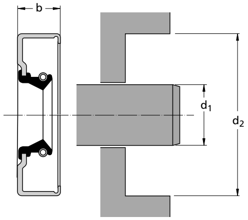
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.875	4.003	.438	CRWH1 R	**CR 28760**	Bore-Tite
	4.003	.438	CRWHA1 R	**CR 28761**	Bore-Tite
	4.125	.375	CRWH1 R	**CR 28817**	Bore-Tite
	4.331	.438	CRWA1 P	**CR 28841**	Bore-Tite
2.938	3.623	.375	CRW1 R	**CR 29218**	Bore-Tite
	3.751	.375	CRW1 R	**CR 29223**	Bore-Tite
	3.751	.375	CRWA1 R	**CR 29224**	Bore-Tite
	3.751	.375	CRWA1 V	**CR 29226**	Bore-Tite
	3.876	.375	CRWHA1 R	**CR 29260**	
	3.876	.375	CRWHA1 V	**CR 29262**	Bore-Tite
	3.937	.438	CRWA1 P	**CR 29273**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 29316**	Bore-Tite
	4.003	.438	CRWHA1 R	**CR 29317**	
	4.003	.438	CRWA1 P	**CR 29322**	Bore-Tite
	4.004	.433	CRWHA1 V	**CR 29383**	Bore-Tite
	4.125	.375	CRWH1 R	**CR 29384**	Bore-Tite
	4.125	.375	CRWHA1 R	**CR 29385**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 29465**	Bore-Tite
3.000	3.500	.375	CRW1 V	**CR 29841**	Bore-Tite
	3.751	.375	CRW1 R	**CR 29865**	
	3.751	.375	CRWA1 R	**CR 29866**	Bore-Tite
	3.751	.375	CRWA1 P	**CR 29867**	Bore-Tite
	3.751	.375	CRW1 V	**CR 29868**	Bore-Tite
	3.751	.375	CRWA1 V	**CR 29870**	Bore-Tite
	3.751	.438	CRWH1 R	**CR 29871**	Bore-Tite
	3.751	.438	CRWHA1 R	**CR 29872**	Bore-Tite
	3.876	.313	CRW1 V	**CR 29877**	Bore-Tite
	3.876	.438	CRWH1 R	**CR 29887**	Bore-Tite
	3.876	.469	CRWH1 V	**CR 29891**	Bore-Tite
	4.003	.375	CRW1 R	**CR 29906**	Bore-Tite
	4.003	.375	CRWA1 R	**CR 29907**	Bore-Tite
	4.003	.375	CRWA1 V	**CR 29912**	Bore-Tite
	4.003	.375	CRWH1 P	**CR 29950**	Bore-Tite
	4.003	.438	CRWHA1 P	**CR 29925**	
	4.003	.438	CRWH1 R	**CR 29951**	
	4.003	.438	CRWHA1 R	**CR 29952**	Bore-Tite
	4.003	.438	CRWH1 V	**CR 29958**	Bore-Tite
	4.125	.438	CRWH1 R	**CR 30000**	Bore-Tite
	4.125	.438	CRWH1 V	**CR 30003**	Bore-Tite

Series CRW1 – Inch sizes



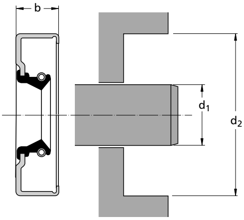
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.000	4.249	.438	CRWH1 R	**CR 30033**	
	4.249	.438	CRWHA1 P	**CR 30055**	Bore-Tite
	4.331	.438	CRWH1 R	**CR 30060**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 30070**	Bore-Tite
	4.500	.438	CRWH1 R	**CR 30087**	Bore-Tite
	4.500	.438	CRWHA1 R	**CR 30095**	Bore-Tite
	4.501	.438	CRWH1 V	**CR 30098**	Bore-Tite
	4.939	.750	CRWA1 P	**CR 30145**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 30125**	Bore-Tite
3.125	3.811	.355	CRW1 V	**CR 31132**	Bore-Tite
	3.811	.355	CRW1 R	**CR 31135**	Bore-Tite
	4.003	.375	CRWA1 R	**CR 31139**	Bore-Tite
	4.003	.375	CRWHA1 V	**CR 31152**	Bore-Tite
	4.003	.438	CRWH1 R	**CR 31147**	Bore-Tite
	4.003	.438	CRWHA1 R	**CR 31148**	Bore-Tite
	4.125	.375	CRW1 R	**CR 31177**	Bore-Tite
	4.125	.375	CRWA1 V	**CR 31179**	Bore-Tite
	4.125	.438	CRWHA1 P	**CR 31173**	Bore-Tite
	4.125	.438	CRWHA1 S	**CR 31185**	Bore-Tite
	4.125	.438	CRWH1 R	**CR 31189**	
	4.249	.438	CRWH1 R	**CR 31227**	Bore-Tite
	4.249	.438	CRWHA1 R	**CR 31228**	Bore-Tite
	4.249	.438	CRWHA1 V	**CR 31237**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 31250**	Bore-Tite
	4.376	.438	CRWHA1 P	**CR 31261**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 31269**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 31299**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 31316**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 31333**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 31353**	Bore-Tite
3.150	3.946	.394	CRW1 V	**CR 31511**	Bore-Tite
3.188	4.249	.438	CRWH1 R	**CR 31758**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 31825**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 31855**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 31870**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 31955**	Bore-Tite

Series CRW1 – Inch sizes



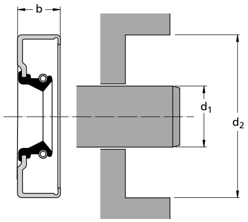
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.250	3.876	.375	CRW1 P	**CR 32330**	Bore-Tite
	4.003	.375	CRW1 R	**CR 32344**	Bore-Tite
	4.003	.375	CRWA1 P	**CR 32347**	Bore-Tite
	4.249	.375	CRWA1 V	**CR 32392**	Bore-Tite
	4.249	.375	CRW1 R	**CR 32393**	Bore-Tite
	4.249	.375	CRWA1 R	**CR 32395**	Bore-Tite
	4.249	.438	CRWH1 P	**CR 32380**	
	4.249	.438	CRWHA1 P	**CR 32385**	Bore-Tite
	4.249	.438	CRWH1 R	**CR 32396**	Bore-Tite
	4.249	.438	CRWHA1 R	**CR 32397**	Bore-Tite
	4.249	.438	CRWH1 V	**CR 32403**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 32424**	Bore-Tite
	4.500	.438	CRWA1 P	**CR 32448**	Bore-Tite
	4.501	.375	CRW1 R	**CR 32477**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 32501**	Bore-Tite
	4.501	.438	CRWHA1 R	**CR 32502**	Bore-Tite
	4.626	.433	CRWHA1 R	**CR 32514**	
	4.626	.438	CRWH1 R	**CR 32540**	Bore-Tite
	4.718	.438	CRWH1 R	**CR 32555**	Bore-Tite
	4.751	.438	CRWHA1 R	**CR 32547**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 32560**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 32582**	Bore-Tite
	4.999	.438	CRWHA1 R	**CR 32583**	Bore-Tite
3.262	4.626	.500	CRWA1 R	**CR 32710**	
3.313	4.125	.438	CRWH1 R	**CR 33033**	Bore-Tite
	4.249	.438	CRWH1 R	**CR 33073**	Bore-Tite
	4.500	.438	CRWH1 R	**CR 33136**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 33206**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 33250**	Bore-Tite
3.375	4.125	.375	CRW1 R	**CR 33645**	Bore-Tite
	4.125	.375	CRWA1 V	**CR 34647**	Bore-Tite
	4.249	.438	CRWHA1 R	**CR 33665**	Bore-Tite
	4.280	.406	CRWA1 S	**CR 33654**	Bore-Tite
	4.376	.375	CRWA1 V	**CR 33699**	Bore-Tite
	4.376	.375	CRW1 R	**CR 33700**	Bore-Tite
	4.376	.375	CRWA1 R	**CR 33701**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 33711**	Bore-Tite
	4.376	.438	CRWHA1 R	**CR 33712**	Bore-Tite

Series CRW1 – Inch sizes



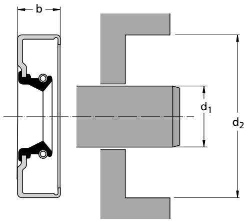
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.375	4.501	.438	CRWA1 V	**CR 33733**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 33735**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 33772**	Bore-Tite
	4.626	.438	CRWHA1 R	**CR 33773**	Bore-Tite
	4.626	.438	CRWHA1 V	**CR 33775**	Bore-Tite
	4.686	.438	CRWH1 R	**CR 33807**	
	4.999	.438	CRWH1 R	**CR 33837**	
	5.251	.438	CRWHA1 R	**CR 33866**	Bore-Tite
3.438	4.249	.375	CRW1 R	**CR 34256**	Bore-Tite
	4.501	.375	CRWA1 R	**CR 34279**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 34282**	Bore-Tite
	4.501	.438	CRWHA1 R	**CR 34283**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 34336**	Bore-Tite
	4.626	.438	CRWHA1 R	**CR 34338**	Bore-Tite
	4.751	.438	CRWA1 R	**CR 34379**	Bore-Tite
	4.756	.438	CRWH1 R	**CR 34383**	Bore-Tite
	4.876	.438	CRWH1 R	**CR 34398**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 34407**	Bore-Tite
	4.999	.438	CRWHA1 R	**CR 34408**	Bore-Tite
3.500	4.249	.438	CRWHA1 V	**CR 34857**	Bore-Tite
	4.376	.375	CRW1 R	**CR 34860**	Bore-Tite
	4.376	.375	CRWA1 R	**CR 34861**	Bore-Tite
	4.376	.375	CRWA1 V	**CR 34866**	Bore-Tite
	4.376	.433	CRWHA1 V	**CR 34869**	Bore-Tite
	4.376	.438	CRWH1 R	**CR 34867**	Bore-Tite
	4.376	.438	CRWHA1 R	**CR 34868**	Bore-Tite
	4.501	.375	CRWA1 V	**CR 34883**	Bore-Tite
	4.501	.375	CRW1 R	**CR 34886**	Bore-Tite
	4.501	.375	CRWA1 R	**CR 34887**	Bore-Tite
	4.501	.438	CRWH1 R	**CR 34888**	Bore-Tite
	4.501	.438	CRWHA1 R	**CR 34889**	Bore-Tite
	4.501	.438	CRWHA1 P	**CR 34891**	
	4.501	.438	CRWH1 V	**CR 34892**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 34985**	Bore-Tite
	4.751	.375	CRWA1 V	**CR 35039**	Bore-Tite
	4.751	.375	CRWA1 P	**CR 35040**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 35012**	Bore-Tite
	4.751	.438	CRWHA1 R	**CR 35020**	Bore-Tite
	4.751	.625	CRWH1 R	**CR 35029**	Bore-Tite

Series CRW1 – Inch sizes



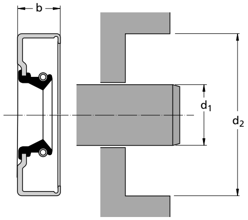
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.500	4.999	.438	CRWA1 V	**CR 35080**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 35082**	Bore-Tite
	4.999	.438	CRWHA1 P	**CR 35083**	Bore-Tite
	5.126	.438	CRWH1 R	**CR 35086**	Bore-Tite
	5.126	.438	CRWHA1 R	**CR 35095**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 35096**	Bore-Tite
	5.251	.750	CRWHA11 P	**CR 35098**	Bore-Tite
3.563	4.501	.438	CRWH1 R	**CR 35556**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 35593**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 35649**	Bore-Tite
	4.876	.438	CRWH1 R	**CR 35676**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 35716**	Bore-Tite
3.625	4.376	.375	CRWA1 V	**CR 36153**	Bore-Tite
	4.376	.375	CRWA1 R	**CR 36155**	Bore-Tite
	4.376	.375	CRWH1 R	**CR 36157**	Bore-Tite
	4.376	.375	CRWH1 P	**CR 36158**	Bore-Tite
	4.501	.375	CRW1 R	**CR 36166**	Bore-Tite
	4.626	.375	CRW1 R	**CR 36177**	Bore-Tite
	4.626	.375	CRWA1 V	**CR 36179**	Bore-Tite
	4.626	.438	CRWH1 R	**CR 36185**	Bore-Tite
	4.626	.438	CRWHA1 R	**CR 36186**	Bore-Tite
	4.626	.500	CRW1 P	**CR 36182**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 36220**	Bore-Tite
	4.751	.500	CRWA1 S	**CR 36234**	Bore-Tite
	4.876	.438	CRWH1 R	**CR 36314**	Bore-Tite
	4.999	.375	CRWA1 V	**CR 36359**	Bore-Tite
	4.999	.375	CRWA1 R	**CR 36361**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 36363**	Bore-Tite
	4.999	.438	CRWHA1 R	**CR 36364**	Bore-Tite
	5.251	.375	CRWA1 R	**CR 36382**	Bore-Tite
	5.375	.438	CRWHA1 R	**CR 36391**	Bore-Tite
3.688	4.501	.438	CRWHA1 R	**CR 36740**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 36770**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 36880**	Bore-Tite
	5.126	.438	CRWA1 R	**CR 36895**	Bore-Tite
	5.626	.438	CRWA1 R	**CR 36910**	Bore-Tite

Series CRW1 – Inch sizes



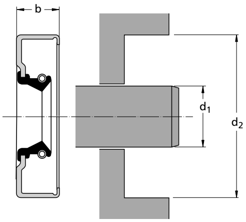
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.750	4.501	.375	CRW1 R	**CR 37327**	
	4.501	.375	CRW1 V	**CR 37328**	Bore-Tite
	4.501	.469	CRWHA1 P	**CR 37330**	Bore-Tite
	4.502	.469	CRWHA1 V	**CR 37332**	Bore-Tite
	4.750	.438	CRWHA1 P	**CR 37403**	Bore-Tite
	4.751	.375	CRW1 P	**CR 37387**	Bore-Tite
	4.751	.375	CRW1 R	**CR 37388**	Bore-Tite
	4.751	.375	CRWA1 R	**CR 37389**	Bore-Tite
	4.751	.438	CRWA1 P	**CR 37390**	Bore-Tite
	4.751	.438	CRWHA1 S	**CR 37395**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 37396**	Bore-Tite
	4.751	.438	CRWH1 V	**CR 37405**	Bore-Tite
	4.876	.438	CRWH1 R	**CR 37433**	Bore-Tite
	4.999	.375	CRW1 V	**CR 37524**	Bore-Tite
	4.999	.375	CRW1 R	**CR 37525**	Bore-Tite
	4.999	.375	CRWA1 R	**CR 37526**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 37532**	Bore-Tite
	4.999	.438	CRWHA1 R	**CR 37533**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 37574**	Bore-Tite
	5.251	.438	CRWH1 V	**CR 37577**	Bore-Tite
3.875	4.751	.375	CRW1 R	**CR 38646**	Bore-Tite
	4.751	.375	CRWA1 R	**CR 38647**	Bore-Tite
	4.751	.375	CRWA1 V	**CR 38649**	Bore-Tite
	4.751	.438	CRWH1 R	**CR 38653**	Bore-Tite
	4.876	.438	CRWHA1 R	**CR 38673**	Bore-Tite
	4.876	.500	CRWH1 R	**CR 38669**	Bore-Tite
	4.876	.500	CRWHA1 V	**CR 38678**	Bore-Tite
	4.999	.375	CRW1 R	**CR 38691**	Bore-Tite
	4.999	.375	CRWA1 R	**CR 38692**	Bore-Tite
	4.999	.375	CRWA1 V	**CR 38694**	Bore-Tite
	5.126	.438	CRWHA1 V	**CR 38702**	Bore-Tite
	5.126	.438	CRWH1 R	**CR 38703**	Bore-Tite
	5.126	.438	CRWHA1 R	**CR 38713**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 38730**	Bore-Tite
	5.251	.438	CRWHA1 R	**CR 38731**	Bore-Tite
	5.251	.438	CRWHA1 P	**CR 38739**	Bore-Tite
	5.376	.438	CRWH1 R	**CR 38745**	Bore-Tite
	5.626	.433	CRWHA1 R	**CR 38758**	Bore-Tite
	5.690	.500	CRWH1 R	**CR 38774**	Bore-Tite

Series CRW1 – Inch sizes



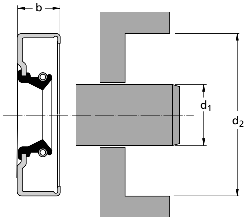
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
3.938	4.876	.438	CRWH1 R	**CR 39245**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 39275**	Bore-Tite
	4.999	.438	CRWH1 V	**CR 39276**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 39277**	Bore-Tite
	5.126	.472	CRWHA1 V	**CR 39304**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 39320**	Bore-Tite
	5.375	.438	CRWH1 R	**CR 39350**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 39423**	Bore-Tite
4.000	4.876	.438	CRW1 R	**CR 39851**	Bore-Tite
	4.999	.375	CRW1 P	**CR 39895**	Bore-Tite
	4.999	.375	CRWA1 V	**CR 39921**	Bore-Tite
	4.999	.375	CRW1 R	**CR 39922**	Bore-Tite
	4.999	.375	CRWA1 R	**CR 39923**	Bore-Tite
	4.999	.438	CRWHA1 P	**CR 39930**	Bore-Tite
	4.999	.438	CRWH1 V	**CR 39932**	Bore-Tite
	4.999	.438	CRWH1 R	**CR 39933**	Bore-Tite
	4.999	.438	CRWHA1 R	**CR 39934**	Bore-Tite
	4.999	.438	CRWH1 S	**CR 39935**	Bore-Tite
	5.126	.438	CRWH1 R	**CR 39975**	Bore-Tite
	5.251	.438	CRWH1 V	**CR 39996**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 39997**	Bore-Tite
	5.251	.438	CRWA1 R	**CR 40000**	Bore-Tite
	5.310	.500	CRWHA1 R	**CR 40020**	Bore-Tite
	5.376	.438	CRWH1 R	**CR 40036**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 40049**	Bore-Tite
	5.626	.375	CRWA1 R	**CR 40077**	Bore-Tite
	5.626	.438	CRWH1 R	**CR 40078**	Bore-Tite
	5.751	.438	CRWH1 R	**CR 40108**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 40138**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 40158**	Bore-Tite
4.125	4.999	.438	CRWH1 R	**CR 41125**	Bore-Tite
4.125	4.999	.438	CRWH1 V	**CR 41126**	
	4.999	.438	CRWH1 S	**CR 41130**	Bore-Tite
	5.126	.438	CRWH1 R	**CR 41170**	Bore-Tite
	5.126	.438	CRWH1 V	**CR 41171**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 41185**	Bore-Tite
	5.251	.438	CRWH1 V	**CR 41186**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 41265**	Bore-Tite

Series CRW1 – Inch sizes



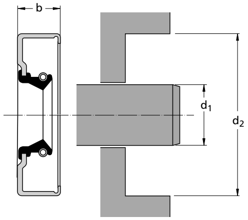
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
4.125	5.501	.438	CRWH1 V	**CR 41266**	Bore-Tite
	5.751	.438	CRWH1 R	**CR 41287**	Bore-Tite
	6.001	.438	CRWH1 R	**CR 41305**	Bore-Tite
	6.001	.438	CRWH1 V	**CR 41307**	Bore-Tite
4.250	5.251	.375	CRWA1 R	**CR 42419**	Bore-Tite
	5.251	.375	CRW1 S	**CR 42422**	Bore-Tite
	5.251	.375	CRWH1 R	**CR 42425**	Bore-Tite
	5.251	.438	CRWH1 R	**CR 42426**	Bore-Tite
	5.251	.438	CRWHA1 R	**CR 42427**	Bore-Tite
	5.251	.438	CRWH1 V	**CR 42433**	Bore-Tite
	5.373	.438	CRWA1 V	**CR 42474**	Bore-Tite
	5.376	.438	CRWH1 R	**CR 42475**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 42528**	Bore-Tite
	5.626	.438	CRWA1 R	**CR 42557**	Bore-Tite
	5.751	.438	CRWH1 R	**CR 42573**	Bore-Tite
	5.876	.500	CRWH1 V	**CR 42592**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 42616**	Bore-Tite
	6.126	.500	CRWH1 R	**CR 42635**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 42644**	Bore-Tite
4.313	5.501	.433	CRWHA1 P	**CR 43072**	Bore-Tite
	5.501	.438	CRWHA1 R	**CR 43073**	Bore-Tite
4.331	5.626	.472	CRWHA1 V	**CR 43345**	Bore-Tite
4.375	5.376	.438	CRWH1 R	**CR 43650**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 43691**	Bore-Tite
	5.751	.438	CRWH1 R	**CR 43751**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 43771**	Bore-Tite
	6.063	.500	CRWH1 R	**CR 541974**	
	6.250	.500	CRWH1 R	**CR 43820**	Bore-Tite
4.438	5.501	.500	CRWH1 R	**CR 44275**	Bore-Tite
	5.501	.500	CRWH1 V	**CR 44276**	Bore-Tite
	5.751	.500	CRWH1 R	**CR 44295**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 44320**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 44350**	Bore-Tite
4.477	6.250	.500	CRWH1 R	**CR 44630**	Bore-Tite

Series CRW1 – Inch sizes



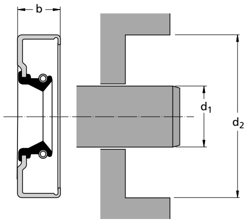
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
4.500	5.251	.438	CRWH1 R	**CR 44913**	Bore-Tite
	5.251	.438	CRWHA1 V	**CR 44917**	Bore-Tite
	5.376	.438	CRWH1 R	**CR 44920**	Bore-Tite
	5.376	.438	CRWHA1 V	**CR 44926**	Bore-Tite
	5.501	.375	CRW1 R	**CR 44959**	Bore-Tite
	5.501	.375	CRWA1 R	**CR 44960**	Bore-Tite
	5.501	.435	CRWH1 V	**CR 44980**	Bore-Tite
	5.501	.438	CRWH1 R	**CR 44967**	Bore-Tite
	5.501	.438	CRWHA1 R	**CR 44968**	Bore-Tite
	5.501	.438	CRWH1 V	**CR 44973**	Bore-Tite
	5.626	.438	CRWH1 R	**CR 45032**	Bore-Tite
	5.626	.438	CRWHA1 V	**CR 45033**	Bore-Tite
	5.751	.375	CRWA1 V	**CR 45064**	Bore-Tite
	5.751	.438	CRWH1 R	**CR 45069**	Bore-Tite
	5.751	.438	CRWHA1 R	**CR 45070**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 45110**	Bore-Tite
	6.001	.500	CRWHA1 R	**CR 45111**	Bore-Tite
	6.001	.500	CRWHA1 V	**CR 45112**	Bore-Tite
	6.126	.563	CRWH1 R	**CR 45140**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 45150**	Bore-Tite
4.625	5.626	.500	CRWH1 R	**CR 46144**	Bore-Tite
	5.626	.500	CRWH1 V	**CR 46155**	Bore-Tite
	5.751	.500	CRWH1 R	**CR 46200**	Bore-Tite
	5.751	.500	CRWH1 S	**CR 46208**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 46285**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 46324**	Bore-Tite
4.688	5.751	.512	CRWH1 S	**CR 46790**	Bore-Tite
	5.751	.512	CRWH1 R	**CR 46800**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 46950**	Bore-Tite
4.750	5.749	.438	CRW1 P	**CR 47375**	Bore-Tite
	5.751	.500	CRW1 V	**CR 47379**	Bore-Tite
	5.751	.500	CRWA1 V	**CR 47382**	Bore-Tite
	5.751	.500	CRW1 R	**CR 47383**	Bore-Tite
	5.751	.500	CRWH1 R	**CR 47394**	Bore-Tite
	5.751	.500	CRWHA1 R	**CR 47395**	Bore-Tite
	5.875	.500	CRWH1 R	**CR 47441**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 47474**	Bore-Tite
	6.001	.500	CRWHA1 R	**CR 47475**	Bore-Tite

Series CRW1 – Inch sizes



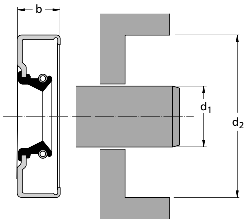
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
4.750	6.001	.500	CRW1 V	**CR 47481**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 47583**	Bore-Tite
	6.250	.500	CRWHA1 V	**CR 47586**	Bore-Tite
4.813	5.751	.563	CRWH1 P	**CR 48060**	Bore-Tite
	5.751	.563	CRWH1 V	**CR 48062**	Bore-Tite
	5.751	.563	CRWH1 S	**CR 48065**	Bore-Tite
4.875	6.001	.500	CRWH1 V	**CR 48692**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 48693**	Bore-Tite
	6.126	.500	CRWH1 R	**CR 48726**	Bore-Tite
	6.250	.500	CRWHA1 R	**CR 48768**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 48769**	Bore-Tite
	6.250	.500	CRWH1 V	**CR 48772**	Bore-Tite
4.921	6.375	.500	CRWHA1 V	**CR 49274**	Bore-Tite
4.938	6.001	.500	CRWH1 R	**CR 49251**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 49301**	Bore-Tite
5.000	6.001	.500	CRWHA1 V	**CR 49927**	Bore-Tite
	6.001	.500	CRWH1 R	**CR 49928**	Bore-Tite
	6.001	.500	CRWHA1 R	**CR 49929**	Bore-Tite
	6.126	.500	CRW1 V	**CR 49960**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 49966**	Bore-Tite
	6.250	.500	CRW1 R	**CR 49984**	Bore-Tite
	6.250	.500	CRWA1 R	**CR 49985**	Bore-Tite
	6.250	.500	CRWH1 P	**CR 49990**	
	6.250	.500	CRWH1 V	**CR 49991**	Bore-Tite
	6.250	.500	CRWHA1 R	**CR 49998**	Bore-Tite
	6.375	.500	CRWH1 R	**CR 50130**	Bore-Tite
	6.375	.500	CRWHA1 R	**CR 50138**	Bore-Tite
	6.500	.500	CRWH1 R	**CR 50148**	Bore-Tite
	6.500	.500	CRWH1 V	**CR 50151**	Bore-Tite
	6.750	.500	CRWH1 R	**CR 50168**	Bore-Tite
	6.750	.500	CRWHA1 R	**CR 50172**	Bore-Tite
5.063	6.126	.500	CRWH1 R	**CR 50618**	Bore-Tite
	6.375	.500	CRWH1 V	**CR 50646**	Bore-Tite
	6.375	.500	CRWH1 R	**CR 50650**	Bore-Tite

Series CRW1 – Inch sizes



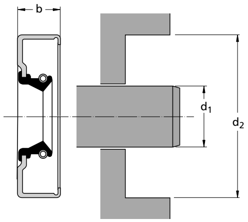
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
5.125	6.126	.500	CRWHA1 R	**CR 51240**	Bore-Tite
	6.126	.500	CRW1 V	**CR 51243**	Bore-Tite
	6.126	.500	CRW1 R	**CR 51247**	Bore-Tite
	6.250	.500	CRWHA1 R	**CR 51252**	Bore-Tite
	6.250	.500	CRWA1 V	**CR 51253**	Bore-Tite
	6.375	.500	CRWH1 R	**CR 51248**	
	6.375	.500	CRWH1 V	**CR 51255**	Bore-Tite
5.188	6.501	.625	CRWH1 R	**CR 51851**	Bore-Tite
	6.501	.625	CRWH1 V	**CR 51852**	Bore-Tite
5.250	6.001	.375	CRW1 R	**CR 52440**	Bore-Tite
	6.001	.500	CRWH1 V	**CR 52443**	Bore-Tite
	6.250	.500	CRWH1 R	**CR 52445**	Bore-Tite
	6.250	.500	CRWH1 V	**CR 52447**	Bore-Tite
	6.500	.500	CRWH1 R	**CR 52488**	Bore-Tite
	6.500	.500	CRWH1 V	**CR 52489**	Bore-Tite
	6.750	.500	CRWH1 R	**CR 52648**	Bore-Tite
	6.750	.500	CRWH1 V	**CR 52649**	Bore-Tite
5.375	6.625	.500	CRWH1 R	**CR 53701**	Bore-Tite
	6.625	.500	CRWH1 V	**CR 53702**	Bore-Tite
	6.750	.500	CRWH1 V	**CR 53771**	Bore-Tite
	6.750	.500	CRWH1 R	**CR 53775**	Bore-Tite
5.500	6.250	.500	CRWA1 R	**CR 54925**	Bore-Tite
	6.500	.500	CRWH1 R	**CR 54931**	Bore-Tite
	6.500	.500	CRWH1 V	**CR 54934**	Bore-Tite
	6.500	.500	CRWH1 P	**CR 54936**	Bore-Tite
	6.750	.500	CRW1 R	**CR 54959**	Bore-Tite
	6.750	.500	CRWA1 R	**CR 54960**	Bore-Tite
	6.750	.500	CRWHA1 R	**CR 54971**	Bore-Tite
	6.750	.500	CRWH1 R	**CR 54972**	Bore-Tite
	6.750	.500	CRWH1 V	**CR 54974**	Bore-Tite
5.512	6.693	.472	CRWH1 V	**CR 546747**	
5.625	6.625	.500	CRWH1 R	**CR 56101**	Bore-Tite
	6.625	.500	CRWH1 V	**CR 56102**	Bore-Tite
	6.875	.500	CRWH1 R	**CR 56136**	Bore-Tite
	6.875	.500	CRWH1 V	**CR 56137**	Bore-Tite

Series CRW1 – Inch sizes



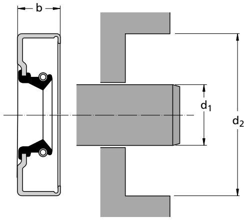
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
5.625	7.125	.500	CRWHA1 R	**CR 56160**	Bore-Tite
	7.125	.500	CRWHA1 V	**CR 56161**	Bore-Tite
5.750	6.625	.500	CRWH1 R	**CR 57505**	Bore-Tite
	6.625	.500	CRW1 V	**CR 57506**	Bore-Tite
	6.750	.500	CRWH1 R	**CR 57510**	Bore-Tite
	6.750	.500	CRWH1 V	**CR 57522**	Bore-Tite
	6.751	.500	CRWHA1 R	**CR 57509**	
	7.000	.500	CRWH1 R	**CR 57521**	Bore-Tite
	7.000	.500	CRWH1 V	**CR 57523**	Bore-Tite
	7.000	.500	CRWHA1 R	**CR 57531**	Bore-Tite
5.875	7.125	.500	CRWH1 R	**CR 58716**	Bore-Tite
	7.125	.500	CRWH1 V	**CR 58717**	Bore-Tite
	7.125	.500	CRWHA1 R	**CR 58741**	Bore-Tite
	7.500	.500	CRWH1 R	**CR 58760**	Bore-Tite
	7.500	.500	CRWH1 V	**CR 58761**	Bore-Tite
6.000	6.750	.500	CRWA1 V	**CR 59999**	Bore-Tite
	6.750	.500	CRW1 V	**CR 60000**	Bore-Tite
	7.500	.500	CRWA1 R	**CR 60016**	Bore-Tite
	7.500	.500	CRWHA1 V	**CR 60026**	Bore-Tite
	7.500	.500	CRWH1 R	**CR 60027**	
	7.500	.500	CRWHA1 R	**CR 60028**	Bore-Tite
6.125	7.125	.625	CRWH1 R	**CR 61210**	
	7.625	.625	CRWH1 R	**CR 61255**	
	7.625	.625	CRWH1 P	**CR 61256**	
6.250	7.252	.500	CRWH1 R	**CR 62482**	
	7.500	.500	CRWH1 R	**CR 62495**	
	7.500	.500	CRWH1 V	**CR 62497**	
	7.750	.500	CRWH1 R	**CR 62535**	Bore-Tite
	7.875	.625	CRWH1 R	**CR 62572**	Bore-Tite
6.375	7.375	.625	CRWH1 R	**CR 63700**	Bore-Tite
	7.375	.625	CRWH1 V	**CR 63705**	Bore-Tite
	7.875	.563	CRWHA1 R	**CR 63734**	Bore-Tite
	7.875	.625	CRWH1 R	**CR 63733**	

Series CRW1 – Inch sizes



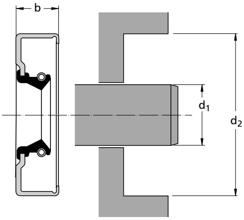
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
6.500	7.500	.500	CRWA1 R	**CR 64993**	Bore-Tite
	7.500	.500	CRWH1 R	**CR 64994**	
	7.500	.500	CRWH1 V	**CR 64998**	Bore-Tite
	8.000	.500	CRW1 R	**CR 65021**	Bore-Tite
	8.000	.500	CRWH1 R	**CR 65036**	
	8.000	.500	CRWHA1 R	**CR 65037**	
6.625	8.125	.500	CRWH1 R	**CR 66241**	
6.750	8.000	.500	CRWH1 R	**CR 67515**	Bore-Tite
	8.250	.500	CRWH1 R	**CR 67533**	
	8.419	1.563	CRWH19 R	**CR 67540**	Bore-Tite
6.875	8.375	.500	CRWH1 R	**CR 68745**	
7.000	8.000	.630	CRWH1 R	**CR 70016**	Bore-Tite
	8.250	.625	CRW1 R	**CR 70026**	Bore-Tite
	8.250	.625	CRWH1 R	**CR 70028**	
	8.500	.500	CRWA1 R	**CR 70080**	Bore-Tite
	8.500	.625	CRW1 R	**CR 70050**	Bore-Tite
	8.500	.625	CRWH1 R	**CR 70052**	Bore-Tite
	8.500	.625	CRWHA1 R	**CR 70053**	Bore-Tite
	8.500	.625	CRWHA1 V	**CR 70054**	Bore-Tite
7.125	8.625	.625	CRWH1 R	**CR 71245**	
7.250	8.250	.625	CRW1 R	**CR 72515**	
	8.750	.625	CRWHA1 R	**CR 72539**	Bore-Tite
	8.750	.750	CRWH1 P	**CR 72542**	
	9.055	.625	CRWHA1 R	**CR 72570**	Bore-Tite
7.375	8.875	.625	CRWH1 R	**CR 73745**	
7.500	8.500	.625	CRWH1 R	**CR 75030**	
	9.000	.625	CRWH1 R	**CR 75050**	Bore-Tite
	9.000	.625	CRWHA1 P	**CR 75052**	Bore-Tite
7.625	8.625	.563	CRWH1 R	**CR 76215**	
	9.125	.625	CRWH1 R	**CR 76255**	
7.750	9.250	.625	CRWH1 R	**CR 77540**	

Series CRW1 – Inch sizes



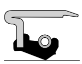
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
7.875	9.250	1.000	CRWHA1 R	**CR 78725**	
	9.375	.625	CRWH1 R	**CR 78738**	
8.000	9.000	.625	CRWH1 R	**CR 79960**	
	9.000	.625	CRWHA1 R	**CR 79961**	
	9.250	.625	CRWH1 R	**CR 79997**	
	9.250	.625	CRWHA1 R	**CR 79998**	Bore-Tite
	9.500	.625	CRWH1 R	**CR 80010**	Bore-Tite
	10.000	.625	CRWH1 R	**CR 80037**	Bore-Tite
	10.000	.625	CRWHA1 R	**CR 80038**	
8.125	10.125	.625	CRWH1 R	**CR 81245**	
	10.125	.625	CRWHA1 R	**CR 81246**	
8.250	9.250	.625	CRWH1 R	**CR 82510**	
	9.252	.500	CRWH1 R	**CR 82512**	Bore-Tite
	9.500	.578	CRW1 R	**CR 82521**	
	10.250	.625	CRWH1 R	**CR 82560**	
8.500	9.750	.625	CRWH1 R	**CR 85002**	Bore-Tite
	10.000	.625	CRWH1 R	**CR 85009**	
	10.500	.625	CRWA1 R	**CR 85014**	
	10.500	.625	CRWH1 R	**CR 85015**	
	10.625	.625	CRWHA1 R	**CR 85085**	
8.625	10.625	.625	CRWH1 R	**CR 86260**	
8.750	10.750	.625	CRWH1 R	**CR 87541**	
8.875	10.125	.625	CRWH1 R	**CR 88710**	
	10.875	.625	CRWH1 R	**CR 88760**	
9.000	10.000	.625	CRWH1 R	**CR 90006**	
	11.000	.625	CRWH1 R	**CR 90036**	
9.250	11.250	.625	CRWHA1 R	**CR 92536**	Bore-Tite
	12.750	.625	CRWHA1 R	**CR 92570**	
	12.750	1.250	CRWHA1 R	**CR 92574**	
9.500	10.500	.438	CRW1 R	**CR 95048**	Bore-Tite
	11.500	.625	CRW1 R	**CR 95062**	Bore-Tite

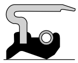
Series CRW1 – Inch sizes



Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
9.625	11.625	.625	CRWH1 R	**CR 96245**	
	11.125	.625	CRWH1 R	**CR 97542**	
	11.250	.625	CRWH1 R	**CR 97545**	
	11.750	.625	CRWH1 R	**CR 97550**	
10.000	11.252	.625	CRWHA1 R	**CR 100044**	
	12.000	.625	CRWH1 R	**CR 100051**	
	12.000	.625	CRWA1 R	**CR 100075**	Bore-Tite
10.250	11.250	.563	CRWH1 R	**CR 102520**	
	12.250	.625	CRWH1 R	**CR 102540**	
10.500	11.750	.625	CRWH1 R	**CR 105010**	
	12.500	.625	CRWH1 R	**CR 105051**	
10.750	12.750	.625	CRWH1 R	**CR 107551**	
11.000	12.250	.625	CRWHA1 R	**CR 110030**	
	13.000	.625	CRWH1 R	**CR 110051**	
11.375	13.000	.625	CRW1 R	**CR 113740**	
11.500	13.000	.625	CRWH1 R	**CR 115021**	
	13.500	.625	CRWH1 R	**CR 115041**	
12.000	14.000	.625	CRW1 R	**CR 120060**	
12.250	13.375	.625	CRWH1 R	**CR 122555**	
	13.813	.625	CRW1 R	**CR 122580**	
	14.250	1.000	CRWHA1 R	**CR 122590**	

Series CRW5


CRW5


CRWA5

Features
Radial shaft seals for applications where pressure differential across the seal is moderate. Waveseal lip for reduced heat generation and steel shell for easy installation and a firm and accurate seating in the housing bore.

Primarily for lubricant retention, but the CRWA5 design will also exclude dust and light contamination. Where there is a pressure differential across the seal, the seal should be axially secured in the housing bore.

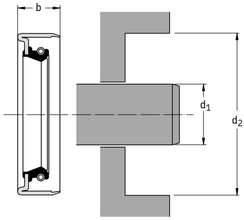
CRW5: Seal with steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip and carbon steel garter spring.

CRWA5: Seal with steel shell, Bore-Tite coated outside diameter, hydrodynamically formed Waveseal lip, carbon steel garter spring and non-rubbing secondary lip.

Series CRW5 is only available in a limited range of inch sizes.

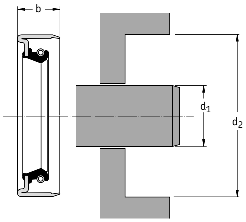
Further information about material, application and operating conditions for SKF CRW5 and CRWA5 seals is shown in the seal selection chart on **page 98**.

Series CRW5 – Inch sizes



Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.313	.686	.313	CRWA5 R	**CR 3094**	
	.749	.250	CRWA5 R	**CR 3101**	
	.749	.250	CRWA5 V	**CR 3103**	
	.999	.313	CRWA5 R	**CR 3171**	
.375	.749	.250	CRW5 R	**CR 3689**	
	1.124	.375	CRW5 V	**CR 3807**	Bore-Tite
.500	.875	.313	CRWA5 R	**CR 4940**	Bore-Tite
	.875	.313	CRWA5 V	**CR 4941**	
	.999	.250	CRWA5 V	**CR 4991**	Bore-Tite
	.999	.313	CRWA5 R	**CR 4996**	Bore-Tite
	1.124	.250	CRWA5 R	**CR 5069**	Bore-Tite
	1.124	.250	CRWA5 V	**CR 5072**	Bore-Tite
.625	.999	.250	CRWA5 R	**CR 6151**	Bore-Tite
	1.124	.250	CRW5 R	**CR 6191**	Bore-Tite
	1.124	.374	CRWA5 V	**CR 6231**	Bore-Tite
	1.124	.375	CRWA5 R	**CR 6229**	Bore-Tite
	1.126	.250	CRW5 R	**CR 6232**	Bore-Tite
	1.250	.313	CRWA5 R	**CR 6280**	
	1.250	.313	CRWA5 V	**CR 6285**	
	1.375	.250	CRW5 P	**CR 6371**	Bore-Tite
	1.375	.375	CRWA5 R	**CR 6388**	Bore-Tite
	1.500	.313	CRW5 V	**CR 6393**	Bore-Tite
.750	1.250	.250	CRWA5 R	**CR 7434**	Bore-Tite
	1.250	.375	CRWA5 R	**CR 7449**	Bore-Tite
	1.375	.250	CRWA5 V	**CR 7509**	Bore-Tite
.875	1.250	.250	CRWA5 V	**CR 8634**	Bore-Tite
	1.375	.250	CRWA5 R	**CR 8660**	Bore-Tite
	1.375	.250	CRWA5 V	**CR 8665**	Bore-Tite
	1.497	.313	CRWA5 V	**CR 8694**	Bore-Tite
.984	1.596	.250	CRWA5 R	**CR 9700**	Bore-Tite
	1.752	.313	CRWA5 V	**CR 9805**	Bore-Tite

Series CRW5 – Inch sizes



Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.000	1.375	.250	CRWA5 R	**CR 9814**	Bore-Tite
	1.499	.250	CRWA5 R	**CR 9843**	Bore-Tite
	1.499	.250	CRW5 R	**CR 9855**	
	1.499	.250	CRWA5 V	**CR 9858**	Bore-Tite
	1.500	.250	CRWA5 R	**CR 9863**	Bore-Tite
	1.752	.313	CRWA5 R	**CR 9967**	Bore-Tite
	2.000	.313	CRWA5 R	**CR 10131**	Bore-Tite
1.125	1.626	.250	CRWA5 V	**CR 11139**	Bore-Tite
1.250	1.687	.313	CRWA5 R	**CR 12333**	Bore-Tite
	1.750	.250	CRWA5 V	**CR 12339**	Bore-Tite
	1.750	.250	CRWA5 R	**CR 12360**	Bore-Tite
	1.997	.438	CRWA5 V	**CR 12438**	Bore-Tite
	2.328	.500	CRWA5 R	**CR 12609**	Bore-Tite
	2.502	.500	CRWA5 R	**CR 12640**	Bore-Tite
1.500	1.997	.250	CRWA5 V	**CR 14844**	Bore-Tite
	2.064	.375	CRWA5 V	**CR 14868**	Bore-Tite
	2.311	.500	CRWA5 V	**CR 14979**	Bore-Tite
	2.328	.500	CRWA5 R	**CR 14977**	Bore-Tite
1.625	2.125	.256	CRWA5 R	**CR 16093**	Bore-Tite
1.750	2.502	.500	CRWA5 R	**CR 17374**	Bore-Tite
1.938	2.675	.250	CRWA5 R	**CR 19213**	Bore-Tite
	2.835	.250	CRWA5 R	**CR 19278**	Bore-Tite
2.500	3.251	.350	CRWA5 R	**CR 24892**	Bore-Tite

Series HMS4 and HMSA7

Series HMS4 and HMSA7 are complementary designs to the new developed series HMS5 and HMSA10 and are suitable as spare parts in older applications.

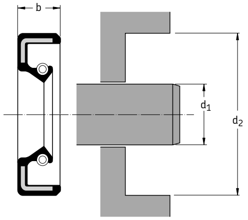
HMS4: Seal with outside diameter of elastomeric material, carbon steel reinforcement ring, garter spring of carbon steel or stainless steel and conventional sealing lip.

HMSA7: Seal with outside diameter of elastomeric material, carbon steel reinforcement ring, garter spring of carbon steel or stainless steel, conventional sealing lip and a secondary, contacting (dust) lip.

Both HMS4 and HMSA7 are available in sealing lip material R (NBR) for general purpose and in our lip material V (FPM) for higher operating temperature and for extended chemical resistance.

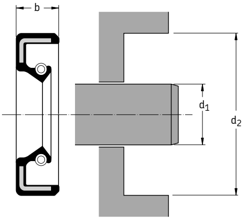
Further information about material, application and operating conditions for HMS4 and HMSA7 seals is shown in the seal selection chart on **page 98**.

Series HMS4 and HMSA7– Metric sizes



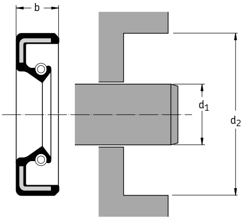
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
mm				
10	24	7	HMS4 R	**CR 10×24×7 HMS4 R**
	26	7	HMS4 R	**CR 10×26×7 HMS4 R**
12	24	7	HMS4 R	**CR 12×24×7 HMS4 R**
17	28	7	HMS4 R	**CR 17×28×7 HMS4 R**
	40	10	HMS4 R	**CR 17×40×10 HMS4 R**
19	32	7	HMS4 R	**CR 19×32×7 HMS4 R**
25	52	8	HMS4 R	**CR 25×52×8 HMS4 R**
	52	10	HMS4 R	**CR 25×52×10 HMS4 R**
27	42	10	HMS4 R	**CR 27×42×10 HMS4 R**
28	40	7	HMS4 R	**CR 28×40×7 HMS4 R**
30	47	7	HMSA7 V	**CR 30×47×7 HMSA7 V**
	62	10	HMS4 R	**CR 30×62×10 HMS4 R**
33	50	6	HMSA7 R	**CR 33×50×6 HMSA7 R**
42	72	8	HMS4 R	**CR 42×72×8 HMS4 R**
45	85	10	HMS4 R	**CR 45×85×10 HMS4 R**
65	95	10	HMS4 R	**CR 65×95×10 HMS4 R**
80	110	12	HMS4 R	**CR 80×110×12 HMS4 R**
85	110	12	HMS4 R	**CR 85×110×12 HMS4 R**
120	150	12	HMS4 V	**CR 120×150×12 HMS4 V**
140	160	13	HMS4 R	**CR 140×160×13 HMS4 R**
230	260	15	HMS4 R	**CR 230×260×15 HMS4 R**

Series HMS4 and HMSA7 – Inch sizes



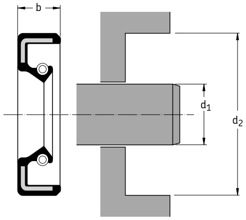
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
in				
.370	.606	.310	HMSA76 R	**CR 3626**
.500	1.010	.204	HMSA7 V	**CR 5008**
.685	1.181	.276	HMSA7 R	**CR 6757**
.736	1.378	.276	HMSA7 R	**CR 7400**
.748	1.496	.300	HMSA7 R	**CR 7251**
.813	1.250	.375	HMS4 R	**CR 8019**
.906	1.338	.315	HMSA7 R	**CR 9065**
	1.339	.256	HMS4 R	**CR 9006**
	1.383	.250	HMS4 P	**CR 9010**
	1.575	.276	HMSA7 P	**CR 9068**
.984	1.496	.236	HMSA7 V	**CR 9701**
1.000	2.441	.375	HMSA7 R	**CR 10178**
1.063	1.575	.315	HMSA7 V	**CR 10584**
	1.693	.355	HMSA7 P	**CR 10634**
1.102	1.614	.276	HMSA7 P	**CR 10944**
	1.693	.276	HMSA7 P	**CR 10494**
	1.693	.315	HMSA7 R	**CR 10927**
1.125	1.630	.313	HMS4N R	**CR 11143**
1.142	1.693	.315	HMSA7 P	**CR 11422**
	1.772	.315	HMSA7 V	**CR 11429**
	2.047	.433	HMSA7 R	**CR 14116**
1.181	1.693	.315	HMSA7 V	**CR 11672**
	1.732	.276	HMSA7 P	**CR 11612**
	1.772	.276	HMS47 R	**CR 11691**
	1.772	.276	HMSA7 P	**CR 11589**
	2.126	.354	HMSA7 P	**CR 11673**
	2.126	.354	HMSA7 R	**CR 11674**
1.221	1.811	.315	HMSA7 S	**CR 12301**
1.250	1.752	.313	HMS4 R	**CR 12371**
	1.752	.391	HMSA7 R	**CR 12355**
	2.835	.375	HMSA7 R	**CR 12668**

Series HMS4 and HMSA7 – Inch sizes



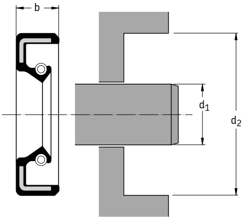
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
in				
1.260	1.732	.236	HMSA7 P	**CR 12706**
	1.811	.236	HMSA7SP P	**CR 12718**
	2.087	.276	HMSA7 P	**CR 12747**
1.281	2.000	.375	HMSA7 R	**CR 12830**
1.299	1.810	.276	HMSA7 R	**CR 12812**
	1.850	.313	HMSA7 P	**CR 12886**
1.301	1.969	.469	HMSA7 R	**CR 12900**
1.339	1.929	.315	HMSA7 P	**CR 13427**
	2.087	.315	HMSA7 R	**CR 13435**
1.375	2.063	.374	HMS4 R	**CR 13596**
1.378	1.614	.359	HMS41 R	**CR 13911**
	1.851	.276	HMSA7 R	**CR 555364**
	1.929	.236	HMSA7 R	**CR 13857**
	1.969	.275	HMS4 S	**CR 13943**
	2.097	.313	HMSA7 P	**CR 13953**
	2.165	.433	HMSA7 R	**CR 550233**
1.417	1.732	.197	HMSA7 R	**CR 14058**
	1.811	.394	HMSA7 P	**CR 14033**
	1.929	.276	HMSA7 P	**CR 14008**
	3.543	.394	HMSA7SP R	**CR 14087**
1.418	2.521	.512	HMSA7 R	**CR 550218**
1.437	2.012	.312	HMSA7SP V	**CR 14215**
1.457	1.987	.276	HMSA7 P	**CR 14477**
	2.000	.276	HMSA7 R	**CR 14601**
	2.205	.354	HMS4 R	**CR 14566**
	3.071	.472	HMS4SPL R	**CR 14484**
1.496	1.969	.315	HMSA7 S	**CR 14713**
	2.087	.304	HMSA7 V	**CR 14759**
	2.362	.433	HMSA7SP S	**CR 14756**
1.504	1.937	.475	HMSA76 P	**CR 15270**
1.515	2.087	.315	HMSA7 P	**CR 15500**

Series HMS4 and HMSA7 – Inch sizes



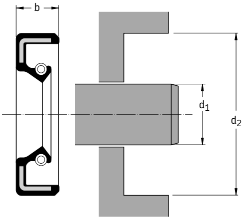
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.535	1.969	.276	HMSA7 V	**CR 15451**	
	2.047	.276	HMSA7 P	**CR 15300**	
1.552	2.447	.500	HMSA78 RT	**CR 15440**	
1.575	2.047	.276	HMSA7 V	**CR 15800**	
	2.126	.394	HMSA7 P	**CR 15881**	
	2.165	.236	HMSA7 V	**CR 15818**	
	2.205	.276	HMS4 R	**CR 550259**	
	2.283	.236	HMSA7 P	**CR 15736**	
	2.461	.433	HMSA7 R	**CR 15558**	
1.594	2.067	.236	HMSA7 P	**CR 15910**	
	2.283	.315	HMSA7 P	**CR 15920**	
1.614	2.126	.236	HMSA7 P	**CR 16003**	
	2.323	.315	HMS4 R	**CR 16023**	
1.654	2.323	.303	HMS4 R	**CR 16536**	
	2.362	.335	HMSA7 V	**CR 16533**	
	2.480	.276	HMS4 R	**CR 550253**	
1.685	2.165	.433	HMSA7 R	**CR 16620**	
1.688	2.551	.470	HMSA7 R	**CR 16735**	
1.693	2.146	.236	HMSA7 V	**CR 16889**	
	2.165	.315	HMSA7 V	**CR 16893**	
1.732	2.165	.236	HMSA7 P	**CR 17122**	
	2.320	.260	HMS4 R	**CR 17134**	
	2.362	.394	HMSA7 V	**CR 17330**	
	3.622	.748	HMSA7SP R	**CR 17193**	Bore-Tite
1.772	2.638	.315	HMSA7 V	**CR 17907**	
	2.638	.394	HMSA7 V	**CR 17921**	
	2.638	.472	HMSA7S V	**CR 17916**	
	3.130	.571	HMSA7S V	**CR 17683**	
1.811	2.283	.276	HMSA7 R	**CR 17897**	
	2.480	.300	HMS4 P	**CR 18014**	
	3.543	.630	HMSA7SP P	**CR 18000**	
1.875	2.716	.394	HMSA7 P	**CR 18623**	
	2.830	.391	HMS4 R	**CR 550185**	

Series HMS4 and HMSA7 – Inch sizes



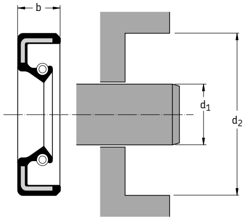
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.890	2.362	.276	HMSA7 P	**CR 18897**	
	2.624	.315	HMS4 S	**CR 18895**	
1.929	2.441	.441	HMSA7 P	**CR 19097**	
2.045	2.835	.618	HMSA7SP P	**CR 20445**	
2.047	2.677	.512	HMSA7SP R	**CR 20428**	
2.063	2.661	.188	HMS4 R	**CR 20525**	
2.086	2.685	.276	HMSA7 R	**CR 20906**	
2.125	2.953	.472	HMSA7 P	**CR 21128**	
2.205	2.843	.315	HMS4SPL P	**CR 22024**	
	2.953	.433	HMSA7SP R	**CR 22031**	
2.244	2.638	.236	HMSA7 R	**CR 22225**	
2.283	2.910	.390	HMSA7 P	**CR 22842**	
	2.953	.276	HMS4SPL P	**CR 22840**	
	3.197	.197	HMS4 S	**CR 22837**	
2.323	3.937	.394	HMSA7SP P	**CR 23286**	
2.362	3.228	.472	HMSA7 S	**CR 23446**	
2.519	5.236	.511	HMSA7SP R	**CR 25190**	
2.520	3.150	.315	HMS4 S	**CR 25171**	
2.559	3.189	.276	HMSA7 P	**CR 25518**	
	3.307	.354	HMSA7 S	**CR 25419**	Bore-Tite
2.638	3.503	.354	HMSA7 P	**CR 26387**	
2.677	3.307	.335	HMSA7 S	**CR 26625**	
2.717	3.380	.310	HMSA7 V	**CR 26749**	
	3.386	.315	HMSA7 P	**CR 26748**	
2.756	3.425	.335	HMSA7 S	**CR 27723**	
	3.844	.315	HMSA7 R	**CR 27764**	
2.832	3.622	.374	HMSA7 V	**CR 28332**	

Series HMS4 and HMSA7 – Inch sizes



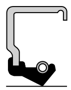
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
in				
2.835	3.780	.354	HMSA7 P	**CR 28308**
2.913	3.858	.472	HMSA7 P	**CR 29112**
2.992	3.623	.385	HMSA7 V	**CR 29862**
	3.858	.472	HMSA7 S	**CR 29685**
3.040	3.937	.250	HMS4 R	**CR 30360**
3.071	6.417	.630	HMSA7SP R	**CR 30771**
3.150	3.780	.354	HMSA7 V	**CR 31506**
	3.858	.393	HMSA7 V	**CR 31507**
3.228	3.791	.315	HMSA7 P	**CR 32283**
	3.920	.500	HMSA7 V	**CR 32289**
3.268	3.937	.354	HMSA7 V	**CR 32715**
3.307	4.094	.433	HMSA7 R	**CR 33405**
3.346	4.094	.354	HMSA7 P	**CR 33454**
3.375	3.948	.375	HMSA7 P	**CR 33628**
3.386	4.055	.315	HMSA7 V	**CR 33861**
3.425	3.937	.295	HMSA7 V	**CR 34115**
	3.937	.315	HMSA7 S	**CR 34120**
3.465	4.252	.427	HMS4 V	**CR 34611**
	4.252	.453	HMSA7 V	**CR 34116**
3.543	4.134	.394	HMSA7 V	**CR 35405**
	4.331	.354	HMSA7 S	**CR 35409**
	4.528	.512	HMSA7 P	**CR 35422**
3.583	4.370	.410	HMSA7 V	**CR 35910**
3.622	4.331	.374	HMSA7 V	**CR 36005**
3.625	4.240	.380	HMSA7 V	**CR 36147**
3.661	4.252	.394	HMSA7 P	**CR 36660**
	4.331	.276	HMSA7 V	**CR 36658**
	4.488	.551	HMSA7 V	**CR 36601**

Series HMS4 and HMSA7 – Inch sizes

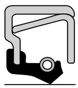


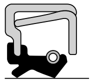
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
in				
3.740	4.646	.394	HMSA7 S	**CR 37030**
3.750	4.500	.381	HMSA7 P	**CR 37338**
	4.501	.376	HMS4 V	**CR 37341**
	4.501	.380	HMS4 S	**CR 37340**
	4.501	.380	HMSA7 V	**CR 37342**
3.778	4.567	.354	HMSA7 V	**CR 37570**
3.780	4.606	.472	HMSA7 S	**CR 37825**
3.898	4.331	.276	HMSA7 V	**CR 38883**
4.134	4.724	.433	HMSA7 V	**CR 41401**
4.400	5.230	.375	HMSA7 P	**CR 44000**
4.811	5.543	.472	HMSA7 V	**CR 48046**
10.000	11.000	.375	HMS4 R	**CR 100042**
12.750	13.625	.563	HMSA7 R	**CR 127540**

Series CRS


CRS1


CRSA1


CRSH1


CRSHA1

CRS1, CRSH1, CRSA1, CRSHA1: Radial shaft seals of high stiffness particularly for difficult or rough installation and operating conditions. Limited static sealing between outside diameter and housing bore.

CRS1: Seal with single steel shell, conventional sealing lip and carbon steel garter spring.

CRSA1: Seal with single steel shell, conventional sealing lip, carbon steel garter spring and a secondary, contacting (dust) lip.

CRSH1: Seal with double steel shell, conventional sealing lip and carbon steel garter spring.

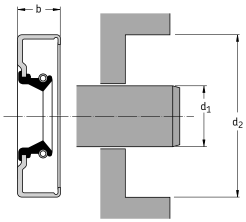
CRSHA1: Seal with double steel shell, conventional sealing lip, carbon steel garter spring and secondary, contacting (dust) lip.

Radial shaft seals of CRS design are stocked in a wide range of sizes. They are available in lip material R (NBR) for general purpose and in lip material V (FPM) for higher operating temperature and for extended chemical resistance.

Further information about material, application and operating conditions for CRS seals is shown in the seal selection chart on **page 98**.

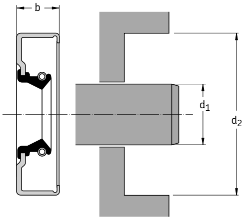
SKF

Series CRS – Metric sizes



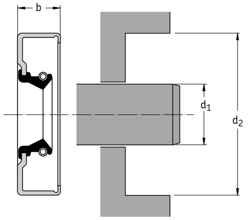
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
mm				
12	20	5	CRSA1 R	**CR 12×20×5 CRSA1 R**
13	28	7	CRS1 R	**CR 13×28×7 CRS1 R**
19	37	10	CRS1 V	**CR 19×37×10 CRS1 V**
20	30	5	CRS1 R	**CR 20×30×5 CRS1 R**
	30	7	CRS1 V	**CR 20×30×7 CRS1 V**
	32	7	CRS1 V	**CR 20×32×7 CRS1 V**
	42	7	CRS1 V	**CR 20×42×7 CRS1 V**
22	32	7	CRS1 V	**CR 22×32×7 CRS1 V**
24	38	10	CRS1 R	**CR 24×38×10 CRS1 R**
25	32	7	CRSA1 R	**CR 25×32×7 CRSA1 R**
	47	10	CRSA1 V	**CR 25×47×10 CRSA1 V**
	52	7	CRS1 R	**CR 25×52×7 CRS1 R**
26	35	7	CRS1 R	**CR 26×35×7 CRS1 R**
	42	8	CRS1 R	**CR 26×42×8 CRS1 R**
27	37	7	CRS1 V	**CR 27×37×7 CRS1 V**
	41	10	CRSH1 R	**CR 27×41×10 CRSH1 R**
28	62	12	CRSH1 R	**CR 28×62×12 CRSH1 R**
30	45	8	CRS1 V	**CR 30×45×8 CRS1 V**
	52	9	CRSH1 R	**CR 30×52×9 CRSH1 R**
32	46	8	CRS1 R	**CR 32×46×8 CRS1 R**
34	52	10	CRS1 R	**CR 34×52×10 CRS1 R**
	54	11	CRS1 R	**CR 34×54×11 CRS1 R**
35	64	8	CRSA1 P	**CR 35×64×8 CRSA1 P**
	65	12	CRSA1 R	**CR 35×65×12 CRSA1 R**
36	46	9	CRS1 R	**CR 36×46×9 CRS1 R**
	56	10	CRS1 R	**CR 36×56×10 CRS1 R**

Series CRS – Metric sizes



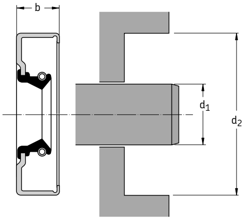
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
mm				
37	55	10	CRSH1 R	**CR 37×55×10 CRSH1 R**
40	55	10	CRS1 R	**CR 40×55×10 CRS1 R**
	60	10	CRSA1 R	**CR 40×60×10 CRSA1 R**
42	62	10	CRS1 R	**CR 42×62×10 CRS1 R**
43	62	10	CRSH1 R	**CR 43×62×10 CRSH1 R**
45	58	9	CRSA1 R	**CR 45×58×9 CRSA1 R**
	62	7	CRSA1 R	**CR 45×62×7 CRSA1 R**
48	70	9	CRSA1 R	**CR 48×70×9 CRSA1 R**
50	62	7	CRS1 R	**CR 50×62×7 CRS1 R**
	62	10	CRS1 R	**CR 50×62×10 CRS1 R**
	85	13	CRSH1 R	**CR 50×85×13 CRSH1 R**
54	72	10	CRSA1 R	**CR 54×72×10 CRSA1 R**
	80	10	CRSH1 R	**CR 54×80×10 CRSH1 R**
57	72	10	CRSH1 R	**CR 57×72×10 CRSH1 R**
58	85	13	CRSH1 R	**CR 58×85×13 CRSH1 R**
59	75	10	CRSA1 R	**CR 59×75×10 CRSA1 R**
60	70	7	CRS1 R	**CR 60×70×7 CRS1 R**
	78	9	CRS1 R	**CR 60×78×9 CRS1 R**
	80	10	CRSHA1 R	**CR 60×80×10 CRSHA1 R**
	90	10	CRSH1 R	**CR 60×90×10 CRSH1 R**
62	75	10	CRS1 R	**CR 62×75×10 CRS1 R**
66	80	8,9	CRSHA1 R	**CR 66×80×8,9 CRSHA1 R**
	85	10	CRSHA1 R	**CR 66×85×10 CRSHA1 R**
	90	13	CRSH1 R	**CR 66×90×13 CRSH1 R**
68	85	10	CRS1 R	**CR 68×85×10 CRS1 R**

Series CRS – Metric sizes



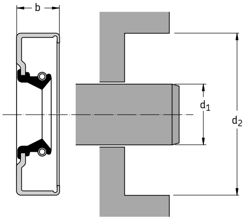
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
mm				
74	100	13	CRSH1 R	**CR 74×100×13 CRSH1 R**
75	115	13	CRSH1 R	**CR 75×115×13 CRSH1 R**
80	100	13	CRSA1 R	**CR 80×100×13 CRSA1 R**
	125	13	CRSH1 R	**CR 80×125×13 CRSH1 R**
85	100	9	CRS1 R	**CR 85×100×9 CRS1 R**
88	110	13	CRSH1 R	**CR 88×110×13 CRSH1 R**
90	125	13	CRSH1 R	**CR 90×125×13 CRSH1 R**
95	110	9	CRS1 R	**CR 95×110×9 CRS1 R**
100	120	13	CRSH1 R	**CR 100×120×13 CRSH1 R**
105	125	12	CRS1 R	**CR 105×125×12 CRS1 R**
107	123	11	CRSA1 R	**CR 107×123×11 CRSA1 R**
108	130	13	CRSH1 R	**CR 108×130×13 CRSH1 R**
113	140	13	CRSH1 R	**CR 113×140×13 CRSH1 R**
115	160	15	CRSH1 R	**CR 115×160×15 CRSH1 R**
120	150	15	CRSH1 R	**CR 120×150×15 CRSH1 R**
125	146	14	CRSA1 P	**CR 125×146×14 CRSA1 P**
126	147	11	CRSA1 R	**CR 126×147×11 CRSA1 R**
130	150	10	CRSA1 R	**CR 130×150×10 CRSA1 R**
	150	14	CRSA1 R	**CR 130×150×14 CRSA1 R**
	155	10	CRSH1 R	**CR 130×155×10 CRSH1 R**
	160	13	CRS1 R	**CR 130×160×13 CRS1 R**
	160	13	CRSA1 R	**CR 130×160×13 CRSA1 R**
	165	13	CRSH1 R	**CR 130×165×13 CRSH1 R**

Series CRS – Metric sizes



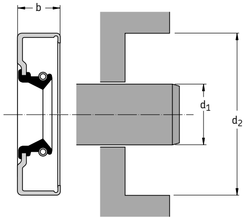
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation
mm				
135	160	13	CRSH1 R	**CR 135×160×13 CRSH1 R**
	170	15	CRSH1 R	**CR 135×170×15 CRSH1 R**
138	152	12	CRSA1 R	**CR 138×152×12 CRSA1 R**
145	164	14	CRSA1 R	**CR 145×164×14 CRSA1 R**
	175	14	CRS1 R	**CR 145×175×14 CRS1 R**
150	170	15	CRSH1 R	**CR 150×170×15 CRSH1 R**
	180	13	CRSH1 R	**CR 150×180×13 CRSH1 R**
	200	15	CRSH1 R	**CR 150×200×15 CRSH1 R**
154	175	13	CRSA1 R	**CR 154×175×13 CRSA1 R**
160	185	13	CRSA1 V	**CR 160×185×13 CRSA1 V**
168	200	15	CRSH1 R	**CR 168×200×15 CRSH1 R**
170	190	15	CRSH1 R	**CR 170×190×15 CRSH1 R**
180	200	12	CRS1 R	**CR 180×200×12 CRS1 R**
	215	16	CRS1 R	**CR 180×215×16 CRS1 R**
	220	16	CRSA1 R	**CR 180×220×16 CRSA1 R**
190	215	16	CRSH1 R	**CR 190×215×16 CRSH1 R**
195	230	15	CRSH1 R	**CR 195×230×15 CRSH1 R**
200	250	15	CRSH1 R	**CR 200×250×15 CRSH1 R**
260	300	20	CRS1 R	**CR 260×300×20 CRS1 R**

Series CRS – Inch sizes



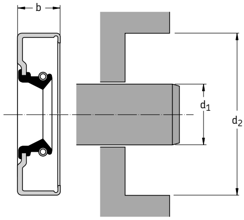
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
.438	.875	.313	CRSH1 R	**CR 4248**	Bore-Tite
.500	1.006	.250	CRS1 R	**CR 5001**	
.531	1.124	.313	CRSA1 R	**CR 5334**	
.594	1.250	.313	CRSA1 R	**CR 5950**	
	1.375	.313	CRSA1 R	**CR 5966**	Bore-Tite
.669	1.339	.311	CRSA1 P	**CR 6992**	
.709	1.339	.315	CRSA1 P	**CR 7089**	
.781	1.752	.313	CRSHA1 R	**CR 8213**	
.844	1.828	.313	CRSA1 R	**CR 8485**	
.945	1.575	.315	CRS1 R	**CR 9515**	
.969	2.048	.375	CRS1 R	**CR 9688**	Bore-Tite
1.125	2.835	.375	CRSA1 R	**CR 11405**	Bore-Tite
	2.875	.469	CRSH1 R	**CR 11410**	Bore-Tite
1.156	2.125	.438	CRSH1 R	**CR 11566**	Bore-Tite
1.219	2.000	.438	CRSH1 R	**CR 12131**	Bore-Tite
1.250	2.561	.500	CRSH1 R	**CR 12655**	
	2.713	.469	CRSH1 R	**CR 12660**	Bore-Tite
	3.156	.500	CRSH1 R	**CR 12678**	
1.301	2.000	.438	CRSA1 P	**CR 12905**	
1.313	1.874	.375	CRSA1 R	**CR 13027**	Bore-Tite
	2.000	.313	CRSA1 R	**CR 13037**	Bore-Tite
	2.106	.375	CRSA1 R	**CR 13084**	Bore-Tite
	2.996	.500	CRSH1 R	**CR 13275**	Bore-Tite
1.328	2.312	.433	CRS1 R	**CR 13419**	Bore-Tite

Series CRS – Inch sizes



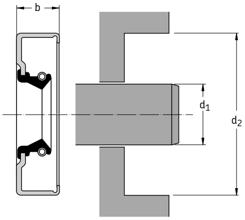
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
1.362	2.191	.250	CRS1 P	**CR 13500**	
1.375	2.750	.500	CRSH1 R	**CR 13906**	Bore-Tite
	3.000	.500	CRSHA1 R	**CR 13937**	
	3.125	.500	CRSH1 R	**CR 13936**	
	3.350	.469	CRSH1 R	**CR 13934**	Bore-Tite
1.399	2.292	.469	CRSA1 R	**CR 13992**	Bore-Tite
	2.292	.500	CRSA1 R	**CR 13990**	Bore-Tite
1.414	2.250	.250	CRSHA1 R	**CR 14035**	Bore-Tite
1.469	2.374	.375	CRSA1 R	**CR 14641**	Bore-Tite
1.491	2.191	.250	CRSA1 R	**CR 14780**	
1.500	2.996	.500	CRSH1 R	**CR 15240**	
	3.000	.375	CRSA1 R	**CR 15241**	
1.524	2.374	.500	CRSH1 R	**CR 15343**	
1.563	2.716	.469	CRSH1 R	**CR 15748**	Bore-Tite
1.618	2.575	.500	CRSA1 R	**CR 16044**	Bore-Tite
1.625	2.437	.469	CRSHA1 R	**CR 16121**	
	2.835	.469	CRSH1 R	**CR 16386**	Bore-Tite
	3.062	.500	CRSH1 R	**CR 16431**	Bore-Tite
	3.251	.500	CRSH1 R	**CR 16440**	
1.656	2.502	.500	CRSH1 R	**CR 16532**	Bore-Tite
1.688	2.374	.313	CRSA1 R	**CR 16669**	
	2.835	.469	CRSA1 R	**CR 16960**	
1.705	3.084	.500	CRS1 R	**CR 17053**	
1.719	2.623	.500	CRSH1 R	**CR 17136**	Bore-Tite
1.750	2.328	.438	CRS1 R	**CR 17257**	
	3.154	.313	CRS1 R	**CR 17726**	

Series CRS – Inch sizes



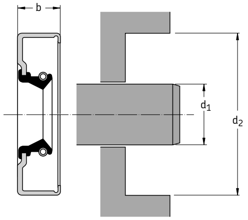
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
	3.937	.313	CRSA1 R	**CR 17771**	Bore-Tite
1.781	2.750	.500	CRSH1 R	**CR 17847**	
	2.758	.500	CRSH1 R	**CR 17851**	Bore-Tite
1.844	2.502	.375	CRSA1 R	**CR 18412**	Bore-Tite
	2.750	.375	CRSA1 R	**CR 18446**	Bore-Tite
1.875	3.125	.313	CRSA1 R	**CR 18879**	Bore-Tite
1.889	3.110	.688	CRSA1 P	**CR 18983**	
1.890	2.874	.276	CRSA1 P	**CR 18979**	
1.906	3.189	.313	CRSA1 P	**CR 19062**	
1.938	2.762	.500	CRSA1 R	**CR 19273**	Bore-Tite
	2.825	.500	CRSH1 P	**CR 19274**	
	3.751	.500	CRSH1 R	**CR 19466**	Bore-Tite
1.969	2.638	.354	CRSA1 R	**CR 19628**	
	2.686	.500	CRSH1 R	**CR 19615**	
	2.742	.500	CRSH1 P	**CR 19620**	
	2.875	.469	CRSH1 R	**CR 19643**	
2.008	2.953	.354	CRSA1 P	**CR 20012**	
2.063	2.875	.375	CRSA1 R	**CR 550085**	Bore-Tite
2.125	3.623	.469	CRSA1 P	**CR 21379**	
2.145	3.188	.469	CRSH1 R	**CR 21538**	
2.188	3.623	.500	CRSHA1 R	**CR 21950**	
2.432	3.070	.227	CRSA1 P	**CR 24110**	
2.563	3.500	.500	CRSHA1 P	**CR 25587**	
2.648	3.812	.500	CRS1 R	**CR 26877**	

Series CRS – Inch sizes



Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
2.750	4.125	.438	CRS1 P	**CR 27576**	Bore-Tite
	4.125	.563	CRSA1 R	**CR 27577**	
2.875	3.434	.294	CRSA1 R	**CR 28646**	Bore-Tite
	3.434	.294	CRSA1 R	**CR 546158**	Bore-Tite
2.913	3.543	.394	CRS1 P	**CR 29105**	
3.125	3.936	.512	CRSA1 V	**CR 31144**	Bore-Tite
3.250	3.876	.375	CRSA1 V	**CR 32332**	Bore-Tite
	4.125	.563	CRSH1 R	**CR 32362**	Bore-Tite
3.298	4.125	.563	CRSA1 R	**CR 32815**	Bore-Tite
3.469	4.626	.625	CRSA1 R	**CR 34700**	
3.500	5.751	.563	CRSH1 R	**CR 35111**	Bore-Tite
3.504	4.173	.354	CRSA1 V	**CR 35120**	
3.813	4.999	.469	CRSH1 R	**CR 38160**	
	5.251	.469	CRSH1 R	**CR 38220**	Bore-Tite
3.875	5.501	.500	CRSHA1 R	**CR 38749**	Bore-Tite
	5.751	.563	CRSH1 R	**CR 38810**	
3.898	4.680	.370	CRSA1 VR	**CR 38880**	
4.188	4.999	.469	CRSHA1 R	**CR 41751**	
	5.251	.469	CRSH1 R	**CR 41761**	
	5.751	.500	CRSHA1 R	**CR 41833**	
4.313	5.751	.500	CRSH1 R	**CR 43131**	
4.563	5.751	.500	CRSHA1 R	**CR 45550**	
	6.250	.500	CRSH1 R	**CR 45560**	
5.000	7.000	.500	CRSHA1 R	**CR 50185**	
	7.500	.500	CRSHA1 R	**CR 50195**	

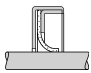
Series CRS – Inch sizes

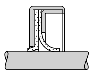


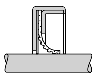
Dimensions shaft d_1	bore d_2	seal width b	Design and lip material	SKF Designation	
in					
5.125	6.500	.500	CRSHA1 R	**CR 51276**	
5.250	6.375	.500	CRSHA1 R	**CR 52487**	
5.313	6.500	.500	CRSHA1 R	**CR 53151**	
5.375	6.374	.500	CRSHA1 R	**CR 53688**	Bore-Tite
	6.499	.563	CRSH1 R	**CR 53692**	
5.500	6.626	.563	CRSHA1 R	**CR 54949**	
	6.876	.563	CRSHA1 R	**CR 55157**	
	7.501	.563	CRSH1 R	**CR 55179**	
5.750	6.876	.563	CRSHA1 R	**CR 57519**	
	7.126	.563	CRSHA1 R	**CR 57578**	
	7.502	.563	CRSHA1 R	**CR 57584**	
6.000	7.002	.500	CRSHA1 R	**CR 60006**	Bore-Tite
	7.126	.563	CRSHA1 R	**CR 60004**	
6.062	6.772	.551	CRSA1 R	**CR 60620**	
6.125	7.502	.563	CRSHA1 R	**CR 61248**	Bore-Tite
6.188	7.500	.563	CRSH1 P	**CR 61840**	
7.000	8.375	.625	CRSHA1 R	**CR 70034**	
7.750	9.000	.650	CRSH1 R	**CR 77530**	

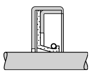
Radial shaft seals of PTFE

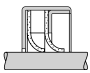
Radial shaft seals of PTFE with metal case, series RD

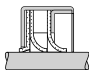

RD10


RD11


RD30


RD60


RD70


RD71

Radial shaft seals with one or more sealing lip(s) of PTFE are designed to withstand e.g. aggressive environments, high temperatures, high pressures and non-lubricated services that traditional radial seals do not withstand.

Radial shaft seals series RD are designed with a PTFE lip fastened in a metal case. Housing dimensions according to DIN 3760 or special designs.

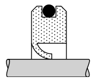
Radial shaft seals series RD can be assembled in existing housing grooves where traditional radial seals are used, provided that they are produced in accordance with DIN 3760.

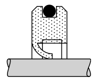
Series RD can be delivered with a metal case of steel, aluminium and the stainless steel materials M1 SS 304, SS 316 and SS 316 TI.

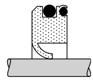
The PTFE material is to be chosen among several materials in order to adjust to each application's specific demands.

Advantages:
- ☐ High chemical resistance
- ☐ Withstands speeds up tp 30 m/s
- ☐ Wide operating temperature range –70°C – +250°C
- ☐ Withstands pressures up to 3,5 MPa
- ☐ Withstands non-lubricated service
- ☐ FDA approved materials available

Radial shaft seals of PTFE without metal case, series RDD


RDD13


RDD14


RDD15

Radial shaft seals can also be produced purely of PTFE without a metal case. These are used e.g. in the food industry to enable dismounting of the equipment for cleaning. Radial lip seals of PTFE are also suitable for applications in aggressive environments or with temperatures below –20°C.

Type RDD without metal case has the same housing dimensions and the same technical specifications as type RD with a metal case.

Materials

The choice of seal materials always includes a compromise between advantages and disadvantages. Radial shaft seals can be delivered in several different PTFE materials. The materials which we most often suggest are stated below.

There are many hundreds of different PTFE materials with variants of fillers, e.g. glass fibre, carbon, graphite, molybdenum disulphide, metal oxides, polymeric fillers and combinations of different fillers. Each possesses different properties appropriate for different applications and working conditions.

Unfilled PTFE provides most often a lower friction than a filled PTFE material and the lowest degree of wear of the cylinder tube surface. However, its own resistance to wear and deformation under load is limited.

Common for all filled PTFE materials is their different degree of better resistance to wear and deformation.

Material codes, sealing lip

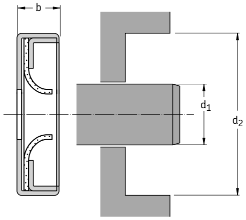
Code	MS	Material type
AI	141	PTFE + glass fibre (FDA approved)
AC	271	PTFE +Polyoxybenzoate (polymer)
AJ	443	PFA (FDA approved)
AC	831	PTFE + organic pigment (FDA approved)
AL	910	PTFE + carbon fibre + MoS_2

Material codes, metal case

Code	Material type
A	M1 Carbon steel
B	SS 304 Standard material
C	SS 316 Acidproof steel
D	SS 316 TI Stainless steel with titanium

All series can be delivered with a special design regarding groove dimensions and material properties in order to obtain optimal solution.

Series RD and RDD – Metric sizes

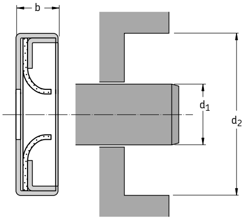


Design code and material code should be stated when ordering SKF Radial shaft seals of PTFE.
For choice of adequate design and material, please see **page 194** and **195** or contact your SKF representative.

Dimensions shaft d_1	bore d_2	seal width b
mm		
6	16	7
	22	7
7	22	7
8	22	7
	24	7
9	22	7
10	22	7
	25	7
12	24	7
	25	7
	30	7
15	26	7
	30	7
	35	7
16	30	7
18	30	7
	35	7
20	35	7
	40	7
22	35	7
	40	7
	47	7
25	40	7
	47	7
	52	7
28	40	7
	47	7
	52	7

Dimensions shaft d_1	bore d_2	seal width b
mm		
30	42	7
	47	7
	52	7
32	45	8
	47	8
	52	8
35	50	8
	52	8
	55	8
38	55	8
	58	8
	62	8
40	55	8
	62	8
42	55	8
	62	8
45	62	8
	65	8
50	68	8
	72	8
55	72	8
	80	8
60	80	8
	85	8
65	85	10
65	90	10
70	90	10
	95	10

Series RD and RDD – Metric sizes



Dimensions shaft d_1	bore d_2	seal width b
mm		
75	95	10
	100	10
80	100	10
	110	10
85	110	12
	120	12
90	120	12
95	120	12
100	125	12
110	140	12
120	150	12
130	160	12
140	170	15
150	180	15
160	190	15
170	200	15
180	210	15
190	220	15
200	230	15
220	250	15
240	270	15
260	300	15
280	320	20
300	340	20
320	360	20
340	380	20
360	400	20
380	420	20
400	440	20

Large diameter radial shaft seals (LDS), standard designs

General
Heavy basic industries such as primary metals, construction, wind energy, forestry, mining and pulp and paper, provide a challenging environment for radial shaft seals. Operating in a wide range of speeds, temperatures and environmental conditions, shaft seals are asked to reliably retain lubrication while avoiding harsh contamination from penetrating and potentially damaging capital equipment. Generally, seals for shaft diameters larger than 200 mm or 8 in are known as large diameter seals (LDS).

Special design features for large diameter seals

Spacer lugs
Spacer lugs may be furnished on all metal clad designs to separate seals in multiple installations and provide space for lubrication. (**fig 68**).

The traditional fixed-width lugs are 9,5 mm (0.375 in) in diameter and are available in widths from 4,9 mm (0.125 in) to 12,7 mm (0.5 in) in increments of 1,6 mm (0.0625 in). The fixed-width lug is an available option on all metal clad seals except HDS3. All HDS3 style seals come standard with adjustable lugs. This new concept allows the user to adjust lug widths on the spot to suit individual requirements.

All adjustable lugs are 9,5 mm (0.375 in) in diameter and 12,7 mm (0.5 in) in width. They may be adjusted to smaller widths in 1,6 mm (0.0625 in) increments simply by removing the steel washers. Also, the lugs may be removed entirely.

Certain small cross sections may require special narrow diameter 5,33 mm (0.210 in) lugs with a width range of 1,6 to 3,2 mm (0.0625 to 0.125 in)

The lugs are placed around the heel of the seal in four, six or eight equally-spaced locations, depending on the seal outer diameter (**Table 18**).

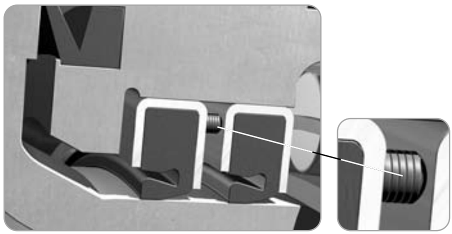


Fig 68. Spacer lug

Table 18. Number of spacer lugs needed

Spacer lugs	Seal outside diameter from	incl.	from	incl.
pcs.	mm		in	
4		762		30
6	762	1143	30	45
8	1143		45	

Spring-Lock
Spring-Lock is a sealing lip feature that surrounds 270° of the garter spring's diameter (**fig 69**). The Spring-Lock helps hold the spring in position during seal handling, installation and removal. It is standard on all HDS and HS seals.

Spring-Kover
In applications where dirt, water or other contaminants may pose serious problems or where installation could jar the spring out of place, Spring-Kover can be specified. Spring-Kover is a flexible covering over the exposed portion of the stainless steel garter spring (**fig 70**). It protects the spring without adversely affecting the spring's capability. Spring-Kover is available on all seals except HS3.

Bore-Tite®
Bore-Tite is a water based acrylate sealant that is an option available on most SKF metal clad seals. The sealant is used as a coating on the outside diameter of the seal (**fig 71**). The Bore-Tite layer is pliable with a thickness of 0,03 to 0,07 mm (0.0012 to 0.0028 in), allowing the sealant to help fill small imperfections in the housing bore. Bore-Tite can be used at temperatures up to 200 °C and is compatible with most oils, greases, aqueous acids and alkalis, alcohols and glycols. Please note that Bore-Tite is not compatible with aromatics, ketones and esters. Incidental contact with these substances will have little to no effect if wiped off quickly.


Fig 69. Spring-Lock

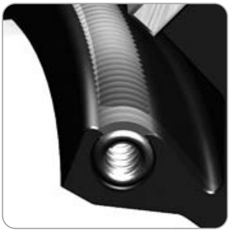


Fig 70. Spring-Kover

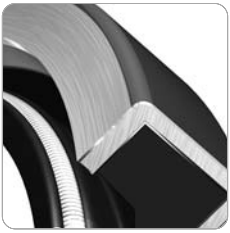
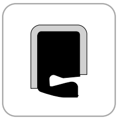


Fig 71. Bore-Tite

HDS7

Metal clad seal series

General

The most popular seal group in the SKF LDS line is the metal clad seal series with the HD seal designs.

The HD designs include the highly engineered HDS7, the ultra-high performance HDL and the reliable HDS1, HDS2 and HDS3 seal. SKF HD seals are specifically designed to withstand the extreme conditions encountered in heavy-duty applications.

The seals perform exceptionally well in the highly contaminated environment of metal rolling mills, the high speed and high temperature environment of paper mills, as well as more universal applications such as industrial gearboxes. The metal clad seal series has a product to perform in almost any industrial application.

Type HDS7

Water and solid contamination particles are common causes for bearing failures. SKF has developed the HDS7 as a grease seal with enhanced exclusion capabilities.

The highly engineered HDS7 features a computer optimized, springless lip profile designed to retain lubricants and aggressively pump contamination away from the lip. The increased ability of the HDS7 to exclude contamination makes it an ideal equipment protector in heavily contaminated environments such as the water and scale present in rolling mill applications. The springless lip concept of the HDS7 also reduces radial load.

The HDS7 is available in a nitrile lip material for common applications, Duratemp® for higher temperature conditions and Duralip® for applications where extra abrasion resistance is necessary.

It is important to note that the HDS7 is not available in FPM (LongLife®) material.

The HDS7 is available in all shaft sizes ranging from 200 to 1 575 mm (8 to 62 in). Spacer lugs are available for any configuration, see **page 198** for further information.

HDL seals

The HDL is a premium metal clad oil seal that is especially designed to operate in severe conditions including high speeds and temperatures, high runout and high misalignment. The excellent high-speed performance characteristics of the HDL make it the preferred design in the severe environment encountered in the rolls of the papermaking machines.

The HDL features a stainless steel garter spring that is entrapped by individual finger springs, also made of stainless steel, around the entire circumference of the seal.

The spring combination allows the seal to compensate for severe conditions in order to maintain high levels of sealing performance, operational life and equipment reliability.

The HDL series also comprises type HDLA with a secondary (dust) lip for extra protection against contaminations.

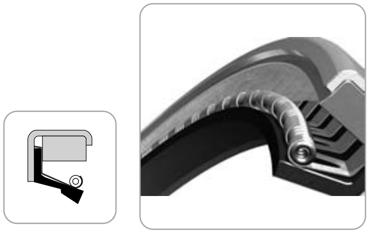
The HDL is available in lip material nitrile rubber, Duratemp and LongLife (**pages 28** and **29**), ensuring that the HDL will perform regardless of speed or temperature. Spacer lugs are available for all products within the HDL line. Available HDL sizes can be found in the size listing (**page 214** to **243**).

HDS1, HDS2 and HDS3

The most commonly used metal clad seal is the HDS series for general purpose applications. HDS seals are divided into the HDS1, HDS2 and HDS3 categories.

All three seal versions are encased in a heavy-duty steel shell and a SAE 302 series stainless steel spring is standard.

The basic HDS1 has its stainless steel spring mounted in a protective Spring-Lock groove. Where blind installations may increase the risk of spring displacement, the type HDS2 adds a Spring-Kover that bonds the spring into the groove. The HDS3 adds a spark-free inner diameter, standard Duralip material and


HDL


HDS1


HDS2


HDS3


HDSA


HDSB


HDSC

adjustable spacer lugs. The adjustable lugs are optional on all other HDS models, as are fixed width lugs (**page 198**).

The HDS seal product line is available in a wide variety of rubber materials in all sizes ranging from 200 to 1 575 mm (8 to 62 in) (**Table 20, page 211** and **Table 21, page 212**). Nitrile is standard on all HDS seals (with the exception of the HDS3 where Duralip is standard), however all seal types can also be ordered in Duralip, Duratemp or LongLife elastomers (**page 28** to **29**).

HD metal clad seal options

For enhanced exclusion performance, the HD metal clad seals are available in different styles to best meet the needs of your application. Each style is primarily based on HDS1, HDS2, HDS3 or HDS7 and is available with auxiliary elements for special applications.

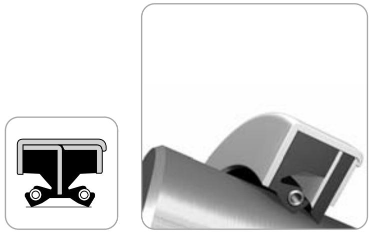
HDSA, HDSB and HDSC

These seals are designed with a single rubber sealing element and an auxiliary exclusion element. For shaft sizes up to 550 mm (21.750 in), the excluder lip is made of Duralip material. Leather is used for larger shafts. These styles are generally used where there is insufficient space for more than one seal.

The HDSA, HDSB and HDSC seal product lines are available in sizes ranging from 203 to 1 016 mm (8 to 40 in) (**Table 20** on **page 211**).

HDSD

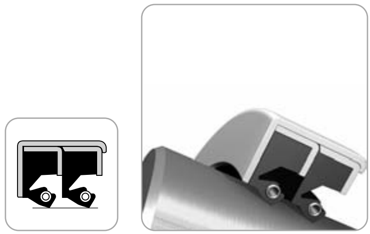
The HDSD seal types are designed with dual sealing elements with lips facing in opposite directions. This style is used for applications requiring the separation of two fluids. When using an HDSD seal, it is very important to provide a means to lubricate the sealing elements (i.e. the cavity between the sealing elements may be packed with grease or holes may be drilled from the outer diameter into the cavity between the lips).



HDSD

HDSE

This style features dual elements with lips facing in the same direction. This seal type is used where a back-up seal is desired for retention or exclusion purposes. As with the HDSD type, a means of lubricating the seals is necessary for a proper sealing function.



HDSE

Available sizes

The HDSD and HDSE seal product lines are available in sizes ranging from 203 to 1 346 mm (8 to 53 in) (**Table 20** on **page 211**).

Rubber covered seals

General

The SKF rubber covered seals include metal inserted (SBF), fabric-reinforced (HSF) and all-rubber (HS) products. The fabric-reinforced and all-rubber versions are available as solid round or with an open joint or split.

The rubber covered and all-rubber seals offer designers and operators of rotating equipment a number of important operating and installation benefits. They do not score the bore even after repeated installations and extractions. This prevents damage to the metal that can cause bypass leakage. Rubber covered and all-rubber seals accept rougher bore finishes, reducing machining costs. They are especially helpful for split housings. They resist corrosion and will not seize in the bore even years after assembly.

Due to lower press-in forces, rubber covered seals are often easier to install particularly in the field or confined spaces. They can be fitted by hand or with simple hand tools even when the diameters are very large. Further, in the case of split seals there is no need to dismount the shaft or other machine components.

Metal inserted seals series SBF

The SBF seal design is a new rubber outside diameter seal with a flexible metal stiffening ring that allows mounting without the use of a cover plate. The SBF seal can be used as an upgrade to rubber fabric seals in many applications that are either grease or oil lubricated. The SBF seals are available in both NBR and LongLife (FPM) (**page 28**) with optional Spring-Kover (**page 199**).

Available SBF sizes can be found in the size listing (**page 244** to **245**).

SBF

Metal inserted seals series HDS4 and HDS6

The HDS4 features a patented molded-in garter spring, which cannot be displaced during difficult installations and provides superior oil sealability while minimizing wear. The HDS6 is a springless version designed for grease retention and contamination exclusion. Nitrile rubber is standard and can be ordered in the full range of HDS rubber compounds.

Both HDS4 and HDS6 are equipped with moulded 12,7 mm (0.5 in) spacer lugs, which can be trimmed or removed if necessary. The HDS4 and HDS6 are stocked in a limited range of sizes; see **Table 21** on **page 212** or contact us for information on availability and new size additions.

HDS4

HDS6

HSF5 (solid), HSF1 (split)

HSF6 (solid), HSF2 (split)

HSF7 (solid), HSF3 (split)

Fabric-reinforced seals series HSF

The HSF seal types consist of the HSF5, HSF6, HSF7 and HSF8 solid seal styles and their split versions HSF1, HSF2, HSF3 and HSF4. There is also a pressure profile HSF9 in solid version only. These seal styles are mainly used in heavy-duty applications such as gear drives, propeller shafts, cold and hot mill work rolls, pumps, paper machinery, etc.

The HSF5, HSF6 and HSF7 are fabric-reinforced seals that have a strong, flexible, textile rubber back instead of a metal case. The HSF5 is the standard single lip rubber fabric seal. The HSF6 adds radial lubrication grooves in the back of the seal and the HSF7 adds a circumferential lubrication groove. The HSF8 offers a dust-lip version of the standard seal.

To attain optimum sealing performance, a retaining or cover plate is necessary to properly install and apply all HSF seal types. The plate creates an axial preload that ensures reliable static sealing performance of the seal. The plate should also be designed to avoid seal distortion upon assembly. The HSF seal types are available in NBR and FPM material.

Available HSF sizes can be found in the product tables (**page 246** to **277**).

All-rubber seals series HS

Type HS seals, available in solid round and split designs, are all-rubber, large diameter seals designed without an outer shell or metal case. HS solid and split large diameter seals are cataloged by shaft size and priced by the dimensions of the bore for which they are designed. The actual seal outside diameter is approximately 0,5 % to 2 % larger than the seal housing bore. Actual seal width is approximately 0,4 to 0,8 mm (0.016 to 0.031 in) wider than the bore depth. A cover plate is required to compress the seal within the cavity, helping seal the split joint and prevent leakage.

A garter-type spring embedded in the sealing element reinforces lip pressure against the shaft.

The HS solid and split seal product line is available in sizes ranging from 203 to 4 572 mm (8 to 180 in) (**Table 22** on **page 213**).

HS solid seal types

HS solid seals can be made as standard types from 203 mm (8 in) up to unlimited shaft size. There are two types:

HS4

HS4 seal is an all-rubber solid seal with a single spring-loaded element. It features a Spring-Lock (page 20) and is recommended for vertical and horizontal shafts. For proper fit, a cover plate is required.

HS5

HS5 is the same as HS4 with the addition of a Spring-Kover (page 20) for added protection against spring pop-out and contamination.

HS4

HS5


HS6


HS7

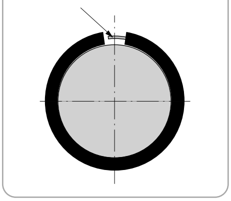


Fig 72. Seal control wire feature, used on HS7

HS split seal types

Where downtime is critical and shaft removal is impractical, type HS all-rubber split seals are ideal. They are simply placed around the shaft and pushed into the seal bore, then held firmly by a cover plate, which compresses the split joint together. HS split seals perform best with grease or heavy lubricants as well as with light lubricants, placed no higher than the shaft centreline. Horizontal shafts are preferred with the split placed in the 12 o'clock position. HS split seals are available in a wide variety of types, styles and materials.

HS6

HS6 is an all-rubber split seal with a single spring-loaded element and a Spring-Lock (**page 199**). HS6 features a separate loose spring and a positive spring connection. Generally, the spring connection is of the hook-and-eye type for shafts over 457 mm (18 in) and a threaded-type connection for smaller sizes. For proper fit, a cover plate is required.

HS7

HS7 is an all-rubber split seal with a single spring-loaded element, which has both a Spring-Lock and a Spring-Kover (**page 199**). A control-wire spring connector is used to join the seal together (**fig 72**). HS7 does not have the high performance as other HS types, but it is the easiest one to install. The spring is completely enclosed and the connection is simply made by running the control wire into the center of the spring coil across the split (butt joint). Spring tension to hold the sealing lip on the shaft is built-in at the factory. For proper fit, a cover plate is required. Due to the unique design that permits easier installation, please note that a gap may occur at the joint even after the cover plate is installed. Special attention to place the gap at the 12 o'clock position during installation is necessary.

HS8

HS8 is an all-rubber split seal with a single spring-loaded element, Spring-Lock, Spring-Kover (**page 199**) and a positive spring connection. The spring is entirely enclosed except for a small portion on either side of the split. HS8 provides the most positive seal of all the split types and is the preferred design for use with lighter lubricant retention and water exclusion. HS8 performs best on horizontal shafts, but may also be used on vertical shafts. For proper fit, a cover plate is required.

HS8

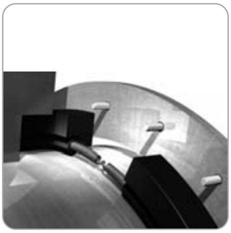


Fig 73. Hook-and-eye spring connection

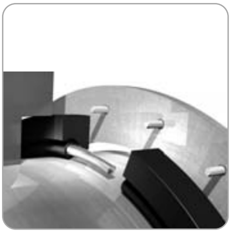


Fig 74. Threaded spring connection

Spring connections for split seal types
The SAE 302 stainless steel garter springs are supplied loosely (separately) in the HS6 style. The springs are factory-installed and encased with Spring-Kover (**page 199**) in the HS7 and HS8 styles. In styles HS6 and HS8, the spring connection is generally of the hook-and-eye type for shafts over 457 mm (18 in) in diameter (**fig 73**) and of the threaded type for smaller sizes (**fig 74**). It is recommended for sealing light oils as well as heavy greases.

The special control-wire type is available only in the HS7 design for all shaft sizes and recommended for grease only. Where positive spring connections are made, the connection should be offset to the left or right of the split for maximum efficiency. See also **Table 19**.

Table 19. Spring arrangements for HS seals

Features	Solid Types HS4	HS5	Split Types HS6	HS7	HS8
Spring groove type	Spring-Lock	Spring-Lock	Spring-Lock	Spring-Lock	Spring-Lock
Spring connection	Factory made	Factory made	Threaded/ Hook-and-Eye	Control wire	Threaded/
Spring-Kover	None covered	100%	None covered	100% except ends	Covered

Size and type listing

Size options of HDS metal clad seals

To accommodate almost every application, HDS seal designs are available on a “made-to-order basis”.

Please see **Table 20** for the available sizes and cross sections of the different types and contact us for further information about delivery time.

Size listing of HDS4 and HDS6

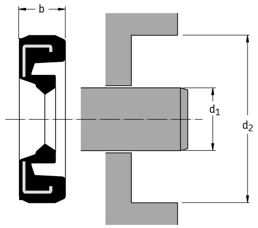
The rubber covered HDS4 and HDS6 seals are currently stocked in the range of sizes listed in **Table 21, page 212**. Please contact us for availability and new size additions.

Table 20. Preferred standard metal clad seals sections

Seal type	Bore diameter[1]		Shaft size[2]		Difference between bore and shaft		Width	
	from	to	from	to	from	to	from	to
–	mm (*in*)		mm (*in*)		mm (*in*)		mm (*in*)	
HDS7	234,95 *9.250*	1 638,30 *64.500*	203,20 *8.000*	1 574,80 *62.00*	31,75 *1.250*	63,50 *2.500*	15,88 *0.625*	31,75 *1.250*
HDS1, HDS2, HDS3	234,34 *9.226*	1 651 *65.000*	203,20 *8.000*	1 574,80 *62.000*	31,14 *1.226*	76,20 *3.000*	15,88 *0.625*	38,01 *1.500*
HDSA, HDSB, HDSC	234,34 *9.226*	1 092 *43.000*	203,20 *8.000*	1 016 *40.000*	31,14 *1.226*	76,20 *3.000*	22,23 *0.875*	38,10 *1.500*
HDSD, HDSE	234,43 *9.226*	1 346 *53.000*	234,34 *8.000*	1 346 *53.000*	31,14 *1.226*	76,20 *3.000*	31,75 *1.250*	50,80 *2.000*

1) Bore tolerance H8 2) Shaft tolerance h11

Table 21. Available sizes of HDS4 and HDS6



Dimensions shaft d_1	bore d_2	seal width b	shaft d_1	bore d_2	seal width b
mm			*in*		
406,4	457,2	20,65	*16.000*	*18.000*	*0.813*
419,1	469,9	20,65	*16.500*	*18.500*	*0.813*
457,2	508	22,2	*18.000*	*20.000*	*0.875*
533,4	584,2	19,05	*21.000*	*23.000*	*0.750*
558,8	609,6	22,23	*22.000*	*24.000*	*0.875*
698,5	749,3	22,23	*27.500*	*29.500*	*0.875*

Size options of HS seals

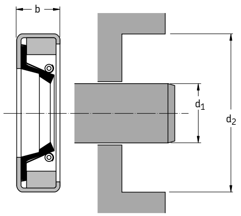
HS seal sizes are not listed in this brochure but are available in standard cross sections and widths according to **Table 22**. For other cross sections please contact us for availability.

Table 22. Size options of HS seals

Difference between bore and shaft	Bore diameter[1] from	to	Shaft diameter[2] from	to	Bore depth[3]
mm (*in*)	mm (*in*)		mm (*in*)		mm (*in*)
25,40 *1.000*	228,60 *9.000*	1 854 *73.000*	203,20 *8.000*	1 829 *72.000*	12,70; 15,88 *0.500; 0.625*
31,75 *1.250*	234,95 *9.250*	1 301 *51.250*	203,20 *8.000*	1 829 *50.000*	15,88 *0.625*
38,10 *1.500*	279,40 *11.000*	4 610 *181.500*	241,30 *9.500*	4 572 *180.000*	15,88; 17,48; 19,05 *0.625; 0.688; 0.750*
50,80 *2.000*	330,00 *13.000*	4 622 *182.000*	279,40 *11.000*	4 572 *180.000*	20,70 *0.815*

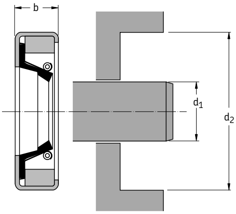
1) Bore tolerance H8
2) Shaft tolerance h11
3) Tolerance ±0,1

Series HDL – Metric sizes



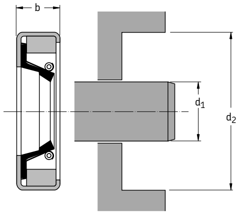
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
mm				
200	240	20	**CR 200×240×20 HDL R**	**CR 200×240×20 HDL V**
220	250	18	**CR 220×250×18 HDL R**	**CR 220×250×18 HDL V**
232	269,87	17,45	**CR 232×269.87×17.45 HDL R**	**CR 232×269.87×17.45 HDL V**
240	270	15	**CR 240×270×15 HDL R**	**CR 240×270×15 HDL V**
	280	20	**CR 240×280×20 HDL R**	**CR 240×280×20 HDL V**
270	308	17,45	**CR 270×308×17.45 HDL R**	**CR 270×308×17.45 HDL V**
280	320	19,98	**CR 280×320×19.98 HDL R**	**CR 280×320×19.98 HDL V**
	340	20,62	**CR 280×340×20.62 HDL R**	**CR 280×340×20.62 HDL V**
330	370	18	**CR 330×370×18 HDL R**	**CR 330×370×18 HDL V**
360	404	17,45	**CR 360×404×17.45 HDL R**	**CR 360×404×17.45 HDL V**
390	430	16	**CR 390×430×16 HDL R**	**CR 390×430×16 HDL V**
400	450	17,45	**CR 400×450×17.45 HDL R**	**CR 400×450×17.45 HDL V**
	440	20	**CR 400×440×20 HDL R**	**CR 400×440×20 HDL V**
420	460	17,45	**CR 420×460×17.45 HDL R**	**CR 420×460×17.45 HDL V**
	470	17,45	**CR 420×470×17.45 HDL R**	**CR 420×470×17.45 HDL V**
	460	20	**CR 420×460×20 HDL R**	**CR 420×460×20 HDL V**
440	480	20	**CR 440×480×20 HDL R**	**CR 440×480×20 HDL V**
470	520	22	**CR 470×520×22 HDL R**	**CR 470×520×22 HDL V**
480	520	20	**CR 480×520×20 HDL R**	**CR 480×520×20 HDL V**
485	535	19	**CR 485×535×19 HDL R**	**CR 485×535×19 HDL V**
500	550	19	**CR 500×550×19 HDL R**	**CR 500×550×19 HDL V**
508	560	25	**CR 508×560×25 HDL R**	**CR 508×560×25 HDL V**
513	543	16	**CR 513×543×16 HDL R**	**CR 513×543×16 HDL V**
520	560	18	**CR 520×560×18 HDL R**	**CR 520×560×18 HDL V**
	570	22	**CR 520×570×22 HDL R**	**CR 520×570×22 HDL V**
530	580	20,62	**CR 530×580×20.62 HDL R**	**CR 530×580×20.62 HDL V**
540	590	24,98	**CR 540×590×24.98 HDL R**	**CR 540×590×24.98 HDL V**
560	610	20	**CR 560×610×20 HDL R**	**CR 560×610×20 HDL V**
565	601	20	**CR 565×601×20 HDL R**	**CR 565×601×20 HDL V**
600	640	20	**CR 600×640×20 HDL R**	**CR 600×640×20 HDL V**
630	670	20	**CR 630×670×20 HDL R**	**CR 630×670×20 HDL V**

Series HDL – Metric sizes



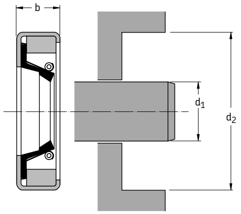
Dimensions shaft d_1	 bore d_2	 seal width b	SKF Designation Lip material R	 V
mm				
640	680	20	**CR 640×680×20 HDL R**	**CR 640×680×20 HDL V**
650	714	25	**CR 650×714×25 HDL R**	**CR 650×714×25 HDL V**
668	706	25,4	**CR 668×706×25.4 HDL R**	**CR 668×706×25.4 HDL V**
750	814	25	**CR 750×814×25 HDL R**	**CR 750×814×25 HDL V**
760	804	18	**CR 760×804×18 HDL R**	**CR 760×804×18 HDL V**
780	844	25	**CR 780×844×25 HDL R**	**CR 780×844×25 HDL V**
790	854	25	**CR 790×854×25 HDL R**	**CR 790×854×25 HDL V**
837	889	22,22	**CR 837×889×22.22 HDL R**	**CR 837×889×22.22 HDL V**
838,1	881	20	**CR 838.1×881×20 HDL R**	**CR 838.1×881×20 HDL V**
840	904	25	**CR 840×904×25 HDL R**	**CR 840×904×25 HDL V**
920	958,01	19,05	**CR 920×958.01×19.05 HDL R**	**CR 920×958.01×19.05 HDL V**
930	980	22,22	**CR 930×980×22.22 HDL R**	**CR 930×980×22.22 HDL V**
990	1 040	25	**CR 990×1040×25 HDL R**	**CR 990×1040×25 HDL V**
1000	1 050	22,22	**CR 1000×1050×22.22 HDL R**	**CR 1000×1050×22.22 HDL V**
1 055	1 100	25	**CR 1055×1100×25 HDL R**	**CR 1055×1100×25 HDL V**
1 105	1 160	22	**CR 1105×1160×22 HDL R**	**CR 1105×1160×22 HDL V**
1 350	1 414	22	**CR 1350×1414×22 HDL R**	**CR 1350×1414×22 HDL V**
1 350	1 415	25	**CR 1350×141525 HDL R**	**CR 1350×1415×25 HDL V**
1 380	1 440	25	**CR 1380×1440×25 HDL R**	**CR 1380×1440×25 HDL V**

Series HDL – Inch sizes



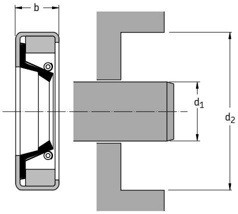
Dimensions shaft d_1	 bore d_2	 seal width b	SKF Designation Lip material R	 V
in *(mm)*				
6.125 *155,57*	7.625 *193,67*	0.687 *17,45*	**CR HDL 1299 R**	**CR HDL 1299 V**
7.125 *180,97*	8.250 *209,55*	0.750 *19,05*	**CR HDL 3011 R**	**CR HDL 3011 V**
7.875 *200,02*	9.375 *238,12*	0.687 *17,45*	**CR HDL 9176 R**	**CR HDL 9176 V**
8.000 *203,20*	9.500 *241,30*	0.687 *17,45*	**CR HDL 3921 R**	**CR HDL 3921 V**
8.125 *206,37*	10.125 *257,17*	0.687 *17,45*	**CR HDL 9712 R**	**CR HDL 9712 V**
8.250 *209,55*	10.250 *260,35*	0.812 *20,62*	**CR HDL 4499 R**	**CR HDL 4499 V**
8.375 *212,72*	9.875 *250,82*	0.687 *17,45*	**CR HDL 3933 R**	**CR HDL 3933 V**
	10.375 *263,52*	0.812 *20,62*	**CR HDL 4500 R**	**CR HDL 4500 V**
8.500 *215,90*	9.750 *247,65*	0.562 *14,28*	**CR HDL 1705 R**	**CR HDL 1705 V**
	9.750 *247,65*	0.652 *16,56*	**CR HDL 6384 R**	**CR HDL 6384 V**
	10.000 *254,00*	0.687 *17,45*	**CR HDL 8453 R**	**CR HDL 8453 V**
	10.500 *266,70*	0.812 *20,62*	**CR HDL 3938 R**	**CR HDL 3938 V**
8.625 *219,07*	10.125 *257,17*	0.687 *17,45*	**CR HDL 3939 R**	**CR HDL 3939 V**
	10.260 *260,60*	0.687 *17,45*	**CR HDL 2736 R**	**CR HDL 2736 V**
	10.750 *273,05*	0.812 *20,62*	**CR HDL 7718 R**	**CR HDL 7718 V**
8.750 *222,25*	10.250 *260,35*	0.687 *17,45*	**CR HDL 3946 R**	**CR HDL 3946 V**
	10.500 *266,70*	0.687 *17,45*	**CR HDL 9911 R**	**CR HDL 9911 V**
	10.750 *273,05*	0.812 *20,62*	**CR HDL 3952 R**	**CR HDL 3952 V**

Series HDL – Inch sizes



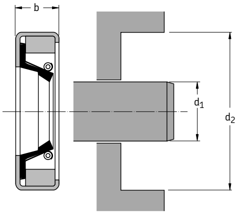
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
8.875	10.875	0.812	**CR HDL 3953 R**	**CR HDL 3953 V**
225,42	*276,22*	*20,62*		
9.000	10.500	0.687	**CR HDL 3954 R**	**CR HDL 3954 V**
228,60	*266,70*	*17,45*		
	11.000	0.812	**CR HDL 3955 R**	**CR HDL 3955 V**
	279,40	*20,62*		
9.125	10.625	0.687	**CR HDL 3957 R**	**CR HDL 3957 V**
231,77	*269,87*	*17,45*		
	11.125	0.812	**CR HDL 3962 R**	**CR HDL 3962 V**
	282,57	*20,62*		
9.250	10.750	0.687	**CR HDL 3963 R**	**CR HDL 3963 V**
234,95	*273,05*	*17,45*		
	11.250	0.687	**CR HDL 9706 R**	**CR HDL 9706 V**
	285,75	*17,45*		
9.375	11.375	0.812	**CR HDL 4610 R**	**CR HDL 4610 V**
238,12	*288,92*	*20,62*		
9.500	10.750	0.562	**CR HDL 3145 R**	**CR HDL 3145 V**
241,30	*273,05*	*14,28*		
	11.250	0.750	**CR HDL 3981 R**	**CR HDL 3981 V**
	285,75	*19,05*		
	11.500	0.812	**CR HDL 3984 R**	**CR HDL 3984 V**
	292,10	*20,62*		
9.750	11.125	0.562	**CR HDL 1692 R**	**CR HDL 1692 V**
247,65	*282,57*	*14,28*		
	11.250	0.687	**CR HDL 3985 R**	**CR HDL 3985 V**
	285,75	*17,45*		
	11.750	0.687	**CR HDL 9425 R**	**CR HDL 9425 V**
	298,45	*17,45*		
10.000	11.500	0.687	**CR HDL 3992 R**	**CR HDL 3992 V**
254,00	*292,10*	*17,45*		
	11.750	0.750	**CR HDL 3994 R**	**CR HDL 3994 V**
	298,45	*19,05*		
	12.000	0.812	**CR HDL 3997 R**	**CR HDL 3997 V**
	304,80	*20,62*		
	12.000	0.875	**CR HDL 3998 R**	**CR HDL 3998 V**
	304,80	*22,22*		
	12.250	0.812	**CR HDL 3669 R**	**CR HDL 3669 V**
	311,15	*20,62*		

Series HDL – Inch sizes



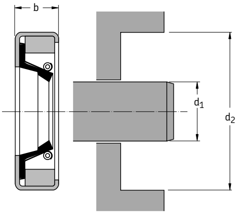
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
10.125	11.625	0.687	**CR HDL 3999 R**	**CR HDL 3999 V**
257,17	*295,27*	*17,45*		
	11.750	0.687	**CR HDL 5989 R**	**CR HDL 5989 V**
	298,45	*17,45*		
10.250	11.750	0.687	**CR HDL 4004 R**	**CR HDL 4004 V**
260,35	*298,45*	*17,45*		
	12.250	0.812	**CR HDL 4009 R**	**CR HDL 4009 V**
	311,15	*20,62*		
	12.500	0.812	**CR HDL 4015 R**	**CR HDL 4015 V**
	317,50	*20,62*		
10.500	12.000	0.687	**CR HDL 4011 R**	**CR HDL 4011 V**
266,70	*304,80*	*17,45*		
	12.500	0.812	**CR HDL 4017 R**	**CR HDL 4017 V**
	317,50	*20,62*		
10.750	12.250	0.687	**CR HDL 4023 R**	**CR HDL 4023 V**
273,05	*311,15*	*17,45*		
	12.500	0.875	**CR HDL 4033 R**	**CR HDL 4033 V**
	317,50	*22,22*		
	12.750	0.625	**CR HDL 3014 R**	**CR HDL 3014 V**
	323,85	*15,87*		
	12.750	0.812	**CR HDL 4031 R**	**CR HDL 4031 V**
	323,85	*20,62*		
	13.000	0.812	**CR HDL 4022 R**	**CR HDL 4022 V**
	330,20	*20,62*		
	13.250	0.812	**CR HDL 4026 R**	**CR HDL 4026 V**
	336,55	*20,62*		
10.875	12.375	0.687	**CR HDL 4027 R**	**CR HDL 4027 V**
276,22	*314,32*	*17,45*		
	12.500	0.687	**CR HDL 4028 R**	**CR HDL 4028 V**
	317,50	*17,45*		
11.000	12.250	0.562	**CR HDL 3135 R**	**CR HDL 3135 V**
279,40	*311,15*	*14,28*		
	12.500	0.687	**CR HDL 4611 R**	**CR HDL 4611 V**
	317,50	*17,45*		
	13.000	0.687	**CR HDL 6034 R**	**CR HDL 6034 V**
	330,20	*17,45*		
	13.000	0.812	**CR HDL 4036 R**	**CR HDL 4036 V**
	330,20	*20,62*		

Series HDL – Inch sizes



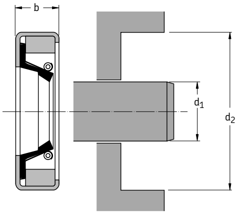
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
11.125	13.000	0.687	**CR HDL 3699 R**	**CR HDL 3699 V**
282,57	*330,20*	*17,45*		
	13.250	0.812	**CR HDL 3700 R**	**CR HDL 3700 V**
	336,55	*20,62*		
11.250	12.750	0.687	**CR HDL 4527 R**	**CR HDL 4527 V**
285,75	*323,85*	*17,45*		
	13.250	0.687	**CR HDL 8778 R**	**CR HDL 8778 V**
	336,55	*17,45*		
	13.250	0.812	**CR HDL 4047 R**	**CR HDL 4047 V**
	336,55	*20,62*		
11.375	13.375	0.812	**CR HDL 4052 R**	**CR HDL 4052 V**
288,92	*339,72*	*20,62*		
11.500	13.000	0.687	**CR HDL 4057 R**	**CR HDL 4057 V**
292,10	*330,20*	*17,45*		
	13.500	0.812	**CR HDL 4063 R**	**CR HDL 4063 V**
	342,90	*20,62*		
11.750	13.250	0.687	**CR HDL 4064 R**	**CR HDL 4064 V**
298,45	*336,55*	*17,45*		
12.000	13.500	0.687	**CR HDL 4612 R**	**CR HDL 4612 V**
304,80	*342,90*	*17,45*		
	13.625	0.687	**CR HDL 8523 R**	**CR HDL 8523 V**
	346,07	*17,45*		
	13.750	0.687	**CR HDL 3701 R**	**CR HDL 3701 V**
	349,25	*17,45*		
	14.000	0.687	**CR HDL 5838 R**	**CR HDL 5838 V**
	355,60	*17,45*		
	14.000	0.750	**CR HDL 4071 R**	**CR HDL 4071 V**
	355,60	*19,05*		
	14.000	0.812	**CR HDL 4072 R**	**CR HDL 4072 V**
	355,60	*20,62*		
	14.750	0.812	**CR HDL 3702 R**	**CR HDL 3702 V**
	374,65	*20,62*		
12.125	13.875	0.687	**CR HDL 4053 R**	**CR HDL 4053 V**
307,97	*352,42*	*17,45*		

Series HDL – Inch sizes



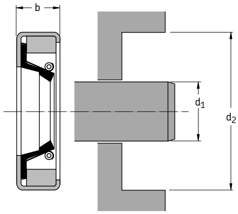
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
12.250	13.750	0.687	**CR HDL 4613 R**	**CR HDL 4613 V**
311,15	*349,25*	*17,45*		
	13.750	0.875	**CR HDL 4614 R**	**CR HDL 4614 V**
	349,25	*22,22*		
	14.000	0.687	**CR HDL 4055 R**	**CR HDL 4055 V**
	355,60	*17,45*		
	14.250	0.812	**CR HDL 4075 R**	**CR HDL 4075 V**
	361,95	*20,62*		
12.375	13.875	0.687	**CR HDL 4076 R**	**CR HDL 4076 V**
314,32	*352,42*	*17,45*		
	14.000	0.687	**CR HDL 4056 R**	**CR HDL 4056 V**
	355,60	*17,45*		
	14.375	0.687	**CR HDL 4097 R**	**CR HDL 4097 V**
	365,12	*17,45*		
	14.500	0.812	**CR HDL 4106 R**	**CR HDL 4106 V**
	368,30	*20,62*		
12.500	14.000	0.687	**CR HDL 4079 R**	**CR HDL 4079 V**
317,50	*355,60*	*17,45*		
	14.500	0.750	**CR HDL 4082 R**	**CR HDL 4082 V**
	368,30	*19,05*		
	14.500	0.812	**CR HDL 4083 R**	**CR HDL 4083 V**
	368,30	*20,62*		
	15.000	0.812	**CR HDL 4084 R**	**CR HDL 4084 V**
	381,00	*20,62*		
12.625	14.125	0.687	**CR HDL 4081 R**	**CR HDL 4081 V**
320,67	*358,77*	*17,45*		
	14.500	0.687	**CR HDL 3716 R**	**CR HDL 3716 V**
	368,30	*17,45*		
12.687	14.750	0.812	**CR HDL 9766 R**	**CR HDL 9766 V**
322,24	*374,65*	*20,62*		
12.750	14.250	0.687	**CR HDL 4089 R**	**CR HDL 4089 V**
323,85	*361,95*	*17,45*		
	14.750	0.687	**CR HDL 7652 R**	**CR HDL 7652 V**
	374,65	*17,45*		
	15.000	0.812	**CR HDL 4092 R**	**CR HDL 4092 V**
	381,00	*20,62*		
12.875	15.000	0.812	**CR HDL 5404 R**	**CR HDL 5404 V**
327,02	*381,00*	*20,62*		

Series HDL – Inch sizes



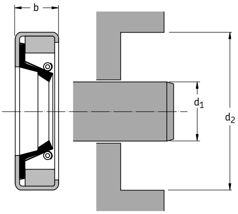
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
13.000	14.500	0.687	**CR HDL 4093 R**	**CR HDL 4093 V**
330,20	*368,30*	*17,45*		
	14.875	0.687	**CR HDL 4096 R**	**CR HDL 4096 V**
	377,82	*17,45*		
	15.000	0.812	**CR HDL 4099 R**	**CR HDL 4099 V**
	381,00	*20,62*		
13.250	14.750	0.687	**CR HDL 4101 R**	**CR HDL 4101 V**
336,55	*374,65*	*17,45*		
	14.875	0.687	**CR HDL 7734 R**	**CR HDL 7734 V**
	377,82	*17,45*		
	15.000	0.687	**CR HDL 7169 R**	**CR HDL 7169 V**
	381,00	*17,45*		
	15.125	0.687	**CR HDL 4105 R**	**CR HDL 4105 V**
	384,17	*17,45*		
	15.250	0.687	**CR HDL 6294 R**	**CR HDL 6294 V**
	387,35	*17,45*		
	15.250	0.812	**CR HDL 4779 R**	**CR HDL 4779 V**
	387,35	*20,62*		
13.500	15.000	0.687	**CR HDL 4121 R**	**CR HDL 4121 V**
342,90	*381,00*	*17,45*		
	15.500	0.812	**CR HDL 4128 R**	**CR HDL 4128 V**
	393,70	*20,62*		
	15.750	0.812	**CR HDL 4123 R**	**CR HDL 4123 V**
	400,05	*20,62*		
13.625	15.500	0.687	**CR HDL 4120 R**	**CR HDL 4120 V**
346,07	*393,70*	*17,45*		
13.750	15.250	0.687	**CR HDL 4529 R**	**CR HDL 4529 V**
349,25	*387,35*	*17,45*		
	15.500	0.750	**CR HDL 4531 R**	**CR HDL 4531 V**
	393,70	*19,05*		
	15.750	0.812	**CR HDL 4129 R**	**CR HDL 4129 V**
	400,05	*20,62*		
	16.000	0.812	**CR HDL 4119 R**	**CR HDL 4119 V**
	406,40	*20,62*		
13.813	16.000	0.812	**CR HDL 4108 R**	**CR HDL 4108 V**
350,85	*406,40*	*20,62*		

Series HDL – Inch sizes



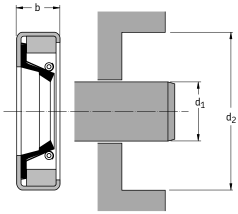
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
13.875 *352,42*	16.000 *406,40*	0.812 *20,62*	**CR HDL 4110 R**	**CR HDL 4110 V**
13.937 *353,99*	15.437 *392,09*	0.687 *17,45*	**CR HDL 4130 R**	**CR HDL 4130 V**
13.938 *354,02*	15.500 *393,70*	0.687 *17,45*	**CR HDL 4111 R**	**CR HDL 4111 V**
	16.000 *406,40*	0.687 *17,45*	**CR HDL 4112 R**	**CR HDL 4112 V**
14.000 *355,60*	15.500 *393,70*	0.687 *17,45*	**CR HDL 4131 R**	**CR HDL 4131 V**
	15.750 *400,05*	0.687 *17,45*	**CR HDL 5991 R**	**CR HDL 5991 V**
	15.750 *400,05*	0.750 *19,05*	**CR HDL 4134 R**	**CR HDL 4134 V**
	16.000 *406,40*	0.812 *20,62*	**CR HDL 4135 R**	**CR HDL 4135 V**
	16.250 *412,75*	0.812 *20,62*	**CR HDL 5382 R**	**CR HDL 5382 V**
	16.500 *419,10*	0.812 *20,62*	**CR HDL 7535 R**	**CR HDL 7535 V**
14.187 *360,34*	16.732 *424,99*	0.812 *20,62*	**CR HDL 9280 R**	**CR HDL 9280 V**
14.250 *361,95*	15.750 *400,05*	0.687 *17,45*	**CR HDL 4118 R**	**CR HDL 4118 V**
	16.000 *406,40*	0.687 *17,45*	**CR HDL 4139 R**	**CR HDL 4139 V**
	16.250 *412,75*	0.812 *20,62*	**CR HDL 4140 R**	**CR HDL 4140 V**
	16.500 *419,10*	0.812 *20,62*	**CR HDL 3855 R**	**CR HDL 3855 V**
14.375 *365,12*	16.000 *406,40*	0.687 *17,45*	**CR HDL 5481 R**	**CR HDL 5481 V**
14.500 *368,30*	16.000 *406,40*	0.687 *17,45*	**CR HDL 4142 R**	**CR HDL 4142 V**
	16.500 *419,10*	0.812 *20,62*	**CR HDL 4145 R**	**CR HDL 4145 V**

Series HDL – Inch sizes



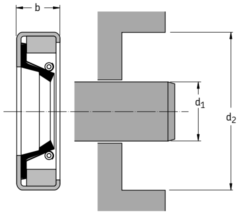
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
14.625	16.250	0.687	**CR HDL 3856 R**	**CR HDL 3856 V**
371,47	*412,75*	*17,45*		
	16.750	0.812	**CR HDL 3857 R**	**CR HDL 3857 V**
	425,45	*20,62*		
14.750	16.250	0.687	**CR HDL 4147 R**	**CR HDL 4147 V**
374,65	*412,75*	*17,45*		
	16.500	0.687	**CR HDL 5990 R**	**CR HDL 5990 V**
	419,10	*17,45*		
14.875	16.500	0.687	**CR HDL 3858 R**	**CR HDL 3858 V**
377,82	*419,10*	*17,45*		
	16.750	0.687	**CR HDL 3859 R**	**CR HDL 3859 V**
	425,45	*17,45*		
	16.875	0.937	**CR HDL 2622 R**	**CR HDL 2622 V**
	428,62	*23,79*		
	16.875	1.000	**CR HDL 4150 R**	**CR HDL 4150 V**
	428,62	*25,40*		
	17.000	0.812	**CR HDL 3860 R**	**CR HDL 3860 V**
	431,80	*20,62*		
14.906	17.000	0.812	**CR HDL 3861 R**	**CR HDL 3861 V**
378,61	*431,80*	*20,62*		
15.000	16.500	0.687	**CR HDL 4151 R**	**CR HDL 4151 V**
381,00	*419,10*	*17,45*		
	17.000	0.812	**CR HDL 4156 R**	**CR HDL 4156 V**
	431,80	*20,62*		
	17.250	0.812	**CR HDL 3862 R**	**CR HDL 3862 V**
	438,15	*20,62*		
	17.250	0.812	**CR HDL 8508 R**	**CR HDL 8508 V**
	438,15	*20,62*		
	17.500	0.812	**CR HDL 9637 R**	**CR HDL 9637 V**
	444,50	*20,62*		
	17.750	0.812	**CR HDL 3862 R**	**CR HDL 3862 V**
	450,85	*20,62*		
15.125	16.750	0.687	**CR HDL 4165 R**	**CR HDL 4165 V**
384,17	*425,45*	*17,45*		

Series HDL – Inch sizes



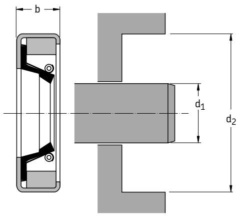
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
15.250	16.750	0.687	**CR HDL 4615 R**	**CR HDL 4615 V**
387,35	*425,45*	*17,45*		
	17.250	0.812	**CR HDL 4476 R**	**CR HDL 4476 V**
	438,15	*20,62*		
	17.250	0.875	**CR HDL 3030 R**	**CR HDL 3030 V**
	438,15	*22,22*		
15.312	16.875	0.687	**CR HDL 4158 R**	**CR HDL 4158 V**
388,92	*428,62*	*17,45*		
	17.312	0.687	**CR HDL 5992 R**	**CR HDL 5992 V**
	439,72	*17,45*		
15.359	17.717	0.687	**CR HDL 4166 R**	**CR HDL 4166 V**
390,11	*450,01*	*17,45*		
15.375	17.250	0.687	**CR HDL 4167 R**	**CR HDL 4167 V**
390,52	*438,15*	*17,45*		
	17.375	0.812	**CR HDL 4159 R**	**CR HDL 4159 V**
	441,32	*20,62*		
15.500	17.496	0.812	**CR HDL 4163 R**	**CR HDL 4163 V**
393,70	*444,40*	*20,62*		
	17.750	0.812	**CR HDL 6771 R**	**CR HDL 6771 V**
	450,85	*20,62*		
	18.000	0.812	**CR HDL 4168 R**	**CR HDL 4168 V**
	457,20	*20,62*		
15.750	17.165	0.687	**CR HDL 9986 R**	**CR HDL 9986 V**
400,05	*436,00*	*17,45*		
	17.250	0.687	**CR HDL 4170 R**	**CR HDL 4170 V**
	438,15	*17,45*		
	17.312	0.687	**CR HDL 9271 R**	**CR HDL 9271 V**
	439,72	*17,45*		
	17.500	0.687	**CR HDL 4171 R**	**CR HDL 4171 V**
	444,50	*17,45*		
	17.750	0.687	**CR HDL 6874 R**	**CR HDL 6874 V**
	450,85	*17,45*		
	18.000	0.812	**CR HDL 4172 R**	**CR HDL 4172 V**
	457,20	*20,62*		
	18.500	1.000	**CR HDL 4175 R**	**CR HDL 4175 V**
	469,90	*25,40*		
15.875	17.875	0.812	**CR HDL 4176 R**	**CR HDL 4176 V**
403,22	*454,02*	*20,62*		

Series HDL – Inch sizes



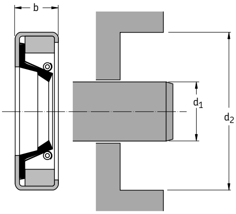
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
16.000	17.500	0.687	**CR HDL 4177 R**	**CR HDL 4177 V**
406,40	*444,50*	*17,45*		
	17.625	0.687	**CR HDL 4173 R**	**CR HDL 4173 V**
	447,67	*17,45*		
	18.000	0.812	**CR HDL 4180 R**	**CR HDL 4180 V**
	457,20	*20,62*		
	18.000	0.875	**CR HDL 5077 R**	**CR HDL 5077 V**
	457,20	*22,22*		
	18.500	0.812	**CR HDL 5995 R**	**CR HDL 5995 V**
	469,90	*20,62*		
16.250	17.750	0.687	**CR HDL 4181 R**	**CR HDL 4181 V**
412,75	*450,85*	*17,45*		
	18.000	0.687	**CR HDL 8217 R**	**CR HDL 8217 V**
	457,20	*17,45*		
	18.000	0.750	**CR HDL 4184 R**	**CR HDL 4184 V**
	457,20	*19,05*		
	18.250	0.687	**CR HDL 9892 R**	**CR HDL 9892 V**
	463,55	*17,45*		
	18.500	0.812	**CR HDL 4174 R**	**CR HDL 4174 V**
	469,90	*20,62*		
16.375	17.875	0.687	**CR HDL 4179 R**	**CR HDL 4179 V**
415,92	*454,02*	*17,45*		
16.500	18.000	0.687	**CR HDL 9863 R**	**CR HDL 9863 V**
419,10	*457,20*	*17,45*		
	18.500	0.687	**CR HDL 4187 R**	**CR HDL 4187 V**
	469,90	*17,45*		
	18.500	0.812	**CR HDL 4186 R**	**CR HDL 4186 V**
	469,90	*20,62*		
	19.000	0.812	**CR HDL 4183 R**	**CR HDL 4183 V**
	482,60	*20,62*		
16.535	18.504	0.875	**CR HDL 1929 R**	**CR HDL 1929 V**
419,98	*470,00*	*22,22*		
16.750	18.250	0.687	**CR HDL 3744 R**	**CR HDL 3744 V**
425,45	*463,55*	*17,45*		
	18.500	0.687	**CR HDL 8862 R**	**CR HDL 8862 V**
	469,90	*17,45*		
	19.000	0.812	**CR HDL 3748 R**	**CR HDL 3748 V**
	482,60	*20,62*		

Series HDL – Inch sizes



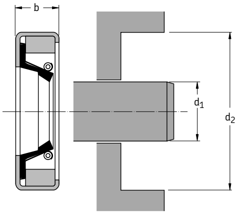
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
16.937 *430,19*	19.291 *489,99*	0.812 *20,62*	**CR HDL 9695 R**	**CR HDL 9695 V**
17.000 *431,80*	18.500 *469,90*	0.687 *17,45*	**CR HDL 4188 R**	**CR HDL 4188 V**
	19.000 *482,60*	0.812 *20,62*	**CR HDL 4190 R**	**CR HDL 4190 V**
	19.250 *488,95*	0.812 *20,62*	**CR HDL 4191 R**	**CR HDL 4191 V**
	19.500 *495,30*	0.812 *20,62*	**CR HDL 3750 R**	**CR HDL 3750 V**
17.250 *438,15*	18.750 *476,25*	0.687 *17,45*	**CR HDL 3751 R**	**CR HDL 3751 V**
	18.750 *476,25*	0.750 *19,05*	**CR HDL 6967 R**	**CR HDL 6967 V**
17.500 *444,50*	19.000 *482,60*	0.687 *17,45*	**CR HDL 4194 R**	**CR HDL 4194 V**
	19.250 *488,95*	0.687 *17,45*	**CR HDL 5054 R**	**CR HDL 5054 V**
	19.250 *488,95*	1.000 *25,40*	**CR HDL 3005 R**	**CR HDL 3005 V**
	19.500 *495,30*	0.687 *17,45*	**CR HDL 4198 R**	**CR HDL 4198 V**
	19.750 *501,65*	0.812 *20,62*	**CR HDL 4197 R**	**CR HDL 4197 V**
17.625 *447,67*	19.250 *488,95*	0.687 *17,45*	**CR HDL 4199 R**	**CR HDL 4199 V**
	19.625 *498,47*	0.687 *17,45*	**CR HDL 6850 R**	**CR HDL 6850 V**
17.750 *450,85*	19.750 *501,65*	0.812 *20,62*	**CR HDL 4200 R**	**CR HDL 4200 V**
	20.078 *509,98*	0.875 *22,22*	**CR HDL 9084 R**	**CR HDL 9084 V**
17.875 *454,02*	19.875 *504,82*	0.812 *20,62*	**CR HDL 4204 R**	**CR HDL 4204 V**

Series HDL – Inch sizes



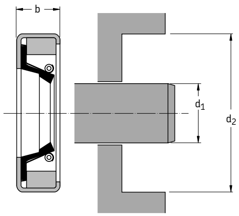
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
18.000	19.500	0.687	**CR HDL 4206 R**	**CR HDL 4206 V**
457,20	*495,30*	*17,45*		
	19.750	0.687	**CR HDL 5728 R**	**CR HDL 5728 V**
	501,65	*17,45*		
	19.875	0.687	**CR HDL 4203 R**	**CR HDL 4203 V**
	504,82	*17,45*		
	20.000	0.750	**CR HDL 4209 R**	**CR HDL 4209 V**
	508,00	*19,05*		
	20.000	0.875	**CR HDL 4210 R**	**CR HDL 4210 V**
	508,00	*22,22*		
	20.500	0.875	**CR HDL 3752 R**	**CR HDL 3752 V**
	520,70	*22,22*		
	21.000	0.875	**CR HDL 3753 R**	**CR HDL 3753 V**
	533,40	*22,22*		
18.120	20.500	0.875	**CR HDL 3754 R**	**CR HDL 3754 V**
460,24	*520,70*	*22,22*		
18.125	20.500	0.875	**CR HDL 3756 R**	**CR HDL 3756 V**
460,37	*520,70*	*22,22*		
18.250	19.750	0.687	**CR HDL 3757 R**	**CR HDL 3757 V**
463,55	*501,65*	*17,45*		
	19.875	0.687	**CR HDL 3765 R**	**CR HDL 3765 V**
	504,82	*17,45*		
18.375	19.875	0.687	**CR HDL 4213 R**	**CR HDL 4213 V**
466,72	*504,82*	*17,45*		
	19.937	0.687	**CR HDL 7103 R**	**CR HDL 7103 V**
	506,39	*17,45*		
	20.000	0.750	**CR HDL 4215 R**	**CR HDL 4215 V**
	508,00	*19,05*		
	20.375	0.812	**CR HDL 6740 R**	**CR HDL 6740 V**
	517,52	*20,62*		
	20.500	0.750	**CR HDL 3767 R**	**CR HDL 3767 V**
	520,70	*19,05*		
18.500	20.000	0.687	**CR HDL 3768 R**	**CR HDL 3768 V**
469,90	*508,00*	*17,45*		
	20.250	0.687	**CR HDL 3772 R**	**CR HDL 3772 V**
	514,35	*17,45*		
	20.500	0.875	**CR HDL 4216 R**	**CR HDL 4216 V**
	520,70	*22,22*		

Series HDL – Inch sizes



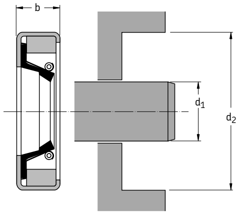
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
19.000	20.500	0.750	**CR HDL 4218 R**	**CR HDL 4218 V**
482,60	*520,70*	*19,05*		
	21.000	0.875	**CR HDL 4219 R**	**CR HDL 4219 V**
	533,40	*22,22*		
	21.500	0.875	**CR HDL 3773 R**	**CR HDL 3773 V**
	546,10	*22,22*		
19.250	20.750	0.750	**CR HDL 4617 R**	**CR HDL 4617 V**
488,95	*527,05*	*19,05*		
	21.000	0.750	**CR HDL 3777 R**	**CR HDL 3777 V**
	533,40	*19,05*		
	21.250	0.750	**CR HDL 5485 R**	**CR HDL 5485 V**
	539,75	*19,05*		
19.375	21.000	0.750	**CR HDL 3778 R**	**CR HDL 3778 V**
492,12	*533,40*	*19,05*		
19.500	21.000	0.750	**CR HDL 3779 R**	**CR HDL 3779 V**
495,30	*533,40*	*19,05*		
	21.500	0.875	**CR HDL 4221 R**	**CR HDL 4221 V**
	546,10	*22,22*		
	21.688	0.875	**CR HDL 3783 R**	**CR HDL 3783 V**
	550,87	*22,22*		
19.750	21.750	0.875	**CR HDL 4228 R**	**CR HDL 4228 V**
501,65	*552,45*	*22,22*		
	22.125	0.875	**CR HDL 7400 R**	**CR HDL 7400 V**
	561,97	*22,22*		
	22.250	0.875	**CR HDL 3785 R**	**CR HDL 3785 V**
	565,15	*22,22*		
19.875	22.000	0.875	**CR HDL 3788 R**	**CR HDL 3788 V**
504,82	*558,80*	*22,22*		
19.937	21.687	0.625	**CR HDL 4233 R**	**CR HDL 4233 V**
506,39	*550,84*	*15,87*		
19.938	21.500	0.750	**CR HDL 3789 R**	**CR HDL 3789 V**
506,42	*546,10*	*19,05*		

Series HDL – Inch sizes



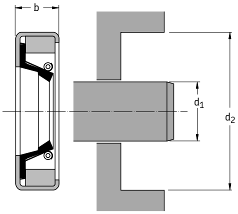
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
20.000	21.500	0.750	**CR HDL 4235 R**	**CR HDL 4235 V**
508,00	*546,10*	*19,05*		
	21.750	0.750	**CR HDL 4236 R**	**CR HDL 4236 V**
	552,45	*19,05*		
	22.000	0.875	**CR HDL 4237 R**	**CR HDL 4237 V**
	558,80	*22,22*		
	22.500	0.875	**CR HDL 3790 R**	**CR HDL 3790 V**
	571,50	*22,22*		
20.143	22.250	0.875	**CR HDL 3792 R**	**CR HDL 3792 V**
511,63	*565,15*	*22,22*		
20.250	21.750	0.750	**CR HDL 4239 R**	**CR HDL 4239 V**
514,35	*552,45*	*19,05*		
	22.245	0.875	**CR HDL 8231 R**	**CR HDL 8231 V**
	565,02	*22,22*		
	22.250	0.875	**CR HDL 4240 R**	**CR HDL 4240 V**
	565,15	*22,22*		
	22.375	0.750	**CR HDL 4241 R**	**CR HDL 4241 V**
	568,32	*19,05*		
	22.500	0.875	**CR HDL 8770 R**	**CR HDL 8770 V**
	571,50	*22,22*		
20.438	22.500	0.812	**CR HDL 4242 R**	**CR HDL 4242 V**
519,12	*571,50*	*20,62*		
20.500	22.000	0.750	**CR HDL 4619 R**	**CR HDL 4619 V**
520,70	*558,80*	*19,05*		
	22.250	0.812	**CR HDL 4245 R**	**CR HDL 4245 V**
	565,15	*20,62*		
	22.500	0.875	**CR HDL 4246 R**	**CR HDL 4246 V**
	571,50	*22,22*		
	22.750	0.875	**CR HDL 6287 R**	**CR HDL 6287 V**
	577,85	*22,22*		
20.625	22.625	0.812	**CR HDL 9893 R**	**CR HDL 9893 V**
523,87	*574,67*	*20,62*		
20.750	22.750	0.875	**CR HDL 4248 R**	**CR HDL 4248 V**
527,05	*577,85*	*22,22*		
	23.000	0.812	**CR HDL 4243 R**	**CR HDL 4243 V**
	584,20	*20,62*		

Series HDL – Inch sizes



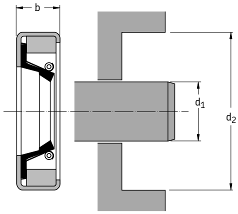
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
20.875	22.875	0.875	**CR HDL 4250 R**	**CR HDL 4250 V**
530,22	*581,02*	*22,22*		
	23.228	0.875	**CR HDL 6417 R**	**CR HDL 6417 V**
	589,99	*22,22*		
21.000	22.500	0.750	**CR HDL 5259 R**	**CR HDL 5259 V**
533,40	*571,50*	*19,05*		
	22.750	0.750	**CR HDL 5312 R**	**CR HDL 5312 V**
	577,85	*19,05*		
	23.000	0.812	**CR HDL 6535 R**	**CR HDL 6535 V**
	584,20	*20,62*		
	23.000	0.875	**CR HDL 4253 R**	**CR HDL 4253 V**
	584,20	*22,22*		
	23.250	0.812	**CR HDL 4251 R**	**CR HDL 4251 V**
	590,55	*20,62*		
	23.500	0.875	**CR HDL 9772 R**	**CR HDL 9772 V**
	596,90	*22,22*		
21.250	23.000	0.750	**CR HDL 4255 R**	**CR HDL 4255 V**
539,75	*584,20*	*19,05*		
	23.250	0.875	**CR HDL 4254 R**	**CR HDL 4254 V**
	590,55	*22,22*		
21.437	23.187	0.750	**CR HDL 4256 R**	**CR HDL 4256 V**
544,49	*588,94*	*19,05*		
21.500	23.250	0.750	**CR HDL 4257 R**	**CR HDL 4257 V**
546,10	*590,55*	*19,05*		
	23.500	0.812	**CR HDL 7407 R**	**CR HDL 7407 V**
	596,90	*20,62*		
	23.500	0.875	**CR HDL 4259 R**	**CR HDL 4259 V**
	596,90	*22,22*		
	23.625	0.875	**CR HDL 6493 R**	**CR HDL 6493 V**
	600,07	*22,22*		
	24.000	0.875	**CR HDL 6779 R**	**CR HDL 6779 V**
	609,60	*22,22*		
21.625	23.375	0.750	**CR HDL 4261 R**	**CR HDL 4261 V**
549,27	*593,72*	*19,05*		
	23.625	0.875	**CR HDL 4263 R**	**CR HDL 4263 V**
	600,07	*22,22*		

Series HDL – Inch sizes



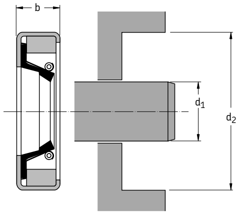
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
21.750	23.250	0.750	**CR HDL 4621 R**	**CR HDL 4621 V**
552,45	*590,55*	*19,05*		
	23.750	0.875	**CR HDL 4265 R**	**CR HDL 4265 V**
	603,25	*22,22*		
	24.000	0.875	**CR HDL 5276 R**	**CR HDL 5276 V**
	609,60	*22,22*		
	24.250	0.875	**CR HDL 8675 R**	**CR HDL 8675 V**
	615,95	*22,22*		
	24.500	0.875	**CR HDL 4260 R**	**CR HDL 4260 V**
	622,30	*22,22*		
	24.750	0.875	**CR HDL 4262 R**	**CR HDL 4262 V**
	628,65	*22,22*		
22.000	23.500	0.750	**CR HDL 4269 R**	**CR HDL 4269 V**
558,80	*596,90*	*19,05*		
	24.000	0.875	**CR HDL 4270 R**	**CR HDL 4270 V**
	609,60	*22,22*		
	24.250	0.812	**CR HDL 9082 R**	**CR HDL 9082 V**
	615,95	*20,62*		
	24.250	0.875	**CR HDL 3763 R**	**CR HDL 3763 V**
	615,95	*22,22*		
	24.500	0.875	**CR HDL 6295 R**	**CR HDL 6295 V**
	622,30	*22,22*		
22.250	24.250	0.875	**CR HDL 3764 R**	**CR HDL 3764 V**
565,15	*615,95*	*22,22*		
22.375	24.250	0.750	**CR HDL 4268 R**	**CR HDL 4268 V**
568,32	*615,95*	*19,05*		
	24.375	0.750	**CR HDL 6999 R**	**CR HDL 6999 V**
	619,12	*19,05*		
	24.375	0.875	**CR HDL 2576 R**	**CR HDL 2576 V**
	619,12	*22,22*		
22.437	24.000	0.750	**CR HDL 4275 R**	**CR HDL 4275 V**
569,89	*609,60*	*19,05*		
	24.250	0.750	**CR HDL 4276 R**	**CR HDL 4276 V**
	615,95	*19,05*		
	24.437	0.750	**CR HDL 6480 R**	**CR HDL 6480 V**
	620,69	*19,05*		
	24.437	0.875	**CR HDL 1915 R**	**CR HDL 1915 V**
	620,69	*22,22*		
	24.500	0.750	**CR HDL 9840 R**	**CR HDL 9840 V**
	622,30	*19,05*		

Series HDL – Inch sizes



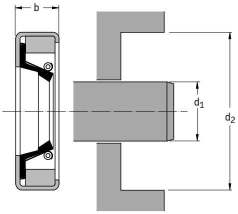
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
22.500	24.000	0.750	**CR HDL 4271 R**	**CR HDL 4271 V**
571,50	*609,60*	*19,05*		
	24.250	0.750	**CR HDL 4272 R**	**CR HDL 4272 V**
	615,95	*19,05*		
	24.500	0.875	**CR HDL 4279 R**	**CR HDL 4279 V**
	622,30	*22,22*		
	24.750	0.875	**CR HDL 4273 R**	**CR HDL 4273 V**
	628,65	*22,22*		
	25.000	0.875	**CR HDL 4274 R**	**CR HDL 4274 V**
	635,00	*22,22*		
22.750	24.750	0.875	**CR HDL 4281 R**	**CR HDL 4281 V**
577,85	*628,65*	*22,22*		
	25.000	0.875	**CR HDL 6843 R**	**CR HDL 6843 V**
	635,00	*22,22*		
23.000	24.500	0.750	**CR HDL 4283 R**	**CR HDL 4283 V**
584,20	*622,30*	*19,05*		
	24.750	0.750	**CR HDL 5421 R**	**CR HDL 5421 V**
	628,65	*19,05*		
	25.000	0.875	**CR HDL 4284 R**	**CR HDL 4284 V**
	635,00	*22,22*		
	25.375	0.875	**CR HDL 4277 R**	**CR HDL 4277 V**
	644,52	*22,22*		
	25.500	0.875	**CR HDL 4285 R**	**CR HDL 4285 V**
	647,70	*22,22*		
23.250	25.000	0.750	**CR HDL 4286 R**	**CR HDL 4286 V**
590,55	*635,00*	*19,05*		
	25.250	0.750	**CR HDL 9371 R**	**CR HDL 9371 V**
	641,35	*19,05*		
	25.250	0.812	**CR HDL 6910 R**	**CR HDL 6910 V**
	641,35	*20,62*		
23.375	25.375	0.875	**CR HDL 4287 R**	**CR HDL 4287 V**
593,72	*644,52*	*22,22*		
23.500	24.681	0.591	**CR HDL 3033 R**	**CR HDL 3033 V**
596,90	*626,90*	*15,00*		
	25.250	0.750	**CR HDL 5547 R**	**CR HDL 5547 V**
	641,35	*19,05*		
	25.500	0.875	**CR HDL 4288 R**	**CR HDL 4288 V**
	647,70	*22,22*		

Series HDL – Inch sizes



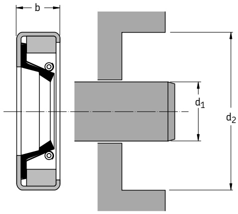
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
23.562	25.250	0.750	**CR HDL 4290 R**	**CR HDL 4290 V**
598,47	*641,35*	*19,05*		
	25.375	0.750	**CR HDL 4291 R**	**CR HDL 4291 V**
	644,52	*19,05*		
23.625	26.000	0.875	**CR HDL 4292 R**	**CR HDL 4292 V**
600,07	*660,40*	*22,22*		
23.750	25.250	1.000	**CR HDL 6239 R**	**CR HDL 6239 V**
603,25	*641,35*	*25,40*		
23.875	26.000	0.875	**CR HDL 4293 R**	**CR HDL 4293 V**
606,42	*660,40*	*22,22*		
24.000	25.500	0.750	**CR HDL 4623 R**	**CR HDL 4623 V**
609,60	*647,70*	*19,05*		
	26.000	0.750	**CR HDL 9988 R**	**CR HDL 9988 V**
	660,40	*19,05*		
	26.000	0.812	**CR HDL 4295 R**	**CR HDL 4295 V**
	660,40	*20,62*		
	26.000	0.875	**CR HDL 4294 R**	**CR HDL 4294 V**
	660,40	*22,22*		
	26.250	0.875	**CR HDL 6293 R**	**CR HDL 6293 V**
	666,75	*22,22*		
	26.500	0.875	**CR HDL 4297 R**	**CR HDL 4297 V**
	673,10	*22,22*		
	27.000	0.875	**CR HDL 5644 R**	**CR HDL 5644 V**
	685,80	*22,22*		
24.250	26.250	0.875	**CR HDL 4301 R**	**CR HDL 4301 V**
615,95	*666,75*	*22,22*		
	26.250	1.000	**CR HDL 3770 R**	**CR HDL 3770 V**
	666,75	*25,40*		
24.437	26.000	0.750	**CR HDL 4302 R**	**CR HDL 4302 V**
620,69	*660,40*	*19,05*		
	26.437	0.750	**CR HDL 4304 R**	**CR HDL 4304 V**
	671,49	*19,05*		
	26.935	1.000	**CR HDL 9990 R**	**CR HDL 9990 V**
	684,15	*25,40*		
24.500	26.500	0.875	**CR HDL 4305 R**	**CR HDL 4305 V**
622,30	*673,10*	*22,22*		

Series HDL – Inch sizes



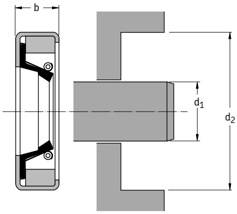
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
25.000	26.500	0.750	**CR HDL 4308 R**	**CR HDL 4308 V**
635,00	*673,10*	*19,05*		
	27.000	0.875	**CR HDL 3774 R**	**CR HDL 3774 V**
	685,80	*22,22*		
	27.000	1.000	**CR HDL 4309 R**	**CR HDL 4309 V**
	685,80	*25,40*		
	27.250	0.875	**CR HDL 6421 R**	**CR HDL 6421 V**
	692,15	*22,22*		
	27.482	0.875	**CR HDL 5997 R**	**CR HDL 5997 V**
	698,05	*22,22*		
25.187	26.875	0.750	**CR HDL 4311 R**	**CR HDL 4311 V**
639,74	*682,62*	*19,05*		
	26.937	0.750	**CR HDL 5994 R**	**CR HDL 5994 V**
	684,19	*19,05*		
25.250	27.250	0.750	**CR HDL 4299 R**	**CR HDL 4299 V**
641,35	*692,15*	*19,05*		
25.500	26.750	0.750	**CR HDL 3022 R**	**CR HDL 3022 V**
647,70	*679,45*	*19,05*		
	27.000	0.875	**CR HDL 4300 R**	**CR HDL 4300 V**
	685,80	*22,22*		
	27.500	0.875	**CR HDL 4318 R**	**CR HDL 4318 V**
	698,50	*22,22*		
25.750	27.500	0.750	**CR HDL 6998 R**	**CR HDL 6998 V**
654,05	*698,50*	*19,05*		
25.875	28.000	0.875	**CR HDL 4303 R**	**CR HDL 4303 V**
657,22	*711,20*	*22,22*		
25.988	27.625	0.750	**CR HDL 4306 R**	**CR HDL 4306 V**
660,09	*701,67*	*19,05*		
26.000	27.625	0.750	**CR HDL 5921 R**	**CR HDL 5921 V**
660,40	*701,67*	*19,05*		
	28.000	0.875	**CR HDL 4325 R**	**CR HDL 4325 V**
	711,20	*22,22*		
	28.125	0.875	**CR HDL 9402 R**	**CR HDL 9402 V**
	714,37	*22,22*		
	28.500	0.875	**CR HDL 4794 R**	**CR HDL 4794 V**
	723,90	*22,22*		

Series HDL – Inch sizes



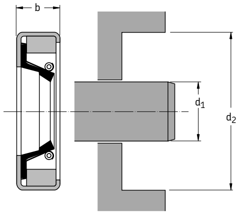
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
26.125	27.625	0.750	**CR HDL 4329 R**	**CR HDL 4329 V**
663,57	*701,67*	*19,05*		
	28.125	0.875	**CR HDL 4330 R**	**CR HDL 4330 V**
	714,37	*22,22*		
26.375	28.188	0.875	**CR HDL 4307 R**	**CR HDL 4307 V**
669,92	*715,97*	*22,22*		
	28.250	0.875	**CR HDL 4312 R**	**CR HDL 4312 V**
	717,55	*22,22*		
26.500	28.000	0.750	**CR HDL 4533 R**	**CR HDL 4533 V**
673,10	*711,20*	*19,05*		
	28.500	0.875	**CR HDL 4313 R**	**CR HDL 4313 V**
	723,90	*22,22*		
27.000	29.000	0.875	**CR HDL 4333 R**	**CR HDL 4333 V**
685,80	*736,60*	*22,22*		
	29.500	0.875	**CR HDL 8031 R**	**CR HDL 8031 V**
	749,30	*22,22*		
	30.000	0.875	**CR HDL 9984 R**	**CR HDL 9984 V**
	762,00	*22,22*		
27.250	29.250	0.875	**CR HDL 4626 R**	**CR HDL 4626 V**
692,15	*742,95*	*22,22*		
27.500	29.000	0.750	**CR HDL 4315 R**	**CR HDL 4315 V**
698,50	*736,60*	*19,05*		
	29.500	0.875	**CR HDL 4339 R**	**CR HDL 4339 V**
	749,30	*22,22*		
27.625	29.625	0.750	**CR HDL 5001 R**	**CR HDL 5001 V**
701,67	*752,47*	*19,05*		
	29.500	0.750	**CR HDL 4336 R**	**CR HDL 4336 V**
	749,30	*19,05*		
27.875	29.812	0.875	**CR HDL 4341 R**	**CR HDL 4341 V**
708,02	*757,22*	*22,22*		

Series HDL – Inch sizes



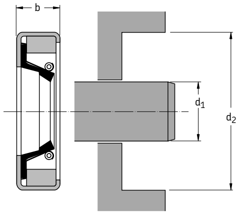
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
28.000	29.500	0.750	**CR HDL 4343 R**	**CR HDL 4343 V**
711,20	*749,30*	*19,05*		
	29.625	0.750	**CR HDL 7828 R**	**CR HDL 7828 V**
	752,47	*19,05*		
	29.813	0.750	**CR HDL 4316 R**	**CR HDL 4316 V**
	757,25	*19,05*		
	30.000	0.875	**CR HDL 4344 R**	**CR HDL 4344 V**
	762,00	*22,22*		
	30.250	0.812	**CR HDL 4320 R**	**CR HDL 4320 V**
	768,35	*20,62*		
	30.500	0.875	**CR HDL 3878 R**	**CR HDL 3878 V**
	774,70	*22,22*		
	31.000	0.875	**CR HDL 5998 R**	**CR HDL 5998 V**
	787,40	*22,22*		
28.438	31.000	0.875	**CR HDL 4321 R**	**CR HDL 4321 V**
722,32	*787,40*	*22,22*		
28.500	30.500	0.875	**CR HDL 4346 R**	**CR HDL 4346 V**
723,90	*774,70*	*22,22*		
	31.000	0.875	**CR HDL 4534 R**	**CR HDL 4534 V**
	787,40	*22,22*		
28.750	30.750	0.875	**CR HDL 4628 R**	**CR HDL 4628 V**
730,25	*781,05*	*22,22*		
29.000	30.500	0.750	**CR HDL 4347 R**	**CR HDL 4347 V**
736,60	*774,70*	*19,05*		
	31.000	0.875	**CR HDL 4348 R**	**CR HDL 4348 V**
	787,40	*22,22*		
	31.500	1.000	**CR HDL 8793 R**	**CR HDL 8793 V**
	800,10	*25,40*		
	32.000	0.875	**CR HDL 4537 R**	**CR HDL 4537 V**
	812,80	*22,22*		

Series HDL – Inch sizes



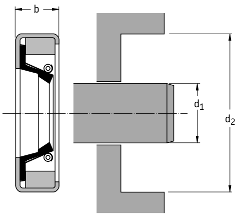
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
29.500	31.500	0.875	**CR HDL 4352 R**	**CR HDL 4352 V**
749,30	*800,10*	*22,22*		
	31.500	1.000	**CR HDL 3791 R**	**CR HDL 3791 V**
	800,10	*25,40*		
	32.000	0.875	**CR HDL 4538 R**	**CR HDL 4538 V**
	812,80	*22,22*		
	32.250	0.875	**CR HDL 4322 R**	**CR HDL 4322 V**
	819,15	*22,22*		
	32.500	0.875	**CR HDL 4539 R**	**CR HDL 4539 V**
	825,50	*22,22*		
30.000	31.500	0.750	**CR HDL 4356 R**	**CR HDL 4356 V**
762,00	*800,10*	*19,05*		
	31.616	0.750	**CR HDL 5000 R**	**CR HDL 5000 V**
	803,04	*19,05*		
	31.625	0.750	**CR HDL 7870 R**	**CR HDL 7870 V**
	803,27	*19,05*		
	32.000	0.875	**CR HDL 4357 R**	**CR HDL 4357 V**
	812,80	*22,22*		
	32.250	0.875	**CR HDL 4323 R**	**CR HDL 4323 V**
	819,15	*22,22*		
	32.500	0.875	**CR HDL 4358 R**	**CR HDL 4358 V**
	825,50	*22,22*		
	32.500	1.000	**CR HDL 3797 R**	**CR HDL 3797 V**
	825,50	*25,40*		
	32.750	0.875	**CR HDL 4359 R**	**CR HDL 4359 V**
	831,85	*22,22*		
	33.000	0.875	**CR HDL 4360 R**	**CR HDL 4360 V**
	838,20	*22,22*		
30.250	32.500	0.875	**CR HDL 4906 R**	**CR HDL 4906 V**
768,35	*825,50*	*22,22*		
30.312	32.375	0.875	**CR HDL 4361 R**	**CR HDL 4361 V**
769,92	*822,32*	*22,22*		
30.500	32.500	0.875	**CR HDL 4365 R**	**CR HDL 4365 V**
774,70	*825,50*	*22,22*		
	33.000	0.875	**CR HDL 8577 R**	**CR HDL 8577 V**
	838,20	*22,22*		
	33.500	0.875	**CR HDL 8230 R**	**CR HDL 8230 V**
	850,90	*22,22*		

Series HDL – Inch sizes



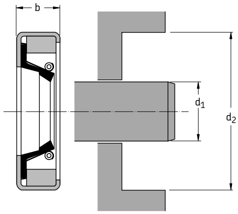
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
31.000	32.500	0.750	**CR HDL 5739 R**	**CR HDL 5739 V**
787,40	*825,50*	*19,05*		
	33.000	0.875	**CR HDL 4367 R**	**CR HDL 4367 V**
	838,20	*22,22*		
	33.500	0.875	**CR HDL 4540 R**	**CR HDL 4540 V**
	850,90	*22,22*		
	34.000	0.875	**CR HDL 4541 R**	**CR HDL 4541 V**
	863,60	*22,22*		
31.250	32.750	0.750	**CR HDL 4631 R**	**CR HDL 4631 V**
793,75	*831,85*	*19,05*		
	33.250	0.750	**CR HDL 5033 R**	**CR HDL 5033 V**
	844,55	*19,05*		
31.750	33.750	0.875	**CR HDL 5016 R**	**CR HDL 5016 V**
806,45	*857,25*	*22,22*		
32.000	33.500	0.750	**CR HDL 3023 R**	**CR HDL 3023 V**
812,80	*850,90*	*19,05*		
	34.000	0.875	**CR HDL 4632 R**	**CR HDL 4632 V**
	863,60	*22,22*		
	34.500	0.875	**CR HDL 8407 R**	**CR HDL 8407 V**
	876,30	*22,22*		
32.125	34.125	0.875	**CR HDL 4371 R**	**CR HDL 4371 V**
815,97	*866,77*	*22,22*		
	34.625	0.875	**CR HDL 7537 R**	**CR HDL 7537 V**
	879,47	*22,22*		
	34.125	0.750	**CR HDL 3002 R**	**CR HDL 3002 V**
	866,77	*19,05*		
32.312	34.500	0.875	**CR HDL 4373 R**	**CR HDL 4373 V**
820,72	*876,30*	*22,22*		
32.500	34.500	0.875	**CR HDL 4377 R**	**CR HDL 4377 V**
825,50	*876,30*	*22,22*		
32.750	34.250	0.750	**CR HDL 4542 R**	**CR HDL 4542 V**
831,85	*869,95*	*19,05*		
	35.000	0.875	**CR HDL 8289 R**	**CR HDL 8289 V**
	889,00	*22,22*		

Series HDL – Inch sizes



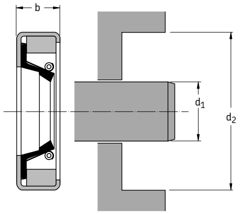
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
33.000	34.500	0.750	**CR HDL 4381 R**	**CR HDL 4381 V**
838,20	*876,30*	*19,05*		
	34.625	0.750	**CR HDL 6787 R**	**CR HDL 6787 V**
	879,47	*19,05*		
	34.650	0.787	**CR HDL 4634 R**	**CR HDL 4634 V**
	880,10	*20,00*		
	34.687	0.750	**CR HDL 6152 R**	**CR HDL 6152 V**
	881,04	*19,05*		
	35.000	0.875	**CR HDL 4382 R**	**CR HDL 4382 V**
	889,00	*22,22*		
	35.250	0.875	**CR HDL 4326 R**	**CR HDL 4326 V**
	895,35	*22,22*		
	35.500	0.875	**CR HDL 4544 R**	**CR HDL 4544 V**
	901,70	*22,22*		
33.500	35.000	0.875	**CR HDL 9504 R**	**CR HDL 9504 V**
850,90	*889,00*	*22,22*		
	35.500	0.875	**CR HDL 4389 R**	**CR HDL 4389 V**
	901,70	*22,22*		
	35.625	0.875	**CR HDL 4548 R**	**CR HDL 4548 V**
	904,87	*22,22*		
	35.625	0.875	**CR HDL 4327 R**	**CR HDL 4327 V**
	904,87	*22,22*		
	35.750	0.875	**CR HDL 4549 R**	**CR HDL 4549 V**
	908,05	*22,22*		
	36.000	0.875	**CR HDL 4550 R**	**CR HDL 4550 V**
	914,40	*22,22*		
	36.417	0.875	**CR HDL 4552 R**	**CR HDL 4552 V**
	924,99	*22,22*		
33.625	35.625	0.875	**CR HDL 4328 R**	**CR HDL 4328 V**
854,07	*904,87*	*22,22*		
34.000	35.625	0.875	**CR HDL 4331 R**	**CR HDL 4331 V**
863,60	*904,87*	*22,22*		
	36.000	0.875	**CR HDL 4399 R**	**CR HDL 4399 V**
	914,40	*22,22*		
	36.500	0.875	**CR HDL 4400 R**	**CR HDL 4400 V**
	927,10	*22,22*		
	37.000	0.875	**CR HDL 4332 R**	**CR HDL 4332 V**
	939,80	*22,22*		

Series HDL – Inch sizes



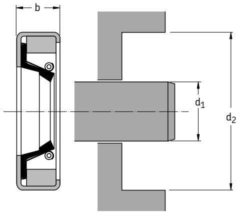
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
34.250	36.000	0.750	**CR HDL 3017 R**	**CR HDL 3017 V**
869,95	*914,40*	*19,05*		
	36.250	0.875	**CR HDL 4401 R**	**CR HDL 4401 V**
	920,75	*22,22*		
	36.750	0.875	**CR HDL 4335 R**	**CR HDL 4335 V**
	933,45	*22,22*		
	37.500	0.875	**CR HDL 4338 R**	**CR HDL 4338 V**
	952,50	*22,22*		
34.500	36.000	0.750	**CR HDL 6908 R**	**CR HDL 6908 V**
876,30	*914,40*	*19,05*		
	36.500	0.875	**CR HDL 4405 R**	**CR HDL 4405 V**
	927,10	*22,22*		
	36.500	1.000	**CR HDL 3021 R**	**CR HDL 3021 V**
	927,10	*25,40*		
	37.500	0.875	**CR HDL 4338 R**	**CR HDL 4338 V**
	952,50	*22,22*		
34.750	36.750	0.875	**CR HDL 3831 R**	**CR HDL 3831 V**
882,65	*933,45*	*22,22*		
35.000	37.000	0.875	**CR HDL 3835 R**	**CR HDL 3835 V**
889,00	*939,80*	*22,22*		
	37.500	0.875	**CR HDL 3836 R**	**CR HDL 3836 V**
	952,50	*22,22*		
	38.000	0.875	**CR HDL 3837 R**	**CR HDL 3837 V**
	965,20	*22,22*		
35.250	37.250	0.875	**CR HDL 4416 R**	**CR HDL 4416 V**
895,35	*946,15*	*22,22*		
	38.250	0.812	**CR HDL 4647 R**	**CR HDL 4647 V**
	971,55	*20,62*		
35.375	37.375	0.875	**CR HDL 4417 R**	**CR HDL 4417 V**
898,52	*949,32*	*22,22*		
35.437	38.583	0.875	**CR HDL 9079 R**	**CR HDL 9079 V**
900,09	*980,00*	*22,22*		
35.496	37.996	0.984	**CR HDL 3001 R**	**CR HDL 3001 V**
901,60	*965,10*	*25,00*		
35.500	37.500	0.875	**CR HDL 4553 R**	**CR HDL 4553 V**
901,70	*952,50*	*22,22*		
35.827	38.077	0.687	**CR HDL 3003 R**	**CR HDL 3003 V**
910,00	*967,15*	*17,45*		

Series HDL – Inch sizes



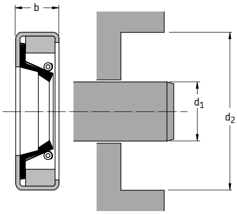
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
36.000	38.000	0.875	**CR HDL 4421 R**	**CR HDL 4421 V**
914,40	*965,20*	*22,22*		
	38.500	1.000	**CR HDL 9993 R**	**CR HDL 9993 V**
	977,90	*25,40*		
36.500	38.000	0.750	**CR HDL 4429 R**	**CR HDL 4429 V**
927,10	*965,20*	*19,05*		
	38.500	0.875	**CR HDL 4430 R**	**CR HDL 4430 V**
	977,90	*22,22*		
36.750	38.750	0.875	**CR HDL 4432 R**	**CR HDL 4432 V**
933,45	*984,25*	*22,22*		
	39.250	0.875	**CR HDL 7428 R**	**CR HDL 7428 V**
	996,95	*22,22*		
37.000	39.000	0.875	**CR HDL 4434 R**	**CR HDL 4434 V**
939,80	*990,60*	*22,22*		
37.250	39.250	0.875	**CR HDL 4436 R**	**CR HDL 4436 V**
946,15	*996,95*	*22,22*		
37.374	39.500	0.875	**CR HDL 4425 R**	**CR HDL 4425 V**
949,30	*1 003,30*	*22,22*		
37.437	39.500	0.875	**CR HDL 3847 R**	**CR HDL 3847 V**
950,89	*1 003,30*	*22,22*		
37.500	39.000	0.750	**CR HDL 9411 R**	**CR HDL 9411 V**
952,50	*990,60*	*19,05*		
	39.500	0.875	**CR HDL 4438 R**	**CR HDL 4438 V**
	1 003,30	*22,22*		
38.000	39.500	0.750	**CR HDL 3004 R**	**CR HDL 3004 V**
965,20	*1 003,30*	*19,05*		
	40.000	0.875	**CR HDL 4448 R**	**CR HDL 4448 V**
	1 016,00	*22,22*		
	41.000	0.875	**CR HDL 4340 R**	**CR HDL 4340 V**
	1 041,40	*22,22*		
38.250	40.250	0.875	**CR HDL 4454 R**	**CR HDL 4454 V**
971,55	*1 022,35*	*22,22*		
	40.750	0.875	**CR HDL 4567 R**	**CR HDL 4567 V**
	1 035,05	*22,22*		
	41.250	0.875	**CR HDL 4569 R**	**CR HDL 4569 V**
	1 047,75	*22,22*		

Series HDL – Inch sizes



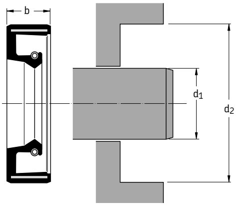
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
38.258	40.750	0.875	**CR HDL 4342 R**	**CR HDL 4342 V**
971,75	*1 035,05*	*22,22*		
38.500	41.000	0.875	**CR HDL 4349 R**	**CR HDL 4349 V**
977,90	*1 041,40*	*22,22*		
38.750	40.750	0.875	**CR HDL 4456 R**	**CR HDL 4456 V**
984,25	*1 035,05*	*22,22*		
	41.000	0.875	**CR HDL 4570 R**	**CR HDL 4570 V**
	1 041,40	*22,22*		
38.937	41.000	0.875	**CR HDL 4462 R**	**CR HDL 4462 V**
988,99	*1 041,40*	*22,22*		
39.000	41.000	0.875	**CR HDL 4465 R**	**CR HDL 4465 V**
990,60	*1 041,40*	*22,22*		
	41.500	0.875	**CR HDL 4350 R**	**CR HDL 4350 V**
	1 054,10	*22,22*		
	42.250	0.875	**CR HDL 4577 R**	**CR HDL 4577 V**
	1 073,15	*22,22*		
39.750	42.250	0.875	**CR HDL 7538 R**	**CR HDL 7538 V**
1 009,65	*1 073,15*	*22,22*		
40.000	42.000	0.875	**CR HDL 4467 R**	**CR HDL 4467 V**
1 016,00	*1 066,80*	*22,22*		
	42.500	0.875	**CR HDL 8791 R**	**CR HDL 8791 V**
	1 079,50	*22,22*		
	42.500	1.000	**CR HDL 8599 R**	**CR HDL 8599 V**
	1 079,50	*25,40*		
40.500	42.500	0.875	**CR HDL 4468 R**	**CR HDL 4468 V**
1 028,70	*1 079,50*	*22,22*		
	43.000	0.875	**CR HDL 7300 R**	**CR HDL 7300 V**
	1 092,20	*22,22*		
	43.020	0.875	**CR HDL 1964 R**	**CR HDL 1964 V**
	1 092,70	*22,22*		
41.500	43.500	0.875	**CR HDL 4635 R**	**CR HDL 4635 V**
1 054,10	*1 104,90*	*22,22*		
41.875	43.500	1.000	**CR HDL 8628 R**	**CR HDL 8628 V**
1 063,62	*1 104,90*	*25,40*		
42.248	44.248	1.000	**CR HDL 4470 R**	**CR HDL 4470 V**
1 073,10	*1 123,90*	*25,40*		

Series HDL – Inch sizes



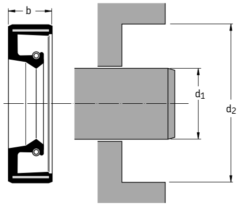
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
42.500	44.250	0.875	**CR HDL 5555 R**	**CR HDL 5555 V**
1 079,50	*1 123,95*	*22,22*		
	45.000	0.875	**CR HDL 4473 R**	**CR HDL 4473 V**
	1 143,00	*22,22*		
	45.500	0.875	**CR HDL 6269 R**	**CR HDL 6269 V**
	1 155,70	*22,22*		
43.000	45.500	0.875	**CR HDL 7189 R**	**CR HDL 7189 V**
1 092,20	*1 155,70*	*22,22*		
	45.500	1.000	**CR HDL 9994 R**	**CR HDL 9994 V**
	1 155,70	*25,40*		
43.500	45.500	0.875	**CR HDL 4637 R**	**CR HDL 4637 V**
1 104,90	*1 155,70*	*22,22*		
43.750	45.750	0.875	**CR HDL 4638 R**	**CR HDL 4638 V**
1 111,25	*1 162,05*	*22,22*		
44.000	46.000	0.875	**CR HDL 7087 R**	**CR HDL 7087 V**
1 117,60	*1 168,40*	*22,22*		
	46.500	0.875	**CR HDL 4475 R**	**CR HDL 4475 V**
	1 181,10	*22,22*		
	46.500	1.000	**CR HDL 3024 R**	**CR HDL 3024 V**
	1 181,10	*25,40*		
44.500	46.000	0.750	**CR HDL 4563 R**	**CR HDL 4563 V**
1 130,30	*1 168,40*	*19,05*		
	46.625	1.000	**CR HDL 8903 R**	**CR HDL 8903 V**
	1 184,27	*25,40*		
46.004	47.500	0.750	**CR HDL 3006 R**	**CR HDL 3006 V**
1 168,50	*1 206,50*	*19,05*		
46.500	48.500	0.875	**CR HDL 4578 R**	**CR HDL 4578 V**
1 181,10	*1 231,90*	*22,22*		
46.850	48.819	0.875	**CR HDL 8317 R**	**CR HDL 8317 V**
1 189,99	*1 240,00*	*22,22*		
48.000	50.000	0.875	**CR HDL 8579 R**	**CR HDL 8579 V**
1 219,20	*1 270,00*	*22,22*		
48.250	50.250	0.875	**CR HDL 4639 R**	**CR HDL 4639 V**
1 225,55	*1 276,35*	*22,22*		
51.248	53.289	0.875	**CR HDL 6747 R**	**CR HDL 6747 V**
1 301,71	*1 353,55*	*22,22*		
51.250	53.300	0.875	**CR HDL 1914 R**	**CR HDL 1914 V**
1 301,75	*1 353,82*	*22,22*		

Series SBF – Metric sizes



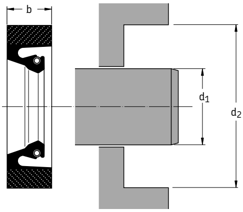
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
in *(mm)*				
175	205	15	**CR 175×205×15 SBF R**	**CR 175×205×15 SBF V**
230	260	15	**CR 230×260×15 SBF R**	**CR 230×260×15 SBF V**
240	270	15	**CR 240×270×15 SBF R**	**CR 240×270×15 SBF V**
	280	16	**CR 240×280×16 SBF R**	**CR 240×280×16 SBF V**
245	275	16	**CR 245×275×16 SBF R**	**CR 245×275×16 SBF V**
260	290	16	**CR 260×290×16 SBF R**	**CR 260×290×16 SBF V**
	310	16	**CR 260×310×16 SBF R**	**CR 260×310×16 SBF V**
270	235	16	**CR 270×235×16 SBF R**	**CR 270×235×16 SBF V**
290	330	18	**CR 290×330×18 SBF R**	**CR 290×330×18 SBF V**
	334	20	**CR 290×334×20 SBF R**	**CR 290×334×20 SBF V**
300	344	20	**CR 300×344×20 SBF R**	**CR 300×344×20 SBF V**
316	360	20	**CR 316×360×20 SBF R**	**CR 316×360×20 SBF V**
325	365	16	**CR 325×365×16 SBF R**	**CR 325×365×16 SBF V**
340	380	20	**CR 340×380×20 SBF R**	**CR 340×380×20 SBF V**
360	400	20	**CR 360×400×20 SBF R**	**CR 360×400×20 SBF V**
385	430	25	**CR 385×430×25 SBF R**	**CR 385×430×25 SBF V**
390	430	20	**CR 390×430×20 SBF R**	**CR 390×430×20 SBF V**
400	440	20	**CR 400×440×20 SBF R**	**CR 400×440×20 SBF V**
430	480	22	**CR 430×480×22 SBF R**	**CR 430×480×22 SBF V**
440	490	25	**CR 440×490×25 SBF R**	**CR 440×490×25 SBF V**
450	500	25	**CR 450×500×25 SBF R**	**CR 450×500×25 SBF V**
900	960	27	**CR 900×960×27 SBF R**	**CR 900×960×27 SBF V**

Series SBF – Inch sizes



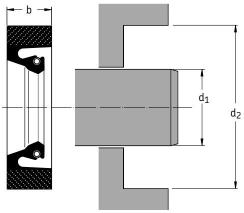
Dimensions			SKF Designation	
shaft	bore	seal width	Lip material	
d_1	d_2	b	R	V
in *(mm)*				
11.000 *279,4*	12.500 *317,5*	0.625 *15,88*	**CR SBF 5809 R**	**CR SBF 5809 V**
20.500 *520,7*	22.500 *571,5*	0.875 *22,23*	**CR SBF 7083 R**	**CR SBF 7083 V**
21.500 *546,1*	23.469 *596,11*	0.875 *22,23*	**CR SBF 7175 R**	**CR SBF 7175 V**
23.000 *584,2*	24.500 *622,3*	0.750 *19,05*	**CR SBF 7270 R**	**CR SBF 7270 V**
27.500 *698,5*	29.500 *749,3*	1.000 *25,4*	**CR SBF 7406 R**	**CR SBF 7406 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



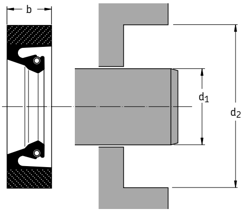
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
40	60	10	**CR 40×60×10 HSF1 R** **CR 40×60×10 HSF1 V**	**CR 40×60×10 HSF5 R** **CR 40×60×10 HSF5 V**
55	80	12,2	**CR 55×80×12.2 HSF1 R** **CR 55×80×12.2 HSF1 V**	**CR 55×80×12.2 HSF5 R** **CR 55×80×12.2 HSF5 V**
60	80	10	**CR 60×80×10 HSF1 R** **CR 60×80×10 HSF1 V**	**CR 60×80×10 HSF5 R** **CR 60×80×10 HSF5 V**
70	102	12,5	**CR 70×102×12.5 HSF1 R** **CR 70×102×12.5 HSF1 V**	**CR 70×102×12.5 HSF5 R** **CR 70×102×12.5 HSF5 V**
80	100	8	**CR 80×100×8 HSF1 R** **CR 80×100×8 HSF1 V**	**CR 80×100×8 HSF5 R** **CR 80×100×8 HSF5 V**
	100	10	**CR 80×100×10 HSF1 R** **CR 80×100×10 HSF1 V**	**CR 80×100×10 HSF5 R** **CR 80×100×10 HSF5 V**
	112	12,5	**CR 80×112×12.5 HSF1 R** **CR 80×112×12.5 HSF1 V**	**CR 80×112×12.5 HSF5 R** **CR 80×112×12.5 HSF5 V**
84	100	8	**CR 84×100×8 HSF1 R** **CR 84×100×8 HSF1 V**	**CR 84×100×8 HSF5 R** **CR 84×100×8 HSF5 V**
85	101	8	**CR 85×101×8 HSF1 R** **CR 85×101×8 HSF1 V**	**CR 85×101×8 HSF5 R** **CR 85×101×8 HSF5 V**
	109	12	**CR 85×109×12 HSF1 R** **CR 85×109×12 HSF1 V**	**CR 85×109×12 HSF5 R** **CR 85×109×12 HSF5 V**
	120	12	**CR 85×120×12 HSF1 R** **CR 85×120×12 HSF1 V**	**CR 85×120×12 HSF5 R** **CR 85×120×12 HSF5 V**
90	110	12	**CR 90×110×12 HSF1 R** **CR 90×110×12 HSF1 V**	**CR 90×110×12 HSF5 R** **CR 90×110×12 HSF5 V**
	122	12,5	**CR 90×122×12.5 HSF1 R** **CR 90×122×12.5 HSF1 V**	**CR 90×122×12.5 HSF5 R** **CR 90×122×12.5 HSF5 V**
100	116	8	**CR 100×116×8 HSF1 R** **CR 100×116×8 HSF1 V**	**CR 100×116×8 HSF5 R** **CR 100×116×8 HSF5 V**
	125	10	**CR 100×125×10 HSF1 R** **CR 100×125×10 HSF1 V**	**CR 100×125×10 HSF5 R** **CR 100×125×10 HSF5 V**
	130	10	**CR 100×130×10 HSF1 R** **CR 100×130×10 HSF1 V**	**CR 100×130×10 HSF5 R** **CR 100×130×10 HSF5 V**
110	130	12	**CR 110×130×12 HSF1 R** **CR 110×130×12 HSF1 V**	**CR 110×130×12 HSF5 R** **CR 110×130×12 HSF5 V**
	140	13	**CR 110×140×13 HSF1 R** **CR 110×140×13 HSF1 V**	**CR 110×140×13 HSF5 R** **CR 110×140×13 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



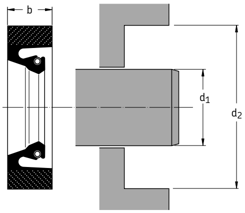
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
120	150	13	**CR 120×150×13 HSF1 R**	**CR 120×150×13 HSF5 R**
			CR 120×150×13 HSF1 V	**CR 120×150×13 HSF5 V**
	160	16	**CR 120×160×16 HSF1 R**	**CR 120×160×16 HSF5 R**
			CR 120×160×16 HSF1 V	**CR 120×160×16 HSF5 V**
125	155	12,5	**CR 125×155×12.5 HSF1 R**	**CR 125×155×12.5 HSF5 R**
			CR 125×155×12.5 HSF1 V	**CR 125×155×12.5 HSF5 V**
	157	12,5	**CR 125×157×12.5 HSF1 R**	**CR 125×157×12.5 HSF5 R**
			CR 125×157×12.5 HSF1 V	**CR 125×157×12.5 HSF5 V**
	160	12	**CR 125×160×12 HSF1 R**	**CR 125×160×12 HSF5 R**
			CR 125×160×12 HSF1 V	**CR 125×160×12 HSF5 V**
127	146,05	11,11	**CR 127×146.05×11.11 HSF1 R**	**CR 127×146.05×11.11 HSF5 R**
			CR 127×146.05×11.11 HSF1 V	**CR 127×146.05×11.11 HSF5 V**
	165	16	**CR 127×165×16 HSF1 R**	**CR 127×165×16 HSF5 R**
			CR 127×165×16 HSF1 V	**CR 127×165×16 HSF5 V**
135	160	12	**CR 135×160×12 HSF1 R**	**CR 135×160×12 HSF5 R**
			CR 135×160×12 HSF1 V	**CR 135×160×12 HSF5 V**
	170	16,5	**CR 135×170×16.5 HSF1 R**	**CR 135×170×16.5 HSF5 R**
			CR 135×170×16.5 HSF1 V	**CR 135×170×16.5 HSF5 V**
140	170	12	**CR 140×170×12 HSF1 R**	**CR 140×170×12 HSF5 R**
			CR 140×170×12 HSF1 V	**CR 140×170×12 HSF5 V**
	170	15	**CR 140×170×15 HSF1 R**	**CR 140×170×15 HSF5 R**
			CR 140×170×15 HSF1 V	**CR 140×170×15 HSF5 V**
145	180	14	**CR 145×180×14 HSF1 R**	**CR 145×180×14 HSF5 R**
			CR 145×180×14 HSF1 V	**CR 145×180×14 HSF5 V**
150	180	12	**CR 150×180×12 HSF1 R**	**CR 150×180×12 HSF5 R**
			CR 150×180×12 HSF1 V	**CR 150×180×12 HSF5 V**
160	190	15	**CR 160×190×15 HSF1 R**	**CR 160×190×15 HSF5 R**
			CR 160×190×15 HSF1 V	**CR 160×190×15 HSF5 V**
	190	16,5	**CR 160×190×16.5 HSF1 R**	**CR 160×190×16.5 HSF5 R**
			CR 160×190×16.5 HSF1 V	**CR 160×190×16.5 HSF5 V**
	200	10	**CR 160×200×10 HSF1 R**	**CR 160×200×10 HSF5 R**
			CR 160×200×10 HSF1 V	**CR 160×200×10 HSF5 V**
	200	16	**CR 160×200×16 HSF1 R**	**CR 160×200×16 HSF5 R**
			CR 160×200×16 HSF1 V	**CR 160×200×16 HSF5 V**
170	200	12	**CR 170×200×12 HSF1 R**	**CR 170×200×12 HSF5 R**
			CR 170×200×12 HSF1 V	**CR 170×200×12 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



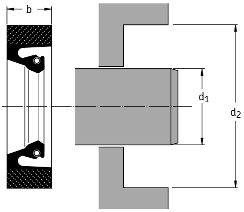
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R Lip material V	Lip material R Lip material V
mm				
170	200	16	**CR 170×200×16 HSF1 R**	**CR 170×200×16 HSF5 R**
			CR 170×200×16 HSF1 V	**CR 170×200×16 HSF5 V**
	210	16	**CR 170×210×16 HSF1 R**	**CR 170×210×16 HSF5 R**
			CR 170×210×16 HSF1 V	**CR 170×210×16 HSF5 V**
	211	16	**CR 170×211×16 HSF1 R**	**CR 170×211×16 HSF5 R**
			CR 170×211×16 HSF1 V	**CR 170×211×16 HSF5 V**
175	200	15	**CR 175×200×15 HSF1 R**	**CR 175×200×15 HSF5 R**
			CR 175×200×15 HSF1 V	**CR 175×200×15 HSF5 V**
180	200	15	**CR 180×200×15 HSF1 R**	**CR 180×200×15 HSF5 R**
			CR 180×200×15 HSF1 V	**CR 180×200×15 HSF5 V**
	210	15	**CR 180×210×15 HSF1 R**	**CR 180×210×15 HSF5 R**
			CR 180×210×15 HSF1 V	**CR 180×210×15 HSF5 V**
	222	16	**CR 180×222×16 HSF1 R**	**CR 180×222×16 HSF5 R**
			CR 180×222×16 HSF1 V	**CR 180×222×16 HSF5 V**
185	225	16	**CR 185×225×16 HSF1 R**	**CR 185×225×16 HSF5 R**
			CR 185×225×16 HSF1 V	**CR 185×225×16 HSF5 V**
190	150	16	**CR 190×150×16 HSF1 R**	**CR 190×150×16 HSF5 R**
			CR 190×150×16 HSF1 V	**CR 190×150×16 HSF5 V**
	220	15	**CR 190×220×15 HSF1 R**	**CR 190×220×15 HSF5 R**
			CR 190×220×15 HSF1 V	**CR 190×220×15 HSF5 V**
	225	18	**CR 190×225×18 HSF1 R**	**CR 190×225×18 HSF5 R**
			CR 190×225×18 HSF1 V	**CR 190×225×18 HSF5 V**
	230	10	**CR 190×230×10 HSF1 R**	**CR 190×230×10 HSF5 R**
			CR 190×230×10 HSF1 V	**CR 190×230×10 HSF5 V**
	230	16	**CR 190×230×16 HSF1 R**	**CR 190×230×16 HSF5 R**
			CR 190×230×16 HSF1 V	**CR 190×230×16 HSF5 V**
200	240	16	**CR 200×240×16 HSF1 R**	**CR 200×240×16 HSF5 R**
			CR 200×240×16 HSF1 V	**CR 200×240×16 HSF5 V**
	250	18	**CR 200×250×18 HSF1 R**	**CR 200×250×18 HSF5 R**
			CR 200×250×18 HSF1 V	**CR 200×250×18 HSF5 V**
210	240	12	**CR 210×240×12 HSF1 R**	**CR 210×240×12 HSF5 R**
			CR 210×240×12 HSF1 V	**CR 210×240×12 HSF5 V**
	245	18,2	**CR 210×245×18.2 HSF1 R**	**CR 210×245×18.2 HSF5 R**
			CR 210×245×18.2 HSF1 V	**CR 210×245×18.2 HSF5 V**
	250	16	**CR 210×250×16 HSF1 R**	**CR 210×250×16 HSF5 R**
			CR 210×250×16 HSF1 V	**CR 210×250×16 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



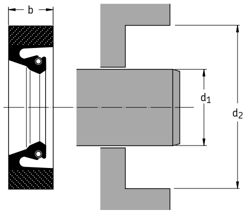
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
215	248	15	**CR 215×248×15 HSF1 R**	**CR 215×248×15 HSF5 R**
			CR 215×248×15 HSF1 V	**CR 215×248×15 HSF5 V**
	250	16	**CR 215×250×16 HSF1 R**	**CR 215×250×16 HSF5 R**
			CR 215×250×16 HSF1 V	**CR 215×250×16 HSF5 V**
220	180	16	**CR 220×180×16 HSF1 R**	**CR 220×180×16 HSF5 R**
			CR 220×180×16 HSF1 V	**CR 220×180×16 HSF5 V**
	255	18	**CR 220×255×18 HSF1 R**	**CR 220×255×18 HSF5 R**
			CR 220×255×18 HSF1 V	**CR 220×255×18 HSF5 V**
	260	16	**CR 220×260×16 HSF1 R**	**CR 220×260×16 HSF5 R**
			CR 220×260×16 HSF1 V	**CR 220×260×16 HSF5 V**
	260	16,5	**CR 220×260×16.5 HSF1 R**	**CR 220×260×16.5 HSF5 R**
			CR 220×260×16.5 HSF1 V	**CR 220×260×16.5 HSF5 V**
226	276	22,22	**CR 226×276×22.22 HSF1 R**	**CR 226×276×22.22 HSF5 R**
			CR 226×276×22.22 HSF1 V	**CR 226×276×22.22 HSF5 V**
230	260	15	**CR 230×260×15 HSF1 R**	**CR 230×260×15 HSF5 R**
			CR 230×260×15 HSF1 V	**CR 230×260×15 HSF5 V**
	265	18	**CR 230×265×18 HSF1 R**	**CR 230×265×18 HSF5 R**
			CR 230×265×18 HSF1 V	**CR 230×265×18 HSF5 V**
	270	16	**CR 230×270×16 HSF1 R**	**CR 230×270×16 HSF5 R**
			CR 230×270×16 HSF1 V	**CR 230×270×16 HSF5 V**
235	265	15	**CR 235×265×15 HSF1 R**	**CR 235×265×15 HSF5 R**
			CR 235×265×15 HSF1 V	**CR 235×265×15 HSF5 V**
	275	20	**CR 235×275×20 HSF1 R**	**CR 235×275×20 HSF5 R**
			CR 235×275×20 HSF1 V	**CR 235×275×20 HSF5 V**
236	276	16	**CR 236×276×16 HSF1 R**	**CR 236×276×16 HSF5 R**
			CR 236×276×16 HSF1 V	**CR 236×276×16 HSF5 V**
240	275	18	**CR 240×275×18 HSF1 R**	**CR 240×275×18 HSF5 R**
			CR 240×275×18 HSF1 V	**CR 240×275×18 HSF5 V**
	280	16	**CR 240×280×16 HSF1 R**	**CR 240×280×16 HSF5 R**
			CR 240×280×16 HSF1 V	**CR 240×280×16 HSF5 V**
	280	18	**CR 240×280×18 HSF1 R**	**CR 240×280×18 HSF5 R**
			CR 240×280×18 HSF1 V	**CR 240×280×18 HSF5 V**
	290	16	**CR 240×290×16 HSF1 R**	**CR 240×290×16 HSF5 R**
			CR 240×290×16 HSF1 V	**CR 240×290×16 HSF5 V**
	290	25	**CR 240×290×25 HSF1 R**	**CR 240×290×25 HSF5 R**
			CR 240×290×25 HSF1 V	**CR 240×290×25 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



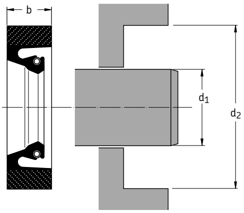
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R Lip material V	Lip material R Lip material V
mm				
250	280	15	**CR 250×280×15 HSF1 R**	**CR 250×280×15 HSF5 R**
			CR 250×280×15 HSF1 V	**CR 250×280×15 HSF5 V**
	285	18	**CR 250×285×18 HSF1 R**	**CR 250×285×18 HSF5 R**
			CR 250×285×18 HSF1 V	**CR 250×285×18 HSF5 V**
	290	16,5	**CR 250×290×16.5 HSF1 R**	**CR 250×290×16.5 HSF5 R**
			CR 250×290×16.5 HSF1 V	**CR 250×290×16.5 HSF5 V**
	290	18	**CR 250×290×18 HSF1 R**	**CR 250×290×18 HSF5 R**
			CR 250×290×18 HSF1 V	**CR 250×290×18 HSF5 V**
260	290	16	**CR 260×290×16 HSF1 R**	**CR 260×290×16 HSF5 R**
			CR 260×290×16 HSF1 V	**CR 260×290×16 HSF5 V**
	300	18	**CR 260×300×18 HSF1 R**	**CR 260×300×18 HSF5 R**
			CR 260×300×18 HSF1 V	**CR 260×300×18 HSF5 V**
	304	20	**CR 260×304×20 HSF1 R**	**CR 260×304×20 HSF5 R**
			CR 260×304×20 HSF1 V	**CR 260×304×20 HSF5 V**
270	310	15	**CR 270×310×15 HSF1 R**	**CR 270×310×15 HSF5 R**
			CR 270×310×15 HSF1 V	**CR 270×310×15 HSF5 V**
	314	20	**CR 270×314×20 HSF1 R**	**CR 270×314×20 HSF5 R**
			CR 270×314×20 HSF1 V	**CR 270×314×20 HSF5 V**
275	315	20	**CR 275×315×20 HSF1 R**	**CR 275×315×20 HSF5 R**
			CR 275×315×20 HSF1 V	**CR 275×315×20 HSF5 V**
280	320	16	**CR 280×320×16 HSF1 R**	**CR 280×320×16 HSF5 R**
			CR 280×320×16 HSF1 V	**CR 280×320×16 HSF5 V**
	320	18	**CR 280×320×18 HSF1 R**	**CR 280×320×18 HSF5 R**
			CR 280×320×18 HSF1 V	**CR 280×320×18 HSF5 V**
	320	20	**CR 280×320×20 HSF1 R**	**CR 280×320×20 HSF5 R**
			CR 280×320×20 HSF1 V	**CR 280×320×20 HSF5 V**
	320	24	**CR 280×320×24 HSF1 R**	**CR 280×320×24 HSF5 R**
			CR 280×320×24 HSF1 V	**CR 280×320×24 HSF5 V**
	324	20	**CR 280×324×20 HSF1 R**	**CR 280×324×20 HSF5 R**
			CR 280×324×20 HSF1 V	**CR 280×324×20 HSF5 V**
	350	16	**CR 280×350×16 HSF1 R**	**CR 280×350×16 HSF5 R**
			CR 280×350×16 HSF1 V	**CR 280×350×16 HSF5 V**
285	310	15	**CR 285×310×15 HSF1 R**	**CR 285×310×15 HSF5 R**
			CR 285×310×15 HSF1 V	**CR 285×310×15 HSF5 V**
289	327	19	**CR 289×327×19 HSF1 R**	**CR 289×327×19 HSF5 R**
			CR 289×327×19 HSF1 V	**CR 289×327×19 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



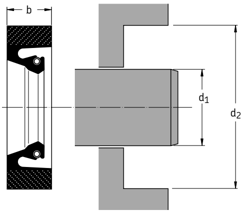
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
290	330	20	CR 290×330×20 HSF1 R	CR 290×330×20 HSF5 R
			CR 290×330×20 HSF1 V	CR 290×330×20 HSF5 V
	330	20,3	CR 290×330×20.3 HSF1 R	CR 290×330×20.3 HSF5 R
			CR 290×330×20.3 HSF1 V	CR 290×330×20.3 HSF5 V
	334	20	CR 290×334×20 HSF1 R	CR 290×334×20 HSF5 R
			CR 290×334×20 HSF1 V	CR 290×334×20 HSF5 V
292	330	15,87	CR 292×330×15.87 HSF1 R	CR 292×330×15.87 HSF5 R
			CR 292×330×15.87 HSF1 V	CR 292×330×15.87 HSF5 V
300	340	16,5	CR 300×340×16.5 HSF1 R	CR 300×340×16.5 HSF5 R
			CR 300×340×16.5 HSF1 V	CR 300×340×16.5 HSF5 V
	340	18	CR 300×340×18 HSF1 R	CR 300×340×18 HSF5 R
			CR 300×340×18 HSF1 V	CR 300×340×18 HSF5 V
	340	20	CR 300×340×20 HSF1 R	CR 300×340×20 HSF5 R
			CR 300×340×20 HSF1 V	CR 300×340×20 HSF5 V
	344	20	CR 300×344×20 HSF1 R	CR 300×344×20 HSF5 R
			CR 300×344×20 HSF1 V	CR 300×344×20 HSF5 V
304	348	20	CR 304×348×20 HSF1 R	CR 304×348×20 HSF5 R
			CR 304×348×20 HSF1 V	CR 304×348×20 HSF5 V
308	352	20	CR 308×352×20 HSF1 R	CR 308×352×20 HSF5 R
			CR 308×352×20 HSF1 V	CR 308×352×20 HSF5 V
310	345	18	CR 310×345×18 HSF1 R	CR 310×345×18 HSF5 R
			CR 310×345×18 HSF1 V	CR 310×345×18 HSF5 V
	354	20	CR 310×354×20 HSF1 R	CR 310×354×20 HSF5 R
			CR 310×354×20 HSF1 V	CR 310×354×20 HSF5 V
	354	20,5	CR 310×354×20.5 HSF1 R	CR 310×354×20.5 HSF5 R
			CR 310×354×20.5 HSF1 V	CR 310×354×20.5 HSF5 V
	360	22	CR 310×360×22 HSF1 R	CR 310×360×22 HSF5 R
			CR 310×360×22 HSF1 V	CR 310×360×22 HSF5 V
311	345	18,3	CR 311×345×18.3 HSF1 R	CR 311×345×18.3 HSF5 R
			CR 311×345×18.3 HSF1 V	CR 311×345×18.3 HSF5 V
314	355	20	CR 314×355×20 HSF1 R	CR 314×355×20 HSF5 R
			CR 314×355×20 HSF1 V	CR 314×355×20 HSF5 V
316	360	20	CR 316×360×20 HSF1 R	CR 316×360×20 HSF5 R
			CR 316×360×20 HSF1 V	CR 316×360×20 HSF5 V

Series HSF1 (split), HSF5 (solid) – Metric sizes



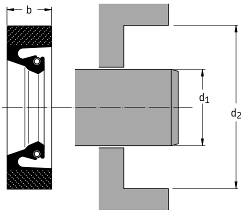
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R Lip material V	Lip material R Lip material V
mm				
320	350	15	**CR 320×350×15 HSF1 R**	**CR 320×350×15 HSF5 R**
			CR 320×350×15 HSF1 V	**CR 320×350×15 HSF5 V**
	350	15,4	**CR 320×350×15.4 HSF1 R**	**CR 320×350×15.4 HSF5 R**
			CR 320×350×15.4 HSF1 V	**CR 320×350×15.4 HSF5 V**
	360	18	**CR 320×360×18 HSF1 R**	**CR 320×360×18 HSF5 R**
			CR 320×360×18 HSF1 V	**CR 320×360×18 HSF5 V**
	360	20	**CR 320×360×20 HSF1 R**	**CR 320×360×20 HSF5 R**
			CR 320×360×20 HSF1 V	**CR 320×360×20 HSF5 V**
328	372	20,2	**CR 328×372×20.2 HSF1 R**	**CR 328×372×20.2 HSF5 R**
			CR 328×372×20.2 HSF1 V	**CR 328×372×20.2 HSF5 V**
330	370	18	**CR 330×370×18 HSF1 R**	**CR 330×370×18 HSF5 R**
			CR 330×370×18 HSF1 V	**CR 330×370×18 HSF5 V**
	370	20	**CR 330×370×20 HSF1 R**	**CR 330×370×20 HSF5 R**
			CR 330×370×20 HSF1 V	**CR 330×370×20 HSF5 V**
	374	20	**CR 330×374×20 HSF1 R**	**CR 330×374×20 HSF5 R**
			CR 330×374×20 HSF1 V	**CR 330×374×20 HSF5 V**
	380,8	20,62	**CR 330×380.8×20.62 HSF1 R**	**CR 330×380.8×20.62 HSF5 R**
			CR 330×380.8×20.62 HSF1 V	**CR 330×380.8×20.62 HSF5 V**
335	373	19	**CR 335×373×19 HSF1 R**	**CR 335×373×19 HSF5 R**
			CR 335×373×19 HSF1 V	**CR 335×373×19 HSF5 V**
340	380	16	**CR 340×380×16 HSF1 R**	**CR 340×380×16 HSF5 R**
			CR 340×380×16 HSF1 V	**CR 340×380×16 HSF5 V**
	380	18	**CR 340×380×18 HSF1 R**	**CR 340×380×18 HSF5 R**
			CR 340×380×18 HSF1 V	**CR 340×380×18 HSF5 V**
	380	20	**CR 340×380×20 HSF1 R**	**CR 340×380×20 HSF5 R**
			CR 340×380×20 HSF1 V	**CR 340×380×20 HSF5 V**
	384	20	**CR 340×384×20 HSF1 R**	**CR 340×384×20 HSF5 R**
			CR 340×384×20 HSF1 V	**CR 340×384×20 HSF5 V**
350	380	17,7	**CR 350×380×17.7 HSF1 R**	**CR 350×380×17.7 HSF5 R**
			CR 350×380×17.7 HSF1 V	**CR 350×380×17.7 HSF5 V**
	390	20	**CR 350×390×20 HSF1 R**	**CR 350×390×20 HSF5 R**
			CR 350×390×20 HSF1 V	**CR 350×390×20 HSF5 V**
	394	20	**CR 350×394×20 HSF1 R**	**CR 350×394×20 HSF5 R**
			CR 350×394×20 HSF1 V	**CR 350×394×20 HSF5 V**
360	404	20	**CR 360×404×20 HSF1 R**	**CR 360×404×20 HSF5 R**
			CR 360×404×20 HSF1 V	**CR 360×404×20 HSF5 V**
	410	20	**CR 360×410×20 HSF1 R**	**CR 360×410×20 HSF5 R**
			CR 360×410×20 HSF1 V	**CR 360×410×20 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



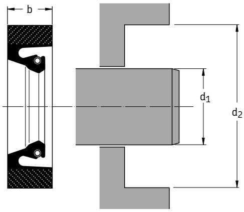
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R Lip material V	Lip material R Lip material V
mm				
362	400	20	CR 362×400×20 HSF1 R	CR 362×400×20 HSF5 R
			CR 362×400×20 HSF1 V	CR 362×400×20 HSF5 V
	406	19,8	CR 362×406×19.8 HSF1 R	CR 362×406×19.8 HSF5 R
			CR 362×406×19.8 HSF1 V	CR 362×406×19.8 HSF5 V
	406	22	CR 362×406×22 HSF1 R	CR 362×406×22 HSF5 R
			CR 362×406×22 HSF1 V	CR 362×406×22 HSF5 V
370	410	20	CR 370×410×20 HSF1 R	CR 370×410×20 HSF5 R
			CR 370×410×20 HSF1 V	CR 370×410×20 HSF5 V
	414	20	CR 370×414×20 HSF1 R	CR 370×414×20 HSF5 R
			CR 370×414×20 HSF1 V	CR 370×414×20 HSF5 V
380	420	20	CR 380×420×20 HSF1 R	CR 380×420×20 HSF5 R
			CR 380×420×20 HSF1 V	CR 380×420×20 HSF5 V
387	431	22,5	CR 387×431×22.5 HSF1 R	CR 387×431×22.5 HSF5 R
			CR 387×431×22.5 HSF1 V	CR 387×431×22.5 HSF5 V
	438	25,4	CR 387×438×25.4 HSF1 R	CR 387×438×25.4 HSF5 R
			CR 387×438×25.4 HSF1 V	CR 387×438×25.4 HSF5 V
390	430	20	CR 390×430×20 HSF1 R	CR 390×430×20 HSF5 R
			CR 390×430×20 HSF1 V	CR 390×430×20 HSF5 V
395	439	20	CR 395×439×20 HSF1 R	CR 395×439×20 HSF5 R
			CR 395×439×20 HSF1 V	CR 395×439×20 HSF5 V
	439	20,5	CR 395×439×20.5 HSF1 R	CR 395×439×20.5 HSF5 R
			CR 395×439×20.5 HSF1 V	CR 395×439×20.5 HSF5 V
400	440	20	CR 400×440×20 HSF1 R	CR 400×440×20 HSF5 R
			CR 400×440×20 HSF1 V	CR 400×440×20 HSF5 V
	444	20	CR 400×444×20 HSF1 R	CR 400×444×20 HSF5 R
			CR 400×444×20 HSF1 V	CR 400×444×20 HSF5 V
	450	22	CR 400×450×22 HSF1 R	CR 400×450×22 HSF5 R
			CR 400×450×22 HSF1 V	CR 400×450×22 HSF5 V
420	460	20	CR 420×460×20 HSF1 R	CR 420×460×20 HSF5 R
			CR 420×460×20 HSF1 V	CR 420×460×20 HSF5 V
	470	22	CR 420×470×22 HSF1 R	CR 420×470×22 HSF5 R
			CR 420×470×22 HSF1 V	CR 420×470×22 HSF5 V
	470	25	CR 420×470×25 HSF1 R	CR 420×470×25 HSF5 R
			CR 420×470×25 HSF1 V	CR 420×470×25 HSF5 V

Series HSF1 (split), HSF5 (solid) – Metric sizes



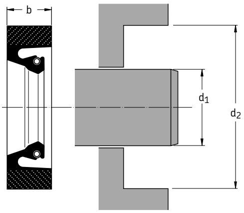
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
430	480	25	**CR 430×480×25 HSF1 R**	**CR 430×480×25 HSF5 R**
			CR 430×480×25 HSF1 V	**CR 430×480×25 HSF5 V**
435	485	22	**CR 435×485×22 HSF1 R**	**CR 435×485×22 HSF5 R**
			CR 435×485×22 HSF1 V	**CR 435×485×22 HSF5 V**
438	476	24	**CR 438×476×24 HSF1 R**	**CR 438×476×24 HSF5 R**
			CR 438×476×24 HSF1 V	**CR 438×476×24 HSF5 V**
440	480	20	**CR 440×480×20 HSF1 R**	**CR 440×480×20 HSF5 R**
			CR 440×480×20 HSF1 V	**CR 440×480×20 HSF5 V**
	480	26	**CR 440×480×26 HSF1 R**	**CR 440×480×26 HSF5 R**
			CR 440×480×26 HSF1 V	**CR 440×480×26 HSF5 V**
	490	20	**CR 440×490×20 HSF1 R**	**CR 440×490×20 HSF5 R**
			CR 440×490×20 HSF1 V	**CR 440×490×20 HSF5 V**
	490	25	**CR 440×490×25 HSF1 R**	**CR 440×490×25 HSF5 R**
			CR 440×490×25 HSF1 V	**CR 440×490×25 HSF5 V**
446	486	16,5	**CR 446×486×16.5 HSF1 R**	**CR 446×486×16.5 HSF5 R**
			CR 446×486×16.5 HSF1 V	**CR 446×486×16.5 HSF5 V**
450	490	18	**CR 450×490×18 HSF1 R**	**CR 450×490×18 HSF5 R**
			CR 450×490×18 HSF1 V	**CR 450×490×18 HSF5 V**
	500	20	**CR 450×500×20 HSF1 R**	**CR 450×500×20 HSF5 R**
			CR 450×500×20 HSF1 V	**CR 450×500×20 HSF5 V**
	500	22	**CR 450×500×22 HSF1 R**	**CR 450×500×22 HSF5 R**
			CR 450×500×22 HSF1 V	**CR 450×500×22 HSF5 V**
	500	25	**CR 450×500×25 HSF1 R**	**CR 450×500×25 HSF5 R**
			CR 450×500×25 HSF1 V	**CR 450×500×25 HSF5 V**
460	510	22	**CR 460×510×22 HSF1 R**	**CR 460×510×22 HSF5 R**
			CR 460×510×22 HSF1 V	**CR 460×510×22 HSF5 V**
	510	25	**CR 460×510×25 HSF1 R**	**CR 460×510×25 HSF5 R**
			CR 460×510×25 HSF1 V	**CR 460×510×25 HSF5 V**
470	520	25	**CR 470×520×25 HSF1 R**	**CR 470×520×25 HSF5 R**
			CR 470×520×25 HSF1 V	**CR 470×520×25 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



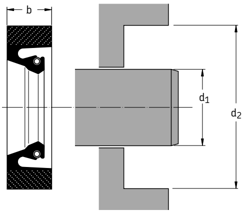
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
480	520	18	CR 480×520×18 HSF1 R	CR 480×520×18 HSF5 R
			CR 480×520×18 HSF1 V	CR 480×520×18 HSF5 V
	520	20	CR 480×520×20 HSF1 R	CR 480×520×20 HSF5 R
			CR 480×520×20 HSF1 V	CR 480×520×20 HSF5 V
	530	22	CR 480×530×22 HSF1 R	CR 480×530×22 HSF5 R
			CR 480×530×22 HSF1 V	CR 480×530×22 HSF5 V
	530	25	CR 480×530×25 HSF1 R	CR 480×530×25 HSF5 R
			CR 480×530×25 HSF1 V	CR 480×530×25 HSF5 V
	550	25	CR 480×550×25 HSF1 R	CR 480×550×25 HSF5 R
			CR 480×550×25 HSF1 V	CR 480×550×25 HSF5 V
495	545	22	CR 495×545×22 HSF1 R	CR 495×545×22 HSF5 R
			CR 495×545×22 HSF1 V	CR 495×545×22 HSF5 V
500	540	10	CR 500×540×10 HSF1 R	CR 500×540×10 HSF5 R
			CR 500×540×10 HSF1 V	CR 500×540×10 HSF5 V
	540	20	CR 500×540×20 HSF1 R	CR 500×540×20 HSF5 R
			CR 500×540×20 HSF1 V	CR 500×540×20 HSF5 V
	550	20	CR 500×550×20 HSF1 R	CR 500×550×20 HSF5 R
			CR 500×550×20 HSF1 V	CR 500×550×20 HSF5 V
	564	25	CR 500×564×25 HSF1 R	CR 500×564×25 HSF5 R
			CR 500×564×25 HSF1 V	CR 500×564×25 HSF5 V
520	560	18	CR 520×560×18 HSF1 R	CR 520×560×18 HSF5 R
			CR 520×560×18 HSF1 V	CR 520×560×18 HSF5 V
	560	20	CR 520×560×20 HSF1 R	CR 520×560×20 HSF5 R
			CR 520×560×20 HSF1 V	CR 520×560×20 HSF5 V
525	575	22	CR 525×575×22 HSF1 R	CR 525×575×22 HSF5 R
			CR 525×575×22 HSF1 V	CR 525×575×22 HSF5 V
530	580	22	CR 530×580×22 HSF1 R	CR 530×580×22 HSF5 R
			CR 530×580×22 HSF1 V	CR 530×580×22 HSF5 V
	580	22,3	CR 530×580×22.3 HSF1 R	CR 530×580×22.3 HSF5 R
			CR 530×580×22.3 HSF1 V	CR 530×580×22.3 HSF5 V
	580	25	CR 530×580×25 HSF1 R	CR 530×580×25 HSF5 R
			CR 530×580×25 HSF1 V	CR 530×580×25 HSF5 V
	620	22	CR 530×620×22 HSF1 R	CR 530×620×22 HSF5 R
			CR 530×620×22 HSF1 V	CR 530×620×22 HSF5 V
535	585	22	CR 535×585×22 HSF1 R	CR 535×585×22 HSF5 R
			CR 535×585×22 HSF1 V	CR 535×585×22 HSF5 V

Series HSF1 (split), HSF5 (solid) – Metric sizes



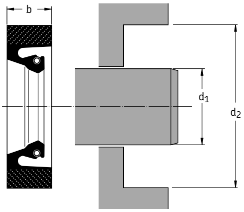
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
540	590	22	**CR 540×590×22 HSF1 R**	**CR 540×590×22 HSF5 R**
			CR 540×590×22 HSF1 V	**CR 540×590×22 HSF5 V**
	590	30	**CR 540×590×30 HSF1 R**	**CR 540×590×30 HSF5 R**
			CR 540×590×30 HSF1 V	**CR 540×590×30 HSF5 V**
550	600	22,3	**CR 550×600×22.3 HSF1 R**	**CR 550×600×22.3 HSF5 R**
			CR 550×600×22.3 HSF1 V	**CR 550×600×22.3 HSF5 V**
560	604	20	**CR 560×604×20 HSF1 R**	**CR 560×604×20 HSF5 R**
			CR 560×604×20 HSF1 V	**CR 560×604×20 HSF5 V**
	610	20	**CR 560×610×20 HSF1 R**	**CR 560×610×20 HSF5 R**
			CR 560×610×20 HSF1 V	**CR 560×610×20 HSF5 V**
	610	22,3	**CR 560×610×22.3 HSF1 R**	**CR 560×610×22.3 HSF5 R**
			CR 560×610×22.3 HSF1 V	**CR 560×610×22.3 HSF5 V**
	610	25	**CR 560×610×25 HSF1 R**	**CR 560×610×25 HSF5 R**
			CR 560×610×25 HSF1 V	**CR 560×610×25 HSF5 V**
570	616	19	**CR 570×616×19 HSF1 R**	**CR 570×616×19 HSF5 R**
			CR 570×616×19 HSF1 V	**CR 570×616×19 HSF5 V**
	620	25	**CR 570×620×25 HSF1 R**	**CR 570×620×25 HSF5 R**
			CR 570×620×25 HSF1 V	**CR 570×620×25 HSF5 V**
575	625	22	**CR 575×625×22 HSF1 R**	**CR 575×625×22 HSF5 R**
			CR 575×625×22 HSF1 V	**CR 575×625×22 HSF5 V**
580	630	22	**CR 580×630×22 HSF1 R**	**CR 580×630×22 HSF5 R**
			CR 580×630×22 HSF1 V	**CR 580×630×22 HSF5 V**
600	650	22	**CR 600×650×22 HSF1 R**	**CR 600×650×22 HSF5 R**
			CR 600×650×22 HSF1 V	**CR 600×650×22 HSF5 V**
620	670	22	**CR 620×670×22 HSF1 R**	**CR 620×670×22 HSF5 R**
			CR 620×670×22 HSF1 V	**CR 620×670×22 HSF5 V**
	684	25	**CR 620×684×25 HSF1 R**	**CR 620×684×25 HSF5 R**
			CR 620×684×25 HSF1 V	**CR 620×684×25 HSF5 V**
625	689	25	**CR 625×689×25 HSF1 R**	**CR 625×689×25 HSF5 R**
			CR 625×689×25 HSF1 V	**CR 625×689×25 HSF5 V**
630	690	30	**CR 630×690×30 HSF1 R**	**CR 630×690×30 HSF5 R**
			CR 630×690×30 HSF1 V	**CR 630×690×30 HSF5 V**
635	705	30	**CR 635×705×30 HSF1 R**	**CR 635×705×30 HSF5 R**
			CR 635×705×30 HSF1 V	**CR 635×705×30 HSF5 V**
650	690	18	**CR 650×690×18 HSF1 R**	**CR 650×690×18 HSF5 R**
			CR 650×690×18 HSF1 V	**CR 650×690×18 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



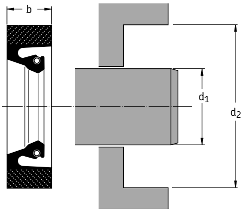
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
660	724	25	**CR 660×724×25 HSF1 R** **CR 660×724×25 HSF1 V**	**CR 660×724×25 HSF5 R** **CR 660×724×25 HSF5 V**
670	734	25	**CR 670×734×25 HSF1 R** **CR 670×734×25 HSF1 V**	**CR 670×734×25 HSF5 R** **CR 670×734×25 HSF5 V**
685	749	25	**CR 685×749×25 HSF1 R** **CR 685×749×25 HSF1 V**	**CR 685×749×25 HSF5 R** **CR 685×749×25 HSF5 V**
700	760	30	**CR 700×760×30 HSF1 R** **CR 700×760×30 HSF1 V**	**CR 700×760×30 HSF5 R** **CR 700×760×30 HSF5 V**
710	770	30	**CR 710×770×30 HSF1 R** **CR 710×770×30 HSF1 V**	**CR 710×770×30 HSF5 R** **CR 710×770×30 HSF5 V**
	774	25	**CR 710×774×25 HSF1 R** **CR 710×774×25 HSF1 V**	**CR 710×774×25 HSF5 R** **CR 710×774×25 HSF5 V**
730	794	25	**CR 730×794×25 HSF1 R** **CR 730×794×25 HSF1 V**	**CR 730×794×25 HSF5 R** **CR 730×794×25 HSF5 V**
736	800	25	**CR 736×800×25 HSF1 R** **CR 736×800×25 HSF1 V**	**CR 736×800×25 HSF5 R** **CR 736×800×25 HSF5 V**
740	785	18	**CR 740×785×18 HSF1 R** **CR 740×785×18 HSF1 V**	**CR 740×785×18 HSF5 R** **CR 740×785×18 HSF5 V**
744	808	25	**CR 744×808×25 HSF1 R** **CR 744×808×25 HSF1 V**	**CR 744×808×25 HSF5 R** **CR 744×808×25 HSF5 V**
750	810	30	**CR 750×810×30 HSF1 R** **CR 750×810×30 HSF1 V**	**CR 750×810×30 HSF5 R** **CR 750×810×30 HSF5 V**
	814	25	**CR 750×814×25 HSF1 R** **CR 750×814×25 HSF1 V**	**CR 750×814×25 HSF5 R** **CR 750×814×25 HSF5 V**
760	820	30	**CR 760×820×30 HSF1 R** **CR 760×820×30 HSF1 V**	**CR 760×820×30 HSF5 R** **CR 760×820×30 HSF5 V**
770	834	25	**CR 770×834×25 HSF1 R** **CR 770×834×25 HSF1 V**	**CR 770×834×25 HSF5 R** **CR 770×834×25 HSF5 V**
780	844	25	**CR 780×844×25 HSF1 R** **CR 780×844×25 HSF1 V**	**CR 780×844×25 HSF5 R** **CR 780×844×25 HSF5 V**
790	850	30	**CR 790×850×30 HSF1 R** **CR 790×850×30 HSF1 V**	**CR 790×850×30 HSF5 R** **CR 790×850×30 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Metric sizes



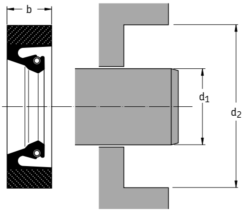
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
800	860	30	CR 800×860×30 HSF1 R	CR 800×860×30 HSF5 R
			CR 800×860×30 HSF1 V	CR 800×860×30 HSF5 V
	865	25	CR 800×865×25 HSF1 R	CR 800×865×25 HSF5 R
			CR 800×865×25 HSF1 V	CR 800×865×25 HSF5 V
810	860	25	CR 810×860×25 HSF1 R	CR 810×860×25 HSF5 R
			CR 810×860×25 HSF1 V	CR 810×860×25 HSF5 V
	874	22	CR 810×874×22 HSF1 R	CR 810×874×22 HSF5 R
			CR 810×874×22 HSF1 V	CR 810×874×22 HSF5 V
840	904	25	CR 840×904×25 HSF1 R	CR 840×904×25 HSF5 R
			CR 840×904×25 HSF1 V	CR 840×904×25 HSF5 V
850	900	22	CR 850×900×22 HSF1 R	CR 850×900×22 HSF5 R
			CR 850×900×22 HSF1 V	CR 850×900×22 HSF5 V
	904	25	CR 850×904×25 HSF1 R	CR 850×904×25 HSF5 R
			CR 850×904×25 HSF1 V	CR 850×904×25 HSF5 V
	910	30	CR 850×910×30 HSF1 R	CR 850×910×30 HSF5 R
			CR 850×910×30 HSF1 V	CR 850×910×30 HSF5 V
900	960	30	CR 900×960×30 HSF1 R	CR 900×960×30 HSF5 R
			CR 900×960×30 HSF1 V	CR 900×960×30 HSF5 V
	964	32	CR 900×964×32 HSF1 R	CR 900×964×32 HSF5 R
			CR 900×964×32 HSF1 V	CR 900×964×32 HSF5 V
910	974	25	CR 910×974×25 HSF1 R	CR 910×974×25 HSF5 R
			CR 910×974×25 HSF1 V	CR 910×974×25 HSF5 V
	974	25,4	CR 910×974×25.4 HSF1 R	CR 910×974×25.4 HSF5 R
			CR 910×974×25.4 HSF1 V	CR 910×974×25.4 HSF5 V
920	984	25	CR 920×984×25 HSF1 R	CR 920×984×25 HSF5 R
			CR 920×984×25 HSF1 V	CR 920×984×25 HSF5 V
950	1 000	25	CR 950×1000×25 HSF1 R	CR 950×1000×25 HSF5 R
			CR 950×1000×25 HSF1 V	CR 950×1000×25 HSF5 V
	1 010	30	CR 950×1010×30 HSF1 R	CR 950×1010×30 HSF5 R
			CR 950×1010×30 HSF1 V	CR 950×1010×30 HSF5 V
960	1 024	25	CR 960×1024×25 HSF1 R	CR 960×1024×25 HSF5 R
			CR 960×1024×25 HSF1 V	CR 960×1024×25 HSF5 V

Series HSF1 (split), HSF5 (solid) – Metric sizes



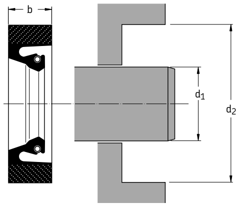
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R / Lip material V	Lip material R / Lip material V
mm				
970	1 020	25	**CR 970×1020×25 HSF1 R**	**CR 970×1020×25 HSF5 R**
			CR 970×1020×25 HSF1 V	**CR 970×1020×25 HSF5 V**
	1 034	25	**CR 970×1034×25 HSF1 R**	**CR 970×1034×25 HSF5 R**
			CR 970×1034×25 HSF1 V	**CR 970×1034×25 HSF5 V**
1 000	1 064	25	**CR 1000×1064×25 HSF1 R**	**CR 1000×1064×25 HSF5 R**
			CR 1000×1064×25 HSF1 V	**CR 1000×1064×25 HSF5 V**
1 016	1 043,1	13,7	**CR 1016×1043.1×13.7 HSF1 R**	**CR 1016×1043.1×13.7 HSF5 R**
			CR 1016×1043.1×13.7 HSF1 V	**CR 1016×1043.1×13.7 HSF5 V**
1 110	1 174	25	**CR 1110×1174×25 HSF1 R**	**CR 1110×1174×25 HSF5 R**
			CR 1110×1174×25 HSF1 V	**CR 1110×1174×25 HSF5 V**

Series HSF1 (split), HSF5 (solid) – Inch sizes



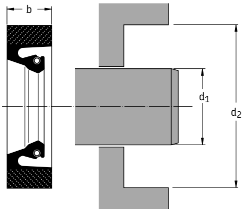
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version Lip material R	Lip material V	Solid version Lip material R	Lip material V
in *(mm)*						
1.000 *25,4*	1.874 *47,6*	0.375 *9,5*	**CR HSF1 5001 R**	**CR HSF1 5001 V**	**CR HSF5 5001 R**	**CR HSF5 5001 V**
2.750 *69,9*	3.375 *85,7*	0.312 *7,9*	**CR HSF1 5156 R**	**CR HSF1 5156 V**	**CR HSF5 5156 R**	**CR HSF5 5156 V**
3.248 *82,5*	4.500 *114,3*	0.500 *12,7*	**CR HSF1 5225 R**	**CR HSF1 5225 V**	**CR HSF5 5225 R**	**CR HSF5 5225 V**
3.500 *88,9*	4.500 *114,3*	0.500 *12,7*	**CR HSF1 5252 R**	**CR HSF1 5252 V**	**CR HSF5 5252 R**	**CR HSF5 5252 V**
3.874 *98,4*	4.878 *123,9*	0.500 *12,7*	**CR HSF1 5265 R**	**CR HSF1 5265 V**	**CR HSF5 5265 R**	**CR HSF5 5265 V**
4.000 *101,6*	5.000 *127*	0.500 *12,7*	**CR HSF1 5310 R**	**CR HSF1 5310 V**	**CR HSF5 5310 R**	**CR HSF5 5310 V**
4.425 *112,4*	5.500 *139,7*	0.562 *14,3*	**CR HSF1 5353 R**	**CR HSF1 5353 V**	**CR HSF5 5353 R**	**CR HSF5 5353 V**
4.437 *112,7*	5.465 *138,8*	0.583 *14,8*	**CR HSF1 5351 R**	**CR HSF1 5351 V**	**CR HSF5 5351 R**	**CR HSF5 5351 V**
4.874 *123,8*	5.874 *149,2*	0.500 *12,7*	**CR HSF1 5391 R**	**CR HSF1 5391 V**	**CR HSF5 5391 R**	**CR HSF5 5391 V**
5.205 *132,2*	6.504 *165,2*	0.591 *15*	**CR HSF1 5431 R**	**CR HSF1 5431 V**	**CR HSF5 5431 R**	**CR HSF5 5431 V**
5.622 *142,8*	6.622 *168,2*	0.625 *15,9*	**CR HSF1 5471 R**	**CR HSF1 5471 V**	**CR HSF5 5471 R**	**CR HSF5 5471 V**
5.750 *146,1*	7.000 *177,8*	0.625 *15,9*	**CR HSF1 5489 R**	**CR HSF1 5489 V**	**CR HSF5 5489 R**	**CR HSF5 5489 V**
5.874 149,2	7.000 177,8	0.492 12,5	**CR HSF1 5498 R**	**CR HSF1 5498 V**	**CR HSF5 5498 R**	**CR HSF5 5498 V**
6.000 *152,4*	7.126 *181*	0.630 *16*	**CR HSF1 5509 R**	**CR HSF1 5509 V**	**CR HSF5 5509 R**	**CR HSF5 5509 V**
	7.500 *190,5*	0.625 *15,9*	**CR HSF1 5510 R**	**CR HSF1 5510 V**	**CR HSF5 5510 R**	**CR HSF5 5510 V**
6.500 *165,1*	8.000 *203,2*	0.750 *19,1*	**CR HSF1 5570 R**	**CR HSF1 5570 V**	**CR HSF5 5570 R**	**CR HSF5 5570 V**

Series HSF1 (split), HSF5 (solid) – Inch sizes



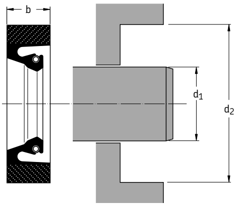
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version Lip material R	Lip material V	Solid version Lip material R	Lip material V
in *(mm)*						
6.748 *171,4*	7.750 *196,9*	0.750 *19,1*	**CR HSF1 5585 R**	**CR HSF1 5585 V**	**CR HSF5 5585 R**	**CR HSF5 5585 V**
7.000 *177,8*	8.000 *203,2*	0.437 *11,1*	**CR HSF1 5587 R**	**CR HSF1 5587 V**	**CR HSF5 5587 R**	**CR HSF5 5587 V**
	8.250 *209,6*	0.750 *19,1*	**CR HSF1 5600 R**	**CR HSF1 5600 V**	**CR HSF5 5600 R**	**CR HSF5 5600 V**
7.250 *184,2*	8.500 *215,9*	0.625 *15,9*	**CR HSF1 5624 R**	**CR HSF1 5624 V**	**CR HSF5 5624 R**	**CR HSF5 5624 V**
7.500 *190,5*	8.500 *215,9*	0.625 *15,9*	**CR HSF1 5662 R**	**CR HSF1 5662 V**	**CR HSF5 5662 R**	**CR HSF5 5662 V**
7.677 *195*	8.677 *220,4*	0.500 *12,7*	**CR HSF1 5667 R**	**CR HSF1 5667 V**	**CR HSF5 5667 R**	**CR HSF5 5667 V**
8.598 *218,4*	9.843 *250*	0.591 *15*	**CR HSF1 5764 R**	**CR HSF1 5764 V**	**CR HSF5 5764 R**	**CR HSF5 5764 V**
8.750 *222,3*	10.000 *254*	0.625 *15,9*	**CR HSF1 5790 R**	**CR HSF1 5790 V**	**CR HSF5 5790 R**	**CR HSF5 5790 V**
9.625 *244,5*	11.635 *295,5*	1.000 *25,4*	**CR HSF1 5878 R**	**CR HSF1 5878 V**	**CR HSF5 5878 R**	**CR HSF5 5878 V**
9.843 *250*	10.843 *275,4*	0.500 *12,7*	**CR HSF1 5885 R**	**CR HSF1 5885 V**	**CR HSF5 5885 R**	**CR HSF5 5885 V**
10.000 *254*	11.250 *285,8*	0.625 *15,9*	**CR HSF1 5910 R**	**CR HSF1 5910 V**	**CR HSF5 5910 R**	**CR HSF5 5910 V**
10.250 *260,4*	12.250 *311,2*	0.750 *19,1*	**CR HSF1 5950 R**	**CR HSF1 5950 V**	**CR HSF5 5950 R**	**CR HSF5 5950 V**
11.000 *279,4*	12.181 *309,4*	0.591 *15*	**CR HSF1 6000 R**	**CR HSF1 6000 V**	**CR HSF5 6000 R**	**CR HSF5 6000 V**
11.250 *285,8*	12.500 *317,5*	0.625 *15,9*	**CR HSF1 6040 R**	**CR HSF1 6040 V**	**CR HSF5 6040 R**	**CR HSF5 6040 V**
11.260 *286*	13.250 *336,6*	0.591 *15*	**CR HSF1 6049 R**	**CR HSF1 6049 V**	**CR HSF5 6049 R**	**CR HSF5 6049 V**
11.417 *290*	12.417 *315,4*	0.500 *12,7*	**CR HSF1 6055 R**	**CR HSF1 6055 V**	**CR HSF5 6055 R**	**CR HSF5 6055 V**

Series HSF1 (split), HSF5 (solid) – Inch sizes



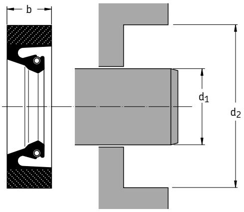
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version Lip material R	Lip material V	Solid version Lip material R	Lip material V
in *(mm)*						
12.250 *311,2*	14.250 *362*	0.812 *20,6*	**CR HSF1 6150 R**	**CR HSF1 6150 V**	**CR HSF5 6150 R**	**CR HSF5 6150 V**
12.484 *317,1*	14.000 *355,6*	0.630 *16*	**CR HSF1 6172 R**	**CR HSF1 6172 V**	**CR HSF5 6172 R**	**CR HSF5 6172 V**
12.500 *317,5*	14.000 *355,6*	0.750 *19,1*	**CR HSF1 6173 R**	**CR HSF1 6173 V**	**CR HSF5 6173 R**	**CR HSF5 6173 V**
12.504 *317,6*	14.000 *355,6*	0.687 *17,4*	**CR HSF1 6175 R**	**CR HSF1 6175 V**	**CR HSF5 6175 R**	**CR HSF5 6175 V**
12.746 *323,7*	14.248 *361,9*	0.687 *17,4*	**CR HSF1 6192 R**	**CR HSF1 6192 V**	**CR HSF5 6192 R**	**CR HSF5 6192 V**
	14.750 *374,7*	1.000 *25,4*	**CR HSF1 6195 R**	**CR HSF1 6195 V**	**CR HSF5 6195 R**	**CR HSF5 6195 V**
13.000 *330,2*	14.500 *368,3*	0.687 *17,4*	**CR HSF1 6230 R**	**CR HSF1 6230 V**	**CR HSF5 6230 R**	**CR HSF5 6230 V**
	14.500 *368,3*	0.687 *17,4*	**CR HSF1 6230 R**	**CR HSF1 6230 V**	**CR HSF5 6230 R**	**CR HSF5 6230 V**
13.500 *342,9*	15.000 *381*	0.750 *19,1*	**CR HSF1 6271 R**	**CR HSF1 6271 V**	**CR HSF5 6271 R**	**CR HSF5 6271 V**
14.370 *365*	16.118 *409,4*	0.750 *19,1*	**CR HSF1 6350 R**	**CR HSF1 6350 V**	**CR HSF5 6350 R**	**CR HSF5 6350 V**
14.500 *368,3*	16.250 *412,8*	0.625 *15,9*	**CR HSF1 6370 R**	**CR HSF1 6370 V**	**CR HSF5 6370 R**	**CR HSF5 6370 V**
14.961 *380*	16.961 *430,8*	0.812 *20,6*	**CR HSF1 6425 R**	**CR HSF1 6425 V**	**CR HSF5 6425 R**	**CR HSF5 6425 V**
15.250 *387,4*	17.250 *438,2*	0.875 *22,2*	**CR HSF1 6460 R**	**CR HSF1 6460 V**	**CR HSF5 6460 R**	**CR HSF5 6460 V**
15.992 *406,2*	17.500 *444,5*	0.687 *17,4*	**CR HSF1 6550 R**	**CR HSF1 6550 V**	**CR HSF5 6550 R**	**CR HSF5 6550 V**
16.000 *406,4*	18.000 *457,2*	0.750 *19,1*	**CR HSF1 6560 R**	**CR HSF1 6560 V**	**CR HSF5 6560 R**	**CR HSF5 6560 V**
	18.000 *457,2*	0.812 *20,6*	**CR HSF1 6565 R**	**CR HSF1 6565 V**	**CR HSF5 6565 R**	**CR HSF5 6565 V**
	18.000 *457,2*	0.906 *23*	**CR HSF1 6575 R**	**CR HSF1 6575 V**	**CR HSF5 6575 R**	**CR HSF5 6575 V**

Series HSF1 (split), HSF5 (solid) – Inch sizes



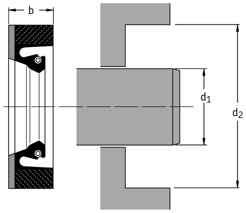
Dimensions shaft d_1	 bore d_2	 seal width b	SKF Designation Split version Lip material R	 Lip material V	 Solid version Lip material R	 Lip material V
in *(mm)*						
16.226 *412,1*	17.750 *450,9*	0.687 *17,4*	**CR HSF1 6590 R**	**CR HSF1 6590 V**	**CR HSF5 6590 R**	**CR HSF5 6590 V**
16.500 *419,1*	17.750 *450,9*	0.750 *19,1*	**CR HSF1 6600 R**	**CR HSF1 6600 V**	**CR HSF5 6600 R**	**CR HSF5 6600 V**
17.000 *431,8*	19.000 *482,6*	0.812 *20,6*	**CR HSF1 6645 R**	**CR HSF1 6645 V**	**CR HSF5 6645 R**	**CR HSF5 6645 V**
17.248 *438,1*	18.748 *476,2*	0.750 *19,1*	**CR HSF1 6656 R**	**CR HSF1 6656 V**	**CR HSF5 6656 R**	**CR HSF5 6656 V**
18.169 *461,5*	21.260 *540*	1.220 *31*	**CR HSF1 6734 R**	**CR HSF1 6734 V**	**CR HSF5 6734 R**	**CR HSF5 6734 V**
20.500 *520,7*	22.500 *571,5*	1.000 *25,4*	**CR HSF1 6890 R**	**CR HSF1 6890 V**	**CR HSF5 6890 R**	**CR HSF5 6890 V**
21.000 *533,4*	23.000 *584,2*	0.875 *22,2*	**CR HSF1 6930 R**	**CR HSF1 6930 V**	**CR HSF5 6930 R**	**CR HSF5 6930 V**
22.000 *558,8*	24.000 *609,6*	0.875 *22,2*	**CR HSF1 7000 R**	**CR HSF1 7000 V**	**CR HSF5 7000 R**	**CR HSF5 7000 V**
23.248 *590,5*	25.250 *641,4*	0.812 *20,6*	**CR HSF1 7100 R**	**CR HSF1 7100 V**	**CR HSF5 7100 R**	**CR HSF5 7100 V**
23.501 *596,9*	22.001 *558,8*	0.750 *19,1*	**CR HSF1 6990 R**	**CR HSF1 6990 V**	**CR HSF5 6990 R**	**CR HSF5 6990 V**
30.000 *762*	32.500 *825,5*	1.000 *25,4*	**CR HSF1 7520 R**	**CR HSF1 7520 V**	**CR HSF5 7520 R**	**CR HSF5 7520 V**
30.461 *773,7*	32.500 *825,5*	0.906 *23*	**CR HSF1 7525 R**	**CR HSF1 7525 V**	**CR HSF5 7525 R**	**CR HSF5 7525 V**
31.000 *787,4*	33.000 *838,2*	0.906 *23*	**CR HSF1 7570 R**	**CR HSF1 7570 V**	**CR HSF5 7570 R**	**CR HSF5 7570 V**
31.250 *793,8*	33.250 *844,6*	0.750 *19,1*	**CR HSF1 7580 R**	**CR HSF1 7580 V**	**CR HSF5 7580 R**	**CR HSF5 7580 V**
32.500 *825,5*	34.500 *876,3*	0.875 *22,2*	**CR HSF1 7700 R**	**CR HSF1 7700 V**	**CR HSF5 7700 R**	**CR HSF5 7700 V**
	34.500 *876,3*	1.000 *25,4*	**CR HSF1 7710 R**	**CR HSF1 7710 V**	**CR HSF5 7710 R**	**CR HSF5 7710 V**

Series HSF1 (split), HSF5 (solid) – Inch sizes



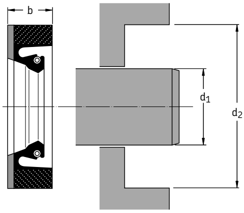
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version Lip material R	Lip material V	Solid version Lip material R	Lip material V
in *(mm)*						
33.000 *838,2*	35.000 *889*	0.906 *23*	**CR HSF1 7730 R**	**CR HSF1 7730 V**	**CR HSF5 7730 R**	**CR HSF5 7730 V**
34.375 *873,1*	36.875 *936,6*	1.250 *31,8*	**CR HSF1 7810 R**	**CR HSF1 7810 V**	**CR HSF5 7810 R**	**CR HSF5 7810 V**
36.500 *927,1*	39.000 *990,6*	1.250 *31,8*	**CR HSF1 7895 R**	**CR HSF1 7895 V**	**CR HSF5 7895 R**	**CR HSF5 7895 V**
36.748 *933,4*	38.749 *984,2*	0.875 *22,2*	**CR HSF1 7900 R**	**CR HSF1 7900 V**	**CR HSF5 7900 R**	**CR HSF5 7900 V**
38.000 *965,2*	40.000 *1 016*	0.875 *22,2*	**CR HSF1 7990 R**	**CR HSF1 7990 V**	**CR HSF5 7990 R**	**CR HSF5 7990 V**
39.118 *993,6*	40.000 *1 016*	0.500 *12,7*	**CR HSF1 8170 R**	**CR HSF1 8170 V**	**CR HSF5 8170 R**	**CR HSF5 8170 V**
48.000 *1 219,2*	49.000 *1 244,6*	1.260 *32*	**CR HSF1 8400 R**	**CR HSF1 8400 V**	**CR HSF5 8400 R**	**CR HSF5 8400 V**

HSF2 (split), HSF6 (solid) series – Metric sizes



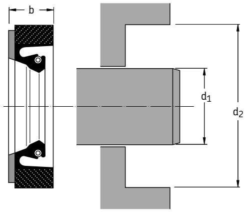
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF2) Lip material R / Lip material V	Solid version (HSF6) Lip material R / Lip material V
mm				
127	158,8	12,3	**CR 127×158.8×12.3 HSF2 R** **CR 127×158.8×12.3 HSF2 V**	**CR 127×158.8×12.3 HSF6 R** **CR 127×158.8×12.3 HSF6 V**
275	319,5	19	**CR 275×319.5×19 HSF2 R** **CR 275×319.5×19 HSF2 V**	**CR 275×319.5×19 HSF6 R** **CR 275×319.5×19 HSF6 V**
320	364	18	**CR 320×364×18 HSF2 R** **CR 320×364×18 HSF2 V**	**CR 320×364×18 HSF6 R** **CR 320×364×18 HSF6 V**
800	864	21,6	**CR 800×864×21.6 HSF2 R** **CR 800×864×21.6 HSF2 V**	**CR 800×864×21.6 HSF6 R** **CR 800×864×21.6 HSF6 V**

Series HSF2 (split), HSF6 (solid) – Inch sizes



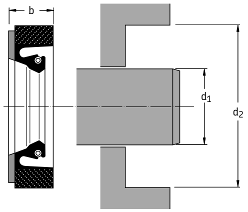
Dimensions			SKF Designation			
shaft	bore	seal width	Split version (HSF2)		Solid version (HSF6)	
d_1	d_2	b	Lip material R	Lip material V	Lip material R	Lip material V
in *(mm)*						
21.000 *533,40*	23.000 *584,20*	0.875 *22,23*	**CR HSF2 6930 R**	**CR HSF2 6930 V**	**CR HSF6 6930 R**	**CR HSF6 6930 V**

Series HSF3 (split), HSF7 (solid) – Metric sizes



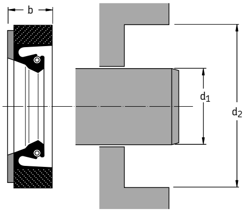
Dimensions shaft	bore	seal width	SKF Designation Split version (HSF3) Lip material R Lip material V	Solid version (HSF7) Lip material R Lip material V
d_1	d_2	b		
mm				
80	95	10	CR 80×95×10 HSF3 R CR 80×95×10 HSF3 V	CR 80×95×10 HSF7 R CR 80×95×10 HSF7 V
100	130	12,5	CR 100×130×12.5 HSF3 R CR 100×130×12.5 HSF3 V	CR 100×130×12.5 HSF7 R CR 100×130×12.5 HSF7 V
140	180	16	CR 140×180×16 HSF3 R CR 140×180×16 HSF3 V	CR 140×180×16 HSF7 R CR 140×180×16 HSF7 V
150	190	16	CR 150×190×16 HSF3 R CR 150×190×16 HSF3 V	CR 150×190×16 HSF7 R CR 150×190×16 HSF7 V
160	200	16	CR 160×200×16 HSF3 R CR 160×200×16 HSF3 V	CR 160×200×16 HSF7 R CR 160×200×16 HSF7 V
165	195	15	CR 165×195×15 HSF3 R CR 165×195×15 HSF3 V	CR 165×195×15 HSF7 R CR 165×195×15 HSF7 V
220	250	15	CR 220×250×15 HSF3 R CR 220×250×15 HSF3 V	CR 220×250×15 HSF7 R CR 220×250×15 HSF7 V
	260	18	CR 220×260×18 HSF3 R CR 220×260×18 HSF3 V	CR 220×260×18 HSF7 R CR 220×260×18 HSF7 V
230	270	16	CR 230×270×16 HSF3 R CR 230×270×16 HSF3 V	CR 230×270×16 HSF7 R CR 230×270×16 HSF7 V
235	265	15,3	CR 235×265×15.3 HSF3 R CR 235×265×15.3 HSF3 V	CR 235×265×15.3 HSF7 R CR 235×265×15.3 HSF7 V
240	280	18	CR 240×280×18 HSF3 R CR 240×280×18 HSF3 V	CR 240×280×18 HSF7 R CR 240×280×18 HSF7 V
	290	25	CR 240×290×25 HSF3 R CR 240×290×25 HSF3 V	CR 240×290×25 HSF7 R CR 240×290×25 HSF7 V
245	285	16	CR 245×285×16 HSF3 R CR 245×285×16 HSF3 V	CR 245×285×16 HSF7 R CR 245×285×16 HSF7 V
250	280	16	CR 250×280×16 HSF3 R CR 250×280×16 HSF3 V	CR 250×280×16 HSF7 R CR 250×280×16 HSF7 V
	290	16,5	CR 250×290×16.5 HSF3 R CR 250×290×16.5 HSF3 V	CR 250×290×16.5 HSF7 R CR 250×290×16.5 HSF7 V
270	310	18	CR 270×310×18 HSF3 R CR 270×310×18 HSF3 V	CR 270×310×18 HSF7 R CR 270×310×18 HSF7 V

Series HSF3 (split), HSF7 (solid) – Metric sizes



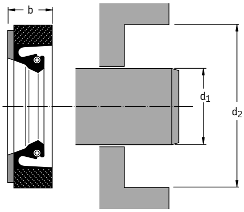
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF3) Lip material R / Lip material V	Solid version (HSF7) Lip material R / Lip material V
mm				
280	320	18	CR 280×320×18 HSF3 R	CR 280×320×18 HSF7 R
			CR 280×320×18 HSF3 V	CR 280×320×18 HSF7 V
285	325	18	CR 285×325×18 HSF3 R	CR 285×325×18 HSF7 R
			CR 285×325×18 HSF3 V	CR 285×325×18 HSF7 V
290	334	20,3	CR 290×334×20.3 HSF3 R	CR 290×334×20.3 HSF7 R
			CR 290×334×20.3 HSF3 V	CR 290×334×20.3 HSF7 V
300	340	16,5	CR 300×340×16.5 HSF3 R	CR 300×340×16.5 HSF7 R
			CR 300×340×16.5 HSF3 V	CR 300×340×16.5 HSF7 V
	340	18	CR 300×340×18 HSF3 R	CR 300×340×18 HSF7 R
			CR 300×340×18 HSF3 V	CR 300×340×18 HSF7 V
	344	20	CR 300×344×20 HSF3 R	CR 300×344×20 HSF7 R
			CR 300×344×20 HSF3 V	CR 300×344×20 HSF7 V
310	353	20	CR 310×353×20 HSF3 R	CR 310×353×20 HSF7 R
			CR 310×353×20 HSF3 V	CR 310×353×20 HSF7 V
	354	20	CR 310×354×20 HSF3 R	CR 310×354×20 HSF7 R
			CR 310×354×20 HSF3 V	CR 310×354×20 HSF7 V
315	360	20	CR 315×360×20 HSF3 R	CR 315×360×20 HSF7 R
			CR 315×360×20 HSF3 V	CR 315×360×20 HSF7 V
320	350	15	CR 320×350×15 HSF3 R	CR 320×350×15 HSF7 R
			CR 320×350×15 HSF3 V	CR 320×350×15 HSF7 V
	360	17,7	CR 320×360×17.7 HSF3 R	CR 320×360×17.7 HSF7 R
			CR 320×360×17.7 HSF3 V	CR 320×360×17.7 HSF7 V
325	365	16	CR 325×365×16 HSF3 R	CR 325×365×16 HSF7 R
			CR 325×365×16 HSF3 V	CR 325×365×16 HSF7 V
330	370	20	CR 330×370×20 HSF3 R	CR 330×370×20 HSF7 R
			CR 330×370×20 HSF3 V	CR 330×370×20 HSF7 V
	374	20	CR 330×374×20 HSF3 R	CR 330×374×20 HSF7 R
			CR 330×374×20 HSF3 V	CR 330×374×20 HSF7 V
340	372	16	CR 340×372×16 HSF3 R	CR 340×372×16 HSF7 R
			CR 340×372×16 HSF3 V	CR 340×372×16 HSF7 V
345	389	20	CR 345×389×20 HSF3 R	CR 345×389×20 HSF7 R
			CR 345×389×20 HSF3 V	CR 345×389×20 HSF7 V

Series HSF3 (split), HSF7 (solid) – Metric sizes



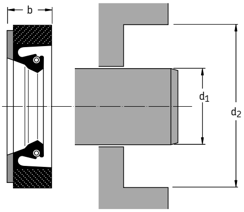
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF3) Lip material R / Lip material V	Solid version (HSF7) Lip material R / Lip material V
mm				
350	390	18	**CR 350×390×18 HSF3 R**	**CR 350×390×18 HSF7 R**
			CR 350×390×18 HSF3 V	**CR 350×390×18 HSF7 V**
	394	20	**CR 350×394×20 HSF3 R**	**CR 350×394×20 HSF7 R**
			CR 350×394×20 HSF3 V	**CR 350×394×20 HSF7 V**
	394	22	**CR 350×394×22 HSF3 R**	**CR 350×394×22 HSF7 R**
			CR 350×394×22 HSF3 V	**CR 350×394×22 HSF7 V**
360	404	20	**CR 360×404×20 HSF3 R**	**CR 360×404×20 HSF7 R**
			CR 360×404×20 HSF3 V	**CR 360×404×20 HSF7 V**
365	409,4	19,05	**CR 365×409.4×19.05 HSF3 R**	**CR 365×409.4×19.05 HSF7 R**
			CR 365×409.4×19.05 HSF3 V	**CR 365×409.4×19.05 HSF7 V**
366	410	20	**CR 366×410×20 HSF3 R**	**CR 366×410×20 HSF7 R**
			CR 366×410×20 HSF3 V	**CR 366×410×20 HSF7 V**
370	410	18	**CR 370×410×18 HSF3 R**	**CR 370×410×18 HSF7 R**
			CR 370×410×18 HSF3 V	**CR 370×410×18 HSF7 V**
380	419	24	**CR 380×419×24 HSF3 R**	**CR 380×419×24 HSF7 R**
			CR 380×419×24 HSF3 V	**CR 380×419×24 HSF7 V**
	424	20	**CR 380×424×20 HSF3 R**	**CR 380×424×20 HSF7 R**
			CR 380×424×20 HSF3 V	**CR 380×424×20 HSF7 V**
385	425	18,3	**CR 385×425×18.3 HSF3 R**	**CR 385×425×18.3 HSF7 R**
			CR 385×425×18.3 HSF3 V	**CR 385×425×18.3 HSF7 V**
387	431	22,5	**CR 387×431×22.5 HSF3 R**	**CR 387×431×22.5 HSF7 R**
			CR 387×431×22.5 HSF3 V	**CR 387×431×22.5 HSF7 V**
390	430	18	**CR 390×430×18 HSF3 R**	**CR 390×430×18 HSF7 R**
			CR 390×430×18 HSF3 V	**CR 390×430×18 HSF7 V**
400	440	18	**CR 400×440×18 HSF3 R**	**CR 400×440×18 HSF7 R**
			CR 400×440×18 HSF3 V	**CR 400×440×18 HSF7 V**
	440	22	**CR 400×440×22 HSF3 R**	**CR 400×440×22 HSF7 R**
			CR 400×440×22 HSF3 V	**CR 400×440×22 HSF7 V**
	444	20	**CR 400×444×20 HSF3 R**	**CR 400×444×20 HSF7 R**
			CR 400×444×20 HSF3 V	**CR 400×444×20 HSF7 V**
	450	22	**CR 400×450×22 HSF3 R**	**CR 400×450×22 HSF7 R**
			CR 400×450×22 HSF3 V	**CR 400×450×22 HSF7 V**
420	470	22	**CR 420×470×22 HSF3 R**	**CR 420×470×22 HSF7 R**
			CR 420×470×22 HSF3 V	**CR 420×470×22 HSF7 V**

Series HSF3 (split), HSF7 (solid) – Metric sizes



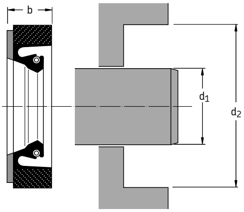
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF3) Lip material R Lip material V	Solid version (HSF7) Lip material R Lip material V
mm				
430	480	22	**CR 430×480×22 HSF3 R**	**CR 430×480×22 HSF7 R**
			CR 430×480×22 HSF3 V	**CR 430×480×22 HSF7 V**
440	490	22	**CR 440×490×22 HSF3 R**	**CR 440×490×22 HSF7 R**
			CR 440×490×22 HSF3 V	**CR 440×490×22 HSF7 V**
450	494	20	**CR 450×494×20 HSF3 R**	**CR 450×494×20 HSF7 R**
			CR 450×494×20 HSF3 V	**CR 450×494×20 HSF7 V**
460	510	22	**CR 460×510×22 HSF3 R**	**CR 460×510×22 HSF7 R**
			CR 460×510×22 HSF3 V	**CR 460×510×22 HSF7 V**
	510	22	**CR 460×510×22 HSF3 R**	**CR 460×510×22 HSF7 R**
			CR 460×510×22 HSF3 V	**CR 460×510×22 HSF7 V**
480	530	22	**CR 480×530×22 HSF3 R**	**CR 480×530×22 HSF7 R**
			CR 480×530×22 HSF3 V	**CR 480×530×22 HSF7 V**
500	544	20	**CR 500×544×20 HSF3 R**	**CR 500×544×20 HSF7 R**
			CR 500×544×20 HSF3 V	**CR 500×544×20 HSF7 V**
515	555	20	**CR 515×555×20 HSF3 R**	**CR 515×555×20 HSF7 R**
			CR 515×555×20 HSF3 V	**CR 515×555×20 HSF7 V**
520	564	20	**CR 520×564×20 HSF3 R**	**CR 520×564×20 HSF7 R**
			CR 520×564×20 HSF3 V	**CR 520×564×20 HSF7 V**
	570	22	**CR 520×570×22 HSF3 R**	**CR 520×570×22 HSF7 R**
			CR 520×570×22 HSF3 V	**CR 520×570×22 HSF7 V**
530	580	22	**CR 530×580×22 HSF3 R**	**CR 530×580×22 HSF7 R**
			CR 530×580×22 HSF3 V	**CR 530×580×22 HSF7 V**
540	590	22	**CR 540×590×22 HSF3 R**	**CR 540×590×22 HSF7 R**
			CR 540×590×22 HSF3 V	**CR 540×590×22 HSF7 V**
	590	25	**CR 540×590×25 HSF3 R**	**CR 540×590×25 HSF7 R**
			CR 540×590×25 HSF3 V	**CR 540×590×25 HSF7 V**
545	596,9	19,05	**CR 545×596.9×19.05 HSF3 R**	**CR 545×596.9×19.05 HSF7 R**
			CR 545×596.9×19.05 HSF3 V	**CR 545×596.9×19.05 HSF7 V**
550	600	22	**CR 550×600×22 HSF3 R**	**CR 550×600×22 HSF7 R**
			CR 550×600×22 HSF3 V	**CR 550×600×22 HSF7 V**

Series HSF3 (split), HSF7 (solid) – Metric sizes



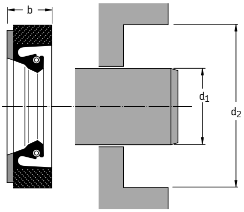
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF3) Lip material R / Lip material V	Solid version (HSF7) Lip material R / Lip material V
mm				
560	603	20	**CR 560×603×20 HSF3 R**	**CR 560×603×20 HSF7 R**
			CR 560×603×20 HSF3 V	**CR 560×603×20 HSF7 V**
	604	20	**CR 560×604×20 HSF3 R**	**CR 560×604×20 HSF7 R**
			CR 560×604×20 HSF3 V	**CR 560×604×20 HSF7 V**
580	630	22	**CR 580×630×22 HSF3 R**	**CR 580×630×22 HSF7 R**
			CR 580×630×22 HSF3 V	**CR 580×630×22 HSF7 V**
590	640	22	**CR 590×640×22 HSF3 R**	**CR 590×640×22 HSF7 R**
			CR 590×640×22 HSF3 V	**CR 590×640×22 HSF7 V**
600	640	18	**CR 600×640×18 HSF3 R**	**CR 600×640×18 HSF7 R**
			CR 600×640×18 HSF3 V	**CR 600×640×18 HSF7 V**
614	658	20	**CR 614×658×20 HSF3 R**	**CR 614×658×20 HSF7 R**
			CR 614×658×20 HSF3 V	**CR 614×658×20 HSF7 V**
620	670	22	**CR 620×670×22 HSF3 R**	**CR 620×670×22 HSF7 R**
			CR 620×670×22 HSF3 V	**CR 620×670×22 HSF7 V**
640	680	20	**CR 640×680×20 HSF3 R**	**CR 640×680×20 HSF7 R**
			CR 640×680×20 HSF3 V	**CR 640×680×20 HSF7 V**
650	700	22	**CR 650×700×22 HSF3 R**	**CR 650×700×22 HSF7 R**
			CR 650×700×22 HSF3 V	**CR 650×700×22 HSF7 V**
660	700	18	**CR 660×700×18 HSF3 R**	**CR 660×700×18 HSF7 R**
			CR 660×700×18 HSF3 V	**CR 660×700×18 HSF7 V**
665	715	22	**CR 665×715×22 HSF3 R**	**CR 665×715×22 HSF7 R**
			CR 665×715×22 HSF3 V	**CR 665×715×22 HSF7 V**
670	714	22	**CR 670×714×22 HSF3 R**	**CR 670×714×22 HSF7 R**
			CR 670×714×22 HSF3 V	**CR 670×714×22 HSF7 V**
700	764	25	**CR 700×764×25 HSF3 R**	**CR 700×764×25 HSF7 R**
			CR 700×764×25 HSF3 V	**CR 700×764×25 HSF7 V**
710	774	25	**CR 710×774×25 HSF3 R**	**CR 710×774×25 HSF7 R**
			CR 710×774×25 HSF3 V	**CR 710×774×25 HSF7 V**
724	775	22	**CR 724×775×22 HSF3 R**	**CR 724×775×22 HSF7 R**
			CR 724×775×22 HSF3 V	**CR 724×775×22 HSF7 V**
740	780	16,5	**CR 740×780×16.5 HSF3 R**	**CR 740×780×16.5 HSF7 R**
			CR 740×780×16.5 HSF3 V	**CR 740×780×16.5 HSF7 V**

Series HSF3 (split), HSF7 (solid) – Metric sizes



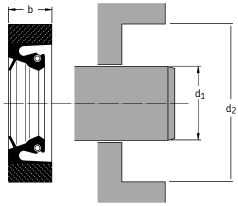
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF3) Lip material R / Lip material V	Solid version (HSF7) Lip material R / Lip material V
mm				
750	814	28	**CR 750×814×28 HSF3 R** **CR 750×814×28 HSF3 V**	**CR 750×814×28 HSF7 R** **CR 750×814×28 HSF7 V**
775	839	25	**CR 775×839×25 HSF3 R** **CR 775×839×25 HSF3 V**	**CR 775×839×25 HSF7 R** **CR 775×839×25 HSF7 V**
790	834	25	**CR 790×834×25 HSF3 R** **CR 790×834×25 HSF3 V**	**CR 790×834×25 HSF7 R** **CR 790×834×25 HSF7 V**
	854	25	**CR 790×854×25 HSF3 R** **CR 790×854×25 HSF3 V**	**CR 790×854×25 HSF7 R** **CR 790×854×25 HSF7 V**
800	864	25	**CR 800×864×25 HSF3 R** **CR 800×864×25 HSF3 V**	**CR 800×864×25 HSF7 R** **CR 800×864×25 HSF7 V**
840	880	18	**CR 840×880×18 HSF3 R** **CR 840×880×18 HSF3 V**	**CR 840×880×18 HSF7 R** **CR 840×880×18 HSF7 V**
880	944	25,4	**CR 880×944×25.4 HSF3 R** **CR 880×944×25.4 HSF3 V**	**CR 880×944×25.4 HSF7 R** **CR 880×944×25.4 HSF7 V**
890	930	18	**CR 890×930×18 HSF3 R** **CR 890×930×18 HSF3 V**	**CR 890×930×18 HSF7 R** **CR 890×930×18 HSF7 V**
910	974	25	**CR 910×974×25 HSF3 R** **CR 910×974×25 HSF3 V**	**CR 910×974×25 HSF7 R** **CR 910×974×25 HSF7 V**
970	1 034	25	**CR 970×1034×25 HSF3 R** **CR 970×1034×25 HSF3 V**	**CR 970×1034×25 HSF7 R** **CR 970×1034×25 HSF7 V**
985	1 045	25	**CR 985×1045×25 HSF3 R** **CR 985×1045×25 HSF3 V**	**CR 985×1045×25 HSF7 R** **CR 985×1045×25 HSF7 V**
1 030	970	21,5	**CR 1030×970×21.5 HSF3 R** **CR 1030×970×21.5 HSF3 V**	**CR 1030×970×21.5 HSF7 R** **CR 1030×970×21.5 HSF7 V**

Series HSF3 (split), HSF7 (solid) – Inch sizes



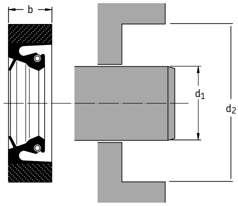
Dimensions shaft d_1	 bore d_2	 seal width b	SKF Designation Split version (HSF3) Lip material R	 Lip material V	 Solid version (HSF7) Lip material R	 Lip material V
in *(mm)*						
28.500 *215,9*	9.750 *247,65*	0.812 *20,62*	**CR HSF3 5766 R**	**CR HSF3 5766 V**	**CR HSF7 5766 R**	**CR HSF7 5766 V**
10.000 *254,00*	11.500 *292,10*	0.630 *16,00*	**CR HSF3 5920 R**	**CR HSF3 5920 V**	**CR HSF7 5920 R**	**CR HSF7 5920 V**
11.500 *292,10*	13.780 *350,01*	0.630 *16,00*	**CR HSF3 6075 R**	**CR HSF3 6075 V**	**CR HSF7 6075 R**	**CR HSF7 6075 V**
12.250 *311,15*	14.250 *361,95*	0.812 *20,62*	**CR HSF3 6150 R**	**CR HSF3 6150 V**	**CR HSF7 6150 R**	**CR HSF7 6150 V**
14.500 *368,30*	16.500 *419,10*	0.812 *20,62*	**CR HSF3 6370 R**	**CR HSF3 6370 V**	**CR HSF7 6370 R**	**CR HSF7 6370 V**
	16.500 *419,10*	1.152 *29,26*	**CR HSF3 6375 R**	**CR HSF3 6375 V**	**CR HSF7 6375 R**	**CR HSF7 6375 V**
14.750 *374,65*	16.500 *419,10*	0.875 *22,23*	**CR HSF3 6395 R**	**CR HSF3 6395 V**	**CR HSF7 6395 R**	**CR HSF7 6395 V**
15.250 *387,35*	17.250 *438,15*	1.000 *25,40*	**CR HSF3 6465 R**	**CR HSF3 6465 V**	**CR HSF7 6465 R**	**CR HSF7 6465 V**
16.500 *419,10*	18.000 *457,20*	0.750 *19,05*	**CR HSF3 6611 R**	**CR HSF3 6611 V**	**CR HSF7 6611 R**	**CR HSF7 6611 V**
35.500 *901,70*	37.500 *952,50*	0.875 *22,23*	**CR HSF3 7860 R**	**CR HSF3 7860 V**	**CR HSF7 7860 R**	**CR HSF7 7860 V**
36.000 *914,40*	38.500 *977,90*	0.875 *22,23*	**CR HSF3 7890 R**	**CR HSF3 7890 V**	**CR HSF7 7890 R**	**CR HSF7 7890 V**
45.500 *1 155,70*	47.000 *1 193,80*	0.812 *20,62*	**CR HSF3 9000 R**	**CR HSF3 9000 V**	**CR HSF7 9000 R**	**CR HSF7 9000 V**

Series HSF4 (split), HSF8 (solid) – Metric sizes



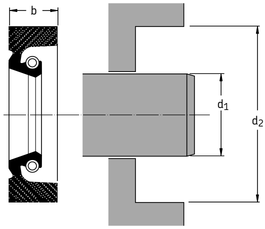
Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Split version (HSF4) Lip material R Lip material V	Solid version (HSF8) Lip material R Lip material V
mm				
75	107	12,5	CR 75×107×12.5 HSF4 R CR 75×107×12.5 HSF4 V	CR 75×107×12.5 HSF8 R CR 75×107×12.5 HSF8 V
105	145	16	CR 105×145×16 HSF4 R CR 105×145×16 HSF4 V	CR 105×145×16 HSF8 R CR 105×145×16 HSF8 V
215	250	16	CR 215×250×16 HSF4 R CR 215×250×16 HSF4 V	CR 215×250×16 HSF8 R CR 215×250×16 HSF8 V
	340	16	CR 300×340×16 HSF4 R CR 300×340×16 HSF4 V	CR 300×340×16 HSF8 R CR 300×340×16 HSF8 V
300	340	16	CR 300×340×16 HSF4 R CR 300×340×16 HSF4 V	CR 300×340×16 HSF8 R CR 300×340×16 HSF8 V
330	374	20	CR 330×374×20 HSF4 R CR 330×374×20 HSF4 V	CR 330×374×20 HSF8 R CR 330×374×20 HSF8 V
370	410	15	CR 370×410×15 HSF4 R CR 370×410×15 HSF4 V	CR 370×410×15 HSF8 R CR 370×410×15 HSF8 V
	420	20	CR 380×420×20 HSF4 R CR 380×420×20 HSF4 V	CR 380×420×20 HSF8 R CR 380×420×20 HSF8 V
380	420	22	CR 380×420×22 HSF4 R CR 380×420×22 HSF4 V	CR 380×420×22 HSF8 R CR 380×420×22 HSF8 V
	490	20	CR 440×490×20 HSF4 R CR 440×490×20 HSF4 V	CR 440×490×20 HSF8 R CR 440×490×20 HSF8 V
440	490	22	CR 440×490×22 HSF4 R CR 440×490×22 HSF4 V	CR 440×490×22 HSF8 R CR 440×490×22 HSF8 V
450	500	22	CR 450×500×22 HSF4 R CR 450×500×22 HSF4 V	CR 450×500×22 HSF8 R CR 450×500×22 HSF8 V
460	500	16	CR 460×500×16 HSF4 R CR 460×500×16 HSF4 V	CR 460×500×16 HSF8 R CR 460×500×16 HSF8 V
500	540	22	CR 500×540×22 HSF4 R CR 500×540×22 HSF4 V	CR 500×540×22 HSF8 R CR 500×540×22 HSF8 V
660	704	20	CR 660×704×20 HSF4 R CR 660×704×20 HSF4 V	CR 660×704×20 HSF8 R CR 660×704×20 HSF8 V

Series HSF4 (split), HSF8 (solid) – Inch sizes



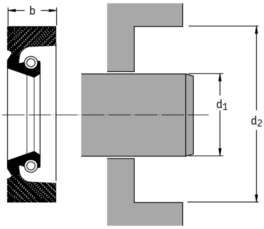
Dimensions shaft d_1	 bore d_2	 seal width b	SKF Designation Split version (HSF4) Lip material R	 Lip material V	 Solid version (HSF7) Lip material R	 Lip material V
in *(mm)*						
7.250 *184,15*	5.750 *146,05*	0.625 *15,88*	**HSF4 5490 R**	**HSF4 5490 V**	**HSF8 5490 R**	**HSF8 5490 V**
38.000 *965,2*	40.000 *1 016*	0.875 *22,23*	**HSF4 7990 R**	**HSF4 7990 V**	**HSF8 7990 R**	**HSF8 7990 V**

Series HSF9 – Metric sizes



Dimensions shaft d_1	bore d_2	seal width b	SKF Designation Lip material R	V
mm				
200	240	16,5	**CR 200×240×16.5 HSF9 R**	**CR 200×240×16.5 HSF9 V**
335	379	20	**CR 335×379×20 HSF9 R**	**CR 335×379×20 HSF9 V**
346	390	18	**CR 346×390×18 HSF9 R**	**CR 346×390×18 HSF9 V**
360	404	17,45	**CR 360×404×17.45 HSF9 R**	**CR 360×404×17.45 HSF9 V**
480	530	22	**CR 480×530×22 HSF9 R**	**CR 480×530×22 HSF9 V**
500	540	20	**CR 500×540×20 HSF9 R**	**CR 500×540×20 HSF9 V**
515	555	20	**CR 515×555×20 HSF9 R**	**CR 515×555×20 HSF9 V**
600	644	20	**CR 600×644×20 HSF9 R**	**CR 600×644×20 HSF9 V**
700	750	25	**CR 700×750×25 HSF9 R**	**CR 700×750×25 HSF9 V**
751	814	25,4	**CR 751×814×25.4 HSF9 R**	**CR 751×814×25.4 HSF9 V**
840	904	25	**CR 840×904×25 HSF9 R**	**CR 840×904×25 HSF9 V**
860	924	25	**CR 860×924×25 HSF9 R**	**CR 860×924×25 HSF9 V**

Series HSF9 – Inch sizes



Dimensions			SKF Designation	
shaft	bore	seal width	Lip material	
d_1	d_2	b	R	V
in				
17.875	19.850	0.812	**CR HSF9 6715 R**	**CR HSF9 6715 V**
454,03	*504,19*	*20,62*		
25.996	28.000	1.000	**CR HSF9 7233 R**	**CR HSF9 7233 V**
660,30	*711,20*	*25,40*		

Wear sleeves

Contents

Wear sleeves

To seal efficiently, radial shaft seals must run against a smooth round surface – the seal counterface. If the counterface becomes worn, and it usually does, then the seal will no longer be able to fulfil its function, which is to retain lubricant and to exclude contaminants – solid particles, liquids as well as moisture.

Normally, the counterface will become grooved as a contaminant particle is caught under the seal lip and generates a track as the shaft rotates. As this continues, the seal will allow more particles to pass or get stuck, and seal efficiency deteriorates, eventually leading to malfunction of the component the seal is meant to protect. To rectify the situation it is necessary to repair the counterface on the shaft – a simple seal replacement will not be sufficient.

To repair the shaft it is usually necessary to dismantle the machine in order to be able to handle the shaft and then to grind down the counter face until it is smooth again. If the grooves are deep the original size of seal will no longer function properly – a seal with a smaller shaft diameter has to be found to match it.

Now there is an easy way to repair the counter face with the shaft still in position and without having to look for a different size of seal. The answer is wear sleeves from SKF.

SKF wear sleeves are available in two different designs, depending on size. One is the extremely thin-walled ”Speedi-Sleeve” (**fig 75**), which allows replacement seals of the same size as the original seals to be used. These Speedi-Sleeves are produced for shaft diameters up to and including 203 mm.

For larger shafts, up to approximately 1.150 mm in diameter, SKF produces the LDSLV wear sleeves in two designs: the LDSLV3 (**fig 76**) with a flange, and the LDSLV4 (**fig 77**) without a flange.

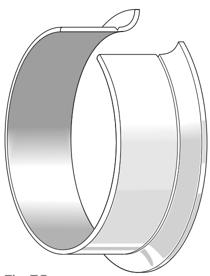


Fig 75

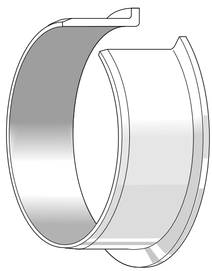


Fig 76

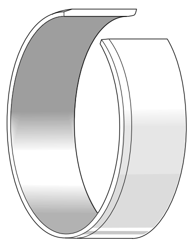


Fig 77

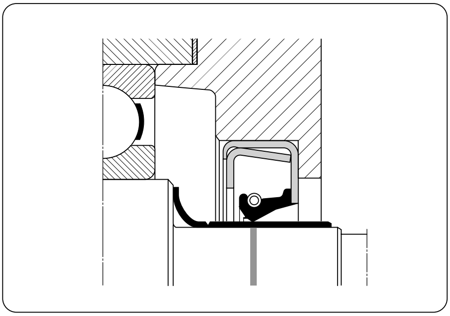


Fig 78

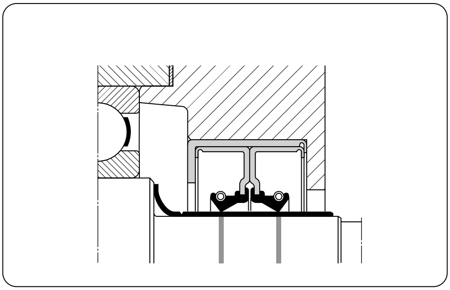


Fig 79

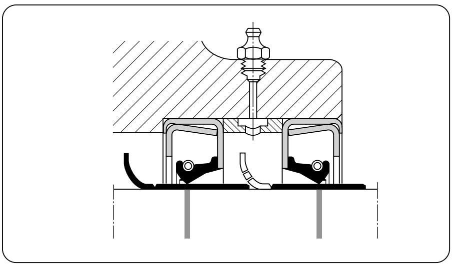


Fig 80

Speedi-Sleeve®

Speedi-Sleeves are made of stainless steel and have a wall thickness of 0,254 mm (0,01 inch). Because of the extreme thinness, the diameter of the seal seating will only be increased by about 0,5 mm so that it is possible to use replacement seals of the same size as the original.

The sleeves have a hardness of 95 HRB and a surface roughness of between 0,25 to 0,5 R_a µm. Thus they often offer a better counter face for the seal lip than the original shaft itself.

Normally, Speedi-Sleeves can be mounted immediately on the cleaned shaft (**fig 78, fig 79** and **fig 80.** Only in cases where the shaft exhibits deep grooving or is otherwise damaged is it advisable to first apply powdered metal epoxy filler to the grooves and other damaged areas.

All SKF Speedi-Sleeves have a removable installation flange at one side for easy mounting together with the mounting tool supplied with each sleeve. The flange can be retained to act as a flinger or can be removed easily as a pre-cut tear groove is provided.

Speedi-Sleeve Gold

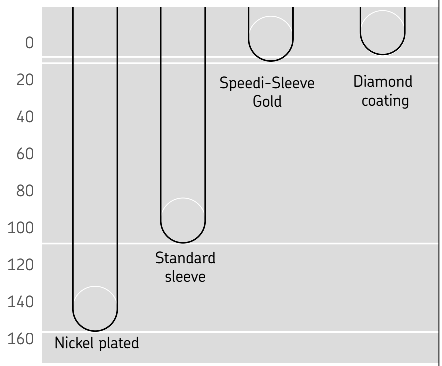
This is a recent development and embodies all the advantages of the original Speedi-Sleeve. Speedi-Sleeve Gold is equally thin but has a surface hardness of between 80 and 85 HRC and thus is much harder than the standard sleeve. The surface is very resistant to abrasion – being almost on a par with diamond coatings, **Diagram 10**. However, installation is just as easy and again the tool is supplied with the sleeve. Thus for heavy-duty applications it is the preferred choice.

The Speedi-Sleeve Gold has been thoroughly tested to ascertain its degree of abrasion resistance in severe dust environments using both coarse and fine sand. The tests were carried out at temperatures up to 100 °C and at shaft speeds of up to 8,6 m/s (28.2 ft/s).

Under these conditions, seals on shafts without Speedi-Sleeve protection started to leak after 450 hours on average. Seals on Speedi-Sleeve Gold ran for an average of 2 500 hours.

In other tests, for example, it was found that continuous salt spray at 40 °C produced no trace of corrosion even after 600 hours.

Diagram 10. Abrasion resistance
Comparison of Speedi-Sleeve Gold with various coatings



Testing in highly abrasive conditions demonstrates how the hardened surface of Speedi-Sleeve Gold resists wear.

Installation

Although installation is simple, it should be done carefully to achieve the best results.

Before starting, the seal seating on the shaft should be carefully cleaned and any burrs or rough spots should be filed down and polished. Deep wear grooves, scratches or very rough surfaces should be treated with a suitable metallic powder epoxy filler. The sleeve must be positioned on the shaft before the filler has hardened.

It should also be noted that although Speedi-Sleeves can be easily installed within minutes on most shafts, they should not be placed over splines or keyways etc. on the shaft. As the thin-walled sleeve has an interference fit, any disturbances on the shaft surface may create a similar pattern on the sleeve surface and the seal will leak.

Choosing the right size

To determine the appropriate sleeve size it is first necessary to clean the shaft carefully. The diameter of an undamaged section of the seal counterface should then be measured in at least three different planes. The arithmetical mean of these measurements is used to choose a Speedi-Sleeve. If the value lies within the permissible range shown in the product table for the shaft diameter (da) then the Speedi-Sleeve will have an adequately tight fit on the shaft. The sleeve cannot turn on the shaft and no adhesive is required.

If no suitable sleeve is listed in the product table then it will be necessary to rework the shaft to an appropriate dimension. This will also mean that a new size of seal will be required. If production quantities are viable, tailored sleeves can also be produced.

Mounting Speedi-Sleeve
The mounting procedure is as follows (**fig 81**):

1. The final position of the sleeve on the shaft should be determined and marked. The sleeve should cover the wear tracks of the old seal and not just left flush with the shaft end.
2. Push the sleeve on to the shaft with the flanged end first. The mounting tool supplied with the sleeve is then pushed on to the sleeve. If the tool is not long enough a length of pipe of tubing with square, deburred ends can be used instead.
3. Apply light mallet blows centrally to the mounting tool until the sleeve has been driven up to its final position. Be careful not to damage the outside diameter of the sleeve.
4. Remove the flange if necessary. It is important that this is only done after the sleeve has reached its final position. The flange should be cut through to the tear groove after which it can be peeled off along the groove using a pair of tongs. If the flange is not in the way when other parts are being assembled and if it will not foul another component in operation, it is recommended that it be left in position.
5. After the sleeve has been installed, check the shaft end again for burrs which could damage the new seal.
6. Lightly oil or grease the Speedi-Sleeve surface and, if necessary, the shaft end to ease mounting the seal. Use the same lubricant as that which the seal is to retain.

Removal
A Speedi-Sleeve can be dismounted in one of the following ways; by applying heat to the sleeve; by using a pair of wire cutters starting at or near the flange and applying a twisting action; by “peening” with a small hammer across the full width of the sleeve to expand it or, if accessible, by using a drift on the flange. A Speedi-Sleeve cannot be re-used.

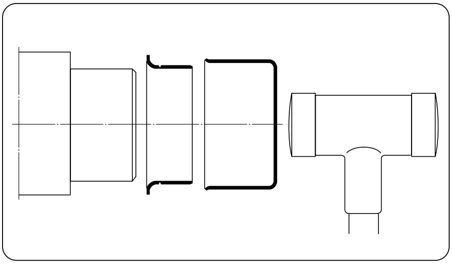
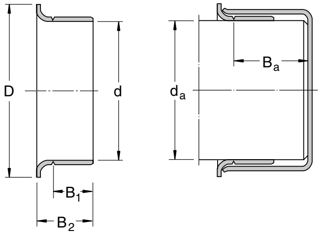


Fig 81

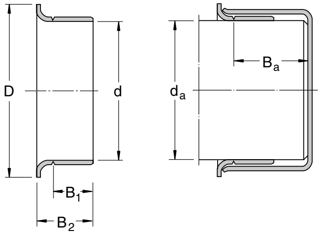
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
11,93	12,07	12,00	15,50	6,00	8,40	47,63	**CR 99049**
12,65	12,75	12,70	15,50	6,40	8,70	51,00	**CR 99050**
13,89	14,00	14,00	19,10	6,40	9,90	46,50	**CR 99055**
14,22	14,38	14,30	19,10	6,40	9,90	47,00	**CR 99056**
14,96	15,06	15,00	19,10	5,00	9,00	47,30	**CR 99059**
15,82	15,92	15,88	19,10	8,00	10,30	51,00	**CR 99062**
	15,93	15,88	19,10	8,00	10,30	50,80	**CR 99810***
15,89	16,00	16,00	19,10	8,00	11,10	50,80	**CR 99058**
16,95	17,05	17,00	27,00	8,00	11,00	51,00	**CR 99068**
17,32	17,42	17,37	22,90	8,00	11,10	51,00	**CR 99060**
17,89	18,00	18,00	27,00	8,00	11,00	46,00	**CR 99082**
19,00	19,10	19,00	24,00	8,00	11,10	50,80	**CR 99811***
		19,00	24,00	8,00	11,10	51,00	**CR 99076**
19,28	19,33	19,30	23,80	8,00	11,10	51,00	**CR 99081**
19,81	19,91	19,86	23,80	8,00	11,10	51,00	**CR 99080**
19,95	20,05	20,00	23,60	8,00	11,00	51,00	**CR 99078**
21,77	21,87	21,82	29,30	6,50	9,50	51,00	**CR 99086**
21,87	22,00	22,00	30,20	6,60	9,10	47,10	**CR 99084**
		22,00	30,20	8,00	12,00	46,00	**CR 99085**
22,17	22,27	22,23	27,80	8,00	11,10	51,00	**CR 99087**
	22,28	22,23	27,80	8,00	11,10	50,80	**CR 99812***
23,06	23,16	23,11	30,90	8,00	11,10	47,00	**CR 99091**
	23,17	23,11	30,90	8,00	11,10	47,00	**CR 99860***
23,87	24,00	24,00	28,70	8,00	11,10	50,80	**CR 99092**
24,54	24,64	24,59	28,70	8,00	11,10	51,00	**CR 99094**
		24,59	28,70	15,90	18,30	51,00	**CR 99096**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

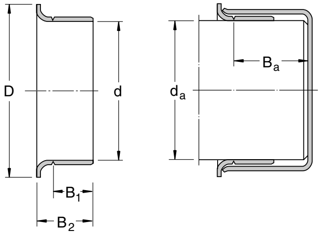
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
mm		mm					–
24,94	25,04	25,00	33,00	8,00	11,00	50,80	**CR 99813***
24,95	25,05	25,00	33,00	8,00	11,00	51,00	**CR 99098**
25,35	25,45	25,40	31,00	8,00	11,10	50,80	**CR 99814***
		25,40	31,00	8,00	11,10	51,00	**CR 99100**
25,87	26,00	26,00	33,30	8,00	12,00	46,00	**CR 99103**
26,92	27,03	27,00	33,50	8,00	11,10	47,00	**CR 99815***
		27,00	33,50	8,00	11,00	72,00	**CR 99106**
27,61	27,71	27,66	35,70	8,00	11,10	16,00	**CR 99108**
27,94	28,04	28,00	34,90	9,50	12,70	72,00	**CR 99111**
28,52	28,62	28,58	38,10	8,00	11,10	17,00	**CR 99816***
		28,58	38,10	8,00	11,10	17,00	**CR 99112**
28,53	28,63	28,58	38,10	9,50	12,70	17,50	**CR 99116**
29,31	29,41	29,36	34,30	9,50	12,70	17,00	**CR 99120**
29,79	29,92	29,85	40,00	8,00	11,10	17,00	**CR 99122**
29,95	30,07	30,00	35,60	8,00	11,00	17,00	**CR 99114**
30,10	30,22	30,15	35,60	8,00	11,00	17,00	**CR 99118**
30,89	31,04	31,00	39,70	8,00	11,00	16,00	**CR 99123**
31,42	31,57	31,50	39,10	8,00	11,10	17,00	**CR 99141**
31,67	31,83	31,75	38,10	8,00	11,10	18,00	**CR 99817***
		31,75	38,10	8,00	11,10	18,00	**CR 99125**
31,92	32,08	32,00	38,00	8,00	11,10	18,00	**CR 99128**
33,23	33,37	33,30	40,60	6,40	9,50	21,00	**CR 99129**
33,28	33,42	33,35	40,50	12,70	15,90	21,00	**CR 99818***
		33,35	40,50	12,70	15,90	21,00	**CR 99131**
33,84	34,00	34,00	41,30	12,70	15,90	20,70	**CR 99134**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

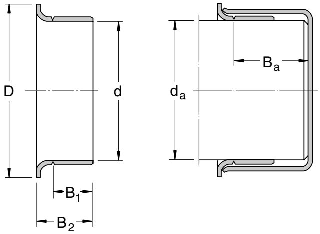
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
34,82	34,98	34,90	41,60	8,00	11,10	21,00	**CR 99133**
		34,93	41,60	12,70	15,90	21,00	**CR 99819***
		34,90	41,60	12,70	15,90	21,00	**CR 99138**
34,92	35,08	35,00	41,60	13,00	16,00	20,00	**CR 99820***
		35,00	41,60	13,00	16,00	20,00	**CR 99139**
35,86	36,00	36,00	42,90	13,00	17,00	25,00	**CR 99146**
36,37	36,52	36,45	45,20	14,30	17,50	26,00	**CR 99821***
		36,45	45,20	14,30	17,50	26,00	**CR 99143**
36,45	36,60	36,53	45,20	9,50	12,70	26,00	**CR 99144**
37,84	38,00	38,00	45,20	13,00	17,00	25,00	**CR 99147**
38,02	38,18	38,10	45,20	9,50	12,70	26,00	**CR 99823***
		38,10	45,20	9,50	12,70	26,00	**CR 99150**
		38,10	45,20	14,30	17,50	26,00	**CR 99822***
		38,10	45,20	14,30	17,50	26,00	**CR 99149**
38,61	38,76	38,68	47,20	11,10	14,30	26,00	**CR 99152**
39,35	39,49	39,42	47,20	11,10	14,30	26,00	**CR 99155**
39,60	39,74	39,67	47,20	14,30	17,50	26,00	**CR 99824***
		39,67	47,20	14,30	17,50	26,00	**CR 99156**
39,77	39,93	39,85	47,20	16,00	19,10	26,00	**CR 99159**
39,84	40,00	40,00	46,90	9,90	12,90	25,40	**CR 99153**
39,92	40,08	40,00	47,00	13,00	16,00	26,00	**CR 99825***
		40,00	47,00	13,00	16,00	26,00	**CR 99157**
40,69	40,84	40,77	49,20	12,70	16,30	25,00	**CR 99160**
40,84	41,00	41,00	49,20	12,70	15,90	25,80	**CR 99163**
41,20	41,35	41,28	47,60	8,00	11,10	26,00	**CR 99161**
41,21	41,35	41,28	47,60	14,30	17,50	21,00	**CR 99826***
		41,28	47,60	14,30	17,50	21,00	**CR 99162**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

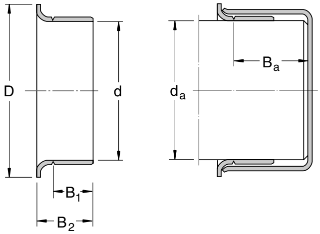
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
41,84	42,00	42,00	53,00	11,30	14,50	21,00	**CR 99166**
		42,00	53,00	14,30	17,50	21,00	**CR 99169**
41,98	42,14	42,06	53,00	14,00	17,50	21,00	**CR 99165**
42,77	42,93	42,85	48,40	14,30	17,50	22,00	**CR 99168**
42,80	42,95	42,88	48,40	8,00	11,10	22,00	**CR 99167**
42,84	43,00	43,00	48,40	12,70	15,90	21,40	**CR 99182**
43,56	43,71	43,64	51,60	14,30	17,50	21,00	**CR 99971**
44,09	44,25	44,17	52,40	9,50	12,70	21,00	**CR 99170**
44,37	44,53	44,45	52,40	13,50	15,90	22,30	**CR 99180**
		44,45	52,40	14,30	17,50	21,00	**CR 99827***
		44,45	52,40	14,30	17,50	21,00	**CR 99174**
		44,45	52,40	19,00	22,20	21,00	**CR 99828***
		44,45	52,40	19,00	22,20	21,00	**CR 99175**
		44,45	52,50	9,50	12,70	21,00	**CR 99172**
44,73	44,87	44,80	52,40	14,30	17,50	21,00	**CR 99829***
		44,80	52,40	14,30	17,50	21,00	**CR 99176**
44,92	45,08	45,00	53,00	14,00	17,00	21,00	**CR 99830***
		45,00	53,00	14,00	17,00	21,00	**CR 99177**
45,16	45,31	45,24	54,00	17,20	20,30	27,00	**CR 99179**
45,95	46,10	46,00	53,10	14,30	17,50	26,00	**CR 99181**
		46,05	53,10	14,30	17,50	26,00	**CR 99831***
47,17	47,32	47,24	54,80	14,30	17,50	25,00	**CR 99185**
47,40	47,55	47,45	55,60	22,60	26,00	25,00	**CR 99186**
47,55	47,70	47,63	56,00	4,50	7,50	19,00	**CR 99190**
		47,63	56,00	7,50	10,50	19,00	**CR 99188**
		47,63	56,00	9,50	13,10	27,00	**CR 99184**
		47,63	56,00	14,30	17,50	25,40	**CR 99832***
		47,63	56,00	14,30	17,50	25,00	**CR 99187**
47,92	48,08	48,00	56,00	14,00	17,00	25,00	**CR 99189**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

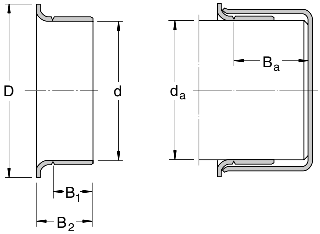
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a [1]	
mm		mm					–
48,49	48,64	48,56	56,40	9,50	12,70	25,00	**CR 99192**
49,12	49,28	49,20	56,40	14,30	17,50	25,00	**CR 99193**
		49,23	56,40	14,30	17,50	25,40	**CR 99833***
49,92	50,08	50,00	57,00	14,00	17,00	25,00	**CR 99196**
50,22	50,37	50,30	58,70	14,30	17,90	27,00	**CR 99198**
50,72	50,88	50,80	61,10	14,30	17,50	25,40	**CR 99834***
		50,80	61,10	22,20	25,40	25,40	**CR 99835***
50,73	50,87	50,80	61,10	14,30	17,50	25,00	**CR 99199**
		50,80	61,10	22,20	25,40	25,00	**CR 99200**
51,81	52,00	52,00	62,70	12,70	15,90	34,50	**CR 99204**
53,95	54,10	54,00	61,50	12,70	19,00	33,00	**CR 99210**
		54,00	61,50	19,80	23,80	35,00	**CR 99212**
		54,00	62,00	20,00	24,00	35,00	**CR 99836***
54,92	55,08	55,00	62,00	20,00	23,00	32,00	**CR 99215**
	55,09	55,00	62,00	20,00	23,00	32,00	**CR 99863***
55,32	55,47	55,40	64,00	20,00	24,00	38,10	**CR 99217**
55,52	55,68	55,60	63,50	19,80	23,80	33,00	**CR 99218**
55,81	56,00	56,00	64,30	12,70	15,90	33,40	**CR 99220**
56,56	56,72	56,64	64,30	12,70	15,90	33,00	**CR 99229**
		56,64	64,30	19,80	23,00	32,00	**CR 99230**
56,57	56,72	56,64	64,30	12,70	15,90	33,40	**CR 99861***
56,82	56,97	56,90	65,10	19,40	22,90	32,00	**CR 99226**
57,12	57,28	57,20	64,30	8,00	11,10	33,00	**CR 99227**
		57,20	64,30	19,80	23,80	33,00	**CR 99225**
57,13	57,28	57,15	64,30	8,00	11,10	33,40	**CR 99838***
		57,15	64,30	19,80	23,80	33,40	**CR 99837***
58,65	58,80	58,72	68,30	19,80	23,80	35,00	**CR 99231**

* Indicates Speedi-Sleeve Gold
[1] Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

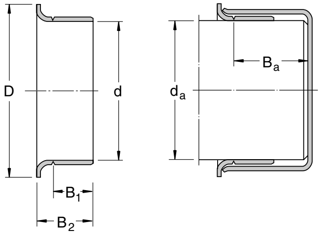
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
59,10	59,26	59,18	69,80	19,00	22,20	38,00	**CR 99233**
59,92	60,07	60,00	70,70	9,40	11,40	37,40	**CR 99241**
		60,00	70,70	20,00	23,00	35,00	**CR 99235**
60,25	60,40	60,33	69,90	15,10	19,10	35,00	**CR 99238**
60,30	60,45	60,33	69,90	19,80	23,80	35,00	**CR 99839***
60,31	60,45	60,38	69,90	13,40	17,30	35,00	**CR 99240**
		60,38	69,90	19,80	23,80	35,00	**CR 99237**
61,83	61,97	61,90	71,80	19,80	23,80	35,30	**CR 99243**
61,81	62,00	62,00	71,80	12,70	15,90	36,20	**CR 99244**
61,85	62,00	62,00	71,80	12,70	15,90	36,00	**CR 99242**
63,23	63,37	63,30	73,00	19,80	23,80	35,00	**CR 99249**
63,42	63,58	63,50	71,60	14,10	16,50	23,00	**CR 99253**
63,50	63,65	63,50	71,80	12,70	16,70	35,00	**CR 99248**
		63,50	71,60	19,80	23,80	35,00	**CR 99840***
		63,50	71,60	19,80	23,80	35,00	**CR 99250**
63,75	63,91	63,83	71,80	19,80	23,00	37,00	**CR 99251**
64,92	65,08	65,00	72,40	20,00	23,00	35,00	**CR 99254**
	65,75	65,00	72,40	20,00	23,00	35,00	**CR 99841***
65,02	65,18	65,10	73,40	19,80	23,80	35,00	**CR 99256**
65,92	66,07	66,00	76,00	19,80	23,80	32,00	**CR 99259**
66,50	66,64	66,57	77,40	19,80	23,80	35,00	**CR 99261**
66,57	66,73	66,65	77,40	19,80	23,00	35,00	**CR 99264**
66,60	66,75	66,68	77,40	12,70	15,90	35,00	**CR 99260**
66,68	66,82	66,75	77,40	19,80	23,80	35,00	**CR 99262**
	66,83	66,78	77,40	19,80	23,80	35,00	**CR 99842***
67,81	68,00	68,00	79,40	19,10	22,20	42,90	**CR 99266**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

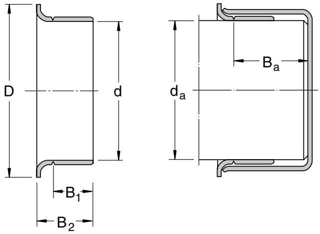
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
mm		mm					–
69,26	69,42	69,34	79,40	19,80	23,00	33,00	**CR 99268**
69,60	69,74	69,67	77,90	19,80	23,80	32,00	**CR 99273**
69,72	69,88	69,80	79,40	19,80	23,80	32,00	**CR 99843***
		69,80	79,40	19,80	23,80	32,00	**CR 99274**
69,77	69,93	69,85	78,10	36,50	41,30	41,00	**CR 99267**
69,85	70,00	70,00	79,40	19,80	23,80	32,00	**CR 99844***
		70,00	79,40	19,80	23,80	32,00	**CR 99275**
		70,00	79,40	28,60	31,80	32,00	**CR 99269**
69,92	70,08	70,00	79,40	10,30	14,30	32,00	**CR 99272**
		70,00	79,40	20,00	24,00	32,00	**CR 99276**
71,35	71,50	71,42	80,90	15,10	17,50	32,00	**CR 99281**
71,81	72,00	72,00	81,90	19,10	22,20	34,10	**CR 99284**
72,08	72,24	72,16	81,90	12,70	16,70	32,00	**CR 99282**
72,09	72,24	72,09	81,90	12,70	16,70	32,00	**CR 99845***
72,80	72,94	72,87	81,00	19,80	23,80	32,00	**CR 99286**
72,97	73,13	73,00	81,80	19,80	23,80	32,00	**CR 99846***
		73,00	81,80	19,80	23,80	32,00	**CR 99287**
74,60	74,75	74,68	84,90	12,70	16,30	33,00	**CR 99290**
		74,63	84,90	19,80	23,80	33,40	**CR 99847***
		74,68	84,90	19,80	23,80	33,00	**CR 99293**
74,92	75,08	75,00	83,10	15,10	17,50	28,00	**CR 99289**
		75,00	84,00	22,00	26,00	33,00	**CR 99294**
75,49	75,59	75,54	82,20	20,60	25,40	32,00	**CR 99292**
75,95	76,10	76,00	85,10	20,60	25,40	33,00	**CR 99299**
		76,00	85,30	12,30	15,90	34,00	**CR 99291**
		76,00	85,30	14,30	17,50	35,00	**CR 99298**
76,12	76,28	76,20	82,30	20,60	23,80	35,00	**CR 99296**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

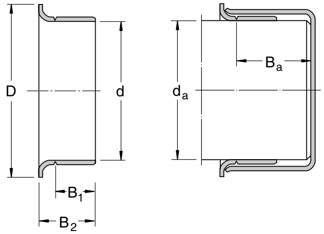
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
mm		mm					–
76,20	76,35	76,20	82,20	20,60	25,40	32,60	**CR 99848***
		76,28	82,20	20,60	25,40	33,00	**CR 99300**
	76,40	76,28	85,00	15,90	20,60	27,00	**CR 99303**
76,40	76,56	76,48	85,20	12,70	15,80	51,00	**CR 99301**
77,81	78,00	78,00	88,10	19,50	22,20	52,30	**CR 99306**
79,24	79,40	79,32	89,70	17,50	20,60	51,00	**CR 99311**
79,25	79,40	79,38	89,70	20,60	25,40	50,80	**CR 99849***
		79,32	89,70	20,60	25,40	51,00	**CR 99312**
79,35	79,55	79,44	89,50	14,00	18,00	52,00	**CR 99307**
79,81	80,01	80,00	89,90	19,10	22,50	35,00	**CR 99313**
79,92	80,08	80,00	90,00	11,00	15,00	35,00	**CR 99317**
		80,00	90,00	21,00	24,00	35,00	**CR 99315**
81,92	82,07	82,00	91,10	16,80	21,60	44,00	**CR 99328**
82,47	82,63	82,55	91,30	20,60	25,40	35,00	**CR 99322**
82,50	82,70	82,50	90,80	15,10	18,30	35,00	**CR 99850***
82,55	82,70	82,63	90,80	15,10	18,30	35,00	**CR 99324**
		82,63	91,10	17,50	22,20	32,00	**CR 99326**
	82,70	82,55	91,10	20,60	25,40	35,00	**CR 99851***
		82,63	91,10	20,60	25,40	35,00	**CR 99325**
84,00	84,15	84,00	93,70	20,60	25,40	35,00	**CR 99331**
84,76	85,02	85,00	94,00	17,00	21,00	35,00	**CR 99332**
84,78	85,00	85,00	93,90	10,10	12,70	36,40	**CR 99334**
		85,00	94,00	21,00	25,00	35,00	**CR 99333**
85,67	85,83	85,75	93,70	9,50	12,70	36,00	**CR 99338**
		85,75	93,90	20,60	25,40	35,00	**CR 99337**
87,25	87,40	87,33	97,60	19,80	23,00	36,00	**CR 99339**
88,31	88,47	88,39	97,40	19,80	23,00	36,00	**CR 99340**

* Indicates Speedi-Sleeve Gold
[1)] Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

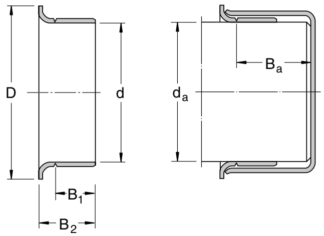
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
88,82	88,98	88,98	97,60	16,00	20,60	34,20	**CR 99346**
88,90	89,05	89,00	97,20	8,00	12,70	34,00	**CR 99347**
		89,00	97,60	20,60	25,40	34,20	**CR 99852***
		89,00	97,60	20,60	25,40	34,00	**CR 99350**
88,93	89,08	89,00	97,60	15,90	20,60	34,00	**CR 99349**
89,92	90,08	90,00	101,60	11,00	13,70	46,00	**CR 99352**
		90,00	101,60	13,40	16,90	44,00	**CR 99353**
		90,00	101,60	18,00	23,00	46,00	**CR 99351**
		90,00	101,60	23,00	28,00	44,00	**CR 99354**
90,42	90,58	90,50	99,10	20,60	25,40	44,00	**CR 99356**
91,90	92,05	92,00	102,40	20,60	25,40	44,00	**CR 99360**
92,02	92,18	92,10	102,20	12,70	15,90	45,00	**CR 99363**
		92,10	102,40	20,60	25,40	44,00	**CR 99362**
93,57	93,73	93,65	97,30	8,00	11,10	22,00	**CR 99368**
93,60	93,75	93,68	102,20	20,60	23,80	45,00	**CR 99365**
94,66	94,82	94,74	102,20	19,80	23,00	45,00	**CR 99366**
94,67	94,82	94,74	102,00	12,00	15,10	44,00	**CR 99359**
94,92	95,08	95,00	102,20	21,00	24,00	44,00	**CR 99369**
94,99	95,15	95,00	102,50	12,00	15,10	45,00	**CR 99364**
95,00	95,15	95,00	102,40	8,70	12,70	44,00	**CR 99374**
95,14	95,30	95,22	102,20	14,30	17,50	45,00	**CR 99376**
95,25	95,40	95,25	102,10	17,50	22,20	45,70	**CR 99853***
95,26	95,40	95,33	102,10	17,50	22,20	48,00	**CR 99372**
		95,33	102,20	8,70	12,70	44,00	**CR 99367**
98,25	98,40	98,32	106,30	20,60	25,40	48,00	**CR 99386**
98,37	98,53	98,45	107,20	20,60	25,40	48,00	**CR 99387**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

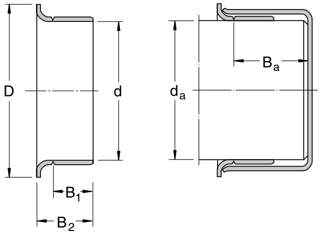
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
99,95	100,10	100,00	109,60	20,60	25,40	52,00	**CR 99854***
		100,00	110,00	20,60	25,40	52,00	**CR 99393**
101,55	101,75	101,60	111,10	20,60	25,40	52,00	**CR 99855***
		101,65	111,10	12,70	15,90	52,00	**CR 99401**
		101,65	111,10	15,20	18,40	52,00	**CR 99395**
		101,65	111,10	16,50	19,70	35,00	**CR 99400**
		101,65	111,10	20,60	25,40	52,00	**CR 99399**
103,90	104,10	104,00	112,70	20,00	24,00	36,00	**CR 99409**
104,70	104,90	104,80	113,50	20,60	25,40	35,00	**CR 99412**
104,90	105,10	105,00	113,50	20,00	23,20	35,00	**CR 99413**
106,25	106,45	106,35	114,30	20,60	25,40	35,00	**CR 99418**
107,34	107,54	107,44	117,10	19,80	23,00	37,00	**CR 99423**
107,90	108,10	108,00	117,10	20,60	25,40	37,00	**CR 99424**
109,78	110,00	110,00	124,90	11,40	14,50	32,90	**CR 99434**
109,90	110,10	110,00	125,00	12,90	16,50	32,00	**CR 99435**
111,00	111,20	111,00	120,70	20,60	25,40	42,00	**CR 99437**
111,80	112,00	112,00	120,70	19,00	22,50	27,00	**CR 99438**
112,62	112,83	112,72	122,20	25,40	29,00	33,00	**CR 99439**
114,12	114,40	114,30	124,50	20,60	25,40	32,00	**CR 99856***
114,20	114,40	114,30	124,50	20,60	25,40	32,00	**CR 99450**
114,90	115,10	115,00	127,00	20,60	23,80	32,00	**CR 99452**
117,37	117,57	117,48	128,60	25,40	31,80	35,00	**CR 99463**
	117,58	117,48	127,00	11,10	15,80	35,00	**CR 99465**
119,00	119,20	119,00	128,60	20,60	25,40	35,00	**CR 99468**
	120,10	120,00	129,80	8,00	11,00	33,00	**CR 99471**
		120,00	129,80	20,00	25,00	32,00	**CR 99473**
120,55	120,75	120,65	127,00	12,70	19,00	38,00	**CR 99475**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

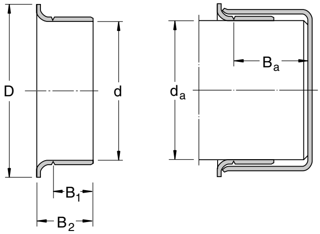
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
mm		mm					–
121,89	122,10	122,00	131,50	20,00	24,00	32,00	**CR 99472**
122,90	123,10	123,00	132,80	20,00	25,00	31,00	**CR 99484**
123,72	123,93	123,83	133,40	15,90	19,10	37,00	**CR 99487**
124,90	125,10	125,00	137,20	10,00	14,00	37,00	**CR 99490**
		125,00	137,20	26,00	32,00	37,00	**CR 99492**
126,95	127,15	127,00	137,20	13,70	17,30	37,00	**CR 99501**
		127,00	137,20	17,50	22,20	37,00	**CR 99857***
		127,00	137,20	17,50	22,20	37,00	**CR 99498**
		127,00	139,90	20,60	25,40	37,00	**CR 99858***
		127,00	136,90	20,60	25,40	37,00	**CR 99499**
129,79	130,00	130,00	139,50	19,00	24,00	30,00	**CR 99494**
129,98	130,18	130,00	139,50	22,00	25,30	33,00	**CR 99491**
130,05	130,25	130,15	139,70	20,60	25,40	32,00	**CR 99513**
133,25	133,45	133,35	141,20	20,60	25,40	32,00	**CR 99525**
134,79	135,00	135,00	149,20	20,50	25,40	32,00	**CR 99533**
136,42	136,62	136,53	149,20	20,60	25,40	32,00	**CR 99537**
138,02	138,23	138,13	146,10	38,10	42,90	48,00	**CR 99548**
139,00	139,20	139,00	154,90	14,30	19,10	24,00	**CR 99547**
139,65	139,85	139,70	150,80	20,60	25,40	32,00	**CR 99859***
		139,75	150,80	13,20	17,90	32,00	**CR 99550**
		139,75	150,80	20,60	25,40	32,00	**CR 99549**
139,90	140,10	140,00	151,00	20,50	25,50	32,00	**CR 99552**
142,77	142,98	142,88	157,20	22,20	25,40	46,00	**CR 99560**
144,75	145,00	145,00	149,90	19,50	22,20	46,00	**CR 99571**
145,44	145,64	145,54	149,90	14,30	19,10	49,20	**CR 99562**
145,95	146,15	146,05	157,00	20,60	25,40	44,00	**CR 99575**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

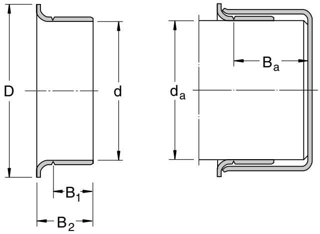
Speedi-Sleeves – Metric sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
mm		mm					–
149,12	149,33	149,23	157,20	25,40	31,80	33,00	**CR 99862***
		149,23	157,20	25,40	31,80	33,00	**CR 99587**
149,75	150,00	150,00	159,00	26,00	30,00	34,00	**CR 99595**
150,73	150,93	150,83	161,90	25,40	28,60	48,00	**CR 99596**
152,27	152,47	152,37	161,50	12,70	19,00	44,00	**CR 99601**
		152,37	161,90	25,40	31,80	44,00	**CR 99599**
153,87	154,13	154,00	161,90	26,00	30,00	33,00	**CR 99605**
154,75	155,00	155,00	167,00	26,00	30,00	33,00	**CR 99606**
157,43	157,68	157,56	168,30	20,60	27,00	44,00	**CR 99620**
158,62	158,88	158,75	168,30	26,20	31,80	44,00	**CR 99625**
159,74	169,00	160,00	177,80	25,40	31,80	35,00	**CR 99630**
164,97	165,23	165,10	177,80	25,40	31,80	35,00	**CR 99650**
169,75	170,00	170,00	182,60	31,80	38,00	44,50	**CR 99640**
171,32	171,58	171,45	181,00	20,60	27,00	44,00	**CR 99675**
174,75	175,00	175,00	187,00	28,00	32,00	35,00	**CR 99687**
177,67	177,93	177,80	189,90	25,40	31,80	43,00	**CR 99700**
179,79	180,00	180,00	190,50	33,00	38,00	45,00	**CR 99721**
184,00	184,25	184,00	197,10	31,70	38,10	55,00	**CR 99725**
184,73	185,00	185,00	199,00	32,00	38,00	55,00	**CR 99726**
189,08	189,33	189,20	199,60	20,60	25,40	32,00	**CR 99745**
190,37	190,63	190,50	200,00	20,60	25,40	32,00	**CR 99750**
196,72	196,98	196,85	210,10	25,40	33,30	48,00	**CR 99775**
199,87	200,13	200,00	212,70	34,50	38,10	44,00	**CR 99787**
201,50	201,75	201,63	212,70	25,40	31,80	44,00	**CR 99799**
203,07	203,33	203,20	212,70	25,40	31,80	44,00	**CR 99800**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

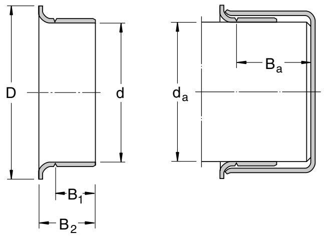
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
0.469	0.475	0.472	0.610	0.236	0.331	1.875	**CR 99049**
0.498	0.502	0.500	0.610	0.250	0.344	2.000	**CR 99050**
0.547	0.551	0.551	0.752	0.251	0.389	1.831	**CR 99055**
0.560	0.566	0.563	0.750	0.250	0.391	1.831	**CR 99056**
0.589	0.593	0.591	0.750	0.197	0.354	1.862	**CR 99059**
0.623	0.627	0.625	0.750	0.313	0.406	2.000	**CR 99810***
		0.625	0.750	0.313	0.406	2.000	**CR 99062**
0.624	0.630	0.630	0.752	0.315	0.437	2.000	**CR 99058**
0.667	0.671	0.669	1.063	0.313	0.433	2.000	**CR 99068**
0.682	0.686	0.684	0.900	0.313	0.438	2.000	**CR 99060**
0.704	0.709	0.706	1.063	0.315	0.433	1.811	**CR 99082**
0.748	0.752	0.750	0.945	0.313	0.438	2.000	**CR 99871***
		0.750	0.945	0.313	0.438	2.000	**CR 99076**
0.759	0.761	0.760	0.938	0.313	0.438	2.000	**CR 99081**
0.780	0.784	0.781	0.935	0.313	0.438	2.000	**CR 99080**
0.785	0.789	0.787	0.930	0.313	0.133	2.000	**CR 99078**
0.857	0.861	0.859	1.155	0.250	0.375	2.000	**CR 99086**
0.861	0.866	0.866	1.189	0.260	0.358	1.854	**CR 99084**
		0.866	1.188	0.315	0.472	1.813	**CR 99085**
0.873	0.877	0.875	1.094	0.313	0.438	2.000	**CR 99812***
		0.875	1.094	0.313	0.438	2.000	**CR 99087**
0.908	0.912	0.910	1.218	0.313	0.438	1.847	**CR 99860***
		0.910	1.218	0.313	0.438	1.847	**CR 99091**
0.940	0.945	0.945	1.130	0.315	0.437	2.000	**CR 99092**
0.966	0.970	0.969	1.130	0.313	0.438	2.000	**CR 99094**
		0.969	1.130	0.625	0.719	2.000	**CR 99096**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

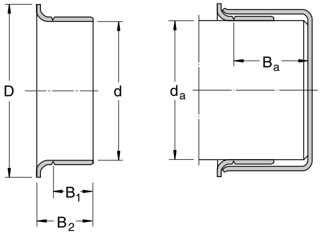
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
0.982	0.986	0.984	1.300	0.313	0.433	2.000	**CR 99813***
		0.984	1.300	0.313	0.433	2.000	**CR 99098**
0.998	1.002	1.000	1.219	0.313	0.438	2.000	**CR 99814***
		1.000	1.219	0.313	0.438	2.000	**CR 99100**
1.019	1.024	1.024	1.312	0.313	0.472	1.813	**CR 99103**
1.060	1.064	1.063	1.320	0.313	0.438	1.843	**CR 99815***
		1.063	1.320	0.313	0.438	2.813	**CR 99106**
1.087	1.091	1.089	1.406	0.313	0.438	0.625	**CR 99108**
1.100	1.104	1.102	1.375	0.375	0.500	1.843	**CR 99111**
1.123	1.127	1.125	1.500	0.313	0.438	0.688	**CR 99816***
		1.125	1.500	0.313	0.438	0.688	**CR 99112**
		1.125	1.500	0.375	0.500	0.688	**CR 99116**
1.154	1.158	1.156	1.350	0.375	0.500	0.688	**CR 99120**
1.173	1.178	1.175	1.575	0.313	0.438	0.688	**CR 99122**
1.179	1.184	1.181	1.400	0.315	0.433	0.688	**CR 99114**
1.185	1.190	1.188	1.400	0.313	0.438	0.688	**CR 99118**
1.216	1.222	1.219	1.563	0.313	0.433	0.625	**CR 99123**
1.237	1.243	1.240	1.540	0.315	0.438	0.688	**CR 99141**
1.247	1.253	1.250	1.500	0.313	0.438	0.688	**CR 99817***
		1.250	1.500	0.313	0.438	0.688	**CR 99125**
1.257	1.263	1.260	1.500	0.315	0.438	0.688	**CR 99128**
1.308	1.314	1.313	1.600	0.250	0.375	0.813	**CR 99129**
1.310	1.316	1.313	1.594	0.500	0.625	0.813	**CR 99818***
		1.313	1.594	0.500	0.625	0.813	**CR 99131**
1.332	1.339	1.339	1.625	0.500	0.625	0.815	**CR 99134**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

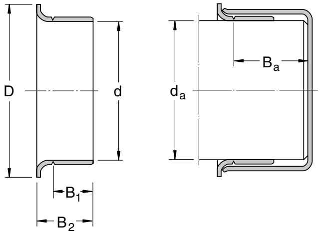
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
in		in					–
1.371	1.377	1.375	1.638	0.313	0.438	0.813	**CR 99133**
		1.375	1.638	0.500	0.625	0.813	**CR 99819***
		1.375	1.638	0.500	0.625	0.813	**CR 99138**
1.375	1.381	1.375	1.638	0.512	0.630	0.813	**CR 99820***
		1.375	1.638	0.512	0.630	0.813	**CR 99139**
1.412	1.417	1.417	1.781	0.512	0.669	0.984	**CR 99146**
1.432	1.438	1.438	1.781	0.563	0.688	1.016	**CR 99821***
		1.438	1.781	0.563	0.688	1.016	**CR 99143**
1.435	1.441	1.438	1.781	0.375	0.500	1.016	**CR 99144**
1.490	1.496	1.496	1.781	0.512	0.669	0.984	**CR 99147**
1.497	1.503	1.500	1.781	0.375	0.500	1.016	**CR 99823***
		1.500	1.781	0.375	0.500	1.016	**CR 99150**
		1.500	1.781	0.563	0.688	1.016	**CR 99822***
		1.500	1.781	0.563	0.688	1.016	**CR 99149**
1.520	1.526	1.523	1.859	0.438	0.563	1.016	**CR 99152**
1.549	1.555	1.552	1.859	0.438	0.563	1.016	**CR 99155**
1.559	1.565	1.563	1.859	0.563	0.688	1.016	**CR 99824***
		1.563	1.859	0.563	0.688	1.016	**CR 99156**
1.566	1.572	1.569	1.859	0.625	0.750	1.016	**CR 99159**
1.569	1.575	1.575	1.846	0.389	0.508	1.000	**CR 99153**
1.572	1.578	1.578	1.850	0.512	0.630	1.023	**CR 99825***
		1.578	1.850	0.512	0.630	1.023	**CR 99157**
1.602	1.608	1.605	1.938	0.500	0.641	1.000	**CR 99160**
1.608	1.614	1.614	1.937	0.500	0.625	1.016	**CR 99163**
1.622	1.628	1.625	1.875	0.313	0.438	1.016	**CR 99161**
		1.625	1.875	0.563	0.688	0.813	**CR 99826***
1.623	1.628	1.625	1.875	0.563	0.688	0.813	**CR 99162**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
1.647	1.653	1.650	2.087	0.445	0.571	0.846	**CR 99166**
		1.650	2.087	0.563	0.689	0.827	**CR 99169**
1.653	1.659	1.656	2.087	0.550	0.689	0.827	**CR 99165**
1.684	1.690	1.688	1.906	0.563	0.688	0.875	**CR 99168**
1.685	1.691	1.688	1.906	0.313	0.438	0.875	**CR 99167**
1.687	1.693	1.693	1.906	0.500	0.625	0.843	**CR 99182**
1.715	1.721	1.719	2.031	0.563	0.688	0.813	**CR 99171**
1.736	1.742	1.739	2.063	0.375	0.500	0.813	**CR 99170**
1.747	1.753	1.750	2.055	0.375	0.500	0.813	**CR 99172**
		1.750	2.063	0.531	0.625	0.875	**CR 99180**
		1.750	2.063	0.563	0.688	0.813	**CR 9827***
		1.750	2.063	0.563	0.688	0.813	**CR 99174**
		1.750	2.063	0.750	0.875	0.813	**CR 99828***
		1.750	2.063	0.750	0.875	0.813	**CR 99175**
1.761	1.767	1.766	2.063	0.563	0.688	0.813	**CR 99829***
		1.766	2.063	0.563	0.688	0.813	**CR 99176**
1.769	1.775	1.772	2.087	0.551	0.669	0.812	**CR 99830***
		1.772	2.087	0.551	0.669	0.813	**CR 99177**
1.778	1.784	1.781	2.125	0.675	0.800	1.062	**CR 99179**
1.809	1.815	1.813	2.090	0.563	0.688	1.000	**CR 99831***
		1.813	2.090	0.563	0.688	1.000	**CR 99181**
1.857	1.863	1.859	2.156	0.563	0.688	1.000	**CR 99185**
1.866	1.872	1.868	2.188	0.889	1.025	1.000	**CR 99186**
1.872	1.878	1.875	2.203	0.175	0.295	0.744	**CR 99190**
		1.875	2.203	0.295	0.415	0.744	**CR 99188**
		1.875	2.203	0.375	0.516	1.050	**CR 99184**
		1.875	2.203	0.563	0.688	1.000	**CR 99832***
		1.875	2.203	0.563	0.688	1.000	**CR 99187**
1.887	1.893	1.891	2.205	0.551	0.668	0.984	**CR 99189**

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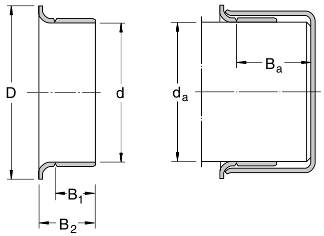
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
in		in					–
1.909	1.915	1.912	2.219	0.375	0.500	1.000	**CR 99192**
1.934	1.940	1.938	2.219	0.563	0.688	1.000	**CR 99833***
		1.938	2.219	0.563	0.688	1.000	**CR 99193**
1.965	1.971	1.969	2.244	0.551	0.668	0.984	**CR 99196**
1.977	1.983	1.980	2.313	0.563	0.704	1.050	**CR 99198**
	2.003	2.000	2.406	0.563	0.688	1.000	**CR 99199**
		2.000	2.406	0.563	0.688	1.006	**CR 99834***
		2.000	2.406	0.875	1.000	1.000	**CR 99835***
		2.000	2.406	0.875	1.000	1.000	**CR 99200**
2.040	2.047	2.047	2.469	0.500	0.625	1.358	**CR 99204**
2.057	2.063	2.063	2.469	0.813	0.938	1.375	**CR 99205**
2.123	2.128	2.125	2.422	0.500	0.750	1.281	**CR 99210**
2.124	2.130	2.125	2.422	0.781	0.938	1.375	**CR 99836***
		2.125	2.422	0.781	0.938	1.375	**CR 99212**
2.162	2.169	2.165	2.441	0.787	0.905	1.250	**CR 99863***
	2.168	2.165	2.441	0.787	0.905	1.250	**CR 99215**
2.178	2.184	2.181	2.500	0.781	0.938	1.500	**CR 99217**
2.186	2.192	2.188	2.500	0.781	0.938	1.313	**CR 99218**
2.198	2.205	2.205	2.531	0.500	0.625	1.315	**CR 99220**
2.227	2.233	2.230	2.531	0.500	0.625	1.313	**CR 99861***
		2.230	2.531	0.500	0.625	1.313	**CR 99229**
		2.230	2.531	0.781	0.906	1.250	**CR 99230**
2.237	2.243	2.240	2.563	0.764	0.900	1.250	**CR 99226**
2.249	2.255	2.250	2.531	0.313	0.438	1.313	**CR 99838***
		2.250	2.531	0.313	0.438	1.313	**CR 99227**
		2.250	2.531	0.781	0.938	1.313	**CR 99837***
		2.250	2.531	0.781	0.938	1.313	**CR 99225**
2.309	2.315	2.313	2.688	0.781	0.938	1.375	**CR 99231**

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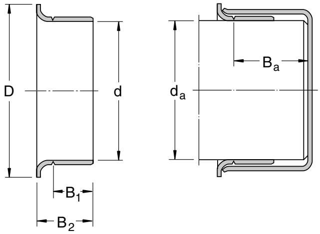
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
2.327	2.333	2.328	2.750	0.750	0.875	1.500	**CR 99233**
2.359	2.365	2.362	2.785	0.370	0.450	1.471	**CR 99241**
		2.362	2.785	0.787	0.905	1.375	**CR 99235**
2.372	2.378	2.375	2.750	0.594	0.750	1.375	**CR 99238**
2.374	2.380	2.375	2.750	0.526	0.683	1.375	**CR 99240**
		2.375	2.750	0.781	0.938	1.375	**CR 99839***
		2.375	2.750	0.781	0.938	1.375	**CR 99237**
2.434	2.440	2.438	2.828	0.781	0.938	1.393	**CR 99243**
2.435	2.441	2.438	2.828	0.500	0.625	1.425	**CR 99242**
2.433	2.441	2.441	2.827	0.500	0.625	1.425	**CR 99244**
2.489	2.495	2.492	2.875	0.781	0.938	1.393	**CR 99249**
2.497	2.503	2.500	2.820	0.555	0.650	0.890	**CR 99253**
2.500	2.506	2.500	2.820	0.781	0.938	1.375	**CR 99840***
		2.500	2.820	0.781	0.938	1.375	**CR 99250**
		2.500	2.828	0.500	0.656	1.393	**CR 99248**
2.510	2.516	2.516	2.828	0.781	0.906	1.438	**CR 99251**
2.556	2.562	2.559	2.850	0.787	0.905	1.375	**CR 99841***
		2.559	2.850	0.787	0.905	1.375	**CR 99254**
2.560	2.566	2.563	2.891	0.781	0.938	1.375	**CR 99256**
2.595	2.601	2.598	2.990	0.781	0.938	1.250	**CR 99259**
2.618	2.624	2.621	3.047	0.781	0.938	1.375	**CR 99261**
2.621	2.627	2.625	3.047	0.781	0.906	1.375	**CR 99264**
2.622	2.628	2.625	3.047	0.500	0.625	1.375	**CR 99260**
2.625	2.631	2.625	3.047	0.781	0.938	1.375	**CR 99842***
		2.625	3.047	0.781	0.938	1.375	**CR 99262**
2.670	2.677	2.677	3.126	0.752	0.874	1.689	**CR 99266**
2.727	2.733	2.730	3.125	0.781	0.906	1.313	**CR 99268**

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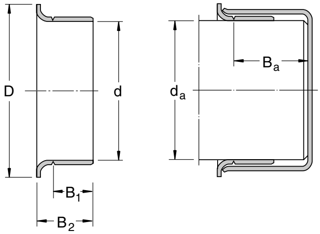
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

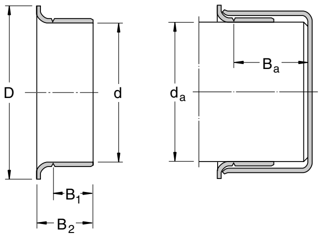
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
2.740	2.746	2.743	3.065	0.781	0.938	1.250	**CR 99273**
2.745	2.751	2.750	3.125	0.781	0.938	1.250	**CR 99274**
2.747	2.753	2.750	3.075	1.438	1.625	1.625	**CR 99267**
2.750	2.756	2.750	3.125	0.406	0.563	1.250	**CR 99272**
		2.750	3.125	0.781	0.938	1.250	**CR 99844***
		2.750	3.125	0.781	0.938	1.250	**CR 99275**
		2.750	3.125	1.125	1.250	1.313	**CR 99269**
2.745	2.751	2.750	3.125	0.781	0.938	1.250	**CR 99843***
2.753	2.759	2.756	3.125	0.787	0.945	1.250	**CR 99276**
2.809	2.815	2.813	3.188	0.594	0.688	1.250	**CR 99281**
2.827	2.835	2.835	3.224	0.752	0.874	1.343	**CR 99284**
2.838	2.844	2.838	3.225	0.500	0.656	1.250	**CR 99845***
		2.844	3.225	0.500	0.656	1.250	**CR 99282**
2.866	2.872	2.869	3.188	0.781	0.938	1.250	**CR 99286**
2.873	2.879	2.875	3.219	0.781	0.938	1.250	**CR 99846***
		2.875	3.219	0.781	0.938	1.250	**CR 99287**
2.937	2.943	2.938	3.344	0.500	0.641	1.331	**CR 99290**
		2.938	3.344	0.781	0.938	1.313	**CR 99847***
		2.938	3.344	0.781	0.938	1.313	**CR 99293**
2.950	2.956	2.953	3.273	0.594	0.688	1.083	**CR 99289**
		2.953	3.305	0.866	1.024	1.313	**CR 99294**
2.972	2.976	2.974	3.235	0.813	1.000	1.250	**CR 99292**
2.990	2.996	2.993	3.350	0.813	1.000	1.281	**CR 99299**
		2.993	3.359	0.484	0.625	1.331	**CR 99291**
		2.993	3.359	0.563	0.688	1.375	**CR 99298**
2.997	3.003	3.000	3.240	0.813	0.938	1.375	**CR 99296**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

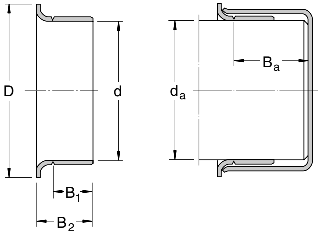
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
3.000	3.006	3.000	3.235	0.813	1.000	1.281	**CR 99848***
		3.000	3.235	0.813	1.000	1.281	**CR 99300**
		3.000	3.345	0.625	0.813	1.063	**CR 99303**
3.008	3.014	3.011	3.355	0.500	0.625	2.000	**CR 99301**
3.063	3.071	3.071	3.469	0.770	0.874	2.059	**CR 99306**
3.120	3.126	3.125	3.531	0.688	0.813	2.000	**CR 99311**
		3.125	3.531	0.813	1.000	2.000	**CR 99312**
		3.125	3.531	0.813	1.000	2.000	**CR 99849***
3.124	3.132	3.125	3.525	0.551	0.709	2.031	**CR 99307**
3.142	3.150	3.146	3.540	0.750	0.886	1.375	**CR 99313**
3.146	3.153	3.150	3.543	0.433	0.591	1.375	**CR 99317**
		3.150	3.543	0.827	0.945	1.375	**CR 99315**
3.225	3.231	3.228	3.585	0.660	0.848	1.750	**CR 99328**
3.250	3.256	3.250	3.575	0.595	0.719	1.375	**CR 99850***
		3.250	3.575	0.595	0.719	1.375	**CR 99324**
		3.250	3.585	0.688	0.875	1.250	**CR 99326**
		3.250	3.585	0.813	1.000	1.375	**CR 99851***
		3.250	3.585	0.813	1.000	1.375	**CR 99325**
3.247	3.253	3.250	3.594	0.813	1.000	1.375	**CR 99322**
3.307	3.313	3.310	3.688	0.813	1.000	1.375	**CR 99331**
3.337	3.347	3.342	3.700	0.669	0.827	1.378	**CR 99332**
		3.342	3.700	0.827	0.984	1.378	**CR 99333**
3.338	3.346	3.346	3.697	0.398	0.500	1.433	**CR 99334**
3.373	3.379	3.375	3.688	0.375	0.500	1.410	**CR 99338**
		3.375	3.695	0.813	1.000	1.375	**CR 99337**
3.435	3.441	3.438	3.844	0.781	0.906	1.406	**CR 99339**
3.477	3.483	3.480	3.835	0.781	0.906	1.406	**CR 99340**
3.497	3.503	3.500	3.844	0.625	0.813	1.347	**CR 99346**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

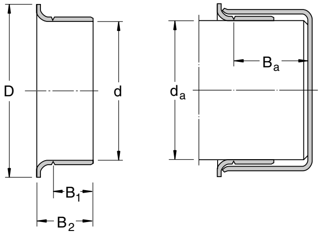
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
3.500	3.506	3.500	3.825	0.313	0.500	1.347	**CR 99347**
		3.500	3.844	0.813	1.000	1.347	**CR 99852***
		3.500	3.844	0.813	1.000	1.347	**CR 99350**
3.501	3.507	3.504	3.844	0.625	0.813	1.348	**CR 99349**
3.540	3.546	3.543	4.000	0.434	0.538	1.813	**CR 99352**
		3.543	4.000	0.526	0.667	1.750	**CR 99353**
		3.543	4.000	0.710	0.906	1.813	**CR 99351**
		3.543	4.000	0.906	1.102	1.750	**CR 99354**
3.560	3.566	3.563	3.900	0.813	1.000	1.750	**CR 99356**
3.618	3.624	3.621	4.031	0.813	1.000	1.750	**CR 99360**
3.623	3.629	3.625	4.025	0.500	0.625	1.750	**CR 99363**
		3.625	4.031	0.813	1.000	1.750	**CR 99362**
3.684	3.690	3.688	3.830	0.313	0.438	0.875	**CR 99368**
3.685	3.691	3.688	4.025	0.813	0.938	1.750	**CR 99365**
3.727	3.733	3.730	4.016	0.469	0.594	1.719	**CR 99359**
		3.730	4.025	0.781	0.906	1.750	**CR 99366**
3.737	3.743	3.740	4.025	0.827	0.945	1.750	**CR 99369**
3.740	3.746	3.743	4.031	0.344	0.500	1.750	**CR 99374**
		3.743	4.035	0.469	0.594	1.750	**CR 99364**
3.746	3.752	3.750	4.025	0.563	0.688	1.750	**CR 99376**
3.750	3.756	3.750	4.025	0.344	0.500	1.750	**CR 99367**
		3.750	4.020	0.688	0.875	1.800	**CR 99853***
		3.750	4.020	0.688	0.875	1.875	**CR 99372**
3.868	3.874	3.871	4.185	0.813	1.000	1.875	**CR 99386**
3.873	3.879	3.875	4.219	0.813	1.000	1.875	**CR 99387**
3.935	3.941	3.938	4.313	0.813	1.000	2.050	**CR 99854***
		3.938	4.313	0.813	1.000	2.050	**CR 99393**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

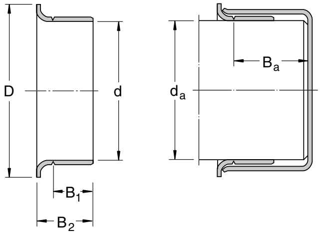
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a[1)]	
in		in					–
3.998	4.006	4.000	4.375	0.500	0.625	2.066	**CR 99401**
		4.000	4.375	0.600	0.725	2.050	**CR 99395**
		4.000	4.375	0.650	0.775	1.375	**CR 99400**
		4.000	4.375	0.813	1.000	2.050	**CR 99855***
		4.000	4.375	0.813	1.000	2.050	**CR 99399**
4.090	4.098	4.094	4.438	0.787	0.945	1.417	**CR 99409**
4.122	4.130	4.125	4.420	0.813	1.000	1.375	**CR 99412**
4.130	4.138	4.134	4.470	0.787	0.913	1.378	**CR 99413**
4.183	4.191	4.188	4.500	0.813	1.000	1.375	**CR 99418**
4.226	4.234	4.234	4.610	0.781	0.906	1.438	**CR 99423**
4.248	4.256	4.250	4.610	0.813	1.000	1.438	**CR 99424**
4.322	4.331	4.331	4.917	0.499	0.570	1.295	**CR 99434**
4.327	4.335	4.328	4.921	0.509	0.650	1.250	**CR 99435**
4.370	4.378	4.375	4.750	0.813	1.000	1.650	**CR 99437**
4.401	4.409	4.406	4.750	0.748	0.886	1.063	**CR 99438**
4.434	4.442	4.438	4.813	1.000	1.142	1.313	**CR 99439**
4.496	4.504	4.500	4.900	0.813	1.000	1.250	**CR 99856***
		4.500	4.900	0.813	1.000	1.250	**CR 99450**
4.523	4.531	4.527	5.000	0.813	0.938	1.250	**CR 99452**
4.621	4.629	4.625	5.000	0.438	0.625	1.375	**CR 99465**
		4.625	5.063	1.000	1.250	1.375	**CR 99463**
4.685	4.693	4.688	5.063	0.813	1.000	1.375	**CR 99468**
4.720	4.728	4.724	5.110	0.315	0.433	1.323	**CR 99471**
		4.724	5.110	0.787	0.984	1.260	**CR 99473**
4.746	4.754	4.750	5.000	0.500	0.750	1.500	**CR 99475**
4.799	4.807	4.803	5.177	0.787	0.945	1.260	**CR 99472**
4.839	4.847	4.843	5.229	0.787	0.984	1.244	**CR 99484**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

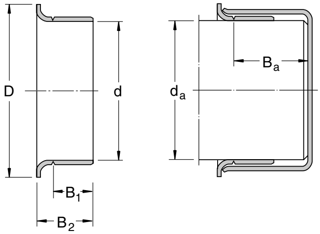
Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
4.871	4.879	4.875	5.250	0.625	0.750	1.438	**CR 99487**
4.917	4.925	4.921	5.400	0.394	0.551	1.438	**CR 99490**
		4.921	5.400	1.024	1.260	1.438	**CR 99492**
4.998	5.006	5.000	5.400	0.540	0.681	1.438	**CR 99501**
		5.000	5.400	0.688	0.875	1.438	**CR 99857***
		5.000	5.400	0.688	0.875	1.438	**CR 99498**
		5.000	5.390	0.813	1.000	1.438	**CR 99858***
		5.000	5.390	0.813	1.000	1.438	**CR 99499**
5.110	5.118	5.114	5.493	0.750	0.938	1.181	**CR 99494**
5.117	5.125	5.125	5.493	0.866	0.996	1.280	**CR 99491**
5.120	5.128	5.125	5.500	0.813	1.000	1.250	**CR 99513**
5.246	5.254	5.250	5.560	0.813	1.000	1.250	**CR 99525**
5.307	5.315	5.313	5.875	0.807	1.000	1.250	**CR 99533**
5.371	5.379	5.375	5.875	0.813	1.000	1.250	**CR 99537**
5.434	5.442	5.438	5.750	1.500	1.688	1.875	**CR 99548**
5.472	5.480	5.472	6.100	0.563	0.750	0.938	**CR 99547**
5.498	5.506	5.500	5.938	0.518	0.705	1.250	**CR 99550**
		5.500	5.938	0.813	1.000	1.250	**CR 99859***
		5.500	5.938	0.813	1.000	1.250	**CR 99549**
5.508	5.516	5.512	5.945	0.807	1.000	1.250	**CR 99552**
5.621	5.629	5.625	6.188	0.875	1.000	1.812	**CR 99560**
5.700	5.709	5.709	5.902	0.768	0.874	1.811	**CR 99571**
5.726	5.734	5.734	5.900	0.563	0.750	1.938	**CR 99562**
5.746	5.754	5.750	6.180	0.813	1.000	1.750	**CR 99575**
5.871	5.879	5.875	6.188	1.000	1.250	1.313	**CR 99862***
		5.875	6.188	1.000	1.250	1.313	**CR 99587**
5.895	5.905	5.905	6.260	1.024	1.181	1.338	**CR 99595**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

Speedi-Sleeves – Inch sizes



Shaft diameter		Sleeve dimensions					SKF Designation
d_a min	max	d	D ±0.063	B_1 ±0.031	B_2 ±0.031	B_a 1)	
in		in					–
5.934	5.942	5.938	6.375	1.000	1.125	1.875	**CR 99596**
5.995	6.003	6.000	6.360	0.500	0.750	1.750	**CR 99601**
		6.000	6.375	1.000	1.250	1.750	**CR 99599**
6.058	6.068	6.063	6.375	1.024	1.181	1.299	**CR 99605**
6.092	6.102	6.097	6.575	1.024	1.181	1.299	**CR 99606**
6.198	6.208	6.203	6.625	0.813	1.063	1.750	**CR 99620**
6.245	6.255	6.250	6.625	1.031	1.250	1.750	**CR 99625**
6.289	6.299	6.299	7.000	1.000	1.250	1.375	**CR 99630**
6.495	6.505	6.500	7.000	1.000	1.250	1.375	**CR 99650**
6.683	6.693	6.688	7.188	1.250	1.496	1.750	**CR 99640**
6.745	6.755	6.750	7.125	0.813	1.063	1.750	**CR 99675**
6.880	6.890	6.890	7.362	1.102	1.260	1.378	**CR 99687**
6.995	7.005	7.000	7.475	1.000	1.250	1.688	**CR 99700**
7.077	7.087	7.087	7.500	1.300	1.496	1.752	**CR 99721**
7.244	7.254	7.250	7.760	1.250	1.500	2.175	**CR 99725**
7.273	7.283	7.278	7.834	1.260	1.496	2.165	**CR 99726**
7.444	7.454	7.453	7.860	0.813	1.000	1.250	**CR 99745**
7.495	7.505	7.500	7.875	0.813	1.000	1.250	**CR 99750**
7.745	7.755	7.750	8.270	1.000	1.313	1.875	**CR 99775**
7.869	7.879	7.875	8.375	1.359	1.500	1.750	**CR 99787**
7.933	7.943	7.938	8.375	1.000	1.250	1.750	**CR 99799**
7.995	8.005	8.000	8.375	1.000	1.250	1.750	**CR 99800**

* Indicates Speedi-Sleeve Gold
1) Possible max. distance of rear groove from shaft end when installation tool supplied with sleeve is used

Large diameter wear sleeves

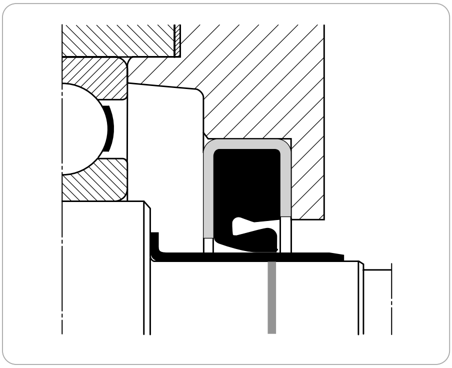


Fig 82. LDSLV3 with a flange

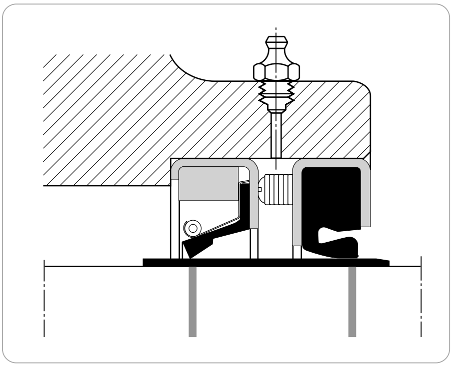


Fig 83. Flangeless LDSLV4

General
Large diameter wear sleeves, (LDSLV), are used primarily for applications where no Speedi-Sleeve is available, i.e. for shafts in the diameter range 203 to 1 150 mm (8 to 45 in). Two designs of LDSLV are produced; the LDSLV3 with a flange (**fig 82**) and the flangeless LDSLV4 (**fig 83**). Their use is recommended in all cases where the operating conditions for the seals are difficult, particularly where solid contaminants can reach the seal lip, e.g. in rolling mills and chemical plants. These are cases where seal wear and damage of the counterface on the shaft can be expected.

It is recommended that LDSLV are designed into the application from the outset. During repairs, it will then not be necessary to rework the shaft and the original seal size can always be used as the replacement.

Product features
LDSLV are made of stainless steels, chrome plated with a hardness of ≈ 50 HRC and a surface roughness or 0,25 to 0,5 µm R_a. The wall thickness of the standard sleeves is 2,54 mm (0.100 in). The sliding surface for the seal is fine machined and chromium plated to enhance the wear and corrosion resistance.

The width of the counterface for the seal on the LDSLV3 is 6,4 mm (0.250 in) narrower than the total width B of the sleeve. The flange height is 12,7 mm (0.500 in) for all sizes. Details of the possible diameters and widths of the sleeves will be found in **Table 23**, **page 312**, together with the sleeve and shaft tolerances.

LDSLV4 are intended for applications where a flange (to ease mounting) is in the way, or where a wider sliding surface for the seal is required. The dimensions, tolerance recommendations etc. are otherwise the same as those quoted for the LDSLV3.

Use

There are two alternative ways of using LDSLV for shaft repairs. Either the sleeve can be pushed along the shaft until it covers the damaged part and a seal which has a 4,8 mm (0.180 in) larger bore diameter than the original is used, or the shaft can be machined down 4,8 mm (0.180 in) and the original seal size used. The reworked shaft seating for the sleeve should have a surface roughness value of between 2,5 and 3,2 µm R_a (100 to 125 µin)

Mounting

LDSLV are mounted with an interference fit on the shaft. It is therefore recommended that they are heated prior to mounting.

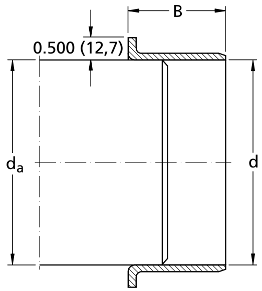
Temperatures of up to 180 °C are permitted; on no account should the sleeve be heated (to) above 200 °C. The types of heating arrangements normally used for bearings are suitable, e.g. heating cabinets, oil baths or induction heaters.

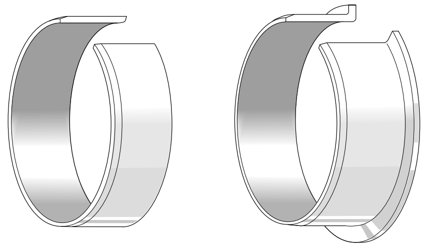
The thin-walled sleeves should be mounted immediately after heating as they cool rapidly. This is particularly true of the LDSLV4.

Dismounting

To dismount the sleeves it is recommended first to either heat them or to expand them by light hammer blows. The flange of the LDSLV3 should first be cut through at one point.

Table 23. Possible sleeve diameters and widths





Diameter nominal		Sleeve bore diameter, d Deviation		Width B			Shaft diameter d_a Deviation		Probable interference	
over	incl.	high	low	max	min LDSLV3	min LDSLV4	high	low	min	max
mm/in		µm		mm/in			µm		µm	
203,2 *8*	304,8 *12*	–127	–305	63,5 *2.500*	17,5 *0.680*	12,7 *0.500*	+50	–50	+57	+355
304,8 *12*	508 *20*	–150	–400	63,5 *2.500*	17,5 *0.680*	12,7 *0.500*	+100	–50	+100	+500
508 *20*	762 *30*	–150	–400	63,5 *2.500*	17,5 *0.680*	12,7 *0.500*	+200	–50	+100	+600
762 *30*	1 016 *40*	–150	–400	63,5 *2.500*	25,4 *1.000*	19,05 *0.750*	+200	–50	+100	+600
1 016 *40*		–150	–450	63,5 *2.500*	25,4 *1.000*	19,05 *0.750*	+250	–50	+100	+700

Please contact us for recommendations concerning large diameter wear sleeves that will operate in systems with sustained oil sump temperatures of 75 °C and speeds in excess of 20 m/s.

Mechanical seals

Contents

Mechanical seals

These mechanical seals are designed for use under severe service conditions at relatively low peripheral speeds. They offer reliable protection against solid and liquid contaminants as well as leak-proof retention of lubricant. The seals were originally developed for off-road and tracked vehicles but have been found to be equally suitable for a range of other applications where effective protection is required against sand, soil, mud, water etc. These applications include

- all types of mixers,
- sand treatment equipment,
- conveyors and other construction equipment,
- agricultural machinery,
- washing equipment,
- grinding mills and other comminution equipment,
- ore dressing equipment, and
- mining equipment.

The mechanical seals from SKF **(fig 84)** consist of two identical sealing rings and two similar nitrile rubber Belleville washers (cup springs). The sealing rings are of wear and corrosion resistant steel and have finely finished sliding and sealing surfaces. Sealing is assured even against thin oils, such as SAE 10W40 oils. The Belleville washers of nitrile rubber provide the necessary uniform face loading and positive sealing at the bore and outside diameters. The outside diameter of the washers adapts to the form of the bore in which they are mounted and there are no special demands in respect of surface finish.

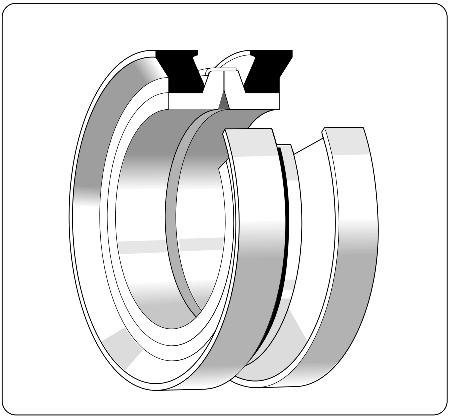


Fig 84

Table 24. Permissible operating conditions

Operating conditions	Guideline values
Operating temperature, °C	
continuous operation	–50 to +100
brief periods, maximum	+120
Peripheral speed, m/s	
continuous operation	up to 1,75
brief periods, maximum	up to 4
Pressure acting on seal, MPa	
continuous operation	up to 0,2
brief periods	up to 0,35

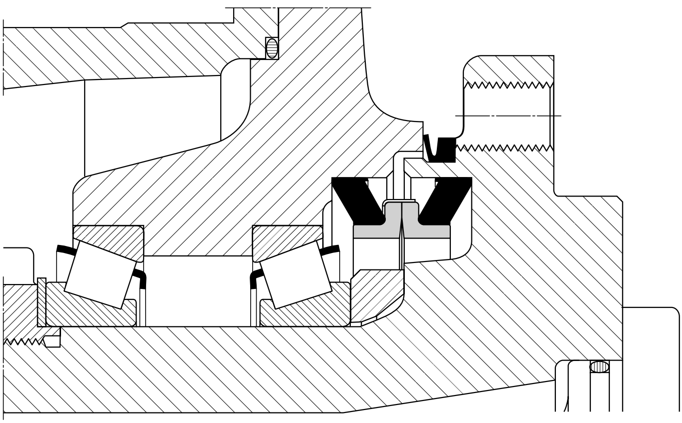


Fig 85

SKF mechanical seals are supplied as ready-to-mount cartridge units. A special retainer ring holds the two sealing ring faces together. This not only facilitates mounting but also protects the seal against damage.

The retainer is left in position after mounting and provides extra protection for the sliding surfaces during the initial stages of operation. It slowly wears away.

The permissible operating conditions for the mechanical seals are given in **Table 24**. The chemical resistance of the nitrile rubber is dealt with in the section “Chemical resistance”.

Installation

No special tools are required to mount the mechanical seals. To ease installation it is recommended that the housing bore should have a lead-in chamfer as shown in the product tables. The recommended tolerances for the housing bore are also given in the product tables. A typical application for this type of seal, the drive assembly of an off-road tracked vehicle, is shown in **fig 85**.

Repair kits

For repairs where the sealing rings are to be re-used and only the washers are to be replaced, replacement washers can be supplied. They come as “repair kits” which also contain installation instructions and two lint-free cloths for cleaning the sealing rings of the original seal. Appropriate repair kits for individual SKF mechanical seals are listed in **Table 25**.

Table 25. Repair kits for SKF mechanical seals

Designations Original seal	 Repair kit
CR 16904	CR 16906
CR 18259	CR 18257
CR 21306	CR 21307
CR 25096	CR 25097
CR 27536	CR 27535
CR 30651	CR 30654
CR 35076	CR 35079
CR 38740	CR 38741
CR 38751	CR 38752
CR 43135	CR 43136
CR 43150	CR 43149
CR 46975	CR 46976
CR 50655	CR 50656
CR 54000	CR 54001
CR 56170	CR 56171
CR 58775	CR 58776
CR 63796	CR 63797
CR 67560	CR 67561
CR 74310	CR 74311
CR 78020	CR 78021
CR 82540	CR 82541
CR 86850	CR 86851
CR 93115	CR 93116
CR 93125	CR 93126
CR 95620	CR 95621
CR 108710	CR 108711
CR 116500	CR 116501
CR 124020	CR 124021
CR 137570	CR 137571
CR 171025	CR 171026
CR 191022	CR 191021
CR 238020	CR 238021

V-ring seals

Contents

V-ring seals

General

The V-ring is a unique all-rubber seal for rotary shafts. Developed in the 1960's, it has been used successfully by OEM and the replacement market worldwide in an extremely wide range of applications.

The V-ring is used alone to seal out the ingress of dirt, dust, water or combination of the above media while positively retaining grease. With its unique design and performance the V-ring protects a wide range of bearing types. It is often used as a secondary seal to protect primary seals that do not perform well in hostile environments.

V-ring seals are mounted on shafts and their thin, tapered lip seals against a surface (counterface) at right angles to the shaft (**fig 86a**). No special demands are placed on the surface finish of the shaft seating and the V-rings act as flingers **(fig 86b)**, since they have an interference fit on the shaft and rotate with it. Misalignment of the shaft with respect to the counterface **(fig 86c)** can be tolerated and V-rings also provide reliable sealing if the shaft is out-of-round or rotates eccentrically **(fig 86d)**. It should be remembered when using V-rings that the amount by which the shaft can be displaced axially is governed by the permissible displacement of the V-ring relative to its counterface.

V-rings are made entirely of elastomer without fabric or sheet metal reinforcement. They are, therefore, particularly easy to install.

They can be stretched and, depending on size, can be pushed over other components of the arrangement, e.g. flanges, pulleys or even housings. This is a very valuable characteristic, expecially in the case of repairs.

Function

The V-ring has a body **(87a)** and a flexible conical shaped sealing lip **(87b)** with an integral resiliant “hinge” **(87c)**. It is streched and mounted directly on the shaft, where it is held in place by the inherent tension of the seal body. It rotates with the shaft and seals axially against a stationary counterface.

The counterface can be the end face of a bearing, a washer, stamping, bearing housing, or even the metal case of an oil seal.

In many instances the V-ring can be stretched and installed over flanges and bearing housings without costly dismantling.

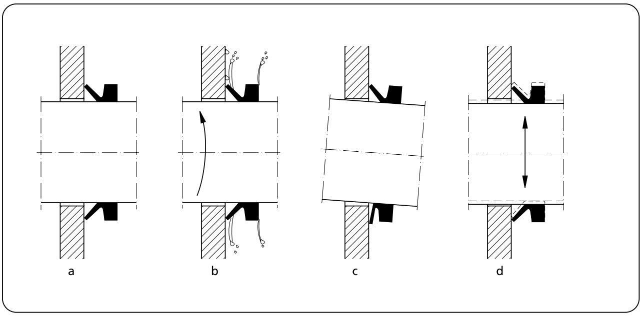


Fig 86

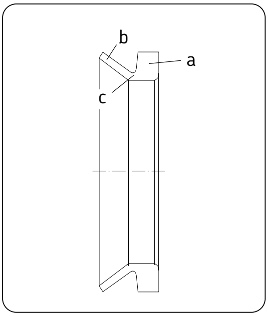


Fig 87

The V-ring shall be located in the medium to be sealed.

The sealing lip is flexible and applies only a relatively light contact pressure against the counterface but sufficient enough to maintain the sealing function. The light contact pressure even allows the seal to run dry in some low speed applications. The contact pressure varies with the fitted width.

The flexible lip and hinge effect provide adequate sealing even in applications with considerable end play and shaft misalignment.

Due to the centrifugal force the contact pressure of the lip decreases with increase in speed. This means that frictional losses and heat are kept to a minimum, resulting in better wear characteristics and extended seal life. The power loss reaches its maximum at a shaft speed of approx. 12 m/s and is thereafter gradually reduced up to about 20 m/s where it will decrease to zero. The V-ring then serves as a clearance seal and deflector.

Standard Designs

VR1 design

This is the most common design and is available for shaft diameters from 2,7 to 2.020 mm, inclusive.

VR2 design

The body of this V-ring is wide and tapered. This gives the seal a very firm hold on the shaft. Seals of the VR2 design are available for the most commonly used shaft diameters in the range 4,5 to 210 mm.

VR3 design

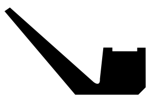
These seals have a very narrow axial cross section making for compact arrangements and are often used in combination with labyrinth seals. They are available for shaft diameters in the range 135 to 630 mm.

VR4 design

These V-rings were designed as secondary seals for heavy-duty applications where the primary seal has to be protected against water and/or solid contaminants. They have the largest cross section of any V-ring design and also permit the largest axial displacements. They are available in the diameter range 450 to 2.010 mm.

VR5 and VR6 design

The heavy-duty large diameter style can easily be fitted with a standard clamping band for axial fixation in high speed applications. Ideal for steel mills, ball mills and paper mills.

						
Design	VR1	VR2	VR3	VR4	VR5	VR6
min Ø mm	2,7	4,5	15	450	300	300
max Ø mm	2020	2010	2010	2010	2010	2010

Design of sealing arrangement

V-ring seals are suitable for both grease and oil-lubricated applications. For sealing grease-lubricated bearing arrangements against dust or water spray, the V-ring should be arranged outside the housing cover or housing wall. Dust, water spray and other impurities can be excluded in this position **(fig 88a)**. The V-ring will also act as a grease valve (**fig 88b**) Used grease or excess new grease can escape between the counterface and the sealing lip. The use of two opposing V-rings **(fig 89)** is recommended where lubricant retention and contaminant exclusion are of equal importance.

If V-rings are to be used to retain oil, they should always be axially located on the shaft on the lubricant side **(fig 90)**. If the direction of shaft rotation is constant, a spiral groove in the counterface causes oil to leave the sealing position and thus improves sealing efficiency.

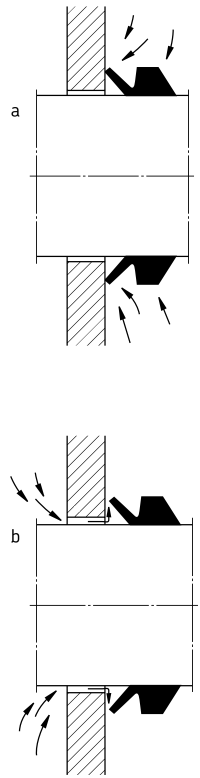


Fig 88

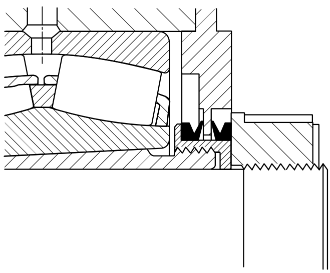


Fig 89

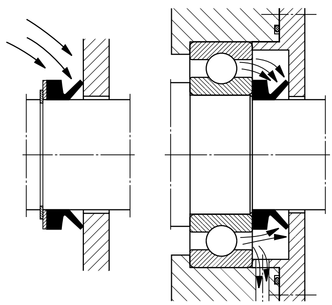


Fig 90

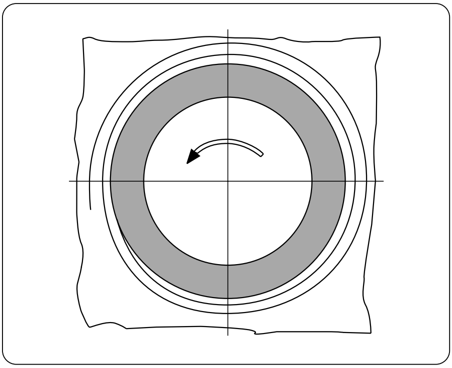


Fig 91

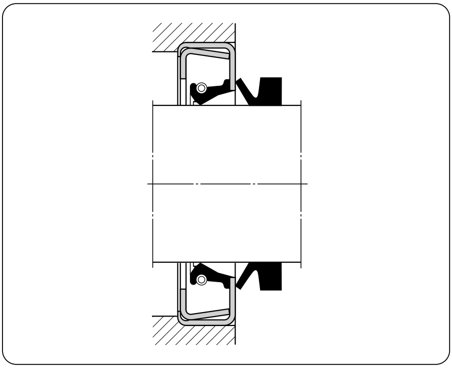


Fig 92

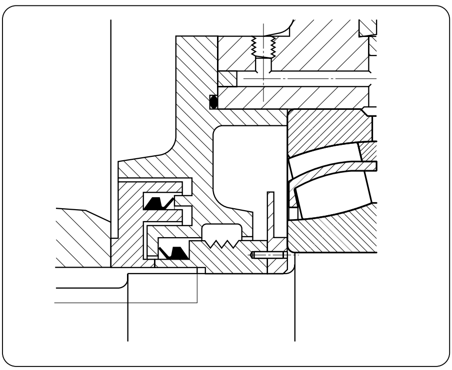


Fig 93

The spiral groove **(fig 91)** should have an enlargement of approximately 2 mm for each complete turn in the direction of rotation and should have a depth of between 0,05 and 0,1 mm with a radius of curvature of approximately 0,5 mm. All edges must be smoothed.V-rings may also be used as a secondary back-up seal **(fig 92)**, for example, where it is necessary to protect the sealing lip and counterface of the primary seal against solid contaminants or corrosion. They have also been used to advantage to enhance the efficiency of labyrinth seals (**fig 93**). If the seating diameter lies in the appropriate range for two V-rings, the larger V-ring should always be chosen.

Materials
Normally V-rings are made from nitrile rubber (NBR). This has good resistance to wear as well as to chemicals and can be used for normal operating temperatures. For applications where higher temperatures occur or where aggressive media are present, V-rings made of fluoro rubber (FPM) can be supplied. The permissible operating conditions will be found in **table 26**. The chemical resistance of the rubber materials is described in the section entitled “Chemical resistance”. In the product table under the heading “Design and material”, the letters R and V are used to identify nitrile rubber and fluoro rubber, respectively.

Warning: fluoro rubber seals will give off toxic fumes at temperatures above 300 °C. If overheated they are still dangerous to handle even once they have cooled down.

Sliding velocities
V-ring seals can be operated under the conditions given in **table 26**. It should be noted that at speeds above 15 m/s the sealing lip will lift from the counterface and the V-ring will only act as a gap-type seal.

Table 26. Permissible operating conditions

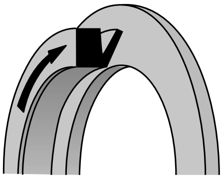
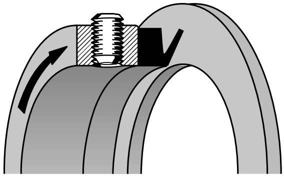
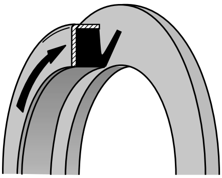
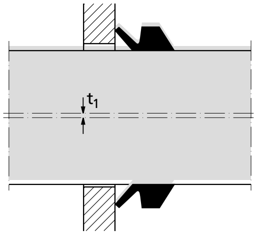
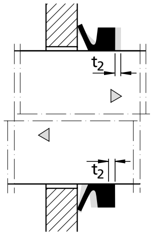
 1	 2	 3
Operating conditions	Guideline values for V-rings of nitrile rubber	Guideline values for V-rings of fluoro rubber
Operating temperature, °C		
dynamic sealing	–40 to + 100	–20 to + 150
static sealing	–40 to + 120	–40 to + 230
Peripheral speed, m/s		
normal (1)	up to 8	up to 6,5
axially located (2)	8 to 12	6,5 to 10
with support ring (3)	>12	>10
with rotating counterface	up to 20	up to 20
Pressure acting on seal, MPa		
static sealing or very low speed operation	up to 0,03	up to 0,03

Table 27. Coaxiality and runout tolerances



Shaft diameter nominal		Total tolerance for coaxiality deviation and runout
d_1 over	incl	t_1 max
mm		mm
V-rings, VR1 and VR2 designs		
	9,5	0,4
9,5	19,5	0,6
19,5	38	0,9
38	68	1,1
68	105	1,4
105	155	1,6
155	210	1,9
210	2020	3,6
V-rings, VR3 designs		
135	630	1,5
V-rings, VR4 designs		
450	2100	6

Table 28. Axial displacement



Shaft diameter nominal		Permissible axial displacement
d_1 over	incl	t_2 max
mm		mm
V-rings, VR1 and VR2 designs		
	9,5	0,4
9,5	19,5	0,6
19,5	38	0,9
38	68	1
68	105	1,2
105	155	1,5
155	210	1,8
210	2020	4
V-rings, VR3 designs		
135	630	1,5
V-rings, VR4 designs		
450	2100	12

Coaxiality and runout
The total tolerance for the deviation from coaxiality and runout should not exceed the guideline values given in **Table 27**.

Axial displacement
Values for the permissible axial displacement of the V-ring with respect to its counterface are given in **Table 28**.

Counterface
Fine turned counterfaces are adequate for V-rings. Recommended surface roughness values are 2,5 µm for R_a and 12 µm for R_t.

Misalignment
V-rings can tolerate misalignment between shaft and housing axes, i.e. deviations from the perpendicularity between the shaft and counterface on the housing. Guideline values for the maximum permissible misalignment can obtained from **Diagram 11**. The values apply to V-rings of the VR1 and VR2 designs which are axially supported on the shaft.

The permissible misalignment values for the very compact VR3-design V-rings are appreciably smaller. V-rings of the VR4 design, on the other hand, have a large seal cross section and permit larger misalignments.

Where V-rings are not axially supported on the shaft, the maximum value obtained from the diagram should be reduced and the following equation should be used:

$$\alpha = \alpha_{max} - 0{,}0005\ n$$

where:

α	permissible misalignment for V-rings without axial support operating at speed n, degrees
α_{max}	maximum permissible misalignment from Diagram 1, degrees
n	rotational speed, r/min

Example:
A 50 mm diameter shaft is misaligned by 1° with respect to the counterface on the housing. What speed can the shaft be run at if a V-ring of the VR1 design is to be used without axial support?

From Diagram 8 α_{max} = 2°,
which gives the permissible speed

$$n = \frac{\alpha_{max} - \alpha}{0{,}0005} = \frac{2 - 1}{0{,}0005} = 2.000 \text{ r/min}$$

This corresponds to a sliding velocity of approximately 5 m/s.

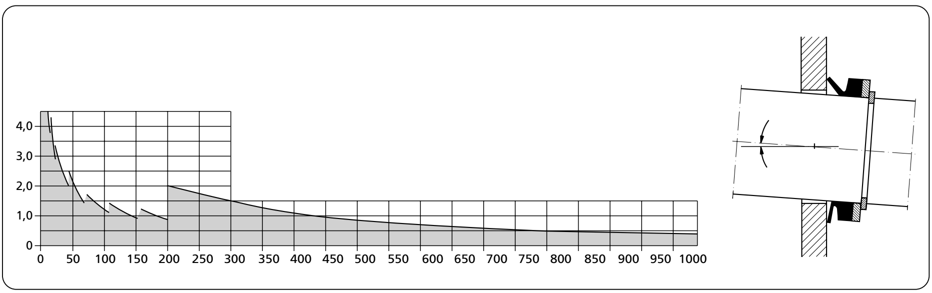


Diagram 11. Maximum premissible misalignment for V-rings of the VR1 and VR2 designs

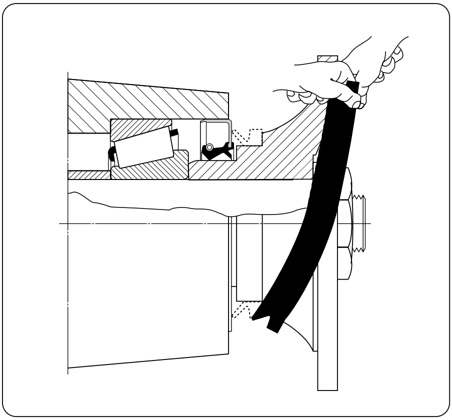


Fig 94

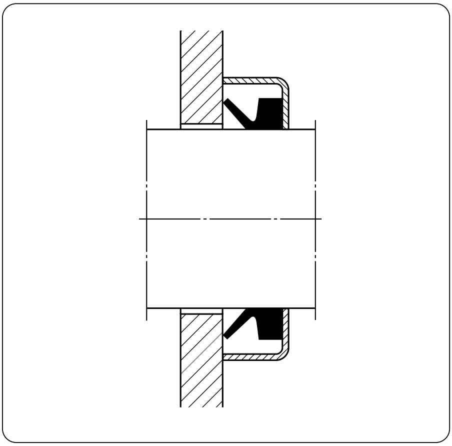


Fig 95

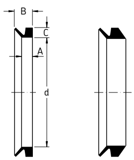
Mounting instructions

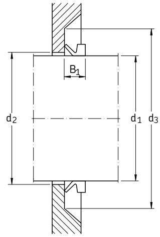
V-rings seals are elastic and may be stretched to enable them to be pushed over other components, so that mounting is a simple operation (**fig 94**) may be used to push the seal to its position at a predetermined distance from the counterface.

In cases where many V-rings are to be mounted, a simple tool (**fig 95**) may be used to push the seal to its position at a predetermined distance from the counterface.

If the replacement of V-rings involves the time-consuming dismounting of several other components, the replacement ring may be cut in two and portable vulcanisation equipment used to join the two seal halves once they are in position.

V-ring seals – Metric sizes

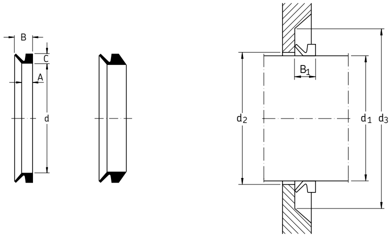




Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
2,7-3,5	2,5	2,1	3	1,5	d1+1	d1+4	2,5±0,3	VR1	R	**CR 400030**
2,7-3,5	2,5	2,1	3	1,5	d1+1	d1+4	2,5±0,3	VR1	V	**CR 400034**
3,5-4,5	3,2	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	R	**CR 400040**
3,5-4,5	3,2	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	V	**CR 400044**
4,5-5,5	4	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	R	**CR 400050**
4,5-5,5	4	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	V	**CR 400054**
4,5-5,5	4	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	R	**CR 400051**
4,5-5,5	4	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	V	**CR 400055**
5,5-6,5	5	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	R	**CR 400060**
5,5-6,5	5	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	V	**CR 400064**
5,5-6,5	5	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	R	**CR 400061**
5,5-6,5	5	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	V	**CR 400065**
6,5-8,0	6	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	R	**CR 400070**
6,5-8,0	6	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	V	**CR 400074**
6,5-8,0	6	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	R	**CR 400071**
6,5-8,0	6	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	V	**CR 400075**
8,0-9,5	7	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	R	**CR 400080**
8,0-9,5	7	2,4	3,7	2	d1+1	d1+6	3,0±0,4	VR1	V	**CR 400084**
8,0-9,5	7	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	R	**CR 400081**
8,0-9,5	7	3,9	5,2	2	d1+1	d1+6	4,5±0,4	VR2	V	**CR 400085**
9,5-11,5	9	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400100**
9,5-11,5	9	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400104**
9,5-11,5	9	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	R	**CR 400101**
9,5-11,5	9	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	V	**CR 400105**
11,5-12,5	10,5	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400120**
11,5-12,5	10,5	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400124**
11,5-13,5	10,5	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	R	**CR 400121**
11,5-13,5	10,5	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	V	**CR 400125**
12,5-13,5	11,7	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400130**
12,5-13,5	11,7	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400134**
13,5-15,5	12,5	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400140**
13,5-15,5	12,5	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400144**
13,5-15,5	12,5	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	R	**CR 400141**
13,5-15,5	12,5	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	V	**CR 400145**
15,5-17	14	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400160**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

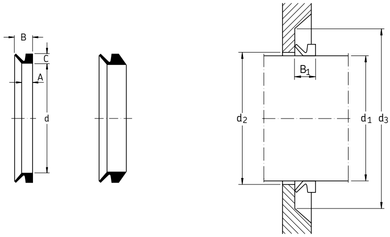
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen- sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
15,5-17	14	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400164**
15,5-17,5	14	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	R	**CR 400161**
15,5-17,5	14	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	V	**CR 400165**
17,5-19	16	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	R	**CR 400180**
17,5-19	16	3,4	5,5	3	d1+1	d1+9	4,5±0,6	VR1	V	**CR 400184**
17,5-19	16	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	R	**CR 400181**
17,5-19	16	5,6	7,7	3	d1+1	d1+9	6,7±0,6	VR2	V	**CR 400185**
19-21	18	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400200**
19-21	18	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400204**
19-21	18	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400201**
19-21	18	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400205**
21-24	20	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400220**
21-24	20	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400224**
21-24	20	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400221**
21-24	20	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400225**
24-27	22	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400250**
24-27	22	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400254**
24-27	22	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400251**
24-27	22	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400255**
27-29	25	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400280**
27-29	25	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400284**
27-29	25	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400281**
27-29	25	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400285**
29-31	27	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400300**
29-31	27	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400304**
29-31	27	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400301**
29-31	27	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400305**
31-33	29	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400320**
31-33	29	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400324**
31-33	29	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400321**
31-33	29	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400325**
33-36	31	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400350**
33-36	31	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400354**
33-36	31	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400351**
33-36	31	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400355**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

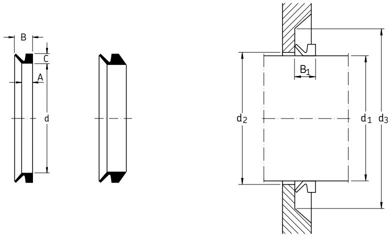
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
36-38	34	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	R	**CR 400380**
36-38	34	4,7	7,5	4	d1+2	d1+12	6,0±0,8	VR1	V	**CR 400384**
36-38	34	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	R	**CR 400381**
36-38	34	7,9	10,5	4	d1+2	d1+12	9,0±0,8	VR2	V	**CR 400385**
38-43	36	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400400**
38-43	36	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400404**
38-43	36	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400401**
38-43	36	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400405**
43-48	40	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400450**
43-48	40	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400454**
43-48	40	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400451**
43-48	40	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400455**
48-53	45	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400500**
48-53	45	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400504**
48-53	45	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400501**
48-53	45	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400505**
53-58	49	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400550**
53-58	49	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400554**
53-58	49	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400551**
53-58	49	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400555**
58-63	54	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400600**
58-63	54	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400604**
58-63	54	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400601**
58-63	54	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400605**
63-68	58	5,5	9	5	d1+2	d1+15	7,0±1	VR1	R	**CR 400650**
63-68	58	5,5	9	5	d1+2	d1+15	7,0±1	VR1	V	**CR 400654**
63-68	58	9,5	13	5	d1+2	d1+15	11,0±1	VR2	R	**CR 400651**
63-68	58	9,5	13	5	d1+2	d1+15	11,0±1	VR2	V	**CR 400655**
68-73	63	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400700**
68-73	63	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 400704**
68-73	63	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400701**
68-73	63	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400705**
73-78	67	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400750**
73-78	67	6,8	11	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400751**
73-78	67	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400755**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

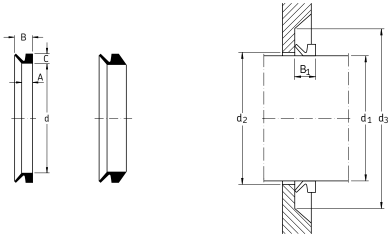
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
78-83	72	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400800**
78-83	72	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 400804**
78-83	72	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400801**
78-83	72	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400805**
83-88	76	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400850**
83-88	76	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 400854**
83-88	76	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400851**
83-88	76	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400855**
88-93	81	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400900**
88-93	81	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 400904**
88-93	81	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400901**
88-93	81	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400905**
93-98	85	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 400950**
93-98	85	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 400954**
93-98	85	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 400951**
93-98	85	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 400955**
98-105	90	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	R	**CR 401000**
98-105	90	6,8	11	6	d1+3	d1+18	9,0±1,2	VR1	V	**CR 401004**
98-105	90	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	R	**CR 401001**
98-105	90	11,3	15,5	6	d1+3	d1+18	13,5±1,2	VR2	V	**CR 401005**
105-115	99	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401102**
105-115	99	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401106**
105-115	99	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	R	**CR 401100**
105-115	99	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	V	**CR 401104**
105-115	99	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	R	**CR 401101**
105-115	99	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	V	**CR 401105**
115-125	108	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401202**
115-125	108	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401206**
115-125	108	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	R	**CR 401200**
115-125	108	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	V	**CR 401204**
115-125	108	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	R	**CR 401201**
115-125	108	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	V	**CR 401205**
125-135	117	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401302**
125-135	117	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401306**
125-135	117	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	R	**CR 401300**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

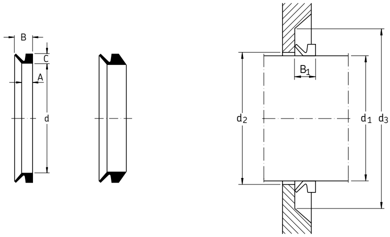
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
125-135	117	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	V	**CR 401304**
125-135	117	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	R	**CR 401301**
125-135	117	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	V	**CR 401305**
135-145	126	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401402**
135-145	126	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401406**
135-145	126	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	R	**CR 401400**
135-145	126	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	V	**CR 401404**
135-145	126	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	R	**CR 401401**
135-145	126	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	V	**CR 401405**
145-155	135	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401502**
145-155	135	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401506**
145-155	135	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	R	**CR 401500**
145-155	135	7,9	12,8	7	d1+4	d1+21	10,5±1,5	VR1	V	**CR 401504**
145-155	135	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	R	**CR 401501**
145-155	135	13,1	18	7	d1+4	d1+21	15,5±1,5	VR2	V	**CR 401505**
155-165	144	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401602**
155-165	144	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401606**
155-165	144	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	R	**CR 401600**
155-165	144	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	V	**CR 401604**
155-165	144	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	R	**CR 401601**
155-165	144	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	V	**CR 401605**
165-175	153	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401702**
165-175	153	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401706**
165-175	153	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	R	**CR 401700**
165-175	153	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	V	**CR 401704**
165-175	153	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	R	**CR 401701**
165-175	153	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	V	**CR 401705**
175-185	162	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401802**
175-185	162	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401806**
175-185	162	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	R	**CR 401800**
175-185	162	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	V	**CR 401804**
175-185	162	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	R	**CR 401801**
175-185	162	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	V	**CR 401805**
185-195	171	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 401902**
185-195	171	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 401906**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

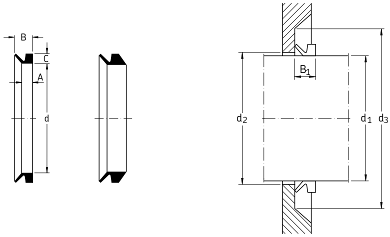
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
185-195	171	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	R	**CR 401900**
185-195	171	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	V	**CR 401904**
185-195	171	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	R	**CR 401901**
185-195	171	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	V	**CR 401905**
195-210	180	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	R	**CR 401990**
195-210	180	9	14,5	8	d1+4	d1+24	12,0±1,8	VR1	V	**CR 401994**
190-210	180	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 402000**
190-210	180	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 402004**
195-210	180	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	R	**CR 401991**
195-210	180	15	20,5	8	d1+4	d1+24	18,0±1,8	VR2	V	**CR 401995**
195-210	182	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 402002**
195-210	182	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 402006**
210-233	198	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 402202**
210-233	198	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 402206**
210-235	198	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 402200**
210-235	198	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 402204**
233-260	225	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 402502**
233-260	225	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 402506**
235-265	225	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 402500**
235-265	225	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 402504**
260-285	247	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 402752**
260-285	247	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 402756**
265-290	247	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 402750**
265-290	247	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 402754**
285-310	270	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 403002**
285-310	270	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 403006**
290-310	270	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 403000**
290-310	270	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 403004**
310-335	292	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 403252**
310-335	292	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 403256**
310-335	292	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 403250**
310-335	292	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 403254**
300-305	294	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470301**
300-305	294	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403003**
305-310	299	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403053**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

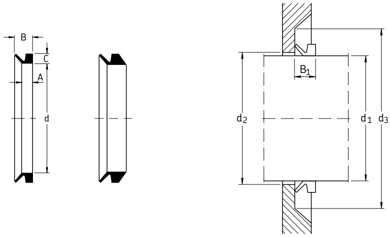
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
310-315	304	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470311**
310-315	304	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403103**
315-320	309	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403153**
320-325	314	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403203**
335-365	315	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 403502**
335-365	315	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 403506**
335-365	315	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 403500**
335-365	315	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 403504**
325-330	319	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470326**
325-330	319	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403253**
330-335	323	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403303**
335-340	328	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403353**
340-345	333	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470341**
340-345	333	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403403**
365-385	337	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 403752**
365-385	337	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 403756**
365-390	337	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 403750**
365-390	337	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 403754**
345-350	338	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403453**
350-355	343	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470351**
350-355	343	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403503**
355-360	347	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470356**
355-360	347	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403553**
360-365	352	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403603**
365-370	357	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403653**
385-410	360	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 404002**
385-410	360	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 404006**
390-430	360	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 404000**
390-430	360	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 404004**
370-375	362	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470371**
370-375	362	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403703**
375-380	367	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470376**
375-380	367	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403753**
380-385	371	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470381**
380-385	371	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403803**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

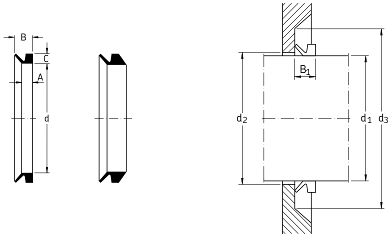
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen- sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
385-390	376	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403853**
390-395	381	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470391**
390-395	381	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403903**
410-440	382	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 404252**
410-440	382	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 404256**
395-400	386	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 403953**
400-405	391	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470401**
400-405	391	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404003**
405-410	396	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404053**
410-415	401	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470411**
410-415	401	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404103**
440-475	405	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 404502**
440-475	405	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 404506**
430-480	405	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 404500**
430-480	405	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 404504**
415-420	405	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404153**
420-425	410	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470421**
420-425	410	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404203**
425-430	415	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404253**
430-435	420	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470431**
430-435	420	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404303**
435-440	425	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404353**
440-445	429	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404403**
445-450	434	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404453**
450-455	439	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404503**
450-455	439	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470450**
455-460	444	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404553**
460-465	448	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470461**
460-465	448	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404603**
475-510	450	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 405002**
475-510	450	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 405006**
480-530	450	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 405000**
480-530	450	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 405004**
465-470	453	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404653**
470-475	458	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404703**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

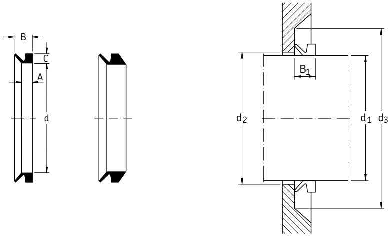
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen- sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
475-480	463	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470476**
475-480	463	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404753**
480-485	468	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404803**
510-540	472	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 405252**
510-540	472	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 405256**
485-490	473	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404853**
490-495	478	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404903**
495-500	483	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470496**
495-500	483	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 404953**
500-505	488	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405003**
500-505	488	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470500**
505-510	493	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405053**
540-575	495	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 405502**
540-575	495	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 405506**
530-580	495	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 405500**
530-580	495	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 405504**
510-515	497	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405103**
515-520	502	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405153**
520-525	507	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405203**
525-530	512	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470526**
525-530	512	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405253**
530-535	517	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405303**
535-540	521	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405353**
540-545	526	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405403**
545-550	531	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405453**
550-555	536	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405503**
550-555	536	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470550**
575-625	540	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 406002**
575-625	540	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 406006**
580-630	540	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 406000**
580-630	540	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 406004**
555-560	541	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405553**
560-565	546	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405603**
565-570	550	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405653**
570-575	555	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405703**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

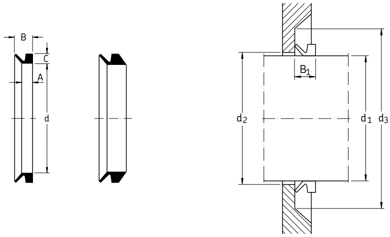
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	SKF Designation
mm										
575-580	560	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405753**
580-585	565	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405803**
585-590	570	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405853**
590-600	575	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 405903**
600-610	582	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406003**
600-610	582	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470600**
610-620	592	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406103**
615-675	600	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 406502**
615-675	600	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 406506**
630-665	600	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 406500**
630-665	600	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 406504**
620-630	602	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406203**
630-640	612	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406303**
640-650	621	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406403**
675-710	630	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 407002**
675-710	630	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 407006**
665-705	630	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 407000**
665-705	630	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 407004**
650-660	631	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470651**
650-660	631	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406503**
650-660	631	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470650**
660-670	640	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470661**
660-670	640	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406603**
670-680	650	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470671**
670-680	650	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406703**
680-690	660	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470681**
680-690	660	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406803**
710-740	670	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 407252**
710-740	670	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 407256**
705-745	670	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 407250**
705-745	670	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 407254**
690-700	670	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470691**
690-700	670	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 406903**
700-710	680	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407003**
700-710	680	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470700**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

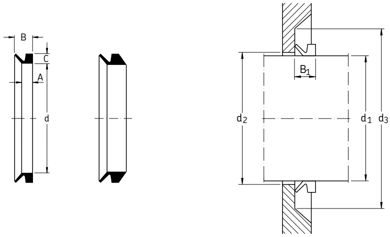
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
710-720	689	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407103**
720-730	699	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407203**
740-775	705	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 407502**
740-775	705	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 407506**
745-785	705	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 407500**
745-785	705	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 407504**
730-740	709	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407303**
740-750	718	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407403**
750-758	728	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470751**
750-758	728	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407503**
750-758	728	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470750**
758-766	735	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470761**
758-766	735	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407603**
766-774	743	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407703**
775-825	745	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 408002**
775-825	745	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 408006**
785-830	745	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 408000**
785-830	745	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 408004**
774-783	751	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407803**
783-792	759	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470791**
783-792	759	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 407903**
792-801	768	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470801**
792-801	768	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408003**
792-801	768	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470800**
801-810	777	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408103**
825-875	785	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 408502**
825-875	785	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 408506**
830-875	785	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 408500**
830-875	785	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 408504**
810-821	786	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408203**
821-831	796	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470831**
821-831	796	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408303**
831-841	805	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408403**
841-851	814	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408503**
841-851	814	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470850**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

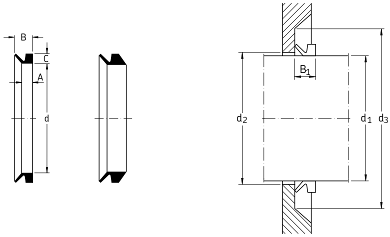
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
851-861	824	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408603**
875-925	825	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 409002**
875-925	825	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 409006**
875-920	825	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 409000**
875-920	825	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 409004**
861-871	833	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408703**
871-882	843	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470881**
871-882	843	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408803**
882-892	853	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 408903**
925-975	865	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 409502**
925-975	865	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 409506**
920-965	865	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 409500**
920-965	865	14,3	25	15	d1+10	d1+45	20,0±4	VR1	V	**CR 409504**
892-912	871	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470901**
892-912	871	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409003**
892-912	871	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470900**
912-922	880	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409203**
922-933	890	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409303**
933-944	900	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409403**
975-1025	910	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 410002**
975-1025	910	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 410006**
944-955	911	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409503**
944-955	911	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 470950**
955-966	921	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409603**
966-977	932	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409703**
977-988	942	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 470981**
977-988	942	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409803**
988-999	953	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 409903**
1025-1075	955	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 410502**
1025-1075	955	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 410506**
1015-1065	955	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 410500**
999-1010	963	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 410003**
999-1010	963	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471000**
1010-1025	973	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 410203**
1025-1045	990	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471041**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

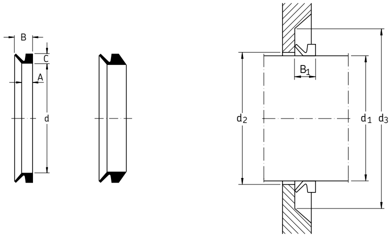
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
1025-1045	990	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 410403**
1075-1125	1000	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 411002**
1075-1125	1000	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 411006**
1065-1115	1000	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 411000**
1045-1065	1008	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 410603**
1065-1085	1027	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 410803**
1125-1175	1045	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 411502**
1125-1175	1045	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 411506**
1115-1165	1045	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 411500**
1085-1105	1045	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 411003**
1085-1105	1045	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471100**
1105-1125	1065	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 411203**
1125-1145	1084	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 411403**
1175-1225	1090	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 412002**
1165-1215	1090	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 412000**
1145-1165	1103	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 411603**
1165-1185	1121	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 411803**
1225-1275	1135	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 412502**
1225-1275	1135	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 412506**
1215-1270	1135	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 412500**
1185-1205	1139	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471201**
1185-1205	1139	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 412003**
1185-1205	1139	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471200**
1205-1225	1157	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 412203**
1225-1245	1176	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 412403**
1275-1325	1180	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 413002**
1275-1325	1180	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 413006**
1270-1320	1180	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 413000**
1245-1270	1195	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 412603**
1270-1295	1218	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 412803**
1325-1375	1225	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 413502**
1325-1375	1225	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 413506**
1320-1370	1225	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 413500**
1295-1315	1240	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 413003**
1295-1315	1240	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471300**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

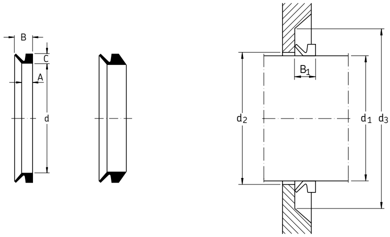
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
1315-1340	1259	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 413253**
1375-1425	1270	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 414002**
1375-1425	1270	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 414006**
1370-1420	1270	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 414000**
1340-1365	1281	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 413503**
1340-1365	1281	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471350**
1365-1390	1305	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 413753**
1425-1475	1315	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 414502**
1425-1475	1315	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 414506**
1420-1470	1315	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 414500**
1390-1415	1328	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 414003**
1390-1415	1328	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471400**
1415-1440	1350	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471426**
1415-1440	1350	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 414253**
1475-1525	1360	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 415002**
1475-1525	1360	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 415006**
1470-1520	1360	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 415000**
1440-1465	1374	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471451**
1440-1465	1374	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 414503**
1440-1465	1374	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471450**
1465-1490	1397	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 414753**
1525-1575	1405	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 415502**
1525-1575	1405	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 415506**
1520-1570	1405	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 415500**
1490-1515	1419	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471501**
1490-1515	1419	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 415003**
1490-1515	1419	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471500**
1515-1540	1443	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 415253**
1575-1625	1450	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 416002**
1575-1625	1450	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 416006**
1570-1620	1450	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 416000**
1540-1570	1467	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471551**
1540-1570	1467	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 415503**
1540-1570	1467	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471550**
1625-1675	1495	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 416502**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

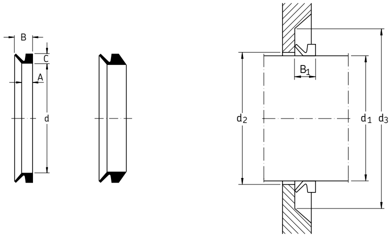
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimen-sion A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
1625-1675	1495	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 416506**
1620-1670	1495	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 416500**
1570-1600	1495	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 415753**
1600-1640	1524	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 416003**
1600-1640	1524	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471600**
1675-1725	1540	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 417002**
1675-1725	1540	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 417006**
1670-1720	1540	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 417000**
1640-1680	1559	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 416503**
1640-1680	1559	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471650**
1725-1775	1585	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 417502**
1725-1775	1585	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 417506**
1720-1770	1585	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 417500**
1680-1720	1596	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471701**
1680-1720	1596	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 417003**
1680-1720	1596	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471700**
1775-1825	1630	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 418002**
1775-1825	1630	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 418006**
1770-1820	1630	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 418000**
1720-1765	1632	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471751**
1720-1765	1632	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 417503**
1720-1765	1632	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471750**
1765-1810	1671	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 418003**
1765-1810	1671	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471800**
1825-1875	1675	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 418502**
1825-1875	1675	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 418506**
1820-1870	1675	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 418500**
1810-1855	1714	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471851**
1810-1855	1714	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 418503**
1810-1855	1714	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471850**
1875-1925	1720	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 419002**
1875-1925	1720	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 419006**
1870-1920	1720	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 419000**
1855-1905	1753	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471901**
1855-1905	1753	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 419003**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

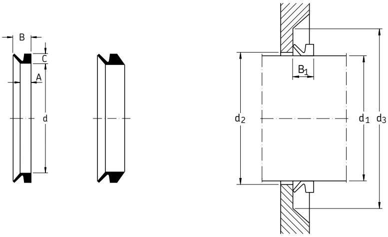
V-ring seals – Metric sizes



Shaft diameter d_1 (range)	Inside diameter d	Dimension A	Free width B	Height C	Maximum d_2 =(d_1+)	Minimum d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
mm										
1855-1905	1753	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471900**
1925-1975	1765	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 419502**
1925-1975	1765	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 419506**
1920-1970	1765	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 419500**
1905-1955	1794	32,5	65	21	d1+24	d1+115	50±12	VR6	R	**CR 471951**
1905-1955	1794	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 419503**
1905-1955	1794	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 471950**
1975-2025	1810	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	R	**CR 420002**
1975-2025	1810	6	10,5	6,5	d1+5	d1+20	8,0±1,5	VR3	V	**CR 420006**
1970-2020	1810	14,3	25	15	d1+10	d1+45	20,0±4	VR1	R	**CR 420000**
1955-2010	1844	32,5	65	30	d1+24	d1+115	50±12	VR4	R	**CR 420003**
1955-2010	1844	67,5	100	13	d1+24	d1+115	85±12	VR5	R	**CR 472000**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring.

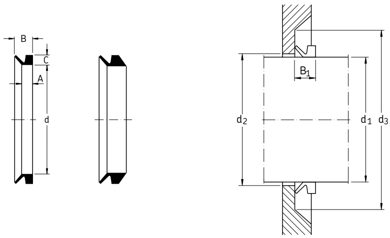
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1 +)$	min $d_3 = (d_1 +)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
0.110-0.140	3	.100	.060	.080	.120	.040	.160	.100±.012	VR1	R	**CR 400030**
0.110-0.140	3	.100	.060	.080	.120	.040	.160	.100±.012	VR1	V	**CR 400034**
0.140-0.180	4	.130	.080	.090	.150	.040	.240	.120±.016	VR1	R	**CR 400040**
0.140-0.180	4	.130	.080	.090	.150	.040	.240	.120±.016	VR1	V	**CR 400044**
0.180-0.210	5	.160	.080	.090	.150	.040	.240	.120±.016	VR1	R	**CR 400050**
0.180-0.210	5	.160	.080	.150	.200	.040	.240	.180±.016	VR2	R	**CR 400051**
0.180-0.210	5	.160	.080	.090	.150	.040	.240	.120±.016	VR1	V	**CR 400054**
0.180-0.210	5	.160	.080	.150	.200	.040	.240	.180±.016	VR2	V	**CR 400055**
0.210-0.260	6	.200	.080	.090	.150	.040	.240	.120±.016	VR1	R	**CR 400060**
0.210-0.260	6	.200	.080	.150	.200	.040	.240	.180±.016	VR2	R	**CR 400061**
0.210-0.260	6	.200	.080	.090	.150	.040	.240	.120±.016	VR1	V	**CR 400064**
0.210-0.260	6	.200	.080	.150	.200	.040	.240	.180±.016	VR2	V	**CR 400065**
0.260-0.310	7	.240	.080	.090	.150	.040	.240	.120±.016	VR1	R	**CR 400070**
0.260-0.310	7	.240	.080	.150	.200	.040	.240	.180±.016	VR2	R	**CR 400071**
0.260-0.310	7	.240	.080	.090	.150	.040	.240	.120±.016	VR1	V	**CR 400074**
0.260-0.310	7	.240	.080	.150	.200	.040	.240	.180±.016	VR2	V	**CR 400075**
0.310-0.370	8	.280	.080	.090	.150	.040	.240	.120±.016	VR1	R	**CR 400080**
0.310-0.370	8	.280	.080	.150	.200	.040	.240	.180±.016	VR2	R	**CR 400081**
0.310-0.370	8	.280	.080	.090	.150	.040	.240	.120±.016	VR1	V	**CR 400084**
0.310-0.370	8	.280	.080	.150	.200	.040	.240	.180±.016	VR2	V	**CR 400085**
0.370-0.450	10	.350	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400100**
0.370-0.450	10	.350	.120	.220	.300	.080	.350	.260±.020	VR2	R	**CR 400101**
0.370-0.450	10	.350	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400104**
0.370-0.450	10	.350	.120	.220	.300	.080	.350	.260±.020	VR2	V	**CR 400105**
0.450-0.530	12	.410	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400120**
0.450-0.530	12	.410	.120	.220	.300	.080	.350	.260±.020	VR2	R	**CR 400121**
0.450-0.530	12	.410	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400124**
0.450-0.530	12	.410	.120	.220	.300	.080	.350	.260±.020	VR2	V	**CR 400125**
0.490-0.570	13	.450	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400130**
0.490-0.570	13	.450	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400134**
0.530-0.610	14	.490	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400140**
0.530-0.610	14	.490	.120	.220	.300	.080	.350	.260±.020	VR2	R	**CR 400141**
0.530-0.610	14	.490	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400144**
0.530-0.610	14	.490	.120	.220	.300	.080	.350	.260±.020	VR2	V	**CR 400145**
0.610-0.690	16	.550	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400160**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring. Purple dot on V-ring indicates LongLife material. Sizes under .748 (19 mm) are brown with no dot. * Check for availability and pricing.

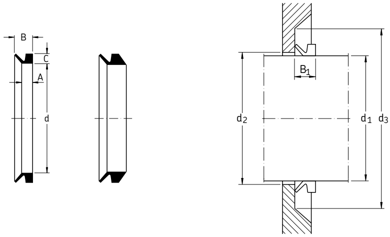
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max d_2 =(d_1+)	min d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
0.610-0.690	16	.550	.120	.220	.300	.080	.350	.260±.020	VR2	R	**CR 400161**
0.610-0.690	16	.550	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400164**
0.610-0.690	16	.550	.120	.220	.300	.080	.350	.260±.020	VR2	V	**CR 400165**
0.690-0.750	18	.630	.120	.130	.220	.080	.350	.180±.020	VR1	R	**CR 400180**
0.690-0.770	18	.630	.120	.220	.300	.080	.350	.260±.020	VR2	R	**CR 400181**
0.690-0.750	18	.630	.120	.130	.220	.080	.350	.180±.020	VR1	V	**CR 400184**
0.690-0.770	18	.630	.120	.220	.300	.080	.350	.260±.020	VR2	V	**CR 400185**
0.750-0.830	20	.710	.160	.190	.300	.080	.470	.240±.030	VR1	R	**CR 400200**
0.770-0.830	20	.710	.160	.310	.410	.080	.470	.350±.030	VR2	R	**CR 400201**
0.750-0.830	20	.710	.160	.190	.300	.080	.470	.240±.030	VR1	V	**CR 400204**
0.770-0.830	20	.710	.160	.310	.410	.080	.470	.350±.030	VR2	V	**CR 400205**
0.830-0.950	22	.790	.160	.190	.300	.080	.470	.240±.030	VR1	R	**CR 400220**
0.830-0.950	22	.790	.160	.310	.410	.080	.470	.350±.030	VR2	R	**CR 400221**
0.830-0.950	22	.790	.160	.190	.300	.080	.470	.240±.030	VR1	V	**CR 400224**
0.830-0.950	22	.790	.160	.310	.410	.080	.470	.350±.030	VR2	V	**CR 400225**
0.950-1.070	25	.870	.160	.190	.300	.080	.470	.240±.030	VR1	R	**CR 400250**
0.950-1.070	25	.870	.160	.310	.410	.080	.470	.350±.030	VR2	R	**CR 400251**
0.950-1.070	25	.870	.160	.190	.300	.080	.470	.240±.030	VR1	V	**CR 400254**
0.950-1.070	25	.870	.160	.310	.410	.080	.470	.350±.030	VR2	V	**CR 400255**
1.070-1.140	28	.980	.160	.190	.300	.120	.470	.240±.030	VR1	R	**CR 400280**
1.070-1.140	28	.980	.160	.310	.410	.120	.470	.350±.030	VR2	R	**CR 400281**
1.070-1.140	28	.980	.160	.190	.300	.120	.470	.240±.030	VR1	V	**CR 400284**
1.070-1.140	28	.980	.160	.310	.410	.120	.470	.350±.030	VR2	V	**CR 400285**
1.140-1.220	30	1.060	.160	.190	.300	.120	.470	.240±.030	VR1	R	**CR 400300**
1.140-1.220	30	1.060	.160	.310	.410	.120	.470	.350±.030	VR2	R	**CR 400301**
1.140-1.220	30	1.060	.160	.190	.300	.120	.470	.240±.030	VR1	V	**CR 400304**
1.140-1.220	30	1.060	.160	.310	.410	.120	.470	.350±.030	VR2	V	**CR 400305**
1.220-1.300	32	1.140	.160	.190	.300	.120	.470	.240±.030	VR1	R	**CR 400320**
1.220-1.300	32	1.140	.160	.310	.410	.120	.470	.350±.030	VR2	R	**CR 400321**
1.220-1.300	32	1.140	.160	.190	.300	.120	.470	.240±.030	VR1	V	**CR 400324**
1.220-1.300	32	1.140	.160	.310	.410	.120	.470	.350±.030	VR2	V	**CR 400325**
1.300-1.420	35	1.220	.160	.190	.300	.120	.470	.240±.030	VR1	R	**CR 400350**
1.300-1.420	35	1.220	.160	.310	.410	.120	.470	.350±.030	VR2	R	**CR 400351**
1.300-1.420	35	1.220	.160	.190	.300	.120	.470	.240±.030	VR1	V	**CR 400354**
1.300-1.420	35	1.220	.160	.310	.410	.120	.470	.350±.030	VR2	V	**CR 400355**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring. Purple dot on V-ring indicates LongLife material. Sizes under .748 (19 mm) are brown with no dot. * Check for availability and pricing.

V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1 +)$	min $d_3 = (d_1 +)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
1.420-1.500	38	1.340	.160	.190	.300	.120	.470	.240±.030	VR1	R	**CR 400380**
1.420-1.500	38	1.340	.160	.310	.410	.120	.470	.350±.030	VR2	R	**CR 400381**
1.420-1.500	38	1.340	.160	.190	.300	.120	.470	.240±.030	VR1	V	**CR 400384**
1.420-1.500	38	1.340	.160	.310	.410	.120	.470	.350±.030	VR2	V	**CR 400385**
1.500-1.700	40	1.420	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400400**
1.500-1.700	40	1.420	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400401**
1.500-1.700	40	1.420	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400404**
1.500-1.700	40	1.420	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400405**
1.700-1.890	45	1.570	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400450**
1.700-1.890	45	1.570	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400451**
1.700-1.890	45	1.570	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400454**
1.700-1.890	45	1.570	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400455**
1.890-2.090	50	1.770	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400500**
1.890-2.090	50	1.770	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400501**
1.890-2.090	50	1.770	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400504**
1.890-2.090	50	1.770	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400505**
2.090-2.290	55	1.930	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400550**
2.090-2.290	55	1.930	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400551**
2.090-2.290	55	1.930	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400554**
2.090-2.290	55	1.930	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400555**
2.290-2.480	60	2.130	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400600**
2.290-2.480	60	2.130	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400601**
2.290-2.480	60	2.130	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400604**
2.290-2.480	60	2.130	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400605**
2.480-2.680	65	2.280	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400650**
2.480-2.680	65	2.280	.200	.370	.510	.120	.590	.430±.040	VR2	R	**CR 400651**
2.480-2.680	65	2.280	.200	.220	.350	.120	.590	.280±.040	VR1	V	**CR 400654**
2.480-2.680	65	2.280	.200	.370	.510	.120	.590	.430±.040	VR2	V	**CR 400655**
2.480-2.680	65	2.280	.200	.220	.350	.120	.590	.280±.040	VR1	R	**CR 400659**
2.680-2.880	70	2.480	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400700**
2.680-2.880	70	2.480	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400701**
2.680-2.880	70	2.480	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400704**
2.680-2.880	70	2.480	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400705**
2.880-3.070	75	2.640	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400750**
2.880-3.070	75	2.640	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400751**

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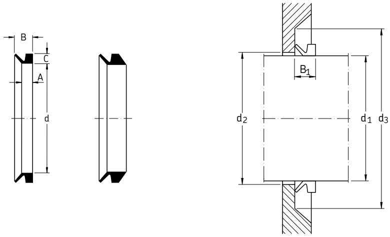
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max d_2 =(d_1+)	min d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
2.880-3.070	75	2.640	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400754**
2.880-3.070	75	2.640	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400755**
3.070-3.270	80	2.830	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400800**
3.070-3.270	80	2.830	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400801**
3.070-3.270	80	2.830	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400804**
3.070-3.270	80	2.830	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400805**
3.270-3.470	85	2.990	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400850**
3.270-3.470	85	2.940	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400851**
3.270-3.470	85	2.990	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400854**
3.270-3.470	85	2.940	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400855**
3.470-3.660	90	3.190	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400900**
3.470-3.660	90	3.190	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400901**
3.470-3.660	90	3.190	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400904**
3.470-3.660	90	3.190	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400905**
3.660-3.860	95	3.350	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 400950**
3.660-3.860	95	3.350	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 400951**
3.660-3.860	95	3.350	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 400954**
3.660-3.860	95	3.350	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 400955**
3.860-4.140	100	3.540	.240	.270	.430	.160	.710	.350±.050	VR1	R	**CR 401000**
3.860-4.140	100	3.540	.240	.440	.610	.160	.710	.530±.050	VR2	R	**CR 401001**
3.860-4.140	100	3.540	.240	.270	.430	.160	.710	.350±.050	VR1	V	**CR 401004**
3.860-4.140	100	3.540	.240	.440	.610	.160	.710	.530±.050	VR2	V	**CR 401005**
4.140-4.530	110	3.900	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401100**
4.140-4.530	110	3.900	.280	.520	.710	.160	.830	.610±.060	VR2	R	**CR 401101**
4.140-4.530	110	3.900	.280	.310	.500	.160	.830	.410±.060	VR1	V	**CR 401104**
4.140-4.530	110	3.900	.280	.520	.710	.160	.830	.610±.060	VR2	V	**CR 401105**
4.530-4.920	120	4.250	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401200**
4.530-4.920	120	4.250	.280	.520	.710	.160	.830	.610±.060	VR2	R	**CR 401201**
4.530-4.920	120	4.250	.260	.240	.410	.200	.800	.315±.060	VR3	V	**CR 401202***
4.530-4.920	120	4.250	.280	.310	.500	.160	.830	.410±.060	VR1	V	**CR 401204**
4.530-4.920	120	4.250	.280	.520	.710	.160	.830	.610±.060	VR2	V	**CR 401205**
4.531-4.917	120	4.250	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401208**
4.920-5.320	130	4.610	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401300**
4.920-5.320	130	4.610	.280	.520	.710	.160	.830	.610±.060	VR2	R	**CR 401301**
4.920-5.320	130	4.610	.280	.310	.500	.160	.830	.410±.060	VR1	V	**CR 401304**

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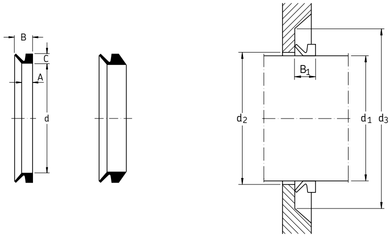
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max d_2 =(d_1+)	min d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
4.920-5.320	130	4.610	.280	.520	.710	.160	.830	.610±.060	VR2	V	**CR 401305**
5.320-5.710	140	4.960	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401400**
5.320-5.710	140	4.960	.280	.520	.710	.160	.830	.610±.060	VR2	R	**CR 401401**
5.320-5.710	140	4.960	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401402**
5.320-5.710	140	4.960	.280	.310	.500	.160	.830	.410±.060	VR1	V	**CR 401404**
5.320-5.710	140	4.960	.280	.520	.710	.160	.830	.610±.060	VR2	V	**CR 401405**
5.320-5.710	140	4.960	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401406**
5.710-6.100	150	5.310	.280	.310	.500	.160	.830	.410±.060	VR1	R	**CR 401500**
5.710-6.100	150	5.310	.280	.520	.710	.160	.830	.610±.060	VR2	R	**CR 401501**
5.710-6.100	150	5.310	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401502**
5.710-6.100	150	5.310	.280	.310	.500	.160	.830	.410±.060	VR1	V	**CR 401504**
5.710-6.100	150	5.310	.280	.520	.710	.160	.830	.610±.060	VR2	V	**CR 401505**
5.710-6.100	150	5.310	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401506**
6.100-6.500	160	5.670	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401600**
6.100-6.500	160	5.670	.310	.590	.810	.200	.940	.710±.070	VR2	R	**CR 401601**
6.100-6.500	160	5.670	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401602**
6.100-6.500	160	5.670	.310	.350	.570	.200	.940	.470±.070	VR1	V	**CR 401604**
6.100-6.500	160	5.670	.310	.590	.810	.200	.940	.710±.070	VR2	V	**CR 401605**
6.100-6.500	160	5.670	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401606**
6.100-6.500	160	5.670	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401608**
6.500-6.890	170	6.020	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401700**
6.500-6.890	170	6.020	.310	.590	.810	.200	.940	.710±.070	VR2	R	**CR 401701**
6.500-6.890	170	6.020	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401702**
6.500-6.890	170	6.020	.310	.350	.570	.200	.940	.470±.070	VR1	V	**CR 401704**
6.500-6.890	170	6.020	.310	.590	.810	.200	.940	.710±.070	VR2	V	**CR 401705**
6.500-6.890	170	6.020	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401706**
6.890-7.290	180	6.380	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401800**
6.890-7.290	180	6.380	.310	.590	.810	.200	.940	.710±.070	VR2	R	**CR 401801**
6.890-7.290	180	6.380	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401802**
6.890-7.290	180	6.380	.310	.350	.570	.200	.940	.470±.070	VR1	V	**CR 401804**
6.890-7.290	180	6.380	.310	.590	.810	.200	.940	.710±.070	VR2	V	**CR 401805**
6.890-7.290	180	6.380	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401806**
7.290-7.680	190	6.730	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401900**
7.290-7.680	190	6.730	.310	.590	.810	.200	.940	.710±.070	VR2	R	**CR 401901**
7.290-7.680	190	6.730	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 401902**

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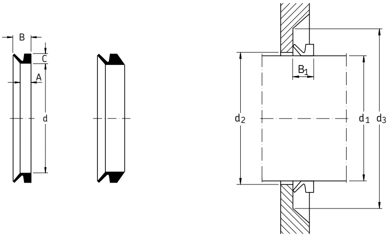
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimen-sion A	Free width B	max $d_2 =(d_1+)$	min $d_3 =(d_1+)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
7.290-7.680	190	6.730	.310	.350	.570	.200	.940	.470±.070	VR1	V	**CR 401904**
7.290-7.680	190	6.730	.310	.590	.810	.200	.940	.710±.070	VR2	V	**CR 401905**
7.290-7.680	190	6.730	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 401906**
7.680-8.270	199	7.090	.310	.350	.570	.200	.940	.470±.070	VR1	R	**CR 401990**
7.680-8.270	199	7.090	.310	.590	.810	.200	.940	.710±.070	VR2	R	**CR 401991**
7.680-8.270	199	7.090	.310	.350	.570	.200	.940	.470±.070	VR1	V	**CR 401994**
7.680-8.270	199	7.090	.310	.590	.810	.200	.940	.710±.070	VR2	V	**CR 401995**
7.480-8.270	200	7.090	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 402000**
7.680-8.270	200	7.170	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 402002**
7.480-8.270	200	7.090	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 402004**
7.680-8.270	200	7.170	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 402006**
8.270-9.250	220	7.800	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 402200**
8.270-9.170	220	7.800	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 402202**
8.270-9.250	220	7.800	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 402204**
8.270-9.170	220	7.800	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 402206**
9.250-10.430	250	8.860	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 402500**
9.170-10.240	250	8.860	.260	.240	.410	.200	.800	.310±.606	VR3	R	**CR 402502**
9.250-10.430	250	8.860	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 402504**
9.170-10.240	250	8.860	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 402506**
10.430-11.420	275	9.720	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 402750**
10.240-11.220	275	9.720	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 402752**
10.430-11.420	275	9.720	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 402754**
10.240-11.220	275	9.720	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 402756**
11.420-12.200	300	10.630	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 403000**
11.220-12.200	300	10.630	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 403002**
11.420-12.200	300	10.630	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 403004**
11.220-12.200	300	10.630	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 403006**
11.811-12.000	300	11.575	.827	2.657	3.931	.940	4.530	3.350±.500	VR5	R	**CR 470300***
12.400-12.600	315	12.170	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 403153***
12.200-13.190	325	11.500	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 403250**
12.200-13.190	325	11.500	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 403252**
12.200-13.190	325	11.500	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 403254**
12.200-13.190	325	11.500	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 403256**
13.190-14.370	350	12.400	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 403500**
13.190-14.370	350	12.400	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 403502**

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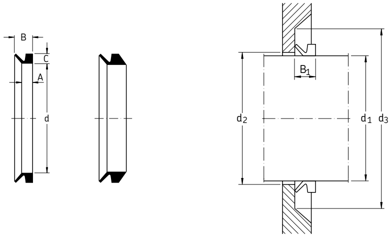
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimen-sion A	Free width B	max $d_2 = (d_1 +)$	min $d_3 = (d_1 +)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
13.190-14.370	350	12.400	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 403504**
13.190-14.370	350	12.400	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 403506**
14.170-14.370	360	13.858	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 403603**
14.170-14.370	360	13.858	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 403607***
14.567-14.764	370	14.252	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 403703***
14.370-15.350	375	13.270	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 403750**
14.370-15.150	375	13.270	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 403752**
14.764-14.961	375	14.449	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 403753***
14.370-15.350	375	13.270	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 403754**
14.370-15.150	375	13.270	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 403756**
14.961-15.157	380	14.606	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 470380***
15.354-19.685	385	14.803	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 470385***
14.350-15.550	390	15.000	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 403903***
15.350-16.930	400	14.170	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 404000**
15.150-16.730	400	14.170	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 404002**
15.750-15.940	400	15.394	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 404003**
15.350-16.930	400	14.170	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 404004**
15.150-16.930	400	14.170	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 404006**
16.142-17.322	425	15.039	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 404252***
16.930-17.120	430	16.490	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404303**
16.930-18.900	450	15.940	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 404500**
16.730-18.700	450	15.940	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 404502**
17.720-17.910	450	17.280	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404503**
16.930-18.900	450	15.940	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 404504**
16.730-18.700	450	15.940	.260	.240	.410	.200	.800	.310±.060	VR3	V	**CR 404506**
19.910-18.110	455	17.480	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404553**
18.110-18.310	460	17.640	1.180	1.280	2.560	.940	4.530	5.000±.500	VR4	R	**CR 404603**
18.500-18.700	470	18.030	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404703**
18.700-18.900	475	18.228	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404753***
18.700-18.900	475	18.228	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 404757***
18.900-19.090	480	18.430	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404803**
18.900-19.090	480	18.430	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 404807***
19.090-19.290	485	18.622	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 404853**
19.100-19.290	485	19.094	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 404857***
19.290-19.490	490	18.820	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 404903**

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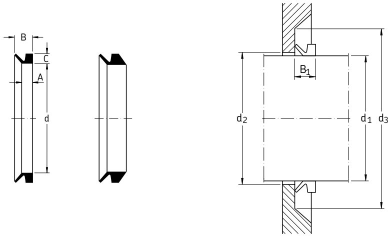
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max d_2 =(d_1+)	min d_3 =(d_1+)	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
18.900-20.870	500	17.720	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 405000**
18.900-20.870	500	17.720	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 405002**
19.690-19.880	500	19.210	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405003**
18.900-20.870	500	17.720	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 405004**
18.700-20.080	500	17.717	.255	.236	.413	.196	.787	.315±.060	VR3	R	**CR 405006**
19.690-19.880	500	19.213	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 405007***
20.010-20.280	510	19.570	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405103**
20.470-20.670	520	19.960	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405203**
20.080-21.260	525	18.580	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 405252**
20.870-21.060	530	20.350	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405303**
21.260-21.460	540	20.709	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405403***
20.870-22.830	550	19.490	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 405500**
20.870-22.830	550	19.490	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 405502**
21.650-21.850	550	21.100	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405503**
20.870-22.830	550	19.490	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 405504**
21.560-22.638	550	19.488	.260	.240	.410	.200	.800	.315±.060	VR3	V	**CR 405506***
22.050-22.240	560	21.496	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 405603**
22.050-22.240	560	21.496	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 405607***
22.440-22.640	570	21.850	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405703**
22.640-22.830	575	22.050	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405753**
22.638-22.835	575	22.047	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 405757***
22.830-23.030	580	22.240	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405803**
23.230-23.620	590	22.640	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 405903**
22.830-24.800	600	21.260	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 406000**
22.830-24.800	600	21.260	.260	.240	.410	.200	.800	.310±.060	VR3	R	**CR 406002**
23.620-24.020	600	22.910	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406003**
22.830-24.800	600	21.260	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 406004**
22.638-24.606	600	21.260	.260	.240	.410	.200	.800	.315±.060	VR3	V	**CR 406006***
24.020-24.410	610	23.310	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406103**
24.410-24.800	620	23.700	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406203**
24.800-25.200	630	24.090	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406303**
25.200-25.590	640	24.450	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406403**
24.800-26.180	650	23.620	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 406500**
25.590-25.980	650	24.840	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406503**
24.790-26.187	650	23.622	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 406504***

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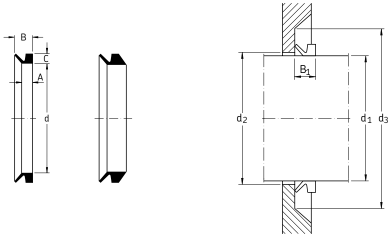
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1+)$	min $d_3 = (d_1+)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
25.590-25.980	650	24.842	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 406507***
25.980-26.380	660	25.197	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406603***
26.380-26.770	670	25.591	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	N	**CR 406703***
26.770-27.170	680	25.984	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	N	**CR 406803***
27.170-27.560	690	26.380	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 406903**
27.170-27.560	690	26.378	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 406907***
26.180-27.760	700	24.800	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 407000**
27.560-27.950	700	26.780	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407003**
26.180-27.760	700	24.803	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 407004***
27.953-28.346	710	27.126	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407103***
28.350-28.740	720	27.520	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407203***
27.760-29.330	725	26.380	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 407250**
28.740-29.134	730	27.910	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407303**
28.740-29.134	730	27.913	1.180	1.280	2.560	.940	4.530	2.500±.500	VR4	V	**CR 407307***
29.130-29.530	740	28.270	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407403**
29.330-30.910	750	27.760	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 407500**
29.134-30.512	750	29.528	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 407502***
29.530-29.840	750	28.660	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407503**
29.330-30.900	750	27.756	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 407504***
29.845-30.157	760	28.937	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 407603**
30.157-30.472	770	29.250	1.181	1.280	2.559	.945	4.528	1.969±.472	VR4	R	**CR 407703**
30.470-30.830	780	29.570	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 407803**
30.910-32.680	800	29.330	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 408000**
31.180-31.540	800	30.240	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 408003**
30.900-32.680	800	29.330	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 408004***
32.720-33.110	840	31.693	1.181	1.280	2.560	.940	4.530	2.500±.500	VR4	R	**CR 408403***
32.680-34.450	850	30.910	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 408500**
33.110-33.500	850	32.050	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 408503**
33.900-34.290	870	32.795	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 408703***
34.290-34.720	880	33.189	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 408803***
34.290-34.720	880	33.189	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 408807***
34.720-35.310	890	33.580	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 408903**
34.450-36.220	890	33.583	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	V	**CR 408907***
34.450-36.220	900	32.480	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 409000**
34.449-36.417	900	32.480	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 409002***

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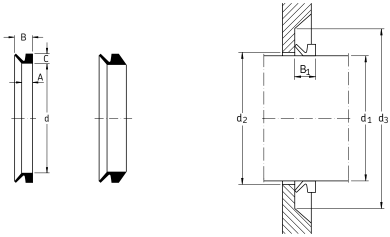
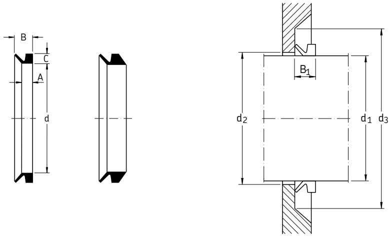
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1+)$	min $d_3 = (d_1+)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
35.310-35.910	900	34.290	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 409003**
35.118-35.905	900	34.291	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 470900***
34.450-36.220	900	32.480	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 409004***
36.732-37.165	940	35.433	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 409403***
36.730-31.170	940	35.433	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 470940***
36.220-37.990	950	34.060	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 409500**
37.170-37.600	950	35.870	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 409503**
36.220-37.992	950	34.055	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 409504***
38.898-39.331	990	37.520	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 409903***
37.990-39.960	1000	35.830	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 410000**
39.330-39.760	1000	37.910	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 410003**
37.990-39.960	1000	35.827	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 410004***
39.960-41.930	1050	37.600	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 410500**
40.550-41.350	1050	39.340	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 410503**
41.140-41.930	1060	39.690	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 410603**
41.930-42.720	1080	40.433	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 410803***
41.930-43.900	1100	39.370	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 411000**
42.720-43.500	1100	41.140	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 411003**
43.500-44.290	1120	41.929	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 411203***
44.291-45.079	1140	42.677	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 471140***
43.900-45.870	1150	41.140	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 411500**
44.290-46.260	1150	41.142	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 411502***
44.490-45.290	1150	43.060	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 411503**
45.870-46.650	1180	44.134	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 411803***
45.870-47.840	1200	42.910	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 412000**
46.259-48.238	1200	42.913	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 412002***
46.650-47.440	1200	44.840	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 412003**
45.875-47.840	1200	42.913	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 412004***
48.230-49.020	1240	46.299	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 412403***
47.840-50.000	1250	44.690	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 412500**
48.520-49.320	1250	46.680	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 412503**
47.840-50.000	1250	44.685	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 412504***
50.000-50.890	1280	47.953	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 412803***
50.000-51.970	1300	46.460	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 413000**
50.980-51.770	1300	48.820	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 413003**

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring. Purple dot on V-ring indicates LongLife material. Sizes under .748 (19 mm) are brown with no dot. * Check for availability and pricing.

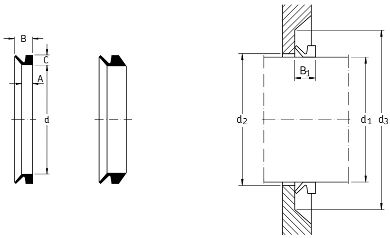
V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1 +)$	min $d_3 = (d_1 +)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
51.770-52.760	1325	49.567	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 413253***
51.970-53.940	1350	48.230	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 413500**
52.165-54.134	1350	48.228	.260	.240	.410	.200	.800	.315±.060	VR3	R	**CR 413502***
52.760-53.740	1350	50.430	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 413503**
53.940-55.910	1400	50.000	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 414000**
54.720-55.710	1400	52.280	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 414003**
54.130-56.100	1400	50.000	.260	.240	.410	.200	.800	.315±.060	VR3	V	**CR 414006***
55.910-57.870	1450	51.770	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 414500**
56.690-57.680	1450	54.090	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 414503**
55.190-57.870	1450	51.772	.590	.560	.980	.400	1.770	.790±.160	VR1	V	**CR 414504***
57.870-59.840	1500	53.540	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 415000**
58.660-59.650	1500	55.870	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 415003**
59.840-61.810	1550	55.320	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 415500**
60.630-61.810	1550	57.760	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 415503**
61.810-63.780	1600	57.090	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 416000**
62.990-64.570	1600	60.000	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 416003**
63.780-65.750	1650	58.860	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 416500**
64.570-66.140	1650	61.380	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 416503**
65.750-67.720	1700	60.630	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 417000**
66.140-67.720	1700	62.830	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 417003**
67.720-69.690	1750	62.400	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 417500**
67.720-69.490	1750	64.250	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 417503**
69.690-71.560	1800	64.170	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 418000**
69.490-71.260	1800	65.790	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 418003**
69.880-71.850	1800	64.173	.260	.240	.410	.200	.800	.315±.060	VR3	V	**CR 418006***
71.650-73.620	1850	65.950	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 418500**
71.260-73.030	1850	67.480	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 418503**
73.620-75.590	1900	67.720	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 419000**
73.030-75.000	1900	69.020	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 419003**
75.590-77.560	1950	69.490	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 419500**
75.000-76.970	1950	70.630	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 419503**
77.560-79.530	2000	71.260	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 419990**
76.970-79.130	2000	72.600	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 419993**
79.530-83.460	2100	72.240	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 421000***
83.360-86.420	2150	78.660	1.180	1.280	2.560	.940	4.530	2.000±.520	VR4	R	**CR 421503***

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring. Purple dot on V-ring indicates LongLife material. Sizes under .748 (19 mm) are brown with no dot. * Check for availability and pricing.

V-ring seals – Inch sizes



Shaft diameter d_1 (range)	Reference metric shaft size	Inside diameter d	Height C	Dimension A	Free width B	max $d_2 = (d_1 +)$	min $d_3 = (d_1 +)$	Fitted width B_1	Design	Lip code	**SKF Designation**
in	mm	in	in	in	in	in	in	in			
86.419-89.209	2200	80.905	.827	2.657	3.937	.940	4.530	3.350±.500	VR5	R	**CR 472201***
97.358-99.543	2500	86.020	.590	.560	.980	.400	1.770	.790±.160	VR1	R	**CR 425000***
96.063-100.000	2500	89.520	1.180	1.280	2.560	.940	4.530	2.000±.500	VR4	R	**CR 425003***
126.260-129.670	3250	113.740	1.180	1.280	2.560	.940	4.530	2.00±.500	VR4	R	**CR 432503***
127.950-131.890	3300	115.390	1.180	1.280	2.560	.940	4.530	2.00±.500	VR4	R	**CR 433003***

Select the larger V-ring when the dimension d_1 is on the boundary between two sizes of V-ring. Purple dot on V-ring indicates LongLife material. Sizes under .748 (19 mm) are brown with no dot. * Check for availability and pricing.

MVR axial shaft seals

For added protection in extremely contaminated applications, in addition to our standard V-ring, SKF also offers the type MVR. The MVR seal also seals axially and functions by combining positive lip contact with centrifugal "slinging" action. However, the MVR seal is different in that the rubber element is stretch fitted into a metal shell. The metal shell is then press-fitted onto the shaft. This shell provides excellent protection from heavy debris and it automatically accommodates high rotating speeds without auxiliary clamping devices.

Advantages/User benefits:

- The metal shell serves as a support and deflector. The rubber body and lip are protected from damage and displacement by external debris (i.e. rocks, viscous media).
- In most cases, the shell also functions as a holder that keeps the rubber lip in position during high surface speeds. No additional axial retention is required. Contact SKF regarding radial retention limits.
- Due to its compact design, narrow installation widths are possible.
- Frictional heat build-up and torque drag are very low compared to contacting radial shaft seals. As rotary speed increases, the MVR seal lip lifts off the counter surface starting at about 2362 FPM (12 m/s) and drops to zero contact by 3937 FPM (20 m/s). Like the V-ring, the high rotary speed prevents contamination ingress while minimizing power loss.
- Service life is considerably higher than radial seals in contaminated environments and can extend to thousands of hours.

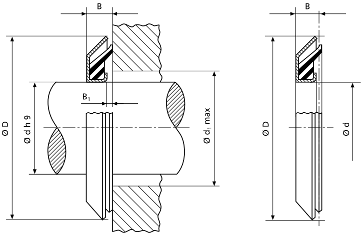
Construction

The MVR seal lip is made from an 80 durometer nitrile rubber with very good wear resistance. Other elastomers are possible in production lot orders. There are two versions of the metal shell, the MVR1 and the MVR2 with shell extension. Please refer to the illustrations below for details. The stock metal element is zinc plated cold-rolled carbon steel. Acid resistant steel similar to SAE 316 is available by special order.

Temperature range

Generally the same as NBR V-rings or –40 °C to 100 °C.

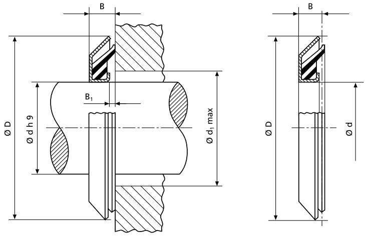
MVR1 – Metric sizes



Dimensions shaft diameter	outer case diameter	housing width	clearance	max. counter surface hole diameter	SKF Designation
10	24	3,5	1,0	15	CR MVR1-10
12	26	3,5	1,0	17	CR MVR1-12
15	30	4,0	1,0	21	CR MVR1-15
16	32	4,0	1,0	23	CR MVR1-16
17	32	4,0	1,0	23	CR MVR1-17
18	33	4,0	1,0	24	CR MVR1-18
20	35	4,0	1,0	26	CR MVR1-20
22	40	4,0	1,0	28	CR MVR1-22
24	40	4,0	1,0	30	CR MVR1-24
25	40	4,0	1,0	31	CR MVR1-25
26	40	4,0	1,0	32	CR MVR1-26
28	43	4,0	1,0	34	CR MVR1-28
30	47	4,5	1,0	37	CR MVR1-30
32	49	4,5	1,0	39	CR MVR1-32
35	52	4,5	1,0	42	CR MVR1-35
40	57	4,5	1,0	47	CR MVR1-40
45	62	4,5	1,0	52	CR MVR1-45
48	65	4,5	1,0	55	CR MVR1-48
50	70	5,5	1,0	58	CR MVR1-50
52	72	5,5	1,0	60	CR MVR1-52
53	73	5,5	1,0	61	CR MVR1-53
55	75	5,5	1,0	63	CR MVR1-55
58	78	5,5	1,0	66	CR MVR1-58
60	80	5,5	1,0	68	CR MVR1-60
62	82	5,5	1,0	70	CR MVR1-62
65	85	5,5	1,0	73	CR MVR1-65
68	88	5,5	1,0	76	CR MVR1-68
70	90	5,5	1,0	78	CR MVR1-70
72	92	5,5	1,0	80	CR MVR1-72
75	95	5,5	1,0	83	CR MVR1-75

Special designs are available and new sizes are added gradually.
At present sizes with outer diameters up to 250 mm are manufactured.

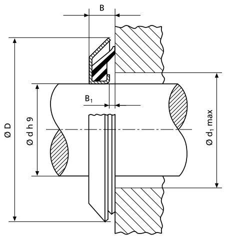
MVR1 – Metric sizes

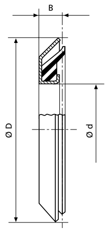


Dimensions shaft diameter	outer case diameter	housing width	clearance	max. counter surface hole diameter	SKF Designation
78	98	5,5	1,0	86	CR MVR1-78
80	100	5,5	1,0	88	CR MVR1-80
85	105	5,5	1,0	93	CR MVR1-85
90	110	5,5	1,0	98	CR MVR1-90
95	115	5,5	1,0	103	CR MVR1-95
100	120	5,5	1,0	108	CR MVR1-100
105	125	5,5	1,0	113	CR MVR1-105
125	148	6,5	1,0	133	CR MVR1-125
135	159	6,5	1,0	145	CR MVR1-135

Special designs are available and new sizes are added gradually.
At present sizes with outer diameters up to 250 mm are manufactured.

MVR2 – Metric sizes





Dimensions shaft diameter	 outer case diameter	 housing width	 clearance	 total seal case width	 case groove width	 max. seal counter-face hole	 case groove inside diameter	 case groove outside diameter	 metal case thickness	SKF Designation
15	32	4,0	1,0	6,0	3	21	29	34	0,5	CR MVR2-15
17	34	4,0	1,0	6,0	3	23	31	36	0,5	CR MVR2-17
20	37	4,0	1,0	6,0	3	26	34	39	0,5	CR MVR2-20
25	42	4,0	1,0	6,0	3	31	39	44	0,5	CR MVR2-25
30	48	4,5	1,0	6,5	3	37	45	50	0,5	CR MVR2-30
35	53	4,5	1,0	6,5	3	42	50	55	0,5	CR MVR2-35
40	58	4,5	1,0	6,5	3	47	55	60	0,5	CR MVR2-40
45	63	4,5	1,0	6,5	3	52	60	65	0,5	CR MVR2-45
50	72	5,5	1,0	7,5	3	58	68,5	74	0,75	CR MVR2-50
55	77	5,5	1,0	7,5	3	63	73,5	79	0,75	CR MVR2-55
60	82	5,5	1,0	7,5	3	68	78,5	84	0,75	CR MVR2-60
65	87	5,5	1,0	7,5	3	73	83,5	89	0,75	CR MVR2-65
70	92	5,5	1,0	7,5	3	78	88,5	94	0,75	CR MVR2-70
75	95	5,5	1,0	7,5	3	83	93,5	99	0,75	CR MVR2-75
80	102	5,5	1,0	7,5	3	88	98,5	104	0,75	CR MVR2-80
85	107	5,5	1,0	7,5	3	93	103,5	109	0,75	CR MVR2-85
90	112	5,5	1,0	7,5	3	98	108,5	114	0,75	CR MVR2-90
95	117	5,5	1,0	7,5	3	103	113,5	119	0,75	CR MVR2-95
100	122	5,5	1,0	7,5	3	108	118,5	124	0,75	CR MVR2-100

Special designs are available and new sizes are added gradually.
At present sizes with outer diameters up to 250 mm are manufactured.

Axial clamp seals

Contents

Axial clamp seals

The SKF axial clamp seals are designed for large and very large diameters and are eminently suitable as secondary seals for applications where otherwise the primary seals would be subjected to excessive quantities of particulate contaminants or water. The seals do not rotate but seal axially against a rotating counterface.

These SKF axial clamp seals are made of appropriately profiled strips of non-reinforced nitrile rubber which are held firmly in place by stainless steel screw-type clamps. They are available in the diameter range 150 to 4.600.

The standard range of axial clamp seals basically comprises seals intended for inch-diameter seatings. However, as normally the seals are mounted with an approximately 25 mm gap between the ends, they may be used for appropriate metric-size seatings. In case of doubt, please contact the SKF application engineering service.

SKF axial clamp seals are produced in three different designs:

CT1 design
Axial clamp seals of the CT1 design (**fig 96a**) have a flat face sealing lip and are held in position by a screw-type clamp. The maximum permissible axial displacement (operating interference) with respect to the counterface is +2,4 mm.

CT3 design
The seals of the CT3 design (**fig 96b**) differ from those of the CT1 design only in the form of the sealing lip. This is again flat but is provided with annular grooves. These serve to trap contaminants which may have started to penetrate the lip/counterface contact. The maximum operating interference for these seals is +4,8 mm.

CT4 design
Axial clamp seals of the CT4 design (**fig 96c**) are extra wide and have a double clamp. The maximum operating interference is + 4,8 mm. The sealing lip is flat as for the CT1 design.

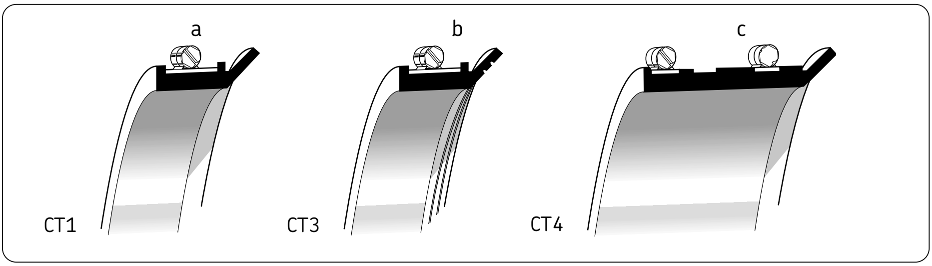


Fig 96

Design of sealing arrangement
To obtain reliable sealing, the diameter d_a and width C_a of the seal seating as well as the distance B_a should meet the requirements given in **Table 29**. It is also recommended that the seal should abut a shoulder. This eases alignment.

Finely turned counterfaces are adequate for axial clamp seals. The recommended surface roughnesses are R_a = 2,5 µm and R_t = 12 µm.

Normally, after mounting, the CT axial clamp seal will have an approximately 25 mm (1 inch) gap. This should be arranged at the 6 o'clock position (**fig 97**). This eases installation and also facilitates drainage of contaminants. Butt-joint seals (no gap) are also available for certain applications. These provide sealing around the whole periphery.

Mounting instructions
The axial clamp seals with clamps are supplied as rolled-up coils. The assembly is placed in position on its seating in the housing, e.g. a roll chock, and screwed together lightly. It is then pushed forward towards the counterface and the gap (or joint) between the two ends is arranged at the 6 o'clock position (**fig 97**). The clamps are then tightened. The torque applied to the clamp screws should not exceed approximately 7 Nm.

Assortment
The standard range of axial clamp seals basically comprises seals intended for inch-diameter seatings. However, as normally the seals are mounted with an approximately 25 mm gap between the ends, they may be used for appropriate metric size seatings. In case of doubt, please contact the application engineering service.

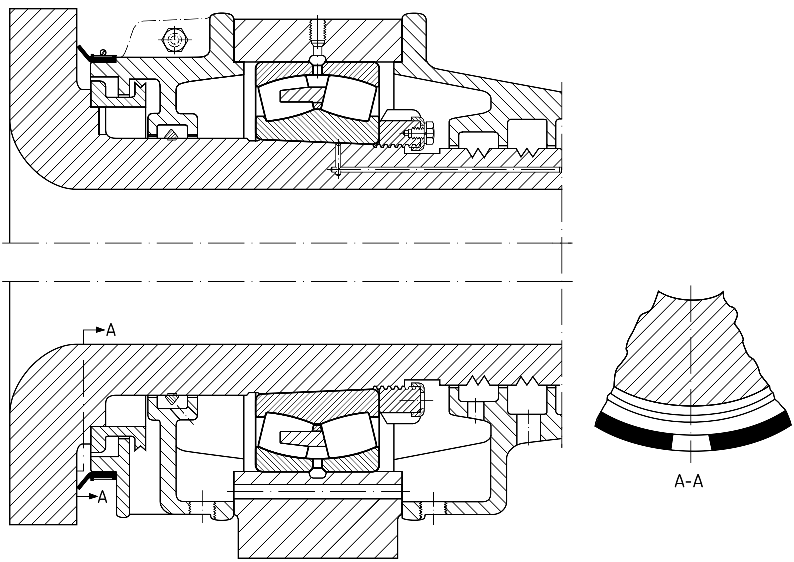
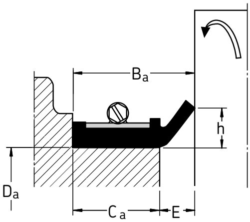


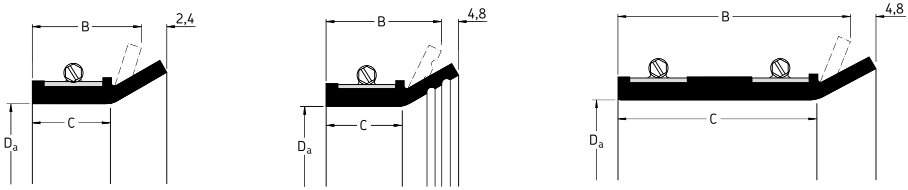
Fig 97

Table 29. Application tolerances



Dimension		Tolerance Axial clamp seal of design CT1	CT3	CT4
Seal seating diameter	D_a	D_a ± 1,6 mm	D_a ± 1,6 mm	D_a ± 1,6 mm
Seal seating width	C_a	C ± 3,2 mm	C ± 3,2 mm	C ± 3,2 mm
Distance	B_a	B ± 0,8 mm	B ± 0,8 mm	B ± 0,8 mm
Distance	E	11,1 ± 3,2 mm	4,8 ± 3,2 mm	11,1 ± 3,2 mm
Seal lip height above "D_a"	h	12,7 ± 0,8 mm	15,1 ± 1,6 mm	12,7 ± 0,8 mm

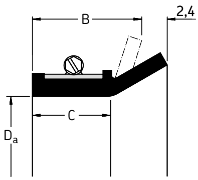
Axial clamp seals – Metric sizes

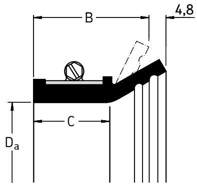


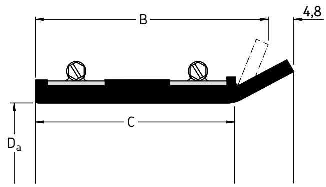
Seating diameter Da	Seal dimensions B	C	**SKF Designation**	Design
mm	mm		–	–
168	28,6	17,5	CR 594334	CT1
168,3	28,6	17,5	CR 529489	CT1
178	38,1	27	CR 523586	CT1
180	22,2	17,5	CR 595109	CT3
185	30	18,9	CR 593637	CT1
203,2	22,2	17,5	CR 528745	CT3
203,2	22,2	17,5	CR 528035	CT3
209,6	28,6	17,5	CR 527820	CT1
215,9	25,4	20,7	CR 594343	CT3
219	28,6	17,5	CR 529490	CT1
225,4	22,2	17,5	CR 524375	CT3
225,4	22,2	17,5	CR 530096	CT3
227	28,6	17,5	CR 531635	CT1
228,6	28,6	17,5	CR 524204	CT1
228,6	28,6	17,5	CR 527819	CT1
229	29	17,9	CR 528631	CT1
240	28,6	17,5	CR 594780	CT3
254	25,4	20,7	CR 528780	CT3
254	28,6	17,5	CR 524205	CT1
254	28,6	17,5	CR 527806	CT1
259	22,2	17,5	CR 524434	CT3
273	28,6	17,5	CR 594369	CT1
280	28,6	17,5	CR 524206	CT1
280	31,8	20,7	CR 524928	CT1
298,4	28,6	17,5	CR 593629	CT1
300	24	19,3	CR 594814	CT3
304	22,2	17,5	CR 528036	CT3
305	22,2	17,5	CR 524380	CT3
305	31,8	20,7	CR 524208	CT1
305	38,1	27	CR 525582	CT1
330	28,6	17,5	CR 524209	CT1
330	38,1	27	CR 523587	CT1
333	22,2	17,5	CR 524381	CT3
345	22,2	17,5	CR 525029	CT3
350,8	38,1	27	CR 594110	CT1
355,6	38,1	27	CR 530733	CT1
355,6	34,9	23,8	CR 593037	CT1
380	38,1	27	CR 593171	CT1
381	28,6	17,5	CR 594025	CT1
387	28,6	17,5	CR 594954	CT1
389	22,2	17,5	CR 524382	CT3
389	22,2	17,5	CR 593526	CT3
389	23,8	19	CR 524383	CT3
390	25,4	20,7	CR 594190	CT3
394	22,2	17,5	CR 594432	CT3
406	22,2	17,5	CR 529760	CT3
410	23,8	12,7	CR 595110	CT1
413	88,9	77,8	CR 592934	CT4
414	22,2	17,5	CR 524386	CT3
425	31,8	20,7	CR 523826	CT1
425	33,4	22,3	CR 524815	CT1
427	25,4	20,7	CR 594681	CT3
432	25,4	20,7	CR 524360	CT3
432	38,1	27	CR 528535	CT1
440	22,2	17,5	CR 524388	CT3
444,5	34,9	23,8	CR 525737	CT1
445	31,8	20,7	CR 522679	CT1
445	34,9	23,8	CR 523547	CT1
449,3	23,8	19	CR 524389	CT3
449,3	95,3	84,2	CR 528070	CT4
470	28,6	17,5	CR 525708	CT1
470	31,8	20,7	CR 526192	CT1
495	28,6	17,5	CR 594181	CT1
508	31,8	20,7	CR 524587	CT1
516	23,8	19,1	CR 525030	CT3
520	25,4	20,7	CR 530468	CT3
530	22,2	17,5	CR 528536	CT3
533	32	20,9	CR 594241	CT1
546	25,4	20,7	CR 524362	CT3
546	31,8	20,7	CR 524599	CT1
546	95,3	84,2	CR 526741	CT4
554	31,8	20,7	CR 524210	CT1
557	28,6	17,5	CR 524211	CT1
559	25,4	20,7	CR 524363	CT3
559	31,8	20,7	CR 524347	CT1
571,5	31,8	20,7	CR 524212	CT1

* Butt-joint seal; when installed there is no gap between

Axial clamp seals – Metric sizes



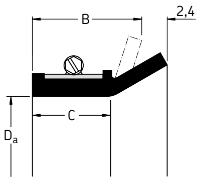


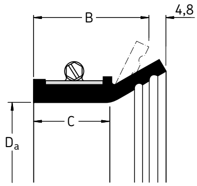


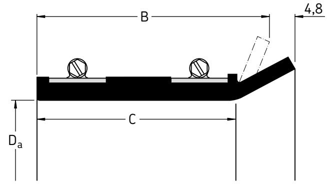
Seating diameter Da	Seal dimensions B	C	**SKF Designation**	Design
mm	mm		–	–
578	34,9	23,8	CR 524657	CT1
594	34,9	23,8	CR 525627	CT1
595	28,6	17,5	CR 525031	CT1
597	34,9	23,8	CR 524364	CT1
600	30	18,9	CR 594431	CT1
603	31,8	20,7	CR 524365	CT1
603	34,9	23,8	CR 523184	CT1
603	46	34,9	CR 528651	CT4
603,3	25,4	20,7	CR 530589	CT3
603,3	34,9	23,8	CR 525637	CT1
603,3	46	34,9	CR 528267	CT4
609,6	25,4	20,7	CR 594059	CT3
616	25,4	20,7	CR 526277	CT3
616	47,6	36,5	CR 529276	CT4
629	31,8	20,7	CR 524213	CT1
638	34,9	23,8	CR 524214	CT1
655	40	28,9	CR 594784	CT4
660	34,9	23,8	CR 524591	CT1
683	25,4	20,7	CR 529823	CT3
684	28,6	17,5	CR 524215	CT1
684	73	61,9	CR 593604	CT4
686	25,4	20,7	CR 528926	CT3
692	34,9	23,8	CR 524592	CT1
705	34,9	23,8	CR 524216	CT1
705	60,3	49,2	CR 528268	CT4
711	25,4	20,7	CR 524366	CT3
711	31,8	20,7	CR 527232	CT1
716	22,2	17,5	CR 531719	CT3
732	28,6	17,5	CR 525032	CT1
737	22,2	17,5	CR 594856	CT3
737	38,1	27	CR 524940	CT1
737	44,5	33,4	CR 528269	CT4
746	38,1	27	CR 524853	CT1
746	39,7	28,6	CR 528270	CT4
755	34,9	23,8	CR 524217	CT1
755	38,1	27	CR 524218	CT1
755,7	38,1	27	CR 524973	CT1
764	28,6	17,5	CR 525033	CT1
787	31,8	20,7	CR 525212	CT1
800	31,8	20,7	CR 528210	CT1
806	22,2	17,5	CR 526244	CT3
806	31,8	20,7	CR 526715	CT1
818	31,8	20,7	CR 525034	CT1
819,2	31,8	20,7	CR 524294	CT1
822,3	31,8	20,7	CR 593949	CT1
825	28,6	17,5	CR 594785	CT1
825	31,8	20,7	CR 524367	CT1
825,5	17,4	12,7	CR 594799	CT3
840	31,8	20,7	CR 526867	CT1
856	31,8	20,7	CR 524219	CT1
876	38,1	27	CR 523063	CT1
889	31,8	20,7	CR 524220	CT1
892	22,2	17,5	CR 531069	CT3
900	31,8	20,7	CR 524221	CT1
902	38,1	27	CR 524222	CT1
914	28,6	17,5	CR 528416	CT1
914	30,2	19,1	CR 524223	CT1
914	38,1	27	CR 524224	CT1
914,4	28,6	17,5	CR 593606	CT1
914,4	31,8	20,7	CR 530466	CT1
929	28,6	17,5	CR 593285	CT1
929	75,2	64,1	CR 594202	CT4
937	34,9	23,8	CR 523154	CT1
940	25,4	20,7	CR 526245	CT3
949	31,8	20,7	CR 526246	CT1
940	38,1	27	CR 525320	CT1
943	31,8	20,7	CR 524768	CT1
946	31,8	20,7	CR 524368	CT1
952	31,8	20,7	CR 526582	CT1
962	31,8	20,7	CR 524225	CT1
965	31,8	20,7	CR 524226	CT1
1003	28,6	17,5	CR 529452	CT1
1003	31,8	20,7	CR 526806	CT1
1013	34,9	23,8	CR 523584	CT1
1013	36,5	25,4	CR 529379	CT1
1016	36,5	25,4	CR 525035	CT1

* Butt-joint seal; when installed there is no gap between

Axial clamp seals – Metric sizes





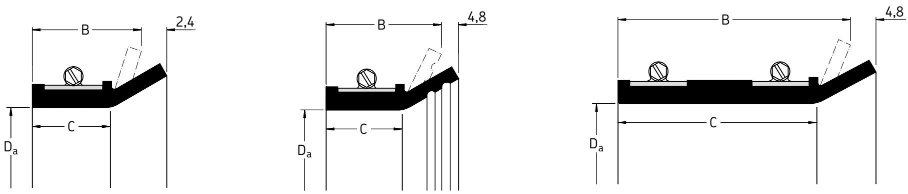


Seating diameter Da	Seal dimensions B	C	**SKF Designation**	Design
mm	mm		–	–
1016	38,1	27	CR 527903	CT1
1018	54,8	43,7	CR 530396	CT4
1022	31,8	20,7	CR 525426	CT1
1029	38,1	27	CR 528532	CT1
1038	38,1	27	CR 525633	CT1
1041	38,1	27	CR 524227	CT1
1045	38,1	27	CR 525036	CT1
1047,8	22,2	17,5	CR 594395	CT3
1051	33,4	22,3	CR 530448	CT1
1054	31,8	20,7	CR 527474	CT1
1054	38,1	27	CR 524228	CT1
1064	41,3	30,2	CR 528272	CT4
1066	63,5	52,4	CR 528271	CT4
1066,9	38,1	27	CR 594494	CT4
1080	28,6	17,5	CR 523133	CT1
1081,1	25,4	20,7	CR 593564	CT3
1101,7	31,8	20,7	CR 524909	CT1
1105	38,1	27	CR 524369	CT1
1118	31,8	20,7	CR 524370	CT1
1118	34,9	23,8	CR 528415	CT1
1118	38,1	27	CR 524229	CT1
1118	38,1	27	CR 593180	CT1
1118	44,5	33,4	CR 528002	CT4
1118	44,5	33,4	CR 528273	CT4
1140	38,1	27	CR 522676	CT1
1181	31,8	20,7	CR 529086	CT1
1193,8	38,1	27	CR 527211	CT1
1206	31,8	27	CR 525091	CT1
1206	34,9	23,8	CR 526021	CT1
1206	38,1	27	CR 524230	CT1
1206,5	30,2	19,1	CR 530606	CT1
1210	38,1	27	CR 522677	CT1
1220	25,4	20,7	CR 530441	CT3
1225	38,1	27	CR 524231	CT1
1241	38,1	27	CR 524371	CT1
1245	31,8	20,7	CR 522828	CT1
1270	25,4	20,7	CR 593525	CT3
1270	34,9	23,8	CR 529129	CT1

Seating diameter Da	Seal dimensions B	C	**SKF Designation**	Design
mm	mm		–	–
1286	31,8	20,7	CR 525953	CT1
1302	34,9	23,8	CR 529130	CT1
1308	31,8	20,7	CR 524372	CT1
1308	34,9	23,8	CR 530661	CT1
1308	38,1	27	CR 524232	CT1
1321	38,1	27	CR 528927	CT1
1346	25,4	20,7	CR 594396	CT3
1346	31,8	20,7	CR 528526	CT1
1397	31,8	20,7	CR 526807	CT1
1448	31,8	20,7	CR 528525	CT1
1497,6	41,3	30,2	CR 594163	CT4
1613	31,8	20,7	CR 526808	CT1
1721	31,8	20,7	CR 528975	CT1
1778	31,8	20,7	CR 526809	CT1
1803	31,8	20,7	CR 524373	CT1
1854	38,1	27	CR 531456	CT1
1924	31,8	20,7	CR 525092	CT1
1968	31,8	20,7	CR 529517	CT1
2540	38,1	27	CR 522856	CT1
2616	31,8	20,7	CR 594083	CT1
4142	31,8	20,7	CR 594682	CT1

* Butt-joint seal; when installed there is no gap between

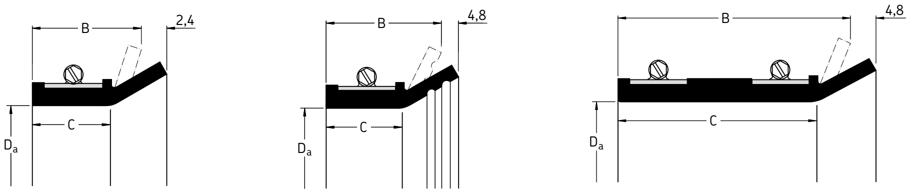
Axial clamp seals – Inch sizes



Seating diameter Da	Seal dimensions B	C	SKF Designation	Design	Seating diameter Da	Seal dimensions B	C	SKF Designation	Design
mm	mm		–	–	mm	mm		–	–
6,6142	1,126	0,689	CR 594334	CT1	15	1,126	0,689	CR 594025	CT1
6,626	1,126	0,689	CR 529489	CT1	15,2362	1,126	0,689	CR 594954	CT1
7,0079	1,5	1,063	CR 523586	CT1	15,315	0,874	0,689	CR 524382	CT3
7,0866	0,874	0,689	CR 595109	CT3	15,315	0,874	0,689	CR 593526	CT3
7,2835	1,1811	0,7441	CR 593637	CT1	15,315	0,937	0,748	CR 524383	CT3
8	0,874	0,689	CR 528745	CT3	15,3543	1	0,815	CR 594190	CT3
8	0,874	0,689	CR 528035	CT3	15,5118	0,874	0,689	CR 594432	CT3
8,252	1,126	0,689	CR 527820	CT1	15,9843	0,874	0,689	CR 529760	CT3
8,5	1	0,815	CR 594343	CT3	16,1417	0,937	0,5	CR 595110	CT1
8,622	1,126	0,689	CR 529490	CT1	16,2598	3,5	3,063	CR 592934	CT4
8,874	0,874	0,689	CR 524375	CT3	16,2992	0,874	0,689	CR 524386	CT3
8,874	0,874	0,689	CR 530096	CT3	16,7323	1,252	0,815	CR 523826	CT1
8,937	1,126	0,689	CR 531635	CT1	16,7323	1,315	0,878	CR 524815	CT1
9	1,126	0,689	CR 524204	CT1	16,811	1	0,815	CR 594681	CT3
9	1,126	0,689	CR 527819	CT1	17,0079	1	0,815	CR 524360	CT3
9,0157	1,1417	0,7047	CR 528631	CT1	17,0079	1,5	1,063	CR 528535	CT1
9,4488	1,126	0,689	CR 594780	CT3	17,3228	0,874	0,689	CR 524388	CT3
10	1	0,815	CR 528780	CT3	17,5	1,374	0,937	CR 525737	CT1
10	1,126	0,689	CR 524205	CT1	17,5197	1,252	0,815	CR 522679	CT1
10	1,126	0,689	CR 527806	CT1	17,5197	1,374	0,937	CR 523547	CT1
10,1969	0,874	0,689	CR 524434	CT3	17,689	0,937	0,748	CR 524389	CT3
10,748	1,126	0,689	CR 594369	CT1	17,689	3,752	3,315	CR 528070	CT4
11,0236	1,126	0,689	CR 524206	CT1	18,5039	1,126	0,689	CR 525708	CT1
11,0236	1,252	0,815	CR 524928	CT1	18,5039	1,252	0,815	CR 526192	CT1
11,748	1,126	0,689	CR 593629	CT1	19,4882	1,126	0,689	CR 594181	CT1
11,811	0,9449	0,7598	CR 594814	CT3	20	1,252	0,815	CR 524587	CT1
11,9685	0,874	0,689	CR 528036	CT3	20,315	0,937	0,752	CR 525030	CT3
12,0079	0,874	0,689	CR 524380	CT3	20,4724	1	0,815	CR 530468	CT3
12,0079	1,252	0,815	CR 524208	CT1	20,8661	0,874	0,689	CR 528536	CT3
12,0079	1,5	1,063	CR 525582	CT1	20,9843	1,2598	0,8228	CR 594241	CT1
12,9921	1,126	0,689	CR 524209	CT1	21,4961	1	0,815	CR 524362	CT3
12,9921	1,5	1,063	CR 523587	CT1	21,4961	1,252	0,815	CR 524599	CT1
13,1102	0,874	0,689	CR 524381	CT3	21,4961	3,752	3,315	CR 526741	CT4
13,5827	0,874	0,689	CR 525029	CT3	21,811	1,252	0,815	CR 524210	CT1
13,811	1,5	1,063	CR 594110	CT1	21,9291	1,126	0,689	CR 524211	CT1
14	1,5	1,063	CR 530733	CT1	22,0079	1	0,815	CR 524363	CT3
14	1,374	0,937	CR 593037	CT1	22,0079	1,252	0,815	CR 524347	CT1
14,9606	1,5	1,063	CR 593171	CT1	22,5	1,252	0,815	CR 524212	CT1

* Butt-joint seal; when installed there is no gap between

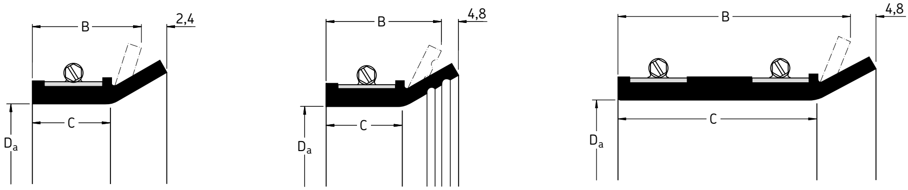
Axial clamp seals – Inch sizes



Seating diameter Da	Seal dimensions B	C	**SKF Designation**	Design
mm	mm		–	–
22,7559	1,374	0,937	CR 524657	CT1
23,3858	1,374	0,937	CR 525627	CT1
23,4252	1,126	0,689	CR 525031	CT1
23,5039	1,374	0,937	CR 524364	CT1
23,622	1,1811	0,7441	CR 594431	CT1
23,7402	1,252	0,815	CR 524365	CT1
23,7402	1,374	0,937	CR 523184	CT1
23,7402	1,811	1,374	CR 528651	CT4
23,752	1	0,815	CR 530589	CT3
23,752	1,374	0,937	CR 525637	CT1
23,752	1,811	1,374	CR 528267	CT4
24	1	0,815	CR 594059	CT3
24,252	1	0,815	CR 526277	CT3
24,252	1,874	1,437	CR 529276	CT4
24,7638	1,252	0,815	CR 524213	CT1
25,1181	1,374	0,937	CR 524214	CT1
25,7874	1,5748	1,1378	CR 594784	CT4
25,9843	1,374	0,937	CR 524591	CT1
26,8898	1	0,815	CR 529823	CT3
26,9291	1,126	0,689	CR 524215	CT1
26,9291	2,874	2,437	CR 593604	CT4
27,0079	1	0,815	CR 528926	CT3
27,2441	1,374	0,937	CR 524592	CT1
27,7559	1,374	0,937	CR 524216	CT1
27,7559	2,374	1,937	CR 528268	CT4
27,9921	1	0,815	CR 524366	CT3
27,9921	1,252	0,815	CR 527232	CT1
28,189	0,874	0,689	CR 531719	CT3
28,8189	1,126	0,689	CR 525032	CT1
29,0157	0,874	0,689	CR 594856	CT3
29,0157	1,5	1,063	CR 524940	CT1
29,0157	1,752	1,315	CR 528269	CT4
29,3701	1,5	1,063	CR 524853	CT1
29,3701	1,563	1,126	CR 528270	CT4
29,7244	1,374	0,937	CR 524217	CT1
29,7244	1,5	1,063	CR 524218	CT1
29,752	1,5	1,063	CR 524973	CT1
30,0787	1,126	0,689	CR 525033	CT1
30,9843	1,252	0,815	CR 525212	CT1
31,4961	1,252	0,815	CR 528210	CT1
31,7323	0,874	0,689	CR 526244	CT3
31,7323	1,252	0,815	CR 526715	CT1
32,2047	1,252	0,815	CR 525034	CT1
32,252	1,252	0,815	CR 524294	CT1
32,374	1,252	0,815	CR 593949	CT1
32,4803	1,126	0,689	CR 594785	CT1
32,4803	1,252	0,815	CR 524367	CT1
32,5	0,685	0,5	CR 594799	CT3
33,0709	1,252	0,815	CR 526867	CT1
33,7008	1,252	0,815	CR 524219	CT1
34,4882	1,5	1,063	CR 523063	CT1
35	1,252	0,815	CR 524220	CT1
35,1181	0,874	0,689	CR 531069	CT3
35,4331	1,252	0,815	CR 524221	CT1
35,5118	1,5	1,063	CR 524222	CT1
35,9843	1,126	0,689	CR 528416	CT1
35,9843	1,189	0,752	CR 524223	CT1
35,9843	1,5	1,063	CR 524224	CT1
36	1,126	0,689	CR 593606	CT1
36	1,252	0,815	CR 530466	CT1
36,5748	1,126	0,689	CR 593285	CT1
36,5748	2,9606	2,5236	CR 594202	CT4
36,8898	1,374	0,937	CR 523154	CT1
37,0079	1	0,815	CR 526245	CT3
37,0079	1,252	0,815	CR 526246	CT1
37,0079	1,5	1,063	CR 525320	CT1
37,126	1,252	0,815	CR 524768	CT1
37,2441	1,252	0,815	CR 524368	CT1
37,4803	1,252	0,815	CR 526582	CT1
37,874	1,252	0,815	CR 524225	CT1
37,9921	1,252	0,815	CR 524226	CT1
39,4882	1,126	0,689	CR 529452	CT1
39,4882	1,252	0,815	CR 526806	CT1
39,8819	1,374	0,937	CR 523584	CT1
39,8819	1,437	1	CR 529379	CT1
40	1,437	1	CR 525035	CT1

* Butt-joint seal; when installed there is no gap between

Axial clamp seals – Inch sizes



Seating diameter Da	Seal dimensions B	C	SKF Designation	Design
mm	mm		–	–
40	1,5	1,063	CR 527903	CT1
40,0787	2,1575	1,7206	CR 530396	CT4
40,2362	1,252	0,815	CR 525426	CT1
40,5118	1,5	1,063	CR 528532	CT1
40,8661	1,5	1,063	CR 525633	CT1
40,9843	1,5	1,063	CR 524227	CT1
41,1417	1,5	1,063	CR 525036	CT1
41,252	0,874	0,689	CR 594395	CT3
41,378	1,315	0,878	CR 530448	CT1
41,4961	1,252	0,815	CR 527474	CT1
41,4961	1,5	1,063	CR 524228	CT1
41,8898	1,626	1,189	CR 528272	CT4
41,9685	2,5	2,063	CR 528271	CT4
42,0039	1,5	1,063	CR 594494	CT4
42,5197	1,126	0,689	CR 523133	CT1
42,563	1	0,815	CR 593564	CT3
43,374	1,252	0,815	CR 524909	CT1
43,5039	1,5	1,063	CR 524369	CT1
44,0157	1,252	0,815	CR 524370	CT1
44,0157	1,374	0,937	CR 528415	CT1
44,0157	1,5	1,063	CR 524229	CT1
44,0157	1,5	1,063	CR 593180	CT1
44,0157	1,752	1,315	CR 528002	CT4
44,0157	1,752	1,315	CR 528273	CT4
44,8819	1,5	1,063	CR 522676	CT1
46,4961	1,252	0,815	CR 529086	CT1
47	1,5	1,063	CR 527211	CT1
47,4803	1,252	1,063	CR 525091	CT1
47,4803	1,374	0,937	CR 526021	CT1
47,4803	1,5	1,063	CR 524230	CT1
47,5	1,189	0,752	CR 530606	CT1
47,6378	1,5	1,063	CR 522677	CT1
48,0315	1	0,815	CR 530441	CT3
48,2283	1,5	1,063	CR 524231	CT1
48,8583	1,5	1,063	CR 524371	CT1
49,0157	1,252	0,815	CR 522828	CT1
50	1	0,815	CR 593525	CT3
50	1,374	0,937	CR 529129	CT1

Seating diameter Da	Seal dimensions B	C	SKF Designation	Design
mm	mm		–	–
50,6299	1,252	0,815	CR 525953	CT1
51,2598	1,374	0,937	CR 529130	CT1
51,4961	1,252	0,815	CR 524372	CT1
51,4961	1,374	0,937	CR 530661	CT1
51,4961	1,5	1,063	CR 524232	CT1
52,0079	1,5	1,063	CR 528927	CT1
52,9921	1	0,815	CR 594396	CT3
52,9921	1,252	0,815	CR 528526	CT1
55	1,252	0,815	CR 526807	CT1
57,0079	1,252	0,815	CR 528525	CT1
58,606	1,626	1,189	CR 594163	CT4
63,5039	1,252	0,815	CR 526808	CT1
67,7559	1,252	0,815	CR 528975	CT1
70	1,252	0,815	CR 526809	CT1
70,9843	1,252	0,815	CR 524373	CT1
72,9921	1,5	1,063	CR 531456	CT1
75,748	1,252	0,815	CR 525092	CT1
77,4803	1,252	0,815	CR 529517	CT1
100	1,5	1,063	CR 522856	CT1
102,9921	1,252	0,815	CR 594083	CT1
163,0709	1,252	0,815	CR 594082	CT1
163,0709	1,252	0,815	CR 594082	CT1

* Butt-joint seal; when installed there is no gap between

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