Shaft repair sleeves

WSH R

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WSH R

Standard stock range

Description

Product group	WSH Shaft repair sleeve
Design	R Repair
Material	stainless steel 1.4301 (AISI 304)
Mounting sleeve material	carbon steel 1.0330 (SAE 1008)

Operational application limits

The operational application limits such as temperature, circumferential speed and pressure are determined by the rotary shaft seal selected. As a rule, the WSH R covers the operating parameters for all standard rotary shaft seals.

Technical data

The sliding surface for the rotary shaft seal is an important machine element in the rotary seal system and must therefore meet a number of technical requirements in order to achieve a good sealing effect and a long service life.

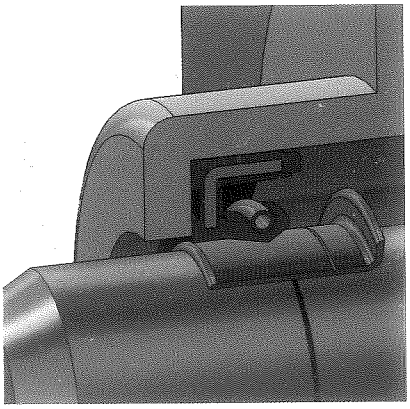
Surface finish/ roughness values	R_a = 0.2 bis 0.8 µm R_z = 1 bis 5 µm $R_{max} \leq$ 6.3 µm
Surface processing	Lead-free grinding
Surface hardness	HV 220 (95 HRB) wear-resistant processing
Wall thickness	0.28 mm thin-wall design

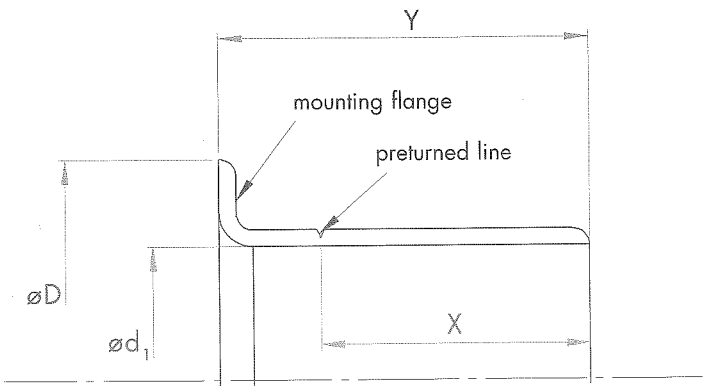
Application area

WSH R shaft repair sleeves are used to repair grooved or worn rotary shaft seal sliding surfaces, e.g. in drive technology. They offer a cost-effective alternative to replacement or the laborious reworking of the worn shaft as they are simply pulled over the worn sliding surface.

Deep grooves can result in the original rotary shaft seal dimension having to be replaced with a rotary shaft seal with a smaller inner diameter because the original diameter has been significantly reduced by the reworking of the shaft. This problem with the grooved shaft in the sliding surface area can be solved quickly and easily using the WSH R, without having to dismantle and rework the shaft or use a rotary shaft seal of a different size.

Naturally, WSH R can also be used as original equipment for machines, aggregates or plants to avoid the complex, costly and in some cases also difficult processing of the sliding surface on the shaft.





Function and benefits

Using the WSH R to repair the shaft ensures that complete functionality is restored quickly and lastingly.

The shaft repair sleeve is used as a counter-surface to the rotary shaft seal in the tribological rotation seal system, i.e. in addition to the rotary shaft seal and the lubricant used, the WSH R is the third important component.

WSH shaft repair sleeves offer the user the following benefits:

> Fast and simple repair; mounting sleeve included
> Cost-effective restoration of the sliding surface on the shaft, as dismantling and reworking of the shaft are not necessary
> No costly machine down time, as the repair time is reduced to a minimum.
> Low cost repair method
> The rotary shaft seal sliding surface is long-lasting restored to complete functionality
> Secure fit on the shaft due to press fit
> Optimally machined and wear-resistant surface guarantees long service life
> Retention of original seal dimensions
> Simplification of spare parts stockpiling

Installation

The installation of the WSH R is very simple and requires little time, as it can be performed using the mounting sleeve supplied and the detachable mounting flange. Nevertheless, the WSH R should be installed very carefully and without canting on to the shaft so that no damage occurs during installing and good sliding and sealing characteristics are achieved in combination with the rotary shaft seal.

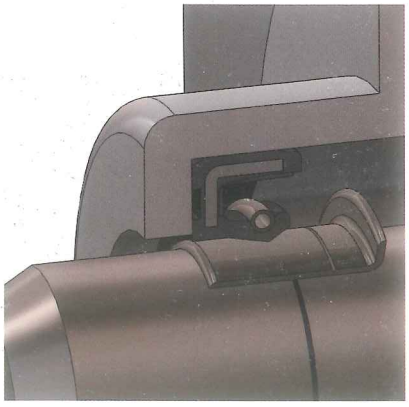
The next step is to clean the rotary shaft seal sliding surface on the shaft and check it for damage because, due to the thin wall thickness of the WSH R, unevenness on the shaft can be transferred to the WSH R surface and thereby have a negative influence on the sealing effect. Any burrs should be removed and grooves, nicks, score marks or significant unevenness should be smoothed out using a suitable epoxy filling compound. In this case, the WSH R must be attached before the filling compound has hardened. Shaft repair sleeves must not be placed over keyseats, depressions or thread runouts.

The WSH R shaft repair sleeve is placed over the worn sliding surface in accordance with the following installation instructions, thereby ensuring a fast, simple and cost-effective repair.

Worn shaft with groove

Shaft with attached WSH R

Rotary shaft seal is working on assembled WSH R



Installation instructions

1. Clean the surface of the worn shaft and remove any burrs.

2. Measure the shaft diameter at 2-3 different places near to the worn area and select the WSH R.

3. Lightly lubricate the shaft surface prior to installation (facilitates installation).

4. Place the WSH R, flange side first, on the shaft.

5. Slide the mounting sleeve over the WSH R. If the mounting sleeve is too short, a pipe can be used as a mounting sleeve.

6. The WSH R is pushed over the worn area by gently tapping the mounting sleeve with a hammer (or a suitable press tool).

7. To remove the mounting flange on the WSH R, cut in as far as the predetermined breaking point using side cutters and tear off the flange along the preturned line.

8. After installation check the shaft surface again for burrs.

9. Lubricate the WSH R before installing the seal.

10. Install the rotary shaft seal.

Disassembly

The WSH R shaft repair sleeves can be removed from the shaft in different ways, namely by

> heating – the thermally expanded WSH R can be removed easily from the shaft without damaging it

> gently tapping across the width of the sleeve with a hammer peen – the shaft repair sleeve stretches and can be removed with ease

> tearing off the shaft repair sleeve using side cutters, applied at the predetermined breaking point

> slitting the shaft repair sleeve using a chisel

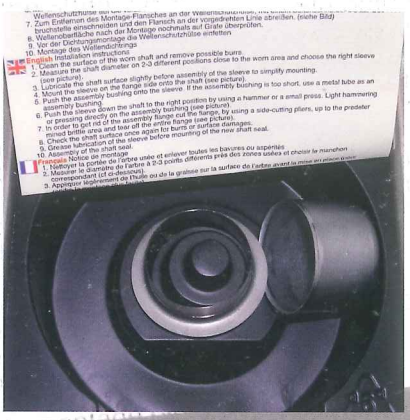
WSH R shaft repair sleeves cannot be reused.

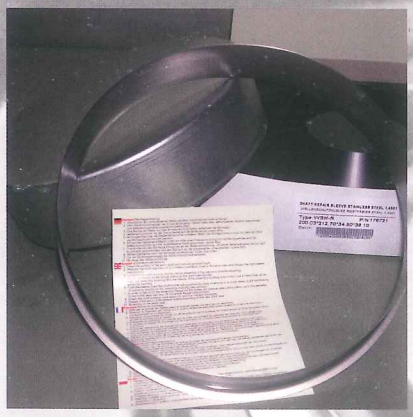
Remarks

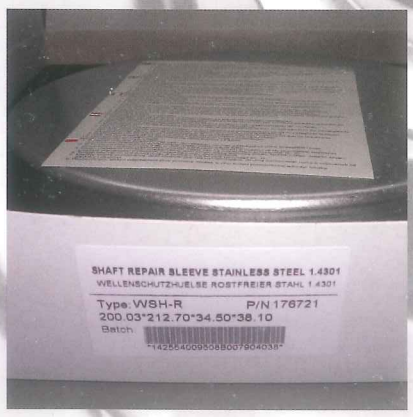
The shaft repair sleeves are packed individually for diameters ranging from 12 to 200 mm and supplied ex stock with the mounting sleeve and installation instructions in several languages. In principle, we can supply WSH R shaft repair sleeves up to a diameter of 370 mm, please contact as. Shaft repair sleeves with thicker walls and larger diameters are also available on request.

Any Seal. Any Time

All the articles in our standard range can be ordered directly from our warehouse and their availability checked at www.dichtomatik.de. Other dimensions can be manufactured.





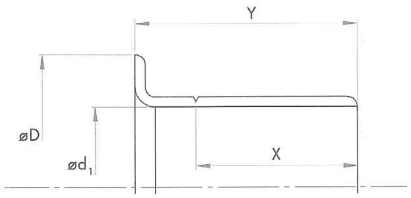


The technical details in this catalogue are based on experience and standart tests repeated in quality assurance and are to be seen as general and non-binding approximate values which may well vary up or down. We therefore recommend that you consult our technical department for concrete cases in which limits may be reached.

The catalogue details may be altered without notice. Upon the publication of a new catalogue, previous editions cease to be valid.

WSH R

Sizes metric



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117578	99111	28	34.9	9.5	12.7
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176709	99490	125	137.2	10	14
176710	99492	125	137.2	26	32
176712	99552	140	151	20.5	25.4
176713	99571	145	154.9	19.1	22.2
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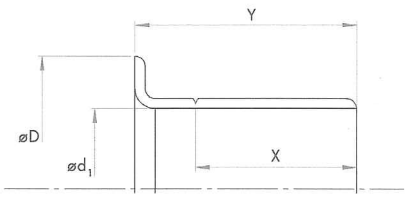
WSH R

Sizes imperial



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116813	99313	79.91	89.9	19.1	22.5
176695	99331	84.07	93.7	20.6	25.4
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121330	99333	84.89	94	21	25
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176706	99463	117.5	128.6	25.4	31.8
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176716	99675	171.45	181	20.6	27
176717	99700	177.8	189.9	25.4	31.8
176718	99721	180.01	190.5	33	38
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