

## HIS

### INNENFÜHRUNGSRING VON TYP HIS

#### Beschreibung

Die Führungsringe von Typ HIS wurden konzipiert, um das ganze Zylindersystem ausgerichtet zu halten, (d.h. Stange mit Kopf, Kolben mit Buchse).

Sie spielen eine wichtige Rolle, da sie der Stangendichtung, dem Abstreifer und der Kolbendichtung erlauben, ohne Fluchtungsfehler zu arbeiten und gleichzeitig den Kontakt unter den Metallteilen vermeiden. Das Material mit sehr geringem Reibungsfaktor erzeugt keine Belastungsverluste (Linearität).

Dank des Erweichungspunkts, der nahe beim Schmelzpunkt liegt, kann es Verformungen unter schweren Belastungen vertragen (es arbeitet auf einer Temperatur von 115°C). Um die Wahl der Kolben- o. Stangendichtung zu erleichtern, empfehlen wir diese Formel, um die Höhe der im System einzusetzenden Führung festzulegen.

#### Technische Daten

Geschwindigkeit: <0,8 m/s

Temperatur: von -40°C bis +115°C

Flüssigkeiten: Mineralöle und Flüssigkeiten  
(siehe Tabelle 3, Seite 14)

#### Material

Der angewendete Stoff ist glasfaserverstärktes Polyacetalharz.

Im Fall von Temperaturen, die 115°C überschreiten, wird verstärktes Polyamidharz angewendet.

StoffKode für Temp. <115° C: R0

StoffKode für Temp. >115° C: R1

#### Montage

Die Führung ist geschnitten und besitzt eine Bestelastizität, was die Montage erleichtert.

Die Seitenschrägen erleichtern die Stangeneinsetzung.

Anmerkung: Technischer Abschnitt für Führungen, Seite 158

### HIS TYPE INTERNAL WEAR RING

#### Description

*The HIS wear rings have been developed in order to keep all the parts of the cylinder aligned (the rod with the head and the piston with the bore).*

*They play an important role as they help the rod seal, the wiper and the piston seal working without any misalignments and, at the same time, they prevent any contact between the metal parts. The material, which has a very low friction factor, does not cause load losses (linearity).*

*It endures deformations under heavy loads, as the softening point is close to the fusion point (it works up to 115° C). For an easier choice of the piston or rod guide, we suggest the use of the formula at page 139 to find the wear ring length.*

#### Technical data

Speed: < 0,8 m/s

Temperature: from - 40° C to + 115° C

Fluids: mineral oils and fluids  
(see table 3, page 14)

#### Material

*The material is a polyacetal resin glass fiber reinforced. For working temperatures higher than 115° C, the material is a reinforced polyamide resin.*

*Compound reference for temp < 115° C: R0*

*Compound reference for temp > 115° C: R1*

#### Assembling

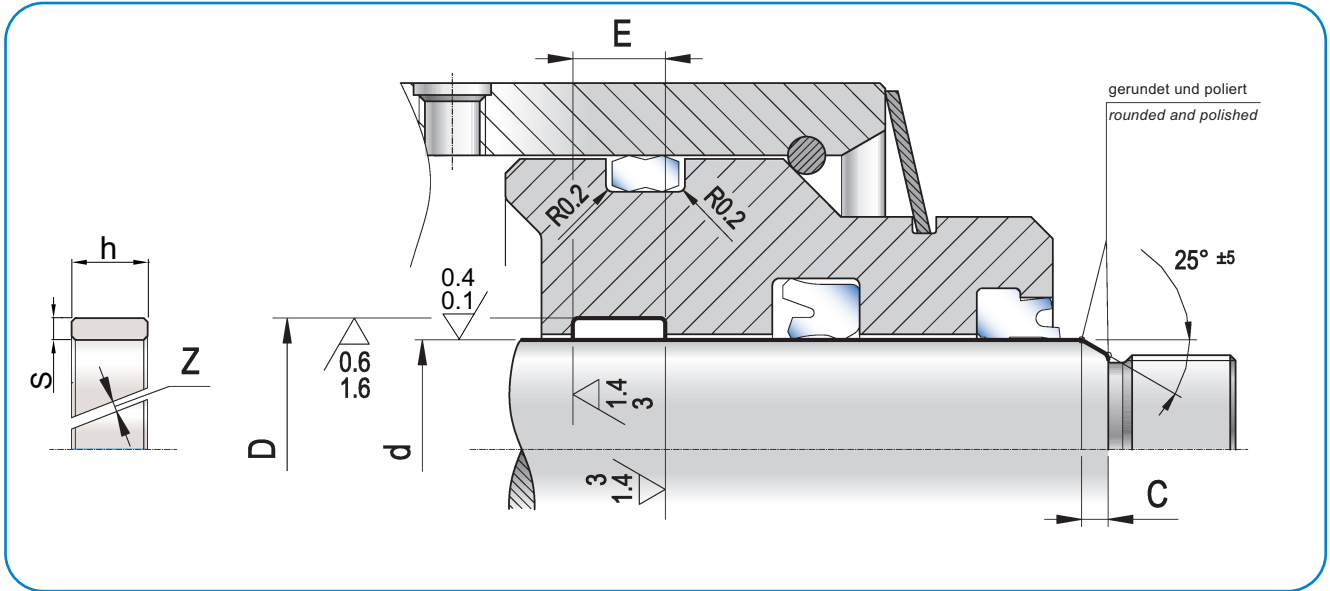
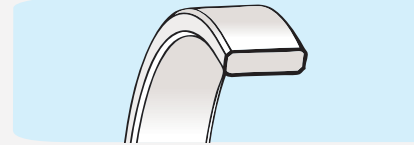
*The assembling can be easily done since the wear ring is cut and extremely elastic.*

*The chamfers on both sides have been studied to better insert the wear ring in the rod.*

*Note: wear rings technical section p.158*

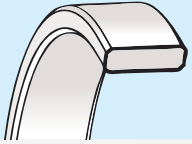


# HIS



$d_{h9}$	$D \begin{smallmatrix} -0 \\ +0,05 \end{smallmatrix}$	$E +0,2$	C	ARTIKEL/ ITEM
12,0	16,0	9,6	>3	HIS 0120 0160 096 R0
14,0	18,0	9,6	>3	HIS 0140 0180 096 R0
16,0	20,0	9,6	>3	HIS 0160 0200 096 R0
18,0	22,0	9,6	>3	HIS 0180 0220 096 R0
20,0	24,0	9,6	>3	HIS 0200 0240 096 R0
20,0	25,0	5,6	>3	HIS 0200 0250 056 R0
20,0	25,0	9,7	>3	HIS 0200 0250 097 R0
22,0	26,0	9,6	>3	HIS 0220 0260 096 R0
22,0	27,0	5,6	>3	HIS 0220 0270 056 R0
22,0	27,0	9,7	>3	HIS 0220 0270 097 R0
25,0	29,0	9,6	>3	HIS 0250 0290 096 R0
25,0	30,0	5,6	>3	HIS 0250 0300 056 R0
25,0	30,0	9,7	>3	HIS 0250 0300 097 R0
26,0	30,0	9,6	>3	HIS 0260 0300 096 R0
27,0	32,0	5,6	>3	HIS 0270 0320 056 R0
27,0	32,0	9,7	>3	HIS 0270 0320 097 R0
28,0	32,0	9,6	>3	HIS 0280 0320 096 R0
28,0	33,0	5,6	>3	HIS 0280 0330 056 R0
28,0	33,0	9,7	>3	HIS 0280 0330 097 R0
30,0	34,0	9,6	>3	HIS 0300 0340 096 R0
30,0	35,0	5,6	>3	HIS 0300 0350 056 R0
30,0	35,0	9,7	>3	HIS 0300 0350 097 R0
32,0	36,0	9,6	>3	HIS 0320 0360 096 R0
32,0	37,0	5,6	>3	HIS 0320 0370 056 R0

$d_{h9}$	$D \begin{smallmatrix} -0 \\ +0,05 \end{smallmatrix}$	$E +0,2$	C	ARTIKEL/ ITEM
32,0	37,0	9,7	>3	HIS 0320 0370 097 R0
35,0	39,0	9,6	>3	HIS 0350 0390 096 R0
35,0	40,0	5,6	>3	HIS 0350 0400 056 R0
35,0	40,0	9,7	>3	HIS 0350 0400 097 R0
36,0	40,0	9,6	>3	HIS 0360 0400 096 R0
36,0	41,0	5,6	>3	HIS 0360 0410 056 R0
36,0	41,0	9,7	>3	HIS 0360 0410 097 R0
38,0	42,0	9,6	>3	HIS 0380 0420 096 R0
40,0	44,0	9,6	>3	HIS 0400 0440 096 R0
40,0	45,0	5,6	>3	HIS 0400 0450 056 R0
40,0	45,0	9,7	>3	HIS 0400 0450 097 R0
40,0	45,0	15,0	>3	HIS 0400 0450 150 R0
42,0	46,0	9,6	>3	HIS 0420 0460 096 R0
42,0	48,0	9,6	>3	HIS 0420 0480 096 R0
43,0	48,0	5,6	>3	HIS 0430 0480 056 R0
45,0	50,0	5,6	>3	HIS 0450 0500 056 R0
45,0	50,0	9,7	>3	HIS 0450 0500 097 R0
45,0	50,0	15,0	>3	HIS 0450 0500 150 R0
45,0	51,0	9,6	>3	HIS 0450 0510 096 R0
46,0	52,0	9,6	>3	HIS 0460 0520 096 R0
47,0	52,0	5,6	>3	HIS 0470 0520 056 R0
47,0	52,0	9,7	>3	HIS 0470 0520 097 R0
48,0	54,0	9,6	>3	HIS 0480 0540 096 R0
50,0	55,0	5,6	>3	HIS 0500 0550 056 R0



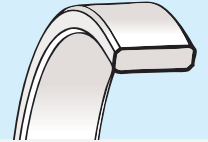
# HIS

d <sub>h9</sub>	D <sup>-0</sup> <sub>+0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
50,0	55,0	9,7	> 3	HIS 0500 0550 097 R0
50,0	55,0	15,0	> 3	HIS 0500 0550 150 R0
50,0	56,0	9,6	> 3	HIS 0500 0560 096 R0
52,0	57,0	9,7	> 3	HIS 0520 0570 097 R0
55,0	60,0	5,6	> 3	HIS 0550 0600 056 R0
55,0	60,0	9,7	> 3	HIS 0550 0600 097 R0
55,0	60,0	15,0	> 3	HIS 0550 0600 150 R0
55,0	61,0	9,6	> 3	HIS 0550 0610 096 R0
56,0	61,0	5,6	> 3	HIS 0560 0610 056 R0
56,0	61,0	9,7	> 3	HIS 0560 0610 097 R0
56,0	62,0	12,8	> 3	HIS 0560 0620 128 R0
58,0	63,0	5,6	> 3	HIS 0580 0630 056 R0
58,0	63,0	9,7	> 3	HIS 0580 0630 097 R0
60,0	65,0	5,6	> 3	HIS 0600 0650 056 R0
60,0	65,0	9,7	> 3	HIS 0600 0650 097 R0
60,0	65,0	15,0	> 3	HIS 0600 0650 150 R0
60,0	66,0	12,8	> 3	HIS 0600 0660 128 R0
63,0	68,0	5,6	> 3	HIS 0630 0680 056 R0
63,0	68,0	9,7	> 3	HIS 0630 0680 097 R0
63,0	69,0	12,8	> 3	HIS 0630 0690 128 R0
65,0	70,0	5,6	> 3	HIS 0650 0700 056 R0
65,0	70,0	9,7	> 3	HIS 0650 0700 097 R0
65,0	70,0	15,0	> 3	HIS 0650 0700 150 R0
65,0	71,0	12,8	> 3	HIS 0650 0710 128 R0
67,0	72,0	5,6	> 3	HIS 0670 0720 056 R0
70,0	75,0	5,6	> 3	HIS 0700 0750 056 R0
70,0	75,0	9,7	> 3	HIS 0700 0750 097 R0
70,0	75,0	15,0	> 3	HIS 0700 0750 150 R0
70,0	76,0	30,0	> 3	HIS 0700 0760 300 R0
70,0	76,0	12,8	> 3	HIS 0700 0760 128 R0
72,0	78,0	12,8	> 3	HIS 0720 0780 128 R0
75,0	80,0	5,6	> 4	HIS 0750 0800 056 R0
75,0	80,0	9,7	> 4	HIS 0750 0800 097 R0
75,0	80,0	15,0	> 4	HIS 0750 0800 150 R0
75,0	81,0	12,8	> 4	HIS 0750 0810 128 R0
76,0	82,0	12,8	> 4	HIS 0760 0820 128 R0
80,0	85,0	5,6	> 4	HIS 0800 0850 056 R0
80,0	85,0	9,7	> 4	HIS 0800 0850 097 R0
80,0	85,0	15,0	> 4	HIS 0800 0850 150 R0
80,0	86,0	12,8	> 4	HIS 0800 0860 128 R0
85,0	90,0	5,6	> 4	HIS 0850 0900 056 R0
85,0	90,0	9,7	> 4	HIS 0850 0900 097 R0
85,0	90,0	15,0	> 4	HIS 0850 0900 150 R0
85,0	91,0	12,8	> 4	HIS 0850 0910 128 R0
90,0	95,0	5,6	> 4	HIS 0900 0950 056 R0

d <sub>h9</sub>	D <sup>-0</sup> <sub>+0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
90,0	95,0	9,7	> 4	HIS 0900 0950 097 R0
90,0	95,0	15,0	> 4	HIS 0900 0950 150 R0
90,0	96,0	12,8	> 4	HIS 0900 0960 128 R0
92,0	97,0	5,6	> 4	HIS 0920 0970 056 R0
95,0	100,0	5,6	> 4	HIS 0950 1000 056 R0
95,0	100,0	9,7	> 4	HIS 0950 1000 097 R0
95,0	100,0	15,0	> 4	HIS 0950 1000 150 R0
95,0	100,0	20,0	> 4	HIS 0950 1000 200 R0
95,0	100,0	25,0	> 4	HIS 0950 1000 250 R0
95,0	101,0	12,8	> 4	HIS 0950 1010 128 R0
100,0	105,0	5,6	> 4	HIS 1000 1050 056 R0
100,0	105,0	9,7	> 4	HIS 1000 1050 097 R0
100,0	105,0	15,0	> 4	HIS 1000 1050 150 R0
100,0	105,0	20,0	> 4	HIS 1000 1050 200 R0
100,0	105,0	25,0	> 4	HIS 1000 1050 250 R0
100,0	106,0	12,8	> 4	HIS 1000 1060 128 R0
105,0	110,0	9,7	> 4	HIS 1050 1100 097 R0
105,0	110,0	15,0	> 4	HIS 1050 1100 150 R0
105,0	110,0	20,0	> 4	HIS 1050 1100 200 R0
105,0	110,0	25,0	> 4	HIS 1050 1100 250 R0
105,0	111,0	12,8	> 4	HIS 1050 1110 128 R0
110,0	115,0	9,7	> 4	HIS 1100 1150 097 R0
110,0	115,0	15,0	> 4	HIS 1100 1150 150 R0
110,0	115,0	20,0	> 4	HIS 1100 1150 200 R0
110,0	115,0	25,0	> 4	HIS 1100 1150 250 R0
110,0	116,0	12,8	> 4	HIS 1100 1160 128 R0
115,0	120,0	9,7	> 4	HIS 1150 1200 097 R0
115,0	120,0	15,0	> 4	HIS 1150 1200 150 R0
115,0	120,0	20,0	> 4	HIS 1150 1200 200 R0
115,0	120,0	25,0	> 4	HIS 1150 1200 250 R0
115,0	121,0	12,8	> 4	HIS 1150 1210 128 R0
120,0	125,0	9,7	> 4	HIS 1200 1250 097 R0
120,0	125,0	15,0	> 4	HIS 1200 1250 150 R0
120,0	125,0	20,0	> 4	HIS 1200 1250 200 R0
120,0	125,0	25,0	> 4	HIS 1200 1250 250 R0
120,0	126,0	12,8	> 4	HIS 1200 1260 128 R0
125,0	130,0	9,7	> 4	HIS 1250 1300 097 R0
125,0	130,0	15,0	> 4	HIS 1250 1300 150 R0
125,0	130,0	20,0	> 4	HIS 1250 1300 200 R0
125,0	130,0	25,0	> 4	HIS 1250 1300 250 R0
125,0	131,0	12,8	> 4	HIS 1250 1310 128 R0
130,0	135,0	15,0	> 4	HIS 1300 1350 150 R0
130,0	135,0	20,0	> 4	HIS 1300 1350 200 R0
130,0	135,0	25,0	> 4	HIS 1300 1350 250 R0
130,0	136,0	12,8	> 4	HIS 1300 1360 128 R0

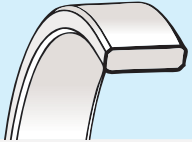


# HIS



d <sub>h9</sub>	D <sub>-0 +0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
135,0	140,0	15,0	> 4	HIS 1350 1400 150 R0
135,0	140,0	20,0	> 4	HIS 1350 1400 200 R0
135,0	140,0	25,0	> 4	HIS 1350 1400 250 R0
135,0	141,0	12,8	> 4	HIS 1350 1410 128 R0
140,0	145,0	15,0	> 4	HIS 1400 1450 150 R0
140,0	145,0	20,0	> 4	HIS 1400 1450 200 R0
140,0	145,0	25,0	> 4	HIS 1400 1450 250 R0
140,0	146,0	12,8	> 4	HIS 1400 1460 128 R0
145,0	150,0	9,7	> 4	HIS 1450 1500 097 R0
145,0	150,0	15,0	> 4	HIS 1450 1500 150 R0
145,0	150,0	20,0	> 4	HIS 1450 1500 200 R0
145,0	150,0	25,0	> 4	HIS 1450 1500 250 R0
145,0	151,0	12,8	> 4	HIS 1450 1510 128 R0
150,0	155,0	15,0	> 4	HIS 1500 1550 150 R0
150,0	156,0	12,8	> 4	HIS 1500 1560 128 R0
155,0	161,0	19,2	> 4	HIS 1550 1610 192 R0
160,0	166,0	19,2	> 5	HIS 1600 1660 192 R0
165,0	171,0	19,2	> 5	HIS 1650 1710 192 R0

d <sub>h9</sub>	D <sub>-0 +0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
170,0	176,0	19,2	> 5	HIS 1700 1760 192 R0
175,0	181,0	19,2	> 5	HIS 1750 1810 192 R0
180,0	186,0	19,2	> 5	HIS 1800 1860 192 R0
185,0	191,0	19,2	> 5	HIS 1850 1910 192 R0
190,0	196,0	19,2	> 5	HIS 1900 1960 192 R0
195,0	201,0	19,2	> 5	HIS 1950 2100 192 R0
200,0	206,0	19,2	> 5	HIS 2000 2060 192 R0
205,0	211,0	19,2	> 5	HIS 2050 2110 192 R0
210,0	216,0	19,2	> 5	HIS 2100 2160 192 R0
215,0	221,0	19,2	> 5	HIS 2150 2210 192 R0
220,0	226,0	19,2	> 5	HIS 2200 2260 192 R0
225,0	231,0	19,2	> 5	HIS 2250 2310 192 R0
230,0	236,0	19,2	> 5	HIS 2300 2360 192 R0
235,0	241,0	19,2	> 5	HIS 2350 2410 192 R0
240,0	246,0	19,2	> 5	HIS 2400 2460 192 R0
245,0	251,0	19,2	> 5	HIS 2450 2510 192 R0



## HES

### ÄUSSERER FÜHRUNGSRING VOM TYP HES

#### Beschreibung

Die Führungsringe vom Typ HES wurden konzipiert, um das ganze Zylindersystem ausgerichtet zu halten, (d.h. Stange mit Kopf, Kolben mit Buchse).

Sie spielen eine wichtige Rolle, da sie der Stangendichtung, dem Abstreifer und der Kolbendichtung erlauben, ohne Fluchtungsfehler zu arbeiten und gleichzeitig den Kontakt unter den Metallteilen vermeiden. Das Material mit sehr geringem Reibungsfaktor erzeugt keine Belastungsverluste (Linearität). Dank des Erweichungspunkts, der nahe am Schmelzpunkt liegt, kann es Verformungen unter schweren Belastungen vertragen (es arbeitet auf einer Temperatur von 115°C). Um die Wahl der Kolben- o. Stangendichtung zu erleichtern, empfehlen wir diese Formel, um die Höhe der im System einzusetzenden Führung festzustellen

#### Technische Daten

Geschwindigkeit:	<0,8 m/s
Temperatur:	von - 40° C bis + 115° C
Flüssigkeiten:	Mineralöle und Flüssigkeiten

#### Material

Der angewendete Stoff ist glasfaserverstärktes Polyacetalharz.  
Im Fall von Temperaturen, die 115°C überschreiten, wird verstärktes Polyamidharz angewendet.  
Stoffkode für Temp. <115° C: RO  
Stoffkode für Temp. >115° C: R1

#### Montage

Die Führung ist geschnitten und besitzt eine Bestelastizität, was die Montage erleichtert.  
Die Seitenschrägen erleichtern die Stangeneinsetzung.

Anmerkung: Technischer Abschnitt für Führungen, Seite 158

### HES TYPE EXTERNAL WEAR RING

#### Description

The HES wear rings have been developed in order to keep all the parts of the cylinder aligned (the rod with the head, the piston with the bore). They play an important role as they help the rod seal, the wiper and the piston seal working without any misalignments and at the same time they prevent any contact between the metal parts. The material, which has a very low friction factor, does not cause load losses (linearity). It endures deformations under heavy loads, as the softening point is close to the fusion point (it works at 115° C). For an easier choice of the piston or rod guide, we suggest the use of the formula at page 139 to find the wear ring length.

#### Technical data

Speed:	< 0,8 m/s
Temperature:	from - 40° C to + 115° C
Fluids:	mineral oils and fluids (see table 3, page 14)

#### Material

The material is a polyacetalic resin reinforced with fibreglass.  
For working temperatures higher than 115° C, the material is a reinforced polyamide resin.  
Compound reference for temp < 115° C: RO  
Compound reference for temp > 115° C: R1

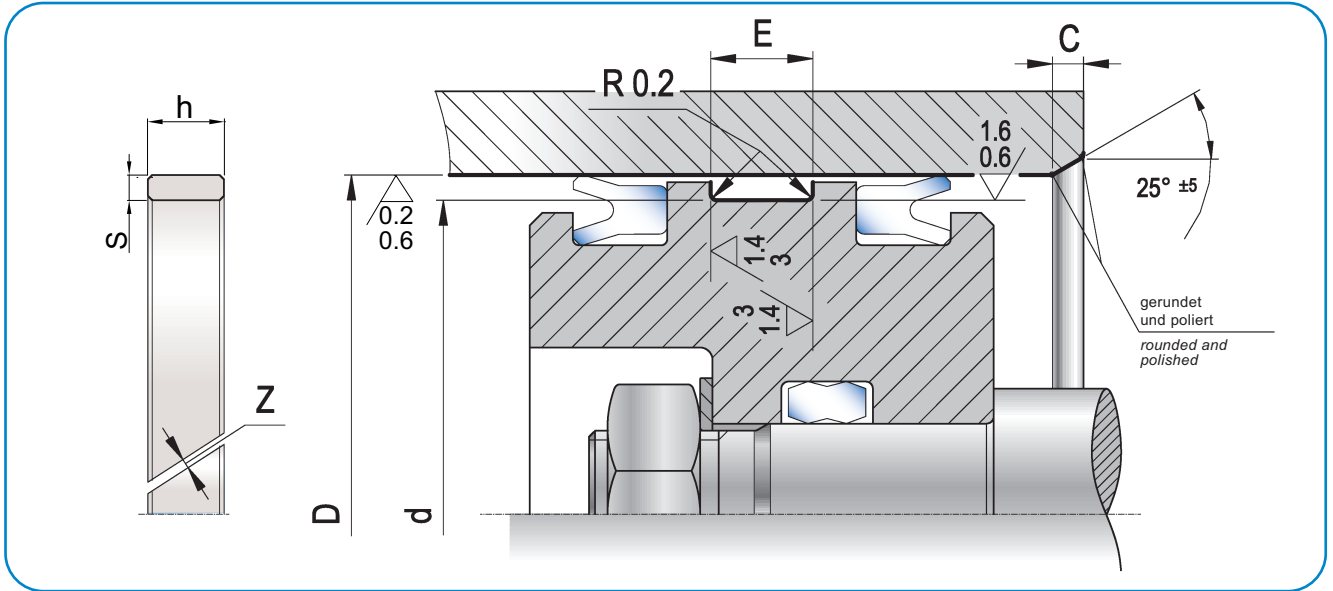
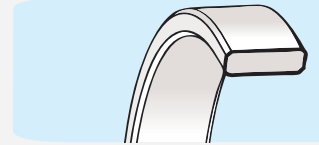
#### Assembling

The assembling can be easily done since the wear ring is cut and extremely elastic.  
The chamfers on both sides have been studied to better insert the wear ring in the rod.

Note: wear rings technical section p.158

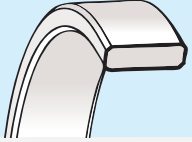


# HES



D H9	d +0 -0,05	E +0,2	C	ARTIKEL/ ITEM
16,0	12,0	9,6	>3	HES 0160 0120 096 R0
18,0	14,0	9,6	>3	HES 0180 0140 096 R0
20,0	16,0	9,6	>3	HES 0200 0160 096 R0
22,0	18,0	9,6	>3	HES 0220 0180 096 R0
24,0	20,0	9,6	>3	HES 0240 0200 096 R0
25,0	20,0	5,6	>3	HES 0250 0200 056 R0
25,0	20,0	9,7	>3	HES 0250 0200 097 R0
25,0	21,0	9,6	>3	HES 0250 0210 096 R0
27,0	22,0	5,6	>3	HES 0270 0220 056 R0
27,0	22,0	9,7	>3	HES 0270 0220 097 R0
28,0	24,0	9,6	>3	HES 0280 0240 096 R0
30,0	25,0	5,6	>3	HES 0300 0250 056 R0
30,0	25,0	9,7	>3	HES 0300 0250 097 R0
30,0	26,0	9,6	>3	HES 0300 0260 096 R0
32,0	27,0	5,6	>3	HES 0320 0270 056 R0
32,0	27,0	9,7	>3	HES 0320 0270 097 R0
32,0	28,0	9,6	>3	HES 0320 0280 096 R0
33,0	28,0	5,6	>3	HES 0330 0280 056 R0
33,0	28,0	9,7	>3	HES 0330 0280 097 R0
34,0	30,0	9,6	>3	HES 0340 0300 096 R0
35,0	30,0	5,6	>3	HES 0350 0300 056 R0
35,0	30,0	9,7	>3	HES 0350 0300 097 R0
35,0	31,0	9,6	>3	HES 0350 0310 096 R0
36,0	32,0	9,6	>3	HES 0360 0320 096 R0

D H9	d +0 -0,05	E +0,2	C	ARTIKEL/ ITEM
37,0	32,0	5,6	>3	HES 0370 0320 056 R0
37,0	32,0	9,7	>3	HES 0370 0320 097 R0
38,1	35,1	2,5	>3	HES 0381 0351 025 R0
40,0	35,0	5,6	>3	HES 0400 0350 056 R0
40,0	35,0	9,7	>3	HES 0400 0350 097 R0
40,0	36,0	9,6	>3	HES 0400 0360 096 R0
40,0	37,0	2,5	>3	HES 0400 0370 025 R0
41,0	36,0	5,6	>3	HES 0410 0360 056 R0
41,0	36,0	9,7	>3	HES 0410 0360 097 R0
44,4	41,4	2,5	>3	HES 0444 0414 025 R0
45,0	40,0	5,6	>3	HES 0450 0400 056 R0
45,0	40,0	9,7	>3	HES 0450 0400 097 R0
45,0	40,0	15,0	>3	HES 0450 0400 150 R0
45,0	41,0	9,6	>3	HES 0450 0410 096 R0
48,0	43,0	5,6	>3	HES 0480 0430 056 R0
50,0	44,0	9,6	>3	HES 0500 0440 096 R0
50,0	45,0	5,6	>3	HES 0500 0450 056 R0
50,0	45,0	9,7	>3	HES 0500 0450 097 R0
50,0	45,0	15,0	>3	HES 0500 0450 150 R0
50,8	47,8	2,5	>3	HES 0508 0478 025 R0
52,0	47,0	5,6	>3	HES 0520 0470 056 R0
52,0	47,0	9,7	>3	HES 0520 0470 097 R0
55,0	49,0	12,8	>3	HES 0550 0490 128 R0
55,0	50,0	5,6	>3	HES 0550 0500 056 R0



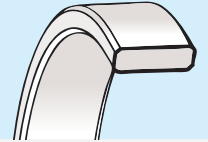
# HES

D H <sub>9</sub>	d <sub>+0</sub> <sub>-0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
55,0	50,0	9,7	> 3	HES 0550 0500 097 R0
55,0	50,0	15,0	> 3	HES 0550 0500 150 R0
60,0	54,0	12,8	> 3	HES 0600 0540 128 R0
60,0	55,0	5,6	> 3	HES 0600 0550 056 R0
60,0	55,0	9,7	> 3	HES 0600 0550 097 R0
60,0	55,0	15,0	> 3	HES 0600 0550 150 R0
61,0	56,0	5,6	> 3	HES 0610 0560 056 R0
61,0	56,0	9,7	> 3	HES 0610 0560 097 R0
63,0	57,0	12,8	> 3	HES 0630 0570 128 R0
63,0	58,0	5,6	> 3	HES 0630 0580 056 R0
63,0	58,0	9,7	> 3	HES 0630 0580 097 R0
63,5	60,5	2,5	> 3	HES 0635 0605 025 R0
65,0	59,0	12,8	> 3	HES 0650 0590 128 R0
65,0	60,0	5,6	> 3	HES 0650 0600 056 R0
65,0	60,0	9,7	> 3	HES 0650 0600 097 R0
65,0	60,0	15,0	> 3	HES 0650 0600 150 R0
68,0	63,0	5,6	> 3	HES 0680 0630 056 R0
68,0	63,0	9,7	> 3	HES 0680 0630 097 R0
70,0	64,0	12,8	> 3	HES 0700 0640 128 R0
70,0	65,0	5,6	> 3	HES 0700 0650 056 R0
70,0	65,0	9,7	> 3	HES 0700 0650 097 R0
70,0	65,0	15,0	> 3	HES 0700 0650 150 R0
70,0	60,0	10,0	> 3	HES 0700 0660 100 R0
72,0	67,0	5,6	> 3	HES 0720 0670 056 R0
75,0	69,0	12,8	> 3	HES 0750 0690 128 R0
75,0	70,0	5,6	> 3	HES 0750 0700 056 R0
75,0	70,0	9,7	> 3	HES 0750 0700 097 R0
75,0	70,0	15,0	> 3	HES 0750 0700 150 R0
80,0	74,0	12,8	> 4	HES 0800 0740 128 R0
80,0	75,0	5,6	> 4	HES 0800 0750 056 R0
80,0	75,0	9,7	> 4	HES 0800 0750 097 R0
80,0	75,0	15,0	> 4	HES 0800 0750 150 R0
85,0	79,0	12,8	> 4	HES 0850 0790 128 R0
85,0	80,0	5,6	> 4	HES 0850 0800 056 R0
85,0	80,0	9,7	> 4	HES 0850 0800 097 R0
85,0	80,0	15,0	> 4	HES 0850 0800 150 R0
90,0	84,0	12,8	> 4	HES 0900 0840 128 R0
90,0	85,0	5,6	> 4	HES 0900 0850 056 R0
90,0	85,0	9,7	> 4	HES 0900 0850 097 R0
90,0	85,0	15,0	> 4	HES 0900 0850 150 R0
95,0	89,0	12,8	> 4	HES 0950 0890 128 R0
95,0	90,0	5,6	> 4	HES 0950 0900 056 R0
95,0	90,0	9,7	> 4	HES 0950 0900 097 R0
95,0	90,0	15,0	> 4	HES 0950 0900 150 R0
97,0	92,0	5,6	> 4	HES 0970 0920 056 R0

D H <sub>9</sub>	d <sub>+0</sub> <sub>-0,05</sub>	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
100,0	94,0	12,8	> 4	HES 1000 0940 128 R0
100,0	95,0	5,6	> 4	HES 1000 0950 056 R0
100,0	95,0	9,7	> 4	HES 1000 0950 097 R0
100,0	95,0	15,0	> 4	HES 1000 0950 150 R0
100,0	95,0	20,0	> 4	HES 1000 0950 200 R0
100,0	95,0	25,0	> 4	HES 1000 0950 250 R0
105,0	99,0	12,8	> 4	HES 1050 0990 128 R0
105,0	100,0	5,6	> 4	HES 1050 1000 056 R0
105,0	100,0	9,7	> 4	HES 1050 1000 097 R0
105,0	100,0	15,0	> 4	HES 1050 1000 150 R0
105,0	100,0	20,0	> 4	HES 1050 1000 200 R0
105,0	100,0	25,0	> 4	HES 1050 1000 250 R0
110,0	104,0	12,8	> 4	HES 1100 1040 128 R0
110,0	105,0	9,7	> 4	HES 1100 1050 097 R0
110,0	105,0	15,0	> 4	HES 1100 1050 150 R0
110,0	105,0	20,0	> 4	HES 1100 1050 200 R0
110,0	105,0	25,0	> 4	HES 1100 1050 250 R0
115,0	109,0	12,8	> 4	HES 1150 1090 128 R0
115,0	110,0	9,7	> 4	HES 1150 1100 097 R0
115,0	110,0	15,0	> 4	HES 1150 1100 150 R0
115,0	110,0	20,0	> 4	HES 1150 1100 200 R0
115,0	110,0	25,0	> 4	HES 1150 1100 250 R0
120,0	114,0	12,8	> 4	HES 1200 1140 128 R0
120,0	115,0	9,7	> 4	HES 1200 1150 097 R0
120,0	115,0	15,0	> 4	HES 1200 1150 150 R0
120,0	115,0	20,0	> 4	HES 1200 1150 200 R0
120,0	115,0	25,0	> 4	HES 1200 1150 250 R0
125,0	119,0	12,8	> 4	HES 1250 1190 128 R0
125,0	120,0	9,7	> 4	HES 1250 1200 097 R0
125,0	120,0	15,0	> 4	HES 1250 1200 150 R0
125,0	120,0	20,0	> 4	HES 1250 1200 200 R0
125,0	120,0	25,0	> 4	HES 1250 1200 250 R0
130,0	124,0	12,8	> 4	HES 1300 1240 128 R0
130,0	125,0	15,0	> 4	HES 1300 1250 150 R0
130,0	125,0	20,0	> 4	HES 1300 1250 200 R0
130,0	125,0	25,0	> 4	HES 1300 1250 250 R0
135,0	129,0	12,8	> 4	HES 1350 1290 128 R0
135,0	130,0	15,0	> 4	HES 1350 1300 150 R0
135,0	130,0	20,0	> 4	HES 1350 1300 200 R0
135,0	130,0	25,0	> 4	HES 1350 1300 250 R0
140,0	134,0	12,8	> 4	HES 1400 1340 128 R0
140,0	135,0	15,0	> 4	HES 1400 1350 150 R0
140,0	135,0	20,0	> 4	HES 1400 1350 200 R0
140,0	135,0	25,0	> 4	HES 1400 1350 250 R0
145,0	139,0	12,8	> 4	HES 1450 1390 128 R0



# HES



D <sub>H9</sub>	d <sub>+0</sub> -0,05	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
145,0	140,0	15,0	> 4	HES 1450 1400 150 RO
145,0	140,0	20,0	> 4	HES 1450 1400 200 RO
145,0	140,0	25,0	> 4	HES 1450 1400 250 RO
150,0	144,0	12,8	> 4	HES 1500 1440 128 RO
150,0	145,0	15,0	> 4	HES 1500 1450 150 RO
150,0	145,0	20,0	> 4	HES 1500 1450 200 RO
150,0	145,0	25,0	> 4	HES 1500 1450 250 RO
155,0	149,0	19,2	> 4	HES 1550 1490 192 RO
160,0	154,0	19,2	> 5	HES 1600 1540 192 RO
160,0	155,0	15,0	> 5	HES 1600 1550 150 RO
165,0	159,0	19,2	> 5	HES 1650 1590 192 RO
170,0	164,0	19,2	> 5	HES 1700 1640 192 RO
175,0	169,0	19,2	> 5	HES 1750 1690 192 RO
180,0	174,0	19,2	> 5	HES 1800 1740 192 RO
185,0	179,0	19,2	> 5	HES 1850 1790 192 RO

D <sub>H9</sub>	d <sub>+0</sub> -0,05	E <sub>+0,2</sub>	C	ARTIKEL/ ITEM
190,0	184,0	19,2	> 5	HES 1900 1840 192 RO
195,0	189,0	19,2	> 5	HES 1950 1890 192 RO
200,0	194,0	19,2	> 5	HES 2000 1940 192 RO
210,0	204,0	19,2	> 5	HES 2100 2040 192 RO
220,0	214,0	19,2	> 5	HES 2200 2140 192 RO
230,0	224,0	19,2	> 5	HES 2300 2240 192 RO
240,0	234,0	19,2	> 5	HES 2400 2340 192 RO
250,0	244,0	19,2	> 5	HES 2500 2440 192 RO

Anmerkung: Auf Anfrage können andere Dimensionen angefertigt werden, die im Katalog nicht angegeben sind. Wenden Sie sich bitte an unsere technische Abteilung.

Remark: please contact our technical dept. for further dimensions not included in the catalogue.