

| application | profile | description | temperature | max. speed | max. pressure | material | |
|--------------------|---------|---|--------------------|------------|--------------------|----------|------------------------|
| | | single acting rotary shaft seal spring loaded lip seal with retainer ring for press-fit installation into axially open housings. wide range of applications in every sector of industry, mainly as protecting element for bearings. | -30 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | PU | energizer POM / PA* |
| | | | -20 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | HPU | POM / PA* |
| | | | -40 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | SPU | POM / PA* |
| | | | -20 °C ... +80 °C | 6,0 m/s | 0,5 bar (7 psi) | LTPU | POM / PA* |
| | | | -30 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | GPU | POM / PA* |
| | | single acting rotary shaft seal spring loaded lip seal with solid outer section for axially open housings with clamping plate fixation. mainly used for rolling mills, large gear mechanisms in heavy duty machinery, for shipbuilding industry and civil engineering. | -30 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | PU | |
| | | | -20 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | HPU | |
| | | | -50 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | LTPU | |
| | | | -20 °C ... +110 °C | 6,0 m/s | 0,5 bar (7 psi) | SPU | |
| | | | -30 °C ... +100 °C | 5,0 m/s | 0,5 bar (7 psi) | GPU | |
| | | | -30 °C ... +100 °C | 10,0 m/s | 0,5 bar (7 psi) | NBR | |
| | | | -25 °C ... +150 °C | 10,0 m/s | 0,5 bar (7 psi) | HNBR | |
| | | | -20 °C ... +200 °C | 15,0 m/s | 0,5 bar (7 psi) | FKM | |
| | | | -50 °C ... +150 °C | 10,0 m/s | 0,2 bar (3 psi) | EPDM** | |
| -60 °C ... +200 °C | 5,0 m/s | 0,2 bar (3 psi) | MVQ | | | | |
| | | single acting rotary shaft seal split version of a spring loaded lip seal with solid outer section for axially open housings with clamping plate fixation. mainly used for repair purpose on rolling mills, large gear mechanisms in heavy duty machinery, for shipbuilding industry and civil engineering. | -30 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | PU | |
| | | | -20 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | HPU | |
| | | | -50 °C ... +110 °C | 5,0 m/s | 0,5 bar (7 psi) | LTPU | |
| | | | -20 °C ... +110 °C | 6,0 m/s | 0,5 bar (7 psi) | SPU | |
| | | | -30 °C ... +100 °C | 5,0 m/s | 0,5 bar (7 psi) | GPU | |
| | | | -30 °C ... +100 °C | 10,0 m/s | 0,5 bar (7 psi) | NBR | |
| | | | -25 °C ... +150 °C | 10,0 m/s | 0,5 bar (7 psi) | HNBR | |
| | | | -20 °C ... +200 °C | 15,0 m/s | 0,5 bar (7 psi) | FKM | |
| | | | -50 °C ... +150 °C | 10,0 m/s | 0,2 bar (3 psi) | EPDM** | |
| -60 °C ... +200 °C | 5,0 m/s | 0,2 bar (3 psi) | MVQ | | | | |
| | | double acting rotary shaft seal as profile RT01, but with additional dust lip to avoid ingress of dust and dirt. | -30 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | PU | energizer POM / PA* |
| | | | -20 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | HPU | POM / PA* |
| | | | -40 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | LTPU | POM / PA* |
| | | | -20 °C ... +80 °C | 6,0 m/s | 0,5 bar (7 psi) | SPU | POM / PA* |
| | | | -30 °C ... +80 °C | 5,0 m/s | 0,5 bar (7 psi) | GPU | POM / PA* |
| | | double acting rotary shaft seal rotary seal with integrated backup rings for pivoting motion in hydraulic systems. interference fit on outside diameter maintains stable fit in the housing, backup rings permit larger extrusion gap / higher pressure. mainly used for rotary pivots on excavators, grabs | -30 °C ... +100 °C | 0,2 m/s | 400 bar (5800 psi) | PU | back up POM / PA* |
| | | | -20 °C ... +100 °C | 0,2 m/s | 400 bar (5800 psi) | HPU | POM / PA* |
| | | | -40 °C ... +100 °C | 0,2 m/s | 400 bar (5800 psi) | SPU | POM / PA* |
| | | | -20 °C ... +100 °C | 0,3 m/s | 400 bar (5800 psi) | LTPU | POM / PA* |
| | | | -30 °C ... +100 °C | 0,2 m/s | 400 bar (5800 psi) | GPU | POM / PA* |

| application | profile | description | temperature | max. speed | max. pressure | material | |
|-------------|---------|---|--------------------|------------------|--------------------|-------------------------|----------------------------|
| | | double acting rotary shaft seal space saving rotary seal for pivoting motion in hydraulic systems. interference fit on outside diameter maintains stable fit in the housing, dynamic sealing lips on inside diameter. | -30 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | PU | |
| | | | -20 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | HPU | |
| | | | -50 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | LTPU | |
| | | | -20 °C ... +110 °C | 0,3 m/s | 160 bar (2300 psi) | SPU | |
| | | | -30 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | GPU | |
| | | | -30 °C ... +100 °C | 0,2 m/s | 100 bar (1450 psi) | NBR | |
| | | | -25 °C ... +150 °C | 0,2 m/s | 100 bar (1450 psi) | HNBR | |
| | | | -20 °C ... +200 °C | 0,2 m/s | 100 bar (1450 psi) | FKM | |
| | | | -50 °C ... +150 °C | 0,2 m/s | 100 bar (1450 psi) | EPDM** | |
| | | double acting rotary shaft seal space saving rotary seal for pivoting motion in hydraulic systems. interference fit on inside diameter maintains stable fit in the housing, dynamic sealing lips on outside diameter. | -30 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | PU | |
| | | | -20 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | HPU | |
| | | | -50 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | LTPU | |
| | | | -20 °C ... +110 °C | 0,3 m/s | 160 bar (2300 psi) | SPU | |
| | | | -30 °C ... +110 °C | 0,2 m/s | 160 bar (2300 psi) | GPU | |
| | | | -30 °C ... +100 °C | 0,2 m/s | 100 bar (1450 psi) | NBR | |
| | | | -25 °C ... +150 °C | 0,2 m/s | 100 bar (1450 psi) | HNBR | |
| | | | -20 °C ... +200 °C | 0,2 m/s | 100 bar (1450 psi) | FKM | |
| | | | -50 °C ... +150 °C | 0,2 m/s | 100 bar (1450 psi) | EPDM** | |
| | | axially acting rotary seal elastic, excellent wear resistant v-ring with interference fit on the shaft, rotates with the shaft, sealing axially against shaft collars, thrust blocks or the outer race of roller bearings, protecting the bearing against dust, dirt, oil splash, water splash and similar media. acting as a seal and slinger ring. | -30 °C ... +110 °C | 25,0 m/s | | PU | |
| | | | -20 °C ... +110 °C | 25,0 m/s | | HPU | |
| | | | -50 °C ... +110 °C | 25,0 m/s | | LTPU | |
| | | | -20 °C ... +110 °C | 25,0 m/s | | SPU | |
| | | | -30 °C ... +110 °C | 25,0 m/s | | GPU | |
| | | axially acting rotary seal elastic, excellent wear resistant v-ring with interference fit on the shaft, rotates with the shaft, sealing axially against shaft collars, thrust blocks or the outer race of roller bearings, protecting the bearing against dust, dirt, oils splash, water splash and similar media. acting as a seal and slinger ring. | -30 °C ... +110 °C | 25,0 m/s | | PU | |
| | | | -20 °C ... +110 °C | 25,0 m/s | | HPU | |
| | | | -50 °C ... +110 °C | 25,0 m/s | | LTPU | |
| | | | -20 °C ... +110 °C | 25,0 m/s | | SPU | |
| | | | -30 °C ... +110 °C | 25,0 m/s | | GPU | |
| | | single acting rotary shaft seal springless rotary lip seal with arbitrary preload on inside and outside diameter in order to design the seal to different specific needs. | | upon application | | all material possible | |
| | | | | | | | |
| | | | | | | | |
| | | double acting rotary shaft seal o-ring activated, low friction PTFE rotary seal. mainly used in applications with alternating pressure from one side of the seal to the other, such as hose reels, swivel joints, rotating track rings and machine tool hydraulics. | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | glide ring energizer | |
| | | | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | | PTFE (glass bronze carbon) |
| | | | -30 °C ... + 80 °C | 0,4 m/s | 350 bar (5000 psi) | | UHMWPE |

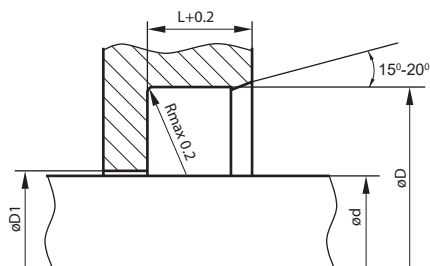
| application | profile | description | temperature | max. speed | max. pressure | material | |
|-------------|---------------------|---|--------------------|-------------|--------------------|----------------------------|------------------|
| | | double acting rotary shaft seal | | | | glide ring | energizer |
| | | o-ring activated, low friction PTFE rotary seal. mainly used in applications with alternating pressure from one side of the seal to the other, such as hose reels, swivel joints, rotating track rings and machine tool hydraulics. | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | PTFE (glass bronze carbon) | NBR |
| | | | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | | NBR |
| | | | -30 °C ... + 80 °C | 0,4 m/s | 350 bar (5000 psi) | UHMWPE | NBR |
| | | double acting rotary shaft seal | | | | glide ring | energizer |
| | | o-ring activated, low friction PTFE rotary seal. mainly used in applications with alternating pressure from one side of the seal to the other, such as hose reels, swivel joints, rotating track rings and machine tool hydraulics. good chemical and thermal resistance achievable by selection of suitable o-ring material. | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | PTFE (glass bronze carbon) | NBR |
| | | | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | | NBR |
| | | | -30 °C ... + 80 °C | 0,4 m/s | 350 bar (5000 psi) | UHMWPE | NBR |
| | | double acting rotary shaft seal | | | | glide ring | energizer |
| | | as profile RT10- but with a profile ring energizer instead of the o-ring. for heavy duty applications and non standard housings. | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | PTFE (glass bronze carbon) | NBR |
| | | | -30 °C ... +100 °C | 0,4 m/s | 350 bar (5000 psi) | | NBR |
| | | | -30 °C ... + 80 °C | 0,4 m/s | 350 bar (5000 psi) | UHMWPE | NBR |
| | | double acting rotary shaft seal | | | | | |
| | | space saving rotary seal, deformed sealing lip acts self-adjusting on increasing temperature. for axially open housings with clamping plate fixation, elastic secondary seal or integrated o-ring necessary for static sealing in the housing. excellent chemical and thermal resistance, suitable for high speed applications. | -200°C ... +260°C | 20,0 m/s | 5 bar (70 psi) | PTFE (glass bronze carbon) | |
| | | | | | | | |
| | | single acting PTFE flange seal | | | | seal part | spring |
| | | fingerspring activated flange seal, excellent chemical and thermal resistance, mainly used on flanges, fittings or pivoting joints in chemical industry. | -200°C ... +260°C | 20,0 m/s | 300 bar (4300 psi) | PTFE (glass bronze carbon) | 1.4310 |
| | | | | | | | |
| | | o ring | | | | | |
| | | well known, simple o-ring with proven reliability in multiple applications in every sector of industry. excellent adaptation possibilities for diverse temperatures and media by selection of suitable seal material. mainly used as static seal or as preloading element for PTFE-seals. | -30 °C ... +110 °C | | 600 bar (8700 psi) | PU | |
| | | | -20 °C ... +110 °C | | 600 bar (8700 psi) | HPU | |
| | | | -50 °C ... +110 °C | | 600 bar (8700 psi) | LTPU | |
| | | | -20 °C ... +110 °C | | 600 bar (8700 psi) | SPU | |
| | | | -30 °C ... +110 °C | | 600 bar (8700 psi) | GPU | |
| | | | -30 °C ... +100 °C | | 160 bar (2300 psi) | NBR | |
| | | | -20 °C ... +200 °C | | 160 bar (2300 psi) | FKM | |
| | | | -50 °C ... +150 °C | | 160 bar (2300 psi) | EPDM** | |
| | | | -25 °C ... +150 °C | | 160 bar (2300 psi) | HNBR | |
| | -200 °C ... +260 °C | | 160 bar (2300 psi) | PTFE virgin | | | |

| application | profile | description | temperature | max. speed | max. pressure | material | | |
|-------------|---------|---|---|--|---|--|--|--|
| | | RT14 square ring well known, simple square ring, mainly used for static applications or as gaskets, excellent adaptation possibilities for diverse temperatures and media by selection of suitable seal material. | | upon application | | upon application | | |
| | | RT19 single acting PTFE flange seal fingerspring activated PTFE seal with integrated clamping flange on the back of seal for clamping fixation, acting as anti-twist device. excellent chemical and thermal resistance. suitable for relatively high pressure and high speed. | -200°C ... +260°C | 15,0 m/s | 150 bar (2100 psi) | seal part PTFE (glass bronze carbon) | spring 1.4310 | |
| | | RT20 single acting flange seal flange seal for static applications, suitable for high pressure range. direction of pressurization (from inside or outside) must be indicated when ordering the seal. | -30 °C ... +110 °C -20 °C ... +110 °C -50 °C ... +110 °C -20 °C ... +110 °C -30 °C ... +110 °C | | 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) | PU HPU LTPU SPU GPU | | |
| | | RT30 valve stem seal with PTFE jacket for low friction, rubber energizer automatically increases preload as it senses leakage. mainly used as valve seal in oil industry/offshore applications. | -20 °C ... +100 °C -25 °C ... +100 °C -20 °C ... +200 °C -25 °C ... +200 °C | 0,5 m/s 0,5 m/s 0,5 m/s 0,5 m/s | 500 bar (7200 psi) 500 bar (7200 psi) 1000 bar (14500 psi) 1000 bar (14500 psi) | seal FKM HNBR FKM HNBR | cover PTFE PTFE PTFE PTFE | back up POM POM PAEK PAEK |
| | | RT35 single acting flange seal flange seal for static applications, suitable for high pressure range. direction of pressurization (from inside or outside) must be indicated when ordering the seal. | -30 °C ... +110 °C -20 °C ... +110 °C -50 °C ... +110 °C -20 °C ... +110 °C -30 °C ... +110 °C -30 °C ... +100 °C -20 °C ... +200 °C -50 °C ... +150 °C -25 °C ... +150 °C -200 °C ... +260 °C | | 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) 800 bar (11600 psi) 250 bar (3600 psi) 250 bar (3600 psi) 250 bar (3600 psi) 250 bar (3600 psi) 250 bar (3600 psi) | PU HPU LTPU SPU GPU NBR FKM EPDM** HNBR PTFE virgin | | |

Rotary housing details and recommendations

indicated dimensions
are required to process an order

$\varnothing D$ outside diameter
 $\varnothing d$ inside diameter
L groove length



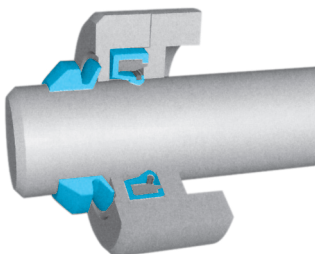
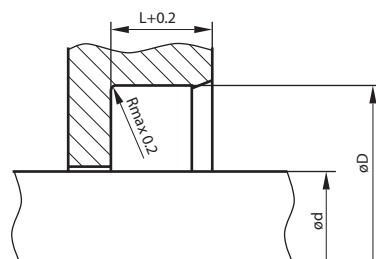
| surface | R tmax | Ra |
|-------------------------------------|-------------------|-------------------|
| roughness | (μm) | (μm) |
| sliding surface for PU/RUBBER seals | $\leq 2,5$ | $\leq 0,1 - 0,5$ |
| sliding surface for PTFE seals | ≤ 2 | $\leq 0,05 - 0,3$ |
| bottom of groove | $\leq 6,3$ | $\leq 1,6$ |
| groove face | ≤ 15 | ≤ 3 |
| bearing area Tp | 50% - 95% | |

| seal housing tolerances | |
|-------------------------|----|
| $\varnothing D1 H11$ | f8 |
| $\varnothing D H11$ | H8 |

| easy ordering procedure | RT01 | NBR/POM | 60 x 80 x 10 |
|-------------------------|---------|----------|----------------------------|
| | profile | material | nominal housing dimensions |

RT01

RT02



main application:

bearing protection

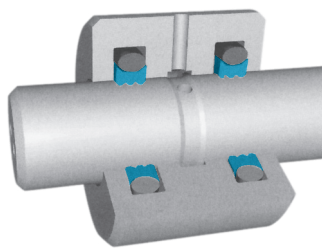
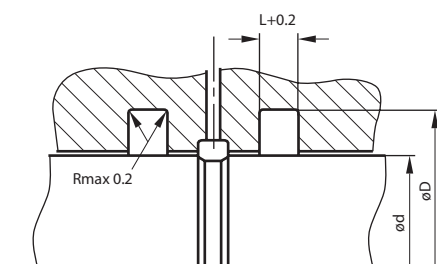
advantages:

good adaptation possibilities for diverse
temperatures and media

standard materials:

PU, NBR, FKM, POM, aluminium

RT09



main application:

rotary pivots

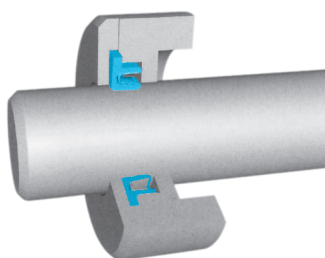
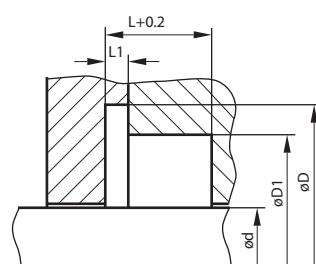
advantages:

for high pressure

standard materials:

PTFE virgin/glass/bronze/carbon + NBR/FKM

RT19



main application:

bearing protection for chemical and
pharma industries

advantages:

low friction, good chemical and thermal resistance
suitable for high speed

standard materials:

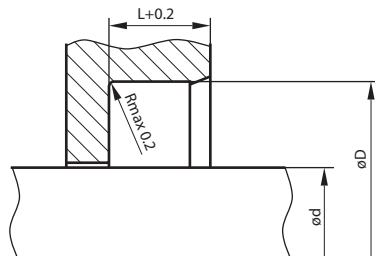
PTFE virgin/glass/bronze/carbon + NBR/FKM

stainless steel spring

housing recommendations

single acting rotary seals
oil seal / radial shaft seals

the listing below is our suggestion for standard housing dimensions. please note that we are able to produce those profiles to your specific need or any non standard housing.

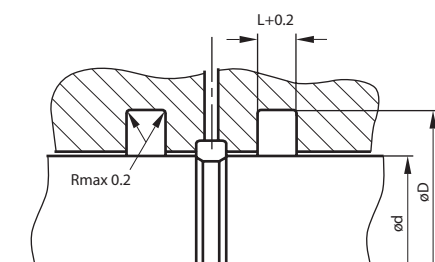


| $\varnothing D$ | $\varnothing d$ | L | c/s |
|-----------------|--------------------|----|-----|
| 6 - 59,9 | $\varnothing d+12$ | 7 | 6 |
| 60 - 139,9 | $\varnothing d+15$ | 8 | 7,5 |
| 140 - 299,9 | $\varnothing d+20$ | 10 | 10 |
| 300 - 499,9 | $\varnothing d+30$ | 12 | 15 |
| 500 - 800 | $\varnothing d+40$ | 20 | 20 |
| > 800 | $\varnothing d+50$ | 22 | 25 |

housing recommendations

double acting rotary seals
o-ring activated PTFE seals

the listing below is our suggestion for standard housing dimensions. please note that we are able to produce those profiles to your specific need or any non standard housing.

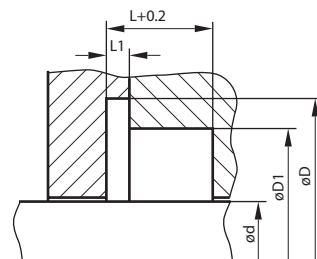


| $\varnothing D$ | $\varnothing d$ | L | c/s |
|-----------------|----------------------|-----|------|
| 6 - 18,9 | $\varnothing d+4,9$ | 2,2 | 2,45 |
| 19 - 37,9 | $\varnothing d+7,5$ | 3,2 | 3,75 |
| 38 - 199,9 | $\varnothing d+11$ | 4,2 | 5,5 |
| 200 - 255,9 | $\varnothing d+15,5$ | 6,3 | 7,75 |
| 256 - 649,9 | $\varnothing d+21$ | 8,1 | 10,5 |
| >650 | $\varnothing d+28$ | 9,5 | 14 |

housing recommendations

single acting rotary seals
spring activated PTFE seals

the listing below is our suggestion for standard housing dimensions. please note that we are able to produce those profiles to your specific need or any non standard housing.



| $\varnothing D$ | $\varnothing d$ | $\varnothing d1$ | L | L1 |
|-----------------|----------------------|----------------------|-----|------|
| 5 - 19,9 | $\varnothing d+9$ | $\varnothing d+5$ | 3,6 | 0,85 |
| 20 - 39,9 | $\varnothing d+12,5$ | $\varnothing d+7$ | 4,8 | 1,35 |
| 40 - 399,9 | $\varnothing d+17,5$ | $\varnothing d+10,5$ | 7,1 | 1,8 |
| ≥ 400 | $\varnothing d+22$ | $\varnothing d+14$ | 9,5 | 2,8 |