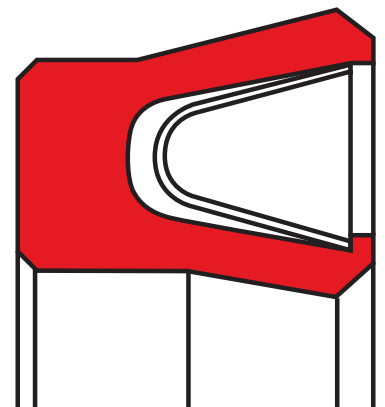


rod seal S19-F

seal spec

**application**

not bolded symbols; please consult our technical for application limitations

category of profile

machined or molded/standard/trade product.

single acting

the S19-F seal is designed for use as a rod seal.

area of application: hydraulics

reciprocating and swiveling rods on cylinders, push rods, fittings in the chemical industry.

note

- special measures required when used at temperatures below -60°C , because of material shrinkage.
- considering the limited long-time rupture strength of PTFE materials, the cs/H ratio should not fall below a value of 1/1.5.
- cross-sections limited to 10 mm.
- varying the angle of the chamfer on the dynamic sealing lip allows adaptation to media (steeper angle for high viscosity media) respectively a pressure relief (flat angle).

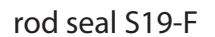
function

S19-F profiles are lip seals designed to seal pressurised space against the atmosphere; mainly for reciprocating movements. the design is based on application in aggressive media or with high thermal demands. the operating parameters are as defined in the sealing data sheet and material data. requirements deviating from these parameters can be met to a certain degree by changing the geometry in the software program.

description

finger spring activated, asymmetrical PTFE rod seal, low friction and good dry running properties, excellent chemical and thermal resistance, mainly used in chemical, pharma and food industry.

- asymmetric single-acting rod lip seal, with the dynamic sealing lip being differently shaped than the static one. the preload is created by a finger spring inserted in the groove.
- interference fit on the outside diameter.
- various materials are available for different purposes.
- good sealing effect across a wide temperature range.
- sealing effect enhanced by high recovery rate.
- for pressures up to 200 bar as a seal between pressurised space and atmosphere (in certain cases also above that, see "gap dimensions").
- good sealing in all pressure ranges.
- excellent static and dynamic sealing after short run-in time.
- suitable for short and long travel.
- no reverse leakage (i.e. minor relative motion of the sealing edges when the direction is changed).
- little friction in dry running or in media with poor lubricating effect (in aqueous media only suitable to a limited extent).
- low break-away load.
- flexible sealing lip due to large spring travel.



diameter range: up to 600 mm

for detailed information regarding chemical resistance please refer to our "list of resistance". for decreased leakage rates elastomer materials (polyurethane or rubber) in other sealing systems are to be preferred.

in special cases a snap-in installation is possible, therefore the housing has to be designed accordingly. the seal can only be held by a retaining housing step, having a width of $0.25 \cdot cs$ and a distinctive 30° chamfer, all edges must be rounded. the smallest possible diameter for such a snap-in installation is $10 \cdot cs$.



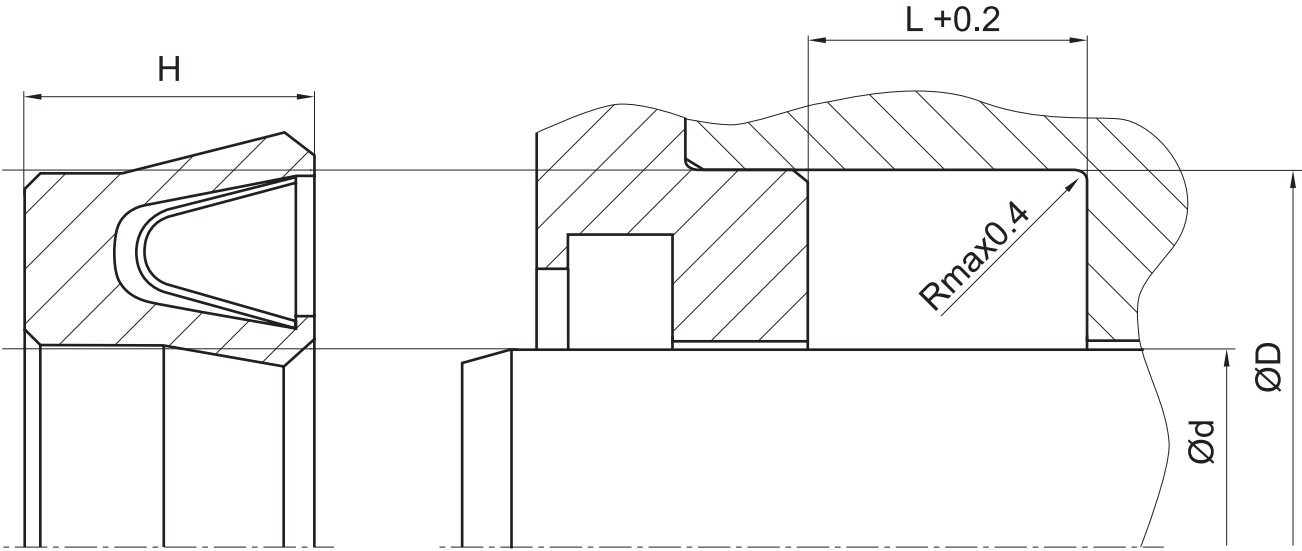
d f8 [mm]	p ≤ 100 [bar]	100 < p ≤ 200 [bar]	p > 200 [bar]
≤ 100	H10	H8	H8
> 100 ≤ 200	H10	H8	H7
>200	H9	H8	H7

cs (mm)	c (mm)	
	$\alpha = 15^{\circ} \dots 20^{\circ}$	$\alpha = 20^{\circ} \dots 30^{\circ}$
(2)	2	1
(3)	3	1,5
4	3,5	2
5	4	2,5
6	4,5	3
7,5	5	4
10	6	5



seal & housing recommendations

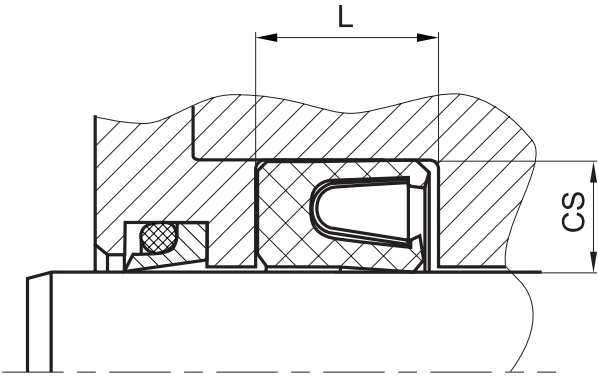
please note that we are able to produce those profiles to your specific need or any non standard housing. for detail measurements, please see seal-mart catalog...



with PTFE materials, the profile size does not so much depend on the seal diameter but rather on pressure and extrusion gap. this relationship is described under "gap dimensions". nominal widths not shown in the diagram can be interpolated if required.
the ratio between nominal width and seal height cs/H should not drop below 1/1.5. therefore we recommend the following housing heights.

$cs = (\varnothing D - \varnothing d)/2$ [mm]	L [mm]
2	3,5
3	5,1
4	6,5
5	8,8
6	10,2
7,5	12,8
10	17

fitted:



don't hesitate to contact our technical department for further information or for special requirements (temperature, speed etc.), so that suitable materials and/or designs can be recommended.