

ClearSeal™

PRODUCT DATA SHEET



HOW DOES IT WORK

- ClearSeal™PRW prevents impurities in the hydraulic oil /pressure media from reaching seals, bearings and other components. Such impurities are the most frequent cause of breakdowns in hydraulic applications.
- ClearSeal™PRW is an invisible, but critical component that extends the lifetime of the system dramatically and gives predictable maintenance intervals.
- ClearSeal™PRW has a compact design and simple geometry, allowing easy installation and low risk of malfunction.
- ClearSeal™PRW gives low friction and has no impact on other functions in the system.
- ClearSeal™PRW can be installed on the pressure side of conventional sealing systems. It functions as «reactive» maintenance in existing applications.

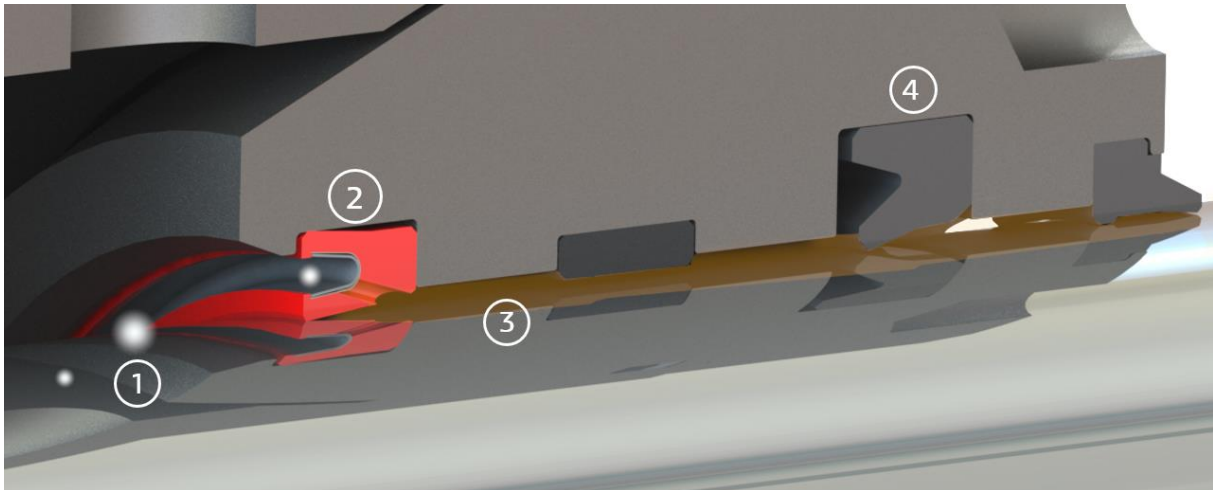


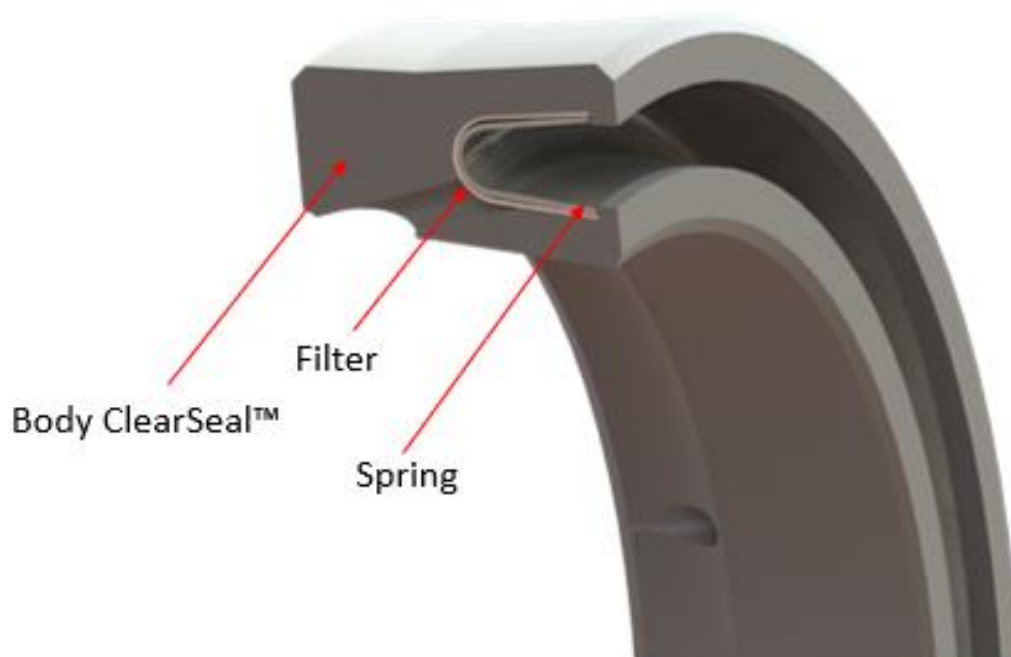
Figure: 1.Debris 2. ClearSeal™PRW 3.Clean medium 4. Sealing element

MATERIALS

Body ClearSeal™: PU or PTFE

Filter: PEEK

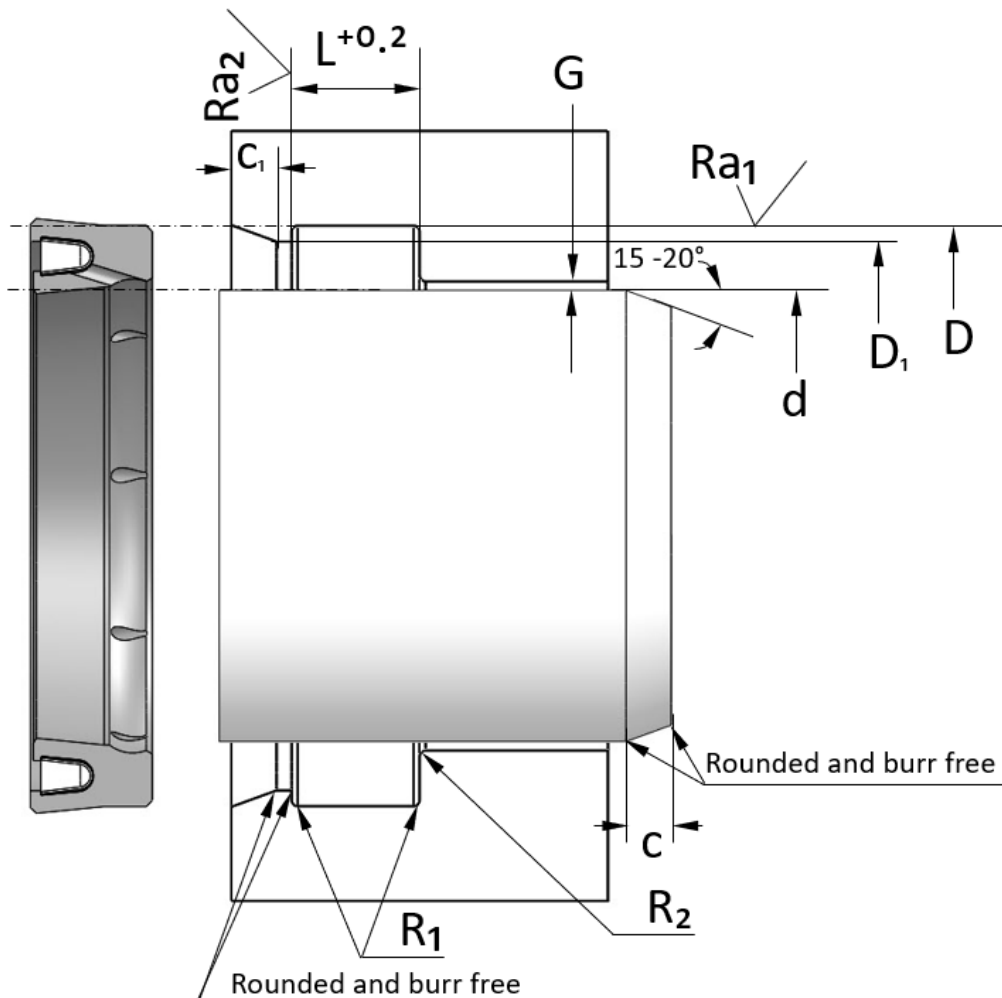
Spring: 316L or Elgiloy



Service temperature	PU	PTFE	PEEK
Min. [°C]	-20	-200	-100
Max. [°C]	+121	+260	+250

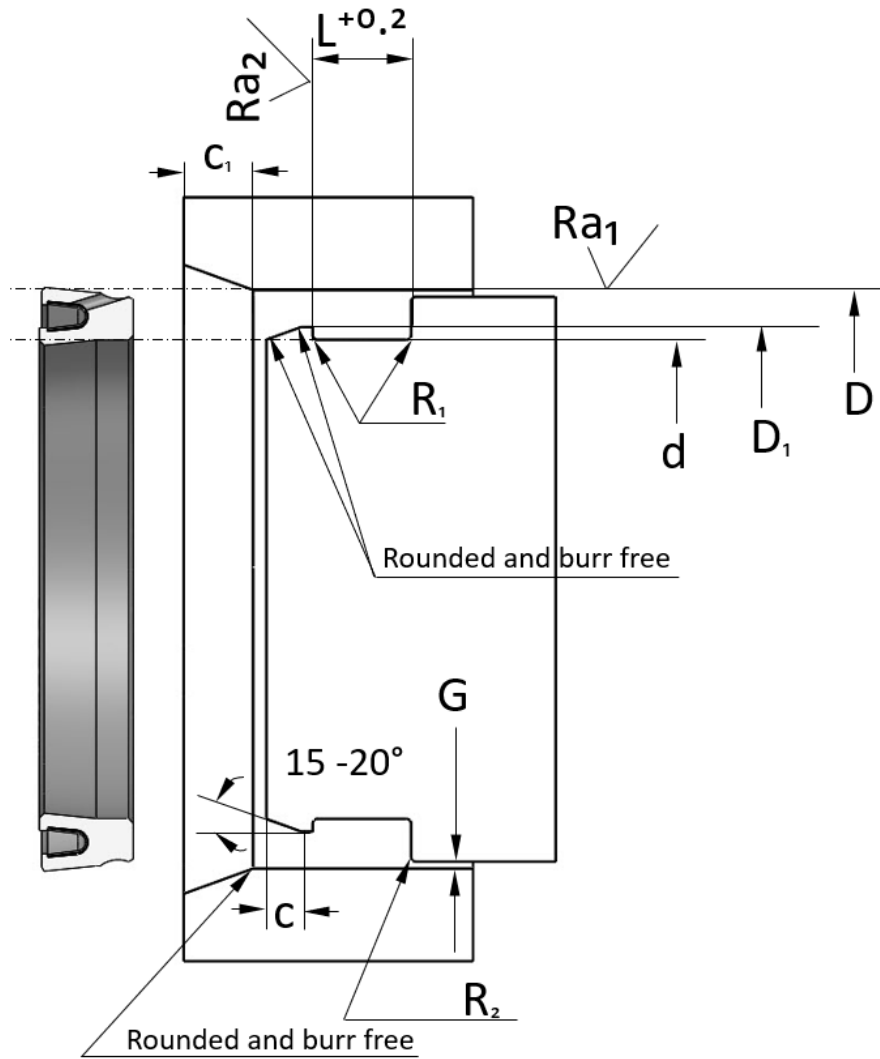
INT (ROD) ClearSeal™

Standard dimensions - INT (Rod) Clear Seal™ PRW											
serie	d f8	D H8	D ₁ H9	L ^{0/+0.2}	G	R ₁	R ₂	c	c ₁	Ra ₁	Ra ₂
200	30 - 500	d + 8.6	d + 6.5	8.5	0.6	0.4	0.2	3.0	3.0	≤ 1.6	≤ 3.0
300	100 - 1000	d + 12.0	d + 9.0	11.9	0.9	0.4	0.2	4.0	4.0	≤ 1.6	≤ 3.0
400	> 300	d + 19.0	d + 14.3	18.9	1.4	0.4	0.2	6.0	6.0	≤ 1.6	≤ 3.0



EXT (PISTON) ClearSeal™

Standard dimensions - EXT (Piston) Clear Seal™ PRW											
serie	D H8	d h8	D ₁ h9	L 0/+0.2	G	R ₁	R ₂	c	c ₁	Ra ₁	Ra ₂
200	50 - 500	D - 8.6	d + 2.2	8.5	0.6	0.4	0.2	3.0	6.0	≤ 1.6	≤ 3.0
300	100 - 1000	D - 12.0	d + 3.0	11.9	0.9	0.4	0.2	4.0	8.0	≤ 1.6	≤ 3.0
400	> 300	D - 19.0	d + 4.8	18.9	1.4	0.4	0.2	5.0	10.0	≤ 1.6	≤ 3.0



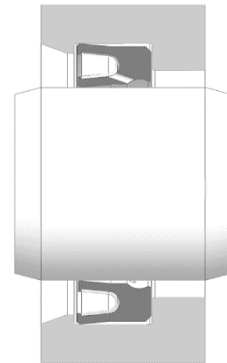
INSTALLATION GUIDELINES

- Shall only be installed in equipment with geometry, dimensions and tolerances given by Seal Engineering.
- Machining residues should be removed, and all parts and tools should be thoroughly cleaned
- All tools should be rounded
- Installation of seals is made easier if the metal parts or seals are greased or oiled. However – make sure that sealing material(s) is compatible with lubricants applied
- For assembly of ClearSeal™ in PTFE special tool may be required.

NOTE: ClearSeal™ must not be kidney shaped because this will permanently deform the spring.

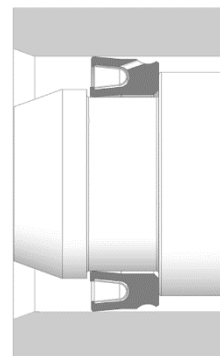
Installing INT (ROD) ClearSeal™

ClearSeal™ gently bends into an ellipse shape and one of the ends is pressed into the groove, then the sides of ClearSeal™ are pressed into the groove. Finally, the remaining end of the ClearSeal™ is pressed into the groove and the assembly are completed.



Installing EXT (PISTON) ClearSeal™

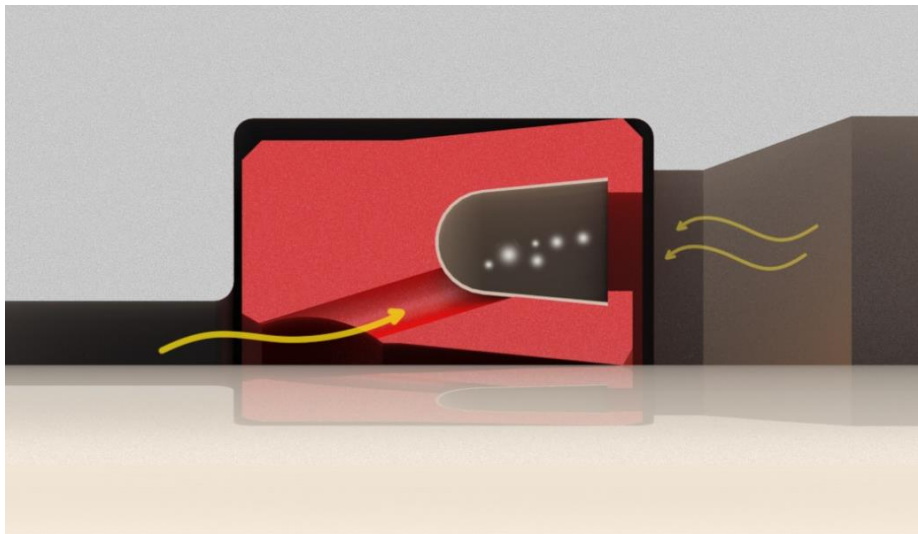
ClearSeal™ may be stretched into position by hand, depending on size, cross section and material. Special assembly tools may be required for PTFE.



FAQ

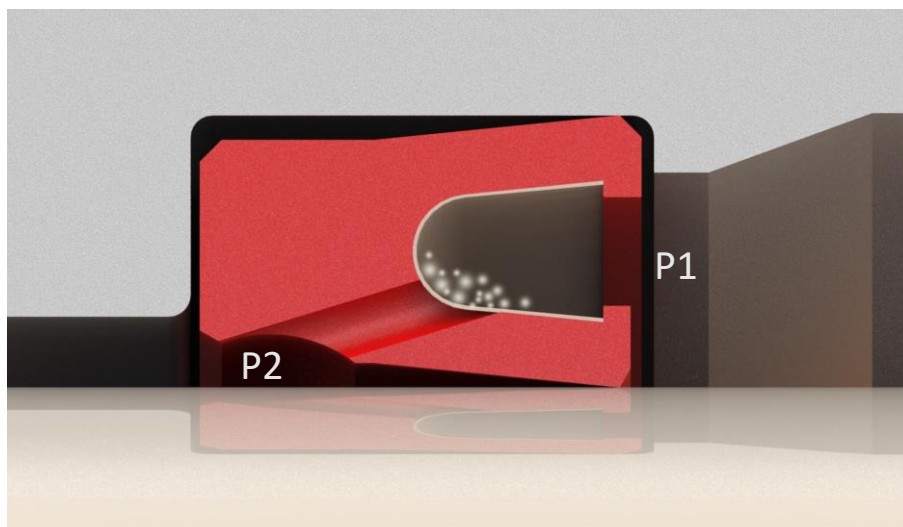
Q: Is there a risk that holes in ClearSeal™ will clog?

A: ClearSeal™ is not a substitute for normal cleanliness of the system. Often a breakdown of hydraulic application is caused by a few metal parts left after manufacture or service. By pressure exchange, the compressibility of the oil will cause the flow through ClearSeal™ holes in the alternating direction to release the particles stuck in the filter.



Q: What if the holes in ClearSeal get clogged?

A: It is unlikely that the holes will clog. With clogged holes ClearSeal™ will act as a seal.



$\Delta P = P1 - P2$ increases \rightarrow ClearSeal™ acts like a seal

Q: Can large particles damage wiper lip?

A: ClearSeal™ has a lip geometry that prevents particles to get stuck between the lip and the hardware.

