



## **NDA Engineering Equipment Limited**

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MECHANICAL SEALS • GLAND PACKING • DESIGN + MANUFACTURE • GASKETS • ADHESIVES • HOSES

# **IDENT-A-SEAL**<sup>TM</sup>

NDA offers a complete mechanical seal service covering identification, refurbishment & supply of most brands & styles of seal.

This service relies on years of experience & knowledge of the market. There are so many styles, sizes & variations that this

## **SEAL IDENTIFICATION GUIDE**<sup>TM</sup>

is purely an aid to both parties to initially confirm the style of common seals so that we can then apply our expertise to confirm selection.

Multi spring balanced seals, cartridge seals & specials would be dealt with individually.

If you have any queries please do not hesitate to contact us as  
**WE ARE HERE TO HELP YOU.**

We need to know:

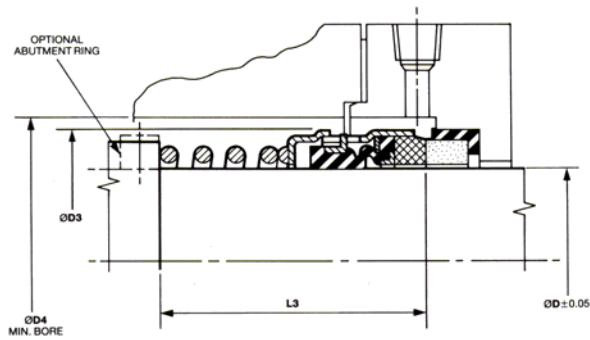
1. Style of seal
2. Accurate shaft diameter where seal locates
3. Diameter of counterbore in pump housing where seat is located
4. Seal face materials
5. Elastomer or details of fluid with temperature, concentration, etc
6. Direction of spring winding for IS 6 & 7



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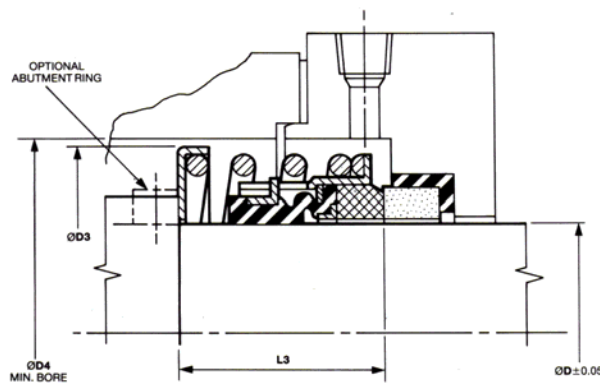
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IS 1



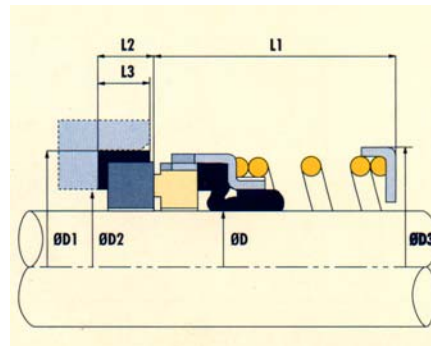
Generally marked 'CRANE' on rubber bellows. Robust parallel spring sits behind bellows assembly to give long slim seal. Rubber bellows forms seal around shaft & is tight fit to rotate seal face against seat. Spring only pushes faces together.

IS 2



Generally marked 'CRANE' on rubber bellows. Bellows assembly locates inside robust parallel spring to give shorter working length but larger outside diameter.

IS 3



Basic rubber bellows style rotary available in a wide range of sizes to interchange with major brand seals & to suit DIN dimension pumps. Bellows assembly locates inside easily compressed parallel spring.

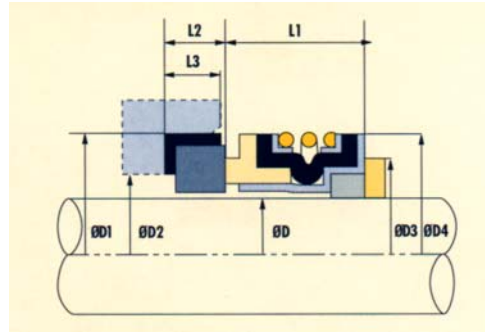
SEE PAGE 6 FOR FACE MATERIAL, ELASTOMER & SEAT STYLE GUIDE



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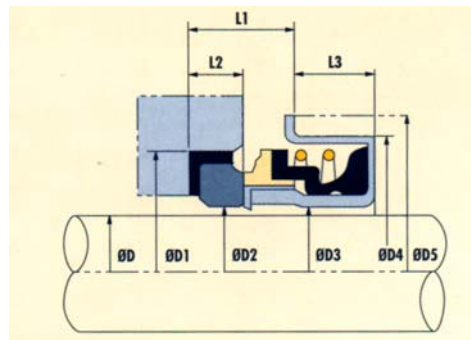
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IS 4



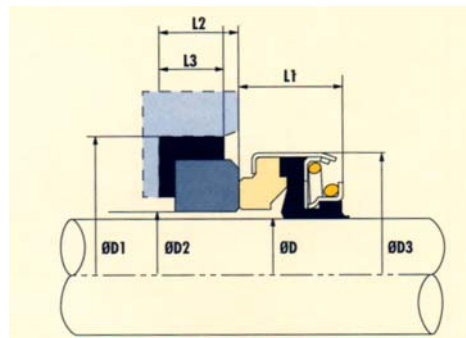
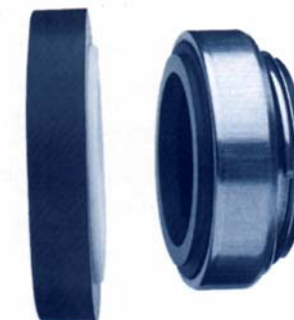
Mainly for Imperial size shafts 3/8" .1" diameter on swimming pool pumps & vehicle water pumps. Standard faces resin/carbon against ceramic.

IS 5



As for IS4 but on some pumps seat is replaced by a machined face on pump impeller or housing.

IS 6



Very short seal, rubber bellows enclosed in pressed steel housing sometimes with identification number stamped around circumference. Generally carbon against ceramic faces. Metric sizes only.

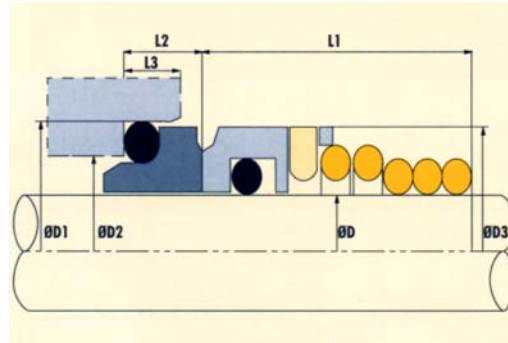
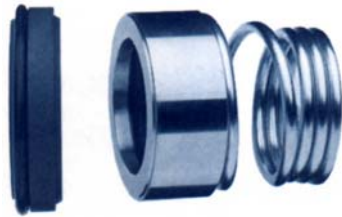
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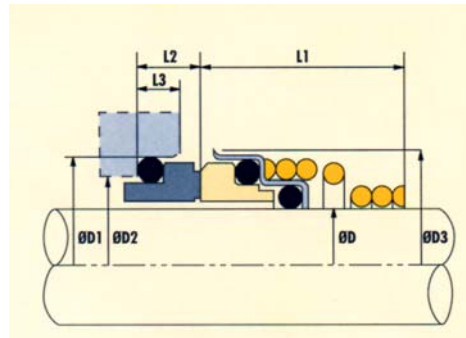
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IS 7



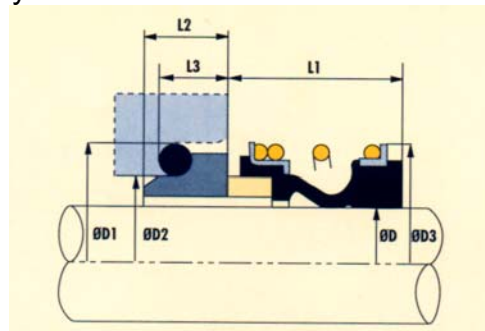
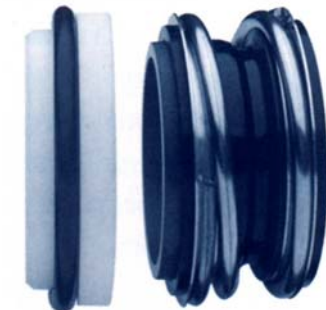
Generally 0 ring mounted carbon seat, solid stainless steel rotary face (sometimes with carbon, Tungsten or Silicon insert). Tapered spring grips shaft to give drive so direction of winding is important 0 ring seals rotary head to shaft. Metric sizes only.

IS 8



As IS7 but standard is carbon seat with ceramic rotary face located in pressed steel head. Metric sizes only.

IS 9



Robust single spring enclosed rubber bellows seal. Sometimes has 'Burgmann' & style number moulded into rubber bellows next to seal face insert. Metric sizes only.

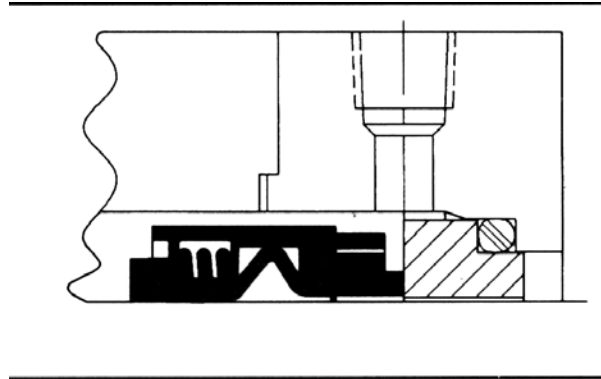
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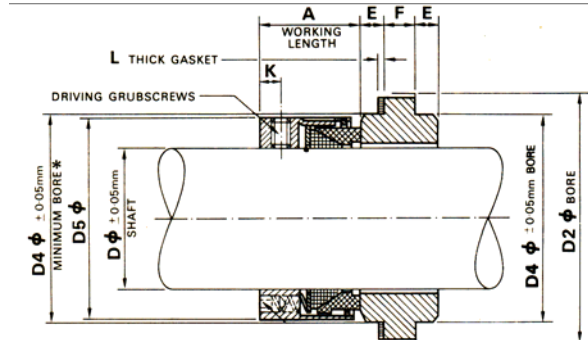
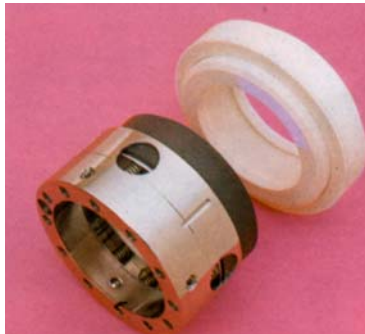
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IS 10



Robust, single spring rubber bellows seal fully enclosed in steel casing. Generally has identification number on components. Metric sizes only.

IS 11



Machined stainless steel housing fixed to shaft with grub screws, contains several small springs around circumference. Has PTFE wedge to seal between face & shaft.

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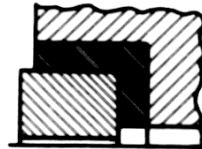


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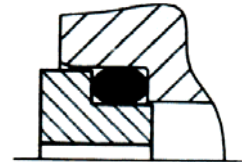
## SEAL IDENTIFICATION GUIDE™

### Seat Styles

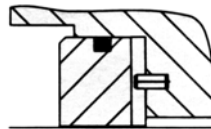
A) Cup Mounted



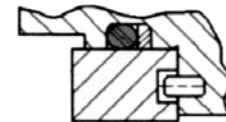
B) L cross section seat, O ring mounted or PTFE washer in place of O ring. Also long version with pin slot behind O ring.



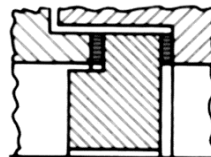
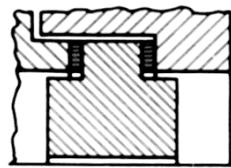
C) O ring mounted, groove in seat OD. With or without pin hole/slot



D) Block type seat sealed by O ring in groove in pump housing. With or without pin hole/slot



E) Clamp in seat  
T or L cross section



### FACE MATERIALS

- Carbon - Black material similar to pencil lead/graphite can be scraped with knife or file.
- Ceramic - White/cream or brown, fairly hard wearing but brittle. Easily discolours as porous.
- Tungsten - Dull grey colour, shiny when polished. Heavy, dense material, hard but robust.
- Silicon Carbide - Black material, very hard but brittle. Lightweight
- Steel - Generally Ni-resist or Stainless Steel. Wears badly, can be remachined.

### ELASTOMERS

- Nitrile - General purpose & oils. Temperature range —40 to +110°C
- Neoprene - Generally for Refrigerants. Temperature range —40 to +110°C
- Viton - Generally for chemicals & high temperatures. Temperature range —25 to +205° C
- EP - Generally for hot water & some chemicals. Temperature range —50 to +150°C