

## O-RING GROOVE DESIGN

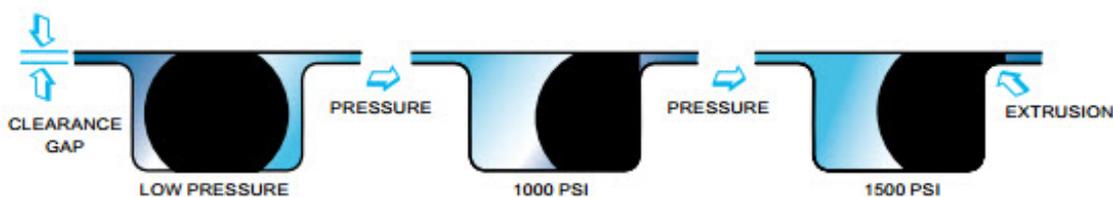
Contact Us for Assistance or Samples



Designing the parts of an application where o-rings will be applied is broadly termed "o-ring groove design". In order to seal properly the o-ring has to deform in the application by being compressed and stretched in any number of ways. The design of the groove where the o-ring sits plays a major role in how the o-ring performs its sealing role.

Extrusion Limits  
 Standard AS568B  
 Metric  
 Dovetail

### EXTRUSION LIMITS & O-RING CLEARANCE GAPS



An o-ring is contained in a gland and forced to flow into the surface imperfections of the glands and any clearance gaps available to it.

An o-ring can perform sealing by means of squeeze under low pressure conditions. The extent of extrusion depends upon the hardness of O-ring, the pressure, and the size of the clearance gap.

Learn more about Extrusion Limits

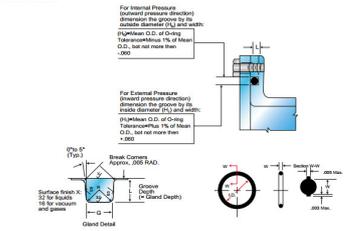
# STANDARD AS568B GROOVE DESIGN

The three main types of standard groove designs are Industrial Static also called Radial, Industrial Reciprocating also called Dynamic, and Face Seals also called Axial or Flange.

Radial and Dynamic seals require the presence of a diametrical clearance gap for installation. Face seals have no clearance gap, but consist of a groove cut into one flange with a flat mating flange bolted together to give a surface to surface contact.

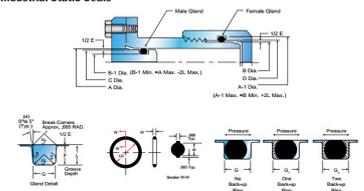
Learn more about AS568B Groove Design

## Gland Dimensions Face Seals

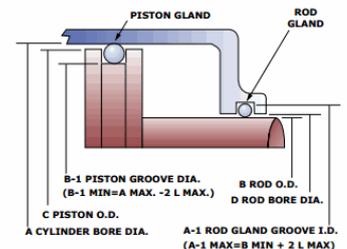


## Face Seals (Axial / Flange)

### Gland Dimensions Industrial Static Seals

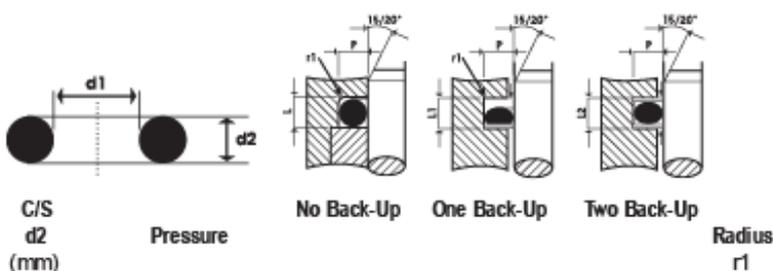


## Industrial Static Seals (Radial)



## Industrial Reciprocating Seals (Dynamic)

# METRIC GROOVE DESIGN



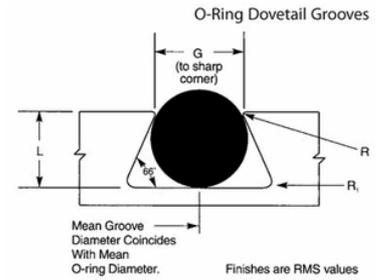
Metric o-ring groove dimensions are listed for the most common metric cross sections with and without backup rings. We have included Static, dynamic, and pneumatic applications.

Learn more about Metric O-Ring Groove Design

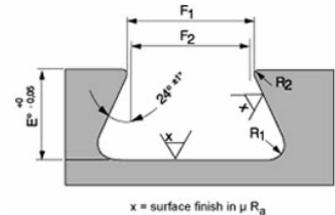
# DOVETAIL GROOVE DESIGN

Dovetail grooves are used to hold the O-ring in-place on a face seal groove during during assembly and maintenance of equipment. An undercut or dovetail groove has proven beneficial in many applications to keep the o-ring in place. This is an expensive groove to machine, however, and thus should be used only when absolutely necessary.

Learn more about Dovetail O-Ring Grooves



## Standard Dovetail Grooves



## Metric Dovetail Grooves

### Seal & Design Able Division

5533 Steeles Avenue West, Unit 11  
Toronto, Ontario M9L 1S7  
Ph: (416) 741-0750  
Gasket@AbleSealAndDesign.com

### Seal & Design Corporate Headquarters

4015 Casilio Parkway  
Clarence, NY 14031  
Ph: (716) 759-2222  
Info@SealAndDesign.com

### Seal & Design Higbee Division

6741 Thompson Rd N  
Syracuse, NY 13221  
Ph: (315) 432-8021  
Sales@Higbee-Inc.com