O-RING GROOVE DESIGN

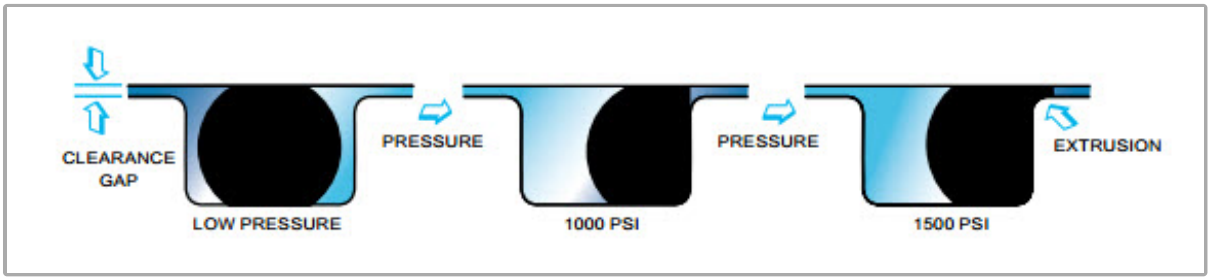
Contact Us for Assistance or Samples

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



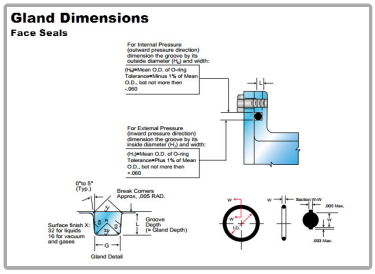
contained in a gland and forced to flow into the surface imperfections of the glands and any clearance gaps available to it.

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.

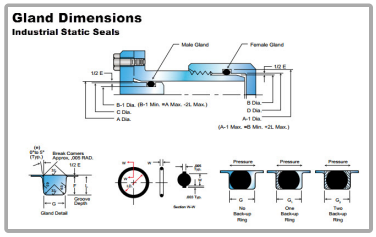
Learn more about Extrusion Limits

STANDARD AS568B GROOVE DESIGN

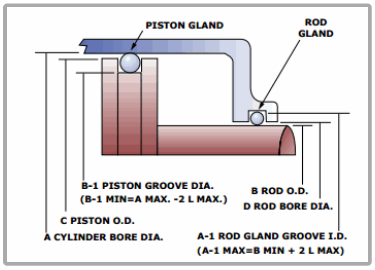
The three main types of



Face Seals (Axial / Flange)



Industrial Static Seals (Radial)



Industrial Reciprocating Seals (Dynamic)

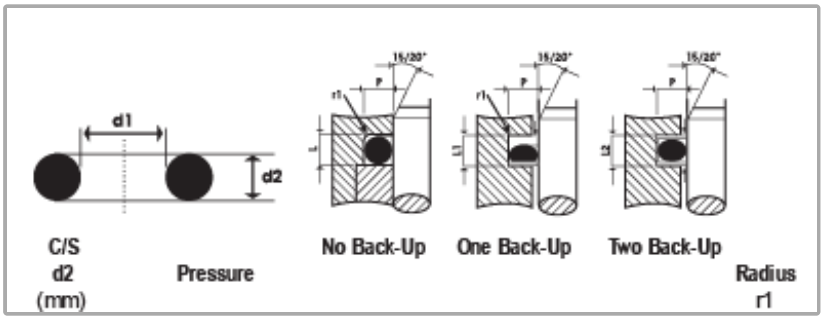
standard groove designs are Industrial Static also called Radial, Industrial Reciprocating also called Dynamic, and Face Seals also called Axial or Flange.

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

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.



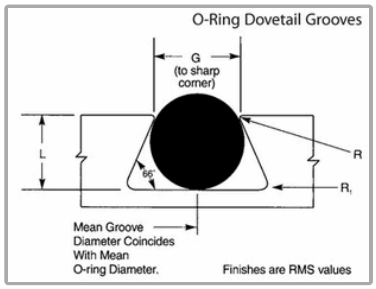
Learn more about Metric O-Ring Groove Design

DOVETAIL GROOVE DESIGN

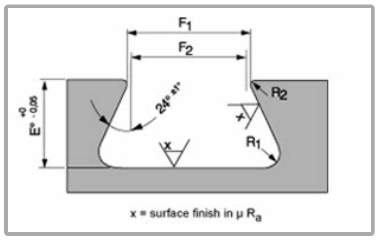
Dovetail grooves are used to hold the O-ring in-place on a face seal groove during during assembly and maintenance of

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

 www.SealAndDesign.com