

MFPSEALS[®]

A DIVISION OF MARTIN FLUID POWER

Oil & Gas

Sealing Products Guide

Volume Two

www.mfpseals.com

MFPSEALS®

A DIVISION OF MARTIN FLUID POWER

Oil & Gas Products Division

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This booklet contains images and information on a variety of Oil & Gas industry related products that we offer. Our product offering is not limited to what is shown in this booklet. Other products, sizes, configurations and materials are available where applicable. Please contact an MFP Seals' Sales Associate with any questions you have about the products shown in this booklet.

MFP Seals has the capability to custom engineer, manufacture, package and ship sealing products to meet or exceed the specifications of your application. Consult with your MFP Seals Sales Associate for more information.

The images shown in this booklet are 3D representations of our products, but may not necessarily represent the actual off-the-shelf product, which may vary in color and finish. The orientation of the products in the images does not necessarily reflect the orientation needed for installation, they are shown in an orientation that is best for product identification within the image.

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Oil & Gas Sealing Products Guide

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QR codes are available for many of the products, to take you to our website's corresponding product page, or directly to the products' parts list.



Building

MFPSEALS[®]

A DIVISION OF MARTIN FLUID POWER

For You.

MFP Seals, a division of Martin Fluid Power, is focused on providing you superior customer service, an effortless experience and our broad network access to all sealing devices that are available worldwide.

Founded in January 1977, Martin Fluid Power now includes five wholesale distribution locations in the United States, plus locations in England, Colombia and Taiwan. The MFP Seals division represents a culmination of our efforts to bring together, in-house, our Design, Engineering, CNC Machining, Injection Molding, Seal Kitting, and Die Cutting departments. Together as MFP Seals we are focused on designing, engineering and manufacturing the highest quality sealing devices, made in the USA, without the premium price.

Going beyond our shores, we work with our global alliance partners, which include the best manufacturers in Europe, Asia and beyond. Thanks to these global partners, we can offer sealing products in all styles, sizes and materials, in both inch and metric, that we are not currently manufacturing here in the United States.

When you're looking for the highest quality seals at the best prices, remember, we've built MFP Seals to be your best choice.

Our Focus:

MFP Seals will provide you, our customer, with the best solutions for your sealing device problems - while maintaining the highest quality, best prices, and all the conveniences that a global manufacturer can provide.

Oil & Gas Sealing Products Guide

Our Locations



Headquarters

Corporate

84 Minnesota
Troy, MI 48083
Phone: (248) 585-8170
Fax: (248) 589-3499

Manufacturing

MFP Manufacturing

1206 East Maple Road
Troy, Michigan 48083
Phone: (248) 583-7767
Fax: (248) 583-1051

MFP Research & Development

84 Minnesota
Troy, Michigan 48083

International Distribution Centers

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mfp.uk@mfpseals.com

Taipei, Taiwan

mfp.tw@mfpseals.com

Bogota, Colombia

mfp.co@mfpseals.com

MFPSEALS[®]

A DIVISION OF MARTIN FLUID POWER

Oil & Gas Sealing Products Guide

Our Locations

**Stocking Locations
Around the Globe**

**Worldwide Service
and Support**

U.S. Distribution Centers

E-mail: sales@mfpsseals.com

Troy, MI

600 Minnesota, Troy, MI 48083

Phone: (248) 585-8170

Fax: (248) 585-4398

International Sales

600 Minnesota, Troy, MI 48083

Phone: (248) 585-8171

Fax: (248) 585-4398

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St. Joseph, MI 49085

Phone: (269) 429-0824

Fax: (269) 429-0829

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Houston, TX 77055

Phone: (713) 939-9990

Fax: (713) 939-9797

Phoenix, AZ

3767 E. Broadway, Rd.

Suite 10, Phoenix, AZ 85040

Phone: (602) 437-3220

Fax: (602) 437-3424

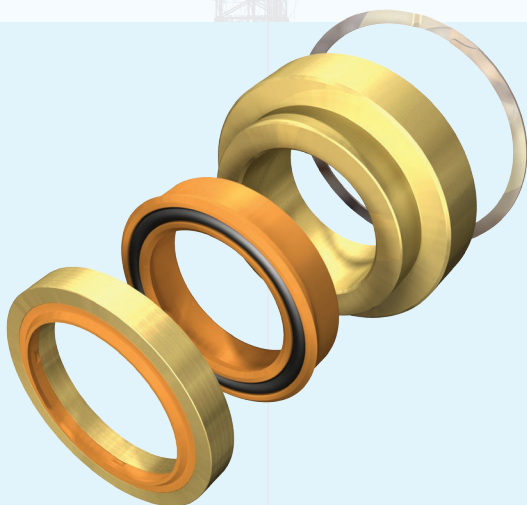
Tampa, FL

5159 Rio Vista Ave. W.

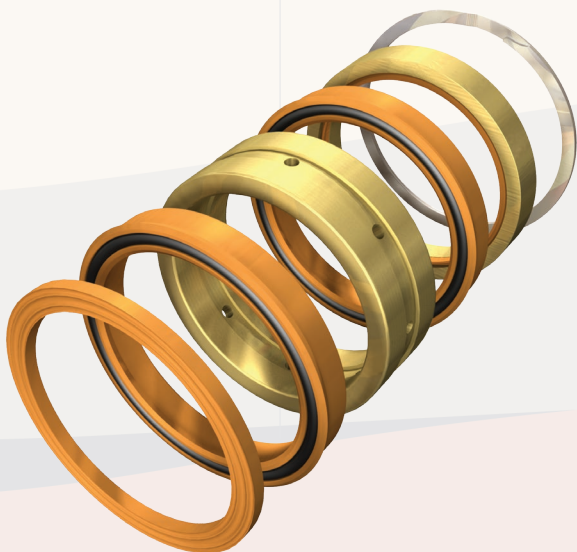
Tampa, FL 33634

Phone: (813) 884-6777

Fax: (813) 884-6999



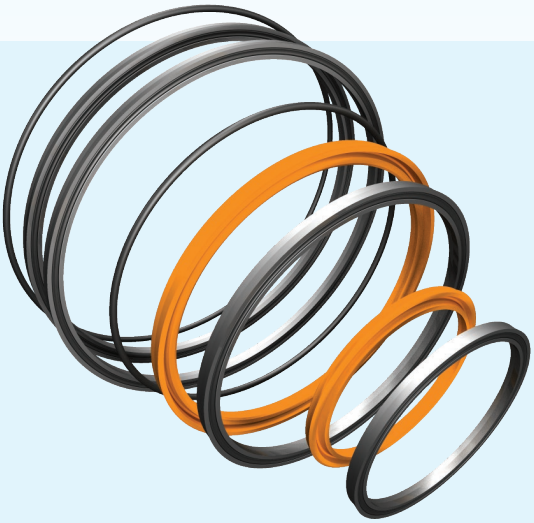
LOCKING SHAFT SEAL ASSEMBLY



RAM SHAFT SEAL ASSEMBLY

BOP Blowout Preventer

Seals and Kits



SPHERICAL BOP SEAL ASSEMBLY

BOP Blowout Preventer Seals and Kits

MFP Seals produces a wide range of sealing products for Annular and Ram type BOP. Our Blowout Preventer seals are available individually or as a complete kit. Please consult MFP Seals for the size and pressure rating your application requires.

QR to our
Spherical BOP
Seal Kit
Parts List



Specialty

O-Rings



Specialty O-Rings

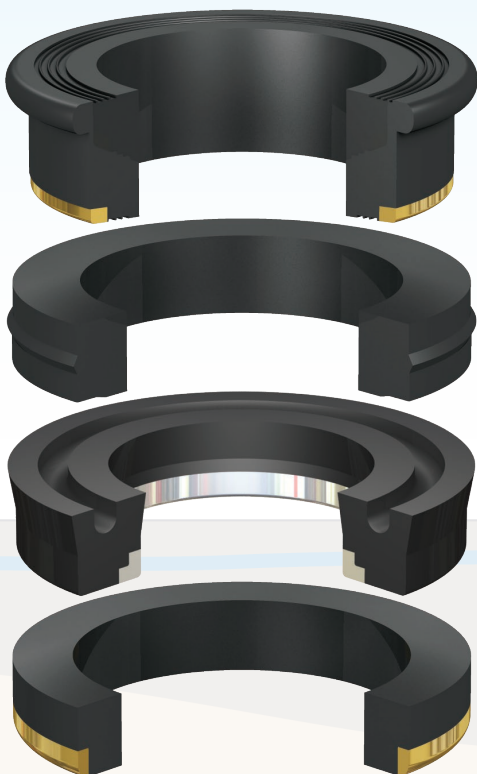
MFP Seals stocks an extensive line of O-Rings for the pumping and oilfield industry. Our O-Rings are available in standard AS568D, European, Japanese metric sizes, as well as custom sizes. We offer High Temperature, Amine, Chemical, Solvent, Organic and Inorganic Acid Resistant, Low Compression Set, FDA and NORSOK Compliant O-Rings, in a wide variety of compounds and durometers. Contact your MFP Seals' Sales Associate for more information.



**QR to our
Custom Molded BN70
O-Rings Parts List**



**QR to our
O-Rings & Back-Up
Rings Web Page**



Flowline Seals

MFP Seals provides a comprehensive line of Flowline products for the pumping and oilfield industry. Our Flowline products include but are not limited to: 1502 Hammer Union Seals, Guiberson® Union Seals, Union Retaining Rings, Plug Valve Seals and Kits, Dart Valve Seals, and Swivel Joint Seals and Kits.

**QR to our Oil & Gas
Sealing Division
Products Web Page**



Flowline

Hammer Union Seals



Hammer Union Seals (HUS)

MFP Seals produces a full line of Hammer Union Seals for use on flow lines. These Hammer Union Seals are designed to seal on a Figure 1502 unions with typical pressure ratings for standard service of 15,000 PSI and are tested to 22,500 PSI.

Our standard Hammer Union Seals are made from a variety of elastomers, for Sour Gas Service we offer proprietary HNBR compounds. MFP Seals also manufactures our HUS with either brass or stainless steel backup rings molded in. Whatever your application requires, MFP Seals has the correct solution.



QR to our Flowline:
Hammer Union Seals
Web Page

Guiberson® Style Union Seals



Guiberson® Style Union Seals

Guiberson® Style Union Seals are available in 1", 1-1/2", 2", and 3" sizes for standard service as well as sour gas service. Our materials include Nitrile, FKM, and HNBR.

QR to our Flowline:
Guiberson® Style
Hammer Union Seals
Web Page



Plug Valve Seals



Plug Valve Seals

MFP Seals produces a wide range of plug valve seals for standard and sour gas applications. We can custom package these into kits to fit your needs. Our materials include Nitrile, FKM, and HNBR. Plug Valve Seals are manufactured with either a brass or stainless steel anti-extrusion ring.

QR to our Flowline:
Plug Valve Seals
Web Page



Flowline

Swivel Joint Seals



Swivel Joint Seals

Swivel Joint Seals come in a variety of sizes and materials for standard and sour gas applications. Our Swivel Joint Seals are made from Nitrile or FKM and include either a Brass or Stainless Steel Anti-Extrusion Ring. Additional Swivel Joint products also include Ball Plugs, Ball Bearings, Snap Rings, and Dust Seals, which can be provided as individual items or as complete kits.



Swivel Joint Seal Kits

Swivel joint seal kits come in a variety of sizes and materials for standard and sour gas applications. MFP Seals can package kits to fit your application, on demand.



**QR to our Flowline:
Swivel Joint Seals
& Kits Web Page**



Valve Seals

MFP Seals is a global leader of sealing products for Choke Valve and Gate Valve equipment. Whether you are looking for Stem Packing, Seat Gaskets, O-rings, Retaining Rings, Bonnet Seal Rings, or Seals for Seat and Body Bushings, MFP Seals has the right seal for you.

**QR to our Oil & Gas
Sealing Division
Products Web Page**



Valve Seals

Choke Valve Packing and Seals



Choke Valve Packing and Seals

A Choke Valve is a control valve used in production wells to control the flow of well fluids being produced. Choke Valves also kill the pressure from the reservoir and regulate the downstream pressures in flowlines. Choke Packing is available in multiple styles and material configurations for standard and sour gas applications.

The XS-Seal® utilizes a chemically inert seal jacket and incorporates a resilient spring element to ensure positive sealing in high or low temperature applications. MFP Seals also provides additional Choke Valve sealing products like Seat Gaskets out of Copper, Carbon Steel, and Stainless Steel, as well as Bonnet O-Rings, Retaining Rings, Junk Rings, and Bean Seals.

U-Packings are most commonly used in oilfield valves where poor gland conditions and harsh media are encountered and are supplied with a PTFE jacket and either Nitrile or FKM filler. Whether you are looking for a chevron style, U-Packing style or our XS-Seal MFP Seals has the right materials and configurations for your application.



**QR to our Valve Seals:
Choke Packing
Web Page**

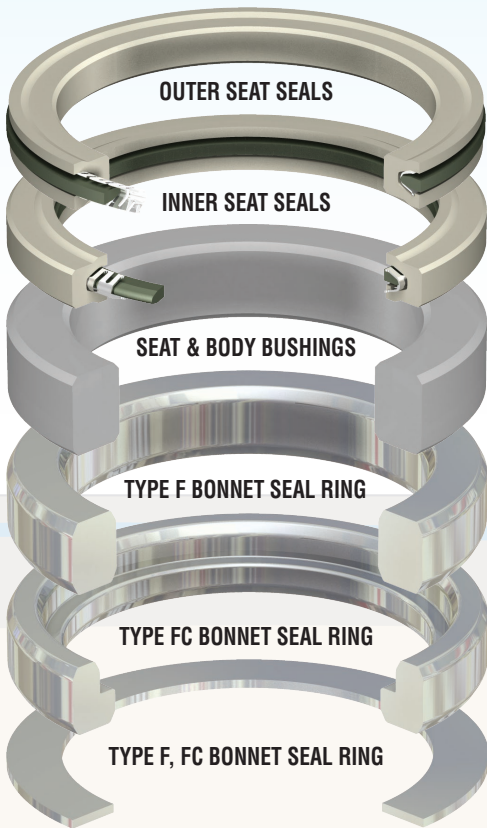
Valve Seals

Choke Valve Packing and Seals



Valve Seals

Gate Valves



Valve Seals Gate Valves

MFP Seals has an extensive line of Valve Seals, available off the shelf, for all types of Gate Valves, which include our SP10, SP15, SP20, and SP25 Stem Packing seals and assemblies, Bonnet Seal Rings, Seat and Body Bushing, as well as our IFS (Inner) and OFS (Outer) seat seals for high pressure or high temperature, applications. At MFP Seals we have the experience and knowledge to conquer the most severe of applications.



**QR to our Valve Seals:
Gate Valve Seals
Web Page**

Valve Seals

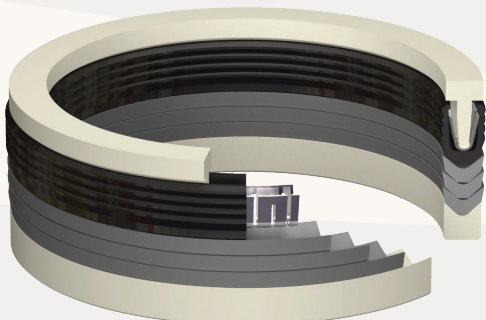
Gate Valves



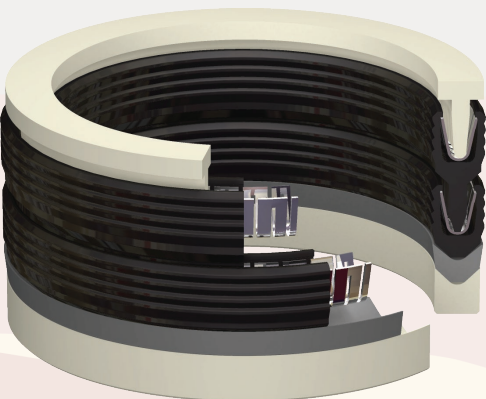
XS SEAL: SP10



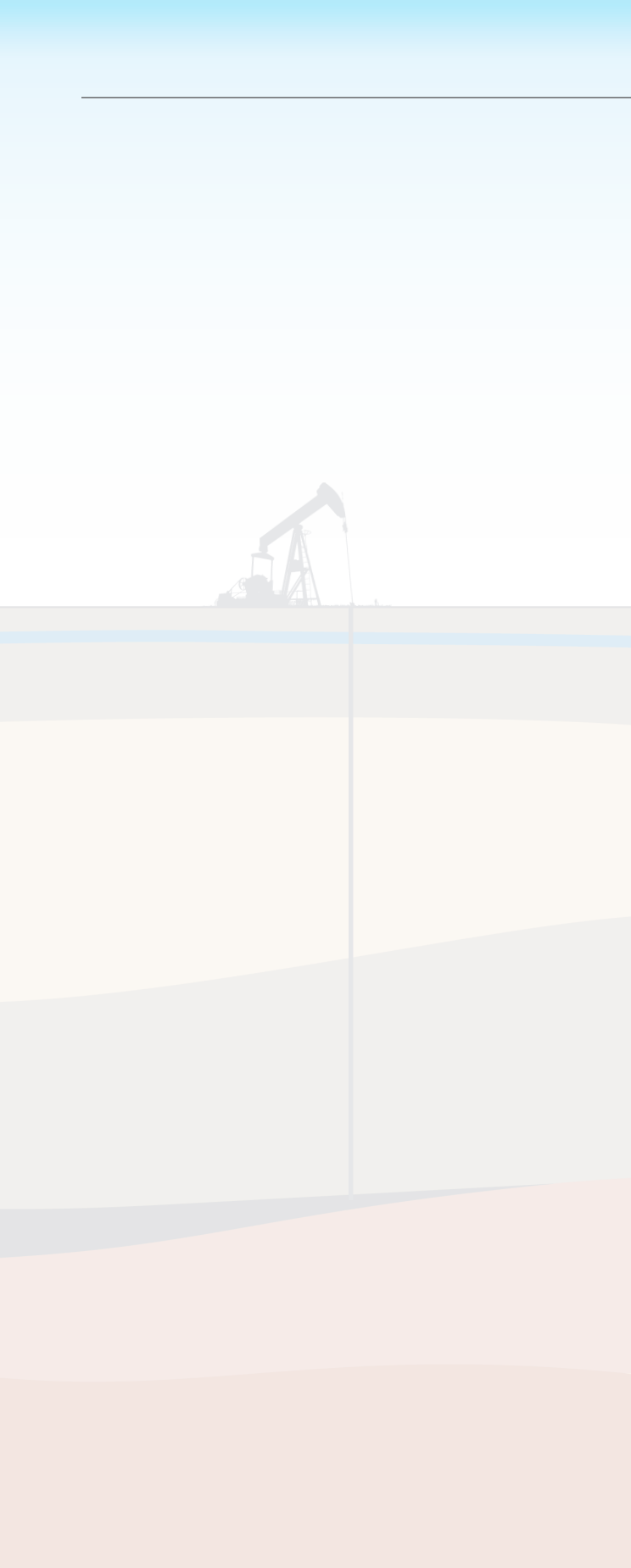
XS SEAL: SP15



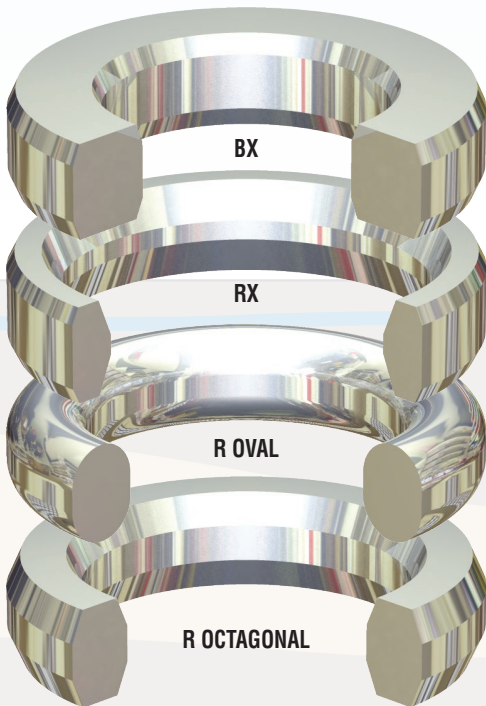
XS SEAL: SP20



XS SEAL: SP25



Flange Gaskets



RTJ - Ring Type Joint Gaskets

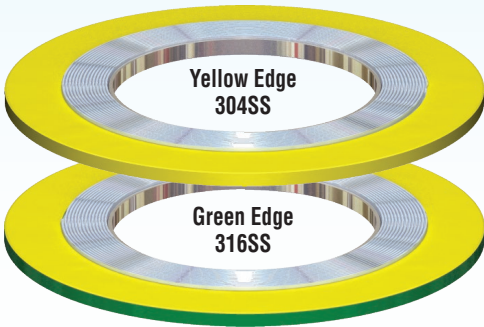
Ring Gaskets are offered in BX, RX, R Oval, and Octagonal styles, out of Soft Iron, Low Carbon Steel, 316 Stainless Steel and 304 Stainless Steel. All MFP Ring Gaskets are manufactured in accordance with ASME B16.20. Each Ring Gasket is marked with ring number, material reference, and API license number for identification and traceability. The material of the gasket should be selected based on the service condition and it is recommended that the gasket material be softer than the mating flange.

**QR to our
Flange Gaskets:
Ring Type Joint
(RTJ) Ring Gaskets
Web Page**



Flange Gaskets

Spiral Wound Gaskets

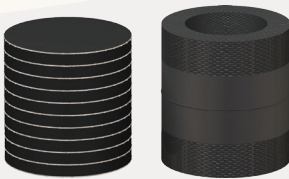


Spiral Wound Gaskets

Spiral Wound Gaskets are offered in a variety of styles, suitable for both flat face or raised face flanges. They are constructed from alternate plies of performed metal windings and non-metal fillers, and can be fitted with an internal ring for additional radial support. MFP Seals, Spiral Wound Gaskets are manufactured in accordance with ASME B16.20.



QR to our
Flange Gaskets:
Spiral Wound Gaskets
Web Page

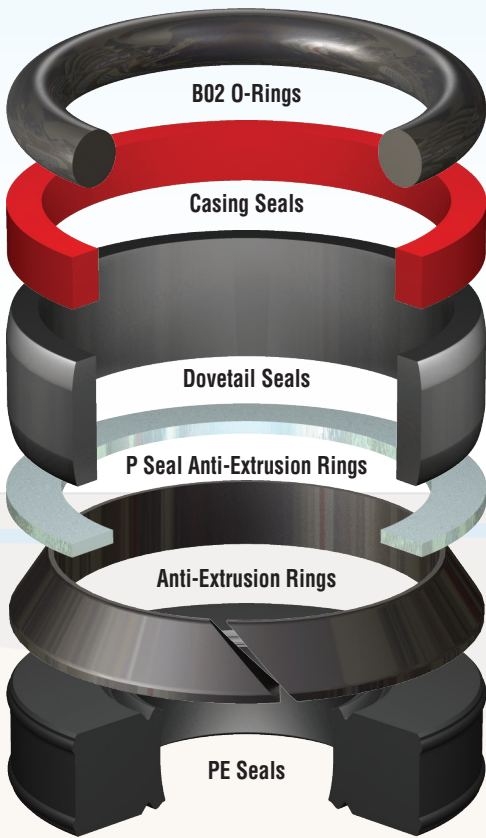


Lock Pin Packing (Slug Packing)

Wireline Seals



QR to our
Wireline:
Lock Pin Packing
(Slug Packing)
Parts List



Wellhead Seals

MFP Seals offers a wide range of sealing products for Wellhead applications which includes Lock Pin Packings, B02 O-Rings, Anti-Extrusion Rings, Casing Seals, C22 Packing Rubbers, Support Plates and Alignment Rings, C29 Packing Rubbers, S Seals, FS Seals, P Seals and P Seal Anti-Extrusion Rings, PE Seals and PE Anti-Extrusion Rings, and TC-1W Seals.

See more Wellhead Seals on the following pages.

**QR to our
Wellhead
Products
Web Page**



Wellhead Seals

FS & S Seals



FS Seals

FS Casing and Tube Seals are available in multiple grades of both HNBR, or FKM for standard service, rapid gas decompression, Norsok M710 compliance, as well as, grades for low temperature applications. FS Casing seals replace traditional plastic packing seal arrangements and are used in applications where there are large clearances between wellhead components.

QR to our Wellhead Seals: FS Seals Parts Lists



HNBR 75A



HNBR 85A

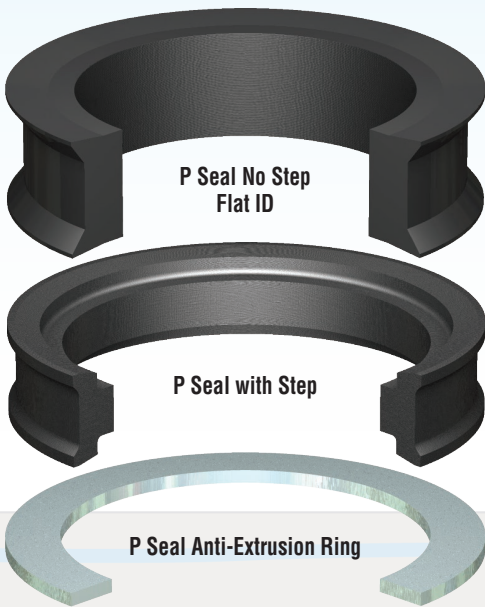


S Seals

S-Seals are available in multiple grades of both HNBR, or FKM for standard service, rapid gas decompression, Norsok M710 compliance as well as grades for low temperature applications. S-Seals come with Stainless Steel anti-extrusion springs and are made to fit a wide range of standard SAE housings.



**QR to our
Wellhead Seals:
S Seals
Parts List**



P Seals

MFP Seals offers a full range of P-Seals for Casing and Tubing heads. Our Materials can be fabric & rubber, or homogeneous rubber, and can be supplied with or without anti-extrusion rings.

P-Seals are energized by the injection of plastic packing sticks. These plastic packing sticks are available in a variety of materials designed for standard temperature, high temperature or cryogenic applications. Consult with MFP Seals for the appropriate P-Seal and plastic packing stick materials for your application.



QR to our Wellhead Seals: P Seals Parts Lists



P Seals No Step



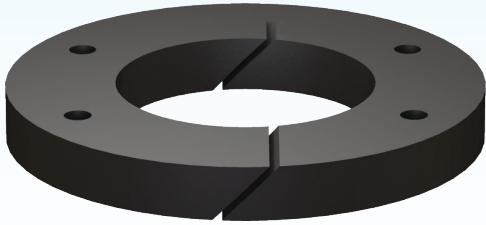
P Seals with Step

**P Seal
Anti-Extrusion
Ring**



Wellhead Seals

C22 Packing Rubbers & Casing Seals



C22 Packing Rubbers

C22 Packing Rubbers are made from a standard grade of NBR 70 that is reinforced with an NBR/ Cotton Fabric. Additional C22 accessories like C22 Support Plates and C22 Alignment Rings are available upon request.



QR to our
Wellhead Seals:
C22 Packing Rubbers
Parts List



Casing Seals

MFP Seals offers a range of Casing Seals for the Oil & Gas Industry. Whether you need Buttress Thread, Long Thread, External Upset End, or Non Upset End Casing Seals, we have them stocked and ready for you.

QR to our Wellhead Seals: Casing Seal Parts Lists



Buttress Thread



Long Thread



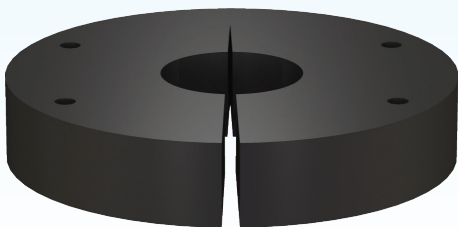
External Upset End



Non Upset End

Wellhead Seals

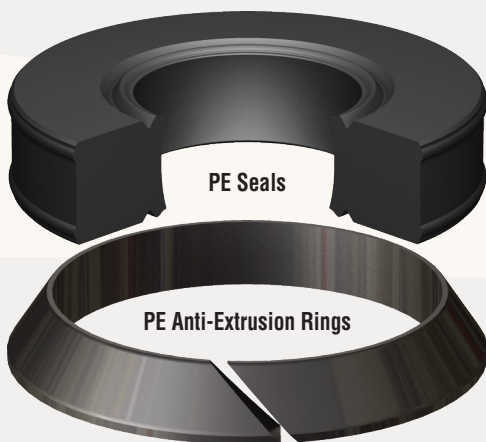
C29 Packing Rubbers & PE Seals



C29 Packing Rubbers

C29 Packing Rubbers are made from a durable NBR 70 material.

QR to our
Wellhead Seals:
C29 Packing Rubbers
Parts List



PE Seals

PE Seals are secondary seals, retained with a snap wire, and located in a casing or tubing spool. The PE Seal is energized when the spool is installed over the casing stub and the flange connection is made up. Our standard PE Seal is manufactured in either NBR or HNBR rubber.

QR to our Wellhead Seals: PE Seal Parts Lists



PE Seals



PE Anti-Extrusion
Rings

Wellhead Seals

TC1A & TC-1W



TC-1A

TC-1A seals fit in a mandrel type hanger that has female suspension and lift threads. The seal is activated by tubing weight and lock-down pins.



QR to our
Wellhead Seals:
TC-1A Packing Rubbers
Parts List



TC-1W

TC-1W seals fit in a tubing hanger and are designed to seal the annulus. The seal is activated by engaging the lock-down pins. TC-1W seals are available in a flat style or with a step. Consult your MFP Seals sales associate with your requirements.

QR to our Wellhead Seals: TC-1W Seal Parts Lists



**TC-1W, 11" OD, 1-1/2"
Thick Flat Style**



**TC-1W, 6" OD
with Step**

Wellhead Seals

Dovetail Seals



Dovetail Seal

MFP Seals has Dovetail Seals for nominal plug sizes of 7" up to 20". Our Dovetail Seals are made from a durable NBR 70 material.

QR to our
Wellhead Seals:
Dovetail Seal
Parts List



B02 Tubing Head Adapter O-Rings



B02 Tubing Head Adapter Anti-Extrusion Rings

B02 O-Rings & Anti-Extrusion Rings

Our industry standard B02 Tubing Head Adapter O-Ring is made from a durable NBR 70 (Nitrile) material. Its counterpart, B02 Tubing Head Adapter Anti-Extrusion Ring is available in an NBR 90 (Nitrile) material.

QR to our
Wellhead Seals:
B02 O-Ring and
Anti-Extrusion Ring
Parts List



Oil & Gas Sealing Products Guide

Approved Compounds



The Oil & Gas Industry has a high demand for seals made from specialty compounds. Designed to withstand high pressures and temperatures, and meet the specifications of NORSOK and API testing, MFP Seals has the compounds designed for your application.

API 6A Annex F - Approved

(Sour Gas Service Testing)
(Fluid Immersion Testing)

- N6021** - HNBR - 80 Shore A
-50°F to +300°F
API 6A (DD/EE Material Class) - Approved

- U4145** - Ultraflex® XS - 95 Shore A
-65°F to +212°F
API 6A (DD/EE Material Class) - Approved

- U4150** - Ultraflex® XTS - 92 Shore A
-45°F to +275°F
API 6A (DD/EE Material Class) - Approved

NORSOK M710 Rev.2 - Approved

(Rapid Gas Decompression Testing)

- FC7600** - Fluorochem® FFKM - 90 Shore A
+32°F to +500°F
NORSOK M710 Rev. 2 RGD Test - Approved

- FC7625** - Fluorochem® FFKM - 90 Shore A
+25°F to +446°F
NORSOK M710 Rev. 2 RGD Test - Approved

- N7020** - HNBR ED - 90 Shore A (FS Seals)
-13°F to +320°F
NORSOK M710 Rev. 2 RGD Test - Approved

- N9020** - HNBR ED - 90 Shore A
-25°F to +300°F
NORSOK M710 Rev. 2 RGD Test - Approved

- V9080** - FKM ED - 90 Shore A
-15°F to +400°F
NORSOK M710 Rev. 2 RGD Test - Approved

- V9090** - FKM ED - 90 Shore A - **LOW TEMP FKM**
-40°F to +400°F
NORSOK M710 Rev. 2 RGD Test - Approved

- V7200** - FKM ED - 90 Shore A
-22°F to +482°F
NORSOK M710 Rev. 2 RGD Test - Approved

Oil & Gas Sealing Products Guide

Approved Compounds

NACE TM0297:2008 - Approved (Rapid Gas Decompression Resistant)

V7350 - Aflas® - 90 Shore A - **RGD RESISTANT**
-22°F to +482°F
NAC E TM0297:2008 - Approved

MFP Seals Fluorochem® FKM Extreme and FFKM Compounds

FC7500 - Fluorochem® FKME - 75 Shore A
-7°F to +482°F
Extreme chemical resistant fluoroelastomer.

FC7510 - Fluorochem® FKM - 75 Shore A
-4°F to +392°F
High purity, abrasion resistant fluoroelastomer.

FC7525 - Fluorochem® FFKM - 75 Shore A
+5°F to +608°F
Peroxide-cured FFKM designed for use in AMS 7257C aerospace applications, chemical processing and applications requiring excellent thermal resistance.

FC7550 - Fluorochem® FFKM - 75 Shore A
+5°F to +608°F
High purity, low compression set, excellent heat and chemical resistance.

FC7650 - Fluorochem® FFKM - 70 Shore A
-4°F to +446°F
General purpose Perfluoroelastomer.

FC7675 - Fluorochem® FFKM - 75 Shore A
+25°F to +446°F
Certified to USP Class VI and is FDA compliant for food processing applications. Wide chemical resistance.

FC7700 - Fluorochem® FFKM - 75 Shore A
+20°F to +446°F
Broad chemical resistance. Perfluorinated Elastomer.

FC7725 - Fluorochem® FFKM - 75 Shore A
+20°F to +446°F
Semiconductor: General Purpose. Certified to USP Class VI. Compatible with aggressive dry process chemistries & reactive plasmas. Excellent chemical and solvent resistance. Heat resistance up to +446°F

FC7750 - Fluorochem® FFKM - 75 Shore A
+21°F to +570°F
General purpose perfluoroelastomer. High heat resistance.

FC7775 - Fluorochem® FFKM - 75 Shore A
+20°F to +446°F
Outstanding chemical and solvent resistance. Compatibility with Nitric Acid and amine chemicals. Heat resistance to +446°F.

FC7800 - Fluorochem® FFKM - 75 Shore A
+23°F to +608°F
Outstanding chemical and solvent resistance. Compatibility with Nitric Acid and amine chemicals. High temperature resistance up to +608°F. Low compression set. AMS 7257.

MFPSEALS[®]

A DIVISION OF MARTIN FLUID POWER

www.mfpseals.com

Oil & Gas

Sealing Products Guide

Volume Two

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