



Sealing In Success™



See us inside.

PRODUCT PORTFOLIO

QUICK REFERENCE GUIDE

www.mfpseals.com

Customer Service Policy

ENGINEERING & SUPPORT SERVICES

MFP Seals and our worldwide manufacturing partners, retain engineering support to help you solve difficult and unique problems. Let us look at your total sealing program, and offer solutions based on new technology and modern materials. As you can see from our product offerings, we are the complete sealing supplier, if it's a seal, MFP Seals has it!

Our in house manufacturing includes CNC machining of seals, bearings, back-up rings, wipers, and all related sealing devices. Our modern machining centers can make that special part, up to 40 inch OD. To support this service, we maintain one of the largest tubing and rod stock supplies of rubber, and plastic raw material in North America. Stock materials include urethane, Hytrel®, Delrin®, Nylon®, NBR and FKM rubber, and a very wide assortment of Teflon® and filled PTFE materials. We can make that prototype or special part you need without tooling charges. Our engineering staff can assist you with materials, tolerances and design.

For larger quantities, we offer in-house injection molding. Our presses can manufacture parts from many plastic materials, including Nylon®, Delrin®, Hytrel® & Urethane. Molds can be produced in house for fast and affordable service. Let us make those custom parts, in the color of your choice, with your part number and logo molded into the part. Contact any of our MFP Seals' branches for help with your sealing needs!

Our gasket cutting division will cut one, or ten thousand, or more, of your standard or custom gasket shapes. We stock all the raw materials to ensure fast delivery to you. Let us help you solve those gasket problems, or just help to reduce your costs!

Sealing devices are not our only product, we offer more than just "off the shelf" solutions. If you are looking for something "Standard", we have it in stock, or can get it for you. If you're looking for something "Custom", we can manufacture it for you. We are your total CNC machining and Injection Molding solutions company.

SHIPPING POLICY

Your order will be shipped from the nearest MFP Seals location which has the requested parts in stock.

UPS® will be used in the USA whenever possible. However, should your order exceed UPS size or weight limits, "Common Carrier" will be selected to speed delivery to you. Please request FedEx®, UPS® Air, Next Day, 2nd or 3rd Day, preferred truck line, or any special instruction. We will promptly take care of your needs.

BACKORDERS POLICY

Backorders will ship per customer request including freight charges.

NON-CATALOG ITEMS

It is important to note that the range of products available from MFP Seals is not limited to those shown in this catalog. We have the ability to produce almost any size and type of seal required. Please contact customer service for any item not shown in this catalog.

RETURN GOODS

Before any item can be returned, a Return Authorization Number (RA#) must be obtained from our customer service department. The RA# must appear on all packages sent to MFP, whatever the reason. Parts must be returned within 30 days of receipt of goods. Returned items are subject to a 20% restocking charge. All returns are subject to inspection by our Quality Control Department and may be rejected if not in resalable condition. Special order items are non-returnable.

CANCELLATIONS

If you need to cancel an order, please contact the same location who received your order. Orders may be canceled subject to payment of expenses incurred and only if production has not begun.

WARRANTY

Martin Fluid Power's exclusive warranty is against defects in materials and workmanship at the time of shipment. It is in lieu of all other warranties. There is no implied warranty of merchantability or fitness for a particular purpose. The exclusive remedy is replacement of defective products or, at our option, refund of their purchase price. All damages exceeding the purchase price are excluded, whether consequential or otherwise, regardless of cause. The sale of our products under any other warranty or guarantee, expressed or implied, is not authorized by the company. All technical advice, services and recommendations rendered by Martin Fluid Power, or its affiliated companies are gratis. They are based on technical data which the seller believes to be reliable, and are intended to be used by persons having skill and know-how, and the ability to analyze the application where the product will be used and apply the information to it at their own discretion and risk. We cannot assume or accept any responsibility for results obtained or damages occurred from any installer's decisions or work, in whole or in part.

All stated data results from random tests taken from ongoing production. All data was established based on standard test-products according to ISO, DIN and ASTM standards, and basically can not be carried over to the completed seal. Our applied technical advice, either oral, written or through tests is given according to our best knowledge. However, this information is to be considered as non-obligatory instruction, also in terms of any protective rights of a third party, and does not exempt you from testing our product in reference to its suitability for the intended process and purpose. Utilization, application and processing of the products occur entirely outside of our control and are therefore exclusively your responsibility. However, should a case of liability come into question, it will be limited to all damages in the value of the product which we delivered and you used. By all means, we do warrant the impeccable quality of our products in accordance with our general sales and delivery conditions. Descriptions, specifications, compounds and products are subject to change without notice. Errors and omissions are subject to correction.

BUILDING MFP SEALS® FOR YOU

MFP Seals is a leading manufacturer and global supplier of injection molded and CNC machined, thermoplastic, elastomeric and composite products. Offering in-house engineering, manufacturing and testing, with an extensive portfolio of hydraulic and pneumatic sealing devices, machined plastic products, die cut gaskets, roll or sheet materials, and specially developed compounds, we are the perfect source for your design and manufacturing needs.



Through an exclusive network, MFP Seals extends its global reach with key Authorized Distributorships around the globe. MFP Seals works closely with distributors, and customers in the field, studying feedback to improve product performance. Throughout the product's lifespan, from initial design to delivery, we maintain a chain-of-evidence to ensure traceability and accountability of both the products and the materials used to produce them.

INJECTION MOLDING

If you are in need of Injection Molding, MFP Seals keeps the pressure on, producing outstanding molded products on presses up to 500 ton. Keeping our tooling, design and production, in-house, guarantees that quality control is maintained throughout the manufacturing process. From simple to complex mold construction, free-standing or insert molds with multiple cavities, custom shapes, actions and slides, elastomer to metal bonding, low to high volume, our Injection Molding division has the experience to handle your request.

CNC MACHINING

Our business is reliant on the cutting edge of CNC Mill and Lathe operations, maintaining a machining group that covers the gamut of manual to modern technology, giving us both old and new school machining proficiency. With the ability to turn up to 1,000 mm, or 40 inches in diameter, we can handle your larger project requirements. And, if your design requires live tooling or multi-axis travel, we're ready to take on your most complex projects.

LOGISTICS

MFP Seals' world headquarters, located in Madison Heights, Michigan, is home to our Corporate and Engineering offices, Research & Development center, and our Manufacturing facilities; occupying nearly 40,000 square feet. Nearby, in Troy, Michigan, a Kitting and Shipping facility utilizes over 30,000 square feet of warehouse and sales offices. Complementing the corporate headquarters, MFP Seals has five branch offices in the United States, located in Troy, Michigan; St. Joseph, Michigan; Houston, Texas; Phoenix, Arizona; and Tampa, Florida; with overseas locations in Lincoln, England, and Taipei, Taiwan.

QUALITY ASSURANCE

At MFP Seals we stand behind our products. Our knowledgeable and experienced staff can troubleshoot problems, should any arise. We can help diagnose problems and recommend solutions through replacement, modification, redesign, or alternate material selection. Our goal is to improve the performance and longevity of your equipment. With each evolution of a product's design, or modification of materials, we put forth what we feel is the best product on the market today!

SEALING IN SUCCESS™

While maintaining a worldwide presence, and respect for the different cultures around the globe, MFP Seals retains its American Heritage, taking pride in being American Owned and Operated, for over 40 years. Inheriting the legacy of Martin Fluid Power (est. 1977), MFP Seals is continuously developing products which are engineered, tested, and manufactured, solely in the U.S.A.

By utilizing local sourcing of materials (whenever possible), and in-house design and manufacturing capabilities, we are able to reduce costs, avoid tariffs, maintain strict quality standards, and greatly reduce lead times. From start to finish, our goal at MFP Seals is Sealing in Success™, the successful performance of our products, and the success of the businesses worldwide that depend on our products every day.

OUR FOCUS

We welcome you to the MFP Seals family of products and services. MFP Seals will work to provide you, our customer, with the best solutions for your sealing device or plastic products needs, while maintaining the highest quality, competitive pricing, and all the conveniences that a global manufacturer can provide.

ELASTOMERS, COMPOSITES & THERMOPLASTICS

- AEM 87A
- Aflas® 85A
- Aflas® ED 85A
- C1000 Phenolic Composite
- C2000 Phenolic Composite w/Graphite
- C4000 Polyester Composite w/PTFE
- C4025 Polyester Composite w/Graphite
- Carboxylated Nitrile 85A
- EPDM 87A FDA (White)
- EPDM 88A W270, KTW (Black)
- FPM 85A
- FPM 85A FDA
- FPM BS3 80A
- FPM DCP 84A (Black)
- FPM ED 85A
- H2140 - Hytrel® 40D
- H2155 - Hytrel® 55D
- HNBR 82A FDA (Green)
- HNBR 95A (Black)
- HNBR ED 85A (Black)
- HPU 58D (Dark Red)
- HPU 58D Lubricated (Black)
- HPU 85A (Light Green)
- HPU 95A KTW (Transparent)
- HPU 95A Low Temp (Blue)
- HPU 95A Lubricated (Black)
- HPU 96A FDA, 3A-sanitary (Opaque)
- M1000 (Polyether Ether Ketone - PEEK™)
- M1001 (Acetal)
- M1002 (Nylon® 6 MOS2)
- M1005 (40% Glass, Nylon)
- M1006 (UHMW-PE)
- M1007 (PEEK™, 30% Carbon Fiber)
- M1008 (PEEK™, 30% Glass Fiber)
- MVQ 79A, 84A FDA
- NBR 82A Low Temp
- NBR 85A, 90A
- NBR 90A FDA (White)
- PU 95A (Dark Green)
- T1000 (PTFE, Virgin)
- T1025 (PTFE, Moly)
- T1050 (PTFE, Glass)
- T1075 (PTFE, Glass)
- T1100 (PTFE, Glass, Moly)
- T1125 (PTFE, Carbon, Graphite)
- T1150 (PTFE, Carbon)
- T1175 (PTFE, Carbon)
- T1200 (PTFE, Graphite)
- T1225 (PTFE, Ekonol)
- T1250 (PTFE, Polyimide)
- T2000 (TFM, Unfilled)
- T2025 (TFM, Carbon)
- T2050 (TFM, Carbon, Carbon Fiber)
- T2075 (TFM, Carbon Fiber)
- T5000 (PTFE Bronze)
- T5025 (PTFE, Bronze, Moly)
- T5050 (PTFE, Bronze)
- T5100 (PTFE, Enhanced Bronze)
- U2145 TPU 95A
- U2146 TPU 90A
- U2151 TPU 95A
- U4145 TPU 95A TODI
- U4150 TPU 90A PPDI

Other materials available, contact the MFP Seals Engineering Department for more information.

STANDARD SEAL PROFILES OR CUSTOM SHAPES MADE TO ORDER

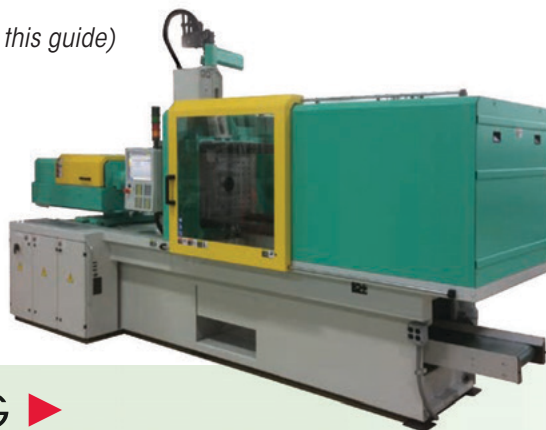
QUICK TURN-AROUND ON PROTOTYPES OR PRODUCTION

(see the custom machined seals section of this guide)



**CNC
Machining**

**Injection
Molding**



PTFE COLOR COATING ►

- PTFE color coatings make identification easy, when used to distinguish sizes or materials.
- The PTFE coating extends wear life, resulting in reduced material decay and less downtime.
- Coated O-Rings are less susceptible to contamination and are easier to handle by not having to deal with messy oil-based lubricants.
- Added lubrication makes installation easier, reduces assembly time, and keeps machinery running smoother, longer. Less down-time equals more profit.

BLACK

LIGHT
BLUE

MEDIUM
BLUE

DARK
BLUE

BROWN

CLEAR

GRAY

LIGHT
GREEN

MEDIUM
GREEN

DARK
GREEN

ORANGE

PINK

PURPLE

RED

YELLOW

SERVICES & QUALITY

MFP Seals state-of-the-art measuring center allows for precision measuring of product to ensure they meet our quality standards and your specified tolerances. This powerful vision system is accurate up to 0.4 µm. So, we know without a doubt, that our parts will fit your application.

Services:

- Blanket Orders
- JIT Inventory
- KanBan

Quality:

- ISO 9001-2008 Certified
- PPAP Submission
- Certification of Materials
- Non-contact vision system (0.4 µm)



CUSTOM PACKAGING AND KITTING

At MFP Seals we design, manufacture and package the highest quality seal kits in the industry. Whether you need seal kits for hydraulic or pneumatic cylinders, pumps, valves, or motors, we can meet or exceed your specifications. Our kitting services include custom packaging from shrink wrapping, bagging and labeling, to custom printed boxes, blister packaging and skin board packaging. We now offer skin board packaging, that can be custom printed on demand.

At MFP Seals we have experience designing custom packaging for these Industries and more:

- | | |
|-----------------------|--------------|
| • Automotive | • Mobile |
| • Marine | • Forestry |
| • Chemical Processing | • Oilfield |
| • Mining | • Industrial |
| • Construction | • Refuse |



O-RINGS

MFP Seals stocks millions of O-Rings in standard AS568A sizes, and both European and Japanese metric sizes. Our O-Rings are available in a wide variety of colors, compounds, and durometers to meet automotive, FDA, industrial, military, oil field, NORSOK, RoHS and UL specifications.

- | | | | |
|------------------------|------------------------|----------------------|------------------------|
| • Aflas® | • Ethylene Propylene | • Metallic O-Rings | • Teflon® Encapsulated |
| • Buna N | • Fluorocarbon | • Polyurethane | • Styrene Butadiene |
| • Butyl | • Fluorosilicone | • Perfluoroelastomer | • Vamac® |
| • Carboxylated Nitrile | • Neoprene | • Silicone | |
| • Epichlorohydrin | • Hydrogenated Nitrile | • Teflon® | |

HYDRAULIC & PNEUMATIC SEALS



Our selection of inch and metric sizes, styles and materials is unsurpassed. The products that we do not produce ourselves, we supply from the world's top manufacturers, to offer you a complete selection of hydraulic and pneumatic seals.

- AN Seals
- Anti-Extrusion Rings
- Back-Up Rings
- Buffer Rings
- Cap Seals
- Capped GT Rings
- CPX - Piston Seal
- Dust Covers
- Excluders
- Flange Seals
- Guide Rings
- GT Rings
- High Pressure Seals
- High Temperature Seals
- Lip Seals
- Loaded Lip Seals
- O-PAC®
- Piston Rings
- Piston Cups
- Rod Seals
- Rotary Seals
- Scrapers/Excluders
- Spring Loaded Seals
- T-Seals
- Teflon Seals
- U-Cups
- Vee Packing Sets
- Wipers
- X-PAC®

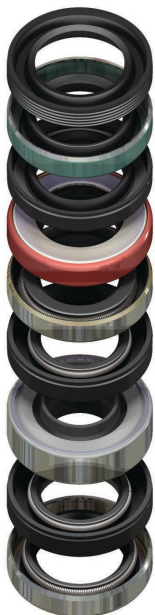
SPRING ENERGIZED SEALS

Spring Energized Seals are designed for applications that challenge conventional seals, regardless of the media. Made from thermoplastic or PTFE materials and application based spring styles, Spring Energized Seals are used for explosive decompression resistance or AED Seals, vacuum, extreme pressure and temperature, high surface speed, non-lubricated systems, and more.

- Thermoplastic Seal
- PTFE Seal
- Helical Spring
- Slanted Coil Spring
- U & V Spring
- 301, 302, 304 & 316 Stainless Steel
- Alloy C-276 Beryllium Copper
- Elgiloy and other Alloys



OIL SEALS



We stock rotary shaft oil and grease seals in a broad range of sizes, materials, and lip styles, to fit every application.

A private labeling service is available for our products, to show your company name and part numbers. We stock a full range of inch, metric and non-standard sizes.

- Nitrile
- Low Pressure
- Polycarbonate
- High Pressure
- Silicone
- PTFE
- Viton®
- Specials

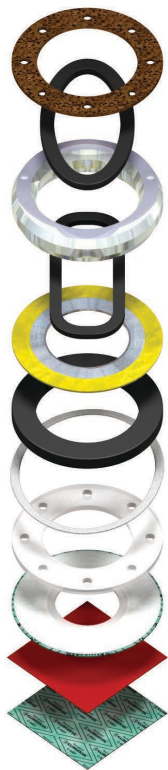
BUSHINGS, BEARINGS, & GUIDE RINGS

Bushings, Bearings and Guide Rings are known by many different names, and are used in many different applications. Whether they are made from Acetal (Delrin®), Brass, Bronze, C4000, M1005, Peek, Phenolic, Polyamides (Nylon®), Polyester, T5100, Teflon®, or UHMW, we can help you in designing, manufacturing and stocking, we have the solution you need.

- Bearing Strip
- DU Bushing
- Flanged & Journal Bearings
- Guide Rings
- Machined Plastics
- Rod End Bearings
- Rod Glands
- Self Aligning Bearings
- Self Lubricating Bearings
- Sleeve and Spherical Bearings
- Split Tension Bushings
- Thrust Bearings



DIE CUT GASKETS & SHEET MATERIALS



MFP Seals can die cut or fabricate standard or custom gaskets from our warehouse full of sheet materials.

- Boiler Gaskets
- Compressed Gaskets
- Expanded PTFE
- Cork & Rubber Sheet
- Envelope Gaskets
- Flange Gaskets
- Flexible Graphite
- Gasket Cutting Sets
- Handhole Gaskets
- Lathe Cut Gaskets
- High Temp Textiles
- Manhole Gaskets
- Rubber Sheet
- Sanitary Gaskets
- Teflon Sheet
- Spiral Wound Gaskets
- Vegetable Fibre Sheet
- Washers

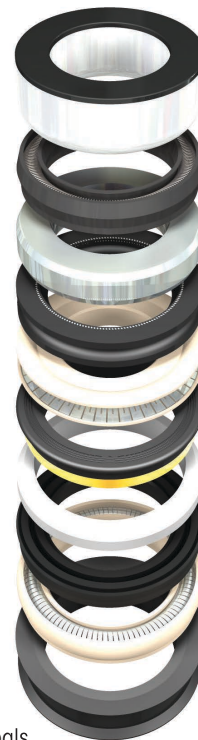
These sheet materials compliment our extensive inventory of metallic, molded, or extruded gaskets.

- Cloth Inserted Rubber
- Compressed Non-Asbestos
- EPDM
- Expanded PTFE
- Flexible Graphite
- Natural Rubber
- Neoprene
- Nitrile
- Plant Fibre Sheet
- Red Rubber
- Virgin PTFE
- Viton®

OIL FIELD PRODUCTS

We offer a wide variety of oil field sealing devices. Our materials and styles are approved and industry tested and we have problem solvers to handle the most severe applications.

- Actuator Seals
- Blow Out Prevention Seals
- Choke Packing
- Dovetail Packing
- Explosive Decompression Resistant O-Rings
- Hammer Union Seals
- P-Seals
- Pump Packing & Seal
- Ring Gaskets
- S-Seals
- Swivel Packing & Seals
- Test Plug O-Ring
- Spring Energized Flange & Face Seals
- Valve Stem Packing
- Slick Line Stuffing Box Packing
- Subsea Equipment / Offshore Drilling Seals



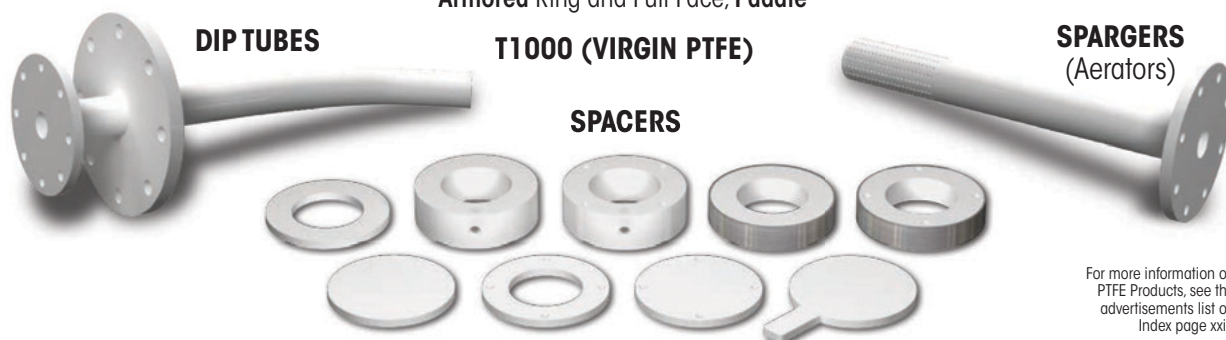
PRODUCTS & SERVICES

DIP TUBES, SPARGERS & SPACERS

MFP Seals manufactures, custom made to order, Dip Tubes and Spargers (Aerators) from T1000 (Virgin PTFE). Designed for your application, our Dip Tubes and Spargers can handle temperatures up to +260°C (+500°F). Our T1000 compound remains inert and will not contaminate any liquids or materials it comes in contact with.

DIP TUBES & SPARGERS: Straight, Open End, Flanged, Angled, Curved, Perforated, Flow Control.

SPACERS: Standard Ring & Full Face, **Orifice** Ring and Full Face, **Blind** Ring and Full Face, **Armored** Ring and Full Face, **Paddle**



For more information on
PTFE Products, see the
advertisements list on
Index page xxix.

If you don't see what you need, give an MFP Seals' Sales Representative a call.

We can help you find the part you are looking for,
or we can work with you to manufacture the right part for your application.

Visit our website @ **www.mfpseals.com** to find the location nearest you.

Call our Corporate Headquarters @ **(248) 585-8170**

Email us @ **sales@mfpseals.com**

Be sure to subscribe, follow, or like us on:

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[Instagram](#)

[LinkedIn](#)

and

[YouTube](#)

HYDRAULIC AND PNEUMATIC SEALS





















At MFP Seals, our selection of sealing products, materials, and seal profiles, is unsurpassed. In addition to the seals that we produce, we also source and distribute from the world's top manufacturers, allowing us to offer our customers a complete selection of hydraulic and pneumatic sealing products. The products shown in this booklet are representative of the products available through MFP Seals.

Please contact an MFP Seals Customer Service Representative for more information on our complete line of O-rings, Hydraulic and Pneumatic Seals, Bushings, Bearings, PTFE Spacers, Wear Rings, Oil Seals, Spring Energized Seals, PTFE Dip Tubes & Spargers, Die Cut Gaskets, PTFE Envelope Gaskets, Sheet Materials, Standard and Custom Seal Kits, Custom Manufacturing, Specialty Compounds.

*Compounds available may be specific to Inch or Metric sizes. Other compounds may be available. Seal graphic does not necessarily represent the compounds listed. The MFP Seals® logo, X-Pac®, CPX Piston Seal®, HPX Piston Seal®, XS Seal®, and Fluorochem® are registered trademarks of Martin Fluid Power Co., Inc. All other logos and trademarks are property of their respective companies.

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
O-Rings					
OR	MOR			AS568D O-Ring	E7101 FC7500 FC7510 FC7525 FC7550 FC7600 FC7625 FC7650 FC7675 FC7700 FC7725 FC7750 FC7775 FC7800 FS7101 N6001 N6003 N6007 N6010 S7100 U6865 U9251 V7100 V7125 V7150 V7155 V7165 V7175 V7200
OR	—			PTFE O-Ring	T1000
OR	MOR			Encapsulated O-Ring	TES - FEP / Silicone TEV - FEP / Viton®
SR	—			Square Cut Ring	N6001, N6017, V7100
XR	—			X-Ring	N6014
GS	MGS			Gland Seal	U2150, U2151, U4150
SFS	—			Split Flange Seal	Dual Durometer Urethane
ORC	MORC			Extruded O-Ring Cord Stock	N6001, N6003, V7525, V7550





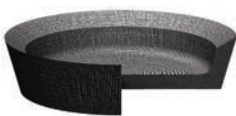









Prefix		Profile	C/S	Seal Name	Compounds Available *
Inch	mm				
O-Rings					
SRC	—			Extruded Square Cut Cord Stock	N6001, N6003
XRC	—			Extruded X-Ring Cord Stock	N6001, N6003
Back-Up Rings for O-Rings					
BU	—			Contoured Back-Up Ring for O-Rings	N6003, V7165
BU	—			Split Back-Up Ring for O-Rings	T1000
BU	MBU			Solid Back-Up Ring for O-Rings	T1000
Back-Up Rings for U-Cups					
576	—			Solid Back-Up Ring for U-Cups	M1001, M1002
—	MBTU			Metric Solid Back-Up Ring for U-Cups	T5100
BU	—			H2155 Back-Up Ring	H2155-BLK (Black) H2155 (Orange)
HBU	—			H2155 Block Vee Back-Up Ring	H2155
MB	—			Modular Bearing Square Section Back-Up Ring	U2166

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Back-Up Rings for U-Cups					
TBU	–			Split PTFE Back-Up Ring for Block Vee U-Cups	T1000
Vee Packing					
VP	MVPS			Standard Vee Packing Set	Adapters: Glass Filled Nylon® Pressure Rings: Neoprene/Duck, Hytrel® Metric: POM / FAB / NBR / HARD FAB
6225	–			Homogeneous Rubber Vee Ring	BN80 (BUNA N)
U-Cup Symmetrical					
6226	–			Symmetrical U-Cup	N6001, V7100
AU	–			Symmetrical U-Cup	NBR - Nitrile
–	MSUN			Symmetrical B-Lip U-Cup	NBR - Nitrile FKM
BV	–			Block Vee Symmetrical U-Cup	N6015, N6023, V7300
EGS	–			(2 PC.) Symmetrical Seal	NBR with Fabric & Rubber
HU	MSUC			HU Series Symmetrical U-Cup	U2145, U2150, U2151, U2162, U4150, H2155
HZ	–			Symmetrical U-Cup	NBR - Nitrile

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
U-Cup Symmetrical					
OP	MOP			O-PAC® Symmetrical U-Cup Loaded B-Lip	Seal: U2145, U2150, U2151, U2162, U4150, H2155 X-Ring Expander: N6001
OP	MOP			O-PAC® Symmetrical U-Cup Standard Lip	Seal: U2145, U2150, U2151, U2162, U4150, H2155 X-Ring Expander: N6001
PIC	–			Pressure Inverting Cap for B-Lip O-PAC®	H2155
UC	–			Fabric & Rubber Symmetrical U-Cup	FAB (Fabric & Rubber)
XP	MXP			X-PAC® Symmetrical U-Cup Loaded B-Lip	Seal: U2145, U2150, U2151, U2162, U4150 X-Ring Expander: N6014
XP	–			X-PAC® Symmetrical U-Cup Loaded Straight-Lip	Seal: U2145, U2150, U2151, U2162, U4150 X-Ring Expander: N6014
XPYS	–			Symmetrical (2 PC.) U-Cup	Seal: U2150, U2151, U2162, H2155 Y-Ring Expander: N6001, N6015, N6021, N6022, N6023
U-Cup Asymmetrical Rod Seals					
DI	–			Asymmetrical Rod U-Cup	Nitrile
PRU	MPRU			Asymmetrical Rod U-Cup	U2150
–	MK34			Asymmetrical Rod Seal with Back-Up Ring	Seal: NBR U-Cup: NBR/FAB or Thermoplastic Back-Up Ring: POM

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
U-Cup Asymmetrical Rod Seals					
KR	–			K-Style Asymmetrical Rod U-Cup	U2150, U2162
–	MMYA			Asymmetrical U-Cup	Nitrile
RFN	MRFN			Rod Seal (2 PC.)	NBR / Fabric & Rubber
–	MRPU			Asymmetrical Rod U-Cup	U2150, U2162
–	MRPUS			Asymmetrical Rod U-Cup (2 PC.)	NBR / H2155
RTL	MRTL			Asymmetrical Rod U-Cup	U2150, U2151, U4150, H2155
RU	MRU			Asymmetrical Rod U-Cup	U2150, U2151, U2162, U4150, H2155
SRS	–			Serrated Rod Seal U-Cup	U2150, U2151, U2162, U4150
XPAR	–			X-PAC® Loaded B-Lip Rod U-Cup, with Anti-Extrusion Ring	Seal: U2150, U2151, U4150, H2155 X-Ring Expander: N6014 AE Ring: M1000, M1001, M1016
XPR	–			X-PAC® Loaded B-Lip, Twin-Lip, Rod U-Cup	Seal: U2150, U2151, U4150, H2155 X-Ring Expander: N6014
XPRA	MXPRA			X-PAC® Loaded B-Lip Twin-Lip, Rod U-Cup, with Anti-Extrusion Ring	Seal: U2150, U2151, U4150, H2155 X-Ring Expander: N6014 AE Ring: M1000, M1001, M1016

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
U-Cup Asymmetrical Piston Seals					
DE	MDE			Asymmetrical Piston U-Cup	NBR (Nitrile)
GPW	MGPW			(2 PC.) Asymmetrical Piston U-Cup	Lip: NBR Base: Fabric & Rubber Bearing Ring: Acetal
H607	MH607			Piston U-Cup	U2150, U2151, U2162
KP	–			Asymmetrical Piston U-Cup	U2150, U2162
PTL	MPTL			Piston U-Cup	U2150, U2151
–	MPDU			Piston Seal	NBR
–	MPSD			Piston Seal	NBR (Nitrile)
PUC	MPUC			Asymmetrical Piston Seal U-Cup	U2145, U2150, U2151, U2162, U4150, H2155
PUE	MPUE			Asymmetrical Piston Seal U-Cup	Seal: U2150, U2151, U2162, U4150, H2155 AE Ring: M1001
XPAP	–			X-PAC® Loaded B-Lip, Piston U-Cup, with Anti-Extrusion Ring	Seal: U2150, U2151, U4150, H2155 X-Ring Expander: N6014 AE Ring: M1000, M1001

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Piston Cups					
PCD	–			Double Acting Piston Cup	N8097 / Carbon Steel
–	MPCD			Double Acting Piston Cup	Nitrile / Steel
PCF	–			Fabric & Rubber Piston Cup	M1009
PCR	–			Rubber Piston Cup	NBR (Nitrile)
PCU	–			Rubber Piston Cup	U2162
Piston Rings					
PR	MPR			Piston Ring	Iron
–	MPAE			Anti-Extrusion Piston Ring	Nylon®

This Product Portfolio is meant to be a general guide showing our available products and services. For more detailed information on a particular product, please refer to our Engineering Guide which you can download from the literature section of the MFP Seals website.























If you don't see what you need, give an MFP Seals' Sales Representative a call.

We can help you find the part you are looking for, or we can work with you to manufacture the right part for your application. Just visit our website at **www.mfpseals.com** to find the location nearest you, call our Corporate Headquarters @ **(248) 585-8170** or Email us @ **sales@mfpseals.com**






















Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Assemblies					
CGLR	—			Capped Asymmetrical Rod Seal (3 PC.)	Energizer: N6020 Cap: T5100 Backup: M1000
CGTR	—			Capped GT Rod Seal (4 PC.)	Energizer: N6023 Cap: T5100 Backup: M1000
CRX	—			CRX Rod Seal® (2 PC.)	Rod Seal: U2145, U2150, U2151, U2162, U4150, H2155 O-Ring Expander: N6001, V7100
GTR	—			GT Ring Rod Seal (3 PC.)	Seal: N6001 Back-Up Rings: M1001
RS10	—			Rotary Rod Seal (2 PC.)	Rotary Rod Seal: T5100 O-Ring Expander: N6001
Piston Assemblies					
CGT	—			Capped GT Piston Seal (4 PC.)	Energizer: N6001, N6015, N6021, N6022, N6023 Cap: T5100 Backup: M1001
NCGT	MCGT			Narrow Capped GT Piston Seal (4 PC.)	Energizer: N6001, N6015, N6021, N6022, N6023 Cap: T5100 Backup: M1001
CPX	—			CPX Piston Seal® (2 PC.)	Piston Seal: U2145, U2150, U2151, U2162, U4150, H2155 O-Ring Expander: N6001, V7100
DPWL	—			Piston Assembly (3 PC.)	Piston Seal: Nitrile Back-Up Rings: Fabric & Rubber Guide Rings: Polyacetal
—	MDPLW			Piston Assembly (3 PC.)	Piston Seal: Rubber Back-Up Rings: Fabric & Rubber Guide Rings: Polyacetal

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Piston Assemblies					
GTP	–			GT Ring Piston Seal (3 PC.)	Seal: N6001 Back-Up Rings: M1001
HPX	–			HPX Piston Seal™ (2 PC.) Standard and Wide Base	Piston Seal: U2150, H2155 Expander: NBR
PPR	–			Rectangular Piston Assembly (2 PC.)	Seal: H2155 Expander: N6001
PSA	MPSA			Piston Seal (5 PC.)	Piston Seal: NBR80 Back-Up Rings: Polyester Elastomer Guide Rings: POM
PSA-65	–			Piston Assembly (3 PC.)	Piston Seal: Nitrile Back-Up Rings: Polyacetal
–	MPSP			Piston Seal (2 PC.)	Piston Seal: U2151 O-Ring Expander: N6001
PSQ	MPSQ			Piston Seal (3 PC.)	Piston Seal: T5100 Square-Ring: N6017 X-Ring Expander: N6014
PT	MPST			Piston Seal (2 PC.)	Piston Seal: T5100 O-Ring Expander: N6001
PUP	–			Piston Assembly (2 PC.) Standard and Wide Base	Piston Seal: U2161, U4160 Expander: N6001
PUR	–			Piston Assembly (1 PC.)	Urethane
RS11	–			Rotary Piston Seal (2 PC.)	Rotary Piston Seal: T5100 O-Ring Expander: N6001

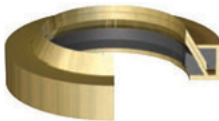





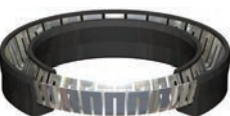

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Piston Assemblies					
SCP	—			Step Cut Piston Seal (2 PC.)	Piston Seal: M1005 Expander: N6001
SPS	MSPS			Piston Assembly (5 PC.)	Piston Seal: Nitrile Back-Up Rings: Nylon® Guide Rings: Polyacetal
SPS-B	—			Piston Assembly (5 PC.)	Piston Seal: Nitrile Back-Up Rings: Nylon® Guide Rings: Polyacetal
TPR	—			Rectangular Piston Seal (2 PC.)	Midsize Ring: T1075, T1125, T5100 O-Ring Expander: N6001, V7100, V7155
TPM	—			Midsize Piston Seal (2 PC.)	Midsize Ring: T1075, T1125, T5100 O-Ring Expander: N6001, V7100, V7155
TPS	—			Square Piston Seal (2 PC.)	Midsize Ring: T1075, T1125, T5100 O-Ring Expander: N6001, V7100, V7155
Buffer Rings					
BRS	MBRS			Rod Buffer Seal	Rod Buffer Seal: T1125, T5100 O-Ring Expander: N6001
BRU	MBRU			Rod Buffer Seal	U2150, U2151, U4150, H2155
BRU	MBRU			Rod Buffer Seal with Anti-Extrusion Ring	Rod Buffer Seal: U2150, U2151, U4150, H2155 AE Ring: M1001
URB	MURB			Buffer Ring	U2145, U2162



Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Wipers					
AN	—			An Style Rod Wiper Slotted Heel	U2145, U2150, U2151, U2162, U4150, H2155
BT	—			Rod Wiper	Hytrel®
CSW	MCSW			Rod Wiper	Nylon®, MOS2
D	—			D Style Rod Wiper Slotted Heel	U2145, U2150, U2151, U2162, U4150, H2155
DF	—			DF Style Rod Wiper Slotted Heel	U2150, U2151, U4150
DM	MDRW			DM Style Ribbed Rod Wiper	U2145, U2150, U2151, U4150, H2155
H	—			H Style Rod Wiper	U2145, U2150, U2151, U2162, U4150, H2155, CN80, V7625, VT90
H	—			H Style Extended Lip Rod Wiper	U2145, U2162
HMW	MHMW			Rod Wiper Slotted Heel	U2150
—	MHRW			MHRW Metric H Rod Wiper	U2145, U2150, U2151, U2162, U4150, H2155
K	—			K Style Rod Wiper	U2145, U2150, U2151, U2162, U4150, H2155

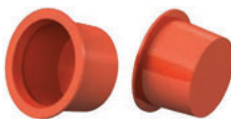
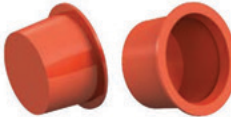









Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Wipers					
MC	–			Metal Clad Rod Wiper	NBR / Carbon Steel
MC	MMCU			Metal Clad Rod Wiper	U2146, U2168 Carbon Steel
MK30	–			Rod Wiper	Nitrile / Metal
–	MKCK			Rod Wiper	NBR (Nitrile)
MCH	MMCH			Rod Wiper	U2146, U2168 Carbon Steel
–	MMCP			Rod Wiper	Nitrile / Steel
MCW	MMCW			Rod Wiper	U2146, U2168 Carbon Steel
OHW	MOHW			Rod Wiper	Wiper: T5100 O-Ring Energizer: N6001
–	MRCG			Rod Wiper	Nitrile / Steel
RCM	MRCM			Metal Clad Rod Wiper	N6003 / Steel
–	MSRW			Metric Stepped Ribbed Rod Wiper	U2145, U2150, U2151, U2162, U4150, H2155

Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Wipers					
ODW	MODW			Rod Wiper	Wiper: T5100 O-Ring Energizer: N6001
PWO	—			Rod Wiper	Nitrile
PWS	PWSM			Rod Wiper	Nitrile
Rod Scrapers					
A	—		 Medium Duty	Hydrowype® A-Series Style-1 - MS28776 Original AN-style scrapers. Single-piece construction.	Copper Based Alloy
A	AM		 Medium Duty	Hydrowype® A-Series Style-2 - MS28776-M2 Mil-spec scrapers. Multi-piece construction. Welded Serpentine Spring.	Copper Based Alloy
A	—		 Medium Duty	Hydrowype® A-Series Style-3 - Commercial grade for MS33675 grooves, Multi-piece construction (Dual C-Springs).	Copper Based Alloy
AE	—		 Medium Duty	Hydrowype® A-Series, AE Style-1 Original AN-style scrapers. Single-piece construction.	303 Stainless Steel
AE	AME		 Medium Duty	Hydrowype® A-Series, AE & AME Style-2 scrapers. Multi-piece construction. Welded Serpentine Spring.	303 Stainless Steel
AE	—		 Medium Duty	Hydrowype® A-Series, AE Style-3 - Commercial grade for MS33675 grooves. Multi-piece construction. Dual C-Springs.	303 Stainless Steel
AC	—		 Medium Duty	Hydrowype® A-Series Style-2 - Field-retrofit scrapers. Fully broken, 2-piece scraper bodies.	Copper Based Alloy
AO	—		 Medium Duty	Hydrowype® A-Series, AO Rod Scraper - O-Ring sealed (outside diameter) scrapers.	Copper Based Alloy











Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Scrapers					
AR	—		 Medium Duty	Hydrowype® A-Series, AR The MS28776-R2 variant of A-Series, Style-2, utilizes a rubber energizer with a metal retaining band.	Copper Based Alloy
AT	—		 Medium Duty	Hydrowype® A-Series, AT Style-2 - "Thick" Scraper for rods starting at 1 1/2" Diameter.	Copper Based Alloy
AWC	MAWC		 Medium Duty	Press-in, A-Series, Style-2 Scraper with wiper backup.	Scraper: Copper Based Alloy Can: Carbon Steel Wiper: NBR
AWC	MAWC		 Medium Duty	Press-in, A-Series, Style-2 Scraper with wiper backup.	Scraper: Copper Based Alloy Can: Carbon Steel Wiper: U2151
AD	—		 Light Duty	Hydrowype® AD - Adapter Keeper (Top) and follower (Bottom) plate with built-in groove for A-Series wiper.	Mild Steel (Coated or Plated)
DR	—		 Heavy Duty	Hydrowype® D-Series - Style-1 Metallic Rod Scraper with O-Ring Seal.	Copper Based Alloy
DRH	DMRH		 Heavy Duty	Hydrowype® D-Series - Style-2 Heavy (double thick) profile scrapers in metric sizes.	Copper Based Alloy
DRHS	—		 Heavy Duty	Hydrowype® D-Series - Style-3 Slotted heel, for pairing with elastomeric wipers in heavy duty applications.	Copper Based Alloy
RNL	MRNL		 Light Duty	Rod Wiper/Scraper	Nitrile / Metal / Brass
HWCP	—		 Heavy Duty	Heavy-Duty Metallic Rod Scraper HWCP	Cushion: NBR, FKM Scraper Rings: Brass or Bronze
S	—		 Light Duty	Metallic Rod Scraper S	Cushion: FKM Scraper Rings: Brass or Bronze
SW	—		 Light Duty	Metallic Rod Scraper SW	Cushion: FKM Scraper Rings: Brass or Bronze
SC	—		 Light Duty	Metallic Rod Scraper SC	Case: Bronze Cushion: FKM Scraper Rings: Brass or Bronze





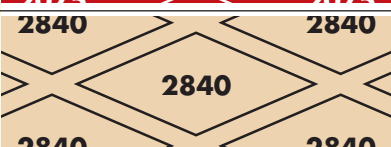






Prefix		Profile	C/S	Seal Name	Compounds Available*
Inch	mm				
Rod Scrapers					
SWC	—		 Light Duty	Metallic Rod Wiper/Scraper SWC	Case: Bronze Cushion: FKM Scraper Rings: Brass or Bronze
SWCP	—		 Light Duty	Metallic Rod Wiper/Scraper SWCP	Case: Bronze Cushion: Brown Viton® / T1000 Scraper Rings: Brass
Swivel Seal					
—	MSS			Metric Swivel Seal	U2151
Wear Rings					
PWS	MPWS			Tight Tolerance Composite Wear Strip	C4000
TWS	MTWS			Tight Tolerance PTFE Wear Strip	T5100
WR	MWR			Tight Tolerance Composite Guide Ring Scarf Cut	C4000
WR	—			Net Molded Guide Ring Butt Cut	M1005
WR	—			Tight Tolerance Piston Guide Ring Scarf Cut	M1005
—	MWRP			Tight Tolerance Metric Guide Ring Scarf Cut	C1000
Spring Energized Seals					
XS	MXS			XS Seal® Spring Energized Seal	Seal Jacket: Compound varies by design Spring: Elgiloy, Hastelloy, Stainless Steel Spring Style: V, Helical, Slanted Coil Other materials available.










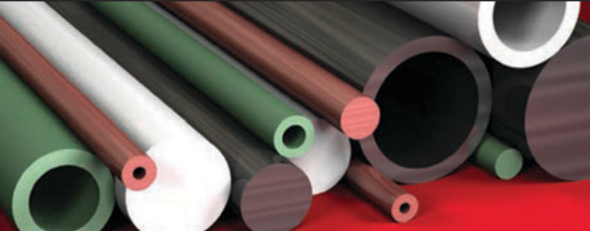
Prefix		Profile	C/S	Seal Name	Compounds Available *
Inch	mm				
Oil Seals					
OS	MOS			Oil Seal	Carbon Steel Nitrile
OS	-			EP2	PTFE Steel
				EP2X	
VA	-			V-Ring	Nitrile
VL	-			V-Ring	Nitrile
VS	-			V-Ring	Nitrile
Bushings / Bearings					
DU	MDU			DU Bushing	Steel Filled PTFE
Washers					
FS400				Washer	Nitrile Carbon Steel
FS600				Washer	Nitrile Carbon Steel
TS7500				Washer	Nitrile Carbon Steel

Prefix		Profile	Seal Name	Compounds Available*
Inch	mm			
Cap / Plugs / Flange Covers				
CAP-T		Tapered Cap Plug	Low Density Polyethylene	
CAP-NPT		Tapered Cap Plug for NPT Ports	Low Density Polyethylene	
CAP-G		Female Threaded Cap Plug for J.I.C.	Low Density Polyethylene	
CAP-OR		O-Ring Face Fitting Cap	Low Density Polyethylene	
CAP-R		Male Threaded Pipe Plug (Sq. Top)	Low Density Polyethylene Blue	
CAP-PD		Male Threaded Pipe Plug for Flared J.I.C	Low Density Polyethylene Red	
CAP-PDF		Flat Face Fitting Plug	Low Density Polyethylene Red	
CAP-BFP		Bolted Flange Protection	Low Density Polyethylene Blue	
CAP-XP		Bolted Flange Protection	Low Density Polyethylene Red	
CAP-SF		Split Flange Face Plugs	Low Density Polyethylene Natural	
Mechanical Seals				
PS	 Designed For Your Application	Mechanical Seals	Single Spring Mechanical Seals	

Prefix	Profile	C/S	Seal Name	Compounds Available*
Retaining Rings				
RR500			Internal Retaining Ring	Carbon Spring Steel
RR510			External Retaining Ring	Carbon Spring Steel
WH			Internal Spiral Retaining Ring	Carbon Spring Steel
WH			External Spiral Retaining Ring	Carbon Spring Steel
Washers				
FS400			Washer	Nitrile Carbon Steel
FS600			Washer	Nitrile Carbon Steel
TS7500			Washer	Nitrile Carbon Steel
Packing				
TVS			PTFE Stem Packing	PTFE
BP			Braided Packing Style-154	PTFE Filament Food Grade
BP			Braided Packing Style-165	Graphite Filled GFO Fiber Yarn
BP			Braided Packing Style-182	Spun Aramid Fiber with PTFE & Lubricant





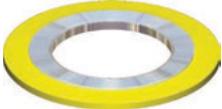
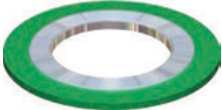




Prefix	Profile (C/S)	Seal Name	Compounds Available*
Packing			
BP		Braided Packing Style-380	Synthetic Fiber Impregnated with Graphite
BP		Braided Packing Style 528	Flax Lubricated
BP		Braided Packing Style-1000i	Braided Flexible Graphite
Gasket Material			
SG		Corrugated Roll FG: 4000	Flexible Graphite Tape No Adhesive
SG		Compressed Non-Asbestos 4401 Sheet	General Purpose Synthetic Fiber NBR: Green
SG		Compressed Non-Asbestos 4430 Sheet	General Purpose Fiberglass/Aramid NBR Off White
SG		Compressed Non-Asbestos 4500 Sheet	General Purpose Synthetic Fiber NBR - Green
SG		Compressed Non-Asbestos 9000 Sheet	Unbranded General Service NBR: Green
SG		Plant Fiber 1000 Sheet	Plant Fiber Sheet
SG		Plant Fiber 2000 Sheet	Fibercork Sheet

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Gasket Material			
SG		Plant Fiber 3097 Sheet	Fibreflex Sheet
SG		Rubber Sheet 1060	Commercial Neoprene® Sheet
SG		Rubber Sheet 1564	Red Silicone Sheet Fiberglass Inserted
SG		Rubber Sheet 2075	Red Rubber Sheet Matte Finish
SG		Rubber Sheet 2840	Natural Rubber - Tan
SG		Rubber Sheet 3560	Commercial Nitrile Sheet
SG		Rubber Sheet 3760	White FDA Nitrile Sheet
SG		Rubber Sheet 4060	Commercial EPDM Sheet
SG		Rubber Sheet 4830	Cloth Inserted Rubber Sheet SBR / Polyester
SG		Rubber Sheet 5070	48" Diaphragm Sheet Neoprene / Polyester
SG		Rubber Sheet 5170	48" Cloth Inserted Sheet Neoprene / Polyester

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Gasket Material			
SG		Joint Sealant JS Cord	Expanded PTFE
SG		TS - PTFE Sheet Material	Expanded PTFE
SG		TS - 1000 Sheet Material	Virgin PTFE
SG		TS - 1075 Sheet Material	25% Glass Filled PTFE
SG		Skived PTFE Film & Tape Sheet Material	T1100, T1150, T4000, T4025, T4050, T4075, T4100, T4125, T4150, T4175, T4200, T4225
SG		TS - 2000 Sheet Material	Heavy Duty PTFE Gasket Material FDA Compatible
SG		FG - 1000 Sheet Material	Pure Flexible Graphite No Insert
SG		FG - 2000 Sheet Material	Pure Flexible Graphite .002" 316 Stainless Steel Insert
SG		FG - 3000 Sheet Material	Laminated Flexible Graphite .004" 316 Stainless Steel Tanged Insert
Rod & Tube Stock			
		Rod & Tube Stock	Available in a variety of Virgin and Filled compounds. Contact MFP Seals for currently available materials and sizes.

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Pipe Flange Gaskets			
RG		150 LB. - Ring Style Flange Gasket	Compressed Non-Asbestos
FF		150 LB. - Full Face Flange Gasket	Compressed Non-Asbestos
RG		300 LB. - Ring Style Flange Gasket	Compressed Non-Asbestos
FF		300 LB. - Full Face Flange Gasket	Compressed Non-Asbestos
RG		150 LB. - Ring Style Flange Gasket	Neoprene
FF		150 LB. - Full Face Flange Gasket	Neoprene
RG		300 LB. - Ring Style Flange Gasket	Neoprene
FF		300 LB. - Full Face Flange Gasket	Neoprene
RG		150 LB. - Ring Style Flange Gasket	Red Rubber
FF		150 LB. - Full Face Flange Gasket	Red Rubber
RG		300 LB. - Ring Style Flange Gasket	Red Rubber

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Pipe Flange Gaskets			
FF		300 LB. - Full Face Flange Gasket	Red Rubber
RG		150 LB. - Ring Style Flange Gasket	Expanded PTFE
FF		150 LB. - Full Face Flange Gasket	Expanded PTFE
RG		300 LB. - Ring Style Flange Gasket	Expanded PTFE
FF		300 LB. - Full Face Flange Gasket	Expanded PTFE
RG		150 LB. - Ring Style Flange Gasket	PTFE
FF		150 LB. - Full Face Flange Gasket	PTFE
RG		300 LB. - Ring Style Flange Gasket	PTFE
FF		300 LB. - Full Face Flange Gasket	PTFE
RG		150 LB. - Ring Style Flange Gasket	Graphite Laminate
FF		150 LB. - Full Face Flange Gasket	Graphite Laminate






Prefix	Profile (C/S)	Seal Name	Compounds Available*
Pipe Flange Gaskets			
RG		Ring Style - 150#, 300# Envelope Gasket & Filler Material	T1000 (Virgin PTFE) Envelope supplied with specified filler (gasket) material.
FF		Full Face - 150#, 300# Envelope Gasket & Filler Material	T1000 (Virgin PTFE) Envelope supplied with specified filler (gasket) material.
RG		Ring Style - 150#, 300# Envelope Gasket	T1000 (Virgin PTFE) Envelope Only
FF		Full Face - 150#, 300# Envelope Gasket	T1000 (Virgin PTFE) Envelope Only
SW		Spiral Wound Gasket 150#, 300#, 400#, 600#, 900#, 1500#	304 Stainless Steel Flexible Graphite
SW		Spiral Wound Gasket 150#, 300#, 400#, 600#, 900#, 1500#	304 Stainless Steel Flexible Graphite
FLANGE GASKETS - Ring Type Joint Gaskets			
RTJ		BX Ring Type Joint Gasket ASME B16.20 Compliant	Soft Iron Low Carbon Steel 304 Stainless Steel 316 Stainless Steel
RTJ		RX Ring Type Joint Gasket ASME B16.20 Compliant	Soft Iron Low Carbon Steel 304 Stainless Steel 316 Stainless Steel
RG		RG Oval Ring Type Joint Gasket ASME B16.20 Compliant	Soft Iron Low Carbon Steel 304 Stainless Steel 316 Stainless Steel
FF		Octagonal Ring Type Joint Gasket ASME B16.20 Compliant	Soft Iron Low Carbon Steel 304 Stainless Steel 316 Stainless Steel

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Valve Seals			
MFP-H		U Packing	Jacket: PTFE Filler Core: Nitrile or FKM
Flowline			
HUS		Hammer Union Seal	PTFE
HUS		Hammer Union Seal	NBR 80 HNBR 80 FKM 80 & 90
HUS		Hammer Union Seal	NBR 85 / FKM 90 with Brass Back-Up Ring
HUS		Hammer Union Seal	FKM 80 & 90 with Stainless Steel Back-Up Ring
PVS		Plug Valve Seal	1" and 2" NBR with Brass Back-Up Ring
PVS		Plug Valve Seal	1" and 2" HNBR or FKM with Stainless Steel Back-Up Ring
SJP		Swivel Joint Seal	1" and 2" NBR with Brass Back-Up Ring
SJP		Swivel Joint Seal	1" and 2" NBR with Stainless Steel Back-Up Ring

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Manhole / Handhole Gaskets			
SG-TG	 <p>Elliptical</p> <p>Round</p> <p>Obround</p>	TOPOG-E	Molded Rubber Gaskets
SG-WG		Manhole Handhole Gasket	Wire Inserted Fiberglass Gasket
Sanitary Gaskets			
40MO-E		Standard Clamp	E Material: PDM 70 - Black
40MO-EG		Standard Clamp	EG Material: EPDM 70 - Lt. Green
40MO-EN		Standard Clamp	EN Material: EPDM 70 - Black
40MO-G		Standard Clamp	G Material: PTFE - White
40MO-SFY		Standard Clamp	SFY Material: Viton [®] (FKM) 70 - Black
40MO-SFYB		Standard Clamp	SFYB Material: Viton [®] (FKM) 75 - Brown
40MO-U		Standard Clamp	U Material: BUNA Nitrile 70 - Black

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Sanitary Gaskets			
40MO-UN		Standard Clamp	UN Material: BUNA Nitrile 70 - Black
40MO-UW		Standard Clamp	UW Material: BUNA Nitrile 70 - White
40MO-X		Standard Clamp	X Material: Silicone 70 - Rust
40MO-XW		Standard Clamp	XW Material: Silicone 70 - White
40MP-E		Standard Clamp	E Material: EPDM: 70 - Black
40MP-EG		Standard Clamp	EG Material: EPDM 70 - Lt. Green
40MP-EN		Standard Clamp	EN Material: EPDM 70 - Black
40MP-G		Standard Clamp	G Material: PTFE - White
40MP-SFY		Standard Clamp	SFY Material: Viton® (FKM) 70 - Black
40MP-SFYB		Standard Clamp	SFYB Material: Viton® (FKM) 75 - Brown

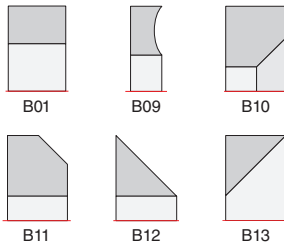
Prefix	Profile (C/S)	Seal Name	Compounds Available*
Sanitary Gaskets			
40MP-U		Standard Clamp	U Material: BUNA Nitrile 70 - Black
40MP-UN		Standard Clamp	UN Material: BUNA Nitrile 70 - Black
40MP-UW		Standard Clamp	UW Material: BUNA Nitrile 70 - White
40MP-X		Standard Clamp	X Material: Silicone 70 - Rust
40MP-XW		Standard Clamp	XW Material: Silicone 70 - White
42MP-E		Mini Clamp	E Material: EPDM 70 - Black
42MP-EG		Mini Clamp	EG Material: EPDM 70 - Lt. Green
42MP-EN		Mini Clamp	EN Material: EPDM: 70 - Black
42MP-G		Mini Clamp	G Material: PTFE - White
42MP-SFY		Mini Clamp	SFY Material: Viton® (FKM) 70 - Black
42MP-SFYB		Mini Clamp	SFYB Material: Viton® (FKM) 75 - Brown

Prefix	Profile (C/S)	Seal Name	Compounds Available*
Sanitary Gaskets			
42MP-U		Mini Clamp	U Material: BUNA Nitrile 70 - Black
42MP-UN		Mini Clamp	UN Material: BUNA Nitrile 70 - Black
42MP-UW		Mini Clamp	UW Material: BUNA Nitrile 70 - White
42MP-X		Mini Clamp	X Material: Silicone 70 - Rust
42MP-XW		Mini Clamp	XW Material: Silicone 70 - White

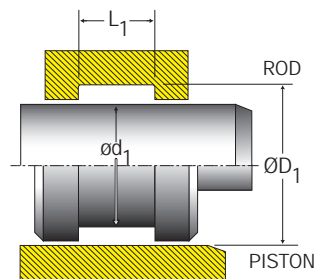
MFP Seals can produce custom machined products, made to print, or from the industry standard geometries shown below. We can also reverse engineer your sample. For more information and assistance with material selection, contact the MFP Seals Engineering Department. We can assist in recommending the proper material for your application and environment. Not all profiles are available in all materials. Need something other than seals? Ask us about custom shapes and plastic part manufacturing.



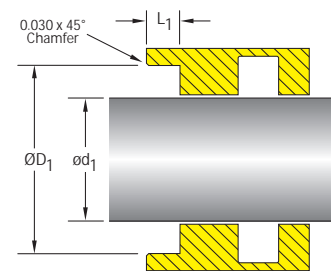
BACK-UP RING



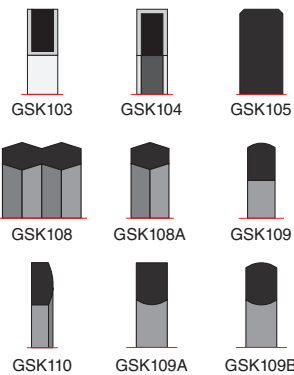
GUIDE RING



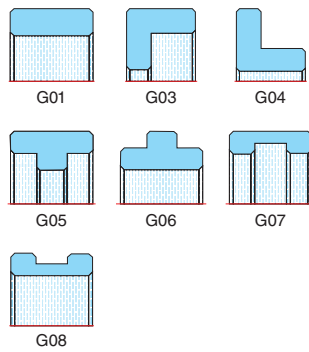
ROTARY SHAFT SEAL



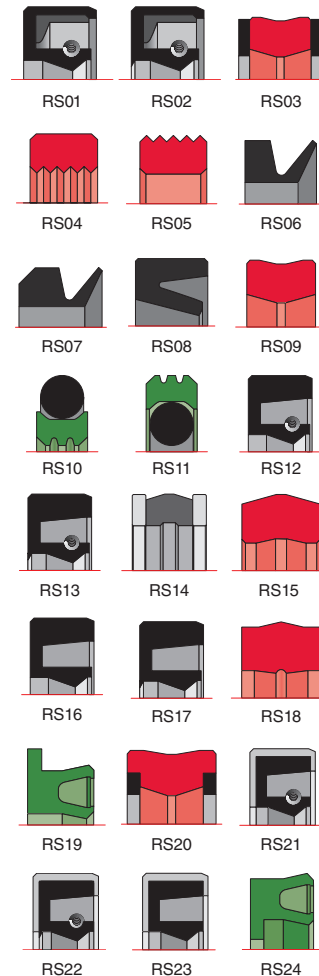
GASKET



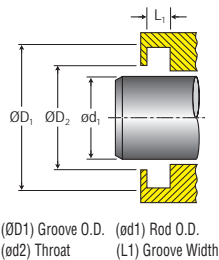
() Rod / Piston (ØD1) Groove O.D. / Bore
(L1) Groove Width (Ød1) Rod O.D. / Groove I.D.



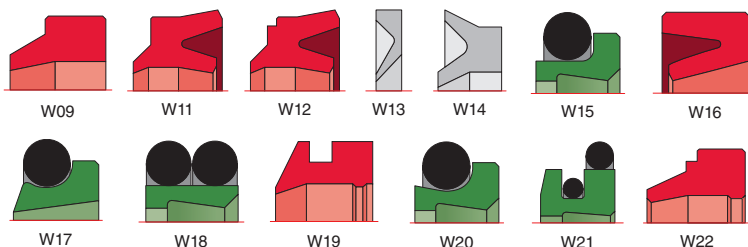
(ØD1) Groove O.D. (Ød1) Rod O.D.
(L1) Groove Width



WIPER

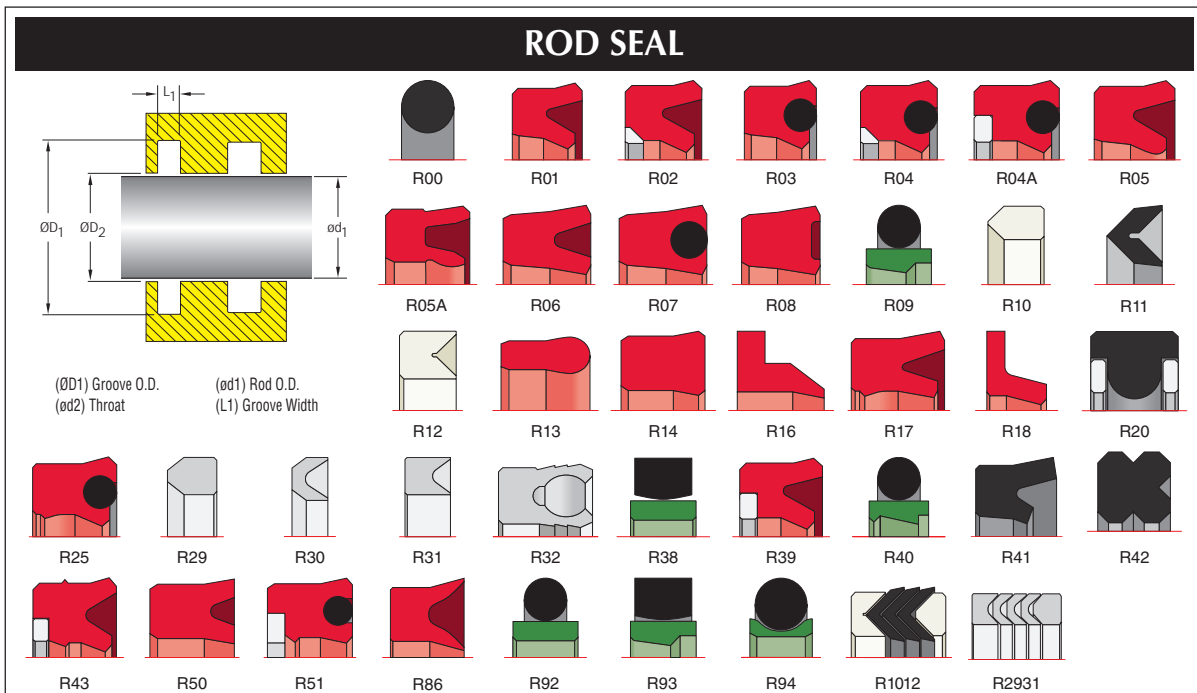
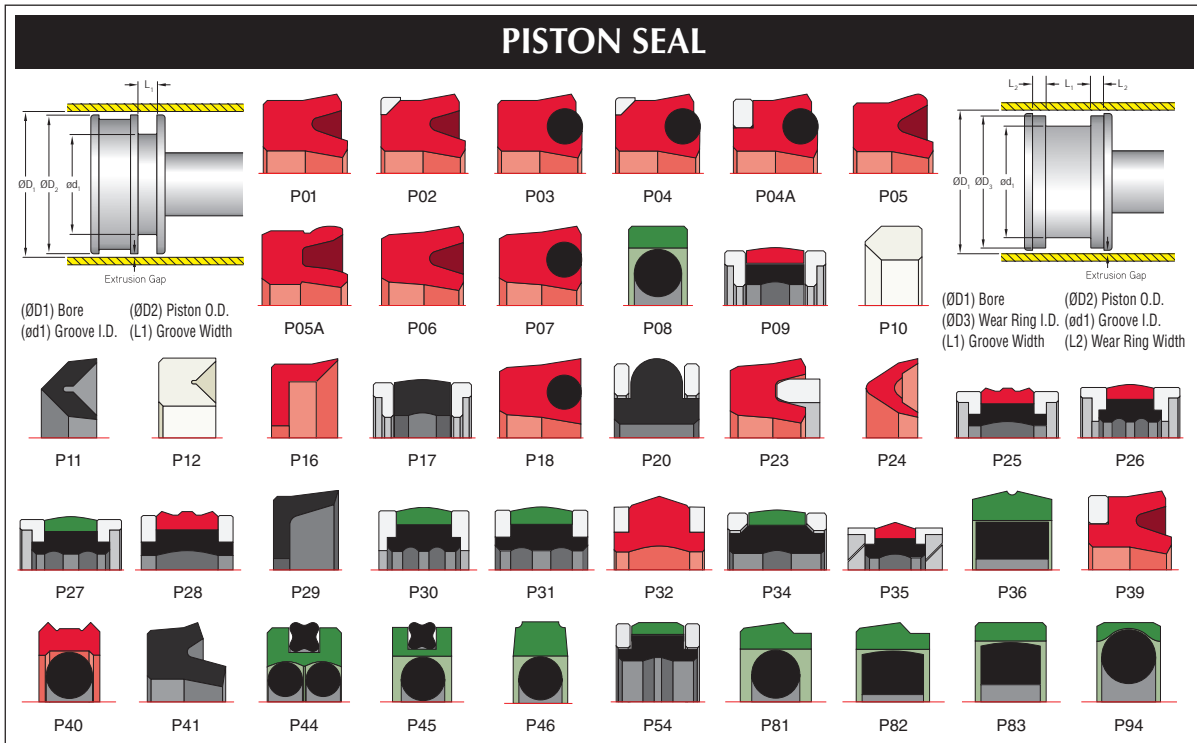


(ØD1) Groove O.D. (Ød1) Rod O.D.
(Ød2) Throat (L1) Groove Width



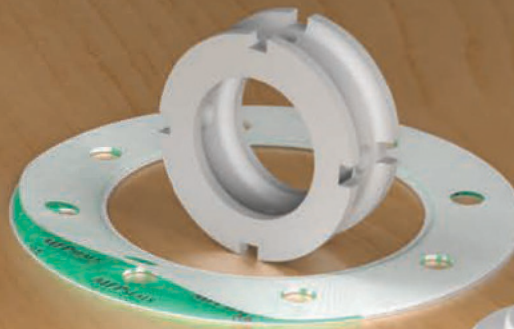
CUSTOM MACHINED SEALS UP TO 4000MM (157-1/2")

Please refer to page 20, Seal Compounds, for material selection or contact the MFP Seals Engineering Department. We can assist in recommending the proper material for use in your application. Not all profiles are available in all materials.





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Metric Conversion Tables

Fractions, Decimals and Millimeters

FRACTIONS	DECIMALS	MILLIMETERS	FRACTIONS	DECIMALS	MILLIMETERS	MM	INCHES	MM	INCHES
$\frac{1}{64}$	0.015625	- 0.397	$\frac{33}{64}$	0.515625	-13.097	.1-	.0039	47-	1.8504
$\frac{1}{32}$	.03125	- 0.794	$\frac{17}{32}$	.53125	-13.494	.2-	.0079	48-	1.8898
$\frac{3}{64}$	.046875	- 1.191	$\frac{35}{64}$	.546875	-13.891	.3-	.0118	49-	1.9291
$\frac{1}{16}$	.0625	- 1.588	$\frac{9}{16}$	.5625	-14.288	.4-	.0157	50-	1.9685
$\frac{5}{64}$	.078125	- 1.984	$\frac{37}{64}$	.578125	-14.684	.5-	.0197	51-	2.0079
$\frac{3}{32}$	.09375	- 2.381	$\frac{19}{32}$	.59375	-15.081	.6-	.0236	52-	2.0472
$\frac{7}{64}$	.109375	- 2.778	$\frac{39}{64}$	.609375	-15.478	.7-	.0276	53-	2.0866
$\frac{1}{8}$	.1250	- 3.175	$\frac{41}{64}$	.6250	-15.875	.8-	.0315	54-	2.1260
$\frac{9}{64}$	.140625	- 3.572	$\frac{21}{32}$	.640625	-16.272	.9-	.0354	55-	2.1654
$\frac{5}{32}$	.15625	- 3.969	$\frac{43}{64}$	.65625	-16.669	1-	.0394	56-	2.2047
$\frac{11}{64}$	.171875	- 4.366	$\frac{45}{64}$	.671875	-17.066	2-	.0787	57-	2.2441
$\frac{3}{16}$	.1875	- 4.763	$\frac{11}{16}$	.6875	-17.463	3-	.1181	58-	2.2835
$\frac{13}{64}$	.203125	- 5.159	$\frac{23}{32}$	.703125	-17.859	4-	.1575	59-	2.3228
$\frac{7}{32}$	.21875	- 5.556	$\frac{47}{64}$	.71875	-18.256	5-	.1969	60-	2.3622
$\frac{15}{64}$	.234375	- 5.953	$\frac{3}{4}$	.734375	-18.653	6-	.2362	61-	2.4016
$\frac{1}{4}$	.2500	- 6.350	$\frac{49}{64}$	.7500	-19.050	7-	.2756	62-	2.4409
$\frac{17}{64}$	.265625	- 6.747	$\frac{25}{32}$	.765625	-19.447	8-	.3150	63-	2.4803
$\frac{9}{32}$	.28125	- 7.144	$\frac{51}{64}$	.78125	-19.844	9-	.3543	64-	2.5197
$\frac{19}{64}$	.296875	- 7.541	$\frac{13}{16}$	.796875	-20.241	10-	.3937	65-	2.5591
$\frac{5}{16}$	.3125	- 7.938	$\frac{53}{64}$	.8125	-20.638	11-	.4331	66-	2.5984
$\frac{21}{64}$	.328125	- 8.334	$\frac{27}{32}$	.828125	-21.034	12-	.4724	67-	2.6378
$\frac{11}{32}$	.34375	- 8.731	$\frac{55}{64}$	.84375	-21.431	13-	.5118	68-	2.6772
$\frac{23}{64}$	.359375	- 9.128	$\frac{7}{8}$	.859375	-21.828	14-	.5512	69-	2.7165
$\frac{3}{8}$	.3750	- 9.525	$\frac{57}{64}$	.8750	-22.225	15-	.5906	70-	2.7559
$\frac{25}{64}$	.390625	- 9.922	$\frac{29}{32}$	.890625	-22.622	16-	.6299	71-	2.7953
$\frac{13}{32}$	.40625	-10.319	$\frac{59}{64}$	.90625	-23.019	17-	.6693	72-	2.8346
$\frac{27}{64}$	.421875	-10.716	$\frac{15}{16}$	.921875	-23.416	18-	.7087	73-	2.8740
$\frac{7}{16}$	.4375	-11.113	$\frac{61}{64}$	.9375	-23.813	19-	.7480	74-	2.9134
$\frac{29}{64}$	.453125	-11.509	$\frac{31}{32}$	.953125	-24.209	20-	.7874	75-	2.9528
$\frac{15}{32}$	.46875	-11.906	$\frac{63}{64}$	.96875	-24.606	21-	.8268	76-	2.9921
$\frac{31}{64}$	.484375	-12.303	$\frac{1}{2}$	.984375	-25.003	22-	.8661	77-	3.0315
$\frac{1}{2}$	.5000	-12.700		1.000	-25.400	23-	.9055	78-	3.0709
						24-	.9449	79-	3.1102
						25-	.9843	80-	3.1496
						26-	1.0236	81-	3.1890
						27-	1.0630	82-	3.2283
						28-	1.1024	83-	3.2677
						29-	1.1417	84-	3.3071
						30-	1.1811	85-	3.3465
						31-	1.2205	86-	3.3858
						32-	1.2598	87-	3.4252
						33-	1.2992	88-	3.4646
						34-	1.3386	89-	3.5039
						35-	1.3780	90-	3.5433
						36-	1.4173	91-	3.5827
						37-	1.4567	92-	3.6220
						38-	1.4961	93-	3.6614
						39-	1.5354	94-	3.7008
						40-	1.5748	95-	3.7402
						41-	1.6142	96-	3.7795
						42-	1.6535	97-	3.8189
						43-	1.6929	98-	3.8583
						44-	1.7323	99-	3.8976
						45-	1.7717	100-	3.9370
						46-	1.8110		

1 mm = .03937"

.001" = .0254 mm



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