



BESPOKE PROFILE SERVICE | SAMPLE IDENTIFICATION | RAPID DELIVERY

NO MINIMUM ORDER QUANTITY | NO START-UP CHARGE | NO TOOLING LIMITATIONS

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SEAL MAKER PROFILE RANGE

**APPROVED AND COMPLIANT COMPOUNDS:
FDA, KTW, NORSOK, 3-A SANITARY STANDARD 18-03
CLASS III**



2	COMPANY PROFILE
3	24 HOUR SEAL MAKER
4	WIPERS
5 - 6	ROD SEALS
7 - 8	PISTON SEALS
9 - 10	SYMMETRICAL SEALS PISTON, ROD SEALS
11	BACK-UP RINGS
12	GUIDE RINGS
13 - 14	ROTARY SEALS
15	STATIC SEALS AND O RINGS
16 - 17	MINING SEALS
18	CUSTOMISED AND MACHINED PARTS
19 - 22	MATERIALS
23	POPULAR PRODUCTS

QUALITY AND SERVICE GUARANTEED

M Barnwell Services is the UK’s largest independent manufacturer, stockist, and distributor of fluid sealing products. With over 50 years’ experience, we have always exceeded our customers’ expectations through consistent delivery of quality, service and value. We aim to work in partnership with our customers to provide expert industry knowledge and technical expertise, and reduce their long-term costs. By applying our unique knowledge to specific customer needs, we can offer the right sealing solution for any application and industry.

UK SERVICE NETWORK

Five distribution hubs strategically placed throughout the UK for rapid response and despatch:

- ✦ Birmingham - HQ, Central Warehouse and Export
- ✦ Bristol
- ✦ Dartford
- ✦ Glasgow
- ✦ Manchester

M Barnwell Services holds over 8 million stock items, so customers can be assured of a quick turnaround. Orders for stock items will be despatched the same day via M Barnwell Services logistics team or subcontracted to one of our reliable freight forwarders.

Non-standard items are ordered immediately and delivery scales are kept to a minimum. M Barnwell Services also have three CNC Seal Making Machines at the Birmingham headquarters. This allows M Barnwell Services to produce ‘emergency’ seals in less than an hour.

GLOBAL PURCHASING POWER

With over 50 years industry experience, M Barnwell Services has created partnerships with the World’s leading manufacturers. This means we purchase premium quality products at the lowest price. These advantages are then passed directly onto our customers.

PURCHASING ETHOS

Purchasing ethos supports Global Aftermarket Purchasing targets with Zero Defect Ideals - as a result of the controlled and strict purchasing strategy, guaranteeing confidence with the supplier base from Quality Approved Manufacturers, with minimum criteria at ISO 9001:2015 through to Automotive, including standard IATF 16949;Q1.

SELF CERTIFICATION

With assured confidence in the supplier base and products, M Barnwell Services can self-certify items, removing the need for engineering approval. Alternatively, PSW and ISIR are standard procedures for the quality control department with PPAP from selected supplying partners.

THE UK’S LARGEST INVENTORY OF SEALING PRODUCTS

Current stock level of £5.1 million covering over 35,000 different product lines. With an agreement in place, M Barnwell Services will hold a minimum of three months’ stock of your FAD requirements allowing a reduction in both lead time and minimum order quantity. This also provides the flexibility required for the best possible service levels.

MUCH MORE THAN AN O RING SUPPLIER

Buying from M Barnwell Services means more than simply sourcing the product. Our skilled staff, with over 500 years of combined experience in the fluid sealing industry are always on hand to assist you in choosing the optimum sealing products to suit your application requirements.

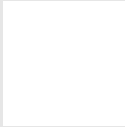

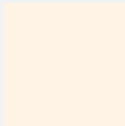
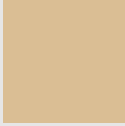
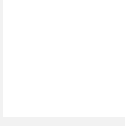
In order to assess the best products for a particular sealing application, or should the end user be experiencing difficulties with any sealing problems, our engineers will conduct an on-site visit and endeavour to provide a speedy solution.


DEDICATED EXPORT DEPARTMENT

Despite the challenges faces worldwide, our Export Service supplies to over 72 countries globally, quickly and reliably.



ANCILLARY PRODUCTS		ANTI-VIBRATION MOUNTS		BACK-UP (ANTI-EXTRUSION) RINGS		BONDED SEALS	
	BUS, TRUCK & TRAILER SEALS		BUTTERFLY VALVE GASKETS		CAMLOCK GASKETS		CLAMP SEALS
DIAPHRAGM SEALS		DIN11864-2 ASEPTIC FLANGE UNIONS		ENCAP-SULATED SEALS		EXTREME SEALS	
	D RING SEALS		FASTENERS		GASKETS, PACKINGS & SHEET MATERIALS		GLAND PACKING
HYDRAULIC & PNEUMATIC SEALS		HYGIENIC SEALS		IDF GASKETS		INFLATABLE SEALS	
	MANWAY GASKETS		MECHANICAL SEALS		METAL & X-RAY DETECTABLE SEALS		METAL O RINGS
O RINGS		OIL SEALS		PIGGING SYSTEM SEALS		PIPE FLANGE GASKETS	
	RAPID OPEN CLOSURE DOOR SEALS		RETAINING RINGS, SNAP RINGS & CIRCLIPS		RJT O RING SEALS		RUBBER EXPANSION JOINTS
SEALANTS, ADHESIVES & LUBRICANTS		SEALING KITS & SELECTION BOXES		SEALING WASHERS		SHAFT REPAIR KITS	
	SMS SEALS		SPECIAL MOULDINGS & EXTRUSIONS		SPIRAL WOUND GASKETS		SPRINGS
T SEALS		V-PACKINGS & CHEVRON STACKS		V SEALS		X-RING/ QUAD RING/ NU-LIP	

PTFE	DESCRIPTION	COLOUR	APPLICATION TEMP.	HARDN. AT 20°C	MAIN APPLICATION
	PTFE-P FDA T101-W WHITE		-200°C TO +260°C	SHORE D 51 - 60	Composite seals with elastomer preload elements, spring loaded seals, back-up and guide rings. Resistance to almost all common chemicals and fluids except molton alkaline metals. Applicable for contact with foodstuff.
	PTFE-F T105-G GREY		-200°C TO +260°C	SHORE D 55 - 64	Composite seals with elastomer preload elements, spring loaded seals, back-up and guide rings. Resistance to almost all common chemicals and fluids except molton alkaline metals. Glass fibre/MoS2 reinforced for improved wear and extrusion resistance.
	PTFE-40% T110-BR40 BRONZE BROWN		-200°C TO +260°C	SHORE D 62 - 67	Composite seals with elastomer preload elements. Resistance to almost all common chemicals and fluids except molton alkaline metals. Filled with 40% bronze for improved wear, pressure, and extrusion resistance.
PLASTICS	PTFE-25% T125-C25 CARBON GREY		-200°C TO +260°C	SHORE D 62 - 67	Composite seals with elastomer preload elements, spring loaded seals, back-up and guide rings, rotary seals. Resistance to almost all common chemicals and fluids except molton alkaline metals. 25% carbon powder friction propertiesand increased extrusion resistance.
	POM FDA P101-WE WHITE		-50°C TO +100°C	-	Back-up and guide rings, machined parts with tight tolerances. Mineral oils HFA, HFB, HFC fluids. Minor absorption of water, applicable for contact with foodstuff.
	PA FDA A112-WC NATURAL		-40°C TO +90°C	-	Back-up and guide rings, machined parts Mineral oils, acids, and dilute alkaline solutions. Applicable for contact with foodstuff.
	PEEK NATURAL PK100-CN BEIGE		-50°C TO +250°C	SHORE D 90	Composite seals with elastomer preload elements, back-up and guid rings, high precision parts. Excellent wear, friction, and extrusion properties. Resistance to almost all common chemicals. Applicable for contact with foodstuff.
	UHMW - PE PE1000-HD WHITE		-200°C TO +80°C	SHORE D 60 - 65	Back-up and guide rings, spring loaded seals. Mineral oils HFC, HFD fluids, acids, and dilute alkaline solutions. Sour oil and gas. Very low water absorption, excellent friction and wear properties. Applicable for contact with foodstuff.



The indicated minimum application temperatures are thought as a general guideline, because a seal's function at low temperatures is dependent on the kind of the seal, the general application conditions, and on the kind of the surrounding metal parts the seal is in touch with. The indicated upper temperature limits may be exceeded, but this reduces the service life. Other materials available on request.

In case of doubt you are always welcome to contact our application engineers.

Swift Sealing Solutions - M Barnwell Services

Experience the efficiency and precision of our 24-Hour Seal Maker Service, where we specialise in crafting standard, bespoke, and prototype fluid seals within a remarkable 24-hour timeframe or even sooner.



At M Barnwell Services, our team of highly experienced and knowledgeable engineers is dedicated to meeting your urgent sealing needs. We are well-equipped to manufacture a wide range of seals, including both standard and specialised varieties, all crafted from an array of top-notch materials. These materials encompass various elastomers such as Nitrile (NBR), Viton (FPM/FKM), Silicone, EPDM, Hydrogenated Nitrile (HNBR), Aflas®, as well as versatile plastics like Polyurethane (AU), UHMW-PE, PEEK, PTFE, Polyamide (Nylon), and Polyacetal.

Our capabilities extend to the production of seals with outer diameters of up to 520mm directly on-site. For larger sizes, we are more than happy to accommodate your specific requirements upon request. Please note that the availability of our exceptional 24-hour service is subject to certain conditions, ensuring that we can consistently deliver the high-quality sealing solutions you depend on. Trust M Barnwell Services for all your rapid sealing needs, and experience the unparalleled speed and reliability of our Seal Maker Service.



PROFILE RANGE






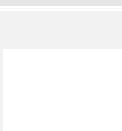



WIPERS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	WR01	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR01A	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR02	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR02A	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR02B	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR02C	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR02D	PU PU-D57	-	-30 TO 105	4
	WR03	PU/POM* NBR/POM*	-	-30 TO 105 -25 TO 100	4
	WR04	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR07	POM PA PU-D57	-	-50 TO 80 -50 TO 80 -30 TO 105	1
	WR08	POM PA PU-D57	-	-50 TO 80 -50 TO 80 -30 TO 105	1
	WR11	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR12	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR13	PTFE/NBR	15	-25 TO 100	10
	WR13_E2	PTFE/NBR	15	-25 TO 100	10
	WR14	PTFE/NBR	15	-25 TO 100	10
	WR15	PTFE/NBR	15	-25 TO 100	10
	WR16	PTFE/NBR	15	-25 TO 100	10
	WR17	PU NBR	-	-30 TO 105 -25 TO 100	4
	WR18	PU NBR	-	-30 TO 105 -25 TO 100	4

* For technical reasons POM should be used up to a maximum temperature of 80° C only. For higher temperatures we recommend Aluminum/Steel

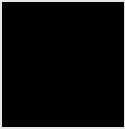

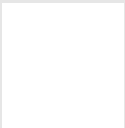
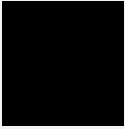
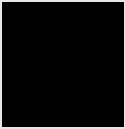

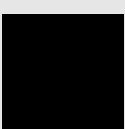
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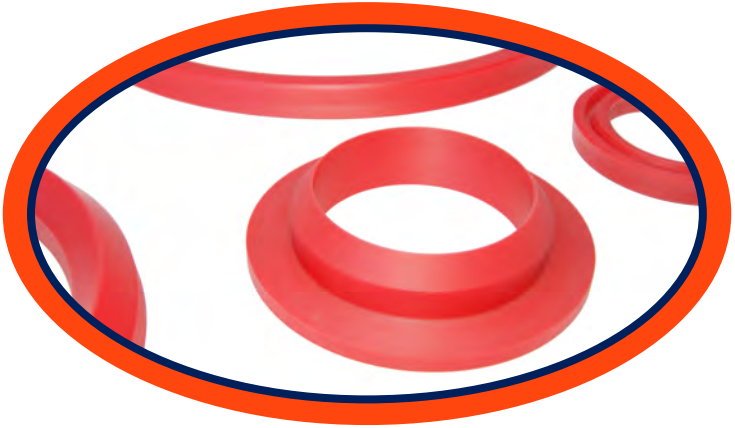
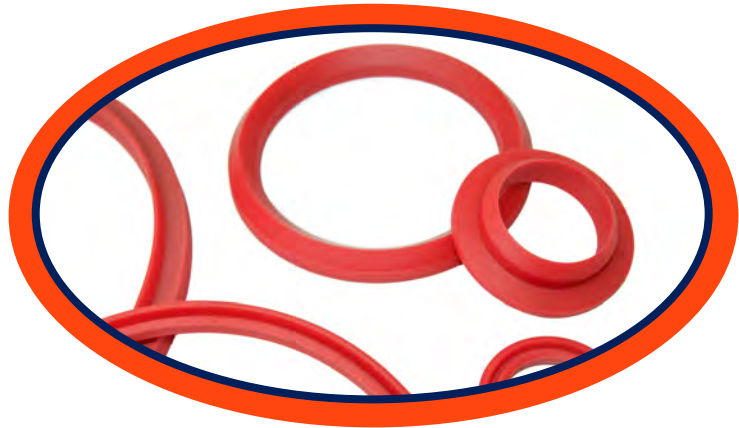
MATERIALS

	DESCRIPTION	COLOUR	APPLICATION TEMP.	HARDN. AT 20°C	MAIN APPLICATION
FPM	FPM F109-BR85 BROWN		-20°C TO +210°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, oil seals at high speed, and other seal elements. Mineral oils, HFD fluids at high temperature. Very good chemical resistance such as phosphates and chlorinated hydrocarbons, crude and sour gas.
	FPM FDA F110-BR85 BROWN		-25°C TO +210°C	SHORE A 85 +/-5	Mineral oils, HFD fluids at high temperature. Very good chemical resistance such as phosphates and chlorinated hydrocarbons, crude and sour gas. Applicable for contact with foodstuff.
	FPM F111-B85 BLACK		-25°C TO +210°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, oil seals at high speed, and other seal elements. Mineral oils, HFD fluids at high temperature. Very good chemical resistance such as phosphates and chlorinated hydrocarbons, crude and sour gas.
	FPM-RGD F800-B85-RGD BLACK		-30°C TO +210°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, oil seals at high speed and other seal elements. Mineral oils, HFD fluids at high temperature. Very good chemical resistance such as phosphates and chlorinated hydrocarbons, crude and sour gas. RGD (ED) optimised for use in Oil & Gas industry. Meets the NORSOK M-710 requirements.
EPDM	EPDM E131-B85 BLACK		-50°C TO +130°C	SHORE A 85 +/-5	Lip seals, v-packings, and other seal elements. Hot water and steam, ozone, dilute acids and alkaline solutions. EPDM is NOT resistant against mineral oils.
	EPDM FDA E132-W85 WHITE		-50°C TO +100°C	SHORE A 85 +/-3	Lip seals, v-packings, and other seal elements. Hot water and steam, ozone, dilute acids and alkaline solutions. Applicable for contact with foodstuff. EPDM is NOT resistant against mineral oils.
	EPDM KTW E133-W270 BLACK		-45°C TO +120°C	SHORE A 85 +/-5	Lip seals, v-packings, and other seal elements. Hot water and steam, ozone, dilute acids and alkaline solutions. Applicable for use in drinking water. EPDM is NOT resistant against mineral oils.
SILICONE	SILICONE FDA S102-R85 RED		-55°C TO +210°C	SHORE A 85 +/-5	Flange seals, gaskets, and other static seals. Mineral oils HFA, HFB, HFC, HFD fluids, ozone. Not recommended for dynamic applications. Applicable for contact with foodstuff.
	SILICONE FDA S103-BL85 BLUE		-55°C TO +180°C	SHORE A 85 +/-3	Flange seals, gaskets, and other static seals. Mineral oils HFA, HFB, HFC, HFD fluids, ozone. Not recommended for dynamic applications. Applicable for contact with foodstuff.

PROFILE RANGE


















MATERIALS

NBR	DESCRIPTION	COLOUR	APPLICATION TEMP.	HARDN. AT 20°C	MAIN APPLICATION
	NBR N107-B85 BLACK		-25°C TO +100°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids, cold water.
	NBR 95 N109-B95 BLACK		-25°C TO +100°C	SHORE A 95 +/-5	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids, cold water.
	NBR FDA N111-W85 WHITE		-22°C TO +100°C	SHORE A 85 +/-3	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids, cold water. Applicable for contact with foodstuff.
HNBR	H-NBR HN112-B85 BLACK		-25°C TO +150°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids at high temperatures. Aliphatic hydrocarbons, dilute acids and bases.
	H-NBR RGD HN900-B85-RGD BLACK		-20°C TO +150°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids at high temperatures. Aliphatic hydrocarbons, dilute acids and bases. RGD (ED) optimised for use in the Oil and Gas industry.
	H-NBR RGD LT HN901-B85-RGD BLACK		-40°C TO +150°C	SHORE A 85 +/-5	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB, HFC fluids at high temperatures. Aliphatic hydrocarbons, dilute acids and bases. RGD (ED) optimised for low temperatures in the Oil and Gas industry. Meets the NORSOK M-710 requirements.
TFE/P	TFE/P AF101-B85 BLACK		-15°C TO +210°C	SHORE A 85 +/-5	Lip seals, v-packings, and other seal elements. Mineral Oils, HFA, HFB, HFC, HFD fluids. Hot water and steam, ozone, dilute acids and alkaline solutions, sour oil and gas, amines.



















PROFILE RANGE

ROD SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	RS01	PU NBR FPM	400 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	RS01A	PU NBR FPM	300 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	RS01B	PU NBR FPM	400 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	RS01C	NBR FPM	160 160	-25 TO 100 -20 TO 210	1
	RS02	PU/POM NBR/POM FPM/PTFE	700 250 250	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	RS02A	PU/POM NBR/POM FPM/PTFE	700 250 250	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	RS02B	PU/PTFE	700	-30 TO 105	0.5
	RS02C	PU/POM	400	-25 TO 100	5
	RS03	PU/NBR	400	-25 TO 100	0.5
	RS04	PU/NBR/POM	700	-25 TO 100	0.5
	RS04A	PU/NBR/POM	700	-25 TO 100	0.5
	RS05	PU NBR	25	-30 TO 105 -25 TO 100	1
	RS05A	PU NBR	25	-30 TO 105 -25 TO 100	1
	RS08	PU NBR	400 160	-30 TO 105 -25 TO 100	0.3
	RS09	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	RS09A	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	RS09B	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10

PROFILE RANGE








ROD SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	RS10-12B	PU/POM NBR/POM	500 250	-30 TO 100 -25 TO 100	0.7
	RS91	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	RS91B	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	RS16	PU NBR	160	-30 TO 105 -25 TO 100	0.5
	RS17	PU NBR	400 160	-30 TO 105 -25 TO 100	0.5
	RS17A	PU/POM	700	-30 TO 100	0.5
	RS17B	PU/NBR	400	-25 TO 100	0.5
	RS17C	PU/NBR/POM	700	-25 TO 100	0.5
	RS17D	PU NBR	400 160	-30 TO 105 -25 TO 100	0.3
	RS17E	PU/POM	700	-30 TO 100	0.3
	RS19	PTFE-VIRGIN/V-SPRING PTFE-FILLED/V-SPRING	200 400	-200 TO 260	15
	RS19A	PTFE/V-SPRING	150	-200 TO 260	2
	RS20	NBR/POM	700	-25 TO 100	0.5
	RS31-33	PU/POM	500	-30 TO 100	0.5
	RS35	PU	400	-30 TO 105	0.4
	RS35A	PU	400	-30 TO 105	0.4

PROFILE RANGE

MATERIALS

POLYURETHANE *all Polyurethane grades resistant to hydrolysis	DESCRIPTION	COLOUR	APPLICATION TEMP.	HARDN. AT 20°C	MAIN APPLICATION
	PU U500-R95 RED		-30°C TO +125°C	SHORE A 95 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, dilute acids and alkaline solutions. Improved chemical and thermal resistance. Excellent wear and friction properties.
	PU U510-P79 PETROL		-25°C TO +100°C	SHORE A 79 +/-3	U-Cup seals and wipers in pneumatic applications, as a preload element replacing NBR, especially in large diameter range. Hydraulic fluids, oil in water emulsions, water power applications and others that require high abrasion resistance and elasticity at the same time.
	PU U510-G88 LIGHT GREEN		-30°C TO +115°C	SHORE A 90 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water, dilute acids and alkaline solutions. Application for pneumatic and low pressure.
	PU U520-OR95-HT ORANGE		-30°C TO +135°C	SHORE A 96 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water, dilute acids and alkaline solutions. Application for high temperature.
	PU U530-B95-LT LIGHT BLUE		-50°C TO +105°C	SHORE A 95 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water. Application for low temperature.
	PU U540-VI95-CR VIOLET		-30°C TO +115°C	SHORE A 95 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water. Improved chemical resistance, suitable for CIP process. Applicable for contact with foodstuff.
	PU U550-GM95 DARK RED		-30°C TO +125°C	SHORE A 95 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water. Improved wear and friction properties for waterhydraulics and heavy duty applications with low lubrication.
	PU U570-D57 BLUE		-30°C TO +125°C	SHORE A 57 +/-3	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water. High pressure and extrusion resistance.
	PU U580-D57G GREY		-30°C TO +125°C	SHORE A 57 +/-3	Back-up rings or composite seals with preload element. Mineral oils, HFA, HFB fluids, water, sea water. High pressure and extrusion resistance. Improved wear and friction properties.
	PU U203-G95 GREEN		-30°C TO +105°C	SHORE A 95 +/-2	Lip seals, wiper rings, v-packings, and other seal elements. Mineral oils, HFA, HFB fluids, water, sea water.

PROFILES						
						

M Barnwell Services: Crafting Tailored Seals and Customised Components for Diverse Industries

At M Barnwell Services, we specialise in the provision of bespoke seals and custom parts, carefully engineered to seamlessly integrate with an array of industries and products, all thoughtfully designed to meet your unique application requirements. Our extensive product range includes Gaskets, Inflatable Seals, Rubber Mouldings and Extrusions, Hydraulic and Pneumatic Seals, as well as O Rings.

With a seasoned team of experts at your service, we provide comprehensive support throughout the entire production process. This includes expert guidance in prototyping, rigorous testing, and the meticulous manufacturing of your final parts. Collaborating closely with our trusted manufacturing partners, we offer complete batch traceability, ensuring transparency and accountability at every stage of production, and we provide thorough documentation to accompany our top-tier products.

Embracing cutting-edge technology, we employ a diverse range of materials and components to create these exceptional parts, including:

- ✦ Machined components
- ✦ Metal parts
- ✦ Turned parts
- ✦ Stainless Steel parts
- ✦ Brass parts
- ✦ Aluminium parts
- ✦ Rubber parts
- ✦ Plastic components

The versatility of these components knows no bounds. They can be supplied in their raw, unfinished state, or customised with finishes such as anodising, plating, or plastic coating, according to your specific needs. These parts find utility in a wide spectrum of applications, spanning from powering pumps and regulating valves to serving an extensive array of other functions across diverse industries.

When you choose M Barnwell Services, you're not just selecting quality; you're investing in a partnership committed to delivering precision, reliability, and innovation to meet your unique industry and product requirements. Trust us to be your go-to source for tailored sealing solutions and customised components.



PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	PS01	PU NBR FPM	400 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.7
	PS01A	PU NBR FPM	300 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	PS01B	PU NBR FPM	400 160 160	-30 TO 105 -25 TO 100 -20 TO 210	0.5
	PS01C	NBR FPM	160 160	-25 TO 100 -20 TO 210	1
	PS02	PU/POM NBR/POM FPM/PTFE	700 250 250	-30 TO 100 -25 TO 100 -20 TO 210	0.5
	PS02A	PU/POM NBR/POM FPM/PTFE	700 250 250	-30 TO 100 -25 TO 100 -20 TO 210	0.5
	PS03	PU/NBR	400	-25 TO 100	0.5
	PS04	PU/NBR/POM	700	-25 TO 100	0.5
	PS04A	PU/NBR/POM	700	-25 TO 100	0.5
	PS05	PU NBR	25	-30 TO 105 -25 TO 100	1
	PS05A	PU NBR	25	-30 TO 105 -25 TO 100	1
	PS08	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 15
	PS08A	PU/NBR PU-D57/NBR PTFE/NBR	250 400 400	-25 TO 100	1 5 15
	PS08B	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	PS08C	PTFE/NBR	400	-25 TO 100	2
	PS08D	PTFE/NBR	400	-25 TO 100	3
	PS08E	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	PS08F	PU-D57/NBR PTFE/NBR	400 250	-25 TO 100	5 1












PROFILE RANGE

PISTON SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	PS81	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	PS81B	PU-D57/NBR PTFE/NBR	600 400	-25 TO 100	5 10
	PS81C	PU/NBR PU-D57/NBR PTFE/NBR	250 400 400	-25 TO 100	1 5 15
	PS09	PU/NBR/POM	400	-25 TO 100	0.5
	PS09A	PTFE/NBR/POM	400	-25 TO 100	1
	PS10-12B	PU/POM NBR/POM	500 250	-30 TO 100 -25 TO 100	0.7
	PS16	PU NBR	160	-30 TO 105 -25 TO 100	0.5
	PS16A	PU NBR	160	-30 TO 105 -25 TO 100	0.5
	PS17	PU/POM NBR/POM	400 250	-25 TO 100	0.5
	PS17A	PU/POM NBR/POM	400 250	-25 TO 100	0.5
	PS17B	PU/POM NBR/POM	400 250	-25 TO 100	0.5
	PS19	PTFE-VIRGIN/V-SPRING PTFE-FILLED/V-SPRING	200 400	-200 TO 260	15
	PS19A	PTFE-VIRGIN/V-SPRING PTFE-FILLED/V-SPRING	200 400	-200 TO 260	2
	PS20	NBR/POM	700	-25 TO 100	0.5
	PS23	PTFE/NBR/POM	400	-25 TO 100	0.5
	PS35	PU	400	-30 TO 105	0.4
	PS35A	PU	400	-30 TO 105	0.4

PROFILE RANGE

MINING SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	P50	PU/POM	400 DYN. 1500 STAT.**	-30 TO 100	0.5 0.2
	P50A	PU/POM	400 DYN. 1500 STAT.**	-30 TO 100	0.5 0.2
	P51	PU/NBR/POM	400 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P51A	PU/NBR/POM	400 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P51G	PU/NBR/POM	400 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P52	PU/POM	700 DYN. 1500 STAT.**	-30 TO 100	0.5 0.2
	P53	PU/NBR/POM	700 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P54	PU/NBR/POM	400 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P54A	PU/NBR/POM	400 DYN. 1500 STAT.**	-25 TO 100	0.5 0.2
	P55	PU/POM NBR/POM	700 DYN./1500 STAT.** 400 DYN./1500 STAT.**	-25 TO 100	0.5/0.2 0.5/0.2
	P58	PU	400	-30 TO 105	0.3

* For technical reasons POM should be used up to a maximum temperature of 80° C only. For higher temperatures we recommend Aluminum/Steel
** The maximum pressure allowance for dynamic and static application is dependent on the profile design












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These application parameters serve as a general guide and should not be assumed to coexist simultaneously. Factors like pressure, speed, temperature, gap size, and the nature of the fluid interact and influence one another. These values are based on widely accepted standards in the field of seal technology. Careful material selection for specific applications can optimise these documented parameters.

The seal profiles displayed in the profiles overview are standard configurations, but they can be adapted to suit unique working conditions. In addition to the listed standard profiles, we offer custom profiles tailored to individual requirements based on customer drawings. All seals can be manufactured as workpieces with an outer diameter of up to 1,850mm and can be delivered promptly.

PROFILE RANGE

MINING SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	R50	PU/NBR/POM	700	-25 TO 100	0.5
	R50A	PU/NBR/POM	700	-25 TO 100	0.5
	R51	PU/NBR	400	-25 TO 100	0.5
	R52	PU/POM	700	-30 TO 100	0.5
	R53	PU	400	-30 TO 105	0.5
	W50	PU	-	-30 TO 105	2
	W51	PU	-	-30 TO 105	2
	W53	PU/POM*	-	-30 TO 80	2
	W54	PU	-	-30 TO 105	2
	BWR01-P	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR01-R	POM PTFE	400	-60 TO 100 -200 TO 260	4

* For technical reasons POM should be used up to a maximum temperature of 80° C only. For higher temperatures we recommend Aluminum/Steel
** The maximum pressure allowance for dynamic and static application is dependent on the profile design













These application parameters serve as a general guide and should not be assumed to coexist simultaneously. Factors like pressure, speed, temperature, gap size, and the nature of the fluid interact and influence one another. These values are based on widely accepted standards in the field of seal technology. Careful material selection for specific applications can optimise these documented parameters.

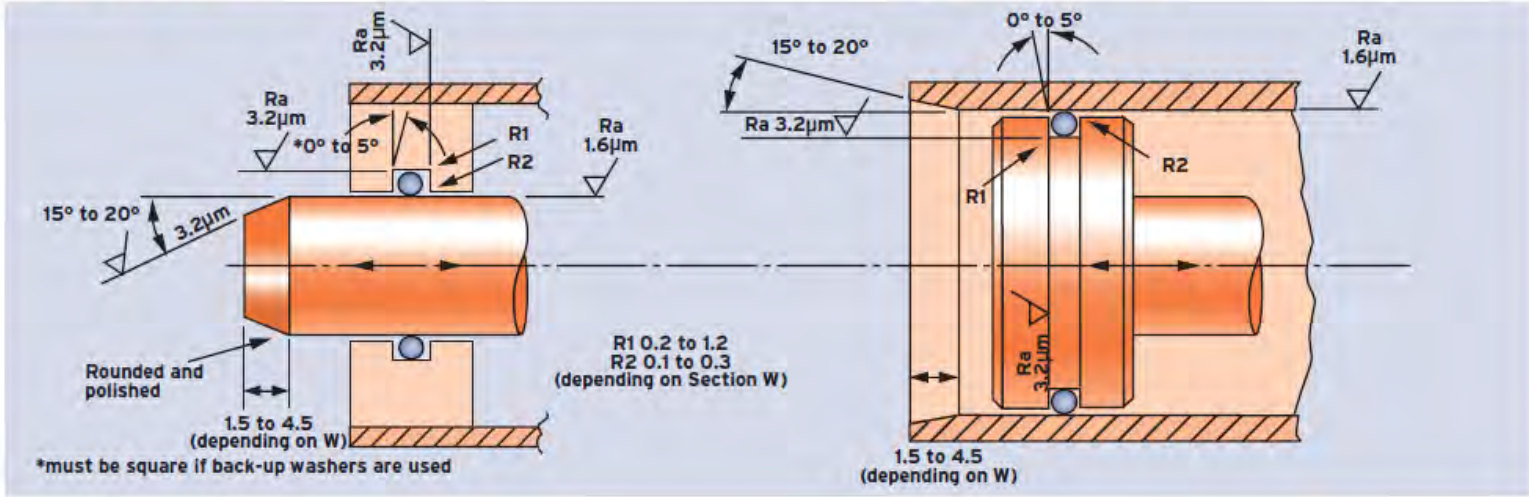
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PROFILE RANGE

SYMMETRICAL SEALS | PISTON, ROD SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	PRS06	PU NBR	400 160	-30 TO 105 -25 TO 100	0.5
	PRS06A	PU NBR	300 160	-30 TO 105 -25 TO 100	0.5
	PRS06B	PU NBR	400 160	-30 TO 105 -25 TO 100	0.5
	PRS06C	PU NBR	400 160	-30 TO 105 -25 TO 100	0.3
	PRS06D	PU NBR	400 160	-30 TO 105 -25 TO 100	0.5
	PRS06E	PU NBR	400 160	-30 TO 105 -25 TO 100	0.5
	PRS07	PU/NBR	400	-25 TO 100	0.5
	PRS10SP	PU FPM POM	-	-30 TO 105 -20 TO 210 -60 TO 100	-
	PRS10-12	PU/POM NBR/POM	500 250	-30 TO 105 -25 TO 100	0.5
	PRS10-12A	PU/POM NBR/POM	500 250	-30 TO 105 -25 TO 100	0.7

Typical Rod Seal

















PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	PRS13-15	PU/POM NBR/POM	500 250	-30 TO 100 -25 TO 100	0.5
	PRS18	PU/NBR	400	-25 TO 100	0.5
	PRS19	PTFE-VIRGIN/V-SPRING PTFE-FILLED/V-SPRING	200 400	-200 TO 260	15
	PRS19B	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-200 TO 260	5
	PRS19C	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-200 TO 260	5
	PRS19D	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-200 TO 260	5
	PRS22	PU/POM NBR/POM FPM/PTFE	400 160 160	-30 TO 100 -25 TO 100 -20 TO 210	0.5
	PRS25-27	PTFE-VIRGIN PTFE-FILLED	100	-200 TO 260	1.5
	PRS99	PU NBR FPM	400 160 160	-30 TO 100 -25 TO 100 -20 TO 210	0.5

Seal Symmetry: Where Balance Meets Efficiency

Symmetrical rod and piston seals are important in various applications for several key reasons:











- Balanced Sealing:** Symmetrical seals are designed to provide balanced sealing performance, ensuring that they can function effectively regardless of the direction of movement (extension or retraction) of the rod or piston. This balance helps maintain consistent sealing and prevents leakage, which is crucial in many hydraulic and pneumatic systems.
- Reduced Friction:** Symmetrical seals often exhibit lower friction compared to asymmetrical or non-symmetrical seals. Lower friction means less resistance to movement, resulting in improved efficiency, reduced wear on components, and potentially longer seal life.
- Versatility:** Symmetrical seals are versatile and can be used in both rod and piston applications without the need for separate designs or parts. This versatility simplifies inventory management and maintenance procedures.
- Ease of Installation:** Symmetrical seals are generally easier to install because they don't require precise orientation during assembly. This can save time and reduce the chances of installation errors, which is especially important in critical applications.
- Cost-Efficiency:** The use of symmetrical seals can lead to cost savings in terms of reduced maintenance and downtime. Their versatility and compatibility with various applications mean fewer seal types need to be stocked, reducing inventory costs.
- Improved Reliability:** Symmetrical seals are designed to provide reliable sealing under a range of conditions, which is crucial for applications where leaks or seal failure can lead to safety hazards, environmental issues, or equipment damage.
- Consistent Performance:** Symmetrical seals offer consistent sealing performance over time, ensuring that hydraulic or pneumatic systems maintain their intended functionality. This consistency is vital in applications where precision and reliability are critical.

In summary, symmetrical rod and piston seals offer a range of benefits, including balanced sealing, reduced friction, versatility, ease of installation, cost-efficiency, improved reliability, and consistent performance. These advantages make them an essential component in many hydraulic and pneumatic systems across various industries.

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	FL01A	PU FPM EPDM	400 250 250	-30 TO 105 -20 TO 210 -50 TO 130	-
	FL02B	PU FPM EPDM	400 250 250	-30 TO 105 -20 TO 210 -50 TO 130	-
	FL03	PU NBR FPM	600 250 250	-30 TO 105 -25 TO 100 -20 TO 210	-
	FL04	PU NBR	400 160	-30 TO 105 -25 TO 100	0.3
	FL05	PU NBR	400 160	-30 TO 105 -25 TO 100	0.3
	FL06	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-60 TO 200	0.1
	FL07	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-60 TO 200	0.1
	FL08	PTFE-VIRGIN/HELICOIL SPRING PTFE-FILLED/HELICOIL SPRING	200 400	-60 TO 200	0.1
	OR	PU NBR FPM	600 160 160	-30 TO 105 -25 TO 100 -20 TO 210	-
	ORH	PU NBR FPM	600 160 160	-30 TO 105 -25 TO 100 -20 TO 210	-
	ORV	PU NBR FPM	600 160 160	-30 TO 105 -25 TO 100 -20 TO 210	-
	OR01	PU NBR FPM	600 160 160	-30 TO 105 -25 TO 100 -20 TO 210	-
	OR02	PU NBR FPM	600 160 160	-30 TO 105 -25 TO 100 -20 TO 210	-
	SS01	PU NBR FPM	600 250 250	-30 TO 105 -25 TO 100 -20 TO 210	-







PROFILE RANGE

ROTARY SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	R08	PTFE/NBR	350	-25 TO 100	0.4
	R08D	PTFE/NBR	350	-25 TO 100	0.4
	R09	PTFE/NBR	350	-25 TO 100	0.4
	R09A	PTFE/NBR	350	-25 TO 100	0.4
	R10	PTFE/NBR	350	-25 TO 100	0.4
	R10A	PTFE/NBR	350	-25 TO 100	0.4
	R11	PTFE/NBR	350	-25 TO 100	0.4
	R11D	PTFE/NBR	350	-25 TO 100	0.4
	R35A	PU NBR	800 250	105 100	-
	R35B	PU NBR	800 250	105 100	-

PROFILE RANGE

BACK-UP RINGS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	BUR08	POM PTFE	-	-60 TO 100 -200 TO 260	-
	BUR09	POM PTFE	-	-60 TO 100 -200 TO 260	-
	BUR10	POM PTFE	-	-60 TO 100 -200 TO 260	-
	BUR11	POM PTFE	-	-60 TO 100 -200 TO 260	-
	BUR12	POM PTFE	-	-60 TO 100 -200 TO 260	-
	BUR13	POM PTFE	-	-60 TO 100 -200 TO 260	-

Back-up Rings in the UK: Reinforcing the Performance of O-Rings and X-Rings / Quad-Rings

At M Barnwell Services, we offer a comprehensive range of Back-up Rings, also known as Anti-Extrusion Rings, designed to enhance the effectiveness of O-Rings and X-Rings / Quad-Rings in both static and dynamic applications. These vital components play a critical role in preventing seal extrusion when the system is subjected to high pressures that would otherwise overwhelm an unsupported seal. Typically, Back-up Rings are essential when dealing with system pressures exceeding 105 BAR (1500 PSI) or in instances where excessive extrusion gaps are a concern.

Our extensive inventory boasts a wide selection of Anti-Extrusion Rings tailored to suit both Imperial and Metric sized O-Rings. These Back-up Rings are available in various configurations, including Spiral, Split, and Solid designs, ensuring that you have the perfect solution for your specific sealing requirements.

When it comes to materials, we offer a versatile array to choose from, including:

- ✦ **PTFE:** Known for its exceptional chemical resistance and low friction properties.
- ✦ **Nitrile (NBR):** Renowned for its excellent oil and fuel resistance.
- ✦ **Viton® (FKM/FPM):** Recognised for its high-temperature and chemical resistance.
- ✦ **Polyurethane (AU):** Valued for its durability and abrasion resistance.
- ✦ **Leather:** Ideal for applications requiring a natural, flexible seal.
- ✦ **Hytrel®:** Offering a combination of strength and flexibility.
- ✦ **Rubberised-Fabric:** Combining the resilience of rubber with the reinforcement of fabric.

Additionally, we are well-equipped to accommodate custom material requests to meet the unique demands of your applications. With our Back-up Rings, you can ensure the longevity and reliability of your sealing systems, even under challenging conditions, providing the pressure support required to maintain peak performance.



Sealing Excellence: 1.4 Million Options, Endless Solutions

At M Barnwell Services, we pride ourselves on maintaining an extensive inventory of 1.4 million Oil Seals, also known as Rotary Seals. These seals are not only produced in-house but are sourced from some of the world's leading manufacturers, guaranteeing top-notch quality. Beyond our vast stock, we offer the flexibility to provide custom sizes and materials tailored to your specific requirements.

Our comprehensive selection encompasses a wide range of manufacturer oil seal designs, including A Types (such as R21, SC, and SM), AS Types (including R23, TC, and BASL), and B Types (like R4, BB, and B1).

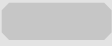
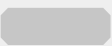







These Oil Seals, also referred to as Radial Lip Seals, Shaft Seals, Elastomeric Lip Seals, Grease Seals, and Dust Seals, serve a vital role in various applications. They are designed to prevent lubricant leakage by effectively retaining fluid within the application while simultaneously forming a protective barrier against the intrusion of harmful external contaminants.

In terms of construction, our Oil Seal Styles are diverse and cater to different needs. Options include Rubber Covered, Metal Cased, and Totally Metal Enclosed seals. We offer these Oil Seals in both Metric and Imperial sizes, ensuring compatibility with a wide range of equipment. Additionally, our inventory includes Oil Seals crafted from various materials, such as Nitrile (NBR), Viton® (FKM/FPM), Silicone (VMQ), Leather, PTFE, Polyacrylic (ACM), and Neoprene (CR).

Whether you require standard sizes and designs or specialised Oil Seals tailored to your unique specifications, M Barnwell Services is your trusted partner in delivering high-quality sealing solutions that uphold the integrity of your machinery and systems.

PROFILE RANGE

GUIDE RINGS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	BWR01	POM PTFE POLYESTER-FABRIC*	-	-60 TO 100 -200 TO 260 -40 TO 130	4
	BWR01A	POM PTFE	-	-30 TO 100 -25 TO 100 -20 TO 210	4
	BWR03	POM PTFE	-	-30 TO 100 -25 TO 100 -20 TO 210	4
	BWR04	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR05	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR06	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR07	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR08	POM PTFE	-	-60 TO 100 -200 TO 260	4
	BWR09	-	-	-	-

* Various dimensions available in reels

Wear Rings, Guide Rings, and Bearing Rings: Enhancing Hydraulic and Pneumatic Applications

M Barnwell Services stands at the forefront as a premier supplier of Guide Rings catering to the Earth Moving, Construction, and Hydraulic industries. We are dedicated to providing superior solutions that optimise performance and durability in hydraulic and pneumatic systems.

Our extensive inventory includes Guide Rings available in a variety of sizes and materials, ensuring compatibility with a wide range of applications. These materials encompass a diverse selection, including PTFE, Glass Reinforced Nylon, Synthetic fiber-reinforced polyester composites, Phenolic, Reinforced Nylon®, and Polyester Resin. This breadth of options empowers you to choose the ideal material to suit your specific needs, whether you're seeking high-performance durability or specialised characteristics.

At M Barnwell Services, we pride ourselves on our agility in meeting customer demands. If you require specialised, rapid, or bespoke products, our state-of-the-art, in-house seal maker machines can swiftly deliver tailored solutions within a remarkable 24-hour timeframe*.


Wear Rings, Bearing Rings, and Bearing Tape are alternate designations for Guide Rings, all of which share a common purpose: to enhance hydraulic and pneumatic systems. These critical components act as barriers between two dynamic surfaces, typically the piston and the piston rod. By doing so, they play a pivotal role in reducing friction and minimising wear, which is essential for maintaining the efficiency and longevity of your equipment.

Moreover, Guide Rings excel in preventing metal-to-metal contact between sliding parts, further safeguarding your systems from premature deterioration. Whether you are in the Earth Moving, Construction, or Hydraulic industry, count on M Barnwell Services for top-quality Guide Rings that elevate the performance and reliability of your hydraulic and pneumatic applications.

*Conditions apply.

PROFILE RANGE

ROTARY SEALS

PROFILE	TYPE	STANDARDMATERIAL	PRESSURE BAR	TEMP (°C)	SURFACE SPEED (M/SEC)
	OS01A	PU/POM* NBR/POM* FPM/PTFE	0.5 0.5 0.5	-30 TO 100 -25 TO 100 -20 TO 210	5 10 15
	OS02A	PU/POM* NBR/POM* FPM/PTFE	0.5 0.5 0.5	-30 TO 100 -25 TO 100 -20 TO 210	5 10 15
	OS03A	PU NBR FPM	0.5 0.5 0.5	-30 TO 100 -25 TO 100 -20 TO 210	5 10 15
	OS08	PU NBR	-	-30 TO 105 -25 TO 100	5 10
	OS08A	PU NBR	-	-30 TO 105 -25 TO 100	5 10
	R03	PU/POM NBR/POM	400 250	-30 TO 105 -25 TO 100	0.2 0.2
	R04	PU NBR	160 100	-30 TO 105 -25 TO 100	0.2 0.2
	R04A	PU NBR	160 100	-30 TO 105 -25 TO 100	0.2 0.2
	R05	PU NBR	160 100	-30 TO 105 -25 TO 100	0.2 0.2
	R05A	PU NBR	160 100	-30 TO 105 -25 TO 100	0.2 0.2
	VR06	NBR	-	-25 TO 100	25
	VR07	NBR	-	-25 TO 100	25

