

Profile “RM” Rotary Shaft Seal

No. 5268B1/USA

Parker RM Profile for oilfield rotary shaft sealing

Seal design for harsh service demands

Parker’s “RM” profile rotary shaft seal has been developed specifically to withstand the rigors of oilfield rotary shaft applications. Rubber seals are exposed to harsh service demands in mud motor and drill bit applications. The “RM” design, when combined with reliable Parker materials, meets the sealing service challenges of aggressive energy, oil and gas environments.

Features of the “RM Design

- Rotary fluid retention grooves
- Fluid retention dams
- Pressure activation slots
- Contact relief groove
- Parker proven oilfield elastomers

Advantages of the “RM” Design

- Static groove contact provides stability, and helps prevent seal spinning in the groove
- Retention grooves collect fluid to reduce friction
- Fluid dams stop rotating fluid and force some fluid past contact seal for lubrication
- Pressure slots allow grease in relief groove to migrate to shaft
- Relief groove allows storage of grease and reduces high squeeze contact forces

Material offerings

The profile “RM” rotary shaft seal design can be manufactured from a broad range of Parker sealing materials, each with unique performance characteristics and physical properties (see Technical Bulletin EPS 5267B1/USA for additional information).

Nitroxile -- Proven Seal Elastomers

N4274A85: For years, Nitroxile ELF has been extensively used down hole. The “ELF,” or extreme low friction describes the benefits of internal lubrication additives to the proprietary Nitroxile ELF formulation. Internal lubrication helps reduce



friction, and reduces heat build-up. This advantage can be applied to rotary applications.

N4263A90: An alternate version of Nitroxile, this material has been used down hole for many years. This elastomer has an excellent track record in applications characterized by high pressures.

HNBR Elastomer -- for higher temperatures

N4288A80 & N4007A95: These high tensile strength, heat resistant (to 300° F) elastomers have excellent compatibility with PPM hydrogen sulfide, corrosion inhibitors, water and oil.

Fluorocarbons

V4266A90 & V1238A95: Parker offers a wide range of Fluorocarbons with varying hardnesses to meet the pressure and higher temperature requirements of rotary movement. In addition, Parker’s V1238A95 is resistant to explosive decompression and extrusion (exhibiting more than twice the extrusion resistance of standard 90 durometer materials), and shows no visual physical damage after prolonged exposure to 100% CO₂ concentrations.

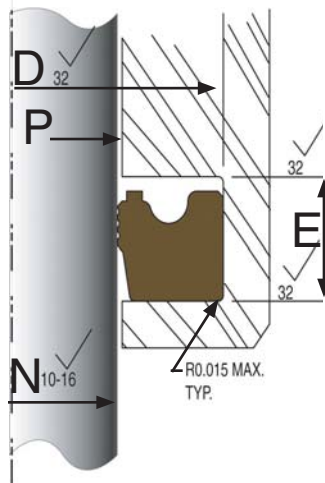
Contact us

Our experienced Application Engineers are your link to technical support for all of your sealing needs. They can help you optimize an existing seal design or explore innovative design alternatives. Call (801) 972-3000 for technical assistance.

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"RM" Profile Part Numbering

Material 4007 **Profile Code** RM **Cross Section** 150 **ID** 00500 **Groove Width** 215



RM Seal Part Number	Rod Diameter (tol)		Throat Diameter (tol)		Groove Diameter (tol)		Groove Width (tol)		Groove C/S
	N		P		D		E		
4007RM15000500-215	0.500	+0.00/-0.002	0.501	+0.02/-0.000	0.800	+0.02/-0.000	0.215	+0.015/-0.000	0.150
4007RM16600750-215	0.750	+0.00/-0.002	0.751	+0.02/-0.000	1.082	+0.02/-0.000	0.215	+0.015/-0.000	0.166
4007RM12500786-140	0.786	+0.00/-0.001	0.787	+0.02/-0.000	1.035	+0.02/-0.000	0.140	+0.015/-0.000	0.125
4007RM12501000-215	1.000	+0.00/-0.001	1.001	+0.02/-0.000	1.250	+0.02/-0.000	0.215	+0.015/-0.000	0.125
4007RM18901085-284	1.085	+0.00/-0.002	1.086	+0.02/-0.000	1.463	+0.02/-0.000	0.248	+0.015/-0.000	0.189
4007RM18901250R00-262	1.250	+0.00/-0.002	1.251	+0.02/-0.000	1.628	+0.02/-0.000	0.284	+0.015/-0.000	0.189
4007RM18901375-284	1.375	+0.00/-0.002	1.376	+0.02/-0.000	1.753	+0.02/-0.000	0.284	+0.015/-0.000	0.189
4007RM18901500-284	1.500	+0.00/-0.002	1.501	+0.02/-0.000	1.878	+0.02/-0.000	0.284	+0.015/-0.000	0.189
4007RM18901625-284	1.625	+0.00/-0.002	1.626	+0.02/-0.000	2.003	+0.02/-0.000	0.284	+0.015/-0.000	0.189
4007RM24201750-310	1.750	+0.00/-0.002	1.751	+0.02/-0.000	2.234	+0.02/-0.000	0.310	+0.015/-0.000	0.242
4007RM24301875-310	1.875	+0.00/-0.002	1.876	+0.02/-0.000	2.361	+0.02/-0.000	0.310	+0.015/-0.000	0.243
4007RM24402000-318	2.000	+0.00/-0.002	2.001	+0.02/-0.000	2.488	+0.02/-0.000	0.318	+0.015/-0.000	0.244
4007RM30902000-312	2.000	+0.00/-0.002	2.001	+0.03/-0.000	2.618	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM24402250-318	2.250	+0.00/-0.002	2.251	+0.02/-0.000	2.738	+0.02/-0.000	0.318	+0.015/-0.000	0.244
4007RM30902375-312	2.375	+0.00/-0.002	2.376	+0.03/-0.000	2.993	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM33402382-289	2.382	+0.00/-0.002	2.383	+0.03/-0.000	3.050	+0.04/-0.000	0.289	+0.015/-0.000	0.334
4007RM24402500-318	2.500	+0.00/-0.002	2.501	+0.02/-0.000	2.988	+0.02/-0.000	0.318	+0.015/-0.000	0.244
4007RM30902500-312	2.500	+0.00/-0.002	2.501	+0.03/-0.000	3.118	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30902750-312	2.750	+0.00/-0.002	2.751	+0.03/-0.000	3.368	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30902875-312	2.875	+0.00/-0.002	2.876	+0.03/-0.000	3.493	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30903000-312	3.000	+0.00/-0.002	3.001	+0.03/-0.000	3.620	+0.03/-0.000	0.312	+0.015/-0.000	0.310
4007RM30903145-312	3.145	+0.00/-0.002	3.146	+0.03/-0.000	3.763	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30903250-312	3.250	+0.00/-0.002	3.251	+0.03/-0.000	3.868	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM27403375-315	3.375	+0.00/-0.002	3.376	+0.03/-0.000	3.923	+0.03/-0.000	0.315	+0.015/-0.000	0.274
4007RM27403500-315	3.500	+0.00/-0.002	3.501	+0.03/-0.000	4.048	+0.03/-0.000	0.315	+0.015/-0.000	0.274
4007RM30903750-312	3.750	+0.00/-0.002	3.751	+0.03/-0.000	4.368	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM31003778-312	3.778	+0.00/-0.002	3.779	+0.03/-0.000	4.398	+0.03/-0.000	0.312	+0.015/-0.000	0.310
4007RM30903935-312	3.935	+0.00/-0.002	3.936	+0.03/-0.000	4.553	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30904000-290	4.000	+0.00/-0.002	4.001	+0.03/-0.000	4.618	+0.03/-0.000	0.290	+0.015/-0.000	0.309
4007RM30904250-312	4.250	+0.00/-0.002	4.251	+0.03/-0.000	4.868	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM31504365-289	4.365	+0.00/-0.002	4.366	+0.03/-0.000	4.995	+0.04/-0.000	0.289	+0.015/-0.000	0.315
4007RM30904375-312	4.375	+0.00/-0.002	4.376	+0.03/-0.000	4.993	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30904500-312	4.500	+0.00/-0.002	4.501	+0.03/-0.000	5.118	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM31004625-312	4.625	+0.00/-0.002	4.626	+0.03/-0.000	5.245	+0.03/-0.000	0.312	+0.015/-0.000	0.310
4007RM30904750-312	4.750	+0.00/-0.002	4.751	+0.03/-0.000	5.368	+0.03/-0.000	0.310	+0.015/-0.000	0.309
4007RM30905118-290	5.118	+0.00/-0.002	5.119	+0.03/-0.000	5.736	+0.03/-0.000	0.290	+0.015/-0.000	0.309
4007RM30905625-312	5.625	+0.00/-0.002	5.626	+0.03/-0.000	6.243	+0.03/-0.000	0.312	+0.015/-0.000	0.309
4007RM30906000-290	6.000	+0.00/-0.002	6.001	+0.03/-0.000	6.618	+0.03/-0.000	0.290	+0.015/-0.000	0.309
4007RM30906889-312	6.889	+0.00/-0.002	6.890	+0.03/-0.000	7.507	+0.03/-0.000	0.312	+0.015/-0.000	0.309

For additional sizes not shown, or for assistance with custom applications, consult the factory at: (801) 972-3000.