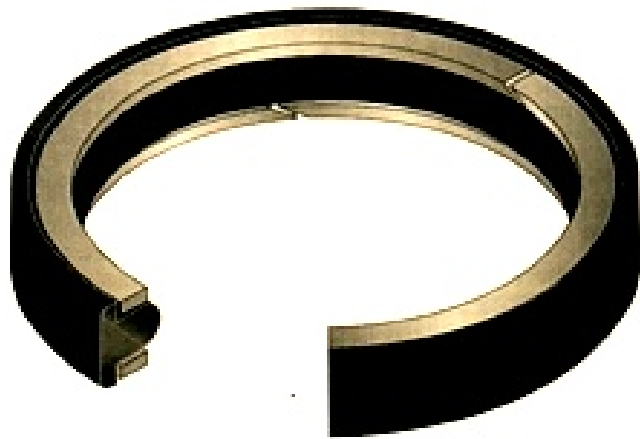


Piston & Rod T-Seals



Product Description

Mikron T-seals come in both Piston (MPT) and Rod (MRT) styles. The T-seal is designed as a double acting seal and fit a standard O-ring groove (intermediate and wide base glands are also available). The t-seal design prevents extrusion and spiraling up to 5,000 PSI.

Mikron's standard T-seals are made with a 70 durometer Nitrile (MB170) sealing element and two (2) split Nylon (Nylon 12) back-up rings. We offer a variety of sealing element and back-up rings materials to solve OEM and service repair requirements.

Material Science

Mikron has created 1,000+ custom material formulations utilizing our in-house chemists and material lab. The T-seal is available in low temperature Nitrile (MB470), a 60, 80 & 90 durometer Nitrile (MB160, MB380, and MB390), a Carboxilated Nitrile (MB190), Fluoroelastomers (Viton) (MF190) and many other rubber compounds.

For Use In

Used in reciprocating hydraulic and pneumatic equipment and high pressure applications, the Mikron T-seal eliminates two major sealing problems often experienced with other packings:

- 1) Extrusion through large metal clearances which are abnormally large and/or where pressures are above 1500 psi.
- 2) Roll and spiral failures due to instability in grooves.

It is important to first select the specific pressure range, temperature range, maximum diametrical clearance and seal width. The most common cause of seal failure is due to extrusion of seal through a clearance gap. Many other failures result from small errors in back-up ring dimensions, in particular at the point of split.

Mikron T-Seals are used for a wide range of applications, including: oil drilling, submarines, pumps, accumulators, presses, construction

equipment, industrial machinery, mining equipment, farm machinery, off-road equipment, service station equipment, hydraulic valves, Pneumatic Equipment and other fluid power applications.

Detailed Information

The Mikron T-seal eliminates rolling or spiraling, even under long-stroke or dry-rod conditions. When piston or rod movement does occur, even under very low pressures, the design allows the back-up rings to lock the sealing element in place all while retaining the space-saving attributes of the O-Ring design.

Because the Mikron T-seal has a back-up ring on both sides of the sealing area, it functions very well in double-acting applications. Mikron T-seals also adapt to wider gaps and immediately respond to pressure surges and shocks.

The Mikron T-seal is compressed to eliminate low pressure leakage. The back-up rings float between the T-seals' flanges and the rod or bore, minimizing friction and wear. When pressure is applied, a bridge is formed before extrusion can occur. The T-seal's back-up utilizes hydraulic pressure to keep it in contact with the rod or cylinder wall, which prevents extrusion from occurring.

Quality and Customer Service

Mikron engineers, chemists and customer service personnel are always available to assist in the solutions of your sealing concerns. There is no charge when our engineers or chemists provide you with their expertise and information.

For more information on T-seals, as well as Rod Wipers, U-cups, V rings/sets, WV packings, Piston Cups, and custom molded products, contact Mikron's customer service directly at (909) 947-1244.

Please refer to the Tables on the following pages listing Part Number, compatible O-Ring and O.D. for Piston T-seals, Special Sized Piston T-seals and Rod T-seals.

Table 1
Piston T-seals

AS-568 "O" Ring No.'s	Mikron Part No.	O.D.	Nominal Dimensions I.D.	W	A Bore Diam.	B Piston Diam.	C Groove Diam.	D Groove Width
-106	MPT-001	.375	.187	.093	.375±.001	.375±.001	.191±.001	.152 + .003 - .002
-108	MPT-002	.437	.250	.093	.437	.433	.253	.152
-109	MPT-003	.500	.312	.093	.500	.496	.316	.152
-203	MPT-004	.562	.312	.125	.5625	.558	.316	.187
-204	MPT-005	.625	.375	.125	.625	.381	.381	.187
-205	MPT-006	.687	.437	.125	.687	.683	.443	.187
-206	MPT-007	.750	.500	.125	.750	.746	.506	.187
-207	MPT-008	.812	.562	.125	.812	.808	.568	.187
-208	MPT-009	.875	.625	.125	.875	.871	.631	.187
-209	MPT-010	.937	.687	.125	.937	.933	.693	.187
-210	MPT-011	1.000	.750	.125	1.001	.997	.757	.187
-211	MPT-012	1.062	.812	.125	1.063	1.059	.819	.187
-212	MPT-013	1.125	.875	.125	1.126	1.122	.882	.187
-213	MPT-014	1.187	.937	.125	1.188	1.184	.944	.187
-214	MPT-015	1.250	1.000	.125	1.251	1.247	1.007	.187
-215	MPT-016	1.312	1.062	.125	1.313	1.309	1.069	.187
-216	MPT-017	1.375	1.125	.125	1.376	1.372	1.132	.187
-217	MPT-018	1.437	1.187	.125	1.438	1.434	1.194	.187
-218	MPT-019	1.500	1.250	.125	1.501	1.497	1.257	.187
-219	MPT-020	1.562	1.312	.125	1.563	1.559	1.319	.187
-220	MPT-021	1.625	1.375	.125	1.626	1.622	1.382	.187
-222	MPT-022	1.750	1.500	.125	1.751	1.747	1.507	.187
-325	MPT-023	1.875	1.500	.187	1.876	1.872	1.503	.282
-326	MPT-024	2.000	1.625	.187	2.001	1.997	1.628	.282
-327	MPT-025	2.125	1.750	.187	2.126	2.122	1.753	.282
-328	MPT-026	2.250	1.875	.187	2.251	2.247	1.878	.282
-329	MPT-027	2.375	2.000	.187	2.376	2.372	2.003	.282
-330	MPT-028	2.500	2.125	.187	2.501	2.497	2.128	.282
-331	MPT-029	2.625	2.250	.187	2.626	2.620	2.253	.282
-332	MPT-030	2.750	2.375	.187	2.751 ± .002	2.745 ± .002	2.378 ± .002	.282
-333	MPT-031	2.875	2.500	.187	2.876	2.870	2.503	.282
-334	MPT-032	3.000	2.625	.187	3.001	2.995	2.628	.282
-335	MPT-033	3.125	2.750	.187	3.126	3.120	2.753	.282
-336	MPT-034	3.250	2.875	.187	3.251	3.245	2.878	.282
-338	MPT-035	3.500	3.125	.187	3.502	3.496	3.129	.282
-339	MPT-036	3.625	3.250	.187	3.627 ± .002	3.621 ± .002	3.254 ± .002	.282 ± .003 - .002
-340	MPT-037	3.750	3.375	.187	3.752	3.746	3.379	.282
-341	MPT-038	3.875	3.500	.187	3.877	3.871	3.504	.282
-342	MPT-039	4.000	3.625	.187	4.002	3.996	3.629	.282
-343	MPT-040	4.125	3.750	.187	4.127	4.121	3.754	.282
-344	MPT-041	4.250	3.875	.187	4.252	4.246	3.879	.282
-345	MPT-042	4.375	4.000	.187	4.377	4.371	4.004	.282
-346	MPT-043	4.500	4.125	.187	4.502	4.496	4.129	.282
-347	MPT-044	4.625	4.250	.187	4.627	4.621	4.254	.282
-348	MPT-045	4.750	4.375	.187	4.752	4.746	4.379	.282
-349	MPT-046	4.875	4.500	.187	4.877	4.871	4.504	.282
-350	MPT-047	5.000	4.625	.187	5.003	4.997	4.630	.282
-426	MPT-048	5.125	4.625	.250	5.128	5.122	4.650	.368
-427	MPT-049	5.250	4.750	.250	5.253	5.247	4.775	.368
-428	MPT-050	5.375	4.875	.250	5.378	5.372	4.890	.368

Table 1 (continued)

Piston T-seals

AS-568 "O" Ring No.'s	Mikron Part No.	O.D.	Nominal Dimensions I.D.	W	A Bore Diam.	B Piston Diam.	C Groove Diam.	D Groove Width
-429	MPT-051	5.500	5.000	.250	5.503	5.497	5.025	.368
-430	MPT-052	5.625	5.125	.250	5.628	5.622	5.150	.368
-431	MPT-053	5.750	5.250	.250	5.753	5.747	5.275	.368
-432	MPT-054	5.875	5.375	.250	5.878	5.874	5.400	.368
-433	MPT-055	6.000	5.500	.250	6.003	5.997	5.525	.368
-434	MPT-056	6.125	5.625	.250	6.128	6.122	5.650	.368
-435	MPT-057	6.250	5.750	.250	6.253	6.247	5.775	.368
-437	MPT-058	6.500	6.000	.250	6.503 ± .003	6.495 ± .003	6.025 ± .003	.368
-438	MPT-059	6.750	6.250	.250	6.753	6.745	6.275	.368
-439	MPT-060	7.000	6.500	.250	7.003	6.995	6.525	.368
-440	MPT-061	7.250	6.750	.250	7.253	7.245	6.775	.368
-441	MPT-062	7.500	7.000	.250	7.503	7.495	7.025	.368
-442	MPT-063	7.750	7.250	.250	7.753	7.745	7.275	.368
-443	MPT-064	8.000	7.500	.250	8.003	7.995	7.525	.368
-444	MPT-065	8.250	7.750	.250	8.253	8.245	7.775	.368
-445	MPT-066	8.500	8.000	.250	8.503	8.495	8.025	.368
-446	MPT-067	9.000	8.500	.250	9.003	8.995	8.525	.368
-447	MPT-068	9.500	9.000	.250	9.503	9.495	9.025	.368
-448	MPT-069	10.000	9.500	.250	10.003	9.995	9.525	.368
-449	MPT-070	10.500	10.000	.250	10.503	10.495	10.025	.368
-450	MPT-071	10.500	10.500	.250	11.003	10.995	10.525	.368
-451	MPT-072	11.000	11.000	.250	11.503	11.495	11.022	.368
-452	MPT-073	11.500	11.500	.250	12.003	11.995	11.525	.368

Caution: The information contained herein is for general usage. Manufacturer cannot warrant that desired results will occur in each specific application. Various environmental factors can alter the use of T-seals. Manufacturer recommends that an engineer be consulted when designing or installing T-seals in a specific application.

In addition, manufacturer does not know or have reason to know of any particular purpose for which buyer requires the T-seals and does not represent that they shall be fit for any particular purpose. Buyer is not relying solely on manufacturer's skill or judgment in its selection.

Table 2
Rod T-seals

AS-568 "O" Ring No.'s	Mikron Part No.	I.D.	Nominal Dimensions O.D.	W	A Rod Diam.	B Bore Diam.	C Groove Diam.	D Groove Width
-106	MRT-001	.187	.375	.093	.186 ± .001	.189 ± .001	.369 ± .001	.152 ± .002
-108	MRT-002	.250	.437	.093	.248	.251	.432	.152
-109	MRT-003	.312	.500	.093	.310	.313	.494	.152
-203	MRT-004	.375	.625	.125	.373	.376	.617	.187
-204	MRT-005	.437	.687	.125	.435	.438	.679	.187
-206	MRT-006	.500	.750	.125	.498	.501	.742	.187
-207	MRT-007	.562	.812	.125	.560	.563	.804	.187
-208	MRT-008	.625	.875	.125	.623	.626	.867	.187
-209	MRT-009	.687	.937	.125	.685	.688	.929	.187
-210	MRT-010	.750	1.000	.125	.747	.750	.991	.187
-211	MRT-011	.812	1.062	.125	.809	.812	1.053	.187
-212	MRT-012	.875	1.125	.125	.872	.875	1.116	.187
-213	MRT-013	.937	1.187	.125	.934	.937	1.178	.187
-214	MRT-014	1.000	1.250	.125	.997	1.000	1.241	.187
-215	MRT-015	1.062	1.312	.125	1.059	1.062	1.303	.187
-216	MRT-016	1.125	1.375	.125	1.122	1.125	1.366	.187
-217	MRT-017	1.187	1.437	.125	1.184	1.187	1.428	.187
-218	MRT-018	1.250	1.500	.125	1.247	1.250	1.491	.187
-219	MRT-019	1.312	1.562	.125	1.309	1.312	1.553	.187
-220	MRT-020	1.375	1.625	.125	1.372	1.375	1.616	.187
-221	MRT-021	1.437	1.687	.125	1.434	1.437	1.678	.187
-222	MRT-022	1.500	1.750	.125	1.497	1.500	1.741	.187
-325	MRT-023	1.500	1.875	.187	1.497	1.500	1.870	.282
-326	MRT-024	1.625	2.000	.187	1.622	1.625	1.995	.282
-327	MRT-025	1.750	2.125	.187	1.747	1.750	2.120	.282
-328	MRT-026	1.875	2.250	.187	1.872	1.875	2.245	.282
-329	MRT-027	2.000	2.375	.187	1.997	2.000	2.370	.282
-330	MRT-028	2.125	2.500	.187	2.122	2.125	2.495	.282
-331	MRT-029	2.250	2.625	.187	2.247	2.250	2.612	.282
-332	MRT-030	2.375	2.750	.187	2.372 ± .002	2.377 ± .002	2.745 ± .002	.282
-333	MRT-031	2.500	2.875	.187	2.497	2.502	2.870	.282
-334	MRT-032	2.625	3.000	.187	2.622	2.627	2.995	.282
-335	MRT-033	2.750	3.125	.187	2.747	2.752	3.120	.282
-336	MRT-034	2.875	3.250	.187	2.872	2.877	3.245	.282
-337	MRT-035	3.000	3.375	.187	2.996	3.001	3.369	.282
-338	MRT-036	3.125	3.500	.187	3.121 ± .002	3.126 ± .002	3.494 ± .002	.282 ± .002
-339	MRT-037	3.250	3.625	.187	3.246	3.251	3.619	.282
-340	MRT-038	3.375	3.750	.187	3.371	3.376	3.744	.282
-341	MRT-039	3.500	3.875	.187	3.496	3.501	3.869	.282
-342	MRT-040	3.625	4.000	.187	3.621	3.626	3.994	.282
-343	MRT-041	3.750	4.125	.187	3.746	3.751	4.119	.282
-344	MRT-042	3.875	4.250	.187	3.871	3.876	4.244	.282
-345	MRT-043	4.000	4.375	.187	3.996	4.001	4.369	.282
-346	MRT-044	4.125	4.500	.187	4.121	4.126	4.494	.282
-347	MRT-045	4.250	4.625	.187	4.246	4.251	4.619	.282
-348	MRT-046	4.375	4.750	.187	4.371	4.376	4.744	.282
-349	MRT-047	4.500	4.875	.187	4.496	4.501	4.869	.282
-429	MRT-048	5.000	5.500	.250	4.996	5.001	5.474	.368
-431	MRT-049	5.250	5.750	.250	5.246	5.251	5.724	.368
-433	MRT-050	5.500	6.000	.250	5.496	5.501	5.974	.368

Table 2 (continued)

Mikron Rod T-seals

AS-568 "O" Ring No.'s	Mikron Part No.	I.D.	Nominal Dimensions I.D.	W	A Rod Diam.	B Bore Diam.	C Groove Diam.	D Groove Width
-434	MRT-051	5.625	6.125	.250	5.621	5.626	6.099	.368
-437	MRT-052	6.000	6.500	.250	5.996 ± .003	6.003 ± .003	6.474 ± .003	.368
-438	MRT-053	6.250	6.750	.250	6.246	6.253	6.724	.368
-439	MRT-054	6.500	7.000	.250	6.496	6.503	6.974	.368
-440	MRT-055	6.750	7.250	.250	6.746	6.753	7.224	.368
-441	MRT-056	7.000	7.500	.250	6.996	7.003	7.474	.368
-442	MRT-057	7.250	7.750	.250	7.246	7.253	7.724	.368
-443	MRT-058	7.500	8.000	.250	7.500	7.503	7.983	.368
-445	MRT-059	8.000	8.500	.250	7.996	8.003	8.474	.368
-447	MRT-060	9.000	9.500	.250	8.996	9.003	9.474	.368
-448	MRT-061	9.500	10.000	.250	9.496	9.503	9.974	.368
-449	MRT-062	10.000	10.500	.250	9.996	10.003	10.474	.368
-451	MRT-063	11.000	11.500	.250	10.996	11.003	11.474	.368

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In addition, manufacturer does not know or have reason to know of any particular purpose for which buyer requires the T-seals and does not represent that they shall be fit for any particular purpose. Buyer is not relying solely on manufacturer's skill or judgment in its selection.