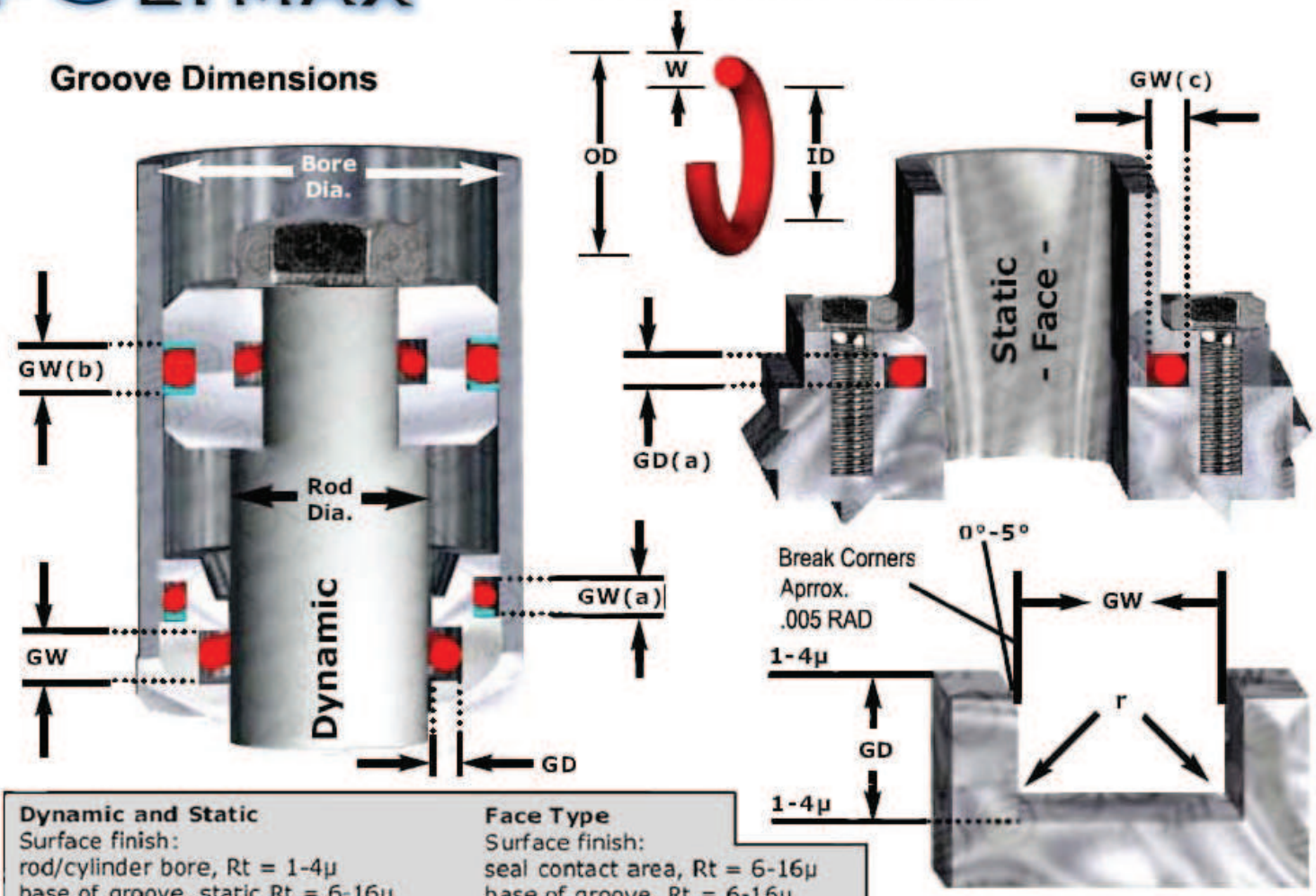
POLYMAX

The Seal Man's O-Ring Handbook

Groove Dimensions



Dynamic and Static
Surface finish:
rod/cylinder bore, Rt = 1-4µ
base of groove. static Rt = 6-16µ
base of groove, dynamic Rt = 6-10µ

Face Type
Surface finish:
seal contact area, Rt = 6-16µ
base of groove, Rt = 6-16µ
pulsating pressure, Rt = 6-16µ

Inch O-Ring W	Metric O-Ring W	Dynamic and Static				Face Type		Radius	
		Groove Depth	Groove Width			Groove Depth	Groove Width	Without Back-up Ring	With Back-up Ring
		GD + 0.06 Tol. + 0.06	GW + 0.2 Tol. + 0.2	GW(a) 1 BU Tol. + 0.2	GW(b) 2 BU Tol. + 0.2	GD(a) Tol. + 0.1	GW(c) Tol. + 0.2		
-	1.00	0.80	1.40	-	-	0.65	1.40	0.2	0.2
-	1.02	0.80	1.40	-	-	0.65	1.40	0.2	0.2
-	1.10	0.90	1.50	-	-	0.75	1.50	0.2	0.2
-	1.12	0.90	1.50	-	-	0.75	1.50	0.2	0.2
-	1.15	0.90	1.50	-	-	0.75	1.50	0.2	0.2
-	1.20	0.95	1.70	-	-	0.80	1.70	0.2	0.2
-	1.25	1.00	1.80	-	-	0.85	1.80	0.2	0.2
-	1.27	1.00	1.80	-	-	0.85	1.80	0.2	0.2
-	1.30	1.05	1.80	-	-	0.90	1.80	0.2	0.2
-	1.42	1.15	1.90	-	-	0.95	1.90	0.2	0.2
-	1.45	1.15	1.90	-	-	0.95	1.90	0.2	0.2
-	1.60	1.30	2.20	-	-	1.10	2.20	0.3	0.2
.070" (1/16")	1.78	1.45	2.40	3.80	5.20	1.20	2.40	0.4	0.2
-	1.80	1.45	2.40	3.80	5.20	1.20	2.40	0.4	0.2
-	1.90	1.65	2.50	3.90	5.30	1.40	2.50	0.5	0.2
-	2.00	1.65	2.50	3.90	5.30	1.40	2.50	0.5	0.2

Note: 1µ ≈ $4\sqrt{\ }$ ≈ 4RMS ≈ 4 micro inches

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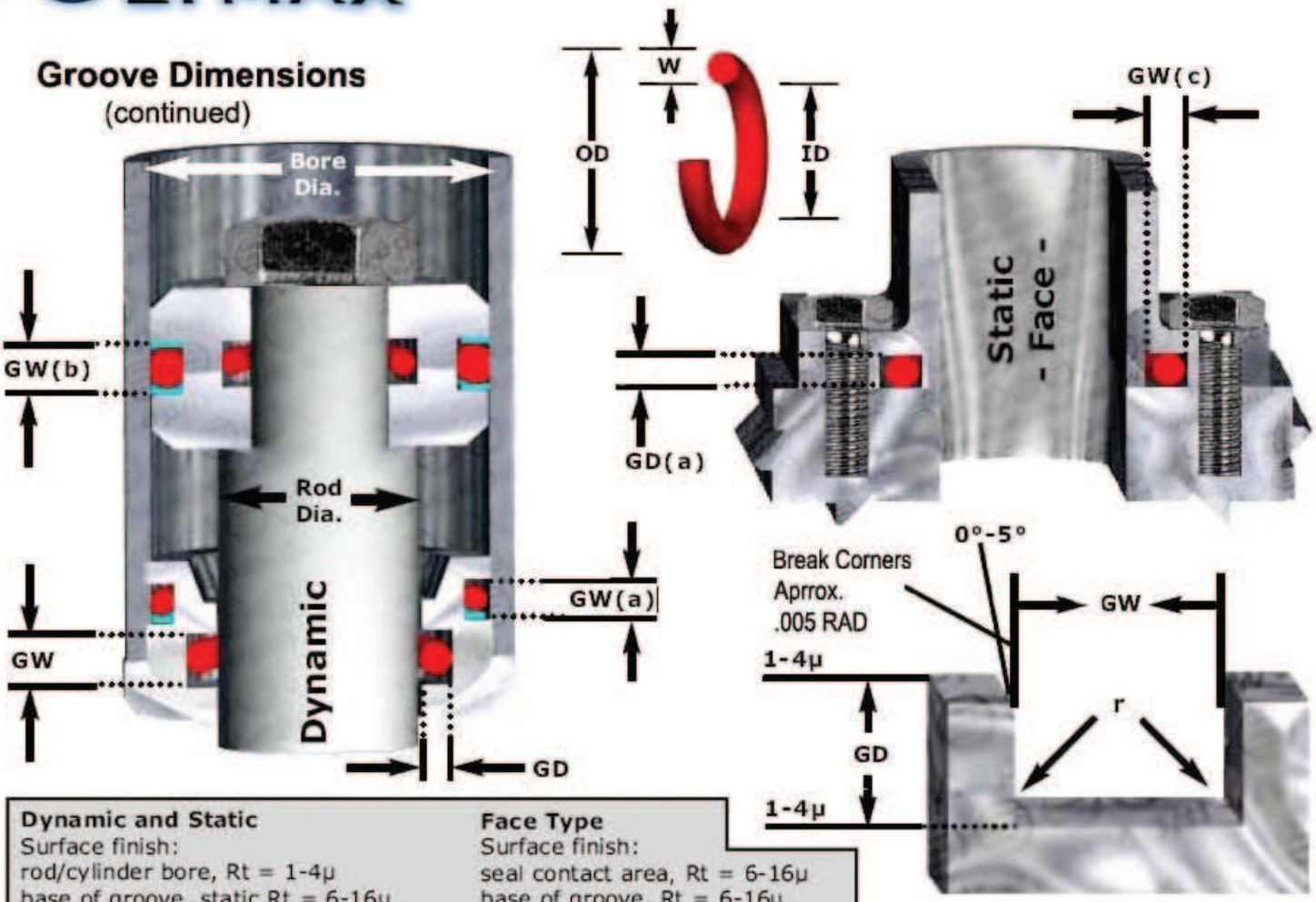
Groove Dimensions
(continued)



Dynamic and Static
Surface finish:
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base of groove, static Rt = 6-16µ
base of groove, dynamic Rt = 6-10µ

Face Type
Surface finish:
seal contact area, Rt = 6-16µ
base of groove, Rt = 6-16µ
pulsating pressure, Rt = 6-16µ

Inch O-Ring W	Metric O-Ring W	Dynamic and Static				Face Type		Radius	
		Groove Depth	Groove Width			Groove Depth	Groove Width	Without Back-up Ring	With Back-up Ring
		GD + 0.06 Tol. + 0.06	GW + 0.2 Tol. + 0.2	GW(a) 1 BU Tol. + 0.2	GW(b) 2 BU Tol. + 0.2	GD(a) Tol. + 0.1	GW(c) Tol. + 0.2		
-	2.20	1.85	2.90	4.30	5.70	1.55	2.90	0.5	0.3
-	2.40	2.00	3.20	4.60	6.00	1.70	3.20	0.5	0.3
-	2.50	2.10	3.40	4.80	6.20	1.80	3.40	0.5	0.3
.103" (3/32")	2.62	2.25	3.60	5.00	6.40	1.90	3.60	0.6	0.3
-	2.65	2.25	3.60	5.00	6.40	1.90	3.60	0.6	0.3
-	2.70	2.30	3.70	5.10	6.50	1.95	3.70	0.6	0.3
-	3.00	2.50	3.90	5.30	6.70	2.20	3.90	0.8	0.3
-	3.10	2.70	4.00	5.40	6.80	2.30	4.00	0.8	0.4
-	3.50	3.10	4.80	6.20	7.60	2.70	4.80	1.0	0.4
.139" (1/8")	3.53	3.10	4.80	6.20	7.60	2.70	4.80	1.0	0.4
-	3.55	3.10	4.80	6.20	7.60	2.70	4.80	1.0	0.4
-	4.00	3.50	5.40	7.10	8.80	3.10	5.40	1.0	0.4
-	4.50	4.00	6.00	7.70	9.40	3.40	6.00	1.0	0.4
-	5.00	4.30	6.70	8.40	10.10	3.90	6.70	1.0	0.4
.210" (3/16")	5.33	4.70	7.10	8.80	10.50	4.30	7.10	1.2	0.6
-	5.50	4.80	7.30	9.00	10.70	4.40	7.30	1.2	0.6

Note: $1\mu \approx 4\sqrt{\ } \approx 4\text{RMS} \approx 4$ micro inches

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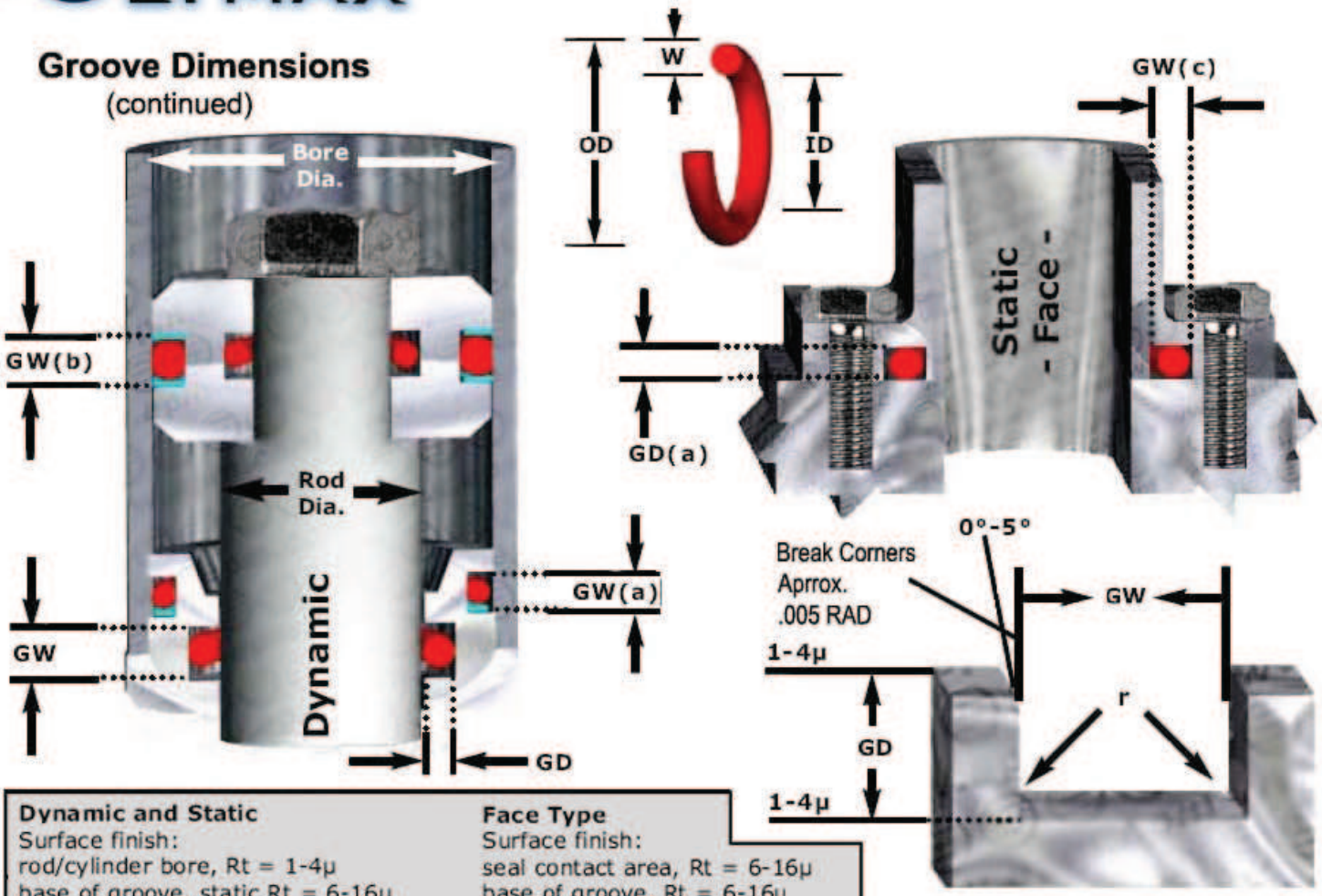

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Face Type
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base of groove, Rt = 6-16µ
pulsating pressure, Rt = 6-16µ

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-	5.70	5.00	7.70	9.40	11.10	4.60	7.70	1.2	0.6
-	6.00	5.30	8.20	9.90	11.60	4.80	8.20	1.2	0.6
.275" (1/4")	6.99	6.10	9.50	12.00	14.50	5.80	9.50	1.5	0.6
-	7.00	6.10	9.50	12.00	14.50	5.80	9.50	1.5	0.6
-	7.20	6.20	9.80	12.30	14.80	5.90	9.80	1.5	0.6
-	7.50	6.50	14.40	12.90	15.40	6.20	10.40	1.5	0.6
-	8.00	7.00	11.00	13.50	16.00	6.60	11.00	1.5	0.6
-	8.40	7.50	11.70	14.20	16.70	6.90	11.70	2.0	0.6
-	9.00	7.80	12.50	15.00	17.50	7.40	12.50	2.0	0.6
-	9.50	8.30	13.30	15.80	18.30	7.80	13.30	2.0	0.6
-	10.00	8.70	13.50	16.00	18.50	8.30	13.50	2.0	0.6
-	11.00	9.60	15.50	18.00	20.50	9.10	15.50	3.0	0.6
-	12.00	10.50	16.80	19.30	21.80	10.30	16.80	3.0	0.6
-	14.00	12.20	19.00	21.50	24.00	11.60	19.00	3.0	0.6
-	15.00	13.20	20.00	22.50	25.00	12.50	20.00	3.0	0.6
-	16.00	14.00	21.50	24.00	26.50	13.50	21.50	3.0	0.6

Note: 1µ ≈ $4\sqrt{\ }$ ≈ 4RMS ≈ 4 micro inches

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