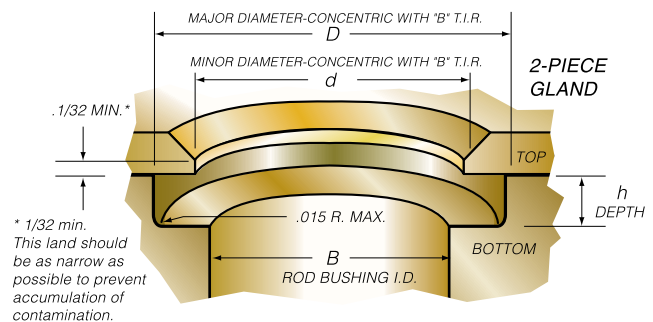


Housing Recess Specifications - Standard Industrial

E/F NUMBER (See Note 1)	ROD DIAMETER		ROD BORE ID "B" MAXIMUM	GROOVE DIMENSIONS		
	NOMINAL	ACTUAL +/- .003 (See Note 2)		MAJOR DIA. "D" +.005/- .000 (See Note 3)	DEPTH "h" +.003/- .000 (See Note 3)	MINOR DIA. "d" +.005/- .000 (See Note 3)
109000	1/4	.245	.254	.498	.100	.280
110000	5/16	.307	.316	.562	.100	.342
120000	3/8	.370	.379	.624	.100	.405
130000	7/16	.432	.441	.686	.104	.467
201000	1/2	.495	.504	.769	.104	.530
202000	9/16	.557	.566	.831	.104	.592
203000	5/8	.620	.629	.894	.104	.655
204000	11/16	.682	.691	.956	.104	.717
205000	3/4	.745	.754	1.019	.104	.780
306000	13/16	.807	.820	1.095	.104	.843
307000	7/8	.870	.879	1.157	.104	.905
308000	15/16	.932	.941	1.219	.104	.967
309000	1	.995	1.004	1.282	.104	1.030
310000	1 1/16	1.057	1.066	1.344	.104	1.092
311000	1 1/8	1.120	1.129	1.407	.104	1.155
312000	1 3/16	1.182	1.191	1.469	.104	1.217
313000	1 1/4	1.245	1.254	1.532	.104	1.208
414000	1 5/16	1.307	1.316	1.623	.104	1.342
415000	1 3/8	1.370	1.379	1.686	.104	1.405
417000	1 1/2	1.495	1.504	1.811	.104	1.530
418000	1 5/8	1.620	1.629	1.934	.104	1.655
419000	1 3/4	1.745	1.754	2.061	.104	1.780
420000	1 7/8	1.870	1.879	2.186	.104	1.905
421000	2	1.995	2.004	2.311	.104	2.030
422000	2 1/8	2.120	2.129	2.436	.104	2.155
423000	2 1/4	2.245	2.254	2.561	.104	2.280
424000	2 3/8	2.370	2.379	2.686	.104	2.405
425000	2 1/2	2.495	2.504	2.811	.104	2.530
526000	2 5/8	2.620	2.629	3.000	.119	2.675
527000	2 3/4	2.745	2.754	3.125	.119	2.800
528000	2 7/8	2.870	2.879	3.250	.119	2.925
529000	3	2.995	3.004	3.375	.119	3.050
530000	3 1/8	3.120	3.129	3.500	.119	3.175
531000	3 1/4	3.245	3.254	3.625	.119	3.300
532000	3 3/8	3.370	3.379	3.750	.119	3.425





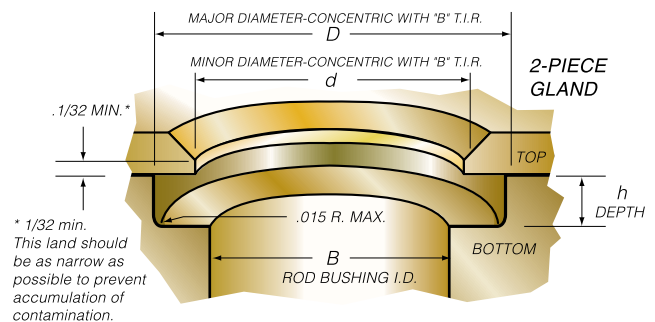
E/F NUMBER (See Note 1)	ROD DIAMETER		ROD BORE ID "B" MAXIMUM	GROOVE DIMENSIONS		
	NOMINAL	ACTUAL +/- .003 (See Note 2)		MAJOR DIA. "D" +.005/- .000 (See Note 3)	DEPTH "h" +.003/- .000 (See Note 3)	MINOR DIA. "d" +.005/- .000 (See Note 3)
533000	3 ¹ / ₂	3.495	3.504	3.875	.119	3.550
534000	3 ⁵ / ₈	3.620	3.629	4.000	.119	3.675
535000	3 ³ / ₄	3.745	3.754	4.125	.119	3.800
536000	3 ⁷ / ₈	3.870	3.879	4.250	.119	3.925
637000	4	3.995	4.006	4.439	.135	4.060
638000	4 ¹ / ₈	4.120	4.018	4.564	.135	4.180
639000	4 ¹ / ₄	4.245	4.256	4.689	.135	4.310
640000	4 ³ / ₈	4.370	4.381	4.814	.135	4.440
641000	4 ¹ / ₂	4.495	4.506	4.939	.135	4.560
642000	4 ⁵ / ₈	4.920	4.631	5.064	.135	4.680
643000	4 ³ / ₄	4.745	4.756	5.189	.135	4.810
644000	4 ⁷ / ₈	4.870	4.881	5.314	.135	4.940
645000	5	4.995	5.006	5.439	.135	5.060
646000	5 ¹ / ₈	5.120	5.131	5.564	.135	5.185
647000	5 ¹ / ₄	5.245	5.256	5.689	.135	5.310
648000	5 ³ / ₈	5.370	5.381	5.814	.135	5.440
649000	5 ¹ / ₂	5.495	5.506	5.939	.135	5.560
751000	5 ³ / ₄	5.745	5.756	6.251	.151	5.810
753000	6	5.995	6.006	6.501	.151	6.060
754000	6 ¹ / ₄	6.245	6.256	6.751	.151	6.310
755000	6 ¹ / ₂	6.495	6.506	7.000	.151	6.560
756000	6 ³ / ₄	6.745	6.756	7.250	.151	6.810
757000	7	6.995	7.008	7.500	.151	7.060
758000	7 ¹ / ₄	7.245	7.258	7.750	.151	7.310
759000	7 ¹ / ₂	7.495	7.508	8.000	.151	7.560
760000	7 ³ / ₄	7.745	7.758	8.250	.151	7.810
761000	8	7.995	8.008	8.500	.151	8.060
762000	8 ¹ / ₂	8.495	8.508	9.000	.151	8.560
763000	9	8.995	9.008	9.500	.151	9.060
764000	9 ¹ / ₂	9.495	9.508	10.000	.151	9.560
765000	10	9.995	10.008	10.500	.151	10.060
766000	10 ¹ / ₂	10.495	10.508	11.000	.151	10.560
767000	11	10.995	11.008	11.500	.166	11.060
869000	12	11.995	12.008	12.500	.166	12.060

Notes:

1. Equi-Flex™ numbers without a letter suffix indicate the standard 70 Shore A nitrile elastomer. It is suitable for most industrial applications. This material is compatible with most mineral-based fluids when used within a temperature range of -65°F to 212°F (-54°C to 100°C).
2. Rod diameters beyond listed dimensions and tolerances may require special honing of the beryllium copper component in the Equi-Flex™ rod wiper/scraper.
3. Any mounting method can be employed, provided the major diameter D, minor diameter d, and depth h, are maintained within specified tolerances. Examples of recommended mounting methods are shown in section 6-35.

Housing Recess Specifications - Aircraft

E/F NUMBER (See Note 1)	ROD DIAMETER		ROD BORE ID "B" MAXIMUM	GROOVE DIMENSIONS		
	NOMINAL	ACTUAL +/- .003 (See Note 2)		MAJOR DIA. "D" +.005/- .000 (See Note 3 & 4)	DEPTH "h" +.003/- .000 (See Note 3 & 4)	MINOR DIA. "d" +.005/- .000 (See Note 3 & 4)
109000-A	1/4	.245	.254	.498	.100	.280
110000-A	5/16	.307	.316	.562	.100	.342
120000-A	3/8	.370	.379	.624	.100	.405
130000-A	7/16	.432	.441	.686	.104	.467
201000-A	1/2	.495	.504	.760	.104	.548
202000-A	9/16	.557	.566	.823	.104	.610
203000-A	5/8	.620	.629	.885	.104	.673
204000-A	11/16	.682	.691	.948	.104	.735
205000-A	3/4	.745	.754	1.010	.104	.798
306000-A	13/16	.807	.820	1.086	.104	.866
307000-A	7/8	.870	.879	1.148	.104	.930
308000-A	15/16	.932	.941	1.210	.104	.991
309000-A	1	.995	1.004	1.273	.104	1.054
310000-A	1 1/16	1.057	1.066	1.335	.104	1.116
311000-A	1 1/8	1.120	1.129	1.398	.104	1.179
312000-A	1 3/16	1.182	1.191	1.460	.104	1.241
313000-A	1 1/4	1.245	1.254	1.523	.104	1.304
414000-A	1 5/16	1.307	1.316	1.614	.104	1.375
415000-A	1 3/8	1.370	1.379	1.677	.104	1.438
417000-A	1 1/2	1.495	1.504	1.802	.104	1.563
418000-A	1 5/8	1.620	1.629	1.927	.104	1.688
419000-A	1 3/4	1.745	1.754	2.052	.104	1.813
420000-A	1 7/8	1.870	1.879	2.177	.104	1.938
421000-A	2	1.995	2.004	2.302	.104	2.063
422000-A	2 1/8	2.120	2.129	2.427	.104	2.188
423000-A	2 1/4	2.245	2.254	2.552	.104	2.313
424000-A	2 3/8	2.370	2.379	2.677	.104	2.438
425000-A	2 1/2	2.495	2.504	2.802	.104	2.563
526000-A	2 5/8	2.620	2.629	2.989	.119	2.703
527000-A	2 3/4	2.745	2.754	3.114	.119	2.828
528000-A	2 7/8	2.870	2.879	3.239	.119	2.953
529000-A	3	2.995	3.004	3.364	.119	3.077
530000-A	3 1/8	3.120	3.129	3.489	.119	3.202
531000-A	3 1/4	3.245	3.254	3.614	.119	3.327
532000-A	3 3/8	3.370	3.379	3.739	.119	3.452





E/F NUMBER (See Note 1)	ROD DIAMETER		ROD BORE ID "B" MAXIMUM	GROOVE DIMENSIONS		
	NOMINAL	ACTUAL +/- .003 (See Note 2)		MAJOR DIA. "D" +.005/- .000 (See Note 3 & 4)	DEPTH "h" +.003/- .000 (See Note 3 & 4)	MINOR DIA. "d" +.005/- .000 (See Note 3 & 4)
533000-A	3 ¹ / ₂	3.495	3.504	3.864	.119	3.577
534000-A	3 ⁵ / ₈	3.620	3.629	3.989	.119	3.702
535000-A	3 ³ / ₄	3.745	3.754	4.114	.119	3.827
536000-A	3 ⁷ / ₈	3.870	3.879	4.239	.119	3.952
637000-A	4	3.995	4.006	4.427	.135	4.092
638000-A	4 ¹ / ₈	4.120	4.018	4.552	.135	4.217
639000-A	4 ¹ / ₄	4.245	4.256	4.677	.135	4.342
640000-A	4 ³ / ₈	4.370	4.381	4.802	.135	4.467
641000-A	4 ¹ / ₂	4.495	4.506	4.927	.135	4.592
642000-A	4 ⁵ / ₈	4.920	4.631	5.052	.135	4.717
643000-A	4 ³ / ₄	4.745	4.756	5.177	.135	4.842
644000-A	4 ⁷ / ₈	4.870	4.881	5.302	.135	4.967
645000-A	5	4.995	5.006	5.427	.135	5.092
646000-A	5 ¹ / ₈	5.120	5.131	5.552	.135	5.217
647000-A	5 ¹ / ₄	5.245	5.256	5.677	.135	5.342
648000-A	5 ³ / ₈	5.370	5.381	5.802	.135	5.467
649000-A	5 ¹ / ₂	5.495	5.506	5.927	.135	5.592
751000-A	5 ³ / ₄	5.745	5.756	6.239	.151	5.858
753000-A	6	5.995	6.006	6.489	.151	6.108
754000-A	6 ¹ / ₄	6.245	6.256	6.739	.151	6.358
755000-A	6 ¹ / ₂	6.495	6.506	6.989	.151	6.608
756000-A	6 ³ / ₄	6.745	6.756	7.239	.151	6.858
757000-A	7	6.995	7.008	7.489	.151	7.108
758000-A	7 ¹ / ₄	7.245	7.258	7.739	.151	7.354
759000-A	7 ¹ / ₂	7.495	7.508	7.989	.151	7.608
760000-A	7 ³ / ₄	7.745	7.758	8.239	.151	7.858
761000-A	8	7.995	8.008	8.489	.151	8.117
762000-A	8 ¹ / ₂	8.495	8.508	8.989	.151	8.617
763000-A	9	8.995	9.008	9.489	.151	9.117
764000-A	9 ¹ / ₂	9.495	9.508	9.989	.151	9.617
765000-A	10	9.995	10.008	10.489	.151	10.117
766000-A	10 ¹ / ₂	10.495	10.508	10.989	.151	10.617
767000-A	11	10.995	11.008	11.489	.166	11.117
869000-A	12	11.995	12.008	12.489	.166	12.117

Notes:

1. Equi-Flex™ numbers with the letter "A" suffix indicate a date coded 70 Shore A nitrile elastomer suitable for aircraft applications. This material is compatible with MIL-H-5606 petroleum-based fluids when used within a temperature range of -65°F to 212°F (-54°C to 100°C).
2. Rod diameters beyond listed dimensions and tolerances may require special honing of the beryllium copper component in the Equi-Flex™ rod wiper/scrapper.
3. Listed housing recesses will accommodate MS-28776 of corresponding nominal sizes with modification of only minor diameter d.
4. Second and third digits of Equi-Flex™ numbers, 201000 and up, conform to MS-28776 dash numbers of corresponding sizes.
5. Major diameter D and depth h must be held strictly within indicated dimensions and tolerances.

Housing Recess Specifications - Metric

E/F NUMBER (See Note 1 & 2)	ROD DIAMETER +0.00/-0.15mm (See Note 3)	ROD BORE ID "B" MAXIMUM	GROOVE DIMENSIONS		
			MAJOR DIA. "D" +0.10/-0.15mm (See Note 4)	DEPTH "h" +0.08mm/-0.00mm (See Note 4)	MINOR DIA. "d" +0.13/-0.00mm (See Note 4)
60080	8.00	8.10	14.30	2.54	8.90
60120	12.00	12.10	18.20	2.54	12.90
60160	16.00	16.10	22.70	2.64	16.90
60200	20.00	20.10	26.80	2.64	20.90
60220	22.00	22.10	29.20	2.64	22.90
60250	25.00	25.10	32.00	2.64	25.90
60280	28.00	28.10	35.00	2.64	28.90
60300	30.00	30.10	37.20	2.64	30.90
60320	32.00	32.10	39.00	2.64	32.90
60350	35.00	35.10	42.80	2.64	35.90
60360	36.00	36.10	43.90	2.64	36.90
60400	40.00	40.10	47.90	2.64	40.90
60450	45.00	45.10	53.00	2.64	45.90
60500	50.00	50.10	58.10	2.64	50.90
60550	55.00	55.10	62.80	2.64	55.90
60560	56.00	56.10	63.80	2.64	56.90
60620	62.00	62.10	70.10	2.64	62.90
60630	63.00	63.00	71.10	3.02	63.90
60700	70.00	70.00	79.20	3.02	71.40
60800	80.00	80.00	89.60	3.02	81.40
60900	90.00	90.00	99.70	3.02	91.40
61000	100.00	100.15	109.60	3.43	101.40
61100	110.00	110.15	119.80	3.43	111.40
61250	125.00	125.15	134.80	3.43	126.40
61400	140.00	140.15	150.00	3.83	141.40
61600	160.00	160.15	172.80	3.83	161.60
61800	180.00	180.20	192.80	3.83	181.60
62000	200.00	200.20	212.90	3.83	201.60
62240	224.00	224.20	236.80	3.83	225.60

Notes:

- Equi-Flex™ numbers without a letter "A" suffix indicate a standard 70 Shore A nitrile elastomer suitable for industrial applications. The 523EU material is compatible with most mineral-based fluids when used within a temperature range of -65°F to 212°F (-54°C to 100°C).
- Not shown in the table, but also available, are metric Equi-Flex™ rod wiper/scrapers with the letter "A" suffix. The suffix indicates a date coded 70 Shore A nitrile elastomer suitable for industrial applications. The date coded 523EU material is compatible with MIL-H-5606 petroleum-based fluids when used within a temperature range of -65°F to 212°F (-54°C to 100°C).
- Rod diameters beyond listed dimensions and tolerances may require special honing of the beryllium copper component in the Equi-Flex™ rod wiper/scrapper.
- Any mounting method can be employed, providing the major diameter D, minor diameter d, and depth h, are maintained within the specified tolerances. Examples of recommended mounting methods are shown on page 6-35.

