

Technical Information

Bushings for A-SERIES® & Millennium®

TABLE 25: STANDARD KEYWAYS

BORE SIZE	KEYWAY	BORE SIZE	KEYWAY	BORE SIZE	KEYWAY	BORE SIZE	KEYWAY
1/2 to 9/16	1/8 X 1/16	1 7/16 to 1 3/4	3/8 X 3/16	3 5/16 to 3 3/4	7/8 X 7/16	6 9/16 to 7 1/2	1 3/4 X 7/8
5/8 to 7/8	3/16 X 3/32	1 13/16 to 2 1/4	1/2 X 1/4	3 13/16 to 4 1/2	1 X 1/2	7 9/16 to 9	2 X 1
15/16 to 1 1/4	1/4 X 1/8	2 5/16 to 2 3/4	5/8 X 5/16	4 9/16 to 5 1/2	1 1/4 X 5/8	9 1/16 to 11	2 1/2 X 1 1/4
1 5/16 to 1 3/8	5/16 X 5/32	2 13/16 to 3 1/4	3/4 X 3/8	5 9/16 to 6 1/2	1 1/2 X 3/4		

TABLE 26: TOLERANCES FOR BORES

Qplg. Size	Type of Bore	Bore Range	Tolerances
00 thru 6	AGMA Class 2 Clearance Fit	Up to 4"	+0.002 -0.000
7 thru 13	Custom or Int. Fit	3" and over	+0.0000 -0.002

TABLE 27: A-SERIES® TOLERANCES - RADIAL, AXIAL, ANGULAR

SIZE	A-00	A-0	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11
DISTANCE BETWEEN HUBS	.047	.062	.062	.062	.062	.188	.188	.188	.188	.188	.219	.250	.100
RADIAL TOLERANCE	.02	.02	.039	.039	.039	.058	.058	.058	.058	.058	.078	.078	.078
AXIAL TOLERANCE	+0.039	+0.039	+0.058	+0.058	+0.078	+0.078	+0.117	+0.117	+0.117	+0.156	+0.156	+0.156	+0.156
ANGULAR TOLERANCE	2°	2°	2°	2°	2°	1.3°	1.3°	1.3°	1°	1°	1°	1°	1°

TABLE 28: Millennium® TOLERANCES - RADIAL, AXIAL, ANGULAR

SIZE	M-00	M-0	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9	M-10	M-11	M-12
DISTANCE BETWEEN HUBS "E"	.060"	.075"	.075"	.075"	.075"	.200"	.200"	.200"	.200"	.200"	.200"	.200"	.200"	.250"
RADIAL TOLERANCE (TIR)	.020"	.040"	.040"	.040"	.040"	.060"	.060"	.060"	.060"	.060"	0.60"	.080"	.080"	.105"
AXIAL TOLERANCE:														
MINUS	.010"	.010"	.020"	.020"	.020"	.040"	.040"	.040"	.040"	.040"	.060"	.100"	.100"	.100"
PLUS	.030"	.040"	.040"	.040"	.040"	.075"	.100"	.100"	.100"	.100"	.100"	.150"	.150"	.200"
ANGULAR TOLERANCE (DEGREE)	2	2	2	2	2	1	1	1	1	1	1	1	1	1

TABLE 29: BUSHINGS FOR A-SERIES®

ATRA-FLEX SIZE	BROWNING SIZE	BROWNING BUSHING RANGE	Q D SIZE	QD BUSHING RANGE **	(EXT.) TAPER LOCK SIZE	TAPER LOCK RANGE	(INT.) TAPER LOCK SIZE	TAPER LOCK RANGE
A-0	G	3/8 to 7/8	JA	1/2 to 1 3/16	1008	1/2 to 1	N/A	N/A
A-1	H	3/8 to 1 3/16	QT	3/8 to 1 1/2	1108	1/2 to 1 1/8	1108	1/2 to 1 1/8
A-2	P1	1/2 to 1 3/4	SD	1/2 to 1 15/16	1615	1/2 to 1 5/8	1210	1/2 to 1 1/4
A-3	P1	1/2 to 1 3/4	SK	1/2 to 2 1/2	2012	1/2 to 2 1/8	1610	1/2 to 1 5/8
A-4	Q1	3/4 to 2 11/16	SF	1/2 to 2 13/16	2517	1/2 to 2 1/2	2012	1/2 to 2 1/8
A-5	R1	1 1/8 to 3 3/4	F	1 to 3 15/16	3020	15/16 to 3	2517	1/2 to 2 1/2
A-6	S1	1 11/16 to 4 1/4	J	2 to 4 1/2	3535	1 13/16 to 3 1/2	3535	1 3/16 to 3 1/2
A-7	S1	1 11/16 to 4 1/4	M	2 to 5 1/2	4545	1 15/16 to 4 1/2	4040	1 7/16 to 4 7/16
A-8	U1	3 1/4 to 5 1/2	N	2 7/16 to 6	5050	2 7/16 to 5	4545	15/16 to 4 1/2
A-9	W1	3 3/4 to 7 7/16	P	3 7/16 to 7	6050	4 7/16 to 6	5050	2 7/16 to 5
A-11	W1	3 3/4 to 7 7/16	W	4 to 8	7060	4 15/16 to 7	6050	4 7/16 to 6

A-6 thru A-11 consult factory for availability of bushings not listed.

Hubs can be machined for all types of different locking devices, consult factory.

**Dimensions and overall length of couplings will change with bushed hubs. If dimensions are critical please refer to factory.

TABLE 30: BUSHINGS FOR Millennium®

SIZE ATRA-FLEX	SIZE BROWNING	BROWNING BORE RANGE	SIZE Q D	Q D BORE RANGE	EXTERNAL TAPER LOCK SIZE	TAPER LOCK BORE RANGE	INTERNAL TAPER LOCK SIZE	TAPER LOCK BORE RANGE
M-0	G2	3/8 to 1.0"	JA	1/2 to 1 1/4"	1008	1/2 to 7/16"	N/A	N/A
M-1	H	3/8 to 1 1/2"	SH	1/2 to 1 11/16"	1108	1/2 to 1 1/8"	1108	1/2 to 1 1/8"
M-1H	P1	1/2 to 1 3/4"	SH	1/2 to 1 11/16"	1215	1/2 to 1 1/4"	1215	1/2 to 1 1/4"
M-2	P1	1/2 to 1 3/4"	SDS	1/2 to 2.0"	1815	1/2 to 1 11/16"	1310	1/2 to 1 3/8"
M-3	B	1/2 to 2 7/16"	SK	1/2 to 2 1/2"	2012	1/2 to 2 1/8"	1610	1/2 to 1 5/8"
M-4	Q1	3/4 to 2 11/16"	SF	1/2 to 2 15/16"	2525	1/2 to 2 1/2"	2012	1/2 to 2 1/8"
M-5	S1	1 11/16 to 4 1/4"	F	1.0 to 4.0"	3020	15/16 to 3.0"	3020	15/16 to 3
M-6	S1	1 11/16 to 4 1/4"	J	2 to 4 1/2	4040	1 7/16 to 4 7/16	3535	1 3/16 to 3 1/2
M-7	U1	3 1/4 to 5 1/2	M	2 to 5 1/2	6050	2 7/16 to 5	4040	1 7/16 to 4 7/16
M-8	U1	3 1/4 to 5 1/2	N	2 7/16 to 6	7060	4 7/16 to 6	4545	1 15/16 to 4 1/2
M-9	W1	3 3/4 to 7 7/16	P	3 7/16 to 7	7060	4 15/16 to 7	5050	2 7/16 to 5
M-10	W1	3 3/4 to 7 7/16	W	4 to 8	8065	5 7/16 to 8	6050	4 7/16 to 6
M-11	W2	3 3/4 to 7 7/16	W	4 to 8	8065	5 7/16 to 8	6050	4 7/16 to 6
M-12	Y0	6 to 10	S	5 1/2 to 10	10085	7 to 10	8065	5 7/16 to 8

M-6 THRU M-12 - Refer to factory for availability of bushings not listed. Hubs can be machined for all types of locking devices, refer to factory.

**Dimensions and overall length of couplings will change with bushed hubs.

If dimensions are critical please refer to factory.