



Guardex™ M & I Style Couplings



 **Guardian**®
Couplings

An Altra Industrial Motion Company

GUARDEX™ COUPLING FEATURES & ADVANTAGES

Double Crowned Tooth Gear Coupling

Double crowned tooth design provides free axial movement, low friction and minimum stress during misalignment. Designs are available with up to 3/8" axial travel.

Nylon Sleeves, Steel Hubs

Molded nylon sleeve with high torsional stiffness, free from any internal frictional losses or heat build-up. A torsionally stiff coupling with minimum backlash.

Nylon and steel components allow high ambient temperature operation without lubrication or maintenance. Continuous operating ambients in the ranges between (-) 13°F and (+) 180°F. Heat stabilized polyamide available for temperatures up to (+) 250°F.

Nylon sleeves resistant to dirt, moisture, most chemicals and petroleum products. No lubrication, seals or retainers to maintain. Easy clean-up and visual inspection.

Compact and lightweight design with high torque and low inertia. Minimum shaft gap for close-coupled applications.

Precision molded concentric sleeve and hubs for high speed applications. No bolts, pins, flanges or protrusions to affect balance or safety. Smooth exterior surface.

Blind Assembly

Suitable for assembly in both horizontal and vertical positions. Blind assembly with slip-together components for easy inspection and adjustment without disassembly.

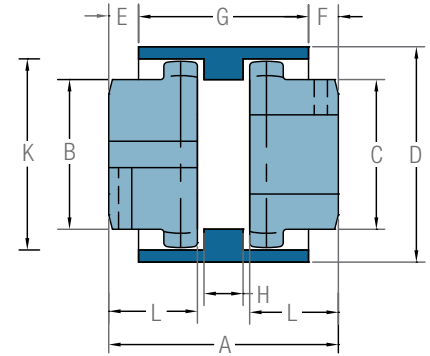
Metric, Standard, Splined bores available.

Directly Interchangeable With BoWex® Couplings

Made in U.S.A.

GUARDEX™ M-STYLE

- Nylon Sleeve
- Steel Hubs
- Three-Piece Construction



COUPLING SELECTION

Guardex Coupling No.	Nominal Torque Inch Lbs.	Max. Torque Inch Lbs.	Nominal H.P. @ 1750 RPM	Nominal H.P. @ 1140 RPM	Max. RPM
M-14	86	265	2.5	1.5	14,000
M-19	138	425	3.7	2.5	11,800
M-24	173	531	4.5	3.2	10,600
M-28	390	1,195	10.5	7.0	8,500
M-32	520	1,593	14.5	9.5	7,500
M-38	694	2,124	22.0	12.5	6,700
M-42	868	2,655	24.0	16.0	6,000
M-48	1,215	3,717	30.0	22.0	5,600
M-65	3,298	10,089	90.0	60.0	4,000
M-80	6,000	18,585	165.0	110.0	3,150
M-100	10,600	31,860	294.0	191.0	3,000

1. Nominal torque ratings allow for 180°F ambient, full misalignment and/or maximum RPM.
2. Starting torque and braking loads should not exceed listed maximum torque.
3. Intermittent, transient peak loads should not exceed three times nominal torque.
4. Applications with uniform loading, well-aligned shafts, and low speeds will allow for operation at maximum torque levels.

INCHES

Bore Range	Keyway
3/8" to 7/16"	3/32" x 3/64"
1/2" to 9/16"	1/8" x 1/16"
5/8" to 7/8"	3/16" x 3/32"
15/16" to 1-1/4"	1/4" x 1/8"
1-5/16" to 1-3/8"	5/16" x 5/32"
1-7/16" to 1-3/4"	3/8" x 3/16"
1-13/16" to 2-1/4"	1/2" x 1/4"
2-5/16" to 2-3/4"	5/8" x 5/16"
2-13/16" to 3-1/4"	3/4" x 3/8"
3-5/16" to 3-3/4"	7/8" x 7/16"
3-13/16" to 4-1/2"	1" x 1/2"

Note: Additional bores and keyways in both inches and millimeters are available. Please inquire.

MILLIMETERS

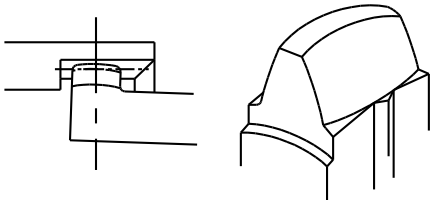
Bore Range	Keyway
6-7-8 mm	2 mm
9-10 mm	3 mm
11-12 mm	4 mm
13 thru 17 mm	5 mm
18 thru 22 mm	6 mm
23 thru 30 mm	8 mm
31 thru 38 mm	10 mm
39 thru 44 mm	12 mm
45 thru 50 mm	14 mm
51 thru 58 mm	16 mm
59 thru 65 mm	18 mm
66 thru 75 mm	20 mm
76 thru 85 mm	22 mm
86 thru 95 mm	25 mm

DIMENSIONS

Type	A	D	B & C	E & F	K	L	G	H	No. of Teeth	Setscrews	lbs	Min./Max. Bore	Bores w/ Keyway	Bores w/o Keyway
M-14	1.77"	1.57"	1.00"	0.14"	1.30"	0.78"	1.45"	0.19"	20	10-24	0.4	0.187"/0.625"	7/16, 1/2, 5/8	1/4, 3/8, 7/16, 1/2, 5/8
M-19	1.96"	1.90"	1.25"	0.25"	1.53"	0.86"	1.45"	0.28"	24	1/4-20	0.6	0.375"/0.750"	1/2, 5/8, 3/4	7/16, 1/2, 5/8, 3/4
M-24	2.07"	2.05"	1.42"	0.25"	1.76"	0.84"	1.60"	0.39"	28	1/4-20	0.8	0.375"/0.945"	1/2, 5/8, 3/4, 7/8	7/16, 1/2
M-28	3.17"	2.58"	1.97"	0.69"	2.12"	1.40"	1.80"	0.37"	34	1/4-20	1.8	0.250"/1.125"	1/2, 5/8, 3/4, 7/8, 1-1/8	7/16, 1/2
M-32	3.15"	3.00"	1.97"	0.63"	2.47"	1.40"	1.92"	0.35"	40	5/16-18	3.2	0.437"/1.26"	1/2, 5/8, 3/4, 7/8, 1-1/8, 1-1/4	
M-38	3.15"	3.25"	2.30"	0.65"	2.70"	1.40"	1.90"	0.35"	44	5/16-18	4.0	0.437"/1.50"	1/2, 5/8, 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2	
M-42	3.36"	3.63"	2.55"	0.73"	3.06"	1.50"	1.97"	0.36"	50	5/16-18	4.4	0.437"/1.65"	5/8, 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2, 1-5/8	
M-48	3.91"	3.88"	2.67"	1.20"	3.06"	1.80"	1.93"	0.31"	50	3/8-16	5.4	0.437"/1.89"	5/8, 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2, 1-5/8, 1-3/4	
M-65	5.51"	5.58"	3.80"	1.38"	4.33"	2.76"	2.83"	0.48"	42	3/8-16	15	0.500"/2.56"	1, 1-1/8, 1-3/8, 1-5/8, 1-7/8, 2-1/8, 2-3/8	
M-80	7.32"	6.89"	4.88"	1.83"	5.70"	3.54"	3.66"	N/A	46	3/8-16	25	0.98"/3.15"	1-7/8, 2-1/8, 2-3/8, 2-7/8, 3-1/8	
M-100	8.98"	8.26"	5.98"	2.48"	6.93"	4.33"	4.02"	N/A	48	1/2-13	45	1.38"/3.94"	As Requested	

- Assembly Notes:**
1. Dimension "A" is fully compressed. For best misalignment characteristics, 1/16" gap per hub is recommended.
 2. M-80/M-100 sleeves have internal snap ring provisions.

DOUBLE CROWNED TOOTH

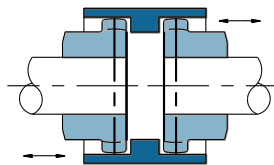


ALIGNMENT TOLERANCES

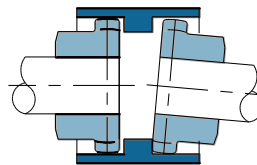
Type	Axial Displacement	Angular Misalignment	Parallel Offset	Recommended Hub Spacer Gap
M-Style (three-piece)	±.040"	1°/hub	.016"/hub	.0625"/hub

- Large contact area to provide low contact pressure and to reduce stress of shaft misalignment.
- Load distributed near the center of the tooth for maximum strength.
- Low friction for a smooth flow of power without the need for lubrication — maintenance free.
- Free axial movement of the coupling parts to compensate for shaft thermal changes and future alignment problems.

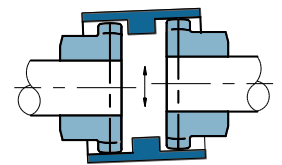
Axial Displacement



Angular Misalignment

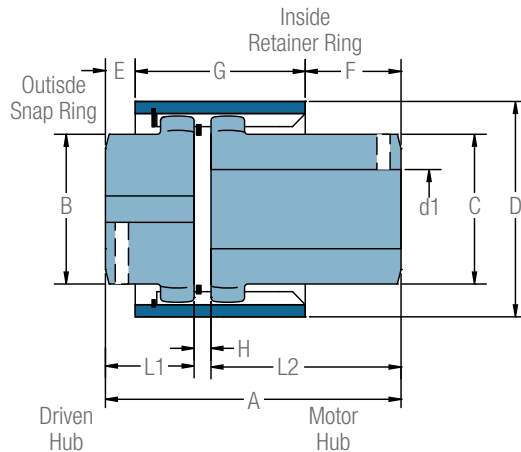


Parallel Offset



GUARDEX™ I-STYLE

- Coupling has additional axial travel for DEMAG brake motors.
- Sleeve held to one hub with snap rings.
- Opposite hub has free axial travel of up to .500".
- Special hub length available. (See L₁ and L₂)



Guardex Type	Torque Inch Lbs.		Pilot Bore	Finish Bore	
	Nominal	Max.		Min.	Max.
Spec. I-24	173	531	10 mm .393"	10 .393	24 .945
Spec. I-28	390	1,195	7 mm .276"	7 .276	28 1.10
Speci. I-32	694	1,593	12 mm .472"	12 .472	32 1.26
Speci. I-45	1,215	3,717	11 mm .433"	11 .433	45 1.77
Speci. I-65	3,298	10,089	12 mm .472"	12 .472	65 2.56

DIMENSION

DEMAG Size	Guardex Coupling	Axial Travel	Motor Bore d ₁	A	B & C	D	E	F	G	H	L ₁	L ₂
KBA 71 KBL 71 KBZ 71	Spec. I-24	10 mm .400"	14 mm .551"	54 mm 2.13"	36 mm 1.42"	58 mm 2.28"	2.5 mm .098"	10 mm .393"	51 mm 2.00"	4 mm .157"	21 mm .84"	30 mm 1.80"
KBA 80 KBS 80	Spec. I-24	10 mm .400"	19 mm .748"	71 mm 2.80"	36 mm 1.42"	58 mm 2.28"	2.5 mm .098"	18 mm .700"	56 mm 2.20"	4 mm .157"	21 mm .84"	46 mm 1.80"
KBA 90 KBS 90	Spec. I-28	10 mm .400"	24 mm .945"	89 mm 3.52"	44 mm 1.73"	70 mm 2.75"	13 mm .550"	21 mm .83"	56 mm 2.20"	4 mm .157"	35.5 mm 1.40"	50.5 mm 2.00"
KBA 100 KBS 100 KBA 112 KBS 112 24/10 KS	Speci. I-32	10 mm .400"	28 mm 1.10"	89 mm 3.49"	50 mm 1.97"	84 mm 3.31"	11 mm .420"	21 mm .83"	58 mm 2.28"	4 mm .157"	35.5 mm 1.40"	50.5 mm 2.00"
24/14 KS KBS 125 KBA 125 28/12 KS	Speci. I-45	10 mm .400"	28 mm/1.10" 32 mm/1.26"	96.5 mm 3.80"	65 mm 2.56"	100 mm 3.93"	14 mm .551"	23 mm .900"	60 mm 2.36"	4 mm .157"	38 mm 1.50"	55.5 mm 2.19"
28/17 KS KBS 140 KBA 140	Speci. I-45	10 mm .400"	28 mm/1.10" 38 mm/1.49"	96.5 mm 3.80"	65 mm 2.56"	100 mm 3.93"	14 mm .551"	23 mm .900"	60 mm 2.36"	4 mm .157"	38 mm 1.50"	55.5 mm 2.19"
KBA 160	Speci. I-65	13 mm .500"	42 mm 1.65"	138 mm 5.43"	96 mm 3.78"	140 mm 5.51"	30 mm 1.18"	28.5 mm 1.12"	84 mm 3.31"	4 mm .157"	70 mm 2.76"	64 mm 2.52"
KBA 180	Speci. I-65	13 mm .500"	48 mm 1.89"	138 mm 5.43"	96 mm 3.78"	140 mm 5.51"	30 mm 1.18"	28.5 mm 1.12"	84 mm 3.31"	4 mm .157"	70 mm 2.76"	64 mm 2.52"

- Assembly Notes:**
1. Dimensions A, E, & F are measured fully compressed. For best misalignment characteristics, a 1/16" gap per hub is recommended.
 2. Hubs should be mounted flush with the end of the shaft when possible.
 3. Sleeves should move freely in an axial direction after assembly.

Belted Drives and Sheaves	Couplings Cont.	Engineered Bearing Assemblies	Heavy Duty Clutches and Brakes Cont.
<p>TB Wood's <i>Belted Drives</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance:</i> 1-888-829-6637 – Press #7</p>	<p>Lamiflex Couplings <i>Flexible Couplings, Bearing Isolators, and Coupling Guards</i> Cotia, SP - Brasil +55 (11) 4615-6300</p>	<p>Kilian Manufacturing <i>Engineered Bearing Assemblies</i> Syracuse, NY - USA 1-315-432-0700</p>	<p>Wichita Clutch <i>Pneumatic Clutches and Brakes</i> Wichita Falls, TX - USA 1-800-964-3262 Bedford, England +44 (0) 1234 350311</p>
Couplings		Gearing	Linear Products
<p>Ameridrives Couplings <i>Mill Spindles, Ameriflex, Ameridisc</i> Erie, PA - USA 1-814-480-5000 <i>Gear Couplings</i> San Marcos, TX - USA 1-800-458-0887</p>	<p>TB Wood's <i>Elastomeric Couplings</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance:</i> 1-888-829-6637 – Press #7 <i>General Purpose Disc Couplings</i> San Marcos, TX - USA 1-888-449-9439</p>	<p>Bauer Gear Motor <i>Geared Motors</i> Esslingen, Germany +49 (711) 3518-0 Somerset, NJ - USA 1-732-469-8770</p>	<p>Warner Linear <i>Linear Actuators</i> Belvidere, IL - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-825-9050 Saint Barthélemy d'Anjou, France +33 (0)2 41 21 24 24</p>
<p>Ameridrives Power Transmission <i>Universal Joints, Drive Shafts, Mill Gear Couplings</i> Green Bay, WI - USA 1-920-593-2444</p>	Electromagnetic Clutches and Brakes	<p>Boston Gear <i>Enclosed and Open Gearing, Electrical and Mechanical P.T. Components</i> Charlotte, NC - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-816-5608</p>	Overrunning Clutches
<p>Bibby Turboflex <i>Disc, Gear, Grid Couplings, Overload Clutches</i> Dewsbury, England +44 (0) 1924 460801 Boksburg, South Africa +27(0) 11 918 4270</p>	<p>Inertia Dynamics <i>Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes</i> New Hartford, CT - USA 1-800-800-6445</p>	<p>Nuttall Gear and Delroyd Worm Gear <i>Worm Gear and Helical Speed Reducers</i> Niagara Falls, NY - USA 1-716-298-4100</p>	<p>Formsprag Clutch <i>Overrunning Clutches and Holdbacks</i> Warren, MI - USA 1-800-348-0881 – Press #1 <i>For application assistance:</i> 1-800-348-0881 – Press #2</p>
<p>Guardian Couplings <i>Engineered Flywheel Couplings, Engine Housings and Pump Mounts, Flexible Shaft Couplings</i> Michigan City, IN - USA 1-219-874-5248</p>	<p>Matrix International <i>Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes</i> Brechin, Scotland +44 (0) 1356 602000 New Hartford, CT - USA 1-800-825-6544</p>	Heavy Duty Clutches and Brakes	<p>Marland Clutch <i>Roller Ramp and Sprag Type Overrunning Clutches and Backstops</i> South Beloit, IL - USA 1-800-216-3515</p>
<p>Huco Dynatork <i>Precision Couplings and Air Motors</i> Hertford, England +44 (0) 1992 501900 Chambersburg, PA - USA 1-888-829-6637</p>	<p>Warner Electric <i>Electromagnetic Clutches and Brakes</i> New Hartford, CT - USA 1-800-825-6544 <i>For application assistance:</i> 1-800-825-9050 Saint Barthélemy d'Anjou, France +33 (0)2 41 21 24 24 <i>Precision Electric Coils and Electromagnetic Clutches and Brakes</i> Columbia City, IN - USA 1-260-244-6183</p>	<p>Industrial Clutch <i>Pneumatic and Oil Immersed Clutches and Brakes</i> Waukesha, WI - USA 1-262-547-3357</p>	<p>Stieber Clutch <i>Overrunning Clutches and Holdbacks</i> Heidelberg, Germany +49 (0) 6221-30470</p>
		<p>Svendborg Brakes <i>Industrial Brakes and Brake Systems</i> Vejstrup, Denmark +45 63 255 255</p>	<p><i>For information concerning our sales offices in Asia Pacific check our website www.altramotion.com.cn</i></p>
		<p>Twiflex Limited <i>Caliper Brakes and Thrusters</i> Wichita Falls, TX - USA 1-844-723-3483 Twickenham, England +44 (0) 20 8894 1161</p>	

While Guardian Industries makes every effort to ensure the accuracy of the information provided, we make no warranty as to the accuracy or completeness of said information.



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