ALTRA INDUSTRIAL MOTION

Ameridisc® Special Purpose Couplings

High Speed, High Performance Design

Ameridrives® Couplings

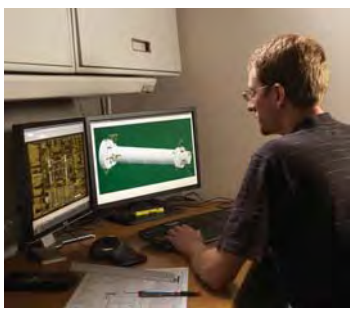
An Altra Industrial Motion Company

Ameridisc® Expertise

A leading multinational designer and manufacturer of a wide range of power transmission products, Ameridrives® Couplings offers products utilized for critical oil and gas, energy, and petrochemical applications. Ameridrives couplings are selected where reliability and quality are essential to avoid costly downtime and enhance operations, productivity and competitiveness. In addition to our ISO9001:2008 certified manufacturing facility in Erie, Pennsylvania; sales engineers are strategically located around the world.

Ameridrives Couplings, originally established in 1928 as the Mechanical Drives Division of Zurn Industries, has pioneered many improvements throughout the years to keep a step ahead of the power transmission industry.

In 1971, the Ameriflex multiple convoluted diaphragm coupling was introduced for the increasing demands of high performance turbomachinery applications. Since then the Ameriflex diaphragm has continued to set new standards for life and reliability by using the latest in design tools and manufacturing technology.



Ameridisc Advanced Disc Technology

With more than 60 years of designing high performance couplings and as part of our continued development program, Ameridrives Couplings introduced Ameridisc; a technically advanced disc coupling solution providing the reliable performance vital in harsh environments and the rugged applications of the growing global oil and gas and petrochemical industries.

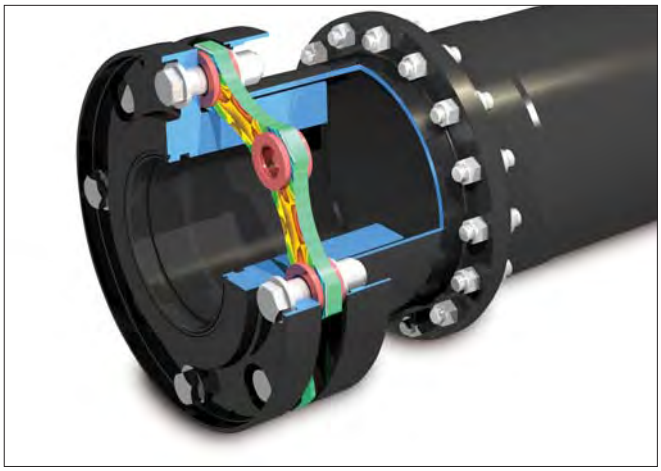
The coupling was developed using advanced Finite Element Analysis with strain-gage verification in the Ameridrives Research and Development Laboratory. The result was an API-671 and ISO10441 compliant special purpose coupling with an optimized disc profile that is power dense with a large bore capacity and low reaction loads.

A proprietary disc coating is used to help prevent fretting and corrosion, further improving coupling performance. Designed for years of dependable, low-maintenance performance, this torsionally stiff, light weight coupling is capable of transmitting high torque at high speed while simultaneously accommodating significant levels of angular, radial, and axial misalignment. They are easy to install, suitable for hostile environments, require no lubrication and feature a high torque to weight ratio.

With the inclusion of the Ameridisc coupling into our industry leading line-up, Ameridrives Couplings is proud to offer a complete range of couplings to support our customers' applications. Custom solutions are also available to meet unique mechanical power transmission challenges.

When you need to connect two or more pieces of rotating equipment, we have the product and expertise to design and manufacture the right solution you need.

Ameridisc couplings are designed for high speed, high performance applications



Features / Benefits

- Multi-scalloped, optimized disc profile results in even stress distribution.
- Proprietary disc coating to prevent fretting and corrosion.
- Custom pack fasteners allow for an optimized bolted connection.
- Finite Element Analysis (FEA) on all components including discs.
- Complete static and dynamic strain gage verification of FEA in Ameridrives Research & Development Laboratory.

Ameridisc advantages

- Designed for API-671 & ISO 10441 and ATEX compliance.
- Industry leader in power density and bore capacity.
- No lubrication for maintenance free operation.
- Discs available in 301 Stainless Steel, Inconel and Monel.
- Designed to operate at full ratings simultaneously.
- Black oxided, heat treated, alloy steel torque transmitting components are standard.
- Improved dynamic balance.
- Low bending and axial reaction loads.
- Marine style and reduced moment designs available.
- Capable of being torsionally tuned to suit specific machinery requirements.
- Available in 6, 8, and 10 bolt arrangements for various torque and misalignment conditions.
- Customized interface designs are available for unique applications.
- Co-planar designs available for increased momentary torque overload protection.

Selection Data

Series RM

Reduced Moment
- Lowest overhung moment
- Large bore capacity
- High torque design
- Standard reduced windage design
- Optional Co-planar designs available for increased momentary torque overload protection

Typical Applications
- Critical high speed turbine to compressor applications where minimal overhung weight is the primary design driver
- Refining / Petrochemical processes

Series MS

Marine Style
- Largest bore capacity
- Integral flange designs available
- High torque design
- Factory assembled center section simplifies installation
- Standard anti-flail system for increased safety
- Optional windage designs available

Typical Applications
- Marine drives
- Power Generation
- Turbine to Gearbox/Compressor

Coupling Selection

Step 1: Select appropriate application service factor (SF). API 671 recommends 1.5.

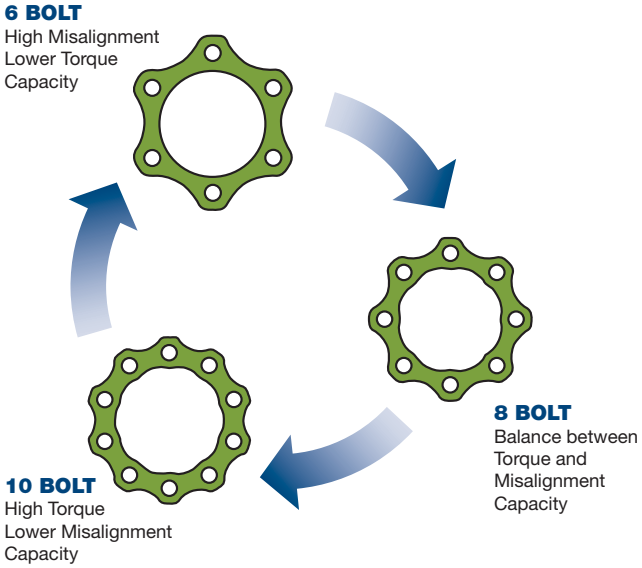
Step 2: Calculate selection torque (T) from:

$$T(\text{in-lbs}) = \frac{HP \times 63025 \times SF}{RPM}$$

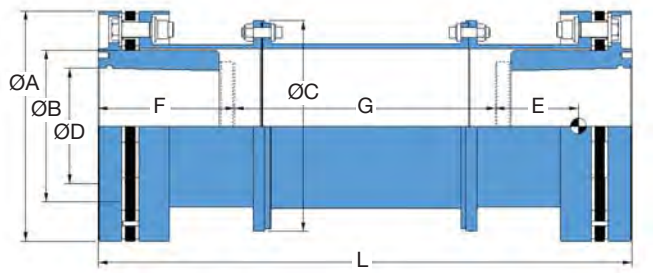
Step 3: Select a coupling with a max continuous rating equal to or greater than the selection torque.

Step 4: Check bore capacity, peak torque rating, axial & angular misalignment ratings, and envelope restrictions to confirm initial selection.

Ameridisc couplings are available in either 6, 8, or 10 bolt configurations depending on the Torque or Axial/Angular Misalignment requirements.



Note: Number of Bolts can be determined by the first sequence of digits in the Ameridisc size designation. Example: size 6095 is a 6 Bolt design and size 10385 is a 10 Bolt design.



1. Torque Ratings are based on 0.20° and maximum rated axial misalignment.
2. Weight, WR^2, Torsional Stiffness and Center of Gravity values are based on API671 4th Ed. 18 inch DBSE and 1.40 Barrel:Bore ratio.
3. Listed Max Speed values may require reduction in rated axial or torque limits - consult Ameridrives.
4. Hub Length includes nominal retaining nut length.
5. Windage Flanges are standard on RM Series.
6. Consult Ameridrives for larger bore capacities

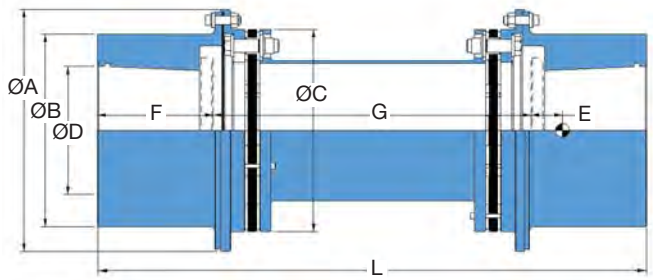
Dimensions (in)

RM Coupling Size	A Coupling OD	B Max. Barrel OD	C Flange OD	D Bore	F Hub Length	G Minimum DBSE	L Coupling Length
6095	3.73	2.00	3.25	1.43	1.71	3.89	21.42
6110 / 8110	4.32	2.52	4.00	1.80	2.16	3.71	22.32
6135 / 8135	5.36	3.13	4.84	2.23	2.68	3.47	23.34
6160 / 8160	6.50	4.03	6.01	2.88	3.45	4.07	24.90
8190	7.57	4.88	6.97	3.50	4.21	3.73	26.42
8225	8.94	5.88	8.22	4.20	5.04	3.04	28.08
8260	10.25	6.46	9.10	4.61	5.54	4.88	29.06
8295	11.69	7.59	10.23	5.42	6.51	3.41	31.00
8330	13.00	8.41	11.31	6.00	7.20	4.44	32.40
8360	14.10	9.42	12.44	6.73	8.07	3.69	34.16
8385 / 10385	15.17	9.66	14.03	6.90	8.28	4.80	34.58
8420 / 10420	16.57	10.50	14.50	7.50	9.00	5.29	36.02
8480 / 10480	19.00	12.25	16.95	8.75	10.50	6.32	39.00

Specifications

RM Coupling Size	Max. Cont. Torque (in-lb)	Max. Peak Torque (in-lb)	Momentary Torque Limit (in-lb)	Max. Speed (RPM)	Weight (lb)	WR^2 (lb-in^2)	Torsional Stiffness (in-lb/RAD x 10^6)	E Center of Gravity (in)
6095	10,600	15,000	17,000	36,000	4.60	7	0.72	1.11
6110	16,000	20,000	25,600	32,000	6.90	15	1.12	1.47
8110	25,700	32,000	41,000	32,000	7.00	15	1.24	1.47
6135	30,000	37,500	48,000	28,000	11.6	39	2.34	1.84
8135	42,000	52,000	67,000	28,000	11.6	39	2.66	1.83
6160	50,000	62,500	80,000	24,000	21.1	108	5.12	2.40
8160	80,000	100,000	128,000	24,000	21.3	109	6.14	2.39
8190	128,000	160,000	205,000	20,000	30.0	220	9.90	2.93
8225	204,000	254,500	326,000	17,000	47.4	611	18.4	3.49
8260	310,000	387,000	496,000	15,000	67.1	889	26.1	3.79
8295	478,000	597,500	765,000	13,000	97.5	1,587	41.1	4.50
8330	637,000	797,000	1,020,000	12,000	129	2,743	60.9	4.99
8360	735,000	918,000	1,176,000	11,000	169	4,285	78.8	5.61
8385	885,000	1,106,000	1,416,000	10,000	202	5,866	98.5	5.60
10385	1,100,000	1,375,000	1,760,000	10,000	205	5,953	101	5.60
8420	1,240,000	1,550,000	1,984,000	9,200	273	9,484	152	6.22
10420	1,580,000	1,975,000	2,528,000	9,200	274	9,499	163	6.21
8480	1,920,000	2,400,000	3,072,000	8,000	420	19,564	245	7.23
10480	2,400,000	3,000,000	3,840,000	8,000	421	19,601	270	7.23

Series MS



1. Torque Ratings are based on 0.20° and maximum rated axial misalignment.
2. Weight, WR^2, Torsional Stiffness and Center of Gravity values are based on API671 4th Ed. 18 inch DBSE and 1.45 Barrel:Bore ratio.
3. Listed Max Speed values may require reduction in rated axial or torque limits - consult Ameridrives.
4. Hub Length includes nominal retaining nut length.
5. Windage Flanges are optional on MS Series.
6. Consult Ameridrives for larger bore capacities

Dimensions (in)

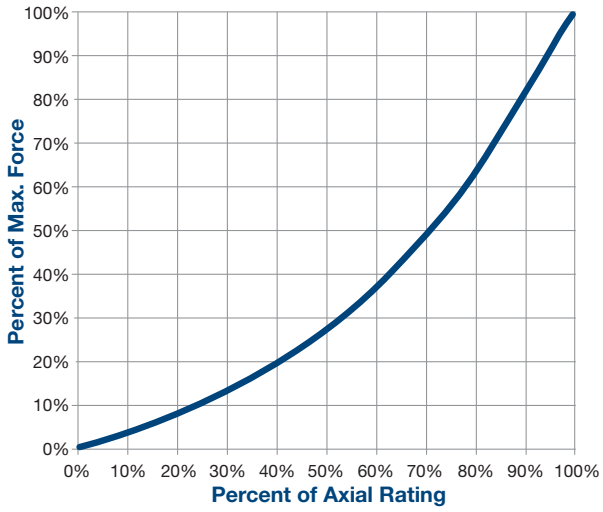
MS Coupling Size	A Coupling OD	B Max. Barrel OD	C Flange OD	D Bore	F Hub Length	G Minimum DBSE	L Coupling Length
6095	4.78	3.83	3.73	1.50	1.81	4.09	21.62
6110	5.60	4.37	4.32	1.75	2.09	4.50	22.20
8110	5.60	4.37	4.32	2.00	2.10	4.50	22.80
6135	6.94	5.52	5.44	2.25	2.69	5.20	23.40
8135	6.94	5.52	5.44	2.50	3.00	5.20	24.02
6160	8.12	6.60	5.88	2.75	3.31	5.84	24.60
8160	8.12	6.60	5.88	3.00	3.62	5.84	25.20
8190	9.25	7.78	7.59	3.50	4.22	7.28	26.42
8225	10.81	9.12	8.94	4.00	4.81	7.33	27.60
8260	12.20	10.12	10.24	5.00	6.00	9.66	30.00
8295	13.75	11.69	11.69	5.50	6.62	10.34	31.22
8330	14.87	12.78	13.00	6.00	7.19	11.06	32.40
8360	16.25	14.09	14.10	6.50	7.81	11.34	33.62
8385	18.03	15.46	15.17	7.00	8.41	13.09	34.80
10385	18.03	15.46	15.17	7.50	9.00	13.09	36.02
8420	19.38	16.88	16.57	7.75	9.31	14.63	36.60
10420	19.38	16.88	16.57	8.50	10.22	14.63	38.42
8480	22.50	19.38	19.00	9.00	10.81	16.48	39.60
10480	22.50	19.38	19.00	9.50	11.41	16.48	40.82

Specifications

MS Coupling Size	Max. Cont. Torque (in-lb)	Max. Peak Torque (in-lb)	Momentary Torque Limit (in-lb)	Max. Speed (RPM)	Weight (lb)	WR^2 ($lb\text{-}in^2$)	Torsional Stiffness (in-lb/RAD x 10^6)	E Center of Gravity (in)
6095	10,600	15,000	17,000	36,000	5.20	10	0.78	-0.20
6110	16,000	20,000	25,600	32,000	8.20	25	1.22	-0.14
8110	25,700	32,000	41,000	32,000	8.90	27	1.44	0.00
6135	30,000	37,500	48,000	28,000	13.1	59	2.48	-0.05
8135	42,000	52,000	67,000	28,000	14.1	63	2.86	0.14
6160	50,000	62,500	80,000	24,000	22.6	139	5.96	-0.07
8160	80,000	100,000	128,000	24,000	24.4	149	7.84	0.11
8190	128,000	160,000	205,000	20,000	33.6	285	12.3	0.29
8225	204,000	254,500	326,000	17,000	49.1	573	20.5	0.37
8260	310,000	387,000	496,000	15,000	83.5	1,268	35.7	0.77
8295	478,000	597,500	765,000	13,000	110	2,070	55.2	0.87
8330	637,000	797,000	1,020,000	12,000	138	3,185	80.6	0.97
8360	735,000	918,000	1,176,000	11,000	172	4,692	101	1.13
8385	885,000	1,106,000	1,416,000	10,000	235	7,780	147	0.90
10385	1,100,000	1,375,000	1,760,000	10,000	257	8,602	169	1.37
8420	1,240,000	1,550,000	1,984,000	9,200	315	12,392	206	1.16
10420	1,580,000	1,975,000	2,528,000	9,200	355	14,154	253	1.86
8480	1,920,000	2,400,000	3,072,000	8,000	468	24,454	313	1.46
10480	2,400,000	3,000,000	3,840,000	8,000	502	26,357	374	1.95

Axial & Angular Stiffness Data

Coupling Size	Max. Axial Capacity (in)	Max. Axial Force (lb)	Max. Angular Misalignment (degree)	Max. Bending Moment (in-lb)
6095	0.045	215	0.3	45
6110	0.075	203	0.3	68
8110	0.060	371	0.2	113
6135	0.100	383	0.3	95
8135	0.080	511	0.2	146
6160	0.140	676	0.3	209
8160	0.100	823	0.2	285
8190	0.120	1,011	0.2	373
8225	0.140	1,283	0.2	508
8260	0.160	2,226	0.2	1,058
8295	0.180	2,170	0.2	1,068
8330	0.200	2,503	0.2	1,392
8360	0.230	2,996	0.2	1,634
8385	0.250	5,086	0.2	3,029
10385	0.177	5,368	0.2	5,739
8420	0.270	5,483	0.2	4,053
10420	0.190	5,286	0.2	6,944
8480	0.295	5,537	0.2	4,417
10480	0.215	6,701	0.2	7,936



Alternative Ameridisc Designs

Ameridisc designs can be customized for special applications.

Close Coupled Design

- Small DBSE
- Low overhung moment
- Balance to AGMA 9
- Large bore capacity
- API-610, API-671, and ISO 10441 available

Co-Planar Design

- Lowest overhung moment
- Large bore capacity
- High torque design
- Interlocking flanges for increased momentary torque overload and additional safety

Altra Industrial Motion

All Customer Service phone numbers shown in bold

Electromagnetic Clutches and Brakes

Warner Electric
Electromagnetic Clutches and Brakes

New Hartford, CT - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Precision Electric Coils and Electromagnetic Clutches and Brakes

Columbia City, IN - USA
1-260-244-6183

Matrix International
Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes

Brechin, Scotland
+44 (0) 1356 602000

New Hartford, CT - USA
1-800-825-6544

Inertia Dynamics
Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes

New Hartford, CT - USA
1-800-800-6445

Overrunning Clutches

Formsprag Clutch
Overrunning Clutches and Holdbacks

Warren, MI - USA
1-800-348-0881 – Press #1

For application assistance: 1-800-348-0881 – Press #2

Marland Clutch
Roller Ramp and Sprag Type Overrunning Clutches and Backstops

Burr Ridge, IL - USA
1-800-216-3515

Stieber Clutch
Overrunning Clutches and Holdbacks

Heidelberg, Germany
+49 (0) 6221 30 47 0

Engineered Couplings

Ameridrives Couplings
Mill Spindles, Ameriflex, Ameridisc

Erie, PA - USA
1-814-480-5000

Gear Couplings

San Marcos, TX - USA
1-800-458-0887

Bibby Transmissions
Disc, Gear, Grid Couplings, Overload Clutches

Dewsbury, England
+44 (0) 1924 460801

Boksburg, South Africa
+27 11 918 4270

TB Wood's
Elastomeric Couplings

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance: 1-888-829-6637 – Press #7

General Purpose Disc Couplings

San Marcos, TX - USA
1-888-449-9439

Ameridrives Power Transmission
Universal Joints, Drive Shafts, Mill Gear Couplings

Green Bay, WI - USA
1-920-593-2444

Huco Dynatork
Precision Couplings and Air Motors

Hertford, England
+44 (0) 1992 501900

Charlotte, NC - USA
1-800-825-6544

Linear Products

Warner Linear
Linear Actuators

Belvidere, IL - USA
1-800-825-6544

For application assistance: 1-800-825-9050

St Barthelemy d'Anjou, France
+33 (0) 2 41 21 24 24

Heavy Duty Clutches and Brakes

Wichita Clutch
Pneumatic Clutches and Brakes

Wichita Falls, TX - USA
1-800-964-3262

Bedford, England
+44 (0) 1234 350311

Twiflex Limited
Caliper Brakes and Thrusters

Twickenham, England
+44 (0) 20 8894 1161

Industrial Clutch
Pneumatic and Oil Immersed Clutches and Brakes

Waukesha, WI - USA
1-262-547-3357

Gearing

Boston Gear
Enclosed and Open Gearing, Electrical and Mechanical P.T. Components

Charlotte, NC - USA
1-800-825-6544

For application assistance: 1-800-816-5608

Nuttall Gear and Delroyd Worm Gear
Worm Gear and Helical Speed Reducers

Niagara Falls, NY - USA
1-716-298-4100

Belted Drives and Sheaves

TB Wood's
Belted Drives

Chambersburg, PA - USA
1-888-829-6637 – Press #5

For application assistance: 1-888-829-6637 – Press #7

Engineered Bearing Assemblies

Kilian Manufacturing
Engineered Bearing Assemblies

Syracuse, NY - USA
1-315-432-0700

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