

Ameridisc® Special Purpose Couplings

High Speed, High Performance Design



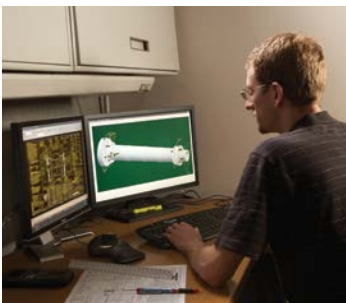
Ameridisc® Expertise

A leading multinational designer and manufacturer of a wide range of power transmission products, Ameridrives® offers products utilized for critical oil and gas, energy, and petrochemical applications. Ameridrives 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, 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 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.

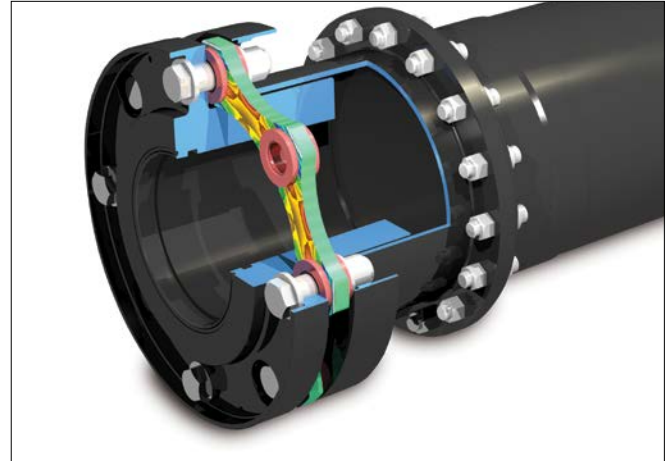
A proprietary disc coating is used to help prevent fretting and corrosion, further improving coupling performance. Designed for years of dependable, low-maintenance performance, this

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 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

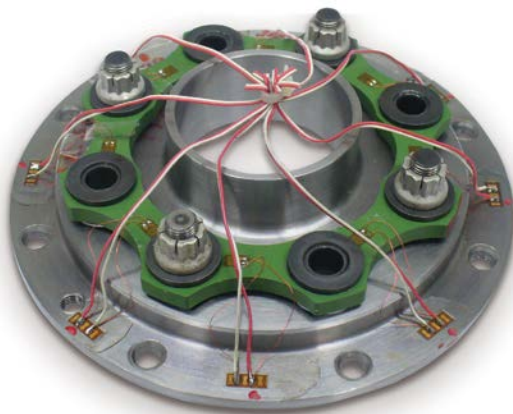


Features / Benefits

- 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 oxidized, 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:

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

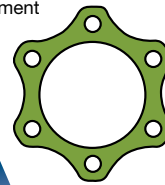
Step 3: Select a coupling with a max continuous rating equal to or greater than the selection torque.

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.

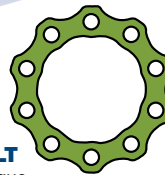
6 BOLT

High Misalignment
Lower Torque
Capacity



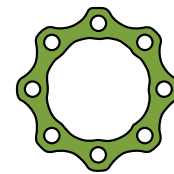
10 BOLT

High Torque
Lower Misalignment
Capacity

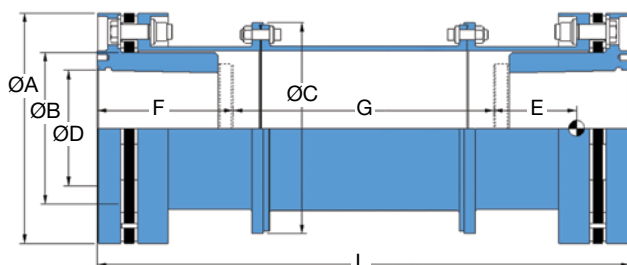


8 BOLT

Balance between
Torque and
Misalignment
Capacity



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, WR², 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

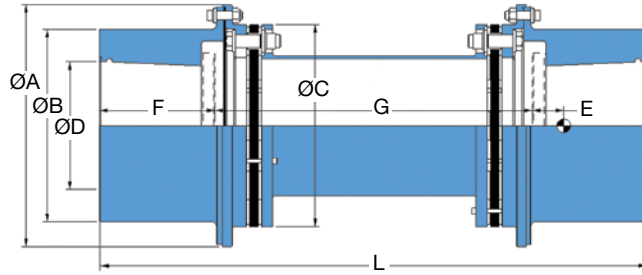
Dimensions (in)

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, WR² 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)

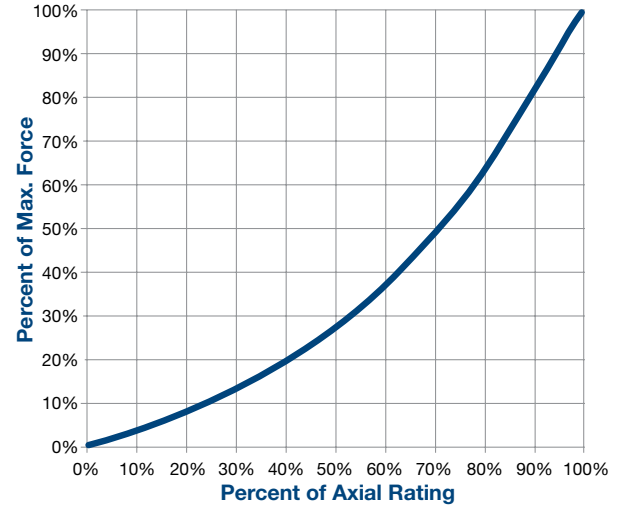
MS Coupling Size	A Coupling OD	B Max. Barrel OD	C Flange OD	D Bore	F Hub Length	G Minimum DBSE	L Coupling Length
6095	4.78	3.83	3.73	1.50	1.81	4.09	21.62
6110	5.60	4.37	4.32	1.75	2.09	4.50	22.20
8110	5.60	4.37	4.32	2.00	2.10	4.50	22.80
6135	6.94	5.52	5.44	2.25	2.69	5.20	23.40
8135	6.94	5.52	5.44	2.50	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-in ²)	Torsional Stiffness (in-lb/RAD x 10 ⁹)	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

Ameridrives Facilities

North America

USA

1802 Pittsburgh Avenue
Erie, PA 16502 - USA
814-480-5000

*Mill Spindles, Ameriflex, Ameridisc,
Universal Joints, Driveshafts,
Mill Gear Couplings*

2000 Clovis Barker Road
San Marcos, TX 78666 - USA
888-449-9439

*Gear Couplings, Small Industrial
Driveshafts*

300 Indiana Highway 212
Michigan City, IN 46360
219-874-5248

Irrigation Universal Driveshafts

The Brands of Altra Industrial Motion

Couplings

Ameridrives
www.ameridrives.com

Bibby Turboflex
www.bibbyturboflex.com

Guardian Couplings
www.guardiancouplings.com

Huco
www.huco.com

Lamiflex Couplings
www.lamiflexcouplings.com

Stromag
www.stromag.com

TB Wood's
www.tbwoods.com

Geared Cam Limit Switches

Stromag
www.stromag.com

Electric Clutches & Brakes

Inertia Dynamics
www.idicb.com

Matrix
www.matrix-international.com

Stromag
www.stromag.com

Warner Electric
www.warnerelectric.com

Linear Products

Warner Linear
www.warnerlinear.com

Engineered Bearing Assemblies

Kilian
www.kilianbearings.com

Heavy Duty Clutches & Brakes

Industrial Clutch
www.indclutch.com

Twiflex
www.twiflex.com

Stromag
www.stromag.com

Svendborg Brakes
www.svendborg-brakes.com

Wichita Clutch
www.wichitaclutch.com

Belted Drives

TB Wood's
www.tbwoods.com

Gearing

Bauer Gear Motor
www.bauergears.com

Boston Gear
www.bostongear.com

Delroyd Worm Gear
www.delroyd.com

Nuttall Gear
www.nuttallgear.com

Overrunning Clutches

Formsprag Clutch
www.formsprag.com

Marland Clutch
www.marland.com

Stieber
www.stieberclutch.com

Neither the accuracy nor completeness of the information contained in this publication is guaranteed by the company and may be subject to change in its sole discretion. The operating and performance characteristics of these products may vary depending on the application, installation, operating conditions and environmental factors. The company's terms and conditions of sale can be viewed at <http://www.altramotion.com/terms-and-conditions/sales-terms-and-conditions>. These terms and conditions apply to any person who may buy, acquire or use a product referred to herein, including any person who buys from a licensed distributor of these branded products.

©2018 by Ameridrives LLC. All rights reserved. All trademarks in this publication are the sole and exclusive property of Ameridrives LLC or one of its affiliated companies.

