Couplings Overview

Rigid, One-Piece

One-piece clamp coupling
Steel, black oxide finish

Page 348

Shaft diameter up to 50 mm.
Torque up to 2250 Nm.

One-piece clamp coupling
Stainless Steel

Page 348

Shaft diameter up to 50 mm.
Torque up to 2250 Nm.

Rigid Coupling TR
Steel and Stainless Steel

Page 349

Shaft diameter up to 50 mm.
Torque up to 490 Nm.

Two-Piece clamp Couplings
Grey Cast Iron
DIN 115

Page 349

Shaft diameter up to 100 mm.
Torque up to 5400 Nm.

Rigid Two-Piece

Two-Piece clamp Couplings
Steel, black oxide finish

Page 348

Shaft diameter up to 50 mm.
Torque up to 2250 Nm.

Two-Piece clamp Couplings
Stainless Steel

Page 348

Shaft diameter up to 50 mm.
Torque up to 2250 Nm.

Rigid Coupling
ST-K

Page 350

Shaft diameter up to 100 mm.
Torque up to 5590 Nm.

Torsionally Stiff, Angular Flexibility

Torsionally-Stiff Couplings HU
Set-Screw Style

Page 351

Shaft diameter up to 12 mm.
Torque up to 3.5 Nm.

Torsionally-Stiff Couplings HB
Clamp Style

Page 351

Shaft diameter up to 16 mm.
Torque up to 3.5 Nm.

Curved-Tooth Gear Coupling
BW
Two-Part
Plastic

Page 360

Shaft diameter up to 24 mm.
Torque up to 24 Nm.

Curved-Tooth Gear Coupling BOZ
Three-Part
Plastic

Page 361

Shaft diameter up to 24 mm.
Torque up to 24 Nm.

Curved-Tooth Gear Coupling
BOS II
Polyamide/ Sintered Metal

Page 362

Shaft diameter up to 24 mm.
Torque up to 40 Nm.

Torsionally Stiff, Transversal Flexibility

Torsionally-Stiff Couplings
HZ+HZD
Set-Screw Style

Page 352

Shaft diameter up to 30 mm.
Torque up to 44 Nm.

Torsionally-Stiff Couplings
HF + HFD
Clamp Style

Page 352

Shaft diameter up to 30 mm.
Torque up to 44 Nm.

Couplings Overview

Torsionally Stiff, Angular Flexibility, Transversal Flexibility

Self-Aligning Couplings KA Aluminium, Stainless Steel, Plastic

Page 355

Shaft diameter up to 16 mm.
Torque up to 10 Nm.

Self-Aligning Couplings LA Aluminium and Stainless Steel

Page 355

Shaft diameter up to 30 mm.
Torque up to 102 Nm.

Torsionally Stiff, Angular, Transv. and Longitudinal Flexibility

Metal-Bellow Couplings MBK (Short) and MBL (Long), Clamp Style

Page 357

Shaft diameter up to 35 mm.
Torque up to 60 Nm.

Membrane Couplings MEM

Page 359

Shaft diameter up to 28mm.
Torque up to 60 Nm.

Torsionally Elastic, Angular Elastic, Transversal Flexible, Longitudinally Flexible

Flexible Couplings EK One Layer

Page 356

Shaft diameter up to 14 mm.
Torque up to 1.5 Nm.

Flexible Couplings EL Three Layers

Page 356

Shaft diameter up to 64 mm.
Torque up to 500 Nm.

Chain Couplings with Casing

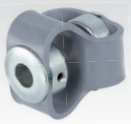
Page 364

Shaft diameter up to 60 mm.
Torque up to 770 Nm.

Chain Couplings

Page 364

Shaft diameter up to 70 mm.
Torque up to 1480 Nm.



Highly-Elastic Couplings PU

Page 365

Shaft diameter up to 16 mm.
Torque up to 18 Nm.

Elastic Couplings RN, Aluminium

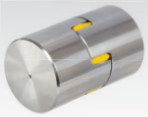
Page 367

Shaft diameter up to 48 mm.
Torque up to 310 Nm.

Elastic Couplings RNG, Grey Cast Iron

Page 368

Shaft diameter up to 115 mm.
Torque up to 3300 Nm.



Elastic Couplings RNI, Stainless Steel

Page 368

Shaft diameter up to 48 mm.
Torque up to 310 Nm.

Elastic Couplings RNT for Taper-Bushes

Page 369

Shaft diameter up to 75 mm.
Torque up to 3600 Nm.

Elastic Couplings RNK, backlash-free, with Clamp Hub

Page 370

Shaft diameter up to 48 mm.
Torque up to 495 Nm.

Elastic Couplings RNH, backlash-free, with Half Shell Clamp

Page 371

Shaft diameter up to 48 mm.
Torque up to 452 Nm.

Spiders for Elastic Couplings, 92° Shore A

Page 372

Torque up to 3300 Nm.

Spiders for Elastic Couplings, 98° Shore A

Page 372

Torque up to 4950 Nm.

Spiders for Elastic Couplings, 64° Shore D

Page 372

Torque up to 6185 Nm.

Elastic Couplings DXA, Grey Cast Iron

Page 374

Shaft diameter up to 100 mm.
Torque up to 5500 Nm.

Spiders for Elastic Couplings DXA, 92° Shore A

Page 374

Torque up to 5500 Nm.

Connecting Shafts Page 806

Couplings Overview

Friction Clutches

Friction Clutches Type B Axial Arrangement

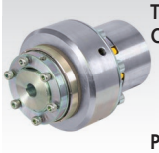
Page 376

Shaft diameter up to 8 mm.
Torque up to 1.3 Nm.

Friction Clutches Type C Transversal Flexibility

Page 376

Shaft diameter up to 8 mm.
Torque up to 1.3 Nm.



Sliding Hubs with Torsionally-Flexible Coupling

Page 377

Shaft diameter up to 35 mm.
Torque up to 140 Nm.

Multi-Disk Friction Clutches PD

Page 378

Shaft diameter up to 70 mm.
Torque up to 320 Nm.

Safety Clutches SI

Page 379

Shaft diameter up to 50 mm.
Torque up to 180 Nm.

Limit Switch for Safety Clutches

Page 379

Voltage 220 - 250 V AC.
Strength of current up to 10 A.

Safety Coupling CM for Very Exact Setting

Page 380

Shaft diameter up to 55 mm.
Torque up to 800 Nm.

Sliding Hubs

Slip hubs Type A Concentric Design

Page 376

Shaft diameter up to 8 mm.
Torque up to 1.3 Nm.

Sliding Hubs FS Simple Version

Page 381

Shaft diameter up to 65 mm.
Torque up to 1200 Nm.

Sliding Hubs FA Premium-Quality Version

Page 382

Shaft diameter up to 80 mm.
Torque up to 1200 Nm.

Sliding Hubs FA Premium-Quality Version with Clamp Hub

Page 383

Shaft diameter up to 40 mm.
Torque up to 280 Nm.

Sliding Hubs ROBA® Premium-Quality Version

Page 384

Other sizes and designs on request.

Selection Tool
on the Internet at ***www.maedler.de***
in the section ***MÄDLER®-Tools***

Notes Regarding Couplings

General

Couplings serve to connect two shafts in order to transmit the driving power (transmission of speed and torque). As different applications lead to most diverse requirements for couplings, there is a large number of different types of couplings with sometimes contradictory characteristics available on the market. If possible, the shafts should be supported right besides the couplings in order to avoid unnecessary vibration. This is particularly important for elastic couplings.

Torque Values

Depending on the type of coupling, the torques stated refer to either the maximum value or the nominal torque. The maximum permissible torque must never be exceeded (risk of fracture). The nominal torque is the value valid for the permissible permanent load (e.g. for elastic couplings). This value should be exceeded only as exception and for short times, and only up to the maximum permissible torque. Depending on the type of drive unit used and the type of shock load, the nominal torque of the drive unit has to be multiplied with the respective operating factor taken from the table below:

Operating Torque = Driving Torque x Operating Factor

The operating torque of the drive unit must not exceed the nominal torque of the coupling.

The driving torque can be derived from the driving power with the following formula:

$$T_{[Nm]} = 9550 \cdot \frac{P\ [kW]}{n\ [min^{-1}]} \cdot S$$

Operating Factors

Type of Shock Load	Type of Drive Unit: Electric Engines, Steam Turbines, Shaftings	4 - 6 Cylinder Combustion Engines	1 - 3 Cylinder Combustion Engines
Weak shock load **Low starting torque, uniform operation** small light generators, small centrifugal pumps, small blowers, light machine tools, light transmissions	1.0	1.25	1.75
Medium shock load **Medium starting torque, slight torque fluctuations** larger conveying machinery, large blowers, centrifugal pumps and generators, large machine tools and wood working machines, rapid presses, flower mills and food grinders, shears, punches, grinding machines, washing machines, transmissions	1.25	1.5	2.0
Strong shock load **High starting torque, strong shocks, alternating sense of rotation.** centrifuges, gang saws, paper calender, roller tables, wet presses, ball and rod mills, heavy rolling mills for metal, rubber rolling mill, reciprocating machines without flywheel, cement mills, stone breakers	1.5	2.0	2.5

Rigid Couplings

These couplings do not compensate for misalignment of the shaft neither in axial nor in radial direction. They should therefore only be used with perfectly aligned shafts. Shocks and vibration are transferred without any damping.

Torsionally-Stiff Couplings

These couplings transmit the rotational movement synchronously with hardly any damping. Depending on the type of coupling more or less angular and/or axial displacement can be compensated.

Elastic Couplings

With these couplings an elastic intermediate ring usually dampens the shocks of the driving unit. In types without this ring, the coupling body is elastic. Due to the small endurance strength of the shock-dampening components, the nominal torque of the coupling is much lower than the maximum torque. The elastic rings are available as spare parts.

For couplings with elastics inserts, following factors have to be considered, additional to the standard operating factors above:

Temperature-factor

Temperatur	–30 °C to +30 °C	to +40 °C	to +60 °C	to +80 °C
Factor	1,0	1,2	1,4	1,8

Starting-factor

Starts per hour	100	200	400	800
Factor	1,0	1,2	1,4	1,6

Friction Clutches and Sliding Hubs

These clutches or hubs are used if the torque must only be transmitted up to a certain, adjustable value. If the set maximum value is exceeded the coupling device starts slipping. If the torque falls below the limit again, the slipping stops. Thus for safety reasons a separate stop mechanism for the drive unit might be required.

Friction clutches usually serve to connect two shafts. Sliding hubs usually serve to mount a drive wheel (chain wheel, drive pulley, spur gear, friction wheel, or similar) on a shaft.

Some types can be used for both applications as, e.g., either a drive wheel or a shaft connection can be flange mounted. Combinations of elastic coupling and friction clutch can also be supplied.

Reworking within 24h-service possible. Custom made parts on request.