

Datasheet



Precise power transmission of non-aligned elements



Features at a glance

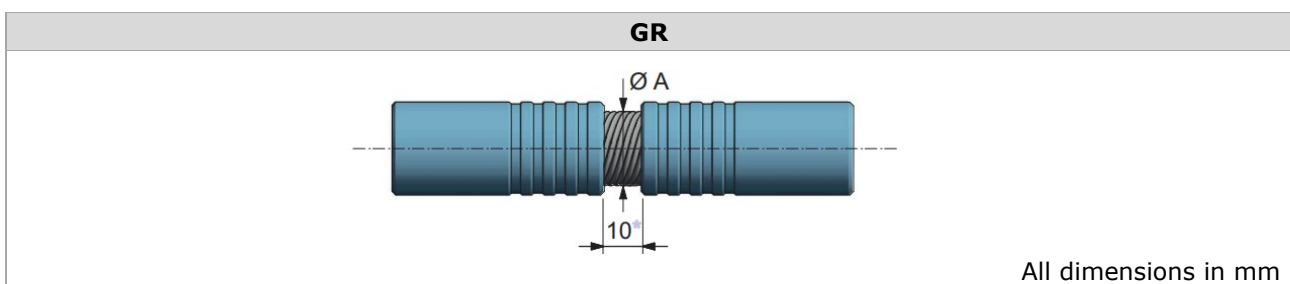
Semi-rigid shaft couplings type **GR** are used to transmit precise rotary motion between two non-aligned elements. Excellent compensation of misalignments and damping of vibrations and shocks.

- Universal applicability, high reliability, maintenance-free and easy-of-use.
- Suitable for manual and motorised drives.
- Simple and quick installation, without the need for other supports.
- Terminal couplings made of solid stainless steel (AISI 303).



Available terminal couplings: **CL** = cylindrical shaft; **CF** = cylindrical hollow shaft; **CM** = cylindrical solid shaft with key; **CMB** = cylindrical solid shaft with two-piece bushings with set screws for easy assembly.

Dimensions and efficiency table



Version	Flexible shaft	Torque	Weight
	Ø A	Nm	g
GR-6	6	3	25
GR-8	8	4.5	50
GR-10	10	7.5	80
GR-12	12	9	110
GR-15	15	12	170
GR-20	20	18.5	270

* Length of the flexible shaft is fixed at 10 mm.

Datasheet

Terminal couplings for TR, ASR, GR made of solid stainless steel (AISI 303), available versions

Q	CL	CF	CM	CMB	Q = cylindrical square shaft		
Legend							
Ø A	Diameter of flexible shaft				Ø A	B	C
Ø B	Diameter of square shaft				6	5	30
C	Total length				8	6.5	35
D	Available length / bore depth				10	8 - 8.5	40
E	Key				12	10	40
Ø F	Diameter hollow-/solid shaft				15	12 - 13	45
Ø G	Outer diameter bushing				20	16.5 - 17.5	45

CL = cylindrical solid shaft					CF = cylindrical hollow shaft					
Ø A	Ø B	C	D		Ø A	Ø B	C	D	E	Ø F
6	10	28	12		6	10	28	10	-	6
8	12	38	16		8	12	38	15	-	8
10	14	44	20		10	14	44	15	-	8
12	16	48	22		12	16	48	16	3	10
15	20	50	25		15	20	50	16	3	10
20	25	57	30		20	25	57	20	5	14

CM = cylindrical solid shaft with key						CMB = cylindrical solid shaft, two-piece bushings						
Ø A	Ø B	C	D	E	Ø F	Ø A	Ø B	C	D	E	Ø F	Ø G
6	10	28	10	-	6	6	10	10	39	-	6	14
8	12	38	14	-	8	8	12	12	53	-	8	22
10	14	44	14	-	8	10	14	14	59	-	8	22
12	16	48	15	3	10	12	16	16	64	3	10	24
15	20	50	15	3	10	15	20	20	66	3	10	24
15	20	50	15	5	14*	15	20	20	76	5	14*	32*
20	25	57	20	5	14	20	25	25	78	5	14	32

* optional

All dimensions in mm

Datasheet

Dimensions and efficiency tables

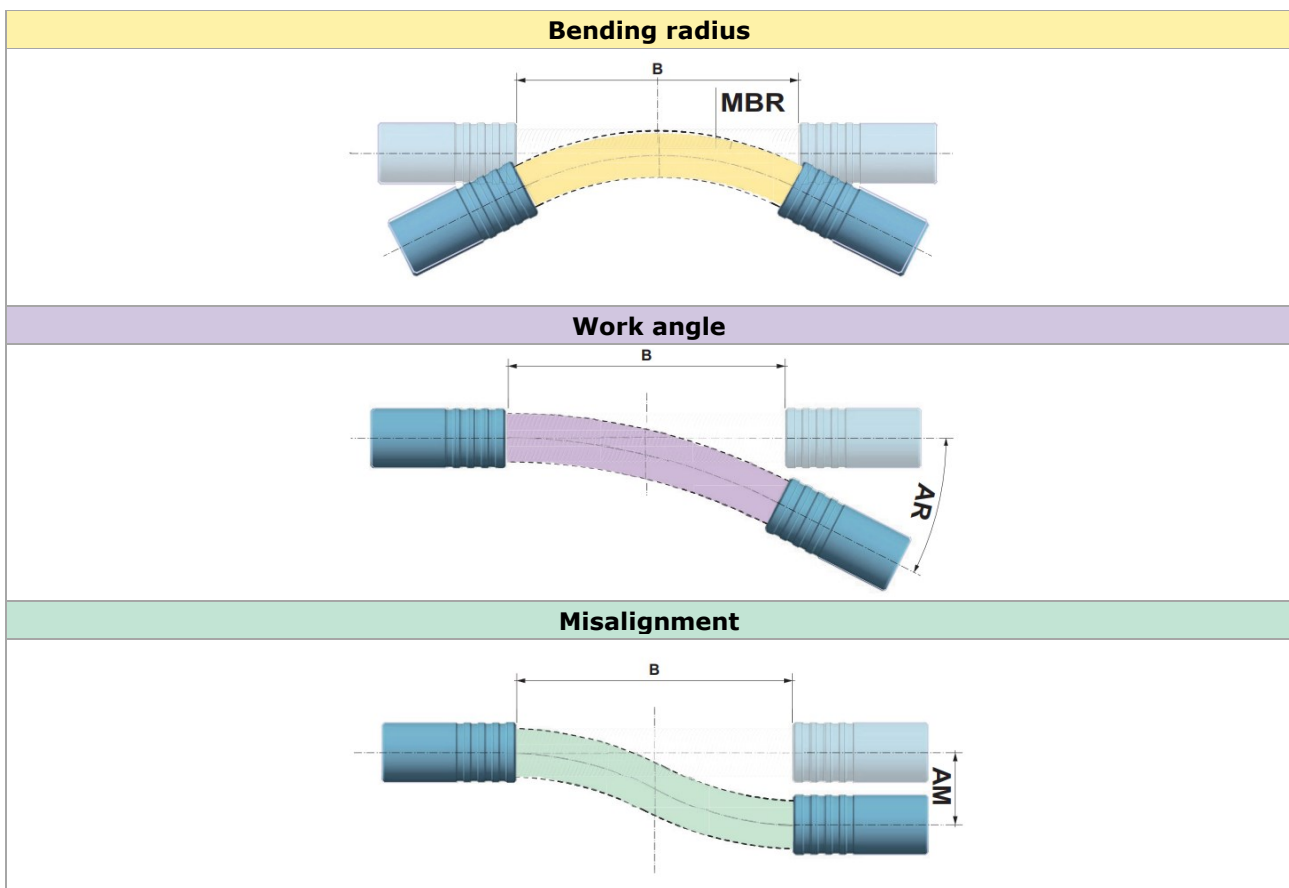
Flexibility and minimum bending radius

Flexibility and minimum bending radius are important factors especially if the shaft is exposed to severe bending during its use.



Make sure that the smallest bending radius applied to the power transmission is greater than the permissible minimum bending radius. If the bending radius falls below the permissible radius during operation, the shaft will be permanently deformed and will lose its strength and service life and may thus break prematurely.

Up to this radius, it is possible to bend the transmission during operation without damage or excessive reduction of service life.



\varnothing	B	MBR	AR	AM
Flexible shaft Diameter (mm)	Flexible shaft Length (mm)*	Min. bending radius (mm)	Work angle ($^{\circ}$)	Misalignment (mm)
6	10	70	4.09	0.36
8	10	90	3.18	0.28
10	10	130	2.20	0.20
12	10	160	1.79	0.16
15	10	300	0.95	0.08
20	10	400	0.72	0.06

* for **GR** type shafts, the length of the flexible shaft is fixed at 10 mm.

* for **ASR** type shafts, there are two flexible shafts, each 10 mm long.



Max. torque / Angle			
\emptyset	B	T	ϕ
Flexible shaft Diameter (mm)	Flexible shaft Length (mm)*	Max. torque Nm	Rotation angle (°)
6	10	3.0	0.79
8	10	4.5	0.67
10	10	7.5	0.74
12	10	9.0	0.50
15	10	12.5	0.30
20	10	18.5	0.17

* for **GR** type shafts, the length of the flexible shaft is fixed at 10 mm.

* for **ASR** type shafts, there are two flexible shafts, each 10 mm long.

Max. torque / Angle with opposite direction			
\emptyset	B	T	ϕ
Flexible shaft Diameter (mm)	Flexible shaft Length (mm)*	Max. torque Nm	Rotation angle (°)
6	10	1.6	0.79
8	10	2.5	0.67
10	10	4.2	0.74
12	10	5.8	0.50
15	10	8.75	0.30
20	10	12.95	0.17

* for **GR** type shafts, the length of the flexible shaft is fixed at 10 mm.

* for **ASR** type shafts, there are two flexible shafts, each 10 mm long.



Direction of rotation and winding

Flexible shafts differ both in their construction and in their direction of winding

A left-wound shaft (related to its outermost layer) can transmit a higher torque in clockwise direction than in counter-clockwise direction. A right-wound shaft can transmit a higher torque in counter-clockwise direction than in clockwise direction.


Outermost layer **left-wound**, for **operation in clockwise** (right-hand) **direction**.

Outermost layer **right-wound**, for **operation in counter-clockwise** (left-hand) **direction**.

Datasheet

Ordering example semi-rigid shaft coupling

Type GR	GR	-	12	-	500	-	DX	-	CL-CM
Diameter									
6	= Ø6 mm								
8	= Ø8 mm								
10	= Ø10 mm								
12	= Ø12 mm								
14	= Ø14 mm								
20	= Ø20 mm								
Total length (mm)									
In xxx mm (on request)									
Rotation									
DX	= for operation in clockwise (right-hand) direction								
SX	= for operation in counter-clockwise (left-hand) direction								
Terminal couplings (indication per shaft end)									
CL	= cylindrical shaft								
CF	= cylindrical hollow shaft								
CM	= cylindrical solid shaft with key								
CMB	= cylindrical solid shaft with two-piece bushings								
Q	= cylindrical square shaft								

 Other versions that cannot be generated from the order code are available on request as special versions.

Manufacturer: **FIAMA**
since 1913

The manufacturer reserves the right to make changes to the products that it deems necessary for their improvement without prior notice.