ComInTec®

FLOHR INDUSTRIETECHNIK GMBH

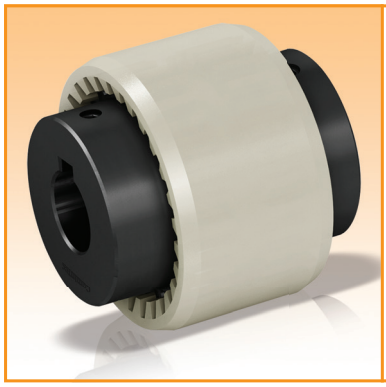
GEAR COUPLING

up to 5,000 Nm and 125 mm bore diameters

- Download catalog
- Download instruction sheets

GD

GD - gear coupling: introduction



- Hubs made in steel fully turned with standard treatment of phosphating.
- Polyamide sleeve.
- Statically balanced.
- Maintenance and lubrication free.
- Compact and simple to be assembled.
- Vibrations dampening.

ON REQUEST

- Various hub connection type available.
- Version with sleeve in steel, circlip and seals.
- Version with sleeve directly integrated in one hub.
- Specific surface treatments possible.

The GD coupling is composed of two hubs in steel UNI EN ISO 683-1:2018 fully turned, externally toothed with rounded profile and assembled only with a sleeve in polyamide stabilized resin, toothed internally.
Due to the tooth profile with which the hubs and the sleeve are connected, you can obtain a high contact surface also in presence of misalignments, in order to reduce the contact pressures and promote a longer life.
The connection polyamide/steel assures silent and reliable functioning, in absence of maintenance and lubrication.
This kind of coupling represents a reliable and economic kind of connection, for medium and big power industrial purposes.

DESCRIPTION OF THE SLEEVE

The standard sleeve is made in polyamide 6.6 stabilized resin and its properties are as follows:

- Resistant to all common lubricants and hydraulic fluids
- Suitable to operate in a continuous way on temperatures from -25°C up to 90°C and for short periods up to 125°C
- Optimum sliding properties
- High insulating capacities
- Optimum mechanical properties

DIMENSIONING

For pre-selection of the coupling's size you can use the generic formula indicated on page 6.
Having established the coupling's size to be used, it is possible to make other checks considering further parameters:

$$C_{nom} > C_{mot} \bullet f_T \bullet f_R$$

Considerando la coppia di spunto:

$$C_{nom} = C_{SM} \bullet \frac{J_{uti}}{J_{mot} + J_{uti}} \bullet K \bullet f_T \bullet f_A + C_{mot} \bullet f_T \bullet f_R$$

$$C_{nom} = C_{SU} \bullet \frac{J_{uti}}{J_{mot} + J_{uti}} \bullet K \bullet f_T \bullet f_A + C_{mot} \bullet f_T \bullet f_R$$

Where:

C_{nom} = nominal torque of the coupling *[Nm]*
C_{mot} = nominal torque motor side *[Nm]*
C_{max} = maximum torque of the coupling *[Nm]*
C_{SU} = starting torque motor side *[Nm]*
C_{SM} = starting torque motor side [Nm]
f_A = starting frequency factor
f_R = thermic factor
f_T = inertia motor side
J_{mot} = inertia motor side [Kgm²]
J_{uti} = inertia user side [Kgm²]
K = shock factor

thermic factor (f_T)
1 = -40 ÷ +60 °C
1,2 = +70 °C
1,4 = +80 °C
1,6 = +90 °C

Shock factor (K)
1 = light shock
1,5 = medium shock
1,8 = hard shock

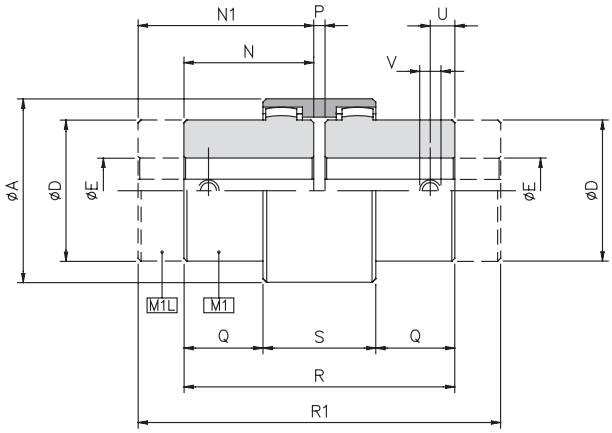
Starting frequency factor (f_A)
1 = 0 ÷ 120 starting each hour
1,2 = 240 starting each hour
1,4 = 400 starting each hour
1,6 = 800 starting each hour
1,8 = 1600 starting each hour

It is important to consider that misalignments, axial, angular and parallel, must be considered paired together, as inversely proportional (one reduces when the other increases). If all types of misalignments occur then it is necessary that the sum in percentage respect to the maximum value doesn't exceed 100%.

FITTING

Specific procedures to assemble this coupling are not required.

1) Achieve radial and axial alignment as precisely as possible to have the maximum absorption of possible misalignments and longer life of the coupling.
2) Having pre-assembled the coupling, insert the external half-hub on one shaft. Check that the external parts of the two shafts don't exceed the relevant half-hub's surface (quote “N”) and fix this one to the shaft with its relevant fixing system.
3) Insert the sleeve on the two half-hubs being careful to respect the distance of the same half-hubs, quote “P” on the catalogue.
4) Before starting transmission be sure that the sleeve can move freely.



DIMENSIONS

Size	A	D	E H7 pilot	E H7 max	N	N1	P	Q	R	R1	S	U	V
1 (14)	40	24	-	14	23	40	4	6,5	50	84	37	6	M5
2 (19)	48	30	-	19	25	40	4	8,5	54	84	37	6	M5
3 (24)	52	36	-	24	26	50	4	7,5	56	104	41	6	M5
4 (28)	66	44	-	28	40	55	4	19	84	114	46	10	M8
5 (32)	76	50	-	32	40	55	4	18	84	114	48	10	M8
6 (38)	83	58	-	38	40	60	4	18	84	124	48	10	M8
7 (42)	92	65	-	42	42	▲ 60	4	19	88	▲ 124	50	10	M8
8 (48)	95	67	-	48	50	▲ 60	4	27	104	▲ 124	50	10	M8
9 (55)	114	82	-	55	52	▲ 65	4	25	108	▲ 134	58	20	M10
10 (65)	132	96	-	65	55	▲ 70	4	23	114	▲ 144	68	15	M10
▲ **11 (80)**	175	124	25	80	90	-	6	46,5	186	-	93	20	M10
▲ **12 (100)**	210	152	35	100	110	-	8	63	228	-	102	20	M10
▲ **13 (125)**	270	192	45	125	140	-	10	78	290	-	134	20	M10

TECHNICAL CHARACTERISTICS

Size	Torque *[Nm]* nom	Torque *[Nm]* max	Weight *[Kg]* M1	Weight *[Kg]* M1L	Weight *[Kg]* Sleeve	Inertia *[Kgm²]* M1	Inertia *[Kgm²]* M1L	Inertia *[Kgm²]* Sleeve	Max speed *[Rpm]*	Operating temperature *[°C]*	Misalignments Angular α *[°]*	Misalignments Axial *X [mm]*	Misalignments Radial *K [mm]*
1 (14)	11,5	23	0,10	0,13	0,022	0,000010	0,000013	0,000007	14000	-25 ÷ +80	2°	±1	±0,3
2 (19)	18,5	36,5	0,18	0,28	0,028	0,000018	0,000032	0,000013	11800		2°	±1	±0,4
3 (24)	23	46	0,23	0,42	0,037	0,000036	0,000076	0,000020	10600		2°	±1	±0,4
4 (28)	51,5	103	0,54	0,73	0,086	0,000122	0,000187	0,000068	8500		2°	±1	±0,5
5 (32)	69	138	0,66	0,90	0,104	0,000207	0,000328	0,000116	7500		2°	±1	±0,5
6 (38)	88	176	0,93	1,42	0,131	0,000394	0,000787	0,000171	6700		2°	±1	±0,4
7 (42)	110	220	1,10	1,46	0,187	0,000510	0,001223	0,000286	6000		2°	±1	±0,4
8 (48)	154	308	1,50	1,83	0,198	0,000744	0,001445	0,000327	5600		2°	±1	±0,4
9 (55)	285	570	2,30	3,26	0,357	0,001962	0,003378	0,000741	4800		2°	±1	±0,6
10 (65)	420	840	3,17	3,95	0,595	0,004068	0,007586	0,001519	4000		2°	±1	±0,6
▲ **11 (80)**	700	1400	8,40	-	1,130	0,015292	-	0,006471	3150		2°	±1	±0,7
▲ **12 (100)**	1200	2400	15,37	-	1,780	0,040213	-	0,015696	3000		2°	±1	±0,8
▲ **13 (125)**	2500	5000	31,19	-	3,880	0,137141	-	0,054469	2120		2°	±1	±1,1

▲ On request

NOTES

- The weights refer to the coupling with minimum bore.
- Inertias refer to the coupling with maximum bore.
- **For choice and availability of different hub connection type see pages 4 and 5.**

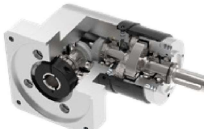
FLOHR - PRODUCTS OVERVIEW

Gears

- *Spiral toothed bevel gears*
- *Bevel gears*
- *Worm gears*
- *Spur gears*
- *Special gears*

Gear Technology

- *Bevel gearboxes*
- *Angle-planetary gearboxes*
- *Worm gearboxes*
- *Cam drives and indexing units*
- *Cam components*
- *Special gearboxes*



Couplings

- *Rigid and flexible couplings*
- *Frictional connections*
- *Drum-coupling*
- *Gear-couplings*
- *Safety couplings*

Friction connections

- *Shrink discs*
- *Shaft couplings*
- *Flange couplings*
- *Locking units*

Clamping technology

- *Manual and pneumatic clamping solutions*
- *Power clamps*
- *Pivot units*
- *End effector solutions*
- *Linear units*
- *Grippers*

Belt drives

- *V-belt and flat belt pulleys*
- *Flywheels*
- *Special pulleys*
- *Motor clamping systems*
- *Drive belts*
- *Customer designed castings*
- *Accessories*

Sensor systems

- *Incremental encoders*
- *Magnetic encoders*
- *Absolute encoders*
- *Electronic overspeed switches*
- *Electronic position switches*
- *Universal encoder systems*
- *Systems*

Contract manufacturing

- *Turning, milling, grinding*
- *Grooving and broaching*
- *Balancing*
- *Calculation and design*
- *Assembly*
- *Service and repair*

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