FU IBERICA
TRANSMISIÓN DE POTENCIA

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MÁS DE 70 AÑOS

ACOPLAMIENTOS DE ENGRANAJES FV

Gear couplings

Technical catalogue

FV-KUPPLUNG

Transmisiones FU Ibérica, S.L. C/ África 17 · Polígono Industrial Can Mora · 08459 - Sant Antoni de Vilamajor · Barcelona · SPAIN

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OVERVIEW

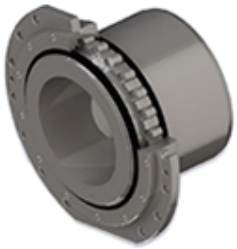
P. 4

GEAR COUPLING | FV-F

The gear couplings FV-Kupplung are especially suited for heavy duty operation. The gear coupling FV-Kupplung are torsionally rigid and can transmit the torque in both sense of direction. Hub and sleeve are made of quenced and tempered steel. Bolts connection are 12.9 class and sealing is made by O-Ring rubber NBR. Special material as AISI1045, AISI4140 or AISI630 are possible. Seal made by Viton or silicone upon request.

P. 12

DRUM COUPLING | FV-FX & FV-X



The Drum-Coupling FV-Kupplung is a especially suitable for installation in drum drives of cranes and conveying systems.They are designed to avoid the presence of bending moments and to compensate misalignments and axial displacement.

P. 18

ELASTIC PINS COUPLING | FV-PL

The elastic pin and bush couplings FV-Kupplung are design to trasmit very high torque and compensate shaft misalignment.
Elastic coupling FV-Kupplung are suitable for rough operationg condition, Hubs are made of G25 UNI5007 (upon request GS400/12 or GS500/7 UNI4544).
Pins are made by carbon steel C50 UNI5332. Elastic element are manufactured in syntetic rubber (NBR).

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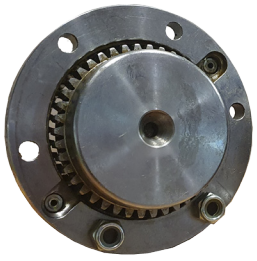
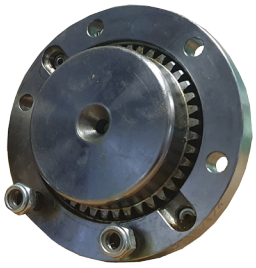
CHOICE OF THE COUPLING

SIZING

The nominal torque values (TkN) for couplings are evaluated for a continous functioning, 24 hous a day, with constant load without any rebound, max 20 start-ups every hour. The indicated torques are rated to functioning between the temperatures allowable for the specific type. The sizing has to be done starting from the absorbed torque value, keeping the load factors, which characterise the operating machine.





TkN > T2 x SM x SB

TKN = nominal torque of the coupling
T2= absorbed torque (engine torque)

SM = load factor of the drive machine
SB = safety factor for the driven machine

SM (Load factor)

CLASSIFICATION	*SM FACTOR*
Electric engine	1
Turbine	1
Hydraulic engine	1,2
4-6 cylinder piston engine	1,2
2-3 cylinder piston engine	1,5
1 cylinder piston engine	1,8

SB (Safety factor)

LOAD PARAMETERS	*SB FACTOR*
U = Uniform	U = 1
L = Light	L = 1,5
M = Medium	M = 2
H = Heavy	H = 3

Load parameters (example)

U = Axial pumps- light liquids; Auxiliary drives; Bevel gearboxes
L = Bottlers; Agitators; Mixers (general)
M = Kneaders; Planing mills; Pipelines pumps; Pumps - Viscous liquid
H = Steel Industry (general); Alternative compressors; Drilling machines

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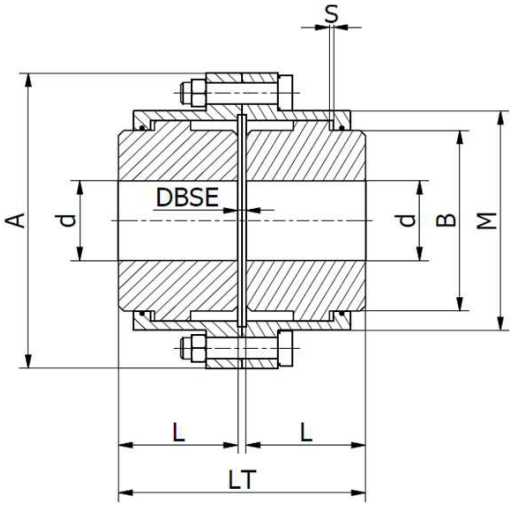
FV-F



- **Gear coupling with two geared hubs**
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

FV	F	203	-	100	90	5	S
Model							
	Design						
		Size					
			-				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L mm	LT mm	M mm	DBSE mm	Weight kg
FV - F											
96	1,9	4,2	6000	52	111	68	43	89	82,5	3	4,2
122	2,9	6,8	4550	62	142	86	50	103	104,6	3	7,6
148	5,7	14	4000	78	168	105	62	127	130,5	3	13,5
178	9	21,5	3900	98	200	132	76	157	158,4	5	25,0
203	14,5	35	3700	112	225	151	90	185	183,4	5	37,0
236	22,8	54,7	3550	132	265	179	105	216	211,5	6	60,0
270	34,8	83,5	3000	156	300	209	120	246	245,5	6	90,0
300	45,8	110	2750	174	330	234	135	278	275	8	124,0
335	70,8	170	2420	190	370	255	150	308	307	8	170,0
368	85,4	205	2270	210	406	280	175	358	335	8	233,0
400	150	360	1950	233	439	306	190	388	367	8	298,0
460	200	480	1730	280	505	356	220	450	423	10	457,0

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour
Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

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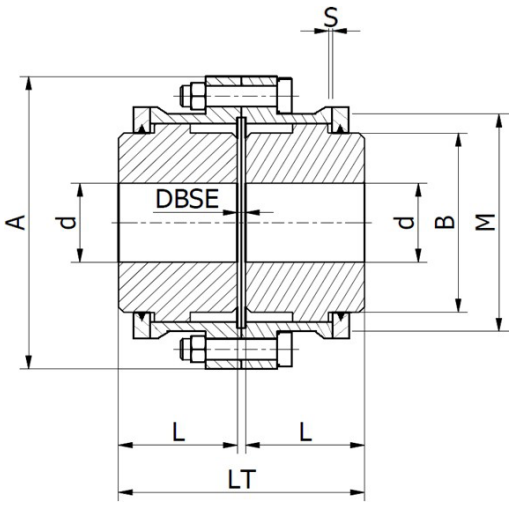
FV-F2



- Gear coupling with two geared hubs
- Design for high torque
- Perfect interchangeable with industrial standard manufacturers
- Design with removable cover flange
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C
- Steel Grade 42CrMo4

PRODUCT CODE KEY - EXAMPLE

FV	F	531	-	200	250	12	S

- FV — Model
- F — Design
- 531 — Size
- \- — -
- 200 — Bore D1
- 250 — Bore D2
- 12 — DBSE dimension
- S — Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L mm	LT mm	M mm	DBSE mm	Weight kg
FV - F2											
531	290	580	1100	325	590	410	260	532	503	12	722,0
581	402	804	990	370	639	460	290	592	553	12	972,0
636	518	1036	890	400	710	500	320	652	597	12	1292,0
696	693	1386	785	430	769	560	350	712	657	12	1695,0
762	882	1764	700	475	834	620	380	772	722	12	2215,0
812	1040	2080	645	510	894	660	400	820	763	20	2695,0
862	1255	2510	600	530	944	690	420	860	813	20	3150,0
937	1633	3266	540	580	1020	760	440	900	888	20	3950,0
997	1906	3812	500	610	1095	800	480	990	938	30	4915,0
1097	2636	5272	440	680	1195	880	530	1090	1038	30	6566,0
1242	3707	7414	380	780	1350	1010	580	1190	1173	30	9420,0
1342	4662	9324	330	860	1450	1110	630	1300	1273	40	12390,0

S= DBSE/2

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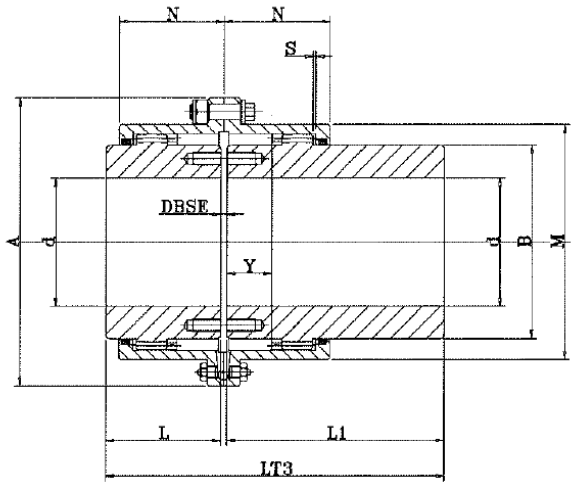
FV-F-L



- **Gear couplings with one long hub**
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

FV	F	203	L	100	90	5	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TK kNm	TMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L1 mm	LT3 mm	M mm	N mm	Y mm	DBSE mm	Weight kg
FV - F - L													
96	1.9	4.2	6000	52	111	68	105	151	82.5	39	12	3	6.1
122	2.9	6.8	4550	62	142	86	115	168	104.6	45.5	16	3	10.3
148	5.7	14.0	4000	78	168	105	130	195	130.5	59	22	3	18.25
178	9.0	21.5	3900	98	200	132	150	231	158.4	68	26	5	33
203	14.5	35.0	3700	112	225	151	170	265	183.4	82.5	38	5	48.5
236	22.8	54.7	3550	132	265	179	185	296	211.5	93	45	6	75.5
270	34.8	83.5	3000	156	300	209	215	296	245.5	106	50	6	115.5
300	45.8	110	2750	174	330	234	245	341	275	118	58	8	161.5
335	70.8	170	2420	190	370	255	295	388	307	138	70	8	227.5
368	85.4	205	2270	210	406	280	300	453	335	154	80	8	292.5
400	150	360	1950	233	439	306	305	483	367	166	86	8	363
460	200	480	1730	280	505	356	310	540	423	193	96	10	526.5

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour
Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

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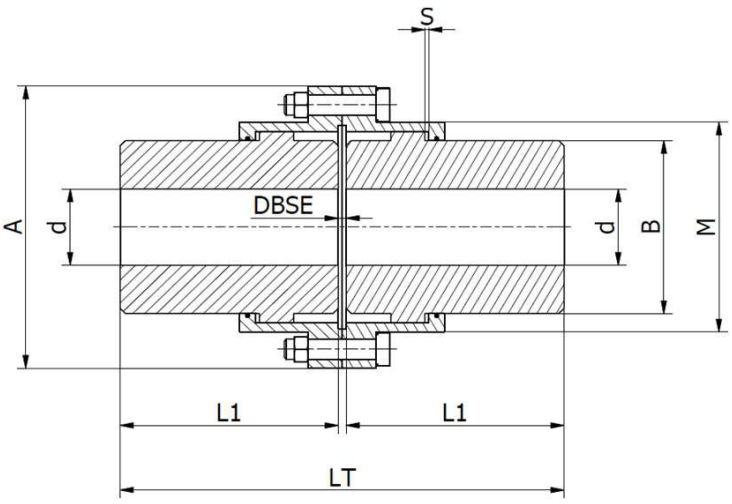
FV-F-LL



- **Gear coupling with two geared hubs**
- Design with long hubs
- Cobined design are possible (Ex. FV-F-L; FV-F-LL-DI; FV-F-LL-T)
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

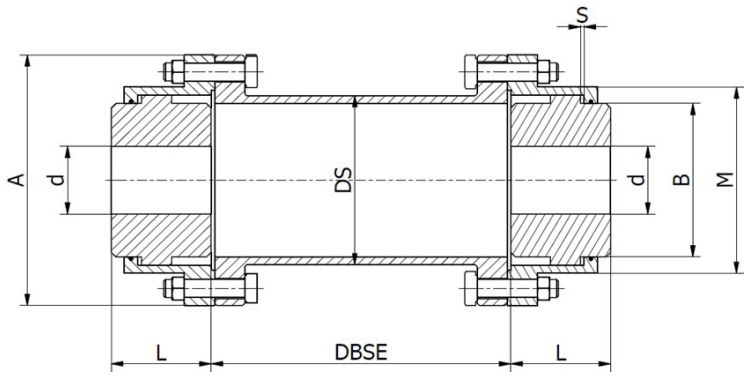
FV	F	203	LL	100	90	5	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L1 mm	LT mm	M mm	DBSE mm	Weight kg
FV - F - LL											
96	1,9	4,2	6000	52	111	68	105	213	82,5	3	8,0
122	2,9	6,8	4550	62	142	86	115	233	104,6	3	13,0
148	5,7	14	4000	78	168	105	130	263	130,5	3	23,0
178	9	21,5	3900	98	200	132	150	305	158,4	5	41,0
203	14,5	35	3700	112	225	151	170	345	183,4	5	60,0
236	22,8	54,7	3550	132	265	179	185	376	211,5	6	91,0
270	34,8	83,5	3000	156	300	209	215	436	245,5	6	141,0
300	45,8	110	2750	174	330	234	245	498	275	8	199,0
335	70,8	170	2420	190	370	255	295	598	307	8	285,0
368	85,4	205	2270	210	406	280	300	608	335	8	352,0
400	150	360	1950	233	439	306	305	618	367	8	428,0
460	200	480	1730	280	505	356	310	630	423	10	596,0

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour
Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

FV-F-T



- Gear coupling with intermidiate spacer
- Spacer made by welded steel tube
- Tube length up to 3m
- Share spacer or special design are possible
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

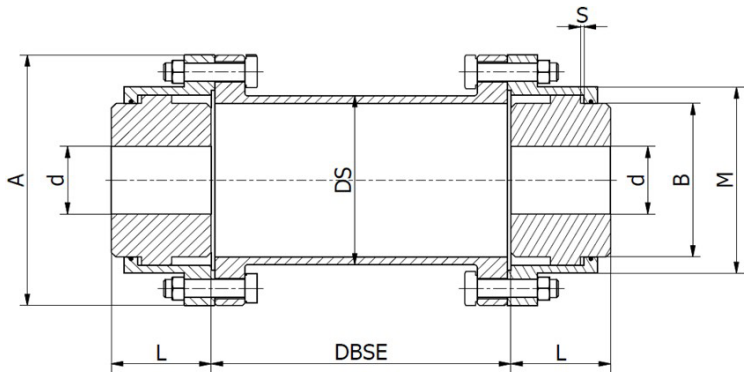
FV	F	203	T	100	90	450	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L1 mm	LT mm	M mm	DBSE mm	Weight kg
FV - F - T											
96	1,9	4,2	3000	52	111	68	43	82,5	82,5	o.r.	1,5
122	2,9	6,8	2500	62	142	86	50	104,6	88,9	o.r.	1,5
148	5,7	14	2000	78	168	105	62	130,5	127	o.r.	1,5
178	9	21,5	1800	98	200	132	76	158,4	139	o.r.	2,5
203	14,5	35	1500	112	225	151	90	183,4	168	o.r.	2,5
236	22,8	54,7	1350	132	265	179	105	211,5	168	o.r.	3
270	34,8	83,5	1200	156	300	209	120	245,5	219	o.r.	3
300	45,8	110	1100	174	330	234	135	275	273	o.r.	4
335	70,8	170	950	190	370	255	150	307	273	o.r.	4
368	85,4	205	900	210	406	280	175	335	324	o.r.	4
400	150	360	800	233	439	306	190	367	355	o.r.	4
460	200	480	700	280	505	356	220	423	406	o.r.	5

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour
Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

FV-F-T2



- Gear coupling with intermidiate spacer
- Spacer made by welded steel tube
- Design for high torque
- Tube length up to 3m
- Share spacer or special design are possible
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C
- Steel Grade 42CrMo4

PRODUCT CODE KEY - EXAMPLE

FV	F	531	T2	100	90	450	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

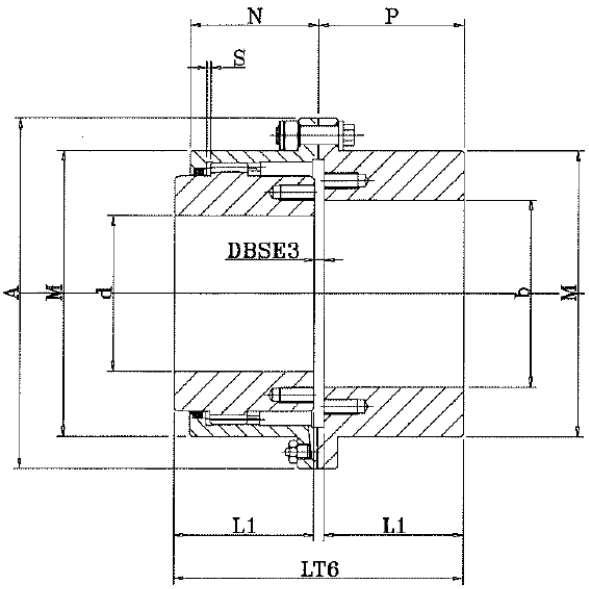
	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L mm	LT mm	M mm	N mm	DBSE mm	Weight kg
FV - F - T2												
531	421	842	2000	325	590	410	260	532	503	221	210	900
581	570	1140	1750	370	639	460	290	592	553	245	220	1150
636	757	1514	1600	400	710	500	320	652	597	262	230	1650
696	995	1990	1400	430	769	560	350	712	657	280	240	2100
762	1251	2502	1250	475	834	620	380	772	722	292	250	2660
812	1505	3010	1200	510	894	660	400	820	763	315	300	3140
862	1820	3640	1100	530	944	690	420	860	813	327	330	3650
937	2360	4720	1000	580	1020	760	440	900	888	346	360	4510
997	2780	5560	950	610	1095	800	480	990	938	385	400	5500
1097	3910	7820	850	680	1195	880	530	1090	1038	414	450	7200
1242	5490	10980	700	780	1350	1010	580	1190	1173	460	500	10450
1342	6890	13780	650	860	1450	1110	630	1300	1273	507	550	13790

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour. Different design and sizes are possible

Please note: couplings are supplied without lubricants. For lubricants see technical appendix

FV-F-R



- **Gear couplings with one rigid hub**
- Perfect interchangeable with industrial standard manufacturers
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

FV	F	203	R	100	90	5	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TK kNm	TMax KNm	Speed Rpm-max	Ød bore Max mm	Øb bore Max mm	A mm	L mm	LT6 mm	M mm	N mm	P mm	DBSE mm	Weight kg
FV - F - R													
96	1.9	4.2	6000	52	60	111	43	89	82.5	39	44.5	3	4.5
122	2.9	6.8	4550	62	75	142	50	103	104.6	45.5	51.5	3	8
148	5.7	14.0	4000	78	90	168	62	127	130.5	59	63.5	3	14
178	9.0	21.5	3900	98	110	200	76	157	158.4	68	78.5	5	26
203	14.5	35.0	3700	112	130	225	90	185	183.4	82.5	92.5	5	39
236	22.8	54.7	3550	132	150	265	105	216	211.5	93	108	6	63
270	34.8	83.5	3000	156	175	300	120	246	245.5	106	123	6	95
300	45.8	110	2750	174	195	330	135	278	275	118	139	8	131
335	70.8	170	2420	190	220	370	150	308	307	138	154	8	180
368	85.4	205	2270	210	240	406	175	358	335	154	179	8	248
400	150	360	1950	233	260	439	190	388	367	166	194	8	318
460	200	480	1730	280	300	505	220	450	423	193	225	10	488

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour
Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

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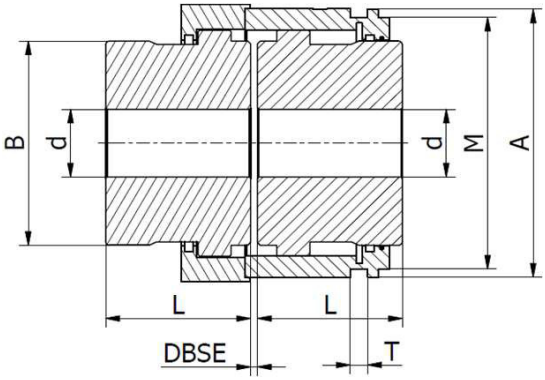
FV-F-DI



- **Disengageable gear coupling**
- Engage only standstill
- Design complete of lever is available
- Angular misalignment +/- 0,4°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

FV	F	203	DI	100	90	5	S
Model							
	Design						
		Size					
			Construction				
				Bore D1			
					Bore D2		
						DBSE dimension	
							Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	Ød bore Max mm	A mm	B mm	L mm	T mm	M mm	DBSE mm	Weight kg
FV - F - DI											
96	1,9	4,2	3000	52	98	68	60	6	90	3	6,1
122	2,9	6,8	2500	62	118	86	70	6	110	3	10,3
148	5,7	14	2000	78	150	105	85	8	138	3	18,2
178	9	21,5	1800	98	173	132	95	8	161	5	33,0
203	14,5	35	1500	112	198	151	105	8	186	5	48,0
236	22,8	54,7	1350	132	228	179	120	12	215	6	75,0
270	34,8	83,5	1200	156	258	209	130	12	248	6	115,0
300	45,8	110	1100	174	288	234	150	12	273	8	161,0
335	70,8	170	950	190	318	255	175	12	300	8	227,0
368	85,4	205	900	210	348	280	190	12	329	8	292,0
400	150	360	800	233	393	306	220	12	374	8	363,0
460	200	480	700	280	448	356	250	16	356	10	526,0

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour. Different design and sizes are possible

Please note: couplings are supplied without lubricants. For lubricants see technical appendix

COUPLINGS SIZE SELECTION | FV-FX & FV-X

Max. torque T_{max} [Nm]

The determined torque T_{max}, to be transmitted on the basis of the installed or used capacity of the coupling must be smaller than the max. permissible torque TN_{max} of the Barrel Coupling in accordance with Table 1.

N = max. motor power [kW]
n = speed of the rope drum [rpm]
fs = necessary service factor for drive groups

$$T_{max} = \frac{N \times 9550}{n} \times fs$$

Drive group according to		
DIN15020	FEM 1.001	fs
1Bm / 1Am	M3 / M4	1,25
2 m	M 5	1,40
3 m	M 6	1,60
4 m	M 7	1,80
5 m	M 8	2,00

Max. radial load F max [N]

The radial load is the portion of the load that must be covered by the barrel coupling due to the payload and the weight of the cable hoist.
Since the Barrel Coupling forms one of the drum bearings, it must bear part of the total load. The static load P [N] on the rope drum must be determined first before calculating the radial load F_{max} .

Q = max payload under hook [N]
G = load of tackle and ropes[N]
z = transmission ratio of tackle
Ƞ = efficiency of the rope drum and tackle

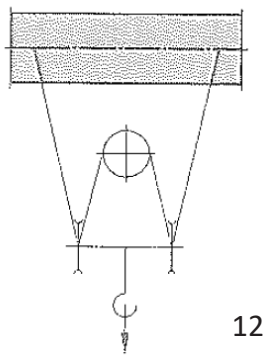
$$P = \frac{(Q + G)}{z \times \eta}$$

Efficiency Ƞ		
z	Slide bearing	Roller bearing
2	0,92	0,97
3	0,90	0,96
4	0,88	0,95
5	0,86	0,94
6	0,84	0,93
7	0,83	0,92
8	0,81	0,91

Calculation of the radiai load F max with multiple rope lines to the drum

P = static load on the rope drum [N]
W = dead weight of the rope drum [N]

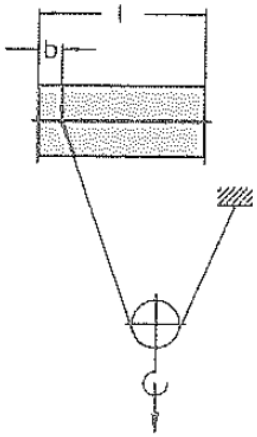
$$F_{max} = \frac{P}{2} + \frac{W}{2}$$



Calculation of the radiai load F max with a single rope line to the drum

P = static load on the rope drum [N]
W = dead weight of the rope drum [N]
b = smallest distance from the rope to the middle of the barrel roller [mm]
I = distance between the bearings [mm]

The determined radiai load Fmax must be smaller than the max permissible radiai load Frmax of the Barrel Coupling in accordance with Table 1.



$$F_{max} = P \times (1 - \frac{b}{I}) + \frac{W}{2}$$

Option for corrected radial load Fr agg [N]

If the max torque TN_{max}, is smaller than the max. permissible torque TN_{max} of the preselected barrel coupling, the max permissible radial load Fr_{max}, can be corrected or increased. The unused torque can be converted for the purporse of increasing the max permissible radial load Fr_{max} as follows:

T_{max} = max torque. [Nm]
TN_{max} = max permissibile torque [Nm] according to Table 1
fs = necessary service factor for drive groups according to DIN15020 or FEM. 1.001
Fr_{max} = max permissibile radial force [N] according to Table 1

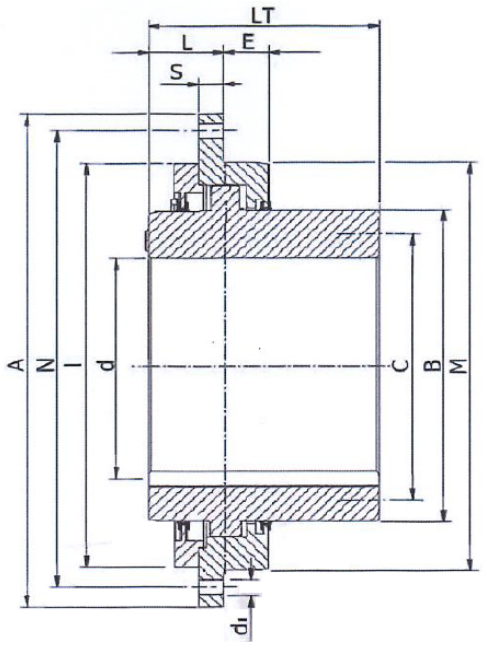
The reverse procedure to increase the max, permissible torque if the radial load is not fully exploited, is not allowed.

$$Fr_{agg} = \frac{(TN_{max} - T_{max})}{fs} + Fr_{max}$$

Check the geometric dimensions of the hub-shaft connection

It must also be checked whether or not the diameter of the gear shaft is smaller than tile max. permissible bore diameter in the barrel coupling according to Table 1.
In addition, the transmitted torque related to the hub/shaft connection must be checked for alJ types of connection.

FV-FX



- Gear drum coupling
- Design with hardened teeth for high torque
- Perfect interchangeable with industrial standard manufacturers

PRODUCT CODE KEY - EXAMPLE

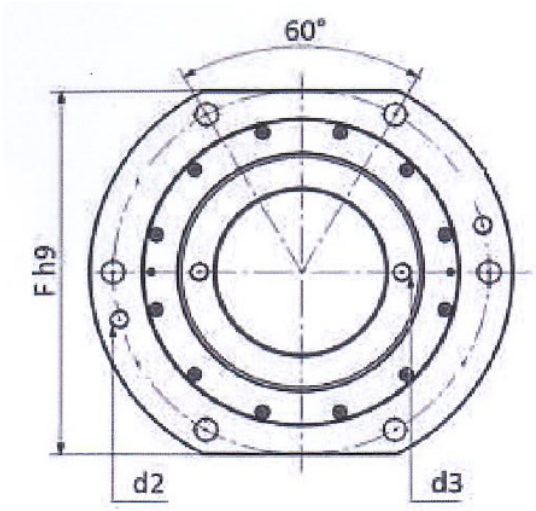
FV	FX	380	100	S
Model				
Design				
Size				
Bore				
Special design according text specification				

	Torque kNm	Radial Load kN	dmax mm	A mm	LT mm	N mm	di mm	I mm	M mm	B mm	C mm	L mm	E mm	S mm
FV - FX														
280	22,2	36	100	320	110	280	19	200	200	149	o.r.	45	47	15
300	27,5	40	110	340	125	300	19	220	220	165	o.r.	45	54	15
320	34,1	45	120	360	130	320	19	240	240	184	o.r.	45	54	15
340	46,2	55	130	380	145	340	19	260	260	196	o.r.	45	58	15
360	61	67	150	400	170	360	19	280	280	222	o.r.	45	65	15
380	83	83	165	420	175	380	19	310	310	253	o.r.	45	67	15
400	97	11	175	450	185	400	24	340	340	266	o.r.	60	73	20
460	146	14	210	510	220	460	24	400	400	317	o.r.	60	75	20
500	168	16	220	550	240	500	24	420	420	330	o.r.	60	82	20
530	205	18	245	580	260	530	24	450	450	368	o.r.	60	92	20
600	352	22	290	650	315	600	24	530	530	435	o.r.	65	107	25
630	380	25	305	680	350	630	24	560	560	460	o.r.	65	122	25
670	475	29	330	710	380	670	28	600	600	500	o.r.	81	125	35
730	593	35	375	780	410	730	28	670	670	560	o.r.	81	127	35
800	708	42	410	850	450	800	28	730	730	610	o.r.	81	130	35

TkMax= TkNx1,5

FV-FX

1



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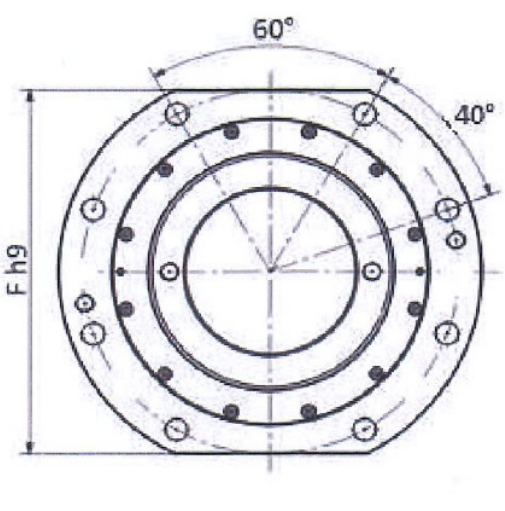

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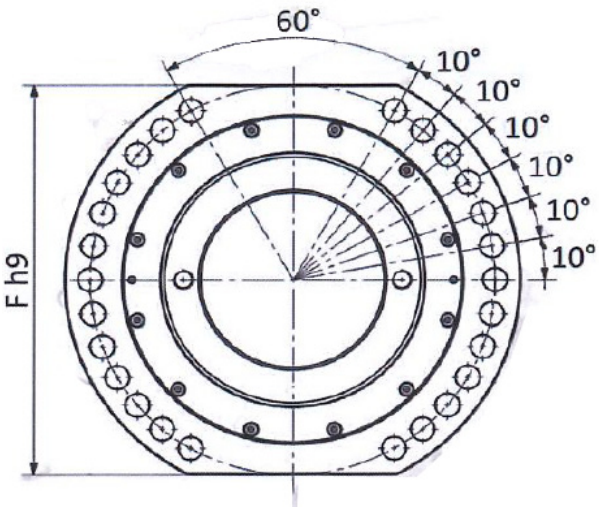

	Torque kNm	Radial Load kN	F h9 mm	d2 M	d3 mm	Fig. -	Grease kg	Weight mm
FV - FX								
280	22,2	36	280	M16	-	1	0,2	20
300	27,5	40	300	M16	-	1	0,2	25
320	34,1	45	320	M16	-	1	0,2	30
340	46,2	55	340	M16	-	1	0,2	38
360	61	67	360	M16	M16	1	0,2	50
380	83	83	380	M16	M16	1	0,3	60
400	97	11	400	M20	M20	1	0,3	82
460	146	14	460	M20	M20	1	0,5	154
500	168	16	500	M20	M20	1	0,6	182
530	205	18	530	M20	M24	2	0,7	222
600	352	22	580	M20	M24	2	1,2	280
630	380	25	600	M20	M30	3	1,5	350
670	475	29	640	M24	M30	3	2	415
730	593	35	700	M24	M30	3	2,5	575
800	708	42	760	M24	M30	3	2,5	720

TkMax= TkNx1,5

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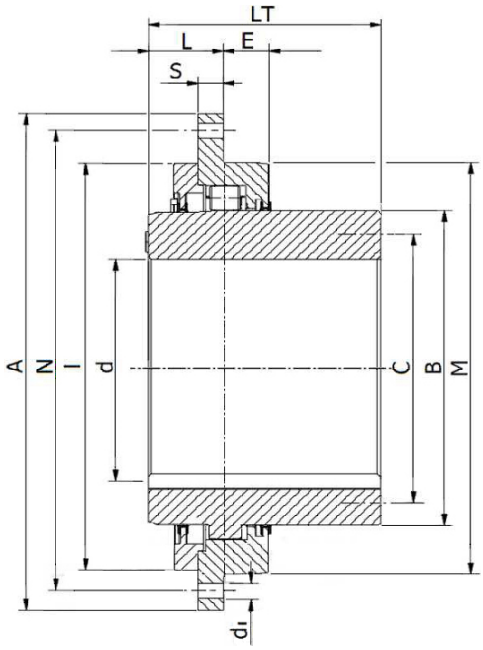
MÁS DE 70 AÑOS

FV-X



- **Barrel coupling**
- Design for high torque
- Perfect interchangeable with industrial standard manufacturers
- Steel Grade 42CrMo4

PRODUCT CODE KEY - EXAMPLE

FV	X	16	100	S
Model				
	Design			
		Size		
			Bore	
				Special design according text specification

	Torque kNm	Radial Load kN	dmax mm	A mm	LT mm	N mm	di mm	I mm	M mm	B mm	C mm	L mm	E mm	S mm
FV - X														
2,5	6,5	17,5	68	250	95	220	15	159	160	95	-	42	31	12
5	8	19,5	80	280	100	250	15	179	180	110	-	42	31	12
7,5	9,4	21	90	320	110	280	19	199	200	125	-	45	32	15
10	14,8	27	100	340	125	300	19	219	220	140	-	45	32	15
13	20,8	37	115	360	130	320	19	239	240	160	-	45	34	15
16	26	41	130	380	145	340	19	259	260	180	-	45	34	15
20	30	45	136	400	170	360	19	279	280	200	168	45	34	15
30	38	53	156	420	175	380	19	309	310	220	188	45	34	15
40	52	75	185	450	185	400	24	339	340	260	215	60	40	20
50	77	115	215	510	220	460	24	399	400	300	255	60	48	20
60	120	130	235	550	240	500	24	419	420	312	270	60	48	20
100	170	145	250	580	260	530	24	449	450	351	290	60	48	20
150	230	175	295	650	315	600	24	529	530	415	350	65	48	25
210	330	265	305	665	330	615	24	544	545	428	365	65	61	25
260	410	310	315	680	350	630	24	559	560	443	375	65	61	25
340	500	350	340	710	380	660	28	599	600	475	395	81	64	35
420	625	400	385	780	410	730	28	669	670	539	445	81	64	35
620	770	470	430	850	450	800	28	729	730	603	500	81	64	35
820	900	525	455	940	500	875	28	796	800	634	580	86	71	40
920	1050	550	500	1025	500	945	34	856	860	694	630	86	71	40

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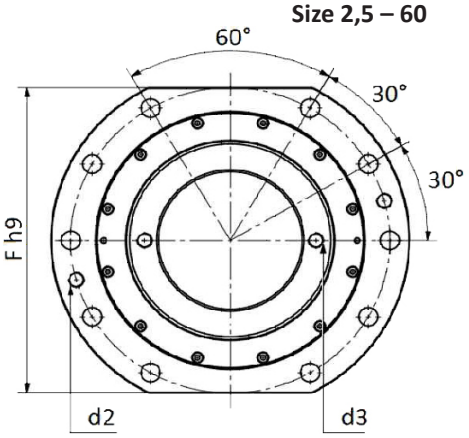
FV-X

Size 2,5 – 60



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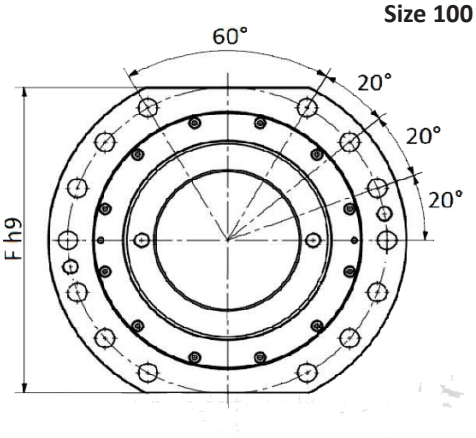

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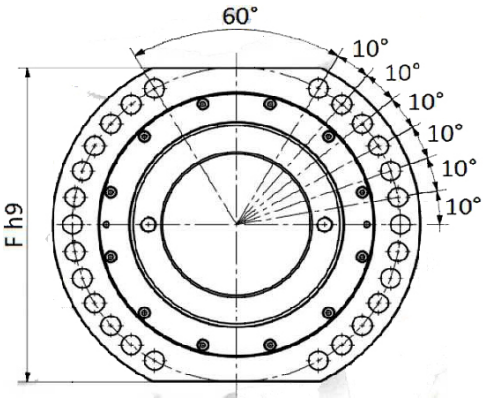

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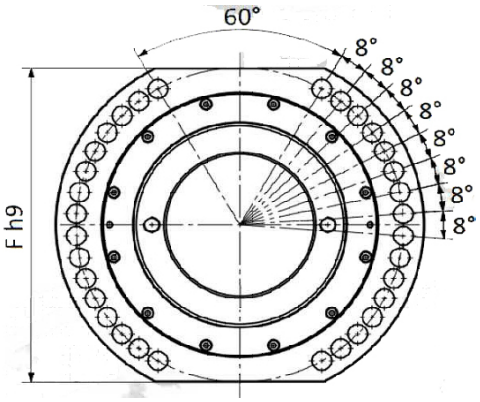

	Torque kNm	Radial Load kN	F h9 mm	d2 M	d3 mm	Δka +/- mm	Weight
FV - X							
2,5	6,5	17,5	220	M12	-	3	11
5	8	19,5	250	M12	-	3	15
7,5	9,4	21	280	M16	-	4	20
10	14,8	27	300	M16	-	4	25
13	20,8	37	320	M16	-	4	30
16	26	41	340	M16	-	4	38
20	30	45	360	M16	M16	4	50
30	38	53	380	M16	M16	4	60
40	52	75	400	M20	M20	4	82
50	77	115	460	M20	M20	6	154
60	120	130	500	M20	M20	6	182
100	170	145	530	M20	M24	6	222
150	230	175	580	M20	M24	6	280
210	330	265	590	M20	M30	6	324
260	410	310	600	M20	M30	6	350
340	500	350	640	M20	M30	8	415
420	625	400	700	M20	M30	8	575
620	770	470	760	M20	M30	8	720
820	900	525	830	M20	M30	10	1120
920	1050	550	900	M20	M30	10	1395

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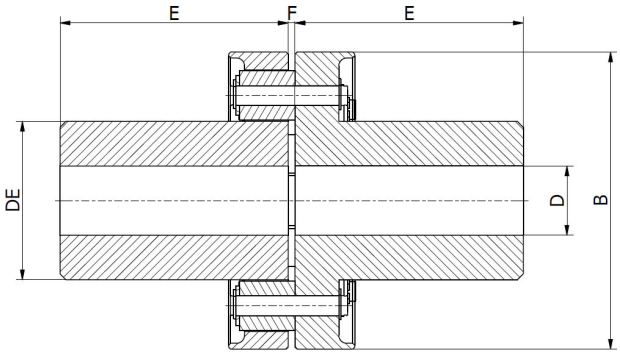
FV-PL



- **Flexible pin and bush coupling**
- Compact design for high torque
- Cast iron GG25
- Elastic element NBR
- Angular misalignment +/- 0,15°
- Temperature range -20°C / + 80°C

PRODUCT CODE KEY - EXAMPLE

FV	PL	15	-	42	38	S
Model						
	Design					
		Size				
			-			
				Bore D1		
					Bore D2	
						Special design according text specification

	TKN kNm	TKMax KNm	Speed Rpm-max	PD2 kgm2	B mm	Dmax mm	DE mm	E mm	F mm	Weight kg	Pins n
FV - PL											
12	370	650	5350	0,03	125	42	70	70	3,5	6	8
15	650	1150	4450	0,08	150	45	80	115	3,5	12	12
17	1300	2300	3800	0,18	175	55	95	115	4	17,5	12
20	1800	3200	3350	0,35	200	65	115	145	4	28,5	14
22	2500	4500	3000	0,65	225	70	120	145	4,5	35	12
25	3500	6300	2700	1,30	250	85	145	175	5	54	14
27	4500	8100	2400	1,95	275	90	155	175	5	63	14
30	6500	11700	2200	2,85	300	95	165	175	6	82	12
35	10000	18000	1900	5,20	350	115	200	215	6	128	14
40	14000	25200	1700	12,50	400	130	225	230	7	185	12
45	18000	32400	1500	22,00	450	150	260	250	7	265	14
50	25000	45000	1350	37,00	500	160	280	270	8	335	14
55	35000	63000	1200	63,00	550	175	300	300	8	446	14
60	45000	81000	1100	90,00	600	200	335	350	8	620	14

S= DBSE/2

TKN is calculated for 24H continous operation and maximum 20 start-up per hour - For sizing see related page TKMax is permitted only five times per hour. Different design and sizes are possible
Please note: couplings are supplied without lubricants. For lubricants see technical appendix

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TECHNICAL APPENDIX

FV-F (X)

FV-PL

SCREWS TIGHTENING TORQUE

Screw dimension *Class 12.9*	Tigh Trq Nm	Screw dimension *Special design*	Tigh Trq Nm
M8	18	**M10**	38
M10	36	**M12**	64
M12	65	**M16**	100
M16	150	**M18**	200
M18	220	**M20**	268
M22	400	**M24**	320
M24	520	**M27**	570
		M30	720
		M36	1040
		M42	1400

MAINTENACE AND LUBRICANTS

Pump trough grease nipple at: Start-up After 4 monts Every 10,000 h operation	**Check the angular play at:** Start-up After 4 monts Every 10,000 h operation
Please use: Grease lithium complex NLGI 2 T= -30°C+160°C Penetration at 25°C = 0,1mm Anti-rust Dropping point 260°C Viscosity at 40°C=340mm2/s	**Please change rubbers if:** Angular play is > 5° Rubbers are broken Rubbers are cracked