FST

esco

Index

On the Industrial World Market, there are many different kinds of couplings for rotating equipment available.
These couplings can be divided into two major categories: the **lubricated** and the **non lubricated** types. Gear type couplings, which are of course of the lubricated type, are still dominating the Industrial market.

The reasons why gear type couplings still have a leading market position are directly related to the specific requirement of the various rotating machines in the medium to heavy industries such as the steel, pulp & paper and the cement industry.

Following these requirements, a coupling must:

PRESENT: the lowest torque/weight ratio.
the highest torque/max. bore ratio.

ALLOW: the combination of important angular, radial and axial misalignment, at the same time.

BE ABLE: to rotate at high rotating speeds, without vibrations.
to accept the largest possible assembly options to suit the design of the driver and the driven machine.

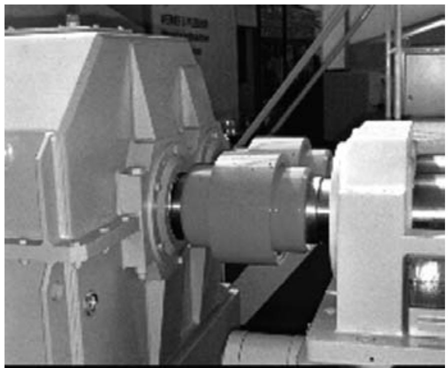
In this case, a gear type coupling is the ideal solution.

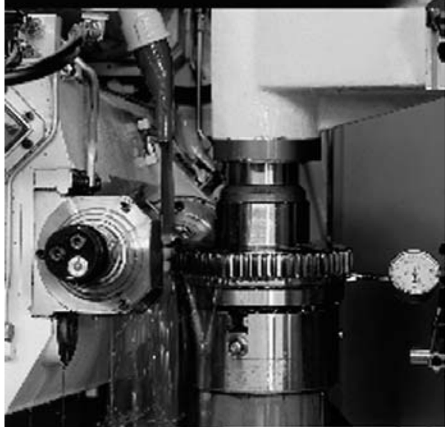
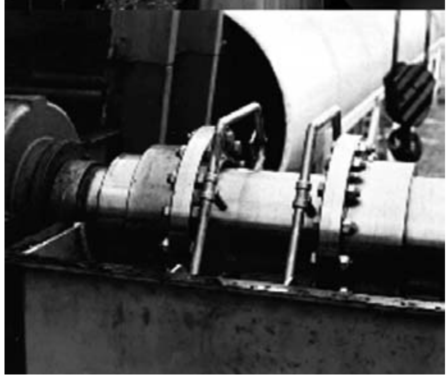
Series NST
Torque: up to 2000 Nm
Bore: up to 65 mm

Series CST / ...M
Torque: up to 174000 Nm
Bore: up to 290 mm

Series FST
Torque: up to 5040000 Nm
Bore: up to 1130 mm

Why Escogear ?



High Torque and Misalignment capacity
Thanks to the patented escogear **Multicrown** profile (used on the C and F series), the optimised coupling design and the standard use of 12.9 quality bolts, the Escogear couplings offer the user a **very high torque capacity.**
This means that for a given torque a smaller coupling can be used which results in more efficient machine design and performance. Furthermore, this high torque is available at **important angular misalignment.**

Transparent coupling selection
The torque capacity of a gear type coupling strongly depends on the angular misalignment to which it is subjected: the higher the misalignment, the lower the torque capacity. It is clear that this relationship can and will cause problems in coupling selection because misalignment during operation is almost impossible to predict. Escogear couplings of the F and C...M type are equipped with Esco **Multicrown tooth form.** Thanks to this quite unique design, the escogear has a torque capacity that is practically independent of the angular misalignment. Therefore, coupling selection is **easy** and mistakes are avoided : long coupling life is guaranteed.

High precision Gearing
Pitch error in the gearing of coupling can strongly affect, the load distribution between the teeth can be strongly influenced. In some cases, the maximum load applied on the teeth can be twice the value of the load calculated. The consequence will be higher surface and root stresses and coupling failure might be the result. Thanks to the high precision manufacturing process and equipment on which all escogear couplings are manufactured, and the sophisticated quality control, pitch error is minimized and the best possible gear quality level and life time can be guaranteed.

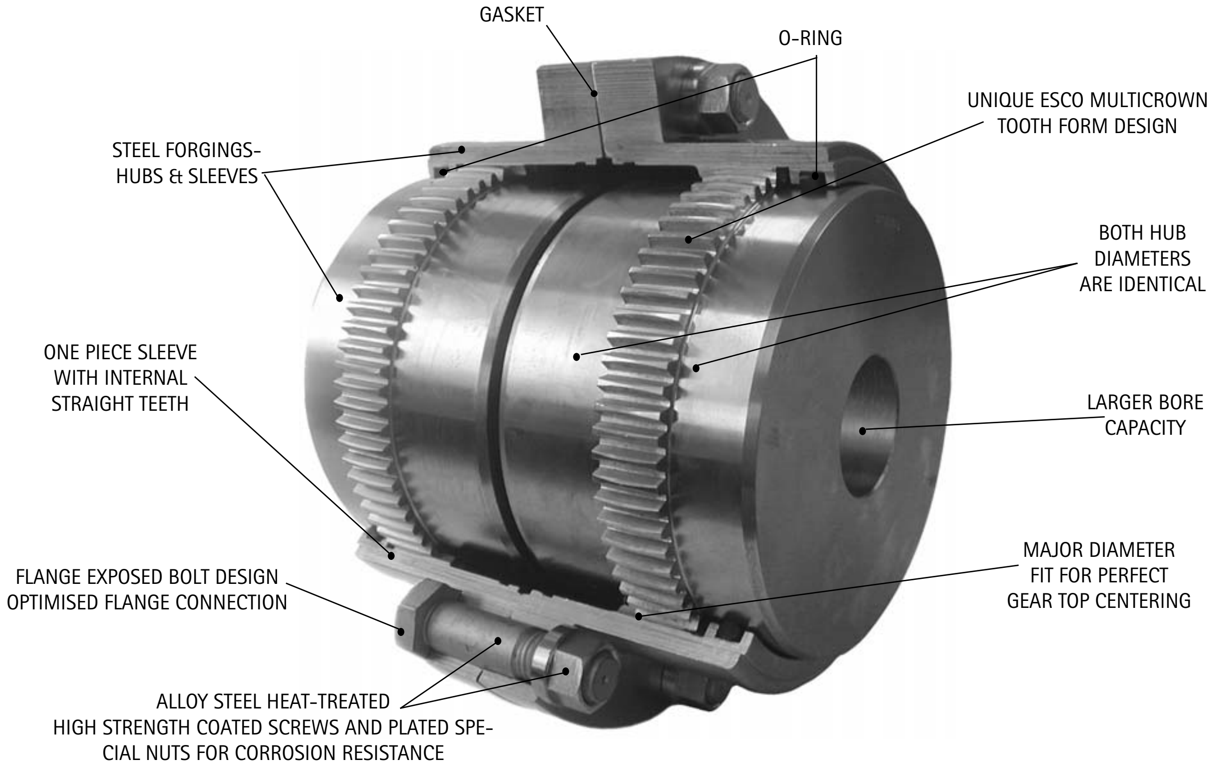
Reduced backlash
One of the consequences of the **Multicrown** design is that the necessary backlash between the teeth can be reduced to an absolute minimum. This will reduce the impact loads in start/stop and reversing torque applications. As a result, the teeth can be designed with a larger section and the root stresses will be reduced. Thanks to this feature the escogear couplings are ideal for use in presses, mills, punching machines, portal cranes etc...

Perfect gear top centring
Gear type couplings require, in order to operate, a "clearance" between the top of each hub tooth and the root of the sleeve teeth. Due to this clearance, the sleeve cannot be perfectly centred on the hubs. This will create vibrations in applications where the load constantly changes from no load to full load (e.g. portal cranes). These vibrations will of course influence the operation of the connected equipment. Thanks to special design and machining techniques, Esco is able to pilot the top of each hub tooth into the root of the sleeve teeth. By doing so, the sleeve will remain perfectly centred on the hub and vibrations will be avoided. This specific feature is standard on all F and C...M couplings.

Excellent protection of components
In order to guarantee optimum operation, all escogear couplings are protected with special surface treatment or coating. All bolts are coated with Dacromet and the nuts are zinc plated which gives an excellent corrosion resistance and makes disassembly possible, even after numerous years of service life. Furthermore, all the steel components are protected with a special coating to improve their corrosion resistance.

SERIES F

WITH **ESCO MULTICROWN** TOOTH FORM FOR LONG LIFE
Maximum torque: up to 5 040 000 Nm – Bore: up to 1 130 mm

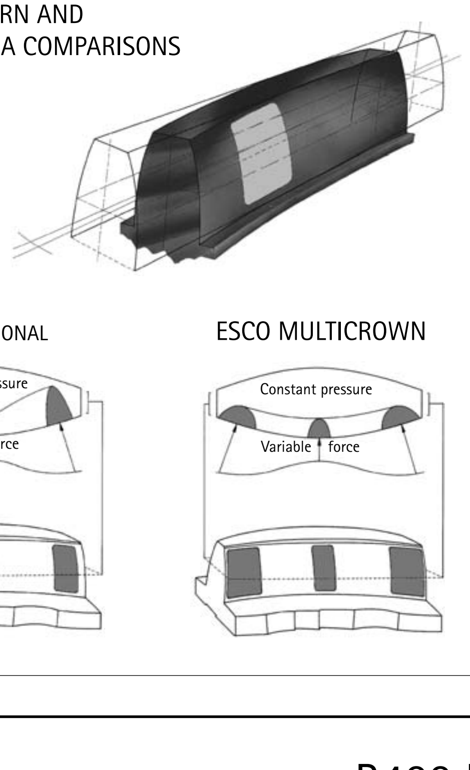


- LOWER STRESSES
  The **ESCO MULTICROWN** tooth form is a curve with constantly changing radii of curvature. The tooth contact area under misaligned conditions has a much larger radius of curvature than conventional crowning. The contact area therefore is larger thus reducing the surface stresses.

- CONSTANT VELOCITY POWER TRANSMISSION
  ESCO generates the **ESCO MULTICROWN**, tooth in such a way that the necessary characteristics for homocinetic conjugate tooth action are perfectly achieved.

- LESS BACKLASH
  The **ESCO MULTICROWN** tooth design requires less backlash for a given angle of misalignment than the conventional crowning, thus reducing shocks in reversing application.

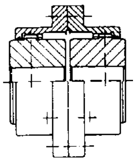
STRESS PATTERN AND CONTACT AREA COMPARISONS



AVAILABILITIES

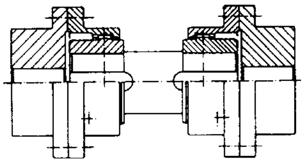
FST ← B410 & B411

STANDARD



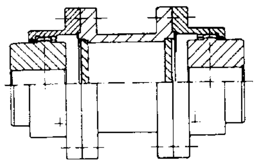
FFS ← B412

FLOATING SHAFT



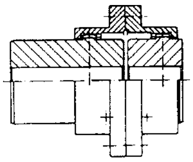
FSE ← B413

SPACER EXECUTION



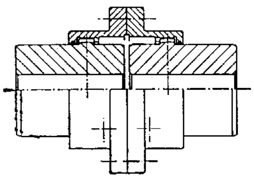
FMM ← B414

MILL-MOTOR



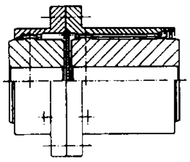
FDMM ← B415

DOUBLE MILL-MOTOR



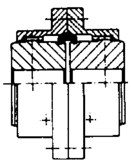
FSH ←B416

SLIDING HUB



FLE ← B417

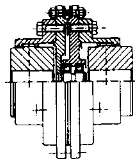
LIMITED EN FLOAT



Bolts and nuts (metric)	**Bolts and nuts** (conform to AGMA 516.01)
Exposed metric "EM"	Exposed inch "EI"

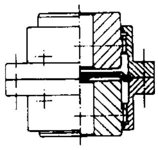
FSP ← B418

SHEAR PIN



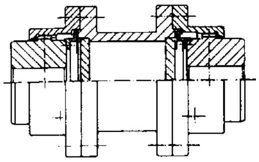
FSV ← B419

STANDARD VERTICAL



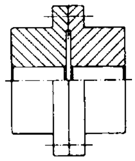
FSLE ← B420

LIMITED END FLOAT



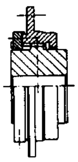
FRR ← B421

RIGID - RIGID



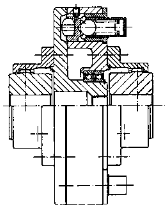
FWD ← B422

WINCH DRUM



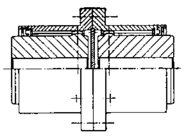
FET ← B423

WITH ESCOTORQUE

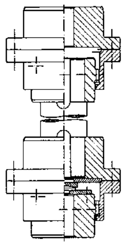


OTHER TYPES AVAILABLE (on request)

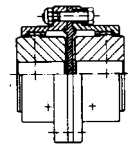
FDSH
DOUBLE SLIDING-HUB



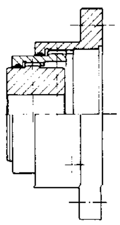
FFSV
VERTICAL
FLOATING-SHAFT



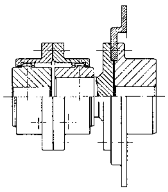
FIN
INSULATED



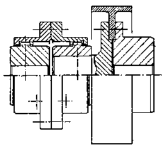
FFA
TO BE ADAPTED
ON FLYWHEEL
OR FLANGE



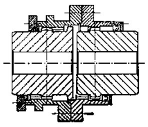
FBD
WITH
BRAKE DISC



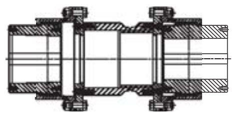
FBP
WITH
BRAKE-PULLEY



FCO
CUT-OUT

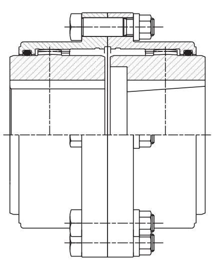


FSESP
SHEAR SPACER

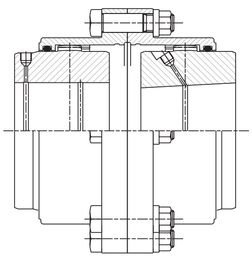


Only a few special types of couplings are illustrated. Additional special types are available on request.

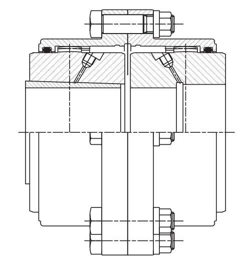
SHAFT CONNECTIONS



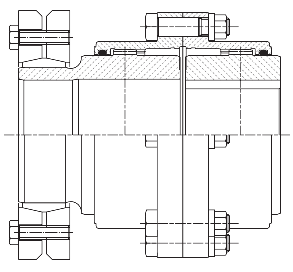
KEYWAY



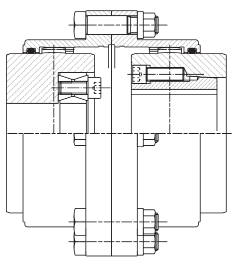
INTERFERENCE FIT



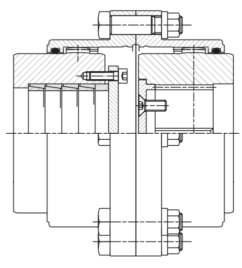
INTERFERENCE WITH
INTERMEDIATE CONICAL BUSHING



EXTERNAL CLAMPING



INTERNAL CLAMPING



SPLINES

HOW TO SELECT THE RIGHT COUPLING SIZE

A. Select the size of ESCOGEAR coupling that will accommodate the largest shaft diameter.

B. Make sure this coupling has the required torque capacity according to following formula: torque in Nm $= \dfrac{9550 \times P \times F_u}{n}$

P = power in kW — **n** = speed in rpm — F_u = service factor according to tabulation 1.

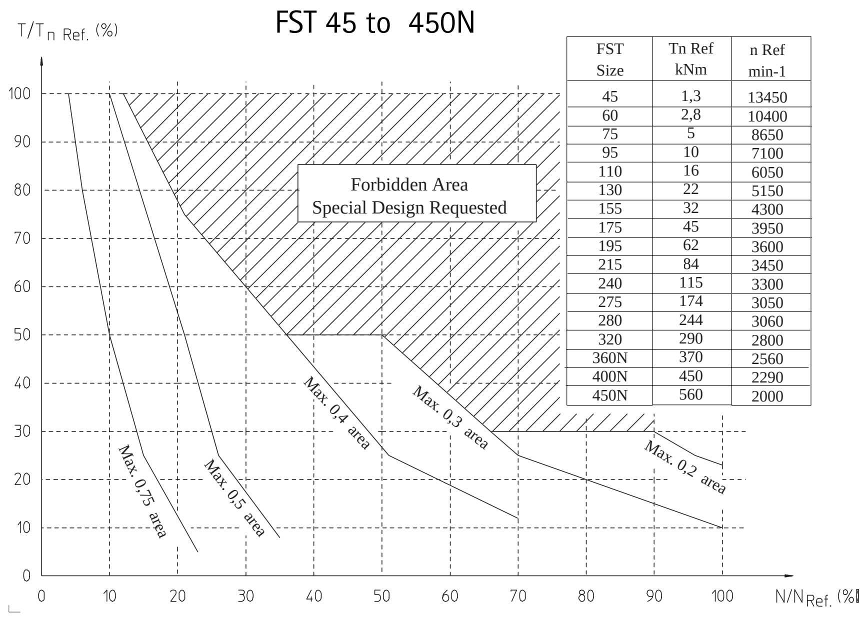
The coupling selected **(A)** must have an equal or greater torque capacity than the result of the formula **(B)**. Otherwise select a larger size coupling.
Check if peak torque does not exceed tabulated peak torque Tp indicated in the selection chart.
Check also max. allowable misalignment using the graph of tabulation 2.

C. Check if shaft/hub connection will transmit the torque. If necessary, select a longer hub.

TABULATION 1

		APPLICATIONS	DRIVER MACHINE		
			Electric motors Turbines	Hydraulic motors Gears drivers	Reciprocating engine Electric motors frequent starts
			Service factor F_u		
DRIVEN MACHINE	UNIFORM	Generators - Blowers: centrifugal vane, fans - Centrifugal pumps and compressors - Machine tools: auxiliary drives - Conveyors: belt and chain, uniformly loaded, escalators - Can filling machines and bottling machinery - Agitators: pure liquids.	0,8 to 1,25	1 to 1,5	1,25 to 1,75
		Propeller - Waterjet pumps	1,25	1,5	1,75
	MODERATE SHOCKS	Blowers: lobe - Pumps: gear and lobe types - Vane compressors - Machine tools: main drives - Conveyors: belt and chain not uniformly fed bucket and screw - Elevators, cranes, tackles and winches - Wire winding machines, reels, winders (paper industry) - Agitators liquids and solids, liquids variable density.	1,25 to 1,5	1,5 to 1,75	1,75 to 2
	HEAVY SHOCKS	Generators (welding) - Reciprocating pumps and compressors - Laundry washers - Bending roll, punch press, tapping machines - Barkers, calanders, paper presses - Briquetter machines, cement furnace - Crushers: ore and stone, hammer mill, rubber mill - Metal mills: forming machines, table conveyors - Draw Bench, wire drawing and flattening machines - Road & railroad equipment.	1,5 to 2	1,75 to 2,25	2 to 2,5

TABULATION 2



FST Size	Tn Ref kNm	n Ref min-1
45	1,3	13450
60	2,8	10400
75	5	8650
95	10	7100
110	16	6050
130	22	5150
155	32	4300
175	45	3950
195	62	3600
215	84	3450
240	115	3300
275	174	3050
280	244	3060
320	290	2800
360N	370	2560
400N	450	2290
450N	560	2000

HOW TO USE THE GRAPH ?
Maximum torque, maximum speed and maximum misalignment may not occur simultaneously.
Graph must be used as follow:

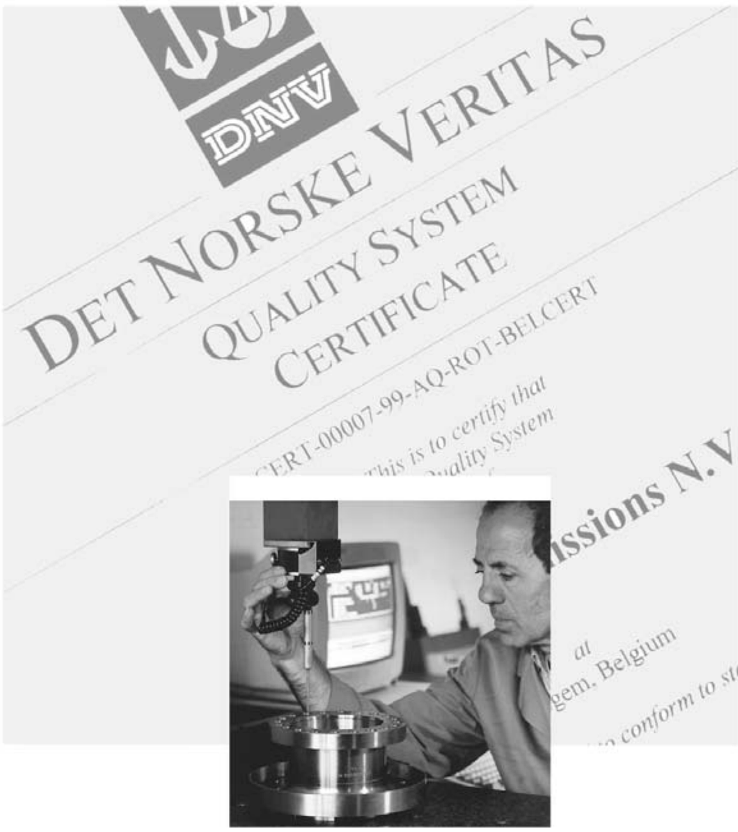
1. Calculate Tn and Tp and select coupling size as usual. Tn = nominal torque — **Tp** = peak torque
2. Calculate Tn/Tnref and N/Nref and plot the resulting point in the graph.
3. If the resulting point is located in the white area, a standard coupling may be used as far as maximum misalignment doesn't exceed the maximum misalignment indicated in the graph.
4. If the resulting point is located in the shaded area, refer to ESCO

LEGEND OF USED PICTOGRAMS	
d Ø nominal max.	MAXIMUM NOMINAL BORE (mm)
d Ø min.	MINIMUM BORE (mm)
d Ø max.	MAXIMUM BORE (mm)
Tn / Tp (1m, Nm)	MAXIMUM TORQUE (Nm)
min.max.	MAXIMUM SPEED (rpm)
	MAXIMUM OFFSET (mm)
α	MAXIMUM ANGULAR MISALIGNMENT (degree)
J (WR^2)	INERTIA (kgm^2)
	WEIGHT (kg)
Grease	GREASE QUANTITY (dm^3)

Notes for series F

1 For key according to ISO R 773.
2 Gear maximum continuous transmissible torque for the tabulated mis-alignment. The effective transmissible torque depends on the bore and shaft/hub connection.
3 Higher speed on special request.
3.1 For grease withstanding centrifugal acceleration of 1.000g. See installation and maintenance manual IM.
3.2 For grease withstanding centrifugal acceleration of 2.000g. See installation and maintenance manual IM.
3.3 Depends on S.
3.4 For long operation in disconnected position contact us.
4 For solid bore.
4.1 Depends on S.
4.2 For solid bore and S minimum.
4.3 Per 100 mm spacer length.
4.4 Depends on L and R.
5 For pilot bored hubs.
5.1 Depends on S.
5.2 For pilot bored hubs and S minimum.
5.3 Per 100 mm spacer length.
5.4 Depends on L and R.
6 See installation and maintenance manual IM.
6.1 Depends on S. Values given for S maximum.
7 On request. For larger S contact us.
8 Values for S minimum. S maximum depends on torque and speed.
9 G must remain constant during operation.
10 Needed to control the alignment and inspect the gears.

** Max. torque, speed and misalignment tabulated values may not be cumulated See IM/A400.*



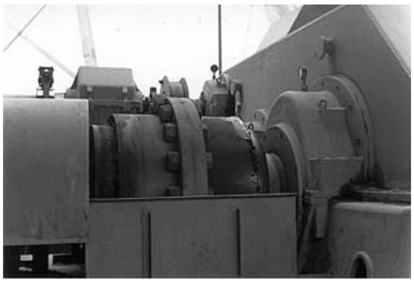
Equivalence chart based on torque ratings

Torque Capacity (Nm): 175000, 150000, 125000, 100000, 80000, 60000, 40000, 30000, 20000, 15000, 10000, 7500, 5000, 3500, 2500, 2000, 1500, 1250, 1000, 750, 500

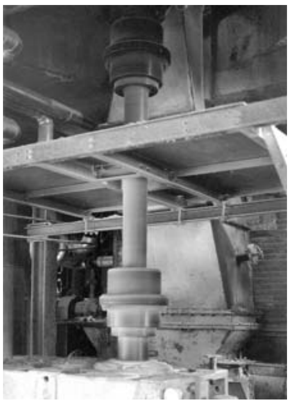
Escogear FST (2 x 0,75°)	Flender Zapex (2 x 0,5°)	Maina GO-A (2 x 0,5°)	Jaure MT Series (2 x 0,5°)	Falk Lifelign (2 x 0,5°)	Kopflex Series H
FST 275		GO-A 11			
FST 240	ZIN 7	GO-A 10	MT 260	1070G	7H
FST 215	ZIN 6	GO-A9	MT 230	1060G	6H
FST 195	ZIN 5,5	GO-A 8	MT 205	1055G	5,5H
FST 175	ZIN 5	GO-A 7	MT 185	1050G	5H
FST 155	ZIN 4,5	GO-A 6	MT 165	1045G	4,5H
FST 130	ZIN 4	GO-A 5	MT 145	1040G	4H
FST 110	ZIN 3,5	GO-A 4	MT 125	1035G	3,5H
FST 95	ZIN 3	GO-A 3	MT 100	1030G	3H
FST 75	ZIN 2,5	GO-A 2	MT 90	1025G	2,5H
FST 60	ZIN 2	GO-A 1	MT 70	1020G	2H
FST 45	ZIN 1,5	GO-A 0	MT 55	1015G	1,5H
	ZIN 1		MT 42	1010G	1H

Remark: When selecting based upon the above equivalent chart, please check bore capacity of escogear coupling against the application requirements.

ESCO FST	LOVEJOY F	FALK G20, G10	KOP-FLEX H	AMERIDRIVES F	AJAX 6901
45	1	1010	1	101	1
60	1 1/2	1015	1 1/2	101 1/2	1,5
75	2	1020	2	102	2
95	2 1/2	1025	2 1/2	102 1/2	2,5
110	3	1030	3	103	3
130	3 1/2	1035	3 1/2	103 1/2	3,5
155	4	1040	4	104	4
175	4 1/2	1045	4 1/2	104 1/2	4,5
195	5	1050	5	105	5
215	5 1/2	1055	5 1/2	105 1/2	5,5
240	6	1060	6	106	6
275	7	1070	7	107	7

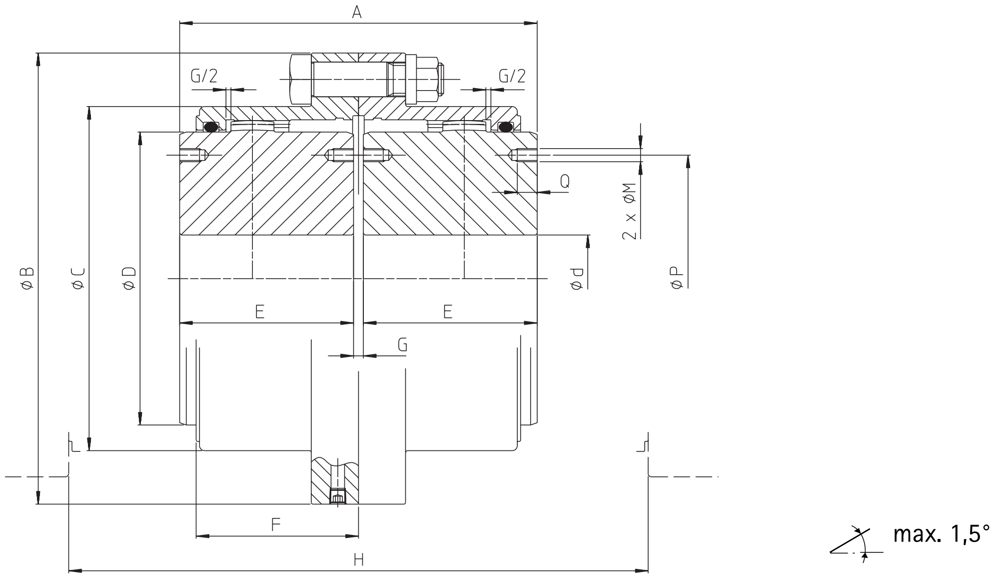


Cement kiln mill drive



Vertical mixer drive

esco



←A150

							Type FST							
			45	60	75	95	110	130	155	175	195	215	240	275
d Ø nominal max.		1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.		1	mm	0	0	0	0	0	55	65	80	90	100	120	150
* d Ø max.		1	mm	50	64	78	98	112	132	158	175	198	217	244	275
Nm 1m	Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
Nm 1m	Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000
min.max.		3.1	tr/min omw/min rpm min^{-1}	5000	4400	4000	3600	3350	3100	2800	2700	2550	2450	2300	2150
min.max.		3.2	tr/min omw/min rpm min^{-1}	7000	6200	5650	5100	4700	4350	4000	3800	3600	3450	3300	3050
α α		–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**
		–	mm: ±	0,35	0,4	0,5	0,6	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7
J (WR^2)		4	kgm^2	0,005	0,015	0,040	0,105	0,191	0,430	0,842	1,320	2,448	3,716	5,384	10,872
		5	kg	4,1	8,0	14,6	26,1	38,8	59,2	89,4	117,5	167,1	222,4	275,0	413,6
Grease		6	dm^3	0,05	0,07	0,13	0,21	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29
mm: ±	A		mm	89	103	127	157	185	216	246	278	308	358	388	450
mm: ±	B		mm	111	141	171	210	234	274	312	337	380	405	444	506
mm: ±	C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426
mm: ±	D		mm	67	87	106	130	151	178	213	235	263	286	316	372
mm: ±	E		mm	43	50	62	76	90	105	120	135	150	175	190	220
mm: ±	F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
mm: ±	G		mm	3	3	3	5	5	6	6	8	8	8	8	10
mm: ±	H	10	mm	147	166	212	249	295	350	392	440	484	562	616	688
mm: ±	M		mm								M 12	M 16	M 16	M 16	M 20
mm: ±	P		mm								205	226	250	276	330
mm: ±	Q		mm								18	24	24	24	30

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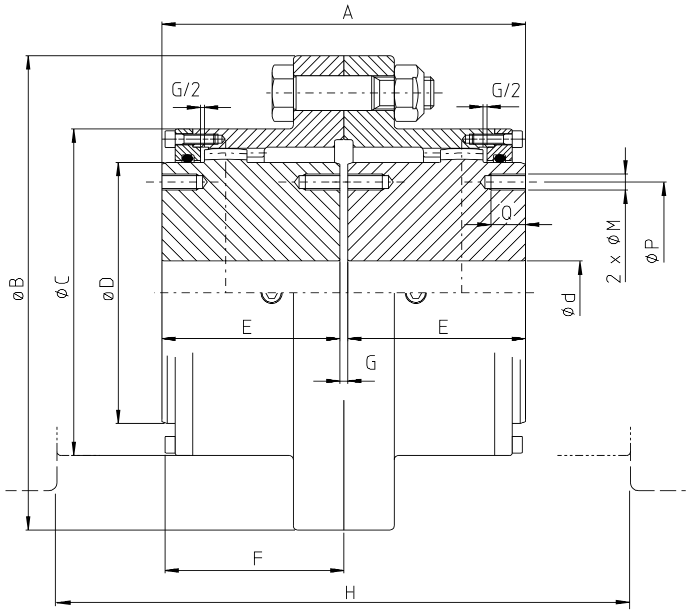

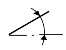

←A150				Type FST															
				280	320	360N	400N	450N	500	530	560	600	660	730	830	900	1000	1060	1130
d Ø nominal max.		1	mm	**280**	**320**	**360**	**400**	**450**	**500**	**530**	**560**	**600**	**660**	**730**	**830**	**900**	**1000**	**1060**	**1130**
d Ø min.		1	mm	180	200	220	260	280	300	330	350	380	420	480	540	580	640	680	740
* d Ø max.		1	mm	310	340	375	420	470	500	530	560	600	660	730	830	900	1000	1060	1130
Nm 1m	Tn	2	Nm	**244000**	**290000**	**370000**	**450000**	**560000**	**630000**	**750000**	**860000**	**1020000**	**1290000**	**2020000**	**2450000**	**3070000**	**3610000**	**4390000**	**5040000**
	Tp	2	Nm	488000	580000	740000	900000	112000	1260000	1500000	1720000	2040000	2580000	4040000	4900000	6140000	7220000	8780000	10080000
min.max.		3	tr/min omw/min rpm min^{-1}	1900	1800	1500	1400	1300	1150	1050	900	800	550	450	380	325	280	240	220
α α		–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**
		–	mm: ±	2	2,1	2,3	2,5	2,7	2,8	3	3,2	3,4	3,6	3,7	4	4,4	4,8	5,2	5,4
J (WR^2)		4	kgm^2	20,1	31	45	68	105	164	228	313	430	685	1161	1756	2580	3690	5090	6730
		5	kg	591	760	932	1180	1532	1950	2330	2840	3370	4370	6110	7810	9730	11860	14220	16380
Grease		6	dm^3	6,44	7,6	11	12	16	18	23	25	29	39	57	77	105	130	160	180
mm: ±	A		mm	570	597	623	673	713	759	809	859	905	945	1105	1205	1285	1365	1405	1425
	B		mm	591	640	684	742	804	908	965	1029	1092	1200	1330	1440	1545	1650	1750	1860
	C		mm	472	518	562	620	682	733	787	841	892	997	1130	1240	1345	1450	1550	1660
	D		mm	394	432	480	530	594	629	673	724	772	870	965	1062	1156	1254	1346	1448
	E		mm	280	292	305	330	350	370	395	420	440	460	540	590	630	670	690	700
	F		mm	225	234	251	269	283	301	318	333	361	375	408	448	483	528	538	548
	G		mm	10	13	13	13	13	19	19	19	25	25	25	25	25	25	25	25
	H	10	mm	632	660	705	745	770	825	870	900	990	1020	1130	1210	1290	1400	1420	1440
	M		mm	M 20	M 20	M 24	M 24	M 24	M 42	M 42	M 42	M 48	M 48	M 48	M 48	M 48	M 48	M 48	M 48
	P		mm	336	377	420	480	544	568	600	642	680	765	860	950	1040	1130	1230	1300
	Q		mm	30	30	40	40	40	76	76	76	82	82	82	82	82	82	82	82

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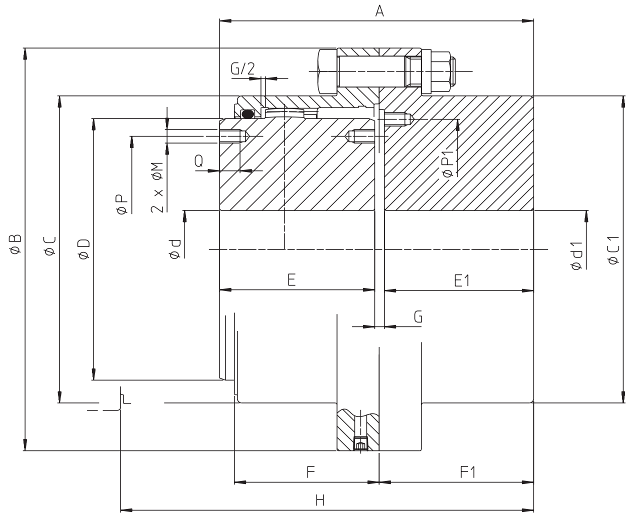
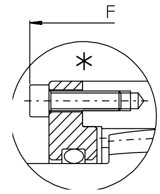
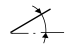
FFS 45 ⇨ 320






max. 0,75°

←A150			Type FFS 45	60	75	95	110	130	155	175	195	215	240	275	* 280	* 320
d Ø nominal max.	1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**	**280**	**320**
d Ø min.	1	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200
* dØ max.	1	mm	50	64	78	98	112	132	158	175	198	217	244	290	310	340
d1 Ø max.	1	mm	**55**	**75**	**95**	**110**	**130**	**155**	**180**	**200**	**230**	**250**	**280**	**330**	**360**	**400**
d1 Ø min.	1	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200
1m Nm Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**	**244000**	**290000**
1m Nm Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000	488000	580000
min.max.	3.3	tr/min omw/min rpm min^{-1}														
α	–	degré graad degree Grad	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**
J (WR^2)	4	kgm^2	0,005	0,016	0,040	0,107	0,197	0,446	0,868	1,362	2,584	3,900	5,650	11,446	22,6	34,5
	5	kg	4,1	8,2	14,6	26,5	39,6	60,3	90,3	119,0	174,3	231,1	285,2	429,3	648	822
Grease	6	dm^3	0,023	0,037	0,065	0,104	0,181	0,261	0,398	0,488	0,756	1,009	1,215	1,643	3,2	3,8
A		mm	88	102	125	156	183	212,5	239,5	272	308	358	390	453	573	598,5
B		mm	111	141	171	210	234	274	312	337	380	405	444	506	591	640
C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426	472	518
C1		mm	80	103,5	126	152	178	208	245	270	305	330	362	416		
D		mm	67	87	106	130	151	178	213	235	263	286	316	372	394	432
E		mm	43	50	62	76	90	105	120	135	150	175	190	220	280	292
E_1		mm	40	47	58	74	87	101	113	129	150	175	190	220	280	292
mm: ± F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5	225	234
F_1		mm	43,5	50,5	61,5	77,5	90,5	104,5	116,5	133	154	179	196	228	288	300
G		mm	5	5	5	6	6	6,5	6,5	8	8	8	10	13	13	14,5
H	10	mm	117	133,5	167,5	202	238	279,5	312,5	353	396	460	504	572	606	637
M		mm								M 12	M 16	M 16	M 16	M 20	M 20	M 20
P		mm								205	226	250	276	330	336	377
P_1		mm								235	265	290	320	370	416	456
Q		mm								18	24	24	24	30	30	30

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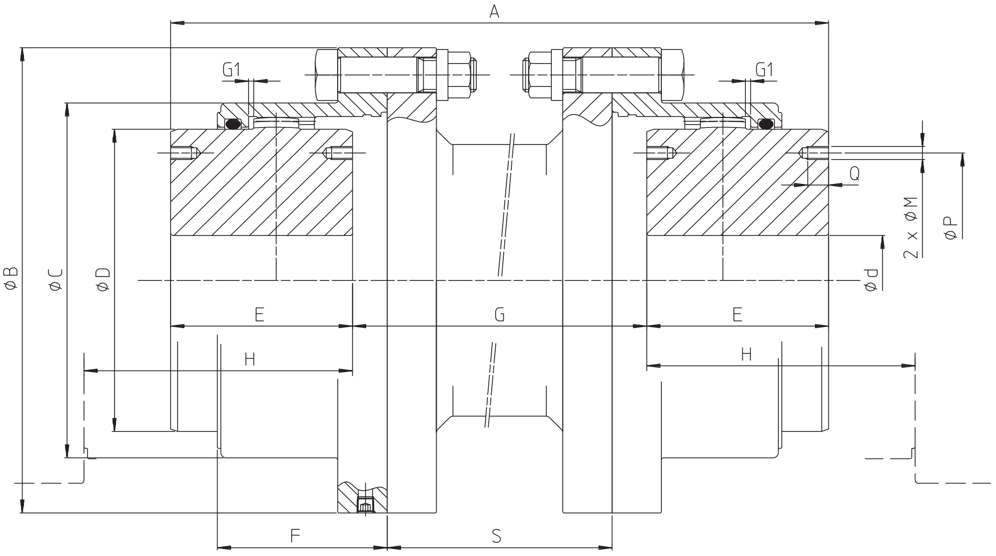

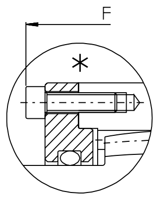

max. 0,75°

←A150				45	60	75	95	110	130	155	175	195	215	240	275	280 *	320 *
				Type FSE													
d Ø nominal max.		1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**	**280**	**320**
d Ø min.		1	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200
* d Ø max.		1	mm	50	64	78	98	112	132	158	175	198	217	244	290	310	340
1m Nm	Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**	**244000**	**290000**
	Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000	488000	580000
min.max.		3.3	tr/min omw/min rpm min^{-1}														
α α		–	degré graad degree Grad	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**
J (WR^2)		4.1	kgm^2														
		5.1	kg														
Grease		6	dm^3	2x0,025	2x0,037	2x0,065	2x0,105	2x0,18	2x0,26	2x0,40	2x0,49	2x0,76	2x1,01	2x1,21	2x1,64	2x3,2	2x3,8
min.	A	8	mm	167	195	245	291	323	380	412	450	516	580	624	676	780	827
	B		mm	111	141	171	210	234	274	312	337	380	405	444	506	591	640
	C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426	472	518
	D		mm	67	87	106	130	151	178	213	235	263	286	316	372	394	432
mm: ±	E		mm	43	50	62	76	90	105	120	135	150	175	190	220	280	292
	F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5	225	234
min.	G	8	mm	81	95	121	139	143	170	172	180	216	230	244	236	226	243
	H	10	mm	63	76	91	110	131	155	175	195	214	246	266	306	305	320
	M		mm								M 12	M 16	M 16	M 16	M 20	M 20	M 20
	P		mm								205	226	250	276	330	336	377
	Q		mm								18	24	24	24	30	30	30
min	S	8	mm	60	80	90	110	110	130	130	130	160	160	160	160	176	190

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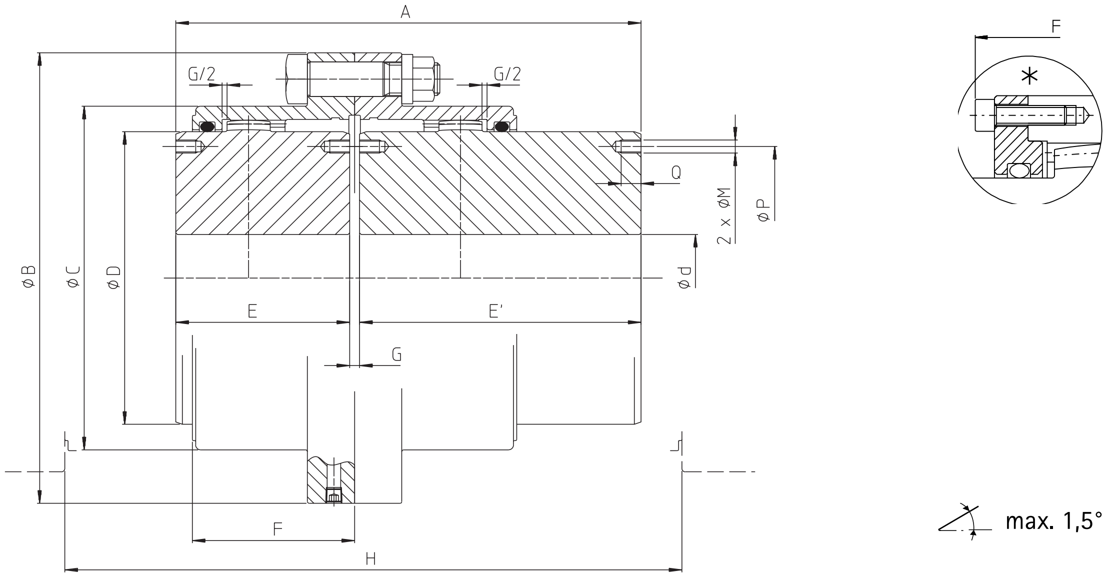

←A150			Type FMM 45	60	75	95	110	130	155	175	195	215	240	275	* 280	* 320
d Ø nominal max.	1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**	**280**	**320**
d Ø min.	1	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200
* d Ø max.	1	mm	50	64	78	98	112	132	158	175	198	217	244	290	310	340
Tn (Nm, 1m)	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**	244000	290000
Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000	488000	580000
min.max.	3.1	tr/min omw/min rpm min^{-1}	5000	4400	4000	3600	3350	3100	2800	2700	2550	2450	2300	2150	1900	1800
	3.2		7000	6200	5650	5100	4700	4350	4000	3800	3600	3450	3300	3050	2950	2800
α α	–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**
	–	mm: ±	0,35	0,4	0,5	0,6	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7	2	2,1
J (WR^2)	4	kgm^2	0,005	0,018	0,047	0,121	0,221	0,480	0,953	1,47	2,71	4,10	6,07	12,79	22,4	35,6
	5	kg	5,1	11,0	19,3	33,4	49,3	70,7	107	137	193	256	322	506	689	920
Grease	6	dm^3	0,05	0,07	0,13	0,21	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29	6,44	7,6
mm: ± A		mm	126	167	195	227	260	281	316	343	378	433	478	580	700	775
B		mm	111	141	171	210	234	274	312	337	380	405	444	506	591	640
C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426	472	518
D		mm	67	87	106	130	151	178	213	235	263	286	316	372	394	432
E		mm	43	50	62	76	90	105	120	135	150	175	190	220	280	292
E'		mm	80	114	130	146	165	170	190	200	220	250	280	350	410	470
F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5	225	234
G		mm	3	3	3	5	5	6	6	8	8	8	8	10	10	13
H	10	mm	157	200	239	276	318	351	392	440	484	562	616	704	765	805
M		mm								M 12	M 16	M 16	M 16	M 20	M 20	M 20
P		mm								205	226	250	276	330	336	377
Q		mm								18	24	24	24	30	30	30

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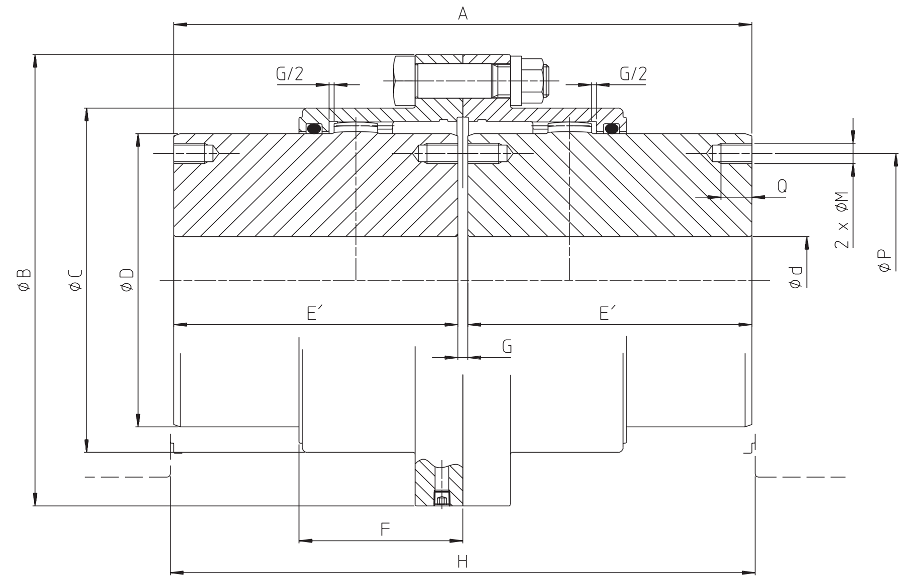

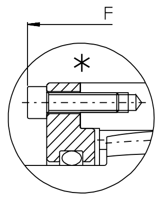

max. 1,5°

←A150				Type FDMM												*	*
				45	60	75	95	110	130	155	175	195	215	240	275	280	320
d Ø nominal max.		1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**	**280**	**320**
d Ø min.		1	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200
* d Ø max.		1	mm	50	64	78	98	112	132	158	175	198	217	244	290	310	340
Nm 1m	Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**	**244000**	**290000**
	Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000	488000	580000
min.max.		3.1	tr/min omw/min rpm min^{-1}	5000	4400	4000	3600	3350	3100	2800	2700	2550	2450	2300	2150	1900	1800
		3.2		7000	6200	5650	5100	4700	4350	4000	3800	3600	3450	3300	3050	2950	2800
α α		–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**
		–	mm: ±	0,35	0,4	0,5	0,6	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7	2	2,1
J (WR^2)		4	kgm^2	0,006	0,021	0,053	0,136	0,251	0,530	1,06	1,62	2,96	4,49	6,76	14,70	24,7	40,2
		5	kg	6,1	14,0	24,0	40,7	59,9	82,1	125	157	220	289	370	599	787	1080
Grease		6	dm^3	0,05	0,07	0,13	0,21	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29	6,44	7,6
mm: ±	A		mm	163	231	263	297	335	346	386	408	448	508	568	710	830	953
	B		mm	111	141	171	210	234	274	312	337	380	405	444	506	591	640
	C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426	472	518
	D		mm	67	87	106	130	151	178	213	235	263	286	316	372	394	432
	E'		mm	80	114	130	146	165	170	190	200	220	250	280	350	410	470
	F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5	225	234
	G		mm	3	3	3	5	5	6	6	8	8	8	8	10	10	13
	H	10	mm	163	231	263	297	335	350	392	440	484	562	616	710	895	935
	M		mm								M 12	M 16	M 16	M 16	M 20	M 20	M 20
	P		mm								205	226	250	276	330	336	377
	Q		mm								18	24	24	24	30	30	30

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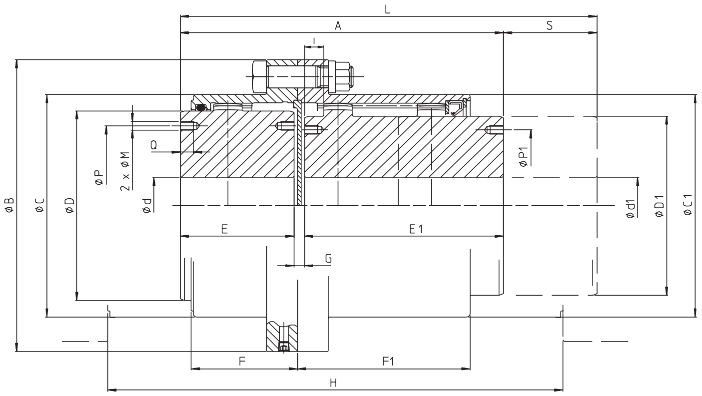

max. 1,5°

←A150				Type FSH 60	75	95	110	130	155	175	195	215
d Ø nominal max.		1	mm	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**
d Ø min.		1	mm	0	0	0	0	55	65	80	90	100
* d Ø max		1	mm	64	78	98	112	132	158	175	198	217
d1 Ø max.		1	mm	**0**	**0**	**0**	**0**	**55**	**65**	**80**	**90**	**100**
d1 Ø min.		1	mm	55	70	85	100	120	140	170	190	210
1m Nm	Tn	2	Nm	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**
1m Nm	Tp	2	Nm	5600	10000	20000	32000	44000	64000	90000	124000	168000
min.max.		3.3	tr/min omw/min rpm min^{-1}									
α α		–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**
J (WR^2)		4.1	kgm^2									
		5.1	kg									
Grease		6.1	dm^3									
max.	A	6.1	mm	193	210	231	250	276	291	319	344	381
	B		mm	141	171	210	234	274	312	337	380	405
	C		mm	103,5	129,5	156	181	209	247	273	307	338
	C1		mm	108	129,5	156	181	209	247	270	305	330
	D		mm	87	106	130	151	178	213	235	263	286
	D1		mm	78	98	115	140	165	195	230	260	280
	E		mm	50	62	76	90	105	120	135	150	175
max.	E1	6.1	mm	135	140	145	150	160	160	170	180	190
	F		mm	47	58,5	68,5	82	98	108,5	121	132	151,5
max.	F1	6.1	mm	138	139	144	157	159	162	168	168	179
min.	G		mm	8	8	10	10	11	11	14	14	16
max.	H	10	mm	247	276	300	330	370	385	425	460	510
	I		mm	10	10	10	10	10	10	15	15	15
max.	L	6.1	mm	278	290	311	340	361	371	394	414	451
	M		mm							M12	M 12	M 16
	P		mm							205	226	250
	P1		mm							200	225	245
	Q		mm							18	18	24
max.	S	7	mm	85	80	80	90	85	80	75	70	70

* Consult us

Dimensions in mm without engagement — Printed in Belgium 05/2001

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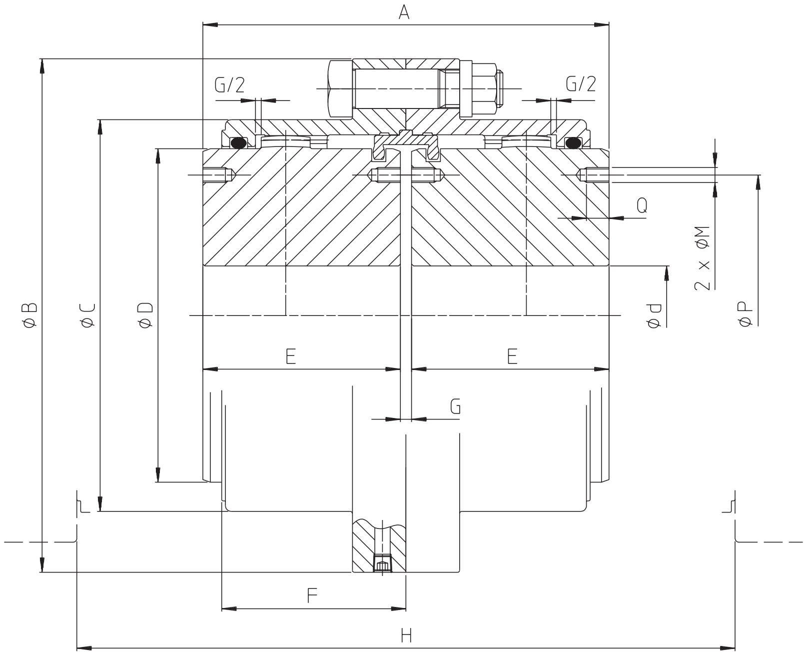

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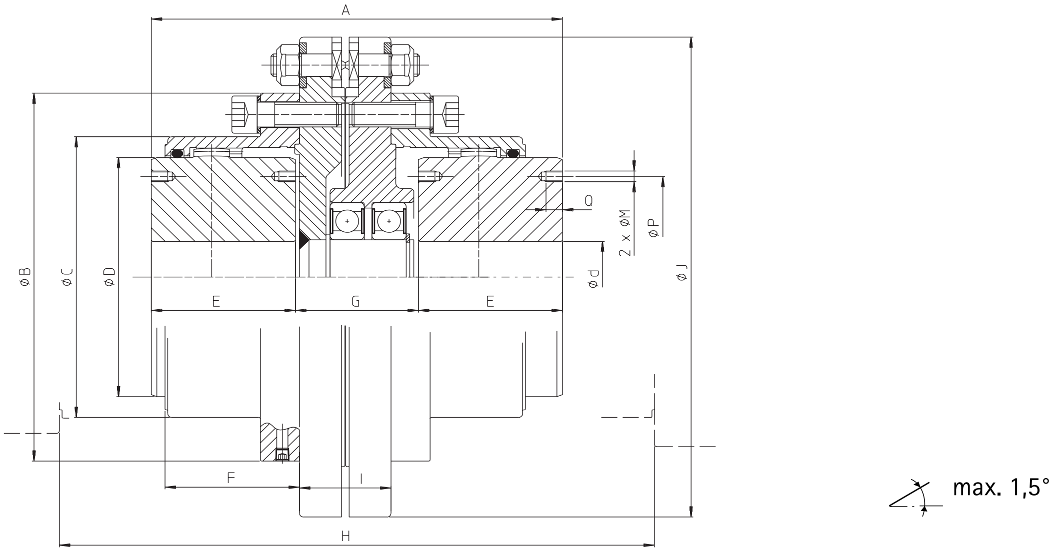
NOUS CONSULTER
ONS RAADPLEGEN
REFER TO FACTORY
AUF ANFRAGE

←A150				Type FLE											
				45	60	75	95	110	130	155	175	195	215	240	275
d Ø nominal max.		1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.		1	mm	0	0	0	0	0	55	65	80	90	100	120	150
* d Ø max		1	mm	50	64	78	98	112	132	158	175	198	217	244	290
Nm 1m	Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
	Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000
min.max.		3.1	tr/min omw/min rpm min^{-1}	5000	4400	4000	3600	3350	3100	2800	2700	25550	2450	2300	2150
		3.2	tr/min omw/min rpm min^{-1}	7000	6200	5650	5100	4700	4350	4000	3800	3600	3450	3300	3050
J (WR^2)		4	kgm^2	0,005	0,015	0,040	0,105	0,191	0,430	0,842	1,32	2,45	3,72	5,38	10,87
		5	kg	4,1	8,0	14,6	26,1	38,8	59,2	89,4	118	167	222	275	414
Grease		6	dm^3	2x0,025	2x0,037	2x0,065	2x0,105	2x0,18	2x0,26	2x0,40	2x0,49	2x0,76	2x1,01	2x1,21	2x1,64
mm: ±	A		mm	89	103	127	157	185	216	246	278	308	358	388	450
	B		mm	117	141	171	210	234	274	312	337	380	405	444	506
	C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426
	D		mm	67	87	106	130	151	178	213	235	263	286	316	372
	E		mm	43	50	62	76	90	105	120	135	150	175	190	220
	F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
	G		mm	3	3	3	5	5	6	6	8	8	8	8	10
	H	10	mm	147	166	212	249	295	350	392	440	484	562	616	688
	M		mm								M 12	M 16	M 16	M 16	M 20
	P		mm								205	226	250	276	330
	Q		mm								18	24	24	24	30

* Consult us



←A150			Type FSP 45	60	75	95	110	130	155	175	195	215	240	275
d Ø nominal max.	1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.	1	mm	0	0	0	0	0	55	65	80	90	100	120	150
*d Ø max.	1	mm	50	64	78	98	112	132	158	175	198	217	244	290
1m Nm Tn	2	Nm	**750**	**1800**	**3500**	**7000**	**11000**	**15500**	**22000**	**31500**	**43500**	**55000**	**81000**	**122500**
Tp	2	Nm	1500	3600	7000	14000	22000	31000	44000	63000	87000	110000	162000	245000
min.max.	3.1	tr/min omw/min rpm min^{-1}	4000	3600	3300	2950	2550	2150	2000	1800	1650	1450	1400	1350
α α	–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,5**	**2x0,5**	**2x0,5**
	–	mm: ±	0,6	0,7	0,8	0,9	1	1,2	1,3	1,4	1,5	1,3	1,4	1,5
J (WR^2)	4	kgm^2	0,019	0,055	0,098	0,272	0,448	1,01	1,75	2,77	4,61	6,82	9,68	18,4
	5	kg	8,5	16,9	26,5	45,1	62,5	99,5	139	183	247	316	395	579
Grease	6	dm^3	2x0,025	2x0,037	2x0,065	2x0,105	2x0,18	2x0,26	2x0,40	2x0,49	2x0,76	2x1,01	2x1,21	2x1,64
mm: ± A		mm	131	153	185	217	247	293	324	363	396	467	504	579
B		mm	111	141	171	210	234	274	312	337	380	405	444	506
C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426
D		mm	67	87	106	130	151	178	213	235	263	286	316	372
E		mm	43	50	62	76	90	105	120	135	150	175	190	220
F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
G	9	mm	45	53	61	65	67	83	84	93	96	117	124	139
H	10	mm	189	216	270	309	357	427	470	525	572	671	732	817
I		mm	33	44	44	48	48	60	60	64	64	78	78	96
J		mm	155	194	228	267	300	358	384	428	470	524	560	656
M		mm								M 12	M 16	M 16	M 16	M 20
P		mm								205	226	250	276	330
Q		mm								18	24	24	24	30

* Consult us

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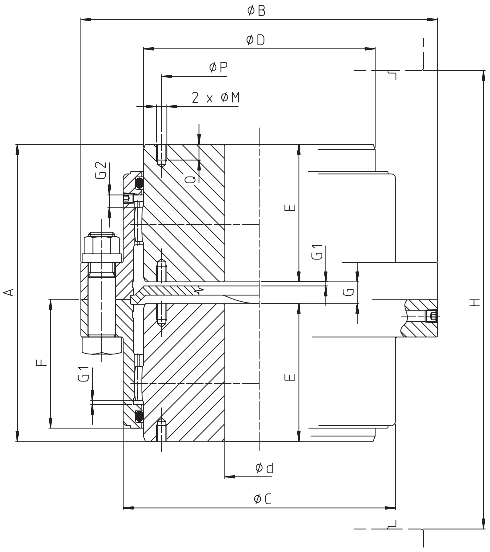

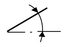
max. 1,5°

La cote G ne peut varier en cours de fonctionnement
Maat G mag niet gewijzigd worden bij werking
Distance G may not vary during operation
Das Maß "G" muß während des Betriebs konstant bleiben

←A150			Type FSV 45	60	75	95	110	130	155	175	195	215	240	275
d Ø nominal max.	1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.	1	mm	0	0	0	0	0	55	65	80	90	100	120	150
* d Ø max.	1	mm	50	64	78	98	112	132	158	175	198	217	244	290
1m Nm Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
Tp	2	Nm	2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000
min.max.	3	tr/min omw/min rpm min^{-1}	5000	4400	4000	3600	3350	3100	2800	2700	2550	2450	2300	2150
α α	–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,5**	**2x0,5**	**2x0,5**
	–	mm: ±	0,35	0,4	0,5	0,6	0,7	0,9	1	1,1	1,2	0,9	1	1,1
J (WR^2)	4	kgm^2	0,005	0,015	0,040	0,105	0,191	0,430	0,842	1,32	2,45	3,72	5,38	10,9
	5	kg	4,1	8,0	14,6	26,1	38,8	59,2	89,4	118	167	222	275	414
Grease	6	dm^3	2x0,021	2x0,037	2x0,057	2x0,104	2x0,164	2x0,254	2x0,387	2x0,514	2x0,741	2x0,940	2x1,12	2x1,69
mm: ± A		mm	94	105	136,5	163	193	224	255	287	320	377	414	468
B		mm	111	141	171	210	234	274	312	337	380	405	444	506
C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426
D		mm	67	87	106	130	151	178	213	235	263	286	316	372
E		mm	43	50	62	76	90	105	120	135	150	175	190	220
F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
G	9	mm	8	5	12,5	11	13	14	15	17	20	27	34	28
G1	9	mm	1,5	1,5	1,5	2,5	2,5	3	3	4	4	4	4	5
G2	9	mm	5,5	5,5	6	8,5	8,5	12	12	16	16	16	16	20
H	10	mm	147	166	212	249	295	350	392	440	484	562	616	688
M		mm								M 12	M 16	M 16	M 16	M 20
P		mm								205	226	250	276	330
Q		mm								18	24	24	24	30

* Consult us

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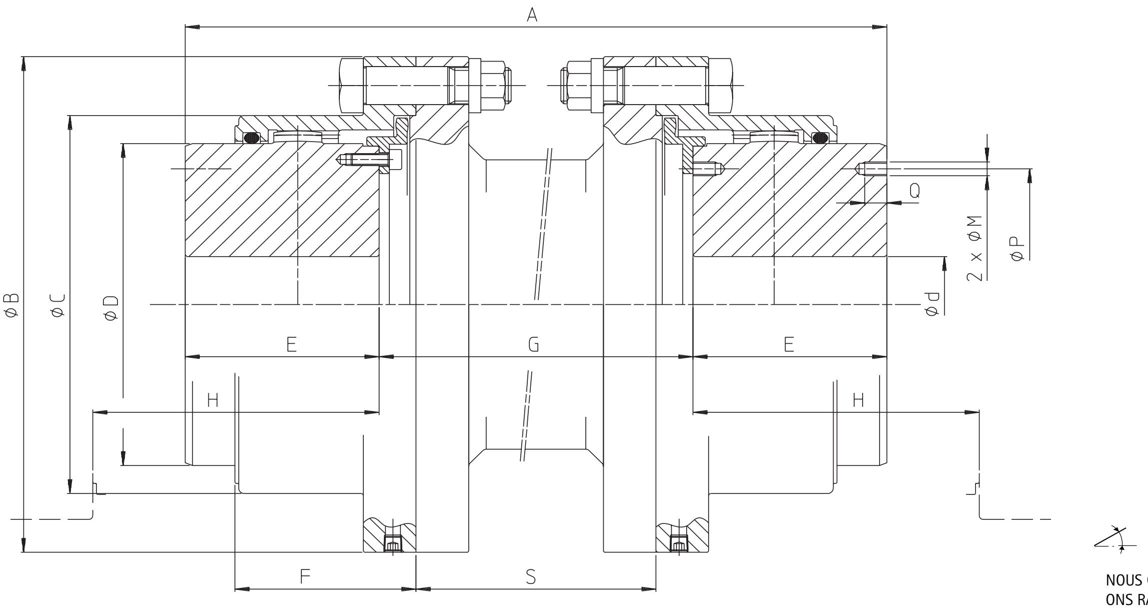
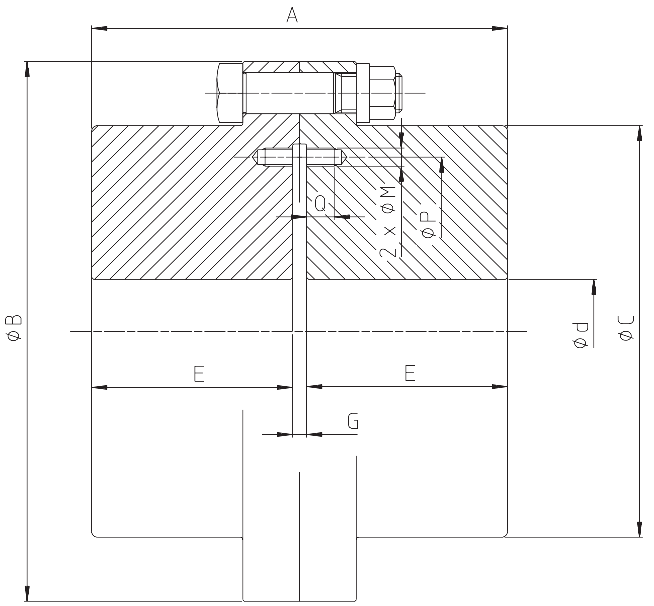


max.

NOUS CONSULTER
ONS RAADPLEGEN
REFER TO FACTORY
AUF ANFRAGE

←A150				Type FSLE 45	60	75	95	110	130	155	175	195	215	240	275
d Ø nominal max.		1	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.			mm	0	0	0	0	0	55	65	80	90	100	120	150
* d Ø max			mm	50	64	78	98	112	132	158	175	198	217	244	290
Nm 1m	Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
	Tp			2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000
min.max.		3.3	tr/min omw/min rpm min^{-1}												
J (WR^2)		4.1	kgm^2												
		5.1	kg												
Grease		6	dm^3	2x0,025	2x0,037	2x0,065	2x0,105	2x0,18	2x0,26	2x0,40	2x0,49	2x0,76	2x1,01	2x1,21	2x1,64
mini	A		mm	167	195	245	291	323	380	412	450	516	580	624	676
	B		mm	111	141	171	210	234	274	312	337	380	405	444	50 6
	C		mm	80	103,5	129,5	156	181	209	247	273	307	338	368	426
	D		mm	67	87	106	130	151	178	213	235	263	286	316	372
	E		mm	43	50	62	76	90	105	120	135	150	175	190	220
mm: ±	F		mm	41	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
mini	G	8	mm	81	95	121	139	143	170	172	180	216	230	244	236
	G1		mm	1,5	1,5	1,5	2,5	2,5	3	3	4	4	4	4	5
	H	10	mm	63	76	91	110	131	155	175	195	214	246	266	306
	M		mm								M 12	M 16	M 16	M 16	M 20
	P		mm								205	226	250	276	330
	Q		mm								18	24	24	24	30
mini	S	8	mm	60	80	90	110	110	130	130	130	10	160	160	160

* Consult us



← A150			Type FRR 45	60	75	95	110	130	155	175	195	215	240	275
d Ø max.	1	mm	**55**	**75**	**95**	**110**	**130**	**155**	**180**	**200**	**230**	**250**	**280**	**330**
d Ø min.		mm	0	0	0	0	0	55	65	80	90	100	120	150
Nm 1m Tn	2	Nm	**1300**	**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
Tp			2600	5600	10000	20000	32000	44000	64000	90000	124000	168000	230000	348000
min.max.	3.3	tr/min omw/min rpm min^{-1}	6000	5500	5000	4400	4000	3500	3000	2700	2500	2200	2100	2000
J (WR^2)	4	kgm^2	0,005	0,017	0,041	0,109	0,203	0,459	0,9	1,4	2,7	4,1	6,0	12,0
	5.1	kg	4,4	8,4	14,6	26,9	40,4	62,2	92,1	123	185	244	308	461
mini A		mm	87	101	123	155	181	209	233	266	308	358	392	456
B		mm	111	141	171	210	234	274	312	337	380	405	444	50 6
C		mm	80	103,5	126	152	178	208	245	270	305	330	362	416
E		mm	40	47	58	74	87	101	113	129	150	175	190	220
mm: ± G		mm	7	7	7	7	7	7	7	8	8	8	12	16
M		mm								M 12	M 16	M 16	M 16	M 20
P		mm								235	265	290	320	370
Q		mm								18	24	24	24	30

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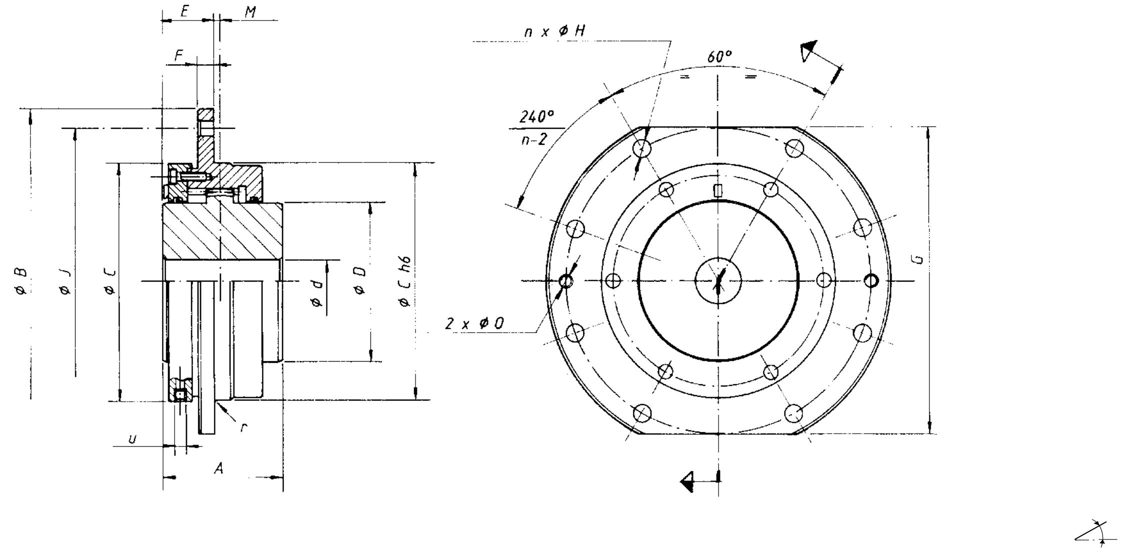
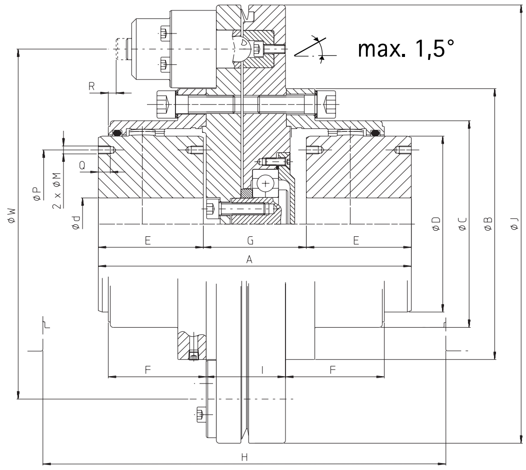


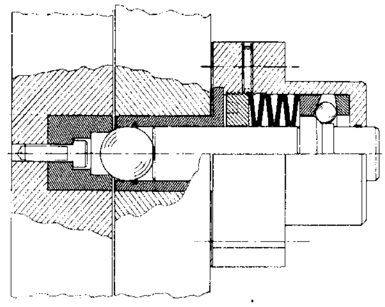
←A150				Type FWD																	
				50	65	90	91	100	110	130	150	170	200	220	250	280	300	301	320	380	420
d	Ø max.	1	mm	**50**	**65**	**90**	**91**	**100**	**110**	**130**	**150**	**170**	**200**	**220**	**250**	**280**	**300**	**301**	**320**	**380**	**420**
	Ø min.		mm	19	25	35	35	45	55	55	65	80	100	120	150	180	180	180	200	220	260
1m Nm	Tn	2	Nm	**1800**	**2400**	**4300**	**6100**	**7200**	**9200**	**11300**	**18500**	**28000**	**66000**	**78000**	**92000**	**157000**	**185000**	**185000**	**220000**	**280000**	**325000**
	Tp			3600	4800	8600	12200	14400	18400	22600	37000	56000	132000	156000	184000	314000	370000	370000	440000	560000	650000
RADIAL LOAD		–	N	6100	8100	14500	16000	19100	23700	29800	40500	51100	71000	85000	100000	132000	154000	154000	179000	221500	260000
ΔK_W		–	degré graad degree Grad	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,75**	**0,5**	**0,5**	**0,5**	**0,5**	**0,5**	**0,5**	**0,5**	**0,5**	**0,5**
J (WR^2)		4	kgm^2	0,040	0,063	0,140	0,20	0,28	0,38	0,63	0,78	1,69	3,5	4,7	6,4	13,6	17,5	18,1	25,2	42,2	62
		5	kg	11	13	22,5	27	34	40	51	69	105	167	198	235	370	440	460	560	760	940
Grease		6	dm^3	0,07	0,07	0,10	0,14	0,15	0,17	0,21	0,23	0,44	0,53	0,60	0,66	1,0	1,2	1,2	2	2,2	2,6
	A		mm	90	100	100	110	125	130	145	170	185	220	240	260	315	320	350	380	410	450
	B		mm	230	250	290	320	340	360	380	400	450	510	550	580	650	680	680	710	780	850
	C		mm	140	160	200	200	220	240	260	280	340	400	420	450	530	560	560	600	670	730
	D		mm	75	95	135	135	150	170	190	220	240	290	320	350	410	440	440	470	536	580
	E		mm	42	42	42	45	45	45	45	45	60	60	60	60	65	65	65	81	81	81
	F		mm	12	12	12	15	15	15	15	15	20	20	20	20	25	25	25	25	25	25
mm: ±	G		mm	200	220	260	280	300	320	340	360	400	460	500	530	580	600	600	640	700	760
	H		mm	14	14	14	18	18	18	18	18	23	23	23	23	23	23	23	23	23	23
	J		mm	200	220	260	280	300	320	340	360	400	460	500	530	600	630	630	660	730	800
	M		mm	6	6	6	10	10	10	10	15	15	25	25	25	30	30	30	30	30	30
	O		mm	M 12	M 12	M 12	M 16	M 16	M 16	M 16	M 16	M 20	M 20	M 20	M 20	M 20	M 20	M 20	M 20	M 20	M 20
	n		–	6	6	6	6	6	6	6	6	6	6	6	8	8	10	10	10	10	10
	r		mm	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	4	4	4	6	6	6
	u		R"	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4

Dimensions in mm without engagement — Printed in Belgium 01/2001

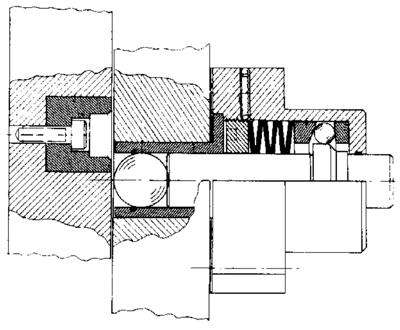
esco



TORQUE CONTROL DEVICES



engagé - eingeschaltet - engaged



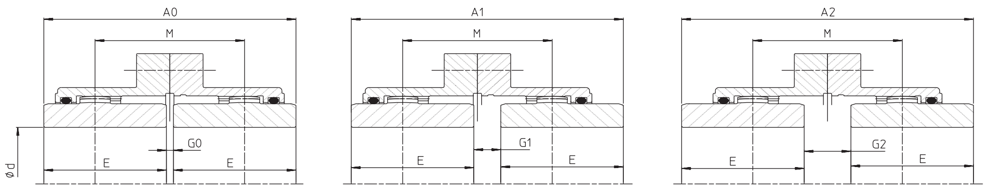
désengagé - ausgeschaltet - disengaged

←A150			Type FET 60/1	75/1	95/2	110/2	130/3	155/3	175/4	195/4	215/5	240/5	275/6
d Ø nominal max.	1	mm	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**
d Ø min.	1	mm	0	0	0	0	55	65	80	90	100	120	150
* d Ø max.	1	mm	64	78	98	112	132	158	175	198	217	244	290
1m Nm Tn	2		**2800**	**5000**	**10000**	**16000**	**22000**	**32000**	**45000**	**62000**	**84000**	**115000**	**174000**
TR	min.	Nm	1010	1010	1930	1930	7140	7140	11320	11320	34900	34900	57600
TR	max.	Nm	5600	8180	15600	15600	44000	57200	90000	90750	168000	230000	348000
min.max.	3	tr/min omw/min rpm min^{-1}	3600	3300	2950	2550	2150	2000	1800	1650	1450	1400	1350
α α	–	degré graad degree Grad	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,75**	**2x0,5**	**2x0,5**	**2x0,5**
	–	mm: ±	0,7	0,8	0,9	1	1,2	1,3	1,4	1,5	1,3	1,4	1,5
J (WR^2)	4	kgm^2	0,271	0,323	0,733	0,862	3,84	4,59	7,83	9,28	26,4	31,6	58,9
	5	kg	33,1	41,6	67,9	82,5	184	222	290	345	587	681	1017
Grease	6	dm^3	2x0,037	2x0,065	2x0,105	2x0,18	2x0,26	2x0,40	2x0,49	2x0,76	2x1,01	2x1,21	2x1,64
mm: ± A		mm	161	193	228	258	325	356	391	424	512	549	630
B		mm	141	171	210	234	274	312	337	380	405	444	506
C		mm	103,5	129,5	156	181	209	247	273	307	338	368	426
D		mm	87	106	130	151	178	213	235	263	286	316	372
E		mm	50	62	76	90	105	120	135	150	175	190	220
F		mm	47	58,5	68,5	82	98	108,5	121	132	151,5	165	183,5
G		mm	61	69	76	78	115	116	121	124	162	169	190
H	10	mm	224	278	320	368	459	502	553	600	716	777	868
I		mm	52	52	59	89	92	92	92	92	123	123	147
J		mm	288	288	350	350	464	464	538	538	706	706	844
M		mm							M 12	M 16	M 16	M 16	M 20
P		mm							205	226	250	276	330
Q		mm							18	24	24	24	30
R		mm	- 9,5	1	16	28,5	13	20,5	35	45	12,5	37	80,5
W		mm	230	230	292	292	390	390	464	464	582	582	720

* Consult us

Caractéristiques principales —Voornaamste karakteristieken — Main features — Viktiga fördelar
Charakteristische Hauptmerkmale — Caracteristicas principales — Caratteristiche principali

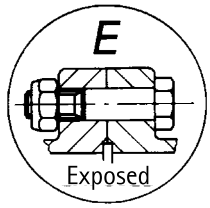
3 POSITIONS MOYEUX
3 NAVENPOSITIES
3 HUBS POSITIONS
3 EINBAUMÖGLICHKEITEN
3 NAVKOMBINATIONER
3 POSICIONES CUBO
3 POSIZIONI DEI MOZZI

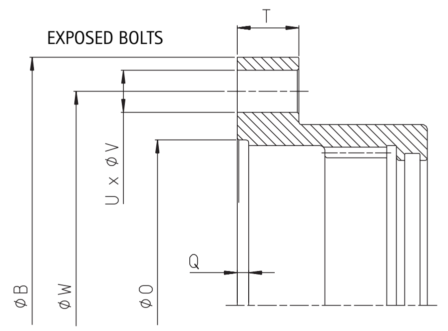


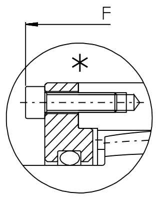
←A105			Type FST 45	60	75	95	110	130	155	175	195	215	240	275	* 280	* 320	* 360N	* 400N	* 450N
	d Ø nominal max.	mm	**45**	**60**	**75**	**95**	**110**	**130**	**155**	**175**	**195**	**215**	**240**	**275**	**280**	**320**	**360**	**400**	**450**
	d Ø min.	mm	0	0	0	0	0	55	65	80	90	100	120	150	180	200	220	260	280
	*d Ø max.	mm	50	65	78	98	112	132	158	175	198	212	244	290	310	340	390	435	485
	A_0	mm	89	103	127	157	185	216	246	278	308	358	388	450	570	597	623	673	713
	A_1	mm	98	109	141	169	199	233	264	299	332	389	426	483	590	617	658	713	761
	A_2	mm	107	115	155	181	213	250	282	320	356	420	464	516	610	637	693	753	809
	E	mm	43	50	62	76	90	105	120	135	150	175	190	220	280	292	305	330	350
	G_0	mm	3	3	3	5	5	6	6	8	8	8	8	10	10	13	13	13	13
	G_1	mm	12	9	17	17	19	23	24	29	32	39	46	43	30	33	48	53	61
	G_2	mm	21	15	31	29	33	40	42	50	56	70	84	76	50	53	83	93	109
	M	mm	55	59	79	93	109	128	144	164	182	214	236	263	310	325	3553	383	411

*Consult us

4 ALTERNATIVES — 4 ALTERNATIEVEN — 4 ALTERNATIV — 4 AUSFUEHRUNGEN — 4 ALTERNATIVAS — 4 ALTERNATIVE







Type ⇨			(1) 45	(1 1/2) 60	(2) 75	(2 1/2) 95	(3) 110	(3 1/2) 130	(4) 155	(4 1/2) 175	(5) 195	(5 1/2) 215	(6) 240	(7) 275	(8)* 280	* 320	* 360N	* 400N	* 450N
Flange Connection	B	mm	111	141	171	210	234	274	312	337	380	405	444	506	591	640	684	742	804
	O	mm	78	100	120	144	170	198	234	256	290	315	345	400	451	483	540	590	660
	Q	mm	3,5	3,5	3,5	3,5	3,5	3,5	3,5	4	4	4	6	8	8	8	8	10	10
	T	mm	14	19	19	22	22	28,5	28,5	28,5	38	38	26	28,5	33	38	38	38	38
Exposed Metric (E.M.)	U	Qty.	6	8	6	6	8	8	8	10	10	14	14	16	14	18	24	28	30
	V	mm	9	11	13	17	17	21	21	21	21	21	25	25	32	32	32	32	32
	W	mm	96	122	150	184	208	242	280	305	345	368	406	460	530	580	624	682	744
Exposed Inch (E.I.)	U	Qty.	6	8	6	6	8	8	8	10	8	14	14	16	16				
	V	inch.	0,250	0,375	0,500	0,625	0,625	0,750	0,750	,0750	0,875	0,875	0,875	1,000	1,125				
	W	inch.	3,750	4,812	5,875	7,125	8,125	9,5	11	12	13,5	14,5	15,75	18,25	20,75				

Other Available Esco Coupling Series

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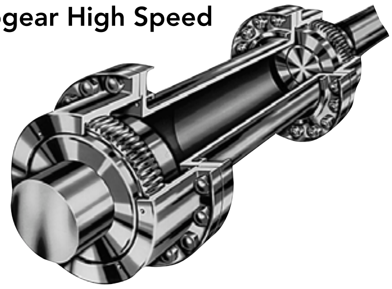
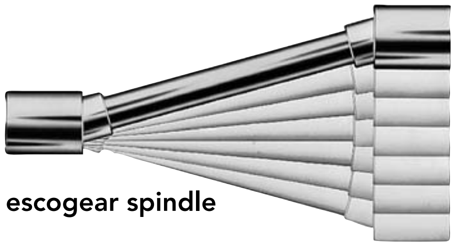
escogear High Speed



escogear rail



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