



WESTCAR s.r.l.

ROTOGEAR

Code 15418 - 2011

GEAR COUPLING Type RE



Type AR





WESTCAR PRODUCTS

ROTOFLUID hydraulic couplings for rated power



ROTOGEAR tooth gear couplings for torques up to 383.000 Nm

ROTOFLUID GGG hydraulic couplings (with cast-iron casing) for rated power from 100 to 6000 kW



ROTOFLEXI® flexible couplings with quick replacement of the rubber element without axial hub movement. For torques up to 4.000 Nm.

ROTOFLUID-SCF/DCF hydraulic couplings with single/double delay chamber



HBX – GCX – HPX disc couplings with spacer
HBSX – GCSX – HPSX - BE.
Torques up to 1.043.300 Nm

ROTOFLUID-CA hydraulic couplings with annular chamber and starting torque lower than nominal motor torque



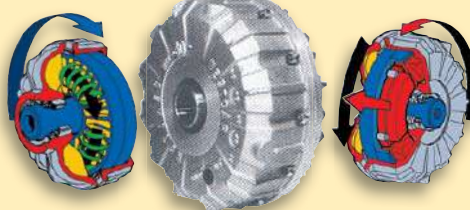
ROTOPIN flexible couplings with pins for axial sliding. For torques up to 300.000 Nm

Drum and disc brakes with brake servo



ROTOGRID flexible taper grid couplings. For torques up to 169.500 Nm

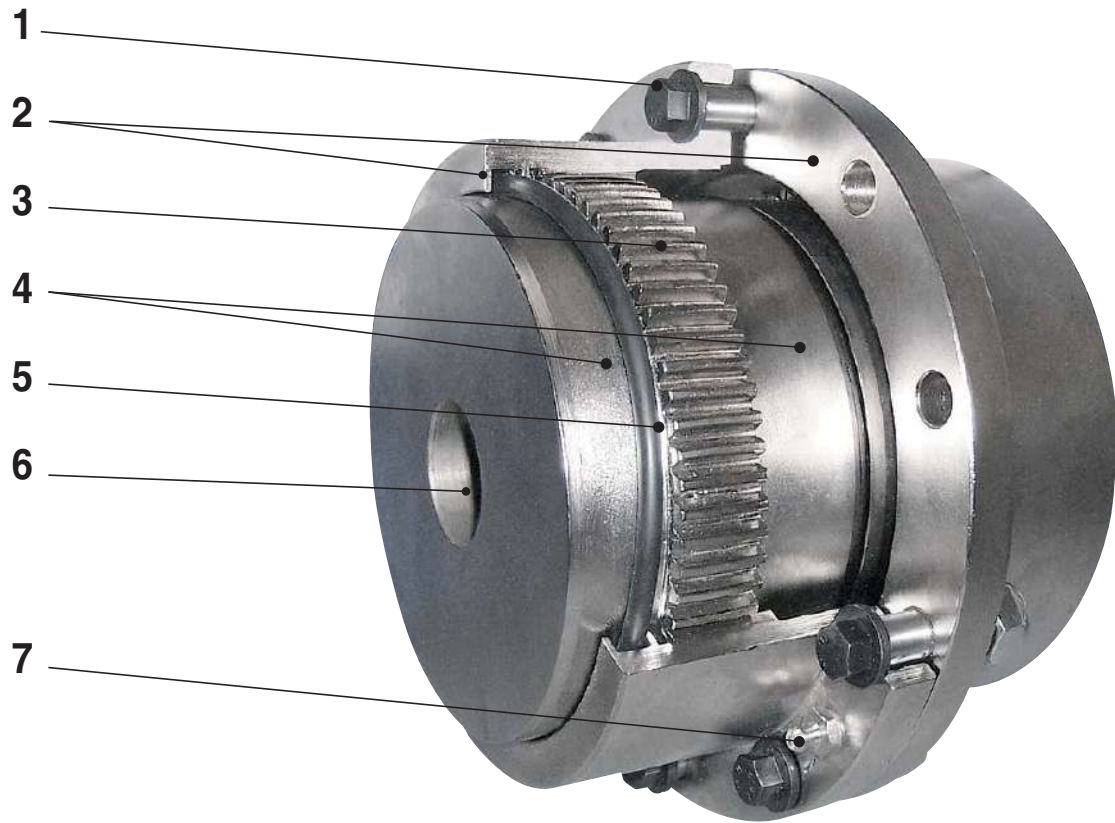
SOFTSTART
Static starter with digital control for rated power up to 750 kW.
Energy saving function.
Water hammering control.
Programming also via RS 485



ROTOMECH hydromechanical couplings with hydraulic start-up and centrifugal mechanical lock-up with zero slip at running. For rated power up to 1500 kW



ON REQUEST THE PRODUCT
CAN BE SUPPLIED
ACCORDING TO ATEX.



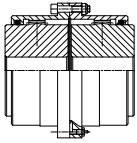
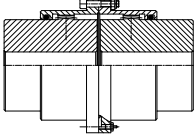
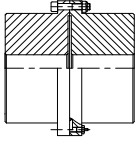
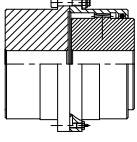
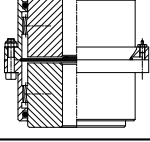
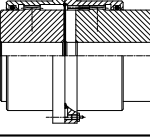
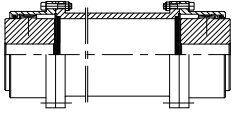
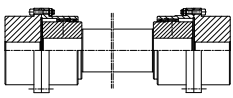
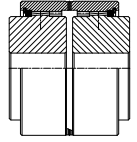
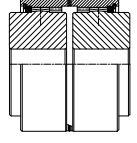
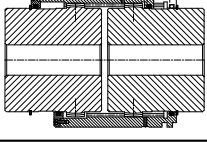
- 1 Calibrated special-steel screws**
- 2 One piece sleeve with internal straight teeth**
- 3 Crowned toothing**
- 4 Hub teeth**
- 5 O-Rings**
- 6 Machined bore and keyway upon request**
- 7 Two lubrication plugs are mounted on each half sleeve**

Rotogear couplings are the most reliable and economic solution for connecting shafts in medium and heavy industry drives.

“RE” series couplings are suitable for compensating angular, radial and combined misalignments, without any power loss and reduce axial movements of connected shafts.

Crowned toothing assures a larger contact area and more teeth constantly in contact, an optimum load distribution with a minimum backlash.

“RE” series rotogear couplings are designed for compensating a static misalignment of 1° per rotogear mesh.

Type coupling	Series	Description	Page
	RE	Coupling with standard hubs	9
	RE UU	Coupling with long hubs	10
	RE FOO	Rigid coupling	11
	RE FO	Half rigid coupling	12
	RE V	Vertical coupling	13
	RE FT	Sliding coupling	14
	RE D	Coupling with spacer "D" series	15
	RE B	Coupling with spacer "B" series	16
	RE M	Sleeve coupling "M" series	17
	RE MC	Sleeve coupling "MC" series	18
	RE DH.MN RE DH.PM	Disengaging coupling	19

WESTCAR ROTOGEAR RE..	MAINA GO..A	FACHIN IF..	ESCO FST	FALK G..	KOP-FLEX H	AJAX 6901	LOVEJOY F	AMERIDRIVES F
40	0	3	45	-	1	1	1	101
55	1	4	60	15	1½	1,5	1½	101½
70	2	5,5	75	20	2	2	2	102
85	3	7	95	25	2½	2,5	2½	102½
100	4	8	110	30	3	3	3	103
120	5	9,5	130	35	3½	3,5	3½	103½
140	6	11	155	40	4	4	4	104
160	7	12	175	45	4½	4,5	4½	104½
180	8	14	195	50	5	5	5	105
200	9	15	215	55	5½	5,5	5½	105½
220	10	16,5	240	60	6	6	6	106
250	11	19	275	70	7	7	7	107

Make a preliminary selection of the coupling size by checking the max allowed bore diameter stated in the technical table relating to the chosen coupling type.
Select the service factor SF from table 1.

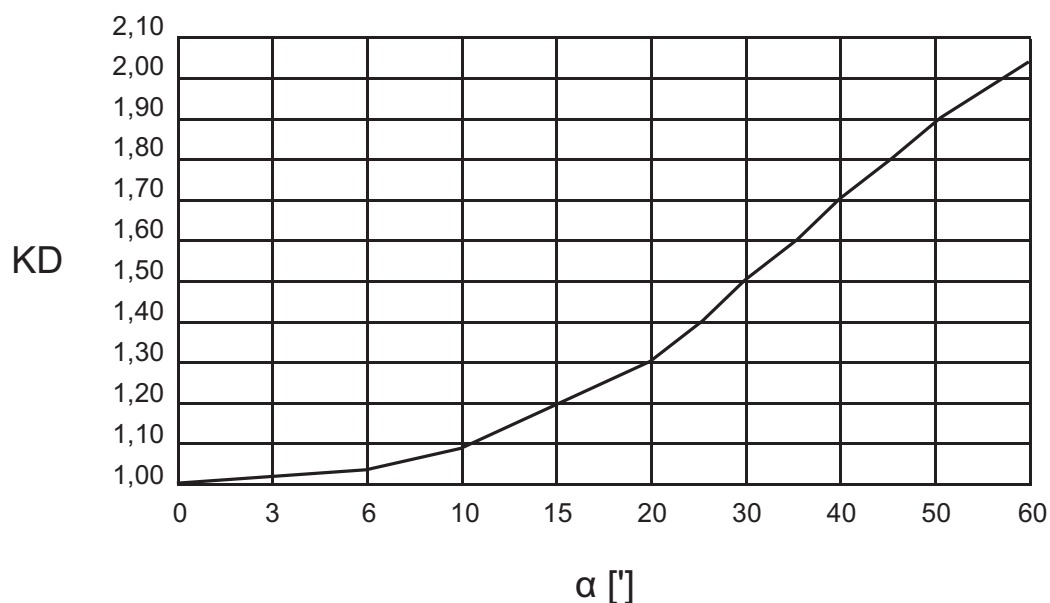
Table 1

SERVICE FACTOR "SF"			
Agitators for pure liquids Electric generators Fans Centrifugal pumps Belt conveyors	1.5	Reciprocating compressors Cold rolling mills Calenders Travelling cranes Winders Presses	2
Pumps Double acting pumps Gear pumps Bucket elevators Chain belt conveyors Screw belt conveyors Centrifugal compressors	1.75	Tapping machines Crushers	2.5
		Rubber calenders Rubber mixers Roller tables	
		Hot rolling mills Screwdown drives Coilers Reversing cold rolling mills	3

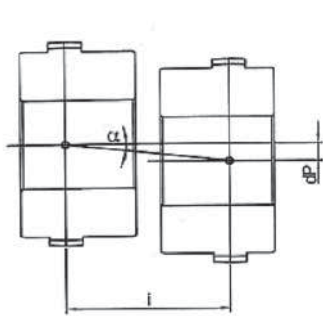
Note: the values stated in the table are valid for electric motors and turbine drive; for reciprocating engine drives, increase such value by one.

Calculate from graph 1 the misalignment factor KD, depending on operating misalignment α .

Graph 1

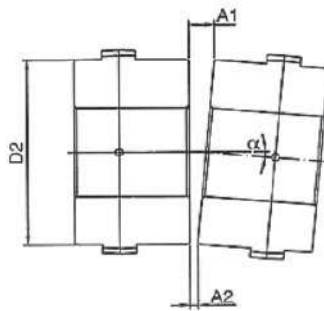


Operating misalignment α may be calculated with the following formulas:



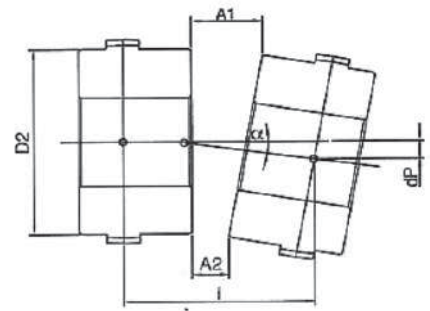
OFFSET MISALIGNMENT

$$\alpha = \arctan \left[\frac{dP}{i} \right]$$



ANGULAR MISALIGNMENT

$$\alpha = \arcsin \left[\frac{A2 - A1}{D2} \right]$$



COMBINED MISALIGNMENT

$$\alpha = \arctan \left[\frac{dP}{i} \right] + \frac{1}{2} \arcsin \left[\frac{A2 - A1}{D2} \right]$$

Compute the torque to be transmitted, increase it by multiplying with service factor SF and torque factor KD.

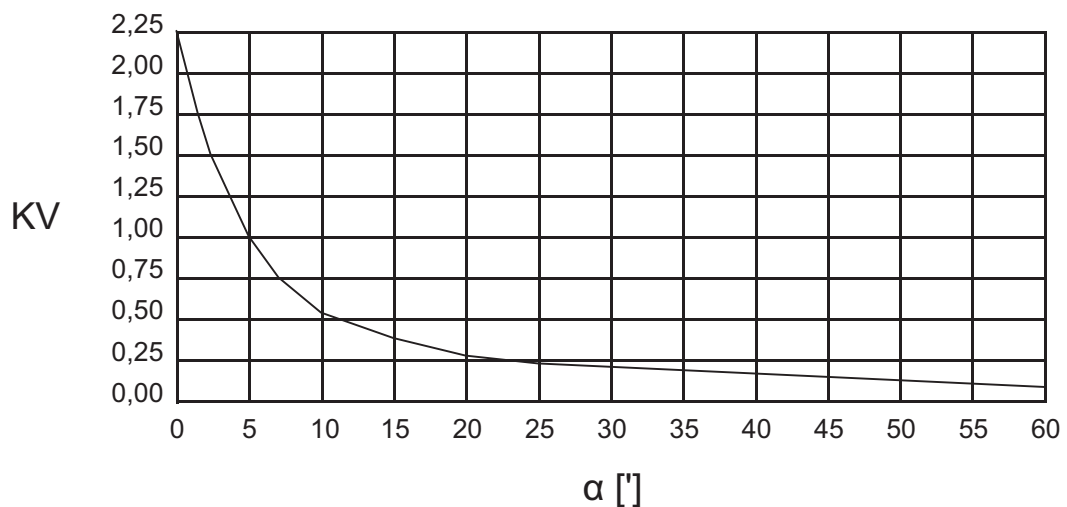
$$T = \frac{Pa \times 9,55}{n} \times SF \times KD \text{ (KNm)}$$

Pa = Absorbed power (Kw)
 n = RPM

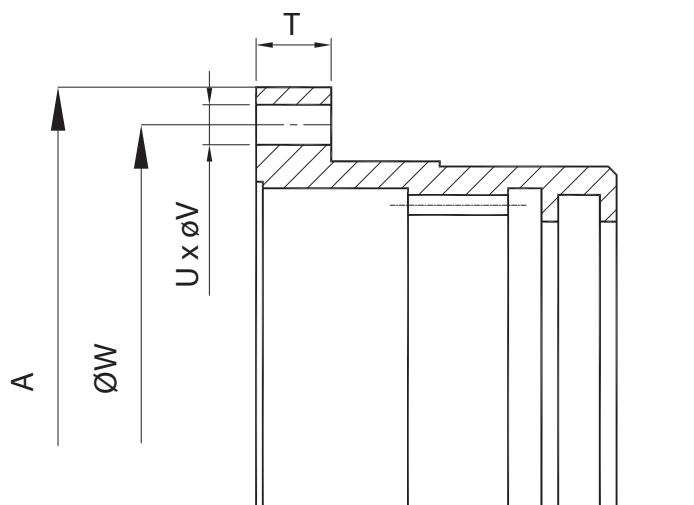
Confirm the preliminary coupling size or increase it to a size which has a torque rating Tn equal to or greater than the computed T torque value.

Check that maximum speed n is not higher than selected size coupling maximum speed reduced by the speed factor Kv depending by operating misalignment α shown on graph 2:

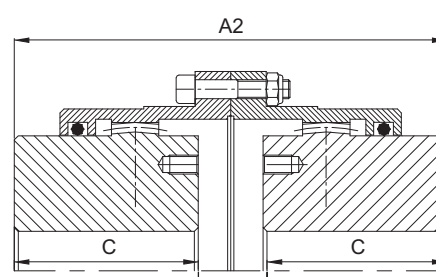
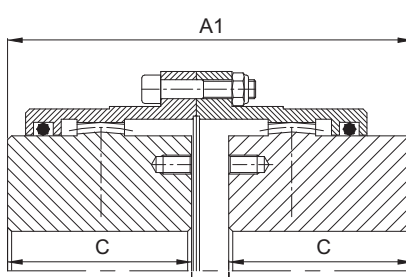
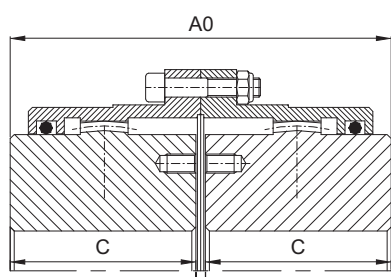
Graph 2



Dimensions of the selected coupling should be compared with the space available for the application to assure proper clearances. Shaft extension, distance and clearances to align coupling should be checked.

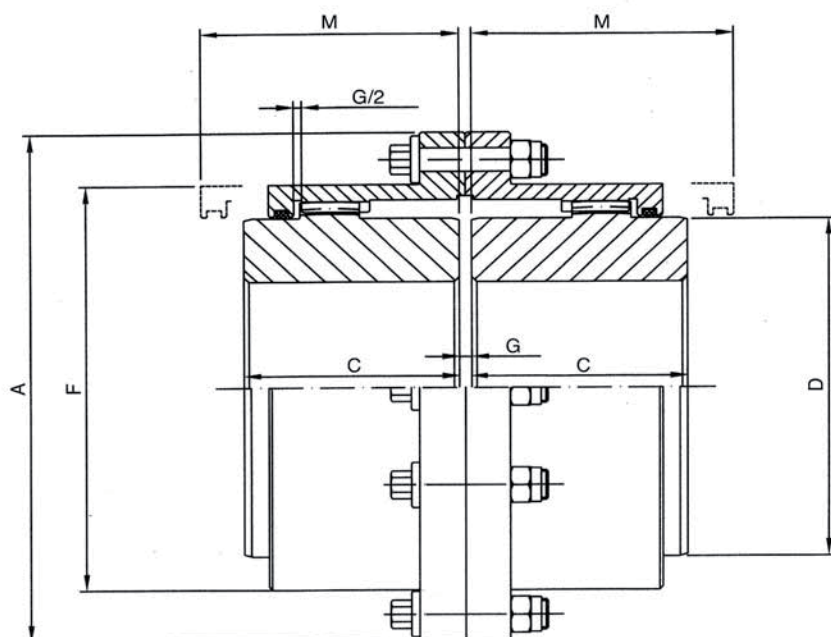


DIMENSION		40	55	70	85	100	120	140	160	180	200	220	250
A	mm	111	142	168	200	225	265	300	330	370	406	438	505
T	mm	12	10	10	13	13	22	22	22	24	25	25	28
U	mm	6	8	10	10	12	12	14	14	14	14	14	16
V H8	mm	8	10	10	12	12	16	16	16	18	22	22	24
W	mm	96	122	148	178	203	236	270	300	335	368	400	460

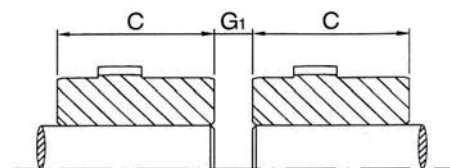


HUB POSITION		40	55	70	85	100	120	140	160	180	200	220	250
A0	mm	89	103	127	157	185	216	246	278	308	358	388	450
A1	mm	103	108	138	164	204	237	272	307	350	403	438	512
A2	mm	127	113	149	171	223	258	298	336	392	448	488	574
C	mm	43	50	62	76	90	105	120	135	150	175	190	220
G	mm	3	3	3	5	5	6	6	8	8	8	8	10
G1	mm	5	8	14	12	24	27	32	37	50	53	58	72
G2	mm	7	13	25	19	43	48	58	66	92	98	108	134

Dimensions are approximate

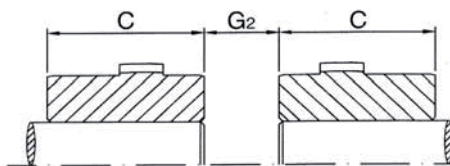


RE...



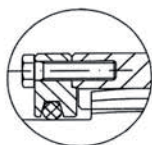
One reversed hub

RE...R



Two reversed hubs

RE...RR

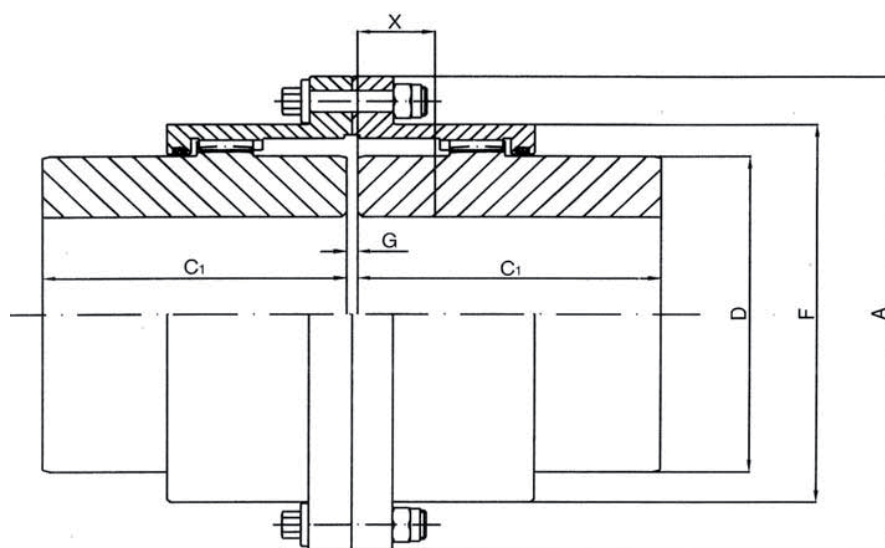


Seal flange
sizes from 280 to 450

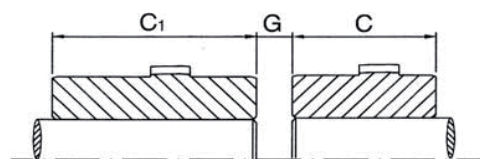
Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)								Mass (2) Kg	Grease (Kg)	Inertia (2) Kgm ²
	Rating T _n	Max T _{max}			A	C	F	D	M (1)	G	G1	G2			
40	1,7	4,1	5990	12 / 50	111	43	82,5	69	58	3	5	7	4	0,08	0,005
55	2,7	6,2	4610	18 / 60	142	50	104,5	85	68	3	8	13	8	0,09	0,012
70	5,5	12	4130	28 / 75	168	62	130,5	107	87	3	14	25	13	0,15	0,032
85	8,5	21	3980	40 / 95	200	76	158,5	133	95	5	12	19	26	0,25	0,084
100	13,5	34	3850	50 / 110	225	90	183,5	152	120	5	24	43	37	0,45	0,162
120	22	54	3700	60 / 130	265	105	211,5	178	130	6	27	48	59	0,7	0,375
140	34	83	3200	70 / 155	300	120	245,5	209	135	6	32	58	91	0,9	0,728
160	43	99	2900	85 / 170	330	135	275	234	155	8	37	66	123	1,54	1,225
180	68	156	2550	95 / 190	370	150	307	254	195	8	50	92	170	2,3	2,105
200	82	195	2320	110 / 210	406	175	335	279	220	8	53	98	234	3,2	3,401
220	150	348	2100	120 / 230	438	190	367	305	236	8	58	108	295	3,9	5,052
250	195	479	1800	130 / 280	505	220	423	355	273	10	72	134	455	6,1	10,32
280	275	550	1200	150 / 325	580	250	495	400	-	12	-	-	685	6,5	20,6
320	381	762	980	170 / 370	630	275	545	450	-	12	-	-	920	7,2	33,5
360	492	984	900	190 / 400	700	305	589	490	-	12	-	-	1210	8,5	53,3
400	658	1316	800	210 / 430	760	330	649	550	-	12	-	-	1590	11,4	83,5
450	835	1670	700	240 / 475	825	355	714	580	-	12	-	-	2060	12,5	128,4

(1) Minimum clearance required for alignment

(2) Values stated are calculated for solid hubs with no bores

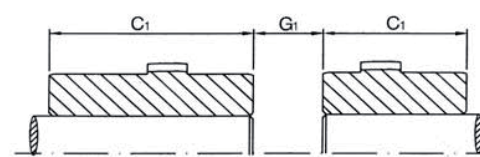


RE...UU



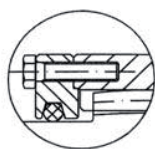
One long hub and
one standard hub

RE...U



One long hub and
one reversed standard hub

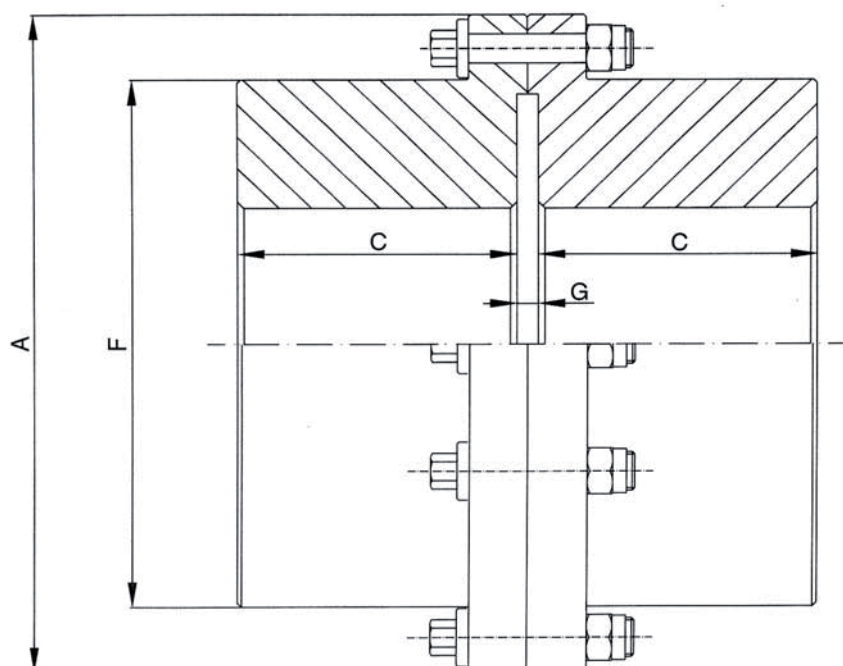
RE...UR



Seal flange
sizes from 280 to 450

Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)								Mass (1) Kg	Grease (Kg)	Inertia (1) Kgm ²
	Rating Tn	Max Tmax			A	C1	C	F	D	G	G1	X			
40	1,7	4,1	5990	12 / 50	111	105	43	82,5	69	3	5	12	7,9	0,08	0,007
55	2,7	6,2	4610	18 / 60	142	115	50	104,5	85	3	8	16	12,7	0,09	0,018
70	5,5	12	4130	28 / 75	168	130	62	130,5	107	3	14	22	21	0,15	0,045
85	8,5	21	3980	40 / 95	200	150	76	158,5	133	5	12	26	38	0,25	0,118
100	13,5	34	3850	50 / 110	225	170	90	183,5	152	5	24	38	55	0,45	0,23
120	22	54	3700	60 / 130	265	185	105	211,5	178	6	27	45	84	0,7	0,505
140	34	83	3200	70 / 155	300	215	120	245,5	209	6	32	50	134	0,9	1,01
160	43	99	2900	85 / 170	330	245	135	275	234	8	37	58	180	1,54	1,735
180	68	156	2550	95 / 190	370	295	150	307	254	8	50	70	260	2,3	3,03
200	82	195	2320	110 / 210	406	300	175	335	279	8	53	80	317	3,2	4,55
220	150	348	2100	120 / 230	438	305	190	367	305	8	58	86	382	3,9	6,15
250	195	479	1800	130 / 280	505	310	220	423	355	10	72	96	546	6,1	12,5
280	275	550	1200	150 / 325	580		250	495	400	12	-	-	-	6,5	-
320	381	762	980	170 / 370	630		275	545	450	12	-	-	-	7,2	-
360	492	984	900	190 / 400	700		305	589	490	12	-	-	-	8,5	-
400	658	1316	800	210 / 430	760		330	649	550	12	-	-	-	11,4	-
450	835	1670	700	240 / 475	825		355	714	580	12	-	-	-	12,5	-

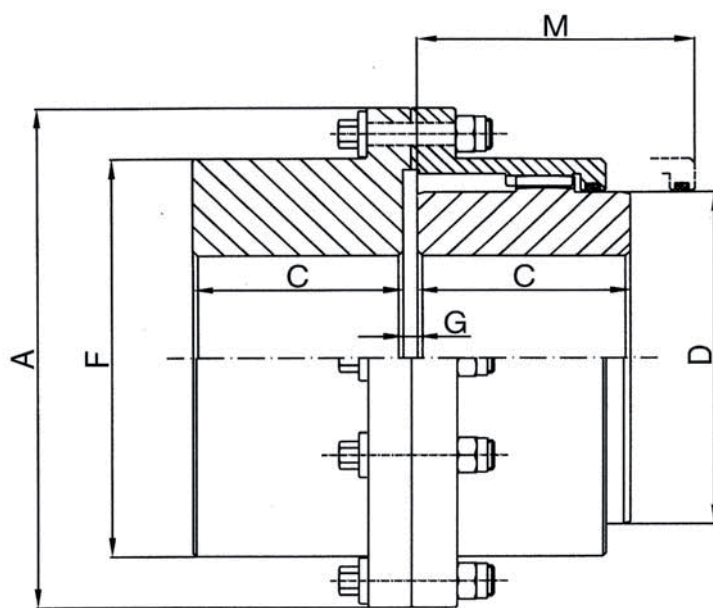
(1) Values stated are calculated for solid hubs type RE...UU with no bores



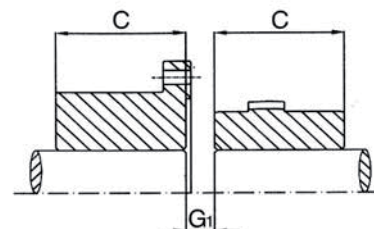
RE...FOO

Size	Torque (kNm)		Max speed (rpm)	Bore Max (mm)	Dimensions (mm)				Mass (1) Kg	Inertia (1) Kgm²
	Rating Tn	Max Tmax			A	C	F	G		
40	1,7	4,1	5990	60	111	43	82,5	3	5,2	0,005
55	2,7	6,2	4610	75	142	50	104,5	3	9	0,016
70	5,5	12	4130	90	168	62	130,5	3	14,6	0,038
85	8,5	21	3980	110	200	76	158,5	5	28	0,096
100	13,5	34	3850	130	225	90	183,5	5	42	0,198
120	22	54	3700	150	265	105	211,5	6	66	0,445
140	34	83	3200	175	300	120	245,5	6	98,2	0,832
160	43	99	2900	195	330	135	275	8	137	1,435
180	68	156	2550	220	370	150	307	8	192	2,455
200	82	195	2320	240	406	175	335	8	266	4,059
220	150	348	2100	260	438	190	367	8	345	6,128
250	195	479	1800	300	505	220	423	10	525	10,78
280	275	550	1200	365	580	250	475	12	751	21,62
320	381	762	980	395	630	275	520	12	960	35,50
360	492	984	900	425	700	305	556	12	1230	56,90
400	658	1316	800	470	760	330	615	12	1810	91,54
450	835	1670	700	520	825	355	680	12	2140	134,60

(1) Values stated are calculated for solid hubs with no bores

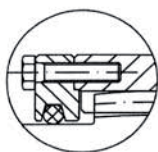


RE...FO



One reversed hub

RE...FOR



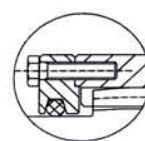
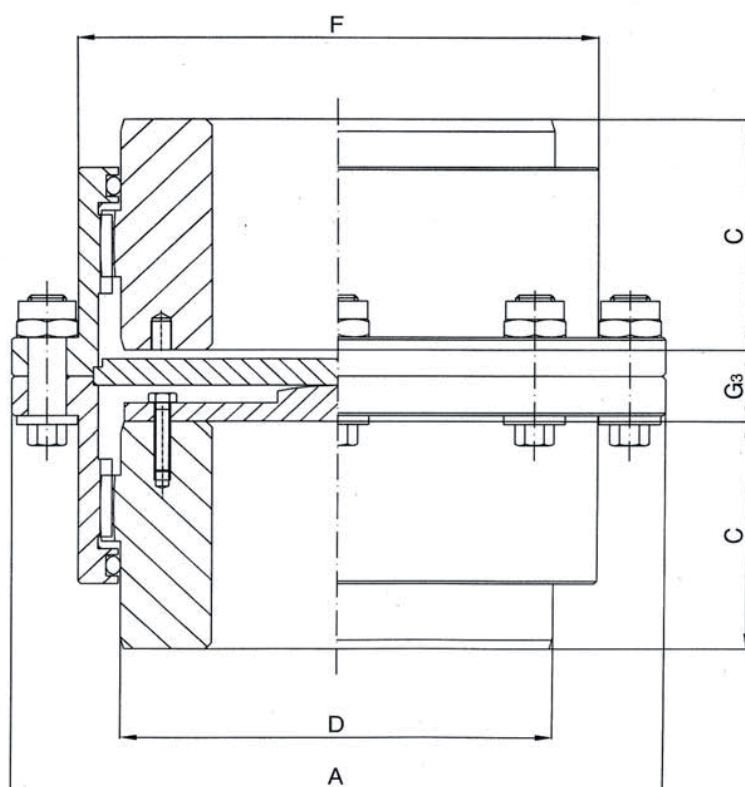
Seal flange
sizes from 280 to 450

Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Bore Max (1)(mm)	Dimensions (mm)							Mass (3) Kg	Grease (Kg)	Inertia (3) Kgm ²
	Rating T _n	Max T _{max}				A	C	F	D	M (2)	G	G1			
40	1,7	4,1	5990	12 / 50	60	111	43	82,5	69	58	3	5	4,6	0,05	0,005
55	2,7	6,2	4610	18 / 60	75	142	50	104,5	85	68	3	8	8,5	0,09	0,014
70	5,5	12	4130	28 / 75	90	168	62	130,5	107	87	3	14	13,8	0,15	0,035
85	8,5	21	3980	40 / 95	110	200	76	158,5	133	95	5	12	27	0,25	0,09
100	13,5	34	3850	50 / 110	130	225	90	183,5	152	120	5	24	39,5	0,45	0,18
120	22	54	3700	60 / 130	150	265	105	211,5	178	130	6	27	62,5	0,70	0,41
140	34	83	3200	70 / 155	175	300	120	245,5	209	135	6	32	94,6	0,90	0,78
160	43	99	2900	85 / 170	195	330	135	275	234	155	8	37	130	1,54	1,33
180	68	156	2550	95 / 190	220	370	150	307	254	195	8	50	181	2,30	2,28
200	82	195	2320	110 / 210	240	406	175	335	279	220	8	53	250	3,20	3,73
220	150	348	2100	120 / 230	260	438	190	367	305	236	8	58	320	3,90	5,59
250	195	479	1800	130 / 280	300	505	220	423	355	273	10	72	490	6,10	10,55
280	275	550	1200	150 / 325	365	580	250	475	400	-	12	-	718	5,2	21,11
320	381	762	980	170 / 370	395	630	275	520	450	-	12	-	940	5,8	34,50
360	492	984	900	190 / 400	425	700	305	556	490	-	12	-	1220	8	55,10
400	658	1316	800	210 / 430	470	760	330	615	550	-	12	-	1700	10	87,52
450	835	1670	700	240 / 475	520	825	355	680	580	-	12	-	2100	12	131,50

(1) Maximum bore for rigid coupling

(2) Minimum clearance required for alignment

(3) Values stated are calculated for solid hubs with no bores

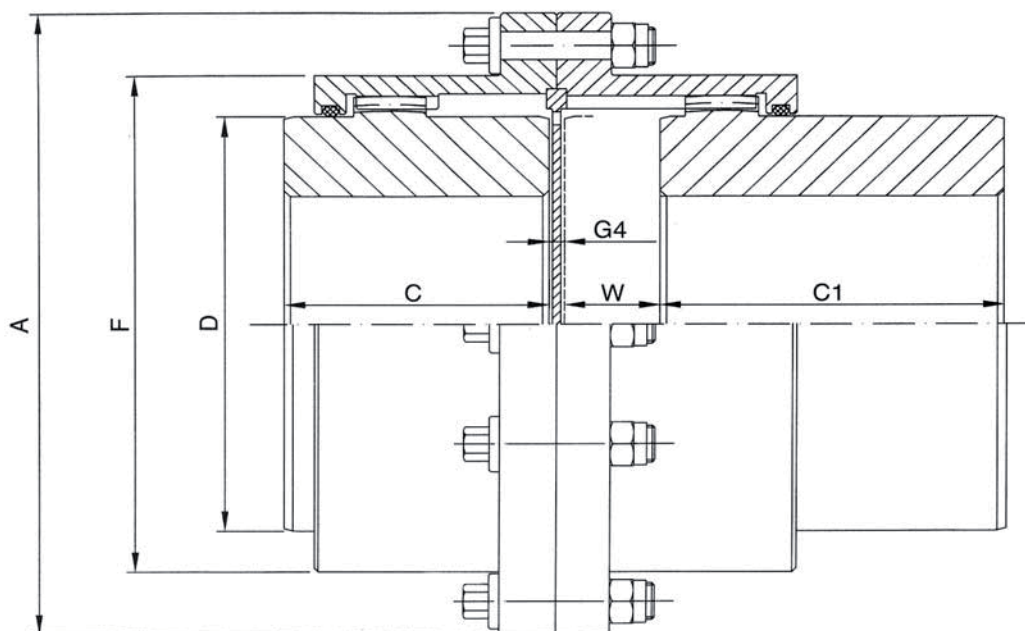


Seal flange
sizes from 280 to 450

RE...V

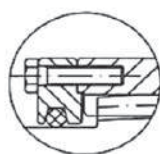
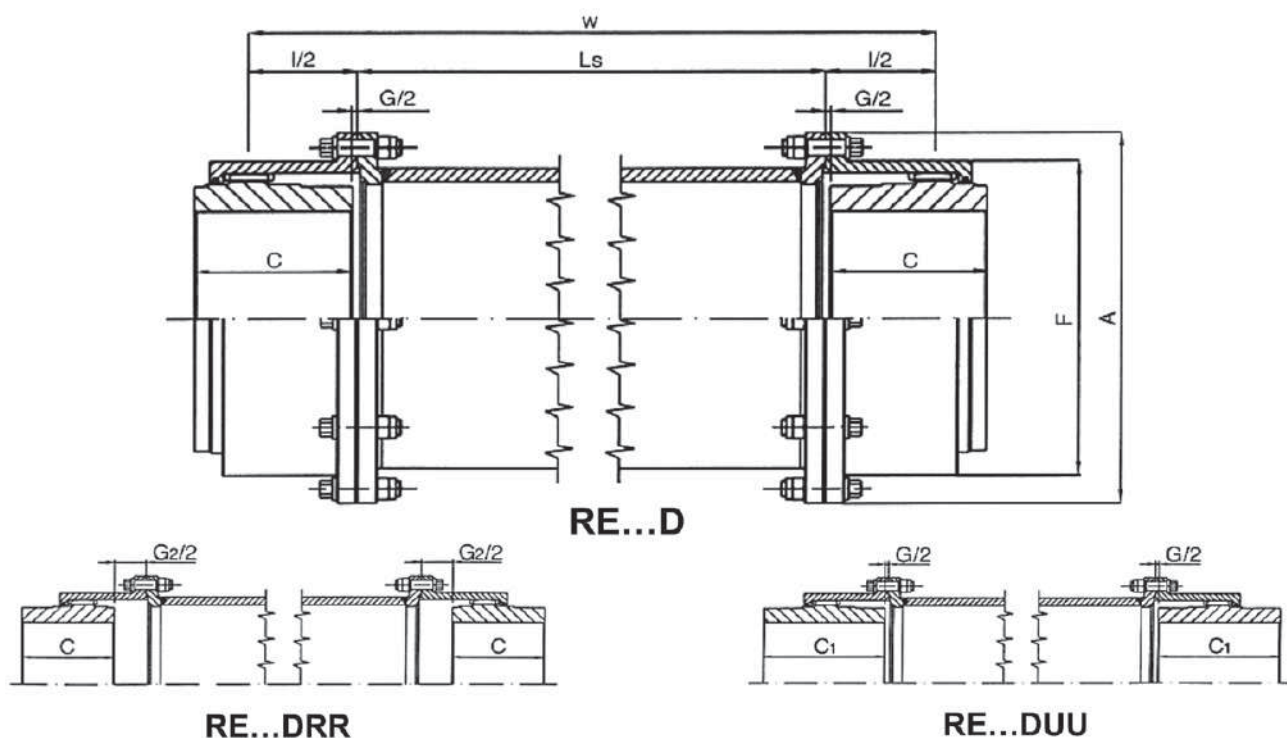
Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)					Mass (1) Kg	Grease (Kg)	Inertia (1) Kgm ²
	Rating Tn	Max Tmax			A	C	F	D	G3			
40	1,7	4,1	5990	12 / 50	111	43	82,5	69	23	5	0,08	0,005
55	2,7	6,2	4610	18 / 60	142	50	104,5	85	23	9	0,09	0,012
70	5,5	12	4130	28 / 75	168	62	130,5	107	31	15	0,15	0,032
85	8,5	21	3980	40 / 95	200	76	158,5	133	31	28	0,25	0,084
100	13,5	34	3850	50 / 110	225	90	183,5	152	43	49	0,45	0,162
120	22	54	3700	60 / 130	265	105	211,5	178	48	62	0,70	0,375
140	34	83	3200	70 / 155	300	120	245,5	209	58	95	0,90	0,728
160	43	99	2900	85 / 170	330	135	275	234	66	129	1,54	1,225
180	68	156	2550	95 / 190	370	150	307	254	92	178	2,30	2,105
200	82	195	2320	110 / 210	406	175	335	279	98	244	3,20	3,401
220	150	348	2100	120 / 230	438	190	367	305	108	307	3,90	5,052
250	195	479	1800	130 / 280	505	220	423	355	134	470	6,10	10,32
280	275	550	1200	150 / 325	580	250	495	400	140	725	6,50	20,60
320	381	762	980	170 / 370	630	275	545	450	140	970	7,20	33,50
360	492	984	900	190 / 400	700	305	589	490	140	1260	8,50	53,30
400	658	1316	800	210 / 430	760	330	649	550	150	1650	11,40	83,50
450	835	1670	700	240 / 475	825	355	714	580	150	2130	12,50	128,40

(1) Values stated are calculated for solid hubs with no bores



RE...FT

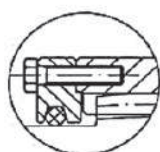
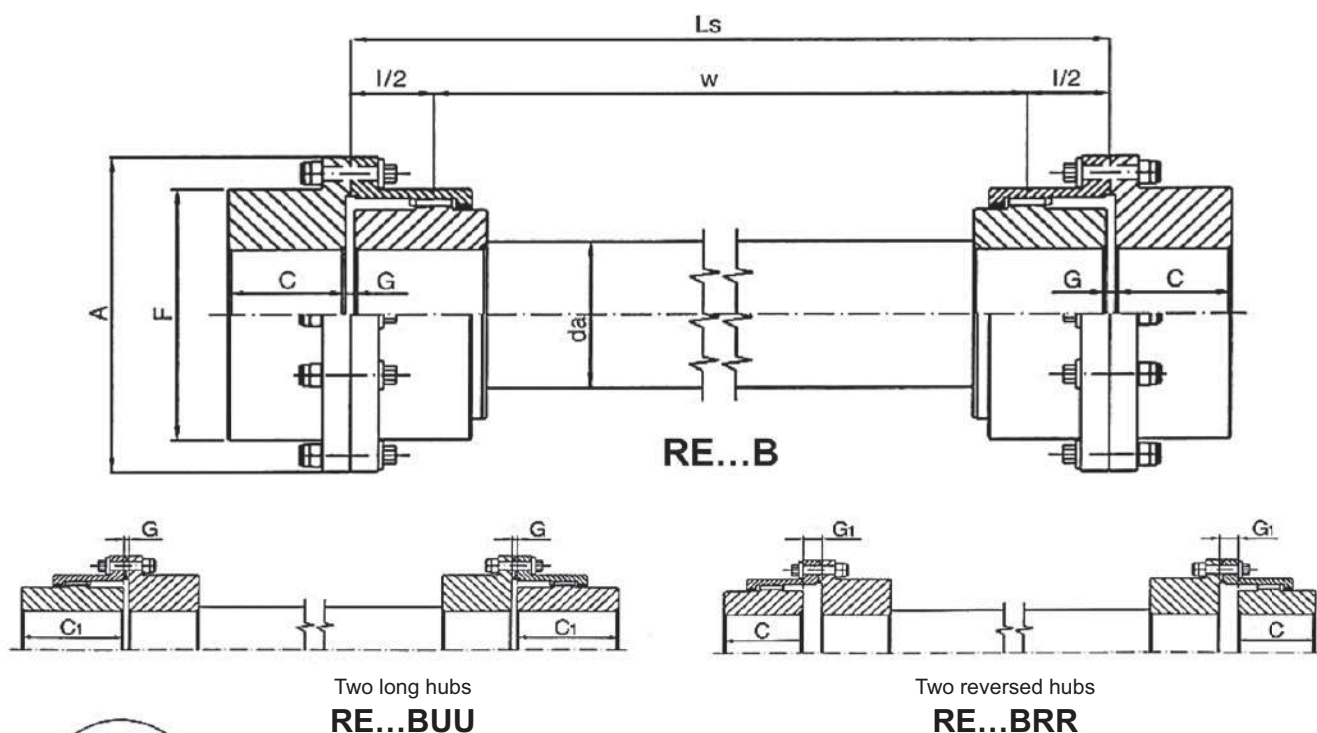
Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)						
	Rating T _n	Max T _{max}			A	F	D	C	C1	G4	W
40	1,7	4,1	5990	12 / 50	111	82,5	69	43	100	7	62
55	2,7	6,2	4610	18 / 60	142	104,5	85	50	102	7	62
70	5,5	12	4130	28 / 75	168	130,5	107	62	110	7	64
85	8,5	21	3980	40 / 95	200	158,5	133	76	122	8	72
100	13,5	34	3850	50 / 110	225	183,5	152	90	130	8	72
120	22	54	3700	60 / 130	265	211,5	178	105	144	10	80
140	34	83	3200	70 / 155	300	245,5	209	120	156	10	88
160	43	99	2900	85 / 170	330	275	234	135	162	14	88
180	68	156	2550	95 / 190	370	307	254	150	180	14	102
200	82	195	2320	110 / 210	406	335	279	175	220	14	130
220	150	348	2100	120 / 230	438	367	305	190	220	14	130
250	195	479	1800	130 / 280	505	423	355	220	210	16	110



Seal flange
sizes from 280 to 450

Maximum speed (rev/min) = $10^{(M-N \log_{10} W)}$

Size	Bore Min/Max (mm)	Dimensions (mm)								Speed Coeff.		Grease (Kg)
		A	C	C1	F	I	G	G2	Ls min	M	N	
40	12 / 50	111	43	105	82,5	48	3	7	80	9,899	2,018	0,08
55	18 / 60	142	50	115	104,5	58	3	13	90	10,184	2,066	0,09
70	28 / 75	168	62	130	130,5	76	3	25	90	9,881	1,961	0,15
85	40 / 95	200	76	150	158,5	88	5	19	100	10,069	1,985	0,25
100	50 / 110	225	90	170	183,5	114	5	43	100	10,295	2,027	0,45
120	60 / 130	265	105	185	211,5	132	6	48	110	10,295	2,027	0,70
140	70 / 155	300	120	215	245,5	152	6	58	110	10,186	1,964	0,90
160	85 / 170	330	135	245	275	172	8	66	130	10,406	1,998	1,54
180	95 / 190	370	150	295	307	200	8	92	150	10,406	1,998	2,30
200	110 / 210	406	175	300	335	228	8	98	160	10,676	2,048	3,20
220	120 / 230	438	190	305	367	248	8	108	170	10,676	2,023	3,90
250	130 / 280	505	220	310	423	292	10	134	180	10,682	2,024	6,10
280	150 / 325	580	250	-	495	-	12	-	-	-	-	6,50
320	170 / 370	630	275	-	545	-	12	-	-	-	-	7,20
360	190 / 400	700	305	-	589	-	12	-	-	-	-	8,50
400	210 / 430	760	330	-	649	-	12	-	-	-	-	11,40
450	240 / 475	825	355	-	714	-	12	-	-	-	-	12,50

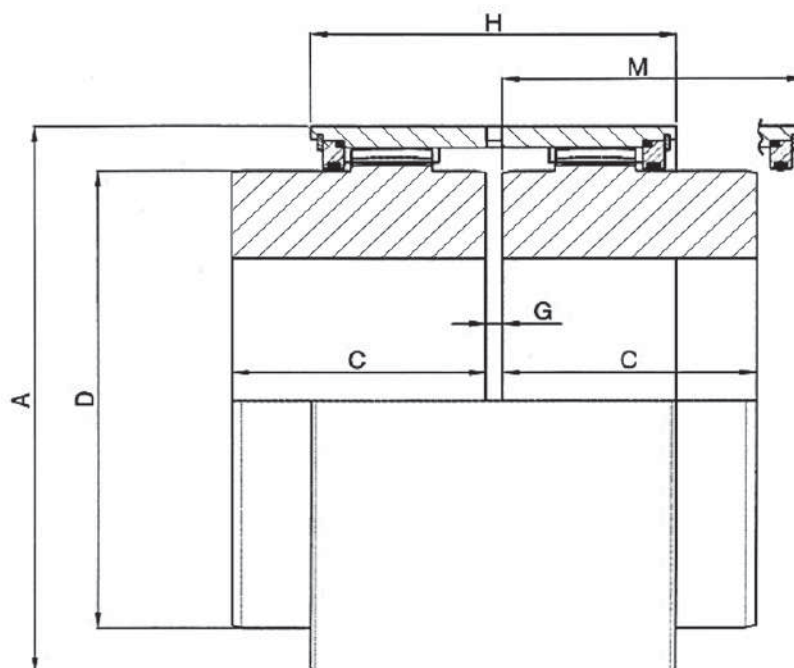


Seal flange
sizes from 280 to 450

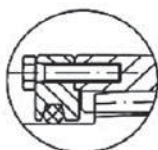
Maximum speed (rev/min) = **10** $(M-N \log_{10} W)$

Size	Bore Min/Max (mm)	Bore Max (1) (mm)	Dimensions (mm)								Speed Coeff.	
			A	C	C1	F	da	l	G	G1	M	N
40	12 / 50	60	111	43	105	82,5	55	48	3	5	9,569	1,995
55	18 / 60	75	142	50	115	104,5	65	58	3	8	9,591	1,982
70	28 / 75	90	168	62	130	130,5	80	76	3	14	9,622	1,962
85	40 / 95	110	200	76	150	158,5	100	88	5	12	9,844	1,997
100	50 / 110	130	225	90	170	183,5	110	114	5	24	10,043	2,045
120	60 / 130	150	265	105	185	211,5	130	132	6	27	10,011	2,016
140	70 / 155	175	300	120	215	245,5	150	152	6	32	9,901	1,966
160	85 / 170	195	330	135	245	275	170	172	8	37	9,964	1,969
180	95 / 190	220	370	150	295	307	190	200	8	50	9,856	1,926
200	110 / 210	240	406	175	300	335	200	228	8	53	10,075	1,978
220	120 / 230	260	438	190	305	367	220	248	8	58	10,353	2,043
250	130 / 280	300	505	220	310	423	250	292	10	72	10,387	2,038
280	150 / 325	365	580	250	-	495	-	-	12	-	-	-
320	170 / 370	395	630	275	-	545	-	-	12	-	-	-
360	190 / 400	425	700	305	-	589	-	-	12	-	-	-
400	210 / 430	470	760	330	-	649	-	-	12	-	-	-
450	240 / 475	520	825	355	-	714	-	-	12	-	-	-

(1) Maximum bore for rigid coupling



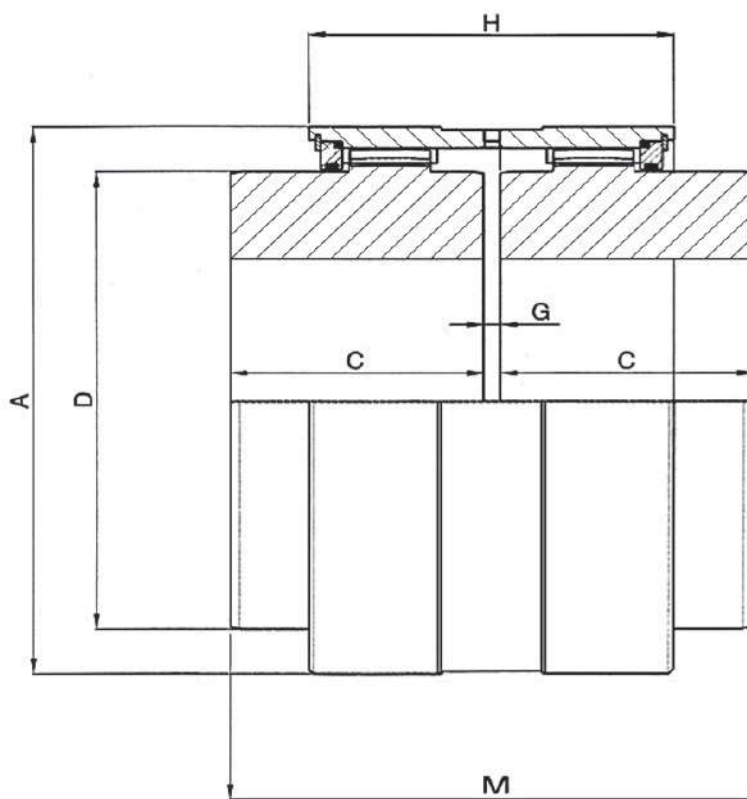
RE...M



Seal flange
sizes from 280 to 450

Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)						Mass (2) Kg	Grease (Kg)	Inertia (2) Kgm²
	Rating	Max			A	C	D	H	M (1)	G			
	Tn	Tmax											
40	1,7	4,1	5990	12 / 50	98	43	69	86	91	3	4	0,07	0,005
55	2,7	6,2	4610	18 / 60	115	50	85	97	102	3	8	0,08	0,011
70	5,5	12	4130	28 / 75	145	62	107	112	117	3	12,5	0,1	0,031
85	8,5	21	3980	40 / 95	176	76	133	141	146	5	25	0,2	0,082
100	13,5	34	3850	50 / 110	196	90	152	145	150	5	34	0,4	0,15
120	22	54	3700	60 / 130	225	105	178	164	169	6	58	0,6	0,325
140	34	83	3200	70 / 155	256	120	209	180	185	6	86	0,8	0,685
160	43	99	2900	85 / 170	286	135	234	198	203	8	118	1,5	1,125
180	68	156	2550	95 / 190	310	150	254	194	200	8	155	2	1,724
200	82	195	2320	110 / 210	345	175	279	220	225	8	225	3	2,802
220	150	348	2100	120 / 230	375	190	305	234	240	8	270	3,5	4,542
250	195	479	1800	130 / 280	430	220	355	264	270	10	404	4	8,42
280	275	550	1200	150 / 325	495	250	400	302	305	12	590	4,5	15,73
320	381	762	980	170 / 370	545	275	450	328	340	12	785	5,5	24,82
360	492	984	900	190 / 400	590	305	490	336	350	12	980	6	35,66
400	658	1316	800	210 / 430	650	330	550	348	360	12	1395	7	58,72
450	835	1670	700	240 / 475	715	355	580	356	370	12	1790	9,5	95,42

- (1) Minimum clearance required for assembling and alignment
(2) Values stated are calculated for solid hubs with no bores



Standard hubs

RE...MC

One long hub

RE...MCL

Two long hubs

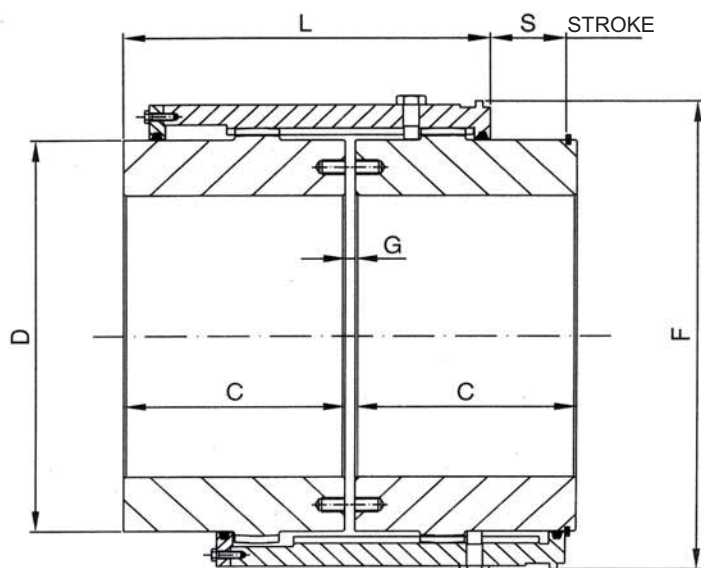
RE...MCLL

Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)								Mass Kg			J (1) Kg cm ²
	Rating	Max			Standard series						Long series		Sleeve	Standard hub	Long hub	
					Tn	Tmax	A	C	D	H	M	G				
25	600	1524	6000	0 / 28	68	41	42	61	85	3	60	123	0,72	0,48	0,69	8,68
32	1000	2520	5000	0 / 38	85	48,5	55	73	100	3	80	163	1,14	0,99	1,58	25,1
40	1250	3125	4200	0 / 48	95	56	64	82	115	3	80	163	1,68	1,49	2,10	44,82
56	2500	6200	3500	0 / 60	120	68	80	97	140	4	100	204	2,86	2,96	4,22	132,6
63	4000	9260	3000	0 / 70	140	74,5	100	108	153	4	119,5	243	3,75	4,90	7,67	278,2
80	7500	18000	2600	0 / 90	175	82,5	125	125	170	5	140	285	5,58	8,72	14,26	558,6
100	12000	28500	1400	0 / 110	198	105	150	148	216	6	174,5	355	6,63	15,76	25,40	1044,5
125	23600	56250	950	40 / 140	245	140	190	214	288	8	207,5	423	17,70	32,60	49,50	3650
155	40000	90000	700	40 / 175	300	180	240	240	370	10	245	498	28,30	65,50	91,40	9982

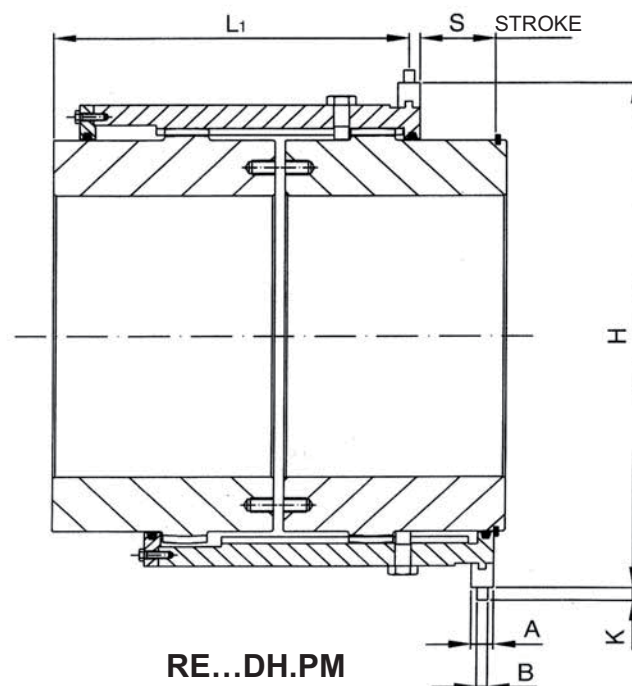
(1) Values stated are calculated for standard coupling with maximum bore without key seat

(2) Couplings with hubs suitable for shafts of UNEL-MEC series motors

Couplings of size **125** and **155** are manufactured with 39NiCrMo3 steel, hardened and tempered



RE...DH.MN



RE...DH.PM

Size	Torque (kNm)		Max speed (rpm)	Bore Min/Max (mm)	Dimensions (mm)											Grease (Kg)
	Rating	Max			F	C	D	L	L1	G	S	A	B	K	H	
	Tn	Tmax														
40	1,7	4,1	5990	12 / 50	100	60	69	100	90	3	17	20	12	12	130	0,08
55	2,7	6,2	4610	18 / 60	120	70	85	110	100	3	18	20	12	12	150	0,09
70	5,5	12	4130	28 / 75	152	85	107	140	128	3	29	24	16	16	190	0,15
85	8,5	21	3980	40 / 95	175	95	133	155	143	5	32	24	16	16	210	0,25
100	13,5	34	3850	50 / 110	200	105	152	170	158	5	34	24	16	16	240	0,45
120	22	54	3700	60 / 130	230	120	178	195	179	6	39	32	20	20	270	0,7
140	34	83	3200	70 / 155	260	130	209	205	189	6	45	32	20	20	310	0,9
160	43	99	2900	85 / 170	290	150	234	240	224	8	50	32	20	20	330	1,54
180	68	156	2550	95 / 190	320	175	254	280	264	8	56	32	20	20	360	2,3
200	82	195	2320	110 / 210	350	190	279	300	280	8	62	40	24	22	400	3,2
220	150	348	2100	120 / 230	395	220	305	350	330	8	70	40	24	22	450	3,9
250	195	479	1800	130 / 280	450	250	355	400	375	10	77	50	28	24	510	6,1
280	275	550	1200	150 / 325	545	275	400	430	405	12	80	50	28	24	610	6,5
320	381	762	980	170 / 370	590	300	450	470	440	12	87	60	32	30	660	7,2
360	492	984	900	190 / 400	640	335	490	510	480	12	95	60	32	30	710	8,5
400	658	1316	800	210 / 430	715	360	550	560	520	12	100	80	44	40	810	11,4
450	835	1670	700	240 / 475	780	390	580	600	560	12	110	80	44	40	870	12,5

Assembly instructions / Lubrication and maintenance

RE gear couplings are packed and delivered without lubrication. Couplings are supplied with a special corrosion-proof protective grease. You are required to follow the instructions below to assure correct assembly and maintenance. These instructions assume a grease lubrication. Special tools are not required for the assembly.

1. Assembly

- 1.1 Check that the minimum space required for assembly is available between the machines as shown on the tables. Verify that the coupling is installed with the hubs in normal or in reversed position.
- 1.2 Disassemble the coupling and clean all the surfaces.
- 1.3 Position the key in the suitable keyseat on the shaft. Insert the O-ring in the seat of the external sleeve and install it on the shaft. For sizes starting from 590 insert the O-ring in the cover plate, insert the hub on the shaft being careful to not damage the O-ring. Do the same with the other half coupling. Use of a molikote based grease can be useful for hub assembly.
- 1.4 For assembly with an interference fit, O-rings or cover plates must be adequately protected during the hub warming up. In case of assembling a coupling with heat treated teeth, is important that the hub temperature is not higher than 200°C.
- 1.5 With the hubs assembled on the shafts, check that the alignment and dimension "S" is according to the dimensional tables with a tolerance of 0.5 mm (axial). Check the shaft alignment carefully.
- 1.6 Apply some joint adhesive on the mating surfaces of the toothed sleeves of the coupling. For sizes starting from 590 joint adhesive must be applied on contact surfaces of the closing plates. Then insert the bolts and complete the assembly of the coupling. Position the lubrication holes on the toothed sleeves offset by 90°.
- 1.7 Fill the coupling with the right quantity of grease when the assembly is completed.
- 1.8 Check that the coupling has angular and axial movement. Note: accident prevention rules (d.p.r. 27.04.75 nr. 457 art. 55) require fixed guard on rotating parts.

2. Maintenance

- 2.1 Completely replace the grease every 8000 hours of operation, by carefully cleaning the coupling and checking the shaft alignment.
- 2.2 For ambient temperature from -10°C to +90°C, use of a grease with EP features and lithium based additive is required.
We suggest the use of the following lubricants (with standard ambient and operating conditions):

AGIP:	GR-MU/EPO (EP1)	SHELL:	ALVANIA EP GREASE 1
API:	APIGREASE PGX-0	MOBIL:	MOBILGREASE-SPECIAL
IP:	ATHESIA-EPO	ESSO:	PEN-O-LED-EP 350

- 2.3 Add new grease every 5-6 months if necessary and check the free axial movement of the toothed sleeves.
- 2.4 In case of grease leakage from the toothed sleeves, disassemble the coupling, clean the mating surfaces, apply new joint adhesive and fill the coupling with new grease. For high service temperatures contact our technical dept. for the choice of the proper lubricant.

Coupling selection

The correct selection of the coupling can be accomplished using the following procedure:

1) Pre-select the coupling size according to the shaft diameter of the gearbox to which the coupling hub has to be mounted (reference dimensional table, maximum bore allowed)

2) Determine your real transmissible torque to apply to the coupling with the following formula :

$$MT \text{ MAX.} = P/N \times sf \times 955 \text{ (daNm)}$$

Where: **P** = power kW

N = r.p.m. of drum

sf = service factor (see table n° 1)

955 = fixed coefficient

Check that the applied torque doesn't exceed the nominal torque for the pre-selected coupling.

3) Calculate the radial load on the coupling, function of the rope pull load, the hoisting efficiency and rope drum weight, use the following formula:

$$P = T + G/2 \text{ (daN)}$$

P = radial load (daN)

T = rope pull load (daN)

G = drum force weight (daN)

Check that the calculated radial load doesn't exceed the maximum acceptable radial load for the pre-selected coupling.

4) Example:

Gearbox shaft diameter 220mm.

Power to transmit 45kW

r.p.m. 9

Rope pull load 10.000 daN

Drum force weight 1.250 daN

Service factor 2

Torque calculated MT max. = $45/9 \times 2 \times 955 = 9550 \text{ daNm}$

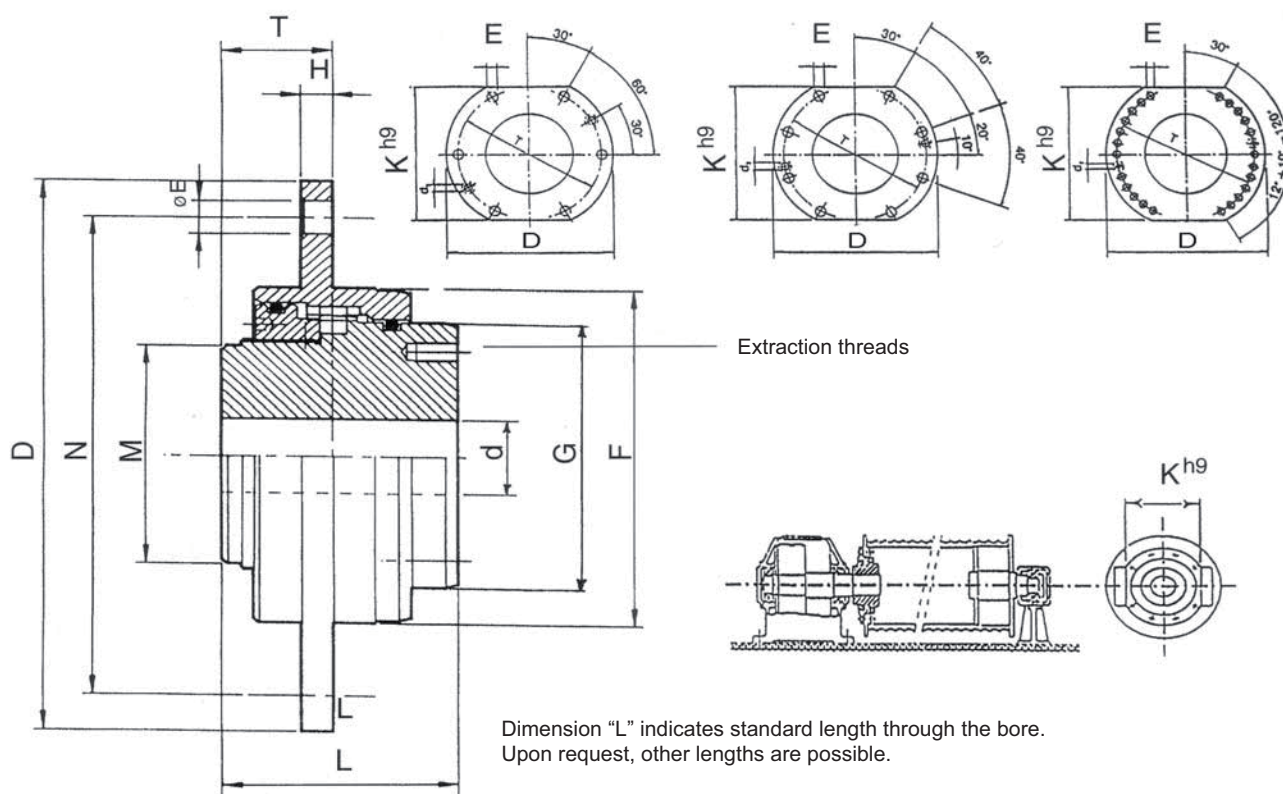
Compare the values obtained with the values indicated in the table n° 2 to assure that the right coupling for that application is the type AR 450/J

Table 1 - Service factor "fs" according to the standards

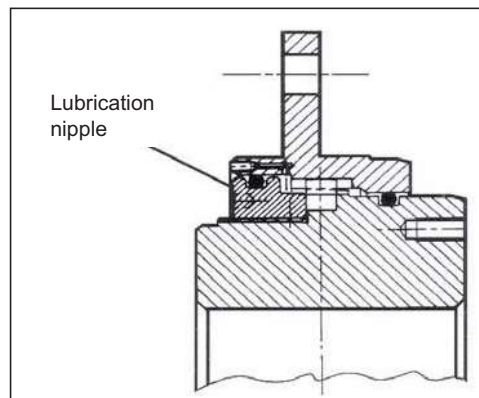
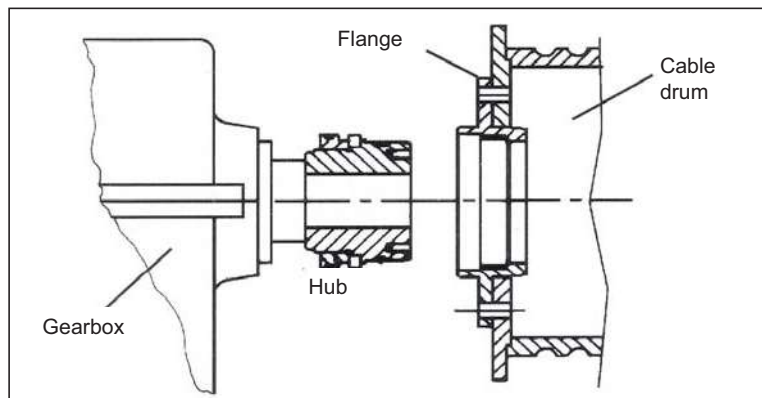
Per Standard DIN 15020	IBm	1am	2m	3m	4m	5m				
Per Standard REM	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9
Service Factor	1.12	1.25	1.4	1.6	1.8	2	2.25	2.5	2.75	3

Table 2 - Coupling Selection

COUPLING AR.../J	140	160	180	200	220	240	260	280	310	340	400	420	450	530	560	600	670	730
Bore d in mm	min.	30	30	30	50	50	60	60	60	70	70	90	90	100	100	120	120	140
	max.	65	80	85	95	105	115	130	140	160	175	210	220	235	290	310	330	375
Mass	kg	10	12	20	24	28	32	40	55	72	94	130	160	200	300	370	415	600
Torque (nom.)	daNm	250	400	780	1350	1600	1850	2200	3200	4000	5100	7700	9200	13000	19000	31000	42000	54000
Radial load cap.	daN	1200	1400	1800	2500	3100	3700	4200	5200	6300	7950	11250	12300	14500	20200	22200	26000	32300



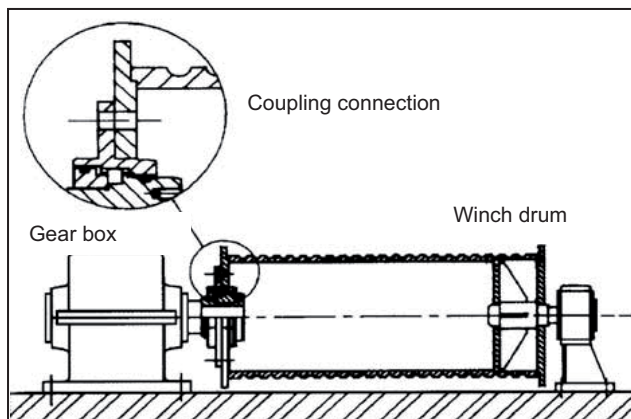
COUPLING AR.../J		140	160	180	200	220	240	260	280	310	340	400	420	450	530	560	600	670	730
Bore d in mm	min.	30	30	30	50	50	60	60	60	70	70	90	90	100	100	120	120	140	140
	max.	65	80	85	95	105	115	130	140	160	175	210	220	235	290	310	330	375	410
Dimens. in mm	D	230	250	280	320	340	360	380	400	420	450	510	550	580	650	680	710	780	850
	M	90	110	120	135	145	163	183	195	225	255	310	325	350	425	455	490	555	615
	F h6	140	160	180	200	220	240	260	280	310	340	400	420	450	530	560	600	670	730
	T	42	42	42	45	45	45	45	45	45	60	60	60	60	65	65	81	81	81
	L	90	95	100	110	125	130	145	170	175	185	220	240	260	315	350	380	410	450
	H	12	12	12	15	15	15	15	15	15	20	20	20	20	25	25	25	25	25
	N	200	220	250	280	300	320	340	360	380	400	460	500	530	600	630	660	730	800
	G	110	130	142	157	175	195	215	231	261	286	346	361	386	461	491	526	591	651
	Ø E H8	14	14	14	18	18	18	18	18	18	24	24	24	24	24	24	28	28	28
	N° holes	6	6	6	6	6	6	6	6	6	6	6	6	8	8	24	24	24	24
	K h9	200	220	250	280	300	320	340	360	380	400	460	500	530	580	600	640	700	760
Mass		13	16	24	29	35	42	54	67	90	108	150	190	230	395	460	520	740	890
Torque (nom.)		250	400	780	1350	1600	1850	2200	3200	4000	5100	7700	9200	13000	19000	31000	42000	54000	75000
Radial load cap.		1200	1400	1800	2500	3100	3700	4200	5200	6300	7950	11250	12300	14500	20200	25000	30000	34000	39000



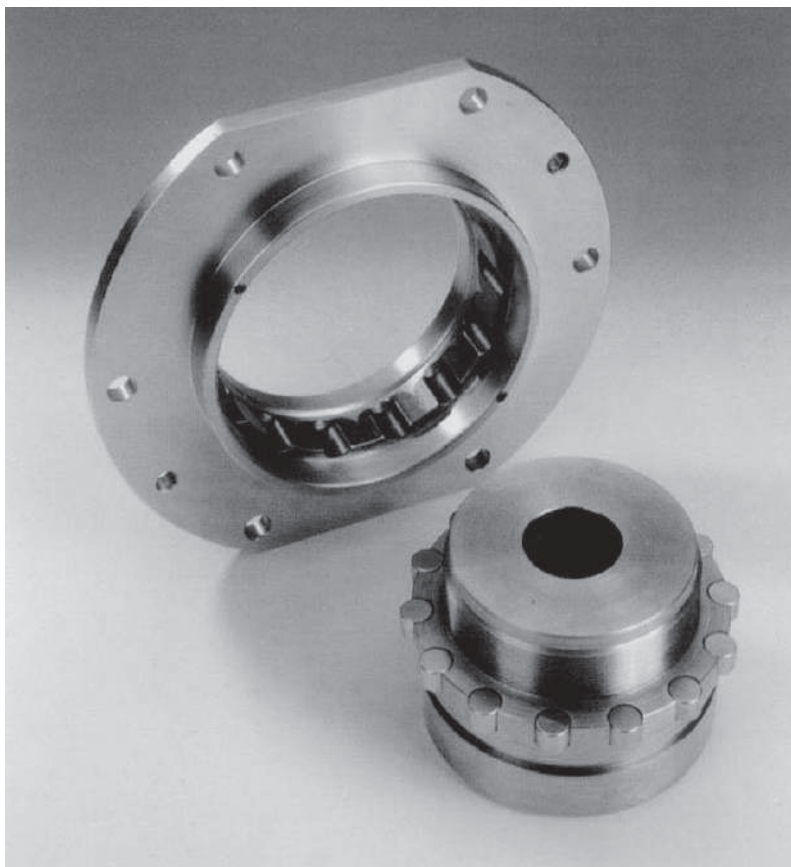
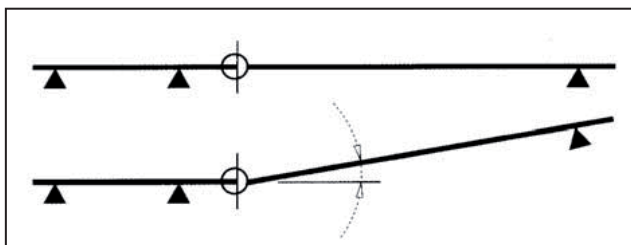
The Coupling is supplied without lubrication. The outside of the coupling is protected with a rust resistant coating. No special tools are necessary to assemble the coupling and it is not even necessary to clean the coupling. The hub must be installed on the shaft with a light interference fit. Proceed as follows:

- 1 Remove the packing material from the shaft.
- 2 Heat the shaft in an oil bath or with a flame to a temperature of approximately 120°C, but not exceeding 130 - 135°C.
- 3 After checking the dimensions, install the coupling so that the coupling hub fits securely on the shaft.

Installation example



Misalignment



Maintenance

- 1 Every 6000 hours the grease must be removed, the coupling thoroughly cleaned and the components inspected and state of wear determined.
- 2 Use a grease that has added lithium for temperatures of -10°C e 90°C. We recommend the following greases:

AGIP GR-MU/EPO (EP1)
IP ATHESIA EPO
MOBILGREASE SPECIAL
ESSO PEN-O-LED EP 360
SHELL ALVANIA EP GREASE I
API GREASE PGX-O

- 3 Every six months top off with more grease as necessary.



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ROTOGEAR

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