



escogear

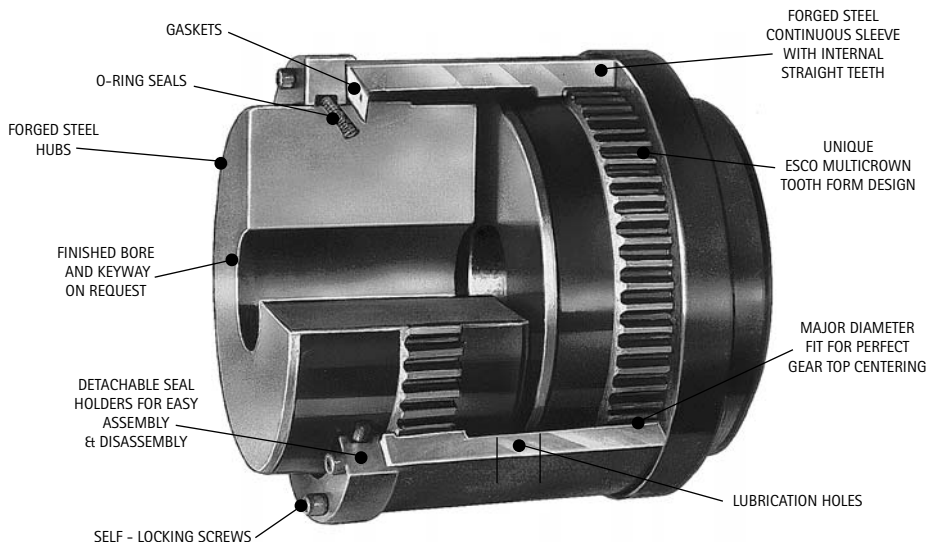
FLEXIBLE GEAR COUPLINGS

SERIES C and C... M

The most compact solution

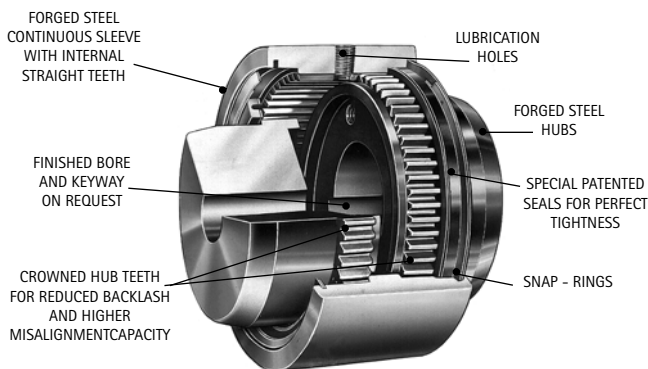
Maximum torque: up to 174 000 Nm
Bores: up to 290 mm

COMPACT
SIMPLE AND ROBUST
EASY TO ASSEMBLE



Maximum torque: up to 8 500 Nm
Bores: up to 110 mm

COMPACT
SIMPLE AND ROBUST
ONLY 7 PARTS:
Two snap rings
Two hubs and one sleeve
Two seals

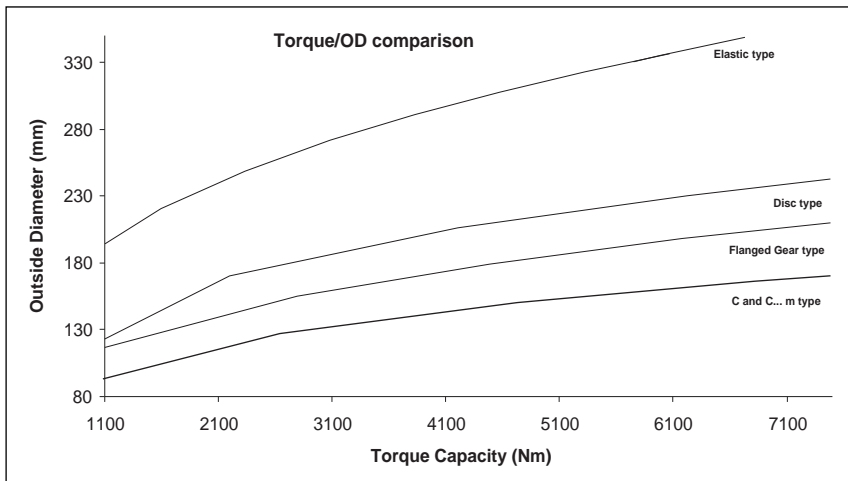


Most compact solution

Thanks to the high torque capacity and the continuous sleeve design, the escogear C and C... M couplings are the most compact answer to any transmission applications. In comparison to other types of couplings and for a given torque they have a substantially lower weight and reduced outside diameter:


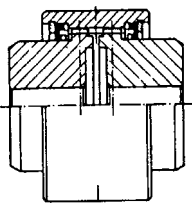
- <-> Flanged Gear type : 17% smaller O.D.
- <-> Disc type : 30% smaller O.D.
- <-> Elastic type : 52% smaller O.D.


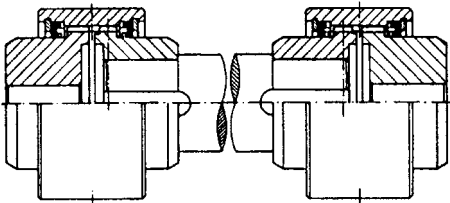
This compactness makes the escogear C series ideal for use in applications where space is limited and weight important


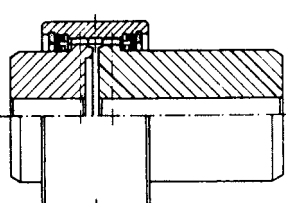



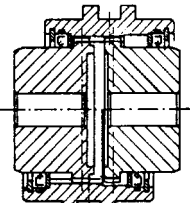



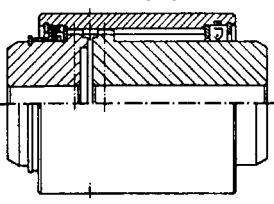
AVAILABILITIES


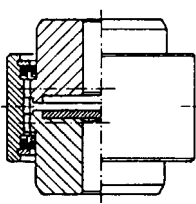
CST  ← A310 STANDARD 


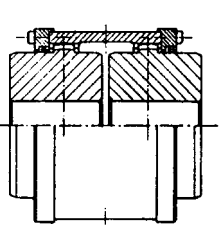
CFS - CFS... M  ← A311 FLOATING SHAFT 


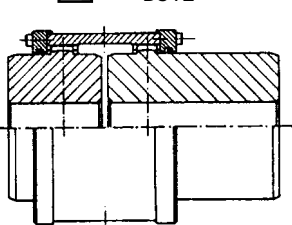
CMM  ← A312 MILL MOTOR 


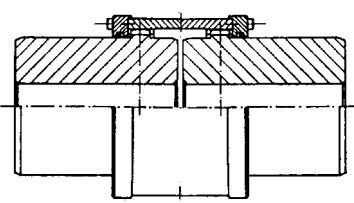
CCO  ← A314 CUT-OUT 


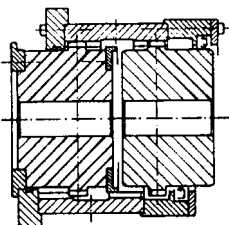
CSH  ← A315 SLIDING HUB 


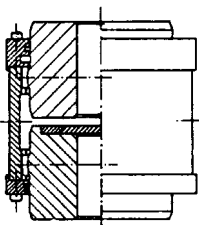
CSV  ← A316 STANDARD VERTICAL 

CST... M  ← B310 STANDARD 

CMM... M  ← B312 MILL MOTOR 

CDMM... M  ← B313 MILL-MOTOR 

CCO... M  ← B314 CUT-OUT 

CSV... M  ← B316 STANDARD VERTICAL 



escogear

SERIES C / CST...M

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 = $\frac{9550 \times P \times F_u \times F_{Ex}}{n}$

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

$F_{Ex} = 2$ in case of use in potentially explosive atmospheres (Ex), European Directive 94/9/EC. In normal atmospheres, $F_{Ex} = 1$.

The coupling selected per (A) must have an equal or greater torque capacity than the result of the formula (B). If not select a larger size coupling. Check if application peak torque does not exceed tabulated peak torque T_p indicated planographs A310 to B317.

Check also max. allowable misalignment using the graph of tabulations 2 and 3.

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

D. Read carefully assembly and maintenance instructions IM/A300 and IM/B300.

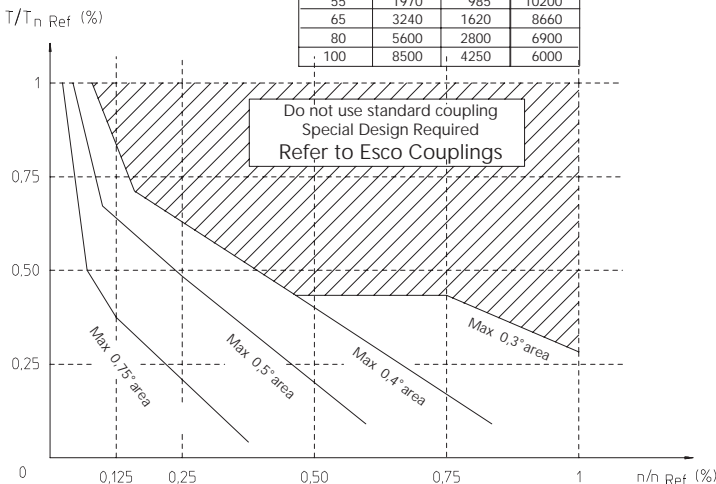
DRIVEN MACHINE		APPLICATIONS	DRIVER MACHINE		
			Electric motors Turbines	Hydraulic motors Gears drivers	Reciprocating engine Electric motors frequent starts
UNIFORM SHOCKS	Generators - Blowers: centrifugal vane, fans - Centrifugal pumps and compressors - Machine tools: auxiliary drives - Conveyors: 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	
	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	

1) MAXIMUM MISALIGNMENT

TABULATION 2

CST

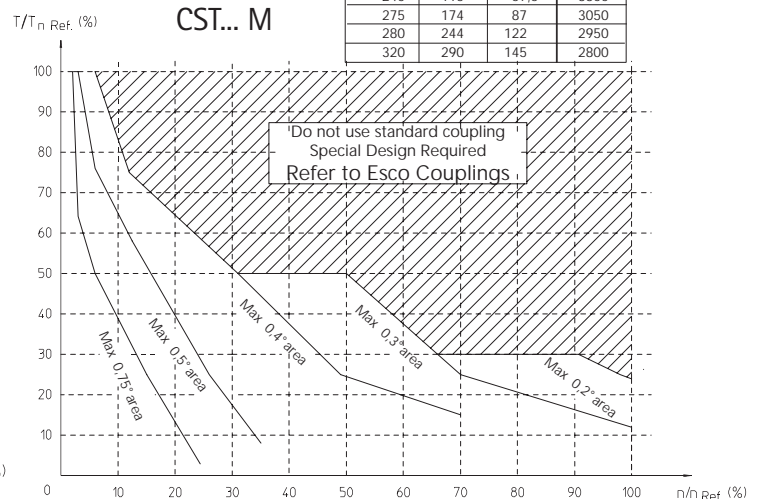
CST Size	Tn Nm	Tn (Ex) Nm	n Ref min-1
30	550	275	16000
40	1100	550	13800
55	1970	985	10200
65	3240	1620	8660
80	5600	2800	6900
100	8500	4250	6000



TABULATION 3

GRAPH (T, n)

CST...M Size	Tn kNm	Tn (Ex) kNm	n Ref min-1
110	16	8	6050
130	22	11	5150
155	32	16	4300
175	45	22.5	3950
195	62	31	3600
215	84	42	3450
240	115	57.5	3300
275	174	87	3050
280	244	122	2950
320	290	145	2800



HOW TO USE THE GRAPH ?

Maximum torque, maximum speed and maximum misalignment may not occur simultaneously.

Graph must be used as follows:

1. Calculate T_n and T_p and select coupling size as usual. T_n = nominal torque; T_p = peak torque
2. Calculate T_n/T_nRef 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
5. In case of use in potentially explosive atmospheres (Ex), proceed the same way but using $T_n Ref (Ex)$ for the calculation. Max misalignment may not exceed 0,5° per gear mesh.



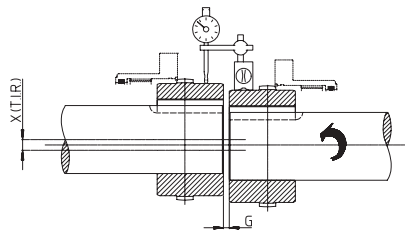
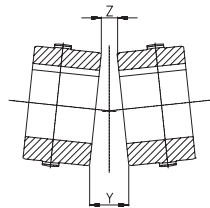


2) MINIMUM MISALIGNMENT = $\Delta K_{w\min} = 0,1^\circ$

3) MISALIGNMENT CONTROL

1- Measure X (TIR) - 2- Measure Y-Z - 3- Verify the relationship for the misalignment control: $\Delta K_{w\min} \leq \frac{X}{K_x} + \frac{Y-Z}{K_y} \leq 0,75 \times \Delta K_{w\max}$

CST...M	Kx	Ky
110	3,80	5,27
130	4,47	6,21
155	5,03	7,44
175	5,72	8,20
195	6,35	9,18
215	7,47	9,98
240	8,24	11,00
275	9,18	12,99



4) EXAMPLES:

Calculation

$$\left. \begin{aligned} T/T_n \text{ ref} &= 30\% \\ n/n \text{ ref} &= 30\% \end{aligned} \right\} \Delta K_{w\max} = 0,4^\circ$$

CST...M 175: $K_x = 5,72$ $K_y = 8,2$

Measurement

X (TIR) = 0,9 mm Y-Z = 0,4 mm

Control

Formule:

$$\Delta K_{w\min} \leq \frac{X}{K_x} + \frac{Y-Z}{K_y} \leq 0,75 \times \Delta K_{w\max}$$

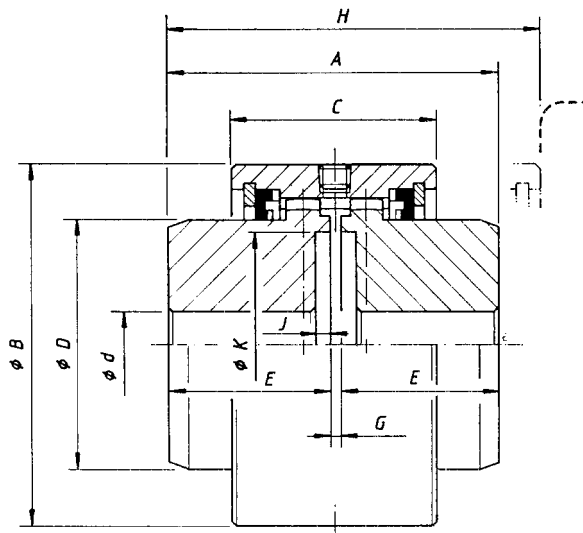
Calculation : $0,1^\circ \leq \frac{0,9}{5,7} + \frac{0,4}{8,2} \leq 0,75 \times 0,4$

LEGEND OF USED PICTOGRAMS		Notes for series C / CST...M	
	MAXIMUM NOMINAL BORE (mm)	<ol style="list-style-type: none"> 1 For key according to ISO R 773. 2 Gear maximum continuous transmissible torque for the tabulated misalignment. 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. <p>* Max. torque, speed and misalignment tabulated values may not be cumulated. See IM/A300, IM/B300.</p>	
	MINIMUM BORE (mm)		
	MAXIMUM BORE (mm)		
	Tn		MAXIMUM NOMINAL TORQUE (Nm)
	Tp		MAXIMUM PEAK TORQUE (Nm)
			MAXIMUM SPEED (rpm)
			MAXIMUM OFFSET (mm)
			MAXIMUM ANGULAR MISALIGNMENT (degree)
			INERTIA (kgm ²)
			WEIGHT (kg)
		GREASE QUANTITY (dm ³)	



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CST 30 ⇨ 100



max. 1,5°

←A150			Type CST					
			30	40	55	65	80	100
	d Ø nominal max.	mm	32	42	57	70	85	100
	d Ø min.	mm	0	0	22	25	38	38
	* d Ø max.	mm	35	42	63	75	90	110
	Tn	Nm	550	1100	1970	3240	5600	8500
	1m ↓ Tp		1100	2200	3940	6480	11200	17000
	3.1	tr/min omw/min	5500	5100	4400	4000	3600	3400
	3.2	rpm min ⁻¹	7750	7200	6200	5600	5100	4800
	—	degré graad degree Grad	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75
	—	mm	0,1	0,14	0,14	0,19	0,22	0,23
	4	kgm ²	0,002	0,004	0,010	0,022	0,052	0,122
	5	kg	2	3,4	6	9,1	15	29
	6	dm ³	0,022	0,036	0,063	0,114	0,201	0,270
mm: ±	A	mm	80	95	110	120	140	222
	B	mm	84	95	120	140	168	190
	C	mm	50	65	68	80	95	102
	D	mm	50,9	60,4	82,6	100	121	143
	E	mm	38,5	46	53,5	57	67	108
	G	mm	3	3	3	6	6	6
	H	mm	96	117	124	146	175	223
	J	mm	3	5	5	6	6	6
	K	mm	49	57	76	95	121	140

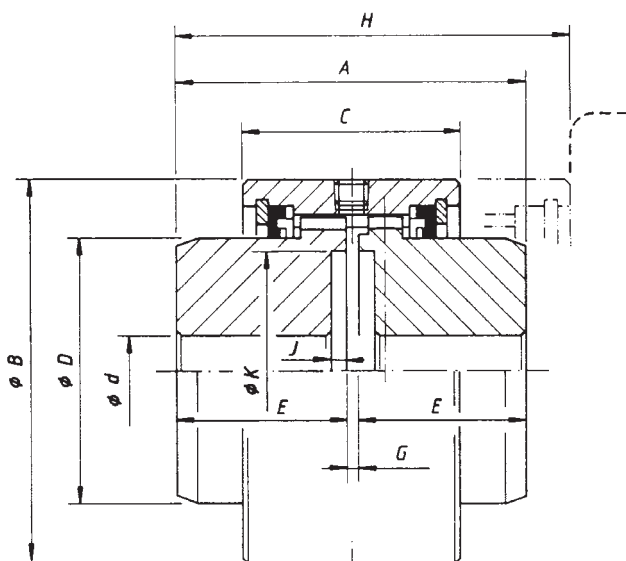
* Consult us



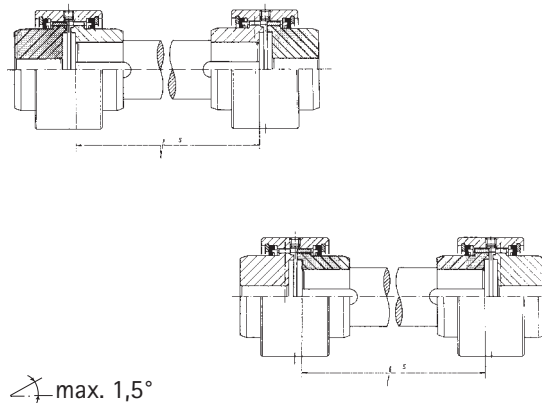
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CFS 30 ⇨ 100

FLEX - RIGID



SET FLOATING SHAFT



Shaft can be supplied at demands

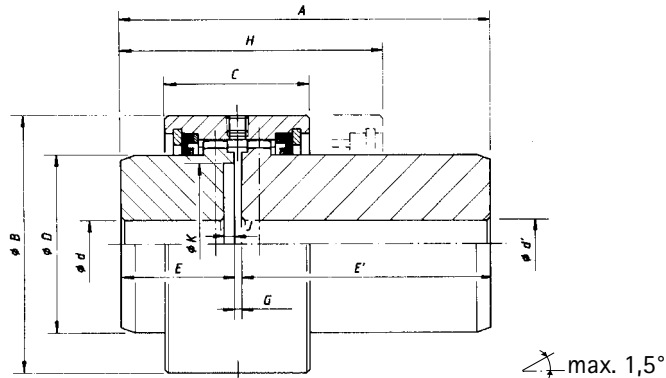
← A150			Type CFS					
			30	40	55	65	80	100
d Ø nominal max. d Ø min. * d Ø max.	1	mm	32	42	57	70	85	100
		mm	0	0	22	25	38	38
		mm	35	42	63	75	90	110
1m Nm	Tn	Nm	550	1100	1970	3240	5600	8500
	Tp	Nm	1100	2200	3940	6480	11200	17000
/min.max.	3.3	tr/min omw/min rpm min ⁻¹						
α	—	degré graad degree Grad	0,75	0,75	0,75	0,75	0,75	0,75
J (WR ²)	4	kgm ²	0,002	0,004	0,010	0,022	0,052	0,122
	5	kg	2	3,4	6	9,1	15	29
Grease	6	dm ³	0,022	0,036	0,063	0,114	0,201	0,270
mm: ±	A	mm	80	95	110	120	140	222
	B	mm	84	95	120	140	168	190
	C	mm	50	65	68	80	95	102
	D	mm	50,9	60,4	82,6	100	121	143
	E	mm	38,5	46	53,5	57	67	108
	G	mm	3	3	3	6	6	6
	H 10	mm	96	117	124	146	175	223
	J	mm	3	5	5	6	6	6
	K	mm	49	57	76	95	121	140
min.	S 8	mm	76	92	105	114	133	204

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CMM 30 ⇨ 100



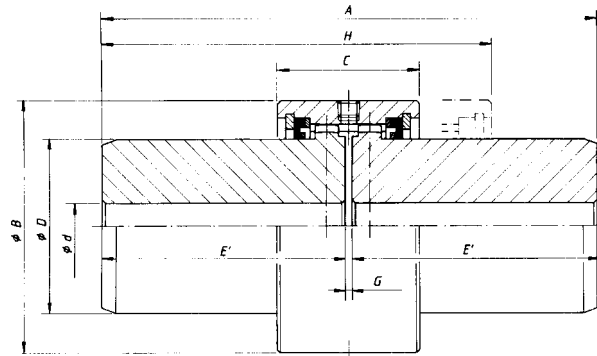
←A150		Type CMM							
		30	40	55	65	80	100		
	d Ø nominal max.	mm	32	42	57	70	85	100	
	d Ø min.	mm	0	0	22	25	38	38	
	* d Ø max.	mm	35	42	63	75	90	110	
	d' Ø nominal max.	mm	32	42	57	70	85	100	
	d' Ø min.	mm	0	0	0	0	40	40	
	* d' Ø max.	mm	35	42	63	75	90	110	
	Tn	Nm	550	1100	1970	3240	5600	8500	
	1m Tp		1100	2200	3940	6480	1120	17000	
	3.1	tr/min omw/min	5500	5100	4400	4000	3600	3400	
	3.2	rpm min ⁻¹	7750	7200	6200	5600	5100	4800	
	α	degré graad degree Grad	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	
	—	mm	0,1	0,14	0,14	0,19	0,22	0,23	
	J (WR ²)	kgm ²	0,002	0,004	0,012	0,028	0,065	0,140	
		kg	2,8	4,5	8,5	13,3	21,4	35,7	
	Grease	dm ³	0,022	0,036	0,063	0,114	0,201	0,270	
mm: ±	A	mm	136,7	150	174	193	219	279	
	B	mm	84	95	120	140	168	190	
	C	mm	50	65	68	80	95	102	
	D	mm	50,9	60,4	82,6	100	121	143	
	E	mm	38,5	46	53,5	57	67	108	
	E'	mm	95,2	101	117,5	130	146	165	
	G	mm	3	3	3	6	6	6	
	H	10 mm	mm	96	117	124	146	175	223
	J	mm	mm	3	5	5	6	6	6
	K	mm	mm	49	57	76	95	121	140

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CDMM 30 ⇔ 100



∠ max. 1,5°

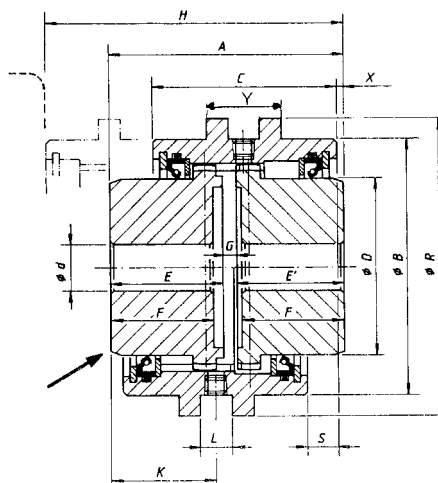
←A150			Type CDMM						
			30	40	55	65	80	100	
	d Ø nominal max.	1	mm	32	42	57	70	85	100
	d Ø min.		mm	0	0	0	0	40	40
	* d Ø max.		mm	35	42	63	75	90	110
	Tn	2	Nm	550	1100	1970	3240	5600	8500
	Tp			1100	2200	3940	6480	11200	17000
	min.max.	3.1	tr/min omw/min rpm	5500	5100	4400	4000	3600	3400
		3.2	min ⁻¹	7750	7200	6200	5600	5100	4800
		—	degré graad degree Grad	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75
		—	mm	0,1	0,14	0,14	0,19	0,22	0,23
	J (WR ²)	4	kgm ²	0,003	0,005	0,015	0,033	0,078	0,158
		5	kg	3,8	8,5	11,4	18	27,6	42,2
		6	dm ³	0,022	0,036	0,063	0,114	0,201	0,270
mm: ±	A		mm	193,4	205	238	266	298	336
	B		mm	84	95	120	140	168	190
	C		mm	50	65	68	80	95	102
	D		mm	50,9	60,4	82,6	100	121	143
	E'		mm	95,2	101	117,5	130	146	165
	G		mm	3	3	3	6	6	6
	H	10	mm	152	172	188	219	254	280

* Consult us











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CCO 30 ⇨ 100



CE MOYEU A L'ARRET EN CONDITION DEBRAYEE
 WANNEER UITGESCHAKELD STAAT DEZE NAAF STIL
 THIS HUB IN STAND STILL WHEN DISCONNECTED
 Im ausgeschalteten Zustand steht die Nabe still

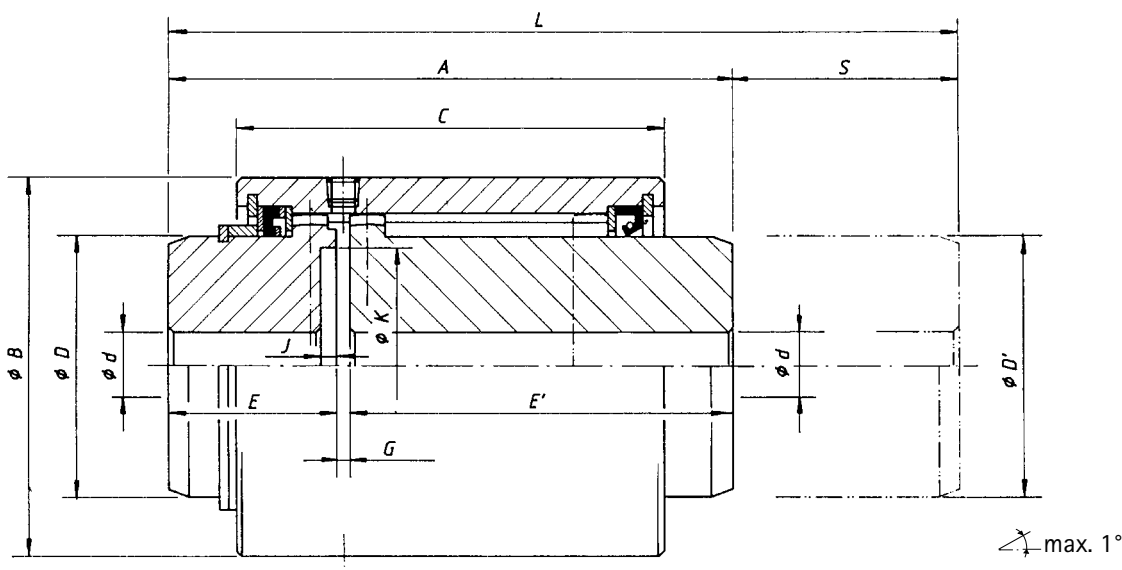
max. 1°

 ←A150			Type CCO					
			30	40	55	65	80	100
	1	mm	32	42	57	70	85	100
		mm	0	0	22	25	38	38
	2	Tn	550	1100	1970	3240	5600	8500
		1m Tp	Nm	1100	2200	3940	6480	11200
	3.4	tr/min omw/min rpm min ⁻¹	4500	3800	2750	2200	1850	1600
	—	degré graad degree Grad	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5
	4.4	J (WR ²)	0,004	0,009	0,022	0,035	0,08	0,17
	5.4	kg	3,0	5,0	8,5	11,4	18,5	33
	6	dm ³	0,035	0,058	0,094	0,172	0,295	0,435
mm: ±	A	mm	80	94,8	110	117	139	222,5
	B	mm	84	95	120	140	168	190
	C	mm	68	87	93,5	101	111	125,5
	D	mm	50	60	82	100	120	140
	E	mm	38,5	46	53,5	57	67	108
	E'	mm	35,5	42,8	50,5	53	61	102
	F	mm	35,5	41	48,5	51	61	102
	G	mm	6	6	6	7	11	12,5
	H	mm	125	140	155	165	195	250
	K	mm	35,5	39,5	47,5	50,5	60	101,5
max. max.	R	mm	120	135	170	180	215	240
	L	mm	30	35	40	45	45	50
	S	mm	9,5	16	14	17,5	19	20,5
	X	mm	0,9	-4,1	1,4	-1,5	4,3	37,5
	Y	mm	45	55	60	65	70	75



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CSH 30 ⇨ 100



← A150			Type CSH						
			30	40	55	65	80	100	
 d \varnothing max. \varnothing min.	1	mm	32	42	57	70	85	100	
		mm	0	0	22	25	38	38	
 T_n T_p	2	Nm	550	1100	1970	3240	5600	8500	
			1100	2200	3940	6480	11200	17000	
 /min.max.	3.3	tr/min omw/min rpm min ⁻¹							
 α	—	degré graad degree Grad	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5	
 J (WR^2)	4.1	kgm ²							
	5.1	kg							
	6.1	dm ³							
mm: ±	A	6.1	mm	109,2	117	179,5	186,2	216,2	263
	B		mm	84	95	120	140	168	190
	C	6.1	mm	83	90,5	142,5	143,5	166,5	169,5
	D		mm	50,9	60,4	82,6	100	121	143
	D'		mm	50	60	82	100	120	140
	E		mm	38,5	46	53,5	57	67	108
	E'	6.1	mm	67	67	122	125	145	150
	G		mm	3,7	4	4	4,2	4,2	5
	J		mm	3	5	5	6	6	6
	K		mm	49	57	76	95	121	140
max.	L	6.1	mm	139,7	141	250,9	253,5	297,2	342
	S	7	mm	30,5	24	71,4	67,3	81	79

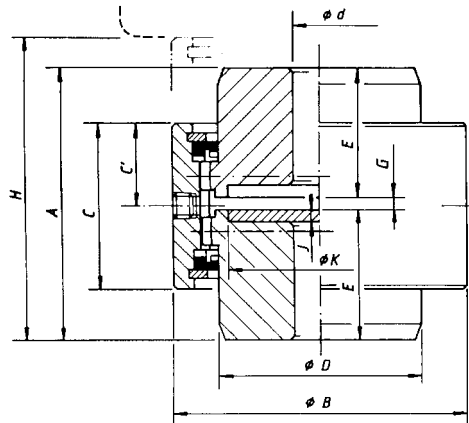
TAILLES SUPERIEURES A LA DEMANDE
 GROTERE MODELLEN OP AANVRAAG
 LARGER SIZES ON REQUEST
 GROESSERE ABMESSUNGEN AUF ANFRAGE

* Consult us



escogear

CSV 30 ⇨ 100



∠ max. 1°

← A150			Type CSV					
			30	40	55	65	80	100
	1	d Ø nominal max. mm	32	42	57	70	85	100
		d Ø min. mm	0	0	22	25	38	38
		* d Ø max. mm	35	42	63	75	90	110
	2	Tn Nm	550	1100	1970	3240	5600	8500
		Tp Nm	1100	2200	3940	6480	11200	17000
	3	tr/min omw/min rpm min ⁻¹	5500	5100	4400	4000	3600	3400
	-	degré graad degree Grad	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5	2x0,5
	-	mm	0,07	0,09	0,09	0,12	0,14	0,15
	4	J (WR ²) kgm ²	0,002	0,004	0,010	0,022	0,052	0,122
	5	kg	2	3,4	6	9,1	15	29
	6	dm ³	0,022	0,036	0,063	0,120	0,201	0,273
mm: ±	A	mm	80	95	110	120	140	222
	B	mm	84	95	120	140	168	190
	C	mm	50	65	68	80	95	102
	C'	mm	25	32,5	34	40	47,5	51
	D	mm	50,9	60,4	82,6	100	121	143
	E	mm	38,5	46	53,5	57	67	108
	G	mm	3	3	3	6	6	6
	H	mm	96	117	124	146	175	223
	J	mm	3	5	5	6	6	6
	K	mm	49	57	76	95	121	140

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