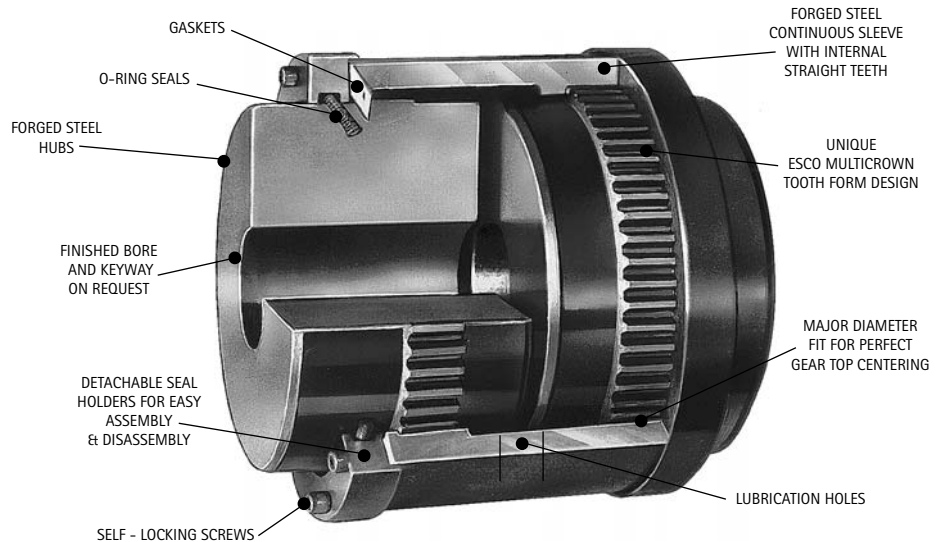


SERIES C and C... M

The most compact solution

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

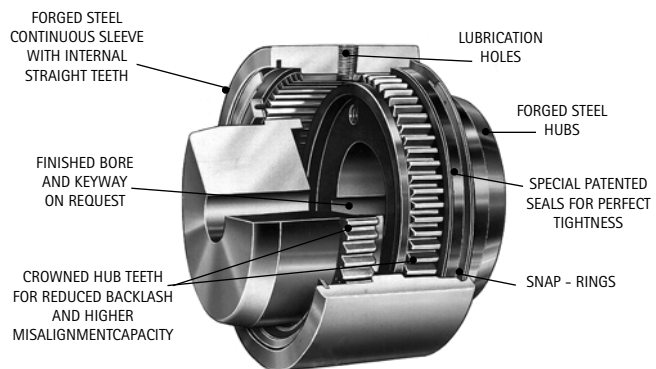
COMPACT
SIMPLE AND ROBUST
EASY TO ASSEMBLE



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*

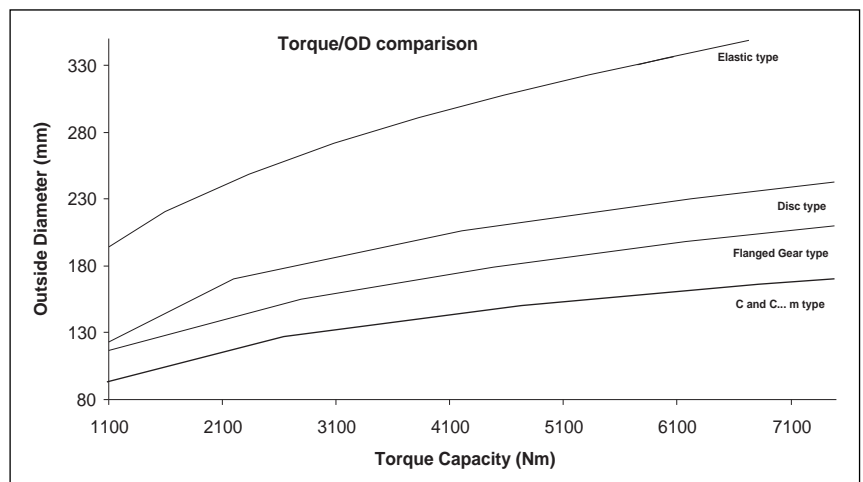


Most compact solution


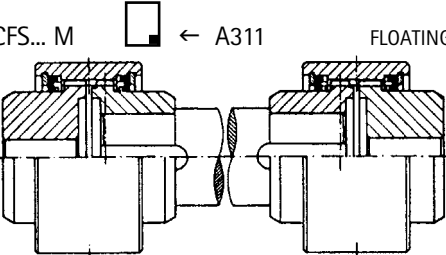
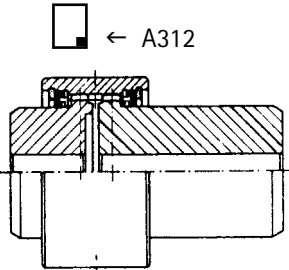
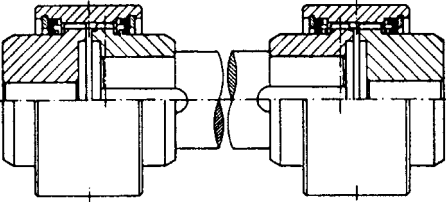
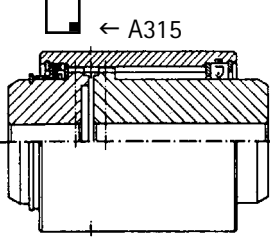
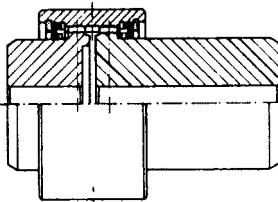
Thanks to the high torque capacity and the continuous sleeve design, the escogear C and C... M couplings are the most compact answer to any transmission applications. In comparison to other types of couplings and for a given torque they have a substantially lower weight and reduced outside diameter:

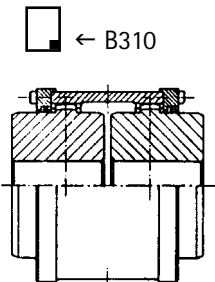
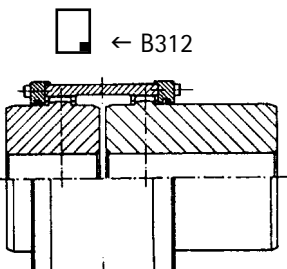

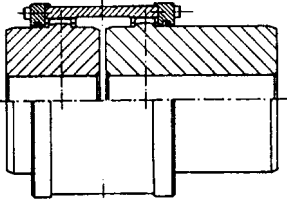

- <-> Flanged Gear type : 17% smaller O.D.
- <-> Disc type : 30% smaller O.D.
- <-> Elastic type : 52% smaller O.D.

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

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: $\text{torque in Nm} = \frac{9550 \times P \times F_u \times F_{Ex}}{n}$

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.

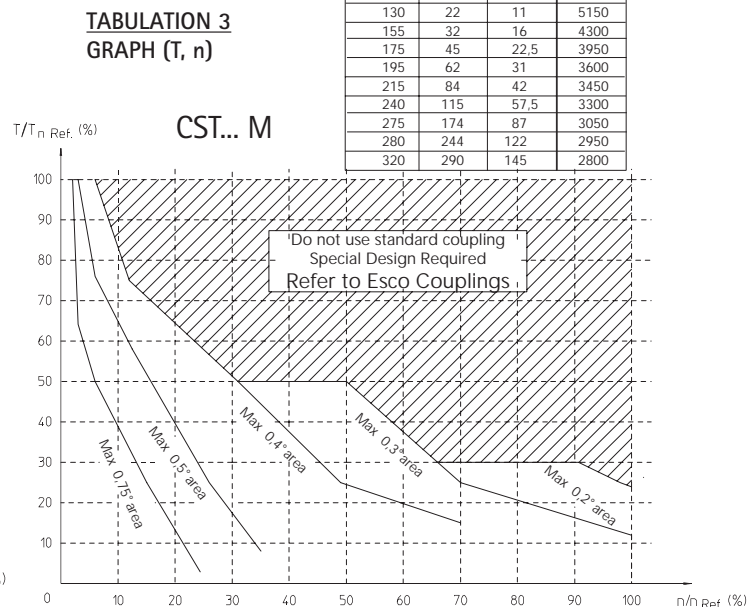
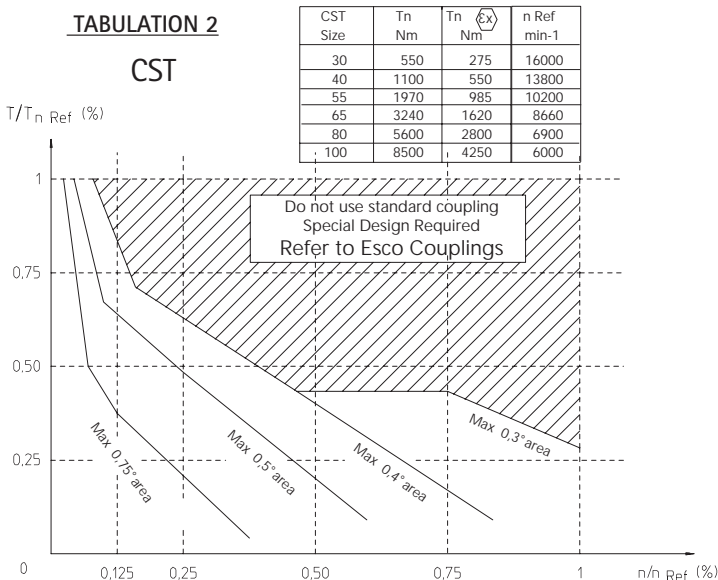
Check also max. allowable misalignment using the graph of tabulations 2 and 3.

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	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	Service factor F_u		
		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	

1) MAXIMUM MISALIGNMENT



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/n_{Ref} 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 $T_{nRef(Ex)}$ for the calculation. Max misalignment may not exceed 0,5° per gear mesh.

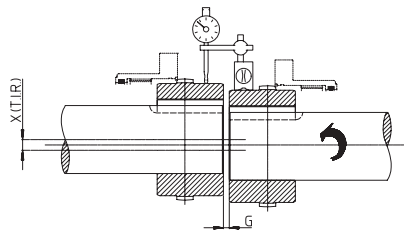
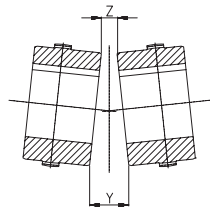


2) MINIMUM MISALIGNMENT = $\Delta K_{w\min} = 0,1^\circ$

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

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

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

Measurement

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

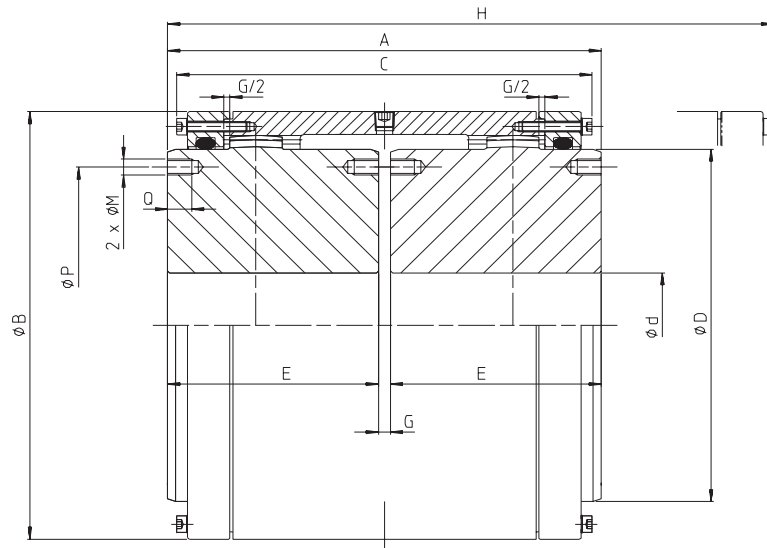
Control

Formule:

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

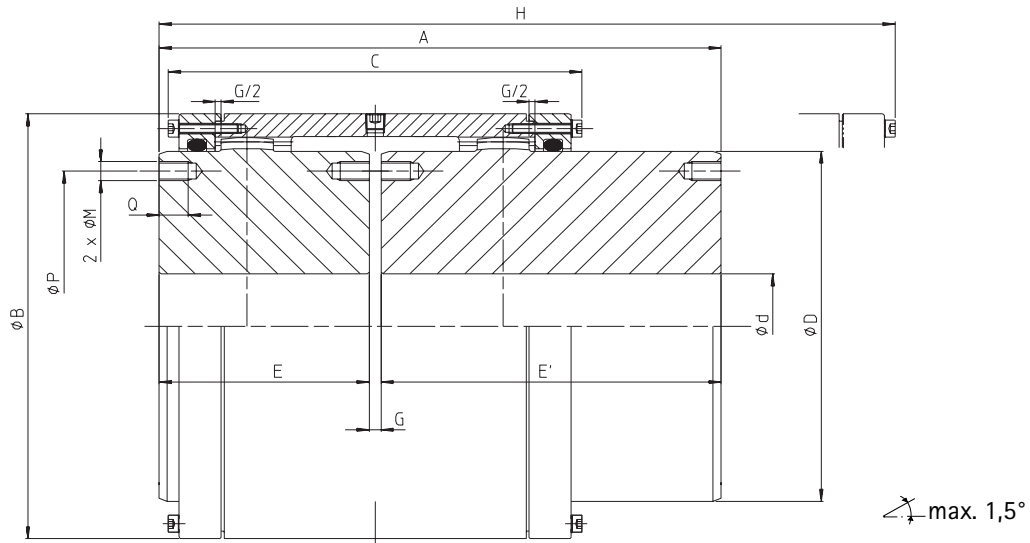
Calculation : $0,1^\circ \leq \frac{0,9}{5,7} + \frac{0,4}{8,2} \leq 0,75 \times 0,4$

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)
	J (WR ²)		INERTIA (kgm ²)
			WEIGHT (kg)
		GREASE QUANTITY (dm ³)	



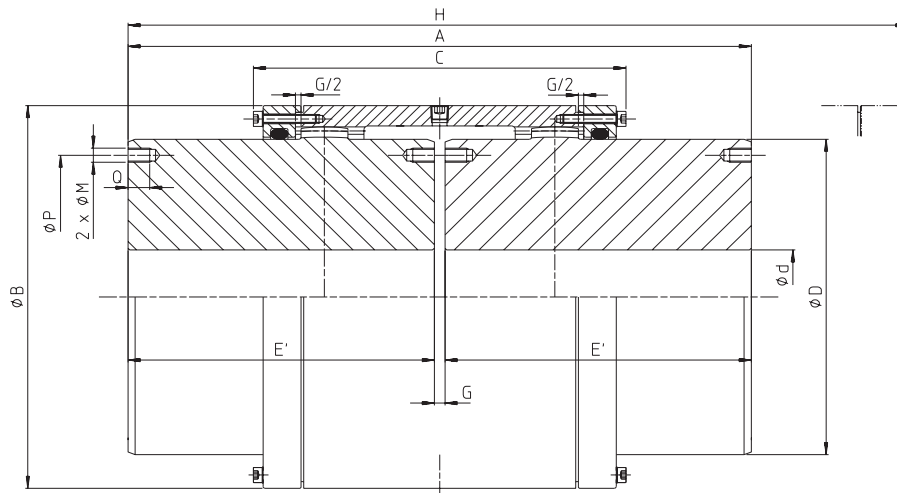
←A150		Type CST ... M								
		110	130	155	175	195	215	240	275	
	d Ø nominal max.	mm	110	130	155	175	195	215	240	275
	d Ø min.	mm	0	55	65	80	90	100	120	150
	* d Ø max.	mm	112	132	158	175	198	217	244	290
	Tn	Nm	16000	22000	32000	45000	62000	84000	115000	174000
	1m ↓ Tp		32000	44000	64000	90000	124000	168000	230000	348000
	/min.max.	3.1 tr/min omw/min	3350	3100	2800	2700	2550	2450	2300	2150
		3.2 rpm min ⁻¹	4700	4350	4000	3800	3600	3450	3300	3050
	—	degré graad degree Grad	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75
	—	mm	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7
	J (WR ²)	kgm ²	0,159	0,340	0,735	1,25	2,19	3,49	5,33	10,90
		kg	35	51	81	111	153	207	262	398
		dm ³	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29
mm: ±	A	mm	185	216	246	278	308	358	388	450
	B	mm	186	216	254	282	317	346	376	436
	C	mm	174	206	227	254	276	319	346	383
	D	mm	151	178	213	235	263	286	316	372
	E	mm	90	105	120	135	150	175	190	220
	G	mm	5	6	6	8	8	8	8	10
	H	10 mm	313	368	415	468	516	602	657	743
	M	mm				M12	M16	M16	M16	M20
	P	mm				205	226	250	276	330
	Q	mm				18	24	24	24	30

* Consult us



← A150		Type CMM ... M									
		110	130	155	175	195	215	240	275		
	d Ø nominal max.	mm	110	130	155	175	195	215	240	275	
		d Ø min.	mm	0	55	65	80	90	100	120	150
		* d Ø max.	mm	112	132	158	175	198	217	244	290
	Tn	Nm	16000	22000	32000	45000	62000	84000	115000	174000	
	Tp		32000	44000	64000	90000	124000	168000	230000	348000	
	/min.max.	3.1	tr/min	3350	3100	2800	2700	2550	2450	2300	2150
		3.2	omw/min rpm min ⁻¹	4700	4350	4000	3800	3600	3450	3300	3050
	—	degré graad degree Grad	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	
	—	mm	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7	
	J (WR ²)	kgm ²	0,189	0,390	0,845	1,40	2,45	3,88	6,02	12,82	
		kg	45	63	99	130	180	240	310	491	
		dm ³	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29	
mm: ±	A	mm	260	281	316	343	378	433	478	580	
	B	mm	186	216	254	282	317	346	376	436	
	C	mm	174	206	227	254	276	319	346	383	
	D	mm	151	178	213	235	263	286	316	372	
	E	mm	90	105	120	135	150	175	190	220	
	E'	mm	165	170	190	200	220	250	280	350	
	G	mm	5	6	6	8	8	8	8	10	
	H	10	mm	313	368	415	468	516	602	657	743
	M	mm				M12	M16	M16	M16	M20	
	P	mm				205	226	250	276	330	
Q	mm				18	24	24	24	30		

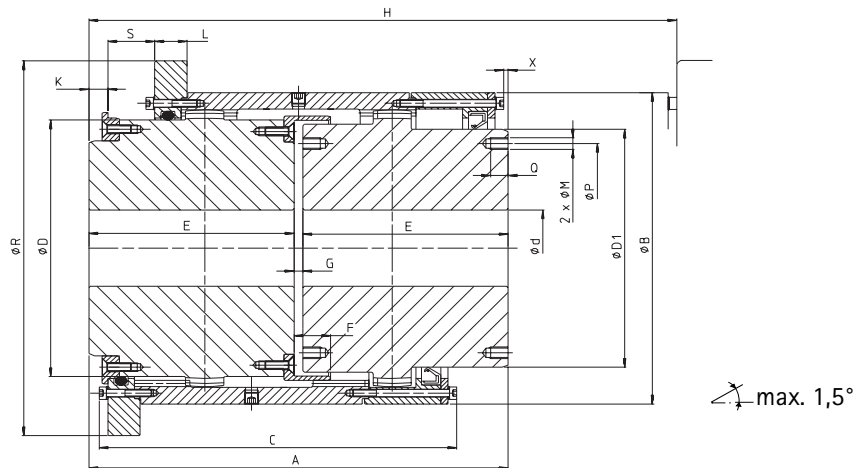
* Consult us



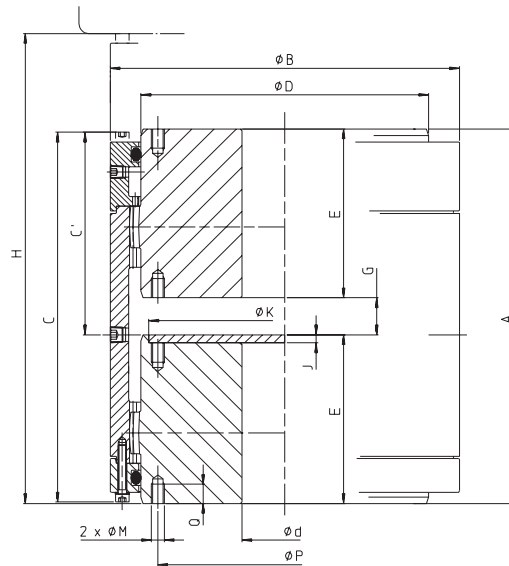
max. 1,5°

←A150		Type CDMM ... M								
		110	130	155	175	195	215	240	275	
	d Ø nominal max.	mm	110	130	155	175	195	215	240	275
	d Ø min.	1 mm	0	55	65	80	90	100	120	150
	* d Ø max.	mm	112	132	158	175	198	217	244	290
	Tn	Nm	16000	22000	32000	45000	62000	84000	115000	174000
	Tp		32000	44000	64000	90000	124000	168000	232000	348000
	3.1	tr/min omw/min	3350	3100	2800	2700	2550	2450	2300	2150
	3.2	rpm min ⁻¹	4700	4350	4000	3800	3600	3450	3300	3050
	—	degré graad degree Grad	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75
	—	mm	0,7	0,9	1	1,1	1,2	1,4	1,5	1,7
	4	kgm ²	0,219	0,440	0,956	1,55	2,71	4,27	6,71	14,73
	5	kg	55,7	74,4	116	150	206	273	357	584
	6	dm ³	0,36	0,52	0,80	0,98	1,51	2,02	2,43	3,29
mm: ±	A	mm	335	346	386	408	448	508	568	710
	B	mm	186	216	254	282	317	346	376	436
	C	mm	174	206	227	254	276	319	346	383
	D	mm	151	178	213	235	263	286	316	372
	E'	mm	165	170	190	200	220	250	280	350
	G	mm	5	6	6	8	8	8	8	10
	H	10 mm	313	368	415	468	516	602	657	743
	M	mm				M12	M16	M16	M16	M20
	P	mm				205	226	250	276	330
	Q	mm				18	24	24	24	30

* Consult us



← A150			Type CCO...M							
			120	150	165	185	210	230	270	
 \varnothing max. d \varnothing min.	1	mm	120	150	165	185	210	230	270	
		mm	55	65	80	90	100	120	150	
 T_n T_p	2	Nm	22000	32000	45000	62000	84000	115000	174000	
			44000	64000	90000	124000	168000	230000	348000	
 tr/min omw/min rpm min ⁻¹	3.4		1300	1100	1000	900	800	750	620	
 degré graad degree Grad	—		2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	2x0,75	
	—	mm	0,9	1	1,1	1,2	0,9	1	1,1	
 J (WR ²)	4.4	kgm ²	0,433	0,924	1,59	2,69	4,28	6,42	13,22	
	5.4	kg	67,2	103,6	143	193	263	328	494	
	6	dm ³	0,62	0,96	1,18	1,82	2,44	2,94	4,02	
mm: ±	A	mm	286	316	358	388	448	488	550	
	B	mm	216	254	282	317	346	376	436	
	C	mm	247	272	306	332	382	417	468	
	D	mm	178	213	235	263	286	316	372	
	D1	mm	165	200	224	250	280	300	360	
	E	mm	140	155	175	190	220	240	270	
	F	mm	22	22,5	27	30	35,5	39	39,5	
	G	mm	6	6	8	8	8	8	10	
	H	10	mm	404	445	503	547	633	691	768
	K	mm	12	12,5	16	16	19,5	21	23,5	
	R	mm	260	300	330	365	390	420	480	
	L	mm	22	25	25	25	25	25	30	
	M	mm			M12	M16	M16	M16	M20	
	P	mm			205	226	250	276	330	
	Q	mm			18	24	24	24	30	
S	mm	32	37	42	46	53	58	68		
X	mm	0,45	1	1	1	3	1	-1		



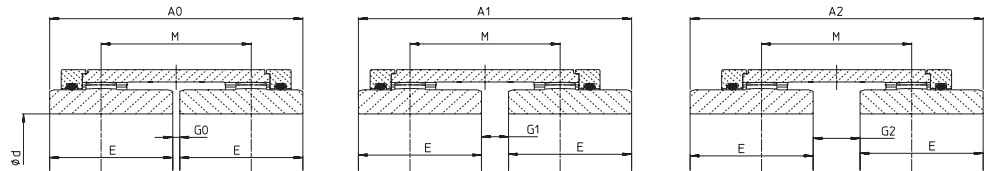
max. 1,5°



← A150		Type CSV ... M									
		110	130	155	175	195	215	240	275		
	d Ø nominal max.	mm	110	130	155	175	195	215	240	275	
	d Ø min.	mm	0	55	65	80	90	100	120	150	
	* d Ø max.	mm	112	132	158	175	198	217	244	290	
	Tn	Nm	16000	22000	32000	45000	62000	84000	115000	174000	
	Tp		32000	44000	64000	90000	124000	168000	230000	348000	
	3.1	tr/min omw/min	3350	3100	2800	2700	2550	2450	2300	2150	
	3.2	rpm min ⁻¹	4700	4350	4000	3800	3600	3450	3300	3050	
	—	degré graad degree Grad	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,75	2 x 0,5	2 x 0,5	
	—	mm	0,7	0,9	1	1,1	1,2	0,9	1	1,1	
	J (WR ²)	kgm ²	0,159	0,340	0,735	1,25	2,19	3,49	5,33	10,90	
		kg	35	51	81	111	153	207	262	398	
		dm ³	0,45	0,67	1,01	1,32	1,95	2,53	3,06	4,37	
mm ±	A	mm	199	233	264	299	332	389	426	483	
	B	mm	186	216	254	282	317	346	376	436	
	C	mm	196	228	249	276	298	341	368	408	
	C'	mm	109	125	135,5	149	160	181,5	195	216,5	
	D	mm	151	178	213	235	263	286	316	372	
	E	mm	90	105	120	135	150	175	190	220	
	G	9	mm	19	23	24	29	32	39	46	43
	H	10	mm	349	408	455	508	556	642	697	786
	J	mm	5	6	6	6	6	6	6	6	
	K	mm	140	165	195	224	250	274	302	356	
	M	mm				M12	M16	M16	M16	M20	
P	mm				205	226	250	276	330		
Q	mm				18	24	24	24	30		

* Consult us

Caractéristiques principales – Voornaamste karakteristieken – Main features – Viktiga fördelar
 Charakteristische Hauptmerkmale – Características principales – Caratteristiche principali

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



 ← A150		Type CST... M								
		110	130	155	175	195	215	240	275	
	d Ø nominal max.	mm	110	130	155	175	195	215	240	275
	d Ø min.	mm	0	55	65	80	90	100	120	150
	* d Ø max.	mm	112	132	158	175	198	212	244	290
	A0	mm	185	216	246	278	308	358	388	450
	A1	mm	199	233	264	299	332	389	426	483
	A2	mm	213	250	282	320	356	420	464	516
	E	mm	90	105	120	135	150	175	190	220
	G0	mm	5	6	6	8	8	8	8	10
	G1	mm	19	23	24	29	32	39	46	43
	G2	mm	33	40	42	50	56	70	84	76
	M	mm	109	128	144	164	182	214	236	263

* Consult us

4 ALTERNATIVES – 4 ALTERNATIEVEN – 4 ALTERNATIV – 4 AUSFUEHRUNGEN – 4 ALTERNATIVAS – 4 ALTERNATIVE

