



Clutches and Brakes



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Customised Models

More than 60% of today's production is customized to meet specific client demands. If we cannot fulfil your requirements in any way with our standard product, such as bore size, improved IP ratings, quiet brakes, mounting configurations, more torque ... call us!

DECLARATION OF CE CONFORMITY AND INCORPORATION

WE: WARNER ELECTRIC EUROPE S.A.S.
7, rue Champfleury, BP 20095, F-49182 St Barthélemy d'Anjou Cedex

Declare under our sole responsibility that all products in this catalogue are exclusively designed for incorporation into a machine or to be assembled with other machines to create a machine. The operation of the product is submitted to the conformity of the complete equipment, following the provisions of the machinery directive 89/392/EEC and if electric to the EMC directive 89/336/EEC. The conformity of the electric units to the Low Voltage directive 73/23/EEC is supported by the full respect of the following standards: NFC 79300 and VDE 0580/8.65

The products presented in this catalogue have not been designed to be used according to directive 94/9/EC (equipment for explosive atmosphere (ATEX)). Feel free to submit your inquiries.

The sizing of a Warner Electric clutch or brake depends on various factors. The most common of these factors are shown below in chronological order:

- Transmissible torque: In Nm
- Energy source: Electric, Pneumatic, Hydraulic, or Mechanical
- Actuation mode: Static or Rotating
- Operational environment: Oil, Dry or Mixed
- Heat dissipation: Duty Cycle, Inertia, Speed, etc.
- Orientation of mounting: Horizontal, Vertical, Inclined

The majority of applications can be computed using the formulas and calculation methods given below. For special cases we recommend that you contact the factory.

Transmissible Torque

Calculation of the torque provides a first approximation of the size of Warner Electric device required. The various transmissible torque's are:

Static Torque

The maximum transmissible torque when components to be coupled are in synchronism (zero relative speed).

Dynamic Torque

This is the torque developed by a clutch or brake during acceleration or deceleration until zero relative speed between the driving and driven component is achieved. This torque is a variable, as a function of the rotational speed, the friction factor, the type of friction material used, the operating ambient and the acceleration or deceleration time required to obtain the desired rotational speed.

Residual Torque

Normally applies for multi-disc devices only. This torque results from the friction between internal and external discs in a non-energized device.

Nominal Torque

The nominal torque of a power source can be calculated utilizing the following formula:

$$M_n = 9550 \cdot P / n$$

where:

M_n = required torque in Nm
 P = power in kW
 n = speed in min^{-1}

Calculation for Clutch Torque

In case the nominal torque is unknown, it is recommended to add a safety factor K as a function of the type of drive source and the coupling mode: single disc, multi-disc or tooth. This results in formula:

$$M_n = (9550 \cdot P / n) \cdot K$$

For quick selection based on drive power use $K =$:

2,5 - 3 for electric motors
4 - 5 for Diesel engines
5 - 6 for compressors

Method to determine the transmission torque for a Warner Electric clutch or brake. This method enables you to proceed on the basis of the machine characteristics and to accurately define the type of product most suitable for the application.

1) Calculate the load torque

This is the torque of the load and the friction of the mechanism, which the clutch has to overcome before rotation of the driven part is obtained. The value is basically equal to the tangential force exercised on a lever arm.

$$M_l = F \cdot R \cdot n_2 / n_1$$

where:

M_l = static source torque in Nm
 F = force in N
 R = radius in m
 n_1 = speed of the clutch or brake shaft in min^{-1}
 n_2 = speed of the mechanism's shaft in min^{-1}

2) Calculate the moment of inertia

The moment of inertia represents the mass to be brought to speed or to stop until synchronism between the drive shaft and driven shaft has been obtained. Consequently this is directly related to the inertia reflected on the clutch shaft. Rotational and linear inertia's are calculated utilizing following formulas:

Rotational Inertia

Solid cylinder

$$J = 1/2 \cdot m \cdot R^2$$

Hollow cylinder

$$J = 1/2 \cdot m \cdot (R^2 + r^2)$$

where:

J = in kgm^2
 m = mass in kg
 R = outer radius in m
 r = inner radius in m

Next the total of the inertia's need to be referred to the shaft of the clutch as a function of the square of the speed ratios.

$$J_{\text{total}} = J_1 + J_2 (n_2 / n_1)^2 + J_3 (n_3 / n_1)^2$$

where:

J_{total} = Total inertia in kgm^2
 n_1 = speed of drive shaft in min^{-1}
 n_2 = speed of intermediate shaft in min^{-1}
 n_3 = speed of driven shaft in min^{-1}
 J_1 = inertia of drive shaft in kgm^2
 J_2 = inertia of intermediate shaft in kgm^2
 J_3 = inertia of driven shaft in kgm^2

Linear Inertia

$$J = 91 \cdot m \cdot v^2 / n^2$$

where:

J = inertia in kgm^2
 m = mass in kg
 v = speed in m/s
 n = rotational speed in min^{-1}

Clutches and Brakes Size and Selection

Total Inertia

This is the sum of all rotational and reflected inertia's (including the inertia of the clutch or brake parts).

3) Time to accelerate or decelerate

$$M_d = (J_{total} \cdot n) / (9,55 \cdot t)$$

where:

M_d = acceleration/deceleration torque in Nm

J_{total} = total inertia in kgm²

n = speed of clutch or brake shaft in min⁻¹

t = acceleration / deceleration time required in s

4) Time to accelerate or decelerate

$$M_{total} = M_d \pm M_l$$

(except lifting, for this kind of application, please contact us)

where :

M_{total} = in Nm

M_l = static torque in Nm

M_d = acceleration/deceleration torque in Nm

The nominal clutch or brake's torque has to be always bigger than the torque calculated with this method.

5) acceleration or deceleration real time

$$t = (J_{total} \cdot n) / (9,55 \cdot (M_n \pm M_l))$$

where:

t = in s

J_{total} = total inertia in kgm²

n = speed of clutch or brake shaft in min⁻¹

M_n = nominal torque of the chosen clutch or brake in Nm

M_l = static torque in Nm (– for a clutch, + for a brake)

Energizing Modes

The Warner Electric product line of clutches and brakes contains devices energized:

- Electromagnetically
- Hydraulically
- Pneumatically
- Mechanically

They can be activated by:

- Applying power or pressure; = the friction surfaces are compressed when the force is applied.
- Absence of power or pressure; = the friction surfaces are compressed by spring force which makes these products suitable for use as security devices.

The choice is also determined by the time of use in the rotating or stop position.

Engagement

When a speed difference between the drive and the driven axis is present, only the use of single or multi-disc clutches or brakes is permitted. With zero speed difference or engagement at standstill, the use of a tooth clutch or brake becomes possible.

Usually toothed devices have smaller diameters D than disc devices of the same ratings. Also they are normally activated by applying power. To establish the torque rating of a tooth device one should understand that

under no condition can they withstand loads higher than specified in their data tables. (contrary to a friction clutch, the tooth clutch can never slip). Therefore one must know:

- The maximum peak torque produced by the drive system (watch out for accel/decelerations and inertia functions).
- The presence of shock and vibration in the drive system

Since in many cases it is difficult to know these elements, for devices engaged by power on, a safety factor $K = 3$ should be applied. For lifting motion, use of a tooth device is forbidden. For friction based devices, the torque ratings listed in our tables are based on "run in" conditions. In new conditions the transmissible torque may be below 50% of their nominal value. Nominal ratings are obtained after several operations with a differential speed above 1m/s. In order to obtain a high positioning precision and rapid acceleration a "run in" operation before use is recommended. In such applications the use of a Warner Electric power supply with boost current will help to reduce the engage and disengage times.

Operating Conditions

Lubricated - For applications with high energy per cycle, we recommend the use of a multi disc device in lubricated environment. This will keep the surface wear low and particularly the lifetime of the friction surface will be increased. The lubricant used should have a viscosity below 40 centistokes at 50°C without a high-pressure additive. If possible do not submerge the devices.

Dry - Recommended operation temperature -25°C to +40°C. The functional friction materials used in dry environments, generally steel/organic combinations, have a higher friction factor than those used in lubricated environments. This results in a higher level of wear as a function of the energy per cycle. As a consequence it is important to correctly select the product as a function of the operation parameters and heat dissipation capacity. Underrating will result in higher wear as well as deformation of the friction materials.

Mixed - For use in mixed environments a protection against grease and dirt particles should be taken into account.

Heat Dissipation

During clutching or braking, the mechanical energy is through friction transformed into heat. This lost energy needs to be absorbed by the clutch or brake without causing damage. In addition it affects its lifetime. Use the following formulae to calculate the heat dissipation:

Clutch or Brake

$$W = (J_{total} \cdot n^2 / 182,5) \cdot (M_n / (M_n \pm M_l))$$

where:

W = Work in Joules

J_{total} = Total inertia in kgm²

M_n = nominal torque of the chosen clutch or brake in Nm

Clutches and Brakes Sizing and Selection

- M_l = static torque for clutch in Nm
- + M_b = static torque for brake in Nm
- n = clutch or brake speed in min^{-1}

For vertical motion from top to bottom + and – are reversed

Torque limiter

$$W = M_d \cdot n \cdot t / 9,55$$

where:

- W = in Joules
- M_d = slip torque in Nm
- n = speed in min^{-1}
- t = slipping time in seconds

Using the results obtained, verify the heat dissipation using the diagrams shown with each product to see if the product selected meets this requirement.

Mounting Position

In this catalogue each product has been clearly identified for horizontal or vertical use. In some cases devices specified for horizontal use may be used in vertical position. Please consult factory for more information.

Power Supply

Electric - Our electric clutches & brakes operate with DC or rectified AC voltage. The standard voltages are 24, 103.5 and 207 Volts. Warner Electric offers power supplies to convert the AC voltage and to maintain a DC switching ensuring short response times.

All power supplies meet the applicable CE standards. Switching is possible on the AC or the DC side, however, switching on the AC side is 5 to 6 times slower than DC side switching.

Certain electro release devices apply a bi-voltage, the high voltage is used during the actual engagement, while the low voltage is used to hold the armature in position. Typical voltage combinations are 103.5/48 or 207/103.5 VDC.

Back EMF - When de-energizing the coil an important back EMF voltage is produced, particularly for higher torque rated models. This voltage may even damage components in the control circuit. We recommend that these peak voltages are suppressed by connecting a capacitor across the coil. (This protection is included in our power supplies).

Again do not hesitate to consult the factory for further information.

Pneumatic - The normal service pressure for Warner Electric clutches and brakes varies between 5 and 6 bars.

For devices activated by pressure, the transmissible torque is directly proportional to the pressure applied. We recommend the use of a filter/regulator and an air lubricator to prevent all risks of corrosion of the

air chamber. To avoid pressure losses in axial supplies the use of an air tight connection between the hub and the shaft is recommended. For radial supplies, a flexible connection without constraints is recommended.

Hydraulic - The normal service pressure for Warner Electric clutches and brakes is listed in the product tables. Different service pressures meeting your operating conditions can be used. In order to protect the gliding surfaces of the piston/cylinder the use of filtered hydraulic oil with 10 micron grade and a viscosity suitable to the operating conditions, is recommended. For the friction surfaces, use of an oil with a viscosity up to ISO VG46 and compatible for use with sintered bronze is recommended.

Units

Electricity

Capacity	F	Resistance	Ω
Current	A	Voltage	V
Inductance	H	Pressure	bar

Mechanical

Acceleration	m/s^2	Power	W
Angle	$^\circ$	Temperature	$^\circ\text{C}$
Torque	Nm	Time	s
Force	N	Energy	J
Gravity	m/s^2	Angular Speed	rd/s
Length	m	Linear Speed	m/s
Mass	kg	Rotational Speed	min^{-1}
Voluminal Mass	kg/m^3		
Inertia	kgm^2		

Material Density

acrylic	1.2	iron	7.9
aluminum	2.7	iron (cast)	7.3
bakelite	1.3	magnesium	1.7
brass	8.5	nickel	8.8
bronze	8.9	rubber	1.2
copper	8.9	steel	7.8
glass	2.6	teflon	2.2

Conversions

Length	feet	yard	mm	m	km
Inch					
1	0.08333	0.02778	25.4	0.0254	-
12	1	0.3333	304.8	0.3048	-
36	3	1	914.4	0.9144	-
0.03937	3281×10^{-6}	1094×10^{-6}	1	0.001	10^{-6}
39.37	3.281	1.094	1000	1	0.001
39370	3281	1094	106	1000	1
Mass	oz	lb	g	kg	Mg
dram					
1	0.0625	0.003906	1.772	0.001772	1.772×10^{-6}
16	1	0.0625	28.35	0.02835	28.35×10^{-6}
256	16	1	453.6	0.4536	453.6×10^{-6}
0.5644	0.03527	0.002205	1	0.001	10^{-6}
564.4	35.27	2.205	1000	1	0.0001
564.4×10^3	35270	2205	10^6	1000	1
Force	oz	lb	N	kN	
dram					
1	0.0625	0.003906	0.0173656	17.3×10^{-6}	
16	1	0.0625	0.27783	277.83×10^{-6}	
256	16	1	4.44528	4445.28×10^{-6}	
57.592	3.59898	0.225	1	0.0001	
57.592×10^3	3598.986	225	1000	1	
Torque	lb.in	lb.ft	Ncm	Nm	
oz.in					
1	0.0625	0.005208	0.706	0.00706	
16	1	0.0833	11.3	0.113	
192	12	1	135.6	1.356	
1.4162	0.0885	0.0074	1	0.01	
141.619	2	0.7376	100	1	
Inertia	lb.in ²	lb.ft ²	kgcm ²	kgm ²	
oz.in ²					
1	0.0625	0.000434	0.183	18.3×10^{-6}	
16	1	0.006944	2.926	0.2926×10^{-3}	
2304	144	1	421.344	0.421344	
5.465	0.34156	2.3718×10^{-3}	1	0.0001	
54650	3415.6	23.718	10000	1	
Power	hp	kw	BTU/s		
HP					
1	76.04	745.7	0.7457	1.782	0.7073
13.15×10^{-3}	1	9.807	9.807×10^{-3}	2.344×10^{-3}	9.301×10^{-3}
1.341×10^{-3}	0.102	1	10^{-3}	239×10^{-6}	948.4×10^{-6}
1.341	102	1000	1	0.239	0-Jan
5.614	426.9	4187	4.187	1	3.968
1.415	107.6	105	1.055	0.252	1

Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 12, 24, 103,5 VDC
- Single friction face
- Activated by power on

Utilisation

- Coupling of a pulley or a shaft

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed OM inductor

Adjustments

- Airgap "P" should be adjusted at installation
- Requires wear compensation

Maintenance Manual

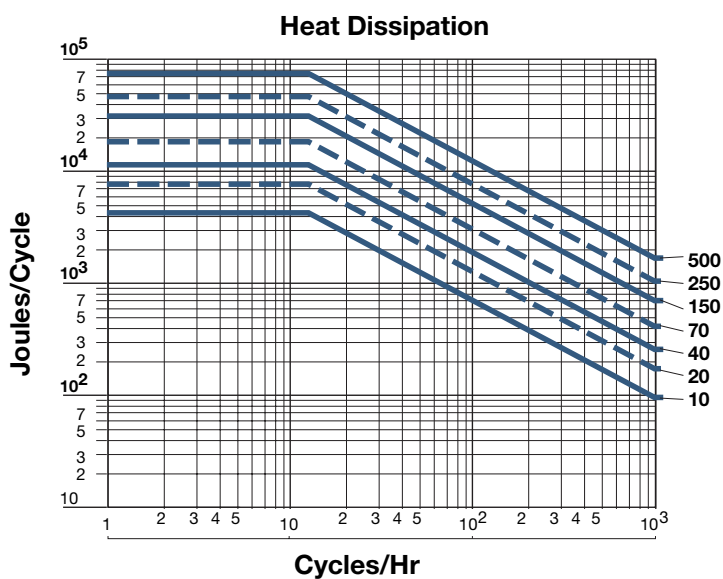
- SM 304

Mounting Precautions

- Centre the inductor
- Observe dimension "M"
- Device intended for horizontal or vertical use

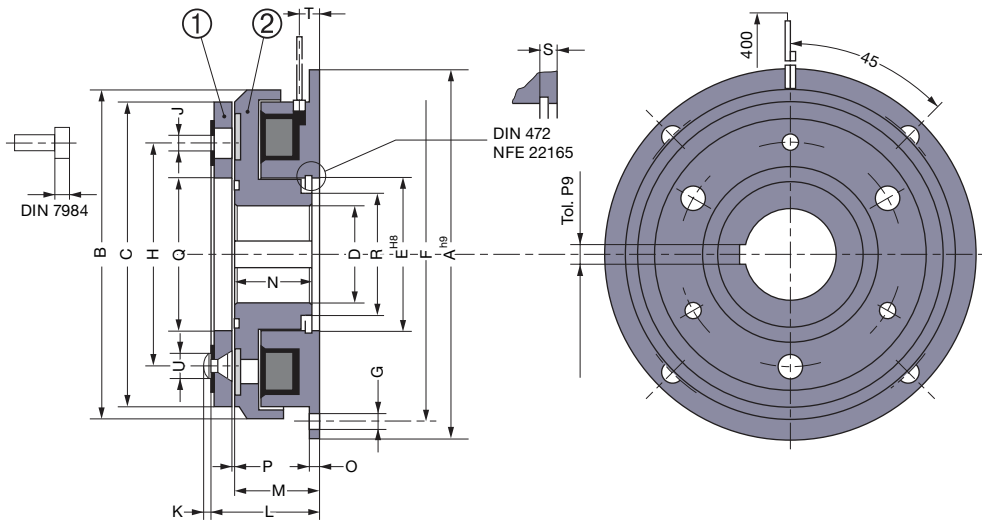
Power Supply

- For 24 volts versions only :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 700 (overexcitation)
CBC 140-5 + CBC 140-T (24V)
CBC 140-5 (103,5V)



Electro-Magnetic Single Disc Clutch

**EUROstandard
Indirect Drive**



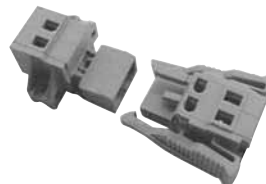
Sizes			10	20	40	70	150	250	500
Nom. Torque		[Nm]	7	15	30	60	120	250	500
Max. Speed		[min ⁻¹]	8000	6000	5000	4000	3000	3000	2000
Power	P20[U=12/24/103,5V]	[W]	12,5	17	27	31	44	59	83
	A		80	100	125	150	190	230	290
	B		68	86	107	134	170	213	267
	C		63	80	100	125	160	200	250
	D min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
	D Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
	D max		17H8	22H8	30H8	40H7	50H7	65H7	80H7
	E		35	42	52	62	80	100	125
	F		72	90	112	137	175	215	270
	G For screw		4xM4	4xM5	4xM6	4xM6	4xM8	4xM8	4xM10
	H		46	60	76	95	120	158	210
	J (1) For screw		3xM3	3xM4	3xM5	3xM6	3xM8	3xM10	4xM12
	K		1,5	1,5	2,5	3	3	3	5
	L		28	31	36	40,5	46,5	55,5	64
	M		24	26,5	30	33,5	37,5	44	51
	N		22	24	27	30	34	40	47
	O		2	2,5	3	3,5	4	5	6
	P		0,2	0,2	0,2	0,3	0,3	0,5	0,5
	Q		35	41	52	62	80	100	125
	R		23	28,5	40	45	64	77	100
	S		3,5	4,3	5	5,5	6	7	8
	T		5,6	6,5	9	9,5	11	10	12
	U		6	6	10	12	12	17	20
Inertia	❶	[kgm ²]	0,00004	0,00012	0,0005	0,0013	0,0049	0,0140	0,0360
Inertia	❷	[kgm ²]	0,00011	0,00027	0,0008	0,0022	0,0065	0,0195	0,0550
Weight		[kg]	0,5	0,9	1,7	3	5,5	10	18,5
Connection		Leads				Cable			

Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Keyway according to ISO R773 / BS 4235 / DIN 6885-1
/ NF E 22-175, tolerance P9 (1) Armature, Fixing "J" by
screws DIN7984 (not provided)



Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 12, 24, 103,5 VDC
- Single friction face
- Activated by power on

Utilisation

- Coupling of a pulley or a shaft

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings

Adjustments

- Airgap "P" should be adjusted at installation
- Requires wear compensation

Maintenance Manual

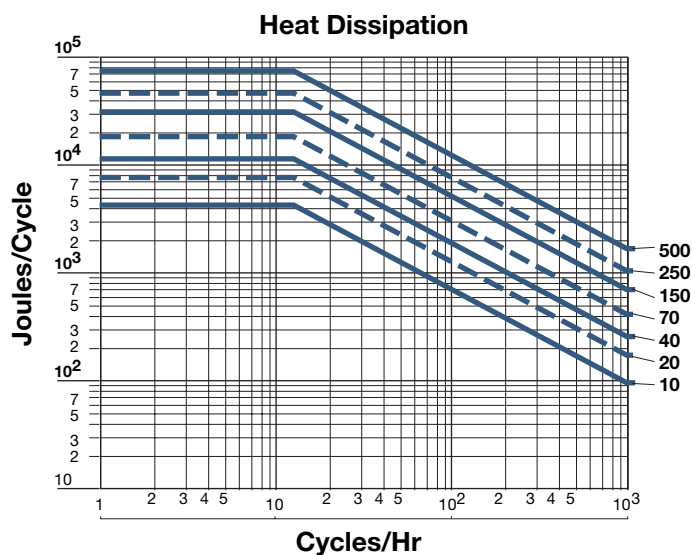
- SM 304

Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations
- Device intended for horizontal or vertical use

Power Supply

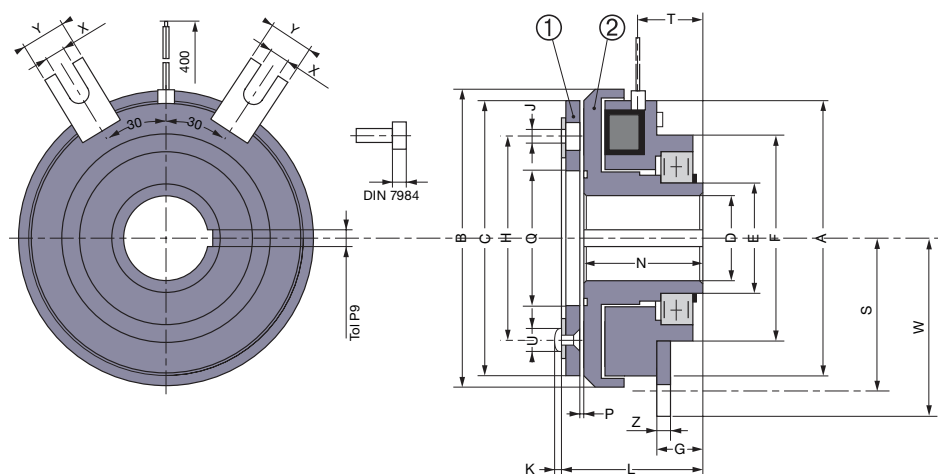
- For 24 volts versions only :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 700 (overexcitation)
CBC 140-5 + CBC 140-T (24V)
CBC 140-5 (103,5V)



Electro-Magnetic Single Disc Clutch

Sizes
150 - 500

10 - 70



**EUROstandard
Indirect Drive
Bearing Mounted**

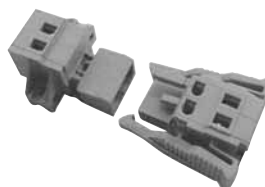
Sizes			10	20	40	70	150	250	500
Nom. Torque		[Nm]	7	15	30	60	120	250	500
Max. Speed		[min ⁻¹]	8000	6000	5000	4000	3000	2500	2000
Power	P20[U=12/24/103,5V]	[W]	12,5	17	27	31	44	59	83
	A		65,5	84	100	125	160	200	250
	B		68	86	107	134	170	213	267
	C		63	80	100	125	160	200	250
	D* min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
	D* Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	40/50/60
	D* max		17H8	22H8	30H8	40H7	50H7	65H7	65H7
	E		30	35	45	55	70	85	85
	F		64	68	85	100	127	152	152
	G		3	17	19	21,5	24	30	30
	H		46	60	76	95	120	158	210
	J (1) For screw		3xM3	3xM4	3xM5	3xM6	3xM8	3xM10	4xM12
	K		1,5	1,5	2,5	3	3	3	5
	L		44	48	55	62	70,5	85,5	94
	N		40	43,5	49	55	61,5	74	81
	P		0,2	0,2	0,3	0,3	0,3	0,5	0,5
	Q		35	41	52	62	80	100	125
	S		36	45	56	71	88	107,5	135
	T		22,5	27	28	31	35	40	42
	U		6	6	10	12	12	17	20
	W		41	50	60	77,5	99	118,5	146
	X		4,1	4,1	4,1	5,5	11	11	11
	Y		12	12	12	20	22	22	22
	Z		1,5	1,5	2	2	4	4	4
Inertia	①	[kgm ²]	0,00004	0,00012	0,0005	0,0013	0,0049	0,0140	0,0360
Inertia	②	[kgm ²]	0,00011	0,00029	0,0013	0,0024	0,0070	0,0206	0,0563
Weight		[kg]	0,7	1,2	2,3	4,0	7,6	13,0	22,2
Connection			Leads			Cable			

Connector Options

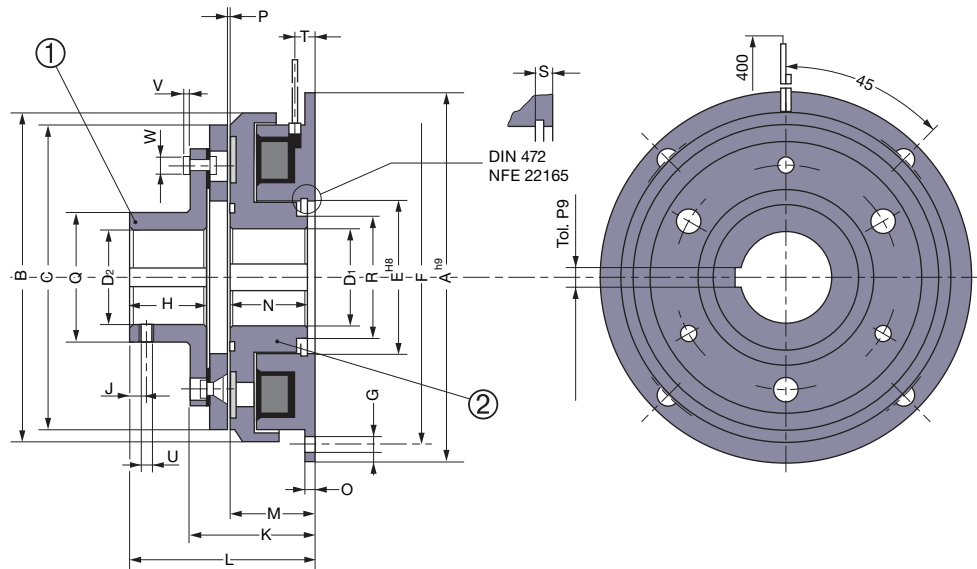
(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Keyway according to ISO R773 / BS 4235 / DIN 6885-1
/ NF E 22-175, tolerance P9 (1) Armature, Fixing "J" by
screws DIN7984 (not provided)

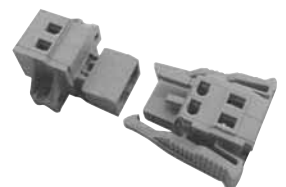


Electro-Magnetic Single Disc Clutch



**EUROstandard
Direct Drive**

Sizes		10	20	40	70	150	250	500
Nom. Torque	[Nm]	7	15	30	60	120	250	500
Max. Speed	[min ⁻¹]	8000	6000	5000	4000	3000	2500	2000
Power	P20[U=12/24/103,5V] [W]	12,5	17	27	31	44	59	83
A		80	100	125	150	190	230	290
B		68	86	107	134	170	213	267
C		63	80	100	125	160	200	250
D1 min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
D1 Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
D1 max		17H8	22H8	30H8	40H7	50H7	65H7	80H7
D2 min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
D2 Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
D2 max		17H8	20H8	30H8	35H7	45H7	60H7	80H7
E		35	42	52	62	80	100	125
F		72	90	112	137	175	215	270
G For screw		4xM4	4xM5	4xM6	4xM6	4xM8	4xM8	4xM10
H		15	20	25	30	38	48	55
J		5	6	6	10	10	15	20
K		31,5	35	41	46,5	53,5	66,3	78,3
L		43	51	61	70,5	84,5	103,5	119,5
M		24	26,5	30	33,5	37,5	44	51
N		22	24	27	30	34	40	47
O		2	2,5	3	3,5	4	5	6
P		0,2	0,2	0,3	0,3	0,3	0,5	0,5
Q		27	32	42	49	65	83	105
R		23	28,5	40	45	64	77	100
S		3,5	4,3	5	5,5	6	7	8
T		6,5	6,5	9	9,5	11	10	12
U		M4	M4	M4	M6	M8	M10	M10
V		1,5	2	2,5	3	4	1,5	2,5
W		6	8	10	12	16	20	24
Inertia ①	[kgm ²]	0,00006	0,00021	0,00079	0,0020	0,0077	0,0242	0,0705
Inertia ②	[kgm ²]	0,00011	0,00027	0,0008	0,0022	0,0065	0,0195	0,0550
Weight	[kg]	0,59	1,1	2,07	3,6	6,9	13,1	24,5
Connection	Leads	Cable						

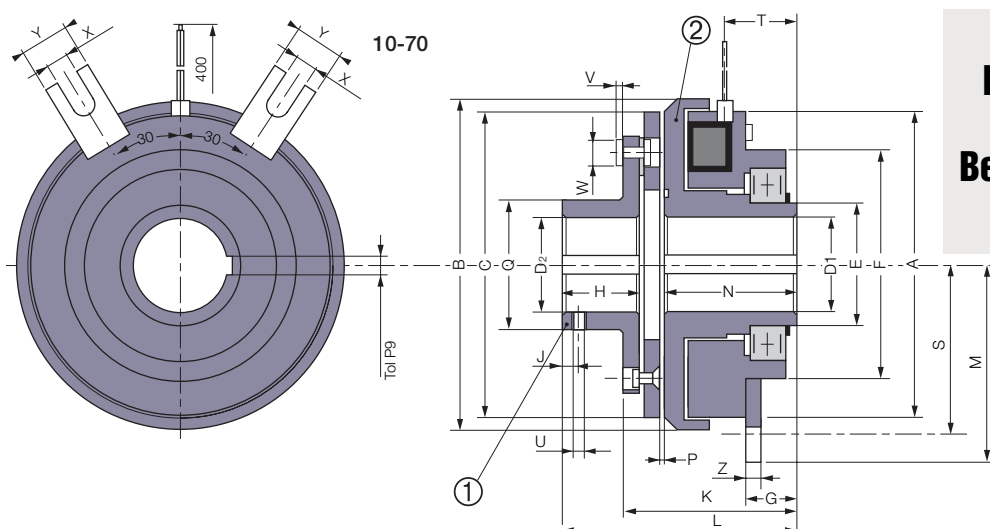


Connector Options
(Delivered without cable) 2 poles, capacity : 0,5/2,5mm²

Keyways according to ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

Electro-Magnetic Single Disc Clutch

Size
150-500



**EUROstandard
Direct Drive
Bearing Mounted**

Sizes		10	20	40	70	150	250	500
Nom. Torque	[Nm]	7	15	30	60	120	250	500
Max. Speed	[min ⁻¹]	8000	6000	5000	4000	3000	2500	2000
Power	P20[U=12/24/103,5V] [W]	12,5	17	27	31	44	59	83
A		64	81	100	125	160	200	250
B		68	86	107	134	170	213	267
C		63	80	100	125	160	200	250
D1* min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
D1* Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	40/50/60
D1* max		17H8	22H8	30H8	40H7	50H7	65H7	65H7
D2 min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
D2 Std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
D2 max		17H8	20H8	30H8	35H7	45H7	60H7	80H7
E		30	35	45	55	70	85	85
F		64	68	85	100	127	152	152
G		3	17	19	21,5	24	30	30
H		15	20	25	30	38	48	55
J		5	6	6	10	10	15	20
K		47,5	52	60	68	77,5	93,3	108,5
L		59	68	80	92	108,5	133,5	149,5
M		41	50	60	77,5	99	118,5	146
N		40	43,5	49	55	61,5	74	81
P		0,2	0,2	0,3	0,3	0,3	0,5	0,5
Q		27	32	42	49	65	83	105
S		36	45	56	71	88	107,5	135
T		22,5	26,8	28	31	35	40	42
U		M4	M4	M4	M6	M8	M10	M10
V		1,5	2	2,5	3	4	1,5	2,5
W		6	8	10	12	16	20	24
X		4,1	4,1	4,1	5,5	11	11	11
Y		12	12	12	20	22	22	22
Z		1,5	1,5	2	2	4	4	4
Inertia ①	[kgm ²]	0,00006	0,00021	0,00079	0,0020	0,0077	0,0242	0,0705
Inertia ②	[kgm ²]	0,00011	0,00029	0,0013	0,0024	0,0070	0,0206	0,0563
Weight	[kg]	0,79	1,4	2,67	4,6	9	16,1	28,2
Connection	Leads	Cable						



Connector Options
(Delivered without cable) 2 poles, capacity : 0,5/2,5mm²

Keyways according to ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
* Mandatory delivered with finished bores

Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on

Utilisation

- Coupling of two shafts in line

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

- SM 307

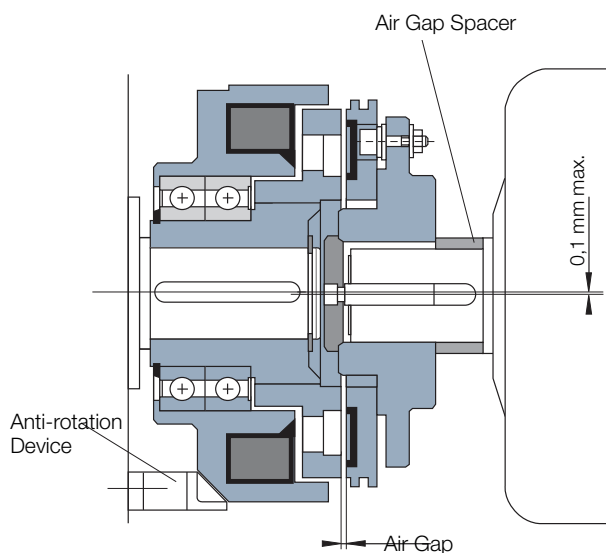
Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

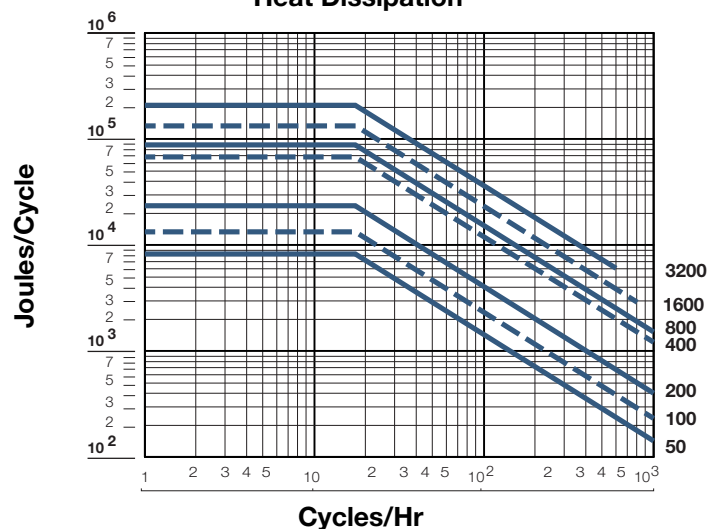
Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200:
CBC 140-5

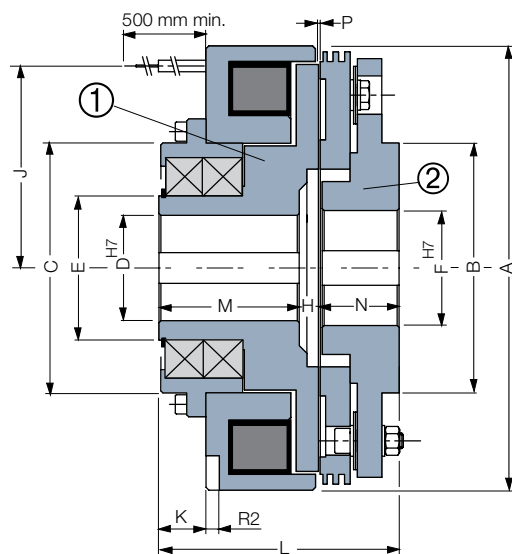
Mounting Example



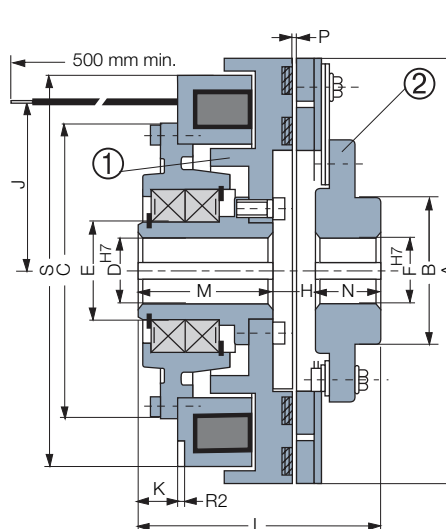
Heat Dissipation



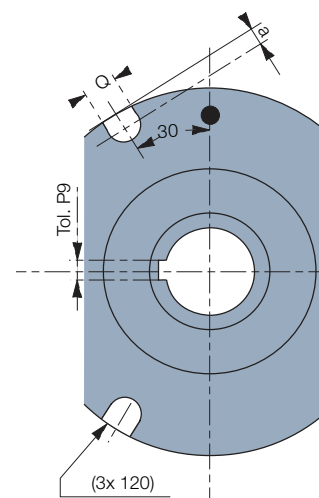
Electro-Magnetic Single Disc Clutch



Size 50 - 200



Size 400-3200



Sizes		50	100	200	400	800	1600	3200
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200
Max. Speed	[min.]	4150	3200	2600	2000	1700	1500	1500
Voltage	[VDC]	24	24	24	24	24	24	103,5
Power	P20 [W]	52	60	81	37	47	94	187
	A	139	173	231	260	300	360	450
	B	85	100	130	100	120	140	175
	C	90	110	155	185	220	265	318
	D* min	22	25	30	35	40	50	65
	D* max	35	45	55	65	75	90	100
	E	50	65	75	80	90	110	130
	F min	22	25	30	35	40	50	65
	F max	40	50	60	70	80	100	110
	H	10	10	12	14	16	20	20
	J	18	23	105	116	133	160	197
	K	17,5	19	24,5	21	24	28	77
	L	95	110	125	135	155	180	280
	M	55	65	73	75	85	100	160
	N	30	35	40	46	54	60	100
	P	0,3	0,3	0,5	0,5	0,6	0,8	0,8
	Q	12	12	16	16	18	20	20
	R2	6	6	7	7	8	10	12
	a	-	-	10	10	10	12	15
	S	-	-	-	249	287	340	426
Inertia	① [kgm²]	0,00270	0,0085	0,0234	0,0635	0,124	0,313	0,781
Inertia	② [kgm²]	0,00335	0,0128	0,0370	0,0342	0,0736	0,2042	0,681
Weight	[kg]	5,7	10,4	20	20,8	34,5	59	130
Connection	Cable							

Direct Drive

Connector Options

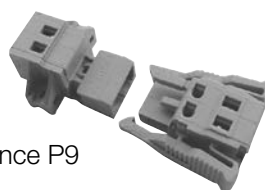
(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Keyways according to

ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bore



Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on
- Expected ball bearing life 50 000 hours
- Accepts speeds of rotation superior to series E210 VAR 00

Utilisation

- Coupling of two shafts in line
- From size 3200, we recommend to engage the clutch at a lower speed (about 300 min⁻¹)

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

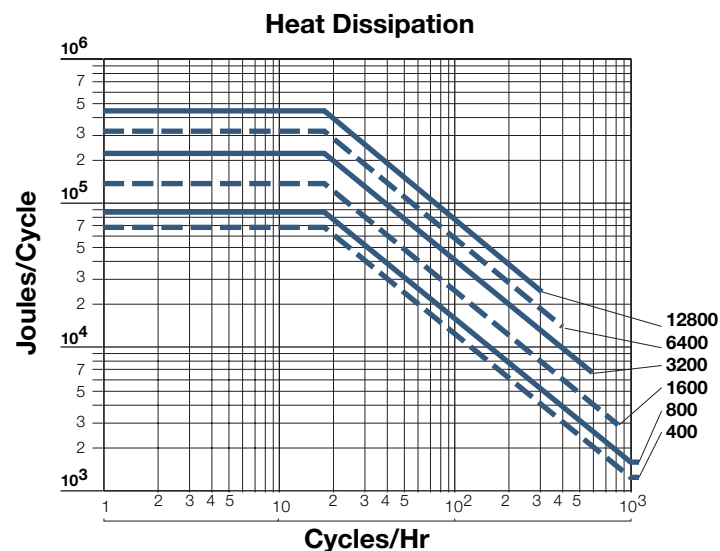
- SM 307

Mounting Precautions

- Device intended for horizontal or vertical use
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations

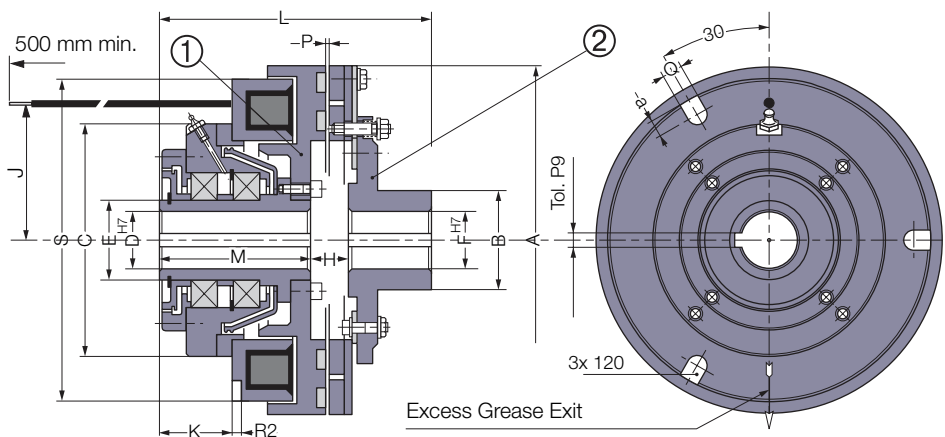
Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200 and up: CBC 140-5



Electro-Magnetic Single Disc Clutch

**Long Life
High Speed
Direct Drive**



Sizes		400	800	1600	3200	6400	12800
Nom. Torque	[Nm]	400	800	1600	3200	6400	12800
Max. Speed	[min.]	3000	2500	2200	1800	1500	1500
Voltage	[VDC]	24	24	24	103,5	103,5	103,5
Power	P20 [W]	37	47	94	187	264	336
	A	260	300	360	450	560	700
	B	100	120	140	175	230	255
	C	185	220	260	320	404	480
	D* min	35	40	50	65	85	100
	D* max	65	75	90	100	120	130
	E	80	90	110	130	160	180
	F min	35	40	50	65	80	100
	F max	70	80	100	110	150	170
	H	14	16	20	20	22	35
	J	116	133	160	197	248	310
	K	47	46	68	77	77	96
	L	161	177	220	280	315	390
	M	101	107	140	160	175	210
	N	46	54	60	100	118	145
	P	0,5	0,6	0,8	0,8	1	1
	Q	16	18	20	20	20	22
	R2	7	8	10	12	12	12
	a	10	10	12	15	15	18
	S	249	287	340	426	528	662
Inertia	① [kgm²]	0,0635	0,1280	0,3260	0,798	2,749	7,110
Inertia	② [kgm²]	0,0342	0,0736	0,2042	0,681	1,975	5,690
Weight	[kg]	25,5	35,2	61	132	238	400
Connection	Cable						

Connector Options

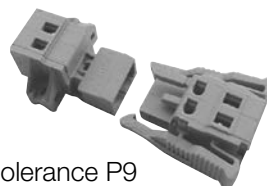
(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Keyways according to

ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bores



Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on

Utilisation

- Coupling of a pulley or a hub

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

- SM 307

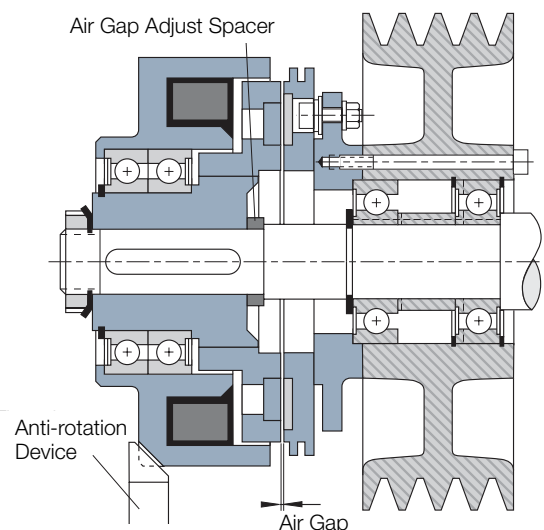
Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

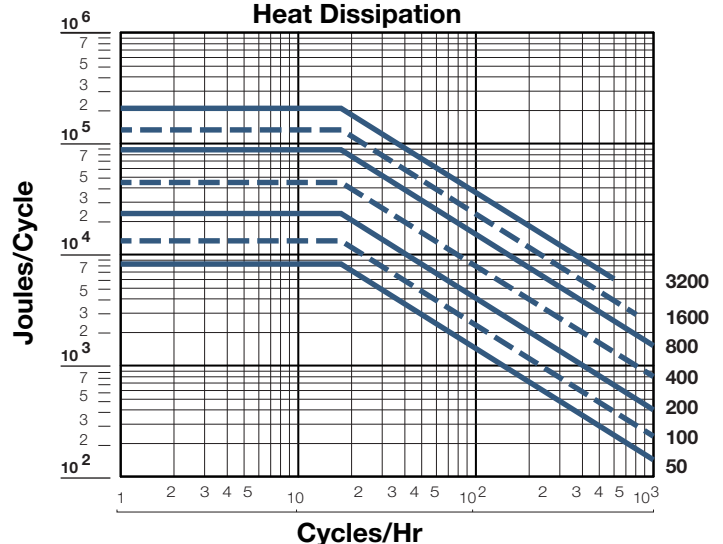
Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200:
CBC 140-5

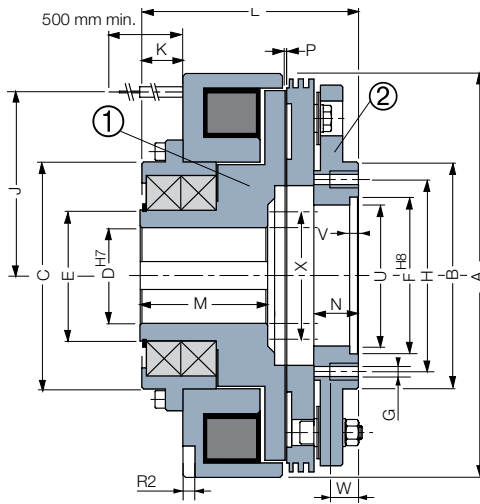
Mounting Example



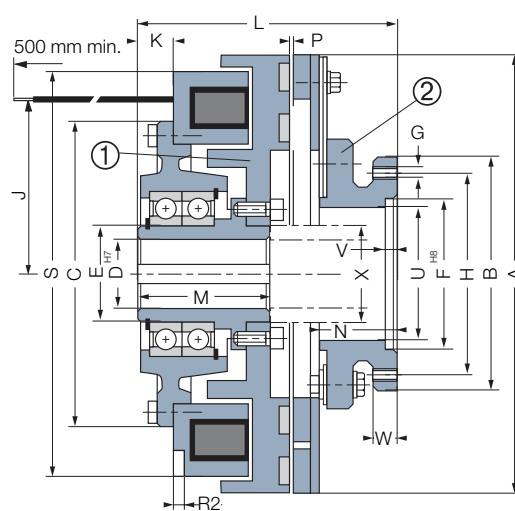
Heat Dissipation



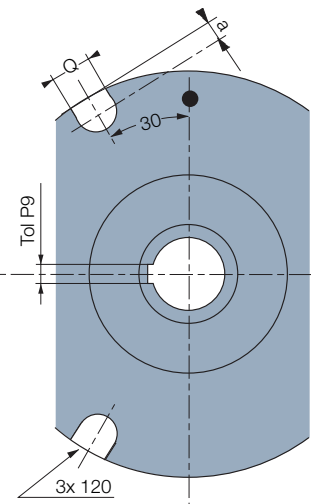
Electro-Magnetic Single Disc Clutch



Size 50 - 200

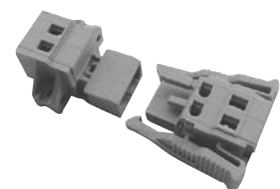


Size 400 - 3200



Sizes		50	100	200	400	800	1600	3200
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200
Max. Speed	[min. ⁻¹]	4150	3200	2600	2000	1700	1500	1500
Voltage	[VDC]	24	24	24	24	24	24	103,5
Power	P20 [W]	52	60	81	37	47	94	187
	A	139	173	231	260	300	360	450
	B	85	100	130	140	155	180	220
	C	90	110	155	185	220	265	318
	D* min	22	25	30	35	40	50	65
	D* max	35	45	55	65	75	90	100
	E	50	65	75	80	90	110	130
	F	62	75	90	100	115	140	150
	G	4xM6	6xM6	6xM8	6xM8	6xM10	8xM12	8xM12
	H	74	88	110	120	135	160	195
	J	18	23	105	116	133	160	197
	K	17,5	19	24,5	21	24	28	77
	L	95	110	12,5	135	155	180	250
	M	55	65	73	75	85	100	160
	N	18,5	21	25,5	41	49	55	60,4
	P	0,3	0,3	0,5	0,5	0,6	0,8	0,8
	Q	12	12	16	16	18	20	20
	R2	6	6	7	7	8	10	12
	a	-	-	10	10	10	12	15
	S	-	-	-	249	287	340	426
	U	55	68	81	90	106	126	135
	V	4	5	5	5	5	6	7
	W	12	12	16	14	15	18	20
Washer	X max	49	60	79	80	90	115	132
Inertia	① [kgm ²]	0,00270	0,0085	0,0234	0,0635	0,124	0,313	0,781
Inertia	② [kgm ²]	0,00335	0,0128	0,0370	0,0342	0,0736	0,2042	0,658
Weight	[kg]	5,7	10,4	20	20,8	34,5	59	120
Connection		Cable						

Indirect Drive



Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²

Keyways according to
ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bores

Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC, depending on size
- Single friction face
- Activated by power on
- Expected ball bearing life 50'000 hrs
- Accepts speeds of rotation superior to the series E220 VAR 00

Utilisation

- Coupling of a pulley or a hub
- From size 3200, we recommend to engage the clutch at a lower speed (about 300 min⁻¹)

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

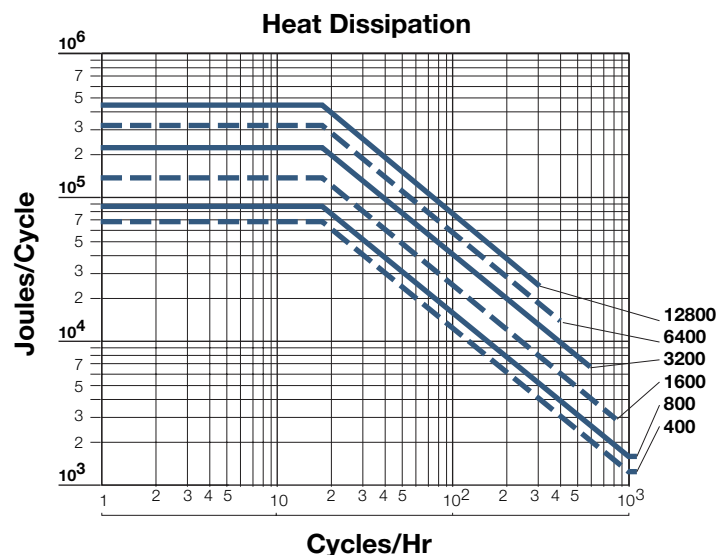
- SM 307

Mounting Precautions

- Device intended for horizontal use
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations

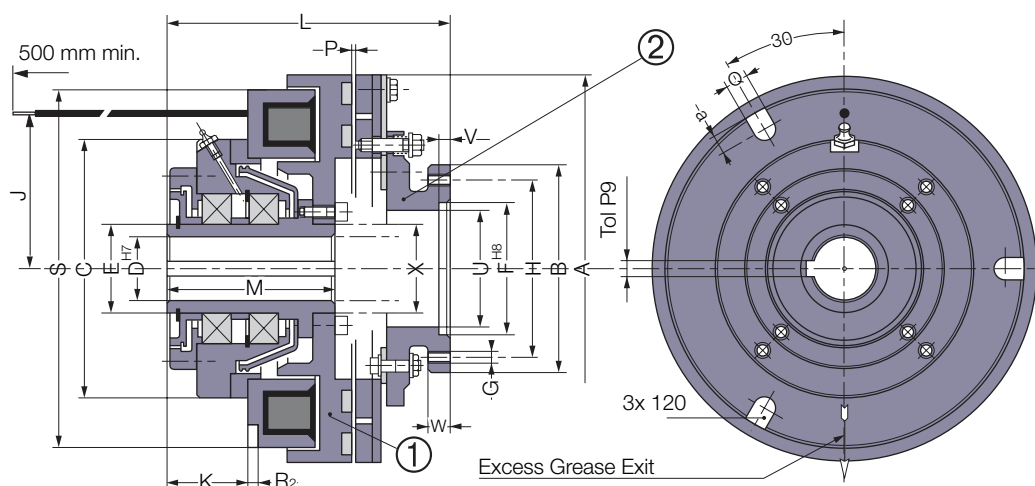
Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200 and up:
CBC 140-5



Electro-Magnetic Single Disc Clutch

**Long Life
High Speed
Indirect Drive**

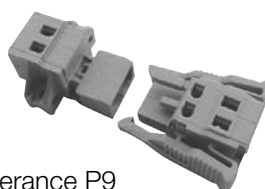


Sizes		400	800	1600	3200	6400	12800
Nom. Torque	[Nm]	400	800	1600	3200	6400	12800
Max. Speed	[min. ⁻¹]	3000	2500	2200	1800	1500	1500
Voltage	[VDC]	24	24	24	103,5	103,5	103,5
Power	P20 [W]	37	47	94	187	264	336
	A	260	300	360	450	560	700
	B	140	155	180	220	295	320
	C	185	220	260	320	404	480
	D* min	35	40	50	65	85	100
	D* max	65	75	90	100	120	130
	E	80	90	110	130	160	180
	F	100	115	140	150	180	215
	G	6xM8	6xM10	8xM12	8xM12	8xM16	12xM20
	H	120	135	160	195	260	280
	J	116	133	160	197	248	310
	K	47	46	68	77	77	96
	L	161	177	220	250	280	330
	M	101	107	140	160	175	210
	P	0,5	0,6	0,8	0,8	1	1
	Q	16	18	20	20	20	22
	R2	7	8	10	12	12	12
	a	10	10	12	15	15	18
	S	249	287	340	426	528	662
	U	90	106	126	135	160	197
	V	5	5	6	7	8	8
	W	14	15	18	20	25	28
Washer	X max	80	90	115	132	156	175
Inertia	① [kgm ²]	0,0635	0,1280	0,3260	0,798	2,749	7,110
Inertia	② [kgm ²]	0,0342	0,0736	0,2042	0,658	1,928	5,595
Weight	[kg]	25,5	35,2	61	122	220	380
Connection	Cable						

Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²



Keyways according to

ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bores

Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on

Utilisation

- Coupling of two shafts in line
- From size 3200, we recommend to engage the clutch at a lower speed (about 300 min⁻¹)

Particularities

- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings
- Equipped with an elastic coupling

Adjustments

- Does not require wear compensation

Maintenance Manual

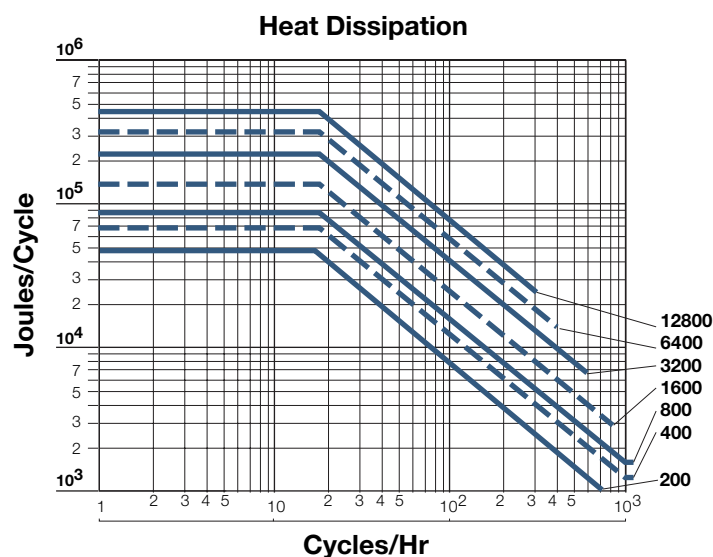
- SM 307

Mounting Precautions

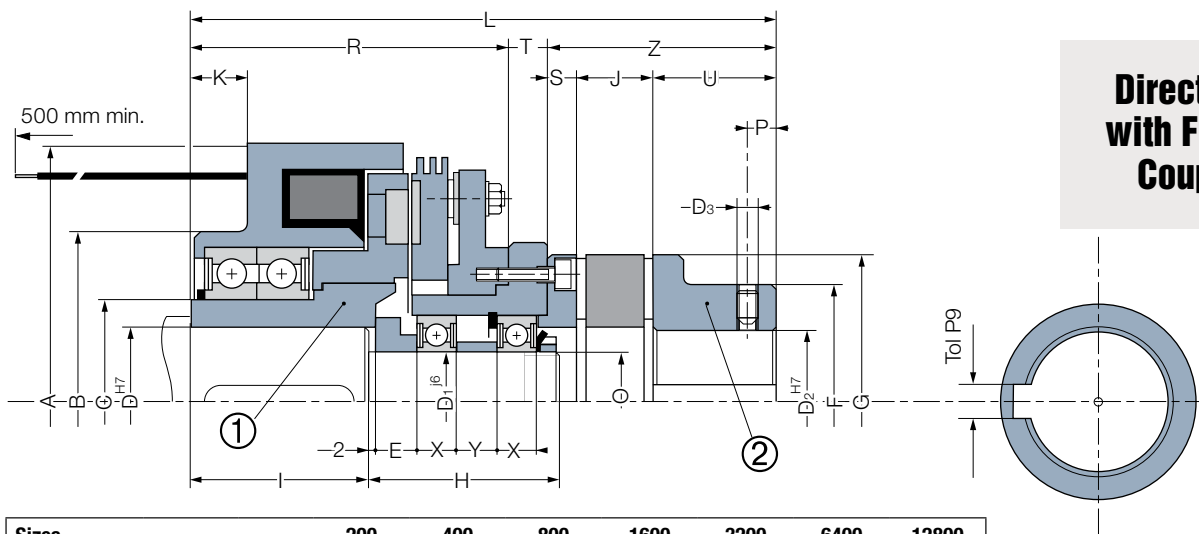
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations
- Device intended for horizontal use, for vertical use please consult the factory

Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200 and up:
CBC 140-5



Electro-Magnetic Single Disc Clutch



Electro-Magnetic Single Disc Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on

Utilisation

- Coupling of two shafts in line
- From size 3200, we recommend to engage the clutch at a lower speed (about 300 min⁻¹)

Particularities

- For dry use
- No residual torque in disengaged position
- Fixed inductor mounted on ball bearings
- Equipped with an elastic coupling

Adjustments

- Does not require wear compensation

Maintenance Manual

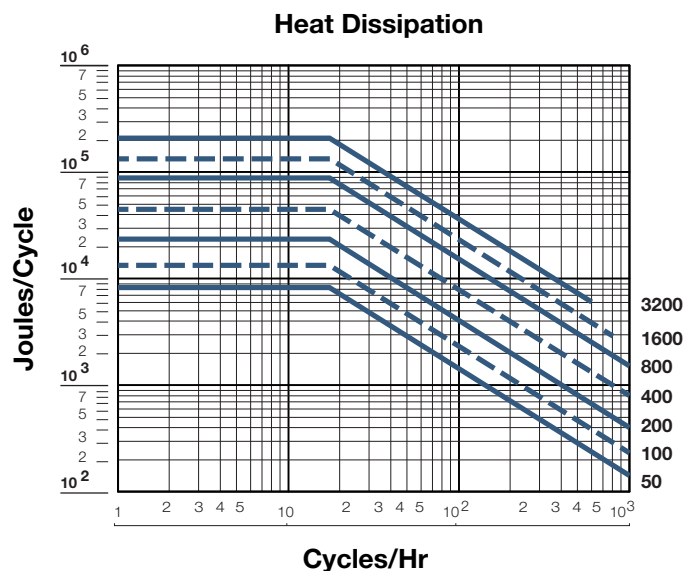
- SM 307

Mounting Precautions

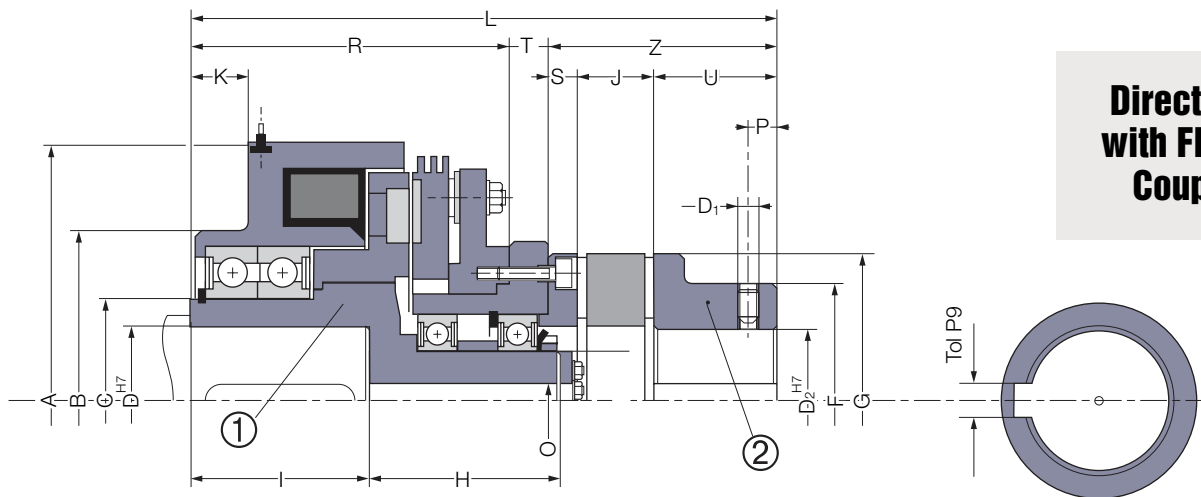
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- We strongly recommend to mount a damping elastic slot in the anti-rotation device in case of vibrations
- Device intended for horizontal use, for vertical use please consult the factory

Power Supply

- For sizes until 1600 :
CBC 400-24 - CBC 450-24
CBC 500-24 - CBC 550-24
CBC 140-5 + CBC 140-T
- For size 3200 and up:
CBC 140-5

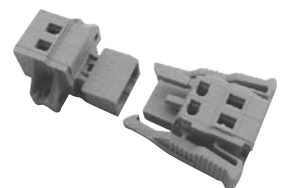


Electro-Magnetic Single Disc Clutch



**Direct Drive
with Flexible
Coupling**

Sizes		50	100	200	400	800	1600	3200
Coupling		38	42	55	65	75	90	100
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200
Max. Speed	[min.]	4150	3200	2600	2000	1700	1500	1500
Voltage	[VDC]	24	24	24	24	24	24	103.5
Power	P20 [W]	52	60	77	37	47	94	187
	A	139	173	231	260	300	360	450
	B	90	110	155	185	220	265	318
	C	50	65	75	80	90	110	130
	D* min	22	24	30	35	50	55	65
	D* max	35	38	42	55	65	80	90
	D1	M8	M8	M10	M10	M10	M12	M12
	D2 min	12	14	20	22	30	40	50
	D2 max	38	42	55	65	75	90	100
	F	66	75	98	115	135	160	180
	G	80	95	120	135	160	200	225
	H	60	68	78	83	95	108	121
	I	52	62	72	77	87	102	162
	J	24	26	30	35	40	45	50
	K	17,5	19	24,5	21	24	28	77
	L	185	210	250	275	315	365	455
	O	10,5	12,5	16,5	20,5	20,5	21	21
	P	10	10	20	20	20	30	30
	R	95	110	125	135	155	180	250
	S	8	10	13	14	16	19	21
	T	13	14	17	16	19	21	24
	U	45	50	65	75	85	100	110
	Z	77	86	108	124	141	164	181
Inertia	① [kgm²]	0,00270	0,0085	0,0234	0,0635	0,124	0,313	0,781
Inertia	② [kgm²]	0,0055	0,0177	0,0521	0,0584	0,125	0,333	0,901
Weight	[kg]	8,2	14,2	27,7	31,5	50,5	85,5	158
Connection		Cable						



Connector Options
(Delivered without cable)
2 poles, capacity :
0,5/2,5mm²

Keyways according to
ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
* Mandatory delivered with finished bores

E140 VAR 00

Electro-Magnetic Multi Disc Clutch

Characteristics

- Electrically operated 24 VDC
- Multi disc
- Activated by power on

Utilisation

- Coupling of a pulley or a hub

Particularities

- For use in lubricated environments
- Fixed inductor mounted on ball bearings

Adjustments

- Requires no adjustments at installation
- Automatic wear compensation
- Respect "L" dimension on assembly

Maintenance Manual

- SM 308

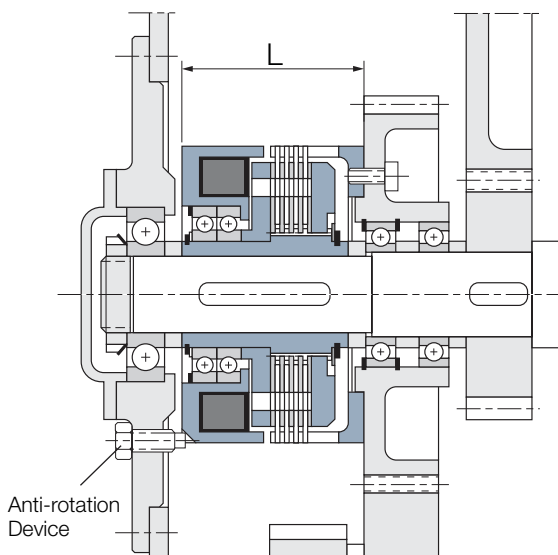
Mounting Precautions

- Shaft (1) has to be driven, in the opposite case please consult the factory
- Device intended for horizontal use
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- It is forbidden to use in case of vibrations

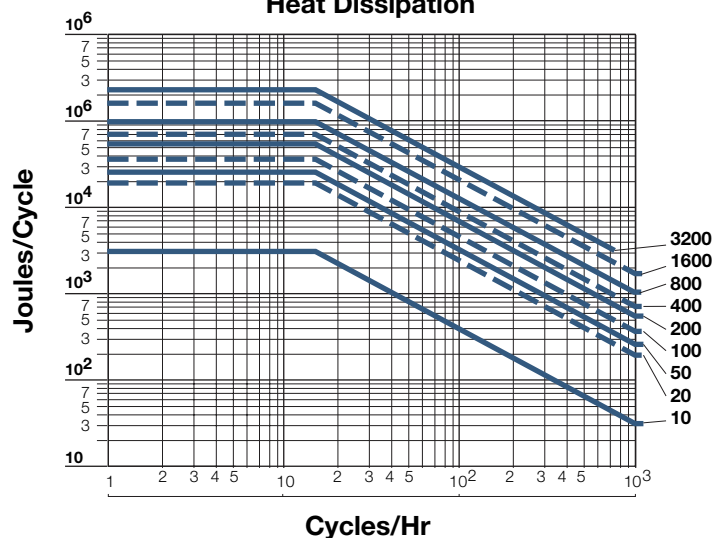
Power Supply

- For sizes until 800
CBC 400-24, CBC 450-24
CBC 140-5 + CBC 140-T
- For size 1600 and up
CBC 140-5

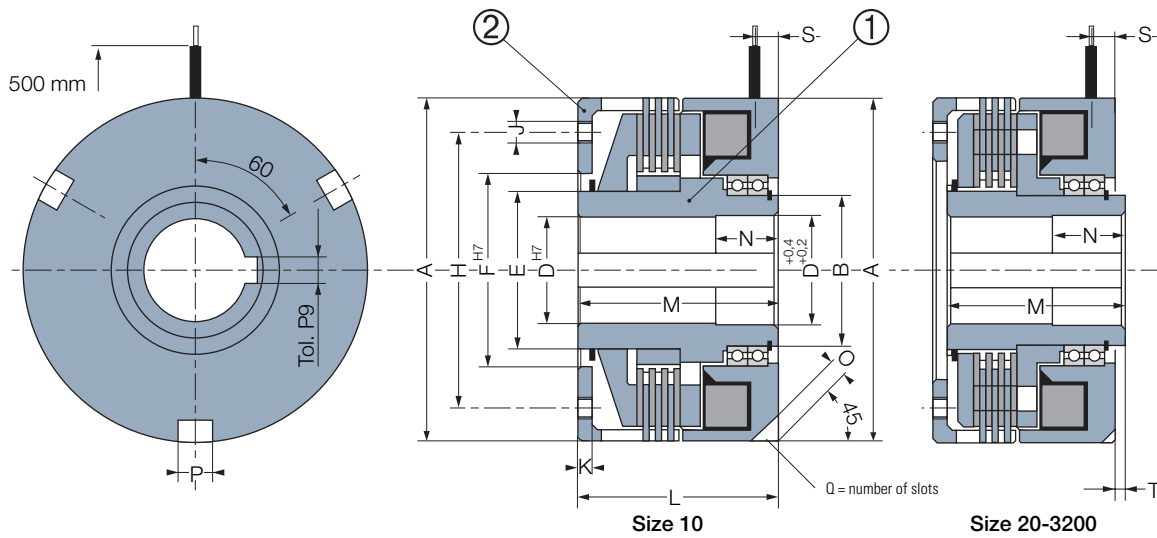
Mounting Example



Heat Dissipation



Electro-Magnetic Multi Disc Clutch



Sizes		10	20	50	100	200	400	800	1600	3200
Dyn. Nom. Torque	[Nm]	10	20	50	100	200	400	800	1600	3200
Max. Speed	[min.]	3000	3000	3000	3000	3000	2,200	2,000	1600	1500
Voltage	[VDC]	24	24	24	24	24	24	24	103,5	103,5
Power	P20 [W]	26,5	32	37	38	50	54	90	137	189
	A	70	100	110	132	147	182	202	270	310
	B	30	40	45	50	55	75	85	110	140
	D* min	14	17	18	20	20	30	40	45	50
	D* max	22	30	32	38	42	60	68	90	110
	E	35	52,5	55	66	55	75	98	135	160
	F min	45	40	40	54	64	69	100	110	140
	F max	52	70	70	90	100	120	140	200	220
	H**	55	85	90	105	120	155	170	235	260
	J**	4xM5	4xM6	4xM6	6xM8	6xM8	6xM10	6xM10	6xM12	6xM16
	K	4	5	5	6	7	8	9	12	14
	L	52	55	60	67	72	93	109	142	157
	M	52	50	55	60	65	85	100	130	145
	N	20	20	20	20	25	30	33	45	53
	O	3	4	4	4	5	6	8	10	10
	P	6	8	8	10	10	12	14	16	16
	Q	2	3	3	3	3	3	3	3	3
	S	7	7	7	7	9	10	10	12	12
	T	-	-	-	-	0,2	0,2	0,5	0,5	1
Inertia	① [kgm²]	0,00037	0,0008	0,0017	0,0035	0,0062	0,0235	0,045	0,17	0,32
Inertia	② [kgm²]	0,0002	0,0006	0,0012	0,0032	0,0042	0,0140	0,023	0,09	0,17
Weight	[kg]	1,1	2,9	3,9	5,9	7,8	15	22	51	67
Connection		Leads					Cable			

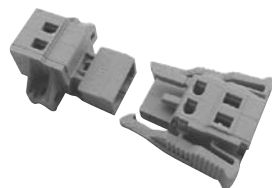
Indirect Drives

Connector Options

(Delivered without cable)

2 poles, capacity :

0,5/2,5mm²



Keyways according to

ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bores

** Drive cup is supplied undrilled. Fixing holes are shown for information only

Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Toothed clutch
- Activated by power on

Utilisation

- Coupling of a pulley or a hub
- Engagement has to be made at standstill or at very low speed, in case of doubt consult the factory
- For wet operation use models VAR n0 For dry operation use models VAR n4 (sealed bearings)

Particularities

- Positive coupling for drive without slipping
- Standard available for random or synchronised operation (one or more position(s)/rev). Multiposition/rev as option (VAR n0 or VAR n4, "n" indicates number of positions)
- Option : detection disc allows the coupling position to be validated, see E320 VAR504
- Fixed inductor mounted on ball bearings
- Non sealed bearings for use oil environment
- Sealed bearings for dry operation

Adjustments

- Verify position of tooth "J" prior to installation
- No wear adjustment required

Maintenance Manual

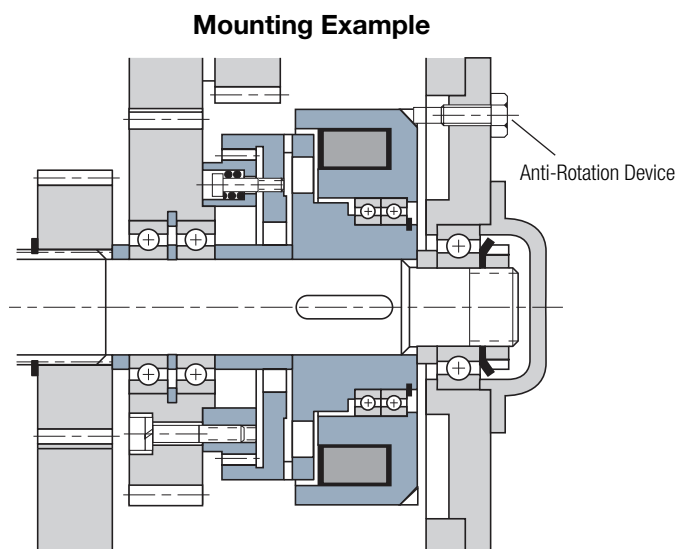
- SM 309

Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

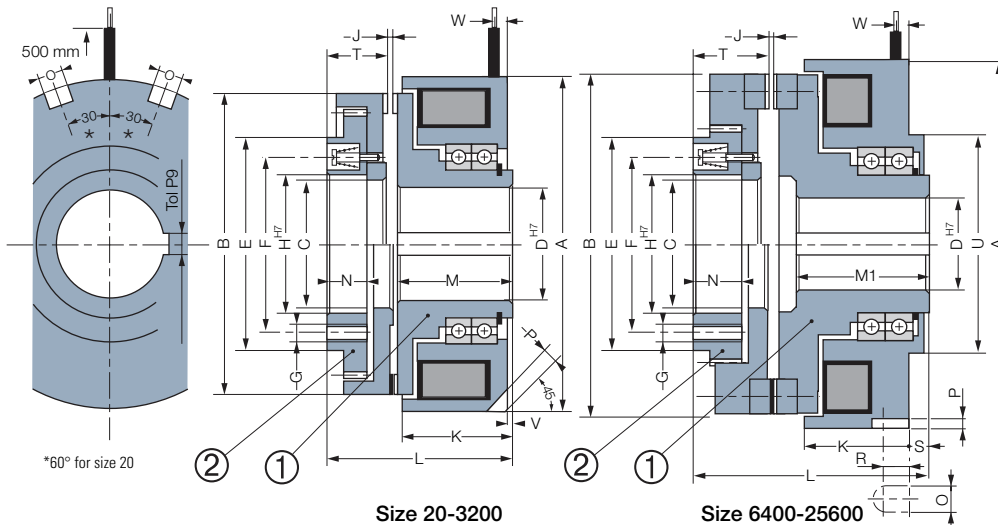
Power Supply

- For sizes until 3200
CBC 400–24 , CBC 450–24,
CBC 140–5 + CBC 140–T
- For sizes 6400 to 25600
CBC 140–5



E320 VAR 00 / VAR 10 | E320 VAR 04 / VAR 14

Electro-Magnetic Toothed Clutch



Bearings	Random	Synchronised 1 Rounded
Open	VAR 00	VAR 10
Sealed	VAR 04	VAR 14

**Indirect
Drives**

Sizes		20	50	100	200	400	800	1600	3200	6400	12800	25600
Nom. Torque	[Nm]	20	50	100	200	400	800	1,600	3200	6400	12800	25600
Max. Speed	VAR 00 / 10 [min ⁻¹]	-	5000	4300	3600	3300	2,700	2,100	1800	1500	1500	1200
	VAR 04 / 14 [min ⁻¹]	5000	3900	3500	2800	2600	2100	1500	1400	1000	-	-
Voltage	[VDC]	24	24	24	24	24	24	24	24	24	103,5	103,5
Power	P20 [W]	15	21	26	29	48	54	64	74,5	101	140	248
	A	72	82	100	115	125	153	202	235	340	410	490
	B	66	75	90	105	115	140	185	215	320	385	460
	C	28	40	49,5	58	63	76	99	117	153	180	220
	D* min	10	20	20	25	30	30	50	50	80	90	110
	D* max	22	30	32	42	46	55	80	85	110	125	150
	E	-	65,5	75,5	85,5	100,5	115,5	155,5	180,5	215,5	275,5	340,5
	F	45	55	64	75	85	100	135	155	190	250	300
	G	3xM4	4xM5	4xM5	4xM6	6xM6	6xM8	6xM10	6xM10	12xM12	12xM16	16xM46
	H	32	45	53	65	70	85	115	130	153	190	235
	J	0,3	0,4	0,5	0,5	0,5	0,6	0,7	0,8	1	1	1
	K	33	28,5	32	37	38	45,5	60,5	72	79	91	106
	L	47	44	50	57,5	60	74	97	120	174	211	295
	M	34	29	32,3	37,3	38,3	46	61	72,3	-	-	-
	M1	-	-	-	-	-	-	-	-	100	125	205
	N	5,4	8	10	12	12,5	17	21	28	35	41	55
	O	6	6	10	10	10	10	10	12	18	18	18
	P	3,5	3	4	4	4	5	6	8	8	10	12
	R	-	-	-	-	-	-	-	-	12	15	18
	S	-	-	-	-	-	-	-	-	11	18	68,5
	T	12,8	14	16,5	19	20	26	34	45	58,5	70	87,5
	U	-	-	-	-	-	-	-	-	187	235	300
	V	2	-	-	-	-	-	-	-	-	-	-
	W	7	7	7	7	7	10	12	15	19	22	25
Inertia	① [kgm ²]	0,00008	0,0001	0,0003	0,0008	0,0011	0,0032	0,015	0,0339	0,319	0,775	2,000
Inertia	② [kgm ²]	0,00015	0,0002	0,0006	0,001	0,002	0,007	0,030	0,0629	0,406	1,08	2,660
Weight	[kg]	1	1,2	2	3	4	7	14	29,5	82	145	254
Connection		Leads					Cable					

Keyways according to
ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
* Mandatory delivered with finished bores

Connector Options
(Delivered without cable)
2 poles, capacity :
0,5/2,5mm²



Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Toothed clutch
- Activated by power on

Utilisation

- Coupling of a pulley or a hub
- Engagement has to be made at standstill or at very low speed, in case of doubt consult the factory
- For wet operation use models VAR n0
For dry operation use models VAR n4 (sealed bearings)

Particularities

- Positive coupling for drive without slipping
- Standard available for random or synchronised operation (one or more position(s)/rev).
Multiposition/rev as option (VAR n0 or VAR n4, "n" indicates number of positions)
- Fixed inductor mounted on ball bearings
- Non sealed bearings for use oil environment
- Sealed bearings for dry operation

Adjustments

- Verify position of tooth "J" prior to installation
- No wear adjustment required

Maintenance Manual

- SM 309

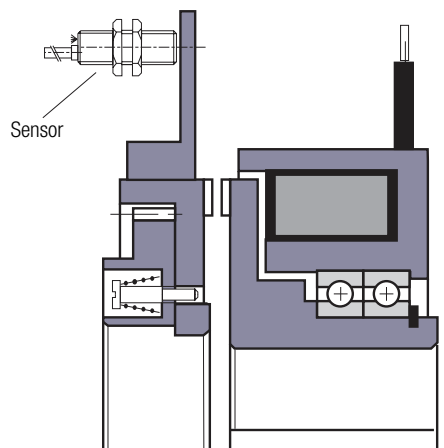
Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

Power Supply

- For sizes until 3200
CBC 400-24 , CBC 450-24,
CBC 140-5 + CBC 140-T
- For sizes 6400 to 25600
CBC 140-5

Mounting Example

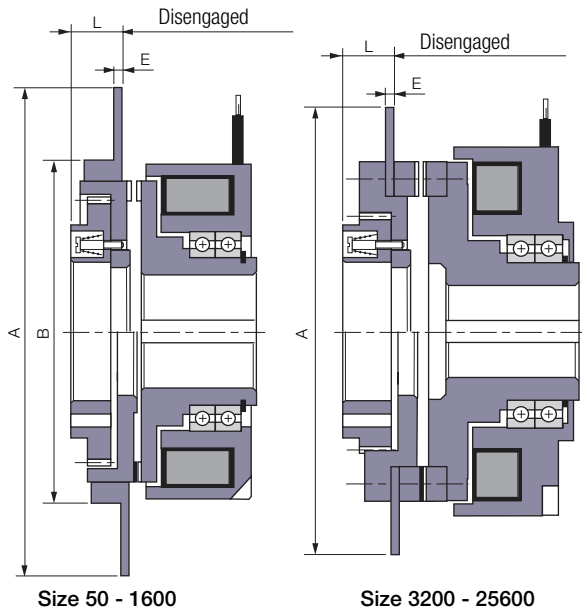


Connector Options

(Delivered without cable)

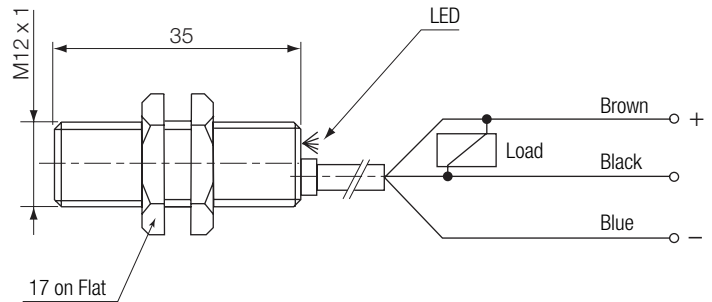
2 poles, capacity : 0,5/2,5mm²

Electro-Magnetic Toothed Clutch



Other dimensions, see page 39

Inductive Proximity Sensor



Part number BT768000124

Sizes	50	100	200	400	800	1600	3200	6400	12800	25600
A	135	152	168	178	205	250	288	400	465	540
B	88	104	120	132	158	205	235	—	—	—
E	3	3	3	3	3	3	3	5	5	5
L	12	14	15,5	16	20,5	28	40	37,5	42	59,5
Inertia*	[kgm ²]	0,0003	0,0005	0,0007	0,0010	0,0020	0,0043	0,017	0,081	0,142

* Value to be added to Inertia (2), see page 39.

INDUCTIVE PROXIMITY SENSOR with built-in electronic board

Characteristics

Rate operating distance (steel target)	2 mm
Monting	shilded
Switching element function	Normally open
Cable	NPN, 3 x 0,34 mm ² , 2 m
Usable supply voltage	18 V... 30 VDC
Ripple voltage	10 %
No load supply voltage	10 mA
Rated operational current	120 mA
Voltage drop	1,5 V
Off-state current	10 µA
Short circuit protection	yes
Overload protection	yes
Reverse battery protection	yes
Wire break resistance	yes
EMC	Group A
Operating frequency	2000 Hz
Hysteresis	15 %
Temperature drift	10 %
Repeat accuracy	10 %
Housing	Nickel-plated brass
Front cap	PBTP
Degree of protection (EN 60529)	IP 67
Ambiant air temperature	-25°C... +70°C
Part number	BT768 000 124

Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 24 VDC
- Toothed clutch
- Activated by power on

Utilisation

- Coupling of two shafts in line
- Engagement has to be made at standstill or at very low speed, in case of doubt consult the factory

Particularities

- Positive coupling for drive without slipping
- Standard available for random or synchronised operation (one or more position(s)/rev). Multiposition/rev as option (VAR n5, "n" indicates number of positions)
- Option : detection disc allows the coupling position to be validated, see E320 VAR504 page 41
- Fixed inductor mounted on ball bearings
- Sealed bearings
- Equipped with an elastic coupling

Adjustments

- No wear adjustment required

Maintenance Manual

- SM 309

Mounting Precautions

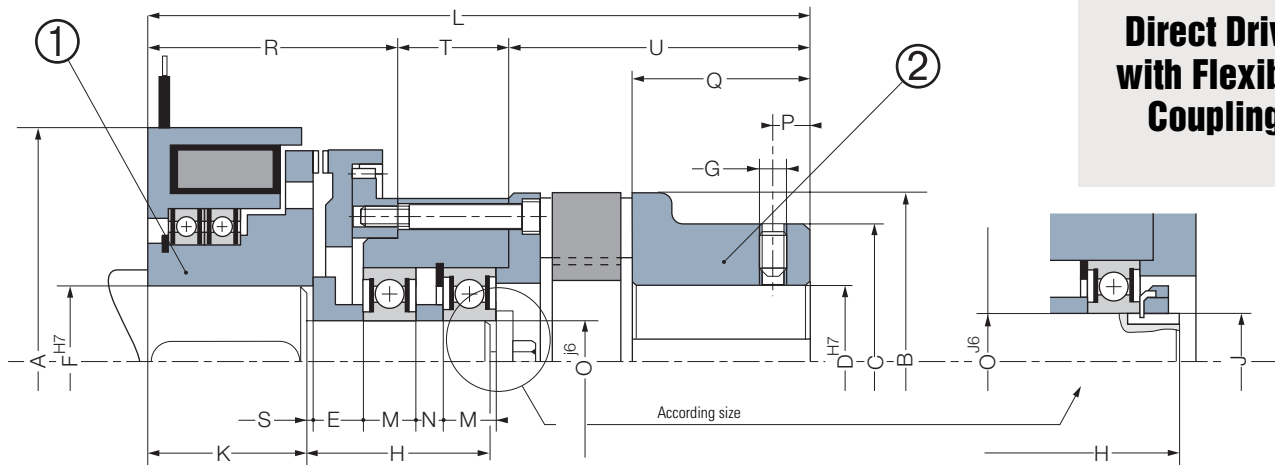
- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

Power Supply

- For sizes until 3200
CBC 400-24 - CBC 450-24,
CBC 140-5 + CBC 140-T
- For size 6400 to 25600
CBC 140-5

Electro-Magnetic Toothed Clutch

**Direct Drive
with Flexible
Coupling**



Sizes		50	100	200	400	800	1600	3200	6400	12800	25600
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200	6400	12800	25600
Coupling		28/38	38	42	48	55	75	90	125	160	180
Max. Speed	[min.]	3900	3500	2800	2600	2100	1500	1400	1000	1500	1200
Voltage	[VDC]	24	24	24	24	24	24	24	24	103,5	103,5
Power	P20 [W]	21	26	29	48	54	64	74,5	101	160	248
	A	82	100	115	125	153	202	235	340	410	490
	B	65	80	95	105	120	160	200	290	335	460
	C	65	66	75	85	98	135	160	230	180	220
	D* min	10	12	14	15	20	30	40	60	80	85
	D* max	40	38	42	48	55	75	90	145	160	180
	E	17	10,7	13,7	21,7	28	19	20,7	45	48	37
	F* min	20	20	25	30	30	50	55	80	90	110
	F* max	30	32	42	46	55	80	85	110	125	150
	G	M8	M8	M8	M8	M10	M10	M12	M12	M16	M16
	H	41	41,7	44,7	47,7	54	68	107	160	173	179
	J	-	-	-	-	-	-	M55X2	M65X2	M80X2	M90X2
	K	28	31,3	36,3	37,3	45	60	70,3	98	123	203
	L	135	154	171	184	211	273	332	432	528	690
	M	12	12	12	13	13	16	21	23	26	30
	N	-	7	7	-	-	17	28	52	53	62
	O	20	20	25	30	30	50	55	65	80	90
	P	10	10	10	10	20	20	30	30	40	40
	Q	35	45	50	56	65	85	100	140	175	195
	R	44	50	57,5	60	74	97	120	174	211	295
	S	1	1	1	1	1	1	2	2	2	2
	T	29	27	27,5	29	29	35	48	30	32	76
	U	62	77	86	95	108	141	164	228	285	319
Inertia	① [kgm²]	0,0001	0,0003	0,0008	0,0011	0,0032	0,015	0,0353	0,324	0,775	2,000
Inertia	② [kgm²]	0,0009	0,0027	0,0057	0,0088	0,0219	0,0864	0,229	1,197	TBD	TBD
Weight	[kg]	2,5	4,5	6,8	8,3	15,5	31	61	161	TBD	TBD
Connection	Leads					Cable					

Keyways according to
ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
* Mandatory delivered with finished bores

Connector Options
(Delivered without cable)
2 poles, capacity :
0,5/2,5mm²



Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 207/103,5 VDC
- Toothed clutch
- Activated by spring pressure

Utilisation

- Coupling of a pulley or a hub
- Engagement has to be made at standstill or at very low speed, in case of doubt consult the factory
- Destined to remain coupled over long periods

Particularities

- This device works with two voltages: one for disengagement, one for position maintain
- Positive coupling for drive without slipping
- Standard available for random or synchronised operation (one or more position(s)/rev). Multiposition/rev as option (VAR n4, "n" indicates number of positions)
- Option : detection disc allows the coupling position to be validated, see E330 VAR504
- Fixed inductor mounted on ball bearings
- Sealed bearings

Adjustments

- Verify position of tooth "Q" prior to installation
- No wear adjustment required

Maintenance Manual

- SM 310

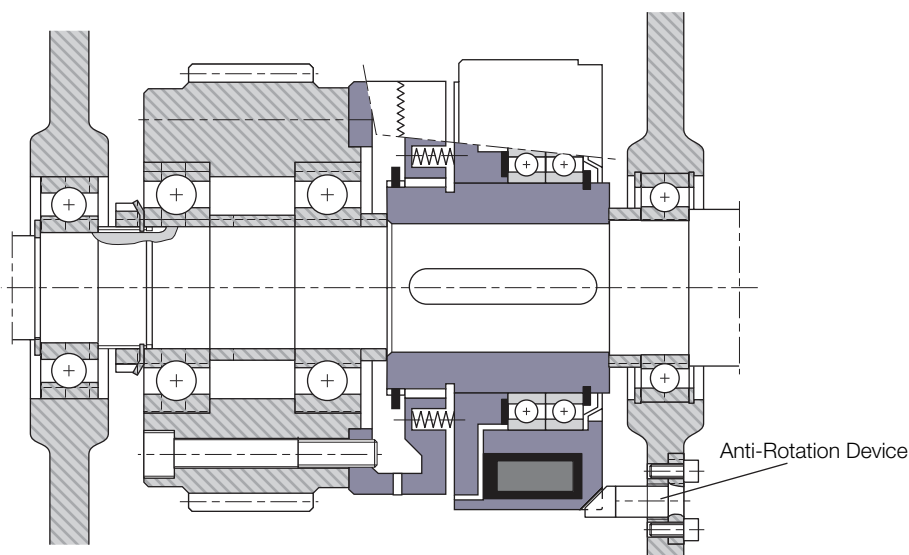
Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory
- The customers mounting method must take into account the axial thrust

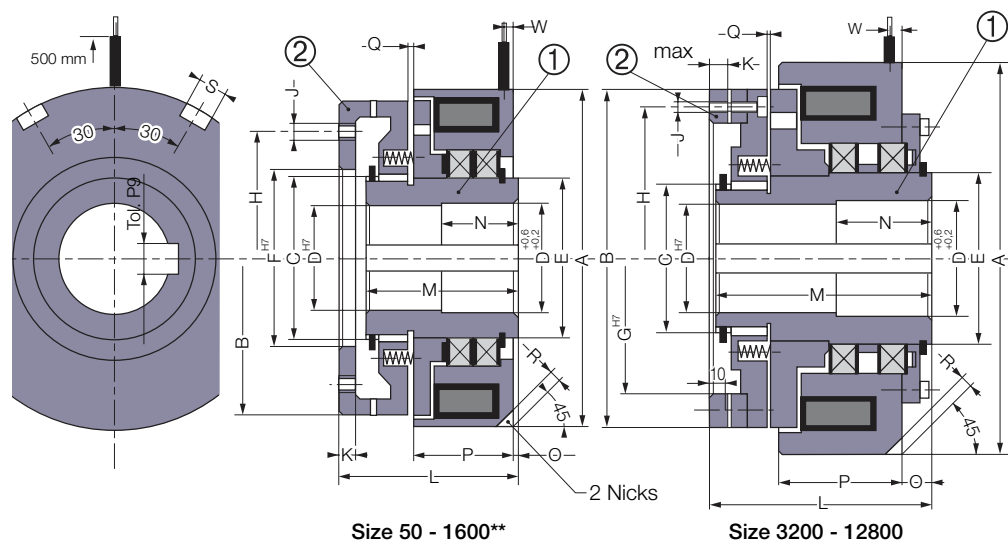
Power Supply CBC 140-5

- Overexcitation delay: 0,5 s (size 50) to 2 s (size 12800)

Mounting Example



Electro-Magnetic Toothed Clutch



Sealed Bearings	Random	Synchronised 1 Rounded
	VAR 04	VAR 14

Indirect Drive

Sizes		50	100	200	400	800	1600	3200	6400	12800
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200	6400	12800
Max. Speed	[min. ⁻¹]	4300	3600	3300	2600	2000	1800	1450	1200	1000
U pull in / holding***	[VCD]	207/103,5	207/103,5	207/103,5	207/103,5	207/103,5	207/103,5	207/103,5	207/103,5	207/103,5
Power pull in	P20 [W]	102	149	193	242	332	338	640	920	1224
Holding	P20 [W]	27	39	51	63	87	89	160	230	306
	A	100	115	125	153	202	245	290	350	425
	B	90	105	115	140	185	225	265	320	385
	C	45	55	60	75	100	105	125	145	175
	D* min	19	24	28	28	38	48	65	80	100
	D* max	30	38	42	55	75	80	95	110	130
	E	45	55	60	75	105	110	130	150	180
	F min	40	45	50	65	105	110	-	-	-
	F max	58	70	80	100	130	155	-	-	-
	G	-	-	-	-	-	-	215	260	315
	H**	68	82	92	110	148	175	240	290	355
	J**	4xM6	4xM6	6xM6	6xM8	6xM10	6xM12	12xM12	12xM14	12xM16
	K	5	6	6	7	8	12	15	18	24
	L	58	63	65	80	100	145	165	200	245
	M	51	55	57	71	90	130	160	198	240
	N	20	21	23	25	30	48	55	65	78
	O	1,7	1,7	0,5	0,7	0,5	15	15	22	23
	P	32	37	38	45,5	60,5	75	90	107	133,5
	Q	1	1,1	1,2	1,3	1,3	2	2,3	2,7	3,2
	R	4	4	4	5	6	7	8	10	12
	S	10	10	10	10	10	12	16	18	20
	W	7	7	7	7	10	12	15	19	22
Axial load on drive cup 2	[daN]	30	45	65	115	180	330	900	1500	2200
Inertia	① [kgm ²]	0,00100	0,00160	0,0027	0,0087	0,0330	0,0845	0,2150	0,554	1,370
Inertia	② [kgm ²]	0,00034	0,00073	0,0010	0,0025	0,0095	0,022	0,0418	0,104	0,290
Weight	[kg]	2,4	3,4	4,2	8	18	33,5	55,5	98	178
Connection		Leads				Cable				

Keyways according to ISO R773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

* Mandatory delivered with finished bores

** Drive cup sizes 50 to 1600 supplied non drilled. Fixing holes are shown for information only

*** For other voltages, please consult us.

Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²



Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 103,5/48 or 207/103,5 VDC depending size
- Toothed clutch
- Activated by spring pressure

Utilisation

- Coupling of a pulley or a hub
- Engagement has to be made at standstill or at very low speed, in case of doubt consult the factory
- Destined to remain coupled over long periods

Particularities

- This device works with two voltages: one for disengagement, one for position maintain
- Positive coupling for drive without slipping
- Standard available for random or synchronised operation (one or more position(s)/rev). Multiposition/rev as option (VAR n4, "n" indicates number of positions)

Fixed inductor mounted on ball bearings

Sealed bearings

Adjustments

- Verify position of tooth "Q" prior to installation
- No wear adjustment required

Maintenance Manual

- SM 310

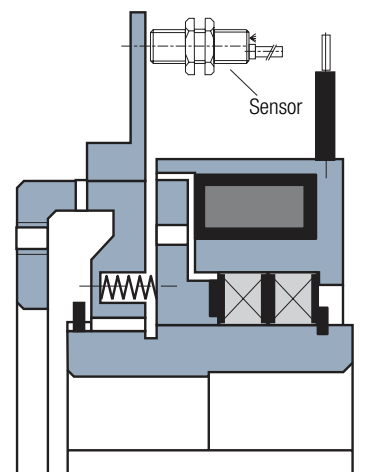
Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory
- The customers mounting method must take into account the axial thrust

Power Supply CBC 140-5

- Overexcitation delay: 0,5 s (size 50) to 2 s (size 12800)

Mounting Example

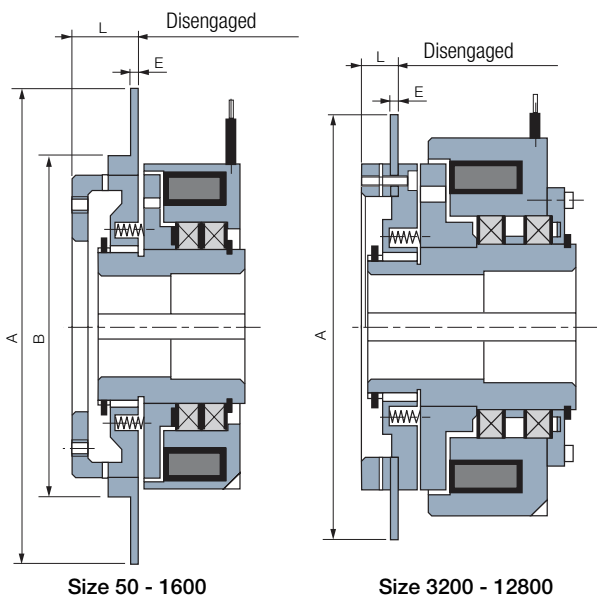


Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Electro-Magnetic Toothed Clutch

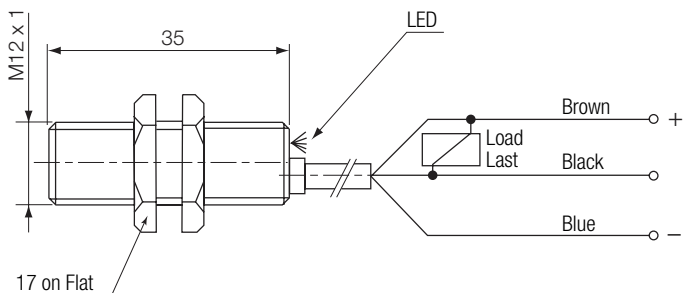


Size 50 - 1600

Size 3200 - 12800

Other dimensions, see page 45

Inductive Proximity Sensor



Part Number BT768000124

Sizes		50	100	200	400	800	1600	3200	6400	12800
A		152	168	178	205	250	300	344	400	465
B		104	120	132	158	205	245	-	—	—
E		3	3	3	3	3	3	4	5	5
L		23	23	24,5	32	37	53	42,5	48	62
Inertia*	[kgm²]	0,0003	0,0005	0,0007	0,0010	0,0020	0,0043	0,017	0,081	0,142

* Value to be added to Inertia (2), see page 45.

INDUCTIVE PROXIMITY SENSOR
with built-in electronic board

Characteristics

Rate operating distance (steel target)	2 mm
Monting	shilded
Switching element function	Normally open
Cable	NPN, 3 x 0,34 mm ² , 2 m
Usable supply voltage	18 V... 30 VDC
Ripple voltage	10 %
No load supply voltage	10 mA
Rated operational current	120 mA
Voltage drop	1,5 V
Off-state current	10 µA
Short circuit protection	yes
Overload protection	yes
Reverse battery protection	yes
Wire break resistance	yes
EMC	Group A
Operating frequency	2000 Hz
Hysteresis	15 %
Temperature drift	10 %
Repeat accuracy	10 %
Housing	Nickel-plated brass
Front cap	PBTP
Degree of protection (EN 60529)	IP 67
Ambient air temperature	-25°C... +70°C
Part number	BT768000124

Electro-Magnetic Toothed Clutch

Characteristics

- Electrically operated 207/103,5 VDC
- Toothed clutch
- Activated by spring pressure

Utilisation

- Coupling of two shafts in line
- Coupling has to be made at standstill or at very low speed, in case of doubt consult the factory
- Destined for remain connected long periods

Particularities

- This device works with two voltages: one for disengagement, one for position maintain
- Positive coupling for drive without slipping
- Option : detection disc allows the coupling position to be validated, see E330 VAR504 page 47
- Fixed inductor mounted on ball bearings
- Sealed bearings
- Equipped with an elastic coupling

Adjustments

- No wear adjustment required

Maintenance Manual

- SM 310

Mounting Precautions

- The anti-rotation device of the electromagnet shall be inserted in anti rotation slot, with a side play of 0,5 mm and a 1 mm play to the bottom. This avoids a normal stress on the ball-bearings.
- It is forbidden to use in case of vibrations
- Device intended for horizontal use; for vertical use, please consult the factory

Power Supply CBC 140-5

- Overexcitation delay: 0,5 s (size 50) to 2 s (size 6400)

Electro-Magnetic Single Disc Brake

Characteristics

- Electrically operated 12, 24, 103,5 VDC
- Single friction face
- Activated by power on

Utilisation

- Braking or maintaining a pulley or a hub

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position

Adjustments

- Airgap "P" should be adjusted at installation
- Requires wear compensation

Maintenance Manual

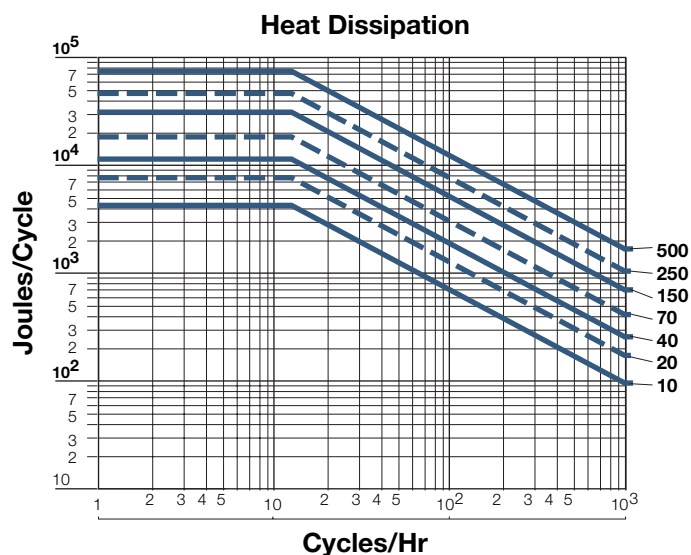
- SM 304

Mounting Precautions

- Centre the inductor
- Device intended for horizontal or vertical use

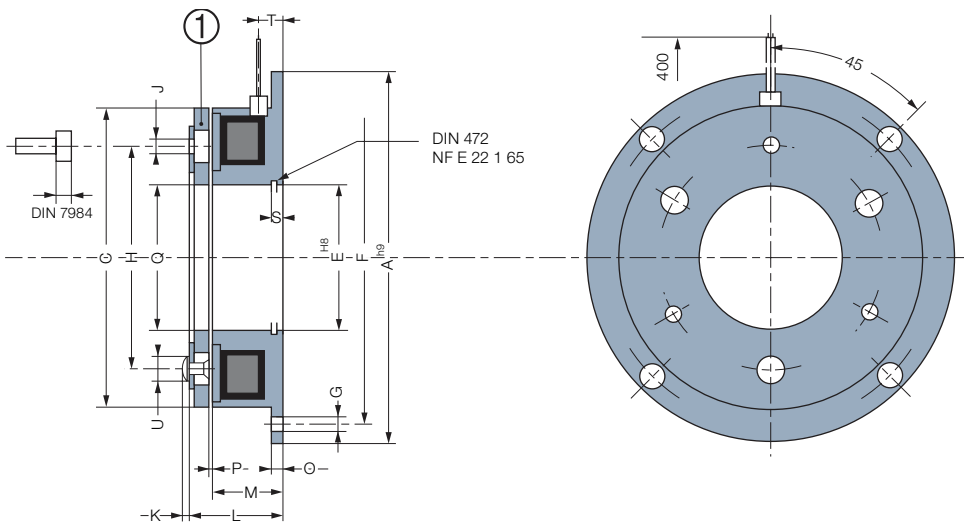
Power Supply

- For 24 volts versions only :
CBC 400-24, CBC 450-24
CBC 500-24, CBC 550-24
CBC 700 (overexcitation)
CBC 140-5 + CBC 140-T (24V)
CBC 140-5 (103,5V)



Electro-Magnetic Single Disc Brake

**EUROstandard
Indirect Drive**

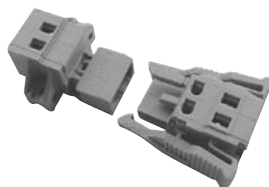


Sizes		10	20	40	70	150	250	500
Nom. Torque	[Nm]	7	15	30	60	120	250	500
Max. Speed	[min.⁻¹]	8000	6000	5000	4000	3000	2500	2000
Power	P20 [12/24/103,5V] [W]	9	16,5	21	24	30	43	58
	A	80	100	125	150	190	230	290
	C	63	81	100	125	160	200	250
	E	35	41	52	62	80	100	125
	F	72	90	112	137	175	215	270
	G For Screw	4xM4	4xM5	4xM6	4xM6	4xM8	4xM8	4xM10
	H	46	60	76	95	120	158	210
	J For Screw	3xM3	3xM4	3xM5	3xM6	3xM8	3xM10	4xM12
	K	1	1,5	2	2,5	3	3	5
	L	22	24,5	28	31	35	41,5	48,3
	M	18	20	22	24	26	30	35
	O	2	2,5	3	3,5	4	5	6
	P	0,2	0,2	0,3	0,3	0,3	0,5	0,5
	Q	35	42	52	62	80	100	125
	S	3,5	4,3	5	5,5	6	7	8
	T	6	6,5	9	9,5	10,5	12	12
	U	6	6	10	12	12	17	20
Inertia	[kgm²]	0,00004	0,00012	0,0005	0,0013	0,0049	0,0140	0,0360
Weight	① [kg]	0,3	0,5	0,95	1,7	3,3	5,9	11,5
Connection	Leads				Cable			

Connector Options

(Delivered without cable)

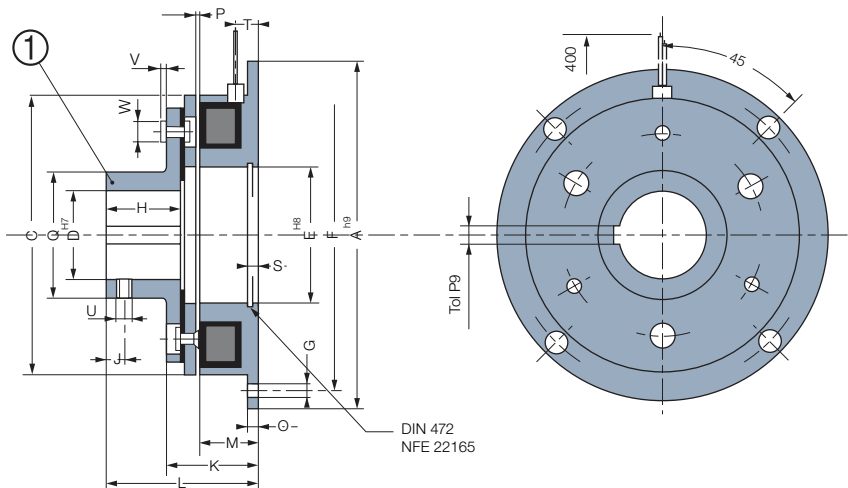
2 poles, capacity : 0,5/2,5mm²



(1)- Fixing "J" on mobile armature by mean of screws DIN 7984 (not provided)

PBM VAR 01

Electro-Magnetic Single Disc Brake

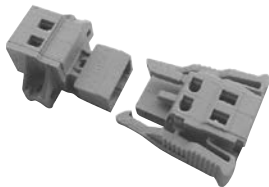


**EUROstandard
Direct Drive**

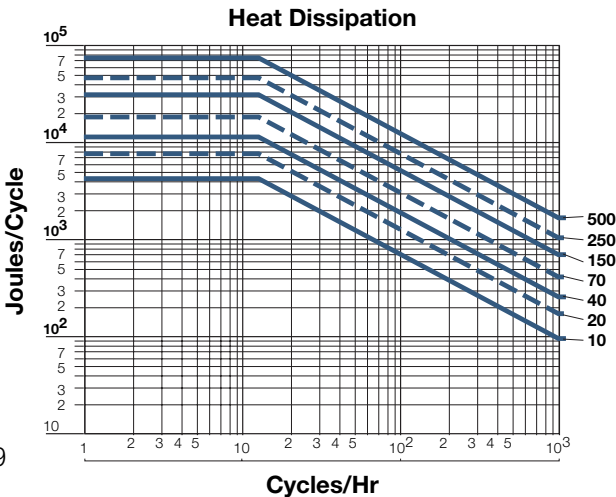
Sizes		10	20	40	70	150	250	500
Nom. Torque	[Nm]	7	15	30	60	120	250	500
Max. Speed	[min.]	8,000	6,000	5000	4000	3000	2500	2000
Power	P20 [12/24/103,5V] [W]	9	16,5	21	24	30	43	58
	A	80	100	125	150	190	230	290
	C	63	81	100	125	160	200	250
	D min	10H8	10H8	14H8	14H7	20H7	25H7	25H7
	D std	10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
	D max	17H8	20H8	30H8	35H7	45H7	60H7	80H7
	E	35	42	52	62	80	100	125
	F	72	90	112	137	175	215	270
	G For Screw	4xM4	4xM5	4xM6	4xM6	4xM8	4xM8	4xM10
	H	15	20	25	30	38	48	55
	J	5	6	6	10	10	15	20
	K	25,5	28,5	33	37	42	52,3	62,3
	L	37	44,5	53	61	73	89,5	103,5
	M	18	20	22	24	26	30	35
	O	2	2,5	3	3,5	4	5	6
	P	0,2	0,2	0,3	0,3	0,3	0,5	0,5
	Q	27	32	42	49	65	83	105
	S	3,5	4,3	5	5,5	6	7	8
	T	6	6,5	9	9,5	10,5	12	12
	U	M4	M4	M4	M6	M8	M10	M10
	V	1,5	2	2,5	3	4	1,5	2,5
	W	6	8	10	12	16	20	24
Inertia	① [kgm²]	0,00006	0,00021	0,00079	0,0020	0,0077	0,0242	0,0705
Weight	[kg]	0,4	0,7	1,32	2,32	4,8	9	17,6
Connection		Leads			Cable			

Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²

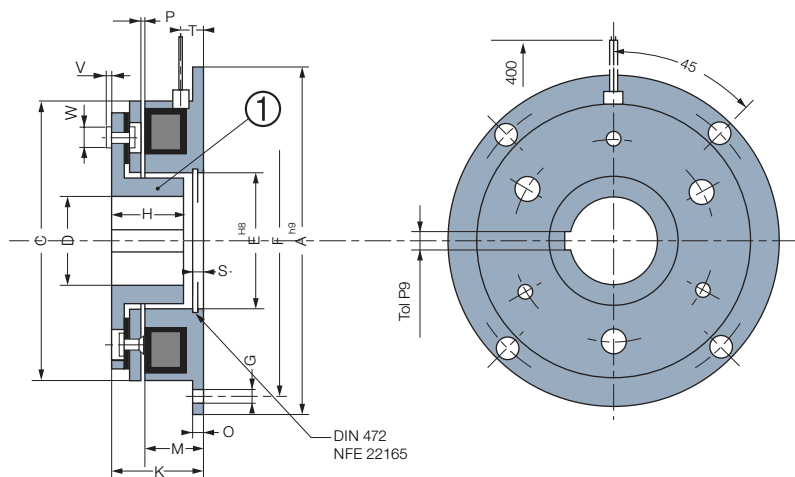


Keyways according to
ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9



Electro-Magnetic Single Disc Brake

**EUROstandard
Direct Drive**

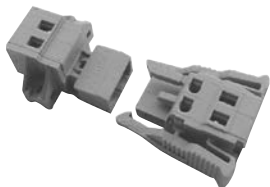


Sizes			10	20	40	70	150	250	500
Nom. Torque		[Nm]	7	15	30	60	120	250	500
Max. Speed		[min.]	8000	6000	5000	4000	3000	2500	2000
Power	P20 [12/24/103,5V]	[W]	9	16,5	21	24	30	43	58
	A		80	100	125	150	190	230	290
	C		63	81	100	125	160	200	250
	D min		10H8	10H8	14H8	14H7	20H7	25H7	25H7
	D std		10/15/17	10/17/20	20/25/30	25/30/35	30/40/45	40/50/60	50/60/80
	D max		17H8	20H8	30H8	35H7	45H7	60H7	80H7
	E		35	42	52	62	80	100	125
	F		72	90	112	137	175	215	270
	G For Screw		4xM4	4xM5	4xM6	4xM6	4xM8	4xM8	4xM10
	H		15	20	25	30	38	48	55
	K		25,5	28,5	33	37	42	52,3	62,3
	M		18	20	22	24	26	30	35
	O		2	2,5	3	3,5	4	5	6
	P		0,2	0,2	0,3	0,3	0,3	0,5	0,5
	S		3,5	4,3	5	5,5	6	7	8
	T		6	6,5	9	9,5	10,5	12	12
	V		1,5	2	2,5	3	4	1,5	2,5
	W		6	8	10	12	16	20	24
Inertia	①	[kgm²]	0,00006	0,00021	0,00079	0,0020	0,0077	0,0242	0,0705
Weight		[kg]	0,4	0,7	1,32	2,32	4,8	9	17,6
Connection			Leads			Cable			

Connector Options

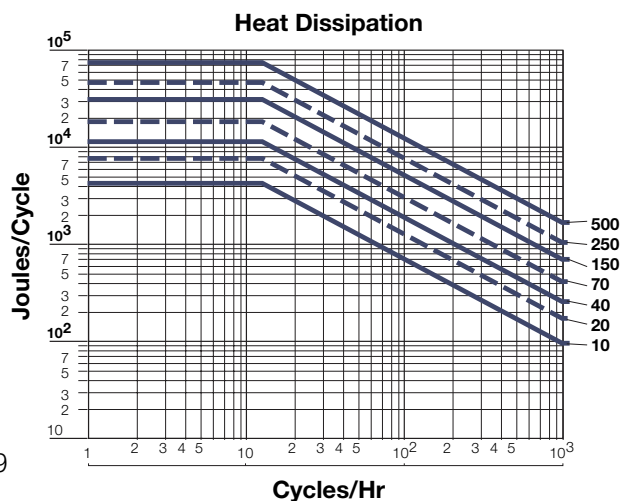
(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²



Keyways according to

ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9



Electro-Magnetic Single Disc Brake

Characteristics

- Electrically operated 24 or 103,5 VDC depending size
- Single friction face
- Activated by power on

Utilisation

- Braking or holding of a shaft

Particularities

- No Backlash
- For dry use
- No residual torque in disengaged position

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

- SM 315

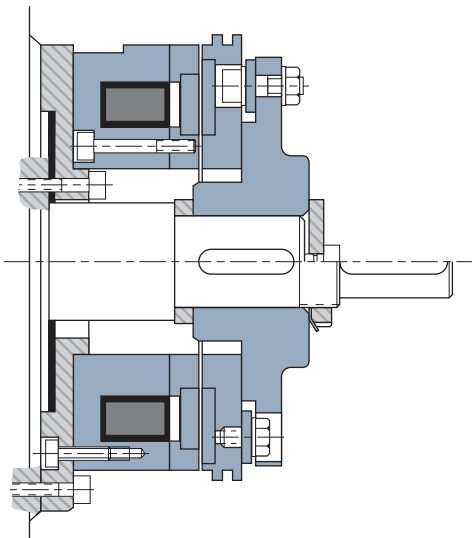
Mounting Precautions

- Device intended for horizontal or vertical use

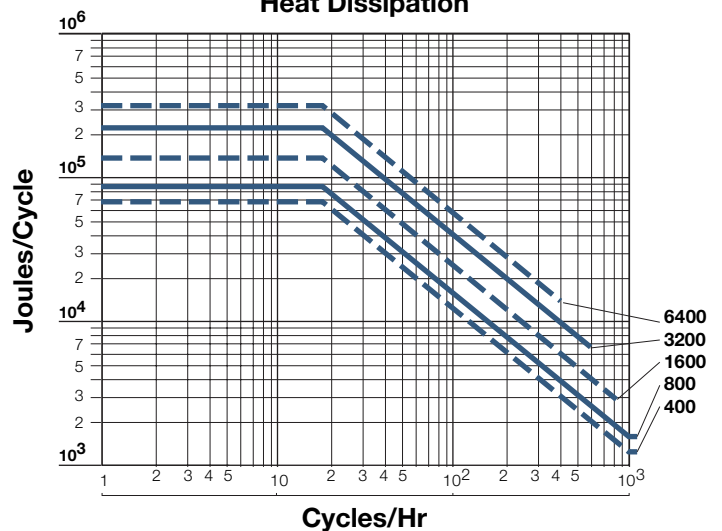
Power Supply

- For sizes until 1600 :
CBC 400-24, CBC 450-24
CBC 500-24, CBC 550-24
CBC 140-5 + CBC 140-T (24V)
- For size 3200 :
CBC 140-5 (103,5V)

Mounting Example

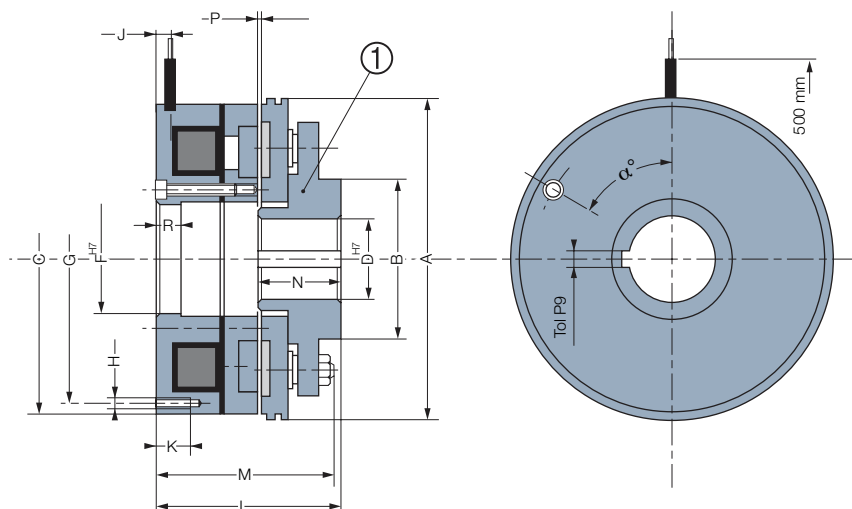


Heat Dissipation



Electro-Magnetic Single Disc Brake

Direct Drive

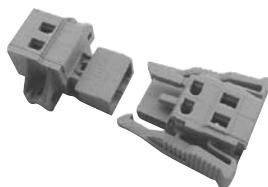


Sizes		400	800	1600	3200	6400
Nom. Torque	[Nm]	400	800	1600	3200	6400
Max. Speed	[min.⁻¹]	2000	1700	1500	1500	1500
Voltage	[VDC]	24	24	24	103,5	103,5
Power	P20 [W]	29	36	59	89	121
	A	260	300	360	450	560
	B	100	120	140	175	230
	C	260	300	360	450	560
	D min	35	40	50	65	80
	D max	70	80	100	110	150
	E	-	-	-	-	-
	F	110	125	150	195	265
	G	225	265	320	400	500
	H	4xM8	4xM10	4xM12	6xM12	6xM16
	J	7	7	10	10	10
	K	20	20	25	25	30
	L	90	105	120	141	161
	M	95	110	128	146,5	166,5
	N	46	54	60	100	118
	P	0,5	0,6	0,8	0,8	1
	Q	-	-	-	-	-
	R	30	30	30	30	30
	α°	45°	45°	45°	30°	30°
Inertia	① [kgm²]	0,0342	0,0736	0,2042	0,681	1,975
Weight	[kg]	18,1	30	51	105	190
Connection	Cable					

Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²



Keyways according to
ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

Electro-Magnetic Single Disc Brake

Characteristics

- Electrically operated 24 or 103,5 VDC depending on size
- Single friction face
- Activated by power on

Utilisation

- Braking or maintaining a pulley or a hub

Particularities

- No backlash
- For dry use
- No residual torque in disengaged position

Adjustments

- Airgap "P" should be adjusted at installation
- Does not require wear compensation

Maintenance Manual

- SM 315

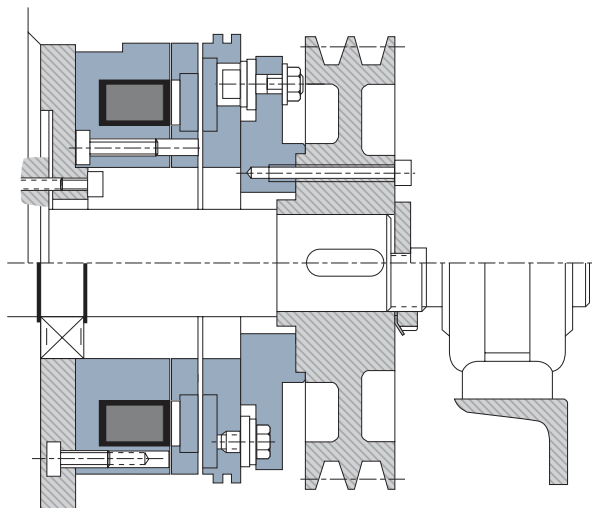
Mounting Precautions

- Device intended for horizontal or vertical use

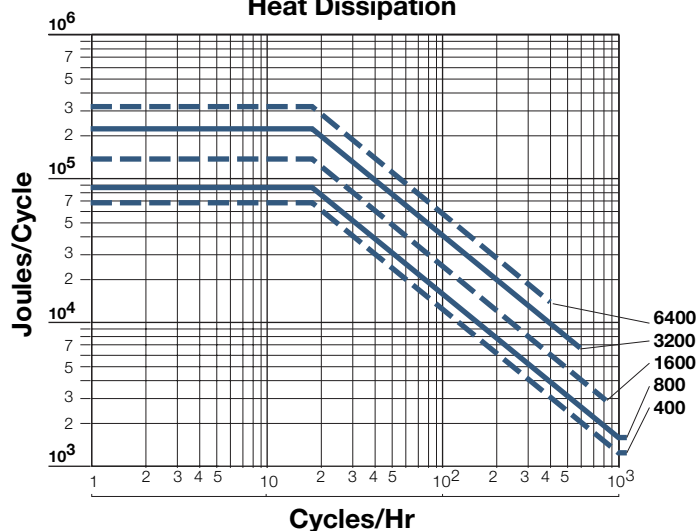
Power Supply

- For sizes until 1600 :
CBC 400-24, CBC 450-24
CBC 500-24, CBC 550-24
CBC 140-5 + CBC 140-T (24V)
- For size 3200 :
CBC 140-5 (103,5V)

Mounting Example

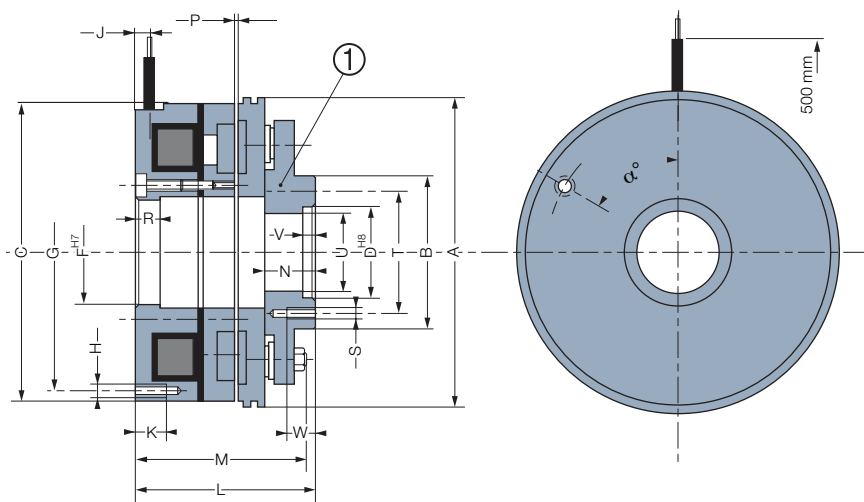


Heat Dissipation



Electro-Magnetic Single Disc Brake

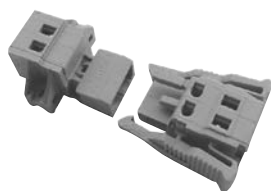
Indirect Drive



Sizes		400	800	1600	3200	6400
Nom. Torque	[Nm]	400	800	1600	3200	6400
Max. Speed	[min.⁻¹]	2000	1700	1500	1500	1500
Voltage	[VDC]	24	24	24	103,5	103,5
Power	P20 [W]	29	36	59	89	121
	A	260	300	360	450	560
	B	140	155	180	220	295
	C	260	300	360	450	560
	D	100	115	140	150	180
	E	-	-	-	-	-
	F	110	125	150	195	265
	G	225	265	320	400	500
	H	4xM8	4xM10	4xM12	6xM12	6xM16
	J	7	7	10	10	10
	K	20	20	25	25	30
	L	114	131	152	172	198
	M	95	110	128	146,5	166,5
	N	41	49	55	60,4	71,2
	P	0,5	0,6	0,8	0,8	1
	Q	-	-	-	-	-
	R	30	30	30	30	30
	S	6xM8	6xM10	8xM12	8xM12	8xM16
	T	120	135	160	195	260
	U	90	106	126	135	160
	V	5	5	6	7	8
	W	14	15	18	20	25
	α°	45°	45°	45°	30°	30°
Inertia	① [kgm²]	0,0342	0,0736	0,2042	0,681	1,975
Weight	[kg]	17,5	29	50	95	173
Connection		Cable				

Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²



Electro-Magnetic Electro Release Brake

Characteristics

- Electrically operated 24, 103,5 or 207 VDC
- Single disc
- Activated by spring pressure

Utilisation

- Braking a shaft
- Holding a load

Particularities

- For dry use
- No residual torque in disengaged position

Adjustments

- Factory set, no adjustment required
- With wear adjustment for dynamic use

Maintenance Manual

- SM 321A for sizes 005 to 035
- SM 321 for sizes 060 to 300

Mounting Precautions

- For horizontal or vertical use for standard versions
- Horizontal use for high torque versions
- Release shipping screws after mounting

Power Supply

- CBC 140-5 + CBC 140-T (24V)
- CBC 140-5 (103,5V - 207V)

Response Times

Response times are average values for switching on the DC side. Pull-in = release time for 10 % torque left. Drop-out = time to obtain 90 % torque. DC side operated, AC side operated t x 6 (typ)

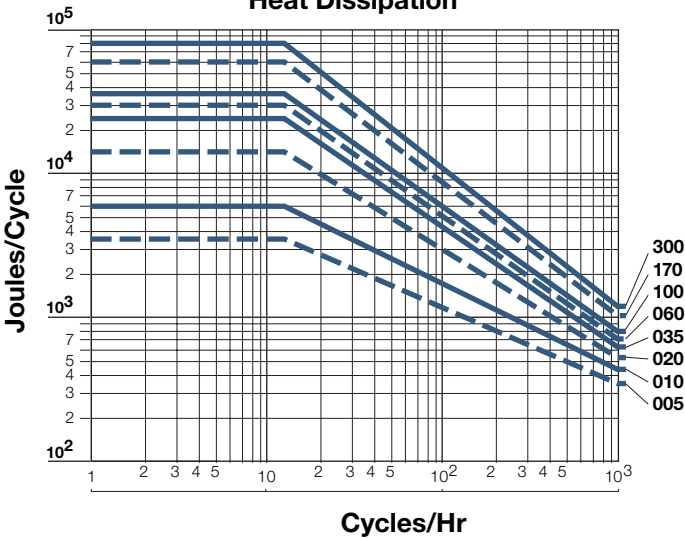
Switch time
on the DC side

Sizes		005	010	020	035	060	100	170	300
Pull-in	[ms]	36	54	45	104	188	195	297	354
Drop-out	[ms]	18	26	29	45	47	74	99	160

Mounting Example

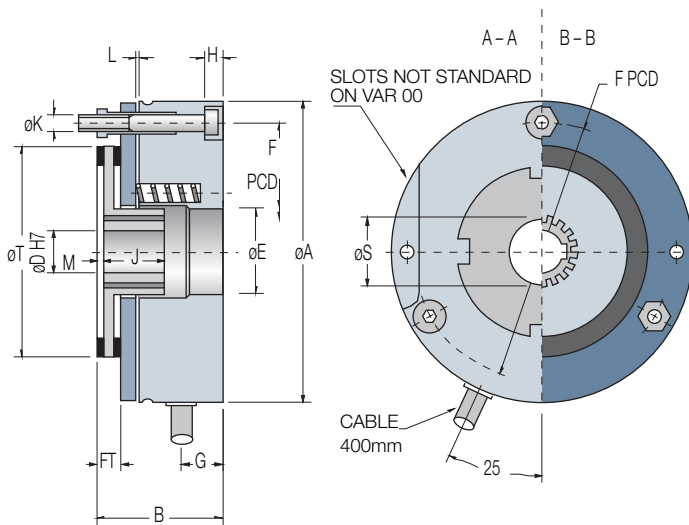


Heat Dissipation

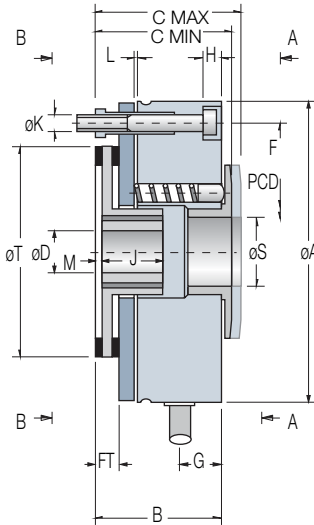


Electro-Magnetic Electro Release Brake

VAR 00

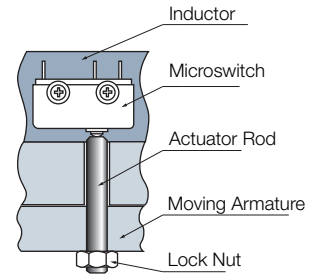


VAR 02



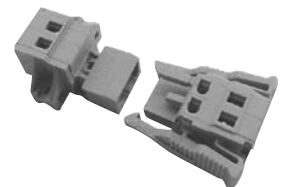
Microswitch Option

- Kit for sizes 060 to 300 only.



Sizes			005	010	020	035	060	100	170	300	
STANDARD											
Nom. Torque		[Nm]	5	10	20	35	60	100	170	300	
Max. Speed		[min. ⁻¹]	3600	3600	3600	3600	3600	3600	3600	3600	
HI-TORK											
Nom. Torque		[Nm]	—	—	—	—	80	130	220	400	
Max. Speed		[min. ⁻¹]	—	—	—	—	2600	2300	1900	1600	
Power	P24 VCD		20	25	30	39	47	57	66	99	
	103,5 VCD	[W]	23	27	33	43	55	66	76	128	
	207 VCD		23	27	33	43	62	86	84	135	
A			84	102	127	147	162	188	215	252	
B			35	41	47,5	54,5	64	71	83	97	
C min			38,5	44,5	52	61	70	77	89	107	
C max			40	46,5	55,5	65	74,5	81,5	96	115	
D pre-bore			8	10	10	14	14	15	20	25	
D standard H7			10/11	10/14/15*	15/20/22/24*	20/24/25	25/30	25/30/35	35/40/45	35/40/45	
D max*			12*	15*	24*	28*	32*	40*	50*	54*	
E			23,5	28,5	40,5	48,5	58,5	63,5	73,5	88,5	
F			72	90	112	132	145	170	196	230	
FT			6,5	8,2	9,8	11	12	12	14,7	15,7	
G			11,7	14,6	15,5	19,7	19	22	27	34	
H			5,1	6,4	5,8	7,3	8,7	11	13	18	
J			0/+0,2	18	20	20	25	30	30	35	40
K			3xM4	3xM5	3xM6	3xM6	3xM8	3xM8	6xM8	6xM10	
L nom			0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,3	
M synth			1,5	2,5	—	—	—	—	—	—	
M metal			2	3	4	3	3	3	4,5	5	
S			19	24	35	40	48	52	60	73	
T			60	77	96	116	125	150	174	204	
Inertia	Synthetic	[kgcm ²]	0,12	0,5	—	—	—	—	—	—	
Inertia	STD Metal	[kgcm ²]	0,271	0,70	2,30	7,465	6,3	14,4	29	61	
	HT		-	-	-	-	8,5	20,5	47	92	
Weight		[kg]	0,9	1,7	3	4,6	6,4	9,9	15,6	25,9	
Connection						Cable					

The HT torque outlined is a static torque: for dynamic applications, please contact our technical department.



Connector Options

(Delivered without cable)
2 poles, capacity :
0,5/2,5mm²

Keyways according to
ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
*Keyways according to DIN 6885-1/3

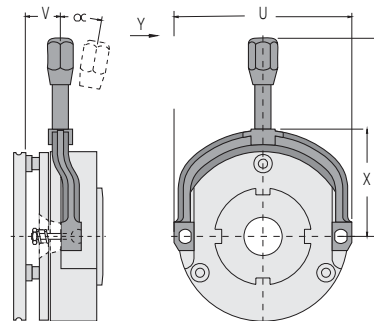
ERD VAR 00 / VAR 02 005-300

Electro-Magnetic Single Disc Electro Release Brake

Hand Release

Designed to be retrofitted, except VAR 00.

Automatically returns to “neutral position” when released, thereby restoring holding torque to the brake.

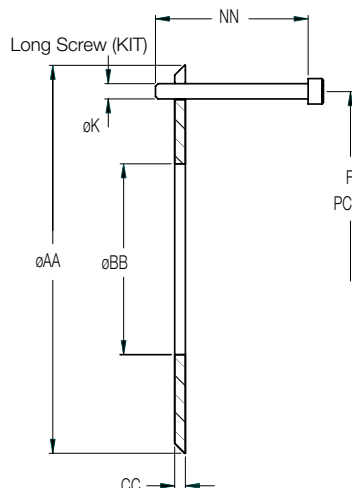


Sizes	005	010	020	035	060	100	170	300
U	88	106	132	152	166	187	223	262,5
V	17	18	25	22	40	44	53	61
W	98	107	129	139	189	205	240	313
X	53	62	76	86	104	120	140	162
Y [N]	30	53	62	107	150	200	250	450
α [°]	10	9	8	8	15	15	15	20

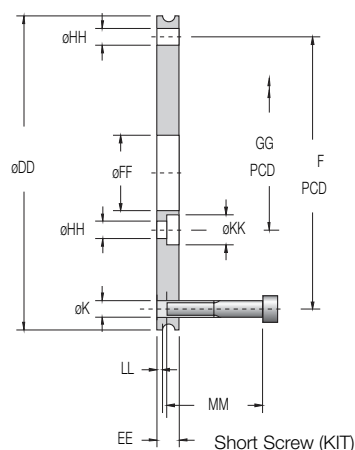
Friction Flanges for Brake Mounting

Sizes	ERD005	ERD010	ERD020	ERD035	ERD060	ERD100	ERD170	ERD300
AA	87	107	132,5	152,5	—	—	—	—
BB	42	54	60	70	—	—	—	—
CC (min)	3,2	3,2	3,6	4,6	—	—	—	—
DD	83	100	125	145	160	185	212	250
EE	6	7	9	9	11	11	11	11
F	K 3 x M4	3 x M5	3 x M6	3 x M6	3 x M8	3 x M8	6 x M8	6 x M10
	HH 3 x 4,5	3 x 5,5	3 x 6,5	3 x 6,5	3 x 8,3	3 x 8,3	6 x 8,3	6 x 10,3
FF	20	30	40	45	55	65	75	90
GG	30	45	56	62	74	84	100	120
KK	8	10	11	11	14	14	14	17
LL	2	2	3	3	3	3	3	3
MM	35	40	50	55	63	68	77	87,5
NN	40	45	55	60	—	—	—	—

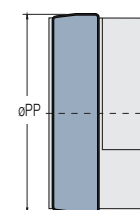
Intermediate Flange



Thick Flange



Dust Cover Option



Sizes	005	010	020	035
PP [mm]	88	106	132	152

Sizes	060	100	170	300
PP [mm]	166	192	219	256

Electro-Magnetic Single Disc Electro Release Brake

Classification Key

* Microswitch
Only for VAR02

Nominal Torque M_d [Nm]	300	 M  S  HT	**Special 207 VDC 103,5 VDC VDC	See page 73 00 Pre-bored [mm]	None 0 With 1
	170				
	100				
	060				
	035				
	020				
	010				
005					

Model	Size	Design	OPTION	Voltage VDC	Bore H7	
E R D	0 0 5	2 0	M 1 2	0 2 4	1 1	0

Cable **0**

Cable + Connector 1 (Unmounted)

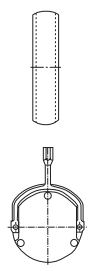


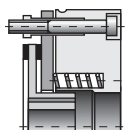
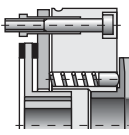
0 None

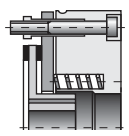
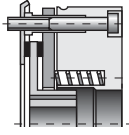
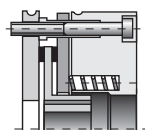
1 Dust Cover

2 Hand Release

3 1 + 2



VAR 00		M_d No Adjustment
VAR 02		M_d Central Adjustment

No Friction Flange		0
Intermediate Friction Flange (size 005-035 only)		3
Thick Friction Flange		2

* Only for sizes 060 to 300

** Min. 50 pieces

Electro-Magnetic Single Disc Electro Release Brake

Characteristics

- Electrically operated 103,5 VDC
- Single disc
- Activated by spring pressure

Utilisation

- Braking a shaft
- Holding a load

Particularities

- For dry use
- No residual torque in disengaged position

Adjustments

- Airgap should be adjusted at installation
- Requires wear compensation for dynamic applications

Maintenance Manual

- SM 300

Mounting Precautions

- Sizes 500 / 800 / 1600 :
- For horizontal or vertical use for standard versions
- Horizontal use for high torque versions (H)
For other sizes horizontal use only
- Release shipping screws after mounting

Power Supply

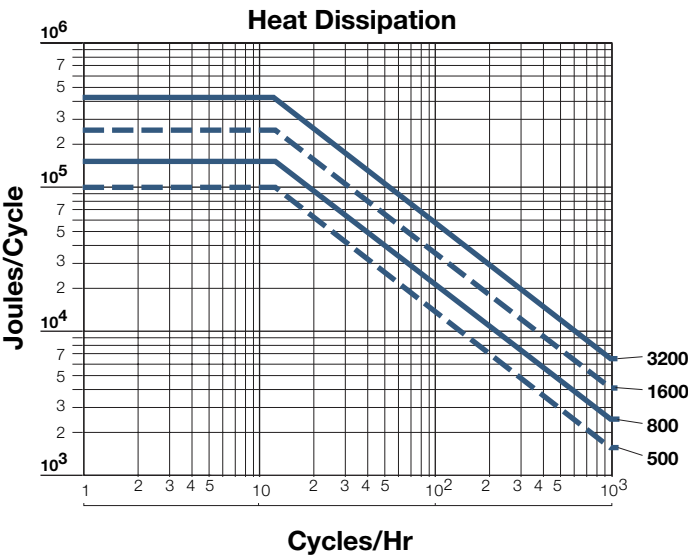
- CBC 140-5

Response Times

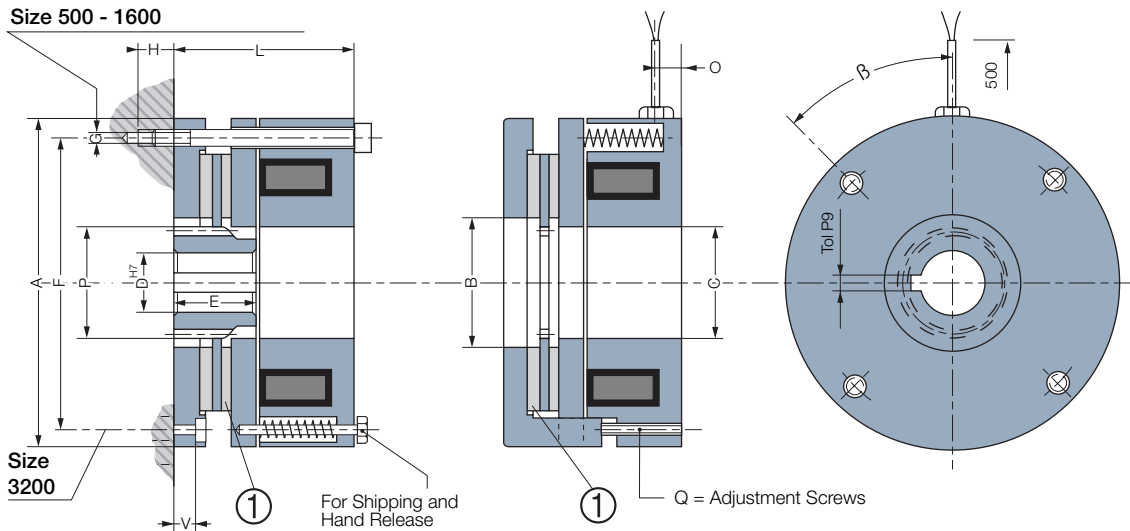
Response times are average values for switching on the DC side. Pull-in = release time for 10 % torque left. Drop-out = time to obtain 90 % torque. DC side operated, AC side operated t x 6 (typ)

Switch time
on the DC side

Sizes		500	800	1600	3200
Pull-in	[ms]	400	550	650	1200
Drop-out	[ms]	200	320	380	420

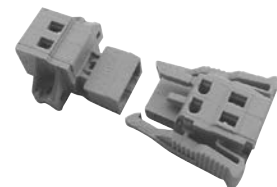


Electro-Magnetic Single Disc Electro Release Brake



Sizes			500	800	1600	3200
Nom. Torque		[Nm]	500	800	1600	3200
Max. Speed		[min.]	3600	3000	2300	1800
High Torque Version (HT)		[Nm]	800	1100	2250	–
Max. Speed at High Torque		[min.]	650	500	400	–
Voltage		[VDC]	103,5	103,5	103,5	103,5
Power	P20	[W]	150	165	327	408
	A		265	320	395	500
	B		120	155	210	260
	C		98	124	168	210
	D min		30	35	50	60
	D max		65	80	110	125
	E		60	70	100	125
	F		240	294	360	455
	G		4xM12	4xM12	4xM16	8xM20
	H min		25	27	30	-
	L		122	136	165	205
	O		20	27	27	36
	Q		4xM12	4xM16	4xM16	4xM20
	V		-	-	-	40
	B		50°	45°	60°	22°30'
Hub	Pressure Angle	α°	20°	20°	20°	20°
	Number of Teeth	[Z]	37	39	53	63
	Module	[m]	2,5	3	3	3
	Diametrical Pitch	[Dp]	92,5	117	159	189
	Outside Diameter	[P]	95	120	162	195
	Dimension on K tooth		34,38	41,34	50,786	60,06
	K Tooth	[K]	5	5	6	7
Inertia	STD	[kgm²]	0,0100	0,0282	0,0997	0,513
	HT		0,0156	0,0418	0,1379	-
Weight		[kg]	35	64	120	229
Connection			Cable			

The HT torque outlined is a static torque: for dynamic applications, please contact our technical department.



Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²

Keyways according to ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

ERD VAR 03 500-12800

Electro-Magnetic Single Disc Electro Release Brake

Characteristics

- Electrically operated 103,5 VDC
- Single disc
- Activated by spring pressure

Utilisation

- Braking a shaft
- Holding a load

Particularities

- For dry use
- No residual torque in disengaged position
- For Tacho mounting
- Torque adjustment with screw cap until size 3000
- Option: detection kit and dust cover

Adjustments

- Airgap should be adjusted at installation
- Requires wear compensation for dynamic applications

Maintenance Manual

- SM 300

Mounting Precautions

- Sizes 500 / 800 / 1600 :
- For horizontal or vertical use for standard versions
- Horizontal use for high torque versions (H)
For other sizes horizontal use only
- Release shipping screws after mounting

Power Supply

- CBC140-5 for sizes until 3200

Response Times

Response times are average values for switching on the DC side.

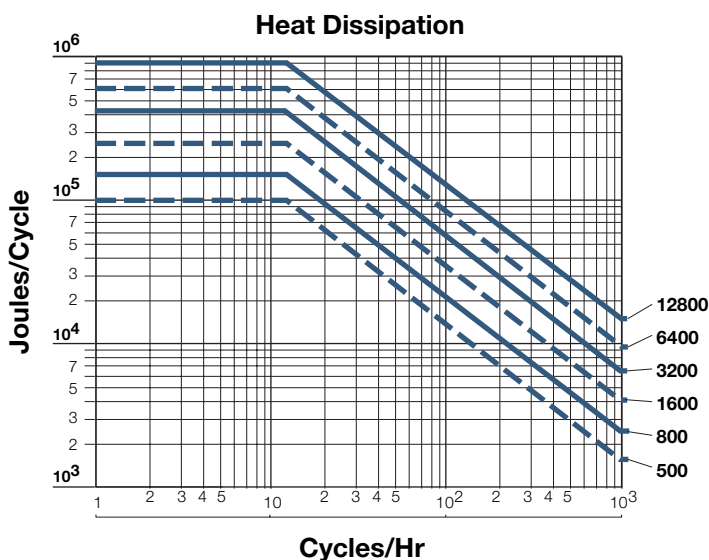
Pull-in = release time for 10 % torque left.

Drop-out = time to obtain 90 % torque.

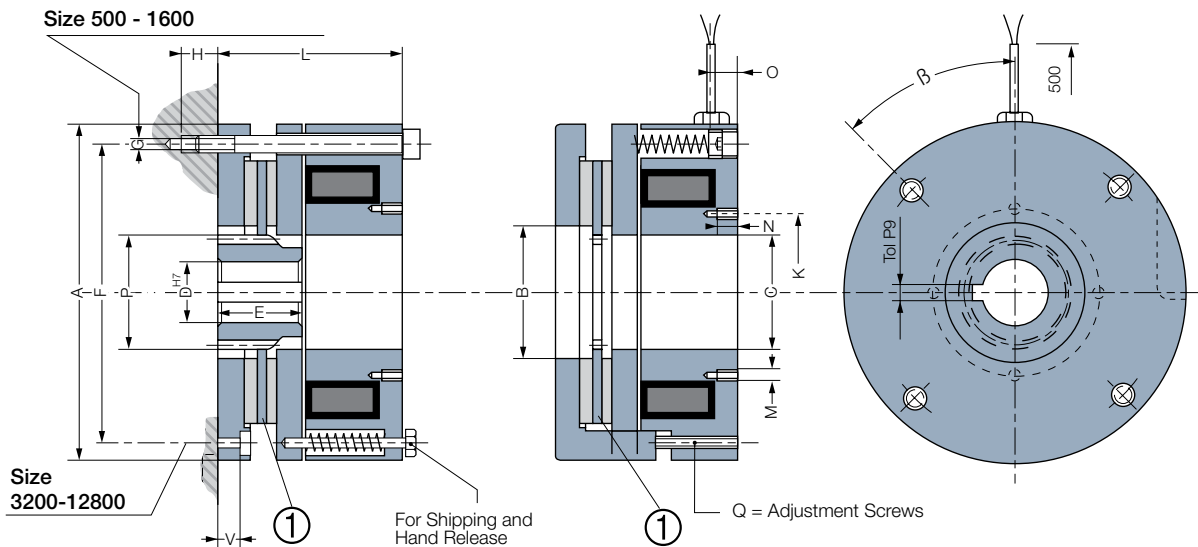
DC side operated, AC side operated t x 6 (typ)

Switch time
on the DC side

Sizes		500	800	1600	3200	6400	12800
Pull-in	[ms]	400	550	650	1200	1800	2000
Drop-out	[ms]	200	320	380	420	950	1300



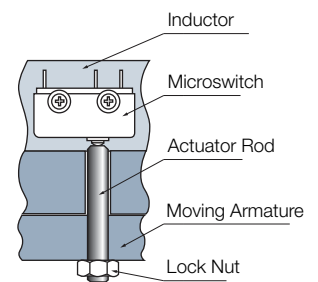
Electro-Magnetic Single Disc Electro Release Brake



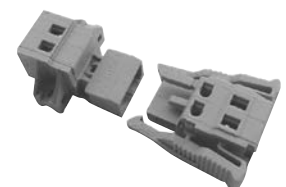
Sizes		500	800	1600	3200	6400*	12800*
Nom. Torque	[Nm]	500	800	1600	3200	6400	12800
Max. Speed	[min.]	3600	3000	2300	1800	1300	1200
High Torque Version (HT)	[Nm]	800	1100	2200	-	-	-
Max. Speed at High Torque	[min.]	650	500	400	-	-	-
Voltage	[VDC]	103,5	103,5	103,5	103,5	103,5	103,5
Power	P20 [W]	150	165	327	408	487	690
	A	265	320	395	500	645	730
	B	120	155	210	260	385	405
	C	98	124	168	210	300	360
	D min	30	35	50	60	75	100
	D max	65	80	110	125	140	170
	E	60	70	100	125	140	170
	F	240	294	360	455	595	675
	G	4xM12	4xM12	4xM16	8xM20	8xM24	8xM27
	H min	25	27	30	-	-	-
	K	126	150	216	250	358	430
	L	122	136	165	205	245	290
	M	4xM6	4xM6	4xM6	4xM6	4xM6	4xM6
	N	12	12	12	15	15	15
	O	20	27	27	36	40	50
	Q	4xM12	4xM16	4xM16	4xM20	4xM24	4xM27
	V	-	-	-	40	46	51
	W	12	12	12	12	12	12
	B	50°	45°	60°	22°30'	22°30'	22°30'
Hub	Pressure Angle	α°	20°	20°	20°	20°	20°
	Number of Teeth	[Z]	37	39	53	58	72
	Module	[m]	2,5	3	3	4	4
	Diametrical Pitch	[Dp]	92,5	117	159	232	288
	Outside Diameter	[P]	95	120	162	195	240
	Dimension on K tooth		34,38	41,34	50,786	60,06	79,80
	K Tooth	[K]	5	5	6	7	7
Inertia	STD	[kgm²]	0,0100	0,0282	0,0997	0,513	1,664
	HT		0,0156	0,0418	0,1379	-	-
Weight		[kg]	35	64	120	229	426
Connection							

Microswitch Option

- Indicate moving armature position



The HT torque outlined is a static torque: for dynamic applications, please contact our technical department.



Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²

Keyways according to
ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9
*Sizes 6400 and 12800, torque adjustment made by spring selection

ERDD VAR 00 / VAR 02 120-6400

Electro-Magnetic Dual Disc Electro Release Brake

Characteristics

- Electrically operated 24 or 103,5 VDC, depending on size
- Dual disc
- Activated by spring pressure

Utilisation

- Braking a shaft
- Holding a load

Particularities

- For dry use
- No residual torque in disengaged position

Adjustments

- Airgap should be adjusted at installation
- Requires wear compensation for dynamic applications

Maintenance Manual

- SM 321 for sizes 120 to 600
- SM 300 for sizes 1000 to 6400

Mounting Precautions

- For horizontal use only
- Release shipping screws after mounting

Power Supply

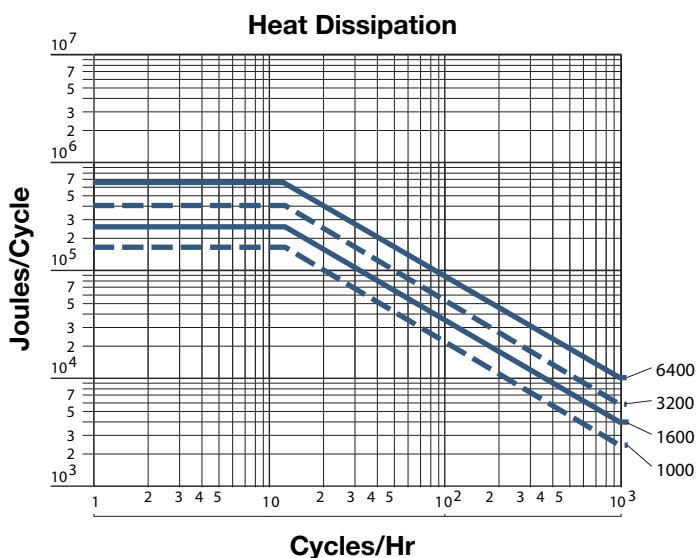
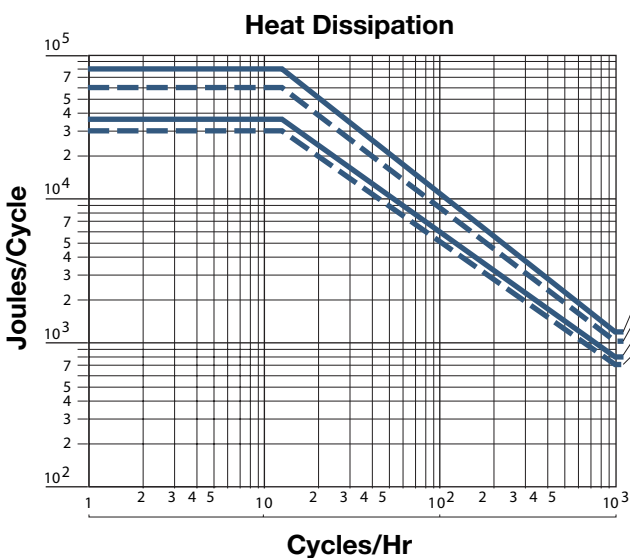
- CBC 140-5

Response Times

Response times are average values for switching on the DC side. Pull-in = release time for 10 % torque left.
Drop-out = time to obtain 90 % torque.
DC side operated, AC side operated t x 6 (typ)

Switch time
on the DC side

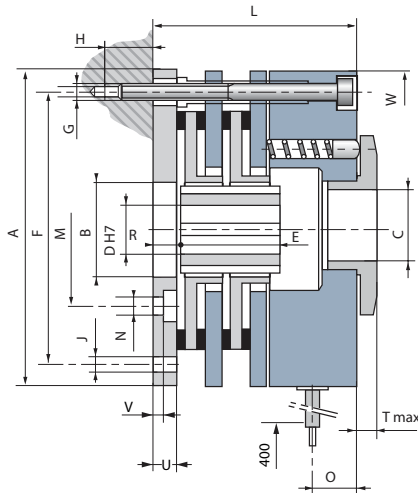
Sizes		120	200	340	600	1000	1600	3200	6400
Pull-in	[ms]	188	195	297	354	400	500	650	1200
Drop-out	[ms]	47	74	99	160	200	320	380	420



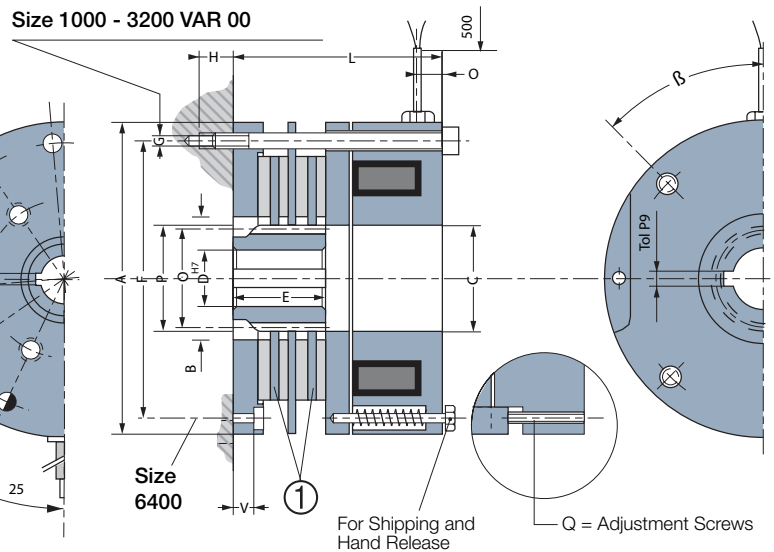
ERDD VAR 00 / VAR 02 120-6400

Electro-Magnetic Dual Disc Electro Release Brake

Size 120 - 600 VAR 02



Size 1000 - 3200 VAR 00

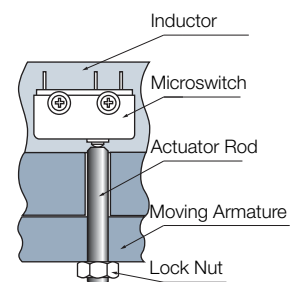


Size 6400

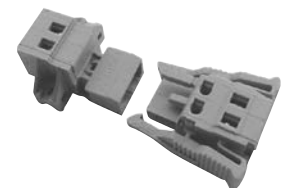
Sizes			120 VAR 02	200 VAR 02	340 VAR 02	600 VAR 02	1000 VAR 00	1600 VAR 00	3200 VAR 00	6400 VAR 00
Nom. Torque		[Nm]	-	-	-	600	1000	1600	3200	6400
Max. Speed		[min.·]	-	-	-	3600	3600	3000	2300	1800
High Torque Version (HT)		[Nm]	160	260	440	800	1600	2200	4500	-
Max. Speed at High Torque		[min.·]	2600	2300	1900	1600	650	500	400	-
Voltage		[VDC]	24	24	24	24	103,5	103,5	103,5	103,5
Power	P20	[W]	47	57	66	99	150	165	327	408
	A		160	185	212	250	265	320	395	500
	B		55	65	75	90	120	155	210	260
	C		48	52	60	73	98	124	168	210
	D pre-bored		14	15	20	25	30	35	50	60
	D min		25/30	25/30/35	35/40/45	35/40/45	-	-	-	-
	D max		32*	40*	50*	54*	65	80	110	125
	E		45	50	55	68	60	70	100	168
	F		145	170	196	230	240	294	360	455
	G		3xM8/120°	3xM8/120°	6xM8/60°	6xM10/60°	4xM12	4xM12	4xM16	8xM20
	H min		14	20	16	25	25	27	30	-
	J		8,3(3x120°)	8,3(3x120°)	8,3(6x60°)	10,3(6x60°)	-	-	-	-
	L		96	105	120	139	148	168	203	268
	M		74	84	100	120	-	-	-	-
	N		8,3(3x120°)	8,3(3x120°)	8,3(6x60°)	10,3(6x60°)	-	-	-	-
	O		19	22	27	34	20	27	27	36
	Q		-	-	-	-	4xM12	4xM16	4xM16	4xM20
	R		11	11	11	11	-	-	-	-
	Tmax		10,5	10,5	13	18	-	-	-	-
	U		11	11	11	11	-	-	-	-
	V		3	3	3	3	-	-	-	40
	W		162	188	215	252	-	-	-	-
	β		-	-	-	-	50°	45°	60°	22°30'
	[α°]		60°	60°	30°	30°	-	-	-	-
Hub	Pressure Angle		-	-	-	-	20°	20°	20°	20°
	Number of Teeth	[Z]	-	-	-	-	37	39	53	63
	Module	[m]	-	-	-	-	2,5	3	3	3
	Diametrical Pitch	[Dp]	-	-	-	-	92,5	117	159	189
	Outside Diameter	[P]	-	-	-	-	95	120	162	195
	Dimension on K tooth		-	-	-	-	5/34,38	5/41,34	6/50,786	7/60,06
Inertia	STD	[kgm²]	-	-	-	-	0,017	0,047	0,155	0,966
	HT		0,017	0,0040	0,0093	0,0181	0,0281	0,0742	0,1379	-
Weight		[kg]	8	12	20	30	38	72	133	292
Connection			Cable							

Microswitch Option

- Indicate moving armature position.
- Not available for VAR 00



The HT torque outlined is a static torque: for dynamic applications, please contact our technical department.



Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²

Keyways according to
ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

ERDD VAR 03 1000-25600

Electro-Magnetic Dual Disc Electro Release Brake

Characteristics

- Electrically operated 103,5 VDC
- Dual disc
- Activated by spring pressure

Utilisation

- Braking a shaft
- Holding a load

Particularities

- For dry use
- No residual torque in disengaged position
- For Tacho mounting
- Torque adjustment with screw cap until size 6400
- Option: detection kit and dust cover

Adjustments

- Airgap should be adjusted at installation
- Requires wear compensation for dynamic applications

Maintenance Manual

- SM 300

Mounting Precautions

- For horizontal use only
- Release shipping screws after mounting

Power Supply

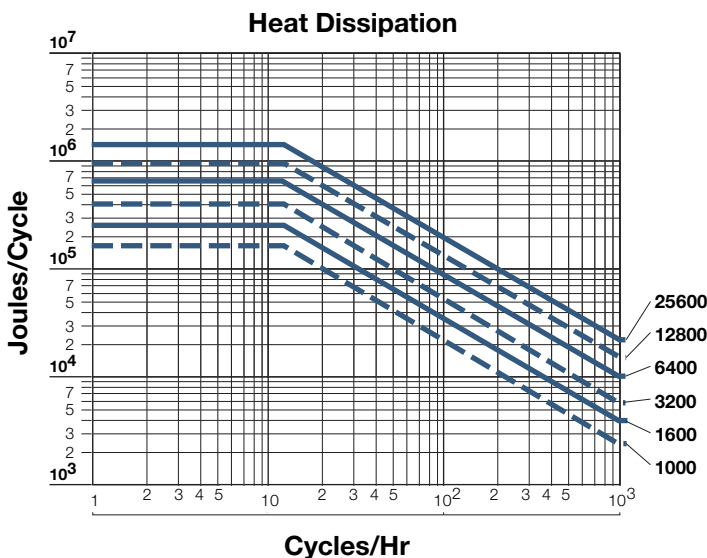
- CBC140-5 for sizes until 6400

Response Times

Response times are average values for switching on the DC side. Pull-in = release time for 10 % torque left. Drop-out = time to obtain 90 % torque. DC side operated, AC side operated t x 6 (typ)

Switch time
on the DC side

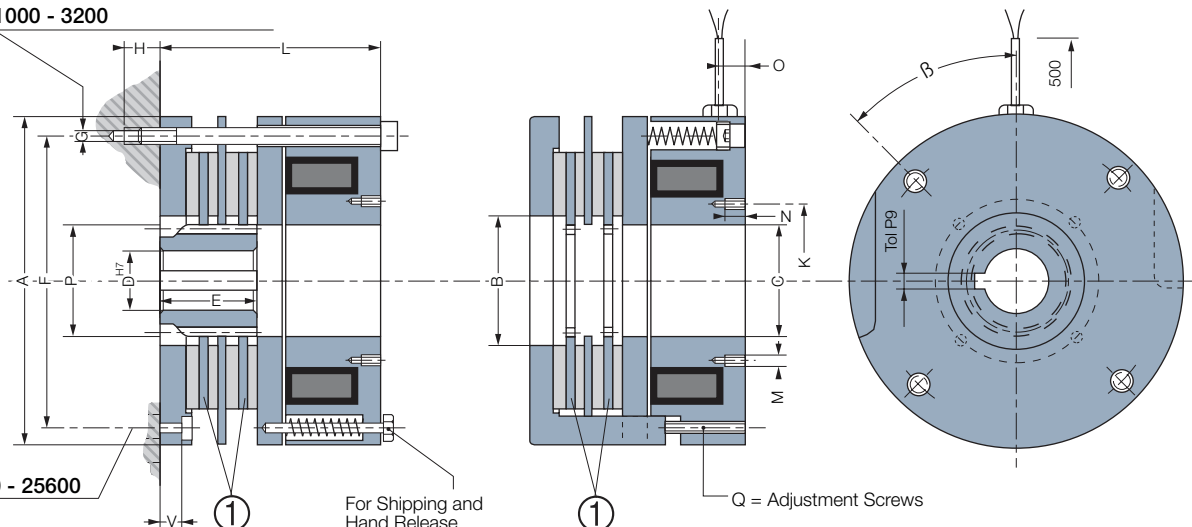
Sizes		1000	1600	3200	6400	12800	25600
Pull-in	[ms]	400	550	650	1200	1800	2000
Drop-out	[ms]	200	320	380	420	950	1300



Electro-Magnetic Dual Disc Electro Release Brake

Size 1000 - 3200

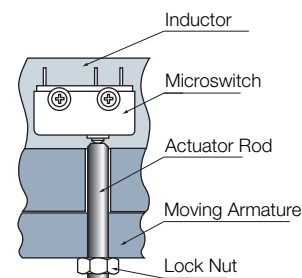
Size
6400 - 25600



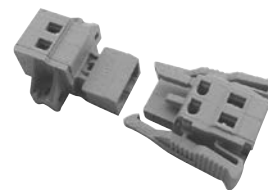
Sizes		1000	1600	3200	6400	12800*	25600*
Nom. Torque	[Nm]	1000	1600	3200	6400	12800	25600
Max. Speed	[min.-]	3600	3000	2300	1800	1300	1200
High Torque Version (HT)	[Nm]	1600	2200	4500	-	-	-
Max. Speed at High Torque	[min.-]	650	500	400	-	-	-
Voltage	[VDC]	103,5	103,5	103,5	103,5	103,5	103,5
Power	P20 [W]	150	165	327	408	487	690
	A	265	320	395	500	645	730
	B	120	155	210	260	385	405
	C	98	124	168	210	300	360
	D min	30	35	50	60	75	100
	D max	65	80	110	125	140	170
	E	60	70	100	125	140	170
	F	240	294	360	455	595	675
	G	4xM12	4xM12	4xM16	8xM20	8xM24	8xM27
	H min	25	27	30	-	-	-
	K	126	150	216	250	358	430
	L	148	168	203	268	310	365
	M	4xM6	4xM6	4xM6	4xM6	4xM6	4xM6
	N	12	12	12	15	15	15
	O	20	27	27	36	40	50
	Q	4xM12	4xM16	4xM16	4xM20	4xM24	4xM27
	V	-	-	-	40	46	51
	W	12	12	12	12	12	12
	β	50°	45°	60°	22°30'	22°30'	22°30'
Hub	Pressure Angle	α°	20°	20°	20°	20°	20°
	Number of Teeth	[Z]	37	39	53	63	72
	Module	[m]	2,5	3	3	4	4
	Diametrical Pitch	[Dp]	92,5	117	159	189	232
	Outside Diameter	[P]	95	120	162	195	240
	Dimension on K tooth		34,38	41,34	50,786	60,06	79,80
	K Tooth	[K]	5	5	6	7	8
Inertia	① [kgm²]	0,013	0,038	0,125	0,954	2,87	5,27
Weight	[kg]	38	72	133	292	488	775
Connection		Cable					

Microswitch Option

- Indicate moving armature position



The HT torque outlined is a static torque: for dynamic applications, please contact our technical department.



Connector Options

(Delivered without cable)
2 poles, capacity : 0,5/2,5mm²

Keyways according to

ISO/R 773 / BS 4235 / DIN 6885-1 / NF E 22-175, tolerance P9

*Sizes 12800 and 25600, torque adjustment made by spring selection

ERD-ERDD VAR 00 / VAR 03 120-25600

Electro-Magnetic Dual Disc Electro Release Brake

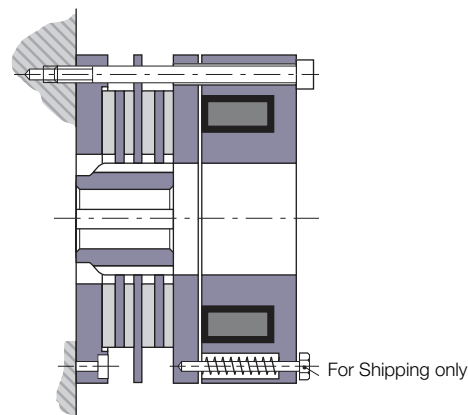
Options

Hand Release

Shipping screws may be used to release brake manually

WARNING: see service manual

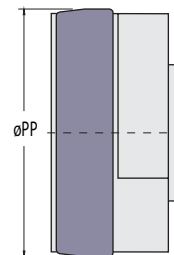
Other solutions on request



Sizes	ERD ERDD	500 1000	800 1600	1600 3200	3200 6400	6400 12800	12800 25600
Screws		2 x M10 x 80	4 x M12 x 90	3 x M16 x 110	8 x M20 x 120	8 x M20 x 140	8 x M20 x 180

Dustcover

Used to prevent entry of dust into the air gap or braking area. Also serves to limit the emission of dust from the same area.



Sizes	ERD ERDD	500 1000	800 1600	1600 3200	3200 6400	6400 12800	12800 25600
ø PP (mm)		249	300	370	464	598	734

Silent Brakes

Available on request

ERD-ERDD VAR 00 / VAR 03 120-25600

Electro-Magnetic Single Disc Electro Release Brake

How to Order

Nominal Torque M_d [Nm] ERD ERDD		120 200 340 600 1000 1600 3200 6400 12800 25600	103,5 VDC *24 VDC * Only for ERDD sizes 120 to 600	Pre-bored 000 Other bore SPE		
Model E R D D	Size 0 1 6 0 0	Design 3	Version M	Voltage VDC 1 0 3	Options 1 1 0	Bore 0 0 0
ERD ERDD	Standard Size M 600 - 25600 High Torque HT Size 120 - 3200	None 0 Dust Cover 1	None 0 Microswitch 1 Only for VAR 02 and 03	Cable 0 Cable + Connector 1 (unmounted)	VAR 00 VAR 02 VAR 03	No VAR 00 for ERD 6400 / 12800 ERDD 12800 / 25600 No VAR 02 for ERD 500 / 12800 ERDD 1000 / 25600

Electro-Magnetic Toothed Brake

Characteristics

- Electrically operated 24 or 103,5 VDC, depending on size
- Toothed operated brake
- Activated by power on

Utilisation

- Braking of a pulley or a hub in position
- Braking has to be made at standstill or at very low speed, in case of doubt consult the factory
- For wet or dry operation

Particularities

- Positive braking for drive without slipping
- Standard available for random operation
- Option : detection disc allows the braking position to be validated, see dimensions page 47

Adjustments

- Verify position of tooth "J" prior to installation
- No wear adjustment required

Maintenance Manual

- SM 316

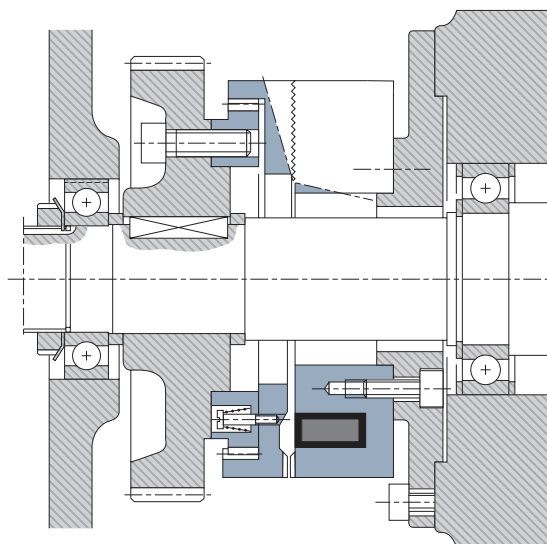
Mounting Precautions

- Device intended for horizontal or vertical use

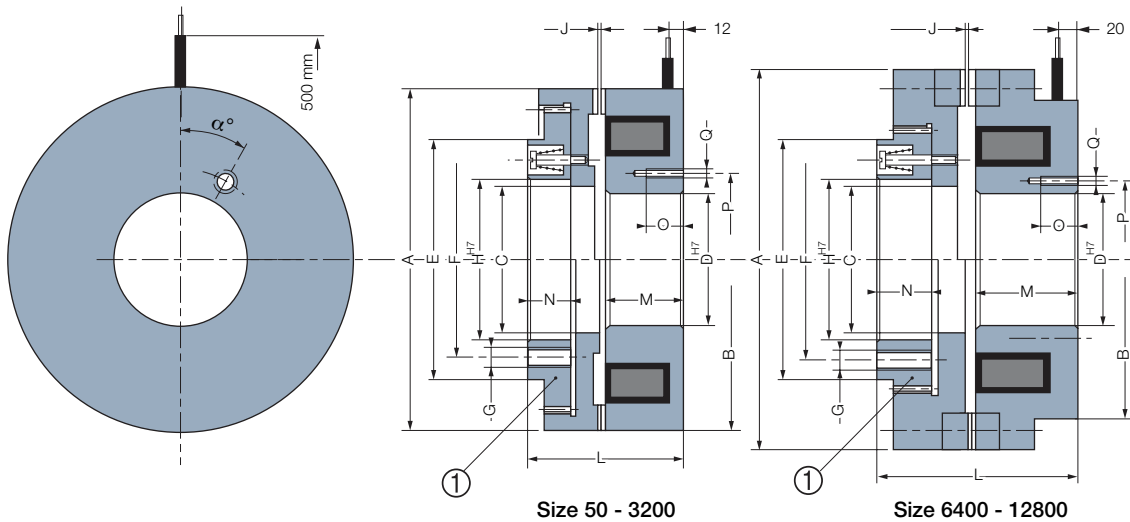
Power Supply

- For sizes until 3200
CBC 400-24, CBC 450-24,
CBC 140 -5 + CBC 140-T (24V)
- For sizes 6400, and 12800
CBC 140 -5 (103,5V)

Mounting Example



Electro-Magnetic Toothed Brake

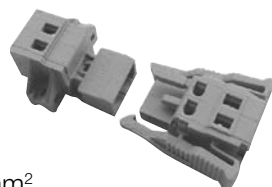


Sizes		50	100	200	400	800	1600	3200	6400	12800
Nom. Torque	[Nm]	50	100	200	400	800	1600	3200	6400	12800
Max. Speed	[min.-]	5000	4300	3600	3300	2700	2100	1800	1500	1500
Voltage	[VDC]	24	24	24	24	24	24	24	103,5	103,5
Power	P20 [W]	22	26	33	33	47	68	79	111	143
	A	75	90	105	115	140	185	215	320	385
	B	75	90	105	115	140	185	215	260	315
	C	40	49,5	58	63	76	99	117	153	180
	D	35	42	50	55	65	85	105	140	175
	E	65,5	75,5	85,5	100,5	115,5	155,5	180,5	215,5	275,5
	F	55	64	75	85	100	135	155	190	250
	G	4xM5	4xM5	4xM6	6xM6	6xM8	6xM10	6xM10	12xM12	12xM116
	H	45	53	65	70	85	115	130	153	190
	J	0,4	0,5	0,5	0,5	0,6	0,7	0,9	1	1
	L	38	40	44	48	65	80	100	143	165
	M	23	22,3	23,7	26,2	36,9	44	52	82,3	92,6
	N	8	10	12	12,5	17	21	28	35	41
	O	9	9	10	13	17	19	20	26	30
	P	45	50	65	70	80	110	135	170	210
	Q	6xM5	6xM5	6xM6	6xM8	6xM10	6xM12	10xM12	10xM16	12xM18
	α	30°	30°	30°	30°	30°	30°	18°	18°	15°
Inertia	① [kgm²]	0,0002	0,0006	0,001	0,002	0,030	0,030	0,055	0,406	1,08
Weight	[kg]	0,8	1,25	1,8	2,5	5	11	22	54	90
Connection		Leads			Cable					

Connector Options

(Delivered without cable)

2 poles, capacity : 0,5/2,5mm²



Electro-Magnetic Toothed Brake

Characteristics

- Electrically released 207/103,5 VDC
- Toothed operated brake
- Activated by spring pressure

Utilisation

- Braking of a pulley or a hub in position
- Braking has to be made at standstill or at very low speed, in case of doubt consult the factory
- For wet or dry operation

Particularities

- This device works with two voltages: one for disengagement, one for position maintain
- Positive braking for drive without slipping
- Standard available for random operation
- Option : detection disc allows the braking position to be validated, see dimensions page 41

Adjustments

- Verify position of tooth "Q" prior to installation
- No wear adjustment required

Maintenance Manual

- SM 317

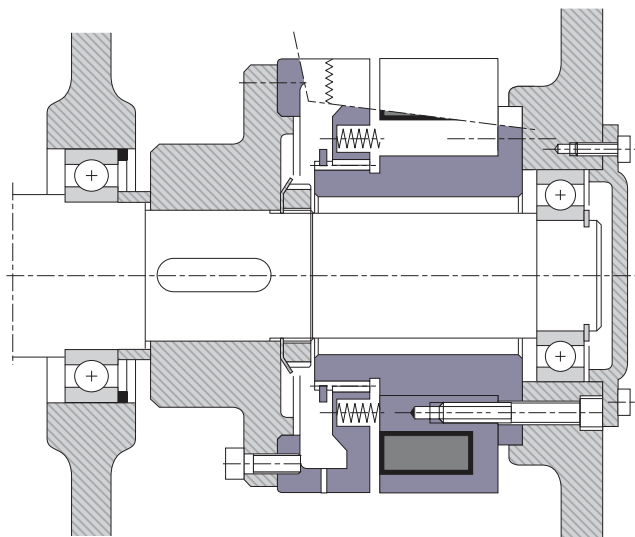
Mounting Precautions

- Device intended for horizontal or vertical use
- The customers mounting method must take into account the axial thrust

Power Supply CBC 140-5

- Overexcitation delay: 0,5 s (size 50) to 2 s (size 12800)

Mounting Example



(Delivered without cable)

[illegible]