

Ambient conditions		
Ambient temperature	°C	-25 ... +40
Max. installation height over m.s.l. without power loss	m	< 1000
Transport and storage temperature	°C	-25 ... +70
Relative humidity	%	15 ... 85, no condensation allowed
Vibration grade during operation conforming to IEC/EN 60034-14		A
Max. vibration load	m/s ²	20
Degree of protection conforming to IEC/EN 60034-5	Total except shaft bushing	IP 56
	Shaft bushing	IP 41
Thermal class		155 (F)
Shaft wobble and perpendicularity		DIN EN 50 347 (IEC 60072-1)
Max. rotary acceleration	rad/s ²	200000

Electrical and mechanical data			368	397	39A	39B	3AC	3AD
BRS motor type								
Max. supply voltage	U_{max}	\sphericalcap V	230					
Nominal voltage DC bus	U_N	\cdots V	325					
Nominal torque	M_N	Nm	1.50	2	4	6	12	16.5
Holding torque	M_H	Nm	1.70	2.26	4.52	6.78	13.5	19.7
Rotor inertia	J_R	kgcm ²	0.38	1.1	2.2	3.3	10.5	16
Number of steps	z		200 / 400 / 500 / 1000 / 2000 / 4000 / 5000 / 10000					
Step angle	α	°	1.8 / 0.9 / 0.72 / 0.36 / 0.18 / 0.09 / 0.072 / 0.036					
Systematic angle tolerance (1)	$\Delta\alpha_s$	arcmin	±6					
Max. starting frequency	f_{Aom}	kHz	8.5	5.3			4.7	
Phase current	I_N	A_{rms}	0.9	1.75	2	2.25	4.1	4.75
Winding resistance	R_W	Ω	25	6.5	5.8	6.5	1.8	1.9
Current rise time constant	ζ	ms	4.6	≈7	≈9	≈10	≈22	≈22
Mass (2)	m	kg	2.0	2.1	3.2	4.3	8.2	11.2
Shaft load (3)	Max. radial force 1st shaft end (4)	N	50	100		110	300	
	Max. radial force 2nd shaft end (optional) (4)	N	25	50			150	
	Max. axial tensile force	N	100	175			330	
	Max. axial force pressure	N	8.4	30			60	
	Nominal bearing service life (5) L_{10h}	h	20000	20000			20000	

(1) Measured at 1000 steps/revolution.

(2) Mass of the motor version with cable gland and connector.

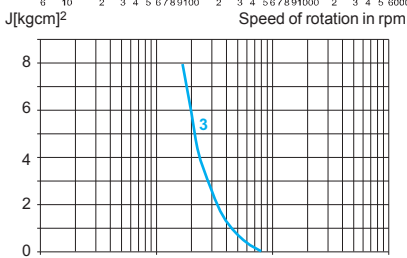
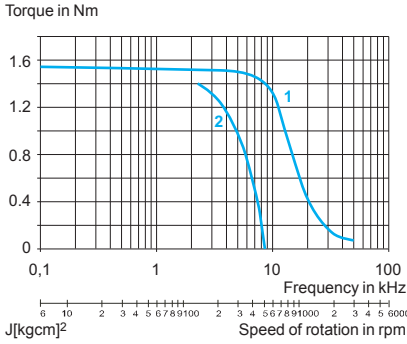
(3) Conditions for shaft load: speed of rotation 600 rpm, 100% duty cycle at nominal torque, ambient temperature 40 °C (bearing temperature ≈ 80 °C).

(4) Point of application of radial force: centre of shaft end.

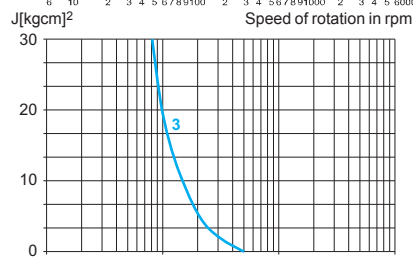
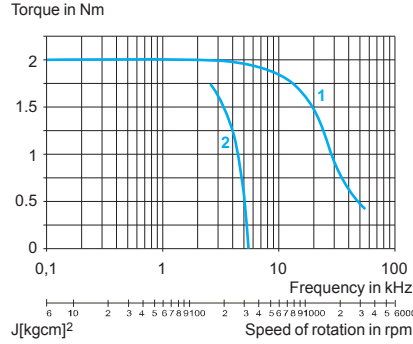
(5) Operating hours with a probability of failure of 10%.

Characteristic curves

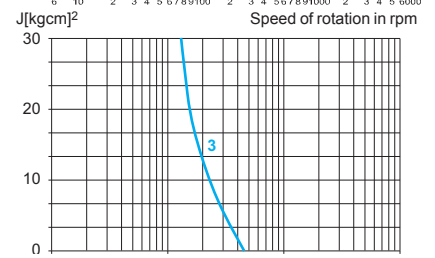
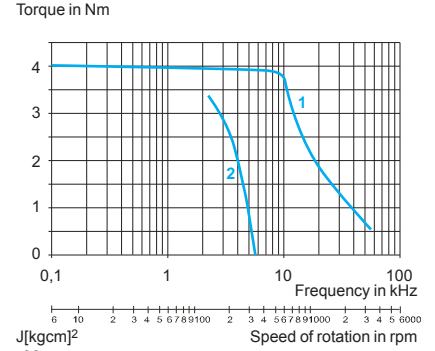
BRS368



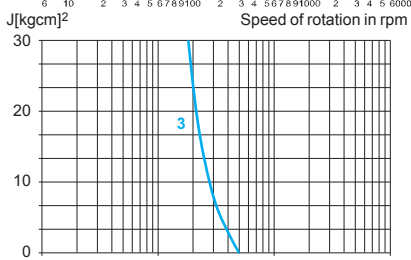
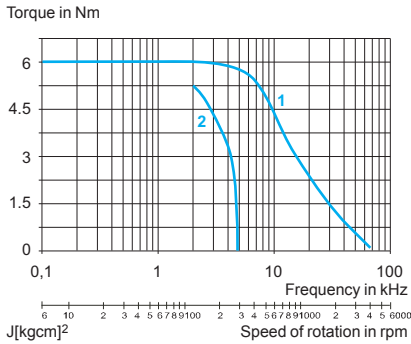
BRS397



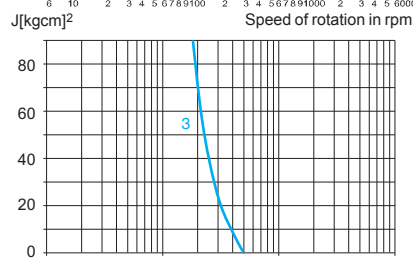
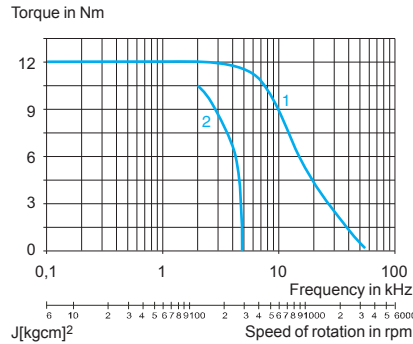
BRS39A



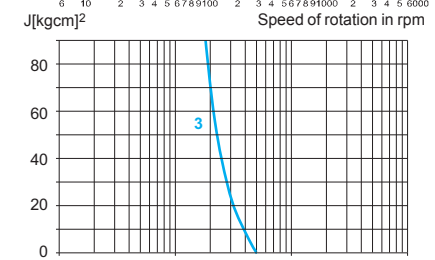
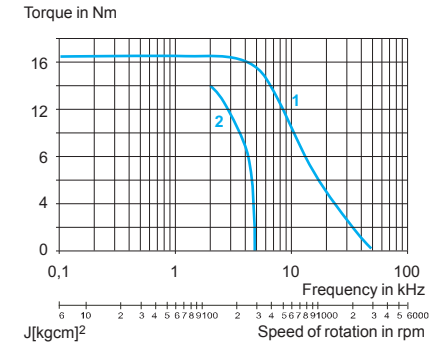
BRS39B



BRS3AC



BRS3AD



- 1 Pull-out torque
- 2 Pull-in torque
- 3 Maximum load inertia

Measurement at 1000 steps/revolution, nominal voltage DC bus U_N and phase current I_N