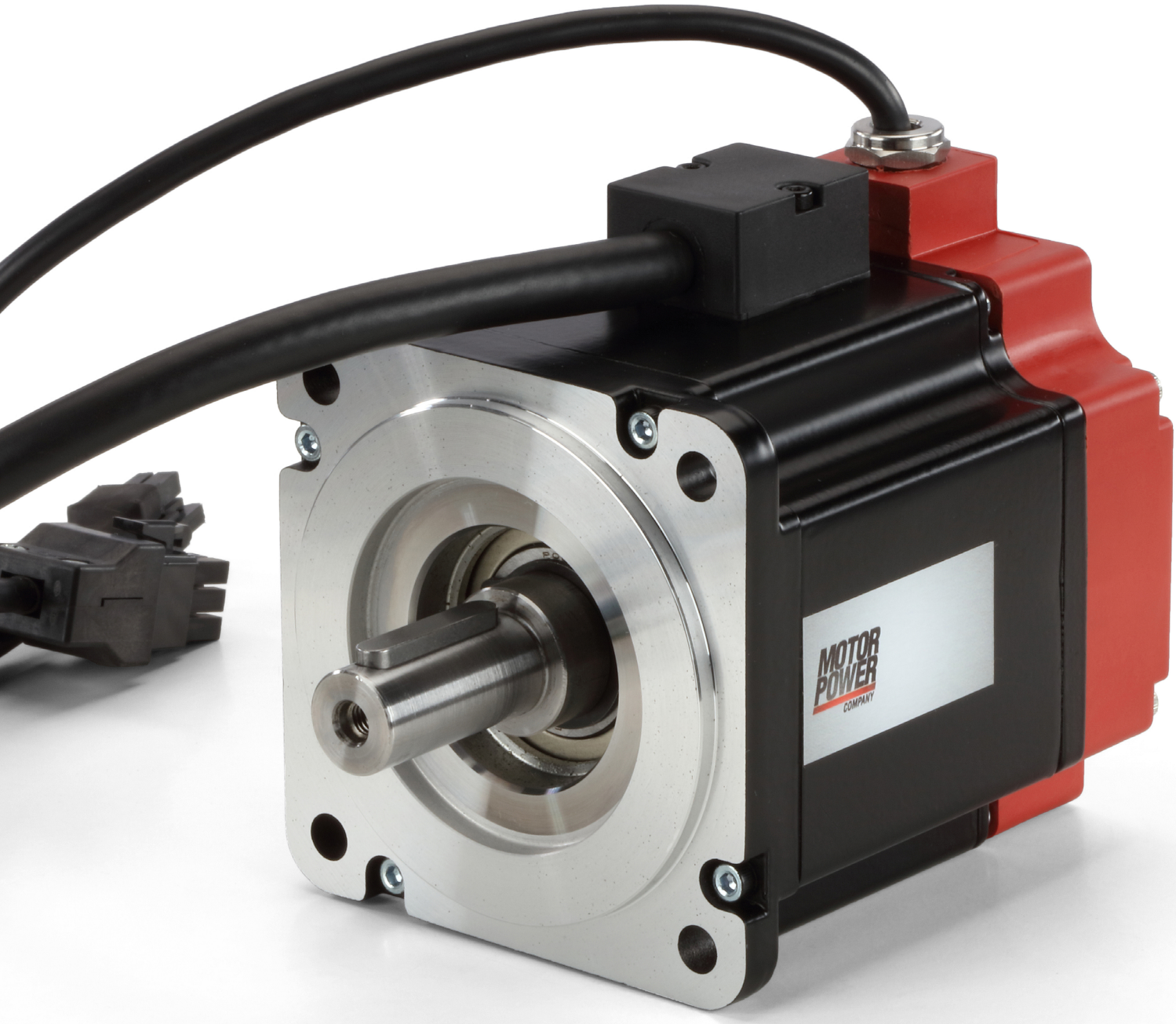
TC4

TETRA COMPACT 4



SEE IT BEFORE IT HAPPENS

MOTOR POWER COMPANY

TETRA COMPACT 4

NEXT-LEVEL SERVO MOTORS

Introducing the TETRA COMPACT 4 series from Motor Power Company a breakthrough in high-performance brushless servo motors. Born from years of hands-on experience, these motors redefine the standards in the brushless servomotors category.

With a unique design that is 30% shorter than its predecessors, the TETRA COMPACT 4 series maintains exceptional power density, efficiency, and speed, setting a new benchmark for AC synchronous motors.
This series features 10-pole servomotors with a variety of feedback options, offering unmatched quality and a broad range of power ratings. Perfectly suited for modern machine performance requirements, Motor Power Company doesn't just provide individual components but complete motion solutions. Pairing these high-performance servomotors with versatile drives of the series BL servo, the TETRA COMPACT 4 series excels across a diverse array of applications. Welcome to a new era of innovation and efficiency in motion technology.

MOTOR POWER COMPANY

CONTENTS

	Features	5
	Servomotor type designation	6
	Winding table code	7
	Product lineup	8
TC4 40 1A	Ratings and Specifications - Torque/Speed charts	10
TC4 40 1B	Ratings and Specifications - Torque/Speed charts	12
	External dimensions	14
TC4 60 2A	Ratings and Specifications - Torque/Speed charts	16
TC4 60 2B	Ratings and Specifications - Torque/Speed charts	18
	External dimensions	20
TC4 80 3A	Ratings and Specifications - Torque/Speed charts	24
TC4 80 3B	Ratings and Specifications - Torque/Speed charts	26
TC4 80 3C	Ratings and Specifications - Torque/Speed charts	28
	External dimensions	30
TC4 100 4A	Ratings and Specifications - Torque/Speed charts	34
TC4 100 4B	Ratings and Specifications - Torque/Speed charts	35
	External dimensions	36
TC4 130 5F	Ratings and Specifications - Torque/Speed charts	38
TC4 130 5G	Ratings and Specifications - Torque/Speed charts	39
TC4 130 5H	Ratings and Specifications - Torque/Speed charts	40
	External dimensions	41
TC4 150 6A	Ratings and Specifications - Torque/Speed charts	43
TC4 150 6B	Ratings and Specifications - Torque/Speed charts	44
TC4 150 6C	Ratings and Specifications - Torque/Speed charts	45
	External dimensions	46
TC4 180 7A	Ratings and Specifications - Torque/Speed charts	50
TC4 180 7C	Ratings and Specifications - Torque/Speed charts	51
TC4 180 7D	Ratings and Specifications - Torque/Speed charts	52
TC4 180 7E	Ratings and Specifications - Torque/Speed charts	53
TC4 180 7F	Ratings and Specifications - Torque/Speed charts	54
	External dimensions	55
	Feedback Resolver	58
	Feedback Encoder	59
	Brake features	62
	Wiring motor connection	63

TC4



FEATURES

Motor type	Three-phase BPM synchronous servo motor
POLES Number	10 (5 poles pair)
Available frame sizes	40 – 60 – 80 – 100 – 130 – 150 – 180 mm
Rated output torque	From 0.215 to 47.75 Nm
Rated output power	From 65 to 7500 W
Rated servomotor speed	Up to 6000 rpm
Maximum servomotor speed	Up to 8000 rpm
Insulation class	F (155 °C)
Protection class	IP 65 (with oil seal)
Ambient operating temperature	-20 ÷ +40 °C
Ambient storage temperature	-40 ÷ +70 °C
Relative humidity	5 ÷ 85 %, non-condensing
Cooling type	Natural convective
Maximum operating altitude	Up to 3000 m above sea level (derating 1%/100m from 1000m onwards)
Temperature sensor	PT1000 (no sensor for size 40)
Shaft end	Smooth or keyed
Feedback	Resolver, TTL Encoder, Absolute Encoder (Hiperface, EnDat, RS-485)*
Bearing life	20.000 h under rated operation condition
Balancing quality grade	G 6.3 according to ISO 1940
Magnet material	NdFeB with epoxy coating
External coating	RAL 9005 black powder
Approvals	CE, Rohs, Reach, UL file: E468964 Recognized TC4 40 24 Vdc and 48 Vdc models UL file: E216686 - MPC IF 155 Insulation File Marking

*Available also in single cable configuration

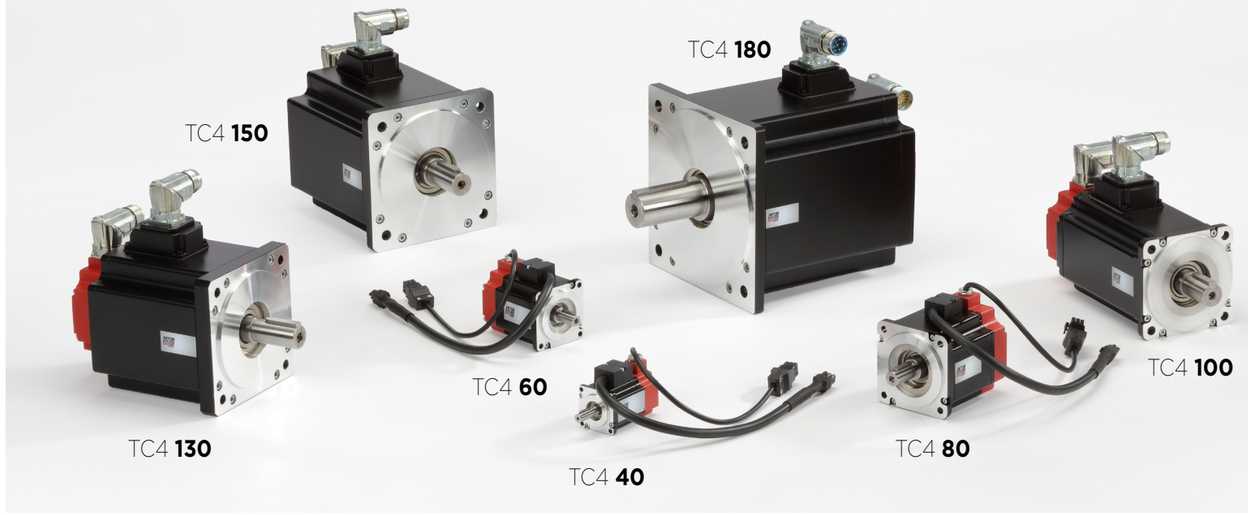
TC4 SERVOMOTOR TYPE DESIGNATION

	1	2	3	4	5	6	7	8	9
Example: TC4	40 1B	33	1	3	N1	0	1	D0	XXXX
	MODEL (see product lineup)	Winding code	Winding voltage	Mechanical arrangement	Feedback	Brake	Internal use only	Connection	Optional

1	**MODEL**	See PRODUCT LINEUP (p.8)	
2	**TYPE OF WINDING**	See WINDING TABLE CODE (p.7)	
3	**WINDING VOLTAGE**	**0** →	24 Vdc
		1 →	48 Vdc
		6 →	60 Vdc
		2 →	230 Vac
		4 →	400 Vac
4	**MECHANICAL ARRANGEMENT**	**0**	Smooth shaft
		1	Smooth shaft + oil seal
		2	Keyed shaft
		3	Keyed shaft + oil seal
5	**FEEDBACK**	**A1***	Hiperface absolute multi-turn encoder
		A3*	Hiperface DSL absolute single-turn 20 bit encoder
		A4*	Hiperface DSL absolute multi-turn 20 bit encoder
		A5*	Hiperface safety DSL single-turn 20 bit encoder
		A6*	Hiperface safety DSL multi-turn 20 bit encoder
		A15*	Hiperface safety DSL single-turn 24 bit encoder
		A16*	Hiperface safety DSL multi-turn 24 bit encoder
		A22*	Safety EnDat 3 single-turn 19 bit encoder
		A23*	Safety EnDat 3 multi-turn 19 bit encoder
		M1	TTL 2000 ppr encoder
		M2	Absolute single-turn 17-bit RS-485 encoder
		R1*	Resolver

*Not available for TC4 40 models

6	**BRAKE**	**0**	Without brake
		1	With brake
7	**Stator connection (Internal use only)**	**0**	Stator wire connection
		1	Stator PWB connection
8	**CONNECTION**	**D0**	300mm cable lenght with 6 pins power AMP connector and 9 pins signal AMP connector, only for sizes 40-60-80
		D2	300mm cable lenght with 6 pins power AMP connector and 15 pins signal AMP connector. This connection is available only for sizes 40-60-80 with M1 encoder.
		G2	90° M23 turnable connectors - PT 1000 on power connector
		H2	90° M23 turnable connectors - PT 1000 on signal connector
		G3	90° M40 turnable connectors - PT 1000 on power connector
		H3	90° M40 turnable connectors - PT 1000 on signal connector
		G11	90° 915 YTEC turnable connector - PT 1000 on power connector
		H11	90° 915 YTEC turnable connector - PT 1000 on signal connector
		C21	One cable solution 90° M23 turnable connector



WINDING TABLE CODE

SERVOMOTOR TYPE	TYPE OF WINDING 41	77	33	78	09	13	21	20	15	16	17
TC4 40 1A	0	0	1	1	2						
TC4 40 1B	0	0	1	1		2					
TC4 60 2A							2	2	4	4	
TC4 60 2B							2	2	4	4	
TC4 80 3A							2	2	4	4	
TC4 80 3B							2	2	4	4	
TC4 80 3C							2	2	4	4	
TC4 100 4A									2/4		4
TC4 100 4B									2/4		4
TC4 130 5F									2/4		4
TC4 130 5G									2/4		4
TC4 130 5H									2/4		4
TC4 150 6A									2/4		4
TC4 150 6B									2/4		4
TC4 150 6C									2/4		4
TC4 180 7A									2/4		4
TC4 180 7C									2/4		4
TC4 180 7D									2/4		4
TC4 180 7E									2/4		4
TC4 180 7F									2/4		4

TC4 PRODUCT LINEUP

Servomotor Type	Stall torque M0 [Nm]	Nominal Torque Mn @3000 rpm	Nominal Torque Mn @6000 rpm	Peak Torque M_{max}	Nominal Power @3000 rpm	Nominal Power @6000 rpm	Continuous Working Speed n_M	Maximum Working Speed n_{Max}	Moment of Inertia w/o brake	24 Vdc	48 Vdc	230 Vac	400 Vac
[/]	[Nm]	[Nm]	[Nm]	[Nm]	[W]	[W]	[rpm]	[rpm]	[kg cm²]	[/]	[/]	[/]	[/]
TC4 40 1A	0.215	0.210	0.200	0.75	65	125	3000/6000	8000	0.0305	√	√	√	√
TC4 40 1B	0.409	0.395	0.370	1.38	125	230	3000/6000	8000	0.0561	√	√	√	√
TC4 60 2A	0.87	0.85	0.82	3.05	265	515	3000/6000	8000	0.223			√	√
TC4 60 2B	1.62	1.52	1.35	5.60	475	850	3000/6000	8000	0.414			√	√
TC4 80 3A	1.80	1.78	1.56	6.30	555	980	3000/6000	8000	0.79			√	√
TC4 80 3B	3.80	3.45	2.60	13.30	1080	1630	3000/6000	8000	1.42			√	√
TC4 80 3C	4.60	3.91	2.88	16.10	1230	1800	3000/6000	8000	2.03			√	√
TC4 100 4A	6.45	5.80	4.00	16.50	1820	2510	3000/6000	6000	2.53			√	√
TC4 100 4B	10.16	8.36	6.08	33.00	2625	3820	3000/6000	6000	4.61			√	√
TC4 130 5F	4.77	3.18	-	14.30	1000	-	3000	4000	6.70			√	√
TC4 130 5G	7.16	4.77	-	21.48	1500	-	3000	4000	9.72			√	√
TC4 130 5H	9.55	6.36	-	28.65	2000	-	3000	4000	12.77			√	√

Servomotor Type	Stall torque M0 [Nm]	Nominal Torque Mn @3000 rpm	Nominal Torque Mn @4000 rpm	Peak Torque M_{max}	Nominal Power @3000 rpm	Nominal Power @4000 rpm	Continuous Working Speed n_M	Maximum Working Speed n_{Max}	Moment of Inertia w/o brake	24 Vdc	48 Vdc	230 Vac	400 Vac
[/]	[Nm]	[Nm]	[Nm]	[Nm]	[W]	[W]	[rpm]	[rpm]	[kg cm²]	[/]	[/]	[/]	[/]
TC4 150 6A	15.00	11.80	9.32	33.50	3715	3900	3000/4000	4000	15.18			√	√
TC4 150 6B	29.40	20.00	15.00	68.50	6280	6280	3000/4000	4000	27.68			√	√
TC4 150 6C	41.77	20.96	12.66	100.00	6580	5300	3000/4000	4000	40.17			√	√

Servomotor Type	Stall torque M0 [Nm]	Nominal Torque Mn @2000 rpm	Nominal Torque Mn @3000 rpm	Peak Torque M_{max}	Nominal Power @2000 rpm	Nominal Power @3000 rpm	Continuous Working Speed n_M	Maximum Working Speed n_{Max}	Moment of Inertia w/o brake	24 Vdc	48 Vdc	230 Vac	400 Vac
[/]	[Nm]	[Nm]	[Nm]	[Nm]	[W]	[W]	[rpm]	[rpm]	[kg cm²]	[/]	[/]	[/]	[/]
TC4 180 7A	9.55	9.55	6.37	28.65	2000	2000	2000/3000	4000	25.22			√	√
TC4 180 7C	16.70	16.70	11.15	50.30	3500	3500	2000/3000	4000	44.81			√	√

Servomotor Type	Stall torque M0 [Nm]	Nominal Torque Mn @1500 rpm	Nominal Torque Mn @2500 rpm	Peak Torque M_{max}	Nominal Power @1500 rpm	Nominal Power @2500 rpm	Continuous Working Speed n_M	Maximum Working Speed n_{Max}	Moment of Inertia w/o brake	24 Vdc	48 Vdc	230 Vac	400 Vac
[/]	[Nm]	[Nm]	[Nm]	[Nm]	[W]	[W]	[rpm]	[rpm]	[kg cm²]	[/]	[/]	[/]	[/]
TC4 180 7D	28.65	28.65	17.20	71.62	4500	4500	1500/2500	4000	64.99			√	√
TC4 180 7E	35.00	35.00	21.00	87.53	5500	5500	1500/2500	4000	102.46			√	√
TC4 180 7F	47.75	47.75	28.65	119.37	7500	7500	1500/2500	4000	140.62			√	√



401A RATINGS and SPECIFICATION

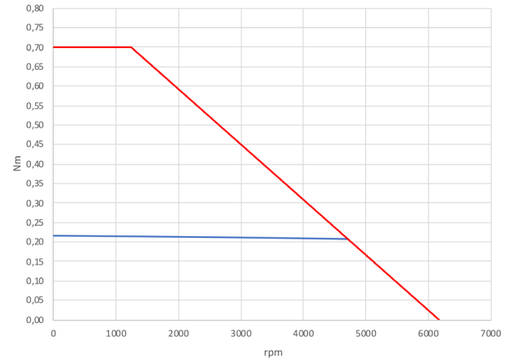
			24 Vdc	48 Vdc		230 Vac	
	TYPE OF WINDING		77	78	33	09	09
ELECTRICAL DATA							
Continuous stall torque (*)	M_0	[Nm]			0.215		
			0.70		0.75		
Nominal torque	M_n	[Nm]	0.21	0.21	0.20	0.21	0.20
Nominal power	P_n	[W]	65	65	125	65	125
Continuous stall current	I_o	[Arms]	5.20	2.60	3.25	0.72	0.72
Maximum current	I_{Max}	[Arms]	20.00	11.11	13.89	3.09	3.09
Nominal current	I_n	[Arms]	5.08	2.54	3.02	0.78	0.67
Nominal working speed	n_N	[rpm]	3000	3000	6000	3000	6000
Maximum working speed	n_{Max}	[rpm]	6175	6175	7800	8000	8000
Torque constant	K_t	[Nm/Arms]	0.041	0.083	0.066	0.298	0.298
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	2.5	5.0	4.0	18.0	18.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.73	2.93	1.85	36.06	36.06
Winding inductance	$L_{q\ u-v}$	[mH]	0.31	1.24	0.77	15.62	15.62
Electrical time constant	Te	[ms]	0.42	0.42	0.42	0.43	0.43
Thermal resistance	Rth	[°C/W]			2.36		
Mechanical time constant (a)	Tm	[ms]	1.30	1.31	1.29	1.24	1.24
Rotor inertia without holding brake	J	[kg·cm²]			0.0305		
Rotor inertia with holding brake	J	[kg·cm²]			0.0326		
Mass without holding brake	m	[kg]			0.40		
Mass with holding brake	m	[kg]			0.56		
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]			45 / 35		
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]			120 / 95		

Rated output with 185 x 185 x 8 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

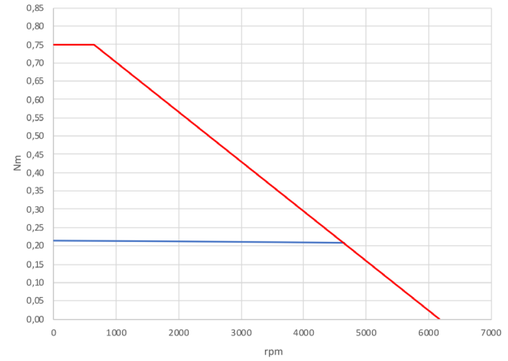
401A 77

Operative curves at 24 Vdc — Cn — Cmax



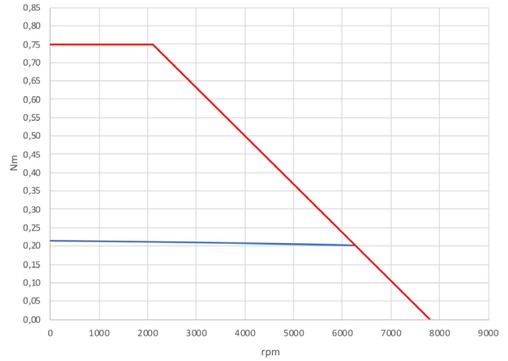
401A 78

Operative curves at 48 Vdc — Cn — Cmax



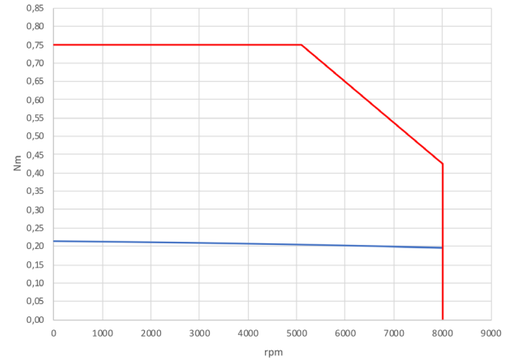
401A 33

Operative curves at 48 Vdc — Cn — Cmax



401A 09

Operative curves at 230 Vac — Cn — Cmax



Operative temperature -20 ÷ +40 °C

Any specifications are subjected to change without notice.
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401B RATINGS and SPECIFICATION

			24 Vdc	48 Vdc		230 Vac	
	TYPE OF WINDING		77	78	33	13	13
ELECTRICAL DATA							
Continuous stall torque (*)	M_0	[Nm]	0.37		0.409		
Peak torque	M_{Max}	[Nm]	0.785	1.38	1.18	1.38	
Nominal torque	M_n	[Nm]	0.360	0.395	0.37	0.395	0.37
Nominal power	P_n	[W]	115	125	230	125	230
Continuous stall current	I_0	[Arms]	8.95	4.95	6.18	0.90	0.90
Maximum current	I_{Max}	[Arms]	20.00	19.40	20.00	3.53	3.53
Nominal current	I_n	[Arms]	8.71	4.78	5.59	0.87	0.81
Nominal working speed	n_N	[rpm]	3000	3000	6000	3000	6000
Maximum working speed	n_{Max}	[rpm]	6250	6250	8000	7890	7800
Torque constant	K_t	[Nm/Arms]	0.041	0.083	0.066	0.455	0.455
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	2.5	5.0	4.0	27.5	27.5
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.253	1.019	0.632	30.85	30.85
Winding inductance	$L_{q\ u-v}$	[mH]	0.149	0.596	0.361	17.68	17.68
Electrical time constant	Te	[ms]	0.59	0.59	0.57	0.57	0.57
Thermal resistance	Rth	[°C/W]			1.85		
Mechanical time constant (a)	Tm	[ms]	0.83	0.83	0.81	0.83	0.83
Rotor inertia without holding brake	J	[kg·cm²]			0.0561		
Rotor inertia with holding brake	J	[kg·cm²]			0.0580		
Mass without holding brake	m	[kg]			0.49		
Mass with holding brake	m	[kg]			0.68		
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]			45 / 35		
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]			120 / 95		

Rated output with 185 x 185 x 8 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

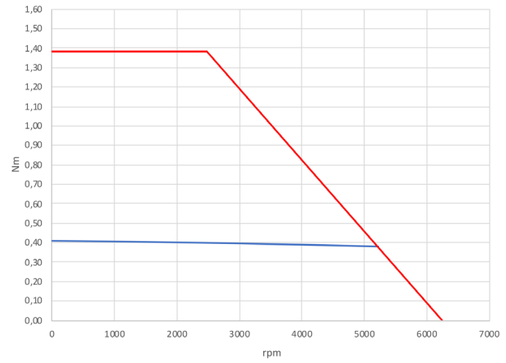
401B 77

Operative curves at 24 Vdc — Cn — Cmax



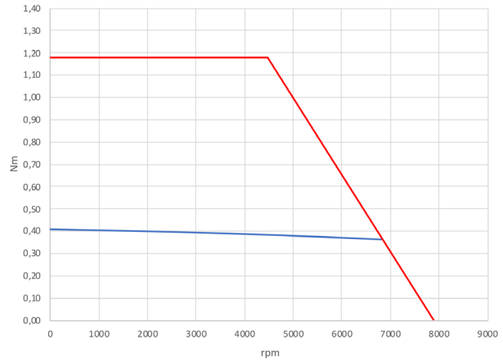
401B 78

Operative curves at 48 Vdc — Cn — Cmax



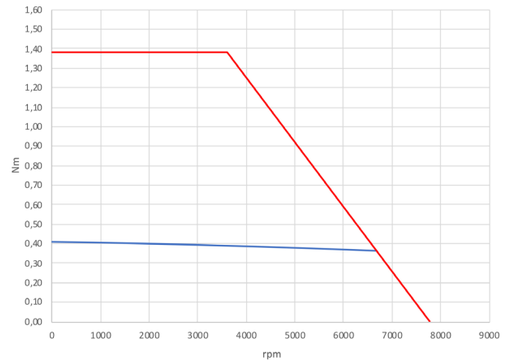
401B 33

Operative curves at 48 Vdc — Cn — Cmax



401B 13

Operative curves at 230 Vac — Cn — Cmax



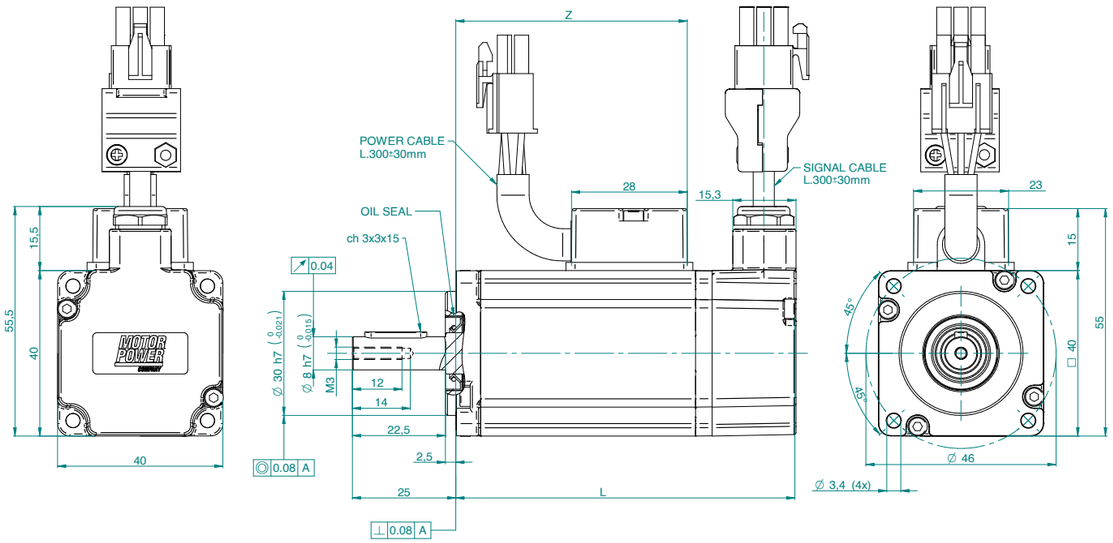
Operative temperature -20 ÷ +40 °C

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40 EXTERNAL DIMENSIONS

DO/D2 connection (up to 9 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]	Z [mm]	Z with brake [mm]
1A	M1-M2	66.0	89.0	40.0	40.0
1B	M1-M2	82.0	105.0	56.0	56.0



TETRA COMPACT 4

602A RATINGS and SPECIFICATION

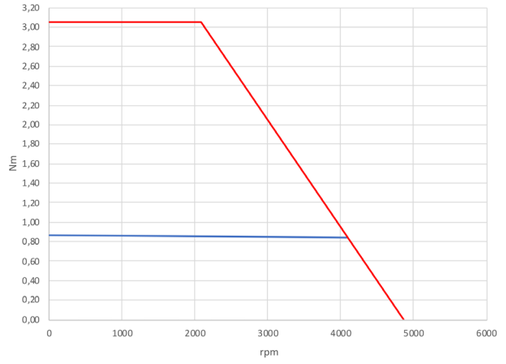
			230 Vac		400 Vac	
	TYPE OF WINDING		20	21	16	15
ELECTRICAL DATA						
Continuous stall torque (*)	M_0	[Nm]	0.87			
Peak torque	M_{Max}	[Nm]	3.05			
Nominal torque	M_n	[Nm]	0.85	0.82	0.85	0.82
Nominal power	P_n	[W]	265	490	265	490
Continuous stall current	I_0	[Arms]	1.20	1.65	0.73	0.96
Maximum current	I_{Max}	[Arms]	5.23	7.24	3.18	4.19
Nominal current	I_n	[Arms]	1.17	1.56	0.71	0.90
Nominal working speed	n_N	[rpm]	3000	5700	3000	5700
Maximum working speed	n_{Max}	[rpm]	4850	6760	5140	6800
Torque constant	K_t	[Nm/Arms]	0.728	0.526	1.20	0.91
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	44.0	31.8	72.5	55.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	20.19	10.24	51.62	31.75
Winding inductance	$L_{q\ u-v}$	[mH]	28.32	14.93	77.18	44.50
Electrical time constant	Te	[ms]	1.40	1.46	1.50	1.40
Thermal resistance	Rth	[°C/W]	1.60			
Mechanical time constant (a)	Tm	[ms]	0.85	0.83	0.80	0.86
Rotor inertia without holding brake	J	[kg·cm²]	0.223			
Rotor inertia with holding brake	J	[kg·cm²]	0.236			
Mass without holding brake	m	[kg]	0.92			
Mass with holding brake	m	[kg]	1.44			
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]	42 / 32			
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]	260 / 200			

Rated output with 250 x 250 x 12 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

602A 20

Operative curves at 230 Vac — Cn — Cmax



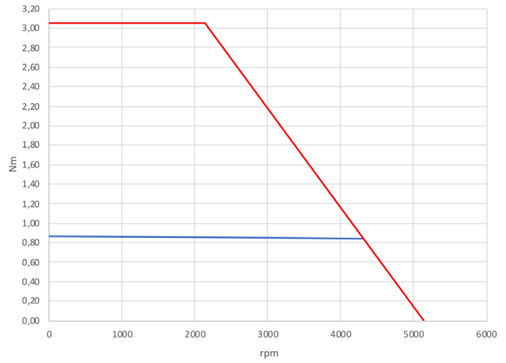
602A 21

Operative curves at 230 Vac — Cn — Cmax



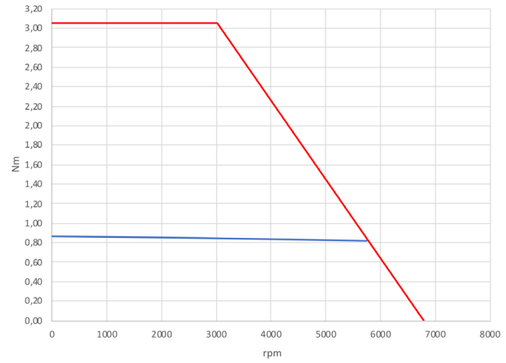
602A 16

Operative curves at 400 Vac — Cn — Cmax



602A 15

Operative curves at 400 Vac — Cn — Cmax



Operative temperature -20 ÷ +40 °C

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602B RATINGS and SPECIFICATION

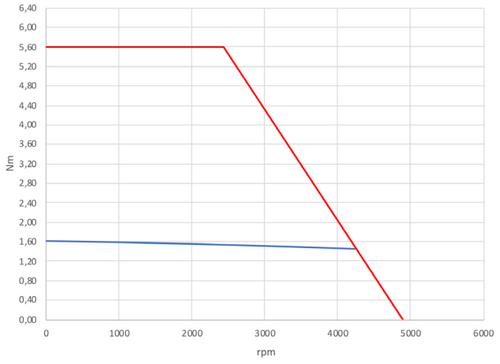
			230 Vac		400 Vac	
	TYPE OF WINDING		20	21	16	15
ELECTRICAL DATA						
Continuous stall torque (*)	M_0	[Nm]	1.62			
Peak torque	M_{Max}	[Nm]	5.60			
Nominal torque	M_n	[Nm]	1.52	1.35	1.52	1.35
Nominal power	P_n	[W]	475	850	475	850
Continuous stall current	I_0	[Arms]	2.23	3.08	1.35	1.78
Maximum current	I_{Max}	[Arms]	8.92	12.34	5.41	7.13
Nominal current	I_n	[Arms]	2.09	2.57	1.27	1.48
Nominal working speed	n_N	[rpm]	3000	6000	3000	6000
Maximum working speed	n_{Max}	[rpm]	4890	6800	5170	6840
Torque constant	K_t	[Nm/Arms]	0.728	0.526	1.20	0.91
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	44.0	31.8	72.5	55.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	7.35	3.85	19.55	11.77
Winding inductance	$L_{q\ u-v}$	[mH]	14.76	7.75	40.29	22.93
Electrical time constant	Te	[ms]	2.02	2.02	2.07	1.96
Thermal resistance	Rth	[°C/W]	1.24			
Mechanical time constant (a)	Tm	[ms]	0.57	0.57	0.56	0.59
Rotor inertia without holding brake	J	[kg·cm²]	0.414			
Rotor inertia with holding brake	J	[kg·cm²]	0.427			
Mass without holding brake	m	[kg]	1.33			
Mass with holding brake	m	[kg]	1.85			
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]	42 / 32			
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]	260 / 200			

Rated output with 250 x 250 x 12 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

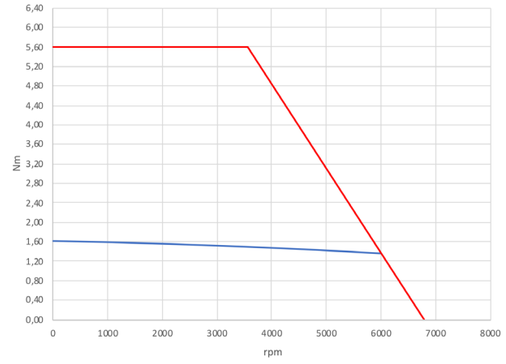
602B 20

Operative curves at 230 Vac — Cn — Cmax



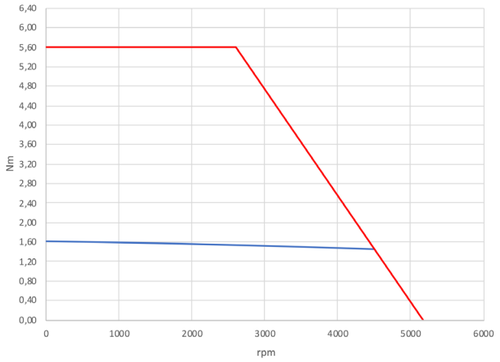
602B 21

Operative curves at 230 Vac — Cn — Cmax



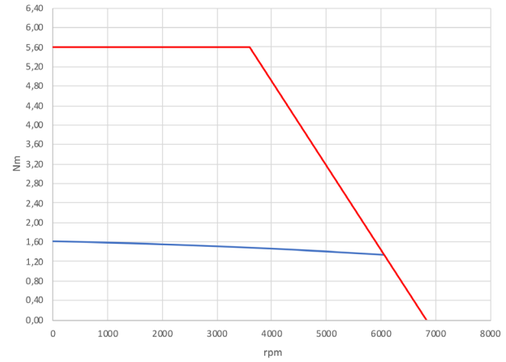
602B 16

Operative curves at 400 Vac — Cn — Cmax



602B 15

Operative curves at 400 Vac — Cn — Cmax



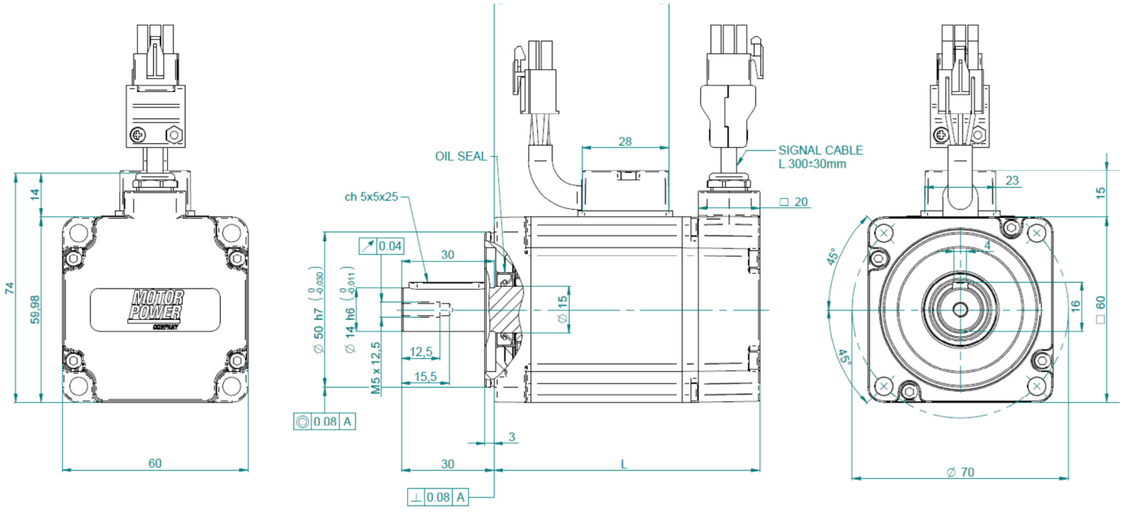
Operative temperature -20 ÷ +40 °C

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60 EXTERNAL DIMENSIONS

D0/D2 connection (up to 9 Arms continuous)

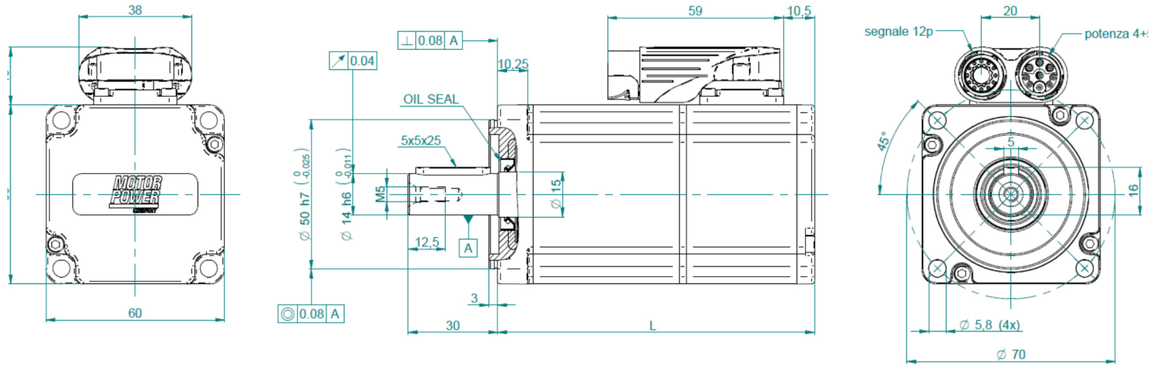
Model	Feedback tipe	L [mm]	L with brake [mm]	Z [mm]	Z with brake [mm]
2A	M1-M2	86.0	116.0	56.5	56.5
2B	M1-M2	109.0	139.0	79.5	79.5
2A	A22-A23-R1	104.0	134.0	56.5	56.5
2B	A22-A23-R1	127.0	157.0	79.5	79.5
2A	A1-A3-A4-A5-A6-A15-A16	114.0	144.0	56.5	56.5
2B	A1-A3-A4-A5-A6-A15-A16	137.0	167.0	79.5	79.5



60 EXTERNAL DIMENSIONS

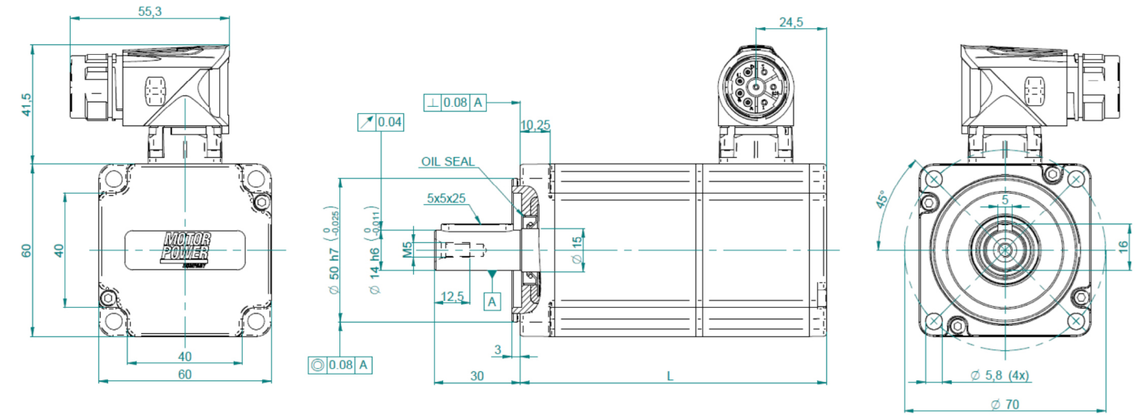
G11/H11 connection (up to 14 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
2A	A22-A23-M1-M2-R1	106.5	136.0
2B	A22-A23-M1-M2-R1	129.5	159.0
2A	A1-A3-A4-A5-A6-A15-A16	116.5	146.0
2B	A1-A3-A4-A5-A6-A15-A16	139.5	169.0



C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
2A	A22-A23	106.5	136.0
2B	A22-A23	129.5	159.0
2A	A3-A4-A5-A6-A15-A16	116.5	146.0
2B	A3-A4-A5-A6-A15-A16	139.5	169.0



NOTE

TETRA
COMPACT 4

80

803A RATINGS and SPECIFICATION

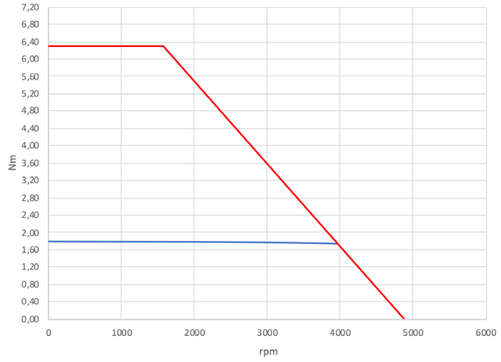
			230 Vac		400 Vac	
	TYPE OF WINDING		20	21	16	15
ELECTRICAL DATA						
Continuous stall torque (*)	M_0	[Nm]	1.80			
Peak torque	M_{Max}	[Nm]	6.30			
Nominal torque	M_n	[Nm]	1.78	1.59	1.78	1.59
Nominal power	P_n	[W]	555	950	555	950
Continuous stall current	I_0	[Arms]	2.47	3.42	1.50	1.98
Maximum current	I_{Max}	[Arms]	12.53	17.33	7.60	10.02
Nominal current	I_n	[Arms]	2.45	3.02	1.48	1.75
Nominal working speed	n_N	[rpm]	3000	5700	3000	5700
Maximum working speed	n_{Max}	[rpm]	4875	6780	5150	6820
Torque constant	K_t	[Nm/Arms]	0.728	0.526	1.20	0.91
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	44.0	31.8	72.5	55.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	6.84	3.43	17.60	10.35
Winding inductance	$L_{q\ u-v}$	[mH]	18.50	9.66	50.18	29.00
Electrical time constant	Te	[ms]	2.71	2.81	2.84	2.80
Thermal resistance	Rth	[°C/W]	1.09			
Mechanical time constant (a)	Tm	[ms]	1.02	0.98	0.97	1.03
Rotor inertia without holding brake	J	[kg·cm²]	0.79			
Rotor inertia with holding brake	J	[kg·cm²]	0.86			
Mass without holding brake	m	[kg]	1.83			
Mass with holding brake	m	[kg]	2.62			
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]	115 / 90			
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]	440 / 350			

Rated output with 250 x 250 x 12 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

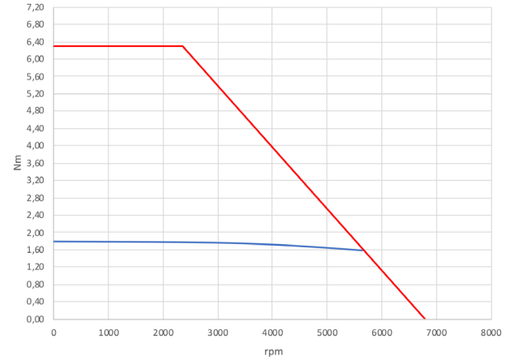
803A 20

Operative curves at 230 Vac — Cn — Cmax



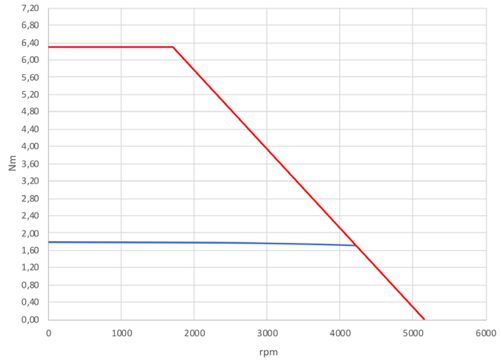
803A 21

Operative curves at 230 Vac — Cn — Cmax



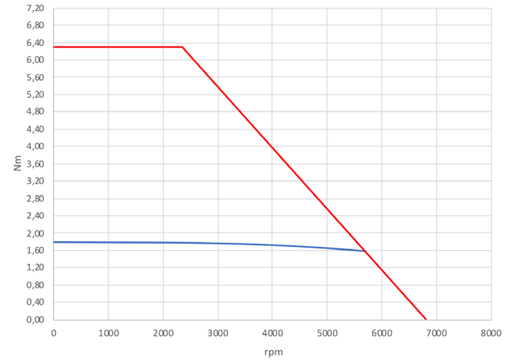
803A 16

Operative curves at 400 Vac — Cn — Cmax



803A 15

Operative curves at 400 Vac — Cn — Cmax



Operative temperature -20 ÷ +40 °C

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803B RATINGS and SPECIFICATION

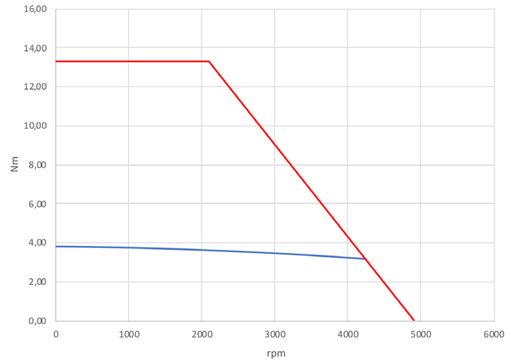
			230 Vac		400 Vac	
	TYPE OF WINDING		20	21	16	15
ELECTRICAL DATA						
Continuous stall torque (*)	M_0	[Nm]	3.80			
Peak torque	M_{Max}	[Nm]	13.30			
Nominal torque	M_n	[Nm]	3.45	2.60	3.45	2.60
Nominal power	P_n	[W]	1080	1630	1080	1630
Continuous stall current	I_0	[Arms]	5.22	7.22	3.17	4.18
Maximum current	I_{Max}	[Arms]	23.83	32.97	14.46	19.06
Nominal current	I_n	[Arms]	4.74	4.94	2.88	2.86
Nominal working speed	n_N	[rpm]	3000	6000	3000	6000
Maximum working speed	n_{Max}	[rpm]	4915	6830	5190	6870
Torque constant	K_t	[Nm/Arms]	0.728	0.526	1.20	0.91
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	44.0	31.8	72.5	55.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	1.62	0.88	4.29	2.60
Winding inductance	$L_{q\ u-v}$	[mH]	7.76	4.02	20.86	12.31
Electrical time constant	Te	[ms]	4.87	4.63	4.95	4.70
Thermal resistance	Rth	[°C/W]	0.90			
Mechanical time constant (a)	Tm	[ms]	0.43	0.45	0.42	0.44
Rotor inertia without holding brake	J	[kg·cm²]	1.42			
Rotor inertia with holding brake	J	[kg·cm²]	1.50			
Mass without holding brake	m	[kg]	2.76			
Mass with holding brake	m	[kg]	3.37			
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]	115 / 90			
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]	440 / 350			

Rated output with 250 x 250 x 12 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

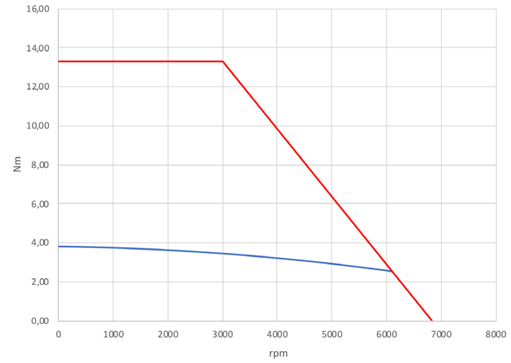
803B 20

Operative curves at 230 Vac — Cn — Cmax



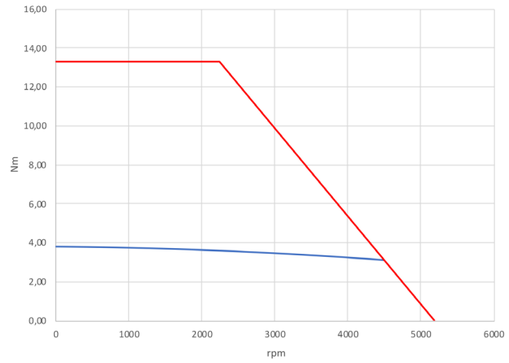
803B 21

Operative curves at 230 Vac — Cn — Cmax



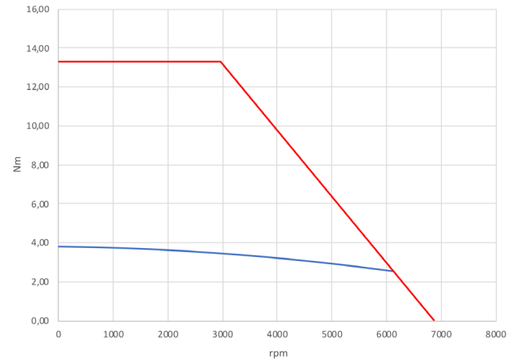
803B 16

Operative curves at 400 Vac — Cn — Cmax



803B 15

Operative curves at 400 Vac — Cn — Cmax



Operative temperature -20 ÷ +40 °C

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803C RATINGS and SPECIFICATION

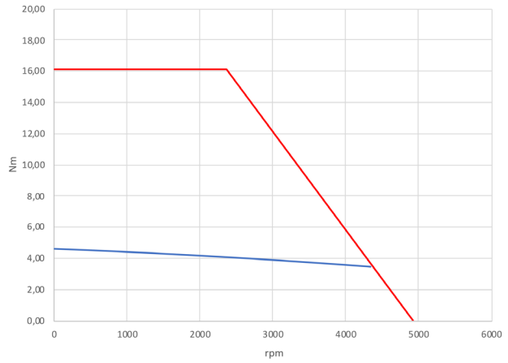
			230 Vac		400 Vac	
	TYPE OF WINDING		20	21	16	15
ELECTRICAL DATA						
Continuous stall torque (*)	M_0	[Nm]	4.60			
Peak torque	M_{Max}	[Nm]	16.10			
Nominal torque	M_n	[Nm]	3.91	2.88	3.91	2.88
Nominal power	P_n	[W]	1230	1800	1230	1800
Continuous stall current	I_0	[Arms]	6.32	8.75	3.84	5.06
Maximum current	I_{Max}	[Arms]	27.31	37.79	16.58	21.85
Nominal current	I_n	[Arms]	5.37	5.48	3.26	3.17
Nominal working speed	n_N	[rpm]	3000	6000	3000	6000
Maximum working speed	n_{Max}	[rpm]	4920	6840	5200	6880
Torque constant	K_t	[Nm/Arms]	0.728	0.526	1.20	0.91
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	44.0	31.8	72.5	55.0
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	1.28	0.68	3.41	2.05
Winding inductance	$L_{q\ u-v}$	[mH]	5.89	3.20	16.20	9.40
Electrical time constant	Te	[ms]	4.61	4.72	4.76	4.60
Thermal resistance	Rth	[°C/W]	0.88			
Mechanical time constant (a)	Tm	[ms]	0.49	0.50	0.48	0.50
Rotor inertia without holding brake	J	[kg·cm²]	2.03			
Rotor inertia with holding brake	J	[kg·cm²]	2.11			
Mass without holding brake	m	[kg]	3.25			
Mass with holding brake	m	[kg]	3.87			
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]	115 / 90			
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]	440 / 350			

Rated output with 250 x 250 x 12 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback.
Current values rated @ 20°C.

TORQUE/SPEED CHARTS

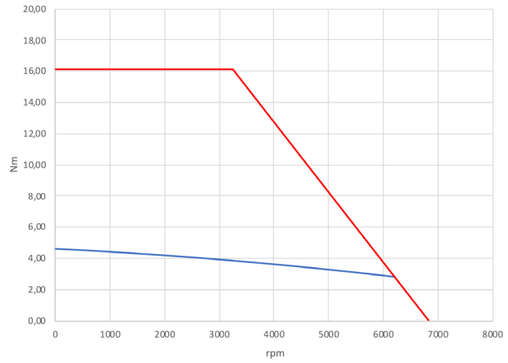
803C 20

Operative curves at 230 Vac — Cn — Cmax



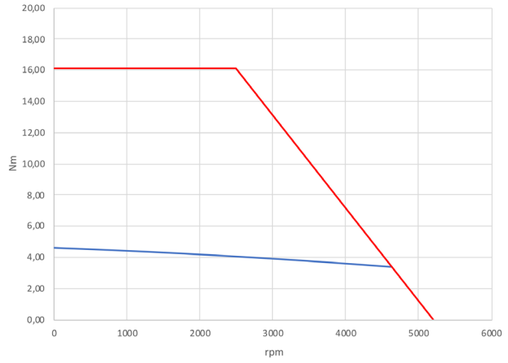
803C 21

Operative curves at 230 Vac — Cn — Cmax



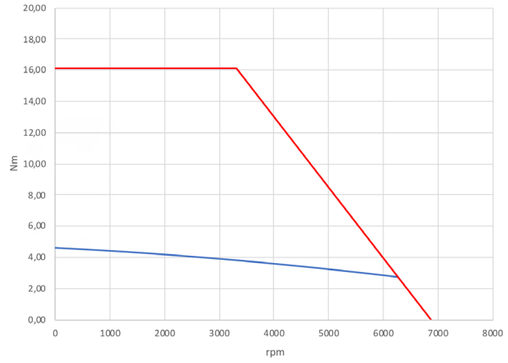
803C 16

Operative curves at 400 Vac — Cn — Cmax



803C 15

Operative curves at 400 Vac — Cn — Cmax



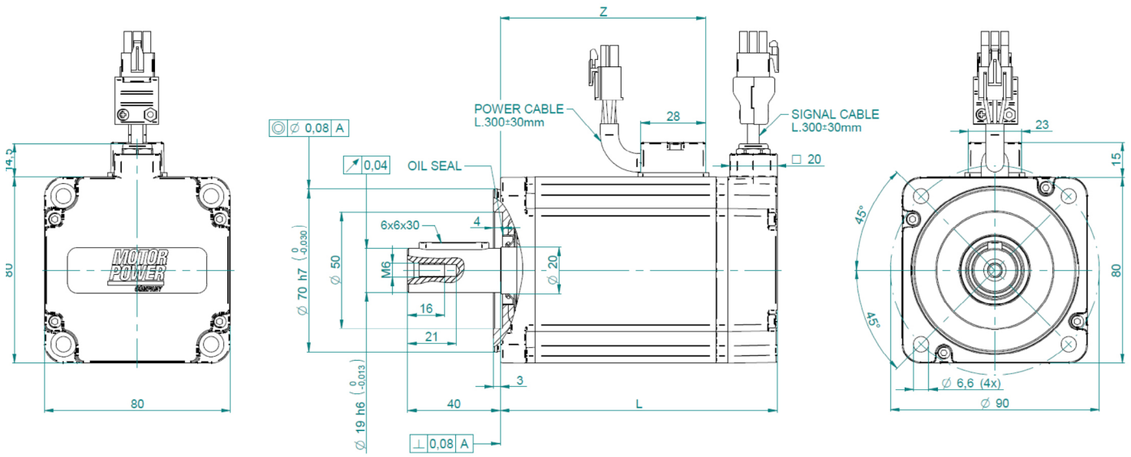
Operative temperature -20 ÷ +40 °C

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TC4 80 EXTERNAL DIMENSIONS

D0/D2 connection (up to 9 Arms continuous)

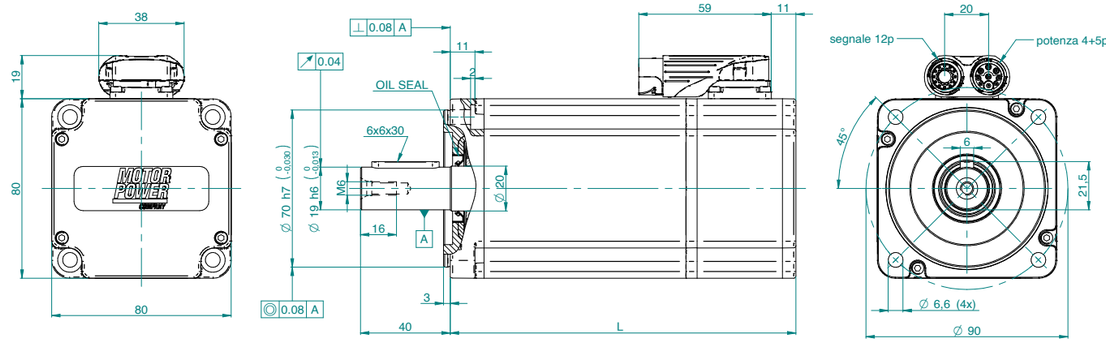
Model	Feedback tipe	L [mm]	L with brake [mm]	Z [mm]	Z with brake [mm]
3A	M1-M2	97.0	129.0	66.5	66.5
3B	M1-M2	119.0	151.0	88.5	88.5
3C	M1-M2	131.0	163.0	100.0	100.0
3A	A22-A23-R1	114.0	146.0	66.5	66.5
3B	A22-A23-R1	136.0	168.0	88.5	88.5
3C	A22-A23-R1	148.0	180.0	100.0	100.0
3A	A1-A3-A4-A5-A6-A15-A16	124.0	156.0	66.5	66.5
3B	A1-A3-A4-A5-A6-A15-A16	146.0	178.0	88.5	88.5
3C	A1-A3-A4-A5-A6-A15-A16	158.0	190.0	100.0	100.0



TC4 80 EXTERNAL DIMENSIONS

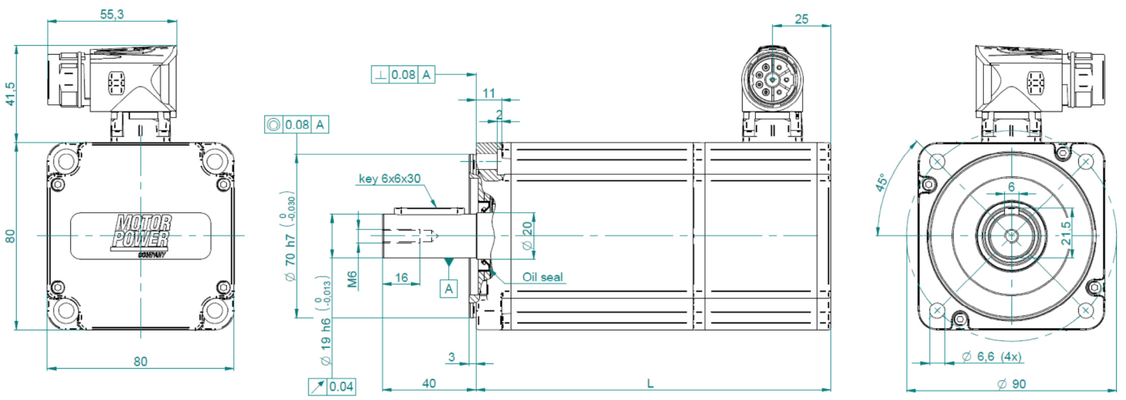
G11/H11 connection (up to 14 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
3A	A22-A23	120.0	149.0
3B	A22-A23	142.0	171.0
3C	A22-A23	154.0	183.0
3A	A3-A4-A5-A6-A15-A16	130.0	159.0
3B	A3-A4-A5-A6-A15-A16	152.0	181.0
3C	A3-A4-A5-A6-A15-A16	164.0	193.0



C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
3A	A22-A23	120.0	149.0
3B	A22-A23	142.0	171.0
3C	A22-A23	154.0	183.0
3A	A3-A4-A5-A6-A15-A16	130.0	159.0
3B	A3-A4-A5-A6-A15-A16	152.0	181.0
3C	A3-A4-A5-A6-A15-A16	164.0	193.0





TETRA COMPACT 4 100

100 *4A* RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		6.45	
Peak torque	M_{Max}	[Nm]		16.5	
Nominal torque	M_n	[Nm]	5.8	4.38	5.8
Nominal power	P_n	[W]	1820	2520	1820
Continuous stall current	I_0	[Arms]	7.09	7.09	4.03
Maximum current	I_{Max}	[Arms]	25.12	25.12	14.29
Nominal current	I_n	[Arms]	6.38	4.81	3.63
Nominal working speed	n_N	[rpm]	3000	5500	3000
Maximum working speed	n_{Max}	[rpm]	3880	6000	3850
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	1.50	1.50	4.20
Winding inductance	$L_{q\ u-v}$	[mH]	14.28	14.28	44.43
Electrical time constant	Te	[ms]	9.54	9.54	10.58
Thermal resistance	Rth	[°C/W]		0.63	
Mechanical time constant (a)	Tm	[ms]	0.46	0.46	0.41
Rotor inertia without holding brake	J	[kg·cm²]		2.53	
Rotor inertia with holding brake	J	[kg·cm²]		2.65	
Mass without holding brake	m	[kg]		5.55	
Mass with holding brake	m	[kg]		6.60	
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]		245 / 140	
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]		690 / 540	

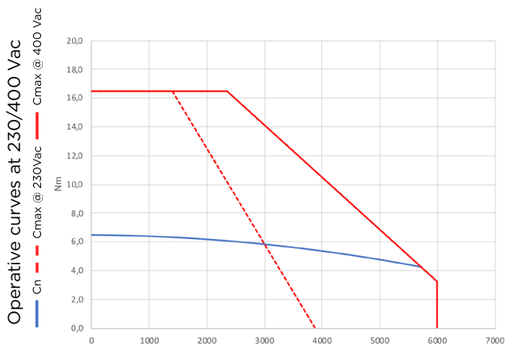
Rated output with 300 x 300 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

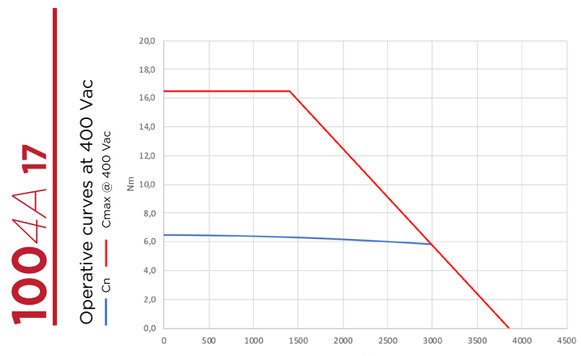
Operative temperature -20 ÷ +40 °C

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100*4A* 15



100*4A* 17



100 *4B* RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		10.16	
Peak torque	M_{Max}	[Nm]		33.00	
Nominal torque	M_n	[Nm]	8.36	6.08	8.36
Nominal power	P_n	[W]	2620	3820	2620
Continuous stall current	I_0	[Arms]	11.17	11.17	6.35
Maximum current	I_{Max}	[Arms]	50.66	50.66	28.82
Nominal current	I_n	[Arms]	9.19	6.68	5.23
Nominal working speed	n_N	[rpm]	3000	6000	3000
Maximum working speed	n_{Max}	[rpm]	3900	6000	3860
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.61	0.61	1.94
Winding inductance	$L_{q\ u-v}$	[mH]	7.14	7.14	22.22
Electrical time constant	Te	[ms]	11.63	11.63	11.46
Thermal resistance	Rth	[°C/W]		0.61	
Mechanical time constant (a)	Tm	[ms]	0.34	0.34	0.35
Rotor inertia without holding brake	J	[kg·cm²]		4.61	
Rotor inertia with holding brake	J	[kg·cm²]		4.73	
Mass without holding brake	m	[kg]		8.09	
Mass with holding brake	m	[kg]		9.14	
Max. axial shaft load 3000 / 6000 rpm	SL_a	[N]		245 / 140	
Max. radial shaft load 3000 / 6000 rpm	SL_r	[N]		690 / 540	

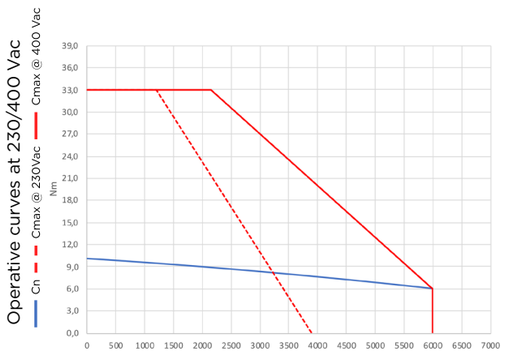
Rated output with 300 x 300 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake.
(a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

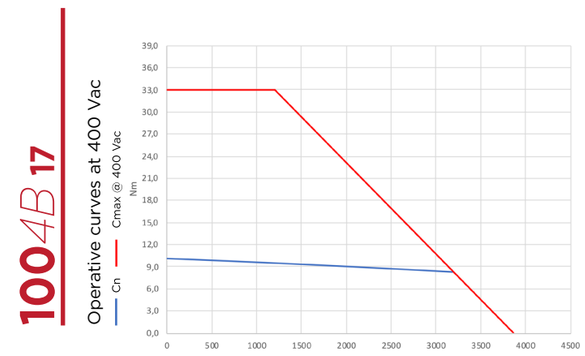
Operative temperature -20 ÷ +40 °C

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100*4B* 15



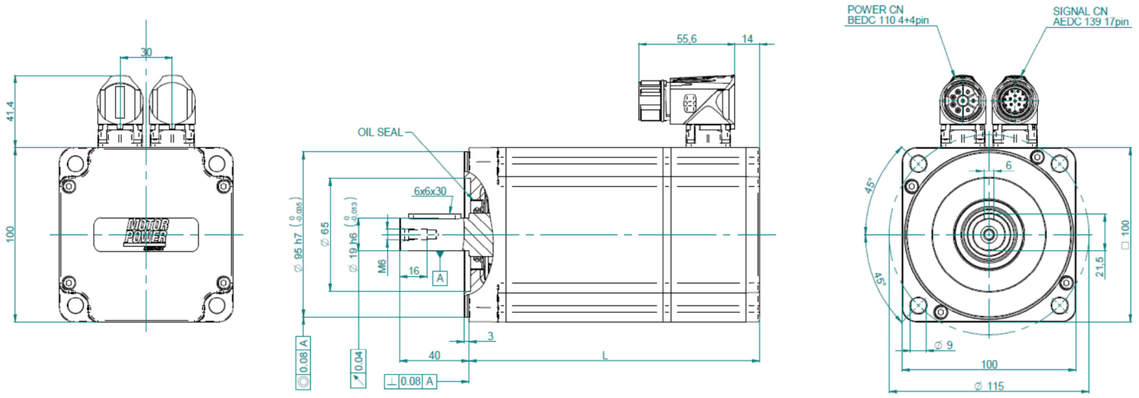
100*4B* 17



EXTERNAL DIMENSIONS

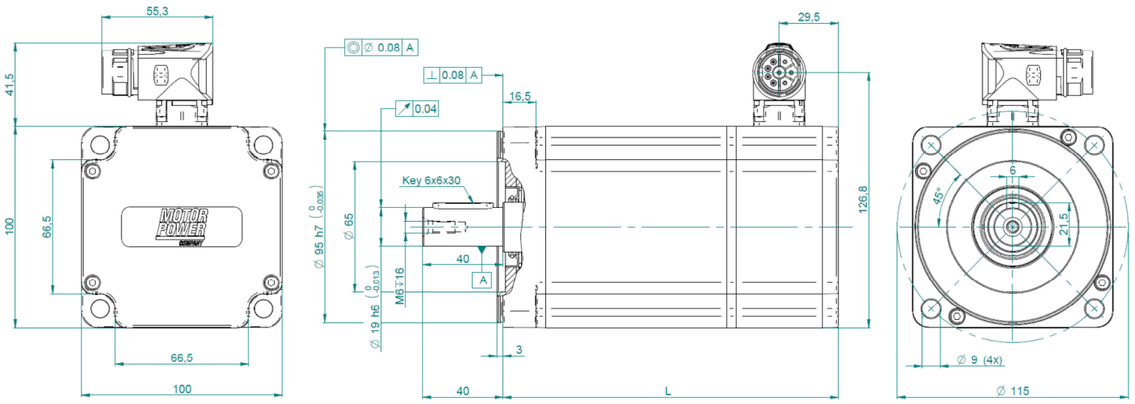
G2/H2 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
4A	A22-A23-M1-M2	167.0	197.0
4B	A22-A23-M1-M2	212.0	242.0
4A	A1-A3-A4-A5-A6-A15-A16-R1	183.0	213.0
4B	A1-A3-A4-A5-A6-A15-A16-R1	228.0	258.0



C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
4A	A22-A23	167.0	197.0
4B	A22-A23	212.0	242.0
4A	A3-A4-A5-A6-A15-A16	183.0	213.0
4B	A3-A4-A5-A6-A15-A16	228.0	258.0



TETRA COMPACT 4

130 *5F* RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		4.77	
Peak torque	M_{Max}	[Nm]		14.3	
Nominal torque	M_n	[Nm]		3.18	
Nominal power	P_n	[W]		1000	
Continuous stall current	I_0	[Arms]	5.24	5.24	2.98
Maximum current	I_{Max}	[Arms]	18.28	18.28	10.40
Nominal current	I_n	[Arms]	3.50	3.50	1.99
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.81	0.81	2.46
Winding inductance	$L_{q\ u-v}$	[mH]	9.37	9.37	29.20
Electrical time constant	Te	[ms]	11.53	11.53	11.85
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.66	0.66	0.65
Rotor inertia without holding brake	J	[kg·cm²]		6.70	
Rotor inertia with holding brake	J	[kg·cm²]		7.95	
Mass without holding brake	m	[kg]		7.35	
Mass with holding brake	m	[kg]		8.87	
Max. axial shaft load 3000 rpm	SL_a	[N]		230	
Max. radial shaft load 3000 rpm	SL_r	[N]		1200	

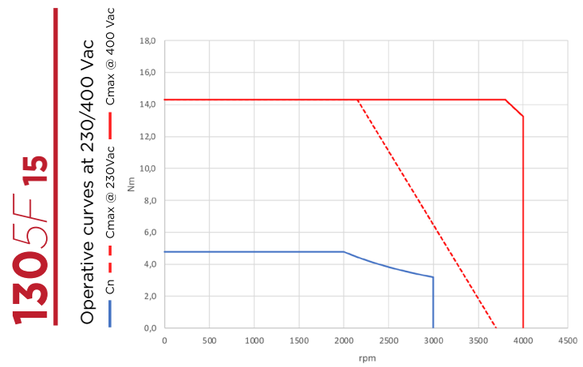
Rated output with 400 x 400 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

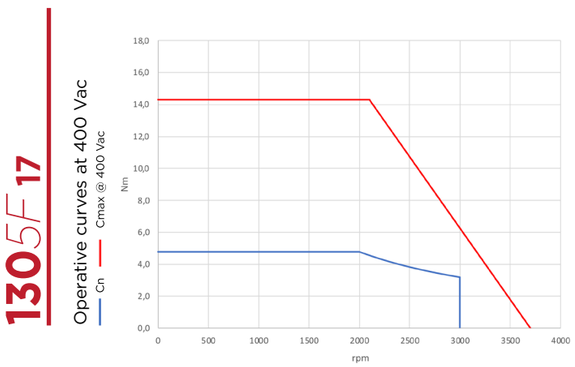
Operative temperature -20 ÷ +40 °C

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130*5F* 15



130*5F* 17



130 *5G* RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		7.16	
Peak torque	M_{Max}	[Nm]		21.48	
Nominal torque	M_n	[Nm]		4.78	
Nominal power	P_n	[W]		1500	
Continuous stall current	I_0	[Arms]	7.87	7.87	4.48
Maximum current	I_{Max}	[Arms]	26.83	26.83	15.26
Nominal current	I_n	[Arms]	5.24	5.24	2.98
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.51	0.51	1.54
Winding inductance	$L_{q\ u-v}$	[mH]	5.69	5.69	17.42
Electrical time constant	Te	[ms]	11.29	11.29	11.32
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.59	0.59	0.58
Rotor inertia without holding brake	J	[kg·cm²]		9.72	
Rotor inertia with holding brake	J	[kg·cm²]		10.98	
Mass without holding brake	m	[kg]		8.80	
Mass with holding brake	m	[kg]		10.32	
Max. axial shaft load 2000 rpm	SL_a	[N]		230	
Max. radial shaft load 2000 rpm	SL_r	[N]		1200	

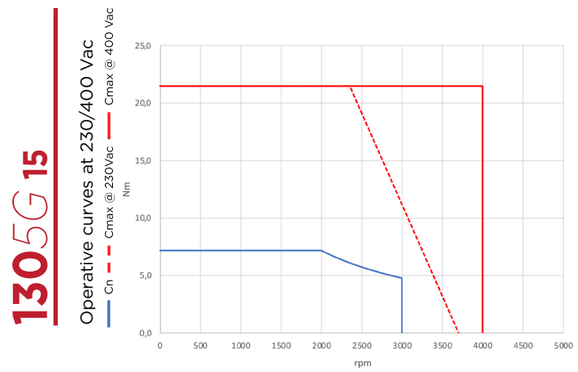
Rated output with 400 x 400 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

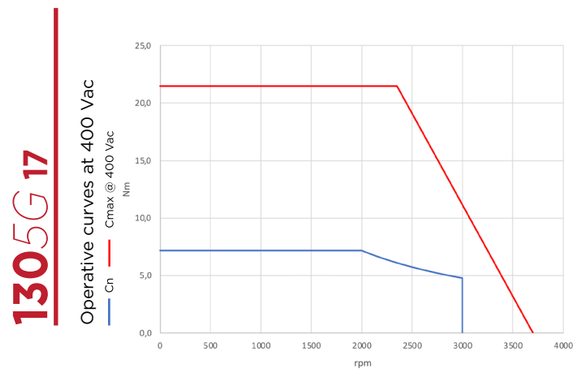
Operative temperature -20 ÷ +40 °C

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130*5G* 15



130*5G* 17



TC4

130 *5H* RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		9.55	
Peak torque	M_{Max}	[Nm]		28.65	
Nominal torque	M_n	[Nm]		6.37	
Nominal power	P_n	[W]		2000	
Continuous stall current	I_0	[Arms]	10.50	10.50	5.97
Maximum current	I_{Max}	[Arms]	35.00	35.00	19.90
Nominal current	I_n	[Arms]	7.00	7.00	3.98
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.35	0.35	1.02
Winding inductance	$L_{q\ u-v}$	[mH]	4.33	4.33	13.27
Electrical time constant	Te	[ms]	12.19	12.19	13.02
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.55	0.55	0.51
Rotor inertia without holding brake	J	[kg·cm²]		12.77	
Rotor inertia with holding brake	J	[kg·cm²]		14.04	
Mass without holding brake	m	[kg]		10.54	
Mass with holding brake	m	[kg]		12.68	
Max. axial shaft load 2000 rpm	SL_a	[N]		230	
Max. radial shaft load 2000 rpm	SL_r	[N]		1200	

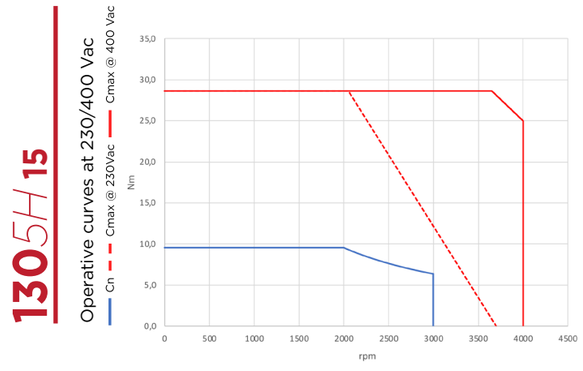
Rated output with 400 x 400 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

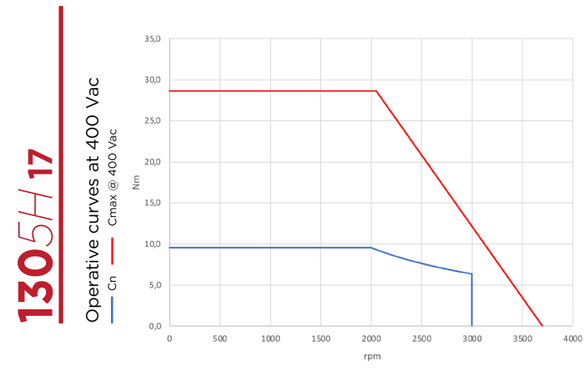
Operative temperature -20 ÷ +40 °C

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130*5H*15



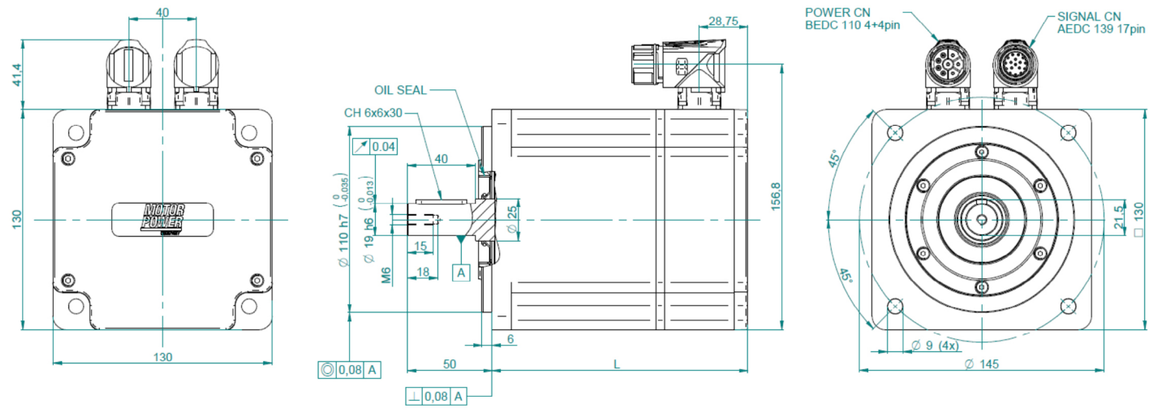
130*5H*17



TC4 **130** EXTERNAL DIMENSIONS

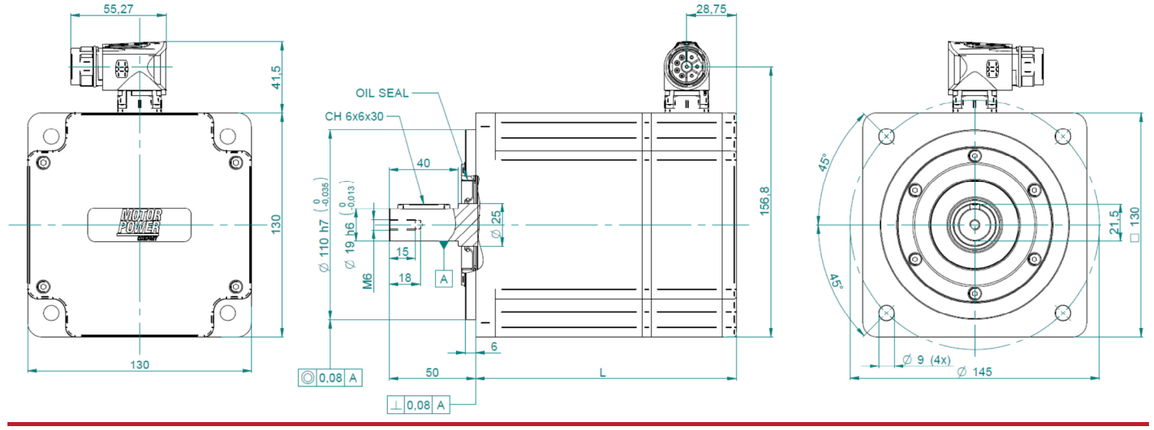
G2/H2 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
5F	A22-A23-M1-M2	151.5	180.0
5G	A22-A23-M1-M2	167.5	196.0
5H	A22-A23-M1-M2	184.5	220.0
5F	A1-A3-A4-A5-A6-A15-A16-R1	167.5	196.0
5G	A1-A3-A4-A5-A6-A15-A16-R1	183.5	212.0
5H	A1-A3-A4-A5-A6-A15-A16-R1	200.5	236.0



C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
5F	A22-A23	151.5	180.0
5G	A22-A23	167.5	196.0
5H	A22-A23	184.5	220.0
5F	A3-A4-A5-A6-A15-A16	167.5	196.0
5G	A3-A4-A5-A6-A15-A16	183.5	212.0
5H	A3-A4-A5-A6-A15-A16	200.5	236.0



150

TETRA COMPACT 4

TC4

150 6A RATINGS and SPECIFICATION

			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		15.0	
Peak torque	M_{Max}	[Nm]		33.5	
Nominal torque	M_n	[Nm]		11.8	
Nominal power	P_n	[W]		3715	
Continuous stall current	I_0	[Arms]	16.49	16.49	9.38
Maximum current	I_{Max}	[Arms]	44.91	44.91	25.54
Nominal current	I_n	[Arms]	12.97	12.97	7.38
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3920	4000	3880
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.31	0.31	0.95
Winding inductance	$L_{q\ u-v}$	[mH]	4.47	4.47	13.82
Electrical time constant	Te	[ms]	14.28	14.28	14.49
Thermal resistance	Rth	[°C/W]		0.53	
Mechanical time constant (a)	Tm	[ms]	0.57	0.57	0.57
Rotor inertia without holding brake	J	[kg·cm²]		15.18	
Rotor inertia with holding brake	J	[kg·cm²]		16.55	
Mass without holding brake	m	[kg]		13.68	
Mass with holding brake	m	[kg]		17.20	
Max. axial shaft load 3000 rpm	SL_a	[N]		420	
Max. radial shaft load 3000 rpm	SL_r	[N]		1750	

Rated output with 475 x 475 x 20 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

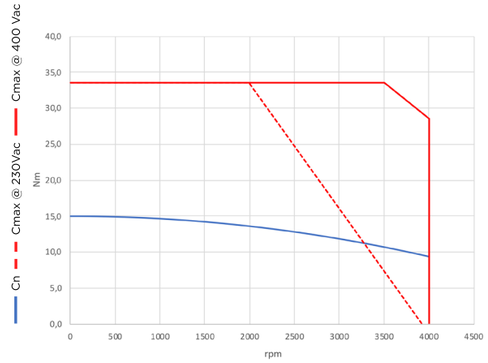
TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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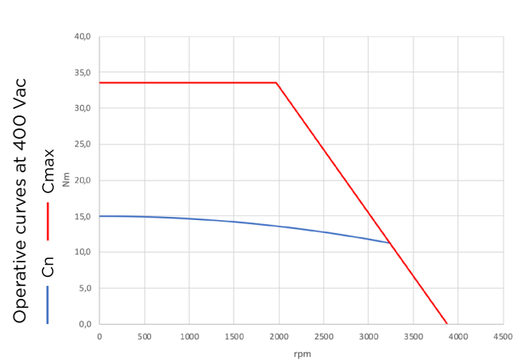
150 6A 15

Operative curves at 230/400 Vac



150 6A 17

Operative curves at 400 Vac



150 *6B* RATINGS and SPECIFICATION

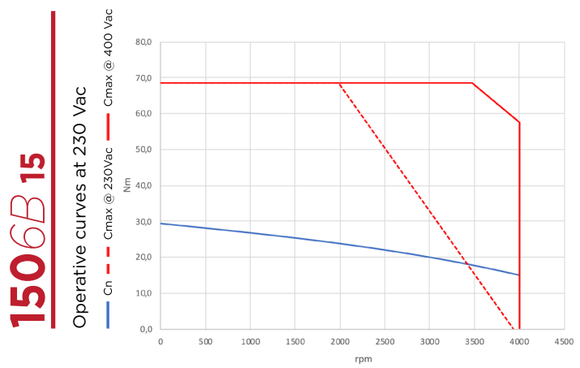
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		29.4	
Peak torque	M_{Max}	[Nm]		68.5	
Nominal torque	M_n	[Nm]		20.0	
Nominal power	P_n	[W]		6280	
Continuous stall current	I_0	[Arms]	32.32	32.32	18.38
Maximum current	I_{Max}	[Arms]	91.94	91.94	52.29
Nominal current	I_n	[Arms]	21.99	21.99	12.50
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3930	4000	3890
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.11	0.11	0.36
Winding inductance	$L_{q\ u-v}$	[mH]	2.23	2.23	6.78
Electrical time constant	Te	[ms]	20.01	20.01	18.78
Thermal resistance	Rth	[°C/W]		0.38	
Mechanical time constant (a)	Tm	[ms]	0.37	0.37	0.39
Rotor inertia without holding brake	J	[kg·cm²]		27.68	
Rotor inertia with holding brake	J	[kg·cm²]		28.76	
Mass without holding brake	m	[kg]		18.00	
Mass with holding brake	m	[kg]		22.40	
Max. axial shaft load 3000 rpm	SL_a	[N]		420	
Max. radial shaft load 3000 rpm	SL_r	[N]		1750	

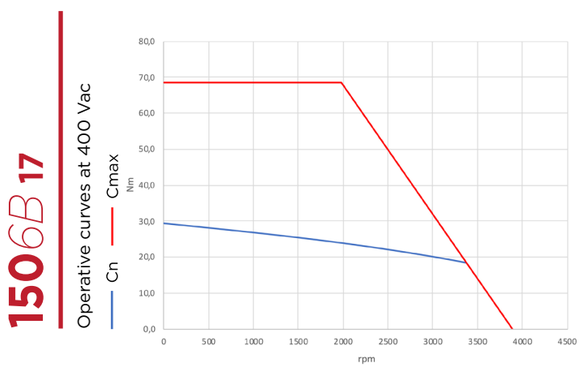
Rated output with 475 x 475 x 20 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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150 *6C* RATINGS and SPECIFICATION

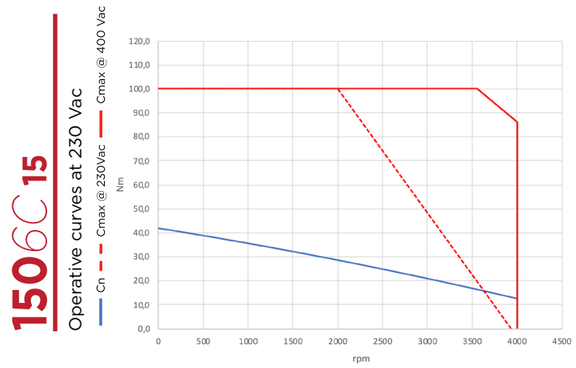
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		41.77	
Peak torque	M_{Max}	[Nm]		100.0	
Nominal torque	M_n	[Nm]		20.96	
Nominal power	P_n	[W]		6580	
Continuous stall current	I_0	[Arms]	45.92	45.92	26.12
Maximum current	I_{Max}	[Arms]	129.33	129.33	73.56
Nominal current	I_n	[Arms]	23.04	23.04	13.10
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3940	4000	3900
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.072	0.072	0.19
Winding inductance	$L_{q\ u-v}$	[mH]	1.54	1.54	4.52
Electrical time constant	Te	[ms]	21.11	21.11	23.24
Thermal resistance	Rth	[°C/W]		0.38	
Mechanical time constant (a)	Tm	[ms]	0.35	0.35	0.31
Rotor inertia without holding brake	J	[kg·cm²]		40.17	
Rotor inertia with holding brake	J	[kg·cm²]		41.25	
Mass without holding brake	m	[kg]		23.26	
Mass with holding brake	m	[kg]		27.67	
Max. axial shaft load 3000 rpm	SL_a	[N]		420	
Max. radial shaft load 3000 rpm	SL_r	[N]		1750	

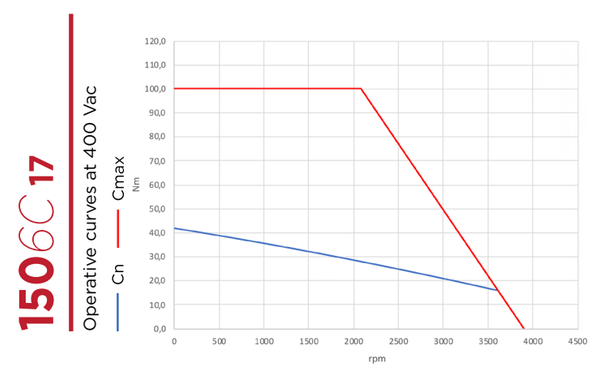
Rated output with 475 x 475 x 20 mm aluminium heat sink flange coupling. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

Any specifications are subjected to change without notice.
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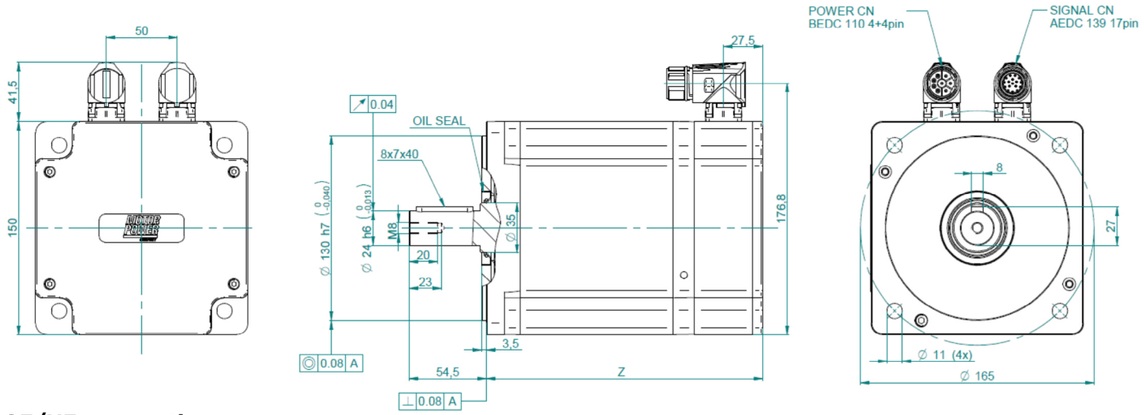




150 EXTERNAL DIMENSIONS

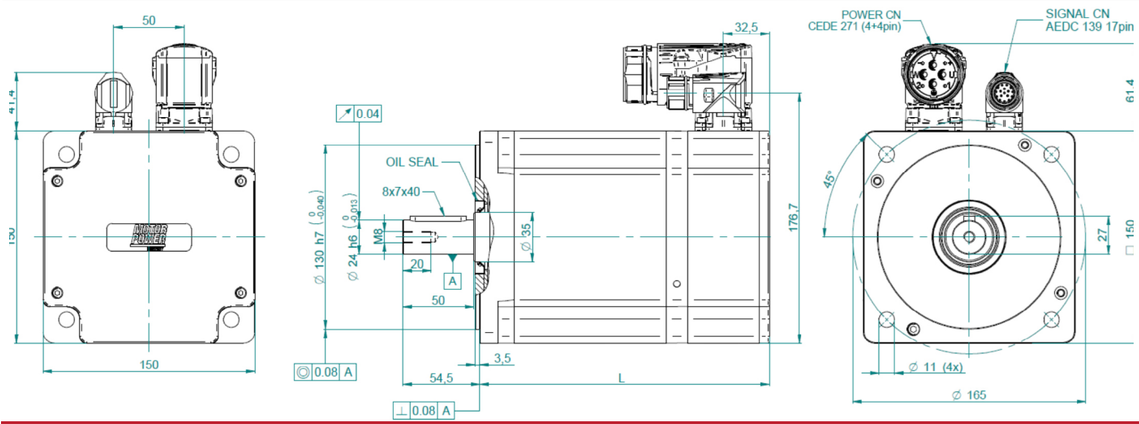
G2/H2 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
6A	A22-A23-M1-M2	195.0	240.0
6B	A22-A23-M1-M2	240.0	285.0
6C	A22-A23-M1-M2	285.0	330.0
6A	A1-A3-A4-A5-A6-A15-A16-R1	211.0	256.0
6B	A1-A3-A4-A5-A6-A15-A16-R1	256.0	301.0
6C	A1-A3-A4-A5-A6-A15-A16-R1	301.0	346.0



G3/H3 connection (up to 75 Arms continuous)

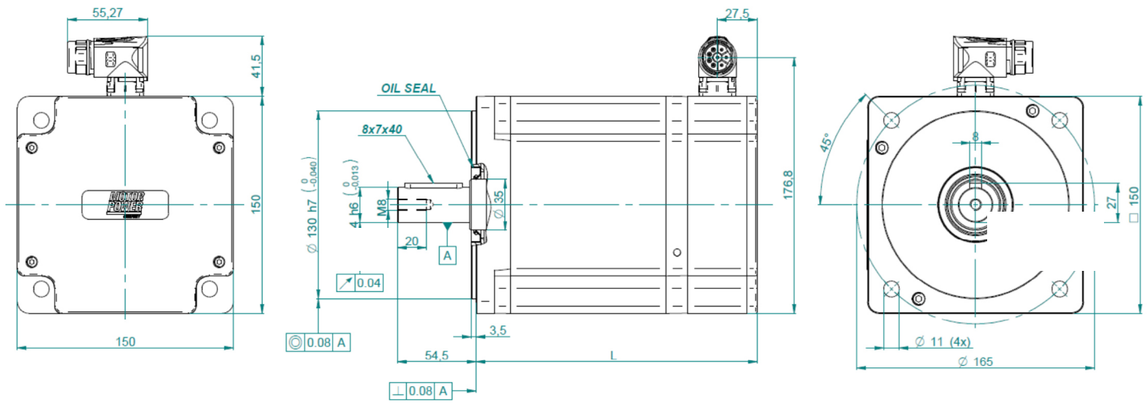
Model	Feedback tipe	L [mm]	L with brake [mm]
6A	A22-A23-M1-M2	205.0	250.0
6B	A22-A23-M1-M2	250.0	295.0
6C	A22-A23-M1-M2	295.0	340.0
6A	A1-A3-A4-A5-A6-A15-A16-R1	221.0	266.0
6B	A1-A3-A4-A5-A6-A15-A16-R1	266.0	311.0
6C	A1-A3-A4-A5-A6-A15-A16-R1	311.0	356.0



150 EXTERNAL DIMENSIONS

C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]
6A	A22-A23	195.0	250.0
6B	A22-A23	240.0	295.0
6C	A22-A23	285.0	340.0
6A	A3-A4-A5-A6-A15-A16	211.0	266.0
6B	A3-A4-A5-A6-A15-A16	256.0	311.0
6C	A3-A4-A5-A6-A15-A16	301.0	356.0



TC4 NOTE



TETRA
COMPACT 4

180

180 *7A* RATINGS and SPECIFICATION

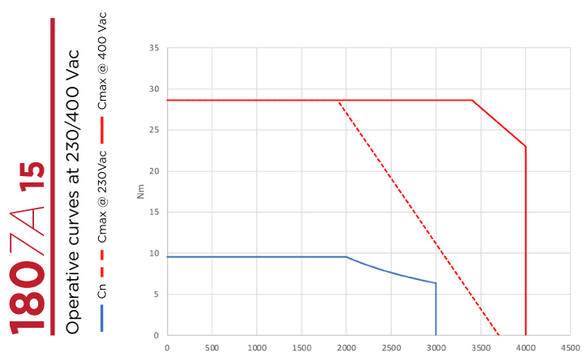
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		9.55	
Peak torque	M_{Max}	[Nm]		28.65	
Nominal torque	M_n	[Nm]		6.37	
Nominal power	P_n	[W]		2000	
Continuous stall current	I_0	[Arms]	10.50	10.50	5.97
Maximum current	I_{Max}	[Arms]	42.00	42.00	23.88
Nominal current	I_n	[Arms]	7.00	7.00	3.98
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.39	0.39	1.20
Winding inductance	$L_{q\ u-v}$	[mH]	4.60	4.60	14.48
Electrical time constant	Te	[ms]	11.79	11.79	12.07
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	1.19	1.19	1.18
Rotor inertia without holding brake	J	[kg·cm²]		25.22	
Rotor inertia with holding brake	J	[kg·cm²]		30.39	
Mass without holding brake	m	[kg]		14.64	
Mass with holding brake	m	[kg]		19.64	
Max. axial shaft load 2000 rpm	SL_a	[N]		500	
Max. radial shaft load 2000 rpm	SL_r	[N]		2300	

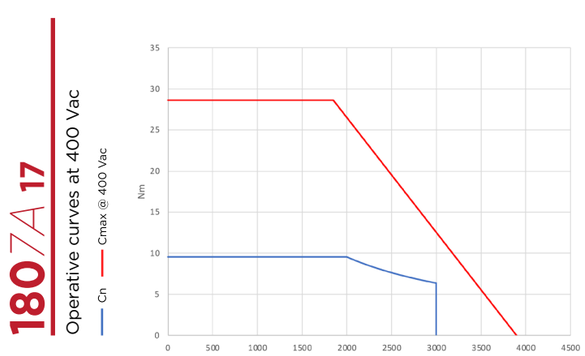
Rated output with 550 x 550 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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180 *7C* RATINGS and SPECIFICATION

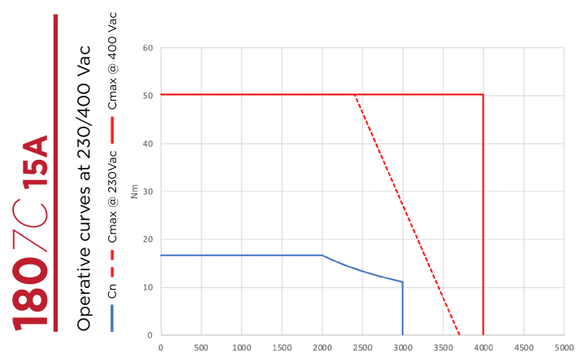
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		16.7	
Peak torque	M_{Max}	[Nm]		50.3	
Nominal torque	M_n	[Nm]		11.14	
Nominal power	P_n	[W]		3500	
Continuous stall current	I_0	[Arms]	18.36	18.36	10.44
Maximum current	I_{Max}	[Arms]	65.05	65.05	37.00
Nominal current	I_n	[Arms]	12.25	12.25	6.97
Nominal working speed	n_N	[rpm]		3000	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.13	0.13	0.37
Winding inductance	$L_{q\ u-v}$	[mH]	2.13	2.13	6.62
Electrical time constant	Te	[ms]	16.38	16.38	17.89
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.68	0.68	0.68
Rotor inertia without holding brake	J	[kg·cm²]		44.81	
Rotor inertia with holding brake	J	[kg·cm²]		46.60	
Mass without holding brake	m	[kg]		20.0	
Mass with holding brake	m	[kg]		25.0	
Max. axial shaft load 2000 rpm	SL_a	[N]		500	
Max. radial shaft load 2000 rpm	SL_r	[N]		2300	

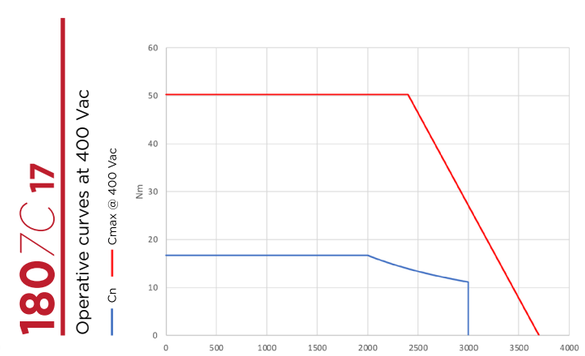
Rated output with 550 x 550 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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TC4

180 *7D* RATINGS and SPECIFICATION

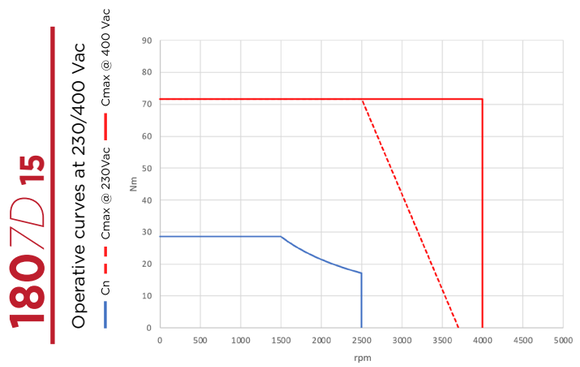
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		28.65	
Peak torque	M_{Max}	[Nm]		71.62	
Nominal torque	M_n	[Nm]		17.20	
Nominal power	P_n	[W]		4500	
Continuous stall current	I_0	[Arms]	31.50	31.50	17.90
Maximum current	I_{Max}	[Arms]	92.60	92.60	52.68
Nominal current	I_n	[Arms]	18.91	18.91	10.75
Nominal working speed	n_N	[rpm]		2500	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.07	0.07	0.21
Winding inductance	$L_{q\ u-v}$	[mH]	1.42	1.42	4.21
Electrical time constant	Te	[ms]	20.29	20.29	20.05
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.55	0.55	0.54
Rotor inertia without holding brake	J	[kg·cm²]		64.99	
Rotor inertia with holding brake	J	[kg·cm²]		66.78	
Mass without holding brake	m	[kg]		25.69	
Mass with holding brake	m	[kg]		31.40	
Max. axial shaft load 2000 rpm	SL_a	[N]		500	
Max. radial shaft load 2000 rpm	SL_r	[N]		2300	

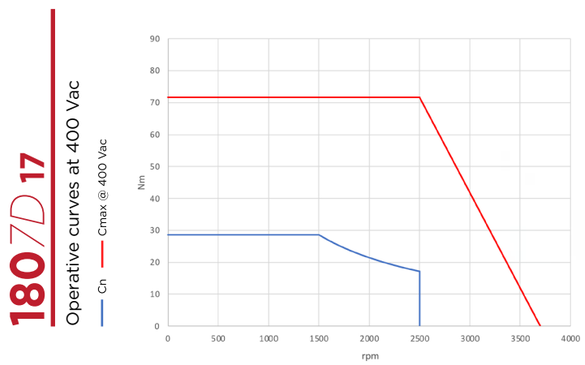
Rated output with 550 x 550 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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TC4

180 *7E* RATINGS and SPECIFICATION

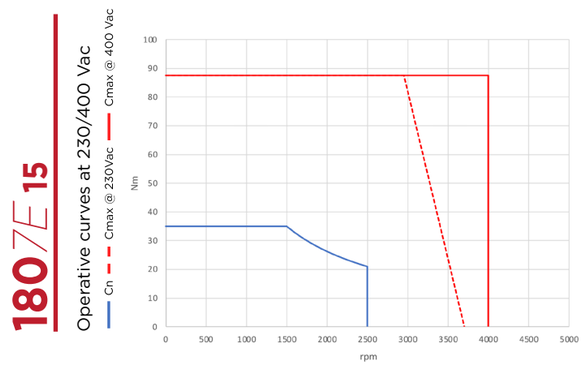
			230 Vac	400 Vac	
	TYPE OF WINDING		15	15	17
ELECTRICAL DATA					
Continuous stall torque (*)	M_0	[Nm]		35.0	
Peak torque	M_{Max}	[Nm]		87.53	
Nominal torque	M_n	[Nm]		21.0	
Nominal power	P_n	[W]		5500	
Continuous stall current	I_0	[Arms]	38.47	38.47	21.88
Maximum current	I_{Max}	[Arms]	113.20	113.20	64.38
Nominal current	I_n	[Arms]	23.08	23.08	13.13
Nominal working speed	n_N	[rpm]		2500	
Maximum working speed	n_{Max}	[rpm]	3700	4000	3700
Torque constant	K_t	[Nm/Arms]	0.91	0.91	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	55.0	55.0	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.04	0.04	0.12
Winding inductance	$L_{q\ u-v}$	[mH]	0.81	0.81	2.64
Electrical time constant	Te	[ms]	21.89	21.89	22.76
Thermal resistance	Rth	[°C/W]		-	
Mechanical time constant (a)	Tm	[ms]	0.46	0.46	0.46
Rotor inertia without holding brake	J	[kg·cm²]		102.46	
Rotor inertia with holding brake	J	[kg·cm²]		104.30	
Mass without holding brake	m	[kg]		34.15	
Mass with holding brake	m	[kg]		39.09	
Max. axial shaft load 2000 rpm	SL_a	[N]		500	
Max. radial shaft load 2000 rpm	SL_r	[N]		2300	

Rated output with 550 x 550 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

Operative temperature -20 ÷ +40 °C

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180 *7F* RATINGS and SPECIFICATION

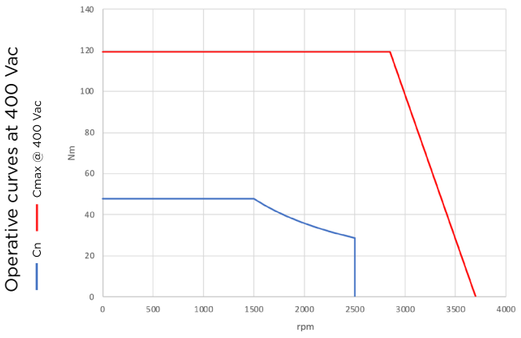
			400 Vac
	TYPE OF WINDING		17
ELECTRICAL DATA			
Continuous stall torque (*)	M_0	[Nm]	47.75
Peak torque	M_{Max}	[Nm]	119.37
Nominal torque	M_n	[Nm]	28.65
Nominal power	P_n	[W]	7500 (*1)
Continuous stall current	I_0	[Arms]	29.85
Maximum current	I_{Max}	[Arms]	87.80
Nominal current	I_n	[Arms]	17.91
Nominal working speed	n_N	[rpm]	2500
Maximum working speed	n_{Max}	[rpm]	3700
Torque constant	K_t	[Nm/Arms]	1.60
Voltage constant	$K_{e\ u-v}$	[Vrms/krpm]	96.7
Winding resistance @ 20 °C	R_{u-v}	[Ohm]	0.095
Winding inductance	$L_{q\ u-v}$	[mH]	1.98
Electrical time constant	Te	[ms]	23.71
Thermal resistance	Rth	[°C/W]	-
Mechanical time constant (a)	Tm	[ms]	0.46
Rotor inertia without holding brake	J	[kg·cm²]	140.62
Rotor inertia with holding brake	J	[kg·cm²]	142.66
Mass without holding brake	m	[kg]	44.52
Mass with holding brake	m	[kg]	49.59
Max. axial shaft load 2000 rpm	SL_a	[N]	500
Max. radial shaft load 2000 rpm	SL_r	[N]	2300

Rated output with 550 x 550 x 20 mm aluminium heat sink flange. Derating must be considered if the oil seal is applied - IP 54 standard shaft bushing.
(*) without brake. (a) without brake and without feedback. Current values rated @ 20°C.

TORQUE/SPEED CHARTS

180 7F 17

Operative curves at 400 Vac



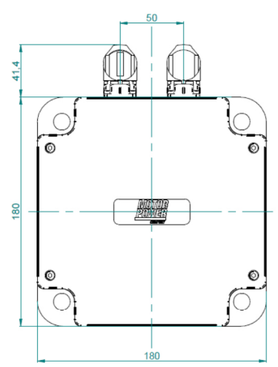
Operative temperature -20 ÷ +40 °C

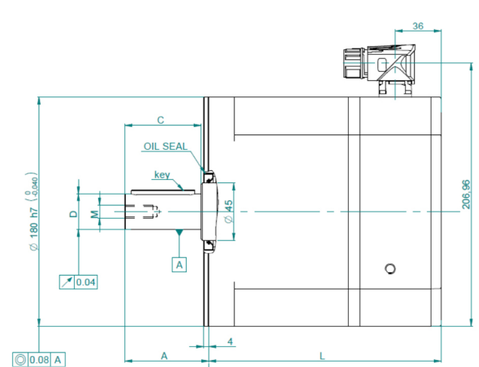
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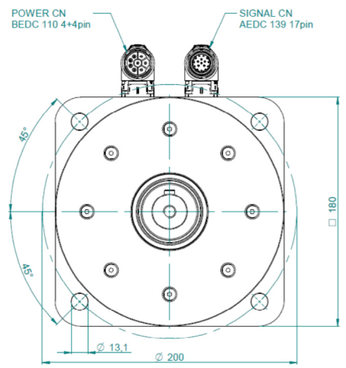
180 EXTERNAL DIMENSIONS

G2/H2 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]	D [mm]	A [mm]	C [mm]	M	Key (b x h x l)
7A	All types	182.5	217.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7C	All types	215.5	250.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7D	All types	248.5	283.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7E	All types	292.5	327.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7F	All types	355.5	390.0	38.0	86.0	80.0	M12x28	10 x 8 x 70



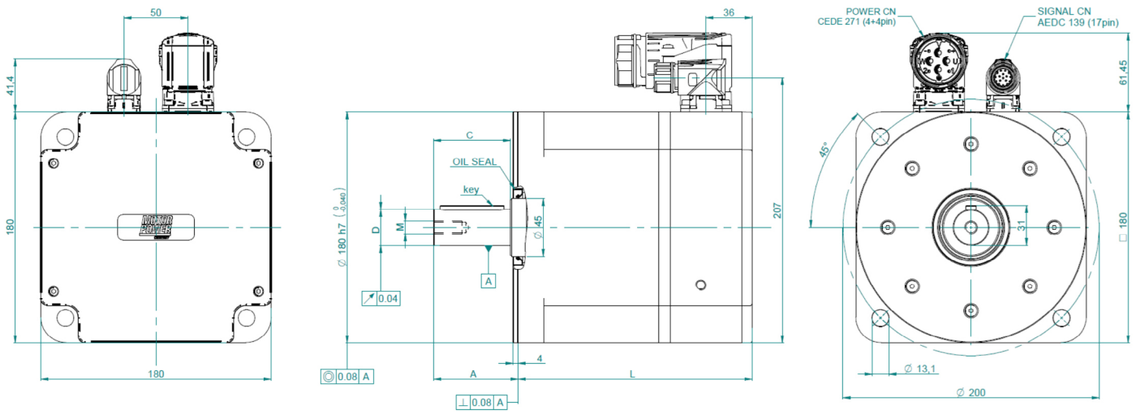




TC4 180 EXTERNAL DIMENSIONS

G3/H3 connection (up to 75 Arms continuous)

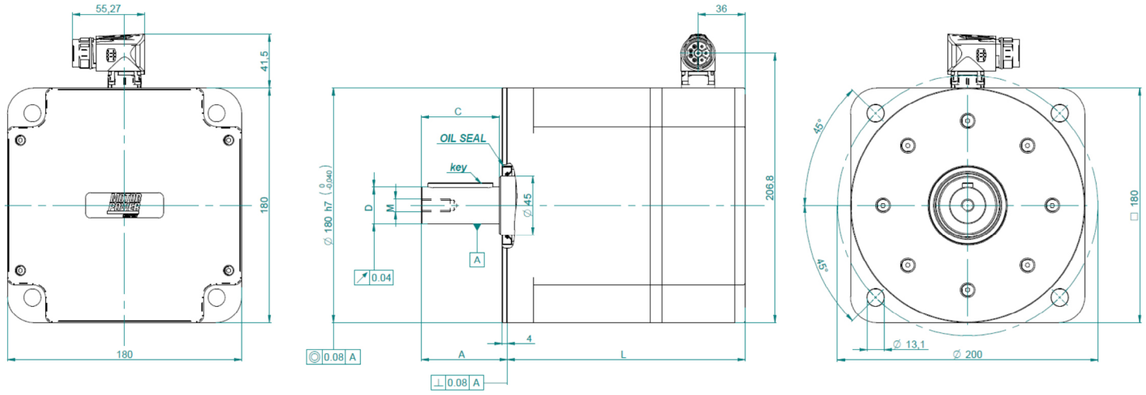
Model	Feedback tipe	L [mm]	L with brake [mm]	D [mm]	A [mm]	C [mm]	M	Key (b x h x l)
7A	All types	182.5	217.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7C	All types	215.5	250.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7D	All types	248.5	283.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7E	All types	292.5	327.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7F	All types	355.5	390.0	38.0	86.0	80.0	M12x28	10 x 8 x 70



TC4 180 EXTERNAL DIMENSIONS

C21 connection (up to 30 Arms continuous)

Model	Feedback tipe	L [mm]	L with brake [mm]	D [mm]	A [mm]	C [mm]	M	Key (b x h x l)
7A	A3-A4-A5-A6-A15-A16-A22-A23	182.5	217.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7C	A3-A4-A5-A6-A15-A16-A22-A23	215.5	250.0	28.0	66.0	60.0	M10x22	8 x 7 x 50
7D	A3-A4-A5-A6-A15-A16-A22-A23	248.5	283.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7E	A3-A4-A5-A6-A15-A16-A22-A23	292.5	327.0	38.0	86.0	80.0	M12x28	10 x 8 x 70
7F	A3-A4-A5-A6-A15-A16-A22-A23	355.5	390.0	38.0	86.0	80.0	M12x28	10 x 8 x 70



feedback

TC4 Resolver

Motor size		R1	
		TC4 60 - TC4 80	TC4 100 - TC4 130 - TC4 150 - TC4 180
Nominal voltage	[Vrms]	7±5%	
Nominal current	[mA]	50	
Phase shift	[deg]	+3°	-5°
Minimum sin amplitude	[mVrms]	20	
Frequency	[kHz]	10	
Poles number	[/]	2	
Tranformer ratio	[/]	0.5 ± 5%	
Input impedance	[Ohm]	130 + j280	110+j140
Output impedance	[Ohm]	425 + j755	130+j240
System accuracy	[']	± 10'	
Rotor inertia	[kg cm2]	0.03	0.1

TC4 Encoder

Type	M1	M2
	M-CODER IH INCREMENTAL WITH HALL SENSOR ENCODER	M-CODER ST ABSOLUTE ENCODER
Protocol/Interface	Line Driver A/B/Z - U/V/W	RS 485 2.5 Mbit
Resolution	2-5000 ppr	17-bit
Accuracy	+/- 250''	
Working temperature	-40 °C ÷ +125 °C	
Working speed	< 12.000 rpm	
Max acceleration	100.000 rad/s²	
Inertia	5.6 x 10-5 kg cm²	
Weigth	20 g	
Main supply voltage	5 – 12 V	
Current consumption	100 mA (Max)	
External battery voltage	-	
External battery current consumption	-	
Note	Condition monitoring option	

Type	A1	A3	A4
	HIPERFACE ABSOLUTE MULTITURN ENCODER	HIPERFACE DSL ABSOLUTE SINGLETURN ENCODER	HIPERFACE DSL ABSOLUTE MULTITURN ENCODER
Protocol/Interface	HIPERFACE®	HIPERFACE DSL®	
Resolution	128 line	20 bit	
N° absolute multiturn steps	4096 (12 bit)	-	4096 (12 bit)
Accuracy	4096 (12 bit)	+/- 100''	
Working temperature	–20 °C ... +100 °C	–20 °C ... +115 °C	
Working speed	<9000 rpm	<12000 rpm	
Max acceleration	500.000 rad/s²		
Inertia	4,5 gcm²		
Weigth	70 g	100 g	
Main supply voltage	7 - 12 V		
Current consumption	60 mA (withoul Load)	150 mA (max)	
External battery voltage	-		
External battery current consumption	-		
Notes	Mechanical multiturn	-	Mechanical multiturn

TC4 Encoder

Type	A5 HIPERFACE SAFETY DSL SINGLETURN 20 BIT ENCODER	A6 HIPERFACE SAFETY DSL MULTITURN 20 BIT ENCODER	A15 HIPERFACE SAFETY DSL SINGLETURN 24 BIT ENCODER
Protocol/Interface	HIPERFACE DSL®		
Resolution	20 bit		24 bit
N° absolute multiturn steps	-	4096 (12 bit)	-
Accuracy	+/- 100''		+/- 25''
Working temperature	–20 °C ... +115 °C		–40 °C ... +115 °C
Working speed	<12000 rpm		<9000 rpm
Max acceleration	250.000 rad/s^2		
Inertia	5 gcm^2		
Weight	100 g		
Main supply voltage	7 - 12 V		
Current consumption	150 mA (max)		
External battery voltage	-		
External battery current consumption	-		
Notes	Mechanical multiturn		
Safety function	SIL2 (IEC 61508) PL.d (EN ISO 13849-1:2015)		

Type	A16 HIPERFACE SAFETY DSL MULTITURN 24 BIT ENCODER	A22 ENCODER SAFETY ENDAT 3 SINGLETURN 19 BIT ENCODER	A23 ENCODER SAFETY ENDAT 3 MULTITURN 19 BIT ENCODER
Protocol/Interface	HIPERFACE DSL®	ENDAT 3®	
Resolution	24 bit	19 bit	
N° absolute multiturn steps	4096 (12 bit)	-	4096 (12 bit)
Accuracy	+/- 25''	+/- 120''	
Working temperature	–40 °C ... +115 °C	–40 °C ... +110 °C	
Working speed	<9000 rpm	<15000 rpm	<12000 rpm
Max acceleration	250.000 rad/s^2	≤ 1 · 10^5 rad/s^2	
Inertia	5 gcm^2	0.2 · 10^{-6} kgm^2	
Weigth	100 g	40 g	40 g
Main supply voltage	7 - 12 V	3,6 - 14 V	
Current consumption	150 mA (Max)	95 mA at 5 V (w/o load)	115 mA at 5 V (w/o load)
External battery voltage	-	-	-
External battery current consumption	-	-	-
Note	Mechanical multiturn	-	Mechanical multiturn
Safety function	SIL2 (IEC 61508) PL.d (EN ISO 13849-1:2015)	SIL3 (IEC 61508) PL.e	

TC4 NOTE

specifications

TC4 Brake features

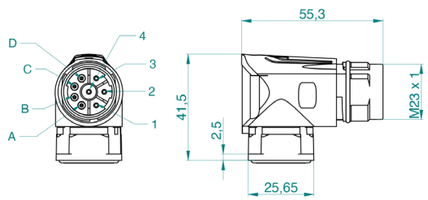
MOTOR SIZE		40	60	80	100	130	150	180
Operating motor temperature	[°C]				-20 ÷ 120			
External ambient temperature	[°C]				-20 ÷ 40			
Standard brake duty	-				Stationary			
Minimum dry static torque (-20 ÷ 120 °C)	[Nm]	0.32	1.3	2.5	6.5	9.6	32	48
Nominal operating voltage (± 10 %)	[Vdc]				24			
Power consumption at 20 °C (± 7 %)	[W]	4.35	11.2	10.2	10.4	19.7	30	49.6
Release time	[ms]	22	58	46	49	71	185	120
Brake release time (pull-in)	[ms]	77	25	58	30	39	66	37
Maximum backlash	[deg]				1.2			

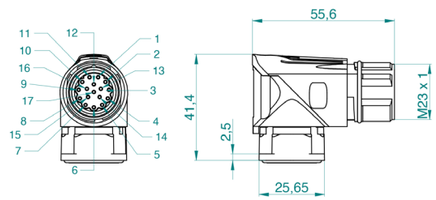
TC4 Wiring motor connection

Connectors with G2 connection

Power connector		Feedback connector			
Pin	Function	**Pin**	**A1**	**M1**	**R1**
1	Phase U	**1**	-	Hall W	-
2	PE	**2**	-	Hall U	-
3	Phase W	**3**	0 Vdc	0 Vdc	-
4	Phase V	**4**	7-12 Vdc	+5 Vdc	-
A	Brake + (#)	**5**	/sin	/ChA	/sin
B	Brake - (#)	**6**	sin	ChA	sin
C	PT 1000 +	**7**	/data	/ChZ	/ref
D	PT 1000 -	**8**	data	ChZ	ref
		9	-	Hall V	-
		10	shield	shield	shield
		11	/cos	/ChB	/cos
		12	cos	ChB	cos
		13	-	Hall /W	-
		14	-	Hall /V	-
		15	-	Hall /U	-
		16	-	-	-
		17	-	-	-

(#) Optional





TC4 Wiring motor connection

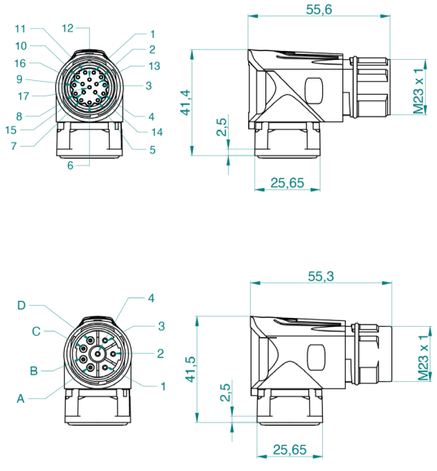
Connectors with H2 connection

Power connector		Feedback connector			
Pin	Function	**Pin**	**A1**	**M1**	**R1**
1	Phase U	**1**	-	Hall W	-
2	PE	**2**	-	Hall U	-
3	Phase W	**3**	0 Vdc	0 Vdc	-
4	Phase V	**4**	7-12 Vdc	+5 Vdc	-
A	brake + (#)	**5**	/sin	/ChA	/sin
B	brake - (#)	**6**	sin	ChA	sin
C	-	**7**	/data	/ChZ	/ref
D	-	**8**	data	ChZ	ref
		9	-	Hall V	-
		10	shield	shield	shield
		11	/cos	/ChB	/cos
		12	cos	ChB	cos
		13	-	Hall /W	-
		14	-	Hall /V	-
		15	-	Hall /U	-
		16	PT 1000 +	PT 1000 +	PT 1000 +
		17	PT 1000 -	PT 1000 -	PT 1000 -

(#) Optional

One cable connector with C21 connection

Pin	Function
1	Phase U
2	PE
3	Phase W
4	Phase V
A	Data +
B	Data -
C	Brake +
D	Brake -



TC4 Wiring motor connection

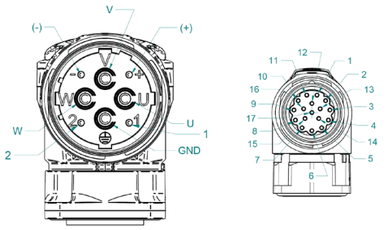
Connectors with G3 connection

Power connector		Feedback connector			
Pin	Function	**Pin**	**A1**	**M1**	**R1**
U	Phase U	**1**	-	-	-
⏚	PE	**2**	-	-	-
W	Phase W	**3**	0 Vdc	shield	-
V	Phase V	**4**	7-12 Vdc	S1	-
+	brake + (#)	**5**	/sin	/S1	/sin
-	brake - (#)	**6**	sin	S2	sin
1	PT 1000 +	**7**	/data	/S2	/ref
2	PT 1000 -	**8**	data	S3	ref
		9	-	/S3	-
		10	shield	ChA	shield
		11	/cos	Index	/cos
		12	cos	/Index	cos
		13	-	/ChA	-
		14	-	ChB	-
		15	-	/ChB	-
		16	+5 Vdc	+5 Vdc	PT 1000 +
		17	0 Vdc	0 Vdc	-

(#) Optional

Connectors with H3 connection

Power connector		Feedback connector			
Pin	Function	**Pin**	**A1**	**M1**	**R1**
U	Phase U	**1**	-	PT 1000 +	-
⏚	PE	**2**	-	PT 1000 -	-
W	Phase W	**3**	0 Vdc	shield	-
V	Phase V	**4**	7-12 Vdc	S1	-
+	brake + (#)	**5**	/sin	/S1	/sin
-	brake - (#)	**6**	sin	S2	sin
1	-	**7**	/data	/S2	/ref
2	-	**8**	data	S3	ref
		9	-	/S3	-
		10	shield	ChA	shield
		11	/cos	Index	/cos
		12	cos	/Index	cos
		13	-	/ChA	-
		14	-	ChB	-
		15	-	/ChB	-
		16	PT 1000 +	+5 Vdc	PT 1000 +
		17	PT 1000 -	0 Vdc	PT 1000 -



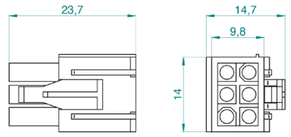
(#) Optional

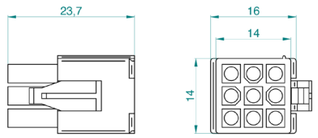
TC4 Wiring motor connection

Connectors with D0 connection (9 pins, only for models 40-60-80)

Power connector		Feedback connector		
Pin	Function	**Pin**	**A1**	**R1**
1	Phase U	**1**	data +	sin
2	Phase V	**2**	+ sin	/sin
3	Phase W	**3**	Refsin	cos
4	PE	**4**	data -	/cos
5	PT 1000 + / brake + (#)	**5**	+ cos	ref
6	PT 1000 - / brake - (#)	**6**	Refcos	/ref
		7	8V / us	-
		8	0V	-
		9	shield	shield

(#) Optional

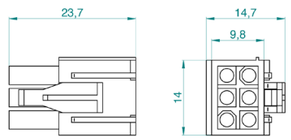


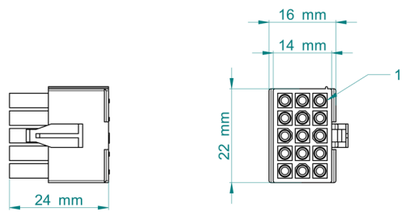


Connectors with D2 connection (15 pins, only for models 40-60-80)

Power connector		Feedback connector	
Pin	Function	**Pin**	**M1**
1	Phase U	**1**	Ch A
2	Phase V	**2**	Ch/A
3	Phase W	**3**	Ch B
4	PE	**4**	Ch/B
5	PT 1000 + / brake + (#)	**5**	Ch Z
6	PT 1000 - / brake - (#)	**6**	Ch/Z
		7	Hall U
		8	Hall/U
		9	Hall V
		10	Hall/V
		11	Hall W
		12	Hall/W
		13	5 Vdc
		14	0 Vdc
		15	Shield

(#) Optional





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