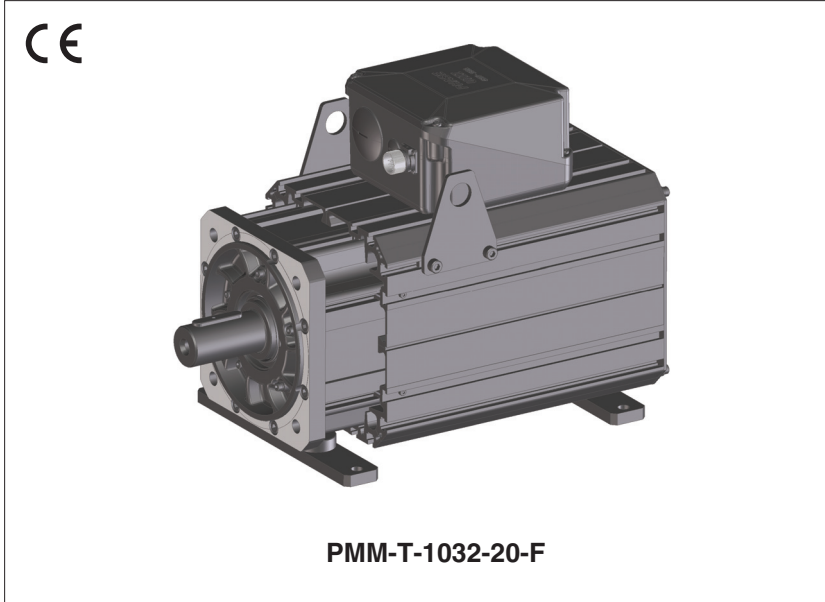


Electric motors for SSP servopumps

high performance, synchronous, permanent magnets



PMM are AC brushless servo motors. Based on rare earth Permanent Magnets, they provide the highest level of efficiency and of dynamic performance, making them the best choice for SSP systems.

These motors, equipped with cooling fan, allow high power density for very compact solutions.

Atos PMM includes 8 different rated power from 9 kW to 100 kW, divided in 2 sizes front flange.

Power range: **9 kW to 100 kW**

1 MODEL CODE

PMM	-	T	-	1	009	-	20	-	F	*
Permanent Magnet Synchronous Motor									Cooling F = Fan cooling	Series number
Speed sensor T = Resolver									Rated speed [rpm], see section 2: 20 = 2000	
Size, see section 2:									Rated power [kW], see section 2:	
1 = for rated power 009, 015, 024, 032									009 = 9 kW 015 = 15 kW 024 = 24 kW 032 = 32 kW	
2 = for rated power 042, 055, 080, 100									042 = 42 kW 055 = 55 kW 080 = 80 kW 100 = 100 kW	

2 TECHNICAL CHARACTERISTICS

Code	Rated Power [kW]	Rated Torque [Nm]	Max Torque [Nm]	Rated Speed [rpm]	Max Speed [rpm]	Rated Current [A]	Max Current [A]	Torque constant [Nm/A]	Efficiency [%]	Inertia [kg cm ²]
PMM-*-1009-20	8,8	41,9	105	2000	3000	16,77	49	2,7	92	50
PMM-*-1015-20	16,5	78,7	210			29,68	92	2,86	94	90
PMM-*-1024-20	24,8	118,2	310			44,58	134	2,86	95	130
PMM-*-1032-20	31,4	145,2	410			61,34	199	2,54	95	170
PMM-*-2042-20	42,4	202,2	415			79,98	201	2,77	95	283
PMM-*-2055-20	55,6	265,2	550			110,87	264	2,6	97	390
PMM-*-2080-20	79,6	380,1	830			146,24	384	2,83	97	590
PMM-*-2100-20	100,7	480,9	1100			203,48	548	2,56	97	780

3 ELECTRIC CHARACTERISTICS

Type	Brushless Permanent Magnet 3 Phase AC servomotors
Insulation	Motor: class F according to DIN 0530; Winding: class H according to DIN 0530
Thermal protection	PT1000/PTC130 (except for motor 55 kW: KTY84/PTC130)
Protection	IP54
Cooling	Fan
Mounting	B35
Concentricity and squareness	Grade R according to IEC 72-DIN
Bearings	Heavy duty, life lubricated

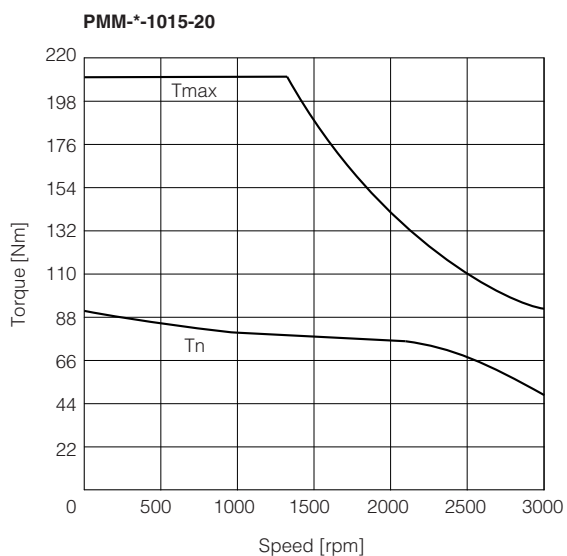
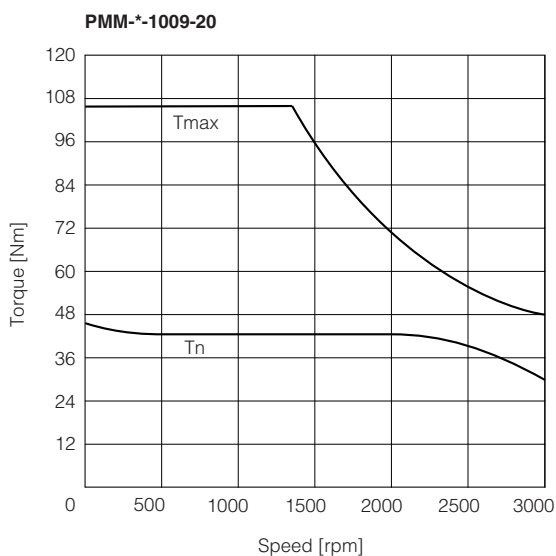
4 GENERAL CHARACTERISTICS

Assembly position	Any position
Ambient temperature	-20 ÷ +40°C de-rating for higher temperature
Altitude	up to 1000m, de-rating for higher altitude
Loads on the shaft	Axial and radial loads are not allowed on the shaft
Surface protection (motor body)	Black painting RAL9005
Compliance	CE according to EMC Directive 2014/30/EU and LVD Directive 2014/35/EU RoHs Directive 2011/65/EU as last update by 2015/863/EU REACH Regulation (EC) n°1907/200

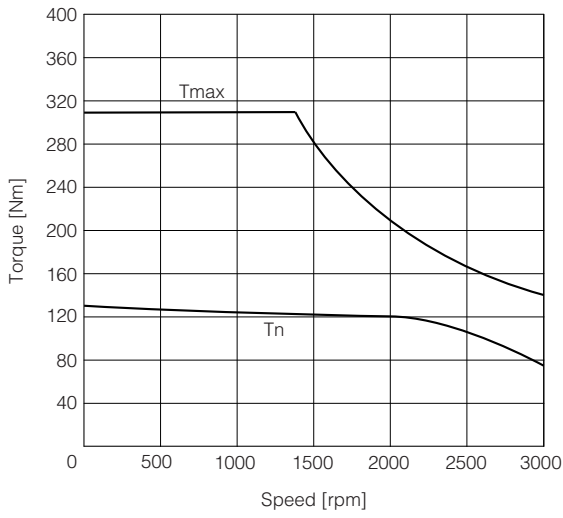
5 DIAGRAMS

T_n = Rated torque. It is the maximum torque admissible for a S1 operating conditions

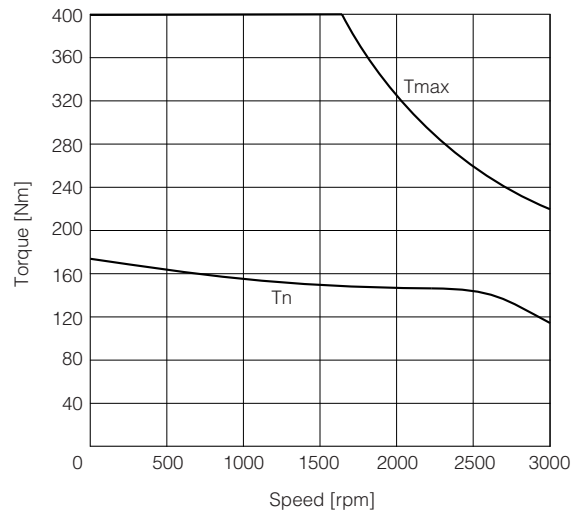
T_{max} = Maximum torque. It is the peak torque allowable for very short time, according to the specific working cycle.



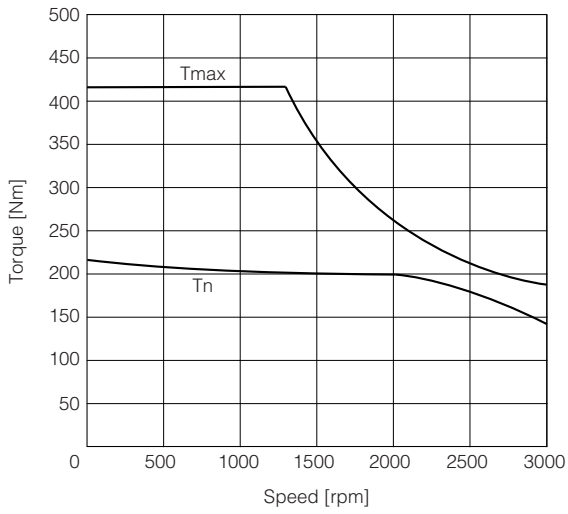
PMM-*-1024-20



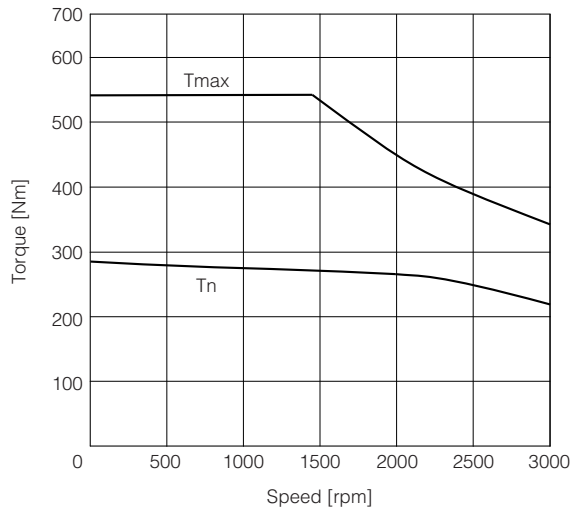
PMM-*-1032-20



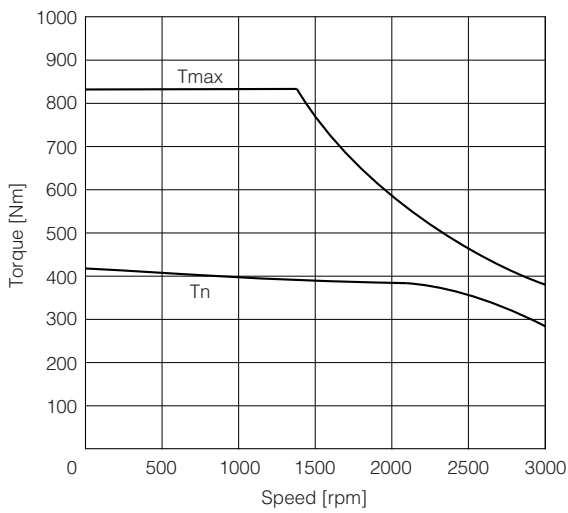
PMM-*-2042-20



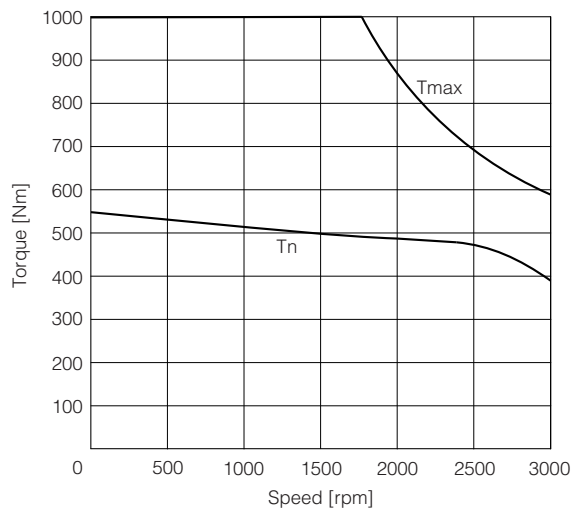
PMM-*-2055-20



PMM-*-2080-20



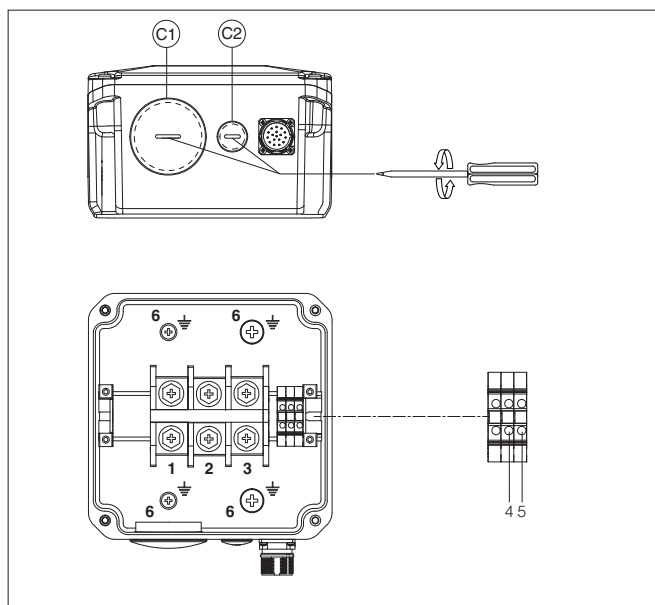
PMM-*-2100-20



6 ELECTRIC CONNECTIONS

6.1 Power connection - 4 phases ^(C1)

PIN	TECHNICAL SPECIFICATION	NOTES
1	Phase W	Input - power supply
2	Phase V	Input - power supply
3	Phase U	Input - power supply
6	GND	Gnd - power supply



6.2 Fan power connection ^(C2)

PIN	TECHNICAL SPECIFICATION	NOTES
4	Fan	Input - power supply
5	Fan	Input - power supply

The fan automatically starts with motor temperature over 85°C

Power Input: 53W

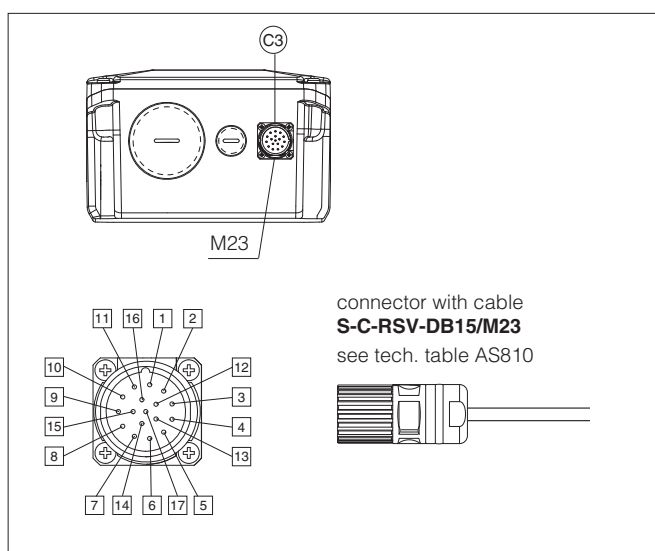
Current draw: 0.33A

Power supply: 230 V @ 50 ÷ 60 Hz

Connections	Motor size							
	1009	1015	1024	1032	2042	2055	2080	2100
^(C1)	M40	M50	M50	M50	M50	M63	M63	M63
^(C2)	M20	M20	M20	M20	M20	M20	M20	M50

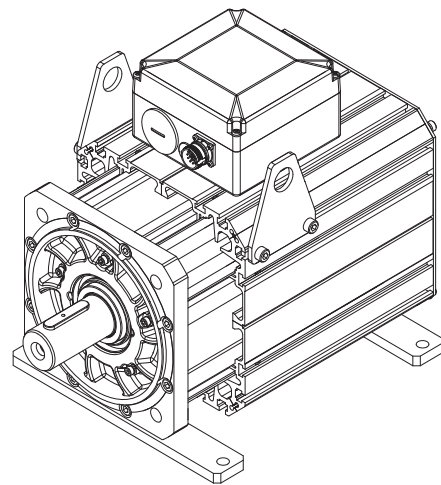
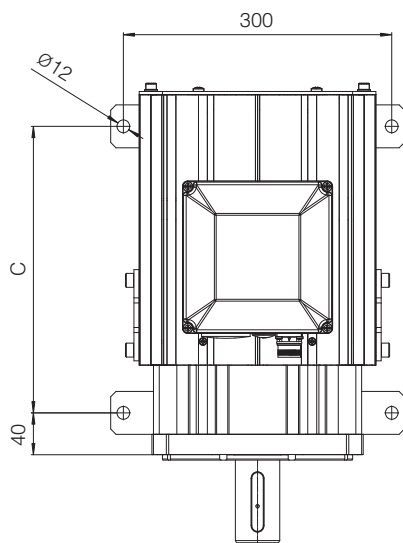
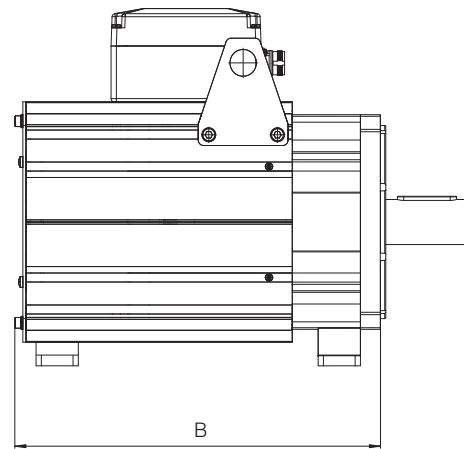
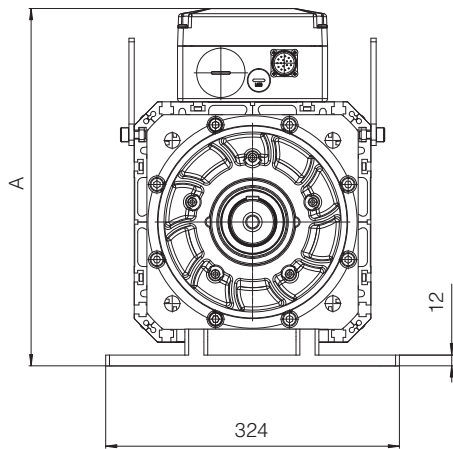
6.3 Signal connector - 17 pin ^(C3)

PIN	TECHNICAL SPECIFICATION
1	NC
2	NC
3	NC
4	SIN-, 1C/R
5	COS+, 1C/R
6	COS-, 1C/R
7	RESEX+
8	Thermal sensor+
9	Thermal sensor-
10	RESEX-
11	NC
12	NC
13	NC
14	SIN+, 1C/R
15	NC
16	NC
17	NC



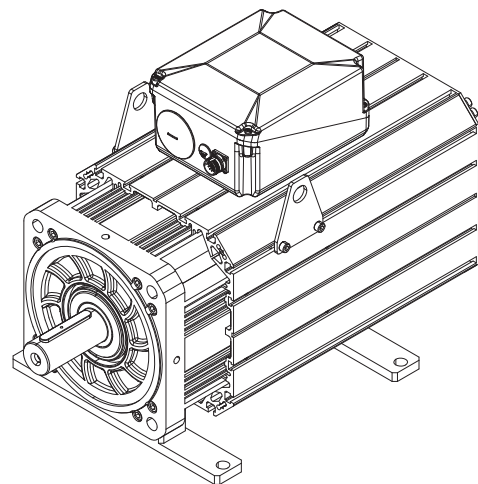
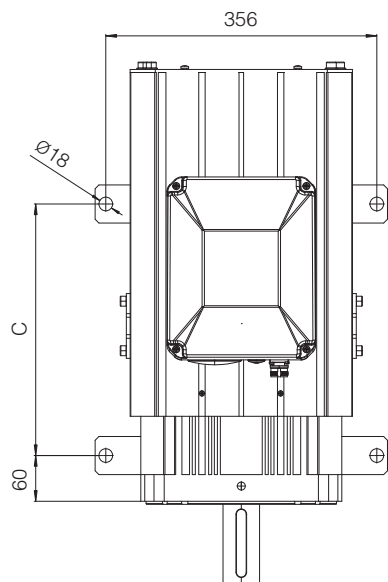
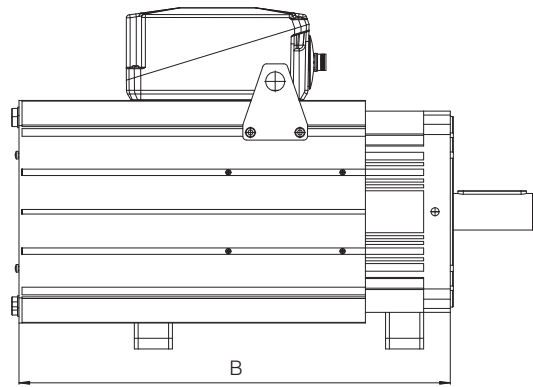
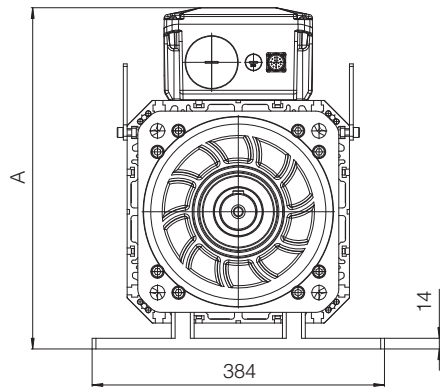
7 DIMENSIONS

PMM-T-1*



Motor code	Dimensions [mm]			Mass [kg]
	A	B	C	
1009	335	342	168	46
1015	355	414	240	59
1024	355	483	312	72
1032	355	555	385	87

PMM-T-2*



Motor code	Dimensions [mm]			Mass [kg]
	A	B	C	
2042	435	525	275	120
2055	450	580	330	141
2080	450	715	476	182
2100	490	785	583	223

15 RELATED DOCUMENTATION

AS050	Basics for Smart Servopumps - SSP	AS800	Programming tools for pumps & servopumps
AS100	SSP Smart Servopumps	AS810	Accessories for servopumps
AS200	Sizing criteria for servopumps	AS910	Operating and maintenance information for servopumps
AS300	PGI cast iron internal gear pumps, high pressure	S-MAN-HW	Servopumps installation manual
AS350	PGIL aluminium internal gear pumps	S-MAN-SW	Servopumps programming software manual
AS500	D-MP electronic drives	S-MAN-STO	Servopumps Safe Torque Off manual
AS510	Fieldbus		