



AC brushless Servomotors DSM5.3x



DSM5 size Three brushless servomotors, are AC permanent magnet synchronous motors (PMSM). They are equipped with last generation magnets and they have a very good price/performances. The use of high quality materials allows to obtain high torque/volume ratio and provides excellent dynamic performances with low cogging. They can have a resolver or incremental/absolute encoder.

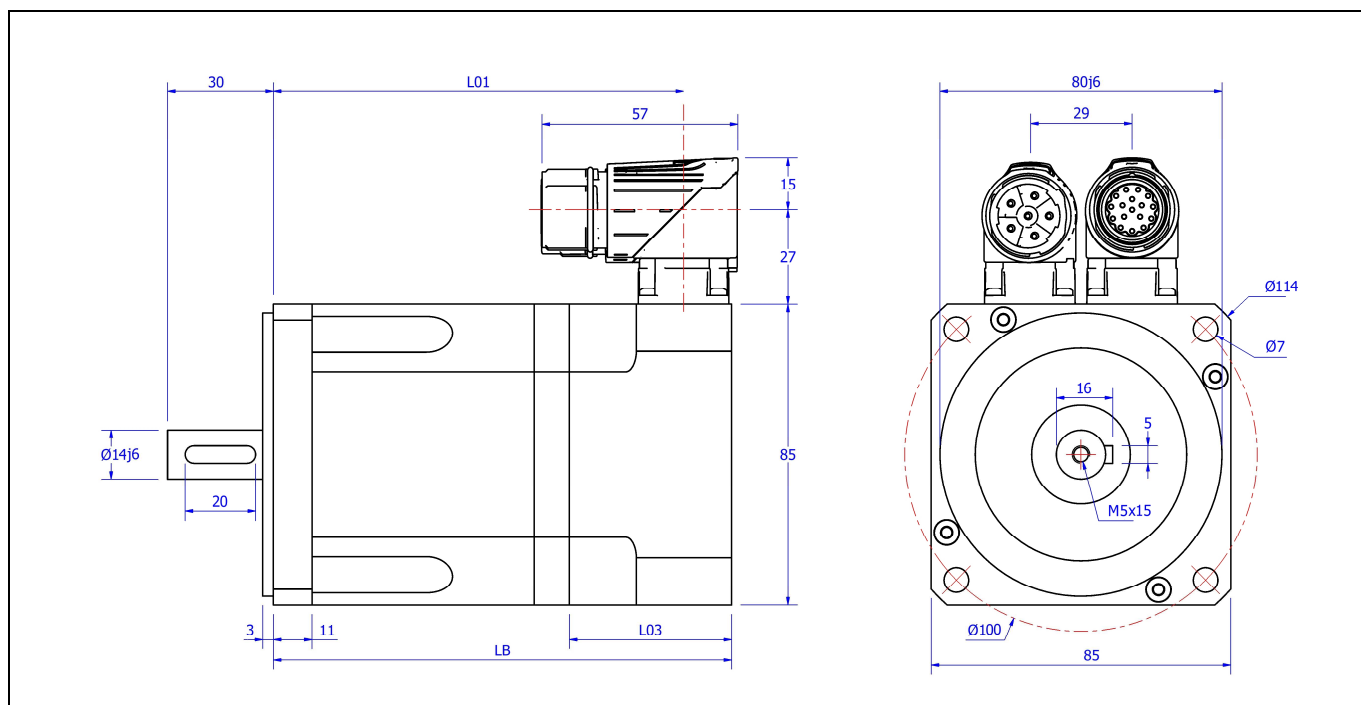
Their main characteristics are :

- Rare earth magnets for high temperatures
- 8 Poles construction, 85x85 mm
- Sinusoidal BEMF
- Integrated thermal protection with PTC
- Rotatable angled Connectors
- Compact design, low weight
- High protection, smooth surface
- High efficiency

Technical Data

Tab. 1

Description Winding Code	Symbol	Motor	DSM5.31		DSM5.32		DSM5.33		DSM5.34	
		UM	1	2	1	2	1	2	1	2
Stall Torque	M_0	Nm	1,5		2,9		4,2		5,3	
Maximum Torque	M_{pk}	Nm	5,1	4,8	10	10	14	14	18	18
Stall Current	I_0	A	1,65	1,1	3,2	2	4,6	2,9	5,8	3,4
Peak current	I_{pk}	A	6,6	4	13	8	19	12	24	15
Maximum mechanical revs	N_{mec}	min ⁻¹	7000		7000		7000		6000	
Maximum revs @ 230Vac	N_{MAX}	min ⁻¹	3100	1800	3200	1900	3300	2000	3300	1900
Maximum revs @ 400Vac	N_{MAX}	min ⁻¹	6000	3500	6000	3500	6000	3500	5000	3000
Voltage constant	K_E	V/Krpm	55	86	55	88	88	88	55	93
Torque constant	K_T	Nm/A	0,91	1,42	0,91	1,45	0,91	1,45	0,91	1,54
Rotor Inertia	J_R	Kg cm ²	0,92		1,72		2,53		3,33	
Resist. @ 20°C	R_{U-V}	ohm	9	23	3,4	8,3	1,9	5	1,4	4
Induct. @ 1 KHz	L_{U-V}	mH	16	35	7	18	4,5	12	3,5	11
Mass	m	Kg	2,4		3,5		4,6		5,7	



Dimension in mm

Tab. 2

TRANSDUCER	EQI1130, TTL 2048i/g, Resolver, SEL52				SinCos, EKS36			
WORKING DIMENSIONS	LB		L01		LB		L01	
SHAFT - ØD	14	19	14	19	14	19	14	19
DSM5.31	115	125	101	111	130	140	116	126
DSM5.32	145	155	131	141	160	170	146	156
DSM5.33	175	185	161	171	190	200	176	186
DSM5.34	205	215	191	201	220	230	206	216
DSM5.31 BRAKE	163	163	149	149	178	178	164	164
DSM5.32 BRAKE	193	193	179	179	208	208	194	194
DSM5.33 BRAKE	223	223	209	209	238	238	224	224
DSM5.34 BRAKE	253	253	283	283	268	268	254	254

Values of this catalogue are referred to the following conditions:

- Max Temperature ambient 40° C
- Min temperature ambient 0 °C
- Max Altitude 1000 m sl
- F insulation class, materials F e H
- RMS value
- Insulation system conforme UL
- Degree of Protection IP65 (shaft excluding)
- Installation Motor design B5 – V5
- Cooling IC0041
- Typical value, tolerance ±10%
- 100K temperature increase on the winding
- Installation with insulated flange 254x254x8

The following accessories are available on request:

- Gear reducers
- Precision planetary gears reducers
- Low-cost digital drive
- Connectors Cable motor-drive
- Special winding
- Sensorless motor
- Custom shaft
- Application & new design

Value of this catalogue can be changed without notice

Code Composition

1	2	3	4	5	6	7	8	9	10	11	12
D	S	M	5	5	2	2	0	9	5	x	x

Pos. Description

1-3 **Product**

DSM= PM synchronous motor, self cooling

4 **Motor type**

5 **Motor Size**

Size Three

6 **Motor Length**

1= Mo 1,5 Nm

2= Mo 2,9 Nm

3= Mo 4,2 Nm

4= Mo 5,3 Nm

7 **Voltage**

1= Winding code 1

2= Winding code 2

8 **Holding brake**

0= Without brake

1= With holding brake Mb=9 Nm 18W 24 VDC PM Jbr=1,1Kgcm² m=0,8Kg

9 **Feedback**

0= Sensorless

1= Heidenhain Encoder EQI1130 Endat Single turn

4= Encoder 2048 i/g TTL LD + hall

6= Encoder 4096 i/g TTL LD + hall

7= Encoder 1Vpp + position sin-cos

9= Resolver size 15 2p 7V 10KHz

G= Sick encoder SEL52 Hiperface Multi turn

W= Sick encoder EKS36 Hiperface DSL ST no SIL 17bit

Y= Sick encoder EKM36 Hiperface DSL MT no SIL 17bit

Z= Sick encoder SKM36 Hiperface 128i PPT Multi turn

10 **Connection type**

1= Cable glands

7= M23 connectors 90° rotatable

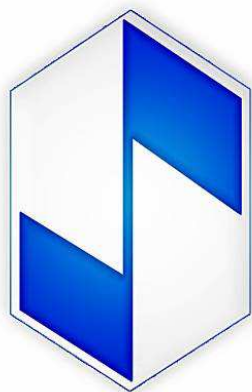
11-12 **Special version**

03=Shaft 19x40 Flange 63B5

66 = IP65 Shaft Protection

90= Thermal protection PT1000

SANGALLI SERVOMOTORI



SANGALLI SERVOMOTORI S.r.l.

Via Federico Rossi, 5
20900 MONZA (MB).

Tell. : 00-39-039-2020322/747

Fax : 00-39-039-2020656

info@sangalliservomotori.it
www.sangalliservomotori.it

- DSM5 Brushless Servomotors
- DSG synchronous PM generators
- Rare earth SC DC servomotors
- DSW water-cooled
- Low-cost solutions
- Planetary gears
- Customised solutions
- Torque motors
- Frameless spindle motors



ISD : E220486

