



AC BRUSHLESS SERVOMOTORS - DSM5.8x



DSM5 - size **EIGHT** Brushless Servomotors are AC PM Synchronous servomotors with 16 poles. They have been designed using the latest generation of magnets and construction techniques to provide very high performance, low cogging and torque ripple. The high number of poles provide very high torque values. The motors can be supplied with resolver or Incremental / absolute encoder.

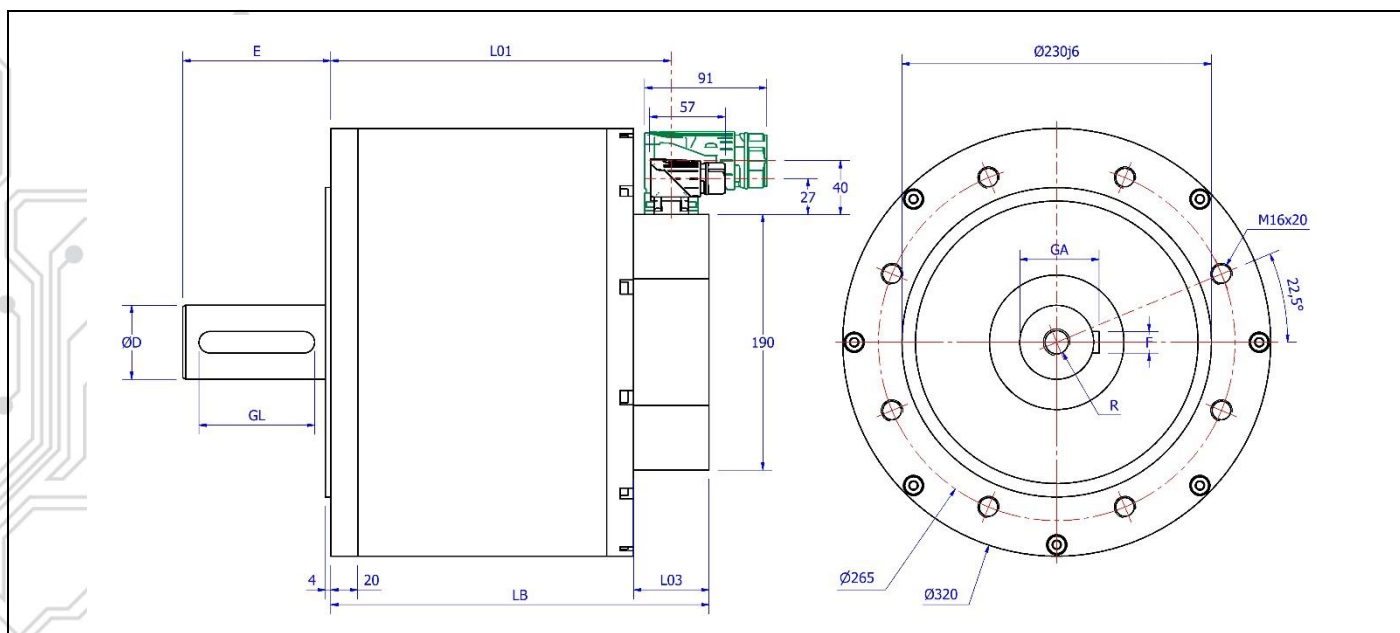
Their main characteristics are:

- Frame size Ø 320mm
- Rare earth magnets for high performance
- 16 pole construction for very high torque density
- Low cogging and torque ripple
- Sinusoidal back EMF
- Integrated PTC thermal protection
- Rotatable connectors
- Compact design
- High IP rating
- Smooth finish

Technical Data

Tab. 1

Description Winding code	Symbol	Motor	DSM5.81		DSM5.82		DSM5.83		DSM5.84	
		Units	1	2	1	2	1	2	1	2
Stall Torque	M ₀	Nm	126		220		320		410	
Maximum Torque	M _{pk}	Nm	320		560		810		1040	
Stall Current	I ₀	A	39	19	46	24	63	33	60	38
Peak current	I _{pk}	A	107	52	128	66	172	91	166	104
Maximum mechanical revs	N _{mec}	min ⁻¹	1700		1700		1700		1700	
Maximum revs @ 230Vac	N _{MAX}	min ⁻¹	1000	450	650	300	600	300	500	300
Maximum revs @ 400Vac	N _{MAX}	min ⁻¹	1500	850	1200	600	1100	600	800	500
Voltage constant	K _E	V/krpm	196	401	288	555	309	586	412	658
Torque constant	K _T	Nm/A	3,24	6,63	4,76	9,18	5,11	9,69	6,81	10,9
Rotor Inertia	J _R	kg cm ²	1130		2220		3310		4410	
Resistance @ 20°C	R _{U-V}	Ohm	0,14	0,5	0,1	0,38	0,08	0,26	0,09	0,24
Inductance @ 1 kHz	L _{U-V}	mH	1,4	5,8	1,5	5,4	1,1	4,1	1,5	3,9
Mass	m	kg	70		110		160		210	



Dimensions in mm

Tab. 2

Feedback device	Resolver, SinCos		
Dimension	LB	L01	L03
DSM5.81	281	253	56
DSM5.82	356	328	
DSM5.83	431	403	
DSM5.84	506	478	
DSM5.81 Brake	341	283	116
DSM5.82 Brake	416	358	
DSM5.83 Brake	491	433	
DSM5.84 Brake	566	508	

Dimensions in mm

Tab. 3

Shaft	Dimension
D	56k6
E	110
GL	90
GA	59
F	16
R	M20 x 30

Values in this catalogue are true for the following conditions:

- Max ambient temperature 40° C
- Min ambient temperature 0 °C
- Max Altitude 1000 m (above sea level)
- Insulation class F (materials F & H)
- RMS values
- Insulation system conforms to UL
- IP65 enclosure protection with shaft seal
- Motor Installation B5 – V5
- Cooling IC410
- Typical tolerance value ±10%
- Continuous ratings apply with a rise of $\Delta T=100K$ on the windings when fitted on an aluminium plate with dimensions 457 x 457 x 15mm

Sangalli reserves the right to amend the specification of this product without prior notification.

PART NUMBER COMPOSITION

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

POS. DESCRIPTION

1-3 Product

DSM = PM synchronous motor, self-cooled
 DSF = PM synchronous motor, forced air-cooled
 DSW = PM synchronous motor, water-cooled

4 Motor type

Series 5

5 Motor size

Size Eight

6 Motor length

1 = Mo 125Nm
 2 = Mo 220Nm
 3 = Mo 320Nm
 4 = Mo 410Nm

7 Voltage

1 = Winding code 1
 2 = Winding code 2

8 Holding brake

0 = No brake
 1 = Spring Brake $24 \pm 6\% V_{DC}$ $M_{br} = 46Nm$ $40W$ $J_{br} = 27,2kgcm^2$ $m=4,5kg$

9 Feedback

7 = Encoder sin-cos 1 Vpp 2048 with CD channels
 9 = Resolver 2p 7V 10KHz

10 Connection type

9 = M40 90° 6 poles power connector / M23 90° feedback connector

11-12 Special version *(Below some examples, for further details please contact our technical support.)*

26 = Smooth Shaft
 66 = IP65 shaft output protection
 90 = Thermal Protection PT1000
 xx = Special Shaft and Flanges (on request)

SANGALLI SERVOMOTORI



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MOTORS & MOTION CONTROL

- **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

