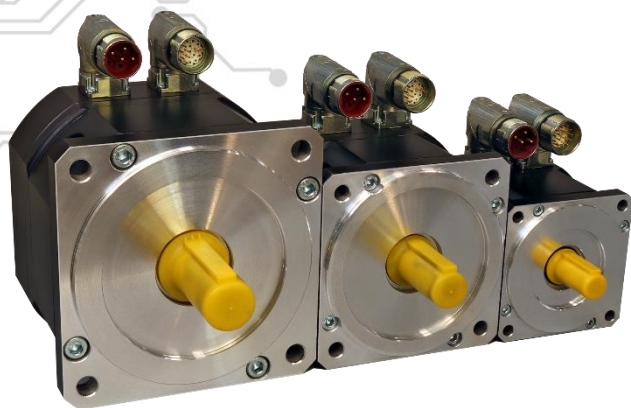




## DSM5 COMPACT - AC BRUSHLESS SERVOMOTORS



**DSM5 - ZERO LENGTH** Brushless Servomotors are AC PM Synchronous servomotors. They have been designed using the latest generation of magnets and construction techniques to provide very high performance, low cogging and torque ripple. Special design features enable extremely low length/Nm making them very compact. They can be supplied with resolver or Incremental / absolute encoder.

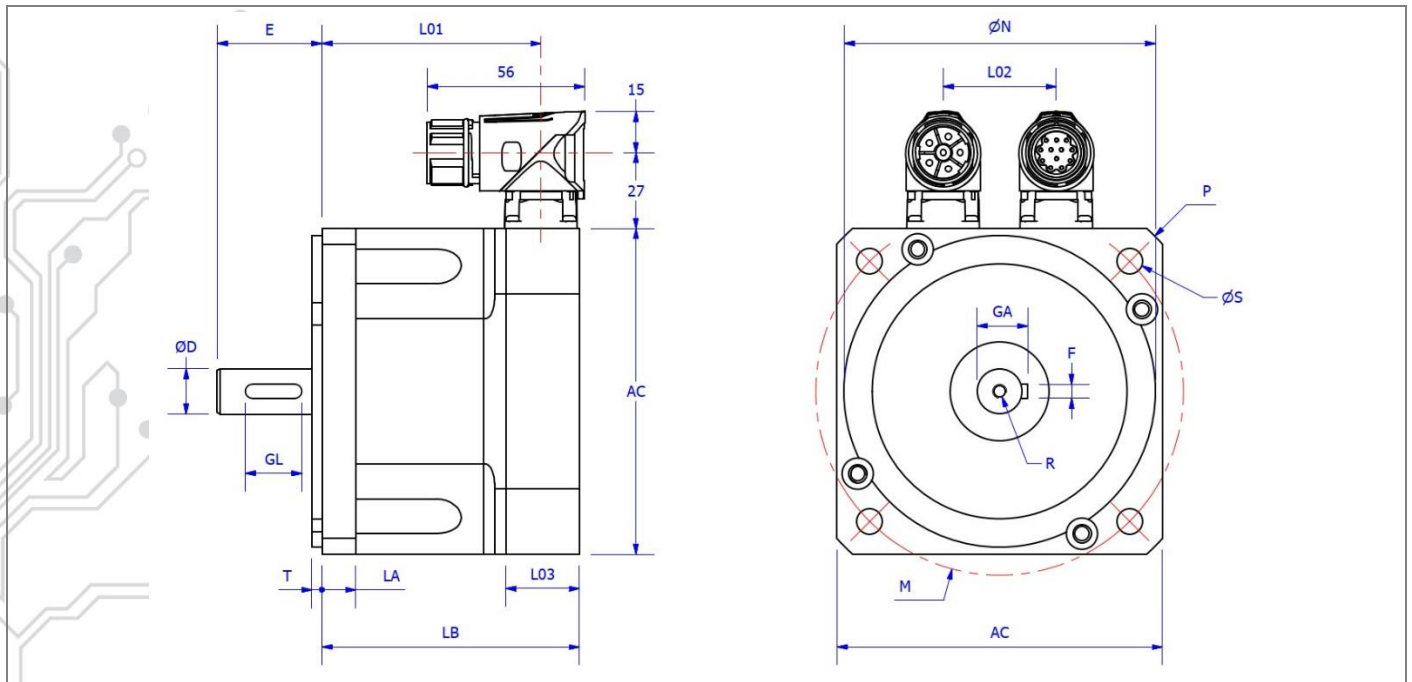
**Their main characteristics are:**

- Frame size 85 to 190mm
- Rare earth magnets for high performance
- 8 pole construction for 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	DSM5.30		DSM5.40		DSM5.50		DSM5.60
		Units	1	2	1	2	1	2	2
<b>Stall Torque</b>	M <sub>0</sub>	Nm	<b>1,0</b>		<b>2,1</b>		<b>5,0</b>		<b>8,0</b>
<b>Maximum Torque</b>	M <sub>pk</sub>	Nm	3,6		7,1		17		21
<b>Stall Current</b>	I <sub>0</sub>	A	1,68	1,08	3,3	2,1	7,4	4,6	6,0
<b>Peak current</b>	I <sub>pk</sub>	A	8,0	5,0	13	9,0	30	19	18
<b>Maximum mechanical revs</b>	N <sub>mec</sub>	min-1	7000		6500		6500		5500
<b>Maximum revs @ 230Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	4500	3000	4500	3000	4500	3000	1300
<b>Maximum revs @ 400Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	6500	5500	6000	5000	6000	5000	3000
<b>Voltage constant</b>	K <sub>E</sub>	V/krpm	36	56	39	61	41	66	80
<b>Torque constant</b>	K <sub>T</sub>	Nm/A	0,6	0,93	0,65	1,01	0,68	1,09	1,32
<b>Rotor Inertia</b>	J <sub>R</sub>	kg cm <sup>2</sup>	0,7		2,8		12		27
<b>Resistance @ 20°C</b>	R <sub>U-V</sub>	Ohm	7,9	19	3,5	8,6	1	2,3	0,6
<b>Inductance @ 1 kHz</b>	L <sub>U-V</sub>	mH	11	25	6,3	16	2,7	6,8	10
<b>Mass</b>	m	kg	2		3,6		6		10



Dimensions in mm

Tab. 2

Motor type		DSM5.30	DSM5.40	DSM5.50	DSM5.60
Without brake	AC	<b>85</b>	<b>115</b>	<b>142</b>	<b>190</b>
	N <sub>J6</sub>	80	110	130	180
	M	100	130	165	215
	P	114	155	190	244
	S	7	9	11	14
	T	3	3,5	3,5	4
	LA	11	12	15	16
	D <sub>J6</sub>	14	19	24	28
	E	30	40	50	60
	R	M5x15	M6x16	M8x16	M10x20
	F	5	6	8	8
	GL	20	32	32	32
	GA	16	21,5	27	31
	<b>LB</b>	<b>87</b>	<b>94</b>	<b>108,5</b>	<b>120</b>
	L01	73,5	80,5	95	106,5
	L02	29	40	40	47
L03	26	26	27	27	
With brake	L01	101,5	124	134,5	143,5
	<b>LB</b>	<b>115</b>	<b>137</b>	<b>148</b>	<b>157</b>

**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 ΔT=100K on the windings when fitted on an aluminium plate with dimensions 254 x 254 x 8mm (size 3) dimensions 305 x 305 x 15mm (size 4) dimensions 457 x 457 x 15mm (size 5,6)

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
<b>D</b>	<b>S</b>	<b>M</b>	<b>5</b>	<b>x</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>x</b>	<b>x</b>

**POS.      DESCRIPTION**

- 1-3    **Product**  
DSM = PM synchronous motor, self-cooled
- 4      **Motor type**  
Series 5
- 5      **Motor size**  
3 = 85mm □ 1Nm  
4 = 115mm □ 2,1Nm  
5 = 142mm □ 5Nm  
6 = 190mm □ 8Nm
- 6      **Motor length**  
0 = Compact Series
- 7      **Voltage**  
1 = Winding code 1  
2 = Winding code 2
- 8      **Holding brake**  
0 = Without brake  
1 = With brake (*contact our support for further details*)
- 9      **Feedback**  
0 = Sensorless  
3 = Heidenhain Encoder EQ11131 Endat Multi Turn 2.2  
4 = Incremental Encoder 2048 PPR + hall  
9 = Resolver 2p 7V 10KHz
- 10     **Connection type**  
1 = Cable gland + cable 30-40 cm  
7 = M23 90° 6 poles power connector / M23 90° feedback  
8 = M17 7 poles power connector / M17 90° feedback
- 11-12 **Special version** (*Below some examples, for further details please contact our technical support.*)  
  
 26 = Shaft without key  
 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

