



## AC BRUSHLESS SERVOMOTORS - DSM5.7x



**DSM5 - size SEVEN** 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. They can be supplied with resolver or Incremental / absolute encoder.

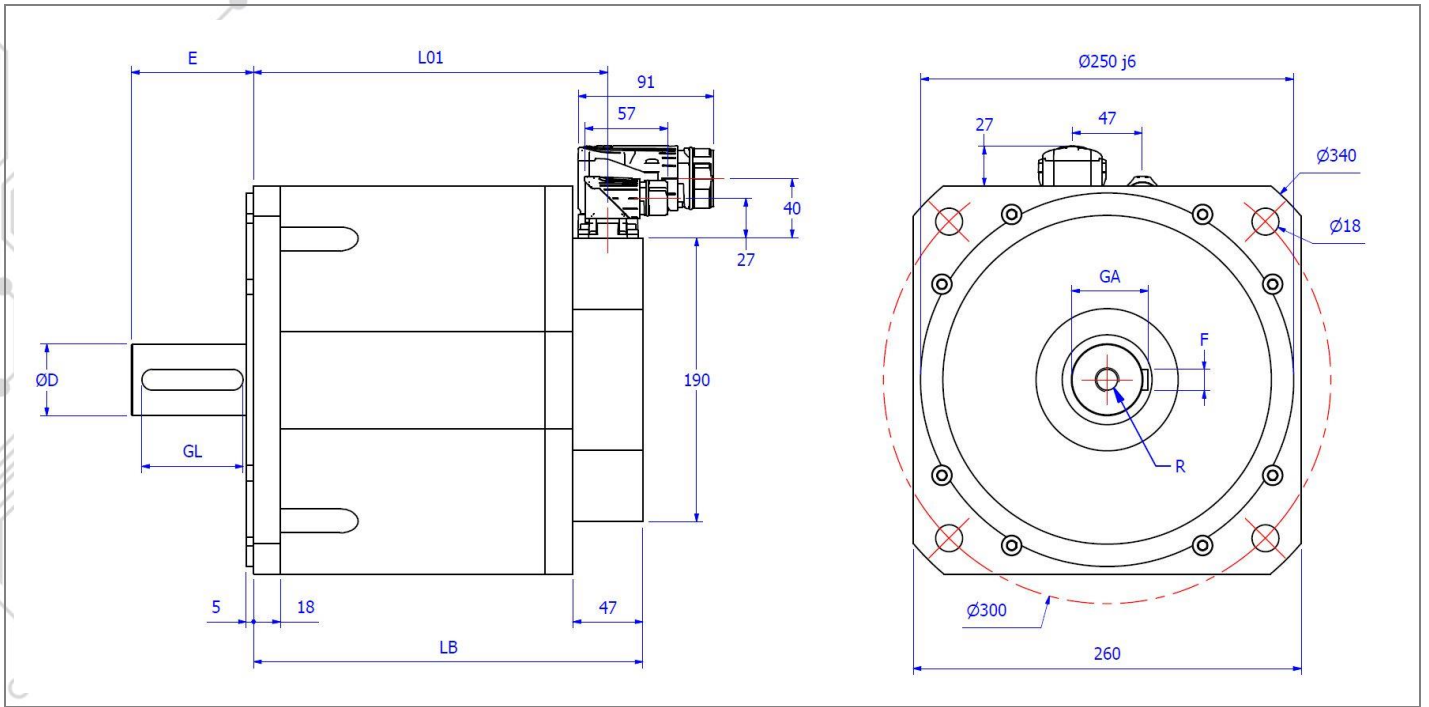
### Their main characteristics are:

- Frame size 260mm
- 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  Units	DSM5.71		DSM5.72		DSM5.73	
			1	2	1	2	1	2
<b>Stall Torque</b>	$M_0$	Nm	<b>76</b>		<b>147</b>		<b>230</b>	
<b>Maximum Torque</b>	$M_{pk}$	Nm	200		405		625	
<b>Stall Current</b>	$I_0$	A	36	25	71	41	103	64
<b>Peak current</b>	$I_{pk}$	A	107	73	216	126	311	194
<b>Maximum mechanical revs</b>	$N_{mec}$	min-1	4000		4000		4000	
<b>Maximum revs @ 230Vac</b>	$N_{MAX}$	min <sup>-1</sup>	1500	1000	1500	900	1400	900
<b>Maximum revs @ 400Vac</b>	$N_{MAX}$	min <sup>-1</sup>	2600	1800	2600	1500	2500	1500
<b>Voltage constant</b>	$K_E$	V/krpm	126	183	126	216	135	216
<b>Torque constant</b>	$K_T$	Nm/A	2,08	3,03	2,08	3,57	2,23	3,57
<b>Rotor Inertia</b>	$J_R$	kg cm <sup>2</sup>	484		941		1398	
<b>Resistance @ 20°C</b>	$R_{U-V}$	Ohm	0,14	0,28	0,05	0,12	0,03	0,08
<b>Inductance @ 1 kHz</b>	$L_{U-V}$	mH	1,5	3,1	0,8	2,2	0,6	1,5
<b>Mass</b>	$m$	kg	50		81		112	



Dimensions in mm

Tab. 2

Feedback device	EQ1130, TTL 2048ppr, Resolver, SinCos, SKM36		
Dimension	LB	L01	L03
<b>DSM5.71</b>	261	214	47
<b>DSM5.72</b>	341	294	
<b>DSM5.73</b>	421	374	
<b>DSM5.71 Brake</b>	314	267	
<b>DSM5.72 Brake</b>	394	347	
<b>DSM5.73 Brake</b>	474	427	

Dimensions in mm

Tab. 3

Dimension	Shaft
D	48k6
E	82
GL	70
GA	51.5
F	14
R	M16 x 25

**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 15 mm

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	7	2	2	0	4	9	x	x

<b>POS.</b>	<b>DESCRIPTION</b>
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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 Seven

6 **Motor length**

1 = Mo 76Nm  
 2 = Mo 145Nm  
 3 = Mo 230Nm

7 **Voltage**

1 = Winding code 1  
 2 = Winding code 2

8 **Holding brake**

0 = Without Brake  
 1 = Permanent Magnet Brake  $24 \pm 6\% V_{DC}$   $M_{br} = 120Nm$   $37W$   $J_{br} = 82,0 kgcm^2$   $m = 13kg$

9 **Feedback**

0 = Sensorless  
 1 = Heidenhain Encoder EQI1130 Endat Multi Turn  
 4 = Incremental Encoder 2048 PPR + hall  
 6 = Incremental Encoder 4096 PPR + hall  
 7 = Encoder sin-cos 1 Vpp 2048 with CD channels  
 9 = Resolver 2p 7V 10KHz  
 W = Sick encoder EKS36 17bit NO SIL, DSL  
 Y = Sick encoder EKM36 18bit Multi turn NO SIL, DSL  
 Z = Sick encoder SKM36 Hiperface 128i PPT Multi turn

*Available on request SIL option on some types of encoders*

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 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

