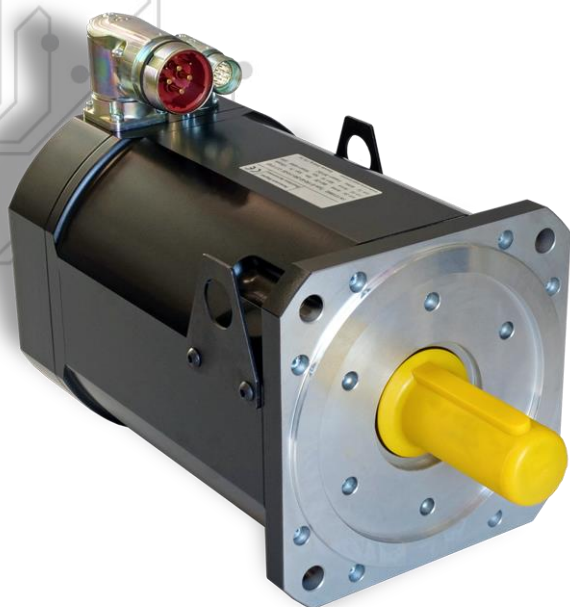




## AC BRUSHLESS SERVOMOTORS - DSM5.6x



**DSM5 - size SIX** 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.

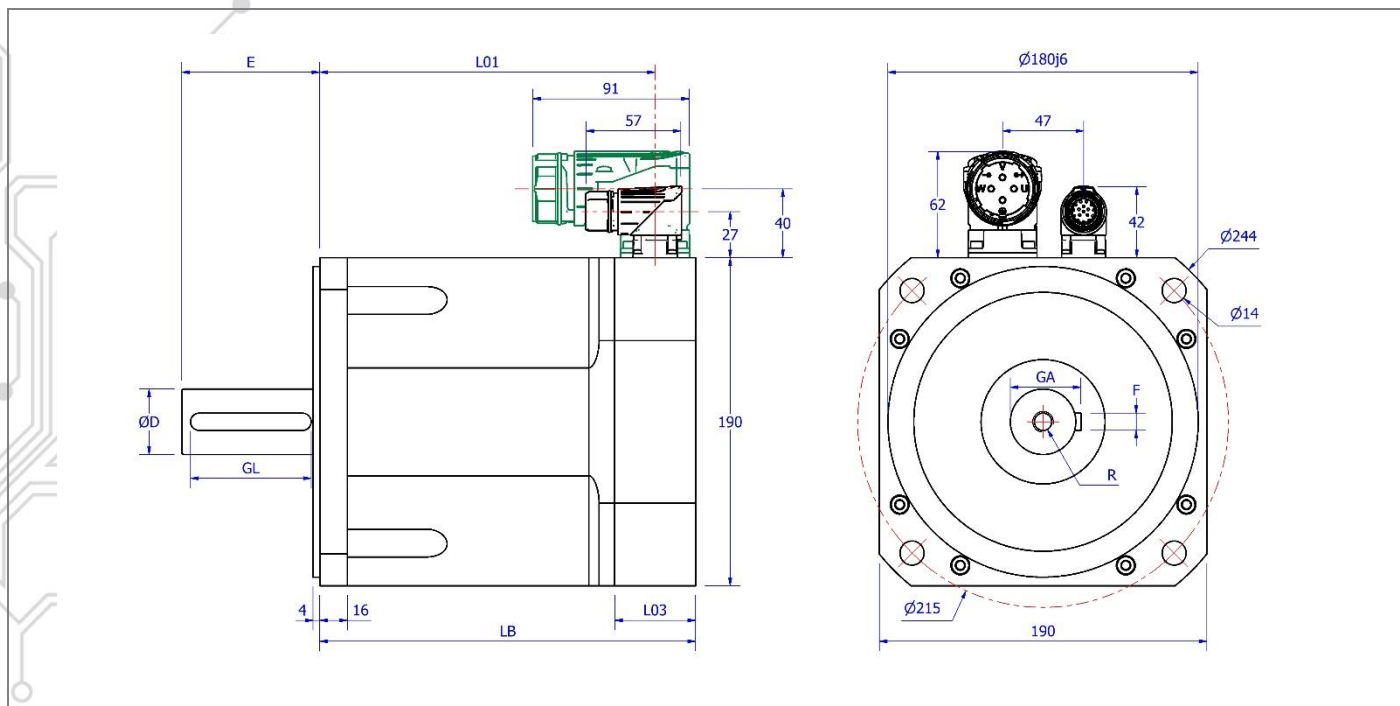
*Their main characteristics are:*

- Frame size 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	Symbol	Motor	DSM5.61		DSM5.62		DSM5.63		DSM5.64	
			1	2	1	2	1	2	1	2
Winding Code		Units								
<b>Stall Torque</b>	M <sub>0</sub>	Nm	<b>15</b>		<b>28</b>		<b>50</b>		<b>70</b>	
<b>Maximum Torque</b>	M <sub>pk</sub>	Nm	40		72		130		180	
<b>Stall Current</b>	I <sub>0</sub>	A	11	9,1	24	13	28	18	39	26
<b>Peak current</b>	I <sub>pk</sub>	A	37	27	72	38	87	55	120	80
<b>Maximum mechanical revs</b>	N <sub>mec</sub>	min-1	5500		5500		4500		4500	
<b>Maximum revs @ 230Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	2300	1800	2400	1300	1800	1100	1800	1200
<b>Maximum revs @ 400Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	4000	3000	4000	2500	3000	2000	3000	2000
<b>Voltage constant</b>	K <sub>E</sub>	V/krpm	79	100	72	134	108	169	108	162
<b>Torque constant</b>	K <sub>T</sub>	Nm/A	1,31	1,65	1,17	2,22	1,79	2,8	1,79	2,68
<b>Rotor Inertia</b>	J <sub>R</sub>	kg cm <sup>2</sup>	54		91		177		264	
<b>Resist. @ 20°C</b>	R <sub>U-V</sub>	Ohm	0,6	0,95	0,26	0,74	0,16	0,36	0,09	0,16
<b>Induct. @ 1 kHz</b>	L <sub>U-V</sub>	mH	3,4	6,5	2,1	5,3	1,3	3,2	0,8	1,8
<b>Mass</b>	m	kg	17		23		36		50	



Dimensions in mm

Tab. 2

Feedback device	TTL 2048 ppr, Resolver			SinCos, SKM36		
	LB	L01	L03	LB	L01	L03
<b>DSM5.61</b>	163	139,5	27	183	159,5	47
<b>DSM5.62</b>	198	174,5		218	194,5	
<b>DSM5.63</b>	288	264,5	47	288	264,5	
<b>DSM5.64</b>	334,5	334,5		334,5	334,5	
<b>DSM5.61 Brake</b>	233,5	210	27	253,5	230	
<b>DSM5.62 Brake</b>	268,5	245		288,5	265	
<b>DSM5.63 Brake</b>	358,5	335	47	358,5	335	
<b>DSM5.64 Brake</b>	428,5	405		428,5	405	

Dimensions in mm

Tab. 3

Shaft	Dimension	
D	32k6	<b>38k6</b>
E	58	<b>80</b>
GL	45	<b>70</b>
GA	35	<b>41</b>
F	10	<b>10</b>
R	M12 x 22	<b>M12 x 28</b>

**Information** Bold data refers to standard version dimensions.

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	6	2	1	0	4	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

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#### Motor type

Series 5

5

#### Motor size

Size Six

6

#### Motor length

1 = Mo 15Nm  
 2 = Mo 28Nm  
 3 = Mo 50Nm  
 4 = Mo 70Nm

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#### Voltage

1 = Winding code 1  
 2 = Winding code 2

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#### Holding brake

0 = Without brake  
 1 = Permanent Magnet Brake  $24 \pm 6\% V_{DC}$   $M_{br} = 72Nm$   $35W$   $J_{br} = 43,6 \text{ kgcm}^2$   $m=6,9kg$   
 2 = Spring Brake  $24 \pm 6\% V_{DC}$   $M_{br} = 50Nm$   $62W$   $J_{br} = 5,04 \text{ kgcm}^2$   $m=5,0kg$

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#### Feedback

0 = Sensorless  
 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 18bit 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*

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#### Connection type

7 = M23 90° 6 poles power connector / M23 90° feedback  
 9 = M40 90° 6 poles power connector / M23 90° feedback connector (Currents >20A)

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#### Special versions *(Below some examples, for further details please contact our technical support.)*

26 = Shaft without key  
 66 = Shaft sealing ring  
 90 = PT1000 Thermal protection  
 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

