



## AC BRUSHLESS SERVOMOTORS - DSM5.4x



**DSM5 - size FOUR** 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.

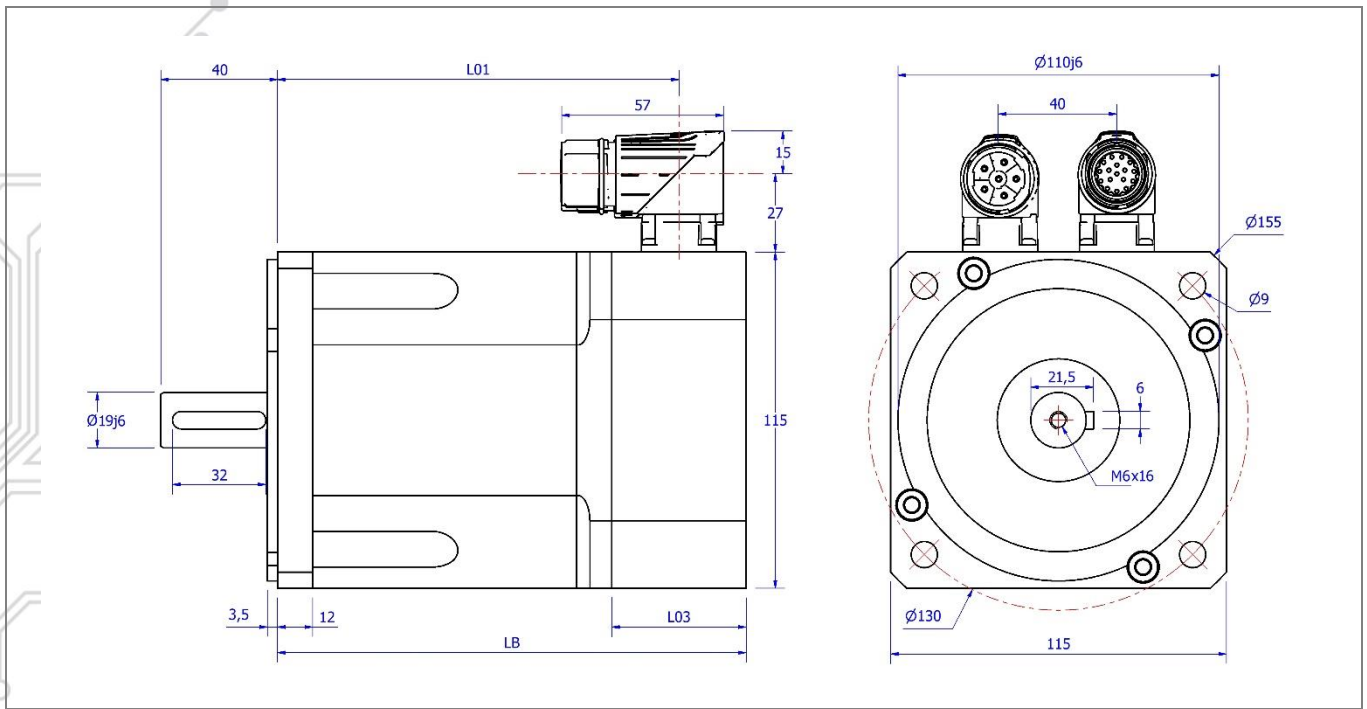
**Their main characteristics are:**

- Frame size 115mm
- 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	DSM5.41		DSM5.42		DSM5.43	
		Units	1	2	1	2	1	2
<b>Stall Torque</b>	M <sub>0</sub>	Nm	<b>4,0</b>		<b>7,6</b>		<b>11,3</b>	
<b>Maximum Torque</b>	M <sub>pk</sub>	Nm	14		26		39	
<b>Stall Current</b>	I <sub>0</sub>	A	4,4	2,5	7,8	4,7	12	7,0
<b>Peak current</b>	I <sub>pk</sub>	A	18	10	31	19	48	29
<b>Maximum mechanical revs</b>	N <sub>mec</sub>	min <sup>-1</sup>	6500		6500		6500	
<b>Maximum revs @ 230Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	3200	1800	3100	1800	3200	1800
<b>Maximum revs @ 400Vac</b>	N <sub>MAX</sub>	min <sup>-1</sup>	6000	3000	5000	3000	5000	3000
<b>Voltage constant</b>	K <sub>E</sub>	V/krpm	55	96	59	98	59	98
<b>Torque constant</b>	K <sub>T</sub>	Nm/A	0,91	1,59	0,98	1,62	0,98	1,62
<b>Rotor Inertia</b>	J <sub>R</sub>	kg cm <sup>2</sup>	5		9,6		14	
<b>Resist. @ 20°C</b>	R <sub>U-V</sub>	Ohm	2,3	6,9	0,95	2,7	0,5	1,5
<b>Induct. @ 1 kHz</b>	L <sub>U-V</sub>	mH	5,6	17,9	3,8	10,7	2,5	6,9
<b>Mass</b>	m	kg	5,6		8,5		11,4	



Dimensions in mm

Tab. 2

Feedback device	EQI1131, TTL 2048ppr, Resolver			SinCos, SKM36		
Dimension	LB	L01	L03	LB	L01	L03
<b>DSM5.41</b>	146,5	123,5	32	160,5	137,5	46
<b>DSM5.42</b>	186,5	163,5		200,5	177,5	
<b>DSM5.43</b>	226,5	203,5		240,5	217,5	
<b>DSM5.41 Brake</b>	195,5	172,5		209,5	186,5	
<b>DSM5.42 Brake</b>	235,5	212,5		249,5	226,5	
<b>DSM5.43 Brake</b>	275,5	232,5		289,5	246,5	

Dimensions in mm

Tab. 3

Shaft	Dimension	
D	<b>19j6</b>	24j6
E	<b>40</b>	50
GL	<b>32</b>	32
GA	<b>21,5</b>	27
F	<b>6</b>	8
R	<b>M6 x 16</b>	M8 x 15

**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 ΔT= 100K on the windings when fitted on an aluminium plate with dimensions 305 x 305 x 15mm

## PART NUMBER COMPOSITION

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

POS.	DESCRIPTION
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1-3	<b>Product</b> DSM= PM synchronous motor, self-cooled
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4	<b>Motor type</b> Series 5
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5	<b>Motor size</b> Size Four
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6	<b>Motor length</b> 1 = Mo 4 Nm 2 = Mo 7,6 Nm 3 = Mo 11,3 Nm
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7	<b>Voltage</b> 1 = Winding code 1 2 = Winding code 2
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8	<b>Holding brake</b> 0 = Without brake 1 = Permanent Magnet Brake 24V <sub>DC</sub> ±6% M <sub>br</sub> =18Nm 24W J <sub>br</sub> = 2,4 kgcm <sup>2</sup> m=1,4kg
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9	<b>Feedback</b> 0 = Sensorless 3 = Heidenhain Encoder EQI1131 Endat Multi Turn 2.2 4 = Incremental Encoder 2048 PPR + hall 6 = Incremental Encoder 4096 PPR + hall 7 = Encoder sin-cos 1 V <sub>pp</sub> 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
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*Available on request SIL option on some types of encoders*

10	<b>Connection type</b> 7 = M23 90° 6 poles power connector / M23 90° feedback
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11-12	<b>Special version</b> <i>(Below some examples, for further details please contact our technical support.)</i> 24 = Shaft 24 x 50 26 = Shaft without key 66 = IP65 Shaft Protection 90 = Thermal protection PT1000 xx = Special Shaft and Flanges (on request)
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# SANGALLI SERVOMOTORI



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## **MOTORS & MOTION CONTROL**

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ISD : E220486

