



AC brushless Servomotors DSM5.5x



DSM5 size Five Brushless Servomotors are AC PM Synchronous servomotors. They have been designed using 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.

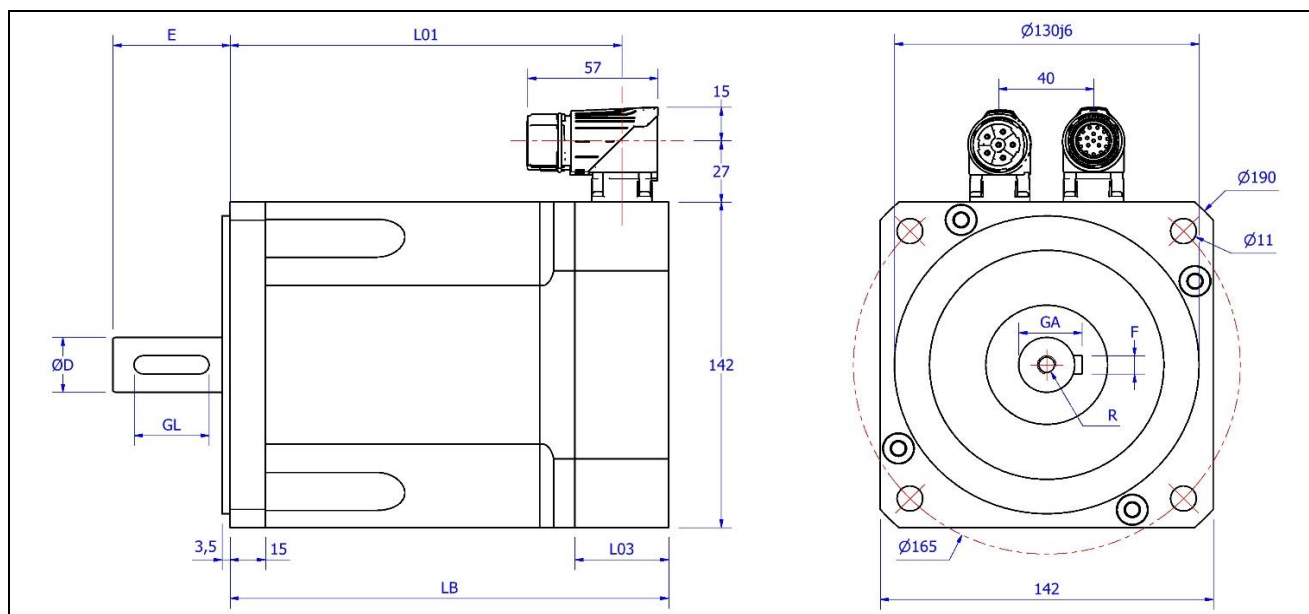
Their main characteristics are:

- Frame size 142mm
- 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	DSM5.51		DSM5.52		DSM5.53		DSM5.54	
		UM	1	2	1	2	1	2	1	2
Stall Torque	M_0	Nm	10		19		27		35	
Maximum Torque	M_{pk}	Nm	36	34	65	66	93	93	119	118
Stall Current	I_0	A	10,5	6,5	16	12,3	21	15,4	25	20
Peak current	I_{pk}	A	42	26	64	50	84	62	100	80
Maximum mechanical revs	N_{mec}	min-1	6500		6500		5500		5500	
Maximum revs @ 230Vac	N_{MAX}	min ⁻¹	3000	1900	2600	2000	2400	1700	2200	1800
Maximum revs @ 400Vac	N_{MAX}	min ⁻¹	5000	3000	4500	3000	4500	3000	4000	3000
Voltage constant	K_E	V/krpm	62	93	72	93	78	106	85	106
Torque constant	K_T	Nm/A	1,02	1,54	1,2	1,54	1,3	1,74	1,4	1,74
Rotor Inertia	J_R	kg cm ²	22		43		65		87	
Resist. @ 20°C	R_{U-V}	Ohm	0,65	1,61	0,34	0,61	0,25	0,46	0,18	0,32
Induct. @ 1 kHz	L_{U-V}	mH	2,6	7	1,9	3,3	1,7	2,7	1,7	1,9
Mass	m	kg	11		16		21		26	



Tab. 2

Feedback device	EQ11130, TTL 2048ppr, Resolver, SEL52			SinCos, EKS36		
Dimension	LB	L01	L03	LB	L01	L03
DSM5.51	174	154	27	187	167	40
DSM5.52	224	204		237	217	
DSM5.53	274	254		287	267	
DSM5.54	324	304		337	317	
DSM5.51 Brake	227,5	207,5		240,5	220,5	
DSM5.52 Brake	277,5	257,5		290,5	270,5	
DSM5.53 Brake	327,5	307,5		340,5	320,5	
DSM5.54 Brake	377,5	357,5		390,5	370,5	

Tab. 3

Shaft	Dimension	
D	24j6	32k6
E	50	58
GL	32	45
GA	27	35
F	8	10
R	M8 x 15	M12 x 22

- Max Temperature ambient 40° C
- Min temperature ambient 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 seal
- Motor Installation B5 – V5
- Cooling IC0041
- Typical tolerance value $\pm 10\%$
- 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	5	2	2	0	9	5	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 Five

6 Motor Length

1 = Mo 10 Nm
2 = Mo 19 Nm
3 = Mo 27 Nm
4 = Mo 35 Nm

7 Voltage

1 = Winding code 1
2 = Winding code 2

8 Holding brake

0 = Without brake
1 = With holding brake Mb = 40 Nm - 22 W - 24 VDC PM - Jb = 10 kgcm² - mb = 1,4 kg

9 Feedback

0 = Sensor-less
1 = Heidenhain encoder EQI1130 EnDat multi-turn
4 = Encoder 2048ppr TTL LD + hall sensors
6 = Encoder 4096ppr TTL LD + hall sensors
7 = Encoder 1Vpp + position sin-cos
9 = Resolver size 15 2p 7V 10KHz
G = Sick encoder SEL52 Hiperface multi-turn
W = Sick encoder EKS36 Hiperface DSL single-turn no SIL 17bit
Y = Sick encoder EKM36 Hiperface DSL multi-turn no SIL 17bit
Z = Sick encoder SKM36 Hiperface 128ppr multi-turn

10 Connection type

7 = M23 connectors 90° rotatable
9 = M40 connectors 90° rotatable I > 20A, feedback M23

11-12 Special Version

26 = Smooth Shaft
32 = Shaft 32 x 58
66 = IP65 Shaft Protection
90 = Thermal Protection PT1000

SANGALLI SERVOMOTORI



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- 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

