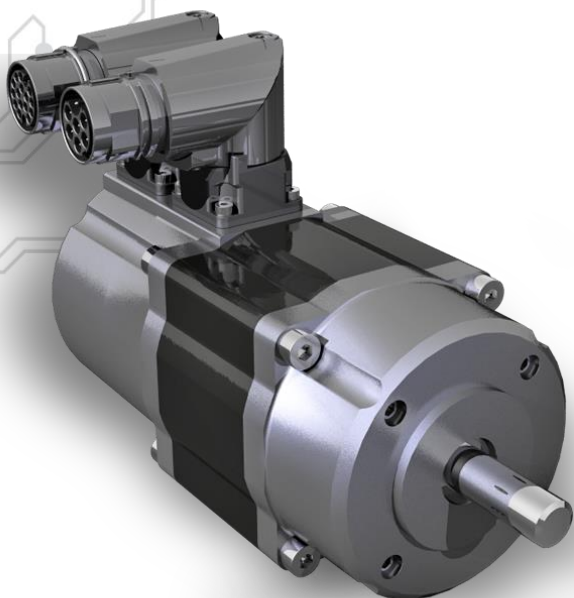




## AC BRUSHLESS SERVOMOTORS - DSM5.1x



**DSM5 - size ONE** Brushless Servomotors are AC PM Synchronous servomotors. They have been designed using the latest generation of magnets and construction techniques to provide cost effective performance. They can be supplied with resolver or Incremental / absolute encoder.

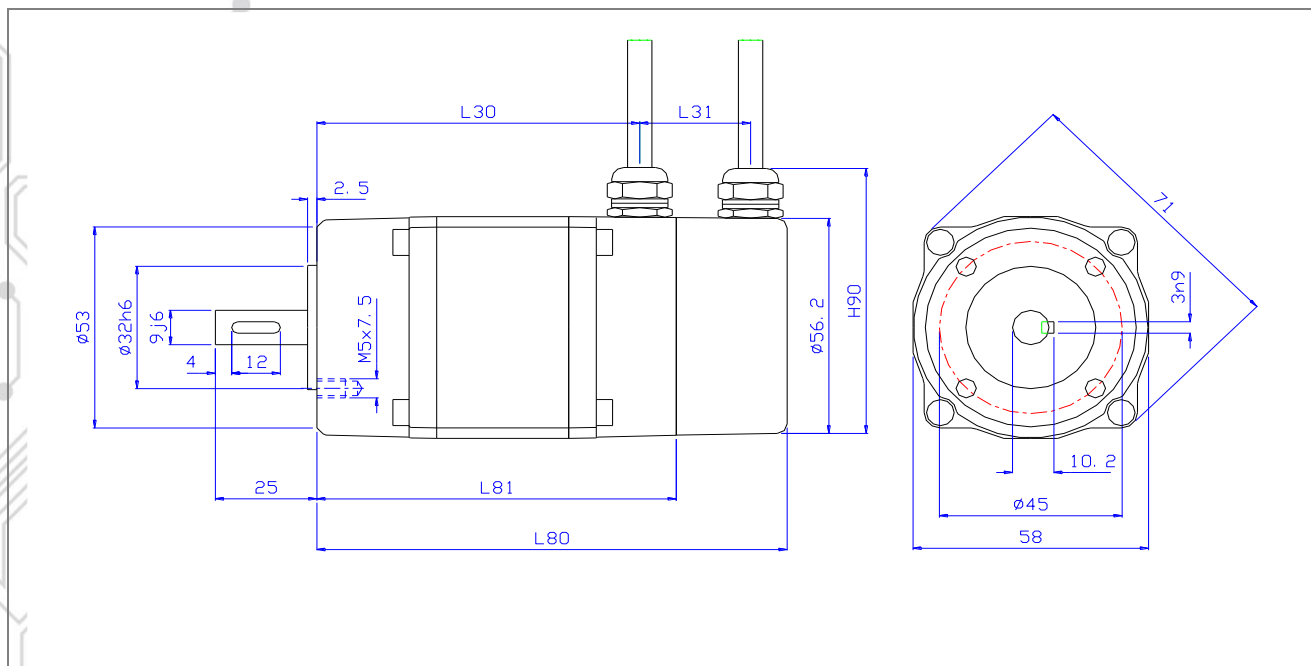
### Their main characteristics are:

- Rare earth magnets for high performance
- 4 Poles construction for lower cost
- 58 x 58 mm frame size
- Sinusoidal Back EMF
- Integrated PTC thermal protection
- Flying lead or connector termination
- Compact design, low weight
- High IP rating
- smooth surface
- High efficiency

Technical Data

Tab. 1

Description  Winding code	Symbol	Units	DSM5.11			DSM5.12			DSM5.13		
			1	3	4	1	2	3	1	2	3
<b>Standstill Torque</b>	$M_0$	Nm	<b>0,24</b>			<b>0,45</b>			<b>0,9</b>		
<b>Max Voltage</b>	$U_{MAX}$	V	179	47	24	188	335	47	183	336	50
<b>Standstill Current</b>	$I_0$	A	0,67	2,6	4,8	0,94	0,46	3,3	1,8	1	6,4
<b>Nominal Current</b>	$I_N$	A	0,56	2,1	4	0,84	0,42	3	1,6	0,89	5,9
<b>Nominal Torque</b>	$M_N$	Nm	0,2			0,4			0,7		
<b>Nominal Power</b>	$P_N$	W	100			160			280		
<b>Nominal Speed</b>	$N_N$	min <sup>-1</sup>	5.000			4.000			4.000		
<b>Maximal Speed</b>	$N_{MAX}$	min <sup>-1</sup>	6.000			5.000			5.000		
<b>Peak Current</b>	$I_{MAX}$	A	2,7	11	19	4	2	14	7,5	4,2	27
<b>Voltage constant</b>	$K_E$	V/Krpm	22	5,8	3	30	56	7,6	31	57	8,5
<b>Torque constant</b>	$K_T$	Nm/A	0,36	0,1	0,05	0,5	0,94	0,13	0,51	0,94	0,14
<b>Rotor Inertia</b>	$J_R$	Kg cm <sup>2</sup>	0,094			0,17			0,32		
<b>Resistance @ 20°C</b>	$R_{U-V}$	ohm	24	1,6	0,42	14	49	0,96	5,5	18	0,46
<b>Inductance @ 1 KHz</b>	$L_{U-V}$	mH	32	2,1	0,6	27	80	1,5	11	40	0,9
<b>Mass</b>	$m$	Kg	0,62			1,02			1,68		



Dimension in mm

Tab. 2

Motor Type	DSM5.11		DSM5.12		DSM5.13	
	Res/enc	Brake	Res/enc	Brake	Res/enc	Brake
Feedback/Brake						
L80	96	na	116	152	156	192
L81	71		91		131	
L30	60		80		120	
L31	24	na	24	62	24	62
H90	70		70		70	
Cable lenght			300			
Fr @3000rpm [N]			180			
Fa @3000rpm [N]			60			

**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)
- F insulation class (materials F & H)
- RMS values
- Installation on an aluminium flange
- Degree of Protection IP44 (shaft excluded)
- Installation Motor design B14 – V18 –V19
- Cooling IC410
- Typical tolerance value ±10%
- Continuous ratings apply with a rise of ΔT=100K

**The following accessories are available on request:**

- Gear reducers
- Precision planetary gears reducers
- Digital Drive
- Low-cost digital drive
- Complete cable sets (motor to drive)
- Special windings
- Sensor-less motor
- Custom shaft
- Application specific customization
- Holding brake

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>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>3</b>	<b>x</b>	<b>x</b>

<b>POS.</b>	<b>DESCRIPTION</b>
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1-3	<b>Product</b> DSM= PM synchronous motor, self cooling
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4	<b>Motor type</b> Series 5
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5	<b>Motor size</b> Size One
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6	<b>Motor length</b> 1= Mo 0,24 Nm 2= Mo 0,45 Nm 3= Mo 0,90 Nm
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7	<b>Voltage</b> 1= Winding code 1 2= Winding code 2 3= Winding code 3 4= Winding code 4
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8	<b>Holding brake</b> 0= Without brake
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9	<b>Feedback</b> 0 = Sensorless 4 = Incremental Encoder 2048 PPR + hall 5 = Incremental Encoder 1024 PPR + hall 9 = Resolver 2p 7V 10KHz
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10	<b>Connection type</b> 0 = Cable gland + free wires 30-40 cm 1 = Cable gland + cable 30-40 cm 8 = M17 7 poles power connector / M17 90° feedback
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11-12 **Special version** *(Below some examples, for further details please contact our technical support.)*

90= Thermal protection PT1000  
xx = Special version 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

