



## Frameless Spindle & Torque Motor

New series of **FRAMELESS SPINDLE & TORQUE MOTOR** are particularly suitable for Direct Drive applications. As we know with this solution it is possible to achieve impossible results with traditional solutions as, very high efficiency, less noise, mechanical simplification, increased rigidity and higher performances.

They are produced with the best materials aligned with market standards with a price/quality ratio particularly attractive.

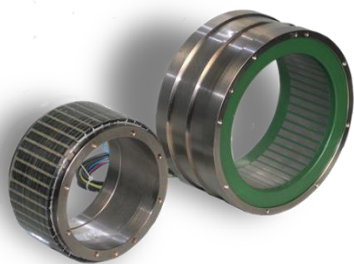
### Spindle Motors Main Features



- SPM (surface mount), IPM (buried magnet design or IM (squirrel cage)
- High Field weakening ratio
- High speed applications
- High torque applications
- Encapsulated stator windings
- Designed for natural ventilation, forced air or water cooling
- Available also with cooling jacket

<i>Description</i>		<i>Series Name</i>		<b>DSx</b>	<b>Dlx</b>	<b>DAx</b>
		-	-			
<b>Rotor Type</b>	-	-		SPM	IPM	Squirrel Cage
<b>Outer Diameter</b>	<b>D3</b>	mm		38÷180	135÷170	90÷240
<b>Rated Torque</b>	<b>M<sub>n</sub></b>	Nm		0,2÷130	15÷120	2÷120
<b>Poles number</b>	<b>2p</b>	-		4-6-8	6	4-6-8
<b>Maximum speed</b>	<b>N<sub>max</sub></b>	rpm		670	1000	1000
<b>Maximum Speed</b>	<b>N<sub>max</sub></b>	rpm		12000	20000	25000

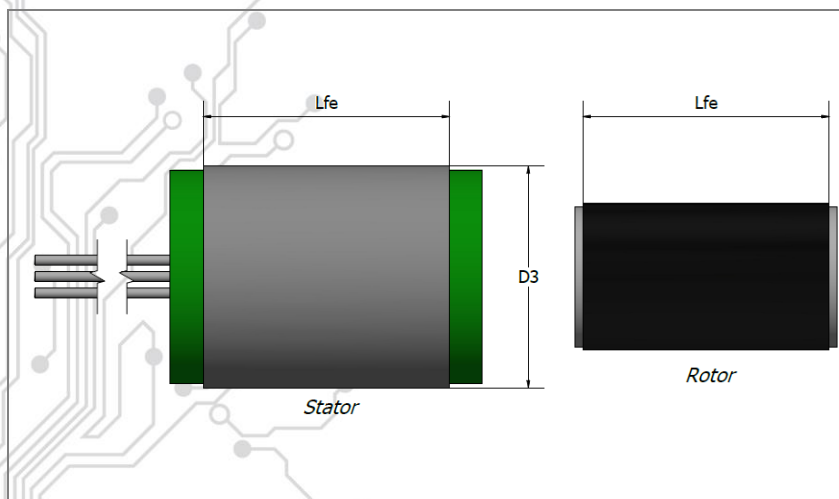
### Torque Motors Main Features



- 8÷44 Poles construction
- Sinusoidal Fcem
- Integrated thermal protection
- Compact design, low weight
- High efficiency
- Low cogging
- Available also with cooling jacket

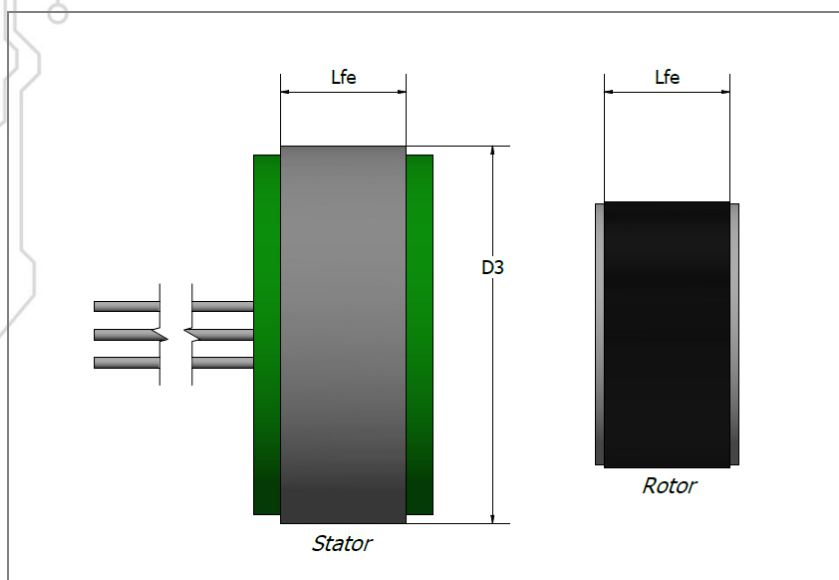
<i>Description</i>		<i>Series Name</i>		<b>DSx</b>
		-	-	
<b>Rotor Type</b>	-	-		SPM
<b>Outer Diameter</b>	<b>D3</b>	mm		38÷560
<b>Rated Torque</b>	<b>M<sub>n</sub></b>	Nm		0,2÷5500
<b>Poles number</b>	<b>2p</b>	-		8÷44
<b>Maximum speed</b>	<b>N<sub>max</sub></b>	rpm		200
<b>Maximum Torque</b>	<b>M<sub>pk</sub></b>	Nm		7500

## Spindle Preview Catalogue



Description	D3	Lfe	Mn	Nmax
DSx-38	38	18÷36	0,19÷0,75	10000
DSx-57	57	28÷84	0,7÷4	10000
DSx-80	80	20÷120	1÷9	12000
DSx-106	106.5	20÷120	2÷20	12000
DSx-135	135	25÷200	5÷90	12000
DSx-170	170	20÷210	6÷100	12000
DSx-178	178	20÷210	8÷120	12000
DSx-180	180	25÷200	8÷130	12000
Dlx-135	135	50÷200	8÷60	20000
Dlx-170	170	50÷200	15÷120	20000
DAX-90	90	60÷150	1÷3,3	25000
DAX-127	127	50÷150	5÷20	18000
DAX-178	178	70÷210	15÷45	15000
DAX-240	240	150÷250	70÷220	8000
DAX-270	270	450	300÷600	8000

## Torque Preview Catalogue



Description	D3	Lfe	Mn	Mpk
DSx-38	38	18÷36	0,19÷0,75	0,6-1,3
DSx-57	57	28÷84	0,7÷4	2,4÷6,7
DSx-80	80	20÷120	1÷9	3,6÷18
DSx-106	106.5	20÷120	2÷20	7÷39
DSx-135	135	25÷200	5÷90	17÷120
DSx-170	170	20÷210	6÷100	15÷160
DSx-178	178	20÷210	8÷120	20÷180
DSx-180	180	25÷200	8÷130	20÷200
DSx-210	210	70	100÷170	260
DSx-250	250	80÷240	70÷500	200÷625
DSx-300	300	75÷300	120÷800	320÷1040
DSx-560	560	300÷500	3500÷5500	4800÷7500

The above tables are intended to give a preview of the available frameless motor sizes and the relative performances.

Please contact our technical support using the contact form below to receive the solution designed for your application.

### Data shown on this catalogue are referred to the following conditions:

- Room Temperature max 40° C
- Room Temperature min. 0 °C
- Altitude max 1000 m asl
- F insulation class, F and H insulating
- Rms value
- Degree of Protection IP00
- Water Cooling Jacket (on request)
- Typical value, tolerance ±10%
- 100K Temperature increase on winding
- Integrated thermal protection

### The following accessories are available on request:

- Feedback high resolution
- Connectors Cable motor-drive
- Special winding
- Application & new design

Data of this catalogue may be changed without notice.

## Nomenclature Breakdown

1 2 3 - 4 5 6 - 7 8 9 - 10 11  
D S W - 1 3 5 - 1 5 0 - x x

### POS. DESCRIPTION

#### 1-2 Product

DS = Frameless SPM Motor  
 DI = Frameless IPM Motor  
 DQ = Frameless IM Motor

#### 3 Cooling Type

M = Natural Ventilation  
 F = Forced Air  
 W = Water

#### 4-6 Stator Outer Diameter

*Check the table above for references about core length and performances*

#### 7-9 Motor Core Length

*Check the table above for references about core length and performances*

#### 10-11 Winding Version

xx=custom solution

*Contact our technical support to define the right code for your application.*

## CONTACT FORM

*Fill the needed fields (not all are required), our technical team will assist you in the right choice.*

<b>Motor type</b>	<input type="checkbox"/> SPM Synchronous	<input type="checkbox"/> IPM Synchronous	<input type="checkbox"/> IM Asynchronous Copper Cage	<input type="checkbox"/> IM Asynchronous Aluminium Cage
<b>Motor Application</b>	<input type="checkbox"/> Spindle		<input type="checkbox"/> Torque	
<b>Stator Outer Diameter</b>				
<b>Stator Inner Diameter</b>				
<b>Rotor Inner Hole Diameter</b>				
<b>Max Length</b>				
<b>Rated Torque</b>				
<b>Rated Speed</b>				
<b>Speed Curve Knee</b>				
<b>Peak Torque</b>				
<b>Max Speed</b>				
<b>Cooling Type</b>	<input type="checkbox"/> Natural Ventilation	<input type="checkbox"/> Forced Air	<input type="checkbox"/> Water	
<b>Supply Voltage</b>				

# SANGALLI SERVOMOTORI



## **SANGALLI SERVOMOTORI S.r.l.**

VIA FEDERICO ROSSI, 5

20900 - MONZA (MB) – ITALY

*Subject to the direction and coordination of ESAUTOMOTION SPA*

TEL. 1 : 00-39-039-2020322

TEL. 2 : 00-39-039-2020747

FAX : 00-39-039-2020656

[INFO@SANGALLISERVOMOTORI.IT](mailto:INFO@SANGALLISERVOMOTORI.IT)

[WWW.SANGALLISERVOMOTORI.IT](http://WWW.SANGALLISERVOMOTORI.IT)

## **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

