

## BRUSHLESS NX

**0.45 to 64N.m**

The NX series is the new brushless servo motor range.

The NX series brushless servo motors are characterized by a 10-pole innovative design for highest quality of motion, improved torque density and a compact and robust design.

With a large choice of torque and speed and an economical design, the NX series is the ideal solution for servo application.



**230V AND 400V POWER SUPPLY**

**MOTION QUALITY AND HIGH DYNAMIC CHARACTERISTICS**

**ROBUST AND COMPACT CONSTRUCTION**

**ROTOR WITH CONCENTRATED-FLUX RARE EARTH MAGNETS**

**10-POLE DESIGN**

**RESOLVER AS STANDARD**

**PROTECTION**

**NX1 TO NX8 : IP64, OPTION IP65**

**CLASS F INSULATION**

**OUTPUT CABLES ON NX1 AND NX2**

**ADJUSTABLE CONNECTORS ON NX2 TO NX8  
CE, UL RECOGNISED (NX3 TO NX6)**

\* NX8V : IP44

### NX Series

Motor	Torque $M_0$ (N.m)	Max Speed (rpm)		Inertia ( $\text{kg.m}^2.10^{-5}$ )
		230V	400V	
NX110EAP	0.45	6000	-	1.3
NX205EAV	0.45	5000	7500	2.1
NX205EAS	0.45	7500	-	2.1
NX210EAT	1	4000	6000	3.8
NX210EAP	1	6000	-	3.8
NX310EAP	2	2300	4000	7.9
NX310EAK	2	4000	-	7.9
NX420EAV	4	-	2000	29
NX420EAP	4	2300	4000	29
NX420EAJ	4	4000	-	29
NX430EAJ	5.5	3200	-	42.6
NX430EAF	5.5	4000	-	42.6
NX430EAV	5.5	-	1000	42.6
NX430EAP	5.5	-	3000	42.6
NX430EAL	5.5	-	4000	42.6
NX620EAV	8	-	2000	98
NX620EAR	8	2200	3900	98
NX620EAJ	8	4000	4500	98
NX630EAV	12	-	1350	147
NX630EAR	12	1450	2700	147
NX630EAK	12	2800	-	147
NX630EAG	12	4000	-	147
NX630EAN	12	-	4000	147
NX820EAL	16	3600	-	320
NX820EAX	16	-	1900	320
NX820EAR	16	-	3900	320
NX840EAJ	28	2200	-	620
NX840EAQ	28	-	2100	620
NX840EAK	28	-	3500	620
NX860EAD	41	2600	-	920
NX860EAJ	41	-	2600	920
NX860VAG <sup>(1)</sup>	64	2000	-	920
NX860VAJ <sup>(1)</sup>	64	-	2600	920

<sup>(1)</sup> Ventilated motor

**CUSTOM SOLUTION**

**WINDING, SHAFT, FLANGE...**

**INCREMENTAL, ABSOLUTE, HIPERFACE  
ENCODER OPTION, ...**

**ATEX 94/9/CE FLAMEPROOF ENCLOSURE  
VERSION**

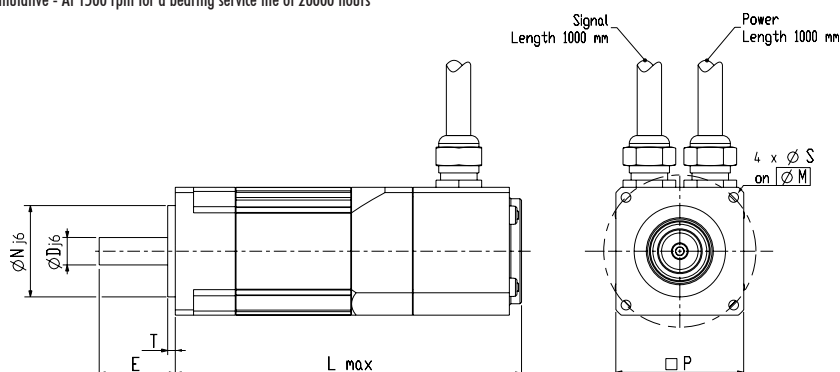
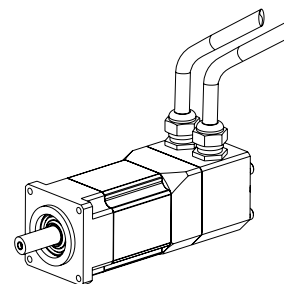
**SERVO MOTOR KIT VERSION**

# SERVO MOTORS

## NX1 and NX2 Dimensions (cable version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake		With brake		Fr* (daN)	Fa* (daN)
								Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX110	30	9	25	2.5	42.5	3.2	50	0.8	110	1	140	15	6.9
NX205	40	11	25	2.5	56.5	5.5	63	0.8	102	1.1	136	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	122	1.6	156	30	16.7

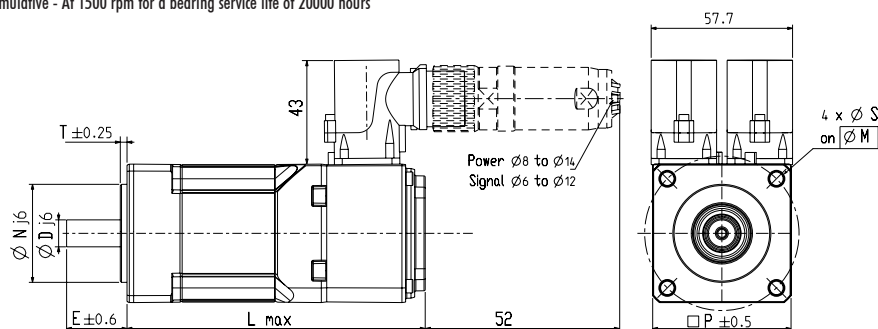
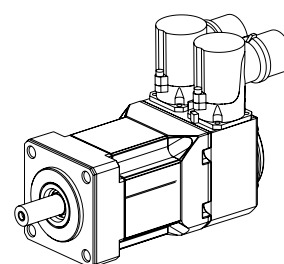
\*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



## NX2 Dimensions (connector version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake		With brake		Fr* (daN)	Fa* (daN)
								Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX205	40	11	25	2.5	56.5	5.5	63	0.8	102	1.1	136	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	122	1.6	156	30	16.7

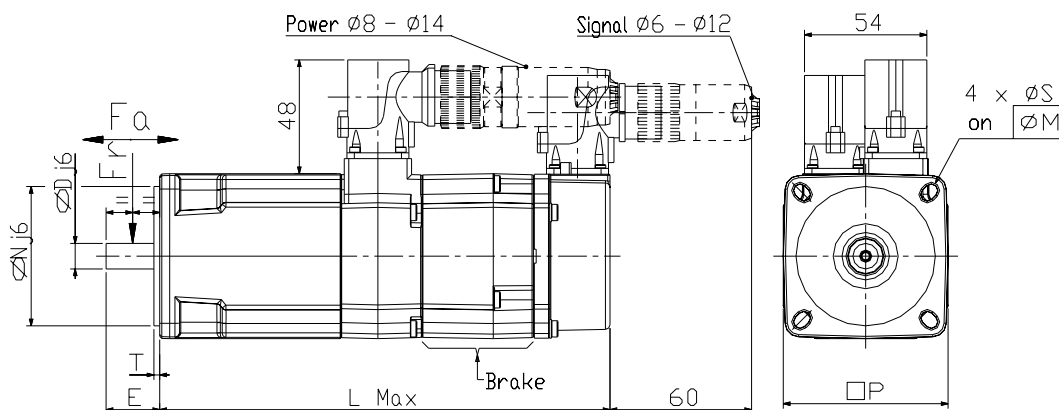
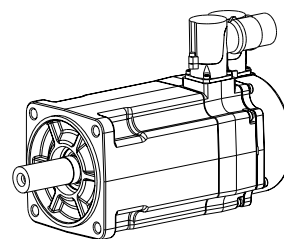
\*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



## NX3, NX4 and NX6 dimensions

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake		With brake		Fr* (daN)	Fa* (daN)
								Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX310	60	11	23	2.5	71	5.5	75-80	2	146	2.4	194	36	20
NX420	80	19	40	3	91.5	7	100	3.7	175	4.5	226	72	24
NX430	80	19	40	3	91.5	7	100	4.6	200	5.4	251	82	24
NX620	110	24	50	3.5	121	9	130	6.9	181	8	236	82	52
NX630	110	24	50	3.5	121	9	130	8.8	210	10	265	86	54

\*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours

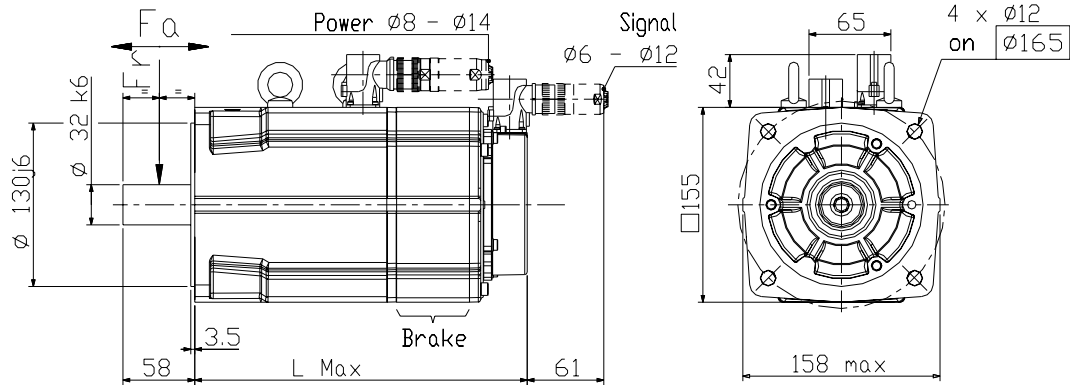
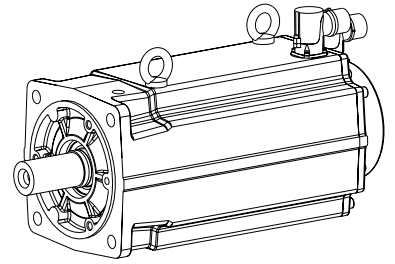


# SERVO MOTORS

## NX8 Dimensions

Motor	No brake		With brake		Fr*	Fa*
	Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX820	13	200	16.5	266	151	28
NX840	20	260	23.5	326	165	33
NX860	27	320	30.5	386	172	37

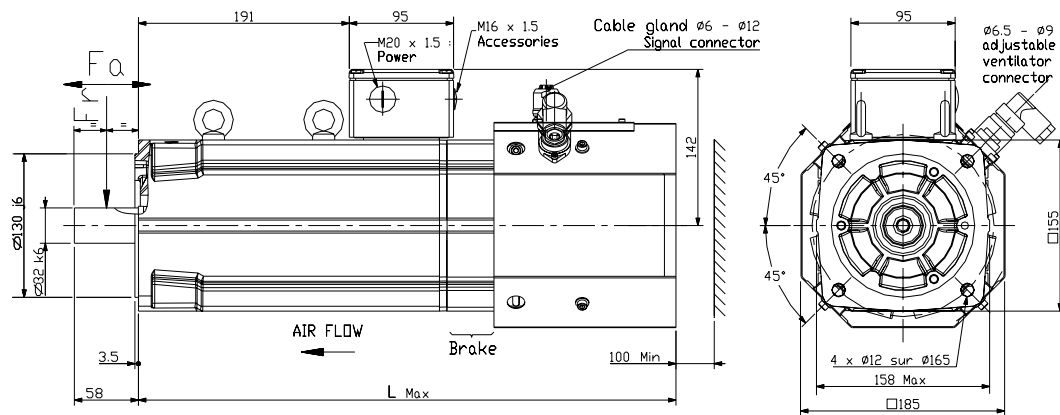
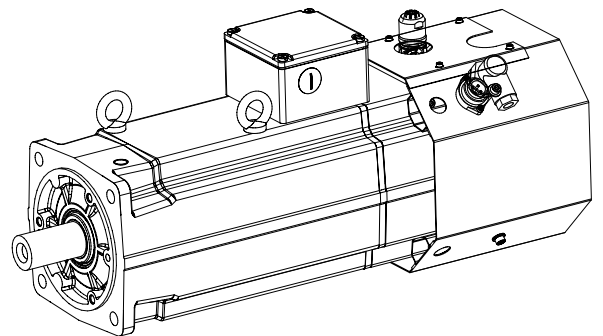
\*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



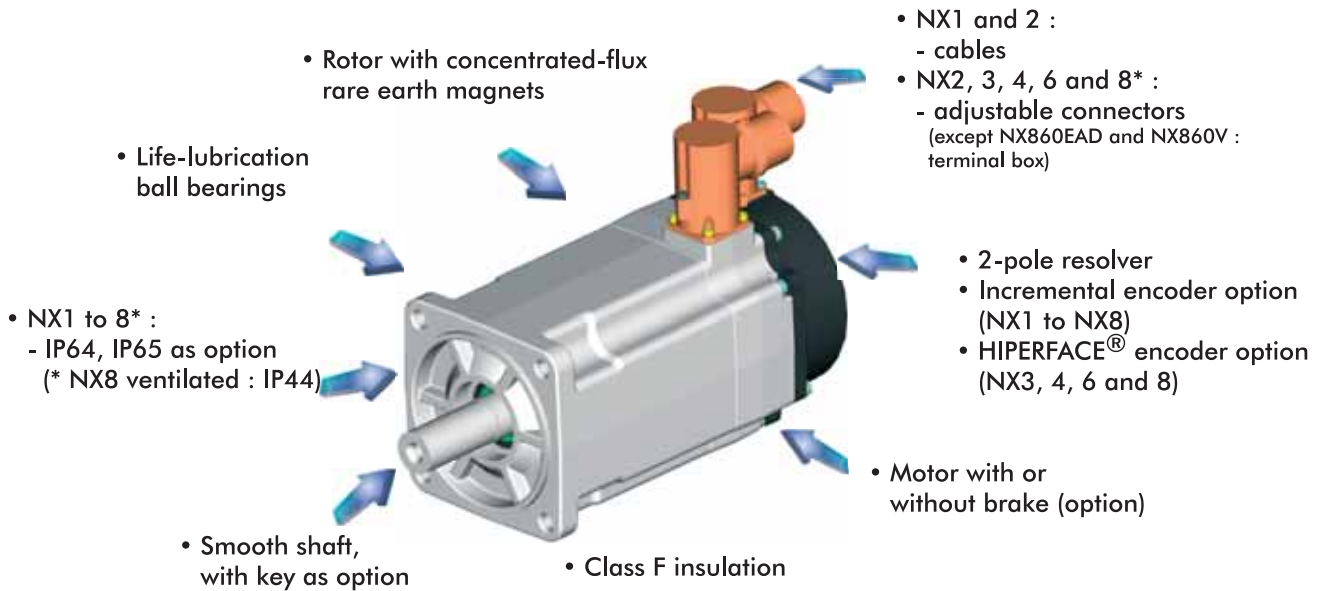
## NX8 dimensions (Ventilated version)

Motor	No brake		With brake		Fr*	Fa*
	Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX860V	30.5	424	34	490	172	37

\*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



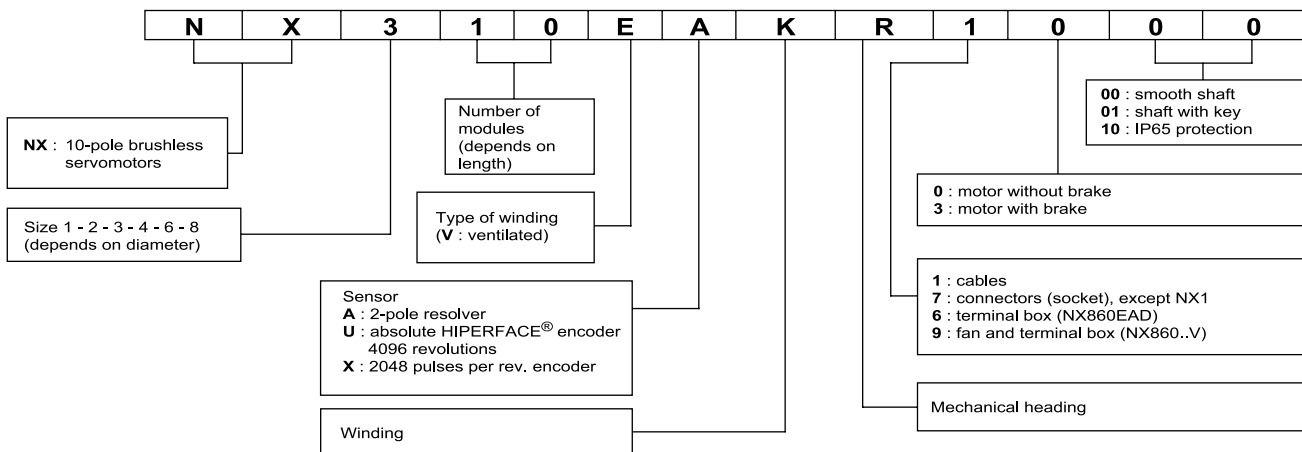
## NX SERIES : A ROBUST AND SECURE CONSTRUCTION FOR HIGH LEVEL PERFORMANCES



(1) : NX3 to NX6



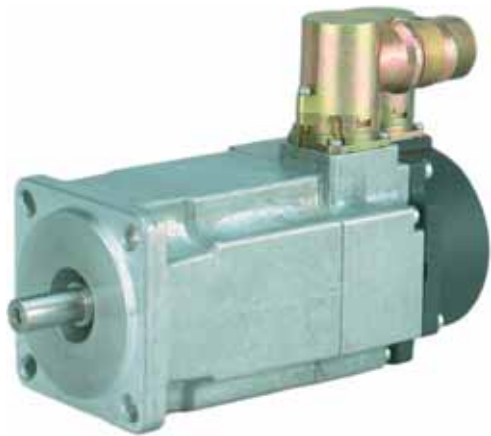
## NX SERVO MOTOR CODIFICATION



## HIPERFACE® ENCODER OPTION For NX size 3 to 8

The HIPERFACE® encoder is a mixture of an absolute encoder (single or multiturn) and of an incremental encoder of sine/cosine type.

Absolute position is sent via an RS485 connection at power-on; then position is incrementally counted from this absolute position by using sine/cosine signals.



SinCos HIPERFACE® encoder :

- Absolute position within 4096 revolutions
- 15 bits absolute position resolution on one rev.
- 1024 sine / cosine signals per rev.

With 637f Drive:

- Incremental encoder resolution : 16 bits (65536 points/rev)
- Maximum speed 6000 rpm
- Speed ripple :  $\approx 0.3\%$  at 4000 rpm
- Maximum position error :  $\pm 45$  arc sec

### MOUNTING OF STEGMANN SRM50 HIPERFACE® ENCODER ON NX3 TO NX8

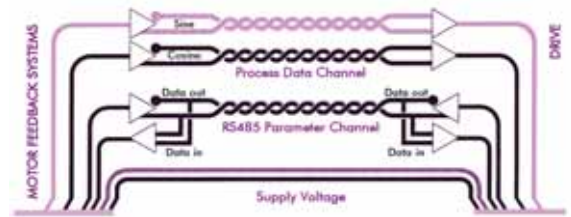
**ABSOLUTE POSITION WITHIN  
4096 REVOLUTIONS**

**ABSOLUTE POSITION RESOLUTION :  
15 BITS PER REVOLUTION**

**SINE/COSINE SIGNALS :  
1024 CYCLES PER REVOLUTION**

**ON NX3 TO NX8 MOTORS, SAME  
TORQUE, SPEED AND INERTIA AS FOR THE  
RESOLVER MOUNTING**

### HIPERFACE® ENCODER PRINCIPLE

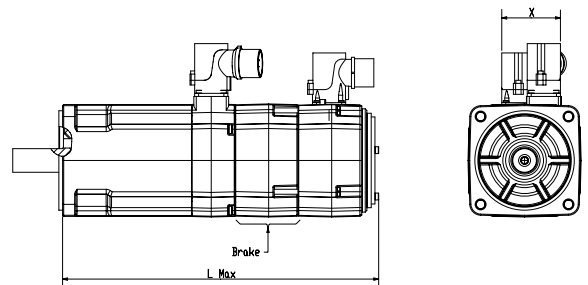


Extract from STEGMANN documentation

RS485 channel : parameter channel

- Encoder parameter setting
- Initial absolute position sent at power-on
- Sine / cosine : process data channel
- Analog sine / cosine signals with 1024 cycles per rev.
- Conversion of sine / cosine signals to incremental signals done inside drive

### NX DIMENSIONS WITH HIPERFACE® ENCODER



### NX dimensions with hipерface

Motor	L		X (mm)
	No brake (mm)	With brake (mm)	
NX310	173	199	44
NX420	205	256	47.5
NX430	230	281	47.5
NX620	214	268	55
NX630	243	297	55
NX820	236	282	65
NX840	296	342	65
NX860	356	402	65

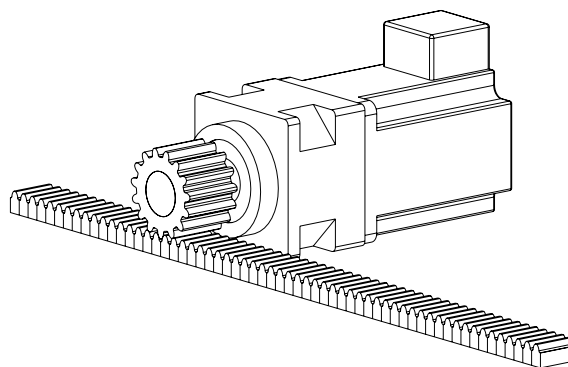
Other dimensions unchanged compared to resolver mounting

## MECHANICAL AND ELECTRICAL ADAPTATIONS

Based on standard offer

As a servo motor specialist, SSD Drives Parvex has developed its organization and know-how to adapt its standard motors for OEM and machine builders :

- **Mechanical adaptations** : shaft, flange, nema flange, housing, ...
- **Electrical adaptations** : speed, speed/torque, voltage, winding, ...
- **Specific sensor mounting** : Endat, Hiperface, incremental encoder, absolute encoder, hall effect sensor, ...
- **Motor accessories** like gearboxes, cables, connectors, ...



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**ELECTRICAL ADAPTATIONS**

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**MECHANICAL ADAPTATIONS**

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**SPECIAL WINDINGS**

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**SPECIFIC FEEDBACK SENSORS**

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**GEARBOXES**

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