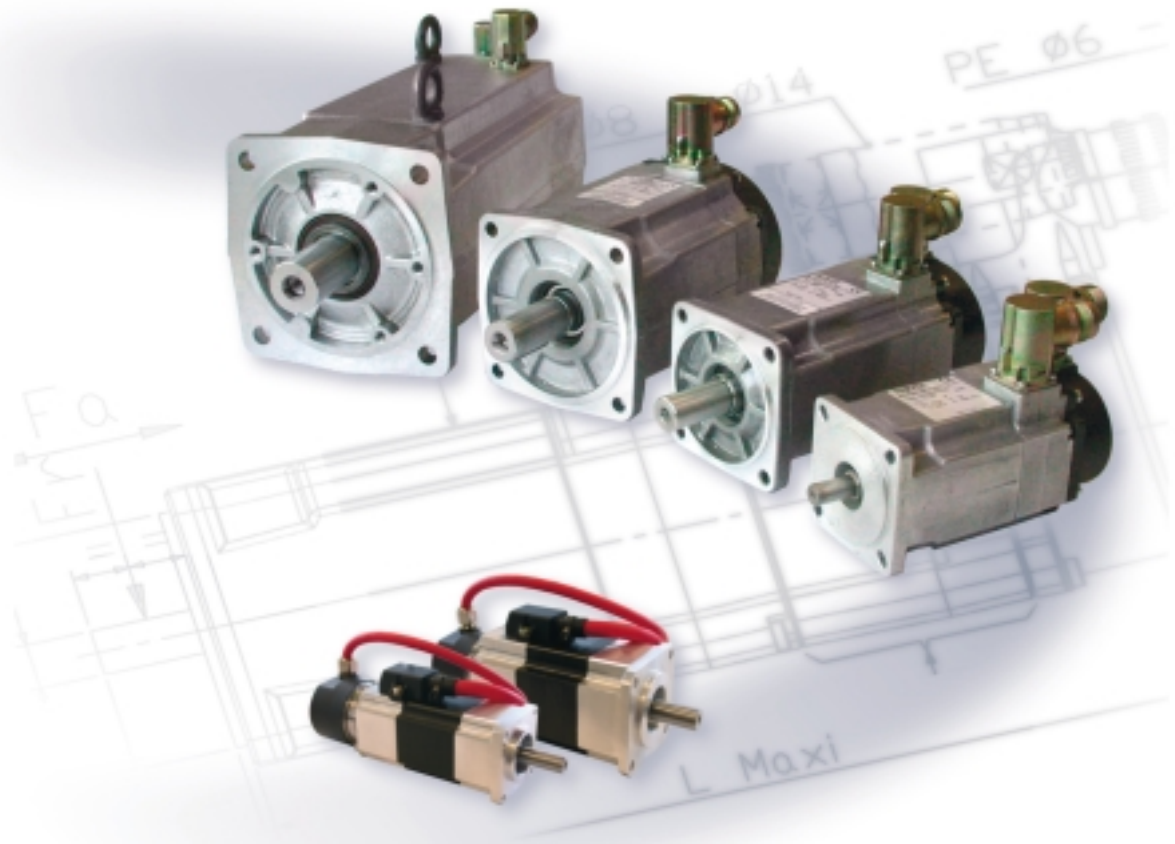




formerly
EUROTHERM DRIVES



- **NX Series**
- **LS-HS Series**
- **LX-HX Series**
- **Feedback Options**
- **Special Construction**

BRUSHLESS SERVO MOTORS

PRODUCT SELECTOR

SERVO MOTORS

	0	250 lb-in	500 lb-in	1500 lb-in	3000 lb-in
New range of OEM motors - high dynamic characteristics, robust, compact and economical -	NX Series 4 to 566 lb-in				
Short motor series and with higher inertia for high load inertia matching	LS-HS Series 62 to 274 lb-in				
Motors with very high dynamic characteristics for very demanding applications	LX-HX Series 59 to 2832 lb-in				
	0	40 hp	80 hp	120 hp	160 hp
Synchronous permanent magnet motors for high performance electrospindle applications	HW Series 3.6 to 160 hp				
Synchronous permanent magnet motors for traditional spindle construction	HV Series 5.4 to 60 hp				

CONTENTS

BRUSHLESS SERVOMOTORS

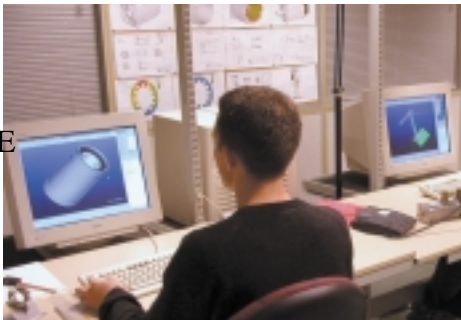
3	About SSD Drives - Parvex	13	NX Series codification
4	NX Series : New generation of servomotors. High quality movement from 3.5 to 566 lb-in	14	LX-HX series : Brushless servo motors with very high dynamic characteristics from 59 to 2830lb-in
8	Resolver Feedback : Standard sensor on NX1 to NX8 motors	16	LS-HS series : Short motor range from 62 to 274 lb-in
9	Incremental encoder option on NX	17	HV-HW series : Permanent magnet spindle and electrospindle motors
10	HIPERFACE® encoder option on NX	18	Mechanical and Electrical Adaptations
11	EX3 series flameproof ATEX motors	19	Custom OEM solutions
12	Servo motors accessories	20	Contacts

SSD DRIVES - PARVEX, A SERVO SYSTEM SPECIALIST

In 1968, the first AXEM motor was manufactured in the factory. Rugged, silent and maintenance-free, It achieves an exceptional regulation of motion at a low speed which established it as a world standard of quality.



Simulation and motor research



Motor mechanical design



Mechanical parts machining



Motor assembling and test

Today, SSD Drives - Parvex is the heir of this long tradition to quality, ISO9001 certification since 1977.

we manufacture a unique range of high quality AC brushless, DC and permanent magnet spindle servomotors and we are recognised for our capacity to develop innovative solutions for an optimum answer to OEM servo system applications.

With more than 30 years experience of servo products, SSD Drives - Parvex develops and produces one of the most extensive range of synchronous brushless servo motors on the market.

SSD DRIVES - PARVEX SERVO MOTORS: A UNIQUE RANGE

The brushless servo range for axis applications, offering torque from 3.5 to 2830 lb-in is particularly adapted for the most demanding machines.

Recently developed and based on advanced research and production means, the NX series are the starting point of a new generation of brushless servo motors :

- High dynamic characteristics
- Motion quality
- Compactness and robustness
- Wide range with large choice of speed and torque

BRUSHLESS NX

4 to 566 lb-in

The NX series is the new brushless servo motor range.

The NX series brushless servomotors 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 OEM servo applications.



CE and UL on NX2 - NX6
CE, Submittal to UL is pending NX8

230V AND 400-460V POWER SUPPLY

MOTION QUALITY

HIGH DYNAMIC CHARACTERISTICS

ROBUST AND COMPACT CONSTRUCTION

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

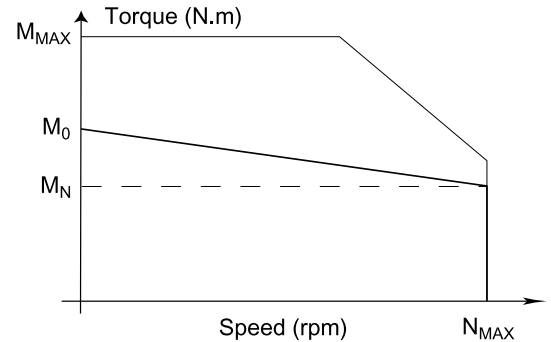
10-POLE DESIGN

2-POLE RESOLVER AS STANDARD

PROTECTION
NX1, NX2 : IP40, OPTION IP64 OR IP65
NX3 TO NX8 : IP64, OPTION IP65

CLASS F INSULATION

ADJUSTABLE CONNECTORS ON NX2 TO NX8



NX characteristics

Motor	Ke peak Ph-Ph (V)	Resistance Ph-Ph 25°C (Ohm)	Inductance Ph-Ph (mH)
NX110EAP	43.1	22.0	26.5
NX210EAP	46.1	7.7	25.3
NX210EAT	68.7	16.3	56.1
NX310EAK	71.9	6.6	20.3
NX310EAP	125.7	20.7	61.9
NX420EAJ	72.7	2.4	11.0
NX420EAP	125.9	7.4	33.0
NX420EAV	250.6	29.4	130.7
NX430EAF	73.2	1.5	6.8
NX430EAJ	92.7	2.3	10.9
NX430EAL	128.5	4.5	21.0
NX430EAP	172.5	7.8	37.8
NX430EAV	344.9	31.1	151.0
NX620EAJ	72.6	0.6	5.5
NX620EAR	135.3	2.2	19.2
NX620EAV	254.1	7.9	67.6
NX630EAG	71.8	0.34	3.5
NX630EAK	101.5	0.67	7.1
NX630EAN	126.2	1.1	10.9
NX630EAR	190.6	2.4	24.9
NX630EAV	381.2	9.2	99.6
NX820EAL	80.4	0.38	3.4
NX820EAX	273.5	4.5	38.7
NX820EAR	128.7	1.0	8.6
NX840EAJ	130.4	0.37	4.3
NX840EAQ	244.4	1.4	15.1
NX840EAK	146.7	0.49	5.4
NX860EAD	110.0	0.16	2.0
NX860EAJ	195.5	0.5	6.4
NX860VAG ⁽¹⁾	146.6	0.29	3.6
NX860VAJ ⁽¹⁾	195.5	0.5	6.4

⁽¹⁾ Ventilated motor

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

BRAKE OPTION

CUSTOM OEM SOLUTIONS

NX Series

230V Power Supply

Motor	M ₀		I ₀	M _n		I _n	N _{max}	M _{max}		I _{max}	Inertia ⁽³⁾	
	(lb-in)	(Nm)	(Arms)	(lb-in)	(Nm)	(A _{rms})	(rpm)	(lb-in)	(Nm)	(A _{rms})	(in-lb.s ²) x 10 ⁻⁴	(kgm ²) x 10 ⁻⁵
NX110EAP	4.0	0.45	1.0	2.9	0.33	0.8	6000	15.2	1.72	3.96	1.2	1.3
NX210EAT	8.9	1	1.3	7.1	0.8	1.1	4000	30.1	3.4	5.35	3.4	3.8
NX210EAP	8.9	1	2.0	5.4	0.61	1.3	6000	30.1	3.4	7.96	3.4	3.8
NX310EAP	17.7	2	1.4	16.8	1.9	1.3	2300	58.4	6.6	5.64	7.0	7.9
NX310EAK	17.7	2	2.5	15.0	1.7	2.1	4000	58.4	6.6	9.85	7.0	7.9
NX420EAP	35.4	4	2.8	33.6	3.8	2.7	2300	119	13.4	11.3	25.7	29
NX420EAJ	35.4	4	4.9	30.1	3.4	4.2	4000	119	13.4	19.6	25.7	29
NX430EAJ	48.7	5.5	5.3	41.6	4.7	4.5	3200	166	18.8	21	37.7	42.6
NX430EAF	48.7	5.5	6.7	38.1	4.3	5.3	4000	166	18.8	26.5	37.7	42.6
NX620EAR	70.8	8	5.3	65.5	7.4	5.0	2200	236	26.7	21.2	86.7	98
NX620EAJ	70.8	8	9.9	54.0	6.1	7.9	4000	236	26.7	39.5	86.7	98
NX630EAR	106	12	5.7	102	11.5	5.5	1450	354	40	22.6	130	147
NX630EAK	106	12	10.6	90.3	10.2	9.2	2800	354	40	42.4	130	147
NX630EAG	106	12	14.9	73.5	8.3	10.7	4000	354	40	59.9	130	147
NX820EAL	142	16	17.5	117	13.2	14.8	3600	443	50	69.1	283	320
NX840EAJ	248	28	18.9	203	22.9	15.7	2200	814	92	74.8	549	620
NX860EAD	363	41	33.0	242	27.4	22.7	2600	1212	137	132	814	920
NX860VAG ⁽¹⁾	566	64	39.2	481	54.4	33.3	2000	1212	137	98.7	814	920

⁽¹⁾ Ventilated motor

⁽³⁾ Motor + sensor inertia

NX Series

400-460V Power Supply

Motor	M ₀		I ₀	M _n [*]		I _n [*]	N _{max} [*]	M _{max}		I _{max}	Inertia ⁽³⁾	
	(lb-in)	(Nm)	(Arms)	(lb-in)	(Nm)	(A _{rms})	(rpm)	(lb-in)	(Nm)	(A _{rms})	(in-lb.s ²) x 10 ⁻⁴	(kgm ²) x 10 ⁻⁵
NX210EAT ⁽²⁾	8.9	1	1.3	5.4	0.61	0.9	6000	30.1	3.4	5.35	3.4	3.8
NX310EAP	17.7	2	1.4	14.2	1.6	1.2	4600	58.4	6.6	5.64	7.0	7.9
NX420EAV	35.4	4	1.4	33.5	3.8	1.4	2300	119	13.4	5.68	25.7	29
NX420EAP	35.4	4	2.8	28.2	3.2	2.3	4600	119	13.4	11.3	25.7	29
NX430EAV	48.7	5.5	1.4	47.3	5.3	1.4	1200	166	18.8	5.64	37.7	42.6
NX430EAP	48.7	5.5	2.8	40.4	4.6	2.4	3450	166	18.8	11.3	37.7	42.6
NX430EAL	48.7	5.5	3.8	35.0	4.0	2.8	4600	166	18.8	15.1	37.7	42.6
NX620EAV	70.8	8	2.8	65.1	7.4	2.6	2300	236	26.7	11.3	86.7	98
NX620EAR	70.8	8	5.3	49.3	5.6	3.9	4490	236	26.7	21.2	86.7	98
NX620EAJ	70.8	8	9.9	49.6	5.6	7.2	4500	236	26.7	39.5	86.7	98
NX630EAV	106	12	2.8	101	11.4	2.7	1550	354	40	11.3	130	147
NX630EAR	106	12	5.7	86.6	9.8	4.7	3110	354	40	22.6	130	147
NX630EAN	106	12	8.5	63.1	7.1	5.4	4600	354	40	34.1	130	147
NX820EAX	142	16	5.2	129	14.6	4.7	2100	443	50	20.3	283	320
NX820EAR	142	16	11.0	109	12.3	8.7	4500	443	50	43.2	283	320
NX840EAQ	248	28	10.1	197	22.3	8.1	2400	814	92	39.9	549	620
NX840EAK	248	28	16.8	164	18.5	11.5	3500	814	92	66.5	549	620
NX860EAJ	363	41	18.6	242	27.4	12.8	2600	1212	137	74	814	920
NX860VAJ ⁽¹⁾	566	64	29.3	422	47.7	21.9	3000	1212	137	74	814	920

⁽¹⁾ Ventilated motor

⁽²⁾ not suitable for 460V power supply

* given for 460V power supply, except NX210EAT

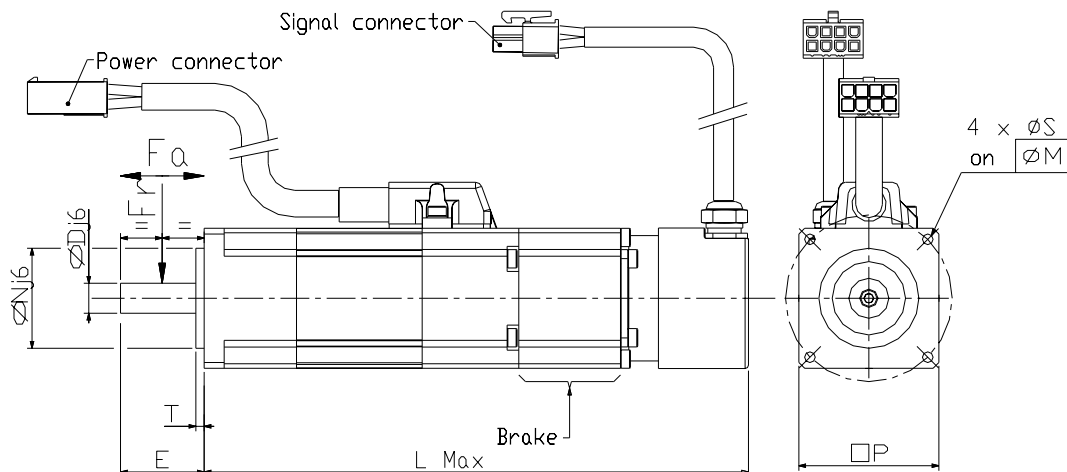
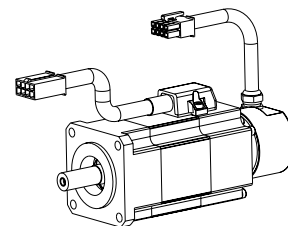
⁽³⁾ Motor + sensor inertia

DETAILED DATA SHEET AND DRAWINGS ARE AVAILABLE
FROM OUR WEB SITE AT www.SSDdrives.com

NX1 and NX2 dimensions (resolver feedback)

Motor	N	D	E	T	P	S	M	No brake		With brake		Fr*	Fa*
								Weight	L	Weight	L		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(mm)	(kg)	(mm)	(daN)	(daN)
NX110	30	9	25	2.5	42	3.2	50	0.8	133	1	164	29	6.9
NX210	40	11	25	2.5	56	5.5	63	1.3	137	1.6	179	30	17.5

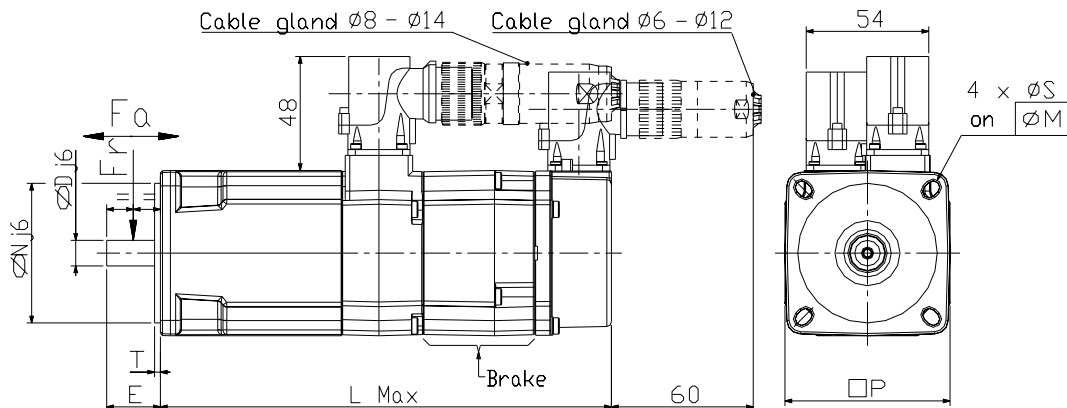
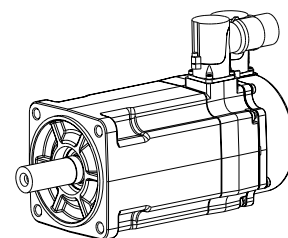
*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



NX3, NX4 and NX6 dimensions (resolver feedback)

Motor	N	D	E	T	P	S	M	No brake		With brake		Fr*	Fa*
								Weight	L	Weight	L		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(mm)	(kg)	(mm)	(daN)	(daN)
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

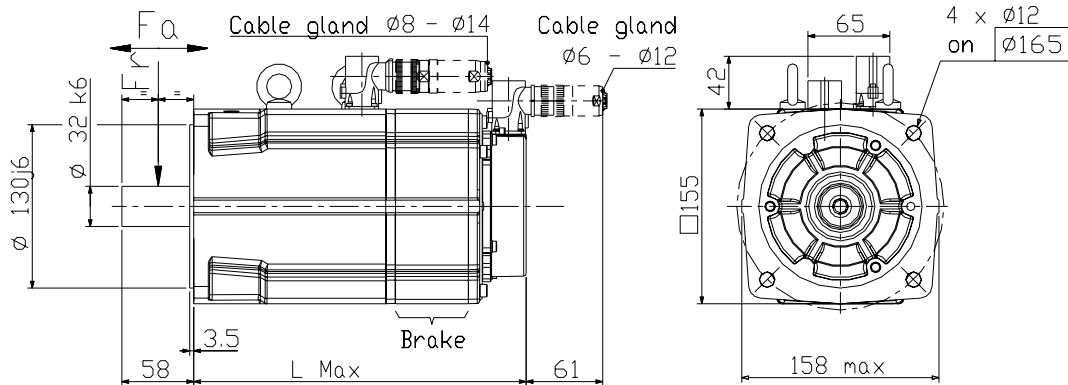
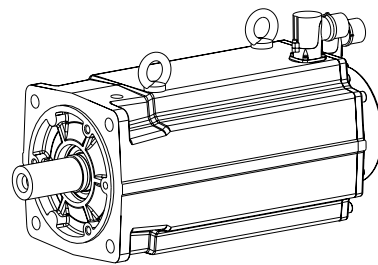


SERVO MOTORS

NX8 dimensions (resolver feedback)

Motor	No brake		With brake		Fr*	Fa*
	Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX820	13	200	16.5	266	151	38
NX840	20	260	23.5	326	165	44
NX860	27	320	30.5	386	172	47

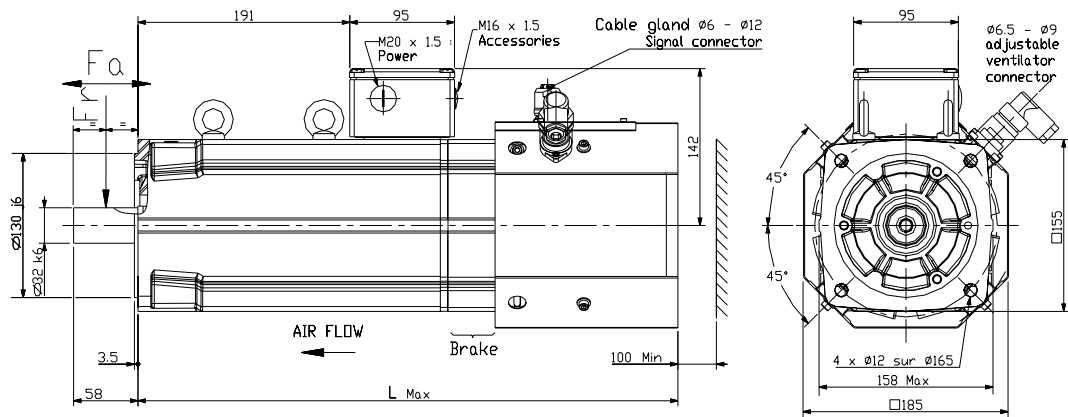
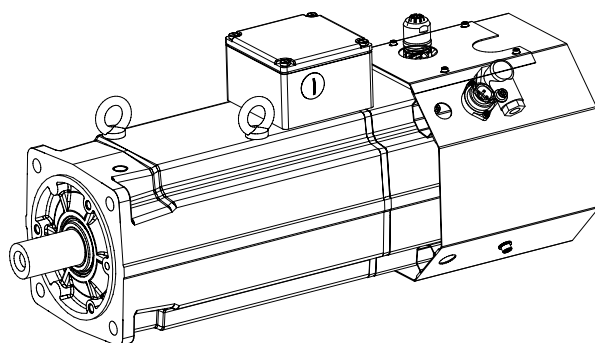
*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



NX8 Ventilated version (resolver feedback)

Motor	No brake		With brake		Fr*	Fa*
	Weight (kg)	L (mm)	Weight (kg)	L (mm)		
NX860V	30.5	424	34	490	172	47

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



RESOLVER FEEDBACK

Standard sensor for NX size 1 to 8

The NX series are equipped with a 2-pole resolver as standard.
The resolver mounting offers among others, advantages like maintenance-free brushless design, immunity to noise, vibration, shock and high temperature.



RESOLVER TECHNICAL SPECIFICATIONS

Electrical specifications given at 8 kHz

Polarity : 2 pole resolver

Input voltage : $7 V_{RMS}$

Input current : 86 mA max.

Transformation ratio : $0.5 \pm 5\%$

Null voltage : $20 mV_{RMS}$ max.

Error : $\pm 10'$ max.

Phase shift : 0° nom.

Input impedance : min. : $48 + 66j$ Ohms
nom. : $56 + 80j$ Ohms

Output impedance : nom. : $120 + 200j$ Ohms
(with short cut on primary)

Operating temperature : -55 to $+155^\circ C$

Max. operating speed : 10,000 rpm

STANDARD FEEDBACK ON NX1 TO NX8

2-POLE RESOLVER

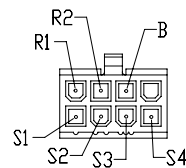
MAINTENANCE-FREE BRUSHLESS DESIGN

IMMUNITY TO NOISE, VIBRATION AND SHOCK

WIDE OPERATING TEMPERATURE RANGE

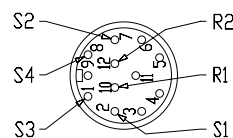
RESOLVER PLUG ON NX MOTORS

NX1 and NX2, output cables



R1 : Excitation
R2 : Excitation
S2 : Sine
S4 : Sine
S1 : Cosine
S3 : Cosine

NX2 to NX8, adjustable connector



INCREMENTAL ENCODER OPTION

For NX size 1 to 8

NX servo motors can be delivered equipped with an incremental encoder. The incremental encoder defined is a 2048 pulses/rev encoder with 10-pole commutation channels. This encoder can be mounted on all models of NX series from size 1 to 8.

ENCODER TECHNICAL SPECIFICATIONS

Resolution : 2048 pulses per revolution

Control : 10-pole commutation channels

Accuracy : ± 2.5 arc minutes

Max frequency : 300 kHz

Power supply : 5 VDC, 100 mA

Output signals :

- Incremental : Line Driver 40mA, 5V, RS422
- Commutation : Open Collector, 8mA, 5V

Max. speed : 8500 rpm

Operating temperature : 0 - 120°C



NX1 TO NX8 WITH ENCODER

Dimensions :

- NX1 and NX2 : special rear plate needed
- NX3 to NX8 : same dimensions as for resolver mounting

Protection level :

- NX1 and NX2 : IP40
- NX3 and NX8 : IP64, IP65 option

Option : with or without brake, with or without key

Cables :

- Power : same as for resolver mounting
- Encoder : 11 wire screened cable

AVAILABLE ON NX1 TO NX8

**2048 PULSES PER REVOLUTION
RESOLUTION**

10-POLE COMMUTATION CHANNELS

**SAME TORQUE, SPEED AND INERTIA AS
FOR RESOLVER MOUNTING**

**NX1 AND NX2 : SPECIAL REAR PLATE
NEEDED**

**NX3 TO NX8 : SAME DIMENSIONS AS
FOR RESOLVER MOUNTING**

HIPERFACE® ENCODER OPTION For NX size 3 to 8

The HIPERFACE® encoder is a mixture of an absolute encoder (single or multturn) 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.

MOUNTING OF STEGMANN SRM50 HIPERFACE® ENCODER ON NX3 TO NX8

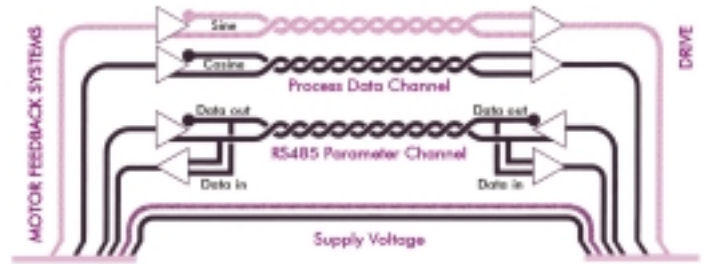
**ABSOLUTE POSITION WITHIN
4096 REVOLUTIONS**

**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

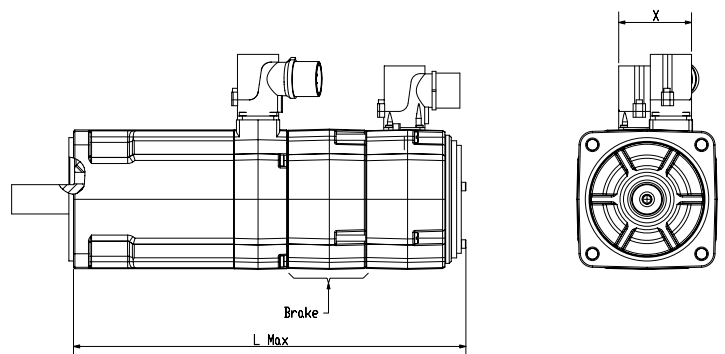
RS485 channel : parameter channel

- 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 HIPERFACE

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

EX FLAMEPROOF ENCLOSURE SERVO MOTORS

For potentially explosive atmospheres

EX servo motors are group II, category 2, flameproof apparatus designed to operate in explosive atmospheres in accordance with EN 50014, EN 50018 and EN 50 281-1-1 standards.



EX Series - 230V Power Supply

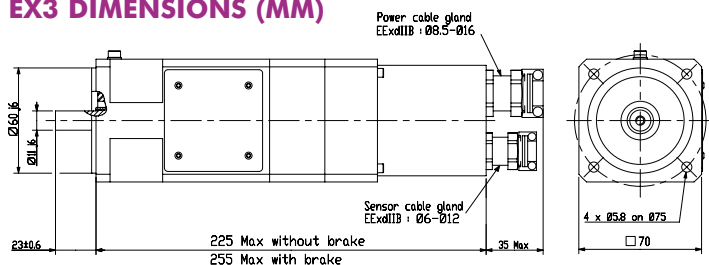
Motor	M ₀ (lb-in)	I ₀ (Nm)	N _{max} (Arms)	N _{max} (rpm)	M _{max} (lb-in)	M _{max} (Nm)	I _{max} (A _{rms})	Inertia ⁽¹⁾ (in-lb.s ²) x 10 ⁻⁴	Inertia ⁽¹⁾ (kgm ²) x 10 ⁻⁵
EX310EAP	15.5	1.75	1.2	2300	36.3	4.1	3.0	7.0	7.9
EX310EAK	15.5	1.75	2.2	4000	38.7	4.37	5.66	7.0	7.9
EX620EAO	58.4	6.6	5.2	2500	155	17.5	13.8	86.7	98
EX630EAI	92	10.4	10	3000	229	25.9	25	130	147

EX Series - 400V Power Supply

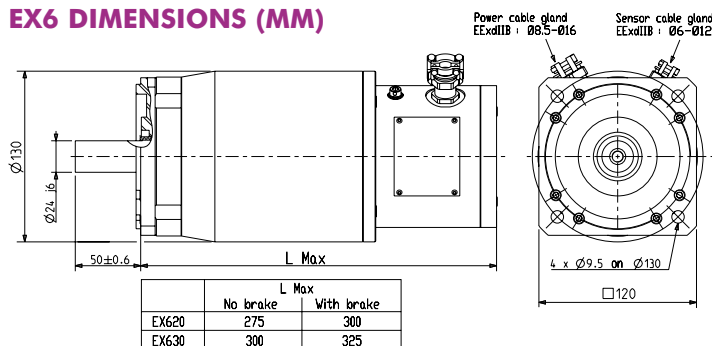
Motor	M ₀ (lb-in)	I ₀ (Nm)	N _{max} (Arms)	N _{max} (rpm)	M _{max} (lb-in)	M _{max} (Nm)	I _{max} (A _{rms})	Inertia ⁽¹⁾ (in-lb.s ²) x 10 ⁻⁴	Inertia ⁽¹⁾ (kgm ²) x 10 ⁻⁵
EX310EAP	15.5	1.75	1.2	4000	36.3	4.1	3.0	7.0	7.9
EX620EAO	62.0	7	5.5	4300	154	17.5	13.8	86.7	98
EX630EAY	92.0	10.4	5.5	2900	230	26.0	14.0	130	147
EX630EAN	92.0	10.4	7.5	4000	231	26.1	19.0	130	147

⁽¹⁾ Motor + resolver inertia

EX3 DIMENSIONS (MM)



EX6 DIMENSIONS (MM)



KEY POINTS

Classification :

- II 2G EEx d IIB T4 (Gas)
- or II 2GD EEx d IIB T4 IP65 T135°C (Gas & Dust)

Protection :

thermo-switches and thermo-fuse inside winding for over-temperature protection

Connection :

through flameproof cable glands for resolver and power (no pre-equipped cables)

Option :

- With or without key
- With or without brake

"D" FLAMEPROOF EQUIPMENT IN ACCORDANCE WITH ATEX 94/9/CE DIRECTIVE*

TORQUE = 1.75 Nm TO 10.4Nm

2 POLE RESOLVER

CAN BE USED WITH ALL DRIVES, USING CONNECTION DIAGRAM FOR ATEX CONFORMITY

* EX6 IN PREPARATION (MARCH 2004)

BRUSHLESS Accessories

24 VDC power-off holding brake



24 VDC ± 10% POWER SUPPLY

**STATIC USE : MOTOR LOCKING IN
THE STOPPED POSITION**

DYNAMIC USE :

- FOR EMERGENCY STOPPING ONLY
- DYNAMIC TORQUE IS APPROXIMATELY HALF THE HOLDING TORQUE
- THE NUMBER OF SWITCHING OPERATIONS IS LIMITED

Cables and Connectors



24 VDC power-off holding brake

Motor	Holding torque				Power (W)	Inertia		Weight (kg)
	at 20°C		at 100°C			(in-lb.s ² .10 ⁻⁴)	(kgm ² .10 ⁻⁵)	
	(lb-in)	(Nm)	(lb-in)	(Nm)				
NX1	3.5	0.4	-	-	6	0.09	0.1	0.07
NX2	10.6	1.2	-	-	8	0.62	0.7	0.17
NX3	17.7	2	15.9	1.8	11	0.62	0.7	0.18
NX4	48.7	5.5	35.4	4	12	1.6	1.8	0.3
NX6	106	12	88.5	10	18	4.8	5.4	0.46
NX8	319	36	283	32	26	49.2	55.6	3.5
LX4	53.1	6	48.7	5.5	13	4.7	5.3	0.45
LX8	266	30	252	28.5	21	40.7	46	1.6
HX4	53.1	6	48.7	5.5	13	4.7	5.3	0.45
HX8	266	30	252	28.5	21	40.7	46	1.6
HXA 30	1328	150	1151	130	95	1106	1250	20.5
HXA 40	3098	350	2744	310	95	1106	1250	20.5
HXA 50	3098	350	2744	310	95	1106	1250	20.5
HXA 60	3098	350	2744	310	95	1106	1250	20.5
LS8	133	15	124	14	18	36.7	41.5	1.3
LS910	221	25	208	23.5	18	34.5	39	1.3
LS920	266	30	252	28.5	21	40.7	46	1.6
HS8	133	15	124	14	18	36.7	41.5	1.3
HS910	221	25	208	23.5	18	34.5	39	1.3
HS920	266	30	252	28.5	21	40.7	46	1.6

Motor connectors and cables

LOOSE CABLES (WITHOUT CONNECTORS), PER METER

Resolver cable for NX / LX, HX / LS, HS	6537P0001
1mm ² power cable, I < 6A	6537P0009
2.5mm ² power cable, I < 22A	6537P0010
6mm ² power cable, I < 42A	6537P0011
10mm ² power cable, I < 56A	6537P0012
16mm ² power cable, I < 70A	6537P0013
25mm ² power cable, I < 130A	6537P0014

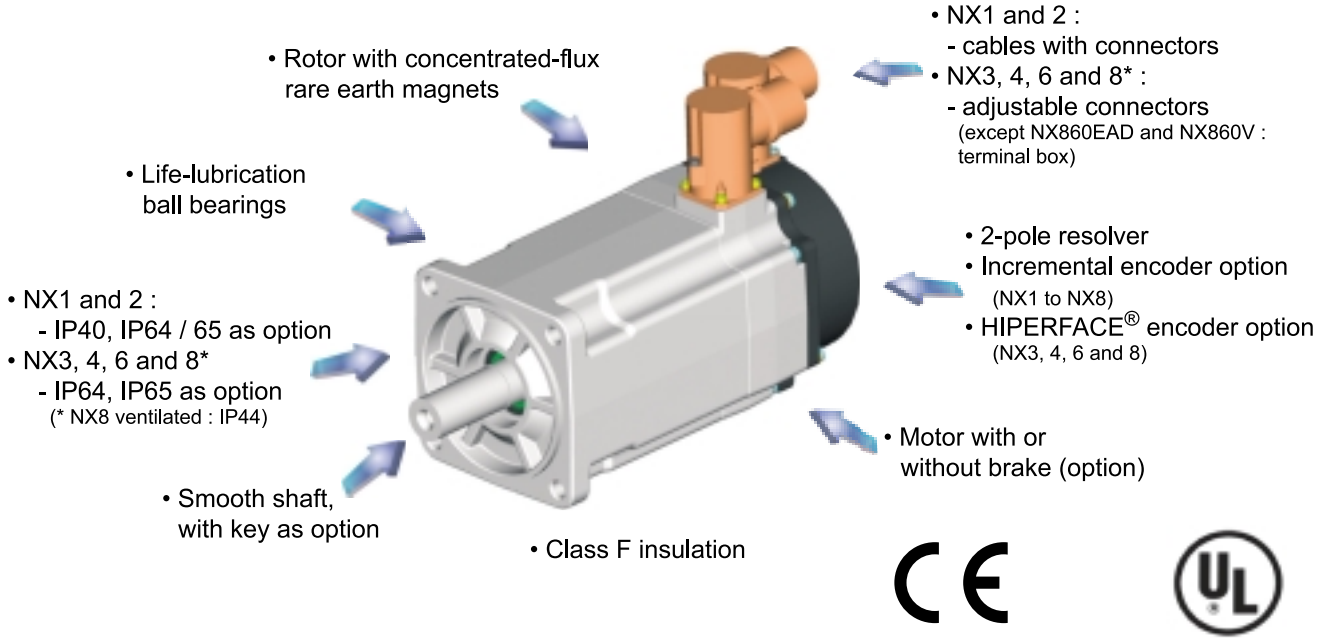
LOOSE CABLES (WITHOUT CONNECTORS), SCREENED VERSION, PER METER

Resolver cable for NX / LX, HX / LS, HS	6537P0032
1.5mm ² power cable, I < 15A	6537P0034
2.5mm ² power cable, I < 22A	6537P0033

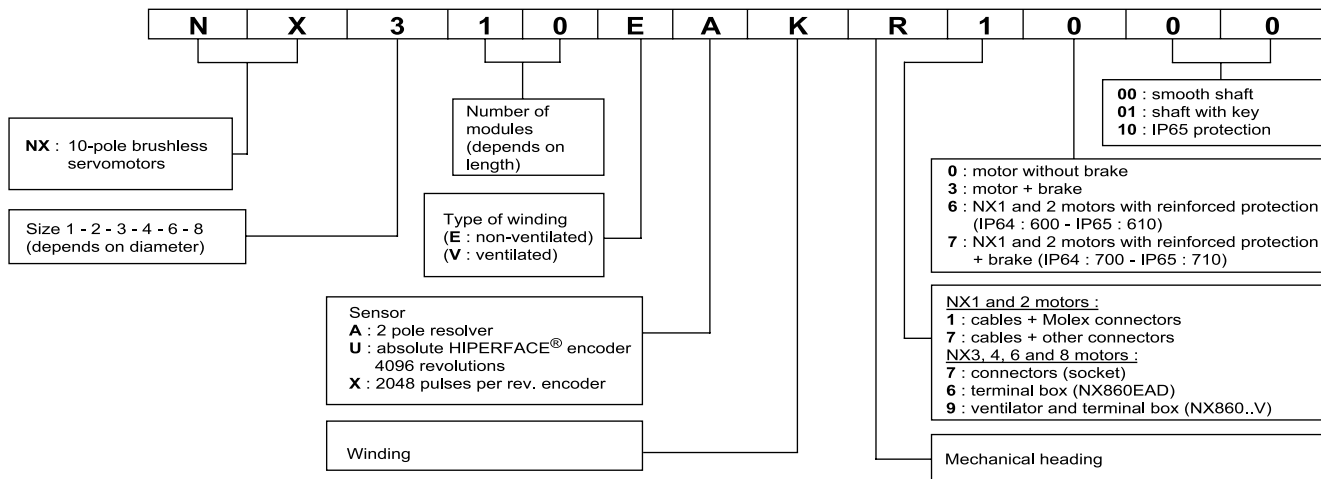
LOOSE CONNECTORS

Resolver plug	220065R4621
Molex plug kit (power and resolver) for NX1, NX2	220004R1000
Size 1 power plug for NX3, NX4, NX6 / LS8, HS8 and I < 6A	220065R1610
Size 1 power plug for NX4, NX6, NX8 / LS8, HS8 and I < 22A	220065R1611
Size 3 power plug for LS9, HS9 / LX8, HX8 and I < 22A	220065R3611
Size 3 power plug for L.. et H.. and I < 70A	220065R3610

NX Series : a robust and secure construction for high level performances

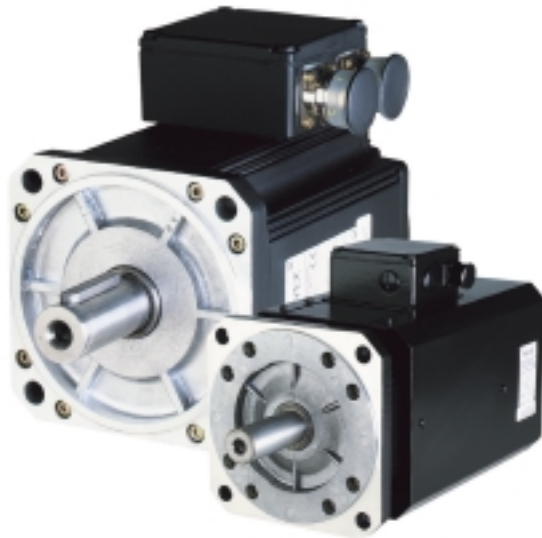


NX servo motor codification



BRUSHLESS LX - HX 59 to 2832 lb-in

LX-HX brushless servo motors series are characterised by a very large torque range and by the highest torque to inertia ratio. They are particularly adapted to demanding servo applications needing very high dynamic characteristics.



- LOW INERTIA CONSTRUCTION
- 230V AND 400-460V POWER SUPPLY
- HIGH DYNAMIC CHARACTERISTICS
- RARE EARTH MAGNETS
- RESOLVER CONNECTOR AND TERMINAL BOX FOR POWER
- BRAKE OPTION
- CLASS F INSULATION
- IP64 PROTECTION, IP65 AS OPTION

LX Series

230V Power Supply

Motor	M ₀		I ₀	M _n		N _{max}	M _{max}		Inertia	
	(lb-in)	(Nm)	(A)	(lb-in)	(Nm)	(rpm)	(lb-in)	(Nm)	(in-lb.s ²) x 10 ⁻⁴	(kgm ²) x 10 ⁻⁵
LX440CL	59.3	6.7	4.9	54.0	6.1	2200	120	13.6	30.1	34
LX440CC	59.3	6.7	10.4	46.0	5.2	4700	115	13	30.1	34
LX440CB	59.3	6.7	13.4	40.7	4.6	6000	137	15.5	30.1	34
LX820DH	168	19	19.5	142	16.1	2800	340	38.4	204	230
LX820DF	168	19	26.0	123	13.9	3800	377	42.6	204	230
LX820VK ⁽¹⁾	248	28	21.1	236	26.7	2000	425	48	204	230
LX820VF ⁽¹⁾	248	28	38.6	202	22.8	3800	399	45.1	204	230
LX840DG	336	38	20.9	288	32.5	1600	644	72.8	372	420
LX840DE	336	38	29.3	251	28.4	2200	742	83.8	372	420
LX840VE ⁽¹⁾	478	54	42.2	414	46.8	2200	742	83.8	372	420

⁽¹⁾ Ventilated motor

HX Series

400-460V Power Supply

Motor	M ₀		I ₀	M _n *		N _{max} *	M _{max}		Inertia	
	(lb-in)	(Nm)	(A)	(lb-in)	(Nm)	(rpm)	(lb-in)	(Nm)	(in-lb.s ²) x 10 ⁻⁴	(kgm ²) x 10 ⁻⁵
HX440CW	59.3	6.7	2.5	53.7	6.1	2420	127	14.4	30.1	34
HX440CR	59.3	6.7	3.5	50.4	5.7	3450	137	15.5	30.1	34
HX440CK	59.3	6.7	5.2	44.3	5.0	5180	121	13.7	30.1	34
HX440CH	59.3	6.7	6.7	41.2	4.7	6000	137	15.5	30.1	34
HX820DT	168	19	5.6	158	17.9	1730	322	36.4	204	230
HX820DN	168	19	11.2	128	14.5	3570	322	36.4	204	230
HX820DJ	168	19	15.6	114	12.8	4200	376	42.5	204	230
HX820VK ⁽¹⁾	248	28	21.1	179	20.2	4600	443	50	204	230
HX820VH ⁽¹⁾	248	28	29.0	166	18.7	5000	416	47	204	230
HX840DN	336	38	10.5	281	31.8	1730	680	76.8	372	420
HX840DH	336	38	18.3	221	25.0	2600	755	85.3	372	420
HX840VJ ⁽¹⁾	487	55	21.6	403	45.5	2420	889	100.5	372	420
HX840VG ⁽¹⁾	487	55	30.8	325	36.8	3570	999	112.9	372	420
HXA30VI ⁽¹⁾	1505	170	69.9	1096	124	2300	1688	190.7	2390	2700
HXA40VI ⁽¹⁾	2018	228	70.4	1646	186	1610	2248	254	3098	3500
HXA40VG ⁽¹⁾	2036	230	91.9	1518	172	2180	2213	250	3098	3500
HXA40VE ⁽¹⁾	2036	230	129	1102	124	3100	2151	243	3098	3500
HXA50VF ⁽¹⁾	2478	280	103	1849	209	2070	2513	284	3806	4300
HXA50VE ⁽¹⁾	2478	280	124	1644	186	2450	2682	303	3806	4300
HXA60VF ⁽¹⁾	2832	320	96.2	2200	249	1660	3000	339	4514	5100
HXA60VD ⁽¹⁾	2788	315	141	1539	174	2550	2788	315	4514	5100

⁽¹⁾ Ventilated motor

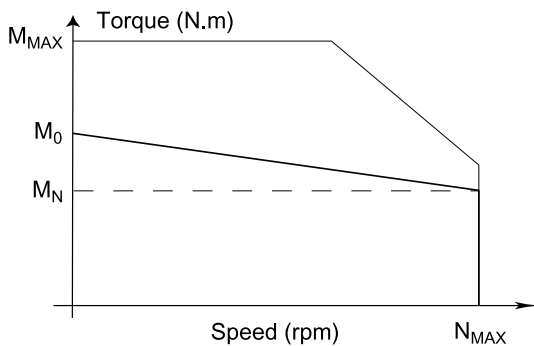
* given for 460V power supply

DETAILED DATA SHEET AND DRAWINGS ARE AVAILABLE
FROM OUR WEB SITE AT www.SSDdrives.com

BRUSHLESS LS - HS 62 to 274 lb-in

The LS-HS brushless servo motors short construction can offer the solution when space available for motor is reduced or when the load inertia is high.

Developed with a rotor using ferrite magnets, they range from 62 to 274 lb-in.



- SHORT CONSTRUCTION**
- 230V AND 400-460V POWER SUPPLY**
- FERRITE MAGNETS**
- RESOLVER CONNECTOR AND TERMINAL BOX FOR POWER**
- BRAKE OPTION**
- CLASS F INSULATION**
- IP64 PROTECTION, IP65 AS OPTION**

LS Series

230V Power Supply

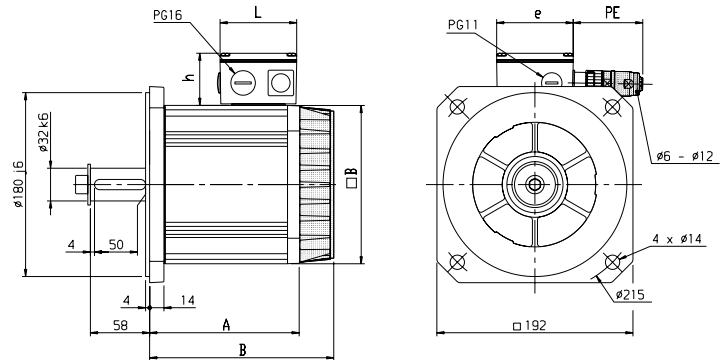
Motor	M ₀	I ₀	M _n		N _{max}	M _{max}		Inertia		
	(lb-in)	(Nm)	(A)	(lb-in)	(Nm)	(rpm)	(lb-in)	(Nm)	(in-lb.s ²)	(kgm ²)
									x 10 ⁻⁴	x 10 ⁻⁵
LS810EX	62.0	7	5.1	59.3	6.7	2000	117	13.2	177	200
LS810ER	62.0	7	9.8	54.0	6.1	4000	119	13.5	177	200
LS820EQ	124	14	10.5	116	13.1	2100	227	25.7	310	350
LS820EJ	124	14	19.7	103	11.6	4000	239	27	310	350
LS910EW	133	15	10.1	120	13.6	1800	249	28.1	602	680
LS910EM	133	15	19.7	101	11.4	3600	253	28.6	602	680
LS920EM	274	31	19.4	248	28	1800	527	59.5	1062	1200
LS920EH	274	31	37.1	198	22.4	3400	471	53.2	1062	1200

HS Series

400-460V Power Supply

Motor	M ₀	I ₀	M _n *		N _{max} *	M _{max}		Inertia		
	(lb-in)	(Nm)	(A)	(lb-in)	(Nm)	(rpm)	(lb-in)	(Nm)	(in-lb.s ²)	(kgm ²)
									x 10 ⁻⁴	x 10 ⁻⁵
HS810EZ	62.0	7	2.8	58.4	6.6	2530	112	12.7	177	200
HS810EY	62.0	7	4.5	54.5	6.2	4140	120	13.6	177	200
HS810EW	62.0	7	5.7	51.6	5.8	5060	112	12.7	177	200
HS820EV	124	14	5.5	114	12.9	2530	231	26.1	310	350
HS820EQ	124	14	10.5	95	10.7	4830	240	27.1	310	350
HS910EX	133	15	5.0	119	13.5	1960	258	29.1	602	680
HS910EW	133	15	10.1	94	10.6	4140	258	29.1	602	680
HS920EW	274	31	5.3	263	29.8	1040	516	58.3	1062	1200
HS920ET	274	31	10.6	239	27.0	2190	250	28.3	1062	1200
HS920EL	274	31	21.2	182	20.6	3800	250	28.3	1062	1200

* given for 460V power supply



LS-HS Dimensions

Motor	L (mm)	h (mm)	e (mm)	PE (mm)	øB (mm)	A ⁽¹⁾ (mm)	B ⁽²⁾ (mm)	Masse (kg)	Fr* (daN)	Fa* (daN)
LS810	76	51	76	91	155	144	182	10.4	65	45
LS820	76	51	76	91	155	185	223	14.6	70	50
LS910	95	65	95	91	192	166	200	17	105	40
LS920	95	65	95	91	192	216	259	25.2	120	40
HS810	76	51	76	91	155	144	182	10.4	65	45
HS820	76	51	76	91	155	185	223	14.6	70	50
HS910	95	65	95	91	192	166	200	17	105	40
HS920	95	65	95	91	192	216	259	25.2	120	40

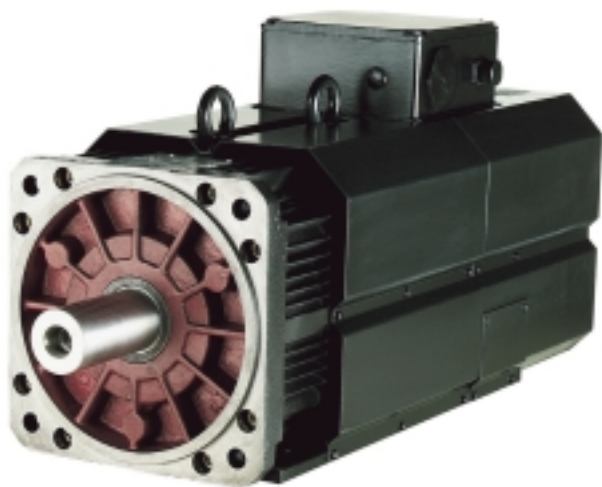
(1) : without brake (2) : with brake
* Fr and Fa not cumulative

HV SPINDLE SERVO MOTORS

5.4 to 60 hp

The HV series are permanent magnet synchronous motors used for machine tool spindles of traditional type (lathes, grinding machines, milling machines).

The control of synchronous technology gives the possibility to reach a speed range ratio at constant power up to 10. Moreover the HV series present the same characteristics at low speed as an axis servo motors : high torque to weight ratio, low inertia, high torque at low speed...



HV series compact design

POWER FROM 5.4 TO 60 HP

SPEED UP TO 8000 RPM

TORQUE FROM 150 TO 2110 LB-IN

VENTILATED MOTOR

HW ELECTROSPINDLE SERVO MOTORS

3.6 to 160 hp

The HW range of synchronous electrospindle motors has been developed with the aim of solving the problems met in high speed machining.

Compared to classic asynchronous motors, the HW motors have decisive advantages for quality spindle construction : machining of higher precision, longer bearing lifetime, greater acceleration capacity, ...



HW series in kit for high performance electrospindles

POWER FROM 3.6 TO 160 HP

SPEED UP TO 50000 RPM

TORQUE FROM 35 TO 10900 LB-IN

WATER COOLED MOTOR

**DETAILED DATA SHEETS ARE AVAILABLE FROM OUR WEB
SITE AT WWW.PARVEX.COM**

CUSTOM OEM SOLUTIONS

Servo motor kits : an innovative and customized solution for OEM applications

Servomotor kits are a unique customized solution to your most demanding applications, where **cost**, **space**, **rigidity** and **reliability** are your equally important concerns.

That innovative offering is based on the NX technology. The motor components are supplied instead of a standard motor.

The **rotor**, the **stator**, the **sensor** and all relevant **mechanical adaptations** are **designed for optimum integration** at the heart of your mechanical systems.

That solution stems from a global approach backed by :

- a **sales network** capable of understanding your specific needs
- a **highly qualified technical staff** to offer his assistance throughout the specification stage
- a **flexible industrial organization**

As a result, the size and cost constraints are handled with the maximum care.

Other benefits include the following :

- Accuracy, reliability and robustness
- Mechanical compactness and reduced weight
- Direct drive : accurate and robust mechanics
- Complete and optimized solution including sensor

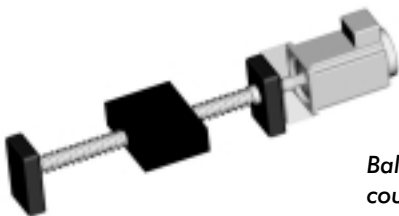


Servomotor kits can be designed for applications in the following range :

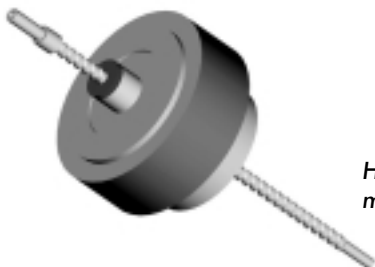
- Torque from 3.5 to 637 lb-in
- Speed up to 15000 rpm

On top of mechanical customizations (iron length, frame, ...), many design variations are available :

- Custom windings
- Air or water cooling
- Hall effect sensor, resolver, high resolution sensor, optical encoder



Ball screw direct coupling example



Hollow shaft motor example

INTEGRATION ASSISTANCE

CUSTOMIZED SOLUTION

REDUCED COST

MECHANICAL COMPACTNESS

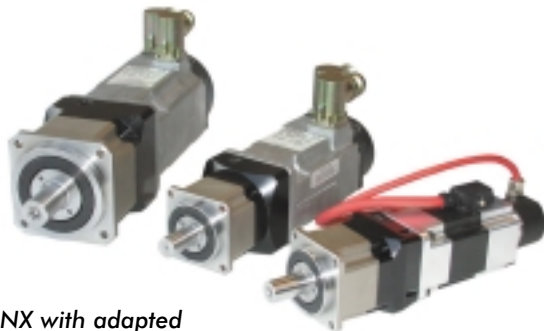
REDUCED WEIGHT

ACCURATE AND ROBUST MECHANICS

TORQUE FROM 3.5 TO 637 LB-IN

MECHANICAL AND ELECTRICAL ADAPTATIONS

Based on standard offer



NX with adapted gearboxes

As a servo motor specialist, Eurotherm 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, ...

ELECTRICAL ADAPTATIONS

MECHANICAL ADAPTATIONS

SPECIAL WINDINGS

SPECIFIC FEEDBACK SENSORS

GEARBOXES

UNITED STATES (NORTH AMERICA)

9225 Forsyth Park Drive, Charlotte, North Carolina 28273-3884
Tel: 704-588-3246 Fax: 704-588-4806

ENGLAND

New Courtwick Lane, Littlehampton, West Sussex. BN17 7RZ
Tel: 011-44-1-903-737000 Fax: 011-44-1-903-737100

FRANCE

15 Avenue de Norvège, Villebon sur Yvette, 91953 Courtaboeuf Cedex
Tel: 011-331-6918-5151 Fax: 011-331-6918-5159

8 Avenue du Lac, B.P. 249, 21007 Dijon Cedex
Tel: 011-333-8042-4140 Fax: 011-333-8042-4123

GERMANY

Von-Humboldt - Strasse 10, 64646 Heppenheim
Tel: 011-49-6252-7982-00 Fax: 011-49-6252-7982-05

ITALY

Via Gran Sasso 9, 20030 Lentate Sul Seveso, Milano
Tel: 011-39-0362-557308 Fax: 011-39-0362-557312

SWEDEN

Box 9084, S30013 Halmstad
Tel: 011-46-35-177300 Fax: 011-46-35-108407



e-mail: info@SSDdrives.com