

# ACCU ELECTRIC MOTORS INC

USA: (888) 932-9183

CANADA: (905) 829-2505

- ✓ Over 100 years cumulative experience
- ✓ 24 hour rush turnaround / technical support service
- ✓ Established in 1993



The leading independent repairer of servo motors and drives in North America.

Visit us on the web:

[www.servo-repair.com](http://www.servo-repair.com)

[www.servorepair.ca](http://www.servorepair.ca)

[www.ferrocontrol.com](http://www.ferrocontrol.com)

[www.sandvikrepair.com](http://www.sandvikrepair.com)

[www.accuelectric.com](http://www.accuelectric.com)

**Scroll down to view your document!**

For 24/7 repair services :

USA: 1 (888) 932 - 9183

Canada: 1 (905) 829 -2505

Emergency After hours: 1 (416) 624 0386

Servicing USA and Canada

# «NX» and «L» SERIES

## BRUSHLESS SERVOMOTORS

For 230 V main supplies

NX1 - NX2 - NX3 - NX4 - NX6 - NX8 - LX8 - LD - LS



PARVEX

## **A COMPLETE RANGE**

- **NX - LX** : Servomotors with very high dynamic performances, concentrated-flux rare earth magnets, up to 567 in-lb. for fan-cooled versions
- **LD** : Small diameter servomotors, up to 620 in-lb.
- **LS** : Very short servomotors up to 274 in-lb.

## **ENHANCED PERFORMANCE MOTOR-SERVOAMPLIFIER**

- Parvex consummate skills in the manufacture of concentrated-flux brushless servomotors and resolvers, comprehensive digital control of phase laws and resolver processing,
- implementation of new algorithms such as compensation, double integration, etc..., has led to a highly significant improvement in servo amplifier performances, and specifically:
  - Higher torque at high speed
  - Smoother rotation at low speed
  - Wider bandwidth and increased dynamic performance
  - Greater stiffness at stand still

## **“ L ” and “ NX ” SERIES BRUSHLESS SERVOMOTOR FOR HIGH VOLTAGE**

«L» and «NX» series servomotors are brushless motors designed for monoaxis «DIGIVEX», servo amplifiers with a supply voltage of 230 VDC.

They comprise :

- a permanent-magnet synchronous motor
- a resolver, mounted on the non-drive end of the motor, for position and speed measurements

## **CONSTRUCTION**

- Life-lubricated ball bearings
- NX1 and NX2 : IP40 (IP64 or IP65 as option)
- NX3, NX4, NX6, NX8\* and L\* : IP64 (IP65 as option)  
(\* NX860V and LX..V : IP44)
- Standard flange with smooth-bore holes
- Insulation Class F
- Rotor fixed point at rear
- Black satin-finish paint RAL 9017 (motor L)
- Thermal protection:
  - NX motor : by drive-integrated monitoring system
  - L motor : PTC sensor for connection to DIGIVEX Drive

## **COMPLIANCE WITH «CE» STANDARDS**

### **«L» and «NX» SERVOMOTORS :**

NX, LX, LS and LD range servomotors meet directive 73/23/EEC dated 19th February 1973 (amended by directive 93/68/EEC dated 22 July 1993) and comply with standards EN 60034-1 and IEC 34-1/1994. The entire range is “ CE ” marked.

Compliance with these standards requires installation in accordance with our recommendations. In addition, installation must be on a mechanical support providing good thermal conduction and not exceeding 40° C in the vicinity of the motor flange.

## ACCESSORIES - OPTIONS

### POWER-OFF HOLDING BRAKE

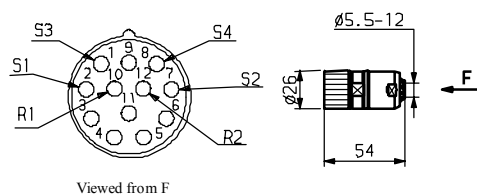
24 V DC  $\pm 10\%$

The power-off holding brake locks the motor shaft in the stopped position (static use).

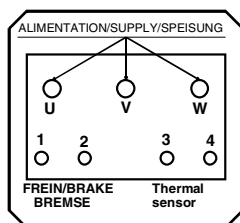
Dynamic use is for emergency stopping only.

In such cases, dynamic torque is approximately half the holding torque and the number of switching operations is limited.

### CONNECTIONS



Viewed from F



- U Phase U
- V Phase V
- W Phase W
- 1 Optional brake +24 V
- 2 Optional brake 0 V
- 3 Thermal sensor
- 4 Thermal sensor

The following options are available :

- Motor power cable
- Resolver cable with SUB-D
- Input/output cable
- Encoder emulation cable.

MOTOR	HOLDING TORQUE		POWER W	INERTIA kg.m <sup>2</sup> .10 <sup>-5</sup>	MASS kg
	at 20°C Nm	at 100°C Nm			
NX1	0.4		6	0.1	0.065
NX2	1.2		8	0.7	0.17
NX3	2	1.8	11	0.7	0.18
NX4	5.5	4	12	1.8	0.3
NX6	12	10	18	5.4	0.46
NX8	36	32	26	55.6	3.5
LX8	30	28.5	21	46	1.6
LD6	12	11.5	21	15.7	0.9
LD830	25	23.5	18	39	1.3
LD840	30	28.5	21	46	1.6
LD930	50	47.5	30	151	3.25
LD940-950	100	95	45	301	4.1
LS6	6	5.5	13	5.3	0.45
LS8	15	14	18	41.5	1.3
LS910	25	23.5	18	39	1.3
LS920	30	28.5	21	46	1.6

The resolver is always linked up by connector.

The power cable can be connected by a cable gland or by a connector depending on models and options.

### CONNECTORS

(optional power connector depending on model)

- L motor : - 4 possible arrangements depending on option (specify on ordering)
- NX motor : - NX1 and NX2, cables and connectors  
- NX3, NX4, NX6 and NX8\*, adjustable connectors (can be turned through 330°), IP67  
(\* terminal box on NX860EAD and NX8 ventilated)

### TERMINAL BOX (L, NX860EAD and NX8 ventilated)

- square for four orientations (specify on ordering)
- available with a motor power connector

### CABLES

Cables are supplied in multiples of one meter, with or without connectors. They can withstand the harshest industrial conditions.

e.g.:

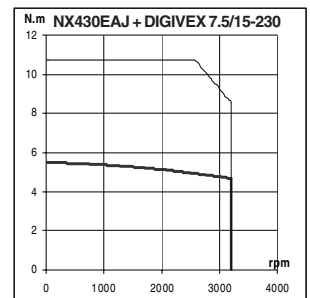
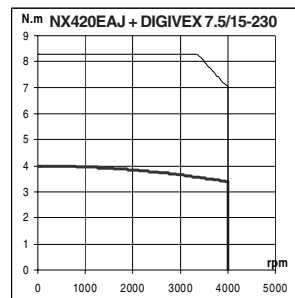
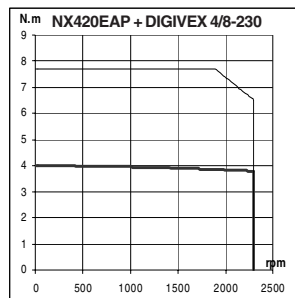
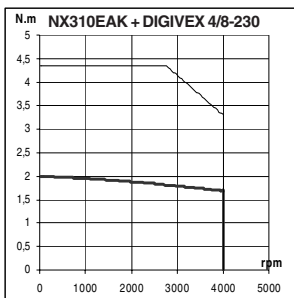
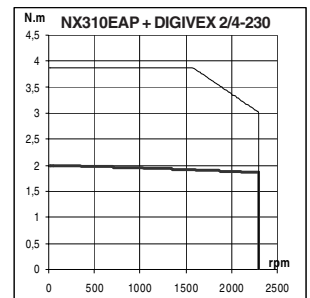
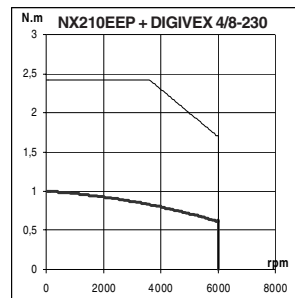
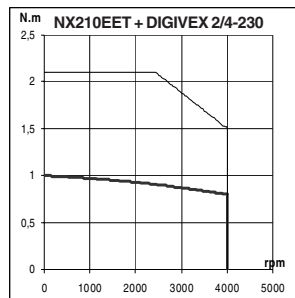
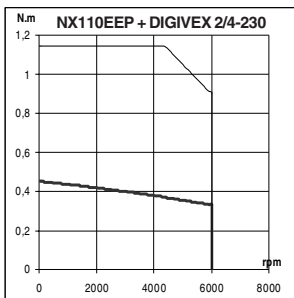
- test voltage : 2500 V,
- high thermal resistance insulation (constant 80°C, peak 120°C),
- resist over 3 million bending cycles,
- small bending radius,
- good torsion resistance,
- resistant to oils, hydro-carbons and abrasion,
- interference protection by twisted and shielded pairs.

# NX - LX SERIES

# WITH DIGIVEX 230V DRIVES

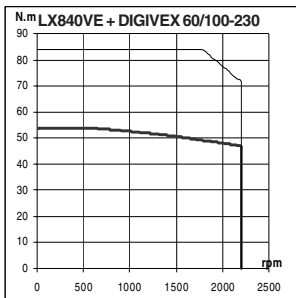
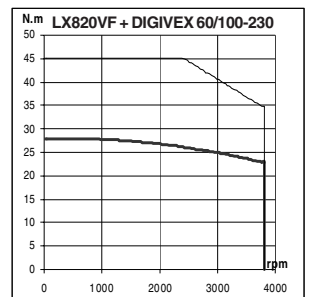
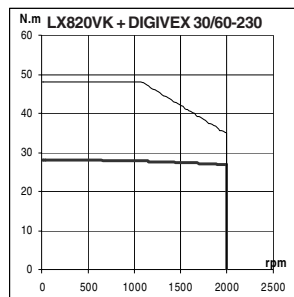
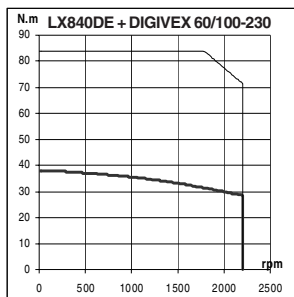
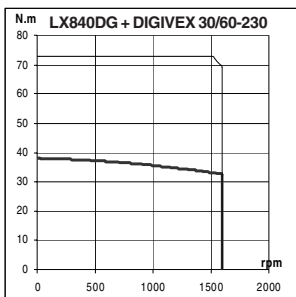
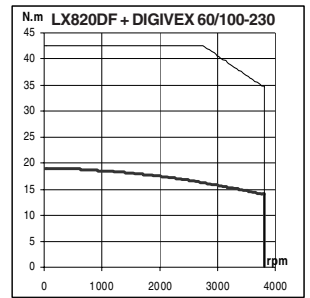
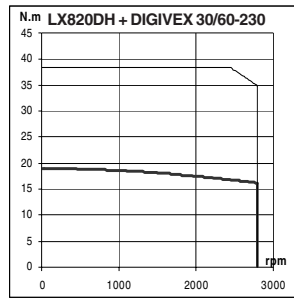
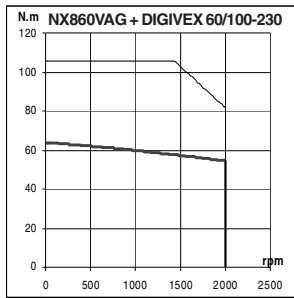
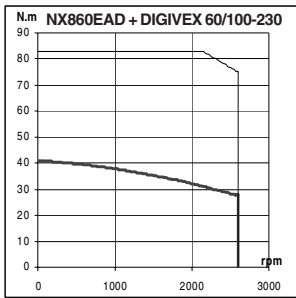
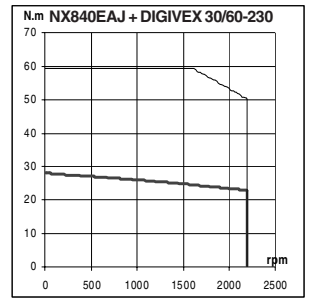
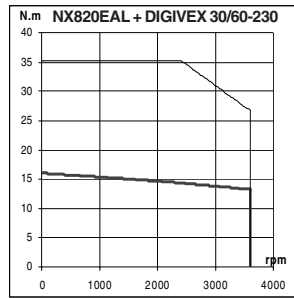
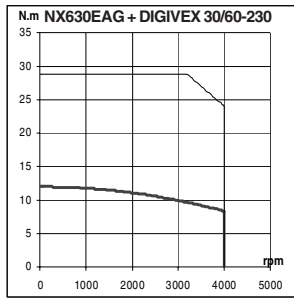
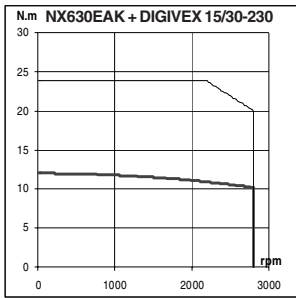
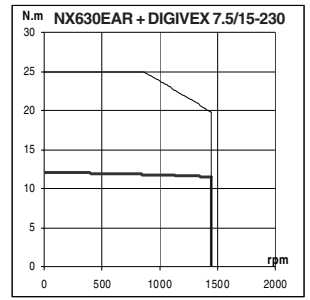
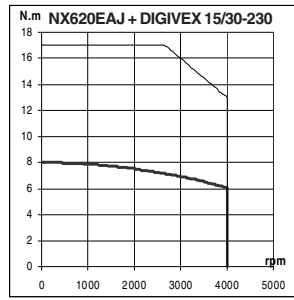
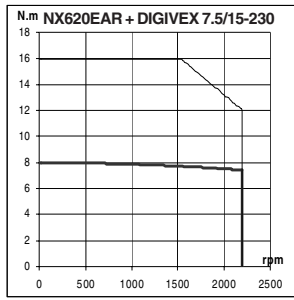
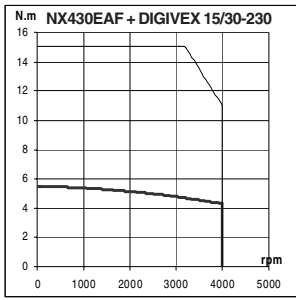
MOTOR	DIGIVEX DRIVE	Torque at low speed (Mo)		Maximum speed (N)	Inertia (J)		Torque constant (Kt)		Permanent current (Îo)
		in-lb.	N.m		rpm	in-lb.s <sup>2</sup> .10 <sup>-4</sup>	kgm <sup>2</sup> .10 <sup>-5</sup>	in-lb./Â	
NX110EEP	2/4	3.98	0.45	6000	1.2	1.3	2.85	0.322	1.4
NX210EET	2/4	8.85	1	4000	3.4	3.8	4.691	0.53	1.89
NX210EEP	4/8			6000			3.151	0.356	2.81
NX310EAP	2/4	17.7	2	2300	7	7.9	8.85	1	2
NX310EAK	4/8			4000			5.08	0.574	3.49
NX420EAP	4/8	35.4	4	2300	25.7	29	8.85	1	3.98
NX420EAJ	7.5/15			4000			5.133	0.58	6.9
NX430EAJ	7.5/15	48.7	5.5	3200	37.7	42.6	6.567	0.742	7.41
NX430EAF	15/30			4000			5.186	0.586	9.39
NX620EAR	7.5/15	70.8	8	2200	87	98	9.47	1.07	7.48
NX620EAJ	15/30			4000			5.08	0.574	13.9
NX630EAR	7.5/15	106.2	12	1450	130	147	13.275	1.5	8
NX630EAK	15/30			2800			7.107	0.803	15
NX630EAG	30/60			4000			5.027	0.568	21.1
NX820EAL	30/60	141.6	16	3600	283	320	5.708	0.645	24.8
NX840EAJ	30/60	247.8	28	2200	549	620	9.293	1.05	26.7
NX860EAD	60/100	362.9	41	2600	814	920	7.77	0.878	46.7
NX860VAG*	60/100	566.4	64	2000			10.266	1.16	55.4
LX820DH	30/60	168.2	19	2800	204	230	6.089	0.688	27.6
LX820DF	60/100			3800			4.567	0.516	36.8
LX840DG	30/60	336.3	38	1600	372	420	11.328	1.28	29.6
LX840DE	60/100			2200			8.124	0.918	41.4
LX820VK*	30/60	247.8	28	2000	204	230	8.319	0.94	29.8
LX820VF*	60/100			3800			4.531	0.512	54.6
LX840VE*	60/100	477.9	54	2200	372	420	8	0.904	59.7

\* Ventilated motor



— PEAK  
 — CONTINUOUS

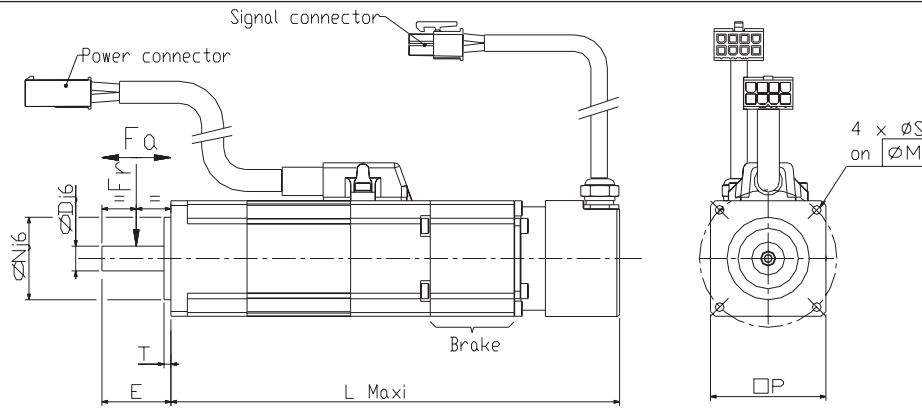
# NX - LX



— PEAK  
 — CONTINUOUS

# NX - LX

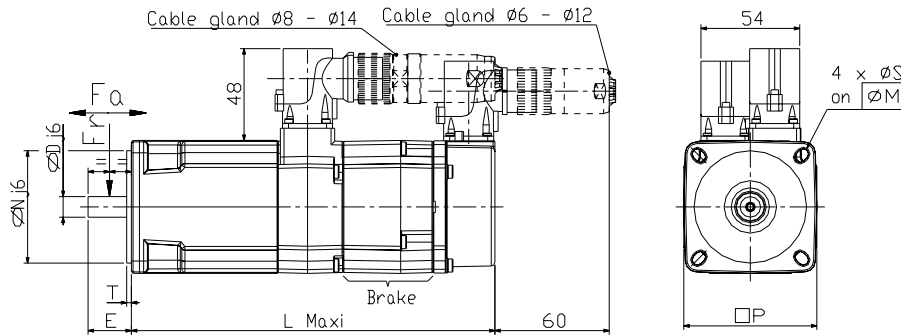
## NX1 - NX2



	N	D	E	T	P	S	M	Without brake		With brake		Fr* (daN)	Fa* (daN)
								Mass	L	Mass	L		
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*

\* at 1500 RPM, for a bearings service life of 20000 hours Fr and Fa non cumulative

## NX3 - NX4 - NX6

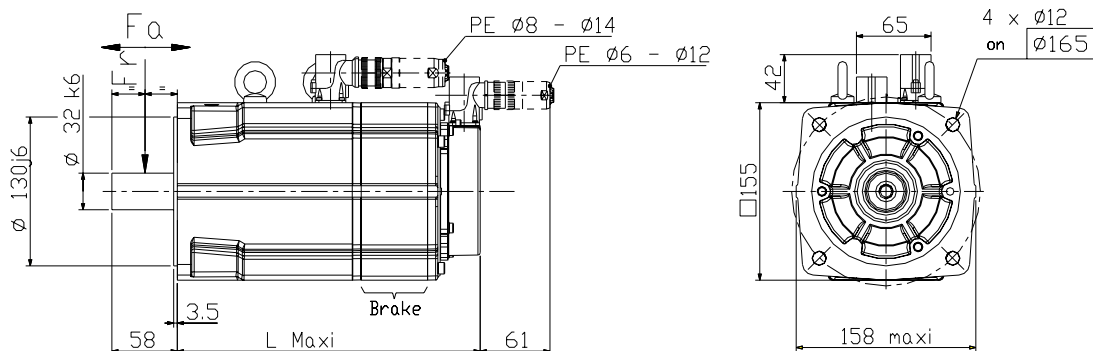


	N	D	E	T	P	S	M	Without brake		With brake		Fr* (daN)	Fa* (daN)
								Mass	L	Mass	L		
NX310	60	11	23	2.5	71	5.5	75-80	2	146	2.4	194	36	20
NX420	80	19	40	3	91.5	7	100	3.7	175	4.5	226	72	24
NX430								4.6	200	5.4	251	82	24
NX620	110	24	50	3.5	121	9	130	6.9	181	8	236	82	52
NX630								8.8	210	10	265	56	54

\* at 1500 RPM for a bearings service life of 20000 hours Fr and Fa non cumulative

----- option

## NX8

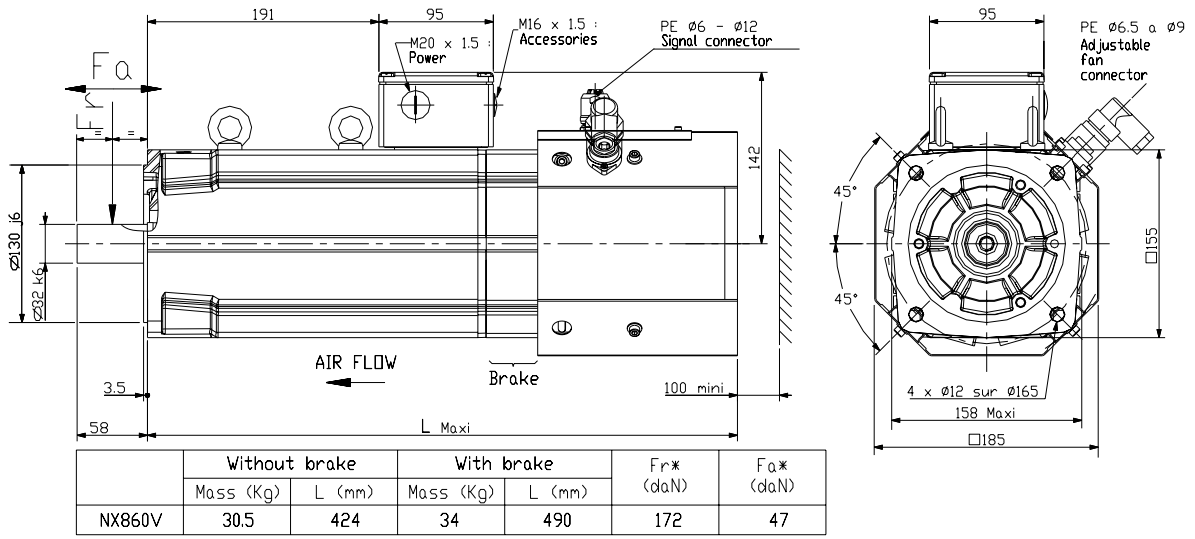


Motor	Without brake		With brake		Fr* (daN)	Fa* (daN)
	Mass (Kg)	L (mm)	Mass (Kg)	L (mm)		
NX820	13	200	16	266	151	38
NX840	20	260	23	326	165	44
NX860	27	320	30	386	172	47

\* Fr and Fa non cumulative  
\* At 1500 rpm for a bearings service life of 20000 hours

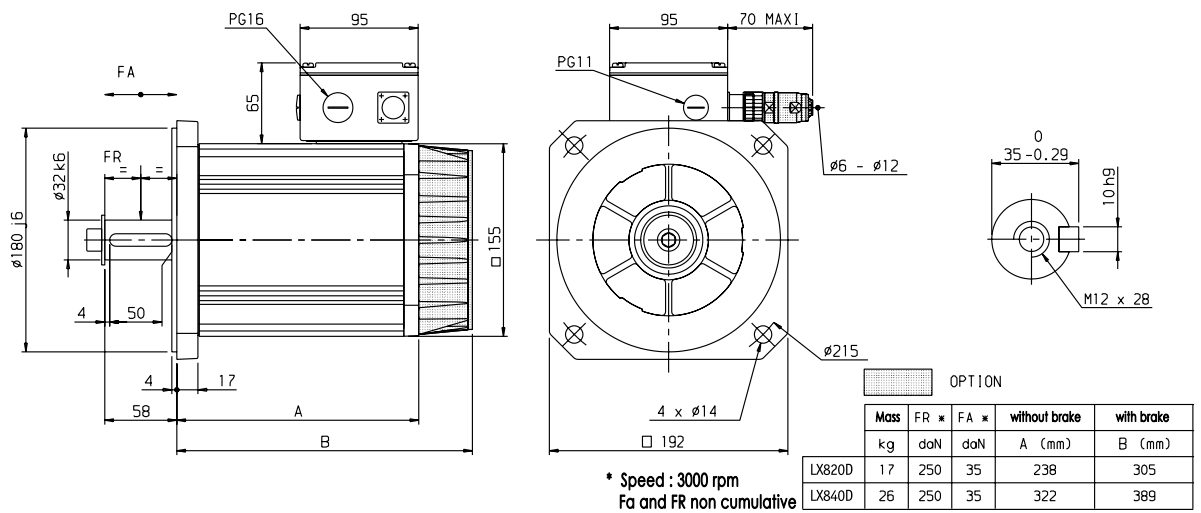
----- option

# NX - LX



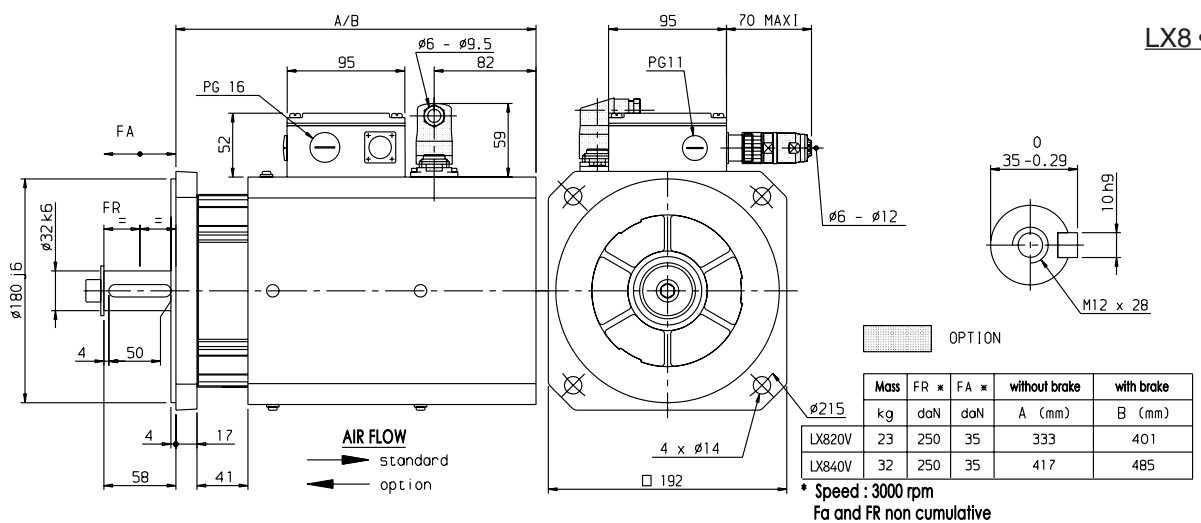
\* Fr and Fa non cumulative  
 \* At 1500 rpm for a bearings service life of 20000 hours

**NX860V**



\* Speed : 3000 rpm  
 Fa and FR non cumulative

**LX8**



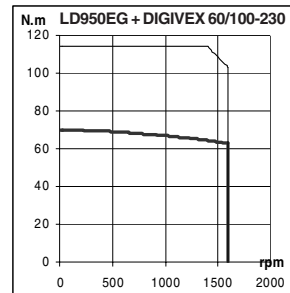
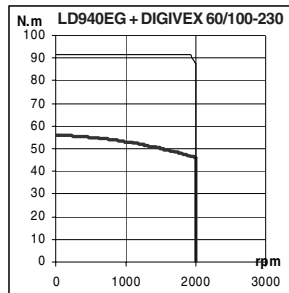
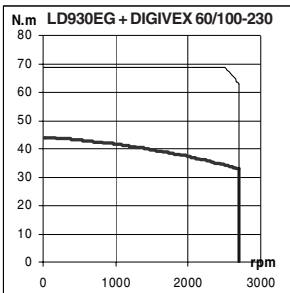
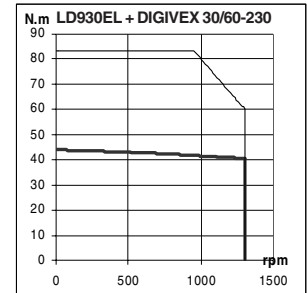
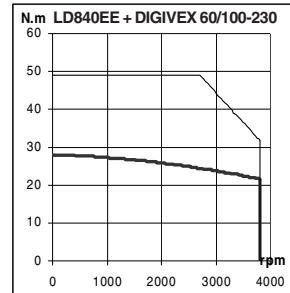
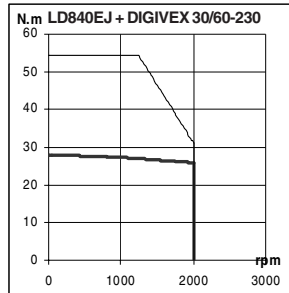
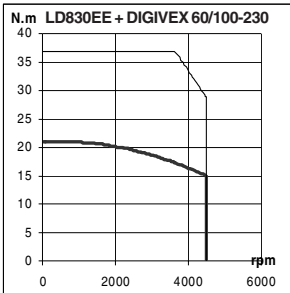
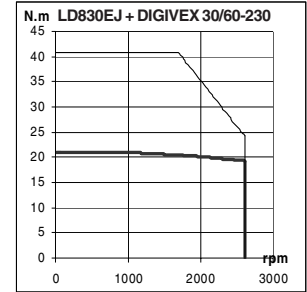
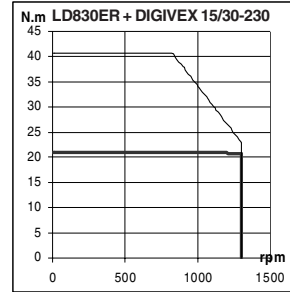
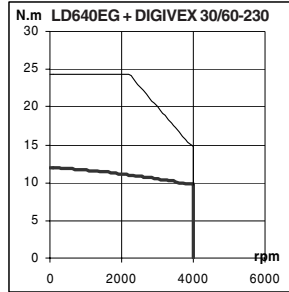
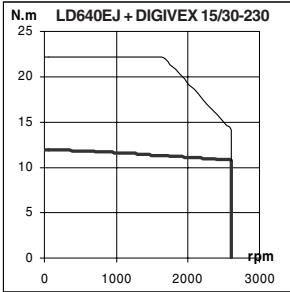
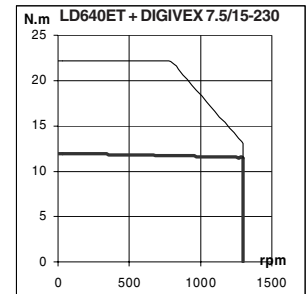
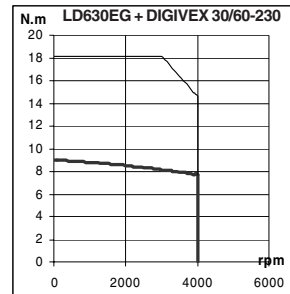
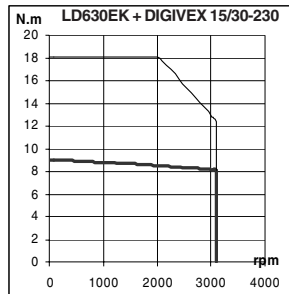
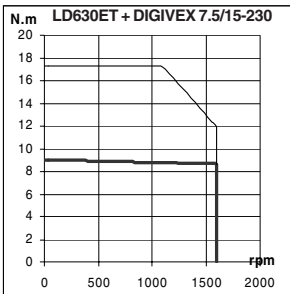
\* Speed : 3000 rpm  
 Fa and FR non cumulative

**LX8••V**

# LD SERIES

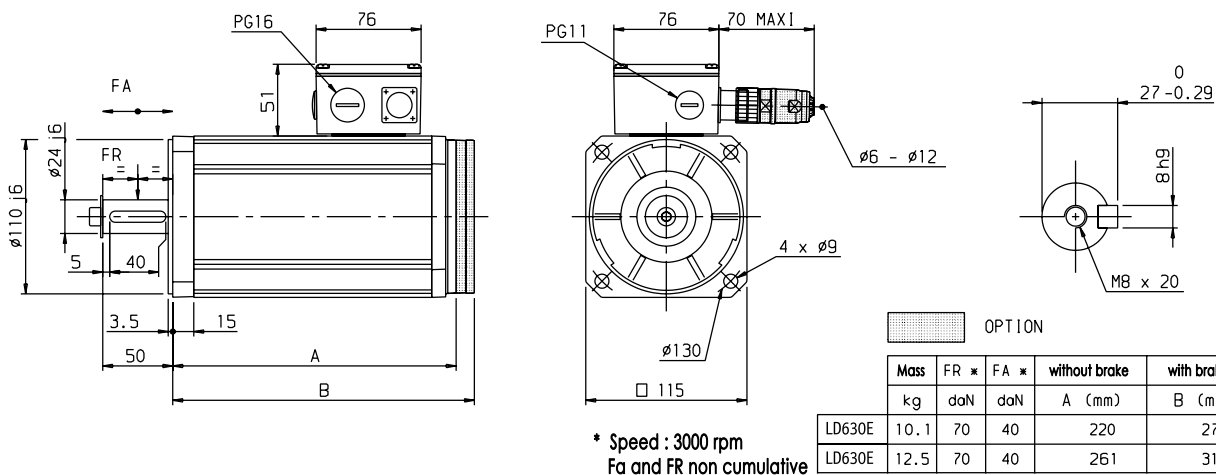
# WITH DIGIVEX 230V DRIVES

MOTOR	DIGIVEX DRIVE	Torque at low speed (Mo)		Maximum speed (N)	Inertia (J)		Torque constant (Kt)		Permanent current (Io) A
		in-lb.	N.m		in-lb.s <sup>2</sup> .10 <sup>-4</sup>	kgm <sup>2</sup> .10 <sup>-5</sup>	in-lb./A	N.m/A	
LD630ET	7.5/15	79.7	9	1600	142	160	11.063	1.25	7.21
LD630EK	15/30			3100			5.788	0.654	13.8
LD630EG	30/60			4000			3.947	0.446	20.2
LD640ET	7.5/15	106.2	12	1300	186	210	14.072	1.59	7.56
LD640EJ	15/30			2600			7.027	0.794	15.1
LD640EG	30/60			4000			4.567	0.516	23.3
LD830ER	15/30	185.9	21	1300	434	490	13.452	1.52	13.8
LD830EJ	30/60			2600			6.717	0.759	27.7
LD830EE	60/100			4500			3.558	0.402	52.3
LD840EJ	30/60	247.8	28	2000	558	630	8.939	1.01	27.6
LD840EE	60/100			3800			4.752	0.537	52.2
LD930EL	30/60			1300			13.895	1.57	28
LD930EG	60/100	389.4	44	2700	1593	1800	6.638	0.75	58.7
LD940EG	60/100			2000			8.939	1.01	55.5
LD950EG	60/100			1600			11.151	1.26	55.4

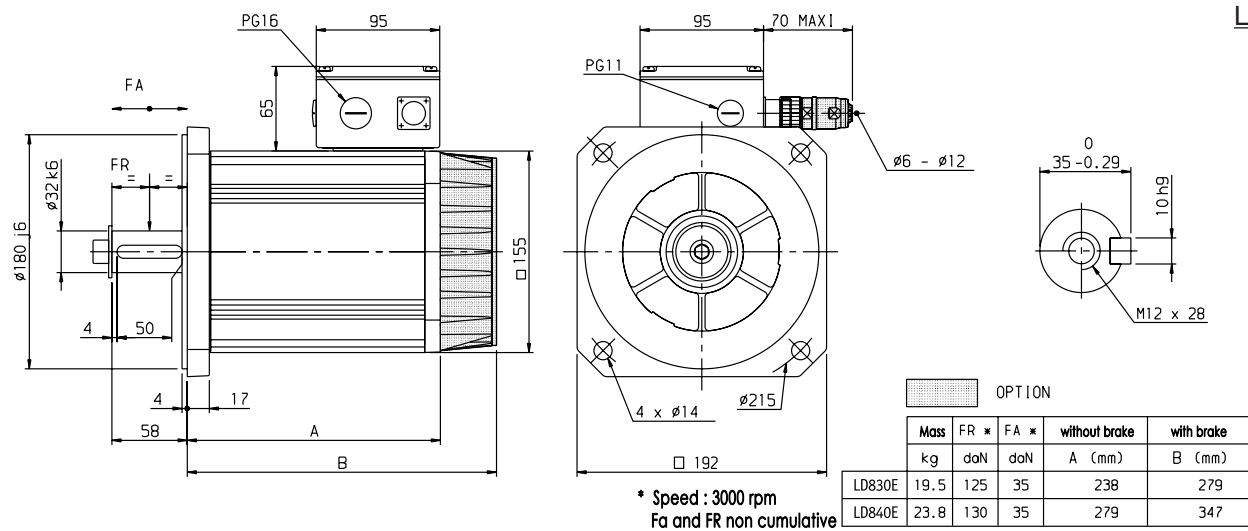


— PEAK  
 — CONTINUOUS

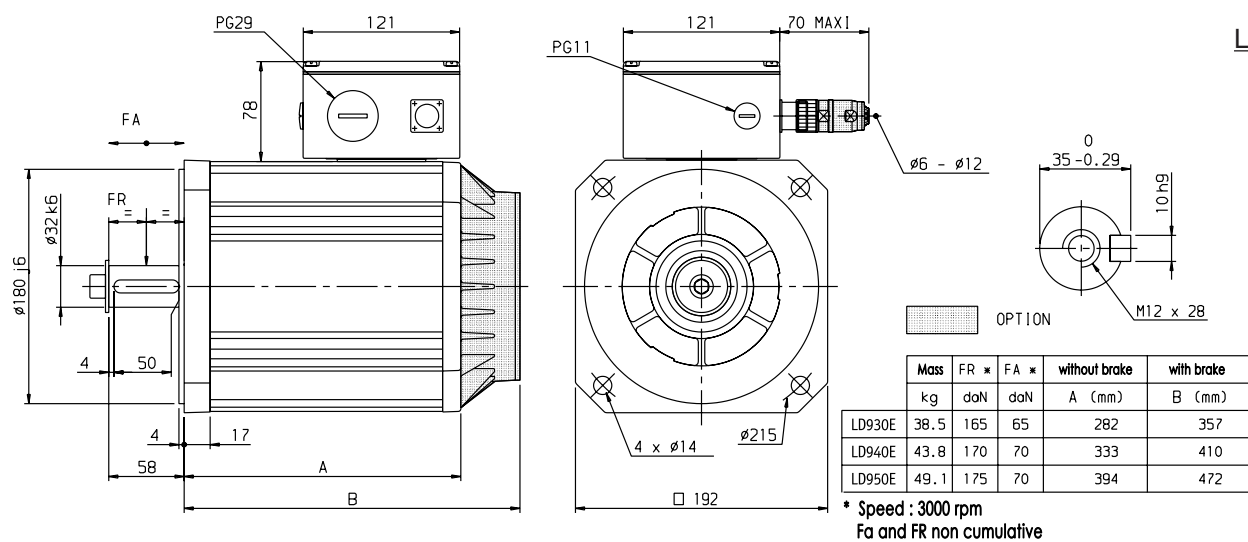
LD6



LD8



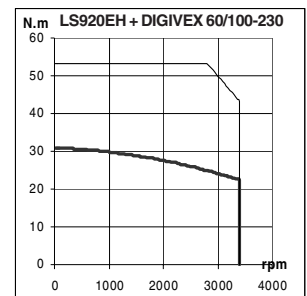
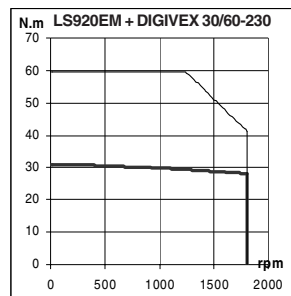
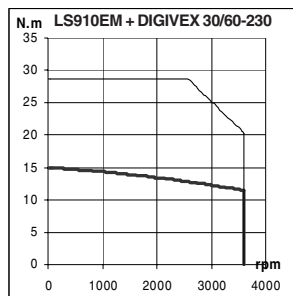
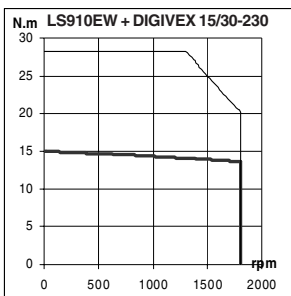
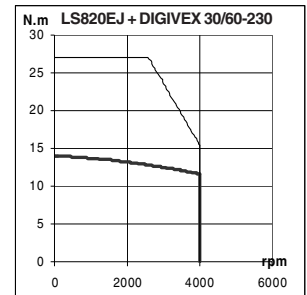
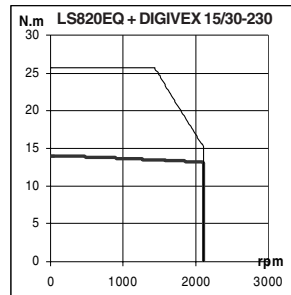
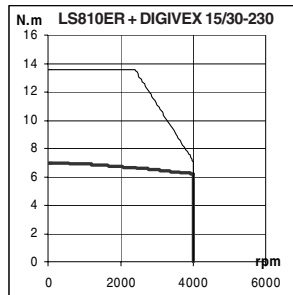
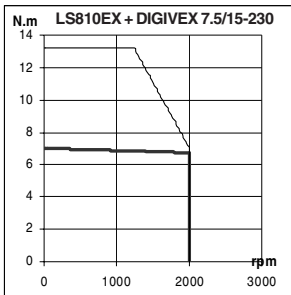
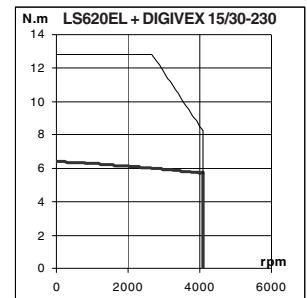
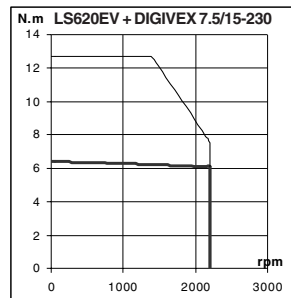
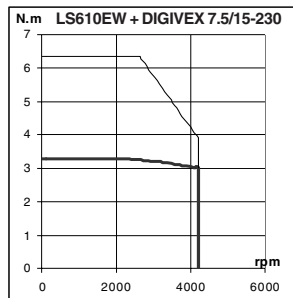
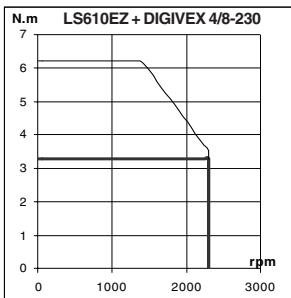
LD9



# LS SERIES

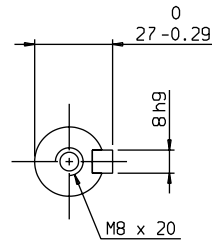
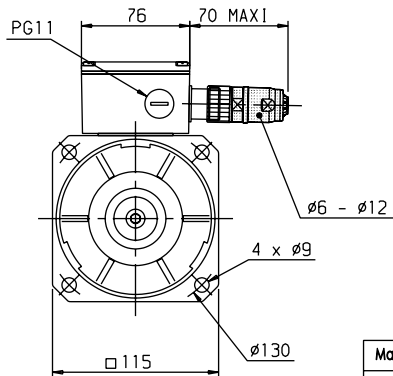
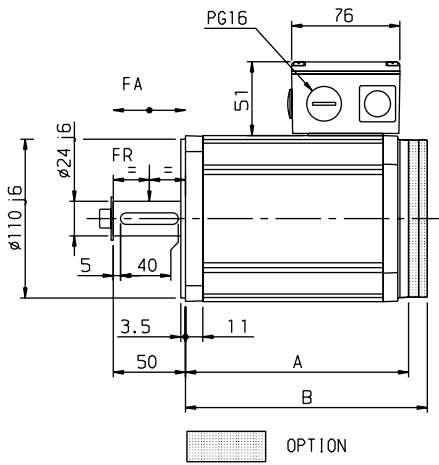
# WITH DIGIVEX 230V DRIVES

MOTOR	DIGIVEX DRIVE	Torque at low speed (Mo)		Maximum speed (N)	Inertia (J)		Torque constant (Kt)		Permanent current (Îo)
		in-lb.	N.m		rpm	in-lb.s <sup>2</sup> .10 <sup>-4</sup>	kgm <sup>2</sup> .10 <sup>-5</sup>	in-lb./Â	
LS610EZ	4/8	29.2	3.3	2300	62	70	7.496	0.847	3.9
LS610EW	7.5/15			4200			4.08	0.461	7.16
LS620EV	7.5/15	56.6	6.4	2200	102	115	8.196	0.925	6.92
LS620EL	15/30			4100			4.354	0.492	13
LS810EX	7.5/15	62	7	2000	177	200	8.629	0.975	7.18
LS810ER	15/30			4000			4.443	0.502	13.9
LS820EQ	15/30	123.9	14	2100	310	350	8.372	0.946	14.8
LS820EJ	30/60			4000			4.452	0.503	27.8
LS910EW	15/30	132.8	15	1800	602	680	9.293	1.05	14.3
LS910EM	30/60			3600			4.761	0.538	27.9
LS920EM	30/60	274.4	31	1800	1062	1200	10.001	1.13	27.4
LS920EH	60/100			3400			5.222	0.59	52.5



— PEAK  
 — CONTINUOUS

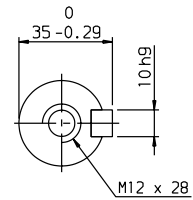
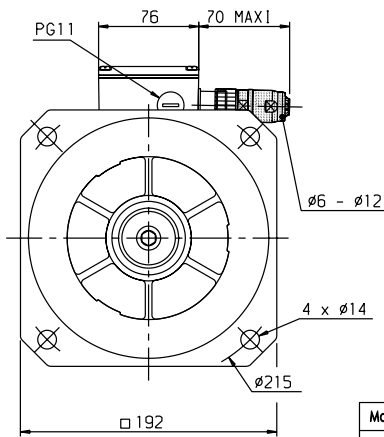
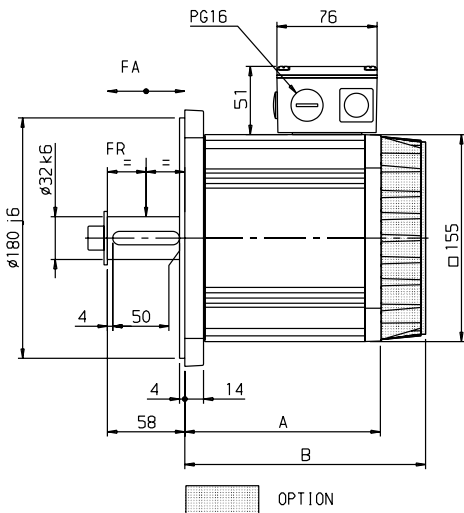
LS6



	Mass	FR *	FA *	without brake	with brake
	kg	daN	daN	A (mm)	B (mm)
LS610E	5.5	50	40	135	169
LS620E	7.8	55	40	176	210

\* Speed : 3000 rpm  
Fa and FR non cumulative

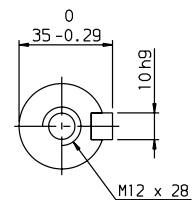
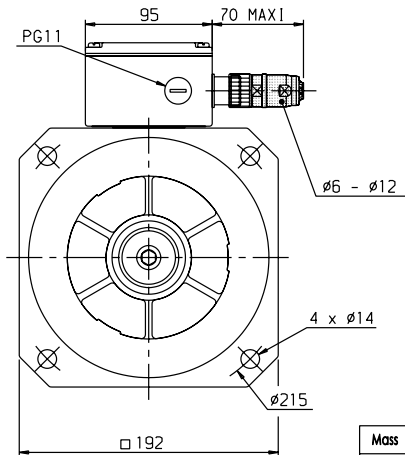
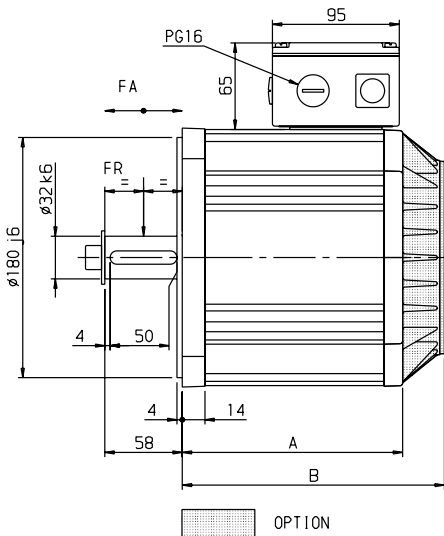
LS8



	Mass	FR *	FA *	without brake	with brake
	kg	daN	daN	A (mm)	B (mm)
LS810E	10.4	65	45	144	182
LS820E	14.6	70	50	185	223

\* Speed : 3000 rpm  
Fa and FR non cumulative

LS9



	Mass	FR *	FA *	without brake	with brake
	kg	daN	daN	A (mm)	B (mm)
LS910E	17	105	40	166	200
LS920E	25.2	120	40	216	259

\* Speed : 3000 rpm  
Fa and FR non cumulative

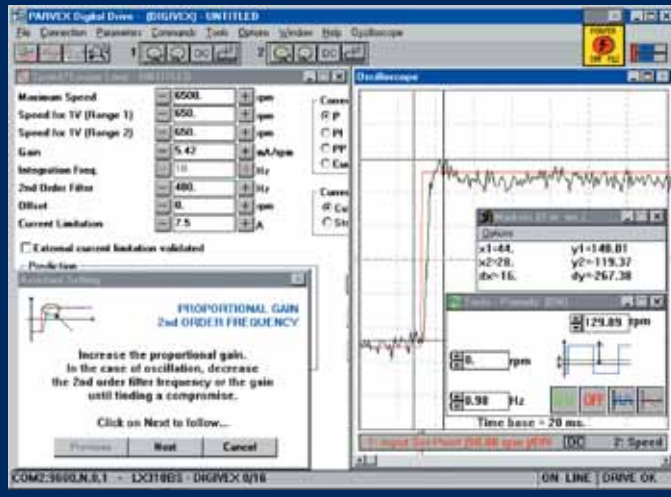
# AXES FROM 8 TO 3540 in-lb SPINDLES UP TO 66 HP OR 50,000 rpm

FULLY DIGITIZED  
FOR OPTIMAL USE OF MOTOR CAPABILITIES

## DIGITAL VARIABLE SPEED DRIVE

“ DIGIVEX Drive ” SINGLE-AXIS OR  
MULTIPLE-AXIS SERIES

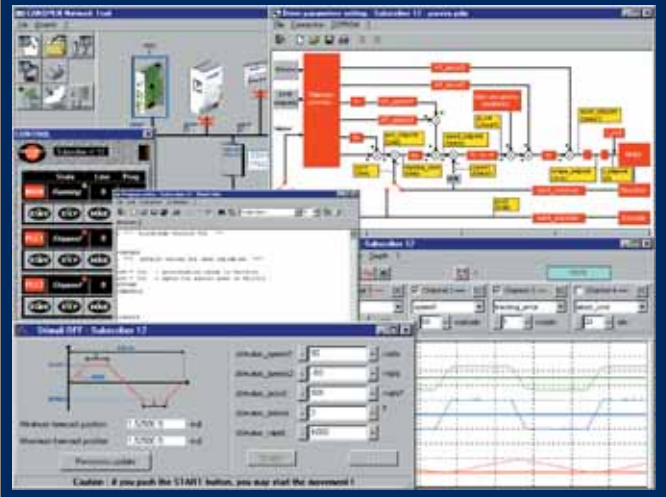
SINGLE-AXIS	DSD
COMPACT SINGLE-AXIS	DLD
POWER SINGLE-AXIS	DPD
MULTIPLE-AXIS	DMD



## VARIABLE SPEED DRIVE - POSITIONER

“ DIGIVEX Motion ” SINGLE-AXIS OR  
MULTIPLE-AXIS SERIES

SINGLE-AXIS	DSM
POWER SINGLE-AXIS	DPM
MULTIPLE-AXIS	DMM



## VERY USER-FRIENDLY SOFTWARE, INCORPORATING :

- ✓ SERVOCONTROL PARAMETER SETTING AND ADJUSTMENT
- ✓ SETTING AND ADJUSTMENT ASSISTANT
- ✓ INTERNAL SIGNAL GENERATOR
- ✓ MULTI-WAY OSCILLOSCOPE FUNCTION WITH MEASUREMENT TRAVELLERS

# PARVEX

**PARVEX**

9225 Forsyth Park Drive - Charlotte - NC - 28273 USA  
Telephone (704) 588 3246 - Facsimile (704) 588 4806  
[www.parvex.com](http://www.parvex.com)

