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PVD3564GB - 01/2006 - Products subject to change

www.parvex.com
www.parker.com

Your local contact :

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SSD PARVEX GENERAL CATALOG

SSD PARVEX

GENERAL CATALOG 2006/1

:: AC SYSTEM DRIVES

:: HMI TOUCHSCREENS

:: AC & DC SERVODRIVES

:: AC & DC SERVOMOTORS

:: AC MOTORS

:: TORQUE MOTORS

SSD DRIVES
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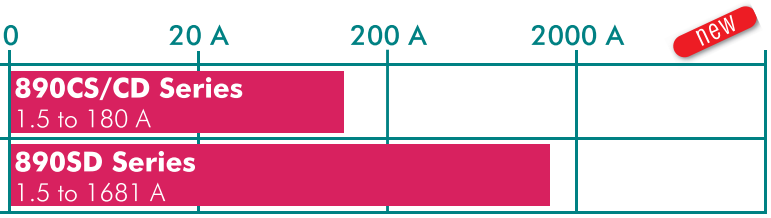
PRODUCT SELECTOR

AC SYSTEM DRIVES



AC system drive for asynchronous and brushless motors - Common bus version	p.11	**890CS/CD Series** 1.5 to 180 A
AC system drive for asynchronous and brushless motors - Stand alone version	p.13	**890SD Series** 1.5 to 1681 A

SERVO DRIVES

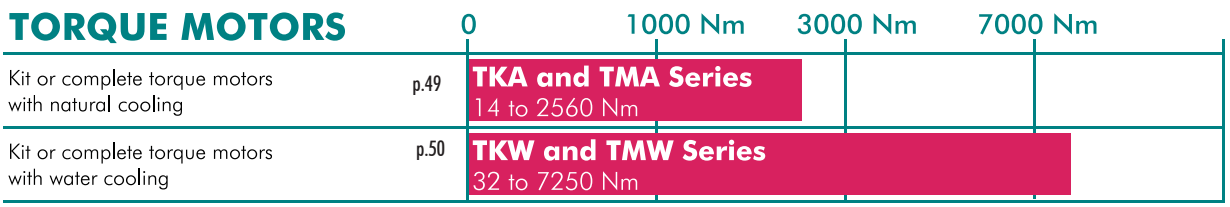
Compact positioning drive with integrated PLC	p.23	**631 Series** 0 to 6 A
Motor control complete system with fieldbus interface options	p.24	**635 Series** 0 to 10 A
High performance servo drives for single or multi axis applications	p.25	**637f Series** 0 to 30 A
Brushless servo speed control for axis or spindle applications	p.31	**DIGIVEX Drive Series** 0 to 300 A
Complete positioning drive for optimum control of brushless servo motors	p.33	**DIGIVEX Motion Series** 0 to 300 A
Servo drive for DC motors	p.77	**RTS Series** 0 to 40 A

SERVO MOTORS

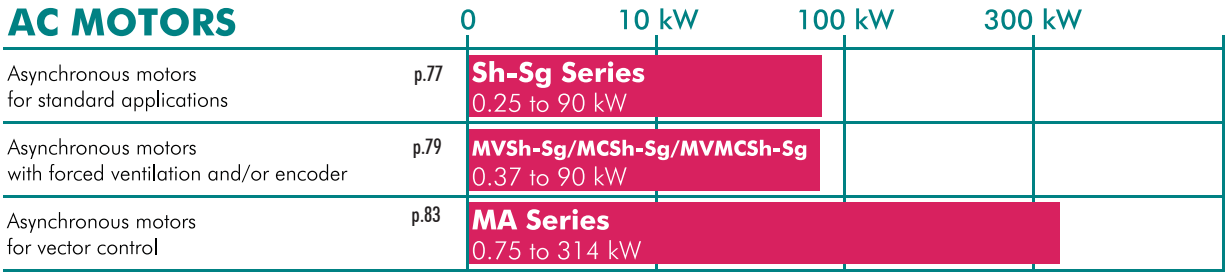
Brushless servo motors with high dynamic characteristics and exceptional quality of motion	p.37	**NX, L and H Series** 0.4 to 320 Nm
ATEX approved brushless servo motors for potentially explosive atmospheres	p.47	**EX Series** 1.75 to 35 Nm
DC Servo motors of rotor disk or wound rotor type	p.69	**AXEM and RS-RX** 0.05 to 20 Nm

Synchronous permanent magnets motors for high performance spindle applications	p.65	**HV and HW Series** 2 to 110 kW

TORQUE MOTORS



AC MOTORS



CONTENTS

PART. 5 DC SERVO MOTORS AND SERVO DRIVES

PART. 6 AC MOTORS

PART. 7 ACCESSORIES AND SOFTWARE

PART. 8 APPLICATION EXAMPLES

Parker Hannifin

An industrial tradition, a 51000 people group

Parker found in 1918 is now a large industrial group. Employing more than 51000 people around the world, Parker's annual sales exceed $8.2 billion.

Parker covers several industrial markets including industry, space and civilian: Packaging, automation, automotive, space, semi-conductor…
Since beginning, Parker success is based on quality products and first class worldwide customer service.

Shares of Parker Hannifin stock are traded on the New York Stock Exchange (NYSE: PH)

The world's leading company of motion control technologies

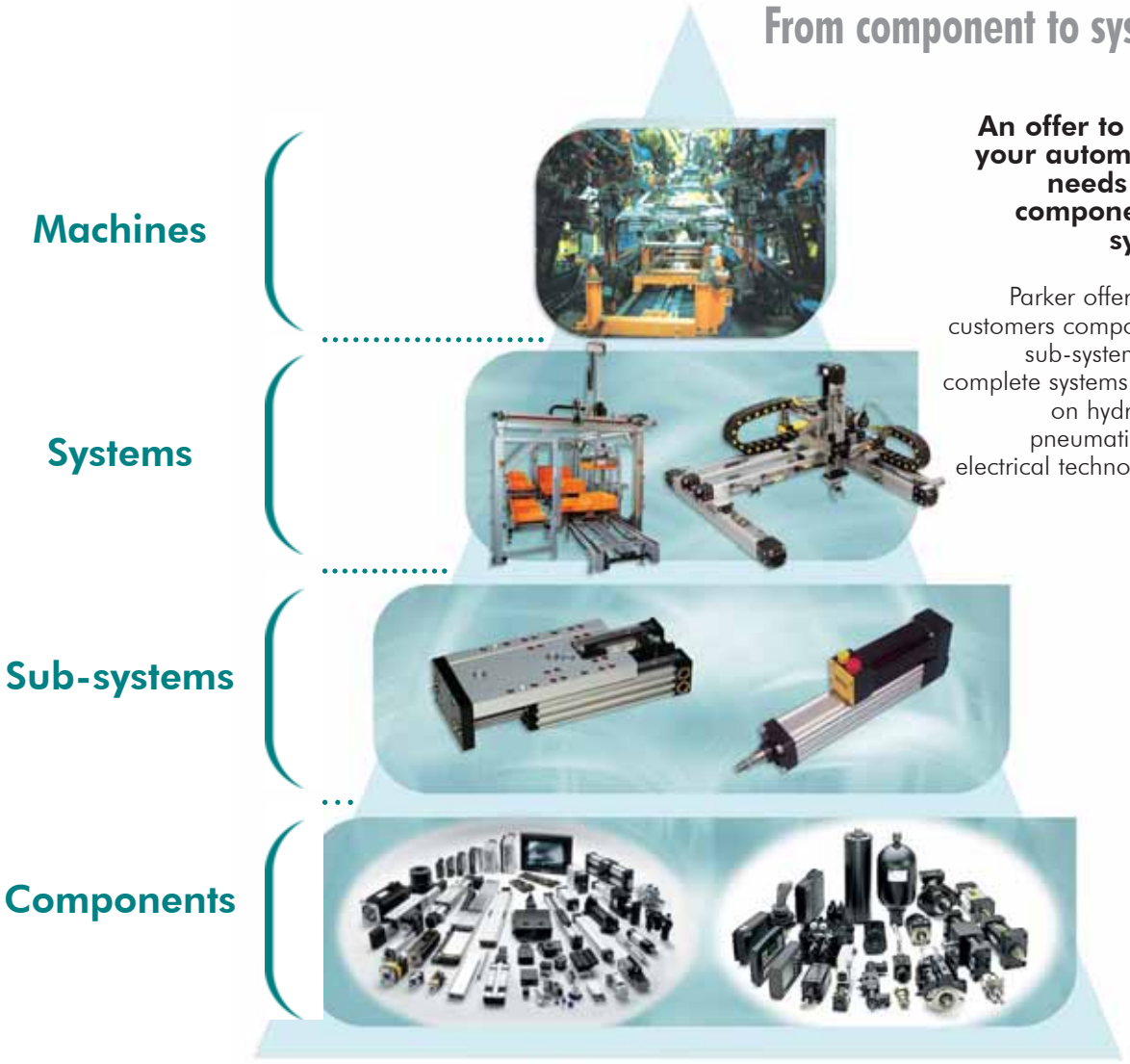
Parker is the leader in motion control.

Parker's unique product offering is organised into **8 specialist product areas to meet the customer needs**:

- Automation,
- Instrumentation,
- Aerospace,
- Hydraulics,
- Climate controls,
- Connectors,
- Seals
- and Filtration.

Téléphone: **01 69 18 51 51** Fax: **01 69 18 51 59** Hot Line: **0899 700 331**

From component to system



An offer to meet your automation needs from component to system

Parker offers to its customers components, sub-systems and complete systems based on hydraulics, pneumatics and electrical technologies.

SSD Drives division

1000 specialists in drives and servo systems

For almost 30 years, SSD Drives is a world's specialist in drives and servo systems and enjoys an excellent reputation for product robustness and service quality.Its Parvex factory develops and produces servo motors and drives for the most demanding applications in which motion quality is the key point.

In august 2005, SSD Drives is become a part of Parker Hannifin Automation group strengthening its motion control solution offering and worldwide presence.

SSD PARVEX

A unique range of servo drives, servo motors and customized solutions

SSD Parvex can offer a complete range of servo motors and drives for every kind of application :

- **Universal System Drives** ▶ 0.75 to 1000kW
  For all AC motors : servo, torque, linear, induction
- **Servo drives** ▶ 2 to 300A
- **Torque motors** ▶ Up to 7500Nm
- **Brushless servo motors** ▶ 0.4 to 320Nm
- **Spindle high speed motors** ▶ Up to 50000 rpm

On top of this standard offering, SSD Parvex has the organisation and knowledge to tailor special solutions to the requirements of your applications :

- **Kit servomotors for OEM**
- **Special servomotors or drives**

Don't hesitate to consult your local sales representative for any special requirement.

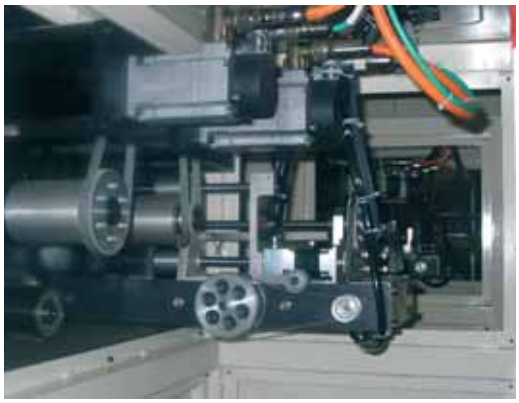
Téléphone : **01 69 18 51 51** Fax : **01 69 18 51 59** Hot Line : **0899 700 331**

A well-known system expertise

SSD Parvex technical teams have the skills to assist you in the design and the start-up of your machines.

They ensure the following services on demand:

- Pre-sales support for specification
- Machine start-up
- Turnkey system studies including electrical diagrams and cubicle integration execution
- Production start-up assistance

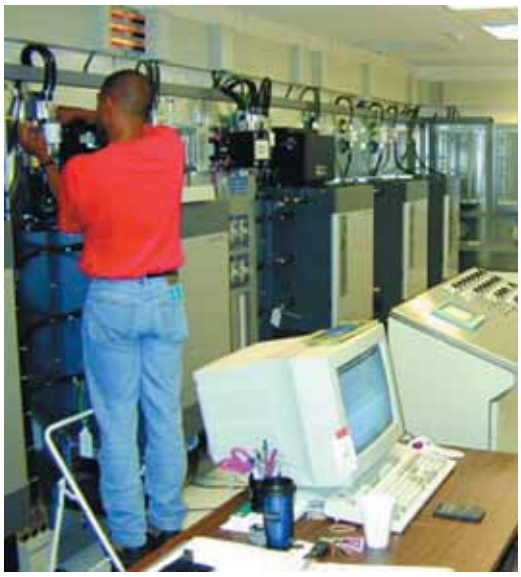


Garanteed repairs

We repair all our motors and drives in 4 weeks time in average. In emergency situations, that lag time can be reduced to a few days.

Every product repaired is automatically updated according to the recommendations of our R&D department.

The repair job is garanteed 3 months and follows our ISO 9001- version 2000 highest quality standards.



Web site

Our Web Site completes this organisation by providing very useful documents:

- Technical documentation, motor datasheets, motor drawings
- Application notes

Don't hesitate to visit us on
www.parvex.com

AC890

from 1.5 to 1681A

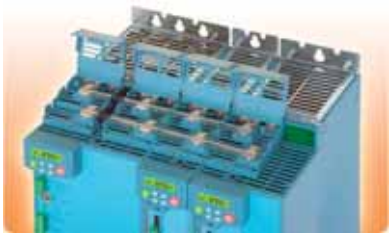
DESCRIPTION

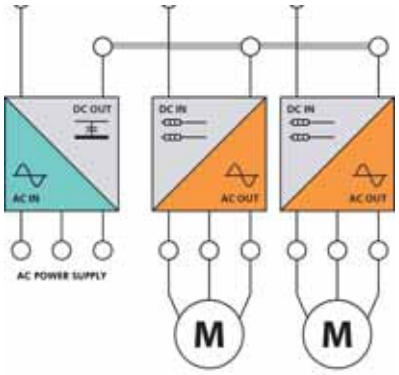
AC890 Drive System is a frequency converter purposely designed for industrial applications with any type of AC motors.
A single control board enables to operate all types of motors, from induction to brushless motors.
V/F, sensorless or closed-loop flux vector control operations are available on asynchronous induction motors while the servo control enables to operate all permanent magnet brushless AC motors.
In addition to its modular structure and 5 operation modes, AC890 offers "DSE" advanced programming system and compatibility with all major fieldbus, including FireWire 1394. Most of speed/position feedback devices can be used including resolvers, HTTL, SinCos or EnDat encoders.

5-Mode frequency converter:
V/F, sensorless vector, closed-loop flux vector, servo drive, line regenerative (AFE)
Built-in EMC filters
3 Performance levels (standard, advanced, high performance)
EN954-1 Cat3 certified optional Safe Stop
6 Fieldbus available

Module Variations

Common bus 890 CS/CD

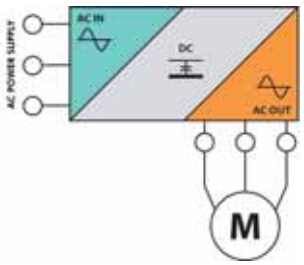




The AC890 Common Bus solution is based on a power supply unit (Common Bus Supply) and an inverter module (Common Bus Drive) connected by bars on a common DC bus. The inverter module's power ranges between 0.75 and 90kW, with different frame sizes according to power requirements.

Stand Alone 890 SD

AC 890 converter is directly connected to the mains, with supply voltage ranging from 230 to 480V.
Powers from 0.25 to 1000kW can be accomodated ; different frame sizes are available.



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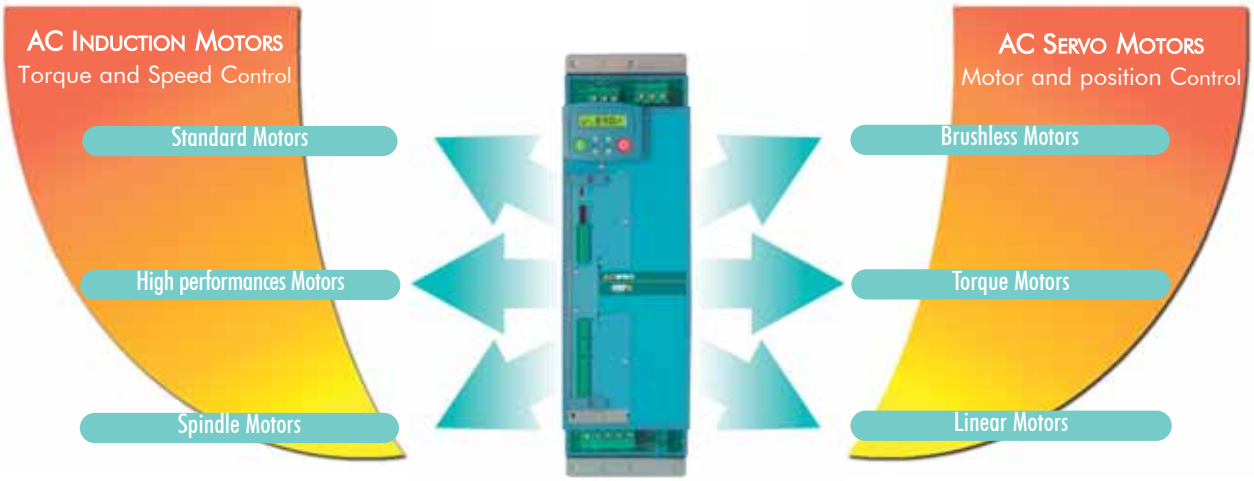


TECHNICAL SPECIFICATIONS

Power supply:
890CS : 208÷500Vac ± 10%
890CD : 320/560÷705Vdc
890SD : 380÷500Vac ±10% (Frame sizes E/F/G/H/J/K :380÷460VAC ±10%)

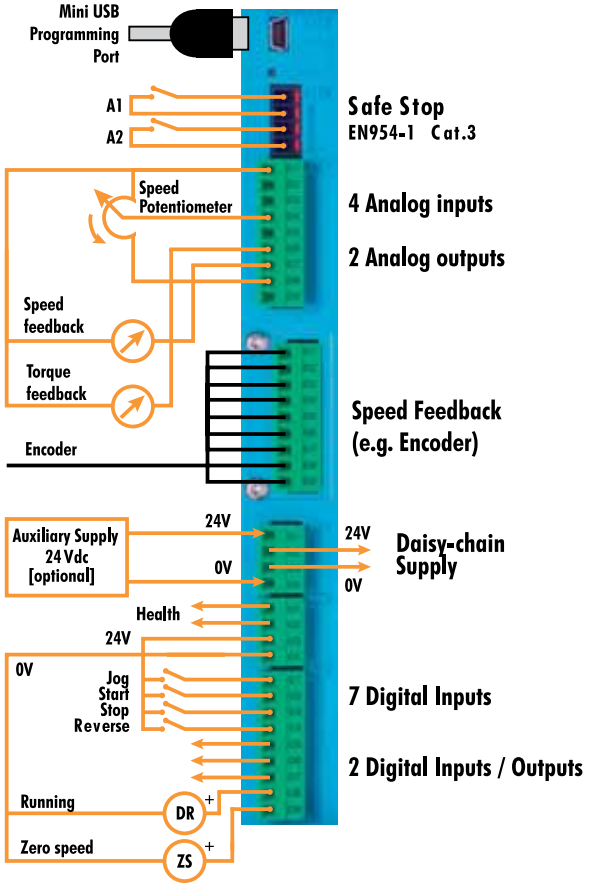
Operating temperature: 0÷45°C (Derate 2%/°C to 50°C max - Frame sizes G/H/J/K : 0÷40°C)

Maximum humidity: 85% non-condensing

Altitude : 1000m ASL (Derate 1%/100m - 1000 ÷ 4000m max)

Degree of protection IP20 (Frame sizes G/H/J/K : IP00)

Inputs/Outputs
Analog inputs : 4 total, 2 configurable (0-10V, ±10V, 0-20mA, 4-20mA)
+ 2 configurable (0-10V, ±10V)
Analog outputs: 2 configurable (0-10V, ±10V)
Digital inputs: 7 configurable (24V)
Digital I/O: 2 configurable (24V)
Relay Digital Output: 1 configurable



AC890 KEY POINTS

:: Programming port USB
:: Torque and speed analog outputs
:: "Clean Health" Contact
:: 24Vdc Control supply
Programming without power supply
:: PNP Logics
:: Motor Thermistor Input
:: "Running and Zero speed" signal Outputs

PERFORMANCE LEVELS

AC890 frequency converters can offer the level of performance that best suits your application needs. With 3 different performance levels, AC890 system allows the maximum flexibility of use.

LEVEL

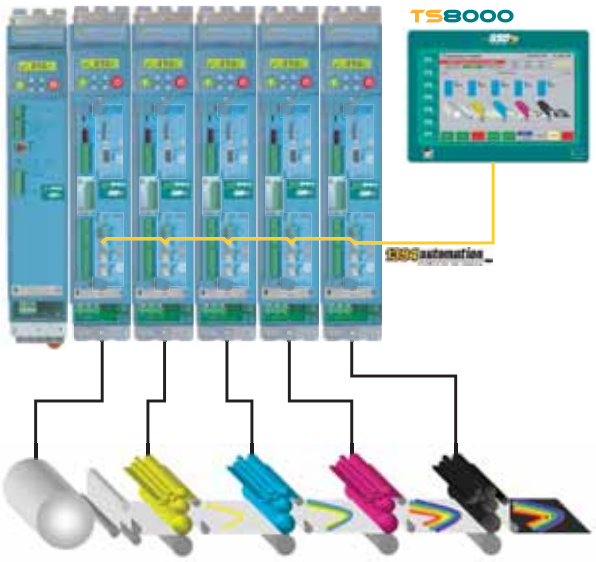
1 STANDARD PERFORMANCE
Basic function blocks available: Math Functions, Boolean Logic, Timers, Counters, Threshold Comparators, and many more.

2 ADVANCED PERFORMANCE
Standard features, plus: Motion Control dedicated Firmware with added Position Loop, Function Blocks, Incremental Move, Absolute Move, Move Home, Master Ramp, Section Control, Speed or Current Winder Control, advanced PID Function, Machine State, and many more.

3 HIGH PERFORMANCE
Advanced Performance features, plus: Library of pre-engineered Applications with specific Function Blocks such as Shaftless System, Precision Camming, Cut-to-Length, and many more.

SHAFTLESS AND REGISTER CONTROL

In printing applications AC890 Drive System enables the replacement of mechanical shafts with their high performance electronic equivalent.
AC890 with third level firmware can manage synchronization and printing register of each section with utmost precision, thus guaranteeing perfect alignment of each color.



FireWire protocol (IEEE1394) ensures data synchronization for the printing register control.

FireWire

. 125µS Cycle time
. Time Synchronization
. Deterministic Network

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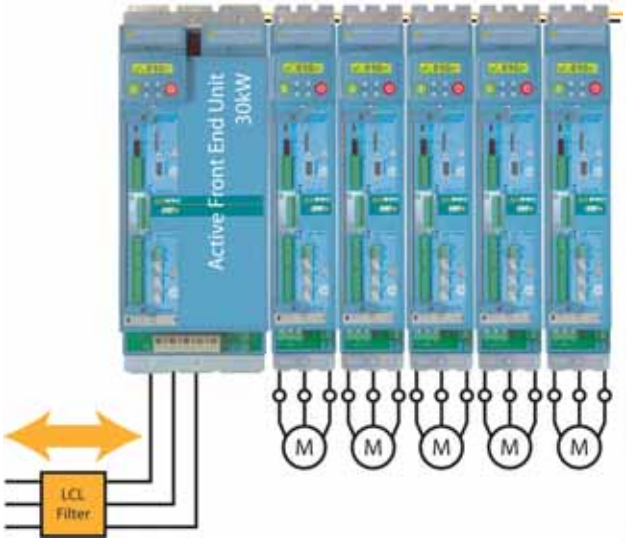
"ACTIVE FRONT END" : LINE REGENERATIVE SYSTEMS

890CD and 890SD modules can also be configured as Active Front End input sections, providing full 4-quadrant control and an almost harmonics-free line regeneration.



890 "ACTIVE FRONT END" KEY POINTS

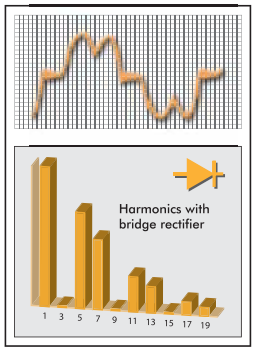
REQUIREMENTS

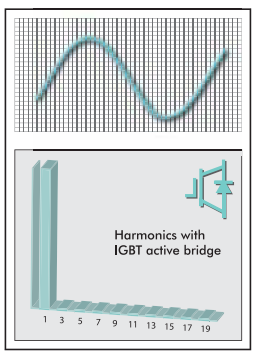
:: Pre-charging Circuit
:: LCL Filter

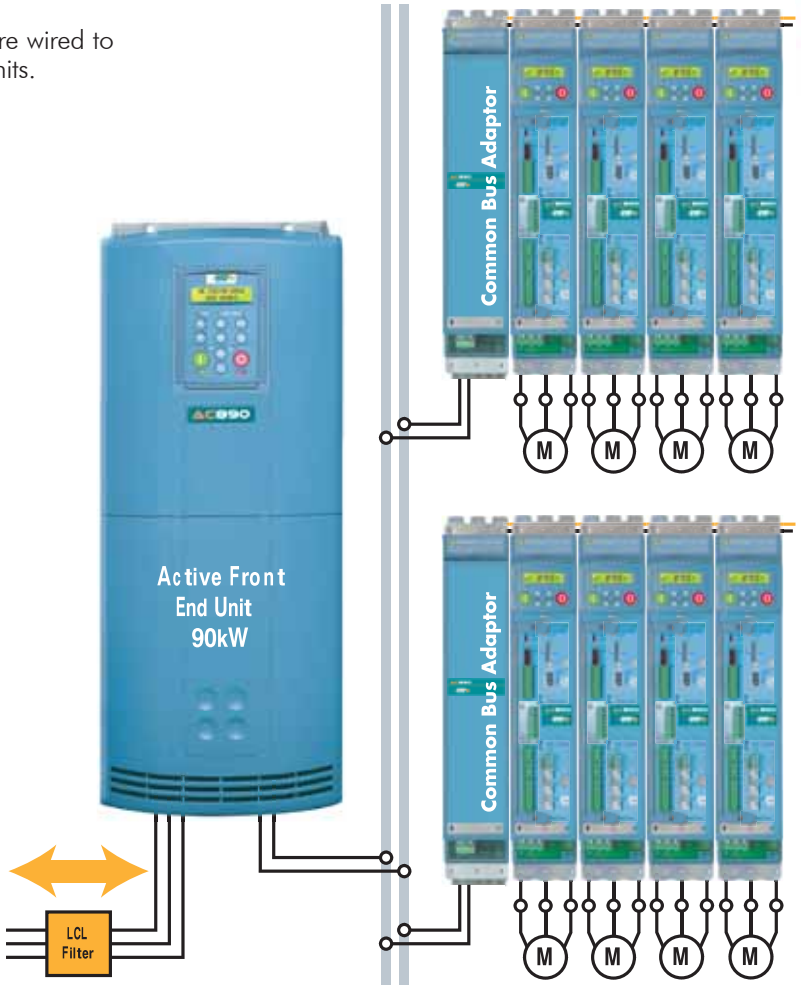
PERFORMANCE

:: Fully Bidirectional Power Flow
:: Overload 150% for 60 secs
:: Sinusoidal Input Current
:: Complies with IEEE 519

Higher rate Active Front End units can be employed for higher power systems.
Rows of 890DC Common Bus drives are wired to high-current bars by 890AC adapter units.





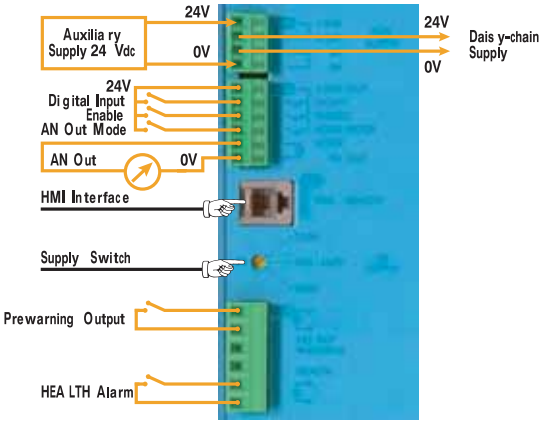


AC890

890CS/CD Series

890CS Power Supply Unit

from 40 to 200A

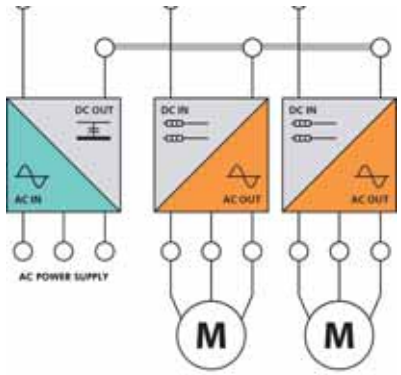


208-500Vac Power Supply
Built-in Dynamic Braking Unit
Double dc bus supply output
Diagnostic Operator Panel

DESCRIPTION

The AC890 is modular enough to match exactly your needs. It features the following variations :

- 890CD inverter units DC powered and driving each a motor
- 890CS common supply units which come with a double DC bus output connected either to inverter units (890CD) or stand-alone drives (890SD) for currents up to 1,681 Amperes.



890CS POWER SUPPLY UNIT KEY POINTS

- Clean Health Contact
- 24VDC supply control
- HMI Interface connection
- Three-phase supply selector
- Configurable analog output
- Prewarning Output

Characteristics

Type	Size	Input Voltage (Vac)	Power (kW)	AC Input Current (A)	DC Output Current (A)
890CS/5/0032B	Frame B	230	7.5	32	40
		400 / 460	15		
		500	18		
890CS/5/0054B		230	15	54	65
		400 / 460	30		
		500	37		
890CS/5/0108D	Frame D	230	30	108	135
		400 / 460	60		
		500	75		
890CS/5/0162D		230	45	162	200
		400 / 460	90		
		500	110		

Note: To increase power connect more parallel supply units. Please contact our Technical Dept.

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890CD Inverters
from 1.5 to 180A

320, 650, 705Vdc Power supply
Standard equipped operator panel
Common options with 890SD
6 FieldBus available

Characteristics

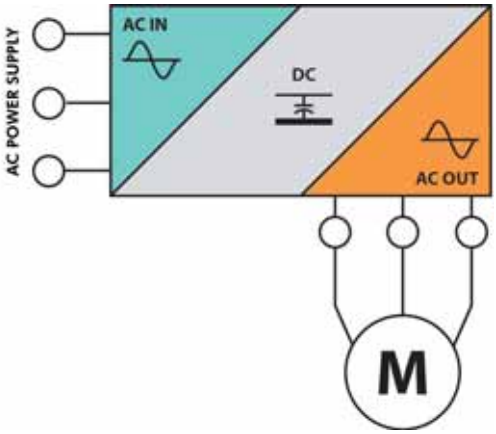
Type	Size	Input Voltage (Vdc)	Power (kW)	DC Input Current (A)	Output current (A)	
					Vector Mode	Servo Mode
890CD/2/0003B	Frame B	320	0.55	4.2	3	2.2
890CD/2/0005B			1.1	7.6	5.5	4
890CD/2/0007B			1.5	9.3	7	6
890CD/2/0011B			2.2	14.9	11	8
890CD/2/0016B			4	22.2	16.5	12
890CD/5/0002B		560 ÷ 705	0.55	2.9	2	1.5
890CD/5/0003B			1.1	5	3.5	2.5
890CD/5/0004B			1.5	6.6	4.5	3.5
890CD/5/0006B			2.2	8.6	6	4
890CD/5/0010B			4	14.1	10	6
890CD/5/0012B			5.5	16.8	12	9
890CD/5/0016B			7.5	22.2	16	12
890CD/5/S016B			7.5	22.2	16	16
890CD/2/0024C	Frame C	320	5.5	31	24	24
890CD/2/0030C			7.5	39	30	30
890CD/5/0024C		560 ÷ 705	11	33	24	20
890CD/5/0030C			15	43	30	25
890CD/5/S030C			15	43	30	30
890CD/5/0039D	Frame D		18.5	37	39	35
890CD/5/0045D			22	43	45	38
890CD/5/0059D			30	59	59	50
890CD/4/0073E	Frame E	560 ÷ 650	37	Data not available at the time of printing*	73	Data not available at the time of printing*
890CD/4/0087E			45		87	
890CD/4/0105F	Frame F		55		105	
890CD/4/0145F			75		145	
890CD/4/0180F			90		180	

* For updates please contact our Sales Dept. or visit www.SSDdrives.com
Note: For higher powers refer to 890SD Series DC Bus supplied via DC bus
Note: Nominal Powers refer to 320 and 560Vdc

AC890

890 SD Series

from 1.5 to 1681A



DESCRIPTION

890SD Series (Stand Alone) frequency converters are independent units that can be powered either with mains three phase voltage or via bus in DC. 890SD Series comes in a wide choice of sizes, suitable for every type of application, from small industrial machines to high-powered large plants (e.g. rolling mills, paper mills). They are also ideal for applications where single units are machine mounted (e.g. printing units).

DIRECT MAINS SUPPLY OR VIA DCBUS
BUILT-IN DYNAMIC BRAKING UNIT
STANDARD EQUIPPED OPERATOR PANEL
COMMON OPTIONS WITH 890CD
6 FIELDBUS AVAILABLE

890SD Series - 220 ÷ 240VAC

Type	Size	Input Voltage (Vac)	Power (kW)	Input Current (A)		Output Current (A)	
				Vector Mode	Servo Mode	Vector Mode	Servo Mode
890SD/2/0003B	Frame B	230	0.55	4.2	4.2	3	2.2
890SD/2/0005B			1.1	7.7	7.3	5.5	4
890SD/2/0007B			1.5	9.3	9.9	7	6
890SD/2/0011B			2.2	15.2	12.9	11	8
890SD/2/0016B			4	21.8	18.2	16.5	12
890SD/2/0024C	Frame C		5.5	31	31	24	24
890SD/2/0030C			7.5	40	40	30	30

Note: Nominal Powers refer to 230Vac
Overload allowed: 150% for 60secs in vector mode - 200% for 4secs in servo mode.

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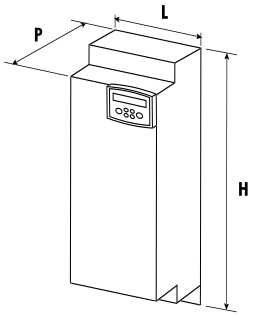
890SD Series - 400 ÷ 500 VAC

Type	Size	Input Voltage (Vac)	Power (kW)	Input Current (A)		Output Current (A)	
				Vector Mode	Servo Mode	Vector Mode	Servo Mode
890SD/5/0002B	Frame B	400 ÷ 500	0,55	2,9	2.9	2	1,5
890SD/5/0003B			1,1	5	4.7	3,5	2,5
890SD/5/0004B			1,5	6,8	6.4	4,5	3,5
890SD/5/0006B			2.2	9	7.2	6	4
890SD/5/0010B			4	14	14	10	6
890SD/5/0012B			5.5	16.5	13.8	12	9
890SD/5/0016B			7.5	21.7	17.9	16	12
890SD/5/S016B			7.5	21.7	23.4	16	16
890SD/5/0024C	Frame C		11	32	32	24	20
890SD/5/0030C			15	40	40	30	25
890SD/5/S030C			15	40	40	30	30
890SD/5/0039D	Frame D		18.5	42	38	39	35
890SD/5/0045D			22	50	45	45	38
890SD/5/0059D			30	62	54	59	50
890SD/4/0073E	Frame E	400 ÷ 460	37	81	Data not available at the time of printing*	73	Data not available at the time of printing*
890SD/4/0087E			45	95		87	
890SD/4/0105F	Frame F		55	114		105	
890SD/4/0145F			75	143		145	
890SD/4/0180F			90	164		180	
890SD/4/0216G	Frame G		110	Data not available at the time of printing*		216	
890SD/4/0250G			132			250	
890SD/4/0316G			160			316	
890SD/4/0361G			180			361	
890SD/4/0420H	Frame H		220			420	
890SD/4/0480H			250			480	
890SD/4/0520H			280			520	
890SD/4/0590J	Frame J		315			590	
890SD/4/0685K	2 x Frame G		355			685	
890SD/4/0798K	2 x Frame H		400			798	
890SD/4/0988K			500			988	
890SD/4/1120K	2 x Frame J		600			1.12	
890SD/4/1028K	3 x Frame G		550			1.028	
890SD/4/1197K	3 x Frame H		630			1.197	
890SD/4/1482K			800			1.482	
890SD/4/1681K	3 x Frame J		900			1.681	

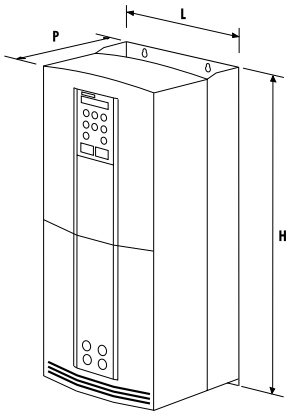
* For updates please contact our Sales Dept. or visit www.parvex.com

Note: Nominal Powers refer to 400Vac

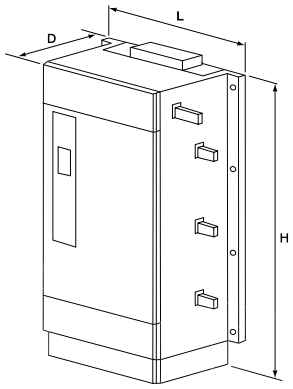
Overload allowed: 150% for 60secs in vector mode - 200% for 4secs in servo mode.



Frame Sizes B/C/D



Frame Sizes E/F



Frame Sizes G/H/J

Dimensions and Weights

Type	W (mm)	H (mm)	D (mm)	Weight (kg)		
				890CS	890CD	890SD
890 Frame B	72.4	433	258	3.5	5	6
890 Frame C	116			n.a.	6.6	7.6
890 Frame D	160			8.7	12.1	13.1
890 Frame E	257	668	312	n.a.	32.5	33.5
890 Frame F		720	355		41	42
890 Frame G	456	1.042	465		n.a.	108
890 Frame H	572	1.177				138
890 Frame J	675	1.288				176

CABLES AND CONNECTORS

Cables

Type	Description
8905/USBCL1/00	890 USB Programming Cable
CM469189U002	200 mm FireWire Cable
CM469189U003	280 mm FireWire Cable
CM469189U010	1000 mm FireWire Cable
CM469189U045	4500 mm FireWire Cable

Bus Bar System

Type	Description
BH465850	1000 mm DC Bus Bar
BC465938U200	200 mm Insulator for DC Bus Bars

Assembly Kit

Type	Description
BA465900	Clips for fitting on DIN rail
BA465887	Control Cable Support
BA465888	Supply Cable Support
8905/DUCTKIT/00	Ventilating Duct Kit
8905/DUCTFAN/00	Exhaust Fan

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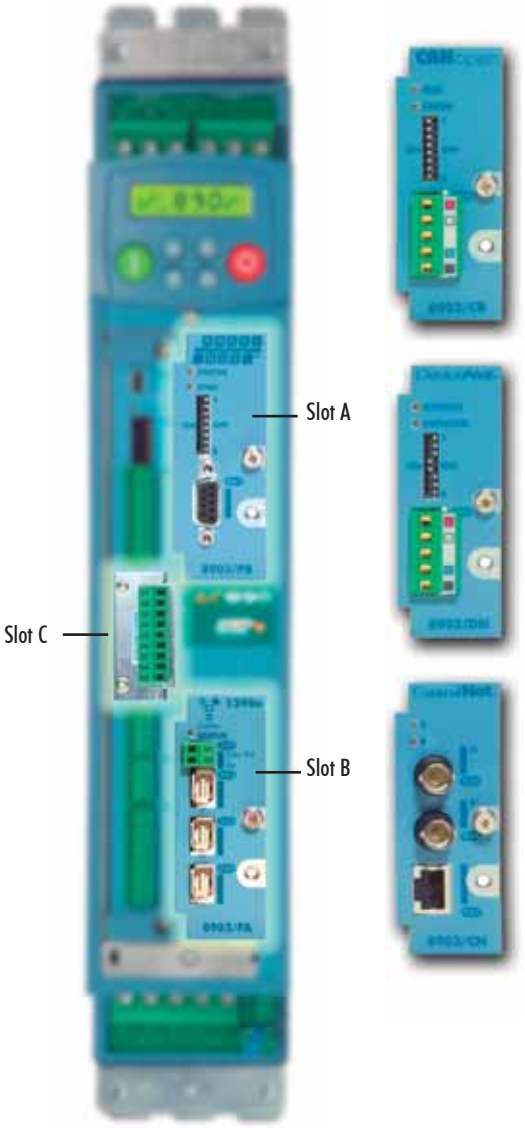
Feedback

Type	Description	Slot
8902/E1/00/00	EnDat 2.1 Encoder (SinCos, Heidenhain)	C
8902/EQ/00/00	Quadrature Encoder	C
8902/HF/00/00	Hiperface Encoder (SinCos, Stegmann)	C
8902/RE/00/00	Resolver	C
8902/RR	Resolver + Encoder emulation output	C
8903/EQ/00/00	Master incremental encoder	A

Field Bus

Type	Description	Slot
8903/FA/00/00	FireWire 1394a Communication Module	B
8903/DN/00/00	DeviceNet FieldBus Communication Module	A
8903/PB00/00	ProfiBus FieldBus Communication Module	A
8903/CN/00/00	ControlNet FieldBus Communication Module	A
8903/CB/00/00	CanOpen FieldBus Communication Module	A
8903/EN/00/00	Ethernet* FieldBus Communication Module	A

* Available soon



Operator Panel

Type	Description
6511	4-digit LCD Operator Panel*
6901	Alphanumeric Multilingual Keypad
6502	Remote Mounting Kit for 6901 Keypad including 3m cable

* Standard Equipment for sizes B/C/D
* *Standard Equipment for sizes E/F/G/H/J/K

Screened motor cables with connectors

Type	Description
220171R42xx	Power cable with motor connector for NX and Io $\leq$ 14Arms
220171R43xx	Power cable with motor connector for NX and Io $\leq$ 22Arms
220221R61xx	Resolver cable with motor connector and Sub-D for NX

INTERNATIONAL STANDARDS

Conforms to:

- Directive 89/336/EEC in compliance with EN61800-3 (Environment 2)
- Directive 73/23/EEC in compliance with EN50178 (Low Voltage)
- Complies with UL508C safety standard

CE and Marked

DSE Programming Software p 95

890 - NX / EX
Associations

NX and EX - 890 Associations / 230V								
Motor	M_0 (N.m)	I0 (Arms)	Mn (N.m)	In (Arms)	N_{MAX} (rpm)	M_{MAX} (N.m)	I_{MAX} (Arms)	890 Rating
NX SERVOMOTORS								
NX110EAP	0.45	1.0	0.33	0.7	6000	1.2	2.5	2.2/4.4
NX205EAV	0.45	1.0	0.37	0.8	5000	1.2	2.7	2.2/4.4
NX205EAS	0.45	1.3	0.29	0.9	7500	1.2	3.7	2.2/4.4
NX210EAT	1	1.3	0.8	1.1	4000	2.8	4.4	2.2/4.4
NX210EAP	1	2.0	0.61	1.3	6000	2.2	4.4	2.2/4.4
NX310EAP	2	1.4	1.9	1.3	2300	5.5	4.4	2.2/4.4
NX310EAK	2	2.5	1.7	2.1	4000	5.8	8	4/8
NX420EAP	4	2.8	3.8	2.7	2300	10.7	8	4/8
NX420EAJ	4	4.9	3.4	4.1	4000	9.3	12	6/12
NX430EAJ	5.5	5.2	4.7	4.5	3200	12.1	12	6/12
NX430EAF	5.5	6.6	4.3	5.2	4000	12.6	16	8/16
NX620EAR	8	5.3	7.4	4.9	2200	17.8	12	6/12
NX620EAJ	8	9.8	6.1	7.6	4000	18.9	24	12/24
NX630EAR	12	5.7	11.5	5.5	1450	27.0	12	6/12
NX630EAK	12	10.6	10.2	9.1	2800	28.4	24	12/24
NX630EAG	12	14.9	8.3	10.7	4000	36.4	48	24/48
NX820EAL	16	17.5	13.2	14.8	3600	39.0	48	24/48
NX840EAJ	28	18.9	22.9	15.7	2200	67.0	48	24/48
NX860EAF	41	27	32.8	22.0	1900	87.3	60	30/60
NX860VAJ	64	29.3	57.5	26.4	1450	117.9	60	30/60
EX SERVOMOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.75	1.2	1.7	1.2	2300	5.5	4.4	2.2/4.4
EX310EAK	1.75	2.2	1.6	2.0	4000	3.5	4.4	2.2/4.4
EX420EAP	3.5	2.5	3.2	2.3	2300	10.4	8	4/8
EX420EAJ	3.5	4.2	2.7	3.3	4000	9.2	12	6/12
EX430EAJ	4.8	4.6	3.7	3.6	3200	12.1	12	6/12
EX430EAF	4.8	5.8	3.3	4.0	4000	9.8	12	6/12
EX620EAO	7	5.5	5.5	4.5	2500	15.5	12	6/12
EX630EAI	10.4	10.0	7.2	7.3	3000	25	24	12/24
EX820EAR	14	9.3	11.1	7.5	2200	32.7	24	12/24
EX820EAL	14	14.9	7.5	8.3	3600	39.0	48	24/48
EX840EAJ	24.5	16.0	14.2	9.5	2200	67.0	48	24/48
EX860EAD	35	27.3	8.5	7.3	2500	75.0	60	30/60

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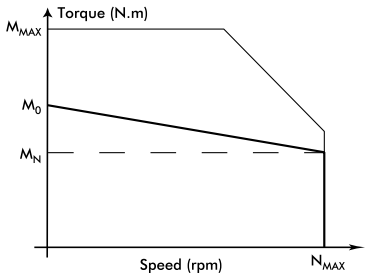
890 - NX / EX
Associations



NX and EX - 890 Associations / 400V

Motor	M_0 (N.m)	I0 (Arms)	Mn (N.m)	In (Arms)	N_{MAX} (rpm	M_{MAX} (N.m)	I_{MAX} (Arms)	Rating 890
NX SERVOMOTORS								
NX205EAV	0.45	1.0	0.29	0.7	7500	1.2	2.8	1.5/3
NX210EAT	1	1.3	0.61	0.8	6000	2.2	3	1.5/3
NX310EAP	2	1.4	1.7	1.2	4000	4.1	3	1.5/3
NX420EAV	4	1.4	3.8	1.3	2000	8.4	3	1.5/3
NX420EAP	4	2.8	3.4	2.4	4000	9.6	7	3.5/7
NX430EAV	5.5	1.4	5.4	1.4	1000	11.3	3	1.5/3
NX430EAP	5.5	2.8	4.8	2.5	3000	12.9	7	3.5/7
NX430EAL	5.5	3.8	4.3	3.0	4000	11.2	8	4/8
NX620EAV	8	2.8	7.5	2.7	2000	16.9	6	3.5/7
NX620EAR	8	5.3	6.2	4.2	3900	17.8	12	6/12
NX620EAJ	8	9.8	5.6	5.1	4500	18.8	24	12/24
NX630EAV	12	2.8	11.6	1.9	1350	27.0	6	3.5/7
NX630EAR	12	5.7	10.3	4.9	2700	27.0	12	6/12
NX630EAN	12	8.5	8.3	6.1	4000	26.8	18	9/18
NX820EAX	16	5.2	14.7	4.8	1900	34.2	12	6/12
NX820EAR	16	11.0	12.9	9.1	3900	32.6	24	12/24
NX840EAQ	28	10.1	23.2	8.5	2100	62.0	24	12/24
NX840EAK	28	16.8	18.5	11.5	3500	62.0	40	20/40
NX860EAJ	41	18.6	27.4	12.8	2600	85.1	40	20/40
NX860VAJ	64	29.3	50.5	23.2	2600	117.9	60	30/60
EX SERVOMOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.75	1.2	1.5	1.1	4000	4.1	3	1.5/3
EX420EAV	3.5	1.2	3.2	1.1	2000	8.1	3	1.5/3
EX420EAP	3.5	2.5	2.7	1.9	4000	6.9	5	2.5/5
EX430EAP	4.8	2.5	3.9	2.0	3000	9.6	5	2.5/5
EX430EAL	4.8	3.3	3.3	2.3	4000	10.0	7	3.5/7
EX620EAO	7	5.5	3.1	2.8	4300	15.5	12	6/12
EX630EAY	10.4	5.5	7.4	4.1	2900	23.0	12	6/12
EX630EAN	10.4	7.5	5.2	4.1	4000	25.2	18	9/18
EX820EAW	14	5.4	11.1	4.4	2200	29.0	12	6/12
EX820EAR	14	9.3	7.5	5.2	3600	32.6	24	12/24
EX840EAQ	24.5	8.6	15	5.1	2100	50.5	18	9/18
EX840EAM	24.5	11.2	11.5	5.5	2500	51.4	24	12/24
EX840EAK	24.5	14.3	2.85	2.1	3300	53.4	32	16/32
EX860EAJ	35	15.4	8.5	4.1	2500	71.7	32	16/32

TS8000

DESCRIPTION

TS8000 is a high-performance Touch Screen operator panel with many built-in functions.
This TS8000 offers most of the features typically available on PC-based SCADA systems.

TS8000 can communicate with different hardwares through 10/100 Base-T Ethernet ports and high-speed RS232/485. In addition, the new operator panel features a USB port for fast downloading of configuration files and access to stored trending data.

TS8000 also includes the slot to accommodate a CompactFlash card, for storing process data and expanding memory available for configuration files.

MULTILINGUAL GRAPHICAL INTERFACE
PRE-ENGINEERED PROJECTS
BUILT-IN WEB SERVER
COMPACTFLASH CARD SLOT
INTEGRATED PROTOCOL CONVERSION
SOFTWARE AND PROGRAMMING CABLE INCLUDED

TECHNICAL SPECIFICATIONS

Power Supply - 24Vdc ±20%

Operating Temperature - 0-50°C

Maximum Humidity - 80% non-condensing

Altitude - 2000 m ASL

Degree of Protection - IP66 / Nema 4

Touchscreen - Resistive Analog
TS8003 : 8 programmable
5 navigation
12 numerical
7 dedicated keys
TS8006 : 5 keys for on-screen menu
TS8008 : 7 keys for on-screen menu
TS8010 : 8 keys for on-screen menu

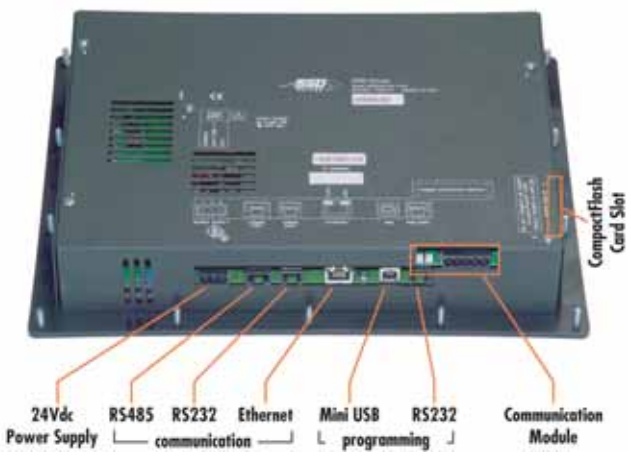
Memory Card - Slot suitable for CompactFlash Type I e Type II cards

Communication Ports -

Programming USB 1.1	Type B Connection
Programming Serial	RS232 - via RJ12
Communication Serial	RS232 - via RJ12 RS485 - via RJ45
Ethernet 10/100 Base T -	RJ45 connector with wiring for PC network card

Monitor specifications

Type	Screen	Colors	Pixels
TS8003	32"/FSTN	2	128 x 64
TS8006	5.7"/STN	256 QVGA	320 x 240
TS8008	7.7"/DSTN	256 VGA	640 x 480
TS8010	10.4"/TFT		



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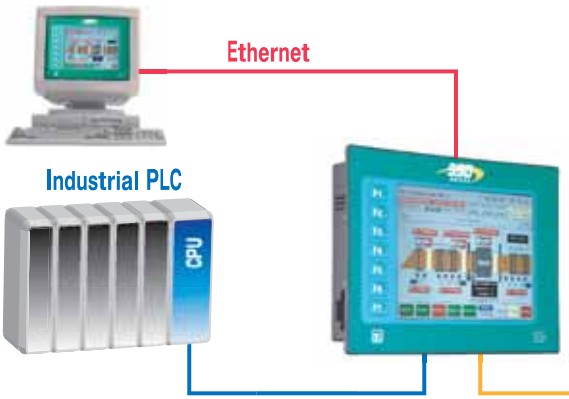
TS8003

TS8006

TS8008

TS8010

Application Diagram



TS8000 is compatible with most of the major industrial PLC brands, such as:

:: ALLEN BRADLEY
:: FESTO
:: GENERAL ELECTRIC
:: IDEC
:: IMO
:: MOELLER
:: MATSUSHITA
:: MITSUBISHI
:: OMRON
:: KOYO
:: SIEMENS
:: TELEMECANIQUE
:: TOSHIBA

650 Series
:: V/F Inverter
:: Sensorless Inverter

690Plus Series
:: V/F Inverter
:: Sensorless Inverter
:: Vector Inverter
:: AFE Regenerative Unit

890 Series
:: V/F Inverter
:: Sensorless Inverter
:: Vector Inverter
:: Brushless AC Servo
:: AFE Regenerative Unit

DIGIVEX Motion Series
:: Brushless AC Servo

637f Series
:: Brushless AC Servo

590Plus Series
:: DC Converter
2/4 Quadrants

Série 631
:: Brushless AC Servo

HMI FEATURES

Pre-Engineered Projects

- Library with over 4000 symbols
- Support for BMP, JPG, WMF graphic files
- Database
- Graphical Trends
- Alarm Logs
- Machine Synoptics

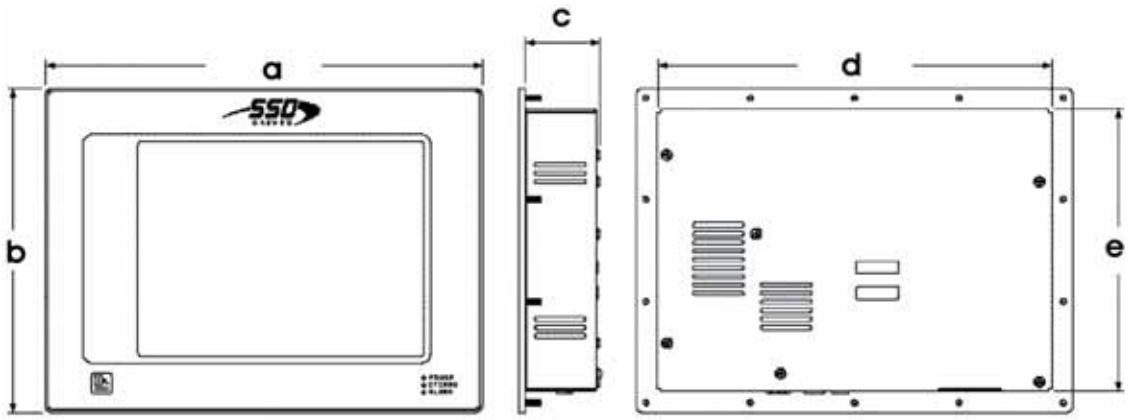
Multilingual Interface

Programming and Display in:	
Dutch	German
English	Italian
French	Spanish

Unicode* Support for:	
Japanese	Chinese (Tradition.)
Thaï	Chinese (Simplified)
Korean	Others on request

Dimensions and weights

Type	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Weight (kg)
TS8003	189.2	148.6	52	153.4	112.8	0.89
TS8006	224.3	179.8	58.4	188.5	144	1.36
TS8008	262	207.8	56	226.3	172	1.74
TS8010	325.8	241.3	56	293.3	210.1	2.51



Options

Type	Description
8000/CB/00	CanOpen (Master) FieldBus Card
8000/LK/00	LINK FieldBus Card*
8000/FA/00	FireWire FieldBus Card*

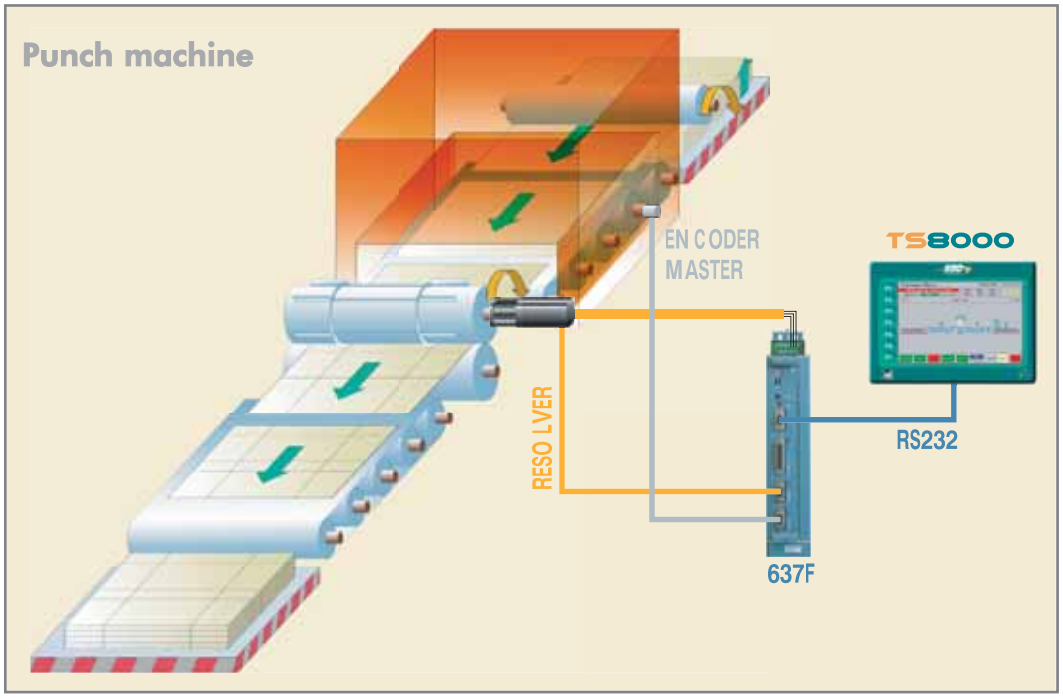
* In preparation

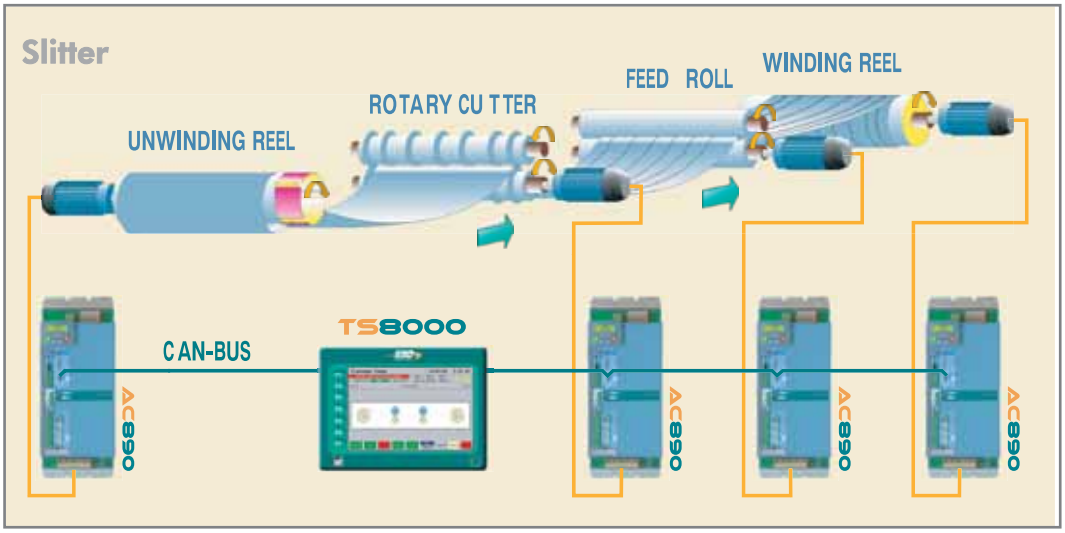
INTERNATIONAL STANDARDS

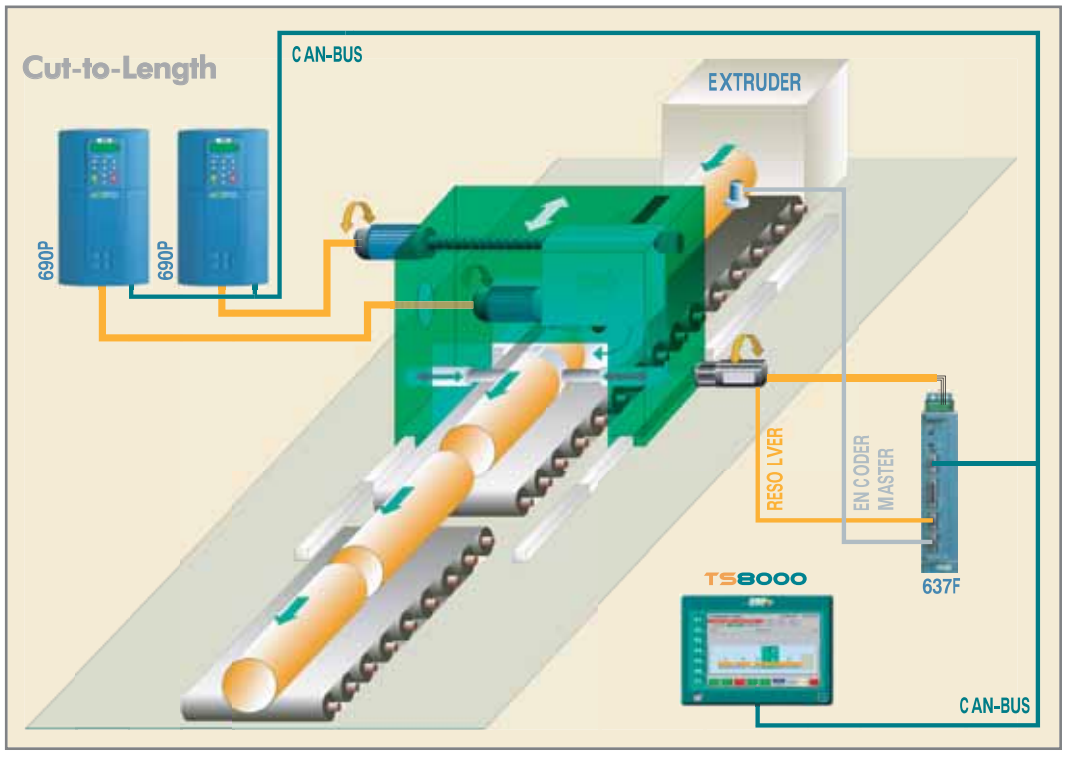
Complies with standards:
- EN61010-1
- EN61326
- EN55011 Class A

CE Marked

DSI Programming Software p. 96


Punch machine
EN CODER
MASTER
TS8000
RESOLVER
RS232
637F


Slitter
FEED ROLL
WINDING REEL
ROTARY CUTTER
UNWINDING REEL
CAN-BUS
TS8000
ACS890
ACS890
ACS890
ACS890


Cut-to-Length
CAN-BUS
EXTRUDER
690P
690P
RESOLVER
ENCODER
MASTER
637F
TS8000
CAN-BUS

631

1 to 6A

DESCRIPTION

The 631 is much more than a basic brushless servo drive. With built-in motion controller, EMC compliant filter, PLC functionality and even extended I/O option, it's a complete positioning system in a single module. The 631 is designed for direct connection to a 230Vac single phase supply without the need for any interposing transformer.

1500 Step Integral Motion Controller
Integral EMC Compliant filters
Integral Brake Switch
Direct 230Vac Supply
Simulated Encoder Output
DIN Rail or Direct Panel Mount
CANopen DS402 communication as standard

TECHNICAL SPECIFICATIONS

Power Supply - 220-240Vac (±10%); single phase
Overload - 200% during 9 sec, 150% during 18 sec
Operating temperature - 0-40°C (derate by 2% per °C >40°C to 50°C max.)
Altitude - 1000m (derate by 1% per 100m to 4000m max.)
Humidity - 85% relative humidity non-condensing

Type	Output current continuous(Arms)	Output current peak (Arms)
631-001-230-x	1.0	2.0
631-002-230-x	2.0	4.0
631-004-230-x	4.0	8.0
631-006-230-x	6.0	12.0

Integrated filter x = F ; No filter x = 0

Control

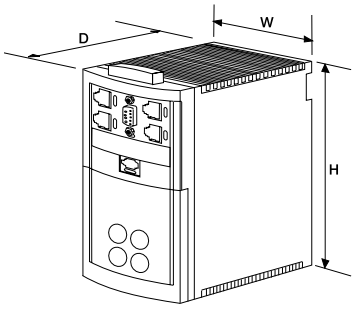
Current loop	210 µs
Speed loop	630 µs
Position loop	1890 µs

Input/Output

4 - Configurable Digital Inputs (24V)
2 - Configurable Digital Outputs (24V)
1 - Analogue Input (+/- 10V)
Optional I/O Expander Module
8 - Configurable Digital Inputs/Outputs (max. 4 outputs)
Resolver input
Pulse train Input and Output
RS232 Serial communication port
CANbus Input and Output

Dimensions		
H	W	D*
183	72.0	175

Fixing : mounting holes 5.5mm - use M5 fixings
*45mm must be allowed for connectors.



STANDARDS

CE marked
EN61800-3 (EMC compliance) with integral filter
EN50178 (safety, low voltage)

UL and cUL US LISTED

Accessories (cables, options...)	p. 29
Programming software	p. 29 and 94

TECHNICAL SPECIFICATIONS

Power Supply - - 220-230V (±10%) ; single or three phase up to 7A, three phase only 10A
50-60 Hz ±5%
Overload - 200% during 5 sec
Operating temperature - 0-40°C (derate by 2% per °C >40°C to 50°C max.)
Altitude - 1000m (derate by 1% per 100m to 4000m max.)
Humidity - 85% relative humidity non-condensing

Type	Output current continuous(Arms)	Output current peak (Arms)
635-K 01-3	1.0	2.0
635-K 03-3	2.5	5.0
635-K 05-3	5.0	10
635-K 07-3	6.5	10
635-K 10-3	10	20

Control

Current loop	210 µs
Speed loop	630 µs
Position loop	1890 µs

Input/Output

8 - Digital Inputs (inc 2 interrupts 200 µs)
5 - Digital Outputs (3 x Opto-coupled, 2 x Relay)
2 - Analogue Inputs (-10V / 0 / +10V)
2 - Analogue Outputs (+/- 10V)
Motor Resolver Input
Encoder (Configurable Input or Output)

Serial Communication Options

RS232
RS422
RS485
CANbus
PROFIBUSDP
INTERBUS S
SUCOnet K

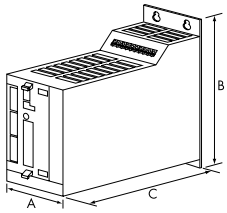
Input/Output Expansion Options

Digital Inputs/2 Additional Digital Outputs

Dimensions

		A	B	C*
635	1 à 6.5 A	91	249	216.5
635	10 A	106.3	249	216.5

Allow extra 70mm in front of unit for plugs/cables..



STANDARDS

CE marked
EN61800-3 (EMC compliance) with integral filter
EN50178 (safety, low voltage)

UL and cUL

Accessories (cables, options...)	p 29
EMC Filters	p 29 and 89
Inductances	p 29 and 90
Resistors	p 29
Programming software	p 94

DESCRIPTION

Torque, speed, position or motion control are all standard operations of the 635 series AC brushless servo drive – without the need for external controllers. Each has its own internal power supply for direct connection to 230Vac supplies and is available as part of a total servo package including motors, servo gearboxes and interconnecting cables. The 635 is available as either individual compact modules or as rack mounted assemblies with up to 9 drives in a single rack.

Internal Motion Controller
1500 Step
Direct 230Vac supply
Integral Brake Switch
Module or Rack mounted
Simple Commissioning and
Programming Software
Fieldbus Communication Options

637f

2 to 30A

DESCRIPTION

The new 637f series is servo drives with integrated motion controller designed for the most demanding servo systems.
Their ultra-fast control loops and process bus make them adapted to single or multi axis applications.
Their EN954-1 category 3 safety input and their second optional application bus simplify their integration into machine.
Furthermore the 637f drive integrate advanced PLC functions which can be built up with various input/output options.
Available as compact version, the 637f series is also proposed as rack version integrating up to 9 axis for 230 or 400Vac power supply.

ULTRA-FAST CONTROL LOOP
MULTI AXIS SYNCHRONISATION THROUGH PROCESS BUS
APPLICATION BUS : PROFIBUS-DP, DEVICENET, ...
EN954-1 CAT. 3 SAFETY OPTION
1500 STEP INTERNAL MOTION CONTROLLER
ELECTRONIC CAMS
SIMPLE COMMISSIONING AND PROGRAMMING SOFTWARE
HIPERFACE AND SSI ENCODER INPUT, ...
230V OR 400V SUPPLY

TECHNICAL SPECIFICATIONS

Power Supply - 380-460V (±10%) ; three phase
Overload - 200% during 5 sec
Operating temperature - 0-40°C (derate by 2% per °C >40°C to 50°C max.)
Altitude - 1000m (derate by 1% per 100m to 4000m max.)
Humidity - 85% relative humidity non-condensing

Type	Output current continuous(Arms)	Output current peak (Arms)
637f K 02-6-	2.0	4.0
637f K 04-6	4.0	8.0
637f K 06-6	6.0	12
637f K 10-6	10	20
637f K 16-6	16	32
637f K 22-6	22	44
637f K 30-6	30	60

Control

Current loop 105µs
Speed loop 105µs
Position loop 105µs

Multi axis synchronisation through process bus

Virtual master axis
Multi axis synchronisation

Embedded PLC functions

Programmable electronic cam
Trajectory generator - 3 configurable independent blocks

Input/Output

8 - Digital Inputs (inc 2 interrupts)
5 - Digital Outputs (3 x opto-coupled, 2 x relay)
2 - Analogue inputs (0-10V, +/-10V)
2 - Analogue outputs (+/-10V)
Resolver feedback (standard) or Hiperface (option)
Configurable encoder terminal :
- Incremental encoder input
- Incremental encoder output
- Absolute single or multi turn SSI encoder input

RS232 (COM1) serial communication port

Hiperface option

4096 revolutions absolute encoder - 1048576 inc. per rev.

Input/Output expansion options

14 Digital inputs/10 Additional Digital outputs
4 Digital inputs/4 Additional Digital outputs
5 Digital inputs/2 Additional Digital outputs

Application communication option (COM2)

PROFIBUS-DP
DeviceNet
CANopen DS402
INTERBUS S
SUCOnet K
RS485
RS232

Inter axis communication option (COM3)

CANopen card
CANopen card + 4 digital inputs extension/ 4 digital outputs

EN954-1 Category 3 safety option "Safe Stop"

Tel: +33 (0)1 69 18 51 51 Fax: +33 (0)1 69 18 51 59

637f : sets a new standard for performance

Plug-in connectors

105µs Ultra-fast control loop

Embedded motion controller and PLC

7-seg LCD display

Fast process **Bus for multi-axis synchronisation** up to 15 drives

RS232 programming

Digital Inputs/Outputs

Standard application **bus, Profibus-DP, DeviceNet,** CANopen, Interbus-S, SUCOnet-K

Digital and analogue Inputs/outputs

Resolver or **Hiperface encoder** input or **linear scale**

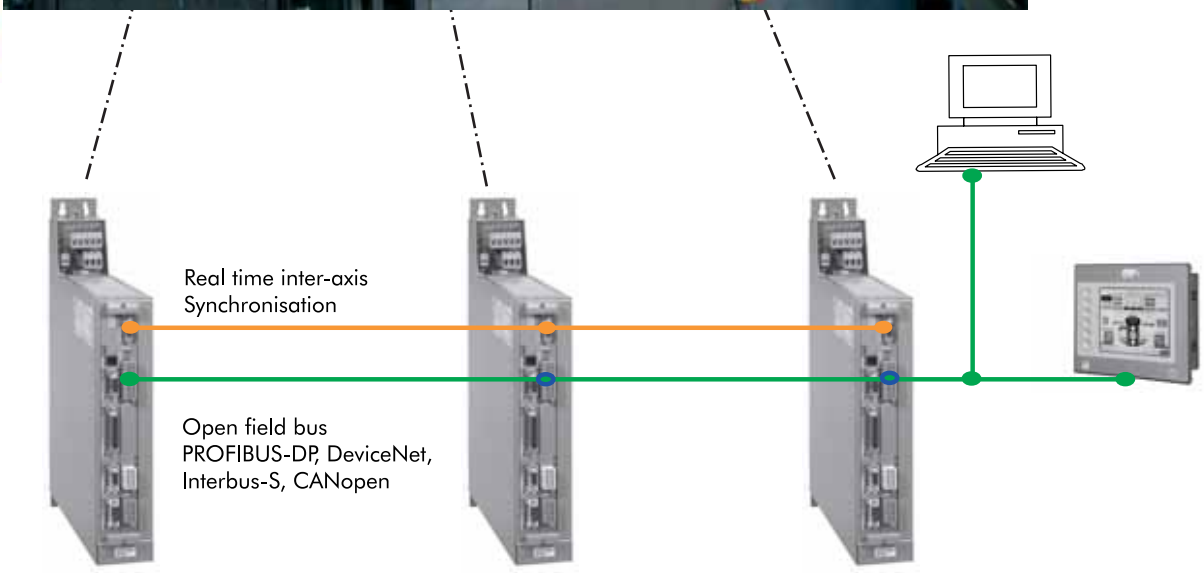
PTC sensor input

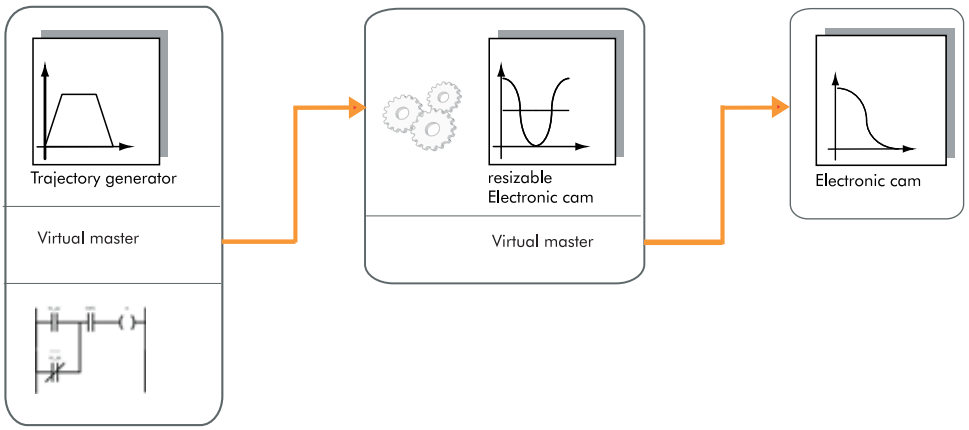
Brake control output

Encoder emulation output or incremental encoder input or **SSI encoder** input

"Safe standstill" Input **EN954-1 Cat.3**

Multi-axis application example : Packaging machine





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Multi-axis program example

Master :

100 Start axis

101 Move incremental position; axis no. = 3

Came1 :

100 Start axis

101 Move synchron position; axis no. = 1

Came2 :

100 Start axis

101 Move synchron position; axis no. = 1

Multi-axis synchronisation Programming is extremely easy

Start master axis

Trajectory generation and transmission via the inter-axis bus

Start axis 1

Axis synchronisation on virtual master through the inter-axis fast bus. Second virtual master emission

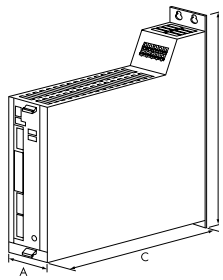
Start axis 2

Second axis synchronisation on second virtual axis

Dimensions

		A	B	C*
637f	1 à 10 A	61.5	400	280
637f	16 à 30 A	104	400	280

*Allow extra 70mm in front of unit for plugs/cables



STANDARDS

CE marked
EN61800-3 (EMC compliance) with integral filter
EN50178 (safety, low voltage)

UL and cULus

Accessories (cables, options...)	p 29
EMC Filter	p 29 and 89
Inductances	p 29 and 90
Chokes	p 29
Brake resistors	p 29
Programming software	p 29 and 94

631, 635 AND 637f

631, 635 and 637f	
Description	Type
COMPLETE SCREENED CABLES SETS WITH CONNECTORS	
Power	
Power cable with Molex connector for NX1, NX2	220170R12xx
Power cable for NX and $I_0 \leq 15A_{rms}$	220172R42xx
Power cable for NX and $I_0 \leq 22A_{rms}$	220172R43xx
Resolver	
Resolver cable for NX1, NX2 with Molex connectors	220170R21xx
Resolver cable for NX	220172R61xx
xx = Length in m; standard Length 2, 5, 10m.	
FERRITES	
Ferrite for cable length > 15m (I<10A)	FR3
Ferrite for cable length > 15m (I>10A)	FR6
COM2 COMMUNICATION OPTION	
RS232 Communication board	RP232
RS422 Communication board	RP422
RS485 Communication board	RP485
CAN / CAN OPEN Communication board	RPCAN
Profibus DP Communication board	RPPDP
DeviceNet Communication board	RPDEV
SUCOnet-K Communication board	RPSUC
Interbus-S Communication board	RPIBS
COM3 COMMUNICATION OPTION FOR 637f	
RPM2CA/637f-8 CanOpen for 637f 02A to 10A	RP 2CA-8
RPM2CA/637f-16 CanOpen for 637f 16A to 30A	RP 2CA-16
RPM2C8/637f-8 CanOpen for 637f 02A to 10A	RP 2C8-8
RPM2C8/637f-16 CanOpen for 637f 16A to 30A	RP 2C8-16
EXTENDED I/O OPTION BOARD	
5 I / 2 O digital for 635	RPEA5
14 I/ 10 O digital for 637f	RPEAE
External plug 26 pins for RPEAE	SUB D-HD 26 S/M
SAFETY MODULE OPTION FOR 637f	
EN954-1 Cat.3 Safety module	RP SBT
EMC FILTERS FOR 635/637f	
230V 12A 1 phase RFI filter	LNFE1-230/012
230 ou 400V 8A 3 phases RFI filter	LNFB3-480/008
230 ou 400V 18A 3 phases RFI filter	LNFB3-480/018
400V 33A 3 phases RFI filter	LNFB3-480/033
400V 46A 3 phases RFI filter	LNFB3-480/046
400V 60A 3 phases RFI filter	LNFB3-480/060
400V 82A 3 phases RFI filter	LNFB3-480/082
400V 142A 3 phases RFI filter	LNFB3-480/142
EMC KITS	
02A to 10A Kit for 637f	EMVBU-D6K08V1
16A to 30A Kit for 637f	EMVBU-D6K16V1
01A to 07A Kit for 635	EMVBU-DEK15V1
10A Kit for 635	EMVBU-DEK18V1
OUTPUT CHOKE (POWER CABLE LENGTH > 50m)	
Remark: Ferrite has also to be mounted	
Output choke In≤8A	E32-0011
Output choke In≤24A	E32-0031
Output choke In≤35A	E32-0046
BRAKE RESISTOR	
Resistor 100W 100Ω	B100/100-6
Resistor 300W 33Ω	B300/33-6
Resistor 560W 26Ω	B560/26-6
631 CABLES	
CAN bus terminator plug (120ohms)	S-CAN-631-AS
CAN Peer to Peer connection for 631	K 631 X20-0.1
Incremental Peer to Peer connection for 631	K 631 X40-0.1
SOFTWARE	
EASYRIDER / TESIWIN / PROGRAMMING EXAMPLES	CD SERVO
PC to 635 drive cable	Kn PC/D-02.0
PC to 631 and 637f drive cable	Kn PC/631-03.0
MMI (MAN MACHINE INTERFACE)	
4 x 20 character BT MMI	IBT T CAN -W
MMI to 631 interconnecting cable with connectors	K IBT 1*631-xx
MMI to 635 637f interconnecting cable with connectors	K IBT n*630-xx
xx = Length in m; standard length 2, 5m.	

630 - NX / EX
ASSOCIATIONS

NX and EX - 631/635 associations / 230V

Motor	M_0 (N.m)	I_0 (Arms)	M_N (N.m)	I_N (Arms)	N_{MAX} (rpm)	M_{MAX} (N.m)	I_{MAX} (Arms)	630 rating
NX SERVO MOTORS								
NX110EAP	0.45	1.0	0.33	0.7	6000	0.9	2	1/2
NX110EAP	0.45	1.0	0.33	0.7	6000	1.2	2.5	2/4
NX205EAV	0.45	1.0	0.37	0.8	5000	1.2	2.7	2/4
NX205EAS	0.45	1.3	0.29	0.9	7500	1.2	3.7	2/4
NX210EAT	1	1.3	0.8	1.1	4000	2.5	4	2/4
NX210EAP	1	2.0	0.61	1.3	6000	2.0	4	2/4
NX310EAP	2	1.4	1.9	1.3	2300	5.0	4	2/4
NX310EAK	2	2.5	1.7	2.1	4000	4.0	5	2.5/5
NX310EAK	2	2.5	1.7	2.1	4000	5.8	8	4/8
NX420EAP	4	2.8	3.8	2.7	2300	10.7	8	4/8
NX420EAJ	4	4.9	3.4	4.1	4000	8.2	10	5/10
NX420EAJ	4	4.9	3.4	4.1	4000	9.3	12	6/12
NX430EAJ	5.5	5.2	4.7	4.5	3200	12.1	12	6/12
NX430EAF	5.5	6.6	4.3	5.2	4000	15.0	20	10/20
NX620EAR	8	5.3	7.4	4.9	2200	17.8	12	6/12
NX620EAJ	8	9.8	6.1	7.6	4000	16.0	20	10/20
NX630EAR	12	5.7	11.5	5.5	1450	27.0	12	6/12
NX630EAK	12	10.6	10.2	9.1	2800	22.6	20	10/20
EX SERVO MOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.7	1.2	1.7	1.2	2300	5.0	4	2/4
EX310EAK	1.7	2.2	1.6	2.0	4000	4.0	5	2.5/5
EX420EAP	3.5	2.5	3.2	2.3	2300	10.4	8	4/8
EX420EAJ	3.5	4.2	2.7	3.3	4000	9.2	12	6/12
EX430EAJ	4.8	4.6	3.7	3.6	3200	12.1	12	6/12
EX430EAF	4.8	5.8	3.3	4.0	4000	9.8	12	6/12
EX620EAO	7	5.5	5.5	4.5	2500	15.5	12	6/12
EX630EAI	10.4	10	7.2	7.3	3000	21.3	20	10/20
EX820EAR	14	9.3	11.1	7.5	2200	29.0	20	10/20

NX and EX - 637f associations / 400V

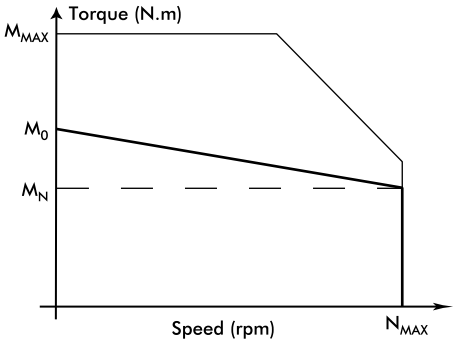
Motor	M_0 (N.m)	I_0 (Arms)	M_N (N.m)	I_N (Arms)	N_{MAX} (rpm)	M_{MAX} (N.m)	I_{MAX} (Arms)	637f rating
NX SERVO MOTORS								
NX205EAV	0.45	1.0	0.29	0.7	7500	1.2	2.8	2/4
NX210EAT	1	1.3	0.61	0.8	6000	2.5	4	2/4
NX310EAP	2	1.4	1.7	1.2	4000	5.0	4	2/4
NX420EAV	4	1.4	3.8	1.3	2000	8.4	3	2/4
NX420EAP	4	2.8	3.4	2.4	4000	10.7	8	4/8
NX430EAV	5.5	1.4	5.4	1.4	1000	11.3	3	2/4
NX430EAP	5.5	2.8	4.8	2.5	3000	12.9	7	4/8
NX430EAL	5.5	3.8	4.3	3.0	4000	11.2	8	4/8
NX430EAL	5.5	3.8	4.3	3.0	4000	15.8	12	6/12
NX620EAV	8	2.8	7.5	2.7	2000	16.9	6	4/8
NX620EAR	8	5.3	6.2	4.2	3900	17.8	12	6/12
NX620EAJ	8	9.8	5.6	5.1	4500	16.0	20	10/20
NX620EAJ	8	9.8	5.6	5.1	4500	20.0	26	16/32
NX630EAV	12	2.8	11.6	1.9	1350	27.0	6	4/8
NX630EAR	12	5.7	10.3	4.9	2700	27.0	12	6/12
NX630EAN	12	8.5	8.3	6.1	4000	28.0	20	10/20
NX630EAN	12	8.5	8.3	6.1	4000	33.0	24	16/32
NX820EAX	16	5.2	14.7	4.8	1900	34.2	12	6/12
NX820EAR	16	11.0	12.9	9.1	3900	32.6	24	16/32
NX840EAQ	28	10.1	23.2	8.5	2100	53.7	20	10/20
NX840EAK	28	16.8	18.5	11.5	3500	51.5	32	16/32
NX860EAJ	41	18.6	27.4	12.8	2600	92.0	44	22/44
NX860VAJ[1]	64	29.3	50.5	23.2	2600	118.0	60	30/60
EX SERVO MOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.7	1.2	1.5	1.1	4000	5.0	4	2/4
EX420EAV	3.5	1.2	3.2	1.1	2000	8.1	3	2/4
EX420EAP	3.5	2.5	2.7	1.9	4000	8.2	6	4/8
EX430EAP	4.8	2.5	3.9	2.0	3000	11.3	6	4/8
EX430EAL	4.8	3.3	3.3	2.3	4000	11.3	8	4/8
EX620EAO	7	5.5	3.1	2.8	4300	15.5	12	6/12
EX630EAY	10.4	5.5	7.4	4.1	2900	23.0	12	6/12
EX630EAN	10.4	7.5	5.2	4.1	4000	25.2	18	10/20
EX820EAW	14	5.4	11.1	4.4	2200	29.0	12	6/12
EX820EAR	14	9.3	7.5	5.2	3600	32.6	24	16/32
EX840EAQ	24.5	8.6	15.0	5.4	2100	50.0	18	10/20
EX840EAM	24.5	11.2	11.5	5.5	2500	51.0	24	16/32
EX840EAK	24.5	14.3	2.85	2.1	3300	53.0	32	16/32
EX860EAJ	35	15.4	8.5	4.1	2500	72.0	32	16/32

[1] Ventilated motor

DESCRIPTION

630 drives are easily combined to NX and EX brushless servo motors (see page 37 and 47) to meet requirements of various servo system applications.

230V AND 400V POWER SUPPLY
LARGE CHOICE OF TORQUE AND SPEED
ADAPTED CONNECTION



DIGIVEX DRIVE DμD/DLD

2 to 7.5A

DESCRIPTION

DμD and DLD are specifically developed for low power applications where optimum quality of control and very compact design are needed.

Associated to NX servo motors, they offer a powerful and economical servo system solution.

DIRECT 230 VAC POWER SUPPLY
INTEGRATED EMC FILTER
INTEGRATED BRAKING RESISTOR
HIGH COMPACITY
7-SEG LCD DISPLAY
EASY PARAMETER SETTING WITH PARVEX MOTION EXPLORER

TECHNICAL SPECIFICATIONS

Power supply - 230Vac ±10%, single or three phase ; 50/60Hz
Temperature - 0-40°C (derate by 20% per 10°C to 60°C max).
Altitude - 1000m (derate by 1% per 100m to 4000m max.)

Braking - Integrated resistor, connection of DC bus voltage in multi DμD and DLD applications for higher braking capacity.

DμD

NX1, NX2 and NX3 servo motor control

Input/Output
2- Analogue inputs (14 bits and 10 bits ; ±10V diff.)
1- Analogue outputs (±5V), free assignment
3- Opto-isolated digital inputs
2- Opto-isolated digital outputs
Resolver input
Incremental encoder emulation output

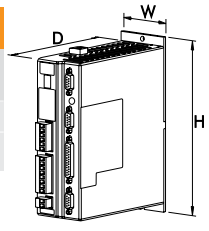
DLD

Input/Output
2- Analogue inputs (14 bits and 10 bits ; ±10V diff.)
2- Analogue outputs (±10V), free assignment
5- Opto-isolated digital inputs
3- Opto-isolated digital outputs
Resolver input
230Vac auxiliary input
Incremental encoder emulation output

Type	Output current continuous (A)	Output current peak (A)	mechanical power (W)
DμD 230V single phase 50/60 Hz			
DUD13M02R	2	4	375
DLD			
230V single phase 50/60 Hz			
DLD13M02R	2	4	375
DLD13M04R	4	8	750
230V three phase 50/60 Hz			
DLD13002R	2	4	375
DLD13004R	4	8	750
DLD13007R	7.5	15	1500

Dimensions

Type	H (mm)	W (mm)	D (mm)	Weight (kg)
DμD	195	40	153	0.6
DLD	195	60	161	1.3



STANDARDS

CE marked

UL and cULus (DLD)

Tel: +33 (0)1 69 18 51 51 Fax: +33 (0)1 69 18 51 59

DIGIVEX Drive DSD/DMD/DPD

2 to 300A

TECHNICAL SPECIFICATIONS

Supply - 230Vac ±10%, single phase or three phase, 400Vac ±10%, three phase ; 50/60Hz
Ambient- 0-40°C (derate by 20% per 10°C to 60°C max).
Altitude - 1000m (derate by 1% per 100m to 4000m max.)

Braking -
DSD : Integrated or external resistor
DMD : Integrated or external resistor or regenerative
DPD : Regenerative

Input/Output
2- Analogue inputs (16 bits and 10 bits ; ±10V diff.)
2- Analogue outputs (±10V), free assignment
4- Opto-isolated digital inputs
3- Opto-isolated digital outputs
Resolver input
Incremental encoder emulation output ; SSI ; SinCos
230Vac or 400Vac auxiliary input

Characteristics
Please refer to page 34

DESCRIPTION

DIGIVEX Drive are available for power range from 0.37kW to 120kW and for 230V and 400V power supply.

Dedicated to the torque or speed control of axis or spindle brushless motors, DIGIVEX Drive can be delivered in single-axis or multi-axis format.

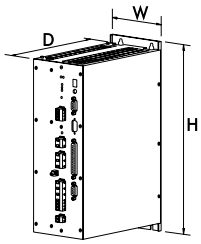
STANDARDS

CE Marked

DIRECT 230VAC AND 400VAC POWER SUPPLY
SINGLE-AXIS OR MULTI-AXIS VERSION
INTEGRATED RESISTOR OR REGENERATIVE BRAKING
HIGH RESOLUTION ANALOGUE INPUT
INTEGRATED FILTERS AND FEED FORWARD
COMPLETE INTEGRATED MONITORING WITH PARVEX MOTION EXPLORER

Dimensions

Type	H (mm)	W (mm)	D (mm)
DSD Rating			
2, 4 and 7.5 A	328	78	222
8 and 15 A	328	109.5	222
16 A	328	133	222
30 A	328	133	226
32 A	328	168	226
60 A	328	168	235
DMD Rack			
DRA3165 - 3 axis	303	315	270
DRA3168 - 6 axis	303	483	270
DRA3128 - 13 axis	597	483	271
DPD Rating			
50 A	438	202	244
100 and 150 A	474	483	343
200 A and 300 A	878	540	343



Range

Type	Output current	Structure	Control
DSD	2 to 60A	single-axis	Speed
DMD	2 to 32A	multi-axis	Speed
DPD	50 to 300A	single-axis	Speed

DIGIVEX Motion DSM/DMM/DPM

2 to 300A

DESCRIPTION

The DIGIVEX Motion servo drives integrate in one compact unit the functions of speed controller, motion controller and PLC as well as powerful CANopen or PROFIBUS network possibilities. The DIGIVEX Motion have the same electrical characteristics as the DIGIVEX Drive and are available in single or multi axis version.

COMPLETE POSITIONING DRIVE
INTEGRATED PLC AND MOTION PROGRAM
REAL TIME MULTI-TASKING STRUCTURE
DIRECT 230VAC AND 400VAC POWER SUPPLY
SINGLE AND MULTI-AXIS VERSION
INTEGRATED OR REGENERATIVE BRAKING
POSIVEX® ABSOLUTE ENCODER COMPATIBLE
CANOPEN AND PROFIBUS FIELDBUS

Range

Type	Output current	Structure	Control
DSM	2 to 60A	single-axis	position
DMM	2 to 32A	multi-axis	position
DPM	50 to 300A	single-axis	position

TECHNICAL SPECIFICATIONS

Power supply - 230Vac ±10%, single phase or three phase, 400Vac ±10%, three phase ; 50/60Hz
Temperature - 0-40°C (derate by 20% per 10°C to 60°C max).
Altitude - 1000m (derate by 1% per 100m to 4000m max.)

Braking -

DSM : Integrated or external resistor
DMM : Integrated or external resistor or regenerative
DPM : Regenerative

Input/Output

1- Analogue input (14 bits ; ±10V diff.)
1- Analogue output (±10V), free assignment
16- Opto-isolated digital inputs (from which 4 interruptive inputs), free assignment
8- Opto-isolated digital inputs, free assignment
Resolver input
Posivex® Absolute encoder input
Incremental encoder input ; SinCos
Incremental encoder emulation output
230Vac or 400Vac auxiliary supply

Field bus

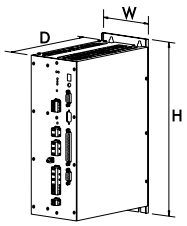
CANopen (DS 301 and DSP 402)
PROFIBUS (DP-V0 and DP-V1; PROFIdrive V2.0 and PROFIdrive V3.0 Class 3 and 4)

Characteristics

Please refer to page 34

Dimensions

Type	H (mm)	W (mm)	D (mm)
DSM Rating			
2, 4 and 7.5 A	328	78	222
8 and 15 A	328	109.5	222
16 A	328	133	222
30 A	328	133	226
32 A	328	168	226
60 A	328	168	235
DMM Rack			
DRA3165 - 3 axis	303	315	270
DRA3168 - 6 axis	303	483	270
DRA3128 - 13 axis	597	483	271
DPM Rating			
50 A	438	202	244
100 and 150 A	474	483	343
200 A and 300 A	878	540	343



STANDARDS

CE Marked

Tel: +33 (0)1 69 18 51 51 Fax: +33 (0)1 69 18 51 59

Characteristics

Single-axis DSD / DSM

Type	Output current continuous (Â)	Output current peak (Â)	Mechanical power (W)
230V single phase 50/60 Hz			
DSD13M02 / DSM13M02	2	4	375
DSD13M04 / DSM13M04	4	8	750
DSD13M07 / DSM13M07	7.5	15	1500
230V three phase 50/60 Hz			
DSD13004 / DSM13004	4	8	750
DSD13007 / DSM13007	7.5	15	1500
DSD13015 / DSM13015	15	30	3000
DSD13030 / DSM13030	30	60	6000
DSD13060 / DSM13060	60	100	12000
400V three phase 50/60 Hz			
DSD16002 / DSM16002	2	4	750
DSD16004 / DSM16004	4	8	1500
DSD16008 / DSM16008	8	16	3000
DSD16016 / DSM16016	16	32	6000
DSD16032 / DSM16032	32	64	12000

Multi-axis DMD / DMM 400V three phase 50/60 Hz

Module	Output current continuous (Â)	Output current peak (Â)	Width (E*)
DMD06002 / DMM06002	2	4	Simple 11E
DMD06004 / DMM06004	4	8	Simple 11E
DMD06008 / DMM06008	8	16	Simple 11E
DMD06016 / DMM06016	16	32	Double 22E
DMD06032 / DMM06032	32	64	Triple 33E
Power supply	**Power (kW)**	**Braking**	**Width (E*)**
DPS0612	12	internal	18E
DPS0625	25	internal/ external	18E
DPS0615	15	regenerative	18E

*1E=5.08mm - example : 1x13 axis (DRA 3128) will integrate 1 power supply and 13 simple modules.

Power single-axis (regenerative) DPD / DPM 400V three phase 50/60 Hz

Type	Output current continuous (Â)	Output current peak (Â)	Mechanical power (kW)
DPD27050 / DPM27050	50	80	20
DPD17100 / DPM17100	100	120	40
DPD17150 / DPM17150	150	150	60
DPD17200 / DPM17200	200	200	80
DPD17300 / DPM17300	300	300	120

Accessories (cables, options...)	p 35
EMC Filter	p 35 and 91
Inductances	p. 92
Brake resistor	p 35
Programming software	p 35 and 94

Accessories

DIGIVEX Drive and DIGIVEX Motion accessories

CABLES	
High strength power cables with connectors*	
Power cable with Molex motor connector for NX1, NX2	220154R12xx
Power cable with motor connector for NX and $I_0 \leq 8$Â	220049R42xx
Power cable with motor connector for NX and $I_0 \leq 32$Â	220049R43xx
Resolver cable with Molex motor connector and Sub-D for NX1, NX2	220154R21xx
Resolver cable with motor connector and Sub-D for NX	220049R61xx
Input/Output cables and communication cables	
Encoder emulation encoder (except DμD) 1 Sub-D	DIG04546R2xx
Input/Output cable 1 Sub-D	DIG04544R2xx
RS232C equipped cable for DLD, DSD, DMD and DPD 2 Sub-D	CB 90001
RS232C equipped cable for DμD 1 Sub-D and 1 RJ9	CB 90002
CANopen cable for DIGIVEX Motion 2 Sub-D	DIG05982R1xx
120 ohms CAN terminator plug	DIG05984R100
PROFIBUS cable for DIGIVEX Motion	CB 08320
PROFIBUS 90° plug	AC 62001
PROFIBUS 180° plug	AC 62002
USB cable for PC - USBPRO interface connection	CB 90003
*xx = cable length in mm ; standard xx = 01, 02, 05, 10 m	
EMC FILTER FOR DIGIVEX (except DμD and DLD)	
EMC Filter 1Ph xx A (xx = 06 or 16)	FR 010xx
EMC Filter 3Ph xx A (xx = 16, 36 or 64)	FR 030xx
EMC Filter 3Ph book-sized xxA (xx = 08, 16 or 36)	FR 036xx
EMC Filter 3Ph xxx A (xxx = 100 or 200)	FR 03xxx
EXTERNAL BRAKING RESISTOR FOR DIGIVEX	
2kW 27ohms external resistor	RE 91001
4.5kW 12ohms external resistor	RE 91002
BOARD AND ACCESSORIES FOR DIGIVEX Drive (except DμD and DLD)	
Encoder emulation board	SC 6631
SSI Encoder board	SC 6637
Indexing board	SH 6601
Indexing board+SinCos Encoder emulation board	SC 6643
7-seg display	SS 6611
Dialog terminal	DTP001
BOARD AND COMMUNICATION INTERFACE FOR DIGIVEX Motion	
Encoder input board	SC 6638
Encoder emulation board	SC 6639
SinCos input board	SC 6645
RS232C - CAN interface	CRS232B
RS232C - CAN interface (DIN mounting)	CIM03B
RS232-CAN adaptator	RS232CAN
USB - PROFIBUS interface	USBPRO
PCI board for PC PCI - PROFIBUS interface	PCIPRO
PCMCIA board for PC PCMCIA - PROFIBUS interface	PCMCIAPRO
RS232-PROFIBUS Adaptator	RS232PRO
SOFTWARE	
Parvex Motion Explorer software	PMEMCD
CAM function license	DMLCAM
Position control with interpolation license	DMLPI
CANopen OPERATOR TERMINAL AND CABLES	
2x16 Characters terminal	DTP002
4x20 Characters terminal (VT150)	DVT150C
5.7" graphic touch screen terminal (VT505)	DVT505C
VT Programming software, accessories and documentation	DVTWINTKIT
CANopen connecting cable 1Sub-D 9pts	DIG06755R1xx

Screened cables with motor connectors*	
Power cable with Molex motor connector for NX1, NX2	220169R12xx
Power cable with motor connector for NX and $I_0 \leq 20$Â	220171R42xx
Power cable with motor connector for NX and $I_0 \leq 32$Â	220171R43xx
Resolver cable with Molex motor connector and Sub-D, for NX1, NX2	220169R21xx
Resolver cable with motor connector and Sub-D for NX	220171R61xx

DIGIVEX - NX / EX
ASSOCIATIONS

DESCRIPTION

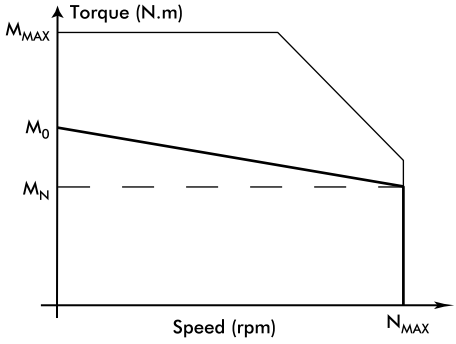
For all kind of servo applications, DIGIVEX servo drives offer the perfect control of NX or EX brushless servo motors and allow servo system to reach optimum performances.
(For NX and EX description, please refer to page 37 and 47).

NX and EX - DIGIVEX / 230V

Motor	M_0 (N.m)	I_0 (A)	M_n (N.m)	I_n (A)	N_{MAX} (rpm)	M_{MAX} (N.m)	I_{MAX} (A)	DIGIVEX rating
NX SERVO MOTORS								
NX110EAP	0.45	1.4	0.33	1	6000	1.15	3.5	2/4
NX205EAV	0.45	1.37	0.37	1.19	5000	1.2	4	2/4
NX205EAS	0.45	1.89	0.29	1.34	7500	0.94	4	2/4
NX210EAT	1	1.89	0.8	1.5	4000	2.1	4	2/4
NX210EAP	1	2.81	0.61	1.8	6000	2.7	8	4/8
NX310EAP	2	1.97	1.9	1.9	2300	3.9	4	2/4
NX310EAK	2	3.44	1.7	2.9	4000	4.3	8	4/8
NX420EAP	4	3.83	3.8	3.8	2300	7.7	8	4/8
NX420EAJ	4	6.63	3.4	5.8	4000	8.2	15	7.5/15
NX430EAJ	5.5	7.41	4.7	6.3	3200	10.7	15	7.5/15
NX430EAF	5.5	9.39	4.3	7.4	4000	15.9	30	15/30
NX620EAR	8	7.5	7.4	7	2200	15.9	15	7.5/15
NX620EAJ	8	14	6.1	10.8	4000	16.9	30	15/30
NX630EAR	12	7.42	11.5	7.8	1450	22.6	15	7.5/15
NX630EAK	12	13.9	10.2	12.9	2800	23.9	30	15/30
NX630EAG	12	19.7	8.3	15.1	4000	33.5	60	30/60
NX820EAL	16	24.8	13.2	20.9	3600	35	60	30/60
NX840EAJ	28	26.7	22.9	22.2	2200	60	60	30/60
NX860EAD	41	46.2	27.4	32.1	2600	84.8	100	60/100
NX860VAG	64	51.2	54.4	47.1	2000	107	100	60/100
EX SERVOMOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.75	1.75	1.7	1.7	2300	3.9	4	2/4
EX310EAK	1.75	3.06	1.6	2.8	4000	3.5	8	4/8
EX420EAP	3.5	3.48	3.2	3.2	2300	7.8	8	4/8
EX420EAJ	3.5	6.03	2.7	4.7	4000	8.3	15	7.5/15
EX430EAJ	4.8	6.47	3.7	5.1	3200	10.8	15	7.5/15
EX430EAF	4.8	8.19	3.3	5.7	4000	11.6	20.5	15/30
EX620EAO	6.6	7.38	5.5	6.3	2500	13.9	15	7.5/15
EX630EAI	10.4	14.2	7.2	10.3	3000	22.5	30	15/30
EX820EAR	14	13.1	11.1	10.6	2200	30	30	15/30
EX820EAL	14	21	7.5	11.7	3600	35	60	30/60
EX840EAJ	24.5	22.7	14.2	13.5	2200	60	60	30/60
EX860EAD	35	38.6	8.5	10.3	2500	86	100	60/100

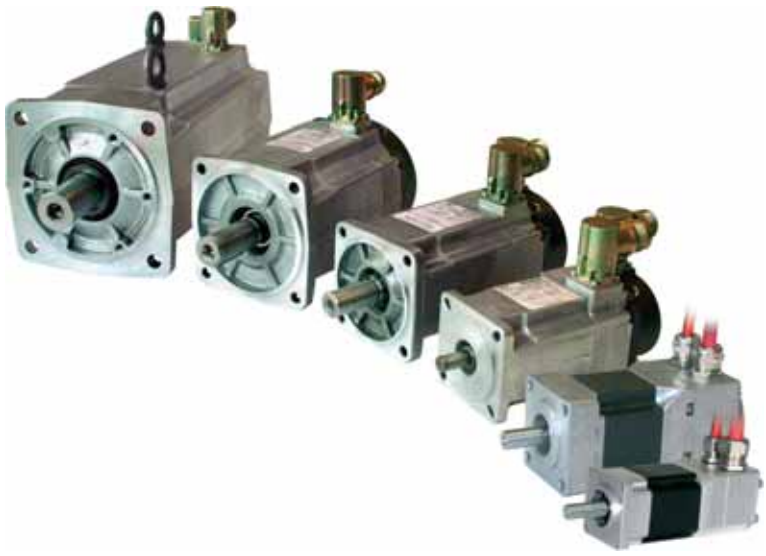
NX and EX - DIGIVEX / 400V

Motor	M_0 (N.m)	I_0 (A)	M_n (N.m)	I_n (A)	N_{MAX} (rpm)	M_{MAX} (N.m)	I_{MAX} (A)	DIGIVEX rating
NX SERVO MOTORS								
NX205EAV	0.45	1.37	0.29	0.96	7500	1.2	4	2/4
NX210EAT	1	1.89	0.61	1.2	6000	2.1	4	2/4
NX310EAP	2	1.97	1.7	1.7	4000	3.9	4	2/4
NX420EAV	4	1.92	3.8	1.9	2000	7.7	4	2/4
NX420EAP	4	3.83	3.4	3.4	4000	7.7	8	4/8
NX430EAV	5.5	1.99	5.4	2	1000	10.6	4	2/4
NX430EAP	5.5	3.99	4.8	3.5	3000	10.6	8	4/8
NX430EAL	5.5	5.35	4.3	4.2	4000	15	16	8/16
NX620EAV	8	4	7.5	3.8	2000	16	8	4/8
NX620EAR	8	7.5	6.2	5.9	3900	16.9	16	8/16
NX620EAJ	8	14	5.6	7.2	4500	17.9	32	16/32
NX630EAV	12	3.71	11.6	2.7	1350	24.1	8	4/8
NX630EAR	12	7.42	10.3	7	2700	23.9	16	8/16
NX630EAN	12	11.2	8.3	8.6	4000	32	32	16/32
NX820EAX	16	7.3	14.7	6.8	1900	32.7	16	8/16
NX820EAR	16	15.5	12.9	12.8	3900	31	32	16/32
NX840EAQ	28	14.3	23.2	12	2100	58	32	16/32
NX840EAK	28	23.8	18.5	16.3	3500	69	64	32/64
NX860EAJ	41	26	27.4	18.1	2600	94	64	32/64
NX860VAJ	64	38.4	50.5	32.8	2600	113	80	50/80
EX SERVOMOTORS FOR EXPLOSIVE ATMOSPHERE								
EX310EAP	1.75	1.75	1.5	1.6	4000	3.9	4	2/4
EX420EAV	3.5	1.75	3.2	1.6	2000	7.7	4	2/4
EX420EAP	3.5	3.48	2.7	2.7	4000	7.8	8	4/8
EX430EAP	4.8	3.48	3.9	2.8	3000	10.7	8	4/8
EX430EAL	4.8	4.67	3.3	3.3	4000	11.6	11.7	8/16
EX620EAO	7	7.79	3.1	3.9	4300	14.7	16	8/16
EX630EAY	10.4	7.83	7.4	5.8	2900	21.8	16	8/16
EX630EAN	10.4	10.6	5.2	5.8	4000	26	26.5	16/32
EX820EAW	14	7.64	11.1	6.2	2200	28	16	8/16
EX820EAR	14	13.1	7.5	7.33	3600	32	32	16/32
EX840EAQ	24.5	12.1	15	7.6	2100	58	32	16/32
EX840EAM	24.5	15.8	11.5	7.7	2500	49	32	16/32
EX840EAK	24.5	20.2	2.85	2.92	3300	69	64	32/64
EX860EAJ	35	21.7	8.5	5.8	2500	94	64	32/64



BRUSHLESS
NX

0.45 to 64N.m



DESCRIPTION

The NX series is the new brushless servo motor range. The NX series brushless servo motors are characterised 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 , OPTION POSIVEX® ECONOMICAL ABSOLUTE ENCODER, HIPERFACE® ENCODER
BRAKE OPTION
ADJUSTABLE CONNECTORS (EXCEPT NX1)
IP64* PROTECTION (IP65 AS OPTION)

* NX8V : IP44

(1) NX1 to NX8 with connectors

NX Series

Motor	Torque M_0 (N.m)	Max Speed (rpm)		Inertia ($kg.m^2.10^{-5}$)
		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(1)	64	2000	-	920
NX860VAJ(1)	64	-	2600	920

(1) Ventilated motor

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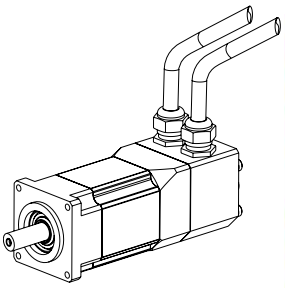
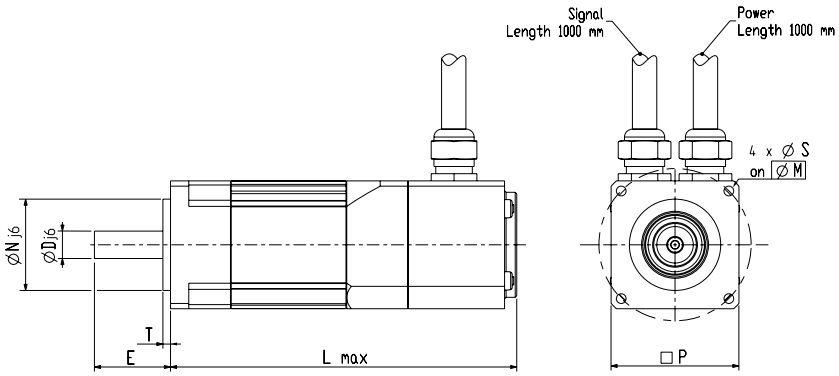
NX1 and NX2 Dimensions (output wires version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX110	30	9	25	2.5	42.5	3.2	50	0.8	110	1	141	15	6.9
NX205	40	11	25	2.5	56.5	5.5	63	0.8	100	1.1	137	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	120	1.6	157	30	16.7

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

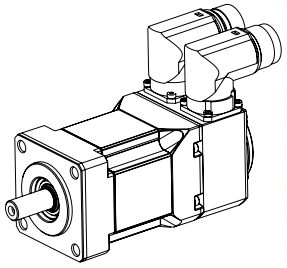


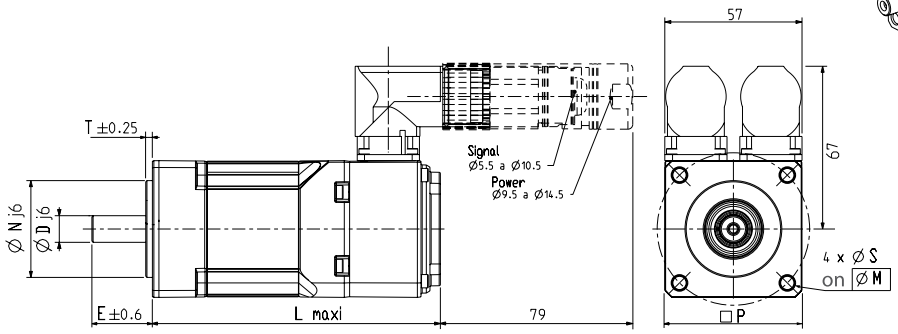


NX2 Dimensions (connector version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX205	40	11	25	2.5	56.5	5.5	63	0.8	100	1.1	137	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	120	1.6	157	30	16.7

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

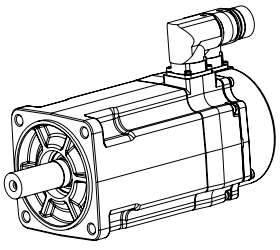


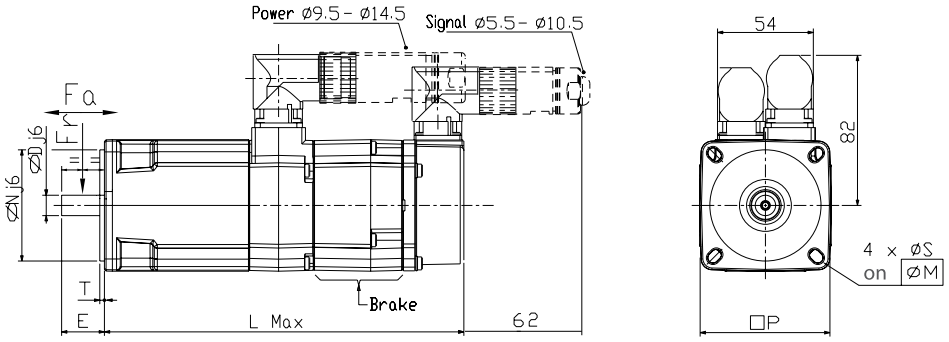


NX3, NX4 and NX6 Dimensions

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX310	60	11	23	2.5	71	5.5	75-80	2	147	2.4	195	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

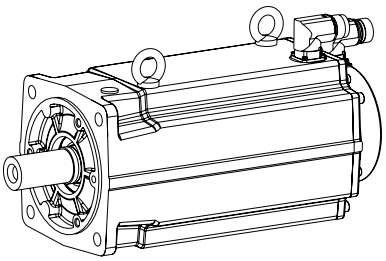


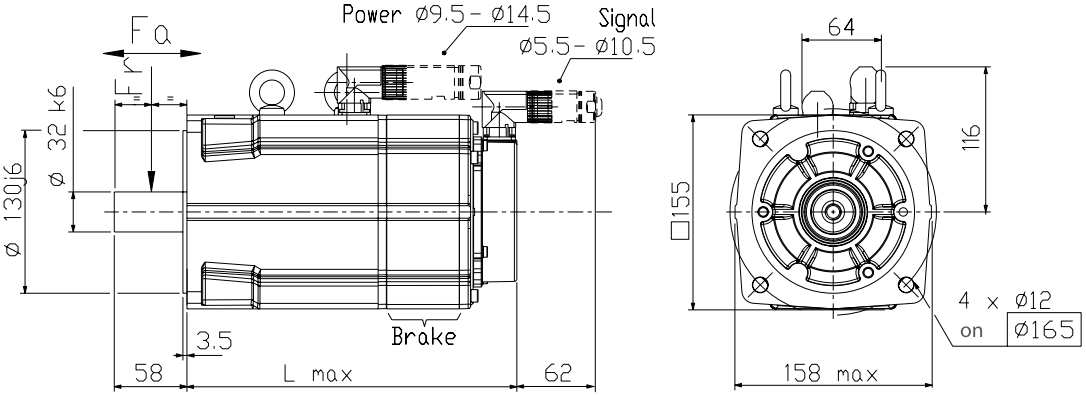


NX8 Dimensions

Motor	No brake		With brake		Fr*	Fa*
	Weight (kg)	L (mm)	Weight (kg)	L (mm)	(daN)	(daN)
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

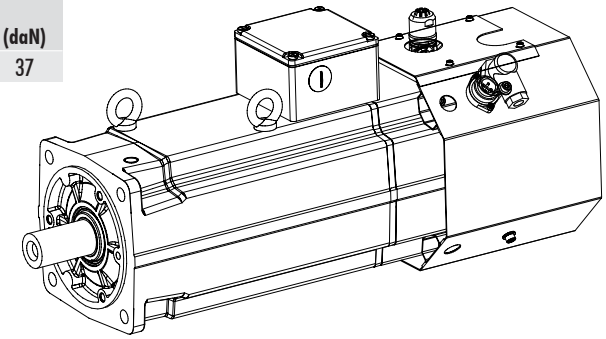


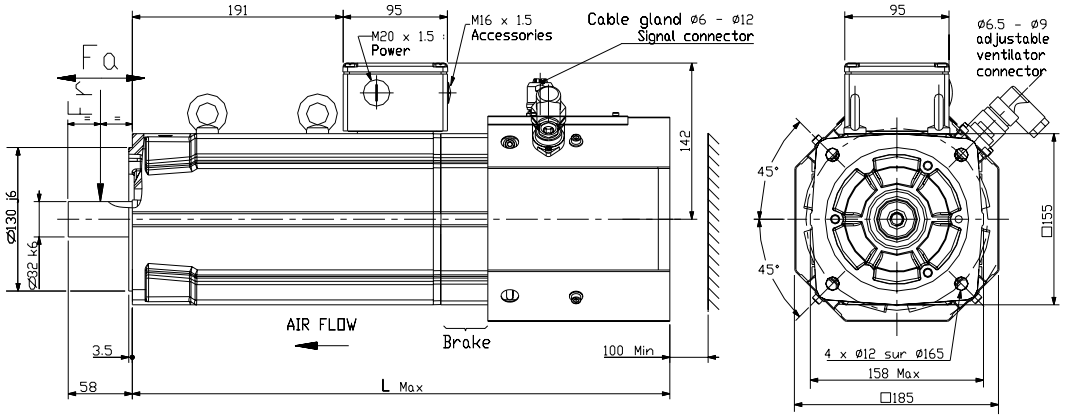


NX8 Dimensions (Ventilated version)

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

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





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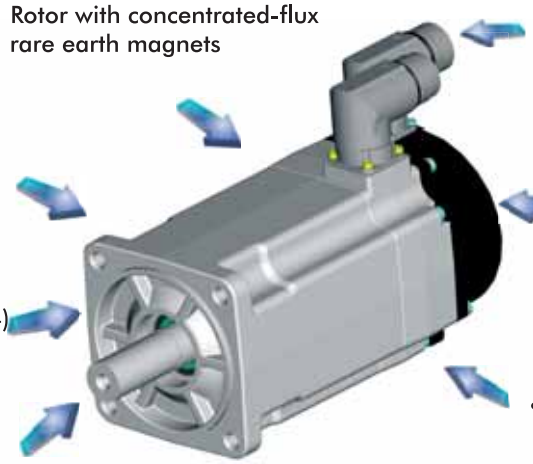
NX SERIES : A ROBUST AND SECURE CONSTRUCTION FOR HIGH LEVEL PERFORMANCES



- Rotor with concentrated-flux rare earth magnets
- Life-lubrication ball bearings
- NX1 to NX8* :
  - IP64, IP65 as option
  (* NX8 ventilated : IP44)
- Smooth shaft, with key as option
- Class F insulation
- NX1 and NX2 :
  - cables
- NX1 to NX8 :
  - adjustable connectors
  (except NX860EAD and NX860V : terminal box)
- 2-pole resolver
- HIPERFACE® encoder option (NX3 to NX8)
- POSIVEX® encoder option (NX2 to NX8)
- Motor with or without brake (option)

CE (1)

(1) : NX1 à NX8 with connectors

NX SERVO MOTOR CODIFICATION

N	X	3	1	0	E	A	K	R	1	0	0	0

NX : 10-pole brushless servo motors

Size 1 - 2 - 3 - 4 - 6 - 8 (depends on diameter)

Number of modules (depends on length)

Type of winding
A : class A
F : class F
V : class F ventilated

Sensor
A : 2-pole resolver
M : POSIVEX® multiturn absolute encoder
R : HIPERFACE® singleturn absolute encoder 128 periods/rev
S : HIPERFACE® multiturn absolute encoder 4096 rev - 128 périods/rev
T : HIPERFACE® singleturn absolute encoder 1024 periods/rev
U : HIPERFACE® multiturn absolute encoder 4096 rev - 1024 périods/rev
V : ENDAT® singleturn absolute encoder
W : ENDAT® multiturn absolute encoder
X : Incremental encoder - 2048 lines/rev

Winding

Mechanical heading

1 : cables
2 : shielded cables
4 : shielded wires
5 : UL terminal box + ventilation
6 : terminal box (NX860EAD)
7 : connectors
8 : connectors + ventilation
9 : terminal box + ventilation (NX860..V)

0 : motor without brake
3 : motor with brake

00 : smooth shaft
01 : shaft with key
10 : IP65 protection
11 : IP65 protection + shaft with key

NX SERIES UL RECOGNITION

DESCRIPTION

The NX series is UL recognised for models with connectors.

NX SERIES WITH CONNECTORS IS UL RECOGNISED
NX1, NX2 AND NX8 UL VERSION IS SLIGHTLY DIFFERENT FROM STANDARD VERSION

Characteristics

Type		Torque (N.m)	Temperature class	Lentgh (mm)		Connection	
				No brake	With brake	Output wires	Connectors
NX1		0.31	A	134	141	non disponible	NX110A - - R7- - -
NX2	NX205	0.4	A	129	137	NX205A - - R4- - -	NX205A - - R7- - -
	NX210	0.7	A	149	157	NX210A - - R4- - -	NX210A - - R7- - -
NX3		NX3, 4, 6 and NX8 standard version with connectors is UL without specification (torque, insulation class, length) and codification change.					NX310E - - R7- - -
NX4							NX420E - - R7- - - NX430E - - R7- - -
NX6							NX620E - - R7- - - NX630E - - R7- - -
NX8							NX820E - - R7- - - NX840E - - R7- - - NX860E - - R7- - -
NX8V (ventilated)		Same specifications as standard version (torque, insulation class, length) but codification changes					Terminal box
							NX860V - - R5 - - -

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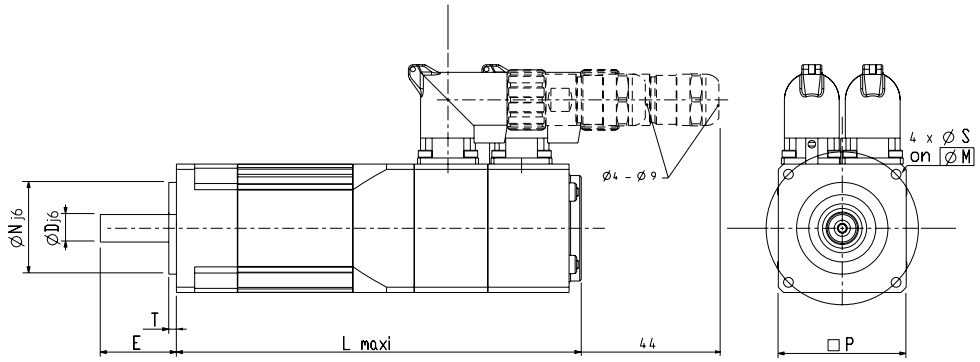
NX1 Dimensions (connector version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX110	30	9	25	2.5	42.5	3.2	50	0.8	134	1	141	15	6.9

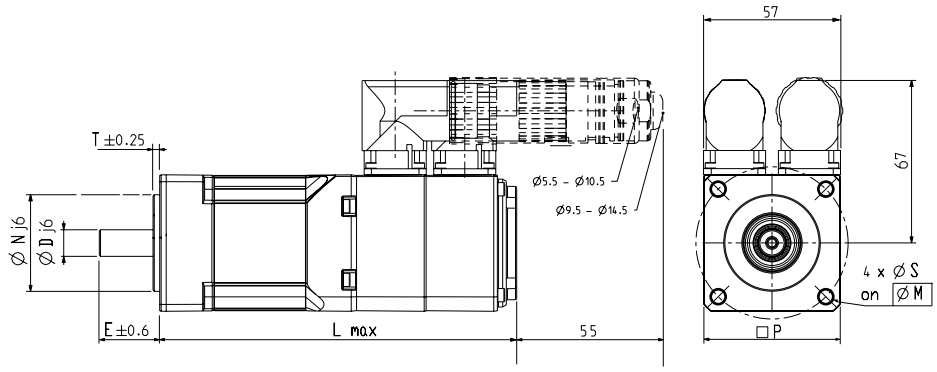
*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



NX2 Dimensions (connector version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX205	40	11	25	2.5	56.5	5.5	63	0.8	129	1.1	137	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	149	1.6	157	30	16.7

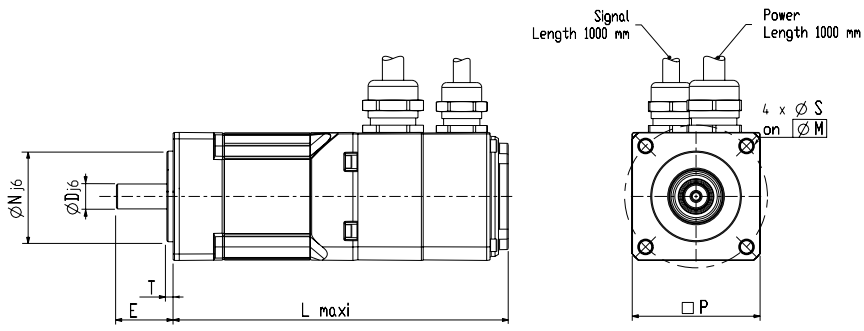
*Fr and Fa not cumulative - At 1500 rpm for a bearing service life of 20000 hours



NX2 Dimensions (wire version)

Motor	N (mm)	D (mm)	E (mm)	T (mm)	P (mm)	S (mm)	M (mm)	No brake Weight (kg)	No brake L (mm)	With brake Weight (kg)	With brake L (mm)	Fr* (daN)	Fa* (daN)
NX205	40	11	25	2.5	56.5	5.5	63	0.8	129	1.1	137	28	15.5
NX210	40	11	25	2.5	56.5	5.5	63	1.3	149	1.6	157	30	16.7

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



For NX3, NX4, NX6 and NX8 drawings, please refer to pages 38 and 39

HIPERFACE® ENCODER OPTION

For NX size 3 to 8

DESCRIPTION

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

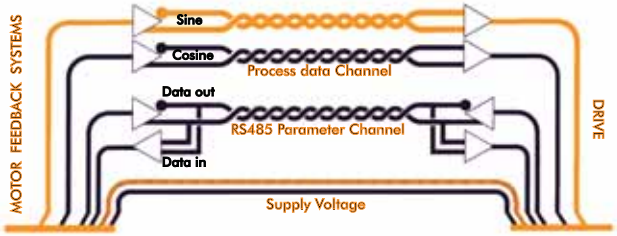
Absolute position is sent via an RS485 connection at power-on; then position is incrementally counted from this absolute position by using sine/cosine signals.

MOUNTING OF STEGMANN SRM50 HIPERFACE® ENCODER ON NX 3 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

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: ~0.3% at 4000 rpm
- Maximum position error: ± 45 arc sec

HIPERFACE® ENCODER PRINCIPLE

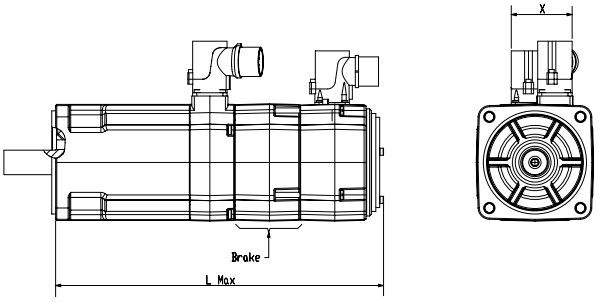


Extract from STEGMANN documentation

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 No brake (mm)	L With brake (mm)	X (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

ABSOLUTE POSIVEX®
ENCODER
For NX size 2 to 8

TECHNICAL SPECIFICATIONS

Absolule position - +/-15000 rpm
Position precision - +/- 10' max
maximum speed - 8000 rpm
Absolute position resolution one rev. - 14 bits
Ambient - -20°C to +110°C
Inertia - same as resolver
Compatibility - NX2 to NX8 servo motors and DIGIVEX Motion

Driving NX with Posivex® encoder requires:

- NX2 to NX8 servo motor with Posivex® encoder with a product code: NX----M- (example: NX310EMP)
- DIGIVEX Motion drive with a product code ended by DSM------M (example: DSM13004CM)
- Parvex Motion Explorer (PME) software above or equal to PME4.08
- Specific cable for encoder, part number 220198R00-(example: 220198R0005 for a 5m cable)

DESCRIPTION

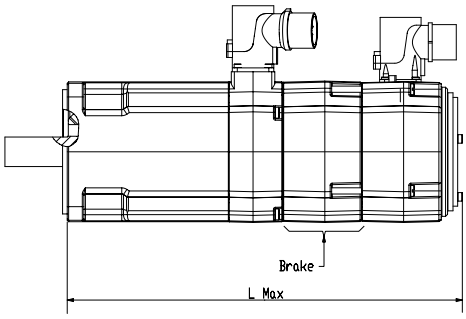
The Posivex® encoder is an economical and robust absolute encoder for NX servomotors.

The encoder is a combination of a resolver used by the drive to control the motor and an innovative electronic device continuously measuring the absolute position of the motor shaft.

This solution eliminates the long and laborious home settings every time the machine is started up.

ABSOLUTE POSITION ON +/-15000 RPM
NO NEED FOR HOME SETTINGS WHEN THE MACHINE IS STARTED UP
CONTINUOUS ENCODER STATE MONITORING
ROBUST AND ECONOMICAL SOLUTION
NX2 TO NX8 SERVO MOTORS AND DIGIVEX COMPATIBLE

NX DIMENSIONS WITH POSIVEX® ENCODER



NX Dimensions with Posivex

Motor	L	
	No brake (mm)	With brake (mm)
NX205	135	172
NX210	155	192
NX310	182	230
NX420	210	261
NX430	235	286
NX620	216	271
NX630	245	300
NX820	235	301
NX840	295	361
NX860	355	421

Other dimensions unchanged compared to resolver mounting

NK/NW BRUSHLESS SERVOMOTOR KITS

0.4 to 72N.m

DESCRIPTION

Servo motor Kit is an innovative and global approach enabling the complete integration of motor in a simplified mechanical system. The size constraints are considered with a maximum effectiveness.
This approach provides accuracy, reliability and robustness benefits matchless with traditional construction.

A complete base is available to meet the design of many mechanical systems in different application domains. Other adjustments can be developed on request.

MECHANICAL SYSTEM COMPACTNESS AND WEIGHT
COST REDUCTION
DIRECT DRIVE: ACCURATE AND ROBUST MECHANICS
WIDE RANGE
COMPLETE AND OPTIMISED SOLUTION INCLUDING SENSOR AND DRIVE
INTEGRATION ASSISTANCE

TECHNICAL SPECIFICATIONS

Servo motor kits

Type	Size	Torque at low speed (N.m)	Max. speed (rpm)	Max. power continuous (kW)
NK1	1	0.4	8000	0.25
NK2	2	0.9	6000	0.4
NK310	3	2		0.9
NK420	4	4		1.75
NK430		5.5		2.25
NK620	6	8	5000	2.75
NK630		12	4500	3.7
NK820	8	15	5600	5.8
NK840		28	3500	6.8
NK860		42	2600	7.7

Water cooling servo motor kits

Type	Size	Torque at low speed (N.m)	Max speed. (rpm)	Max. power continuous (kW)
NK310W	3	3.4	15000	4.7
NK420W	4	7	12000	8
NK430W		10	10000	10
NK620W	6	14		14
NK630W		21	8000	17
NK820W	8	26		20
NK840W		48	6000	30
NK860W		72	4000	

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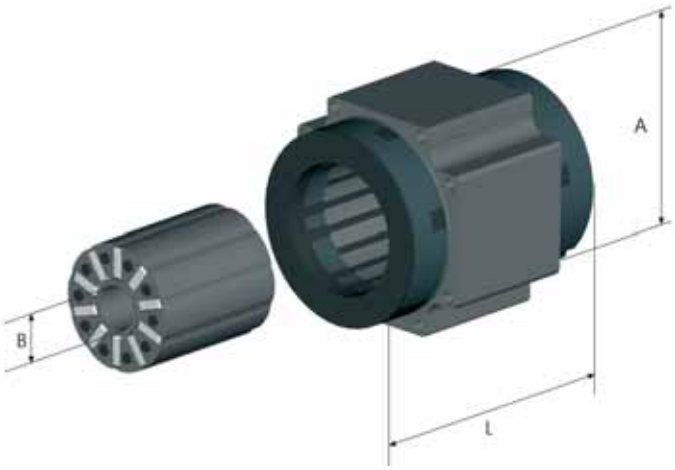
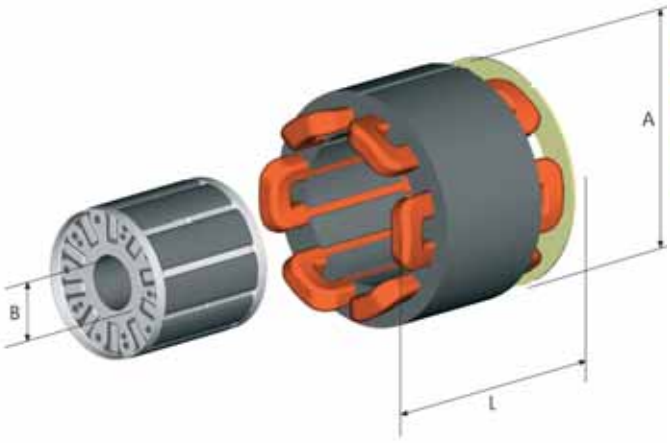
Dimensions			
Type	Ø A	Ø B	L
NK1	42	9	65
NK2	56	12	68

Dimensions in mm



Dimensions			
Type	Ø A (mm)	Ø B (mm)	L (mm)
NK310	62	14	75
NK420	80	20	92
NK430			117
NK620	111	26	104
NK630			133
NK820	143	40	110
NK840			170
NK860			230
NK310W	82	14	85
NK420W	100	20	102
NK430W			127
NK620W	131	26	114
KW630W			143
NK820W	163	40	120
NK840W			180
NK860W			240

Dimensions in mm



OPTION

Several types of sensors are combined with servo motor kit according to the application requirements such as robustness, resolution, and accuracy: Hall effect sensor, resolver, high resolution sensor, optical encoder…

BRUSHLESS EX ATEX APPROVED

1.75 to 35N.m

DESCRIPTION

EX servo motors are "d" flameproof apparatus designed to operate in potentially explosive atmosphere according to 94/9/CE "New Approach" ATEX directive.

Based on an innovative 10-pole design, they are characterised by an excellent motion quality for a high torque density.

In combination with GA gearboxes, they offer a complete, robust and powerful ATEX geared motor solution.

"D" FLAMEPROOF EQUIPMENT IN ACCORDANCE WITH ATEX 94/9/CE DIRECTIVE*
ATEX GEARED MOTOR SOLUTION IN COMBINATION WITH GA GEARBOX
230V OR 400V POWER SUPPLY
INTEGRATED THERMO-CONTACT AND THERMO-FUSE FOR THERMAL PROTECTION
BRAKE OPTION

Mechanical associations
GA Gearboxes - EX Servo motors

	GA Gearbox size		
Motor Torque; inertia	**03**	**04**	**06**
EX310 1.75 ; 7.9	GA3N...R03.. r = 5 or 25		
EX420 3.5 ; 29		GA4N...R04.. r = 5 or 25	
EX430 4.8 ; 42.6		GA4N...R04.. r = 5 or 25	
EX620 7 ; 98			GA6N...R06.. r = 5 or 25
EX630 10.4 ; 147			GA6N...R06.. r = 5 or 25

r = gearbox ratio, torque (N.m) and Inertia (10^{-5}.kgm²)

Gearbox selection, please refer to example on page 55

IMPORTANT : please confirm the operating limit of the association selected above with our technical service centre.

TECHNICAL SPECIFICATIONS

EX SERVO MOTORS

Classification :
- II 2G EEx d IIB T4 (Gas)
- or II 2GD EEx d IIB T4 IP65 T135°C (Gas & Dust)
- **Standard** EN 50014, EN 50018 et EN 50281-1-1

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

GA GEARBOXES

Classification :
- Standard EN 13463-1

EX Series - 230V power supply

Motor	M_0 (N.m)	N_{MAX} (rpm)	Inertia (kgm².10^{-5})	Weight (kg)
EX310EAP	1.75	2300	7.9	2.7
EX310EAK	1.75	4000	7.9	2.7
EX420EAP	3.5	2300	29	5
EX420EAJ	3.5	4000	29	5
EX430EAJ	4.8	3200	43	6
EX430EAF	4.8	4000	43	6
EX620EAO	6.6	2500	98	9.1
EX630EAI	10.4	3000	147	11
EX820EAR	14	2200	320	24
EX820EAL	14	3600	320	24
EX840EAJ	24.5	2200	620	32
EX860EAD	35	2600	920	40

EX Series - 400V power supply

Motor	M_0 (N.m)	N_{MAX} (rpm)	Inertia (kgm².10^{-5})	Weight (kg)
EX310EAP	1.75	4000	7.9	2.7
EX420EAV	3.5	2000	29	5
EX420EAP	3.5	4000	29	5
EX430EAP	4.8	3000	43	6
EX430EAL	4.8	4000	43	6
EX620EAO	7	4300	98	9.1
EX630EAY	10.4	2900	147	11
EX630EAN	10.4	4000	147	11
EX820EAW	14	2200	320	24
EX820EAR	14	3600	320	24
EX840EAQ	24.5	2100	620	32
EX840EAK	24.5	3300	620	32
EX860EAJ	35	2600	920	40

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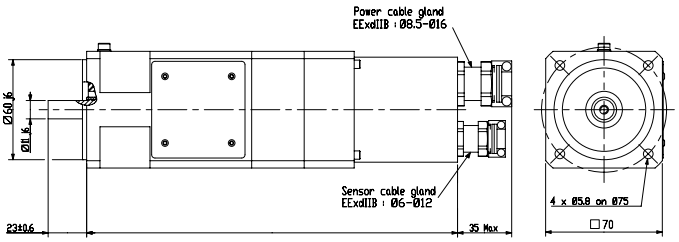
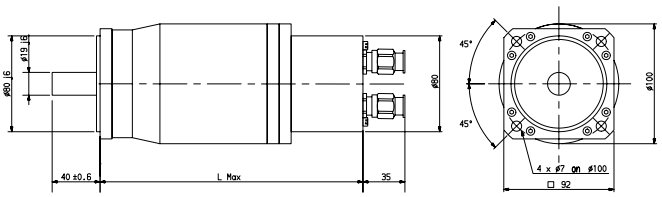
EX3 DIMENSIONS



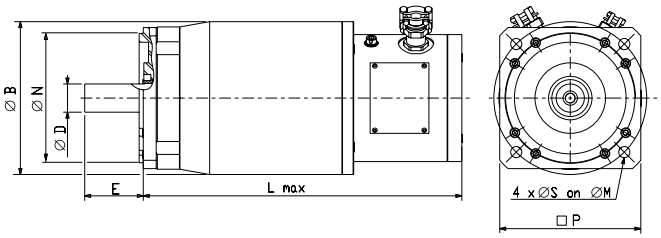
EX3 Dimensions (mm)		
Motor	L	
	no brake	with brake
EX310	225	255

EX4 DIMENSIONS



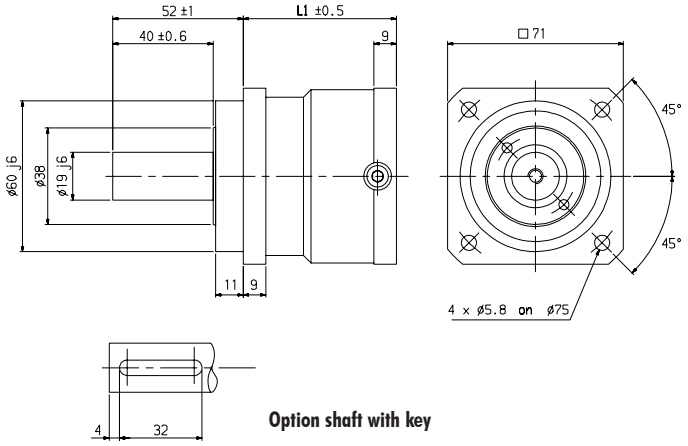
EX4 Dimensions (mm)		
Motor	L	
	no brake	with brake
EX420	265	290
EX430	290	315

EX6 AND EX8 DIMENSIONS



EX6 and EX8 Dimensions (mm)									
Motor	N	D	E	B	P	S	M	L	
								no brake	with brake
EX620	110	24	50	130	120	8.4	130	275	300
EX630	110	24	50	130	120	8.4	130	300	325
EX820	130	32	58	165	155	12	165	290	325
EX840	130	32	58	165	155	12	165	350	385
EX860	130	32	58	165	155	12	165	410	445

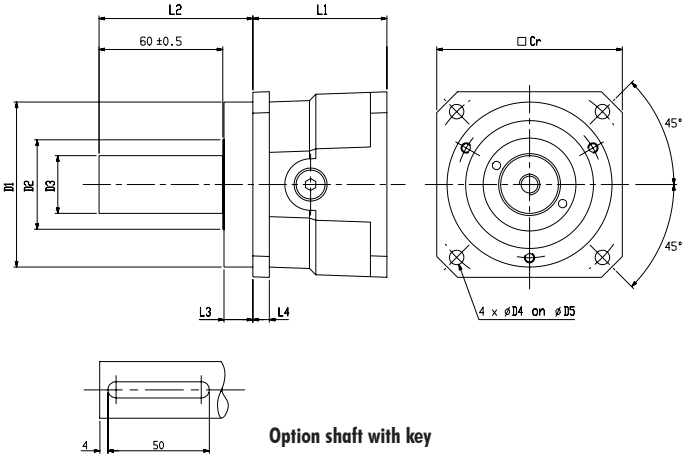
GA3 GEARBOXES DIMENSIONS



GA3 Dimensions			
Gearbox	r	L1	Weight
GA3	5	61	1.6
GA3	25	97	2.2

Dimensions in mm, weight in kg

GA4 AND GA6 GEARBOXES DIMENSIONS

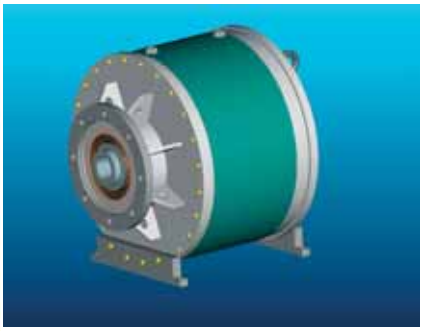


GA4 et GA6 Dimensions										
Gearbox	r	L1	L2	D1	D2	D3	D4	D5	□Cr	Weight
GA4	5	64.8	74.6	80j6	43	28j6	7	100	91	3.2
GA4	25	106.8	74.6	80j6	43	28j6	7	100	91	5.2
GA6	5	74.8	78.3	110j6	53	32k6	9	130	115	6.2
GA6	25	117.8	78.3	110j6	53	32k6	9	130	115	9.4

Dimensions in mm, weight in kg

Torque Motors TK and TM Series

10 to 7500N.m



DESCRIPTION

The TK and TM Torque Motor series offer different sizes and torque range up to 7500Nm to provide optimised solutions for application such as extruder, plastics injection, printing, indexing table, machine tool....

These torque motors are available as frameless motor - TK series - and complete motor - TM series - with natural or water cooling versions. Water cooling is proposed for demanding application requiring high continuous torque.

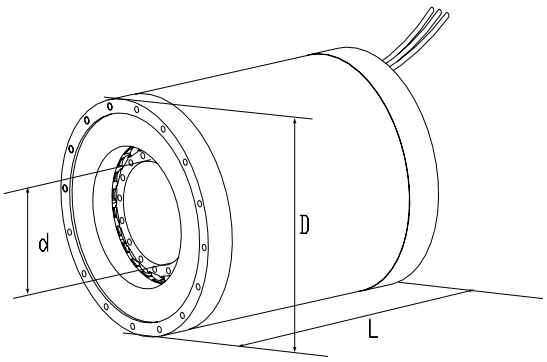
The TK and TM series extremely compact design enable an easy motor integration in customer application even if the space dedicated to the motor is very tight.

Compact design
Frameless and complete motor version
Very smooth speed regulation
High dynamic and very high stiffness
Hollow shaft for mechanical flexibility
No gearbox or other mechanical transmission
Easy service with no gearbox maintenance
Optimum control with DIGIVEX and AC890 drives

TECHNICAL SPECIFICATIONS

TKA - Natural cooling frameless version

Model	Cont. torque (Nm)	Peak torque (Nm)	Speed (rpm)	D (mm)	d (mm)	L (mm)
TKA143-050	14	51	1100	160	70	92
TKA143-100	26	100	1000			142
TKA143-150	37	150	1000			192
TKA143-200	48	200	1000			242
TKA180-050	25	80	1200	198	90	95
TKA180-100	44	160	1000			145
TKA180-150	62	240	920			195
TKA180-200	80	320	880			245
TKA227-050	48	160	800	245	140	100
TKA227-100	85	315	660			150
TKA227-150	115	475	630			200
TKA227-200	150	630	600			250
TKA360-050	148	505	330	385	268	110
TKA360-100	265	1000	330			160
TKA360-150	375	1500	330			210
TKA360-200	480	2000	300			260
TKA533-050	370	1200	220	575	428	112
TKA533-100	660	2350	220			162
TKA533-150	920	3525	220			212
TKA533-200	1200	4700	200			262
TKA762-050	800	2530	160	805	650	116
TKA762-100	1430	5000	160			166
TKA762-150	2000	7500	160			216
TKA762-200	2560	10000	130			266



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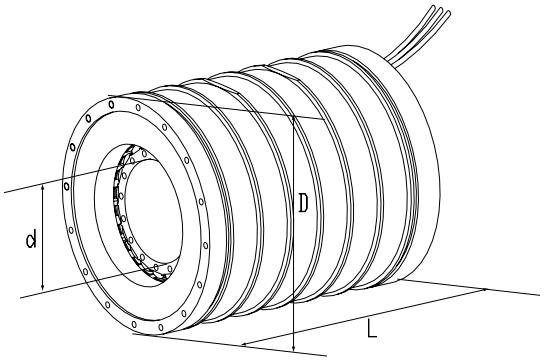
TECHNICAL SPECIFICATIONS

TKW - Water cooling frameless version

Model	Cont. torque (N.m)	.Peak torque (N.m)	Speed (rpm)	D (mm)	d (mm)	L (mm)
TKW143-050	32	51	1200	160	70	92
TKW143-100	67	100	1200			142
TKW143-150	100	150	1000			192
TKW143-200	130	200	1000			242
TKW180-050	54	80	1250	198	90	95
TKW180-100	112	160	1000			145
TKW180-150	170	240	1000			195
TKW180-200	225	320	1000			245
TKW227-050	105	160	800	245	140	100
TKW227-100	215	315	660			150
TKW227-150	325	475	660			200
TKW227-200	425	630	660			250
TKW360-050	320	505	400	385	268	110
TKW360-100	670	1000	330			160
TKW360-150	1000	1500	330			210
TKW360-200	1350	2000	330			260
TKW533-050	780	1200	220	575	428	112
TKW533-100	1680	2350	220			162
TKW533-150	2500	3525	220			212
TKW533-200	3250	4700	200			262
TKW762-050	1720	2530	160	805	650	116
TKW762-100	3610	5000	160			166
TKW762-150	5450	7500	120			216
TKW762-200	7250	10000	80			266



Servo motors kit : an innovative and customised solution for OEM applications

DESCRIPTION

Servo motor kits are a unique customised 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 assistance throughout the specification stage
- a **flexible industrial organisation**

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 optimised solution including sensor

INTEGRATION ASSISTANCE
CUSTOMISED SOLUTION
REDUCED COST
MECHANICAL COMPACTNESS
REDUCED WEIGHT
ACCURATE AND ROBUST MECHANICS
TORQUE FROM 0.4 TO 72N.M

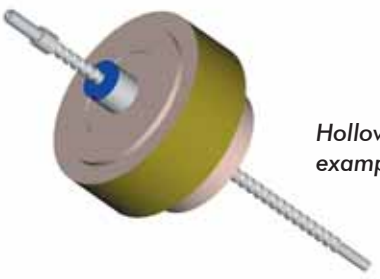
Servo motor kits can be designed for applications in the following range :

- Torque from 0.4 to 72 Nm
- Speed up to 15000 rpm

On top of mechanical customisations (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

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BRUSHLESS
LS - HS
7 to 31N.m

AC SERVO MOTORS

LS - 230V power supply

Motor	M_0 (N.m)	I_0 (A)	M_N (N.m)	N_{MAX} (rpm)	M_{MAX} (N.m)	Inertia J ($kgm^2.10^{-5}$)	DIGIVEX rating
LS810EX	7	7.18	6.7	2000	13.2	200	7.5/15
LS810ER	7	13.9	6.1	4000	13.5	200	15/30
LS820EQ	14	14.8	13.1	2100	25.7	350	15/30
LS820EJ	14	27.8	11.6	4000	27	350	30/60
LS910EW	15	14.3	13.6	1800	28.1	680	15/30
LS910EM	15	27.9	11.4	3600	28.6	680	30/60
LS920EM	31	27.4	28	1800	59.5	1200	30/60
LS920EH	31	52.5	22.4	3400	53.2	1200	60/100

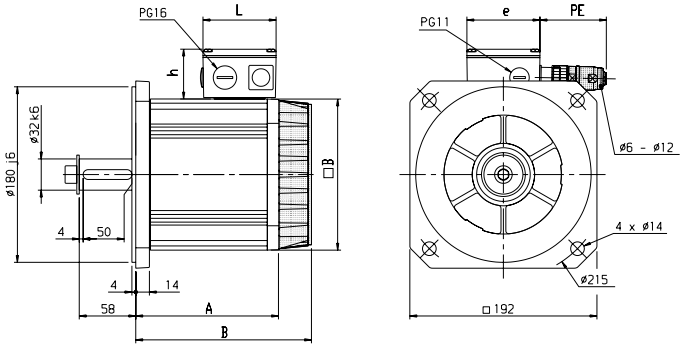
HS - 400V power supply

Motor	M_0 (N.m)	I_0 (A)	M_n (N.m)	N_{max} (rpm)	M_{max} (N.m)	Inertie J ($kgm^2.10^{-5}$)	DIGIVEX rating
HS810EZ	7	4	6.6	2200	12.7	200	4/8
HS810EY	7	6.42	6.3	3600	13.6	200	8/16
HS810EW	7	8	6	4400	12.7	200	8/16
HS820EV	14	7.76	13	2200	26.1	350	8/16
HS820EQ	14	14.8	11.3	4200	27.1	350	16/32
HS910EX	15	7.05	13.7	1700	29.1	680	8/16
HS910EW	15	14.3	11.4	3600	29.1	680	16/32
HS920EW	31	7.51	29.9	900	58.3	1200	8/16
HS920ET	31	15	27.8	1900	58.3	1200	16/32
HS920EL	31	30	20.5	3800	58.3	1200	32/64

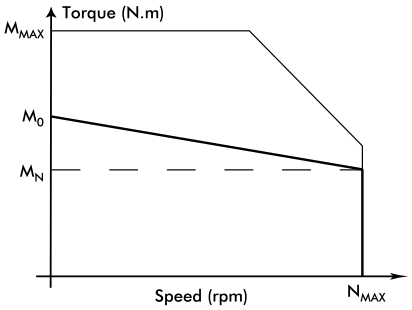
DESCRIPTION

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 7 to 31N.m.



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



LS-HS Dimensions

Motor	L (mm)	h (mm)	e (mm)	PE (mm)	□B (mm)	A(1) (mm)	B(2) (mm)	Weight (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) : no brake (2) : with brake
* Fr and Fa not cumulative ; at 3000 rpm

BRUSHLESS
LX - HX

6.7 to 320N.m

DESCRIPTION

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 400V 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

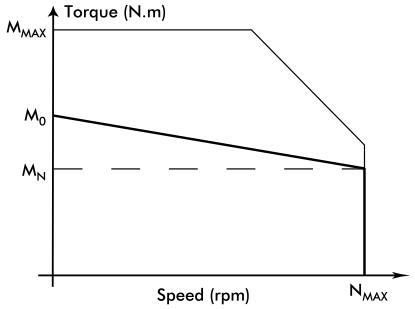
LX - 230V power supply

Motor	M_0 (N.m)	I_0 (A)	M_N (N.m)	N_{MAX} (rpm)	M_{MAX} (N.m)	Inertia J ($kgm^2.10^{-5}$)	DIGIVEX rating
LX440CL	6.7	7	6.1	2200	13.6	34	7.5/15
LX440CC	6.7	14.7	5.2	4700	13.0	34	15/30
LX440CB	6.7	19	4.6	6000	15.5	34	30/60
LX820DH	19	27.6	16.1	2800	38.4	230	30/60
LX820DF	19	36.8	13.9	3800	42.6	230	60/100
LX820VK(1)	28	29.8	26.7	2000	48	230	30/60
LX820VF(1)	28	54.6	22.8	3800	45.1	230	60/100
LX840DG	38	29.6	32.5	1600	72.8	420	30/60
LX840DE	38	41.4	28.4	2200	83.8	420	60/100
LX840VE(1)	54	59.7	46.8	2200	83.8	420	60/100

HX - 400V power supply

Motor	M_0 (N.m)	I_0 (A)	M_N (N.m)	N_{MAX} (rpm)	M_{MAX} (N.m)	Inertia J ($kgm^2.10^{-5}$)	DIGIVEX rating
HX440CW	6.7	3.5	6.2	2100	14.4	34	4/8
HX440CR	6.7	4.9	5.9	3000	15.5	34	8/16
HX440CK	6.7	7.4	5.3	4500	13.7	34	8/16
HX440CH	6.7	9.5	4.7	5800	15.5	34	16/32
HX820DT	19	7.9	18.1	1500	36.4	230	8/16
HX820DN	19	15.8	15.5	3100	36.4	230	16/32
HX820DJ	19	22.1	12.8	4200	42.5	230	32/64
HX820VK(1)	28	29.8	22.2	4000	50	230	32/64
HX820VH(1)	28	41	18.7	5000	47	230	50/80
HX840DN	38	14.8	33.1	1500	76.8	420	16/32
HX840DH	38	25.9	25	2600	85.3	420	32/64
HX840VJ(1)	55	30.5	47.4	2100	100.5	420	32/64
HX840VG(1)	55	43.5	40.6	3100	91.3	420	50/80
HX840VG(1)	55	43.5	40.6	3100	112.9	420	100/120
HXA30VI(1)	170	98.8	123.9	2000	190.7	2700	100/120
HXA40VI(1)	228	99.6	185.9	1400	254	3500	100/120
HXA40VG(1)	230	130	170.9	1900	250	3500	150
HXA40VE(1)	230	182	147.7	2700	243	3500	200
HXA50VF(1)	280	146	213	1800	284	4300	150
HXA50VE(1)	280	175	204	2150	303	4300	200
HXA60VF(1)	320	136	262	1450	339	5100	150
HXA60VD(1)	315	199	206	2200	315	5100	200

(1) Ventilated motor



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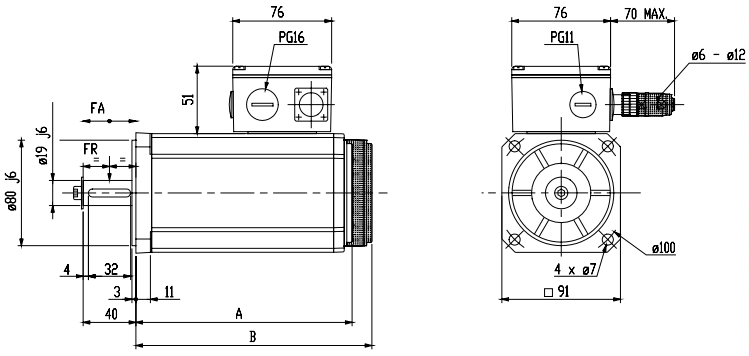
LX4 - HX4 Dimensions

Motor	no brake A (mm)	with brake B (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
LX440	214	264	6.4	45	20
HX440	214	264	6.4	45	20

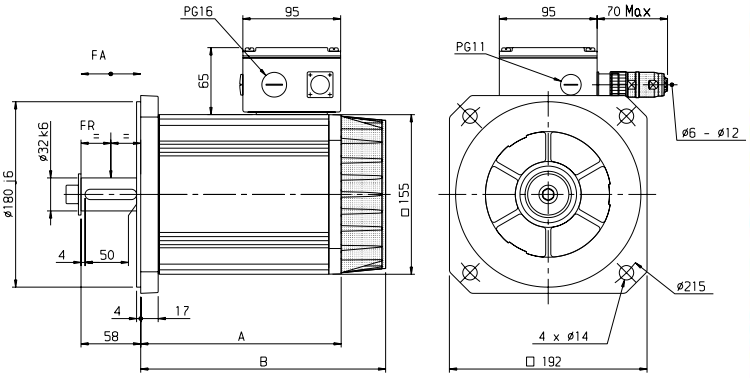
* Fr and Fa not cumulative ; at 3000 rpm



LX8 - HX8 Dimensions

Motor	no brake A (mm)	with brake B (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
LX820	238	305	17	250	35
LX840	322	389	26	250	35
HX820	238	305	17	250	35
HX840	322	389	26	250	35

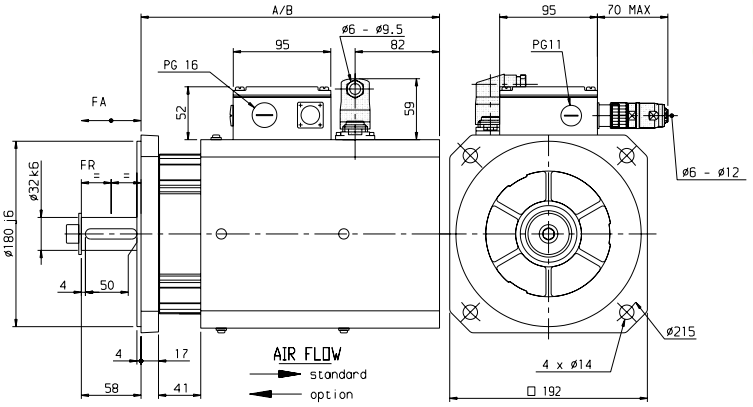
* Fr and Fa not cumulative ; at 3000 rpm
Power connector as option



LX8V - HX8V Dimensions

Motor	no brake A (mm)	with brake B (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
LX820V	333	401	23	250	35
LX840V	417	485	32	250	35
HX820V	333	401	23	250	35
HX840V	417	485	32	250	35

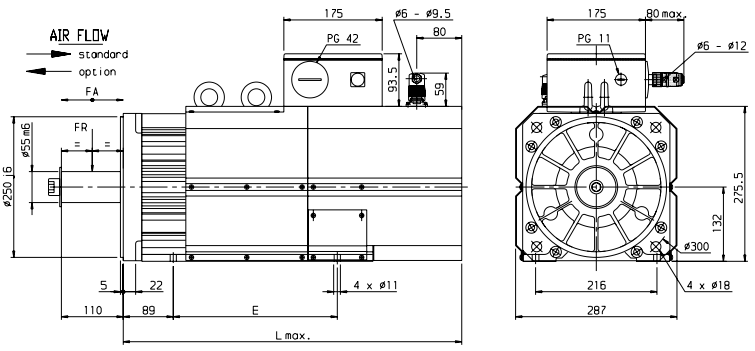
* Fr and Fa not cumulative ; at 3000 rpm
Power connector as option



HXA Dimensions

Motor	no brake E (mm)	no brake L (mm)	with brake E (mm)	with brake L (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
HXA30V	271	582	271	582	100	530	100
HXA40V	349	660	349	660	110	550	100
HXA50V	349	660	391	702	120	550	100
HXA60V	391	702	-	-	135	550	100

* Fr and Fa not cumulative ; at 3000 rpm



GX
Gearboxes

GX 3 N 025 R 04 00

- **Type** — GL : economical; GX : low backlash
- **Associated motor size** — 1 to 8
- **Backlash** — N : normal; R : réduced
- **Speed ratio** — 003 to 100
- **Gearbox size** — 01 to 10
- **Options** — 00 : smooth shaft; 01 : shaft with key

Example : GX3N025R0300
GX gearbox, size 3, ratio 25 , normal backlash, smooth shaft, NX310 associated motor

DESCRIPTION

Characterised by a low backlash, GX gearboxes are ideal for applications needing high torque and optimum motion quality.

In combination with NX servo motors, they offer a compact geared servo motor solution optimised to provide the best dynamic performances.

HIGH PERFORMANCE GEARED SERVO MOTORS
LARGE CHOICE OF SPEED RATIO
HELICAL GEARING : LOW BACKLASH, SMOOTH AND QUIET FONCTIONING
HIGH STIFFNESS
LIFE LUBRICATED
TOP QUALITY FINISHING
UP TO IP65 PROTECTION

Geared servo motor selection example

Targeted output speed (Ns) : 115 rpm
Targeted output torque (Cs) : 445 N.m
Load inertia (Jch) : 3 kgm^2

Calculation of the gearbox ratio r

Motor maximum speed (NmaxM : 4000 rpm
r = NmaxM / Ns
=> 4000 / 115 = 34,78
By choosing the existing ratio immediately above:R=35

Calculation of the motor torque

Torque at low speed = Cs / r / 0.85*
=>445 / 35 / 0.85 = 14.9 N.m

Geared servo motor selection

Motor: NX820
(Torque : 16 N.m, Inertia (Jmot) : 320 kgm^2.10^{-5})

Gearbox: GX8N035R0900
(size 9 ; speed ratio 35)

Calculation of the inertia ratio

Inertia ratio = Jch / (Jmot x r^2)
=>3 / (320.10^{-5} x 35^2) = 0.77

IMPORTANT : please confirm the operating limit of the association selected above with our technical service centre.

GX gearboxes - NX Servomotors
Mechanical associations

Motor Torque, Inertia	GX gearbox size 01	02	04	06	07	09	10
NX110 0.45 ; 1.3	GX1….R01 r = 3 to 35	GX1….R02 r = 40 to 80					
NX210 1 ; 3.8	GX2….R01 r= 3 to 15	GX2….R02 r = 20 to 35	GX2….R04 r= 40 to 80				
NX310 2 ; 7.9	GX3….R01 r= 3 to 8	GX3….R02 r = 9 to 20	GX3….R04 r= 25 to 60				
NX420 4 ; 29			GX4….R04 r = 3 to 10	GX4….R06 r = 15 to 60	GX4….R07 r = 70 to 90		
NX430 5.5 ; 42.6			GX4….R04 r = 3 to 10	GX4….R06 r = 15 to 35	GX4….R07 r = 40 to 70		
NX620 8 ; 98				GX6….R06 r = 3 to 10	GX6….R07 r = 15 to 60		
NX630 12 ; 147				GX6….R06 r = 3 to 10	GX6….R07 r = 15 to 50		
NX820 16 ; 320				GX8….R06 r = 3 to 10	GX8….R07 r = 15 to 30	GX8….R09 r = 35 to 50	GX8….R10 r = 60 to 80
NX840 28 ; 620				GX8….R06 r = 3 to 9	GX8….R07 r = 10 to 15	GX8….R09 r = 20 to 30	GX8….R10 r = 35 to 50
NX860 41 ; 920				GX8….R06 r = 3 to 7	GX8….R07 r = 8 to 10	GX8….R09 r = 15 to 20	GX8….R10 r = 25 to 35
NX860V 64 ; 920				GX8….R06 r = 3 to 5	GX8….R07 r = 6 and 8	GX8….R09 r = 9 to 15	GX8….R10 r = 20 to 25

r = gearbox ratio, Torque (N.m) and Inertia (10^{-5}.kgm^2)

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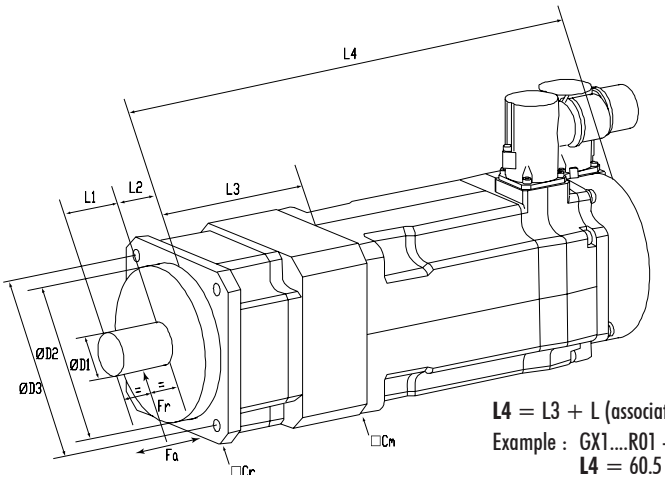
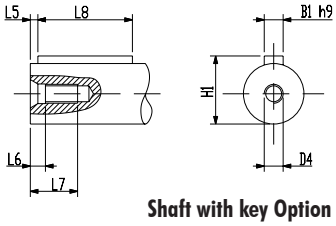




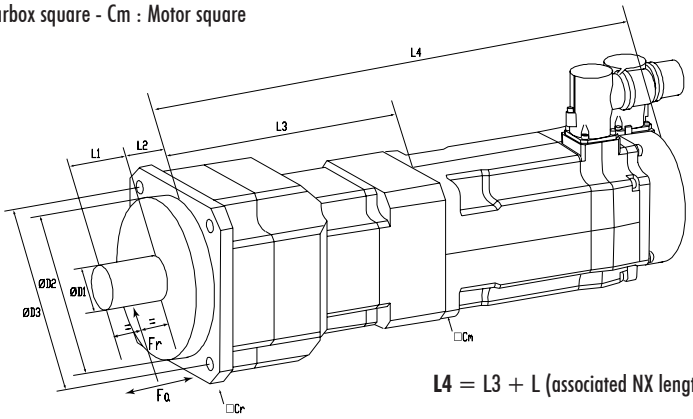
Shaft with key Option

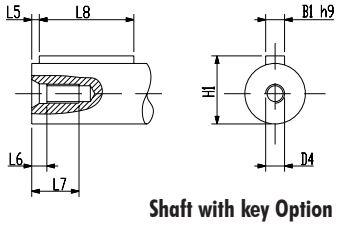
L4 = L3 + L (associated NX length, drawing on page 38)
Example : GX1....R01 - Motor NX1 : L = 133 mm
L4 = 60.5 + 133 = 193.5 mm

Geared servo motors characteristics and dimensions - 1 stage GX
Ratio 3, 4, 5, 6, 7, 8, 9 et 10

Type	Backlash* (min)	Stiffness (N.m/rad)	Fr** (daN)	Fa** (daN)	L1 (mm)	L2 (mm)	L3 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Cr (mm)	Cm (mm)	L5 (mm)	L6 (mm)	L7 (mm)	L8 (mm)	B1 (mm)	H1 (mm)	D4 (mm)
GX1....R01	5	10000	78	39	20.5	5.5	60.5	13j6	35g6	46	42	42	2	3.2	10	16	5	15	M4x0.7
GX2....R01	5	10000	78	39	20.5	5.5	60.5	13j6	35g6	46	42	56	2	3.2	10	16	5	15	M4x0.7
GX3....R01	5	10000	78	39	20.5	5.5	60.5	13j6	35g6	46	42	71	2	3.2	10	16	5	15	M4x0.7
GX3....R02	5 ou 3	24000	153	76	30	7	76.5	16j6	50g6	70	60	71	2	4	12.5	25	5	18	M5x0.8
GX4....R04	5 ou 3	48000	325	162	38	10	96	22j6	80g6	100	90	91.5	3	6	19	32	6	24.5	M8x1.25
GX4....R06	5 ou 3	80000	670	335	53	12	122	32j6	110g6	130	115	91.5	5	9.5	28	40	10	35	M12x1.75
GX6....R06	5 ou 3	80000	670	335	53	12	122	32j6	110g6	130	115	121	5	9.5	28	40	10	35	M12x1.75
GX8....R06	5 ou 3	80000	670	335	53	12	122	32j6	110g6	130	115	155	5	9.5	28	40	10	35	M12x1.75
GX8....R07	5 ou 3	170000	940	470	82	15	142.5	40j6	130g6	165	142	155	5	12	36	63	12	43	M16x2
GX8....R09	5 ou 3	500000	1450	725	85	20	180.5	55j6	160g6	215	180	155	6	15	42	70	16	59	M20x2.5

* Low backlash option : 3 min; ** at 100 rpm
Cr : Gearbox square - Cm : Motor square





Shaft with key Option

L4 = L3 + L (associated NX length, drawing on page 38)

Geared servo motors characteristics and dimensions - 2 stages GX
Ratio 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90 et 100

Type	Backlash* (min)	Stiffness (N.m/rad)	Fr** (daN)	Fa** (daN)	L1 (mm)	L2 (mm)	L3 (mm)	D1 (mm)	D2 (mm)	D3 (mm)	Cr (mm)	Cm (mm)	L5 (mm)	L6 (mm)	L7 (mm)	L8 (mm)	B1 (mm)	H1 (mm)	D4 (mm)
GX1....R01	8	10000	78	39	20.5	5.5	88	13j6	35g6	46	42	42	2	3.2	10	16	5	15	M4x0.7
GX1....R02	8 ou 6	24000	153	76	30	7	101.5	16j6	50g6	70	60	42	2	4	12.5	25	5	18	M5x0.8
GX2....R01	8	10000	78	39	20.5	5.5	88	13j6	35g6	46	42	56	2	3.2	10	16	5	15	M4x0.7
GX2....R02	8 ou 6	24000	153	76	30	7	101.5	16j6	50g6	70	60	56	2	4	12.5	25	5	18	M5x0.8
GX2....R04	8 ou 6	48000	325	162	38	10	127	22j6	80g6	100	90	56	3	6	19	32	6	24.5	M8x1.25
GX3....R02	8 ou 6	24000	153	76	30	7	101.5	16j6	50g6	70	60	71	2	4	12.5	25	5	18	M5x0.8
GX3....R04	8 ou 6	48000	325	162	38	10	127	22j6	80g6	100	90	71	3	6	19	32	6	24.5	M8x1.25
GX4....R06	8 ou 6	80000	670	335	53	12	161	32j6	110g6	130	115	91.5	5	9.5	28	40	10	35	M12x1.75
GX4....R07	8 ou 6	170000	940	470	82	15	196	40j6	130g6	165	142	91.5	5	12	36	63	12	43	M16x2
GX6....R07	8 ou 6	170000	940	470	82	15	196	40j6	130g6	165	142	121	5	12	36	63	12	43	M16x2
GX8....R07	8 ou 6	170000	940	470	82	15	196	40j6	130g6	165	142	155	5	12	36	63	12	43	M16x2
GX8....R09	8 ou 6	500000	1450	725	85	20	232.5	55j6	160g6	215	180	155	6	15	42	70	16	59	M20x2.5
GX8....R10	8 ou 6	770000	5000	2500	108	30	274.5	75j6	180g6	235	220	155	7	15	42	90	20	79.5	M20x2.5

* Low backlash option : 6 min; ** at 100 rpm - Cr : Gearbox square - Cm : Motor square

GW GEARBOXES

wheel and worm design for NX motors

DESCRIPTION

Characterised by a wheel and worm design, GW gearboxes are ideal for simple motion control applications.

In combination with NX brushless servomotors, GW angular gearboxes offer a very economical and robust range of geared motors.

They are associated to NX servomotors size 2 to 8.

VERY ECONOMICAL AND ROBUST SOLUTION
ANGULAR MOUNTING
WHEEL AND WORM DESIGN
POSSIBLE IRREVERSIBILITY
RATIO 5 TO 100
ASSOCIATED TO NX2-NX8 SERVOMOTORS RANGE
OUTPUT TORQUE FROM 3.3 TO 515 N.M
FOR SIMPLE MOTION CONTROL APPLICATIONS
OPTIONS : SIMPLE OR DOUBLE OUTPUT SHAFT, SPECIFIC OUTPUT FLANGE,...

GW Gearboxes - NX servo motors Mechanical associations

Ratio		5	7.5	10	15	20	25	30	40	50	60	80	100	
Input speed : 1400 rpm														
Output speed (rpm)		280	187	140	93	70	56	47	35	28	23	18	14	Dia. of NX shaft with key
Motor	Ref.													
NX210	GW2N...R03..	3.3	4.8	6.1	8.6	10.9	12.7	14.6	15.2	16.2				11
NX310	GW3N...R03..	6.5	9.5	12.1	13.3	14.3	14.1	14.7	15.2	16.2				11
NX310	GW3N...R04..	6.6	9.7	12.6	18.3	23.2	27.9	29.2	31	34	35	33	29	11
NX420	GW4N...R04..	13	19	24	28	30	31	29	31					14 Spl
NX430	GW4N...R04..	17	21	24	28	30	31	29	31					14 Spl
NX420	GW4N...R05..	13	19	25	36	45	47	46						19
NX430	GW4N...R05..	18	27	35	41	45	47	46						19
NX420	GW4N...R06..		19	25	36	47	57	64	81	84	85			19
NX430	GW4N...R06..		27	35	51	66	77	74	81	84	85			19
NX420	GW4N...R07..					48	58	66	83	100	113	139	142	19
NX430	GW4N...R07..					67	82	93	118	129	129	139	142	19
NX420	GW4N...R09..								87	104	120	146	171	19
NX430	GW4N...R09..								122	147	169	206	229	19
NX620	GW6N...R05..	24	33	36	41	45	47	46						19 Spl
NX630	GW6N...R05..	24	33	36	41	45	47	46						19 Spl
NX620	GW6N...R06..		39	52	63	74	77	74	81*	84*	85*			24/19* Spl
NX630	GW6N...R06..		48	58	63	74	77	74	81*	84*	85*			24/19* Spl
NX620	GW6N...R07..		40	52	76	98	116	110	119	129*	129*	139*	142*	24/19*
NX630	GW6N...R07..		52	69	99	106	116	110	119	129*	129*	139*	142*	24/19*
NX620	GW6N...R09..		40	53	77	100	122	139	179	205	213			24
NX630	GW6N...R09..		53	70	101	131	160	170	191	205	213			24
NX820	GW8N...R06..		48	58	63	74	77	74						24 Spl
NX840	GW8N...R06..		48	58	63	74	77	74						24 Spl
NX820	GW8N...R07..		70	85	98.5	106	116	110	119					24 Spl
NX840	GW8N...R07..		70	85	99	106	116	110	119					24 Spl
NX820	GW8N...R09..		80	106	147	167	182	170	191	205	213			24 Spl
NX840	GW8N...R09..		108	129	147	167	182	170	191	205	213			24 Spl
NX820	GW8N...R11..		80	106	154	202	250	257	323	341	351			28 Spl
NX840	GW8N...R11..		120	159	210	258	299	257	323	341	351			28 Spl
NX820	GW8N...R13..						250	285	371	435	447	492	515	28 Spl
NX840	GW8N...R13..						375	348	411	435	447	492	515	28 Spl

Output torque (N.m) : Recommended associations | possibles associations

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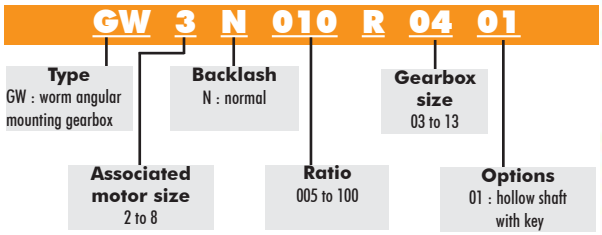
ASSOCIATIONS CHARACTERISTICS

NX shaft diameter:
- NX shaft with key required
- Shaft diameter can be unlike standard values:
  Spl = Shaft with special diameter
  * = Shaft diameter 19

Associations characteristics: Indicative data with a service factor equal to 1 (to confirm with technical dept according to the application).

GW GEARBOX CODIFICATION

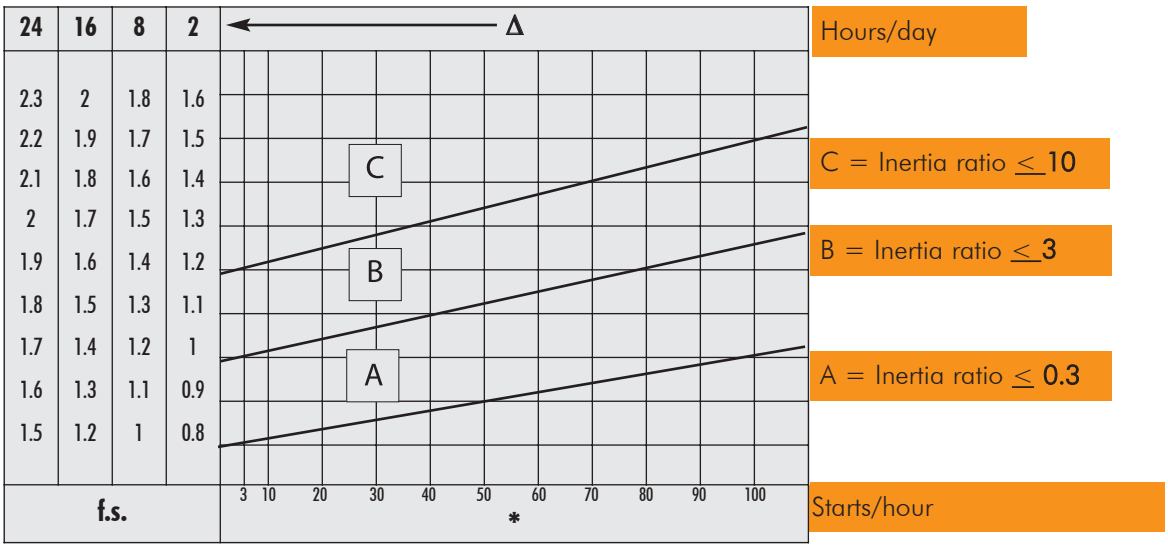


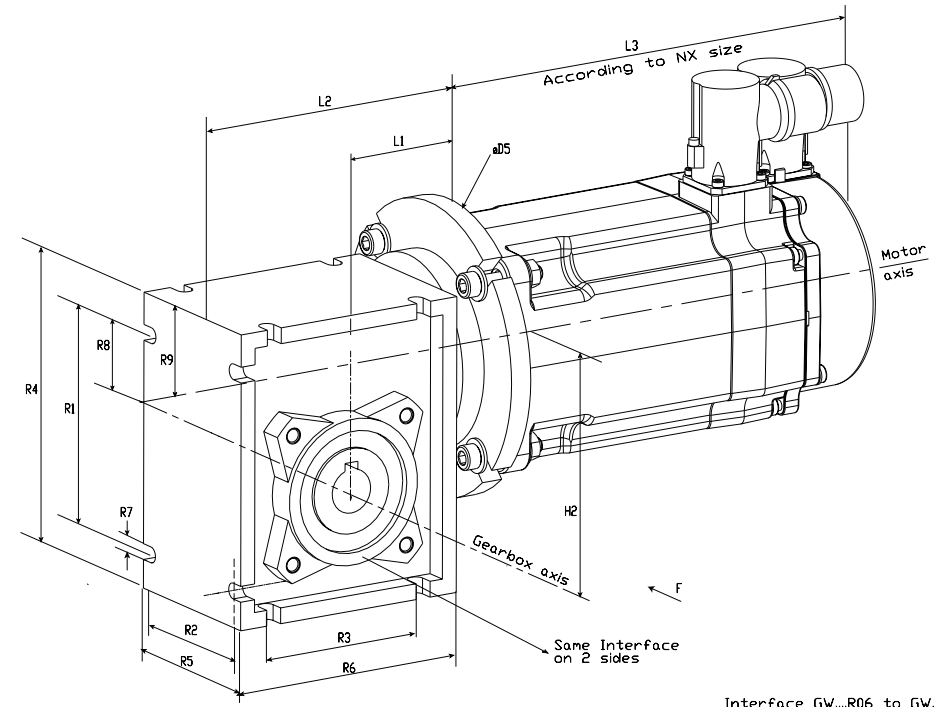
GW* Max radial effort

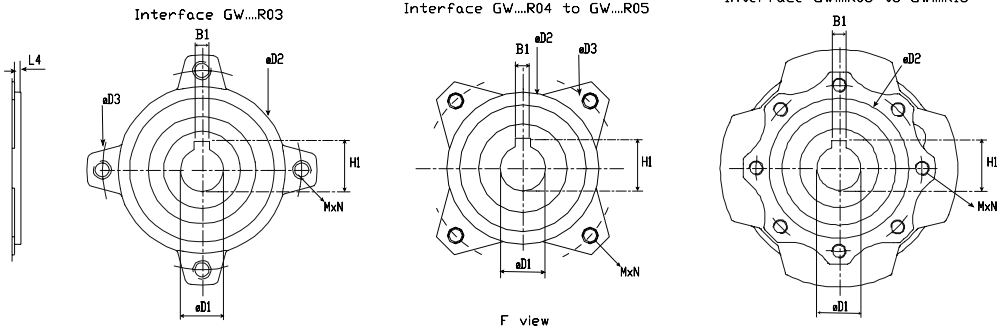
Ratio	5	7.5	10	15	20	25	30	40	50	60	80	100
Ref.												
GW…..R03..	597	683	752	861	948	1021	1085	1194	1286	1367	1504	
GW…..R04..	1149	1315	1447	1657	1824	1964	2087	2298	2475	2630	2895	3118
GW…..R05..	1577	1805	1987	2274	2503	2696	2865	3153	3397	3610	3973	4280
GW…..R06..		2359	2597	2973	3272	3524	3745	4122	4440	4719	5193	5595
GW…..R07..		2785	3065	3509	3862	4160	4421	4865	5241	5569	6130	6603
GW…..R09..		3081	3391	3882	4273	4603	4891	5383	5799	6163	6783	7306
GW…..R10..		3893	4285	4905	5399	5816	6181	6803	7328	7787	8571	9232
GW…..R11..		3893	4285	4905	5399	5816	6181	6803	7328	7787	8571	9232
GW…..R13..		5092	5605	6416	7062	7607	8084	8897	9584	10185	11210	12076

* Max radial effort at the middle of gearbox for NX input speed equal to 1400 rpm

GW Service factor







GW Geared servo motor dimensions

Type	L1	L2	L4	D1H8	D2h8	D3	M	N	D5	H1	H2	R1	R2	R3	R4	R5	R6	R7	R8	R9	B1
GW2...R03..	55	95	2.5	14	55	65	M6	4	80	16.3	**30**	71	44	54	97	56	81	6.5	44	57	5
GW3...R03..	55	95	2.5	14	55	65	M6	4	90	16.3	**30**	71	44	54	97	56	81	6.5	44	57	5
GW3...R04..	70	120	2.5	18	60	75	M6	4	90	20.8	**40**	90	60	70	121.5	71	101	6.5	55	71.5	6
GW4...R03..	55	95	2.5	14	55	65	M6	4	120	16.3	**30**	71	44	54	97	56	81	6.5	44	57	5
GW4...R04..	70	120	2.5	18	60	75	M6	4	120	20.8	**40**	90	60	70	121.5	71	101	6.5	55	71.5	6
GW4...R05..	80	140	2.5	25	70	85	M8	4	120	28.3	**50**	104	70	80	144	85	121	8.5	64	84	8
GW4...R06..	95	167	3	25	80	95	M8	8	120	28.3	**63**	130	85	100	174	103	146	8.5	80	102	8
GW4...R07.	112.5	198.5	3	28	95	115	M8	8	120	31.3	**75**	153	90	120	205	112	174	11.5	93	119	8
GW4...R09..	129.5	232.5	3	35	110	130	M10	8	120	38.3	**90**	172	100	140	238	130	208	13	102	135	10
GW6...R05..	80	140	2.5	25	70	85	M8	4	160	28.3	**50**	104	70	80	144	85	121	8.5	64	84	8
GW6...R06..	95	167	3	25	80	95	M8	8	160	28.3	**63**	130	85	100	174	103	146	8.5	80	102	8
GW6...R07..	112.5	198.5	3	28	95	115	M8	8	160	31.3	**75**	153	90	120	205	112	174	11.5	93	119	8
GW6...R09..	129.5	232.5	3	35	110	130	M10	8	160	38.3	**90**	172	100	140	238	130	208	13	102	135	10
GW8...R06..	95	167	3	25	80	95	M8	8	200	28.3	**63**	130	85	100	174	103	146	8.5	80	102	8
GW8...R07..	112.5	198.5	3	28	95	115	M8	8	200	31.3	**75**	153	90	120	205	112	174	11.5	93	119	8
GW8...R09..	129.5	232.5	3	35	110	130	M10	8	200	38.3	**90**	172	100	140	238	130	208	13	102	135	10
GW8...R10..	160	287.5	3.5	42	130	165	M10	8	200	45.3	**110**	210	115	170	295	144	252.5	14	125	167.5	12
GW8...R11..	160	287.5	3.5	42	130	165	M10	8	200	45.3	**110**	210	115	170	295	144	252.5	14	125	167.5	12
GW8...R13..	180	327.5	4	45	180	215	M12	8	200	48.8	**130**	240	120	200	335	155	292.5	16	140	187.5	14

Dimensions in mm

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PLANETARY GEARBOXES
for NX motors

DESCRIPTION

In combination with NX brushless motors, the GE planetary gearboxes offer an economical geared solution with a large range of torques for usual motion control application without very low backlash requirement.

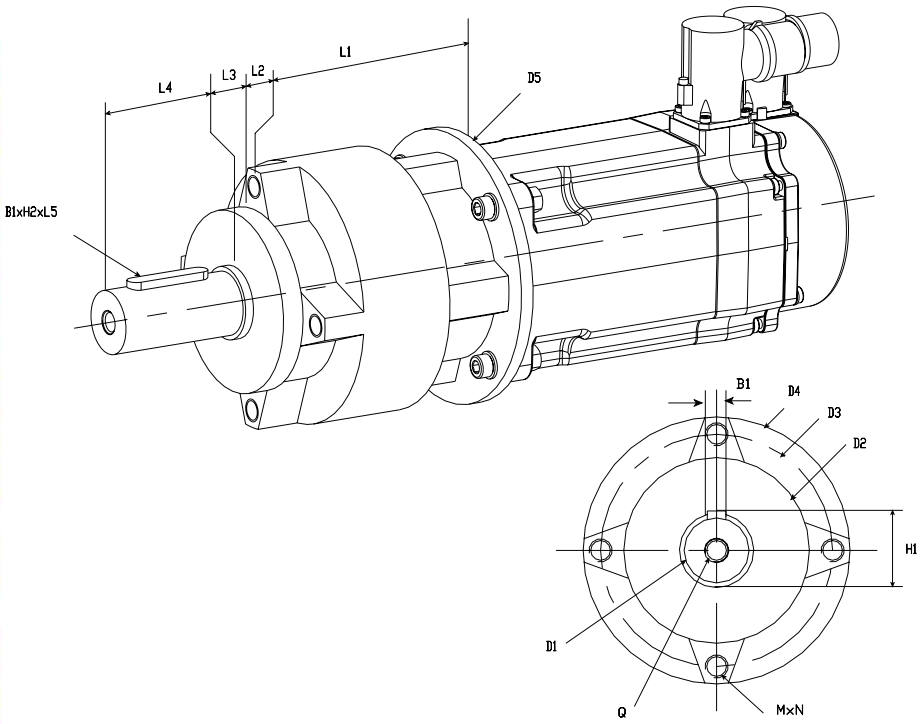
They are associated to NX servomotors size 1 to 6.

GE - NX ECONOMICAL GEARED MOTOR
PLANETARY GEARBOXES
4 SIZES AVAILABLE
RATIO 4 TO 216
ASSOCIATED TO NX1 - NX6 SERVOMOTORS
OUTPUT TORQUE 1.2 TO 250N.M

GE Gearboxes - NX servo motors
Mechanical associations

Number of stages		1 stage		2 stages			3 stages				D	NX Shaft
Ratio		4	6	16	24	36	64	96	144	216		
Input speed (rpm)						1400						
Output speed (rpm)		350	233	88	58	39	22	15	10	6		
NX110	GE1N...R01..	1.2	1.8	4.6	6.9	10.4	17.3	18.0	18.0	18.0	6 x 16 Spl	smooth
NX110	GE1N...R02..	1.2	1.8	4.6	6.9	10.4	17.3	25.9	38.9	40.0	9 x 20 Spl	with key
NX210	GE2N...R02..	2.6	3.9	8.9	13.3	22.8	30.9	40.0	40.0	40.0	9 x 20 Spl	with key
NX210	GE2N...R04..	2.8	4.2	10.4	15.6	23.4	39.5	59.3	80.0	80.0	11	with key
NX310	GE3N...R04..	5.4	8.1	15.8	23.6	35.5	56.6	80.0	80.0	80.0	11	with key
Ratio		4	6	16	24	36	64	96	144	216		
Input speed (rpm)					500			1000	1400			
Output speed (rpm)		125	83.3	31.3	20.8	13.9	7.81	10.4	9.72	6.48		
NX420	GE4N...R06..	11	16	40	60	91	153	230	250	250	19	with key
NX430	GE4N...R06..	15	23	57	85	128	216	247	250	250	19	with key
NX620	GE6N...R06..	22	33	83	124	160	250	247	250	250	19 Spl	with key
NX630	GE6N...R06..	29	44	92	138	160	250	247	250	250	19 Spl	with key

D: NX Shaft Diameter in mm
Output torque (N.m) :



Geared servo motors characteristics and dimensions - 1 stage GE
Ratio 4-6

Type	L1	L2	L3	L4	L5	D1h6	D2h7	D3	M	N	D4	D5	H1	H2	B1	Q (N)	Fr (N)	Fa (N)	Backlash (min)
GE1...R01	49.5	4	1	20	15	9	28	36	M5	3	45	48	10.2	3	3	M4	30	15	16
GE1...R02	62	6	3	30	25	14	40	50	M6	4	60	57	16	5	5	M5	120	50	13
GE2...R02	62	6	3	30	25	14	40	50	M6	4	60	80	16	5	5	M5	120	50	13
GE2...R04	71	7	4	40	30	19	50	65	M8	4	80	80	21.5	6	6	M6	200	80	9
GE3...R04	71	7	4	40	30	19	50	65	M8	4	80	90	21.5	6	6	M6	200	80	9
GE4...R06	105	10	4	60	40	28	80	100	M10	4	115	120	31	7	8	M10	500	150	8
GE6...R06	105	10	4	60	40	28	80	100	M10	4	115	118	31	7	8	M10	500	150	8

Dimensions in mm

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Geared servo motors characteristics and dimensions - GE 2 stages Ratio 16-24-36

Type	L1	L2	L3	L4	L5	D1	D2	D3	M	N	D4	D5	H1	H2	B1	Q (N)	Fr (N)	Fa (N)	Backlash (min)
GE1...R01	61.5	4	1	20	15	9	28	36	M5	3	45	48	10.2	3	3	M4	70	30	22
GE1...R02	78	6	3	30	25	14	40	50	M6	4	60	57	16	5	5	M5	200	80	19
GE2...R02	78	6	3	30	25	14	40	50	M6	4	60	80	16	5	5	M5	200	80	19
GE2...R04	89	7	4	40	30	19	50	65	M8	4	80	80	21.5	6	6	M6	400	160	15
GE3...R04	89	7	4	40	30	19	50	65	M8	4	80	90	21.5	6	6	M6	400	160	15
GE4...R06	130	10	4	60	40	28	80	100	M10	4	115	120	31	7	8	M10	1000	300	13
GE6...R06	130	10	4	60	40	28	80	100	M10	4	115	118	31	7	8	M10	1000	300	13

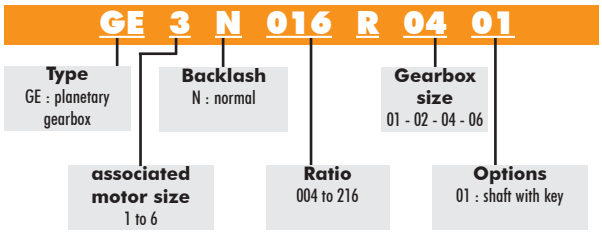
Dimensions in mm

Geared servo motors characteristics and dimensions - GE 3 stages Ratio 64-96-144-216

Type	L1	L2	L3	L4	L5	D1	D2	D3	M	N	D4	D5	H1	H2	B1	Q (N)	Fr (N)	Fa (N)	Backlash (min)
GE1...R01	73.5	4	1	20	15	9	28	36	M5	3	45	48	10.2	3	3	M4	150	50	29
GE1...R02	94	6	3	30	25	14	40	50	M6	4	60	90	16	5	5	M5	400	150	26
GE2...R02	94	6	3	30	25	14	40	50	M6	4	60	80	16	5	5	M5	400	150	26
GE2...R04	107	7	4	40	30	19	50	65	M8	4	80	80	21.5	6	6	M6	800	350	19
GE3...R04	107	7	4	40	30	19	50	65	M8	4	80	90	21.5	6	6	M6	800	350	19
GE4...R06	155	10	4	60	40	28	80	100	M10	4	115	120	31	7	8	M10	1800	650	17
GE6...R06	155	10	4	60	40	28	80	100	M10	4	115	118	31	7	8	M10	1800	650	17

Dimensions in mm

GE Gearboxes codification



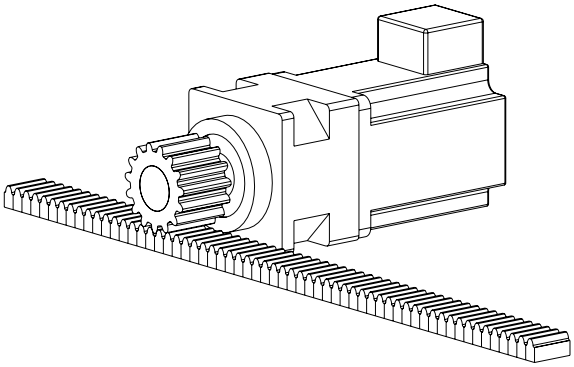
Mechanic and Electrical Adaptations

Based on standard offer

DESCRIPTION

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, ...



Mechanical adaptations
Electrical adaptations
Special windings
Specific feedback sensors
Gearboxes

Tel: +33 (0)1 69 18 51 51 Fax: +33 (0)1 69 18 51 59

Power-off holding brake

Motor	Holding torque at 20°C (N.m)	Holding torque at 100°C (N.m)	Power (W)	Inertia (kgm².10⁻⁵)	Weight (kg)
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
LX4	6	5.5	13	5.3	0.45
LX8	30	28.5	21	46	1.6
HX4	6	5.5	13	5.3	0.45
HX8	30	28.5	21	46	1.6
HXA 30	150	130	95	1250	20.5
HXA 40, 50 et 60	350	310	95	1250	20.5
LS8	15	14	18	41.5	1.3
LS910	25	23.5	18	39	1.3
LS920	30	28.5	21	46	1.6
HS8	15	14	18	41.5	1.3
HS910	25	23.5	18	39	1.3
HS920	30	28.5	21	46	1.6

24 VDC POWER SUPPLY (-10%; +6%)
STATIC USE : MOTOR LOCKING IN THE STOPPED POSITION
DYNAMIC USE : FOR EMERGENCY STOPPING ONLY
DYNAMIC TORQUE IS APPROXIMATELY HALF THE HOLDING TORQUE
LIMITED NUMBER OF SWITCHING OPERATIONS

Servo motor cables and connectors - DIGIVEX

EQUIPPED SCREENED CABLES (WITH CONNECTORS)	
Power cable with Molex motor connector for NX1, NX2	220169R12xx
Power cable with motor plug for NX and $I_0 \leq 20$Â	220171R42xx
Power cable with motor plug for NX and $I_0 \leq 32$Â	220171R43xx
Resolver cable with Molex motor connector and Sub-D for NX1, NX2	220169R21xx
Resolver cable with motor plug and Sub-D for NX	220171R61xx
HIGH STRENGHT EQUIPPED CABLES (WITH CONNECTORS)	
Power cable with Molex motor connector for NX1, NX2	220154R12xx
Power cable with motor plug for NX / LS8, HS8 and $I_0 \leq 8$Â	220049R42xx
Power cable with motor plug for NX / LS8, HS8 and $I_0 \leq 32$Â	220049R43xx
Power cable with motor plug for LS9, HS9 / LX8, HX8 and $I_0 \leq 32$Â	220049R48xx
Power cable with motor plug forL.. / H.. and $I_0 \leq 60$Â	220049R45xx
Power cable with motor plug for L.. / H.. and $I_0 \leq 80$Â	220049R46xx
Power cable with motor plug for L.. / H.. and $I_0 \leq 100$Â	220049R47xx
Resolver cable with Molex motor connector and Sub-D for NX1, NX2	220154R21xx
Resolver cable with motor plug and Sub-D for NX / LX, HX / LS, HS	220049R61xx
POLYURETHANE LOOSE CABLE (NO CONNECTOR)*	
Power cable 1mm² and $I_0 \leq 8$Â	6537P0009
Power cable 2.5mm² and $I_0 \leq 32$Â	6537P0010
Power cable 6mm² and $I_0 \leq 60$Â	6537P0011
Power cable 10mm² and $I_0 \leq 80$Â	6537P0012
Power cable 16mm² and $I_0 \leq 100$Â	6537P0013
Power cable 25mm² and $I_0 \leq 180$Â	6537P0014
Resolver cable for NX / LX, HX / LS, HS	6537P0001
LOOSE CONNECTORS	
kit of 2 Molex plug (power and resolver) for NX1, NX2	220004R1000
Frame size 1 power plug for NX / LS8, HS8 and $I_0 \leq 8$Â	220065R1610
Frame size 1 power plug for NX / LS8, HS8 and $I_0 \leq 32$Â	220065R1611
Frame size 3 power plug for LS9, HS9 / LX8, HX8 and $I_0 \leq 32$Â	220065R3611
Frame size 3 power plug for L.. et H.. and $I_0 \leq 100$Â	220065R3610
Resolver plug	220065R4621

xx Cable length in meter ; standard xx = 01, 02, 05, 10 meters
* cable per meter

Cables and connectors

HV SPINDLE
SERVO MOTORS
4 to 50kW

DESCRIPTION

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

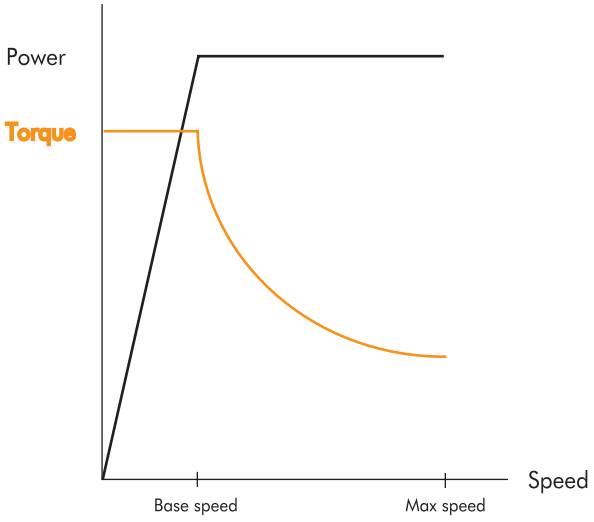
The control of synchronous technology gives the possibility to reach a speed range ratio at constant power up to 10.
Moreover the HV series present the same characteristics at low speed as an axis servo motor : high torque to weight ratio, low inertia, high torque at low speed...

HV - 400V power supply

Motor	DIGIVEX(Drive Ratings (1)	Torque S1/S6 (N.m)	Power S1/S6(2) (kW)	base/max speed (rpm)	Inertia (kgm^2)
HV820EZ	16/32	17/20.4	4.3/5.1	2390/8000	0.0035
HV830EM	32/64	25/30	9/10.7	3400/8000	0.0049
HV840EM	32/64	32/38.4	9/10.7	2660/8000	0.0063
HV930EQ	32/64	63.6/70	10/11	1480/7000	0.018
HV930EL	50/80	64/72.5	14.5/16.5	2170/7000	0.018
HV950EQ	32/64	95	10	1020/7000	0.029
HV950EK	50/80	95	15.6	1570/7000	0.029
HVA30JO	50/80	149	16.4	1050/6000	0.027
HVA30JH	100/120	140/157	28/32	1940/6000	0.027
HVA40JH	100/120	200	31	1500/6000	0.035
HVA40JG	150/150	200/240	31/37	1480/6000	0.035

(1) 400V Supply voltage
(2) 540V Bus voltage

SPEED UP TO 8000 RPM
TORQUE FROM 17 TO 240N.M
ROBUST AND COMPACT DESIGN
SPEED RANGE RATIO AT CONSTANT POWER UP TO 10
HIGH TORQUE AT LOW SPEED
LOW INERTIA FOR HIGH ACCELERATION, RAPID CHANGES IN SPEED FOR REDUCED TOOL CHANGING TIME
IP 54 PROTECTION
CLASS F INSULATION



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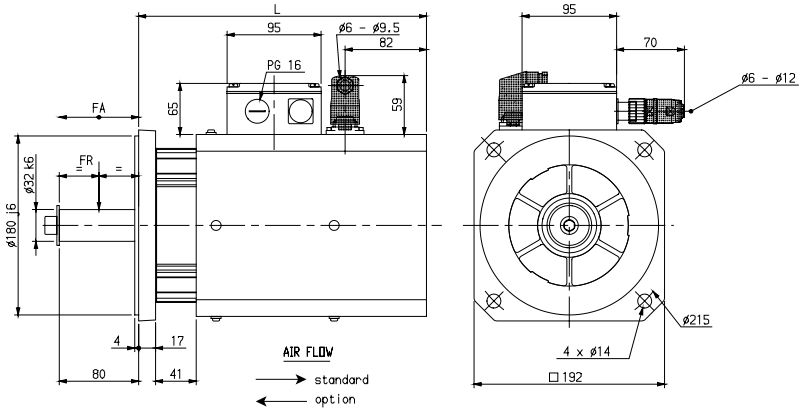
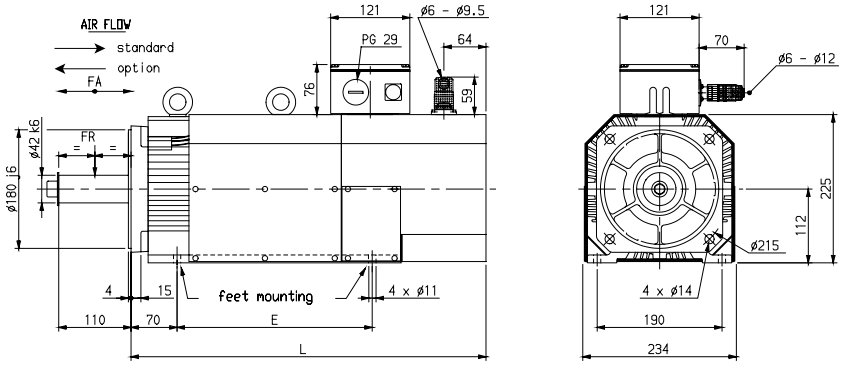


HV8 Dimensions

Motor	L (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
HV820E	290	21	110	18
HV830E	333	26	120	21
HV840E	374	30	125	25

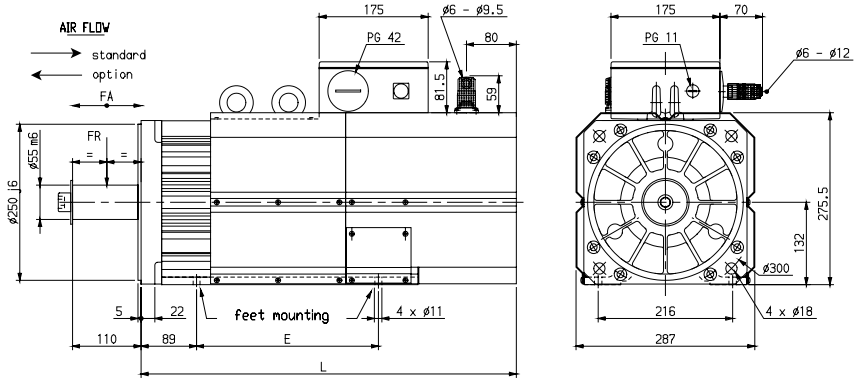
*Fr and Fa not cumulative ; at 3000 rpm



HV9 Dimensions

Motor	L (mm)	E (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
HV930E	416	171	51	240	40
HV950E	516	271	69	270	45

*Fr and Fa not cumulative ; at 3000 rpm



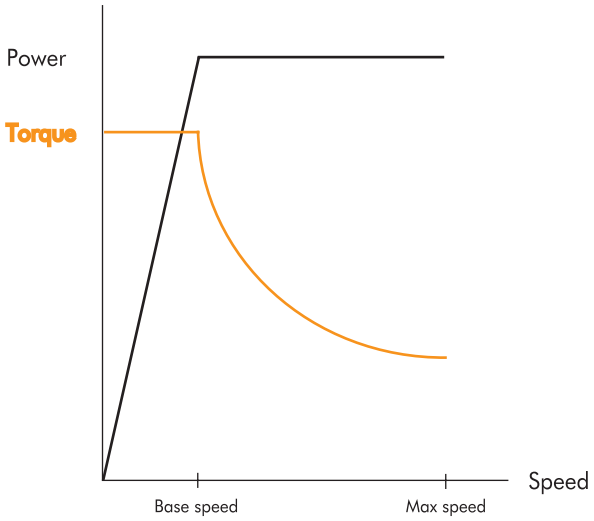
HVA Dimensions

Motor	L (mm)	E (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
HVA30J	582	271	100	530	100
HVA40J	660	349	110	550	100

*Fr and Fa not cumulative ; at 3000 rpm

HW ELECTROSPINDLE SYNCHRONOUS MOTORS

2 to 110kW



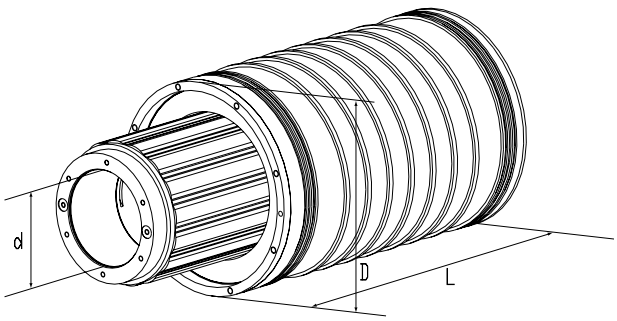
DESCRIPTION

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

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

Controlled by the DIGIVEX Drive, the water cooled HW permanent magnets synchronous motors offer torque from 4 to 1250 Nm for speed up to 50000 rpm.

PERMANENT MAGNETS, COLD ROTOR TECHNOLOGY
LOW INERTIA AND HIGHER COMPACTNESS COMPARED TO ASYNCHRONOUS SOLUTION
HIGH TORQUE AT LOW SPEED AND SPEED AT CONSTANT POWER UP TO 50000 RPM
SPEED RANGE RATIO AT CONSTANT POWER UP TO 10
TORQUE FROM 4 TO 1250N.M
INCREASED MACHINING PRECISION
BETTER SURFACE FINISHING
HIGH ACCELERATION/DECELERATION FOR RAPID CYCLES
REDUCED MAINTENANCE



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HW - 400V power supply

Motor	DIGIVEX Drive rating[1]	Torque S1/S6 (N.m)	Power S1/S6[2] (kW)	Base/max speed (rpm)	Inertia (kgm²)	Weight (kg)	Dimensions (mm) L	D	d
HW420BU	8/16	4.2	2.3	5230/50000	0.00049	3.9	143	100	32
HW420BP	16/32	4.2	5	11250/50000	0.00049	3.9	143	100	32
HW420BK	32/64	4.2	10	23200/50000	0.00049	3.9	143	100	32
HW430BQ	16/32	6.7	4.7	6700/50000	0.00068	5.2	176	100	32
HW430BL	32/64	6.7	10	14300/50000	0.00068	5.2	176	100	32
HW430BI	50/80	6.7	15.6	22300/50000	0.00068	5.2	176	100	32
HW620CN	16/32	8.3/10	4/4.9	4680/30000	0.0017	6.5	159	130	40
HW620CI	32/64	8.3/10	8.6/10.4	9930/30000	0.0017	6.5	159	130	40
HW635CI	32/64	15/18	8.5/10	5410/30000	0.003	11	219	130	40
HW635CF	50/80	15/18	13/15.6	8270/30000	0.003	11	219	130	40
HW820RR	32/64	21.5/26	7.3/8.8	3230/24000	0.007	8	189	180	60
HW820RP	50/80	21.5/26	11.6/14	5140/24000	0.007	8	189	180	60
HW820CR	32/64	25.8/31	8.6/10.3	3170/18000	0.007	8	189	180	60
HW820CP	50/80	25.8/31	13.4/16	4960/18000	0.007	8	189	180	60
HW840CR	32/64	57.3/66	8.5/10	1420/18000	0.0137	16	269	180	60
HW840CP	50/80	57.3/66	13.6/16	2270/24000	0.0137	16	269	180	60
HW840CH	100/120	57.3/66	28/32	4700/24000	0.0137	16	269	180	60
HW840CF	150	57.3/70	36/44	6020/24000	0.0137	16	269	180	60
HW930CI	100/120	102	34	3180/20000	0.034	35	302	220	70
HW930CF	150	102	52	4870/20000	0.034	35	302	220	70
HW930CC	300	102	100	9500/20000	0.034	35	302	220	70
HW930CJ	100/120	112	30	2600/20000	0.034	35	302	220	70
HW930CE	200	112	63	5330/20000	0.034	35	302	220	70
HW950CI	100/120	170	33	1880/20000	0.055	58	422	220	70
HW950CF	150	170	52	2920/20000	0.055	58	422	220	70
HW950CC	300	170	105	5900/20000	0.055	58	422	220	70
HW950CJ	100/120	186	30	1540/20000	0.055	58	422	220	70
HW950CE	200	186	63	3240/20000	0.055	58	422	220	70
HWA30DN	50/80	260	15	550/12000	0.142	70	355	270	106
HWA30DF	100/120	260	32	1190/12000	0.142	70	355	270	106
HWA30DD	150	260	50	1820/12000	0.142	70	355	270	106
HWA30DC	200	260	67	2460/12000	0.142	70	355	270	106
HWA30DB	300	260	100	3710/12000	0.142	70	355	270	106
HWA50DG	100/120	430/510	22/26	490/12000	0.235	120	505	270	106
HWA50DF	100/120	430	31	690/12000	0.235	120	505	270	106
HWA50DD	150	430	49	1080/12000	0.235	120	505	270	106
HWA50DC	200	430	67	1480/12000	0.235	120	505	270	106
HWA50DB	300	430	100	2250/12000	0.235	120	505	270	106
HWB20HH	150	575	46	770/8000	0.35	120	339	340	152
HWB20HD	300	575	95	1580/8000	0.35	120	339	340	152
HWB20HJ	150	600/710	37/44	590/8000	0.35	120	339	340	152
HWB20HE	300	600/710	77/91	1220/8000	0.35	120	339	340	152
HWB30HH	150	860	45	500/8000	0.49	170	439	340	152
HWB30HD	300	860	95	1050/8000	0.49	170	439	340	152
HWB30HJ	150	940/1070	35/40	360/8000	0.49	170	439	340	152
HWB30HE	300	940/1070	76/87	775/8000	0.49	170	439	340	152
HWB40HH	150	1150	44	365/8000	0.64	220	539	340	152
HWB40HD	300	1150	94	780/8000	0.64	220	539	340	152
HWB40HJ	150	1250/1400	34/38	260/5800	0.64	220	539	340	152
HWB40HE	300	1250/1400	75/84	573/8000	0.64	220	539	340	152
HWB40HF	300	1250/1500	62/74	475/8000	0.64	220	539	340	152

(1) 400V supply voltage
(2) 540V bus voltage

AXEM

0.1 to 20N.m

DESCRIPTION

The AXEM motor, with more than 2 million units produced, is one of the most widely spread servo motors in the world.

Its disk rotor, composed solely of copper and insulator, achieves high dynamics and excellent regulation of motion at low speed, as well as silent and vibration-free functioning.

Robust and efficient, low maintenance.

VERY LOW SPEED MODULATION
EXCEPTIONAL REGULATION AT LOW SPEED
HIGH DYNAMIC CHARACTERISTICS :
LOW ROTOR INERTIA
SILENT AND VIBRATION-FREE FUNCTIONING
MAINTENANCE FREE
DISK ROTOR
PROTECTION : IP44
IP20 FOR VENTILATED MODELS
CLASS F INSULATION

AXEM Characteristics

Motor	Nominal torque (N.m)	Nominal current (A)	Nominal voltage (V)	Nominal speed (rpm)	Inertia ($kgm^2.10^{-5}$)
F9M4R	0.14	6.4	22	4800	3.5
F9M2	0.282	11	14	3000	2.9
F9M4	0.346	6.7	26	3000	3.5
F9M4H	0.537	6.5	35	3000	3.4
F12M4R	0.42	8	37	4800	15
F12M2	0.61	11.7	24	3000	10.5
F12M4	0.77	7.7	43	3000	15
F12M4H	1.1	7.2	61	3000	16
MC13S	1.2	7.6	64	3000	23.5
MC17H	1.8	6.9	102	3000	79
MC17B	1.2	24	23.5	3200	79
MC19P	3.2	14.5	83	3000	100
MC19P*	5.1	22.2	87	3000	100
MC19S	3.2	7.3	165	3000	100
MC19S*	5.1	11.1	171	3000	100
MC19B	2.8	46	23.5	3000	100
MC23S	6.1	13	170	3000	230
MC23S*	10.5	21.8	178	3000	230
MC24P	7.3	18.9	136	3000	320
MC24P*	14.3	36	142	3000	320
MC27P	14.3	33	152	3000	740
MC27P*	19.2	44	154	3000	740

*Cooling by external fan 10 l/sec

Encoder

Type	Associated motor	Pulse / rev.		Inertia ($kgm^2.10^{-5}$)	Weight (kg)
		standard	option		
K10	F	500	250	0.03	0.07
C4	F	500	250 1000 2500	0.23	0.2
C6B	MC	500	1000 2500 5000	0.3	0.45

Tachy

Type	Associated motor	EMF (V/1000 rpm)
F9T	F9	3
FC12T	F12 / MC	6
TBN 206	F9 / F12	6
TBN 420	MC	20

Brake (24Vdc ±10%)

Associated motor	Holding torque magnet brake (N.m)	spring brake (N.m)	Inertia ($kgm^2.10^{-5}$)	Weight (kg)
F9 - F12	-	1.5	1	0.47
MC13	2	-	2.3	0.3
MC17 / MC19	5	-	6.5	0.6
MC23 / MC24	12	-	21.4	1.1
MC27	20	-	57	1.9
MC17	-	4	2.5	1.4
MC19	-	8	7	1.9
MC23 / 24 / 27	-	16	13.5	2.8

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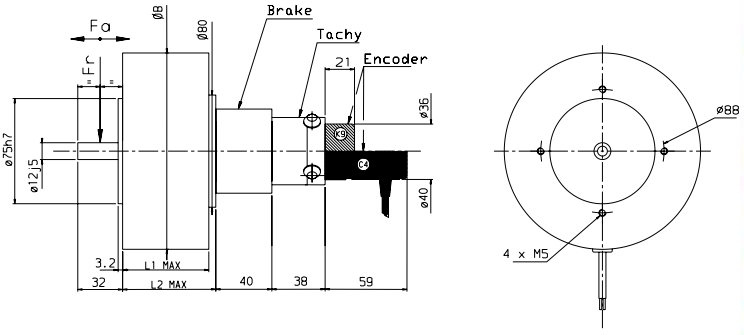
F9 - 12 Dimensions

Motor	L1 (mm)	L2 (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
F9M4R	34	46.5	1.1	14	2.5
F9M2	52.5	65	2.3	14	2.5
F9M4	52.5	65	2.3	14	2.5
F9M4H	64	76.5	2.8	14	2.5
F12M4R	37.5	51	2.9	14	2.5
F12M2	61.5	71.5	3.85	14	2.5
F12M4	61.5	71.5	3.85	14	2.5
F12M4H	74	84	5	14	2.5

*Fr and Fa not cumulative

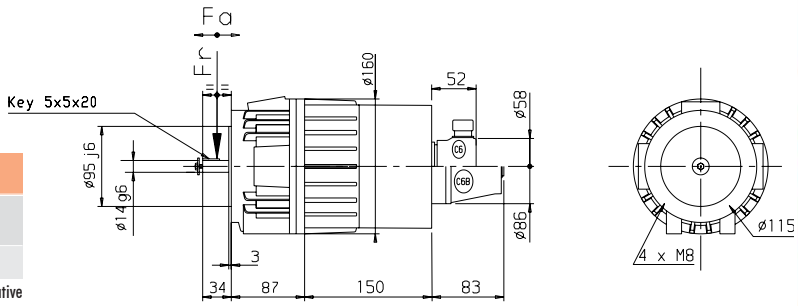
F9 : øB = ø110
F12 : øB = ø140



MC13 Dimensions

Motor	Weight (kg)	Fr* (daN)	Fa* (daN)
MC13	4	35	13

*Fr and Fa not cumulative

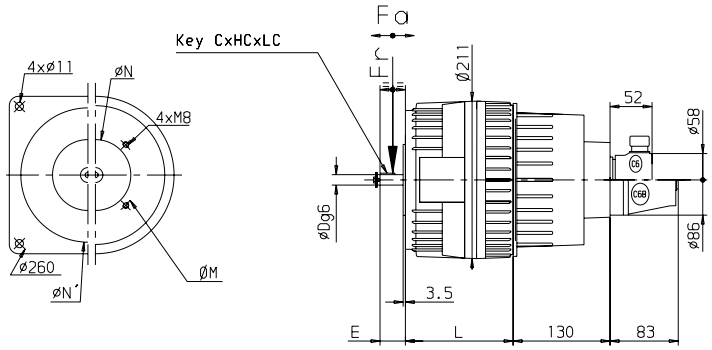


MC17 - 19 Dimensions

Motor	M (mm)	N (mm)	N' (mm)	E (mm)	L (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
MC17	115	95	180	34	163	6.5	60	35
MC19	165	130	130	50	163	9.7	60	35

*Fr and Fa not cumulative

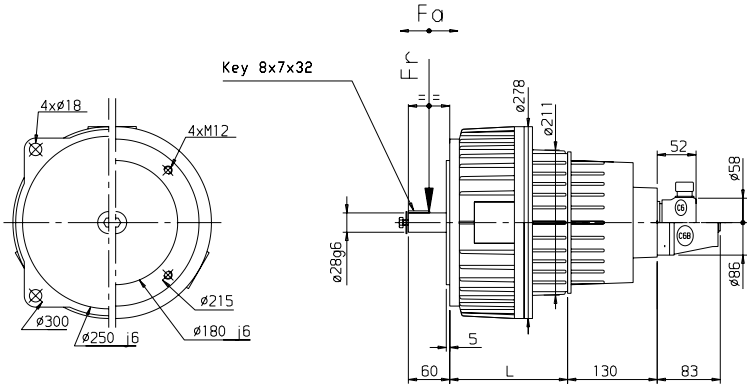
MC17 : C x HC x LC = 5 x 5 x 20
MC19 : C x HC x LC = 8 x 7 x 32



MC23 - 24 - 27 Dimensions

Motor	L (mm)	B (mm)	Weight (kg)	Fr* (daN)	Fa* (daN)
MC23	173	278	17	75	40
MC24	185	278	23	80	45
MC27	198	316	35	90	50

*Fr and Fa not cumulative



Dimensions including brake, tachy and encoder

RX

0.3 to 8N.m

RX Characteristics

Motor	Torque at low speed M_0 (N.m)	permanent current at low speed I_0 (A)	Rated voltage U (V)	Rated speed N (rpm)	Rotor Inertia J ($kgm^2.10^{-5}$)
RX120L	0.285	2.8	44.5	3000	5
RX130H	0.4	3.6	46	3000	6.8
RX320E	1.08	7.8	54	3000	50
RX330C	1.54	9.4	59	2900	72
RX520K	2.7	7.7	119	2800	128
RX530F	3.7	10.3	116	2700	174
RX620J	5	10.5	134	2400	350
RX630E	7.8	16	134	2400	500

DESCRIPTION

The RX DC motors, combined with RTS drives, provide an economical solution for any servo mechanism applications.

They are particularly suitable for low power systems in clean atmospheres.

EXCELLENT PRICE/PERFORMANCES RATIO
VERY LOW TORQUE MODULATION
FERRITE MAGNETS
CONSTRUCTION QUALITY
VERY LONG LIFETIME
TACHY, ENCODER, RESOLVER OPTION
BRAKE OPTION
PROTECTION IP40 (RX1 ET RX3)
IP54 (RX5 ET RX6),
IP55 OPTION
CLASS F INSULATION

Tachy			Brake (24Vdc ±10%)			
Associated motor	Type	EMF (V/1000 rpm)	Holding torque (N.m) at 20°C	at 100°C	Inertia ($kgm^2.10^{-5}$)	Weight (kg)
RX1	TBN 206	6	1	0.9	1	0.4
RX3	TBN 206	6	1.5	1.4	1	0.18
RX5	TBN 306	6	6	5.5	5.3	0.45
RX6	TBN 306	6	12	11.5	15.7	0.9

Encoder

Type	Associated motor	Pulse per rev. standard	Pulse per rev. option	Inertia ($kgm^2.10^{-5}$)	Weight (kg)
K10	RX1 / RX3	500	250	0.03	0.07
C4	RX1 / RX3	500	1000 - 2000	0.23	0.2
C6B	RX5 / RX6	500 -1000	2500 - 5000	0.3	0.45

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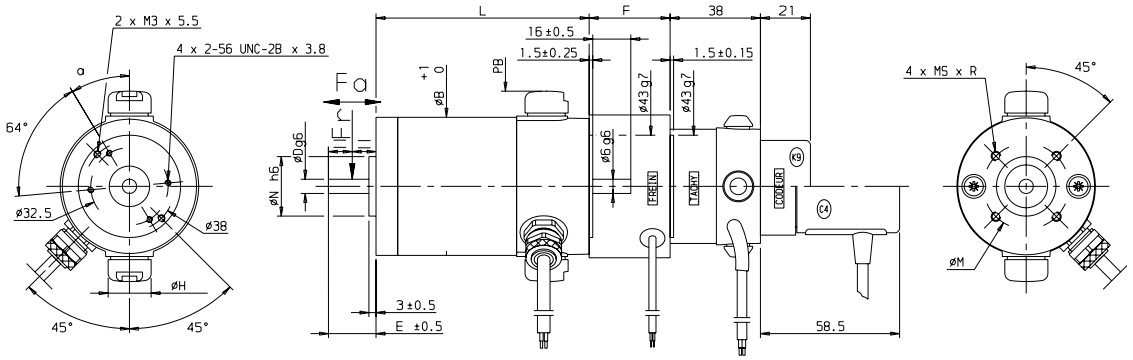
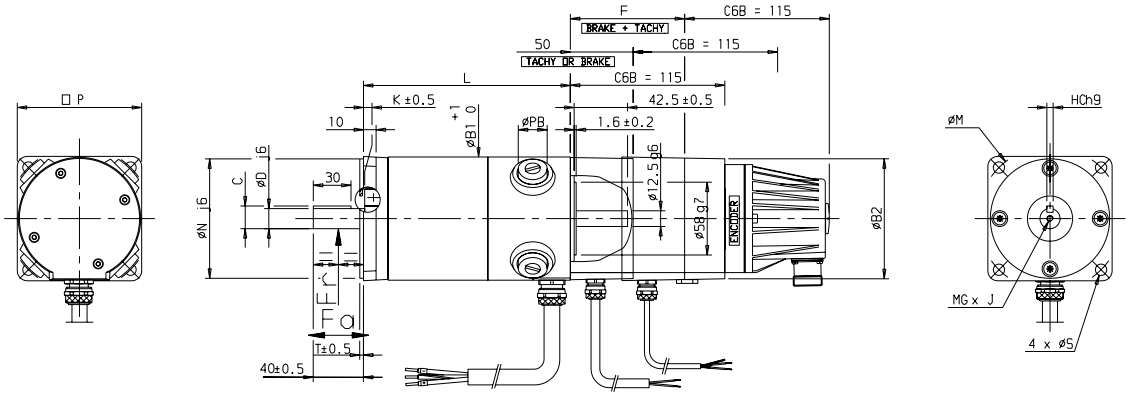


RX1 and RX3 with brake, tachy and encoder dimensions

Motor	H	a	N	D	E	B	PB	L	F	MSxR	M	Weight	Fr* (daN)	Fa* (daN)
RX120	18.5	31°	25	6	20	58	80	122.5	34	M4x6	36	1.35	18	16
RX130	18.5	31°	25	6	20	58	80	147.5	34	M4x6	36	1.6	20	16
RX320	23	26°	50	11	32	84	100	178.5	40	M5x10	65	4	45	23
RX330	23	26°	50	11	32	84	100	218.5	40	M5x10	65	5.2	50	23

*Fr and Fa not cumulative
Dimensions in mm
Weight in kg



RX5 and RX6 with brake, tachy and encoder dimensions

Motor	P	N	C	D	T	K	B1	PB	L	F	B2	S	M	MGxJ	HC	Weight	Fr* (daN)	Fa* (daN)
RX520	100	95	18	16	3	1	98	25	216	91	96	9	115	M5x15	5	6.6	80	30
RX530	100	95	18	16	3	1	98	25	266	91	96	9	115	M5x15	5	8.7	85	30
RX620	120	110	21.5	19	3.5	0.5	116	30	272	93	117	10	130	M6x18	6	13	95	40
RX630	120	110	21.5	19	3.5	0.5	116	30	358	93	117	10	130	M6x18	6	18.5	100	40

*Fr and Fa not cumulative
Dimensions in mm
Weight in kg

RS

0.05 to 13N.m

DESCRIPTION

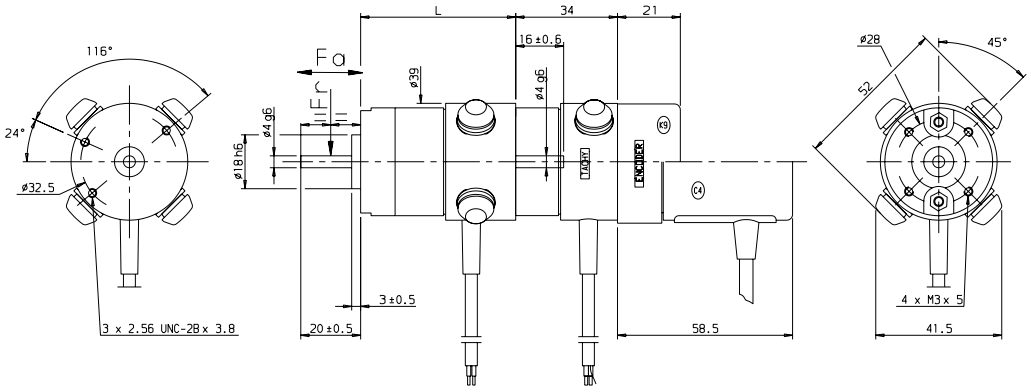
Using high energy magnets, RS DC motors combined with RTS drives are particularly suitable for applications which require a very compact solution or a high dynamic level.

HIGH PERFORMANCE CHARACTERISTICS
EXCELLENT LOW-SPEED FUNCTIONING
RARE EARTH MAGNETS
4-POLE DESIGN
HIGH COMPACTNESS
VERY LONG LIFETIME
TACHY, ENCODER RESOLVER OPTIONS
BRAKE OPTION
PROTECTION
- **IP40 (RS1 TO RS4), IP44 OPTION**
- **IP54 (RS5 AND RS6), IP55 OPTION**

CLASS F INSULATION

RS Characteristics

Motor	Torque at low speed M_0 (N.m)	permanent current at low speed I_0 (A)	Rated voltage U (V)	Rated speed N (rpm)	Rotor Inertia ($kgm^2.10^{-5}$)
RS110M	0.05	1.5	20.7	3000	0.24
RS120G	0.092	2.3	21.2	3000	0.41
RS130E	0.13	2.7	23.7	3000	0.58
RS210L	0.11	2.5	24	3000	1.3
RS220F	0.225	4.1	25.4	3000	1.95
RS220K	0.232	2.8	38.6	3000	1.95
RS230C	0.31	5.6	24	3000	2.6
RS240B	0.39	6	27.6	3000	3.25
RS310N	0.28	2.6	49	3000	5.4
RS320H	0.54	4.5	49	3000	8.3
RS330E	0.78	5.9	51	3000	11
RS340C	0.98	6.9	53	3000	14
RS410R	0.48	3.6	60	3000	13.7
RS420J	0.93	6.2	60	3000	22.5
RS430F	1.3	8.1	43	2000	31
RS430H	1.36	6.6	78	3000	31
RS440G	1.74	7	90	3000	40
RS510L	1.9	7.9	82	2700	100
RS520G	3.1	10.9	92	2700	135
RS530E	4	13	97	2700	170
RS540C	5	15	104	2700	205
RS620G	8	22.3	100	2400	530
RS630F	10.8	25	100	2000	680
RS640E	13	28	105	2000	830



RS1 Dimensions

Motor	L	Weight	Fr* (daN)	Fa* (daN)
RS110	52.1	0.27	6	3
RS120	68.1	0.36	6	3
RS130	84.1	0.45	6	3

*Fr and Fa not cumulative
Dimensions in mm
Weight in kg

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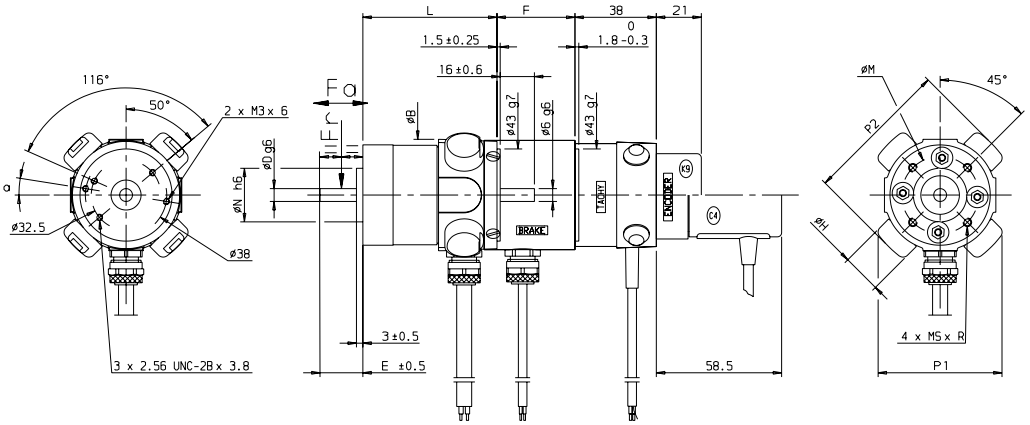
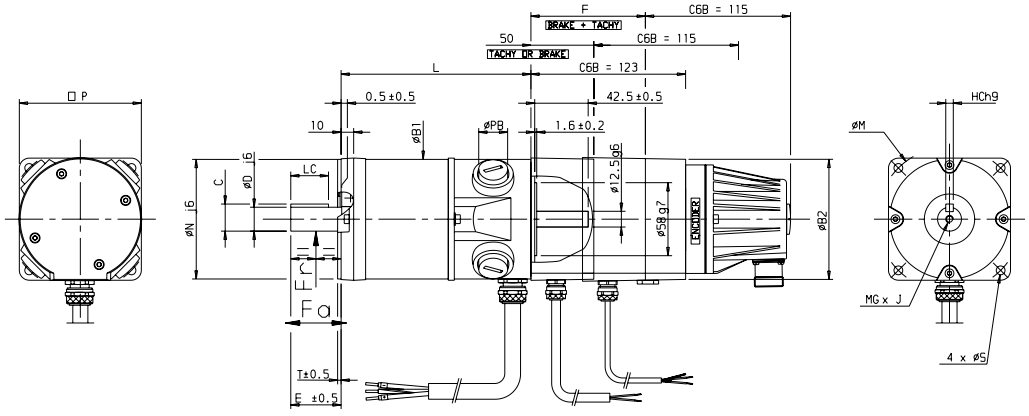


RS2, RS3 and RS4 with brake, tachy and encoder dimensions

Motor	a	N	D	E	B	L	F	P1	P2	H	MSxR	M	Weight	Fr* (daN)	Fa* (daN)
RS210	9°	25	6	20	52	63	36.4	58	68	18.5	M4x6	36	0.54	18	10
RS220	9°	25	6	20	52	79	36.4	58	68	18.5	M4x6	36	0.7	18	10
RS230	9°	25	6	20	52	95	36.4	58	68	18.5	M4x6	36	0.86	18	10
RS240	9°	25	6	20	52	111	36.4	58	68	18.5	M4x6	36	1	18	10
RS310	-	32	9	25	68	80.5	41	69	83	18.5	M5x8	45	0.9	28	15
RS320	-	32	9	25	68	100.5	41	69	83	18.5	M5x8	45	1.3	28	15
RS330	-	32	9	25	68	120.5	41	69	83	18.5	M5x8	45	1.6	28	15
RS340	-	32	9	25	68	140.5	41	69	83	18.5	M5x8	45	2	28	15
RS410	-	50	11	32	83	95.5	40	82	98	22	M5x8	65	1.2	40	20
RS420	-	50	11	32	83	115.5	40	82	98	22	M5x8	65	1.8	40	20
RS430	-	50	11	32	83	135.5	40	82	98	22	M5x8	65	2.4	40	20
RS440	-	50	11	32	83	155.5	40	82	98	22	M5x8	65	3	40	20

*Fr and Fa not cumulative
Dimensions in mm
Weight in kg



RS5 and RS6 with brake, tachy and encoder dimensions

Motor	P	N	C	D	LC	E	T	B1	PB	L	F	B2	S	M	MGxJ	HC	Weight	Fr* (daN)	Fa* (daN)
RS510	97	95	21.5	19	30	40	3	96	25	151	91	96	7	115	M6x18	6	5.1	70	23
RS520	97	95	21.5	19	30	40	3	96	25	180	91	96	7	115	M6x18	6	6.3	70	23
RS530	97	95	21.5	19	30	40	3	96	25	209	91	96	7	115	M6x18	6	7.5	70	23
RS540	97	95	21.5	19	30	40	3	96	25	238	91	96	7	115	M6x18	6	8.7	70	23
RS620	120	110	27	24	40	50	3.5	117	30	246	93	117	10	130	M8x20	8	11.5	80	26
RS630	120	110	27	24	40	50	3.5	117	30	284	93	117	10	130	M8x20	8	14	80	26
RS640	120	110	27	24	40	50	3.5	117	30	321	93	117	10	130	M8x20	8	16.3	80	26

*Fr and Fa not cumulative
Dimensions in mm
Weight in kg

RTS

3 to 40A

DESCRIPTION

The RTS servo amplifiers are designed for driving DC servo motors and are available in numerous ratings up to 6.5 kW.

These products enable speed control of DC motors with or without tachometers.

They integrate main supply, auxiliary supply and braking resistor circuits in a compact package.

BATTERY, SINGLE-PHASE OR THREE-PHASE POWER SUPPLY
U-RI OR TACHOMETER CONTROL
INTEGRATED BRAKING RESISTOR
FULL PROTECTING FEATURES
HIGH COMPACTNESS
PANEL OR RACK MOUNTING
3U EUROCARD

TECHNICAL SPECIFICATIONS

Power supply - single phase, three phase or battery
Operating temperature - 0-40°C (derate by 35% per 10°C >40°C to 60°C max.)
Altitude 1000m (derate by 10% >1000m per 1000m to 4000m max.)
Protection - IP00, IP20 for versions with covering cap.

RTS Characteristics

Type	Supply	nominal supply voltage ±10%	nominal output voltage (Vdc)	nominal output current (A)	Peak output current (A)
3/10-40M	single phase	32Vac	40	3	10
10/20-60	single/three	48Vac	60	10	20
12/24-130T	three phase	100Vac	130	12	24
20/40-130T	three phase	100Vac	130	20	40
16/32-190T	three phase	135Vac	190	16	32
40/80-190T	three phase	150Vac	200	40	80
12/24-..B	battery	24-48Vdc	U battery-2V	12	24
40/80-..B	battery	36-72Vdc	U battery -2V	40	80

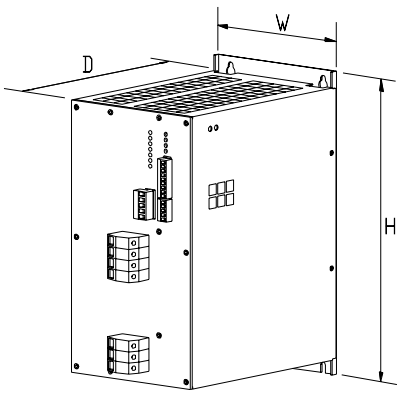
Dimensions

Type	H (mm)	W* (mm)	D (mm)	M (kg)
Panel mounting				
3/10-40M	150	65	212	1
10/20-60 (single/three)	180/150	65	212	1.2
12/24-130T	150	95	212	1.6
20/40-130T	150	121	221	1.9
16/32-190T	150	121	221	1.9
40/80-190T	247	139	205	6
12/24-..B	150	65	212	1
40/80-..B	247	70	205	2.5
Rack mounting				
3/10-40M	130	51	216	0.8
10/20-60 (three phase)	130	51	216	0.8
12/24-130T	130	61	216	0.85
12/24-..B	130	51	216	0.8

* maximum dimensions with covering cap

STANDARDS

CE Marked



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Accessories

	Tachy		Brake (24Vdc ±10%)			
Associated motor	Type	EMF (V/1000 rpm	Holding torque (N.m) at 20°C	at 100°C	Inertia ($kgm^2.10^{-5}$)	Weight (kg)
RX1	TBN206	6	1	0.9	1	0.4
RX3	TBN206	6	1.5	1.4	1	0.18
RX5	TBN306	6	6	5.5	5.3	0.45
RX6	TBN306	6	12	11.5	15.7	0.9
RS1	TBN103	3	-	-	-	-
RS2	TBN206	6	0.6	0.55	0.2	0.2
RS3 / RS4	TBN206	6	1.5	1.4	0.6	0.18
RS5	TBN306	6	6	5.5	5.3	0.45
RS6	TBN306	6	12	11.5	15.7	0.9

Tacho generators

Mounted directly on the shaft, making them very rigid, the tacho generators designed with high precision give a very good image of instantaneous speed, of zero speed and of rotation direction

Power-off holding brake

Static use : motor locking in the stopped position
Dynamic use : for emergency braking only

Encoder					
Type	Associated motor	Pulse per rev.		Inertia	Weight
		standard	option	($kgm^2.10^{-5}$)	(kg)
K10	RX1 / RX3 RS1..RS4	500	250	0.03	0.07
C4	RX1 / RX3 RS1..RS4	500	1000-2000	0.23	0.2
C6B	RX5 / RX6 RS5 / RS6	500-1000	2500-5000	0.3	0.45

Encoder

Particularly compact, the K10 encoder is mounted directly on the shaft, accordingly axial loads on the shaft are not permitted.

The C4 encoder with its hollow shaft and flexible mounting arrangement allows a very compact design

The C6B encoder is well-adapted to highly industrial environment thanks to its reinforced thermal and mechanical protection.

Transformer (230V/400V primary)		
Type	Secondary (±5%)	Power(kVA)
TT 11133	32V Single phase	0.12
TT 11134	32V Single phase	0.63
TT 11135	48V Single phase	0.63
TT 11136	48V Three phase	0.5
TT 11137	48V Three phase	1.6
TT 11138	48V Three phase	2.5
TT 11144	100V Three phase	0.63
TT 11145	100V Three phase	1
TT 11139	100V Three phase	1.6
TT 11140	100V + 48V Three phase	2.5
TT 11141	100V + 48V Three phase	4
TT 11115	135V Three phase	1
TT 11116	135V Three phase	1.6
TT 11117	135V Three phase	2.5
TT 11118	135V Three phase	4
TT 11119	135V Three phase	6.3
TT 11120	135V Three phase	10

Transformer and choke

The transformer and choke ranges offer a large choice for all applications of the RTS series.

Choke		
Type	Current (A)	Inductance (mH)
SF 02031	12	1
SF 02022	16	2.5
SF 02023	25	1.5
SF 02024	40	1.25

Filter	
Type	Description
FR 13020	20A single/three phase main filter

STANDARD ASYNCHRONOUS SH-SG SERIES

0.37 to 90kW

DESCRIPTION

The Sh-Sg series is a range of standard high performance aluminium three phase asynchronous motors (size 56 to 112) or cast iron (size 132 to 450) especially suitable for use with 650/650V drives.

Motors dimensions are described on page 81/82

S1 SERVICE
HIGH EFFICIENCY AND POWER FACTOR
B3 FOOT MOUNTING, B5 OR B14 FLANGE MOUNTING BY SIMPLE PERMUTATION
LOW NOISE LEVEL
IP55 PROTECTION
CLASS F INSULATION
CLASS B RISE
DYNAMIC BALANCING
ISO 2373
VOLTAGE 50Hz-380/415V AND 60Hz-440/480V
STANDARDS: IEC, NEMA AND JAPANESE

TECHNICAL SPECIFICATIONS

2-Pole Motors 3000 rpm

Pn (kW)	Type	N (rpm)	In / 400V (A)	Eff.. (%)	Cos φ	Torque (N.m)	Inertia (kgm²)	L_{WA} (dB)	L_{pa} (dB)	Weight (kg)
0.37	Sh 71 - 2A	2800	1.00	71.0	0.68	1.262	0.000389	67	60	5.3
0.55	Sh 71 - 2B	2790	1.35	75.0	0.85	1.883	0.000484	67	60	6
0.75	Sh 80 - 2A	2800	1.92	74.0	0.8	2.560	0.000829	72	65	7.8
1.1	Sh 80 - 2B	2780	2.50	77.0	0.84	3.780	0.001005	72	65	9.1
1.5	Sh 90S - 2	2835	3.20	81.1	0.83	5.050	0.0013	81	65	14
2.2	Sh 90L - 2	2855	4.70	83.2	0.82	7.360	0.002	81	65	16.8
3	Sg 100L - 2	2905	6.10	83.4	0.86	9.860	0.0048	86	65	25
4	Sg 112M - 2	2865	7.50	85.4	0.9	13.330	0.0079	86	67	34
5.5	Sg 132S - 2A	2910	10.40	87.0	0.88	18.050	0.015	86	72	60
7.5	Sg 132S - 2B	2920	13.90	88.5	0.88	24.530	0.018	91	72	71
11	Sg 160M - 2A	2930	19.90	89.5	0.89	35.850	0.042	91	72	100
15	Sg 160M - 2B	2920	26.20	90.5	0.91	49.060	0.048	94	72	115
18.5	Sg 160L - 2	2930	32.10	91.0	0.91	60.300	0.059	94	72	130
22	Sg 180M - 2	2920	40.40	90.6	0.88	71.950	0.076	94	85	165
30	Sg 200L2A	2960	52.00	92.9	0.89	97.000	0.15	90	78	245
37	Sg 200L2B	2960	64.00	93.7	0.89	119.000	0.18	90	78	265
45	Sg 225M - 2	2968	77.00	94.5	0.89	145	0.26	91	79	335
55	Sg 250M - 2	2970	94.00	93.5	0.9	177	0.36	93	81	410
75	Sg 280S - 2	2977	128.00	94.0	0.9	241	0.76	95	82	535
90	Sg 280M - 2	2970	151.00	94.7	0.91	290	0.87	95	82	605

4-Pole Motors 1500 rpm

Pn (kW)	Type	N (rpm)	In / 400V (A)	Eff.. (%)	Cos φ	Torque (N.m)	Inertia (kgm²)	L_{WA} (dB)	L_{pa} (dB)	Weight (kg)
0.25	Sh 71 - 4A	1380	0.85	66.0	0.68	1.730	0.00061	58	51	4.8
0.37	Sh 71 - 4B	1370	1.25	68.0	0.68	2.579	0.00077	63	56	5.9
0.55	Sh 80 - 4A	1400	1.60	70.0	0.72	3.750	0.00158	65	58	7.5
0.75	Sh 80 - 4B	1390	2.00	75.0	0.73	5.150	0.0019	65	58	8.8
1.1	Sh 90S - 4	1405	2.60	76.7	0.82	7.480	0.0023	71	60	14
1.5	Sh 90L - 4	1410	3.50	79.0	0.78	10.160	0.0028	71	60	16.5
2.2	Sg 100L - 4A	1425	4.80	82.0	0.80	14.740	0.0058	71	65	25
3	Sg 100L - 4B	1415	6.60	82.7	0.81	20.250	0.0065	76	65	26
4	Sg 112M - 4	1435	8.30	85.1	0.82	26.620	0.0118	76	65	34
5.5	Sg 132S - 4	1450	11.00	85.9	0.84	36.220	0.029	76	65	62
7.5	Sg 132M - 4	1450	14.60	87.0	0.85	49.400	0.035	81	65	73
11	Sg 160M - 4	1460	20.90	89.0	0.85	71.950	0.061	81	65	105
15	Sg 160L - 4	1460	27.70	89.5	0.87	98	0.075	88	65	125
18.5	Sg 180M - 4	1470	32.80	90.5	0.90	120	0.135	88	73	165
22	Sg 180L - 4	1465	38.80	91.0	0.90	143	0.155	88	73	175
30	Sg 200L - 4	1472	53.00	92.5	0.88	195	0.31	84	69	265
37	Sg 225S - 4	1475	66.00	92.6	0.88	240	0.44	85	73	320
45	Sg 225M - 4	1480	79.00	94.0	0.88	291	0.53	85	73	345
55	Sg 250M - 4	1483	93.00	93.5	0.91	354	0.79	87	75	425
75	Sg 280S - 4	1485	128.00	94.2	0.90	483	1.37	89	78	575
90	Sg 280M - 4	1485	151.00	94.8	0.91	579	1.63	89	78	635

Ordering information

When ordering, please indicate which mounting type will be used

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6-Pole Motors 1000 rpm

Pn (kW)	Type	N (rpm)	In / 400V (A)	Eff.. (%)	Cos φ	Torque (N.m)	Inertia (kgm²)	L_{WA} (dB)	L_{pa}	Weight (kg)
0.18	Sh 71 - 6A	890	0.75	57.0	0.68	1.91	0.00074	57	50	4.9
0.25	Sh 71 - 6B	880	1.00	55.0	0.70	2.65	0.00095	59	52	5.8
0.37	Sh 80 - 6A	900	1.50	64.0	0.64	3.93	0.00169	59	52	7.3
0.55	Sh 80 - 6B	900	1.75	67.0	0.72	5.84	0.00207	59	52	8.9
0.75	Sh 90S - 6	915	2.10	72.4	0.72	7.83	0.002	63	58	13.5
1.1	Sh 90L - 6	920	2.90	75.4	0.71	11.42	0.0028	71	58	16.5
1.5	Sg 100L - 6	945	3.90	76.7	0.73	15.16	0.009	71	60	24
2.2	Sg 112M - 6	960	4.80	83.8	0.78	21.89	0.0177	71	60	33
3	Sg 132S - 6	950	6.80	81.0	0.78	30.16	0.025	76	64	54
4	Sg 132M - 6A	950	8.60	84.0	0.79	40.21	0.032	76	64	66
5.5	Sg 132M - 6B	950	11.80	85.0	0.79	55.29	0.04	76	64	72
7.5	Sg 160M - 6	960	15.20	87.5	0.81	74.61	0.072	80	65	100
11	Sg 160L - 6	960	21.90	88.5	0.82	109.4	0.096	80	65	125
15	Sg 180L - 6	975	29.00	89.0	0.84	146.9	0.22	84	65	170
18.5	Sg 200L - 6A	980	34.50	90.5	0.86	180	0.41	75	65	250
22	Sg 200L - 6B	981	40.00	90.5	0.88	214	0.47	75	65	265
30	Sg 225M - 6	982	54.00	91.9	0.88	292	0.76	82	67	325
37	Sg 250M - 6	985	65.00	92.5	0.89	359	1.23	85	68	430
45	Sg 280S - 6	985	80.00	93.0	0.87	436	1.35	88	70	525
55	Sg 280M - 6	985	95.00	93.5	0.89	533	1.61	88	70	565

8-Pole Motors 750 rpm

Pn (kW)	Type	N (rpm)	In / 400V (A)	Eff.. (%)	Cos φ	Torque (N.m)	Inertia (kgm²)	L_{WA} (dB)	L_{pa}	Weight (kg)
0.09	Sh 71 - 8A	680	0.65	35.0	0.60	1.26	0.000736	57	50	4.9
0.12	Sh 71 - 8B	670	0.70	47.0	0.63	1.71	0.000946	57	50	5.8
0.18	Sh 80 - 8A	690	0.76	53.0	0.63	2.49	0.001693	57	52	7.5
0.25	Sh 80 - 8B	680	0.96	57.0	0.64	3.51	0.00207	59	52	8.9
0.37	Sh 90 S - 8	695	1.40	63.4	0.59	5.08	0.0021	59	53	13.4
0.55	Sh 90 L - 8	675	1.90	65.0	0.64	7.78	0.0024	61	53	15.3
0.75	Sg 100 L - 8A	710	2.30	71.1	0.66	10.1	0.009	71	56	23.6
1.1	Sg 100 L - 8A	705	3.40	72.2	0.65	14.9	0.01	71	56	26.3
1.5	Sg 112M - 8	720	4.00	76.8	0.71	19.9	0.0192	71	56	31
2.2	Sg 132S - 8	710	5.50	78.0	0.74	29.6	0.033	71	59	53
3	Sg 132M - 8	710	7.30	80.0	0.74	40.4	0.044	76	59	65
4	Sg 160M - 8A	705	9.30	81.5	0.76	54.2	0.06	76	61	85
5.5	Sg 160M - 8B	710	12.70	83.0	0.75	74	0.077	76	61	95
7.5	Sg 160L - 8	705	16.30	84.5	0.78	102	0.102	80	61	115
11	Sg 180L - 8	730	23.50	89.0	0.76	144	0.213	80	64	165
15	Sg 200L - 8	733	29.10	89.5	0.83	196	0.45	72	63	255
18.5	Sg 225S - 8	735	37	89.5	0.81	240	0.58	82	63	280
22	Sg 225M - 8	735	44	90.4	0.8	286	0.68	82	63	315
30	Sg 250M - 8	738	56	91.5	0.84	388	1.27	80	66	430
37	Sg 280S - 8	737	69	92.8	0.83	479	1.47	80	67	535
45	Sg 280M - 8	737	84	92.5	0.84	583	1.8	80	67	590

MVSh-Sg
MCSh-Sg
MVMCSh-Sg Series

0.37 to 90kW

Range				
Accessories	Sh-Sg	MVSh-Sg	MCSh-Sg	MVMCSh-Sg
PTC Sensor		•	•	•
Forced ventilation		•		•
Encapsulated encoder			•	•

DESCRIPTION

The Sh-Sg asynchronous motors series is the base for the MV, MC and MVMC series.
The SH-SG series includes additional accessories used in demanding vector control applications: forced ventilation, PTC probe and encapsulated encoder.

Dimensions and mounting options of motors are identical to Sh-Sg series page 81/82.

Low noise level
IP 55 Protection
Class F insulation

Forced ventilation		
Shaft height	Consumed current	
	1*230VD 50 Hz A	230VD / 400VY 60 Hz A
FBI 058 - 2	0.44 / 0.44 / 0.25	0.33 / 0.33 / 0.19
FBI 063 - 2	0.45 / 0.45 / 0.26	0.34 / 0.34 / 0.19
FBI 071- 2	0.7 / 0.71 / 0.41	0.57 / 0.59 / 0.34
FBI 080 - 2	0.66 / 0.69/ 0.40	0.54 / 0.58 / 0.33
FBI 090 - 2	0.65 / 0.67 / 0.39	0.54 / 0.57 / 0.33
FBI 100 - 2	0.64 / 0.66 / 0.38	0.56 / 0.57 / 0.32
FBI 112 - 2	0.65 / 0.64 / 0.37	0.62 / 0.58 / 0.33
FBI 132 - 4	0.68 / 0.64 / 0.37	0.67/ 0.57 / 0.32
FBI 160 - 4	0.64 / 0.64 / 0.37	0.57 / 0.56 / 0.32
FBI 180 - 4	0.64 / 0.65 / 0.37	0.60 / 0.59 / 0.34
FBI 200 - 4	0.64 / 0.63 / 0.36	0.60 / 0.57 / 0.33
FBI 225 - 4	0.64 / 0.65 / 0.37	0.60 / 0.57 / 0.33
FBI 250 - 4	2.12 / 1.22	2.18 / 1.24
FBI 280 - 4	2.21 / 1.27	2.51 / 1.42
FBI 315 - 4	2.21 / 1.28	2.53 / 1.49
FBI 355 - 4	1.95 / 1.11	2.04 / 1.17

Encoder

HEIDENHAIN ERN 430 type

10-30V Power supply

2048 pt/rev. (Other possible values as option)

Consumption: 350mA max with 300m cable

Outputs: totem-pole A, /A, B, /B, Z, /Z

Temperature: -30 to +100°C (operating and storage)

IP64 Protection

Internal Diameter : 12 mm (as option 8 or 10 mm)

Connection through plug on the motor

Encoder wiring													
Terminals	1	2	3	4	5	6	7	8	9	10	11	12	Weight
Signal	/B		Z	/Z	A	/A		B		0V		+Vp	
Wires	pink	blue	red	black	brown	green	purple	grey		white/green	white	brown/green	yellow

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Motors

2-pole motors		4-pole motors		6-pole motors		8-pole motors		Fans 3*400V		
kW	Type	kW	Type	kW	Type	kW	Type	flow (m^3/h)	Pn (W)	In (A)
0.37	MV...Sh 71 - 2A	0.25	MV...Sh 71 - 4A	0.18	MV...Sh 71 - 6A	0.09	MV...Sh 71 - 8A	76	134	0.41
0.55	MV...Sh 71 - 2B	0.37	MV...Sh 71 - 4B	0.25	MV...Sh 71 - 6B	0.12	MV...Sh 71 - 8B	76	134	0.41
0.75	MV...Sh 80 - 2A	0.55	MV...Sh 80 - 2A	0.37	MV...Sh 80 - 6A	0.18	MV...Sh 80 - 8A	148	132	0.4
1.1	MV...Sh 80 - 2B	0.75	MV...Sh 80 - 2B	0.55	MV...Sh 80 - 6B	0.25	MV...Sh 80 - 8B	148	132	0.4
1.5	MV...Sh 90S - 2	1.1	MV...Sh 90S - 4	0.75	MV...Sh 90S - 6	0.37	MV...Sh 90 S - 8	202	138	0.39
2.2	MV...Sh 90L - 2	1.5	MV...Sh 90L - 4	1.1	MV...Sh 90L - 6	0.55	MV...Sh 90 L - 8	202	138	0.39
3	MV...Sg 100L - 2	2.2	MV...Sg 100L - 4A	1.5	MV...Sg 100L - 6	0.75	MV...Sg 100 L - 8A	257	150	0.38
4	MV...Sg 112M - 2	3	MV...Sg 100L - 4B	2.2	MV... Sg 112M - 6	1.1	MV...Sg 100 L - 8A	405	182	0.39
5.5	MV...Sg 132S - 2A	4	MV...Sg 112M - 4	3	MV...Sg 132S - 6	1.5	MV...Sg 112M - 8	515	184	0.35
7.5	MV...Sg 132S - 2B	5.5	MV...Sg 132S - 4	4	MV...Sg 132M - 6A	2.2	MV...Sg 132S - 8	515	184	0.35
11	MV...Sg 160M - 2A	7.5	MV...Sg 132M - 4	5.5	MV...Sg 132M - 6B	3	MV...Sg 132M - 8	614	120	0.63
15	MV...Sg 160M - 2B	11	MV...Sg 160M - 4	7.5	MV...Sg 160M - 6	4	MV...Sg 160M - 8A	614	120	0.63
18.5	MV...Sg 160L - 2	15	MV...Sg 160L - 4	11	MV...Sg 160L - 6	5.5	MV...Sg 160M - 8B	614	120	0.63
22	MV...Sg 180M - 2	18.5	MV...Sg 180M - 4	15	MV...Sg 180L - 6	7.5	MV ..Sg 160L - 8	921	160	0.66
30	MV...Sg 200L2A	22	MV...Sg 180L - 4	18.5	MV...Sg 200L6A	11	MV...Sg 180L - 8	1334	280	0.72
37	MV...Sg 200L2B	30	MV...Sg 200L - 4	22	MV...Sg 200L6B	15	MV...Sg 200L8	1334	280	0.72
45	MV...Sg 225M2	37	MV...Sg 225S4	30	MV...Sg 225M6	18.5	MV...Sg 225S8	1400	400	0.73
		45	MV...Sg 225S4			22	MV...Sg 225M8	1400	400	0.73
55	MV...Sg 250M2	55	MV...Sg 250M4	37	MV...Sg 250M6	30	MV...Sg 250M8	1800	600	1.79
75	MV...Sg 280S2	75	MV...Sg 280S4	45	MV...Sg 280S6	37	MV...Sg 280S8	2400	1090	1.82
90	MV...Sg 280M2	90	MV...Sg 280M4	55	MV...Sg 280M6	45	MV...Sg 280M8	2400	1090	1.82

Sh-Sg Series
Dimensions

Standard mounting

Type	A	B	C	H	K	L				AA	AB	BB	HA	AC	AD	HD
						ShSg	MV	MC	MVMC							
Sg 63 - A	100	80	40	63	7	202				36	124	106	8.5	-	-	165
Sg 63 - B	100	80	40	63	7	214				36	124	106	8.5	-	-	165
Sh 71 - A	112	90	45	71	7	223	420		420	45	142	116	8	-	-	182
Sh 71 - B	112	90	45	71	7	245	432		432	45	142	116	8	-	-	182
Sh 80 - A	125	100	50	80	10	266	453	390	453	55	160	130	9	-	-	195
Sh 80 - B	125	100	50	80	10	278	465	402	465	55	160	130	9	-	-	195
Sh 90S	140	100	56	90	10	305	528	460	528	50	170	153	10	-	-	220
Sh 90L	140	125	56	90	10	330	553	485	553	50	170	153	10	-	-	220
Sg 100l	160	140	63	100	12	376	586	507	586	45	200	172	14	-	-	240
Sg 112M	190	140	70	112	12	384	606	532	606	54	230	174	14	-	-	276
Sg 132S	216	140	89	132	12	463	676	612	676	56	278	182	16	-	-	310
Sg 132S - 2B	216	140	89	132	12	501	711	647	711	56	278	220	16	-	-	310
Sg 132M	216	178	89	132	12	501	711	647	711	56	278	220	16	-	-	310
Sg 160M	254	210	108	160	15	612	867	757	867	60	305	256	20	-	-	370
Sg 160L	254	254	108	160	15	656	911	801	911	60	305	300	20	-	-	370
Sg 180M	279	241	121	180	15	705	965	822	965	70	350	320	26	-	-	408
Sg 180L	279	279	121	180	15	705	965	822	965	70	350	320	26	-	-	408
Sg 200L2	318	305	133	200	19	810	1120	940	1120	80	400	380	32	450	355	485
Sg 225S4	356	286	149	225	19	860	1130	1010	1130	85	445	355	34	505	375	535
Sg 225M2	356	311	149	225	19	855	1130	1010	1130	85	445	380	34	505	375	535
Sg 225M4	356	311	149	225	19	885	1160	1040	1160	85	445	380	34	505	375	535
Sg 250M2	406	349	168	250	24	980	1350	1150	1350	90	495	420	36	540	415	590
Sg 250M4	406	349	168	250	24	980	1380	1200	1380	90	495	420	36	540	415	590
Sg 280S2	457	368	190	280	24	1040	1490	1350	1490	100	560	520	40	620	450	660
Sg 280 S4	457	368	190	280	24	1040	1500	1350	1500	100	560	520	40	620	450	660
Sg 280M2	457	419	190	280	24	1040	1490	1350	1490	100	560	520	40	620	450	660
Sg 280M4	457	419	190	280	24	1040	1500	1350	1500	100	560	520	40	620	450	660

Dimensions in mm

B5 Flange

Type	M	N	P	S	T	LA
Sg 63	115	95	140	10	3	9
Sh 71	130	110	160	10	3.5	9
Sh 80	165	130	200	12	3.5	10
Sh 90	165	130	200	12	3.5	8
Sg 100	215	180	250	15	4	11
Sg 112	215	180	250	15	4	12
Sg 132	265	230	300	15	4	12
Sg 160	300	250	350	19	5	13
Sg 180	300	250	350	19	5	13
Sg 200	350	300	400	18*4	5	16.5
Sg 225	400	350	450	18*8	5	18
Sg 250	500	450	550	18*8	5	19
Sg 280	500	450	550	18*8	5	20

Dimensions in mm

B14 Flange

Type	M	N	P	S	T	LA
Sg 63	75	60	90	M5	2.5	9.5
Sh 71	85	70	105	M6	2.5	12
Sh 80	100	80	120	M6	3	12
Sh 90	115	95	140	M8	3	10
Sg 100	130	110	160	M8	3.5	12
Sg 112	130	110	160	M8	3.5	12
Sg 132	165	130	200	M12	3.5	12
Sg 160	-	-	-	-	-	-
Sg 180	-	-	-	-	-	-

Dimensions in mm

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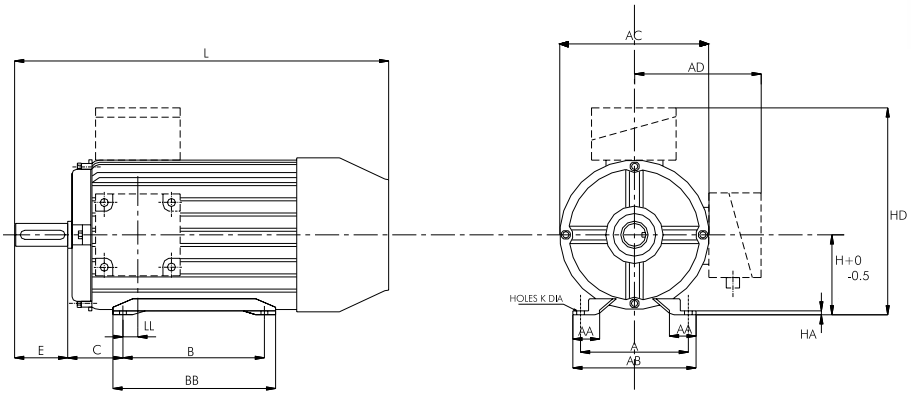
Shaft

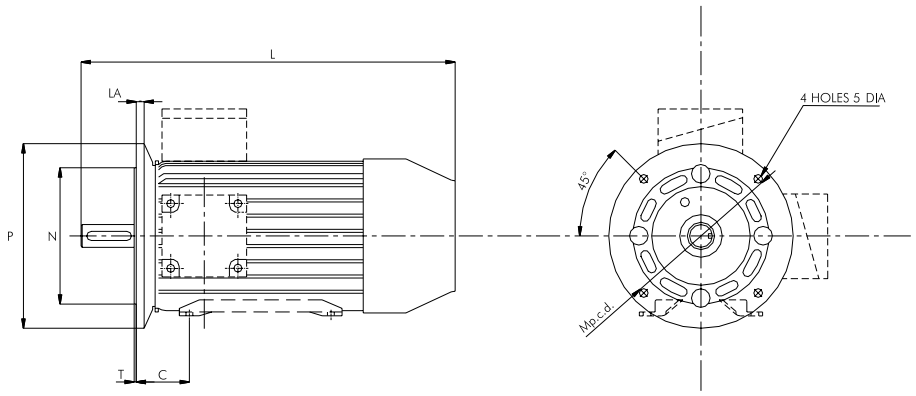
Type	D	E	F	G
SSg 63	11	23	4	12.5
Sh 71	14	30	5	16
Sh 80	19	40	6	21.5
Sh 90	24	50	8	27
Sg 100	28	60	8	31
Sg 112	28	60	8	31
Sg 132	38	80	10	41
Sg 160	42	110	12	45
Sg 180	48	110	14	51.5
Sg 200	55	110	16	59
Sg 225S4	60	140	18	64
Sg 225M2	55	110	16	59
Sg 225M4	60	140	18	64
Sg 250M2	60	140	18	64
Sg 250M4	65	140	18	69
Sg 280S2	65	140	18	69
Sg 280 S4	75	140	20	79.5
Sg 280M2	65	140	18	69
Sg 280M4	75	140	20	79.5

Dimensions in mm

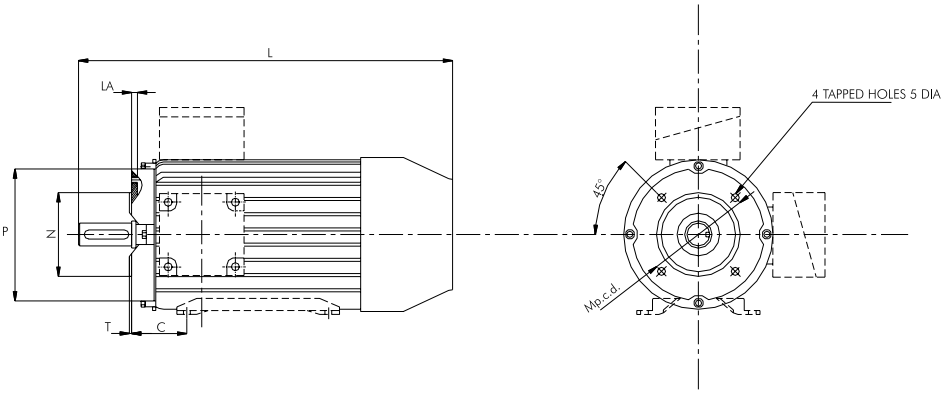
B3 Foot mounting



Flange mounting B5-B35



Flange mounting B14-B34



MA Series
Vector motor
0.75 to 314kW

DESCRIPTION

The MA series is a family of asynchronous motors designed to meet the requirement of dynamic or high speed applications.
They are developed to work with 690P or 650V AC vector drives.

Compact square form
Same sizes as DC motors with same power
Thermal probe
Incremental encoder
IP54 or IP23 protection
Class F insulation according to EN60034 (IEC 34-1)
Auxiliary ventilation for nominal torque at zero speed
High overload capability
High maximum speed

Options

Terminal box on one's side
PTC probe
Class S balancing
IP55 seal
Bearing on size 100
Anti-condensation heater

Tel: +33 (0)1 69 18 51 51 Fax: +33 (0)1 69 18 51 59

MA Characteristics - IP23 - 3 x 400 Vrms max

Motor	Code	Nominal speed n_n (rpm)	Nominal power Pn (kW)	Nominal torque Tn (N.m)	Inertia J ($kgcm^2$)	Nominal voltage Vn (V_{RMS})	Nominal current In (A_{RMS})	Magnetizing current $I\mu$ (A_{RMS})	Nominal frequency Fn (Hz)	Max. speed at Pn nmax1 (rpm)	Max. speed nmax2 (rpm)	Weight W (kg)
MA133 K	FA	1500	21	134	670	395	41	16	51.7	2100	7000	132
K	G2	2850	36	121	670	400	68	26	96.6	3400	7000	132
MA133 S	FA	1500	28	178	860	400	53	18	51.8	1500	7000	157
S	G2	2600	41	151	860	380	82	34	88.1	5900	7000	157
MA133 M	FA	1500	31	197	980	400	59	22	51.6	1700	7000	175
M	G1	2600	44	162	980	395	86	37	88.0	4300	7000	175
MA133 P	FA	1500	36	229	1200	400	68	27	51.5	1800	7000	200
P	G1	2600	48	176	1200	390	97	48	87.8	5500	7000	200
MA160 M	E1	1150	42	349	2400	380	85	23	39.7	1900	6000	270
M	G1	2550	71	266	2400	395	132	45	86.0	3700	6000	270
MA160 L	E1	1150	48	399	3050	380	95	24	39.7	1800	6000	325
L	FA	2200	76	330	3050	395	143	49	74.4	3200	6000	325
MA160 P	E1	1150	52	432	3600	390	102	34	39.4	1700	5000	365
P	G1	2400	88	350	3600	390	171	69	80.9	4500	5000	365
MA180 M	E1	1150	78	648	5050	395	140	43	39.4	1600	4500	480
M	G1	2500	122	466	5050	380	225	64	84.4	4500	4500	480
MA180 P	E2	1150	101	839	6300	390	187	60	39.6	1800	4500	570
P	G1	2500	155	592	6300	385	285	88	84.5	4500	4500	570
MA225 S	E1	1150	114	947	10500	380	217	60	39.3	2000	3500	640
S	F1	1800	161	854	10500	390	295	81	60.9	2700	3500	640
MA225 L	E1	1200	166	1321	15000	400	299	129	41.0	1600	3500	860
L	F1	1750	218	1190	15000	400	393	169	59.3	2300	3500	860
MA225 X	E1	1200	240	1910	21000	400	433	186	41.1	1600	3500	1110
X	F1	1750	314	1713	21000	400	566	243	59.4	2300	3500	1110

MA Serie
IP54

MA Characteristics - IP54 - 3 x 400 Vrms max

Motor	Code	Nominal speed nn (rpm)	Nominal power Pn (kW)	Nominal torque Tn (N.m)	Inertia J (kgcm²)	Nominal voltage Vn (Vrms)	Nominal current In (Arms)	Magnetizing current Iμ (Arms)	Nominal frequency Fn (Hz)	Max. speed at Pn nmax1 (rpm)	Max. speed max. nmax2 (rpm)	Weight W (kg)
MA80 M	F1	1500	0.75	4.8	12	380	2.0	1.1	53.8	6400	9000	14
M	H1	3000	1.4	4.5	12	380	3.4	1.7	104.0	8200	9000	14
L	F1	1500	1.5	9.5	49	390	3.8	1.5	55.3	2600	9000	22
L	H1	3000	3.0	9.5	49	395	6.6	2.4	106.0	4200	9000	22
MA90 M	F1	1500	1.4	8.9	27	340	4.0	2.0	54.7	4500	9000	20
M	H1	3000	2.8	8.9	27	370	7.3	3.5	104.7	9000	9000	20
L	F1	1500	3.2	20.4	58	365	8.2	4.4	54.9	9000	9000	32
L	H1	3000	6.4	20.4	58	390	13.7	7.5	105.0	9000	9000	32
MA100 S	FA	1500	3.7	23.6	190	380	9.0	4.2	52.3	2600	8000	50
S	G2	3000	6.8	21.7	190	390	16.3	8.3	102.1	4700	8000	50
MA100 M	FB	1500	6.0	38.2	250	385	13.7	6.1	52.2	2400	8000	65
M	G2	3000	11.0	35.0	250	400	24.2	11.2	102.1	3600	8000	65
MA100 L	FC	1500	8.2	52.2	310	390	18.4	8.4	52.0	2400	8000	80
L	G2	3000	14.5	46.2	310	390	32.0	15.7	101.9	5000	8000	80
MA100 P	FB	1500	10.0	63.7	370	380	23.0	11.5	51.8	3100	8000	90
P	G2	3000	17.0	54.1	370	400	36.8	19.2	101.6	3900	8000	90
MA133 K	FA	1500	16	102	670	390	34	16	51.4	2800	7000	132
K	G2	2850	28	94	670	400	56	27	96.2	4200	7000	132
MA133 S	FA	1500	21	134	860	400	42	19	51.3	2000	7000	157
S	G2	2850	33	111	860	400	66	33	96.1	4200	7000	157
MA133 M	FA	1500	24	153	980	395	48	22	51.2	2500	7000	175
M	G1	2600	34	125	980	390	71	37	87.7	6000	7000	175
MA133 P	FA	1500	30	191	1200	400	58	27	51.2	2000	7000	200
P	G1	2600	40	147	1200	385	85	47	87.6	7000	7000	200
MA160 M	E1	1200	33	263	2400	400	64	27	40.9	1700	6000	255
M	G1	2600	53	195	2400	395	103	45	87.4	4800	6000	255
MA160 L	E1	1200	37	294	3020	400	70	27	40.9	1500	6000	310
L	FA	2200	56	243	3020	400	111	53	74.0	3500	6000	310
MA160 P	E1	1200	40	318	3600	400	79	35	40.8	1700	5000	350
P	G1	2400	64	255	3600	385	134	69	80.6	5000	5000	350
MA180 M	E1	1200	53	422	5050	400	97	44	40.8	1600	4500	480
M	G1	2500	85	325	5050	380	159	66	84.0	4500	4500	480
MA180 P	E2	1200	64	509	6300	390	122	59	40.8	2700	4500	550
P	G1	2500	105	401	6300	380	199	88	84.1	4500	4500	550
MA225 S	EB	1200	77	613	10500	400	142	54	40.6	1600	3500	640
S	F1	1800	105	557	10500	395	200	91	60.5	3500	3500	640
MA225 L	E1	1200	108	863	15000	400	202	87	40.9	1600	3500	860
L	F1	1750	142	776	15000	400	264	114	59.2	2300	3500	860
MA225 X	E1	1200	156	1240	21000	400	290	125	40.9	1600	3500	1100
X	F1	1750	204	1116	21000	400	381	164	59.2	2300	3500	1100

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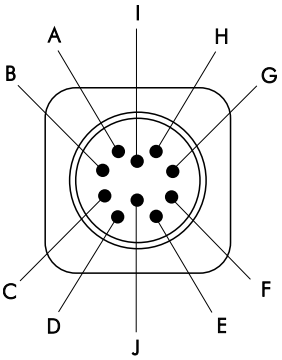
Fans

Motor	ventilated version	Voltage (Vrms)	Current (Arms) frequency 50 Hz	Noise (dB)
MA80 M-F1 MA80 L-F1 MA80 M-H1	-	230	0.09	54
MA80 L-H1	-	230	0.19	55
MA90 M-F1 MA90 L-F1 MA90 M-H1	-	230	0.11	65
MA90 L-H1	-	230	0.37	63
MA100	IP54 - PVAP	200-255	0.33	66
MA133	IP54 - PVAP	200-275	0.59	74
MA133	IP23 - PVA	180-290	1.82	75
MA160	IP54 - PVAP	380-400	0.44	78
MA160	IP23 - PVA	175-265	4.5	82
MA180	IP54 - PVAP	220-230	2.35	88
MA180	IP54 - PVA IP23 - PVA IP54 - PVAP2	180-230	8.3	85
MA225	IP54 - PVAP	220-230	5.5	96
MA225	IP54 - PVA	220-240	10.3	90
	IP 23 - PVA	220-240	10.3	90

Encoders

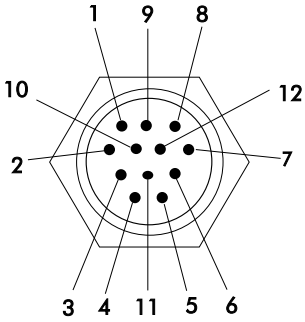
Encoder connection for MA80 to MA90 motors



	max. speed	6000 rpm
A	red	+Vdc
B	green	Ch. A
C	yellow	Ch. B
D		
E	black	0 Volt
F	welded	
G	brown	Ch. $\overline{A}$*
H	orange	Ch. B*
I	blue	Ch. $\overline{Z}$**
J	white	Ch. Z**

TYPE : MS 3102 A18-1P with
MS 3106 A18-1S

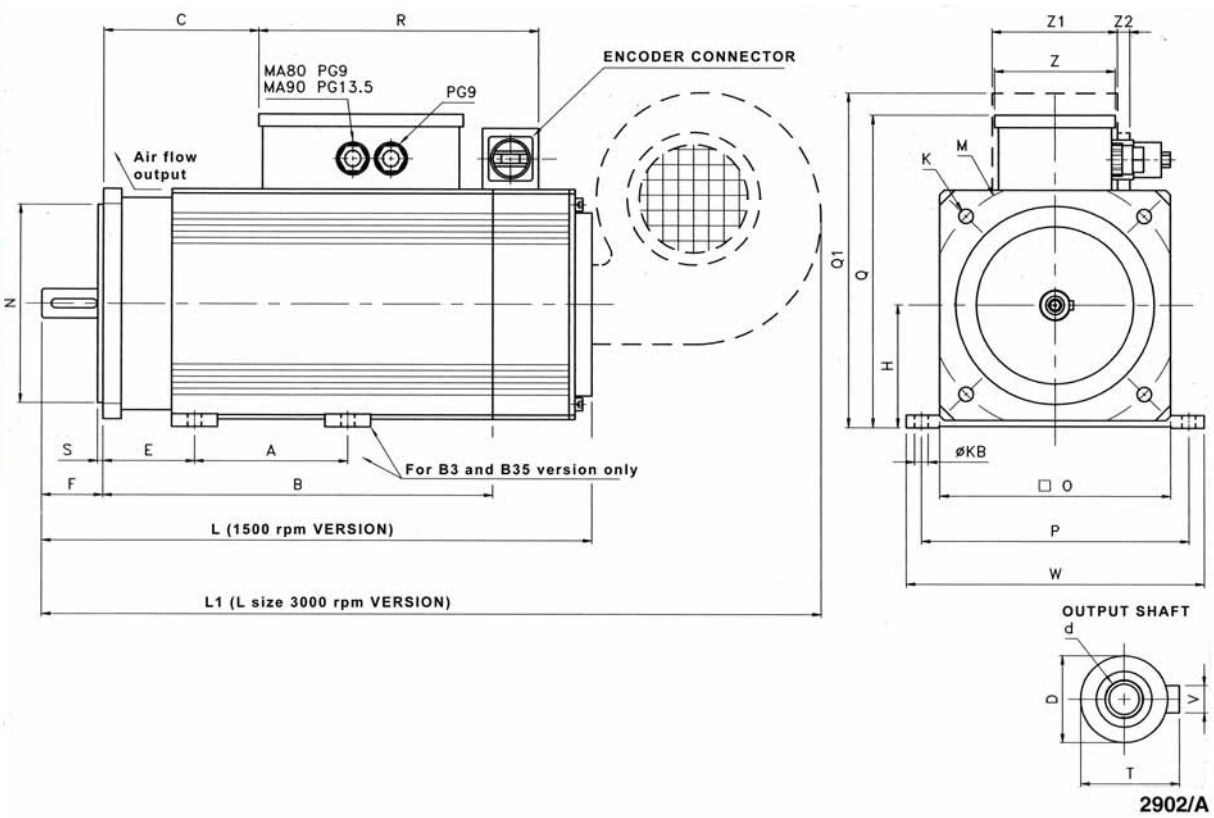
Encoder connection for MA100 to MA225 motors



1	pink	Ch. /B
2	blue	Power supply encoder 10-30V
3	red	Top encoder
4	black	/Top encoder
5	brown	Ch. A
6	green	Ch. /A
7	purple	/encoder defect
8	grey	Ch. B
9		
10	white-green	0V encoder
11	white	0V encoder
12	brown-green	encoder Power supply 10-30V

MA Series

Dimensions



MA80 - MA90 dimensions

Motor		DA	E	S	F	B	L	L1	KB	P	O	W	M	K	H	Q	Q1	N	C	R	Z	Z1	Z2	D	T	V	d
MA80	M	100	60	3.5	40	255	320	-	9	175	151	195	165	9.5	80	205	219	130	101	184	79	82	8	19	21.5	6	M8
	L	180	60	3.5	40	335	400	590	9	175	151	195	165	9.5	80	205	219	130	181	184	79	82	8	19	21.5	6	M8
MA90	M	125	70	3.5	50	293	448	-	9	190	165	215	165	12	90	230	240	130	123	192	108	110	/	24	27	8	M8
	L	207	70	3.5	50	375	530	690	9	190	165	215	165	12	90	230	240	130	205	192	108	110	/	24	27	8	M8

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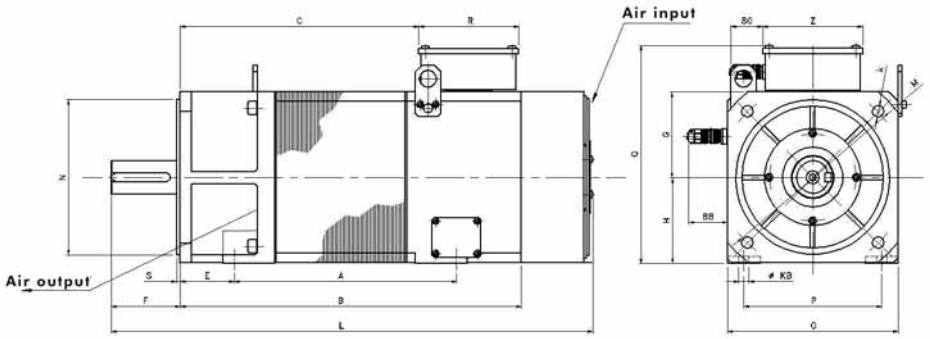
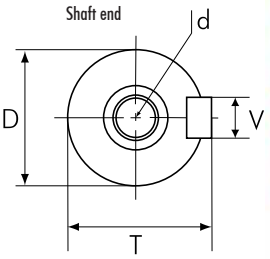
IP54-PVAP

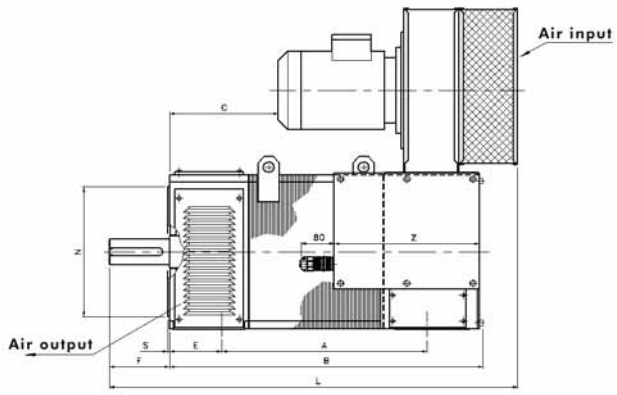


MA100 - MA133 - MA160 dimensions

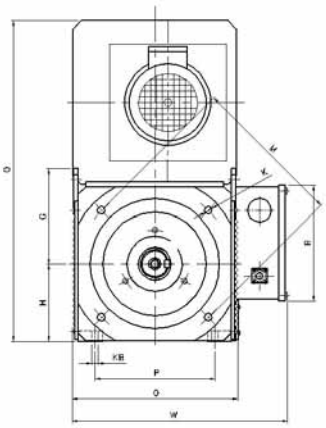
Motor		A	E	S	F	B	L	KB	P	O	M	K	H	G	Q	N	C	R	Z	D	T	V	d
MA100	S	198	63	4	80	336	500	12	160	198	215	14	100	99	270	180	230	131	146	38	41	10	M12
	M	258	63	4	80	396	560	12	160	198	215	14	100	99	270	180	280	131	146	38	41	10	M12
	L	318	63	4	80	456	620	12	160	198	215	14	100	99	270	180	330	131	146	38	41	10	M12
	P	378	63	4	80	516	680	12	160	198	215	14	100	99	270	180	390	131	146	38	41	10	M12
MA133	K	308	66	5	110	478	690	13	216	260	300	18	132	130	345	250	310	170	245	48	51.5	14	M16
	S	368	66	5	110	538	750	13	216	260	300	18	132	130	345	250	370	170	245	48	51.5	14	M16
	M	408	66	5	110	578	790	13	216	260	300	18	132	130	345	250	410	170	245	48	51.5	14	M16
	P	473	66	5	110	643	855	13	216	260	300	18	132	130	345	250	475	170	245	48	51.5	14	M16
MA160	M	402	108	5	110	642	872	14	254	316	350	18	160	158	400	300	473	170	245	55	59	16	M20
	L	482	108	5	110	722	952	14	254	316	350	18	160	158	400	300	553	170	245	55	59	16	M20
		552	108	5	110	792	1022	14	254	316	350	18	160	158	400	300	623	170	245	55	59	16	M20



MA 180-225 IP54-PVA



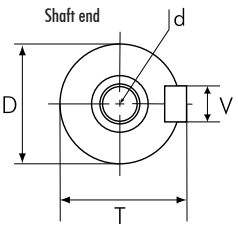
MA 133-160-180-225 IP23-PVA



MA133 - MA160 - MA180 - MA225 dimensions

Motor		A	E	S	F	B	L	KB	P	O	M	K*	H	G	Q	N	C	W	R	Z	D	T	V	d
MA133	K	308	66	5	110	435	646	13	216	293	300	18	132	166	558	250	101	356	170	245	48	51.5	14	M16
	S	368	66	5	110	495	706	13	216	293	300	18	132	166	558	250	161	356	170	245	48	51.5	14	M16
	M	408	66	5	110	535	746	13	216	293	300	18	132	166	558	250	201	356	170	245	48	51.5	14	M16
	P	473	66	5	110	600	811	13	216	293	300	18	132	166	558	250	266	356	170	245	48	51.5	14	M16
MA160	M	402	108	5	110	628	835	14	254	349	350	18	160	200	637	300	228	419	170	245	55	59	16	M20
	L	482	108	5	110	708	915	14	254	349	350	18	160	200	637	300	308	419	170	245	55	59	16	M20
	P	552	108	5	110	778	985	14	254	349	350	18	160	200	637	300	378	419	170	245	55	59	16	M20
MA180	M	567	121	5	140	816	1039	15	279	394	350	18	180	220	740	300	344	505	267	337	60	64	18	M20
	P	667	121	5	140	916	1139	15	279	394	350	18	180	220	740	300	444	505	267	337	60	64	18	M20
MA225	S	475	149	5	140	791	1047	19	356	482	400	18	225	270	880	350	267	595	267	337	75	79.5	20	M20
	L	615	149	5	140	931	1187	19	356	482	400	18	225	270	880	350	407	595	267	337	75	79.5	20	M20
	X	855	149	5	140	1171	1427	19	356	482	400	18	225	270	880	350	647	595	267	337	75	79.5	20	M20

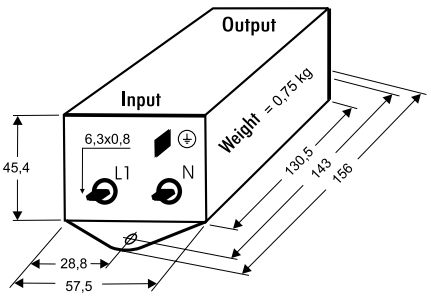
*: N° 4 trous pour MA180; N° 8 trous pour MA225



EMC Filters and Inductances for 635/637f

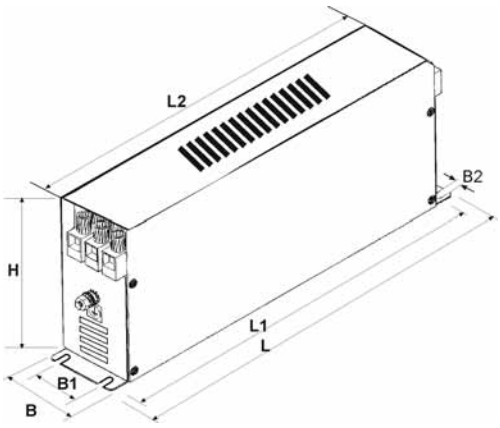
Single phase filter

LNF E 1*230/012



Three phase filter

LNF B 3*480/xxx



EMC filters - Dimensions and weight

Type	Dimensions				Entre-axe			Weight (kg)	Earth connection	Terminal connection (mm^2)
	B (mm)	L (mm)	L2 (mm)	H (mm)	B1 (mm)	L1 (mm)	B2 (mm)			
LNF B 3*480/008	40	190	160	70	20	180	4.5	0.5	M5	6
LNF B 3*480/018	45	250	220	70	25	235	5.4	0.8	M5	6
LNF B 3*480/033	50	270	240	85	30	255	5.4	1.2	M5	16
LNF B 3*480/060	85	250	220	90	60	235	5.4	1.8	M6	25
LNF B 3*480/082	80	270	240	135	60	255	6.5	3.2	M6	25

EMC Filters selector

Single phase servo drives 16 to 230 VAC		EMC Filters characteristics				
Type	Current (A)	Type	Current (A)	Power (W)	Current (mA)	Max Voltage. (V)
635	2.5 - 6	LNF E 1*230/012	12.0	5.0	9.4	250
Three phase servo drives 16 to 460VAC		**EMC Filters characteristics**				
Type	Current (A)	Type	Current (A)	Power (W)	Current (mA)	Max Voltage. (V)
635 / 637f	2.5 - 6.5 / 2 -16	LNF B 3*480/008	8.0	4.0	33.0	480
635 / 637f	10 /10 -16	LNF B 3*480/018	18.0	6.0	33.0	480
637f	22 - 30	LNF B 3*480/033	33.0	12.0	33.0	480
Power supply Module (Rack version)	40	LNF B 3*480/060	60.0	26.0	33.0	480
	75	LNF B 3*480/082	82.0	32.0	33.0	480

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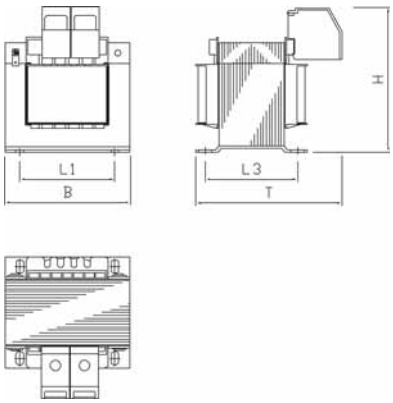
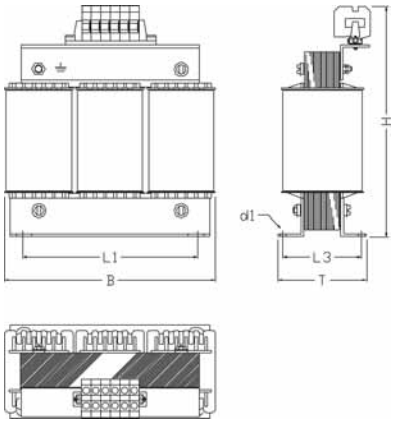
Single phase inductance



Three phase inductance



Inductances - Dimensions and weight

Inductances		Dimensions						Terminal connection (mm^2)	Weight (kg)	Earth connection
	Type	B (mm)	T (mm)	H (mm)	L1 (mm)	L3 (mm)	d1 (mm)			
Single phase	E 12-0008KL	66	87	70	50	51	4.8x9	2.5	0.9	Faston
	E 12-0018KL	84	96	86	64	62	4.8x9	4.0	1.8	Faston
Three phase	E 32-0011KL	123	75	130	100	55	5x7	2.5	2.5	M6
	E 32-0018KL	155	95	150	130	70	8x12	2.5	5.4	M6
	E 32-0031KL	155	100	150	130	70	8x12	4.0	5.3	M6
	E 32-0060KL	190	145	215	170	78	7x11	10.0	9.7	M6
	E 32-0154KL	230	180	305	180	122	8x12	35.0	18.0	M8

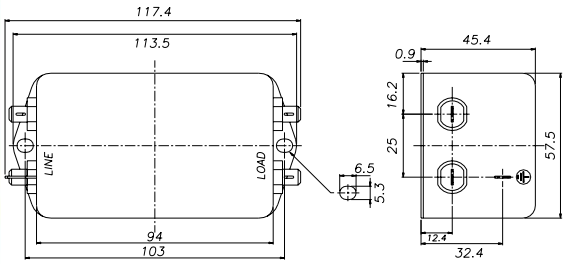
Main inductances selector

Single phase servo drives, 16 to 230 VAC		Inductances "Power supply" characteristics	
Type	Current (A)	Type	Current (A)
631	1 - 2	E 12-0008KL	8
635	1 - 2.5		
631	4 - 6	E 12-0018KL	18
635	5 - 6.5		
Three phase servo drives, 16 to 460V			
Type	Current (A)	Type	Current (A)
635	10	E 32-0011KL	11
Three phase servo drives, 16 to 460V			
Type	Current (A)	Type	Current (A)
637f	1 - 10	E 32-0011KL	11
	16	E 32-0018KL	18
	22 - 30	E 32-0031KL	31
	17 - 30		
Power supply Module (Rack version)	50	E 32-0060KL	60
	75	E 32-0154KL	94

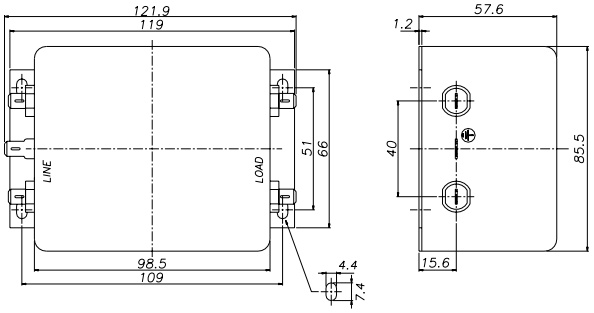
EMC Filters and Inductances for DIGIVEX

Single phase filter

FR 01006



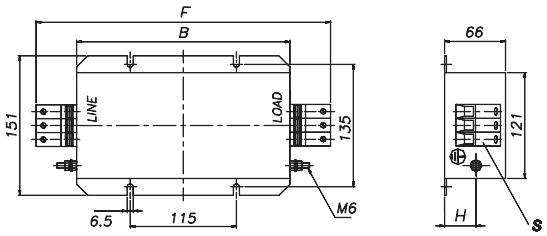
FR 01016



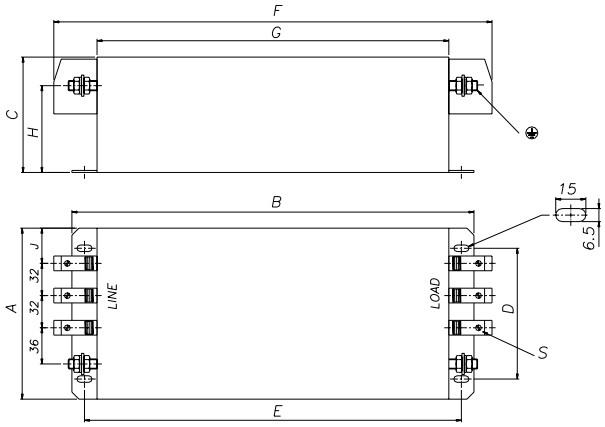
Characteristics			
Type	Current (Â)	Max leakage current (mA)	Weight (kg)
FR 01006	6	3	0.42
FR 01016	16	3	1

Three phase filter

FR 030xx



FR 03x00



Characteristics and dimensions													
Type	Current (Â)	Max leakage current (mA)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	S max (mm^2)	Weight (kg)
FR 03016	16	10	-	201	-	-	-	241	-	17	-	4	3
FR 03036	36	3	-	201	-	-	-	251	-	17	-	10	3
FR 03064	64	3	-	231	-	-	-	308	-	34	-	25	4
FR 03100	100	3	170	400	65	130	375	436	350	40	35	50	8.3
FR 03200	200	3	220	550	153	180	500	549	450	70	60	95	26.5

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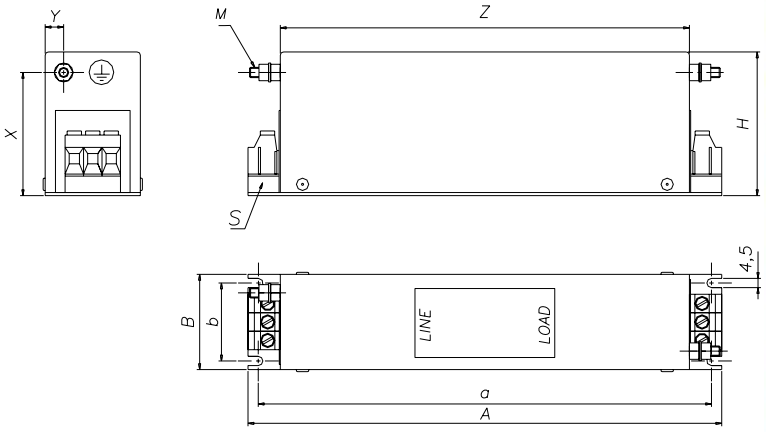
Three phase Filter "book-sized"

FR 036xx

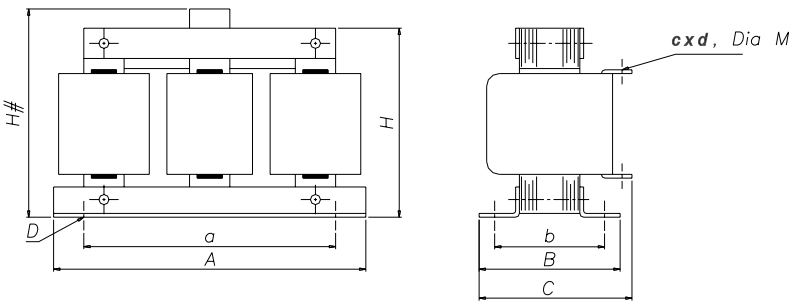


Characteristics and dimensions

Type	Current (Â)	Leakage current (mA)	A (mm)	B (mm)	H (mm)	axb (mm)	X (mm)	Y (mm)	Z (mm)	M (mm)	S max (mm²)	Weight (kg)
FR 03608	8	13	165	51.4	63	155x38	50	8	133.7	M4 x11	4	0.58
FR 03616	16	15	231	46.4	70	221x38	60	9	199.5	M5 x15	4	0.90
FR 03636	36	15	265	58	90	255x35	70	8	200	M6 x24	10	1.75

Three phase Inductances

SF 020xx



Characteristics and dimensions

Type	Current (Â)	Inductance (µH)	A (mm)	B (mm)	C (mm)	H (mm)	H# (mm)	axb (mm)	D (mm)	Connection mm² or cxd (mm)	M (mm)	Weight (kg)
SF 02025	26	850	150	95	110	-	135	112x80	6	# 6mm²	-	4.5
SF 02026	65	340	175	95	95	165	180	53x68	6.5	* 16x16	6.5	9
SF 02027	118	190	290	116	135	210	-	230x100	8	* 20x20	9	13
SF 02028	17	1300	160	95	-	-	115	112x71	6	# 6mm²	-	4.2
SF 02029	91	245	220	135	160	160	-	166x114	6	* 20x20	9	15
SF 02030	170	130	235	120	165	240	-	185x100	9	* 25x28	11	19
SF 02032	7.5	400	132	75	85	-	103	94x55	6x10	# 4mm²	-	1.9

Terminal connection
* Output on bar cxd section, M diameter

Operator terminals

Text terminals

VT50 - LCD - 2 x 20
L=166, H=86, P=41

VT60 - LCD - 4 x 20
L=166, H=86, P=41

VT150 - LCD - 4 x 20
L=148, H=188, P=41

Graphic terminals

VT155 - LCD touchscreen monochrome
L=100, H=166, P=39.6

Text and graphic models
Operator terminals with
integrated CANopen connection
SSD Drives Protocole
EI ASCII RS232/RS485 (option)

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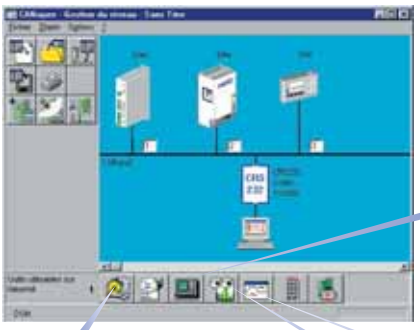
PARVEX MOTION EXPLORER SOFTWARE

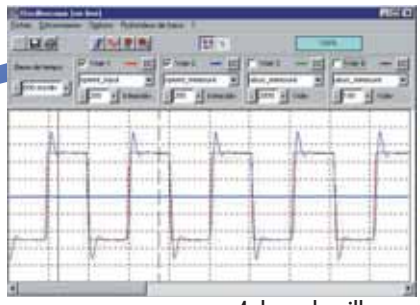
DESCRIPTION

Parvex Motion Explore is a powerful Windows based software for the DIGIVEX range.

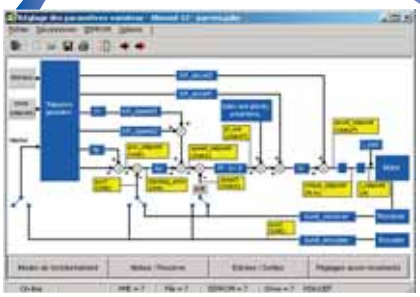
This software provides a convenient and straightforward working environment due to its graphic display of functions and an easy choice of different headings, in the form of thumbnails, in the form of thumbnails and menus.



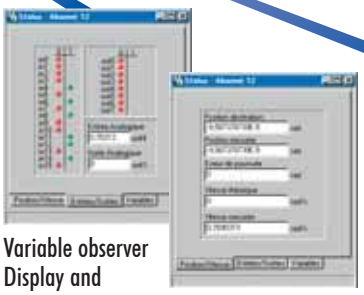
CANopen or PROFIBUS network management
Simple click access to all subscribers on network.



4 channel oscilloscope
Adjustable time base; adjustable trigger; RMS, peak-to-peak, average, min, max measures…



Parameter adjustment
Axis, motor, sensor, input/output configuration; tuning assistant…



Variable observer
Display and software forcing

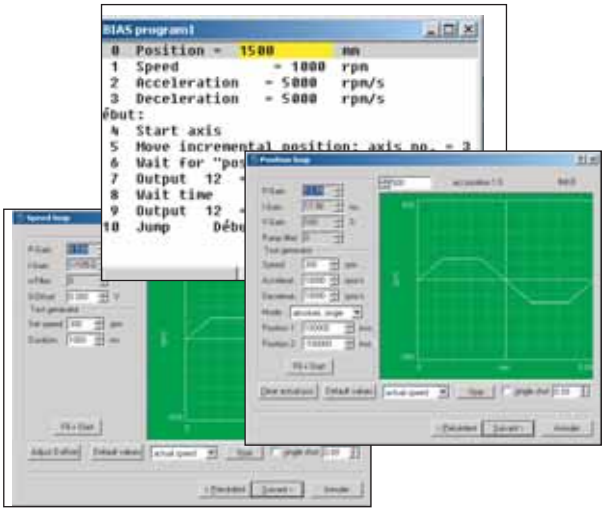
Diagnostic help
event history; troubleshooting assistant; firmware update...

- Program editor, compilation with error localisation
- Stimuli generator
- Program development debugger
- Cam editor

EASYRIDER SOFTWARE

DESCRIPTION

EasyRider is a graphical software for the 630 Series providing a single user interface for accessing all drive parameters, programming motion and calibrating the drive.



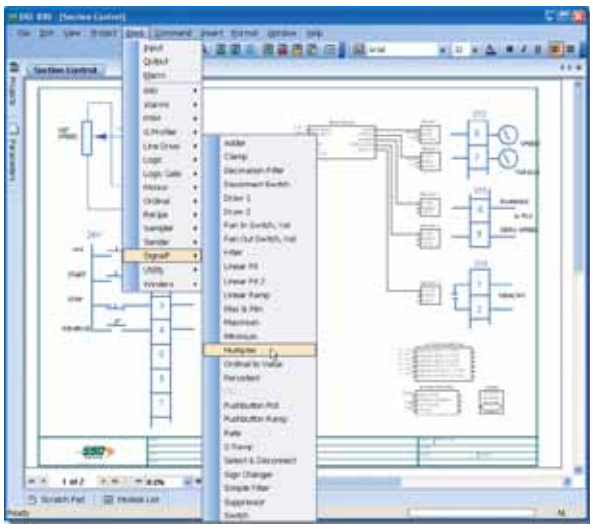
This unique assistant offer an autopilot mode helping user in all phases of application set-up : from the choice of the motor in the motor library to the drive auto-adjustment. All set-up steps are extremely simplified. Easyrider gives also the possibility to develop advanced motion in an intuitive way using its BIAS language.

INTUITIVE AND EASY USE
SET-UP ASSISTANT
INTEGRATED MOTOR LIBRARY
OSCILLOSCOPE FUNCTION
DRIVE AND FIELDBUS DIAGNOSTIC
DRIVE ADVANCED PROGRAMMING

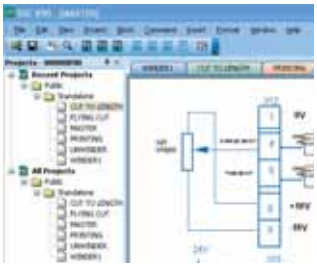
SOFTWARE

DESCRIPTION

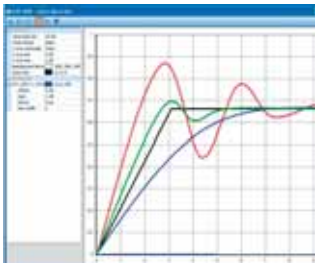
This is the "on line" programming, monitoring and diagnostic software platform for AC890 Series frequency converters.
PC and converter communicate via Mini USB port and, by chain supplying the 24Vdc auxiliaries of the various 890 units, it is possible to configure the entire system from a single position via FireWire1394.
Thanks to the on-line help, users can obtain the optimum drives configuration without need to navigate through complicated parameter menus.
Advanced programming is carried out through a set of preengineered templates in order to create the required configuration.
During drive operation, it is possible to monitor every parameter either as a digital value or as a function in the "Chart Recorder".



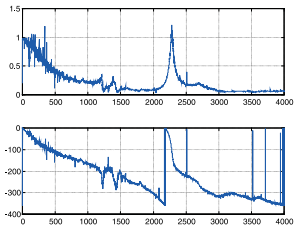
CREATES, INSTALLS AND MODIFIES CONFIGURATIONS
DRAG-AND-DROP ICONE STRUCTURE
GRAPHICAL INTERFACE
DATA LOGGING
COMPATIBLE WITH WINDOWS 2000/XP

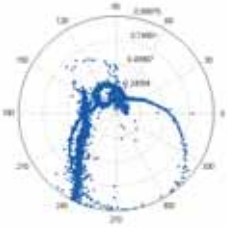


Parameters setting and project creation



High bandwidth digital oscilloscope





System Identification tool

Codification	
Type	**Description**
DSE890 RUN-TIME	Programming software package including USB cable and licence. Runtime Version
DSE890 DEVELOPMENT	Programming software package including USB cable and licence. Development Version
Option	
8905/USBCBL1/00	USB programming cable

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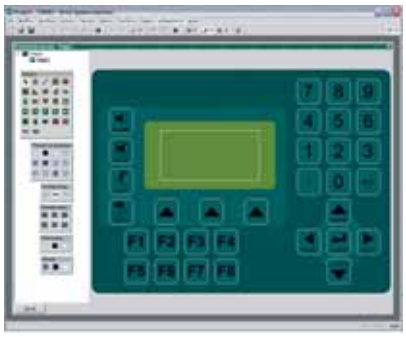
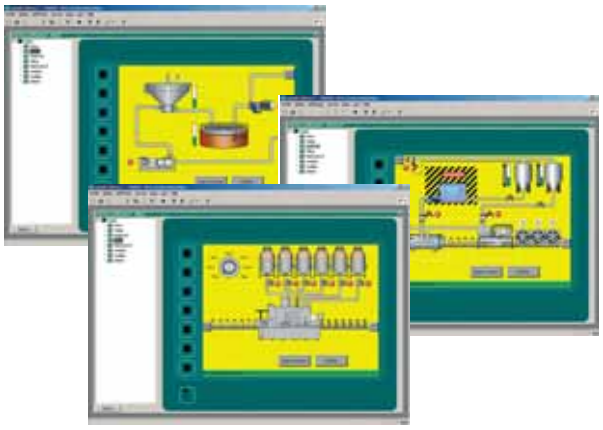


DESCRIPTION

It is the icon-based programming software platform for all operator panels of the TS8000 Series. DSI8000 includes all configuration, display, control and data logging tools. Applications can be set up using the step-by-step procedure to configure protocols, define data tags and create a graphical interface by means of the drag-and-drop icon structure and the pre-loaded symbol libraries.

DSI8000 also incorporates a tag database that allows users to organize and customize communications with converters and any other device connected to the system, and a Virtual Panel that enables real-time data display by using a standard browser.

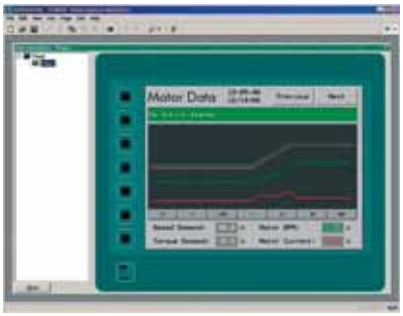


EASY VISUAL DESIGN
RECIPES, TRENDING, HISTOGRAMS AND ALARM LOGS
BUIT-IN SYMBOL LIBRARY WITH OVER 4000 SYMBOLS
WEB SERVER
BUILT-IN DATA LOGGER

Buit-in symbol library available for several machines

Codification	
Type	**Description**
DSI8000	Programming software package including USB cable and using licence.

Web server



Built-in Data logger

A COMPLETE MULTI-AXIS SERVO APPLICATION ON CANOPEN

Parvex Motion Explorer
Use :

- Parameter definition
- Oscilloscope
- Control

DIGIVEX Motion
Operating mode :

- Master slave synchronisation
- PDO messages, interpolation
- Multi-axis supervision

Applications
Examples :

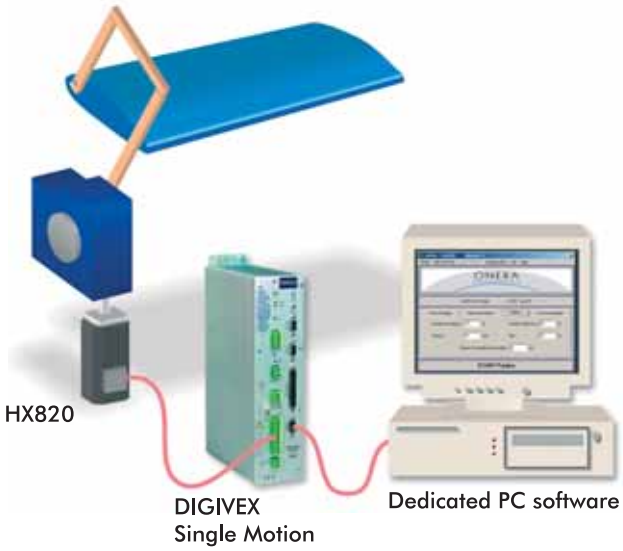
- Palletising
- Packaging
- Bending

One unique machine plug using CANopen bus gives opportunity to develop all the tasks for the realisation of an advanced application : Parameter Definition, Adjustment, Control.

TEST BENCH FOR WIND TUNEL

SSD Parvex offer

1 HX820VR servo motor controlled by a DIGIVEX Single Motion positioning-drive. Dedicated PC software, specifically developed by SSD Parvex, allowing cam construction using customer data, program compilation with new values
and its transfer to drive.



Customer benefits

Application of positioning integrally managed by SSD Parvex including cabinet wiring and DIGIVEX Motion and PC software development.

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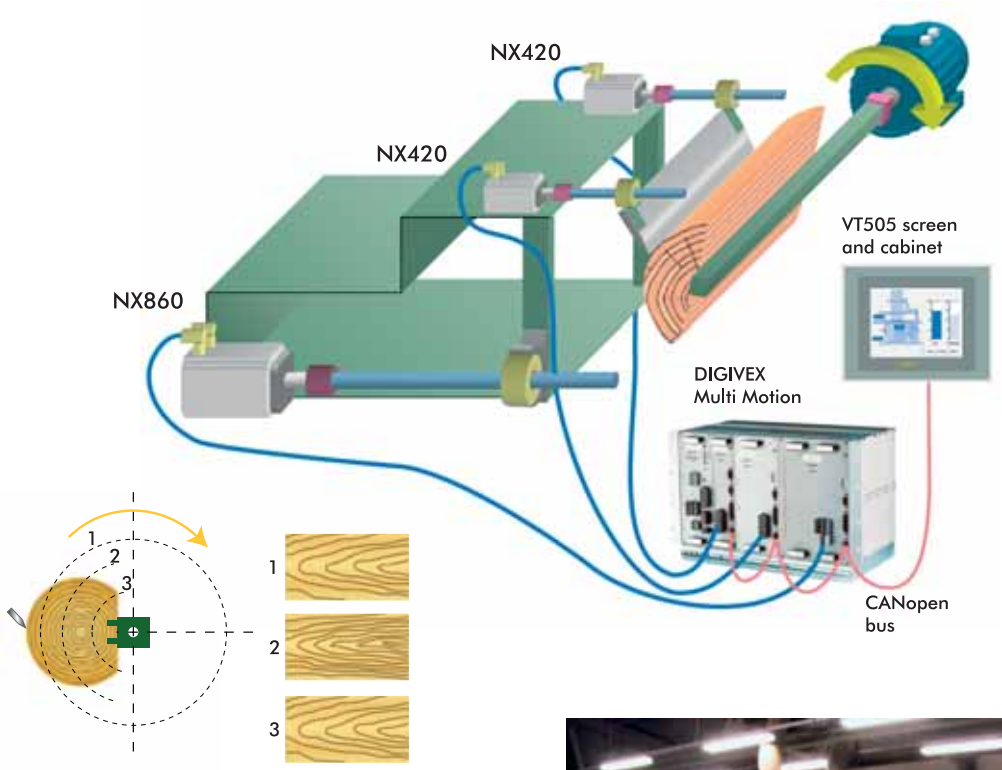
STAYLOG SLICING MACHINE



SSD Parvex offer

2 NX420 servo motor and 1 NX 860 servo motor powered by a 3 axis DIGIVEX Multi Motion positioning system for the position control of knife and carriage. 1 VT505 graphic terminal for input of production data and operating modes.

Customer benefits

Positioning-drive replacing axis card for an improved reliability and increased performances.