ELECTROMECHANICAL OVERVIEW

Motors, Drives, Controllers and Actuators

Parker

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For our complete offering and further details, please refer to our Technical Catalogue available for download at parker.com or via the attached QR code on every page of this catalogue.

Every care has been taken in the preparation of this literature, however Parker assumes no responsibility for any inadvertent typographical errors or omissions. Information in this catalogue is accurate as of the date of publication. Please consult our website for current information at parker.com

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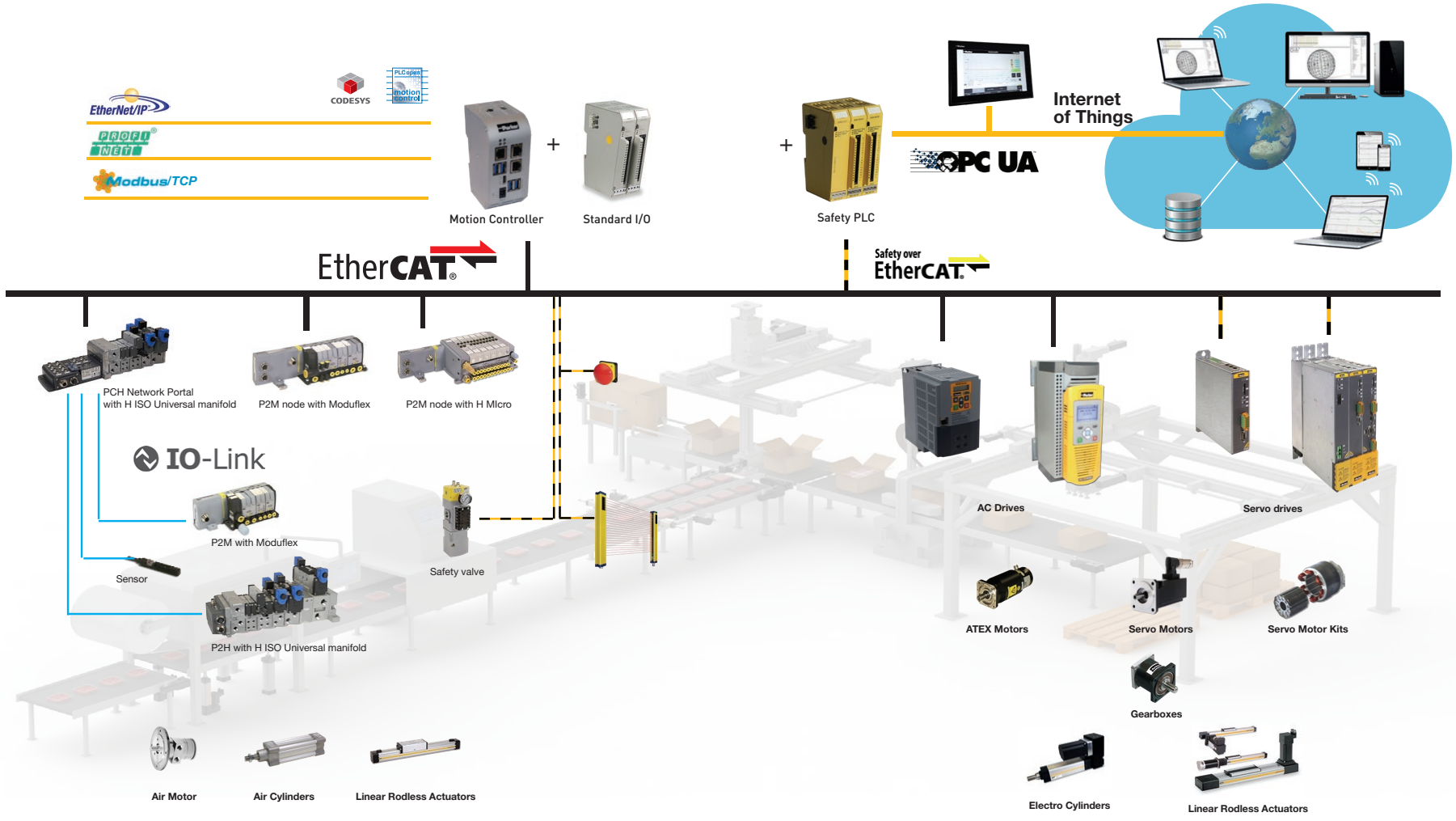
Complete Motion Control Solutions



Pneumatics

Electromechanics

Industrial AC Drives

Global AC Drive Solutions to Improve Productivity and Save Energy

Parker assists its customers in improving productivity and reducing energy consumption with a comprehensive range of AC drives. Parker AC drive products are sold, supported and serviced worldwide, with solutions from simple speed control to complex coordinated process control. Parker AC drive products are easy to configure and commission, with simple but flexible function block-based configuration tools and connectivity with all major industrial fieldbus networks.

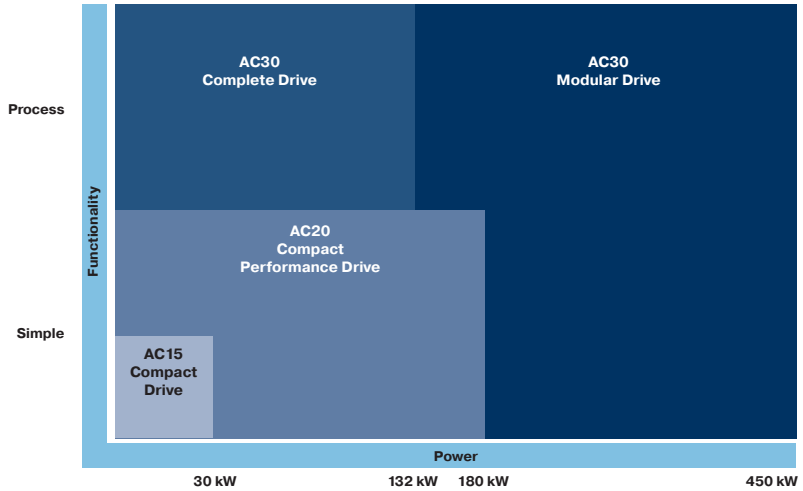
Energy Savings Using Variable Speed Drive Technology

The application of variable speed drives to traditional fixed speed applications, such as in pumps, fans and compressors, can yield up to 30 % energy savings. In fact, many power utilities and government agencies provide financial incentives to invest in VSD technology. Parker's General Purpose AC drives make these savings possible.

Improving Process Productivity and Reliability

Parker AC drive products also have the functionality, designed and refined from decades of experience, to provide the precise, coordinated speed control, often among multiple motor axes, to ensure process line success. With high speed communication, easy to use configuration tools and HMI control solutions, Parker AC drives can handle the most complex process control applications.

AC Drives Product Range Overview



AC15 - Compact Drive

The AC15 Compact Drive is a simple to use, reliable and economical solution for every-day motor control applications that require speed or torque control in the power range of 0.37 kW to 30 kW. Standard features include Safe Torque Off, Ethernet communications, sensorless vector mode for control of both Permanent Magnet (PMAC) and AC induction motors and a full 150 % overload for 1 minute. AC15 provides an optimized solution for OEM machine builders looking for a compact, cost-effective drive without compromising on performance.

AC15 Series	Compact Drive			
Single Phase 230V AC	15G-11-0025-BF	15G-11-0045-BF	15G-11-0070-BF	15G-12-0100-BF
	0.37kW (2.5A)	0.75kW (4.5A)	1.5kW (7A)	2.2kW (10A)
Three Phase 230V AC	15G-31-0025-BF	15G-31-0045-BF	15G-31-0070-BF	15G-32-0100-BF
	0.37kW (2.5A)	0.75kW (4.5A)	1.5kW (7A)	2.2kW (10A)
	15G-33-0170-BF	15G-34-0210-BF	15G-35-0300-BF	15G-35-0400-BF
	4.0kW (17A)	5.5kW (21A)	7.5kW (30A)	11kW (40A)
Three Phase 380-480V AC	15G-41-0012-BF	15G-41-0020-BF	15G-41-0040-BF	15G-42-0065-BF
	0.37kW (1.5A)	0.75kW (2A)	1.5kW (4A)	2.2kW (6.5A)
	15G-42-0090-BF	15G-43-0120-BF	15G-43-0170-BF	15G-44-0230-BF
	4.0kW (9A)	5.5kW (12A)	7.5kW (17A)	11kW (23A)
	15G-44-0320-BF	15G-45-0380-BF	15G-45-0440-BF	15G-45-0600-BF
	15kW (32A)	18.5kW (38A)	22kW (44A)	30kW (60A)
	15G-45-0440-BF	15G-45-0600-BF		
	22kW (44A)	30kW (60A)		
EMC Filter	BF			
	Category C3 Filter Fitted			

AC20 - Compact Performance Drive

The AC20 Advanced Compact Drive builds on the performance of the AC15 and extends the power range to 180 kW. Its compact dimensions house many features normally only associated with system drives and may be enhanced with encoder feedback and IO expansion option cards. Safe Torque Off and onboard Ethernet that supports major industrial Ethernet protocols, including ProfiNet and ethernet IP, are standard.
Programming and commissioning is made simple through its easy-to-use integrated keypad and the DSELite programming tool

AC20 Series	Compact Performance Drive			
Single Phase 230V AC	20G-12-0070-BF	20G-12-0100-BF		
	1.5kW (7A)	2.2kW (10A)		
Three Phase 230V AC	20G-32-0070-BF	20G-32-0100-BF	20G-33-0170-BF	20G-34-0210-BF
	1.5kW (7A)	2.2kW (10A)	4.0kW (17A)	5.5kW (21A)
	20G-35-0300-BF	20G-35-0400-BF		
	7.5kW (30A)	11kW (40A)		
Three Phase 380-480V AC	20G-42-0040-BF	20G-42-0065-BF	20G-42-0090-BF	20G-43-0120-BF
	1.5kW (4A)	2.2kW (6.5A)	4.0kW (9A)	5.5kW (12A)
	20G-43-0170-BF	20G-44-0230-BF	20G-44-0320-BF	20G-45-0380-BF
	7.5kW (17A)	11kW (23A)	15kW (32A)	18.5kW (38A)
	20G-45-0440-BF	20G-45-0600-BF	20G-46-0750-BF	20G-46-0900-BF
	22kW (44A)	30kW (60A)	37kW (75A)	45kW (90A)
	20G-47-1100-BF	20G-47-1500-BF	20G-48-1800-BF	20G-48-2200-BF
	55kW (110A)	75kW (150A)	90kW (180A)	110kW (220A)
	20G-48-2650-BF	20G-49-3200-BF	20G-410-3600-BF	
	132kW (265A)	160kW (320A)	180kW (360A)	
EMC Filter	BF			
	Category C3 Filter Fitted			

AC20 Series	Compact Performance Drive			
Options				
IO and Feedack	7004-01-00	7004-02-00	7004-04-00	7004-05-00
	General Purpose I/O	Thermistor Input	Pulse Encoder	Resolver
	4x Digital Input/Output	1x Thermistor Input	250kHz HTTL	12-16 Bit Resolution
	2x Analogue Input		5/12/15/24V Output	+/- 24V Peak Differential
	2x Relay Output		Quadrature/Clock Inputs	4-12V 2-20kHz Carrier
	1x Thermistor Input		1x Thermistor Input	1x Thermistor Input
Communications	7003-PB-00	7003-CB-00	7003-PN-00	7003-IP-00
	Profibus DP	CANopen	Profinet IO	Ethernet IP
	32 Devices/Segment	DS301 V4.02	100 Mbits/s full duplex	10/100 Mbs full/half duplex
	126 Max Devices	127 Max Devices	Unlimited Devices	Unlimited Devices
	Up to 152 bytes cyclic I/O	1Mbs Max - Auto Detected	256 bytes of cyclic I/O	256 bytes of cyclic I/O
		SDO, PDO, NMT, SYNC		CIP parameter Support
	7003-RS-00	7003-EC-00		
	RS485 Modbus RTU	EtherCAT		
	1200 to 115 200 bits/s	CANopen over EtherCAT		
	247 Max Devices	100 Mbits/s		
	256 bytes of cyclic I/O	65534 Max Devices		
		SDO, PDO, NMT, SYNC		

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AC30 - High Performance Modular Drive

The AC30 is a modular product allowing users to select power stack, control module, IO and communications modules to perfectly match the requirements of the application, making it a highly customisable yet cost effective solution. The four interchangeable control modules provide the basis for the series:
The versatile AC30V control module, the AC30P module with a host of advanced connectivity options, the AC30D module which adds dual encoder system capability and the AC30A module for use with EnDAT 2.1 compatible sin/cos encoders.

Four easy steps:
1) Select Power Module
2) Select Control Module
3) Select Comms & I/O Options
4) Choose Keypad

AC30 Series	Power Modules 380 - 480V AC			
1 Power Module	710-4D0004-Bx-0S-0000	710-4D0006-Bx-0S-0000	710-4D0010-Bx-0S-0000	710-4D0012-Bx-0S-0000
	4A (1.1kW/0.75kW)	6A (2.2kW/1.5kW)	10A (4kW/3kW)	12A (5.5kW/4kW)
	710-4E0016-Bx-0S-0000	710-4E0023-Bx-0S-0000		
	7.5kW/5.5kW (16A)	11kW/7.5kW (23A)		
	710-4F0032-Bx-0S-0000	710-4F0038-Bx-0S-0000		
	32A (15kW/11kW)	38A (18.5kW/15kW)		
	710-4G0045-Bx-0S-0000	710-4G0060-Bx-0S-0000	710-4G0073-Bx-0S-0000	
	45A (22kW/18.5kW)	60A (30kW/22kW)	73A (37kW/30W)	
	710-4H0087-Bx-0S-0000	710-4H0105-Bx-0S-0000	710-4H0145-Bx-0S-0000	
	87A (45kW/37kW)	105A (55kW/45kW)	145A (75kW/55kW)	
	710-4J0180-Bx-0S-0000	710-4J0205-Bx-0S-0000	710-4J0260-Bx-0S-0000	
	180A (90kW/75kW)	205A (110kW/90kW)	260A (132kW/110kW)	
	710-4K0315-BE-0S-0000	710-4K0380-BE-0S-0000	710-4K0440-BE-0S-0000	
	315A (160kW/132kW)	380A (200kW/160kW)	440A (250kW/200kW)	
	710-4L0530-NE-0S-0000	710-4L0590-NE-0S-0000		
	530A (280kW/250kW)	205A (315kW/280kW)		
	710-4M0650-NE-0S-0000	710-4M0700-NE-0S-0000	710-4N0790-NE-0S-0000	
	650A (355kW/315kW)	700A (400kW/355kW)	790A (450kW/400kW)	
Options				
EMC Filter	x= N	x= E	x= F	
	No EMC Filter Fitted	Category C3 Filter Fitted	Category C2 Filter Fitted	
	Note - C2 Filter not availble on Frame J, K, L, M or N (>75kW)			
	Note - Removable C3 Filter fitted on all Frame K,L,M and N (>160kW)			
	Note - Brake switch (BE option) not available on Frames L,M and N (>250kW)			

AC30 Series	Control Modules			
2 Control Module	30V-2S-0000	30P-2S-0000	30D-2S-0000	30A-2S-0000
	Versatile Graphical Keypad Fitted Codesys Programmable Application Macros Modbus TCP/IP Onboard	Performance Graphical Keypad Fitted As 30V Versatile: +Ethernet IP Onboard +Profinet Onboard +1588 peer-peer +Speed/Phase Locking +System Applications	Dual Encoder Graphical Keypad Fitted As 30P Performance: +2x Encoder Fbk Onboard	Sin/Cos Absolute Graphical Keypad Fitted As 30P Performance: +EnDat Fbk Onboard
Options				
3 IO and Feedack	7004-01-00	7004-02-00	7004-04-00	7004-05-00
	General Purpose I/O 4x Digital Input/Output 2x Analogue Input 2x Relay Output 1x Thermistor Input	Thermistor Input 1x Thermistor Input	Pulse Encoder 250kHz HTTL 5/12/15/24V Output Quadrature/Clock Inputs 1x Thermistor Input	Resolver 12-16 Bit Resolution +/- 24V Peak Differential 4-12V 2-20kHz Carrier 1x Thermistor Input
Communications	7003-PB-00	7003-CB-00	7003-PN-00	7003-IP-00
	Profibus DP 32 Devices/Segment 126 Max Devices Up to 152 bytes cyclic I/O	CANopen DS301 V4.02 127 Max Devices 1Mbs Max - Auto Detected SDO, PDO, NMT, SYNC	Profinet IO 100 Mbits/s full duplex Unlimited Devices 256 bytes of cyclic I/O	Ethernet IP 10/100 Mbs full/half duplex Unlimited Devices 256 bytes of cyclic I/O CIP parameter Support
	7003-RS-00	7003-EC-00		
	RS485 Modbus RTU 1200 to 115 200 bits/s 247 Max Devices 256 bytes of cyclic I/O	EtherCAT CANopen over EtherCAT 100 Mbits/s 65534 Max Devices SDO, PDO, NMT, SYNC		
4 AC30 Keypad	7001-00-00	7001-01-00	LA501991U300-1	
	Graphical Keypad	Blanking Plate	3M Remote Mount Kit	

AC30 Series	Complete Drive (31V) 380-480 V AC			
AC Inverter Drive	**31V-4D0004-Bx-2S-0000**	**31V-4D0006-Bx-2S-0000**	**31V-4D0010-Bx-2S-0000**	**31V-4D0012-Bx-2S-0000**
	1.1kW/0.75kW (4A)	2.2kW/1.5kW (6A)	4kW/3kW (10A)	5.5kW/4kW (12A)
	31V-4E0016-Bx-2S-0000	**31V-4E0023-Bx-2S-0000**		
	7.5kW/5.5kW (16A)	11kW/7.5kW (23A)		
	31V-4F0032-Bx-2S-0000	**31V-4F0038-Bx-2S-0000**		
	15kW/11kW (32A)	18.5kW/15kW (38A)		
	31V-4G0045-Bx-2S-0000	**31V-4G0060-Bx-2S-0000**	**31V-4G0073-Bx-2S-0000**	
	22kW/18.5kW (45A)	30kW/22kW (60A)	37kW/30W (73A)	
	31V-4H0087-Bx-2S-0000	**31V-4H0105-Bx-2S-0000**	**31V-4H0145-Bx-2S-0000**	
	45kW/37kW (87A)	55kW/45kW (105A)	75kW/55kW (145A)	
	31V-4J0180-Bx-2S-0000	**31V-4J0205-Bx-2S-0000**	**31V-4J0260-Bx-2S-0000**	
	90kW/75kW (180A)	110kW/90kW (205A)	132kW/110kW (260A)	
Options				
EMC Filter	**x= N**	**x= E**	**x= F**	
	No EMC Filter Fitted	Category C3 Filter Fitted	Category C2 Filter Fitted	
	Note - C2 Filter not available on Frame J (>75kW) AC30			
IO and Feedack	**7004-01-00**	**7004-02-00**	**7004-04-00**	**7004-05-00**
	General Purpose I/O	Thermistor Input	Pulse Encoder	Resolver
	4x Digital Input/Output	1x Thermistor Input	250kHz HTTL	12-16 Bit Resolution
	2x Analogue Input		5/12/15/24V Output	+/- 24V Peak Differential
	2x Relay Output		Quadrature/Clock Inputs	4-12V 2-20kHz Carrier
	1x Thermistor Input		1x Thermistor Input	1x Thermistor Input
Communications	**7003-PB-00**	**7003-CB-00**	**7003-PN-00**	**7003-IP-00**
	Profibus DP	CANopen	Profinet IO	Ethernet IP
	32 Devices/Segment	DS301 V4.02	100 Mbits/s full duplex	10/100 Mbs full/half duplex
	126 Max Devices	127 Max Devices	Unlimited Devices	Unlimited Devices
	Up to 152 bytes cyclic I/O	1Mbs Max - Auto Detected	256 bytes of cyclic I/O	256 bytes of cyclic I/O
		SDO, PDO, NMT, SYNC		CIP parameter Support
	7003-RS-00	**7003-EC-00**		
	RS485 Modbus RTU	EtherCAT		
	1200 to 115 200 bits/s	CANopen over EtherCAT		
	247 Max Devices	100 Mbits/s		
	256 bytes of cyclic I/O	65534 Max Devices		
		SDO, PDO, NMT, SYNC		

Complementary Products

AC Variable Frequency Drives - AC16 Series

- 0.4 kW to 90 kW
- IP66 / NEMA 4x
- Compact, cost-effective drive
- Simple or enhanced performance
- AC induction and sensorless Permanent Magnet (PMAC) Motor Control

DC Motor Speed Controller - DC590+ Series

- Output armature current ratings: 15 - 1950A
- Simple set-up and programming
- Compact
- Removable Key Pad
- Motor Thermistor Input
- Macro Function Blocks

PSD - Parker Servo Drive

PSD1 is the global Parker Servo Drive family, available with different current ratings from 2 to 30A and two form factors. Today the offering contains

• PSD1-S: A standalone drive which can be connected directly to the mains supply. With its compact housing, it is particularly suitable for small machines.

• PSD1-M: A multi-axis servo system which can operate up to three servo motors. The base configuration consists of a PSD1M power supply module and multiple PSD1M axis modules, connected through DC bus bars. The axis modules are available as single, twin or triple axis versions, making the system highly flexible.

PSD Series	PSD1S - Standalone Servo Drive - 1x/3x 230V AC ±10% input voltage			
PSD1SW…				
Power Level	**1200…**	**1300…**	**1400…**	
	2A (0.64kW) continuous output	**5A** (1.6kW) continuous output	**7.5A** (2.5kW) continuous output	
Technology	**Basic**	**Programmable**		
	To be used as slave on various field busses communicating via state machines	- Fully programmable via IEC 61131-3 - Full set of programming languages and a complete set of unction blocks incl. DS402 and Profidrive state machine - PLCopen function modules		
Interface	**EtherCAT**	**Multi-Fieldbus**	**CANopen**	
		- Profinet - Ethernet IP - EtherCAT		
Feedback	**DSL Hiperface**	**Multi-Feedback**		
		- Resolver - TTL Encoder - 1 Vpp Encoder - Analog Hall - DSL Hiperface		
Options	**FSoE**	**1x I/O option**	**2x I/O option**	**No option**
	- Safety over EtherCAT - Extended safety functions (SLS, SOS, SS1, SS2,…)	- 8x Digital I/Os (additional) - 4x Analog Inputs - 1x Encoder Interface	- 16x Digital I/Os (additional) - 8x Analog Inputs - 2x Encoder Interfaces	

PSD Series	PSD1M - Multi-axis Servo System - 3x 230-480V AC ±10% input voltage			
PSD1MW…				
Power Supply Modules	**…P01000000000**	**…P02000000000**		
	10kVA Rating / 325-680VDC output	**20kVA** Rating / 325-680VDC output		
Single Axis Module	**…1300…**	**…1400…**	**…1600…**	**…1800…**
325-680VDC input	5A continuous output (3kW)	8A continuous output (4.8kW)	15A continuous output (9kW)	30A continuous output (18kW)
Twin Axis Module	**…2220…**	**…2330…**	…2440…	…2440…
325-680VDC input	2A+2A continuous output (1.2kW+1.2kW)	5A+5A continuous output (3kW+3kW)	8A+8A continuous output (4.8kW+4.8kW)	8A+8A continuous output (4.8kW+4.8kW)
Triple Axis Module	**…3222…**	**…3433…**		
325-680VDC input	2A+2A+2A continuous output (1.2kW+1.2kW+1.2kW)	8A+5A+5A continuous output (4.8kW+3kW+3kW)		
Technology	**Basic**	**Programmable**		
	To be used as slave on various field busses communicating via state machines	- Fully programmable via IEC 61131-3 - Full set of programming languages and a complete set of unction blocks incl. DS402 and Profidrive state machine - PLCopen function modules		
Interface	**EtherCAT**	**Multi-Fieldbus**	**CANopen**	
		- Profinet - Ethernet IP - EtherCAT		
Feedback	**DSL Hiperface**	**Multi-Feedback**		
		- Resolver - TTL Encoder - 1 Vpp Encoder - Analog Hall - DSL Hiperface		
Options	**FSoE**	**1x I/O option**	**2x I/O option**	**No option**
	- Safety over EtherCAT - Extended safety functions (SLS, SOS, SS1, SS2,…)	- 8x Digital I/Os (additional) - 4x Analog Inputs - 1x Encoder Interface	- 16x Digital I/Os (additional) - 8x Analog Inputs - 2x Encoder Interfaces	

PAC - Parker Motion Controller

The EtherCAT-based Parker Motion Controller is a powerful and integrated solution for the global machine market. It helps OEMs create efficient and high-performance control systems. The controller combines machine logic, signal processing, and high-speed motion control into a standardized, performance-driven, fanless, and easily mountable DIN rail solution.

Equipped with a built-in real-time EtherCAT bus, a modular interface slot, standard Ethernet and USB ports, and an SD card slot, the controller supports fieldbus options like Profinet Slave, EtherCAT, or EtherNet/IP, making it easy to integrate for various applications.

Programmed with CODESYS, efficient and powerful control systems can be designed based on IEC61131-3 and PLCopen motion standards. With the integrated OPC UA server, the controller is ideal for Industry 4.0 communication.

Motion Controller	PAC340-MWB11-3X-00-01	PAC340-CWB11-3X-00-01	
	Softmotion	Softmotion + CNC	
I/O Modules	**PACIO-400-00**	**PACIO-400-02**	
	EtherCAT Bus coupler, 3A	Extender 2 Port	
	PACIO-441-51	**PACIO-441-52**	**PACIO-442-52**
	4x Analog Input	4(8)x Analog Input	4x Analog Output
	Current	Voltage	Current / Voltage
	12 Bit CoE	13 Bit CoE	16 Bit CoE
	PACIO-443-57	**PACIO-443-58**	
	4x Analog Input	8x Analog Input	
	Termperature Pt/Ni/Thermo	Termperature Pt/Ni/Thermo	
	16 Bit CoE	16 Bit CoE	
	PACIO-450-02	**PACIO-450-03**	**PACIO-450-05**
	16x Digital Input	16x Digital Input	8x Digital Input
	8x Digital Output	16x Digital Output	8x Digital Output
	1ms delay / 1 A	1ms delay / 0.5 A	1ms delay / 0.5 A
	PACIO-451-02	**PACIO-451-03**	**PACIO-452-01**	**PACIO-452-02**
	32x Digital Input	16x Digital Input	16x Digital Output	8x Digital Output
	1ms delay	1ms delay	0.5 A	1 A
	PACIO-454-01			
	Counter/Encoder			
	PACIO-412-01	**PACIO-412-02**		
	Shield 2x 8mm	Shield 14mm		

Safety Modules

Safety PLC is a module intended to be integrated in EtherCAT networks with Parker motion controllers. Acting as the Functional Safety over EtherCAT master, it is able to address any FSoE slave including safety I/Os, motion controllers and other FSoE devices. The safety PLC meets the requirements of IEC 61508 SIL3 and DIN EN ISO 13849 PLe. Programming is carried out via the CODESYS environment of the main controller and the EtherCAT link.

FSoE Modules	694.330.00	694.430.00	694.430.10	694.430.20
	Safety PLC	4x Safe Digital Input	8x Safe Digital Input	16x Safe Digital Input
	FSoE Master	2x Safe Digital Output (2A)	2x Safe Digital Output (0.5A)	4x Safe Digital Output (0.5A)

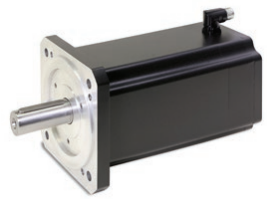
Touch Panels

The PAC controller series is complemented by capacitive touchscreens available in three different sizes.
The PACTLs feature an Ethernet interface and support Web Visu (web client, HTML5) and Target Visu (VNC client).

Touchpanels	PACTL-C070	PACTL-C101	PACTL-C156
	Capacitive 7"	Capacitive 10.1"	Capacitive 15.6"

SMH - Low Inertia Brushless Servo Motors

Thanks to the innovative "salient pole" technology, the SMH motor's dimensions are considerably reduced with significant advantages in terms of torque and dynamic performance. Compared to traditional-technology brushless servo motors, the specific torque is approximately 30 % higher, overall dimensions are considerably reduced and, consequently rotor inertias are extremely low. Thanks to the high quality magnets, and also the encapsulation method used to fasten them to the shaft, the SMH/B motors can achieve very high acceleration and withstand high overloads without risk of demagnetisation or detachment of the magnets.



SMH Series	Servo motors						
Flange	40 mm	60 mm	82 mm	100 mm	115 mm	142 mm	170 mm
Motor Size	SMH4060…	SMH6016…	SMH8210…	SMH10016…	SMH11516…	SMH14210…	SMH17010…
	230VAC	230VAC	230VAC	230VAC	230VAC	400VAC	230/400VAC
	0.16/0.27 Nm	1.4 Nm	2.9 Nm	5.8 Nm	9 Nm	16.4 Nm	30/53 Nm
	6000 rpm	1600 rpm	1000 rpm	1600 rpm	1600 rpm	1000 rpm	1000/1100 rpm
		SMH6030…	SMH8216…	SMH10030…	SMH11520…	SMH14218…	SMH17016…
		230/400VAC	230VAC	230/400VAC	400VAC	230/400VAC	230VAC
		1.2 Nm	2.9 Nm	5 Nm	9 Nm	13 Nm	28 Nm
		3000 rpm	1600 rpm	3000 rpm	2000 rpm	1800/2000 rpm	2200/3900 rpm
		SMH6045…	SMH8230…	SMH10045…	SMH11530…	SMH14230…	SMH17020…
		230/400VAC	230/400VAC	230/400VAC	230/400VAC	230/400VAC	400VAC
		1 Nm	2.7 Nm	3.5 Nm	8 Nm	14 Nm	27/44 Nm
		4500 rpm	3000 rpm	4500 rpm	3000 rpm	3000 rpm	2200/3900 rpm
		SMH6060…	SMH8233…	SMH10055…	SMH11540…	SMH14245…	SMH17025…
		230/400VAC	230VAC	230/400VAC	230/400VAC	400VAC	230/400VAC
		0.8 Nm	2.4 Nm	2.6 Nm	7.6 Nm	10.9 Nm	26 Nm
		6000 rpm	3300 rpm	5500 rpm	4000 rpm	4500 rpm	2500/2700 rpm
		SMH6075…	SMH8245…	SMH10075…	SMH11554…	SMH14256…	SMH17030…
		230/400VAC	230/400VAC	230/400VAC	230/400VAC	400VAC	400VAC
		0.15 Nm	2.2 Nm	0.6 Nm	7.1 Nm	10.6 Nm	19/30 Nm
		7500 rpm	4500 rpm	7500 rpm	5400/5600 rpm	5600 rpm	3000 rpm
			SMH8256…				
			400VAC				
			1.6 Nm				
			5600 rpm				
			SMH8260…				
			230/400VAC				
			1.5 Nm				
			6000 rpm				
			SMH8275…				
			230/400VAC				
			0.6 Nm				
			7500rpm				
Brake	0.4Nm	2.2Nm	4.5Nm	9Nm	22Nm	72Nm	

Sensor	Resolver	Hall sensors	Hiperface encoder	DSL hiperface encoder	Endat encoder
	2 pole pairs	2000 to 5000 ppr	Single/multi turn	Single/multi turn	Multi turn
			12 bits / 12bits rev.	18 bits / 12 bits rev.	13 - 18 bits
Shaft End	Additional inertia				
	From 12Kgmm² to 1600 Kgmm²				
Conformance	CE	UL			

MH - Brushless Servo Motors

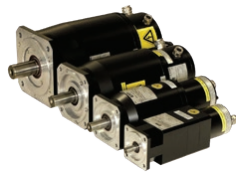
Adequate mechanical over-sizing, low inertia in an extra-strong mechanism, and a broad range of models permits the application of the MH/B servo motors in all fields where high dynamic performance and utmost reliability are crucial features. Typical applications include any type of automated machinery, especially in the product packaging and handling industry, and wherever the demand exists for axis speed and position synchronisation.

MH Series	Servo motors		
Flange	145 mm	205 mm	265 mm
Motor Size	MH14505…	MH20505…	MH26510…
	230VAC	230VAC	400VAC
	4.5 to 28 Nm	28 to 90 Nm	75 to 285 Nm
	550 rpm	550 rpm	1000 rpm
	MH11510…	MH20510…	MH26518…
	230-400VAC	230-400VAC	400VAC
	4.5 to 28 Nm	15 to 90 Nm	75 to 285 Nm
	1000/1100 rpm	1000/1150 rpm	1800/2000 rpm
	MH11516…	MH20517…	MH26528…
	230VAC	230-400VAC	400VAC
	4.5 to 28 Nm	14 Nm	75 to 150 Nm
	1600 rpm	1700/2000 rpm	2800 rpm
	MH11520…	MH20520…	
	400VAC	400VAC	
	4.5 to 28 Nm	15 to 90 Nm	
	2000 rpm	2000 rpm	
	MH11525…	MH20530…	
	230VAC	400VAC	
	4.5 to 28 Nm	15 to 90 Nm	
	2500 rpm	3000 rpm	
	MH11530…		
	400VAC		
	4.5 to 28 Nm		
	3000 rpm		
	MH11540…		
	230VAC		
	4.5 to 28 Nm		
	4000 rpm		
	MH11545…		
	400VAC		
	4.5 to 28 Nm		
	4500 rpm		
Brake	4 to 28Nm	120Nm	225Nm

Sensor	Resolver	Hall sensors	Hiperface encoder	Endat encoder
	2 pole pairs	2000 to 5000 ppr	Single/multi turn	Multi turn
			12 bits / 12bits rev.	13 - 18 bits
Shaft End	Additional inertia			
	From 790Kgmm² to 4400 Kgmm²			
Conformance	CE			
Fan Version	Contact Parker for forced ventilation information			

EX - Servo Motors for Explosive Atmosphere Zone 1

EX series is a range of permanent magnet servo motors designed for use in zone 1 explosive atmospheres. Featuring robust explosion-proof housings, EX motors are capable of bearing internal explosions with no risk of propagation to the neighbouring environment. EX servomotors are characterized by excellent motion quality, great acceleration /deceleration capabilities, and high torque output over a wide speed range. Various winding variants and numerous options are available to offer maximum flexibility



EX Series	Servomotors for Explosive atmosphere Zone 1			
	Flange 70 mm	Flange 92 mm	Flange 120 mm	Flange 155 mm
Motor Size	EX310…	EX420…	EX620…	EX820…
	230/400VAC	230/400VAC	230/400VAC	230/400VAC
	1.5/1.23 Nm	3.2/3.3 Nm	6.6/6 Nm	11.2/7.5 Nm
	4000/6800 rpm	4000/6000 rpm	2200/3900 rpm	2200/3600 rpm
		EX430…	EX630…	EX840…
		230/400VAC	230/400VAC	230/400VAC
		4.2/3.3 Nm	9.4/7.8 Nm	15.8/2.9 Nm
		4000 rpm	2300/4000 rpm	2200/3300 rpm
				EX860…
				230/400VAC
				25.4/9 Nm
				1450/2500 rpm
Brake	2 Nm	5.5 Nm	12 Nm	36 Nm
Sensor	Hiperface SKS36/SKM36	Hiperface DSL EKS36/EKM36	Resolver	No feedback
	Single multi/turn	Single multi/turn	2 pole pairs	
	12 bits / 12bits revolution	18 bits / 12 bits revolution		
Shaft End	Key shaft	Smooth shaft		
Conformance	ATEX/IECEx	KOSHA	CCC	

EY - Servo Motors for Explosive Atmosphere Zone 2

The EY series is a range of permanent magnet explosion-proof brushless servo motors designed for use in explosive atmospheres in zone 2 for gas and dust at 40°C or 60°C ambient temperature. The EY series of servo motors are characterized by excellent motion quality, dynamic acceleration/deceleration capabilities and high torque output over a wide speed range. Various winding variants and numerous options are available to offer maximum flexibility. This range is in accordance with European (CE) and International safety standards.

EY Series	Servomotors for Explosive atmosphere Zone 2			
	Flange 70 mm	Flange 92 mm	Flange 120 mm	Flange 155 mm
Motor Size	EY310…	EY420…	EY620…	EY820…
	230/400VAC	230/400VAC	230/400VAC	230/400VAC
	1.89/1.71 Nm	3.78/3.38 Nm	7.85/7.52 Nm	14.5/12.9 Nm
	4000/6000 rpm	4000/5000 rpm	2200/3900 rpm	2200/3900 rpm
		EY430…	EY630…	EY840…
		230/400VAC	230/400VAC	230/400VAC
		5/4.1 Nm	11.3/10 Nm	23.5/18.6 Nm
		4000-5000 rpm	2300-4000 rpm	2000/3500 rpm
				EY860…
				230/400VAC
				34.4/23 Nm
				1450/2600 rpm
Brake	2 Nm	5.5 Nm	12 Nm	36 Nm
Sensor	No feedback	Resolver		
		2 pole pairs		
		12- 16 Bit Resolution		
Shaft End	Key shaft	Smooth shaft		
Conformance	ATEX	CCC		

PE - Standard Inline Planetary Gearheads

The standard PE-series inline planetary gearhead is the ideal cost-effective gearbox for all applications requiring standard backlash. They are available in 5 different frame sizes and offer high torque, low backlash, high input speeds, and a compact footprint with an excellent price/performance ratio.

PE Series	Economical Planetary Gearheads											
PE Size	PE2		PE3			PE4		PE5		PE7		
Ratio	1 step	2 step	1 step	2 step		1 step	2 step	1 step	2 step	1 step	2 step	
	3:1 / 4:1 / 5:1 / 7:1 / 8:1 / 10:1	9:1 / 12:1 / 15:1 / 16:1 / 20:1 / 25:1 / 32:1 / 40:1 / 64:1	3:1 / 4:1 / 5:1 / 7:1 / 8:1 / 10:1	9:1 / 12:1 / 15:1 / 16:1 / 20:1 / 25:1 / 32:1 / 40:1 / 64:1		3:1 / 4:1 / 5:1 / 7:1 / 8:1 / 10:1	9:1 / 12:1 / 15:1 / 16:1 / 20:1 / 25:1 / 32:1 / 40:1 / 64:1	3:1 / 4:1 / 5:1 / 7:1 / 8:1 / 10:1	9:1 / 12:1 / 15:1 / 16:1 / 20:1 / 25:1 / 32:1 / 40:1 / 64:1	4:1 / 5:1 / 10:1	16:1 / 20:1 / 25:1 / 40:1 / 50:1	
Nominal Torque	up to 15 Nm	up to 20 Nm	up to 40 Nm	up to 44 Nm		up to 115 Nm	up to 130 Nm	up to 195 Nm	up to 260 Nm	up to 460 Nm	up to 460 Nm	
	ratio dependent		ratio dependent			ratio dependent		ratio dependent		ratio dependent		
Max. Acceleration Torque	up to 24 Nm	up to 32 Nm	up to 64 Nm	up to 70 Nm		up to 184 Nm	up to 208 Nm	up to 312 Nm	up to 416 Nm	up to 736 Nm	up to 736 Nm	
	ratio dependent		ratio dependent			ratio dependent		ratio dependent		ratio dependent		
Nominal Speed	up to 5000 rpm		up to 4500 rpm			up to 4000 rpm		up to 3500 rpm		up to 3000 rpm		
Environmental Conditions	IP54					IP54						
Output Flange Dimensions	ø10mm/ø26mm/ø34mm/4x M4x6		ø14mm/ø40mm/ø52mm/4x M5x8			ø20mm/ø80mm/ø100mm/4x ø6.5mm		ø25mm/ø110mm/ø130mm/4x ø8.5mm		ø40mm/ø120mm/ø140mm/4x M10x20		
	Shaft Dia./Centering Dia./Bolt Circle Dia.		Shaft Dia./Centering Dia./Bolt Circle Dia.			Shaft Dia./Centering Dia./Bolt Circle Dia.		Shaft Dia./Centering Dia./Bolt Circle Dia.		Shaft Dia./Centering Dia./Bolt Circle Dia.		
Shaft	with / without keyway					with / without keyway						
Adaptable Standard Servo Motor	SMH40		SMH60			SMH60 / SMH82 / SMH100		SMH82 / SMH100 / SMH115		SMH170 / MH205		

NK - Frameless Servo Motors

K Series Servo motors are an innovative direct drive solution designed for industrial applications. NK Series brushless servomotors combine exceptionally precise, quality motion and high dynamic performance with a compact footprint, allowing complete integration into a mechanical system.
NK motors are suited to applications where constant speed is needed due to their low cogging characteristic. Support with customisation and integration is possible on request.

NK Series	Kit Servo Motors			
Diameter	62 mm	80 mm	111 mm	143 mm
Motor Size	NK310...	NK420...	NK620...	NK820...
	230/400VAC	230/400VAC	230/400VAC	230/400VAC
	1.8/1.65 Nm	3.53/3. 14 Nm	7.42/7.52 Nm	13.2/14.7 Nm
	6000 rpm	4000 rpm	4000-5700 rpm	3600/3900 rpm
		NK430...	NK630...	NK840...
		230/400VAC	230/400VAC	230/400VAC
		4.68/4.77Nm	10.7/10.8 Nm	22.9/23.2 Nm
		4000	4000 rpm	2200/3500 rpm
				NK860...
				230/400VAC
				32.8/27.5 Nm
				2600 rpm
Sensor	Hiperface SKS36/SKM36	Hiperface DSL EKS36/EKM36	Resolver	
	Single multi/turn	Single multi/turn	2 pole pairs	
	12 bits / 12bits revolution	18 bits / 12 bits revolution		
Thermal Sensor	PTC	KTY		
Cooling	Natural air cooling	Water/Oil cooling		
		Please consult Parker		
Conformance	CE			

Complementary Products

Low-Cogging Servo Motors - NX Series

- High precision and motion quality
- High dynamic performance
- Low cogging torque / Smooth operation
- Compact dimensions and robustness
- Large set of options and customization possibilities
- CE and UL marking certification available

Direct-Drive Torque Motors - TM Series

- Permanent magnet synchronous motor
- High torque at low speed up to 22 000 Nm
- High torque density
- Silent operation
- Customized mechanical Interface
- Integrated thrust bearing (option)

Frameless Spindle Motors - SKW Series

- Kit solution leading to simplified mechanical designs
- Cold permanent magnet technology
- Increased internal diameter compared to other solutions
- Simple, light and compact machine design

Frameless Direct-Drive Torque Motors TK Series

- Permanent magnet synchronous servo motor kit
- Simplified mechanical designs
- High Resistance (oil proof and coating on request)
- Reduced sizes and weights
- Increased reliability and reduced maintenance
- Increased rigidity and accuracy

Frameless Spindle Motors - HKW Series

- Kit solution leading to simplified mechanical design
- Very high speed capabilities - up to 50 000 min-1
- Constant power operation up to 10 x base speed: no oversizing of the drive
- High dynamic performance and power density
- Cold permanent magnet technology

High Performance DC Servo Motor RS Series

- High performance characteristics
- Excellent low-speed functionality
- Highly compact
- Very long service life
- Rare earth magnets
- Tacho, encoder, resolver and brake in options

ETH - Electric Cylinders

The ETH high-thrust electric cylinders are ballscrew-driven, rod-style linear actuators engineered for reliable positioning across industrial applications. Their high power density provides strong thrust in a compact package, and robust construction ensures long service life and durability. A standard central lubrication port simplifies routine servicing, minimizing maintenance effort and machine downtime. Multiple rod-end configurations and mounting options give you the flexibility to integrate ETH cylinders into a wide variety of machine designs.

ETH Series	Electric Rod style Cylinder for High Load													
ETH Size	**ETH032…**			**ETH050…**				**ETH080…**		**ETH100…**		**ETH125…**	
	outside square size 46,5mm x 46,5mm			outside square size 63,5mm x 63,5mm				outside square size 95mm x 95mm		outside square size 120mm x 120mm		outside square size 150mm x 150mm	
Thread Lead [mm/rev.]	5	10	16	5	10	20		5	10	10	20	10	20
Max. Thrust Force Inline Motor Mounting	3600 N	3700 N	2400 N	9300 N	7000 N	4400 N		17 800 N	25 100 N	54 800 N	56 000 N	88 700 N	114 000 N
Max. Thrust Force Parallel Motor Mounting	3600 N	3280 N	2050 N	9300 N	4920 N	2460 N		17 800 N	11 620 N	54 800 N	50 800 N	76 300 N	81 400 N
Stroke	50mm - 1000mm in steps of 1 mm			50mm - 1200mm in steps of 1 mm				100mm - 1600mm in steps of 1 mm		200mm - 2000mm in steps of 1 mm		200mm - 2000mm in steps of 1 mm	
Velocity (depending on stroke) [mm/s]	146 - 333	277 - 667	440 - 1067	139 - 333	270 - 667	536 - 1333		140 - 267	267 - 533	76 - 400	148 - 800	94 - 417	170 - 833
Acceleration [m/s²]	4	8	12	4	8	15		4	8	8	10	8	10
Motor Mounting	Inline / Parallel							Inline / Parallel					
Adaptable Standard Motors / Gearboxes													
	SMH60, NX3, EX3			SMH60, NX3, EX3				SMH82, NX4, EX4		SMH115, MH105, NX6		MH205, SMH170	
	SMH82			SMH82				SMH100, MH105		SMH142, MH145		MH265	
	PE3			NX4, EX4				SMH115, NX6, EX6		MH205, SMH170		PE7	
				MH105				SMH142, MH145		PE5			
				SMH100				PE4					
				PE3									
Environmental Conditions	IP54 (Standard) / IP65							IP54 (Standard) / IP65					
Explosive Atmosphere	ATEX							ATEX		-		-	

HLR - Rodless Actuators

The HLR is a belt driven/ linear guided drive system offering a very high load capacity within a small form factor.
Its compact outer dimensions and a variety of stroke steps make it ideal for a wide range of automation appplications.
Combined with a wide choice of accessories it offers a very quick and easy way to build multi-axis solutions. The predefined drive trains simplify the sizing and selection process and reduce development time.

HLR Series	High Load Rodless Actuator			
	Belt driven, square rail guided linear actuator			
HLR Size	HLR070...		HLR080...	
	outside square size 69mm x 64mm		outside square size 82mm x 76,5mm	
Carrier	Standard	Extended	Standard	Extended
	372 mm length	412 mm length	372 mm length	412 mm length
Max. Load Fz	2628 N	3847 N	3847 N	
Stroke	100 - 2500 mm		50 - 3500 mm	
Max. Thrust Force Fx	500 N		900 N	
Velocity	5 m/s			
Acceleration	50 m/s²			
Adaptable Standard Gearbox	PE2		PE3	
	Mountable on 4 different positions		Mountable on 4 different positions	
Environmental Conditions	IP40			
	Equipped with a stainless steel cover strip			
Gantries	Prepared for assembling X-Y & X-Y-Z gantries			

OSP-E - Linear Actuators

The OSP-E rodless linear actuator family is built on a completely modular concept to cover a wide range of industrial handling applications. Engineered for reliability and high performance, the OSP-E's optimized design accommodates even the most challenging installation requirements.

Two electric belt actuator configurations for high speed, long travel and precise positioning.

- **OSP-E..BHD** : Belt actuator with integrated square rail guide — Heavy-duty configuration for demanding loads and continuous duty cycles, combining superior stiffness with long service life.

- **OSP-E..B**: Belt actuator with internal plain-bearing guide — Compact point-to-point solution optimized for space-constrained layouts while delivering smooth, repeatable motion.

OSP-E Series	Modular Electric Rodless Actuator Belt-Driven						
Drive Technology	OSP-E..BHD				OSP-E..B		
	Toothed Belt - Square Rail Guidance				Toothed Belt - Plain Gearing Guidance		
OSP-E Size	OSP-E20-BHD	OSP-E25-BHD	OSP-E32-BHD	OSP-E25-BHD	OSP-E25-B	OSP-E32-B	OSP-E50-B
	73 x 49 mm	93 x 52.5 mm	116 x 66.5 mm	175 x 92.5 mm	41 x 52.5 mm	52 x 66.5 mm	87 x 92.5 mm
Max. Load Fz	1600 N	3000 N	10 000 N	15 000 N	160 N	300 N	850 N
Max. Stroke	5630 mm	5590 mm	5550 mm	5450 mm	5675 mm	5635 mm	5660 mm
Max. Thrust Force Fx	550 N	1070 N	1870 N	3120 N	50 N	150 N	425 N
Velocity	3 m/s	5 m/s	5 m/s	5 m/s	2 m/s	3 m/s	5 m/s
Acceleration	50 m/s²				10 m/s²		
Carrier	Tandem / Bi-parting				Tandem / Bi-parting		
External Guides	-				Proline / Powerslide		
Adaptable Standard Motor / Gearbox	SMH-Series / PS-Series				SMH-Series / PS-Series		
Environmental Conditions	IP54				IP54		
	Equipped with a stainless steel cover strip				Equipped with a stainless steel cover strip		

OSP-E - Linear Actuators

The OSP-E rodless linear actuator family is built on a complete modular concept to serve a wide range of industrial handling applications. Engineered for absolute reliability, high performance and straightforward handling, the OSP's optimized design accommodates even the most challenging installation requirements.

Two electric screw actuator configurations for applications that require higher actuator power and accurate movement, delivering robust force transmission and repeatable positioning.

- **OSP-E..SB** : Ball screw actuator with internal plain-bearing guide — High-accuracy solution for continuous or precision positioning tasks.

- **OSP-E..ST**: Trapezoidal screw actuator with internal plain-bearing guide — Cost-effective option optimized for intermittent or low-duty applications.

OSP-E Series	Modular Electric Rodless Actuator Screw-Driven											
Drive Technology	OSP-E..SB									OSP-E..ST		
	Ball Screw - Plain Bearing Guidance									Trapezoidal Screw - Plain Bearing Guidance max. 10% duty cycle		
OSP-E Size	OSP-E25-SB	OSP-E32-SB		OSP-E50-SB						OSP-E25-ST	OSP-E32-ST	OSP-E50-ST
	41 x 52.5 mm	52 x 66.5 mm		87 x 92.5 mm						41 x 52.5 mm	52 x 66.5 mm	87 x 92.5 mm
Thread Lead	5 mm	5 mm	10 mm	5 mm	10 mm	25 mm				4 mm	4 mm	6 mm
Max. Load Fz	500 N	1200 N		3000 N						500 N	1000 N	1500 N
Max. Stroke	1100 mm	2000 mm		3200 mm						1100 mm	2000 mm	2500 mm
Max. Thrust Force Fx	250 N	600 N		1500 N						600 N	1300 N	2500 N
Velocity	0.25 m/s	0.25 m/s	0.5 m/s	0.25 m/s	0.5 m/s	1.25 m/s				0.1 m/s	0.1 m/s	0.15 m/s
Acceleration	2 m/s²	2 m/s²	4 m/s²	2 m/s²	4 m/s²	10 m/s²				-	-	-
External Guides	Slideline / Proline / Powerslide / Heavy-Duty-Guide									Slideline / Proline / Powerslide / Heavy-Duty-Guide		
Adaptable Standard Motor / Gearbox	SMH-Series / PS-Series									SMH-Series / PS-Series		
Environmental Conditions	IP54									IP54		
	Equipped with a stainless steel cover strip									Equipped with a stainless steel cover strip		
Specials	Clean Room									-		

The OSP-E family supports highly adaptable multi-axis arrangements. A broad portfolio of adapter plates, profile mountings and intermediate drive shafts gives design engineers complete flexibility, simplifies mechanical design and speeds up the installation process.

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