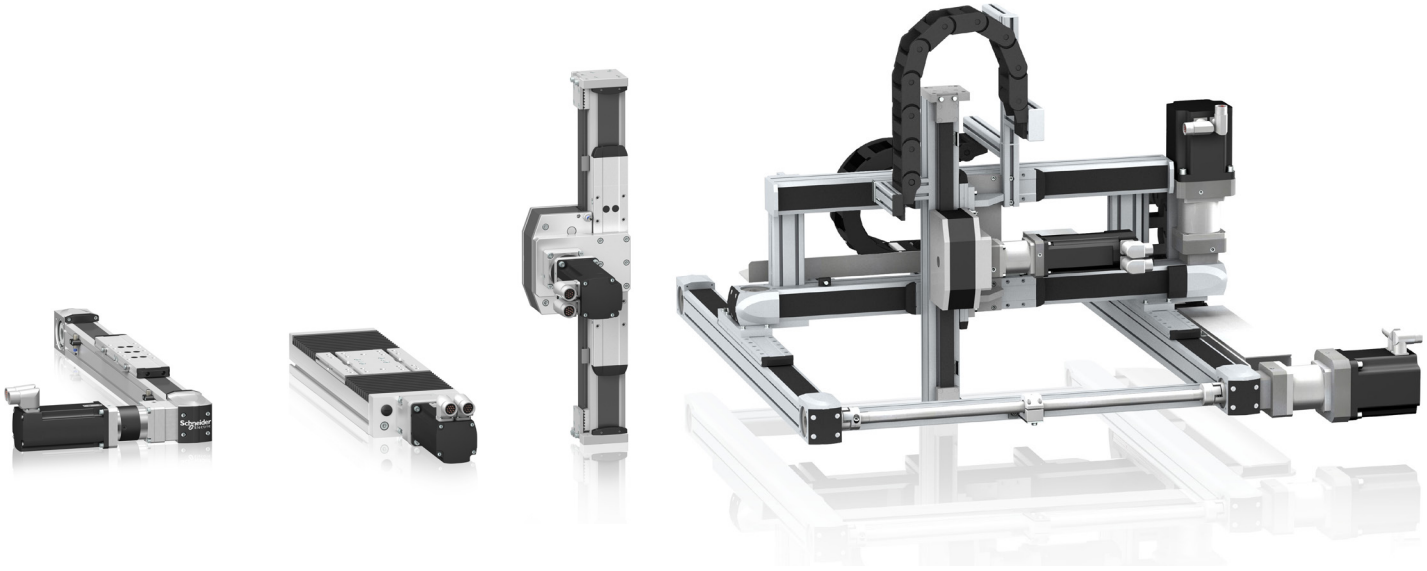
Catalog | November 2021



Lexium Cartesian Robots

Portal axes, Linear tables, Cantilever axes, Multi axes systems

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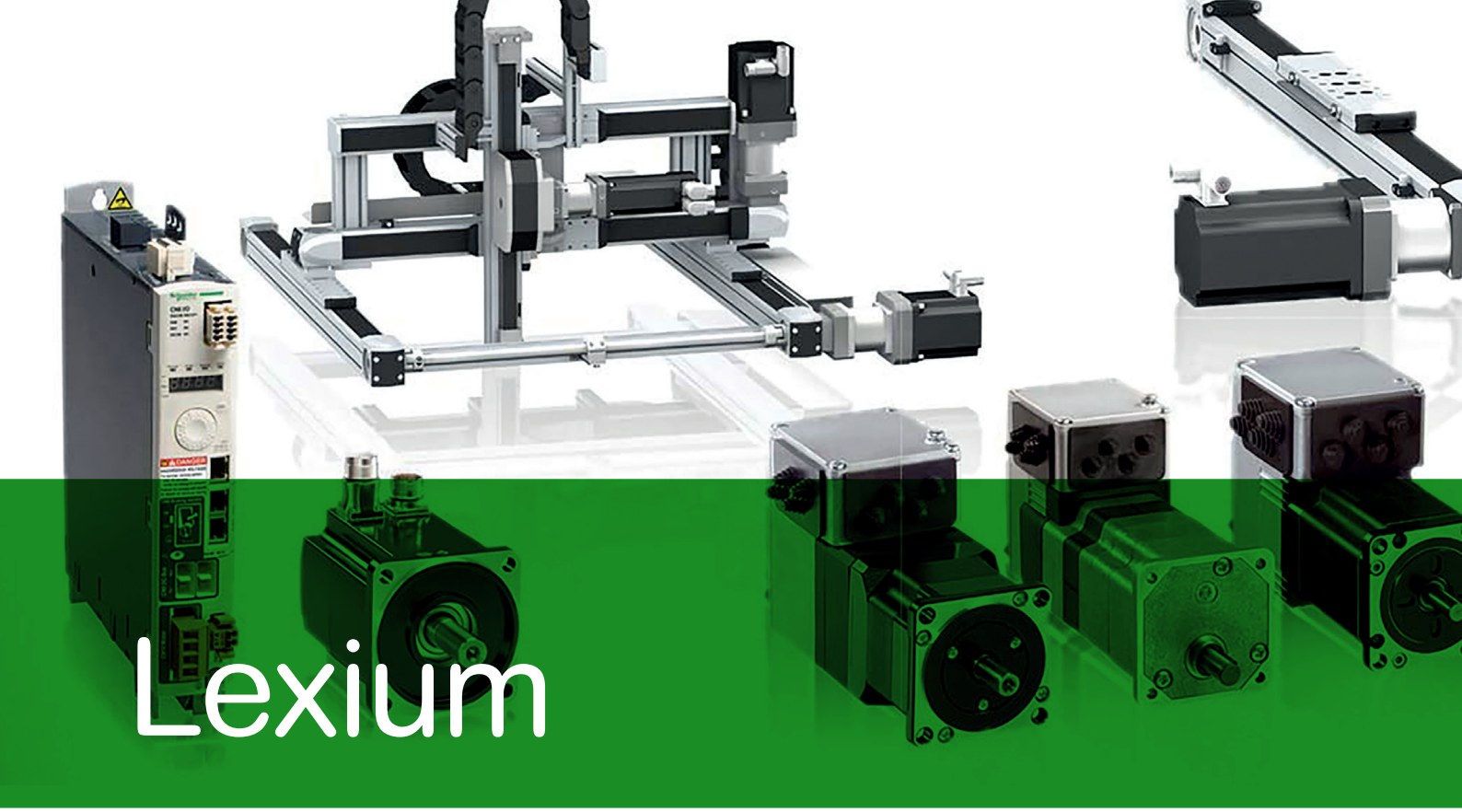

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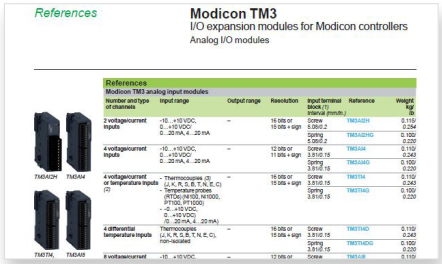

References

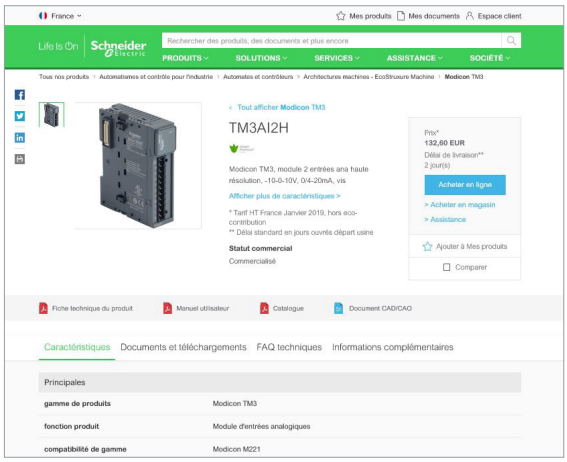
Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

References
Modicon TM3 analog input modules

Number and type of channels	Input range	Output range	Resolution	Input terminal block (1) interval (mm/in.)	Reference	Weight kg/lb
2 voltage/current inputs	-10...+10 VDC, 0...+10 VDC 0...20 mA, 4...20 mA	–	16 bits or 15 bits + sign	Screw 5.08/0.2	TM3AI2H	0.115/0.254
				Spring 5.08/0.2	TM3AI2HG	0.102/0.225
4 voltage/current inputs	-10...+10 VDC, 0...+10 VDC 0...20 mA, 4...20 mA	–	12 bits or 11 bits + sign	Screw 3.81/0.15	TM3AI4	0.115/0.243
				Spring 3.81/0.15	TM3AI4G	0.102/0.225
4 voltage/current or temperature inputs	- Thermocouples (3) (J, K, R, S, B, T, N, E, C) - Temperature probes (RTDs) (Ni100, Ni1000, PT100, PT1000) -0...+10 VDC, 0...20 mA, 0...20 mA (4...20 mA) (2)	–	16 bits or 15 bits + sign	Screw 3.81/0.15	TM3TI4	0.115/0.243
				Spring 3.81/0.15	TM3TI4G	0.102/0.225
4 differential temperature inputs	Thermocouples (J, K, R, S, B, T, N, E, C), non-isolated	–	16 bits or 15 bits + sign	Screw 3.81/0.15	TM3TI4D	0.115/0.243
				Spring 3.81/0.15	TM3TI4DG	0.102/0.225
8 voltage/current	-10...+10 VDC	–	12 bits or	Screw	TM3AI8	0.115/

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual



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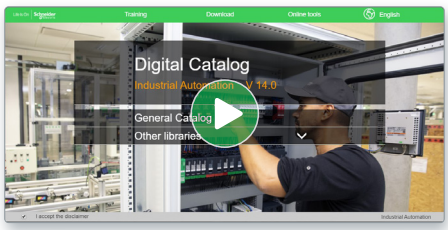

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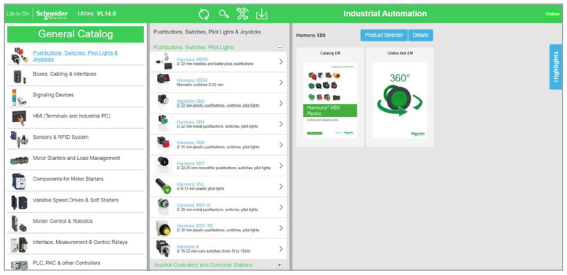

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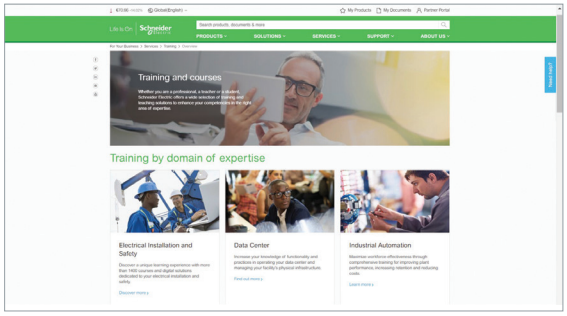

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General contents

Lexium Cartesian Robots

Lexium PAS, PAD, TAS, CAS, CAR

Portal axes, Linear tables, Cantilever axes

Axis type	**Portal axes**			**Linear tables**	**Cantilever axes**		**Telescopic axes**
Number of movement directions	1						
Typical direction of movement	Horizontal				Vertical		Horizontal
Fastening of the load	On carriage				On the side of the profile or on the 2 end plates	On the 2 end plates	On carriage
Moving part	Carriage				Profile and end plates	Rods and end plates	Profile and carriage
Type of mechanical drive element	Toothed belt		Ballscrew	Ballscrew	Toothed belt	Toothed belt or gear rack	Toothed belt
Type of guide	Recirculating ball bearing guide or roller guide	Double recirculating ball bearing guide	Recirculating ball bearing guide	Double recirculating ball bearing guide	Recirculating ball bearing guide or roller guide	Linear ball bearing guide	Double recirculating ball bearing guide
							
Main characteristics	■ High acceleration ■ High speed ■ Long stroke length ■ Certified for Cleanrooms with ISO class 6 (ISO14644-1)	■ High stiffness ■ High acceleration ■ High speed ■ Long stroke length ■ Different types available	■ High precision movement ■ High feed forces ■ High rigidity	■ High precision movement ■ High feed forces ■ High rigidity	■ Long stroke length ■ High feed forces ■ High acceleration	■ Compact design ■ Low moving mass	■ Long stroke length from a compact design
Dynamic	★★★★★	★★★★★	★★★	★★	★★★★	★★★★	★★★★
Precision	★★★	★★★	★★★★★	★★★★★	★★★	★★★	★★
Available sizes	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)*	**Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 1**: 100 x 39 mm cross section *(3.93 x 1.53 in)* **Size 2**: 150 x 54 mm cross section *(5.90 x 2.12 in)* **Size 3**: 200 x 59 mm cross section *(7.87 x 2.32 in)*	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 0**: 66 x 30 mm cross section *(2.59 x 1.18 in)* **Size 1**: 80 x 30 mm cross section *(3.14 x 1.18 in)* **Size 2**: 100 x 40 mm cross section *(3.93 x 1.57 in)* **Size 3**: 120 x 50 mm cross section *(4.72 x 1.96 in)* **Size 4**: 160 x 50 mm cross section *(6.29 x 1.96 in)*	**Size 4**: 120 x 95 mm cross section *(4.72 x 3.74 in)*
Maximum feed force	2600 N *(584.50 lbf)*	1200 N *(269.77 lbf)*	4520 N *(1016.13 lbf)*	2580 N *(580.00 lbf)*	2150 N *(483.33 lbf)*	705 N *(158.49 lbf)*	1500 N *(337.21 lbf)*
Maximum speed	8 m/s *(26.24 ft/s)*	5 m/s *(16.40 ft/s)*	1.25 m/s *(4.10 ft/s)*	1 m/s (3.28 *ft/s*)	3 m/s *(9.84 ft/s)*	3 m/s *(9.84 ft/s)*	3 m/s *(9.84 ft/s)*
Stroke	9...5500 mm *(0.35... 216.53 in)*	9...5500 mm *(0.35... 216.53 in)*	9 ... 3000 mm *(0.35... 118.11 in)*	7...1500 mm *(0.27...59.05 in)*	9...1800 mm *(50.35...70.86 in)*	8 ...500 mm *(0.32...19.68 in)*	13...2400 mm *(0.51...94.48 in)*
Repeatability	± 0.05 mm *(± 0.0020 in)*	± 0.05 mm *(± 0.0020 in)*	± 0.02 mm *(± 0.0001 in)*	± 0.02 mm *(± 0.0001 in)*	± 0.05 mm	± 0.05 mm	± 0.1 mm
Options	■ Different types of guides ■ Different sensors for the limit switch function ■ Different carriage lengths for adapting to the load ■ Option to add more than one carriage ■ Increased corrosion resistance ■ Antistatic toothed belt ■ Cover strip to protect the inner parts of the axis ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different sensors for the limit switch function ■ Different carriage lengths for adapting to the load ■ Option to add more than one carriage ■ Increased corrosion resistance ■ Antistatic toothed belt ■ Cover strip to protect the inner parts of the axis ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different pitches per size ■ Ballscrew support for longer strokes and higher speeds ■ Different sensors for the limit switch function ■ Different carriage lengths for adapting to the load ■ Option to add more than one carriage ■ Cover strip to protect the inner parts of the axis ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different pitches per size ■ Different sensors for the limit switch function ■ Bellow to protect the inner parts of the axis ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different types of guides ■ Different sensors for the limit switch function ■ Increased corrosion resistance ■ Antistatic toothed belt ■ Cover strip to protect the inner parts of the axis ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different sensors for the limit switch function ■ Increased corrosion resistance ■ Antistatic toothed belt ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm	■ Different carriage lengths for adapting to the load ■ Several different motor and gearbox mounting options ■ Stroke lengths per mm
Range	**Lexium** PAS, PAD Portal axes with movable carriage and fixed axis			**Lexium** TAS Linear tables with movable carriage and fixed axis profile	**Lexium** CAS, CAR Cantilever axes with moveable axis profile or end plates and fixed drive block		
Reference	**PAS4●B**	**PAD4**	**PAS4●S**	**TAS4**	**CAS4**	**CAR4**	**CAS2**
Page	6	10	16	22	26	30	34

Lexium PAS, PAD, TAS, CAS, CAR

Portal axes, Linear tables, Cantilever axes

Combinations of drive units and axes

Drive element		Portal axes					Linear tables			Cantilever and telescopic axes					Planetary gearboxes *(1)*			
	Type	PAS41B	PAS42B PAS42S PAD42B PAD42E	PAD42P	PAS43B PAS43S	PAS44B PAS44S	TAS41S	TAS42S	TAS43S	CAS41B CAR40R CAR41B	CAS42B CAR42B CAR43B CAR44B	CAS43B	CAS44B	CAS24B	PLE40 / WPLE40	PLE60 / WPLE60	PLE80 / WPLE80	PLE120 / WPLE120
Stepper motors	BRS368	■	■	■	□	□	■	□	□	■	■	□	□	□	■	■	□	□
	BRS397	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
	BRS39A	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
	BRS39B	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
	BRS3AC	□	■	□	■	■	□	□	■	□	■	■	■	■	□	□	■	■
	BRS3AD	□	■	□	■	■	□	□	■	□	■	■	■	■	□	□	■	■
Integrated stepper motors	ILS1●571	■	■	■	□	□	■	□	□	■	■	□	□	□	■	■	□	□
	ILS1●572	■	■	■	□	□	■	□	□	■	■	□	□	□	■	■	□	□
	ILS1●573	■	■	■	□	□	■	□	□	■	■	□	□	□	■	■	■	□
	ILS1●851	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
	ILS1●852	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
	ILS1●853	■	■	■	■	■	■	■	■	■	■	■	■	□	□	■	■	■
Integrated servo motors	ILA1●571	■	■	■	■	□	■	□	□	■	■	■	□	□	■	■	■	□
	ILA1●572	■	■	■	■	□	■	□	□	■	■	■	□	□	■	■	■	□
Integrated DC-motors with mounted gearbox	ILE1●661●●●●1	■	■	■	■	□	□	□	□	■	■	■	□	□	□	□	□	□
	ILE1●661●●●●2	■	■	■	■	□	□	□	□	■	■	■	□	□	□	□	□	□
	ILE1●661●●●●3	■	■	■	■	□	□	□	□	■	■	■	□	□	□	□	□	□
	ILE1●661●●●●4	■	■	■	■	□	□	□	□	■	■	■	□	□	□	□	□	□
Servo motors	BSH / SH3 0401	□	□	□	□	□	■	□	□	□	□	□	□	□	■	■	□	□
	BSH / SH3 0402	□	□	□	□	□	■	□	□	□	□	□	□	□	■	■	□	□
	BSH / SH3 0551	■	■	■	□	□	■	□	■	■	■	□	□	□	■	■	□	□
	BSH / SH3 0552	■	■	■	□	□	■	□	■	■	■	□	□	□	■	■	□	□
	BSH / SH3 0553	■	■	■	□	□	■	□	■	■	■	□	□	□	■	■	□	□
	BSH / BMH / --- / MH3 / SH3 / ILM 0701	■	■	■	■	□	■	■	■	■	■	■	□	□	□	■	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 0702	■	■	■	■	□	■	■	■	■	■	■	□	□	□	■	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 0703	■	■	■	■	□	■	■	■	■	■	■	□	□	□	■	■	■
	BSH / BMH / --- / MH3 / SH3 / ILM 1001	□	■	□	■	■	□	■	■	□	■	■	■	□	□	□	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1002	□	■	□	■	■	□	■	■	□	■	■	■	□	□	□	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1003	□	■	□	■	■	□	■	■	□	■	■	■	□	□	□	■	■
	BSH / --- / --- / --- / SH3 / --- 1004	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	□	■
	BSH / BMH / --- / MH3 / SH3 / ILM 1401	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	□	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1402	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	□	■
	BSH / BMH / --- / MH3 / SH3 / --- 1403	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	□	■
	BSH / --- / --- / --- / SH3 / --- 1404	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	□	■
Servo motors BCH2	BCH2MBA53	□	□	□	□	□	■	□	□	□	□	□	□	□	■	□	□	□
	BCH2MB013	□	□	□	□	□	■	□	□	□	□	□	□	□	■	□	□	□
	BCH2LD023	■	■	■	□	□	■	□	□	■	■	□	□	□	□	■	□	□
	BCH2LD043	■	■	■	□	□	■	■	□	■	■	□	□	□	□	■	□	□
	BCH2LF043	■	■	■	■	□	■	■	■	■	■	■	□	□	□	□	■	□
	BCH2HF073	□	■	■	■	■	□	■	■	□	■	■	■	□	□	□	■	□
	BCH2LF073	□	■	■	■	■	□	■	■	□	■	■	■	□	□	□	■	□
	BCH2LH103	□	□	□	■	■	□	■	■	□	□	■	■	□	□	□	■	■
	BCH2MM052	□	□	□	■	■	□	■	■	□	□	■	■	□	□	□	■	■
	BCH2MM031	□	□	□	■	■	□	■	■	□	□	■	■	□	□	□	■	■
	BCH2MM102	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	■	■
	BCH2HM102	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	■	■
	BCH2MM081	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	■	■
	BCH2MM061	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	■	■
	BCH2MM091	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	■	■
	BCH2MM152	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	■	■
	BCH2LH203	□	□	□	■	■	□	□	■	□	□	■	■	□	□	□	■	■
	BCH2MM202	□	□	□	■	■	□	□	□	□	□	■	■	□	□	□	■	■
	BCH2MR202	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
	BCH2HR202	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
	BCH2MR302	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
	BCH2MR301	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
	BCH2MR352	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
	BCH2MR451	□	□	□	□	■	□	□	□	□	□	□	■	□	□	□	□	□
Planetary gearboxes *(1)*	PLE40 / WPLE40	■	■	■	□	□	■	□	□	■	■	□	□	□	□	□	□	□
	PLE60 / WPLE60	■	■	■	■	■	■	■	■	■	■	■	■	□	□	□	□	□
	PLE80 / WPLE80	□	■	■	■	■	■	■	■	□	■	■	■	■	□	□	□	□
	PLE120 / WPLE120	□	□	□	■	■	□	■	■	□	□	■	■	■	□	□	□	□

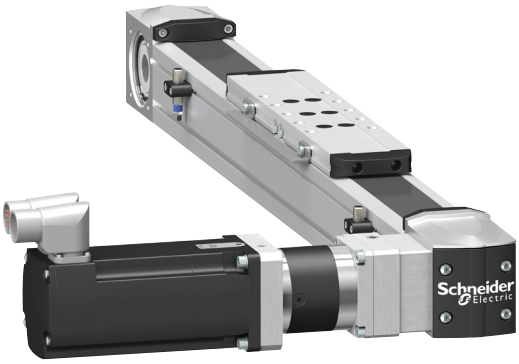
(1) Planetary gearboxes from company Neugart GmbH.

■ Possible to combine
□ Incompatible

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●B portal axes



Lexium PAS4●B portal axes with motor and gearbox mounted

Presentation *(1)*

Lexium PAS4●B are ready-to-install portal axes with toothed belt drive and one linear guide in four sizes. The axis profile is fixed in place and the load is mounted on the movable carriage. The portal axes are ideally suited for the transport of heavy loads with short and long strokes.

- The very high speeds and accelerations of the Lexium PAS4●B portal axes enable very short positioning times. The high feed forces with good repeatability are made possible by the steel tension members in the toothed belt. The fabric coating of the toothed belt ensures friction-optimized in and out toothing and thus quiet and smooth movement.
- Two types of guides are available for transmitting the load to the axis profile designed using FEM:
  - The recirculating ball bearing guide is particularly suitable for applications with high force and torque loads.
  - The roller guide is a cost-optimized guide and is suitable for applications with lower force and torque loads.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium PAS4●B portal axes are designed for a very long service life of 30,000 km *(18,641 miles)*. If the specified forces and torques are not reached, the service life of the Lexium PAS4●B portal axes increase.
- The T-slots at the bottom and on both sides of the axis profile can be used to fasten the Lexium PAS4●B portal axes. The portal axes are typically used horizontally, but can also be mounted vertically, laterally or overhead. The permissible forces and torques do not change.
- The Lexium PAS4●B portal axes are available with different carriage lengths and with up to three driven carriages. An optionally selectable cover strip is used to protect internal components such as toothed belt and linear guide. Furthermore, an antistatic toothed belt and various sensors can be selected as options.
- The Lexium PAS4●B portal axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- Positioning over long distances: material handling, palletizers, etc.
- Positioning of parts at high speeds: flying shear, optical and measuring applications, labeling, etc.
- High feed forces: hoisting, cutting, machining, etc.

Special product features

- Stroke deliverable per millimeter
- Carriage with threaded holes and centering for reproducible load mounting
- Exchangeable grease nipples, for example to mount an automatic lubrication system
- Motor and gearbox assembly via flexible coupling system on both sides of the end blocks
- Sensors movable in T-slot
- Customized special solutions on request

The PAS42BB with ball guiding is suitable for clean room applications with the following configurations:	
Fraunhofer TESTED DEVICE IPA	Standard clean room class PAS42BBM1000A1NA●●●R - Clean room class 6 (ISO14644-1) 1.8 m/s *(5.91 ft/s)* with 10 kg *(22.05 lb)* load - Clean room class 6 (ISO14644-1) at 0.5 m/s *(1.64 ft/s)* with 10 kg *(22.05 lb)* load
Fraunhofer TESTED DEVICE IPA	Increased clean room class PAS42BBM1000A1RA●●●R - Clean room class 5 (ISO14644-1) at 1.8 m/s *(5.91 ft/s)* with 10 kg *(22.05 lb)* load - Clean room class 4 (ISO14644-1) at 0.5 m/s *(1.64 ft/s)* with 10 kg *(22.05 lb)* load
Fraunhofer TESTED DEVICE IPA	Increased clean room class PAS42BBM1000A1RA●●●R with suction 11.7 m³/h *(60.03 cu ft/h)* - Clean room class 2 (ISO14644-1) at 1.8 m/s *(5.91 ft/s)* with 10 kg *(22.05 lb)* load - Clean room class 1 (ISO14644-1) at 1.0 m/s *(3.28 ft/s)* with 10 kg *(22.05 lb)* load

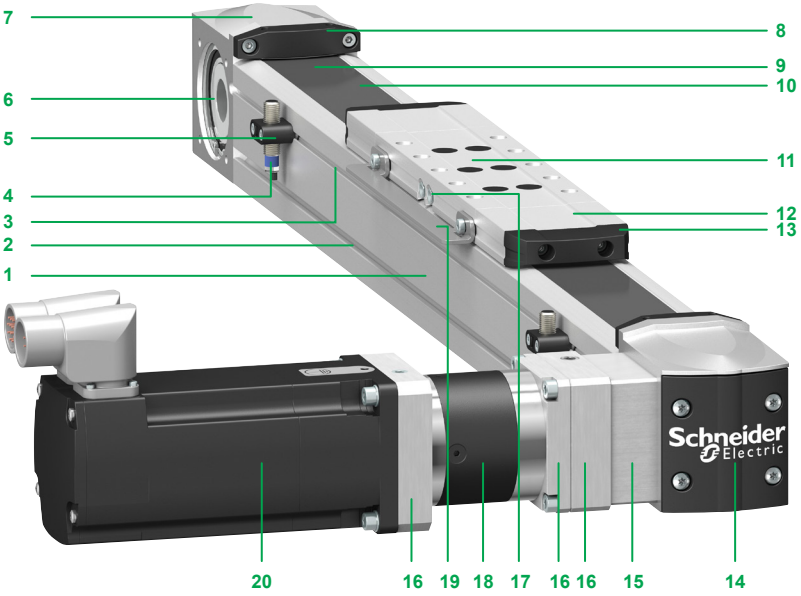
(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●B portal axes are available on the product data sheet.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●B portal axes

Description *(1) (2)*



1 Axis profile
2 T-slots for mounting the axis (on both sides and on lower side)
3 T-slot for positioning the sensor holders (on both sides)
4 Sensor with cable and connector (two per axis, optional equipment)
5 Sensor holder (two per axis, optional equipment)
6 Toothed belt pulley with hollow shaft (in each end block)
7 End block (two per axis)
8 Cover strip clamp (two per axis, optional equipment)
9 Cover strip (optional equipment)
10 Toothed belt (hidden, under the cover strip)
11 Carriage with threaded holes and centering for reproducible load mounting
12 Strip deflector (two per axis, optional equipment)
13 Rubber buffer (two per axis)
14 End block cover (at each end block)
15 Coupling housing (optional equipment)
16 Adaptation plate (optional equipment)
17 Exchangeable grease nipples on each side of the carriage (two per side)
18 Gearbox (optional equipment)
19 Contact plate (optional equipment)
20 Motor (optional equipment)

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●B portal axes are available on the product data sheet.
(2) Description of a Lexium PAS4●B portal axis; the configuration options selected will determine whether or not certain components are included.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●B portal axes

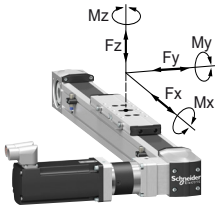
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 30,000 km *(18,641 miles)*

Type of portal axis		PAS41BR	PAS42BR	PAS42BB	PAS43BR	PAS43BB	PAS44BB
Axis profile cross-section (width x height)	**mm *(in)***	**Size 1:** 40 x 40 *(1.58 x 1.58)*	**Size 2:** 60 x 60 *(2.36 x 2.36)*		**Size 3:** 80 x 80 *(3.15 x 3.15)*		**Size 4:** 110 x 110 *(4.33 x 4.33)*
Type of mechanical drive element		Toothed belt					
Type of guide		Roller guide	Roller guide	Ball guide	Roller guide	Ball guide	Ball guide
Feed per revolution	**mm/rev *(in/rev)***	84 *(3.31)*	155 *(6.10)*		205 *(8.07)*		264 *(10.39)*
Max. feed force (Fx) *(3)*	**N *(lbf)***	300 *(67.44)*	800 *(179.84)*		1,100 *(247.28)*		2,600 *(584.50)*
Max. speed *(2)*	**m/s *(ft/s)***	8 *(26.25)*		5 *(16.40)*	8 *(26.25)*	5 *(16.40)*	
Max. acceleration *(2)*	**m/s² *(ft/s²)***	20 *(65.62)*		50 *(164.04)*	20 *(65.62)*	50 *(164.04)*	
Max. drive torque *(3)*	**Nm *(lbf/in)***	4 *(35.40)*	20 *(177.01)*		36 *(318.62)*		110 *(973.58)*
Max. force (Fy) *(3)*	**N *(lbf)***	660 *(148.37)*		2,810 *(631.71)*	1,760 *(395.66)*	4,410 *(991.407*	6,270 *(1,409.55)*
Max. force (Fz) *(3)*		430 *(96.66)*		2,810 *(631.71)*	1,040 *(233.80)*	4,410 *(991.407*	6,270 *(1,409.55)*
Max. torque (Mx) *(3)*	**Nm *(lbf/in)***	5 *(44.25)*	9 *(79.65)*	19 *(168.16)*	29 *(256.67)*	42 *(371.73)*	68 *(601.85)*
Max. torque (My) *(3)* with carriage type 1	**Nm *(lbf/in)***	–	18 *(159.31)*	74 *(654.95)*	51 *(451.38)*	162 *(1,433.82)*	256 *(2,265.79)*
Max. torque (My) *(3)* with carriage type 2		11 *(97.35)*	31 *(274.374)*	194 *(1,717.04)*	87 *(770.01)*	379 *(3,354.43)*	655 *(5,797.23)*
Max. torque (My) *(3)* with carriage type 4		28 *(247.82)*	56 *(495.64)*	362 *(3,203.96)*	160 *(1,416.11)*	687 *(6,080.46)*	1,209 *(10,700.55)*
Max. torque (Mz) *(3)* with carriage type 1	**Nm *(lbf/in)***	–	28 *(247.82)*	74 *(654.95)*	86 *(761.16)*	162 *(1,433.82)*	256 *(2,265.79)*
Max. torque (Mz) *(3)* with carriage type 2		17 *(150.46)*	48 *(424.83)*	194 *(1,717.04)*	148 *(1,309.91)*	379 *(3,354.43)*	655 *(5,797.23)*
Max. torque (Mz) *(3)* with carriage type 4		43 *(380.58)*	87 *(770.01)*	362 *(3,203.96)*	271 *(2,398.55)*	687 *(6080.46)*	1,209 *(10,700.55)*
Min....max. stroke *(4)*	**mm *(in)***	125...3,000 *(4.92...118.11)*	125...5,500 *(4.92...216.54)*	9...5,500 *(0.35...216.54)*	175...5,500 *(6.89...216.54)*	11...5,500 *(0.43...216.54)*	13...5,500 *(0.51...216.54)*
Repeatability	**mm *(in)***	± 0.05 *(0.002)*					

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●B portal axes are available on the product data sheet.
(2) Depending on load and stroke.
(3) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(4) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.

Forces and torques



Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●B portal axes

References *(1)*

To order Lexium PAS4●B portal axes, complete each reference by replacing the "●":

Example: PAS42BBM1000A1NAXXXL/… *(2)*	**PAS4**	●	●	●	M	●●●●	●	●	●	●	●●●	●	/*(2)*
Size (axis profile cross-section)	40 x 40 mm *(1.57 x 1.57 in)*	**1**											/
	60 x 60 mm *(2.36 x 2.36 in)*	**2**											/
	80 x 80 mm *(3.15 x 3.15 in)*	**3**											/
	110 x 110 mm *(4.3 x 4.3 in)*	**4**											/
Type of mechanical drive element	Toothed belt		**B**										/
	Toothed belt (only used in MAXH)		**P**										/
	Without (support axis)		**H**										/
Type of guide	Recirculating ball bearing guide (for size 2, 3, and 4)			**B**									/
	Roller guide (for size 1, 2, and 3)			**R**									/
Feed per revolution	84 mm/rev *(3.3 in/rev)* (for size 1)				**M**								/
	155 mm/rev *(6.1 in/rev)* (for size 2)				**M**								/
	205 mm/rev *(8 in/rev)* (for size 3)				**M**								/
	264 mm/rev *(10.4 in/rev)* (for size 4)				**M**								/
	Support axis (without drive)				**N**								/
Stroke *(3)*	State the length in mm					**●●●●**							/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected						**A**						/
	Two PNP sensors as normally closed contacts, connected						**B**						/
	Two NPN sensors as normally closed contacts, not connected						**E**						/
	Two NPN sensors as normally closed contacts, connected						**F**						/
	Two NPN sensors as normally open contacts, not connected						**G**						/
	Two NPN sensors as normally open contacts, connected						**H**						/
	Without sensors, without contact plate						**N**						/
Type of carriage	Type 1 (only for size 2, 3 and 4)							**1**					/
	Type 2							**2**					/
	Type 4							**4**					/
Axis options	With anti-static toothed belt/without cover strip								**A**				/
	With cover strip								**B**				/
	Anti-corrosion version/without cover strip								**C**				/
	Anti-corrosion version/with anti-static toothed belt/without cover strip								**E**				/
	With anti-static toothed belt/with cover strip								**L**				/
	Increased clean room class/with cover strip (for PAS42BB)								**R**				/
	Without option								**N**				/
Quantity of carriages *(5)*	One carriage									**A**			/
	Two carriages									**B**			/
	Three carriages									**C**			/
Distance between two carriages	State the distance in mm										**●●●**		/
	One carriage only, state "XXX"										**XXX**		/
Mounting options for motor and/or gearbox *(6)*	Hollow shaft at both ends											**H**	/
	On left-hand side											**L**	/
	On right-hand side											**R**	/
	Support axis (only for PAS4●H)											**N**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●B portal axes are available on the product data sheet.
(2) For the second part of the reference on page 10.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the portal axes (see page 8).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) Only carriages of the same type can be used. All carriages are driven.
(6) For the possible mounting options see the following pictures:

Hollow shaft at both ends	Left-hand side	Right-hand side	Support axis
PAS4●B…H/XXXXXXX	**PAS4●B…L/…**	**PAS4●B…R/…**	**PAS4●B…N/XXXXXXX**
			

References (continued) *(1)*

To order Lexium PAS4●B portal axes, complete each reference by replacing the "●":

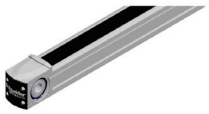
Example: PAS42BBM1000A1NAXXXL *(2)*/**21G0H70 + PLE60 3:1 + BMH0702P01A2A**		*(2)*/	●	●●	●	●●	●	+	…
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor, without gearbox, without adaptation material	/	**X**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS●●571, 572	/				**I6**			
	Integrated drive with stepper motor ILS●●573	/				**I7**			
	Integrated drive with stepper motor ILS●●851, 852	/				**I9**			
	Integrated drive with stepper motor ILS●●853	/				**I8**			
	Integrated drive with brushless DC motor ILE●●66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA●● 57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2●B A5, 01	/				**C1**			
	Servo motors BCH2●D 02, 04	/				**C2**			
	Servo motors BCH2●F 04	/				**C3**			
	Servo motors BCH2●F 07	/				**C4**			
	Servo motors BCH2●H 10, 20	/				**C5**			
	Servo motors BCH2●M 08	/				**C6**			
	Servo motors BCH2●M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2●R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE60 3:1 + BMH0702P01A2A**							**+**	**…**

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●B portal axes are available on the product data sheet.
(2) For the first part of the reference, see page 9.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see page 11).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

Motor and/or gearbox configuration and orientation

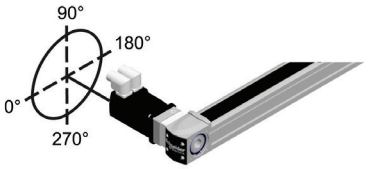
Hollow shaft at both ends

PAS4●B...H/XXXXXXX

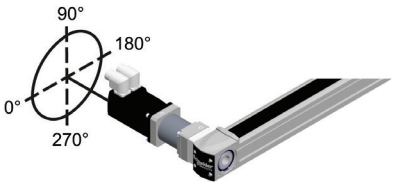


Left-hand side

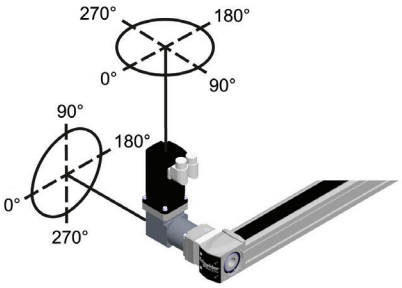
PAS4●B...L/1XXX●●●



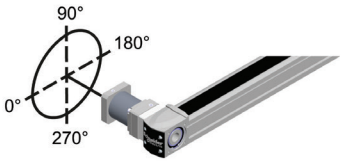
PAS4●B...L/2●G●●●●



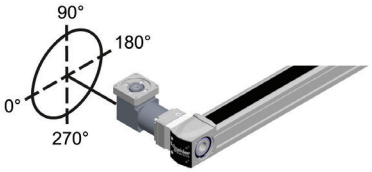
PAS4●B...L/2●A●●●●



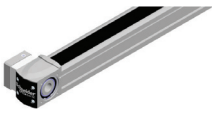
PAS4●B...L/3●G●●●X



PAS4●B...L/3●A●●●X

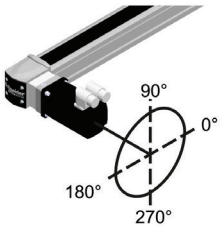


PAS4●B...L/4●●X●●X

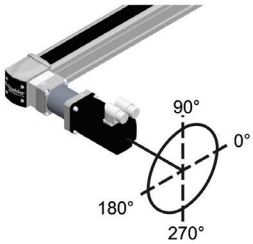


Right-hand side

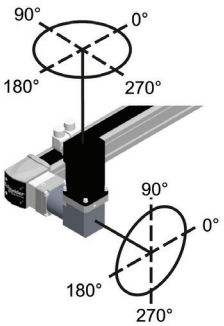
PAS4●B...R/1XXX●●●



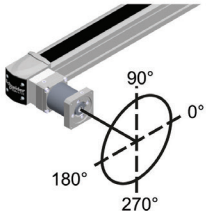
PAS4●B...R/2●G●●●●



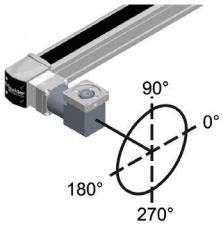
PAS4●B...R/2●A●●●●



PAS4●B...R/3●G●●●X



PAS4●B...R/3●A●●●X



PAS4●B...R/4●●X●●X

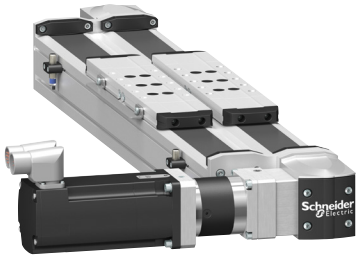
Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAD4 portal axes

PAD42BB

PAD42EB



PAD42PB

Lexium PAD4 portal axes with motor and gearbox mounted

Presentation *(1)*

Lexium PAD4 are ready-to-install portal axes with toothed belt drive and two linear guides in three drive designs. The axis profile is fixed in place and the load is mounted on the movable carriage couple or single carriage. The portal axes are ideally suited for the transport of heavy loads with short and long strokes.

- The designs differ in the number and type of driven toothed belts:
  - Carriage couple driven by two coupled toothed belts: higher dynamics
  - Individual carriages, each driven with one toothed belt for independent movements of the carriages: more flexibility
  - Carriage couple driven by one toothed belt: cost-optimized solution
- The very high speeds and accelerations of the Lexium PAD4 portal axes enable very short positioning times. The high feed forces with good repeatability are made possible by the steel tension members in the toothed belt. The fabric coating of the toothed belt ensures friction-optimized in and out toothing and thus quiet and smooth movement.
- One type of guide is available for transmitting the load to the axis profile designed using FEM:
  - The double recirculating ball bearing guide in combination with the very rigid axis profile is particularly suitable for applications with lateral torsional torque (Mx) or applications with very high force and torque loads.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium PAD4 portal axes are designed for a very long service life of 30,000 km *(18,641.13 miles)*. If the specified forces and torques are not reached, the service life of the Lexium PAD4 portal axes increase.
- The T-slots at the bottom and on both sides of the axis profile can be used to fasten the Lexium PAD4 portal axes. The portal axes are typically used horizontally, but can also be mounted vertically, laterally or overhead. The permissible forces and torques do not change.
- The Lexium PAD4 portal axes are available with different carriage lengths and with up to three driven carriages. An optionally selectable cover strip is used to protect internal components such as toothed belt and linear guide. Furthermore, an antistatic toothed belt and various sensors can be selected as options.
- The Lexium PAD4 portal axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- Positioning over long distances: material handling, palletizers, etc.
- Positioning of parts at high speeds: flying shear, optical and measuring applications, labeling, etc.
- High feed forces: hoisting, cutting, machining, etc.

Special product features

- Stroke deliverable per millimeter
- Carriage with threaded holes and centering for reproducible load mounting
- Exchangeable grease nipples, for example to mount an automatic lubrication system
- Motor and gearbox assembly via flexible coupling system on both sides of the end blocks
- Sensors movable in T-slot
- Customized special solutions on request

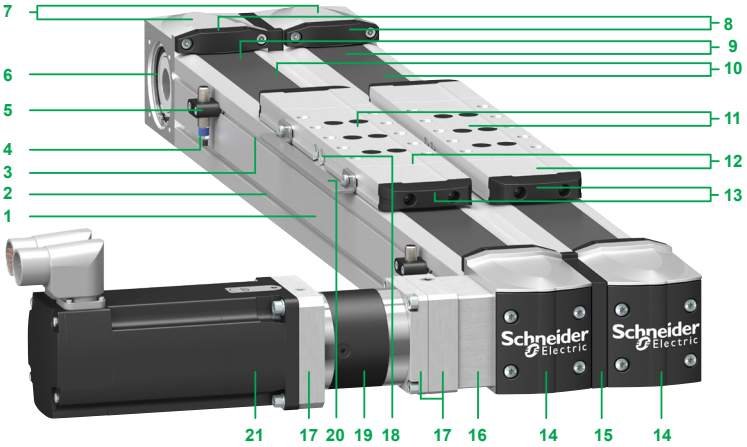
(1) Technical data (characteristics, dimensions, etc.) for Lexium PAD4 portal axes are available on the product data sheet.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

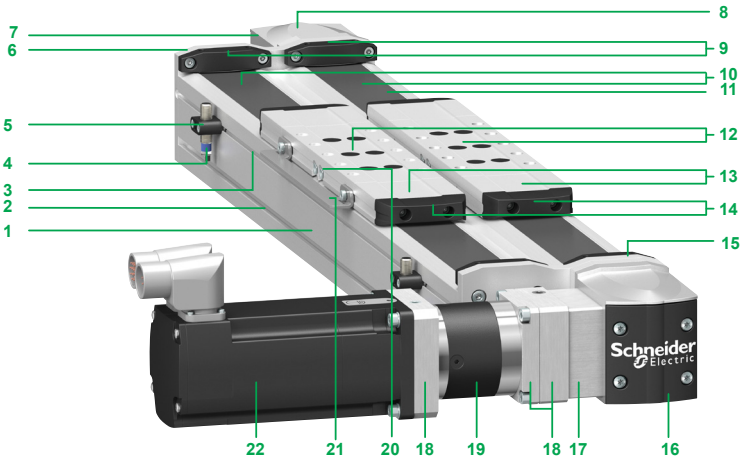
Lexium PAD4 portal axes

Description *(1) (2)*



PAD42BB / PAD42EB

1 Axis profile
2 T-slots for mounting the axis (on both sides and o lower side)
3 T-slot for positioning the sensor holders (on both sides)
4 Sensor with cable and connector (two per axis, optional equipment)
5 Sensor holder (two per axis, optional equipment)
6 Toothed belt pulley with hollow shaft (in each end block)
7 End block (four per axis)
8 Cover strip clamp (four per axis, optional equipment)
9 Cover strip (two per axis, optional equipment)
10 Toothed belt (two per axis, hidden, under the cover strip)
11 Carriage with threaded holes and centering for reproducible load mounting (two per axis)
12 Strip deflector (four per axis, optional equipment)
13 Rubber buffer (four per axis)
14 End block cover (at each end block)
15 End block mid-plate (two per axis)
16 Coupling housing (optional equipment)
17 Adaptation plate (optional equipment)
18 Exchangeable grease nipples on each side of the carriage (two per side)
19 Gearbox (optional equipment)
20 Contact plate (optional equipment)
21 Motor (optional equipment)



PAD42PB

1 Axis profile
2 T-slots for mounting the axis (on both sides and on lower side)
3 T-slot for positioning the sensor holders (on both sides)
4 Sensor with cable and connector (two per axis, optional equipment)
5 Sensor holder (two per axis, optional equipment)
6 End plate (two per axis)
7 Toothed belt pulley with hollow shaft (hidden, in each end block)
8 End block (two per axis)
9 Cover strip clamp (four per axis, optional equipment)
10 Cover strip (two per axis, optional equipment)
11 Toothed belt (hidden, under the cover strip)
12 Carriage with threaded holes and centering for reproducible load mounting (two per axis)
13 Strip deflector (four per axis, optional equipment)
14 Rubber buffer (four per axis)
15 Distance plate
16 End block cover (at each end block)
17 Coupling housing (optional equipment)
18 Adaptation plate (optional equipment)
19 Gearbox (optional equipment)
20 Exchangeable grease nipples on each side of the carriage (two per side)
21 Contact plate (optional equipment)
22 Motor (optional equipment)

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAD4 portal axes are available on the product data sheet.
(2) Description of Lexium PAD4 portal axes; the configuration options selected will determine whether or not certain components are included.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAD4 portal axes

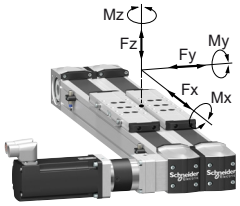
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 30,000 km *(18,641 miles)*

Type of portal axes			PAD42BB	PAD42EB	PAD42PB
Axis profile cross-section (width x height)		**mm *(in)***	130 x 60 *(5.12 x 2.36)*		
Type of mechanical drive element			Toothed belt		
Type of guide			Double ball guide		
Feed per revolution		**mm/rev *(in/rev)***	155 *(6.10)*		
Max. feed force (Fx) *(3)*		**N *(lbf)***	1,200 *(269.77)*	800 *(179.84)*	
Max. speed *(2)*		**m/s *(ft/s)***	5 *(16.40)*		
Max. acceleration *(2)*		**m/s² *(ft/s²)***	50 *(164.04)*		
Max. drive torque *(3)*		**Nm *(lbf/in)***	30 *(265.52)*	20 *(177.01)*	
Max. force (Fy) *(3)*		**N *(lbf)***	4,209 *(946.22)*	2,806 *(630.81)*	4,209 *(946.22)*
Max. force (Fz) *(3)*		**N *(lbf)***	4,209 *(946.22)*	2,806 *(630.81)*	4,209 *(946.22)*
Max. torque (Mx) *(3)*		**Nm *(lbf/in)***	98 *(867.37)*	19 *(168.16)*	98 *(867.37)*
Max. torque (My) *(3)*	With carriage type 1	**Nm *(lbf/in)***	149 *(1,318.76)*	74 *(654.95)*	149 *(1,318.76)*
	With carriage type 2		387 *(3,425.23)*	194 *(1,717.04)*	387 *(3,425.23)*
	With carriage type 4		724 *(6,407.93)*	362 *(3,203.96)*	724 *(6,407.93)*
Max. torque (Mz) *(3)*	With carriage type 1	**Nm *(lbf/in)***	111 *(982.43)*	74 *(654.95)*	111 *(982.43)*
	With carriage type 2		290 *(2,566.71)*	194 *(1,717.04)*	290 *(2,566.71)*
	With carriage type 4		543 *(4,805.95)*	362 *(3,203.96)*	543 *(4,805.95)*
Min....max. stroke *(4)*		**mm *(in)***	9...5,500 *(0.35...216.54)*		
Repeatability		**mm *(in)***	± 0.05 *(0.002)*		

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAD4 portal axes are available on the product data sheet.
(2) Depending on load and stroke.
(3) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the to the hardware guide.
(4) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.

Forces and torques



Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAD4 portal axes

References *(1)*

To order Lexium PAD4 portal axes, complete each reference by replacing the "●":

Example: PAD42BBM1000A1NAXXXL/…*(2)*	**PAD4**	**2**	**●**	**B**	**M**	**●●●●**	**●**	**●**	**●**	**●**	**●●●**	**●**	*/(2)*
Size (axis profile cross-section)	130 x 60 mm *(5.1 x 2.36 in)*	**2**											/
Type of mechanical drive element	Two toothed belts (both sides driven by one drive)		**B**										/
	Two toothed belts (each side driven by a drive)		**E**										/
	One toothed belt (only one side driven by a drive)		**P**										/
Type of guide	Double recirculating ball bearing guide			**B**									/
Feed per revolution	155 mm/rev (6.1 in/rev)				**M**								/
Stroke *(3)*	State the length in mm					**●●●●**							/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected						**A**						/
	Two PNP sensors as normally closed contacts, connected						**B**						/
	Two NPN sensors as normally closed contacts, not connected						**E**						/
	Two NPN sensors as normally closed contacts, connected						**F**						/
	Two NPN sensors as normally open contacts, not connected						**G**						/
	Two NPN sensors as normally open contacts, connected						**H**						/
	Without sensors, without contact plate						**N**						/
Type of carriage couple	Type 1							**1**					/
	Type 2							**2**					/
	Type 4							**4**					/
Axis options	Antistatic toothed belt, without cover strip								**A**				/
	With cover strip								**B**				/
	Increased corrosion resistance, without cover strip								**C**				/
	Increased corrosion resistance, antistatic toothed belt, without cover strip								**E**				/
	Antistatic toothed belt, with cover strip								**L**				/
	Without options								**N**				/
Quantity of carriages couples *(5)*	One carriage couple									**A**			/
	Two carriage couples									**B**			/
	Three carriage couples									**C**			/
Distance between two carriages couples	State the distance in mm (refer to Technical Data for the minimum distance between two carriage couples)										**●●●**		/
	One carriage couple only state "XXX"										**xxx**		/
Mounting options for motor and/or gearbox *(6)*	Hollow shaft at both ends (only PAD42EB)											**H**	/
	On left-hand side											**L**	/
	On right-hand side											**R**	/
	On both sides at one end (only PAD42EB)											**T**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAD4 portal axes are available on the product data sheet.
(2) For the second part of the reference on page 16.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the portal axes (see page 14).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) Only carriage couples of the same type can be used. All carriage couples are driven.
(6) For the possible mounting options see the following pictures:

Hollow shaft at both ends	Left-hand side			Right-hand side			Both sides at one end
PAD42EB…H/XXXXXXX	PAD42BB…L/…	PAD42EB…L/…	PAD42PB…L/…	PAD42BB…R/…	PAD42EB…R/…	PAD42PB…R/…	PAD42EB…T/…
							

Note: For a PAD42BB or PAD42PB axis without motor, gearbox, or adaptation material: in the type code (see table above), select L or R as character under Mounting options for motor and/or gearbox to define the position of the double coupling or the distance plate.

References (continued) *(1)*

To order Lexium PAD4 portal axes, complete each reference by replacing the "●":

Example: PAD42BBM1000A1NAXXXL *(2)*/21G0H70 + PLE60 3:1 + BMH0702P01A2A		*(2)*/	●	●●	●	●●	●	+	…
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor, without gearbox,without adaptation material	/	**X**						
Gearbox interface *(4) (5)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (6)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface *(5)*	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS●●571, 572	/				**I6**			
	Integrated drive with stepper motor ILS●●573	/				**I7**			
	Integrated drive with stepper motor ILS●●851, 852	/				**I9**			
	Integrated drive with stepper motor ILS●●853	/				**I8**			
	Integrated drive with brushless DC motor ILE●●66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA●● 57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2●B A5, 01	/				**C1**			
	Servo motors BCH2●D 02, 04	/				**C2**			
	Servo motors BCH2●F 04	/				**C3**			
	Servo motors BCH2●F 07	/				**C4**			
	Servo motors BCH2●H 10, 20	/				**C5**			
	Servo motors BCH2●M 08	/				**C6**			
	Servo motors BCH2●M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2●R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (7)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE60 3:1 + BMH0702P01A2A**							**+**	**…**

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAD4 portal axes are available on the product data sheet.
(2) For the first part of the reference, see page 15.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see page 17).
(4) Planetary gearboxes from company Neugart GmbH.
(5) Valid for both motors and/or gearboxes of the PAD42EB.
(6) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(7) With reference to the motor connectors.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAD4 portal axes

Motor and/or gearbox configuration and orientation

Hollow shaft at both ends

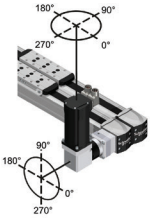
PAD42EB...H/XXXXXXX

Left-hand side

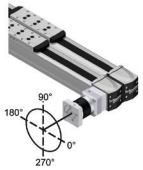
PAD42●B...L/1XXX●●●

PAD42●B...L/2●G●●●●

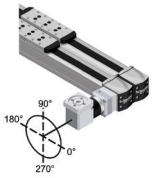
PAD42●B...L/2●A●●●●



PAD42●B...L/3●G●●●X



PAD42●B...L/3●A●●●X



PAD42●B...L/4●●X●●X

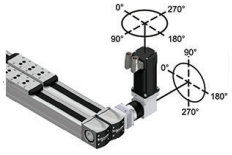
PAD42●B...L/XXXXXXX

Right-hand side

PAD42●B...R/1XXX●●●

PAD42●B...R/2●G●●●●

PAD42●B...R/2●A●●●●



PAD42●B...R/3●G●●●X

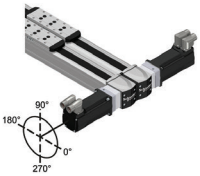
PAD42●B...R/3●A●●●X

PAD42●B...R/4●●X●●X

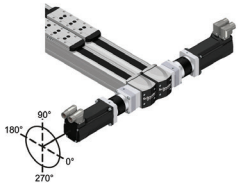
PAD42●B...R/XXXXXXX

Both sides at one end

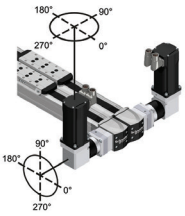
PAD42EB...T/1XXX●●●



PAD42EB...T/2●G●●●●

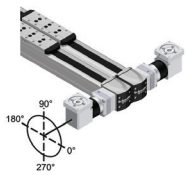


PAD42EB...T/2●A●●●●



PAD42EB...T/3●G●●●X

PAD42EB...T/3●A●●●X



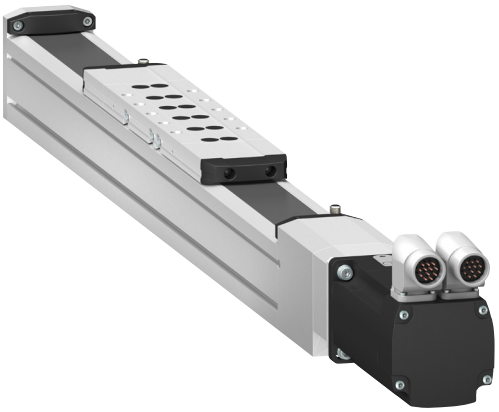
PAD42EB...T/4●●X●●X

***Note**: For a PAD42BB or PAD42PB axis without motor, gearbox, or adaptation material: in the type code (see page 15), select L or R as character under Mounting options for motor and/or gearbox to define the position of the double coupling or the distance plate.*

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●S portal axes



Lexium PAS4●S portal axes with motor and gearbox mounted

Presentation *(1)*

Lexium PAS4●S are ready-to-install portal axes with ballscrew and one linear guide in three sizes. The axis profile is fixed in place and the load is mounted on the movable carriage. The portal axes are ideally suited for applications with high feed force and for the transport of heavy loads at medium speeds.

- The very good repeatability of the Lexium PAS4●S portal axes is made possible by the ballscrew. To adapt the feed forces, speeds and accelerations to the application, three ballscrew pitches are available for each size. The optionally available ballscrew supports enables higher speeds with longer strokes at the same time.
- One type of guide is available for transmitting the load to the axis profile designed using FEM:
  - The recirculating ball bearing guide is particularly suitable for applications with high forces and torques.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium PAS4●S portal axes are designed for a long service life of 10,000 km. If the specified forces and torques are not reached, the service life of the Lexium PAS4●S portal axes increase.
- The T-slots at the bottom and on both sides of the axis profile can be used to fasten the Lexium PAS4●S portal axes. The portal axes are typically used horizontally, but can also be mounted vertically, laterally or overhead. The permissible forces and torques do not change.
- The Lexium PAS4●S portal axes are available with different carriage lengths and with up to two additional non-driven carriages. An optionally selectable cover strip is used to protect internal components, such as ballscrew and linear guide. Furthermore, various sensors can be selected as an option.
- The Lexium PAS4●S portal axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- A precision feed movement and guiding, even at variable loads and torques
- High feed forces: clamping, cutting, etc.
- Precise positioning and repeatability: optical and measuring applications, etc.

Special product features

- Stroke deliverable per millimeter
- Carriage with threaded holes and centering for reproducible load mounting
- Exchangeable grease nipples, for example to mount an automatic lubrication system
- Motor and gearbox assembly via flexible coupling system on both sides of the end blocks
- Sensors movable in T-slot
- Customized special solutions on request

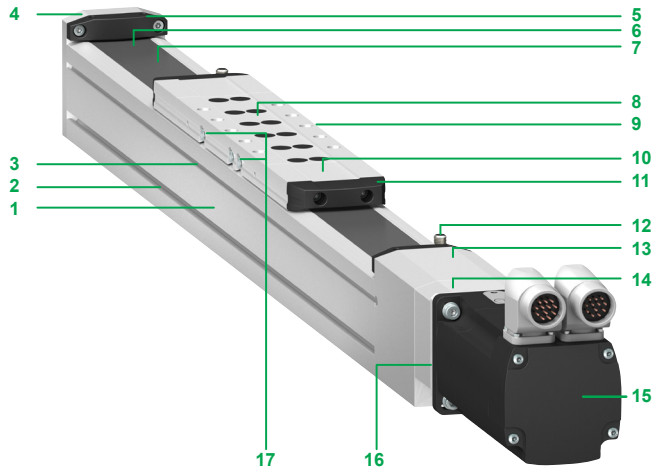
(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●S portal axes are available on the product data sheet.

Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

Lexium PAS4●S portal axes

Description *(1) (2)*



1 Axis profile
2 T-slots for mounting the axis (on both sides and on lower side)
3 T-slot for positioning the sensor holders (on both sides)
4 End plate
5 Cover strip clamp (two per axis, optional equipment)
6 Cover strip (optional equipment)
7 Ballscrew (hidden, under the cover strip)
8 Carriage with threaded holes and centering for reproducible load mounting
9 Contact plate (hidden, on the side of the carraige, optional equipment)
10 Strip deflector (two per axis, optional equipment)
11 Rubber buffer (two per axis)
12 Sensor with cable, connector and sensor holder (two per axis, optional equipment)
13 Drive block with drive shaft
14 Coupling housing (optional equipment)
15 Motor (optional equipment)
16 Adaptation plate (optional equipment)
17 Exchangeable grease nipples on each side of the carriage (three per side)

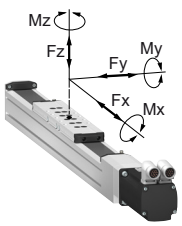
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 10,000 km *(6,214 miles)*

Type of portal axis			PAS42SBB	PAS42SBD	PAS42SBF	PAS43SBB	PAS43SBD	PAS43SBG	PAS44SBB	PAS44SBD	PAS44SBH
Axis profile cross-section (width x height)		**mm** ***(in)***	**Size 2**: 60 x 60 *(2.36 x 2.36)*			**Size 3**: 80 x 80 *(3.15 x 3.15)*			**Size 4**: 110 x 110 *(4.33 x 4.33)*		
Type of mechanical drive element			Ballscrew								
Type of guide			Ball guide								
Ballscrew pitch		**mm/rev** ***(in/rev)***	5 *(0,2)*	10 *(0,39)*	16 *(0,63)*	5 *(0,2)*	10 *(0,39)*	20 *(0,79)*	5 *(0,2)*	10 *(0,39)*	25 *(0,98)*
Ballscrew diameter		**mm** ***(in)***	16 *(0.63)*			20 *(0.79)*			25 *(0.98)*		
Max. feed force (Fx) *(4)*		**N** ***(lbf)***	2,980 *(669.93)*	1,560 *(350.70)*	1,540 *(346.20)*	3,400 *(764.35)*	2,600 *(584.50)*	1,720 *(386.67)*	3,700 *(831.79)*	4,520 *(1?016.13)*	3,000 *(674.42)*
Max. speed *(3)*		**m/s** ***(ft/s)***	0.25 *(0.82)*	0.5 *(1.64)*	0.8 *(2.62)*	0.25 *(0.82)*	0.5 *(1.64)*	1 *(3.28)*	0.25 *(0.82)*	0.5 *(1.64)*	1.25 *(4.10)*
Max. acceleration *(3)*		**m/s²** ***(ft/s²)***	2 *(6.56)*	4 *(13.12)*	6.4 *(21.00)*	2 *(6.56)*	4 *(13.12)*	8 *(26.25)*	2 *(6.56)*	4 *(13.12)*	10 *(32.81)*
Max. drive torque *(4)*		**Nm** ***(lbf/in)***	3.2 *(28.32)*	3.3 *(29.20)*	4.9 *(43.36)*	3.7 *(32.74)*	5.3 *(46.90*	6.8 *(60.18)*	4.3 *(38.05)*	9 *(79.65)*	14.3 *(126.5)*
Max. force (Fy) *(4)*		**N** ***(lbf)***	4,050 *(910.47)*			6,360 *(1,429.78)*			9,040 *(2,032.27)*		
Max. force (Fz) *(4)*		**N** ***(lbf)***	4,050 *(910.47)*			6,360 *(1,429.78)*			9,040 *(2,032.27)*		
Max. torque (Mx) *(4)*		**Nm** ***(lbf/in)***	27 *(238.97)*			60 *(531.04)*			98 *(867.37)*		
Max. torque (My) *(4)*	With carriage type 1	**Nm** ***(lbf/in)***	304 *(2,690.62)*			556 *(4,921.01)*			935 *(8,275.44)*		
	With carriage type 4		668 *(5,912.29)*			1,224 *(10,833.31)*			2,155 *(19,073.35)*		
Max. torque (Mz) *(4)*	With carriage type 1	**Nm** ***(lbf/in)***	304 *(2,690.62)*			556 *(4,921.01)*			935 *(8,275.44)*		
	With carriage type 4		668 *(5,912.29)*			1,224 *(10,833.31)*			2,155 *(19,073.35)*		
Min....max. stroke *(5)*		**mm** ***(in)***	9...1,500 *(0.35...59.06)*			11...3,000 *(0.43...118.11)*			13...3,000 *(0.51...118.11)*		
Repeatability		**mm** ***(in)***	± 0.02 *(0.001)*								

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●S portal axes are available on the product data sheet.
(2) Description of Lexium PAS4●S portal axes; the configuration options selected will determine whether or not certain components are included.
(3) Depending on load and stroke.
(4) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(5) Min. stroke required for the lubrication of the linear guide.

Forces and torques



Lexium PAS, PAD

Portal axes with movable carriage and fixed axis

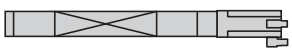
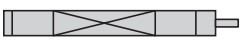
Lexium PAS4●S portal axes

References *(1)*

To order Lexium PAS4●S portal axes, complete each reference by replacing the "●":

Example: PAS42SBF1000A1BAXXXS/… *(2)*		**PAS4**	●	●	B	●	●●●●	●	●	●	●	●●●	●	/*(2)*
Size (axis profile cross-section)	60 x 60 mm *(2.36 x 2.36 in)*		**2**											/
	80 x 80 mm *(3.15 x 3.15 in)*		**3**											/
	110 x 110 mm *(4.3 x 4.3 in)*		**4**											/
Type of mechanical drive element	Ballscrew			**S**										/
	Without (support axis)			**A**										/
Type of guide	Recirculating ball bearing guide				**B**									/
Ballscrew pitch	5 mm/rev *(0.19 in/rev)* (for size 2, 3 and 4)					**B**								/
	10 mm/rev *(0.39 in/rev)* (for size 2, 3 and 4)					**D**								/
	16 mm/rev *(0.63 in/rev)* (for size 2)					**F**								/
	20 mm/rev *(0.79 in/rev)* (for size 3)					**G**								/
	25 mm/rev *(0.98 in/rev)* (for size 4)					**H**								/
	Support axis (without drive)					**N**								/
Stroke *(3)*	State the length in mm						**●●●●**							/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected							**A**						/
	Two PNP sensors as normally closed contacts, connected							**B**						/
	Two NPN sensors as normally closed contacts, not connected							**E**						/
	Two NPN sensors as normally closed contacts, connected							**F**						/
	Two NPN sensors as normally open contacts, not connected							**G**						/
	Two NPN sensors as normally open contacts, connected							**H**						/
	Without sensors, without contact plate							**N**						/
Type of carriage	Type 1								**1**					/
	Type 4								**4**					/
Axis options *(5)*	With cover strip/without ballscrew support									**B**				/
	With cover strip/with 1 ballscrew support									**C**				/
	Without cover strip/with 1 ballscrew support									**D**				/
	With cover strip/with 2 ballscrew supports									**E**				/
	Without cover strip/with 2 ballscrew supports									**F**				/
	Without cover strip/without ballscrew support									**N**				/
Quantity of carriages *(6)*	One carriage										**A**			/
	Two carriages										**B**			/
	Three carriages										**C**			/
Distance between two carriages	State the distance in mm											**●●●**		/
	One carriage only, state "XXX"											**XXX**		/
Mounting options for motor and/or gearbox *(7)*	Straight mounted												**S**	/
	With shaft												**D**	/
	Support axis (only for PAS4●A)												**N**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●S portal axes are available on the product data sheet.
(2) For the second part of the reference, see page 21.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the portal axes (see page 19).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) Ballscrew support corresponds to total axis length and ballscrew speed.
(6) Only carriages of the same type can be used. Only the carriage next to the motor is driven.
(7) For the possible mounting options see the following pictures:

Straight mounted	**With shaft**	**Support axis**
PAS4●S…S/…	**PAS4●S…D/XXXXXXX**	**PAS4●S…N/XXXXXXX**
		

References (continued) *(1)*

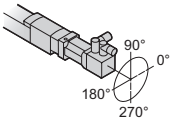
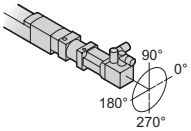
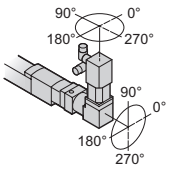
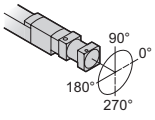
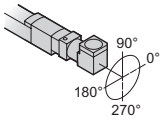
To order Lexium PAS4●S portal axes, complete each reference by replacing the "●":

Example: PAS42SBF1000A1BAXXXS *(2)*/1XXXH70 + BMH0702P01A2A		*/(2)/*	**●**	**●●**	**●**	**●●**	**●**	**+**	**…**
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor, without gearbox, without adaptation material	/	**X**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS●●●571, 572	/				**I6**			
	Integrated drive with stepper motor ILS●●●573	/				**I7**			
	Integrated drive with stepper motor ILS●●●851, 852	/				**I9**			
	Integrated drive with stepper motor ILS●●●853	/				**I8**			
	Integrated drive with brushless DC motor ILE●●66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA●●57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 10040.63	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403	/				**H2**			
	Servo motors BCH2●B A5, 01	/				**C1**			
	Servo motors BCH2●D 02, 04	/				**C2**			
	Servo motors BCH2●F 04	/				**C3**			
	Servo motors BCH2●F 07	/				**C4**			
	Servo motors BCH2●H 10, 20	/				**C5**			
	Servo motors BCH2●M 08	/				**C6**			
	Servo motors BCH2●M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2●R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **BMH0702P01A2A**							**+**	**…**

(1) Technical data (characteristics, dimensions, etc.) for Lexium PAS4●S portal axes are available on the product data sheet.
(2) For the first part of the reference, see page 20.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see below).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

Motor and/or gearbox configuration and orientation

Straight mounted

PAS4●S…S/1XXX●●●	**PAS4●S…S/2●G●●●●**	**PAS4●S…S/2●A●●●●**	**PAS4●S…S/3●G●●●X**	**PAS4●S…S/3●A●●●X**	**PAS4●S…S/4●●X●●X**
					

With shaft

PAS4●S…D/XXXXXXX

Lexium TAS

Linear tables with movable carriage and fixed axis profile

Lexium TAS4 linear tables

Lexium TAS4 linear table with motor mounted

Presentation *(1)*

Lexium TAS4 are ready-to-install linear tables with ball screw and two linear guides in three sizes. The axis profile is fixed in place and the load is mounted on the movable carriage. The linear tables are ideally suited for applications with high feed force and for the transport of heavy loads at medium speeds.

- The very good repeatability of the Lexium TAS4 linear tables is made possible by the ball screw. To adapt the feed forces, speeds and accelerations to the application, three ball screw pitches are available for each size.
- One type of guide is available for transmitting the load to the axis profile designed using FEM:
  - The double recirculating ball bearing guide in combination with the rigid axis profile is particularly suitable for applications with lateral torsional torque (Mx) or applications with very high force and torque loads.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium TAS4 tables are designed for a long service life of 10,000 km *(6,214 miles)*. If the specified forces and torques are not reached, the service life of the Lexium TAS4 linear tables increase.
- The T-slots at the bottom and on both sides of the axis profile can be used to fasten the Lexium TAS4 linear tables. The linear tables are typically used horizontally, but can also be mounted vertically, laterally or overhead.
- The linear tables Lexium TAS4 are optionally available with bellows to protect internal components, such as ball screw and linear guide. Furthermore, internal sensors and a belt drive can be selected as options. The belt drive can be mounted in four different positions.
- The Lexium TAS4 linear tables can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- Feed movement without mechanical backlash: cutting, separating, labeling, etc.
- High feed forces: clamping, machining, etc.
- Precise movement of heavy loads: material handling, etc.
- Precise positioning: optical applications, laser use, etc.

Special product features

- Stroke deliverable per millimeter
- Carriage with threaded holes and centering for reproducible load mounting
- Exchangeable grease nipples, for example to mount an automatic lubrication system
- Motor and gearbox assembly via flexible coupling system
- Sensors movable in T-slot
- Customized special solutions on request

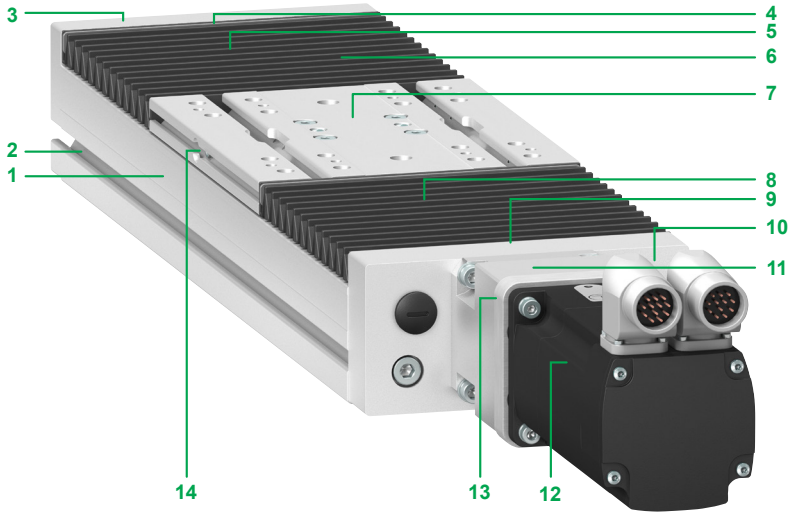
(1) Technical data (characteristics, dimensions, etc.) for Lexium TAS4 linear tables are available on the product data sheet.

Lexium TAS

Linear tables with movable carriage and fixed axis profile

Lexium TAS4 linear tables

Description *(1) (2)*



Axis profile
T-slots for mounting the axis (on both sides and on lower side)
End plate
Bellow clamp (four per axis, optional equipment)
Bellow (two per axis, optional equipment)
Ballscrew (hidden, under the bellow)
Carriage with threaded holes and T-slots for load mounting
Sensor with cable or connector (hidden, under the bellow, optional equipment)
Drive block with drive shaft
Cable gland for sensor cable outlet (hidden)
Coupling housing (optional equipment)
Motor (optional equipment)
Adaptation plate (optional equipment)
Exchangeable grease nipples on each side of the carriage (one per side)

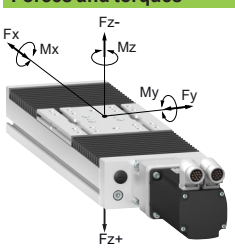
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 5,000 km *(3,107 miles)* for TAS41 and 10,000 km *(6,214 miles)* for TAS42 and TAS43

Type of linear table		TAS41SBA	TAS41SBB	TAS41SBC	TAS42SBB	TAS42SBC	TAS42SBD	TAS43SBB	TAS43SBC	TAS43SBE
Axis profile cross-section (width x height)	**mm *(in)***	**Size 1**: 100 x 39 *(3.94 x 1.54)*			**Size 2**: 150 x 54 *(5.91 x 2.13)*			**Size 3**: 200 x 59 *(7.87 x 2.32)*		
Type of mechanical drive element		Ballscrew								
Type of guide		Double ball guide								
Ballscrew pitch	**mm/rev *(in/rev)***	2 *(0.08)*	5 *(0.2)*	10 *(0.39)*	5 *(0.2)*	10 *(0.39)*	16 *(0.63)*	5 *(0.2)*	10 *(0.39)*	20 *(0.79)*
Ballscrew diameter	**mm *(in)***	12 *(0.47)*			16 *(0.63)*			20 *(0.79)*		
Max. feed force (Fx) *(4)*	**N *(lbf)***	500 *(112.40)*	800 *(179.84)*	780 *(175.35)*	2,200 *(494.57)*	1,120 *(251.78)*	1,080 *(242.79)*	2,580 *(580.00)*	1,760 *(395.66)*	1,700 *(382.17)*
Max. speed *(3)*	**m/s *(ft/s)***	0.1 *(0.33)*	0.25 *(0.82)*	0.5 *(1.64)*	0.25 *(0.82)*	0.5 *(1.64)*	0.8 *(2.62)*	0.25 *(0.82)*	0.5 *(1.64)*	1 *(3.28)*
Max. acceleration *(3)*	**m/s² *(ft/s²)***	0.8 *(2.62)*	2 *(6.56)*	4 *(13.12)*	2 *(6.56)*	4 *(13.12)*	6.4 *(21.00)*	2 *(6.56)*	4 *(13.12)*	8 *(26.25)*
Max. drive torque*(4)*	**Nm *(lbf/in)***	0.4 *(3.54)*	0.9 *(7.96)*	1.6 *(14.16)*	2.2 *(19.47)*	2.3 *(20.35)*	3.4 *(30.09)*	2.7 *(23.89)*	3.5 *(30.97)*	6.4 *(56.64)*
Max. force (Fy) *(4)*	**N *(lbf)***	1,720 *(386.67)*			2,660 *(597.99)*			3,550 *(798.07)*		
Max. force (Fz) *(4)*	**N *(lbf)***	+ 2,155 *(484.46)*			+ 6,285 *(1,412.92)*			+ 8,380 *(1,883.89)*		
	N *(lbf)*	- 2,155 *(-484.46)*			- 3,140 *(-705.90)*			- 4,190 *(-941.94)*		
Max. torque (Mx) *(4)*	**Nm *(lbf/in)***	48 *(424.83)*			110 *(973.58)*			205 *(1,814.40)*		
Max. torque (My) *(4)*	**Nm *(lbf/in)***	90 *(796.56)*			190 *(1,681.64)*			335 *(2,964.99)*		
Max. torque (Mz) *(4)*	**Nm *(lbf/in)***	72 *(637.25)*			160 *(1,416.11)*			285 *(2,522.46)*		
Min....max. stroke *(5)*	**mm *(in)***	7...600 *(0.28...23.62)*			9...1,000 *(0.35...39.37)*			11...1,500 *(0.43...59.06)*		
Repeatability	**mm *(in)***	± 0.02 *(0.001)*								

(1) All technical data (characteristics, dimensions, etc.) for Lexium TAS4 linear tables are available on the product data sheet.
(2) Description of Lexium TAS linear tables; the configuration options selected will determine whether or not certain components are included.
(3) Depending on load and stroke.
(4) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the user guide.
(5) Min. stroke required for the lubrication of the linear guide.

Forces and torques



Lexium TAS

Linear tables with movable carriage and fixed axis profile

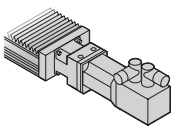
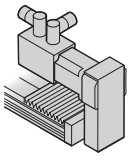
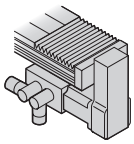
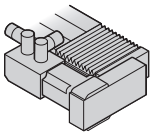
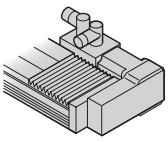
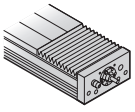
Lexium TAS4 linear tables

References *(1)*

To order Lexium TAS4 linear table, complete each reference by replacing the "•":

Example: TAS42SBD0500A1BS/… *(2)*		**TAS4**	•	S	B	•	••••	•	1	•	•	/*(2)*
Size (Axis profile cross-section)	100 x 39 mm *(3.94 x 1.54 in)*		**1**									/
	150 x 54 mm *(5.91 x 2.13 in)*		**2**									/
	200 x 59 mm *(7.87 x 2.32 in)*		**3**									/
Type of mechanical drive element	Ballscrew			**S**								/
Type of guide	Double recirculating ball bearing guide				**B**							/
Ballscrew pitch	2 mm/rev *(0.08 in/rev)* (for size 1)					**A**						/
	5 mm/rev *(0.19 in/rev)* (for size 1, 2 and 3)					**B**						/
	10 mm/rev *(0.39 in/rev)* (for size 1, 2 and 3)					**C**						/
	16 mm/rev *(0.63 in/rev)* (for size 2)					**D**						/
	20 mm/rev *(0.79 in/rev)* (for size 3)					**E**						/
Stroke *(3)*	State the length in mm						**••••**					/
Sensors	Two PNP sensors as normally closed contacts, not connected *(4)*							**A**				/
	Two PNP sensors as normally closed contacts, not connected *(5)*							**B**				/
	Two PNP sensors as normally closed contacts, connected							**C**				/
	Without sensors							**N**				/
Type of carriage	Type 1								**1**			/
Axis options	With bellow									**B**		/
	Without bellow									**N**		/
Mounting options for motor *(6)*	Straight mounted										**S**	/
	With mounted motor, driven by a belt drive above										**O**	/
	With mounted motor, driven by a belt drive below										**U**	/
	With mounted motor, driven by a belt drive left										**L**	/
	With mounted motor, driven by a belt drive right										**R**	/
	With shaft										**N**	/

(1) All technical data (characteristics, dimensions, etc.) for Lexium TAS4 linear tables are available on the product data sheet.
(2) For the second part of the reference, see page 25.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the linear tables (see page 23).
(4) Supplied with a 5 m (16.40 ft) cable with flying leads at one end.
(5) Supplied with a 0.2 m (0.66 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(6) For the possible mounting options see the following pictures:

Straight mounted	**Driven by a belt drive**				**With shaft**
TAS4...S/…	**TAS4...O/...**	**TAS4...U/…**	**TAS4...L/...**	**TAS4...R/…**	**TAS4…N/XXX**
					

Lexium TAS

Linear tables with movable carriage and fixed axis profile

Lexium TAS4 linear tables

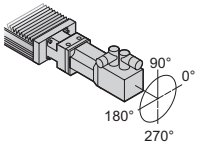
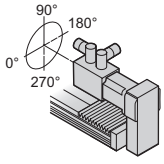
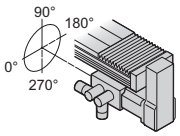
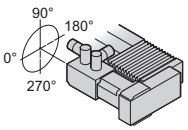
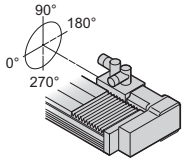
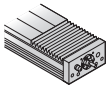
References (continued) *(1)*

To order Lexium TAS4 linear table, complete each reference by replacing the "•":

Example: TAS42SBD0500A1BS *(2)*/H70 + BMH0702P01A2A		*(2)*/	••	•	+	...
Motor interface	Stepper motors BRS 368	/	**V8**			
	Stepper motors BRS 397, 39A	/	**V9**			
	Stepper motors BRS 39B	/	**V0**			
	Stepper motors BRS 3AC, 3AD	/	**V1**			
	Integrated drive with stepper motor ILS•• 571, 572	/	**I6**			
	Integrated drive with stepper motor ILS•• 573	/	**I7**			
	Integrated drive with stepper motor ILS•• 851, 852	/	**I9**			
	Integrated drive with stepper motor ILS•• 853	/	**I8**			
	Integrated drive with brushless DC motor ILE•• 66 with spur wheel gear	/	**E7**			
	Integrated drive with servo motor ILA•• 57	/	**A6**			
	Servo motors BSH/SH3 0401, 0402	/	**H0**			
	Servo motors BSH/SH3 055	/	**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/	**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/	**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/	**H1**			
	Servo motors BSH 1004	/	**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/	**H2**			
	Servo motors BCH2•B A5, 01	/	**C1**			
	Servo motors BCH2•D 02, 04	/	**C2**			
	Servo motors BCH2•F 04	/	**C3**			
	Servo motors BCH2•F 07	/	**C4**			
	Servo motors BCH2•H 10, 20	/	**C5**			
	Servo motors BCH2•M 08	/	**C6**			
	Servo motors BCH2•M 03, 05, 06, 10, 09, 15, 20	/	**C7**			
	Servo motors BCH2•R 20, 30, 35, 45	/	**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/	**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/	**ZZ**			
	Without motor	/	**XX**			
Motor orientation *(3)*	0°	/		**3**		
	90°	/		**0**		
	180°	/		**9**		
	270°	/		**6**		
	Without motor	/		**X**		
Motor reference	State the complete motor reference at the end of the reference, in plain text. Example: **BMH0702P01A2A**				+	...

(1) Technical data (characteristics, dimensions, etc.) for Lexium TAS4 linear tables are available on the product data sheet.
(2) For the first part of the reference, see page 24.
(3) For further information, refer to motor orientation (see below).

Motor orientation

Straight mounted	Driven by a belt drive				With shaft
TAS4...S/•••	**TAS4...O/•••**	**TAS4...U/•••**	**TAS4...L/•••**	**TAS4...R/•••**	**TAS4…N/XXX**
					

Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS4 cantilever axes

Lexium CAS4 cantilever axes with motor and gearbox mounted

Presentation *(1)*

Lexium CAS4 are ready-to-install cantilever axes with toothed belt drive and one linear guide in four sizes. In contrast to the portal axes, the carriage and the drive block are fixed in place. The load is mounted on the movable axis profile or on one of the two end plates attached to the axis profile. The cantilever axes are ideal for lifting heavy loads with short and long strokes.

- The medium speeds and high accelerations of the Lexium CAS4 cantilever axes enable short positioning times. The high feed forces with good repeatability are made possible by the steel tension members in the toothed belt. The fabric coating of the toothed belt ensures friction-optimized in and out toothing and thus quiet and smooth movement.
- Two types of guides are available for transmitting the load to the axis profile designed using FEM:
  - The double ball guide is particularly suitable for applications with high force and torque loads.
  - The roller guide is a cost-optimized guide and is suitable for applications with lower force and torque loads.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium CAS4 cantilever axes are designed for a long service life of 15,000 km *(9,321 miles)*. If the specified forces and torques are not reached, the service life of the Lexium CAS4 cantilever axes increase.
- The threads in the carriage can be used to fasten the Lexium CAS4 cantilever axes. The cantilever axes are typically used vertically, but can also be mounted horizontally, laterally or overhead. The permissible forces and torques do not change.
- The Lexium CAS4 cantilever axes are optionally available with a cover strip to protect internal components, such as linear guide. Furthermore, an antistatic toothed belt and various sensors can be selected as options.

The Lexium CAS4 cantilever axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- Loop-back movement within a work area: pusher, etc.
- High feed forces: clamping, cutting, etc.
- Positioning over long distances: material handling, etc.

Special product features

- Stroke deliverable per millimeter
- End plates and carriage with threaded holes and centering for reproducible load mounting
- Exchangeable grease nipples, for example to mount an automatic lubrication system
- Easy maintenance due to lubrication at each stroke position and grease nipples on both sides of the carriage
- Motor and gearbox assembly via flexible coupling system on all four sides of the end blocks
- Sensors movable in T-slot
- Customized special solutions on request

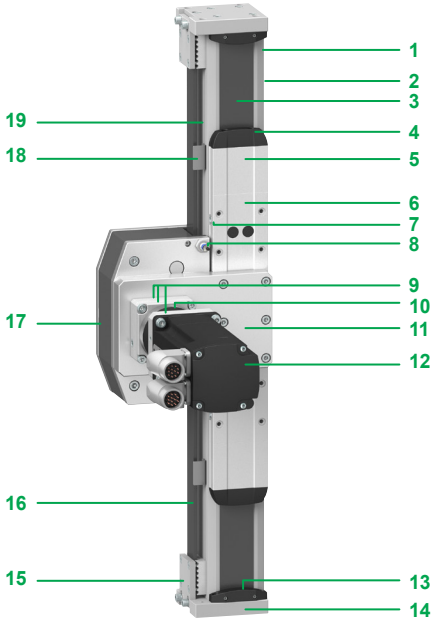
(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS4 cantilever axes are available on the product data sheet.

Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS4 cantilever axes

Description *(1) (2)*



1 Axis profile
2 T-slots for mounting the load (on one side and on the back)
3 Cover strip (optional equipment)
4 Rubber buffer (two per axis)
5 Strip deflector (two per axis, optional equipment)
6 Carriage with threaded holes and centering for reproducible axis mounting
7 Exchangeable grease nipples on each side of the carriage (two per side)
8 Sensor with cable and connector (two per axis, optional equipment)
9 Adaptation plate (optional equipment)
10 Gearbox (optional equipment)
11 Drive block including toothed belt pulley with hollow shaft
12 Motor (optional equipment)
13 Cover strip clamp (two per axis, optional equipment)
14 End plate with threaded holes and centering for reproducible load mounting (two per axis)
15 Toothed belt tensioner (two per axis)
16 Toothed belt
17 Drive block cover
18 Contact plate (two per axis)
19 T-slot for positioning the contact plate

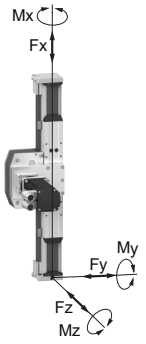
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 15,000 km *(9,321 miles)*

Type of cantilever axis		CAS41BR	CAS42BR	CAS42BB	CAS43BR	CAS43BB	CAS44BB
Axis profile cross-section (width x height)	**mm *(in)***	**Size 1**: 40 x 40 *(1.58 x 1.58)*	**Size 2**: 60 x 60 *(2.36 x 2.36)*		**Size 3**: 80 x 80 *(3.15 x 3.15)*		**Size 4:** 110 x 110 *(4.33 x 4.33)*
Type of mechanical drive element		Toothed belt					
Type of guide		Roller guide		Ball guide	Roller guide	Ball guide	
Feed per revolution	**mm/rev *(in/rev)***	84 *(3.31)*	155 *(6.10)*		205 *(8.07)*		264 *(10.39)*
Max. feed force (Fx) *(4)*	**N *(lbf)***	250 *(56.20)*	650 *(146.12)*		900 *(202.32)*		2,150 *(483.33)*
Max. speed *(3)*	**m/s *(ft/s)***	3 *(9.84)*					
Max. acceleration *(3)*	**m/s² *(ft/s²)***	20 *(65.62)*		50 *(164.04)*	20 *(65.62)*	50 *(164.04)*	
Max. drive torque *(4)*	**Nm *(lbf/in)***	3.5 *(30.97)*	16 *(141.61)*		30 *(265.52)*		90 *(796.56)*
Max. force (Fy) *(4)*	**N *(lbf)***	930 *(209.07)*		3,540 *(795.82)*	2,430 *(546.28)*	5,550 *(1,247.68)*	7,890 *(1,773.74)*
Max. force (Fz) *(4)*		600 *(134.88)*		3,540 *(795.82)*	1,430 *(321.47)*	5,550 *(1,247.68)*	7,890 *(1,773.74)*
Max. torque (My) *(4)*	**Nm *(lbf/in)***	7 *(61.95)*	13 *(115.05)*	24 *(212.41)*	40 *(354.02)*	53 *(469.08)*	85 *(752.31)*
Max. torque (Mz) *(4)*		24 *(212.41)*	29 *(256.67)*	250 *(2,212.68)*	85 *(752.31)*	487 *(4,310.31)*	1,021 *(9,036.61)*
Max. torque (Mz) *(4)*		37 *(327.47)*	45 *(398.28)*	250 *(2,212.68)*	144 *(1,274.50)*	487 *(4,310.31)*	1,021 *(9,036.61)*
Min....max. stroke *(5)*	**mm *(in)***	125...400 *(4.92...15.75)*	125...600 *(4.92...23.62)*	9...700 *(0.35...27.56)*	175...800 *(6.89...31.50)*	11...1,000 *(0.43...39.37)*	13...1,800 *(0.51...70.87)*
Repeatability	**mm *(in)***	± 0.05 *(± 0.002)*					
Typical payloads *(6)*	**kg/*lb***	6 *(13,23)*	10 *(22,04)*	20 *(44,09)*	15 *(33,07)*	30 *(66,14)*	60 *(132,28)*

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS4 cantilver axes are available on the product data sheet.
(2) Description of Lexium CAS4 cantilever axes; the configuration options selected will determine whether or not certain components are included.
(3) Depending on load and stroke.
(4) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(5) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.
(6) Values can also be exceeded. Refer to max. force (Fx) value, contact your Schneider Electric representative.

Forces and torques



Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS4 cantilever axes

References *(1)*

To order Lexium CAS4 cantilever axes, complete each reference by replacing the "•" :

Example: CAS42BBM0350A3NR/… *(2)*		**CAS4**	•	B	•	M	••••	•	3	•	•	/*(2)*
Size (axis profile cross-section)	40 x 40 mm *(1.57 x 1.57 in)*		**1**									/
	60 x 60 mm *(2.36 x 2.36 in)*		**2**									/
	80 x 80 mm *(3.15 x 3.15 in)*		**3**									/
	110 x 110 mm *(4.3 x 4.3 in)*		**4**									/
Type of mechanical drive element	Toothed belt			**B**								/
Type of guide	Recirculating ball bearing guide (for size 2, 3, 4)				**B**							/
	Roller guide (for size 1, 2, 3)				**R**							/
Feed per revolution	84 mm/rev *(3.3 in/rev)* (for size 1)					**M**						/
	155 mm/rev *(6.1 in/rev)* (for size 2)					**M**						/
	205 mm/rev *(8 in/rev)* (for size 3)					**M**						/
	264 mm/rev *(10.4 in/rev)* (for size 4)					**M**						/
Stroke *(3)*	State the length in mm						**••••**					/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected							**A**				/
	Two PNP sensors as normally closed contacts, connected							**B**				/
	Two NPN sensors as normally closed contacts, not connected							**E**				/
	Two NPN sensors as normally closed contacts, connected							**F**				/
	Two NPN sensors as normally open contacts, not connected							**G**				/
	Two NPN sensors as normally open contacts, connected							**H**				/
	Without sensors, without contact plate							**N**				/
Type of carriage	Type 3								**3**			/
Axis options	With anti-static toothed belt/without cover strip									**A**		/
	With cover strip									**B**		/
	Anti-corrosion version/without cover strip									**C**		/
	Anti-corrosion version/with anti-static toothed belt/ without cover strip									**E**		/
	With anti-static toothed belt/with cover strip									**L**		/
	Without option									**N**		/
Mounting options for motor and/or gearbox *(5)*	Hollow shaft										**H**	/
	On right-hand side										**R**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS4 cantilever axes are available on the product data sheet.
(2) For the second part of the reference, see page 29.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the cantilever axes (see page 27).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) For the possible mounting options see the following pictures:

Hollow shaft	**Right-hand side**
CAS4…H/XXXXXXX	**CAS4…R/…**

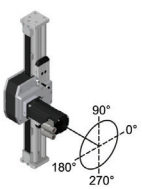
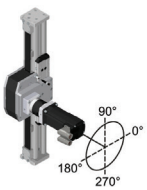
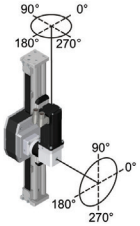
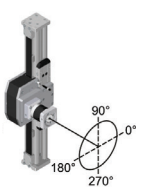
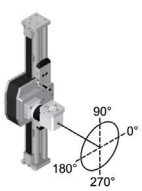
References (continued) *(1)*

To order Lexium CAS4 cantilever axes, complete each reference by replacing the "●":

Example: CAS42BBM0350A3NR *(2)*/**21G9H79 + PLE60 3:1 + BMH0702P01A2A**		*(2)*/	●	●●	●	●●	●	+	…
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor/without gearbox, without adaptation material	/	**X**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS●●571, 572	/				**I6**			
	Integrated drive with stepper motor ILS●●573	/				**I7**			
	Integrated drive with stepper motor ILS●●851, 852	/				**I9**			
	Integrated drive with stepper motor ILS●●853	/				**I8**			
	Integrated drive with brushless DC motor ILE●●66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA●●57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2●B A5, 01	/				**C1**			
	Servo motors BCH2●D 02, 04	/				**C2**			
	Servo motors BCH2●F 04	/				**C3**			
	Servo motors BCH2●F 07	/				**C4**			
	Servo motors BCH2●H 10, 20	/				**C5**			
	Servo motors BCH2●M 08	/				**C6**			
	Servo motors BCH2●M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2●R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE60 3:1 + BMH0702P01A2A**							**+**	**…**

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS4 cantilever axes are available on the product data sheet.
(2) For the first part of the reference, see page 28).
(3) For further information, refer to motor and/or gearbox configuration and orientation (see below).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

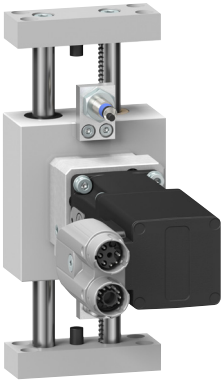
Motor and/or gearbox configuration and orientation

Hollow shaft	**Right-hand side**					
CAS4...H/XXXXXXX	**CAS4...R/1XXX●●●**	**CAS4...R/2●G●●●●**	**CAS4...R/2●A●●●●**	**CAS4...R/3●G●●●X**	**CAS4...R/3●A●●●X**	**CAS4...R/4●●X●● X**
						

Lexium CAS, CAR

Cantilever axes with moveable axis body or end plates and fixed drive block

Lexium CAR4 cantilever axes



Lexium CAR40R cantilever axes with motor mounted

Lexium CAR4•B cantilever axes with motor and gearbox mounted

Presentation *(1)*

Lexium CAR4 are ready-to-install cantilever axes with toothed belt or gear rack drive and two linear guides in five sizes. In contrast to the portal axes, the axis body is fixed in place. The load is mounted on one of the two movable end plates. The cantilever axes are ideal for lifting medium loads with medium strokes.

- The medium speeds and accelerations of the Lexium CAR4 cantilever axes enable short positioning times. The medium feed forces with good repeatability are made possible by the steel tension members in the toothed belt.
- One type of guide is available for transmitting the load to the axis body:
  - The linear ball bearing guide is particularly suitable for applications with low to medium force and torque loads.
- The individual forces (Fy, Fz) and torques (Mx, My, Mz) of the Lexium CAR4 cantilever axes are designed for a long service life of 15,000 km *(9,321 miles)*. If the specified forces and torques are not reached, the service life of the Lexium CAR4 cantilever axes increase.
- The threads or the T-slots in the axis body can be used to fasten the Lexium CAR4 cantilever axes. The cantilever axes are typically used vertically, but can also be mounted horizontally, laterally or overhead. The permissible forces and torques do not change.
- The Lexium CAR4 cantilever axes are optionally available with antistatic toothed belt and various sensors.
- The Lexium CAR4 cantilever axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications with the following requirements:

- High-speed positioning for short working distances: material handling, etc.
- High feed forces: clamping, assembly, etc.

Special product features

- Stroke deliverable per millimeter
- Low moving net mass
- End plates with threaded holes and centering for reproducible load mounting
- Linear ball bearing guide lubricated for life
- Motor and gearbox assembly via flexible coupling system
- Customized special solutions on request

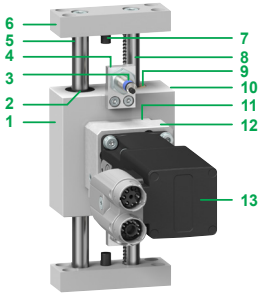
(1) Technical data (characteristics, dimensions, etc.) for Lexium CAR4 cantilever axes are available on the product data sheet.

Lexium CAS, CAR

Cantilever axes with moveable axis body or end plates and fixed drive block

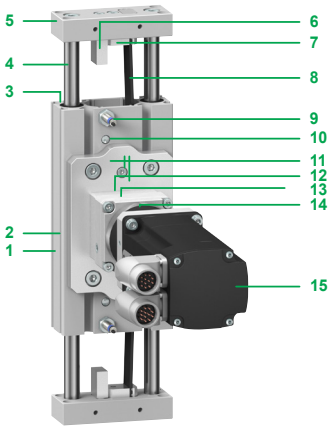
Lexium CAR4 cantilever axes

Description *(1) (2)*



CAR40 with gear rack

1 Axis body including rack pinion with hollow shaft
2 Linear ball bearing (two per axis)
3 Sensor with cable and connector (two per axis, optional equipment)
4 Sensor holder (two per axis)
5 Guide rod
6 End plate with counterbore and centering for reproducible load mounting (two per axis)
7 Rubber buffer (two per axis)
8 Gear rack
9 Slide bearing (two per axis)
10 Threaded holes and centering for mounting the axis (on one side)
11 Coupling housing (optional equipment)
12 Adaptation plate (optional equipment)
13 Motor (optional equipment)



CAR41, CAR42, CAR43, CAR44 with toothed belt

1 Axis body including toothed belt pulley with hollow shaft
2 Threaded holes and centering for mounting the axis (CAR41, on one side and on the back)
T-slots for mounting the axis (CAR42, CAR43, CAR44, on both sides and on the back)
3 Linear ball bearing (four per axis)
4 Guide rod (two per axis)
5 End plate with threaded holes, counterbore and centering for reproducible load mounting (two per axis)
6 Contact block (two per axis)
7 Toothed belt tensioner (two per axis)
8 Toothed belt
9 Sensor with cable and connector (two per axis, optional equipment)
10 Rubber buffer (two per axis, inside axis body)
11 Axis body adapter plate
12 Coupling housing (optional equipment)
13 Adaptation plate (optional equipment)
14 Gearbox (optional equipment)
15 Motor (optional equipment)

Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 15,000 km *(9,321 miles)*

Type of cantilever axis		CAR40RC	CAR41BC	CAR42BC	CAR43BC	CAR44BC
Axis body cross-section (width x height)	**mm *(in)***	**Size 0**: 66 x 30 *(2.6 x 1.18)*	**Size 1**: 80 x 30 *(3.15 x 1.18)*	**Size 2**: 100 x 40 *(3.9 x 1.57)*	**Size 3**: 120 x 50 *(4.7 x 1.97)*	**Size 4**: 160 x 50 *(6.3 x 1.97)*
Type of mechanical drive element		Gear rack	Toothed belt			
Type of guide		Linear ball bearing guide				
Feed per revolution	**mm/rev *(in/rev)***	50 *(1.97)*	75 *(2.95)*	100 *(3.94)*	100 *(3.94)*	100 *(3.94)*
Max. feed force (Fx) *(4)*	**N *(lbf)***	80 *(17.98)*	125 *(28.10)*	435 *(97.79)*	535 *(120.27)*	705 *(158.49)*
Max. speed *(3)*	**m/s *(ft/s)***	3 *(9.84)*				
Max. acceleration *(3)*	**m/s² *(ft/s²)***	20 *(65.62)*				
Max. drive torque *(4)*	**Nm *(lbf/in)***	0.6 *(5.31)*	1.5 *(13.27)*	7 *(61.95)*	8.5 *(75.23)*	11.5 *(101.78)*
Max. force (Fy) *(4)*	**N *(lbf)***	160 *(35.96)*	210 *(47.20)*	290 *(65.19)*	460 *(103.41)*	950 *(213.56)*
Max. force (Fz) *(4)*		130 *(29.22)*	180 *(40.46)*	250 *(56.20)*	400 *(89.92)*	820 *(184.34)*
Max. torque (Mx) *(4)*	**Nm *(lbf/in)***	1.9 *(16.81)*	5.1 *(45.13)*	9 *(79.65)*	16 *(141.61)*	45 *(398.28)*
Max. torque (My) *(4)*		2.8 *(24.78)*	6.7 *(59.29)*	21 *(185.86)*	34 *(300.92)*	85 *(752.31)*
Max. torque (Mz) *(4)*		3.5 *(30.97)*	7.8 *(69.03)*	25 *(221.26)*	39 *(345.17)*	100 *(885.07)*
Min. … Max. stroke *(5)*	**mm *(in)***	8…150 *(0.31…5.90)*	8…200 *(0.31…7.87)*	10…300 *(0.39…11.81)*	12…400 *(0.47…15.74)*	14…500 *(0.55…19.68)*
Repeatability	**mm *(in)***	± 0.05 *(± 0.002)*				
Typical payload *(6)*	**kg *(lb)***	1 *(2.20)*	3 *(6.61)*	5 *(11.02)*	10 *(22.04)*	18 *(39.68)*

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAR4 cantilever axes are available on the product data sheet.
(2) Description of Lexium CAR4 cantilever axes; the configuration options selected will determine whether or not certain components are included.
(3) Depending on load and stroke.
(4) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(5) Min. stroke required for the lubrication of the linear guide. For information about greater strokes, contact your Schneider Electric representative.
(6) Values can also be exceeded. Refer to max. force (Fx) value, contact your Schneider Electric representative.

Forces and torques

Lexium CAS, CAR

Cantilever axes with moveable axis body or end plates and fixed drive block

Lexium CAR4 cantilever axes

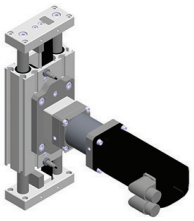
References *(1)*

To order Lexium CAR4 cantilever axes, complete each reference by replacing the "•" :

Example: CAR42BCM0150A1NR/… *(2)*		**CAR4**	•	•	C	M	••••	•	1	•	•	/(2)
Size (axis body cross-section)	66 x 30 mm *(2.6 x 1.18 in)*		**0**									/
	80 x 30 mm *(3.15 x 1.18 in)*		**1**									/
	100 x 40 mm *(3.9 x 1.57 in)*		**2**									/
	120 x 50 mm *(4.7 x 1.97 in)*		**3**									/
	160 x 50 mm *(6.3 x 1.97 in)*		**4**									/
Type of mechanical drive element	Gear rack (for size 0)			**R**								/
	Toothed belt (for size 1, 2, 3, 4)			**B**								/
Type of guide	Linear ball bearing guide				**C**							/
Feed per revolution	50 mm/rev *(1.97 in/rev)* (for size 0					**M**						/
	75 mm/rev *(2.95 in/rev)* (for size 1)					**M**						/
	100 mm/rev *(3.9 in/rev)* (for size 2, 3, 4)					**M**						/
Stroke *(3)*	State the length in mm						••••					/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected							**A**				/
	Two PNP sensors as normally closed contacts, connected							**B**				/
	Two NPN sensors as normally closed contacts, not connected							**E**				/
	Two NPN sensors as normally closed contacts, connected							**F**				/
	Two NPN sensors as normally open contacts, not connected							**G**				/
	Two NPN sensors as normally open contacts, connected							**H**				/
	Without sensors, with contact plate							**N**				/
Type of axis body	Type 1								**1**			/
Axis options	Antistatic toothed belt (for size 2, 3, 4)									**A**		/
	Increased corrosion resistance (for size 1, 2, 3, 4)									**C**		/
	Increased corrosion resistance, antistatic toothed belt (for size 2, 3, 4)									**E**		/
	Without									**N**		/
Mounting options for motor and/or gearbox *(5)*	Hollow shaft										**H**	/
	On right-hand side										**R**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAR4 cantilever axes are available on the product data sheet.
(2) For the second part of the reference, see page 33.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the cantilever axes (see page 31).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) For the possible mounting options see the following pictures:

Hollow shaft	**Right-hand side**
CAR4…H/XXXXXXX	**CAR4…R/…**



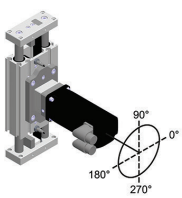
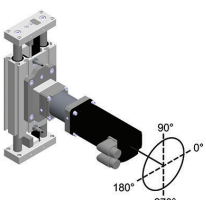
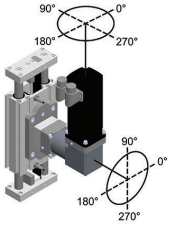
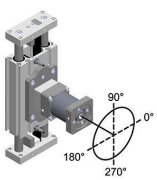
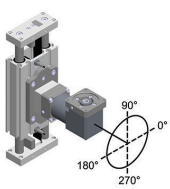
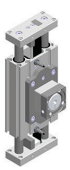
References (continued) *(1)*

To order Lexium CAR4 cantilever axes, complete each reference by replacing the "•":

Example: CAR42BCM0150A1NR *(2)*/ **21G9H79 + PLE60 3:1 + BMH0702P01A2A**		*(2)*/	•	••	•	••	•	+	...
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor/without gearbox, without adaptation material	/	**X**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS••571, 572	/				**I6**			
	Integrated drive with stepper motor ILS••573	/				**I7**			
	Integrated drive with stepper motor ILS••851, 852	/				**I9**			
	Integrated drive with stepper motor ILS••853	/				**I8**			
	Integrated drive with brushless DC motor ILE••66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA••57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2•B A5, 01	/				**C1**			
	Servo motors BCH2•D 02, 04	/				**C2**			
	Servo motors BCH2•F 04	/				**C3**			
	Servo motors BCH2•F 07	/				**C4**			
	Servo motors BCH2•H 10, 20	/				**C5**			
	Servo motors BCH2•M 08	/				**C6**			
	Servo motors BCH2•M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2•R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE60 3:1 + BMH0702P01A2A**							**+**	...

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAR4 cantilever axes are available on the product data sheet
(2) For the first part of the reference, see page 32.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see below).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

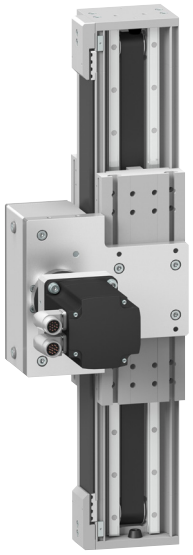
Motor and/or gearbox configuration and orientation

Hollow shaft	**Right-hand side**					
CAR4...H/XXXXXXX	**CAR4...R/1XXX•••**	**CAR4...R/2•G••••**	**CAR4...R/2•A••••**	**CAR4...R/3•G•••X**	**CAR4...R/3•A•••X**	**CAR4...R/4••X••X**
						

Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS2 telescopic axes



Lexium CAS2 telescopic axes with motor and gearbox mounted

Presentation *(1)*

Lexium CAS2 is a read y-to-install telescopic axis with toothed belt drive and four linear guides with a telescopic carriage. In contrast to the portal axes, the drive block of the telescopic axis is fixed in place. The load is mounted on the moveable telescopic carriage, which in turn is located on the also moveable axis profile. Due to this design, the total length is shorter than the stroke for strokes bigger than 1 m, as the total length only increases by half the stroke. The telescopic axis is ideally suited for the transport of medium loads with medium strokes.

- The medium speeds and accelerations of the Lexium CAS2 telescopic axes enable short positioning times. The medium feed forces with good repeatability are made possible by the steel tension members in the toothed belt.
- One type of guide is available for transmitting the load to the axis profile:
  - The double recirculating ball bearing guide is particularly suitable for applications with lateral torsional torque (Mx) and medium force and torque loads.
- The individual forces (Fx, Fy, Fz) and torques (Mx, My, Mz) of the Lexium CAS2 telescopic axes are designed for a long service life of 15,000 km. If the specified forces and torques are not reached, the service life of the Lexium CAS2 telescopic axes increase.
- The T-slots in the carriage of the drive block can be used to fasten the Lexium CAS2 telescopic axes. The telescopic axis is typically used horizontally, but can also be mounted vertically, laterally or overhead. The permissible forces and torques do not change.
- The Lexium CAS2 telescopic axes are available with different carriage lengths.
- The Lexium CAS2 telescopic axes can be combined with all motors and / or gearboxes offered by Schneider Electric. The mounting of third-party motors and / or third-party gearboxes is also possible.

Applications

Applications requiring positioning over long distances where space is at a premium:

- Material handling
- Stock transporters
- Transfer machines
- Etc.

Special product features

- Stroke deliverable per millimeter
- Double stroke length with single total length increase
- Low moving net mass
- Easy maintenance due to lubrication at each stroke position
- Sensor contact block movable in T-slot
- Customized special solutions on request

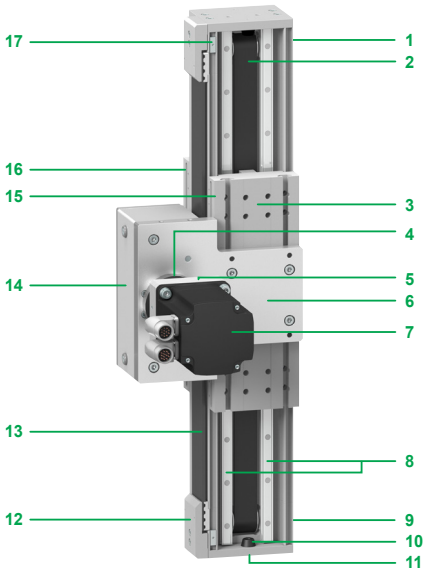
(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS2 telescopic axes are available on the product data sheet.

Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS2 telescopic axes

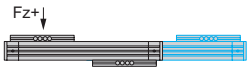
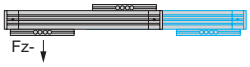
Description *(1) (2)*



1 Axis profile
2 Toothed belt (for the carriage)
3 Carriage with T-slots for mounting the axis
4 Gearbox (optional equipment)
5 Adaptation plate (optional equipment)
6 Drive block including toothed belt pulley
7 Motor (optional equipment)
8 Guide (two per carriage)
9 End block including deflection pulley (two per axis)
10 Rubber buffer (two per axis)
11 End plate (two per axis)
12 Toothed belt tensioner (two per axis)
13 Toothed belt (for the axis profile)
14 Drive block cover
15 Sensor with cable or connector (inside the carriage, optional equipment)
16 Carriage with T-slots for load mounting
17 Contact plate (two per axis)

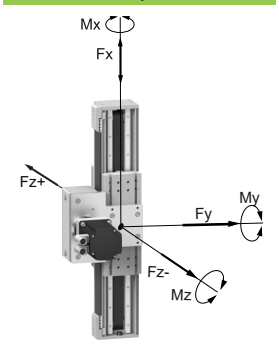
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 30,000 km *(18,641 miles)*

Type of telescopic axis			**CAS24BB**
Axis profile cross-section (width x height)		**mm *(in)***	**Size 4**: 120 x 95 (4.72 x 3.74)
Type of mechanical drive element			Toothed belt
Type of guide			Double ball guide
Feed per revolution		**mm/rev *(in/rev)***	300 *(11.81)*
Max. feed force (Fx) *(3)*		**N *(lbf)***	1,500 *(337.21)*
Max. speed *(4)*		**m/s *(ft/s)***	3 *(9.84)*
Max. acceleration *(4)*		**m/s² *(ft/s²)***	20 *(65.62)*
Max. drive torque *(3)*		**Nm *(lbf/in)***	36 *(318.62)*
Max. force (Fy) *(3)*		**N *(lbf)***	2,460 *(553.03)*
Max. force (Fz-, Fz+) *(3)*	Fz+ 	**N *(lbf)***	+4,650 *(+1,045.36)*
	Fz- 	**N *(lbf)***	-2,320 *(-521.55)*
Max. torque (Mx) *(3)*		**Nm *(lbf/in)***	70 *(619.55)*
Max.torque (My) *(3)*	With carriage type 1	**Nm *(lbf/in)***	281 *(2,487.05)*
	With carriage type 2		374 *(3,310.17)*
Max. torque (Mz) *(3)*	With carriage type 1	**Nm *(lbf/in)***	298 *(2,637.52)*
	With carriage type 2		397 *(3,513.74)*
Min. … Max. stroke *(5)*		**mm *(in)***	13...2,400 *(0.51...94.49)*
Repeatability		**mm *(in)***	± 0.1 *(0.004)*
Typical payload *(6)*		**kg *(lb)***	35 *(77.16)*

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS2 telescopic axes are available on the product data sheet.
(2) Description of Lexium CAS2 telescopic axes; the configuration options selected will determine whether or not certain components are included.
(3) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(4) Depending on load and stroke.
(5) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.
(6) Values can also be exceeded. Refer to max. force (Fx) value, contact your Schneider Electric representative.

Forces and torques



Lexium CAS, CAR

Cantilever axes with moveable axis profile or end plates and fixed drive block

Lexium CAS2 telescopic axes

References *(1)*

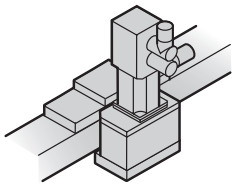
To order Lexium CAS2 telescopic axes, complete each reference by replacing the "●" :

Example: CAS24BBM1200A1NR/…*(2)*		**CAS2**	**4**	**B**	**B**	**M**	**●●●●**	**●**	**●**	**N**	**R**	**/(2)**
Size (axis profile cross-section)	120 x 95 mm *(4.72 x 3.74 in)*		**4**									/
Type of mechanical drive element	2 toothed belts: 1 for the carriage and 1 for the axis profile			**B**								/
Type of guide	Double recirculating ball bearing guide				**B**							/
Feed per revolution	150 mm/rev *(5.91 in/rev)* (for axis profile) 300 mm/rev *(11.81 in/rev)* (for axis carriage)					**M**						/
Stroke *(3)*	State the length in mm						**●●●●**					/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected							**A**				/
	Two PNP sensors as normally closed contacts, connected							**B**				/
	Without sensors, with contact plate							**N**				/
Type of carriage	Type 1								**1**			/
	Type 2								**2**			/
Axis options	Without option									**N**		/
Mounting options for motor and/or gearbox *(5)*	On right-hand side										**R**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS2 telescopic axes are available on the product data sheet.
(2) For the second part of the reference, see page 37.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the telescopic axes (see page 35).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) For the possible mounting options see the following pictures:

Right-hand side

CAS2…R/…



References (continued) *(1)*

To order Lexium CAS2 telescopic axes, complete each reference by replacing the "•" :

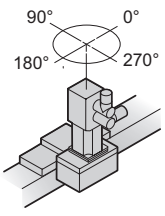
Example: CAS24BBM1200A1NR *(2)*/23G6H16 + PLE80 3:1 + BMH0702P01A2A		*/(2)/*	•	••	•	••	•	+	...
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angular planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS••571, 572	/				**I6**			
	Integrated drive with stepper motor ILS••573	/				**I7**			
	Integrated drive with stepper motor ILS••851, 852	/				**I9**			
	Integrated drive with stepper motor ILS••853	/				**I8**			
	Integrated drive with brushless DC motor ILE••66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA••57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2•B A5, 01	/				**C1**			
	Servo motors BCH2•D 02, 04	/				**C2**			
	Servo motors BCH2•F 04	/				**C3**			
	Servo motors BCH2•F 07	/				**C4**			
	Servo motors BCH2•H 10, 20	/				**C5**			
	Servo motors BCH2•M 08	/				**C6**			
	Servo motors BCH2•M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2•R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	No motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE80 3:1 + BMH1001P01A2A**							**+**	**...**

(1) Technical data (characteristics, dimensions, etc.) for Lexium CAS2 telescopic axes are available on the product data sheet.
(2) For the first part of the reference, see page 36.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see below).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

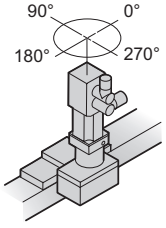
Motor and/or gearbox configuration and orientation

Right-hand side

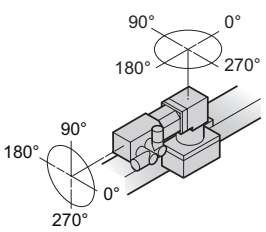
CAS2...R/1XXX•••



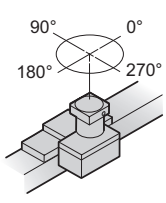
CAS2...R/2•G••••



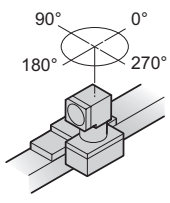
CAS2...R/2•A••••

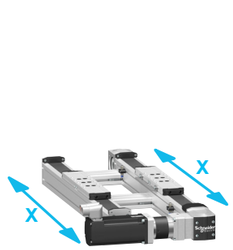


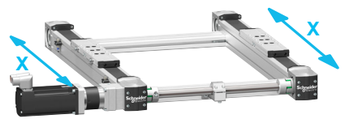
CAS2...R/3•G•••X

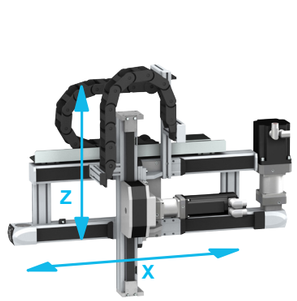


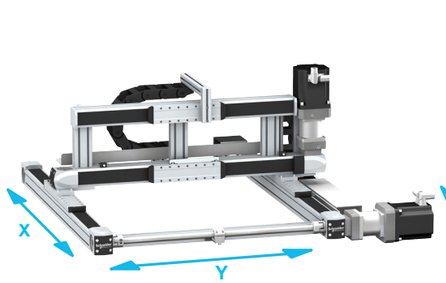
CAS2...R/3•A•••X

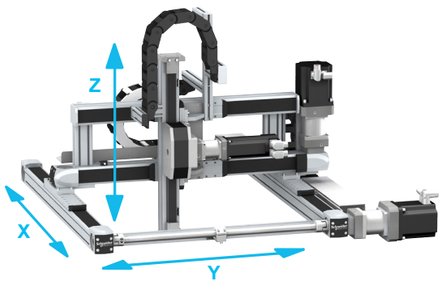












Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Axis type		**Double portal axes**		**Linear positioners**	**Portal robots**	
Number of movement directions		1		**2**		**3**
Typical direction of movement		Horizontal: Combination of two parallel X axes		Horizontal and vertical: Combination of one X- axis and one Z- axis	Horizontal: Combination of one X- and one Y- axis	Horizontal and vertical: Combination of two perpendicular axes X- and Y- and one Z- axis
Fastening of the load		On both carriages		On the side or on the end blocks of the Z- axis profile	On the Y- axis carriage	On the side or on the end blocks of the Z- axis profile
Moving part		Carriage				
Multi axes system type		PAS4●P axes + PAS4●H support axis (driven by the load)	PAS4●B + PAS4●B axes (shaft-driven)	■ MAXH + CAS4 axes ■ MAXH + CAR4 axes	■ MAXS + MAXH axes ■ MAXS + PAS4●B axes	■ MAXS + MAXH + CAS4 axes ■ MAXS + MAXH + CAR4 axes
Type of mechanical drive element		X: Toothed belt on one axis	X: Toothed belt on both axes	X: Toothed belt on one axis Z: Toothed belt	X: Toothed belt on both axes Y: Toothed belt on one axis	X: Toothed belt on both axes Y: Toothed belt on one axis Z: Toothed belt
Type of guide		Recirculating ball bearing guide or roller guide	Recirculating ball bearing guide or roller guide	Recirculating ball bearing guide or roller guide	Recirculating ball bearing guide or roller guide	Recirculating ball bearing guide or roller guide
Main characteristics		■ High acceleration ■ High speed ■ Long stroke length ■ Certified for Cleanrooms with ISO class 6 (ISO14644-1)	■ High precision movement (positioning, guiding) ■ High feed forces	■ Compact and stiff system for pick and place, and also for lang stroke lengths	■ Long stroke length on both axes	■ Long stroke length on three axes
Available sizes		**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*	**Size 1**: 40 x 40 mm cross section *(1.57 x 1.57 in)* **Size 2**: 60 x 60 mm cross section *(2.36 x 2.36 in)* **Size 3**: 80 x 80 mm cross section *(3.15 x 3.15 in)* **Size 4**: 110 x 110 mm cross section *(4.3 x 4.3 in)*
Stroke	**On the X- axis**	9...5,500 mm *(0.35... 216.53 in)*		9...5,500 mm *(0.35... 216.53 in)*	9...5,500 mm *(0.35... 216.53 in)*	9...5,500 mm *(0.35... 216.53 in)*
	On the Y- axis	–		–	9...1,500 mm *(0.35....59.05 in)*	9...1,500 mm *(0.35....59.05 in)*
	On the Z- axis	–		9...1,800 mm *(50.35...70.86 in)*	–	9...1,800 mm *(50.35...70.86 in)*
Options		■ Choice of guide type: Ball guide (for applications requiring high forces and torques) or roller guide (simple, cost-effective solution) ■ Wide range of sensors for the limit switch function ■ Choice of carriage types for adapting the load ■ Option to add carriages ■ Increased corrosion resistance ■ Anti-static belt ■ Cover strip ■ Several different motor mounting options ■ Variable distance between the two axes		■ Choice of guide type: Ball guide (for applications requiring high forces and torques) or roller guide (simple, cost-effective solution)		
Range		**Lexium** MAX Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions				
Reference		**MAXH**	**MAXS**	**MAXP**	**MAXR●2**	**MAXR●3**
Page		42	42	48	50	50

Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Combinations of drive units and multi-axes

Drive element		Double portal axes				Planetary gearboxes *(1)*			
	Type	MAXH41 MAXS41	MAXH42 MAXS42	MAXH43 MAXS43	MAXH44 MAXS44	PLE40 / WPLE40	PLE60 / WPLE60	PLE80 / WPLE80	PLE120 / WPLE120
Stepper motors	BRS368	■	■	■		■			
	BRS397	■	■	■	■		■	■	■
	BRS39A	■	■	■	■		■	■	■
	BRS39B	■	■	■	■		■	■	■
	BRS3AC		■		■			■	■
	BRS3AD		■		■			■	■
Integrated stepper motors	ILS1●571	■	■	■		■	■		
	ILS1●572	■	■	■		■	■		
	ILS1●573	■	■	■		■	■	■	
	ILS1●851	■	■	■	■		■	■	■
	ILS1●852	■	■	■	■		■	■	■
	ILS1●853	■	■	■	■		■	■	■
Integrated servo motors	ILA1●571	■	■	■	■	■	■	■	
	ILA1●572	■	■	■	■	■	■	■	
Integrated DC-motors with mounted gearbox	ILE1●661●●●1	■	■	■	■				
	ILE1●661●●●2	■	■	■	■				
	ILE1●661●●●3	■	■	■	■				
	ILE1●661●●●4	■	■	■	■				
Servo motors	BSH / SH3 0401					■	■		
	BSH / SH3 0402					■	■		
	BSH / SH3 0551	■	■	■		■	■		
	BSH / SH3 0552	■	■	■		■	■		
	BSH / SH3 0553	■	■	■		■	■		
	BSH / BMH / --- / MH3 / SH3 / ILM 0701	■	■	■	■		■	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 0702	■	■	■	■		■	■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 0703	■	■	■	■		■	■	■
	BSH / BMH / --- / MH3 / SH3 / ILM 1001		■		■			■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1002		■		■			■	■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1003		■		■			■	■
	BSH / --- / --- / --- / SH3 / --- 1004				■				■
	BSH / BMH / --- / MH3 / SH3 / ILM 1401				■				■
	BSH / BMH / BMi / MH3 / SH3 / ILM 1402				■				■
	BSH / BMH / --- / MH3 / SH3 / --- 1403				■				■
	BSH / --- / --- / --- / SH3 / --- 1404				■				■
Servo motors BCH2	BCH2MBA53					■			
	BCH2MB013					■			
	BCH2LD023	■	■	■			■		
	BCH2LD043	■	■	■			■		
	BCH2LF043	■	■	■	■			■	
	BCH2HF073		■	■	■			■	
	BCH2LF073		■	■	■			■	
	BCH2LH103				■			■	■
	BCH2MM052				■			■	■
	BCH2MM031				■			■	■
	BCH2MM102				■			■	■
	BCH2HM102				■			■	■
	BCH2MM081				■			■	■
	BCH2MM061				■			■	■
	BCH2MM091				■			■	■
	BCH2MM152				■			■	■
	BCH2LH203				■			■	■
	BCH2MM202							■	■
	BCH2MR202								
	BCH2HR202								
	BCH2MR302								
	BCH2MR301								
	BCH2MR352								
	BCH2MR451								
Planetary gearboxes *(1)*	PLE40 / WPLE40	■	■	■					
	PLE60 / WPLE60	■	■	■	■				
	PLE80 / WPLE80		■	■	■				
	PLE120 / WPLE120				■				

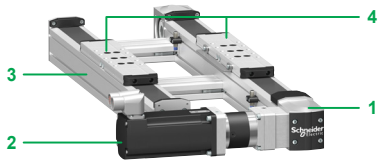
(1) Planetary gearboxes from company Neugart GmbH.

■ Possible to combine
Incompatible

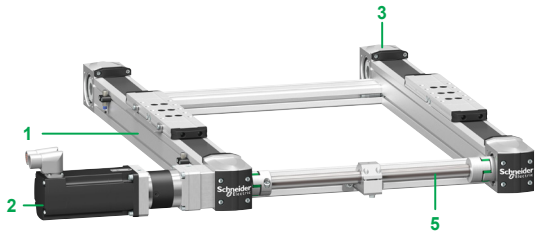
Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXH / MAXS double portal axes



Lexium MAXH double portal axes with motor and gearbox mounted



Lexium MAXS double portal axes with motor and gearbox mounted

Presentation *(1)*

Lexium MAXH and Lexium MAXS double portal axes are linear motion axes.
They consist of two PASB portal axes mounted in parallel with:

- First axis (**1**) driven by drive unit (**2**)
- Second axis (**3**) driven by:
  - MAXH: the load mounted on the two carriages (**4**)
  - MAXS: the synchronous shaft (**5**)

The carriages are driven by a toothed belt, available with either a roller guide or a ball guide.

- MAX●2BB, MAX●3BB and MAX●4BB axes, with a ball guide, are particularly suitable for applications requiring high forces and significant torque.
The roller guides on MAX●1BR, MAX●2BR and MAX●3BR axes offer a simple and cost-effective guiding solution for other applications.
- Lexium MAXH / MAXS double portal axes can provide a solution to applications requiring positioning of heavy loads over a long stroke with a high dynamic response.
- Lexium MAXH and Lexium MAXS double portal axes offer different configuration options, including axis length, different types of sensor for the limit switch function, addition of a cover strip, the choice between several types and sizes of carriage, the option of having up to three carriages, an anti-static toothed belt, and an anti-corrosion version (see page 45).
- Schneider Electric offers numerous drive units for driving Lexium MAXH and Lexium MAXS axes (see pages 40 and 46).
Third-party drive units can also be used under certain conditions. Contact our Customer Care Center for further details.

Applications

Applications with the following requirements:

- Positioning of heavy loads and/or involving large surface areas: material handling, etc.
- Positioning over long distances: material handling, Pick & Place, etc.

Special product features

- Profiles with T-slots on 3 sides for simple integration into existing structures
- Carriage with centering tapped holes for mounting the load
- Grease nipples accessible on each side of the carriages to simplify routine maintenance
- Quick-coupling system for easy motor assembly
- Stroke in various lengths available per millimeter
- Option to position sensors anywhere along the profile thanks to the T-slots

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXH / MAXS double portal axes are available on the product data sheet. The load, force and torque data indicated in all the documents relates to carriages mounted on a rigid mechanical structure with a centrally mounted load.

Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXH / MAXS double portal axes

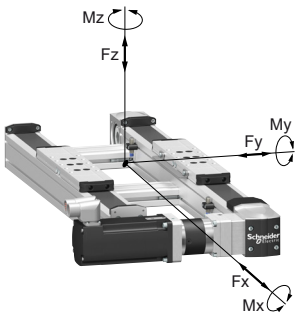
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 30,000 km *(18,641 miles)*

Type of double portal axes			MAXH41BR	MAXH42BR	MAXH42BB	MAXH43BR	MAXH43BB	MAXH44BB
Axis profile cross-section (width x height)		**mm** *(in)*	**Size 1**: 40 x 40 *(1.58 x 1.58)*	**Size 2**: 60 x 60 *(2.36 x 2.36)*		**Size 3**: 80 x 80 *(3.15 x 3.15)*		**Size 4**: 110 x 110 *(4.33 x 4.33)*
Type of mechanical drive element			Toothed belt					
Type of guide			Roller guide		Ball guide	Roller guide	Ball guide	
Feed per revolution		**mm/rev** *(in/rev)*	84 *(3.31)*	155 *(6.10)*		205 *(8.07)*		264 *(10.39)*
Max. feed force (Fx) *(2)*		**N** *(lbf)*	300 *(67.44)*	800 *(179.84)*		1,100 *(247.28)*		2,600 *(584.50)*
Max. speed *(3)*		**m/s** *(ft/s)*	8 *(26.25)*		5 *(16.40)*	8 *(26.25)*	5 *(16.40)*	
Max. acceleration *(3)*		**m/s²** *(ft/s²)*	20 *(65.62)*		50 *(164.04)*	20 *(65.62)*	50 *(164.04)*	
Max. drive torque *(2)*		**Nm** *(lbf/in)*	4 *(35.40)*	20 *(177.01)*		36 *(318.62)*		110 *(973.58)*
Max. force (Fy) *(2)*		**N** *(lbf)*	990 *(222.56)*		4,215 *(947.56)*	2,640 *(593.49)*	6,615 *(1,487.11)*	9,405 *(2,114.32)*
Max. force (Fz) *(2)*			645 *(145)*		4,215 *(947.56)*	1,560 *(350.70)*	6,615 *(1,487.11)*	9,405 *(2,114.32)*
Max. torque (Mx) *(2) (4)* ***Note**: di: inside axis distance (mm)*		**Nm** *(lbf/in)*	8.6 + 0,22 x di *(76.11 + 0,22 x di)*	12.9 + 0,22 x di *(114.17 + 0,22 x di)*	84.3 + 1.41 x di *(746.11 + 1.41 x di)*	41.6 + 0.52 x di *(368.19 + 0.52 x di)*	176.4 + 2.21 x di *(1,561.27 + 2.21 x di)*	344.9 + 3.14 x di *(3,044.65 + 3.14 x di)*
Min. ... max. inside axis distance (di)		**mm** *(in)*	100…300 *(3.94…11.81)*	110...400 *(4.33…15.74)*		120...500 *(4.72…19.68)*		130...600 *(5.11…23.62)*
Max. torque (My) *(2)*	with carriage type 1	**Nm** *(lbf/in)*	–	36 *(318.62)*	148 *(1,309.91)*	102 *(902.77)*	324 *(2867.64)*	512 *(4,531.58)*
	with carriage type 2		22 *(194.71)*	62 *(548.74)*	388 *(3,434.08)*	174 *(1,540.02)*	758 *(6708.86)*	1,310 *(11,594.47)*
	with carriage type 4		56 *(495.64)*	112 *(991.28)*	724 *(6,407.93)*	320 *(2,832.23)*	1,374 *(12,160.92)*	2,418 *(21,401.10)*
Max. torque (Mz) *(2)*	with carriage type 1	**Nm** *(lbf/in)*	–	28 *(247.82)*	74 *(654.95)*	86 *(761.16)*	162 *(1,433.82)*	256 *(2,265.79)*
	with carriage type 2		17 *(150.46)*	48 *(424.83)*	194 *(1,717.04)*	148 *(1,309.91)*	379 *(3,354.43)*	655 *(5,797.23)*
	with carriage type 4		43 *(380.58)*	87 *(770.01)*	362 *(3,203.96)*	271 *(2,398.55)*	687 *(6,080.46)*	1,209 *(10,700.55)*
Min. … max. stroke *(5)*		**mm** *(in)*	125...3,000 *(4.92...118.11)*	125...5,500 *(4.92...216.54)*	9...5,500 *(0.35...216.54)*	175...5,500 *(6.89...216.54)*	11...5,500 *(0.43...216.54)*	13...5,500 *(0.51...216.54)*
Repeatability		**mm** *(in)*	± 0.1 *(0.003)*					

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXH double portal axes are available on the product data sheet. The load, force and torque data indicated in all the documents relates to carriages mounted on a rigid mechanical structure with a centrally mounted load.
(2) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz)and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(3) Depending on load and stroke.
(4) These figures only apply to rigid connected carriage via adapter plate and inside axis distance (di).The plate is not included.
(5) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.

Forces and torques



Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXH / MAXS double portal axes

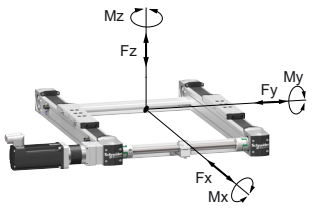
Mechanical characteristics *(1)*

Force and torque (Fx, Fy, Fz, Mx, My, Mz) are calculated for a service life of 30,000 km *(18,641 miles)*

Type of double portal axes		MAXS41BR	MAXS42BR	MAXS42BB	MAXS43BR	MAXS43BB	MAXS44BB
Axis profile cross-section (width x height)	**mm** ***(in)***	**Size 1**: 40 x 40 *(1.58 x 1.58)*	**Size 2**: 60 x 60 *(2.36 x 2.36)*		**Size 3**: 80 x 80 *(3.15 x 3.15)*		**Size 4**: 110 x 110 *(4.33 x 4.33)*
Type of mechanical drive element		Toothed belt					
Type of guide		Roller guide		Ball guide	Roller guide	Ball guide	
Feed per revolution	**mm/rev** ***(in/rev)***	84 *(3.31)*	155 *(6.10)*		205 *(8.07)*		264 *(10.39)*
Max. feed force (Fx) *(2)*	**N** ***(lbf)***	450 *(101.16)*	1,200 *(269.77)*		1,650 *(370.93)*		3,900 *(876.75)*
Max. speed *(3)*	**m/s** ***(ft/s)***	8 *(26.25)*		5 *(16.40)*	8 *(26.25)*	5 *(16.40)*	
Max. acceleration *(3)*	**m/s²** ***(ft/s²)***	20 *(65.62)*		50 *(164.04)*	20 *(65.62)*	50 *(164.04)*	
Max. drive torque *(2)*	**Nm** ***(lbf/in)***	6 *(53.10)*	30 *(265.52)*		54 *(477.94)*		160 *(1,416.11)*
Max. force (Fy) *(2)*	**N** ***(lbf)***	990 *(222.56)*		4,215 *(947.56)*	2,640 *(593.49)*	6,615 *(1,487.11)*	9,405 *(2,114.32)*
Max. force (Fz) *(2)*		645 *(145)*		4,215 *(947.56)*	1,560 *(350.70)*	6,615 *(1,487.11)*	9,405 *(2,114.32)*
Max. torque (Mx) *(2) (4)* ***Note**: di = inside axis distance (mm) (in)*	**Nm** ***(lbf/in)***	8.6 + 0,22 x di *(76.11 + 0,22 x di)*	12.9 + 0,22 x di *(114.17 + 0,22 x di)*	84.3 + 1.41 x di *(746.11 + 1.41 x di)*	41.6 + 0.52 x di *(368.19 + 0.52 x di)*	176.4 + 2.21 x di *(1,561.27 + 2.21 x di)*	344.9 + 3.14 x di *(3,044.65 + 3.14 x di)*
Min. ... max. inside axis distance (di)	**mm** ***(in)***	100…1400 *(3.94…55.11)*	110...1800 *(4.33…70.86)*		120...2300 *(4.72…90.55)*		130...2800 *(5.11…110.23)*
Max. torque (My) *(2)* with carriage type 1	**Nm** ***(lbf/in)***	–	36 *(318.62)*	148 *(1,309.91)*	102 *(902.77)*	324 *(2,867.64)*	512 *(4,531.58)*
with carriage type 2		22 *(194.71)*	62 *(548.74)*	388 *(3,434.08)*	174 *(1,540.02)*	758 *(6,708.86)*	1,310 *(11,594.47)*
with carriage type 4		56 *(495.64)*	112 *(991.28)*	724 *(6,407.93)*	320 *(2,832.23)*	1,374 *(12,160.92)*	2,418 *(21,401.10)*
Max. torque (Mz) *(2)* with carriage type 1	**Nm** ***(lbf/in)***	–	42 *(371.73)*	110 *(973.58)*	129 *(1,141.74)*	243 *(2,150.73)*	384 *(3,398.68)*
with carriage type 2		25 *(221.26)*	72 *(637.25)*	290 *(2,566.71)*	220 *(1,947.16)*	568 *(5,027.22)*	982 *(8,691.43)*
with carriage type 4		64 *(566.44)*	130 *(1,150.59)*	543 *(4,805.95)*	405 *(3,584.55)*	1,030 *(9,116.26)*	1,813 *(16,046.4)*
Min. … max. stroke *(5)*	**mm** ***(in)***	125...3,000 *(4.92...118.11)*	125...5,500 *(4.92...216.54)*	9...5,500 *(0.35...216.54)*	175...5,500 *(6.89...216.54)*	11...5,500 *(0.43...216.54)*	13...5,500 *(0.51...216.54)*
Repeatability	**mm** ***(in)***	± 0.1 *(0.003)*					

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXS double portal axes are available on the product data sheet. The load, force and torque data indicated in all the documents relate to carriages mounted on a rigid mechanical structure with a centrally mounted load.
(2) Forces and torques decrease at increasing speeds. If several forces (Fy, Fz) and torques (Mx, My, Mz) acting at the same time, refer to the hardware guide.
(3) Depending on load and stroke.
(4) These figures only apply to rigid connected carriage via adapter plate and inside axis distance (di). The plate is not included.
(5) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.

Forces and torques



Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

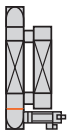
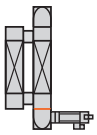
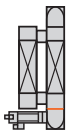
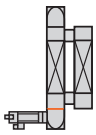
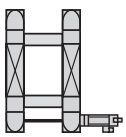
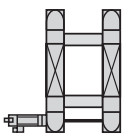
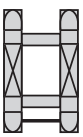
Lexium MAXH / MAXS double portal axes

References *(1)*

To order Lexium MAXH or Lexium MAXS double portal axes, complete each reference by replacing the "●":

Example: MAXH42BBM1000A1NAXXXL0200/...*(2)*		MAX	●●	●	B	●	M	●●●●	●	●	●	●	●●●	●	●●●●	/*(2)*
Type of drive for support axis	Support axis driven by the load		**H4**													/
	Support axis driven by a drive shaft		**S4**													/
Size (axis profile cross-section)	40 x 40 mm *(1.57 x 1.57 in)*			**1**												/
	60 x 60 mm *(2.36 x 2.36 in)*			**2**												/
	80 x 80 mm *(3.15 x 3.15 in)*			**3**												/
	110 x 110 mm *(4.3 x 4.3 in)*			**4**												/
Type of mechanical drive element	Toothed belt				**B**											/
Type of guide	Recirculating ball bearing guide (for size 2, 3, 4)					**B**										/
	Roller guide (for size 1, 2, 3)					**R**										/
Feed per revolution	84 mm/rev *(3.3 in/rev)* (for size 1)						**M**									/
	155 mm/rev *(6.1 in/rev)* (for size 2)						**M**									/
	205 mm/rev *(8 in/rev)* (for size 3)						**M**									/
	264 mm/rev *(10.4 in/rev)* (for size 4)						**M**									/
Stroke *(3)*	State the length in mm							**●●●●**								/
Sensors *(4)*	Two PNP sensors as normally closed contacts, not connected								**A**							/
	Two PNP sensors as normally closed contacts, connected								**B**							/
	Two NPN sensors as normally closed contacts, not connected								**E**							/
	Two NPN sensors as normally closed contacts, connected								**F**							/
	Two NPN sensors as normally open contacts, not connected								**G**							/
	Two NPN sensors as normally open contacts, connected								**H**							/
	Without sensors, without contact plate								**N**							/
Type of carriage	Type 1 (only for size 2, 3 and 4)									**1**						/
	Type 2									**2**						/
	Type 4									**4**						/
Axis options	With anti-static toothed belt/without cover strip										**A**					/
	With cover strip										**B**					/
	Anti-corrosion version/without cover strip										**C**					/
	Anti-corrosion version/with anti-static toothed belt/without cover strip										**E**					/
	With anti-static toothed belt/with cover strip										**L**					/
	Without option										**N**					/
Quantity of carriages *(5)*	One carriage											**A**				/
	Two carriages											**B**				/
	Three carriages											**C**				/
Distance between two carriages	State the distance in mm												**●●●**			/
	One carriage only, state "XXX"												**XXX**			/
Mounting options for motor and/or gearbox *(6)*	On right-hand side													**R**		/
	On left-hand side													**L**		/
	On right-hand side (for MAXH)													**A**		/
	On left-hand side (for MAXH)													**B**		/
	Hollow shaft / driven axis on the right (for MAXH)													**G**		/
	Hollow shaft / driven axis on the left (for MAXH)													**H**		/
	Hollow shaft at both ends (for MAXS)													**N**		/
Distance between the two axes	State the distance in mm														**●●●●**	/

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXH / MAXS double portal axes are available on the product data sheet.
(2) For the second part of the reference, see page 46.
(3) For the min. and max. stroke per size, refer to the mechanical characteristics of the double portal axes (see page 43).
(4) Supplied with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(5) Only carriages of the same type can be used. All carriages are driven.
(6) For the possible mounting options see the following pictures:

Right-hand side		Left-hand side		Hollow shaft		Right-hand side	Left-hand side	Hollow shaft at both ends
MAXH4...R.../...	MAXH4...A.../...	MAXH4...L.../...	MAXH4...B.../...	MAXH4...G.../XXXXXXX	MAXH4...H.../XXXXXXX	MAXS4...R.../...	MAXS4...L.../...	MAXS4...N.../XXXXXXX
								

References (continued) *(1)*

To order Lexium MAXH or Lexium MAXS double portal axes, complete each reference by replacing the "●" :

Example: MAXH42BBM1000A1NAXXXL0200 *(2)*/**21G0H70 + PLE60 3:1 + BMH0702P01A2A**		*(2)*/	●	●●	●	●●	●	+	...
Motor and/or gearbox configuration *(3)*	Motor only	/	**1**						
	Motor and gearbox	/	**2**						
	Gearbox only	/	**3**						
	Without motor, without gearbox, with adaptation material (select motor/gearbox type)	/	**4**						
	Without motor, without gearbox, without adaptation material	/	**X**						
Gearbox interface *(4)*	PLE 40 - straight planetary gearbox	/		**0G**					
	PLE 60 - straight planetary gearbox	/		**1G**					
	PLE 80 - straight planetary gearbox	/		**3G**					
	PLE 120 - straight planetary gearbox	/		**5G**					
	WPLE 40 - angular planetary gearbox	/		**0A**					
	WPLE 60 - angular planetary gearbox	/		**1A**					
	WPLE 80 - angular planetary gearbox	/		**3A**					
	WPLE 120 - angu lar planetary gearbox	/		**5A**					
	Third-party gearbox without mounting by Schneider Electric (gearbox drawing required)	/		**YY**					
	Third-party gearbox with mounting by Schneider Electric (gearbox must be provided)	/		**ZZ**					
	Without gearbox	/		**XX**					
Gearbox orientation *(3) (5)*	0°	/			**3**				
	90°	/			**0**				
	180°	/			**9**				
	270°	/			**6**				
	Without gearbox	/			**X**				
Motor interface	Stepper motors BRS 368	/				**V8**			
	Stepper motors BRS 397, 39A	/				**V9**			
	Stepper motors BRS 39B	/				**V0**			
	Stepper motors BRS 3AC, 3AD	/				**V1**			
	Integrated drive with stepper motor ILS●●571, 572	/				**I6**			
	Integrated drive with stepper motor ILS●●573	/				**I7**			
	Integrated drive with stepper motor ILS●●851, 852	/				**I9**			
	Integrated drive with stepper motor ILS●●853	/				**I8**			
	Integrated drive with brushless DC motor ILE●●66 with spur wheel gear	/				**E7**			
	Integrated drive with servo motor ILA●●57	/				**A6**			
	Servo motors BSH/SH3 0401, 0402	/				**H0**			
	Servo motors BSH/SH3 055	/				**H5**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0701, 0702	/				**H7**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 0703	/				**H8**			
	Servo motors BSH/BMH/BMI/MH3/SH3/ILM 1001, 1002, 1003	/				**H1**			
	Servo motors BSH 1004	/				**H4**			
	Servo motors BSH/BMH/MH3/SH3/ILM 1401, 1402, 1403, 1404	/				**H2**			
	Servo motors BCH2●B A5, 01	/				**C1**			
	Servo motors BCH2●D 02, 04	/				**C2**			
	Servo motors BCH2●F 04	/				**C3**			
	Servo motors BCH2●F 07	/				**C4**			
	Servo motors BCH2●H 10, 20	/				**C5**			
	Servo motors BCH2●M 08	/				**C6**			
	Servo motors BCH2●M 03, 05, 06, 10, 09, 15, 20	/				**C7**			
	Servo motors BCH2●R 20, 30, 35, 45	/				**C8**			
	Third-party motor without mounting by Schneider Electric (motor drawing required)	/				**YY**			
	Third-party motor with mounting by Schneider Electric (motor drawing required; motor must be provided)	/				**ZZ**			
	Without motor	/				**XX**			
Motor orientation *(3) (6)*	0°	/					**3**		
	90°	/					**0**		
	180°	/					**9**		
	270°	/					**6**		
	Without motor	/					**X**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text. Example: **PLE60 3:1 + BMH0702P01A2A**							**+**	**...**

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXH / MAXS double portal axes are available on the product data sheet.
(2) For the first part of the reference, see page 45.
(3) For further information, refer to motor and/or gearbox configuration and orientation (see page 47).
(4) Planetary gearboxes from company Neugart GmbH.
(5) In case of a straight planetary gearbox, the orientation references to the setscrew of the drive unit adaptation.
(6) With reference to the motor connectors.

Lexium MAX

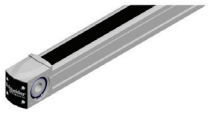
Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXH / MAXS double portal axes

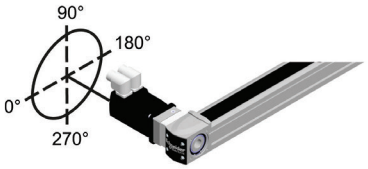
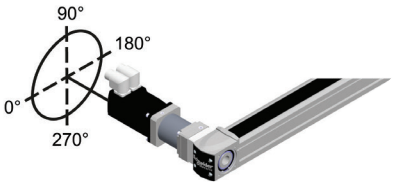
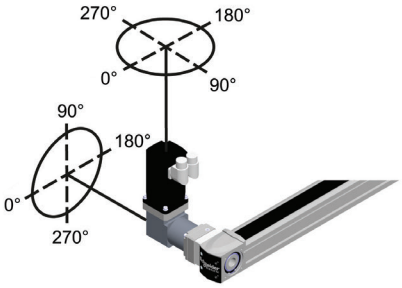
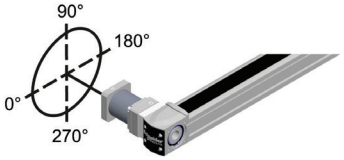
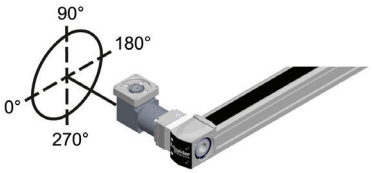
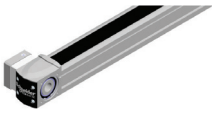
Motor and/or gearbox configuration and orientation

Hollow shaft at both ends

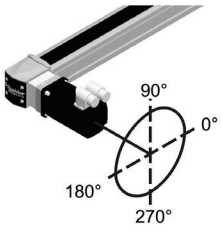
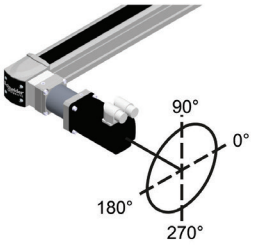
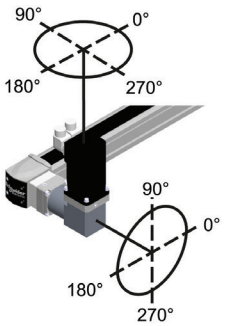
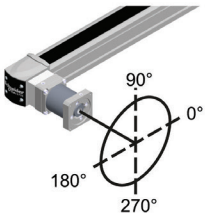
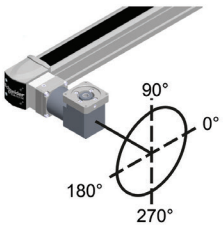
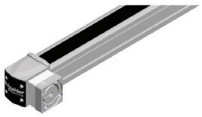
MAXH4…H.../XXXXXXX
MAXH4…G.../XXXXXXX
MAXS4…N.../XXXXXXX



Left-hand side

MAX•4…L.../1XXX•••	MAX•4…L.../2•G••••	MAX•4…L.../2•A••••
MAXH4…B.../1XXX•••	MAXH4…B.../2•G••••	MAXH4…B.../2•A••••
		
MAX•4…L.../3•G•••X	MAX•4…L.../3•A•••X	MAX•4…L.../4••X••X
MAXH4…B.../3•G•••X	MAXH4…B.../3•A•••X	MAXH4…B.../4••X••X
		

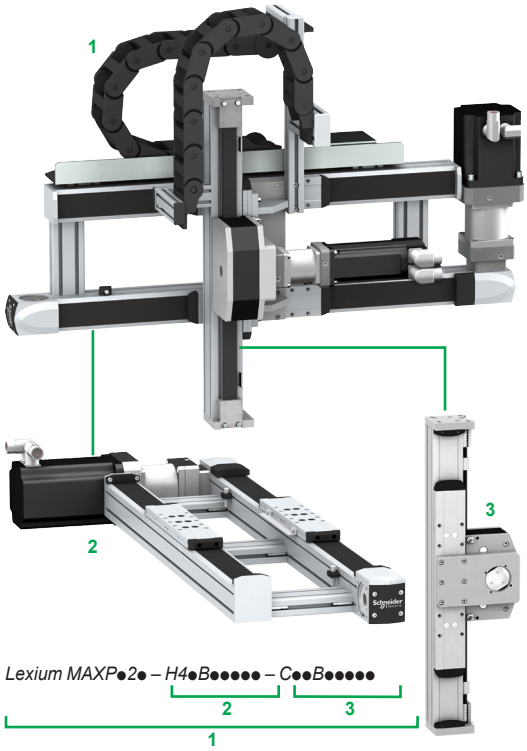
Right-hand side

MAX•4…R.../1XXX•••	MAX•4…R.../2•G••••	MAX•4…R.../2•A••••
MAXH4…A.../1XXX•••	MAXH4…A.../2•G••••	MAXH4…A.../2•A••••
		
MAX•4…R.../3•G•••X	MAX•4…R.../3•A•••X	MAX•4…R.../4••X••X
MAXH4…A.../3•G•••X	MAXH4…A.../3•A•••X	MAXH4…A.../4••X••X
		

Lexium MAX

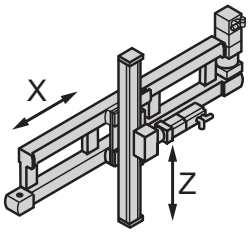
Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXP linear positioners



Presentation *(1)*

Lexium MAXP linear positioners (1) are multi axes systems for linear motion in directions X and Z:



They consist of two axes with:

- A Lexium MAXH double portal axes providing motion in direction X (2)
- A Lexium CAS4 or Lexium CAR4 cantilever axis providing motion in direction Z (3)

Each carriage is driven by a toothed belt, available with either a roller guide or a ball guide.

Lexium MAXP linear positioners operate above or below the working area. They provide an effective solution to dynamic load handling. Depending on the model, loads can be moved as far as 5,500 mm *(216.53 in)* in direction X and 1,800 mm *(70.86 in)* in direction Z.
These linear positioners offer different configuration options for each axis, including length, choice of different sizes and types of profile, and a choice of different types of guide (see next page).
Schneider Electric offers numerous drive elements for driving Lexium MAXP linear positioners.
Since the choice and combination of these drive elements is specific to each application, you will need to contact our Customer Care Center.

Applications

Applications requiring dynamic load positioning:

- Material handling
- Pick & Place
- Etc.

Special p uct features

- Numerous adaptation possibilities thanks to its modular design

Mechanical characteristics *(1)*

Type of linear positioner			MAXP12		MAXP22			
			H41BR – W41BC	H41BR – C41BR	H42BR – W42BC	H42BB – W42BC	H42BR – C42BR	H42BB – C42BB
Type of mechanical drive element	X and Z axes		Toothed belt					
Type of guide	X- axis		Roller guide			Ball guide	Roller guide	Ball guide
	Z- axis		Linear ball bearing guide	Roller guide	Linear ball bearing guide		Roller guide	Ball guide
Typical payload *(2)*		**kg** ***(lb)***	2 *(4.41)*	6 *(13.23)*	4 *(8.82)*	5 *(11.02)*	10 *(22.05)*	20 *(44.09)*
Feed per revolution	X- axis	**mm/rev** ***(in/rev)***	84 *(3.31)*		155 *(6.10)*			
	Z- axis		75 *(2,95)*	84 *(3.31)*	100 *(3.94)*		155 *(6.10)*	
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	125...3,000 *(4.92...118.11)*		125…4,000 *(4.92...157.48)*	9…4,000 *(0.35...157.48)*	125…4,000 *(4.92...157.48)*	9…4,000 *(0.35...157.48)*
	Z- axis	**mm** ***(in)***	8…200 *(0.31...7.87)*	125…400 *(4.92...15.75)*	10…300 *(0.39...11.81)*		125…600 *(4.92...23.62)*	9…700 *(0.35...27.56)*
Repeatability		**mm** ***(in)***	± 0.1 *(0.003)*					

Type of portal axis			MAXP32				MAXP42
			H43BR – W44BC	H43BB – W44BC	H43BR – C43BR	H43BB – C43BB	H44BB – C44BB
Type of mechanical drive element	X and Z axes		Toothed belt				
Type of guide	X- axis		Roller guide	Ball guide	Roller guide	Ball guide	Ball guide
	Z- axis		Linear ball bearing guide		Roller guide	Ball guide	Ball guide
Typical payload *(2)*		**kg** ***(lb)***	14 *(30.86)*	18 *(39.68)*	15 *(33.07)*	30 *(66.14)*	60 *(132.28)*
Feed per revolution	X- axis	**mm/rev** ***(in/rev)***	205 *(8.07)*				264 *(10.39)*
	Z- axis		100 *(3.94)*		205 *(8.07)*		264 *(10.39)*
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	175...5,500 *(6.89...216.54)*	11...5,500 *(0.43...216.54)*	175...5,500 *(6.89...216.54)*	11...5,500 *(0.43...216.54)*	13...5,500 *(0.51...216.54)*
	Z- axis	**mm** ***(in)***	14...500 *(0.55...19.69)*		175...800 *(6.89...31.50)*	11...1,000 *(0.43...39.37)*	13...1,800 *(0.51...70.87)*
Repeatability		**mm** ***(in)***	± 0.1 *(0.003)*				

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXP linear positioners are available on the product data sheet.
(2) The typical payload is only a guideline and can also be exceeded depending on the application. Please contact your Schneider Electric representative for more information.
(3) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative.

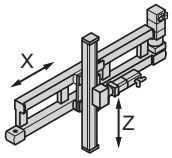
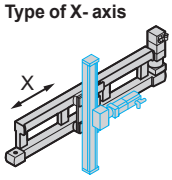
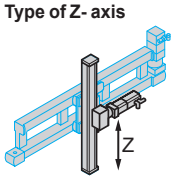
Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

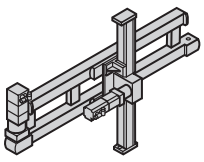
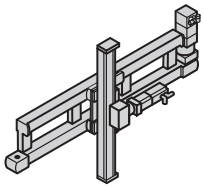
Lexium MAXP linear positioners

References (1)

To order Lexium MAXP linear positioner, complete each reference by replacing the "●":

Example: MAXP12R–H41BR4000–C41BR0400 + PLE60 3:1 + BMH0702P01A2A (for the X- axis) **+ PLE60 3:1 + BMH0702P01A2A** (for the Z- axis)		**MAXP**	●	2	●	–	●●●	B	●	●●●●	–	●●●	B	●	●●●●	+ +	… …
Size of X- axis (axis profile cross-section) 	40 x 40 mm *(1.57 x 1.57 in)*		**1**														
	60 x 60 mm *(2.36 x 2.36 in)*		**2**														
	80 x 80 mm *(3.15 x 3.15 in)*		**3**														
	110 x 110 mm *(4.3 x 4.3 in)*		**4**														
Number of independent axes	2 axes: 1 X- axis, 1 Z- axis			**2**													
Mounting options for motor and/or gearbox *(2)*	On left-hand side				**L**												
	On right-hand side				**R**												
Type of X- axis 	MAXH41 (for MAXP12) *(3)*						**H41**										
	MAXH42 (for MAXP22) *(3)*						**H42**										
	MAXH43 (for MAXP32) *(3)*						**H43**										
	MAXH44 (for MAXP42) *(3)*						**H44**										
Type of mechanical drive element	Toothed belt							**B**									
Type of guide	Roller guide (for MAXH41, MAXH42, MAXH43)								**R**								
	Recirculating ball bearing guide (for MAXH42, MAXH43, MAXH 44)								**B**								
Stroke *(4)*	State the length in mm									**●●●●**							
Type of Z- axis 	CAS41 (for MAXP12) *(3)*											**C41**					
	CAS42 (for MAXP22) *(3)*											**C42**					
	CAS43 (for MAXP32) *(3)*											**C43**					
	CAS44 (for MAXP42) *(3)*											**C44**					
	CAR41 (for MAXP12) *(3)*											**W41**					
	CAR42 (for MAXP22) *(3)*											**W42**					
	CAR44 (for MAXP32) *(3)*											**W44**					
Type of mechanical drive element	Toothed belt												**B**				
Type of guide	Roller guide (for CAS41, CAS42, CAS43)													**R**			
	Recirculating ball bearing guide (for CAS 42, CAS43, CAS44)													**B**			
	Linear ball bearing guide (for CAR41, CAR42, CAR44)													**C**			
Stroke *(4)*	State the length in mm														**●●●●**		
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text, selected for the X- axis and for the Z- axis. Example: **PLE60 3:1 + BMH0702P01A2A** (for each axis)															+ +	… …

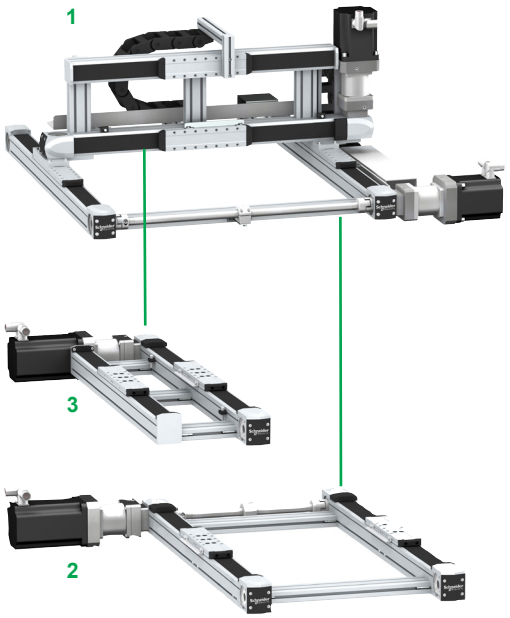
(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXP linear positioners are available on the product data sheet.
(2) For the possible mounting options see the pictures below.
(3) Supplied with 2 PNP output sensors, NC contact, with a 0.1 m (0.33 ft) cable equipped with an M8 connector. For sensor extension cable, refer to accessories (see page 55).
(4) For the min. and max. stroke per size, refer to the mechanical characteristics of the linear positioners (see page 48).

Left-hand side	Right-hand side
MAXP●2L – …	**MAXP●2R – …**
	

Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

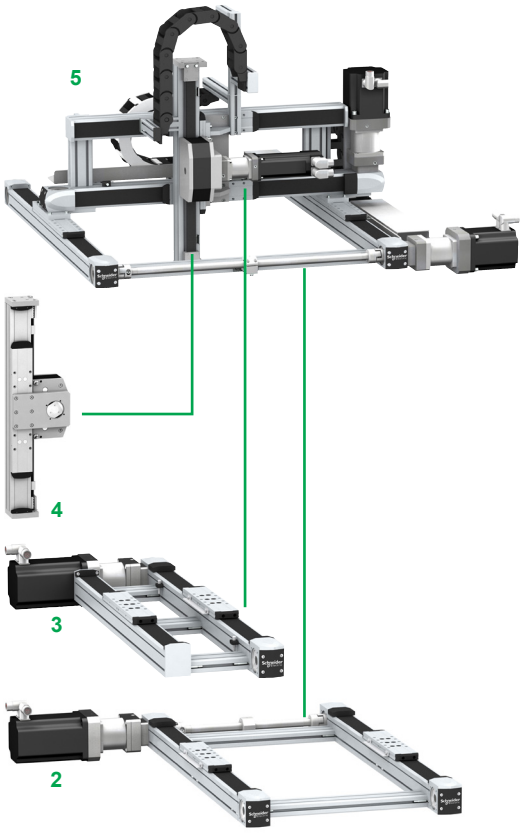
Lexium MAXR●2 / MAXR●3 portal robots



Lexium MAXR●2● – S4●B●●●●● – H4●B●●●●●

2 3

1



Lexium MAXR●3● – S4●B●●●●● – H4●B●●●●● – C●●B●●●●●

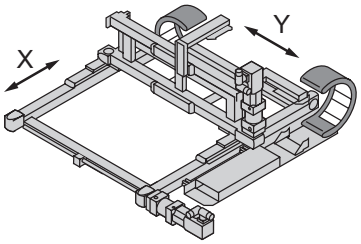
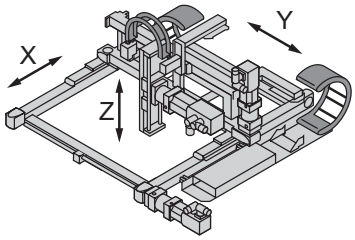
2 3 4

5

Presentation *(1)*

Lexium MAXR●2 (**1**) and Lexium MAXR●3 (**5**) portal robots are multi axes linear motion systems.

- Lexium MAXR●2 portal robots (**1**) allow motion in directions X and Y.
- Lexium MAXR●3 portal robots (**5**) offer additional motion in direction Z.

Lexium MAXR●2 portal robot	Lexium MAXR●3 portal robot
	

- Lexium MAXR●2 portal robots (**1**) consist of two axes:
  - a Lexium MAXS double portal axis providing motion in direction X (**2**)
  - a Lexium MAXH double portal axis or a Lexium PAS4●B portal axis providing motion in direction Y (**3**)
- Lexium MAXR●3 portal robots (**5**) consist of three axes:
  - a Lexium MAXS double portal axis providing motion in direction X (**2**)
  - a Lexium MAXH double portal axis providing motion in direction Y (**3**)
  - a Lexium CAS4 or Lexium CAR4 cantilever axis providing motion in direction Z (**4**)

The carriages are driven by a toothed belt, available with either a roller guide or a ball guide.

- Lexium MAXR●2 and Lexium MAXR●3 portal robots operate above the working area. They provide an effective solution to load handling over long distances:
  - Lexium MAXR●2 portal robots: depending on the model, loads can be moved as far as 5,500 mm *(216.53 in)* in direction X and 1,500 mm *(59.06 in)* in direction Y
  - Lexium MAXR●3 portal robots: depending on the model, loads can be moved as far as 5,500 mm in direction X, 1,500 mm *(59.06 in)* in direction Y and 1,800 mm *(70.86 in)* in direction Z

These portal robots offer different configuration options for each axis, including length, choice of different sizes and types of profile, and a choice of different types of guide (see pages 52 and 53).
Schneider Electric offers numerous drive elements for driving Lexium MAXR●2 and Lexium MAXR●3 portal robots.
Since the choice and combination of these drive elements is specific to each application, you will need to contact our Customer Care Center.

Applications

Applications requiring load handling over long distances:

- Material handling
- Optics
- Pick & Place
- Etc.

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXR•2 / MAXR•3 portal robots are available on the product data sheet.

Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXR●2 / MAXR●3 portal robots

Mechanical characteristics *(1)*

Lexium MAXR●2 portal robots

Type of portal robot			MAXR12 –		MAXR22 –			
			S41BR – P41BR	S41BR –H41BR	S42BR – P42BR	S42BB – P42BB	S42BR – H42BR	S42BB – H42BB
Type of mechanical drive element	X and Y axes		Toothed belt					
Type of guide	X- axis		Roller guide			Ball guide	Roller guide	Ball guide
	Y- axis		Roller guide			Ball guide	Roller guide	Ball guide
Typical payload *(2)*		**kg** ***(lb)***	5 *(11.02)*	10 *(22.05)*	5 *(11.02)*	12 *(26.46*	18 *(39.68*	35 *(77.16)*
Feed per revolution	X- axis	**mm/rev**	84 *(3.31)*		155 *(6.10)*			
	Y- axis	***(in/rev)***	84 *(3.31)*		155 *(6.10)*			
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	125…3,000 *(4.92...118.11)*		125…5,500 *(4.92...216.53)*	9…5,500 *(0.35...216.53)*	125…5,500 *(4.92...216.53)*	9…5,500 *(0.35...216.53)*
	Y- axis	**mm** ***(in)***	125…1,200 *(4.92...47.24)*		125…1,500 *(4.92...59.06)*	9…1,500 *(0.35...59.06)*	125…1,500 *(4.92...59.06)*	9…1,500 *(0.35...59.06)*
Repeatability		**mm** ***(in)***	± 0.1 *(0.003)*					

Type of portal robot			MAXR32 –				MAXR42 –	
			S43BR – P43BR	S43BB – P43BB	S43BR – H43BR	S43BB – H43BB	S44BB – H44BB	
Type of mechanical drive element	X and Y axes		Toothed belt					
Type of guide	X- axis		Roller guide	Ball guide	Roller guide	Ball guide		
	Y- axis		Roller guide	Ball guide	Roller guide	Ball guide		
Typical payload *(2)*		**kg** ***(lb)***	11 *(24.25)*	30 *(66.14)*	45 *(99.21)*	100 *(220.46)*	150 *(330.69)*	
Feed per revolution	X- axis	**mm/rev**	205				264	
	Y- axis	***(in/rev)***	205				264	
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	175…5,500 *(6.89...216.53)*	11…5,500 *(0.43...216.53)*	175…5,500 *(6.89...216.53)*	11…5,500 *(0.43...216.53)*	13…5,500 *(0.51...216.53)*	
	Y- axis	**mm** ***(in)***	175…1,500 *(6.89...59.06)*	11…1,500 *(0.43...59.06)*	175…1,500 *(6.89...59.06*	11…1,500 *(0.43...59.06)*	13…1,500 *(0.51...59.06)*	
Repeatability		**mm** ***(in)***	± 0.1 *(0.003)*					

Lexium MAXR●3 portal robots

Type of portal robot			MAXR13 –		MAXR23 –			
			S41BR – H41BR – W41BC	S41BR – H41BR – C41BR	S42BR – H42BR – W42BC	S42BB – H42BB – W42BC	S42BR – H42BR – C42BR	S42BB – H42BB – C42BB
Type of mechanical drive element	X, Y, and Z axes		Toothed belt					
Type of guide	X- axis		Roller guide			Ball guide	Roller guide	Ball guide
	Y- axis		Roller guide			Ball guide	Roller guide	Ball guide
	Z- axis		Linear ball bearing guide		Linear ball bearing guide		Roller guide	Ball guide
Typical payload *(2)*		**kg** ***(lb)***	2 *(4.41)*	6 *(13.23)*	4 *(8.82)*	5 *(11.02)*	10 *(22.05)*	20 *(44.09)*
Feed per revolution	X- axis	**mm/rev**	84 *(3.31)*		155 *(6.10)*			
	Y- axis	***(in/rev)***	84 *(3.31)*		155 *(6.10)*			
	Z- axis		75 *(2,95)*	84 *(3.31)*	100 *(3.94)*		155 *(6.10)*	
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	125…3,000 *(4.92...118.11)*		125…5,500 *(4.92...216.53)*	9…5,500 *(0.35...216.53)*	125…5,500 *(4.92...216.53)*	9…5,500 *(0.35...216.53)*
	Y- axis	**mm** ***(in)***	125…1,200 *(4.92...47.24)*		125…1,500 *(4.92...59.06*	9…1,500 *(0.35...59.06*	125…1,500 *(4.92...59.06*	9…1,500 *(0.35...59.06)*
	Z- axis	**mm** ***(in)***	8…200 *(0.31...7.87)*	125…400 *(4.92...15.75)*	10…300 *(0.39...11.81)*		125…600 *(4.92...23.62)*	9…700 *(0.35...27.56)*
Repeatability		**mm/*in.***	± 0.1 *(0.003)*					

Type of portal robot			MAXR33 –				MAXR43 –	
			S43BR – H43BR – W44BC	S43BB – H43BB – W44BC	S43BR – H43BR – C43BR	S43BB – H43BB – C43BB	S44BB – H44BB – C44BB	
Type of mechanical drive element	X, Y, and Z axes		Toothed belt					
Type of guide	X- axis		Roller guide	Ball guide	Roller guide	Ball guide		
	Y- axis		Roller guide	Ball guide	Roller guide	Ball guide		
	Z- axis		Linear ball bearing guide		Roller guide	Ball guide		
Typical payload *(2)*		**kg** ***(lb)***	14 *(30.86)*	18 *(39.68)*	15 *(33.07)*	30 *(66.14)*	60 *(132.28)*	
Feed per revolution	X- axis	**mm/rev**	205 *(8.07)*				264 *(10.39)*	
	Y- axis	***(in/rev)***	205 *(8.07)*				264 *(10.39)*	
	Z- axis		100 *(3.94)*		205 *(8.07)*		264 *(10.39)*	
Min. … max. stroke *(3)*	X- axis	**mm** ***(in)***	175…5,500 *(6.89...216.53)*	11…5,500 *(0.43...216.53)*	175…5,500 *(6.89...216.53)*	11…5,500 *(0.43...216.53)*	13…5,500 *(0.51...216.53)*	
	Y- axis	**mm** ***(in)***	175…1,500 *(6.89...59.06)*	11…1,500 *(0.43...59.06)*	175…1,500 *(6.89...59.06)*	11…1,500 *(0.43...59.06)*	13…1,500 *(0.51...59.06)*	
	Z- axis	**mm** ***(in)***	14…500 *(0.55...19.69)*		175…800 *(6.89...31.50)*	11…1,000 *(0.43...39.37)*	13…1,800 *(0.51...70.87)*	
Repeatability		**mm** ***(in)***	± 0.1 *(0.003)*					

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXR•2 / MAXR•3 portal robots are available on the product data sheet.

(2) The typical payload is only a guideline and can also be exceeded depending on the application. Please contact your Schneider Electric representative for more information.

(3) Min. stroke required for the lubrication of the linear guide. For information about greater strokes for ball guides, contact your Schneider Electric representative..

Lexium MAX

Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXR●2 / MAXR●3 portal robots

References (1)

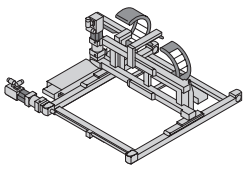
To order Lexium MAXR●2 portal robot, complete each reference by replacing the "●":

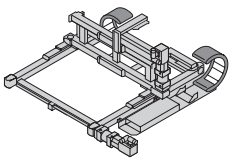
Example: MAXR12R–S41BR3000–H41BR1200
+ PLE60 3:1 + BMH0702P01A2A (for the X- axis)
+ PLE60 3:1 + BMH0702P01A2A (for the Y- axis)

		MAXR	●	2	●	–	●●●	B	●	●●●●	–	●●●	B	●	●●●●	+ … + …
Size of X- axis (axis profile cross-section)	40 x 40 mm *(1.57 x 1.57 in)*		**1**													
	60 x 60 mm *(2.36 x 2.36 in)*		**2**													
	80 x 80 mm *(3.15 x 3.15 in)*		**3**													
	110 x 110 mm *(4.3 x 4.3 in)*		**4**													
Number of independent axes	2 axes: 1 X- axis, 1 Y- axis			**2**												
Mounting options for motor and/or gearbox *(2)*	On left-hand side				**L**											
	On right-hand side				**R**											
Type of X- axis	MAXS41 (for MAXR12) *(3)*						**S41**									
	MAXS42 (for MAXR22) *(3)*						**S42**									
	MAXS43 (for MAXR32) *(3)*						**S43**									
	MAXS44 (for MAXR42) *(3)*						**S44**									
Type of mechanical drive element	Toothed belt							**B**								
Type of guide	Roller guide (for MAXS41, MAXS42, MAXS43)								**R**							
	Recirculating ball bearing guide (for MAXS42, MAXS43, MAXS44)								**B**							
Stroke *(4)*	State the length in mm									**●●●●**						
Type of Y- axis	MAXH41 (for MAXR12) *(3)*											**H41**				
	MAXH42 (for MAXR22) *(3)*											**H42**				
	MAXH43 (for MAXR32) *(3)*											**H43**				
	MAXH44 (for MAXR42) *(3)*											**H44**				
	PAS 41 (for MAXR12) *(3)*											**P41**				
	PAS 42 (for MAXR22) *(3)*											**P42**				
	PAS 43 (for MAXR32) *(3)*											**P43**				
Type of mechanical drive element	Toothed belt												**B**			
Type of guide	Roller guide (for MAXH41, MAXH42, MAXH43)													**R**		
	Recirculating ball bearing guide (for MAXH42, MAXH43, MAXH44)													**B**		
Stroke *(4)*	State the length in mm														**●●●●**	
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text, selected for the X- axis and for the Y- axis. Example: **PLE60 3:1 + BMH0702P01A2A** (for each axis)															+ … + …

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXR●2 portal robots are available on the product data sheet.
(2) For the possible mounting options see the pictures below.
(3) Each axis is supplied with 2 PNP output sensors, NC contact, with a 0.1 m (0.33 ft) cable equipped with an M8 connector.
(4) For the min. and max. stroke per size, refer to the mechanical characteristics of the portal robots (see page 51).

Left-hand side	Right-hand side
MAXR●2L – …	**MAXR●2R – …**





Lexium MAX

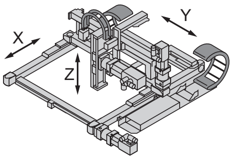
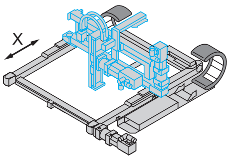
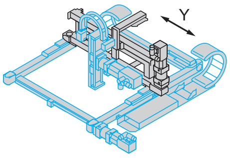
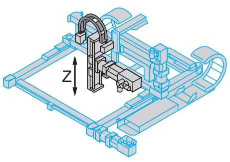
Cartesian multi axes systems for 1-, 2-, 3-dimensional positioning solutions

Lexium MAXR●2 / MAXR●3 portal robots

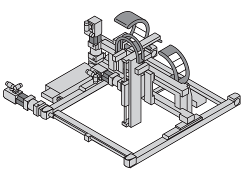
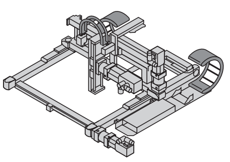
References *(1)*

To order Lexium MAXR●3 portal robot, complete each reference by replacing the "●":

Example: MAXR13R–S41BR3000–H41BR1200–C31BC1200 MAXR ● 3 ● – ●●● B ● ●●●● – ●●● B ● ●●●● – ●●● B ● ●●●●
+ PLE60 3:1 + BMH0702P01A2A (for the X- axis) + ...
+ PLE60 3:1 + BMH0702P01A2A (for the Y- axis) + ...
+ PLE60 3:1 + BMH0702P01A2A (for the Z- axis) + ...

Size of X- axis (axis profile cross-section) 	40 x 40 mm *(1.57 x 1.57 in)*	**1**
	60 x 60 mm *(2.36 x 2.36 in)*	**2**
	80 x 80 mm *(3.15 x 3.15 in)*	**3**
	110 x 110 mm *(4.3 x 4.3 in)*	**4**
Number of axes	3 axes: 1 X- axis, 1 Y- axis, 1 Z- axis	**3**
Mounting options for motor and/or gearbox *(2)*	On left-hand side	**L**
	On left-hand side	**R**
Type of X- axis 	MAXS41 (for MAXR13) *(3)*	**S41**
	MAXS42 (for MAXR23) *(3)*	**S42**
	MAXS43 (for MAXR33) *(3)*	**S43**
	MAXS44 (for MAXR43) *(3)*	**S44**
Type of mechanical drive element	Toothed belt	**B**
Type of guide	Roller guide (for MAXS 41, 42, 43)	**R**
	Recirculating ball bearing guide (for MAXS 42, 43, 44)	**B**
Stroke *(4)*	State the length in mm	**●●●●**
Type of Y- axis 	MAXH41 (for MAXR13) *(3)*	**H41**
	MAXH42 (for MAXR23) *(3)*	**H42**
	MAXH43 (for MAXR33) *(3)*	**H43**
	MAXH44 (for MAXR43) *(3)*	**H44**
Type of mechanical drive element	Toothed belt	**B**
Type of guide	Roller guide (for MAXH41, MAXH42, MAXH43)	**R**
	Recirculating ball bearing guide (for MAXH42, MAXH43, MAXH44)	**B**
Stroke *(4)*	State the length in mm	**●●●●**
Type of Z- axis 	CAS41 (for MAXR13) *(3)*	**C41**
	CAS42 (for MAXR23) *(3)*	**C42**
	CAS43 (for MAXR33) *(3)*	**C43**
	CAS44 (for MAXR43) *(3)*	**C44**
	CAR41 (for MAXR13) *(3)*	**W41**
	CAR42 (for MAXR23) *(3)*	**W42**
	CAR44 (for MAXR33) *(3)*	**W44**
Type of mechanical drive element	Toothed belt	**B**
Type of guide	Roller guide (for CAS41, CAS42, CAS43)	**R**
	Recirculating ball bearing guide (for CAS42, CAS43, CAS44)	**B**
	Linear ball bearing guide (for CAR41, CAR42, CAR44)	**C**
Stroke *(4)*	State the length in mm	**●●●●**
Planetary gearbox gear ratio + motor reference	State the planetary gearbox gear ratio and the complete motor reference at the end of the reference, in plain text, selected for the X- axis, the Y- axis, and the Z- axis. Example: **PLE60 3:1 + BMH0702P01A2A** (for each axis)	**+ ...** **+ ...** **+ ...**

(1) Technical data (characteristics, dimensions, etc.) for Lexium MAXR●3 portal robots are available on the product data sheet.
(2) For the possible mounting options see the pictures below.
(3) Each axis is supplied with 2 PNP output sensors, NC contact, with a 0.1 m (0.33 ft) cable equipped with an M8 connector.
(4) For the min. and max. stroke per size, refer to the mechanical characteristics of the portal robots (see *page 51**).*

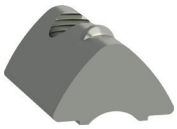
Left-hand side	Right-hand side
MAXR●3L – ...	**MAXR●3R – ...**
	

Lexium Cartesian robots
Accessories for Portal axes, Linear tables, Cantilever axes, Multi axes systems


VW33MF10●●●

Clamping claws (1)

Description	To combine with				Reference	Weight kg/lb
	Portal axes	Linear tables	Cantilever axes	Multi axes systems		
Clamping claws These are used to mount the axes on a fixed support. **(sold in lots of 10)**	PAS41B	–	–	MAXH41 MAXS41 MAXP12 MAXR12 MAXR13	VW33MF10511	0.384 *0.846*
	PAS42B PAD42 PAS42S	–	–	MAXH42 MAXS42 MAXP22 MAXR22 MAXR23	VW33MF10512	0.526 *1.159*
	–	TAS41	–	–	VW33MF10515	0.130 *0.286*
	PAS43B PAS43S	–	–	MAXH43 MAXS43 MAXP32 MAXR32 MAXR33	VW33MF10613	0.764 *1.684*
	PAS44B PAS44S	TAS42 TAS43	–	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	VW33MF10814	0.876 *1.931*


VW33MF010T●●●

T-slot nuts (1)

Description	Thread T-slot type	To combine with				Reference	Weight kg/lb
		Portal axes	Linear tables	Cantilever axes	Multi axes systems		
T-slot nuts These are inserted in the axis T-slots. They are used to mount the axis on a fixed support. **(sold in lots of 10)**	M5 5 mm *(0.19 in)*	PAS41B PAS42B PAS42S PAD42	TAS41	CAS41 CAS42 CAR42	MAXH41 MAXS41 MAXP12 MAXR12 MAXR13 MAXH42 MAXS42 MAXP22 MAXR22 MAXR23	VW33MF010T5N5	0.096 *0.211*
	M6 6 mm *(0.23 in)*	PAS43B PAS43S	–	CAS43	MAXH43 MAXS43 MAXP32 MAXR32 MAXR33	VW33MF010T6N6	0.120 *0.264*
	M6 8 mm *(0.31 in)*	PAS44B PAS44S	TAS42 TAS43	CAS24 CAS44 CAR42 CAR43 CAR44	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	VW33MF010T8N6	0.182 *0.401*
	M8 8 mm *(0.31 in)*	PAS44B PAS44S	TAS42 TAS43	CAS24 CAS44 CAR42 CAR43 CAR44	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	VW33MF010T8N8	0.170 *0.374*

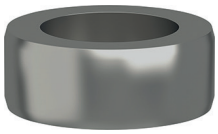

VW33MC05●0●

T-slot covers (1)

Description	To combine with				Reference	Weight kg/lb
	Portal axes	Linear tables	Cantilever axes	Multi axes systems		
T-slot covers These help to protect the profile T-slots. Length 2 m (*6.56 ft* **(sold in lots of 5)**	PAS41B	TAS41	CAS41	MAXH41 MAXS41 MAXP12 MAXR12 MAXR13	VW33MC05A05	0.090 *0.198*
	PAS42B PAD42 PAS42S	–	CAS42 CAR42	MAXH42 MAXS42 MAXP22 MAXR22 MAXR23	VW33MC05B05	0.370 *0.815*
	PAS43B AS43S	–	CAS43	MAXH43 MAXS43 MAXP32 MAXR32 MAXR33	VW33MC05A06	0.350 *0.771*
	PAS44B PAS44S	TAS42 TAS43	CAS44 CAR42 CAR43 CAR44	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	VW33MC05A08	0.120 *0.264*

(1) More technical data for accessories is available on product Data sheet. Click on product reference to open it.

Lexium Cartesian robots
Accessories for Portal axes, Linear tables, Cantilever axes, Multi axes systems



VW33MF020LD01●

Locating dowels *(1)*

Description	To combine with				Reference	Weight kg/*lb*
	Portal axes	Linear tables	Cantilever axes	Multi axes systems		
Locating dowels These adapters help to ensure accurate, reproducible positioning of the load on the carriage. They are inserted in the holes provided on the carriage. **(sold in lots of 20)**	PAS41B PAS42B PAD42 PAS42S	–	CAS41 CAS42 CAR40 CAR41	MAXH41 MAXS41 MAXP12 MAXR12 MAXR13 MAXH42 MAXS42 MAXP22 MAXR22 MAXR23	VW33MF020LD01	0.098 *0.216*
	PAS43B PAS43S	–	CAS43 CAR42 CAR43	MAXH43 MAXS43 MAXP32 MAXR32 MAXR33	VW33MF020LD02	0.107 *0.235*
	PAS44B PAS44S	–	CAS44 CAR44	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	VW33MF020LD03	0.028 *0.061*

VW33MF1S●●A●●

Shaft extensions *(1)*

Description	To combine with				Max. radial force N (lbf)	Moment of inertia kgcm² (Psi)	Max. drive torque Nm (lbf.in)	Reference	Weight kg/*lb*
	Portal axes	Linear tables	Cantilever axes	Multi axes systems					
Shaft extensions Coupled to the axis, these can be used, via a mechanical adapter (not supplied), to connect: An encoder indicating the axis position A third-party application-specific drive	PAS41B	–	CAS41 CAR41 CAR42	MAXH41 MAXS41 MAXP12 MAXR12 MAXR13	230 *(51.70)*	0.002 *(0.028)*	7.7 *(68.14)*	VW33MF1S12A12	0.112 *0.247*
	PAS42B PAD42	–	CAS42 CAR42 CAR43 CAR44	MAXH42 MAXS42 MAXP22 MAXR22 MAXR23	400 *(89.92)*	0.05 *(0.71)*	35.7 *(315.93)*	VW33MF1S27A20	0.152 *0.335*
	PAS43B	–	CAS43	MAXH43 MAXS43 MAXP32 MAXR32 MAXR33	700 *(157.36)*	0.16 *(2.27)*	82 *(725.66)*	VW33MF1S32A25	0.148 *0.328*
	PAS44B	–	CAS44	MAXH44 MAXS44 MAXP42 MAXR42 MAXR43	1,300 *(292.25)*	0.54 *(7.68)*	*182* *(1,610.62)*	VW33MF1S37A32	0.311 *0.685*

(1) More technical data for accessories is available on product Data sheet. Click on product reference to open it.

Lexium Cartesian robots
Accessories for Portal axes, Linear tables, Cantilever axes, Multi axes systems

VW33MAP●●●●

VW33MAC4

VW32SBCBGA●●●

Lubrication accessories *(1)*

Description	To combine with				Delivery volume	Reference	Weight kg/*lb*
	Portal axes	Linear tables	Cantilever axes	Multi axes systems			
Single-hand lubrication gun for oil *(2)* This is used to lubricate axes with roller guides. Oil capacity: 120 cm³ (*7.322 in³*)	PAS4●●R	–	CAS4●BR	MAXH4●BR MAXS4●BR MAXP●2● - ●●●BR MAXR●2● - ●●●BR MAXR●3● - ●●●BR	0.5 cm³ (*0.031 in³*) / stroke	VW33MAP22	0.563 *1.241*
Single-hand lubrication gun for grease *(2)* This is used to lubricate axes with ball guides: Suitable for VW33MAC4 cartridge	PAS4●●B PAD42	TAS4●	CAS4●BB CAS24BB	MAXH4●BB MAXS4●BB MAXP●2● - ●●●BB MAXR●2● - ●●●BB MAXR●3● - ●●●BB	0.8 cm³ (*0.049 in³*) / stroke	VW33MAP11C4	1.300 *2.866*
Lubricant cartridge for single-hand lubrication gun (grease)	To combine with VW33MAP11C4					VW33MAC4	0.400 *0.881*

Sensor extension cables *(1)*

Description	To combine with				Length m *(ft)*	Reference	Weight kg/*lb*
	Portal axes	Linear tables	Cantilever axes	Multi axes systems			
Extension cables Cables equipped with a 3-way M8 connector on the sensor end and one stripped end. These cables connect directly to the cable supplied with the sensor via the M8 connector.	PAS4●B PAD42 PAS4●S	TAS4●	CAS4● CAR4● CAS24	MAXH● MAXS● MAXP● MAXR●	5 *(16.40)*	VW32SBCBGA050	0.219 *0.482*
					10 *(32.81)*	VW32SBCBGA100	0.274 *0.604*
					20 *(65.62)*	VW32SBCBGA200	0.113 *0.249*

Spare parts and Replacement equipments

Designation	To combine with	For futher information refer to the corresponding hardware guide (click on the link)
Toothed belts and pulleys, Couplings, Cover strips, Sensors and other parts	**Portal axes**	Lexium PAS, PAD
	Linear tables	Lexium TAS
	Cantilever axes	Lexium CAS, CAR
	Multi axes systems	Lexium MAX

(1) More technical data for accessories is available on product Data sheet. Click on product reference to open it.
(2) Delivered empty with pipe and nozzle.

Energy chain *(1)*

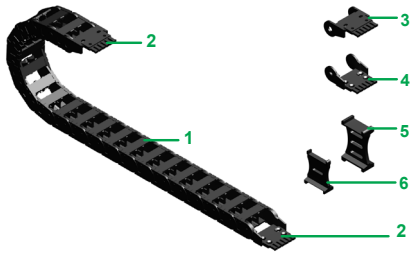
Presentation

Energy chains are developed to help guide and protect moving cables and hoses. They minimize downtime, provide protection and support, and help to extend the service life of the cables and hoses.
Energy chains are used in the MAXP●2, MAXR●2, MAXR●3 products.

The required total length of cable drag chain is calculated as follows: L = stroke/2 + K (mm)
For dimension K, see table dimension drawings. The total length L of the cable drag chain is composed of several sections. Use the formula to calculate the number of pieces to be ordered:

- Number of sections for series 1400 = L/500 (round up the result to the nearest integer)
- Number of sections for series 2400 = L/460 (round up the result to the nearest integer)
- Number of sections for series 2600 = L/560 (round up the result to the nearest integer)

Description



1 Cable drag chain contains a section with:
- 15 chain links (E02-1400-●●●-●●●●)
- 10 chain links (E02-2400-●●●-●●●● and E02-2600-●●●-●●●●)

2 2 connection elements with strain relief

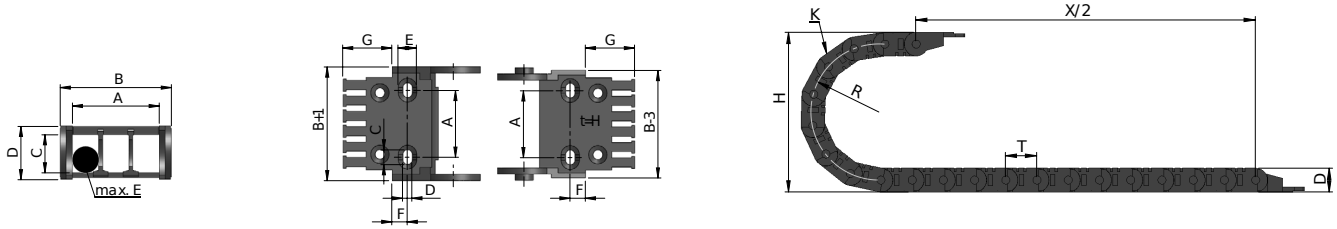
Cable drag chain connector contains a pair of connectors with:
3 1x connection element bore with strain relief
4 1x connection element bolt with strain relief

2 types of cable drag chain separators:
5 three-slots type, for SPM3MAC26
6 one-slot type, for SPM3MAC14 and SPM3MAC24

References

Chain type *(2)*	Chain reference	Chain connector reference	Chain separator reference *(4)*
E02-1400-038-R075 *(3)*	SPM3MAC1403075	SPM3MAC1403	SPM3MAC14
E02-2400-057-R075	SPM3MAC2405075	SPM3MAC2405	SPM3MAC24
E02-2400-057-R100	SPM3MAC2405100		
E02-2400-057-R125	SPM3MAC2405125		
E02-2400-077-R100	SPM3MAC2407100	SPM3MAC2407	
E02-2400-077-R125	SPM3MAC2407125		
E02-2400-077-R150	SPM3MAC2407150		
E02-2600-075-R100	SPM3MAC2607100	SPM3MAC2607	SPM3MAC26
E02-2600-100-R125	SPM3MAC2610125	SPM3MAC2610	

Dimensions



Cable drag chain type	E02-1400-038-R075		E02-2400-057-R075		E02-2400-057-R100		E02-2400-057-R125		E02-2400-077-R100		E02-2400-077-R125		E02-2400-077-R150		E02-2600-075-R100		E02-2600-100-R125	
Chain	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*	mm	*in*
A	38	*1.50*	57	*2.24*	57	*2.24*	57	*2.24*	77	*3.03*	77	*3.03*	77	*3.03*	75	*2.95*	100	*3.94*
B	51.5	*2.03*	73	*2.87*	73	*2.87*	73	*2.87*	93	*3.66*	93	*3.66*	93	*3.66*	91	*3.58*	116	*4.57*
C	21	*0.83*	25	*0.98*	25	*0.98*	25	*0.98*	25	*0.98*	25	*0.98*	25	*0.98*	35	*1.38*	35	*1.38*
D	28	*1.10*	35	*1.38*	35	*1.38*	35	*1.38*	35	*1.38*	35	*1.38*	35	*1.38*	50	*1.97*	50	*1.97*
E	18	*0.71*	23	*0.91*	23	*0.91*	23	*0.91*	23	*0.91*	23	*0.91*	23	*0.91*	32	*1.26*	32	*1.26*
T	33	*1.30*	33	*1.30*	46	*1.81*	46	*1.81*	46	*1.81*	46	*1.81*	46	*1.81*	56	*2.20*	56	*2.20*
R	75	*2.95*	75	*2.95*	100	*3.94*	125	*4.92*	100	*3.94*	125	*4.92*	150	*5.91*	100	*3.94*	125	*4.92*
H	178	*7.01*	185	*7.28*	235	*9.25*	285	*11.22*	235	*9.25*	285	*11.22*	335	*13.19*	250	*9.84*	300	*11.81*
K	305	*12.01*	346	*13.62*	414	*16.30*	496	*19.53*	414	*16.30*	496	*19.53*	578	*22.76*	475	*18.70*	550	*21.65*
Chain connector	mm	*in*	mm	*in*					mm	*in*					mm	*in*	mm	*in*
A	24	*0.94*	44	*1.73*					64	*2.52*					55	*2.17*	80	*3.15*
B	51.5	*2.03*	73	*2.87*					93	*3.66*					91	*3.58*	116	*4.57*
C	24	*0.94*	7	*0.28*											23	*0.91*		
D	6.4	*0.25*	6.1	*0.24*														
E	12 90°	*0.47* *90°*													16 90°	*0.63* *90°*		
T	28	*1.10*	10	*0.39*											17	*0.67*		
R	10.5	*0.41*	32	*1.26*											34	*1.34*		
H	5.5	*0.22*	7	*0.28*											8	*0.31*		

(1) More technical data for accessories is available on product Data sheet. Click on product reference to open it.
(2) For more information on the cable drag chain types, please refer to the Operating Instructions for the Lexium MAX Series.
(3) Always contains two dividers per link, except for cable drag chain E02-1400-038-R075, where only one divider per chain link is installed.
(4) Each order contains a set of 50 pieces of separators.

Lexium Cartesian Robots

Portal axes, Linear tables, Cantilever axes, Multi axes systems

Product reference index

Life Is On | Schneider Electric

Learn more about our products at
www.se.com

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