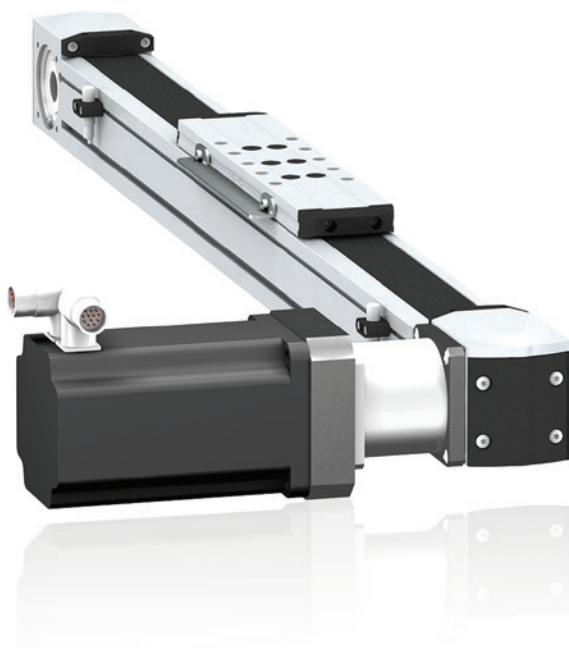


Lexium Cartesian Robots Portal Axes

Catalog

January **2018**



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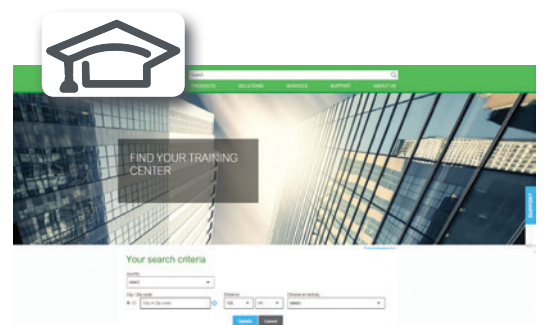
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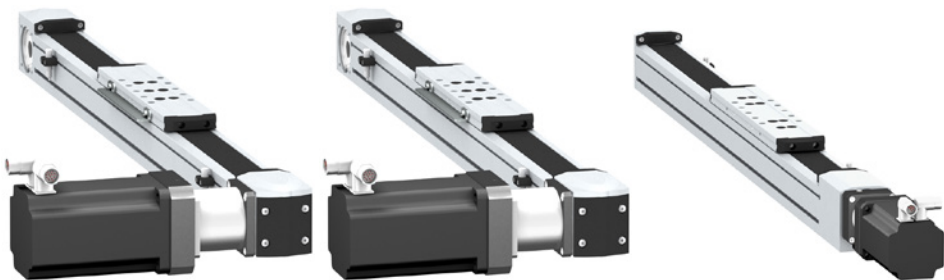
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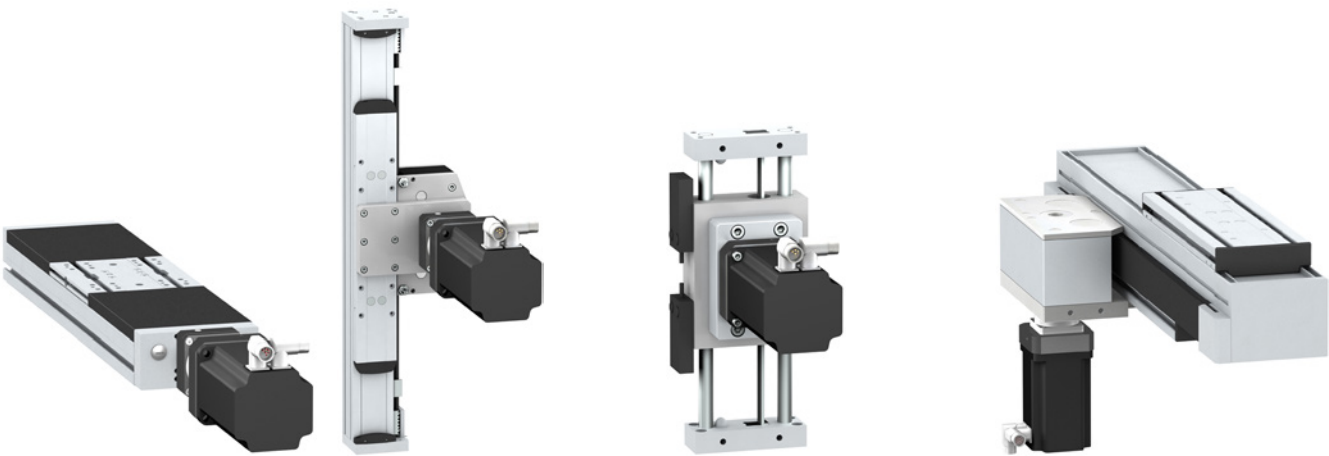
Lexium Cartesian Robots
Cantilever and Telescopic Axes

Axis type		Portal axes	
Movement	Number of directions	1	
	Movement type	Generally horizontal	
	Position of the load	On carriage	
Drive		Toothed belt	Ballscrew
Type of guide		Ball or roller	Ball



Main characteristics	■ High dynamic response ■ Long stroke length ■ High positioning speed ■ Certified for Cleanrooms with ISO class 6 (ISO14644-1)	■ High dynamic response ■ Long stroke length ■ High positioning speed	■ High precision movement (positioning, repeatability, guiding) ■ High feed forces ■ High rigidity
Dynamic response	★★★★★	★★★★	★★★
Precision	★★★	★★★	★★★★★
Sizes	41, 42, 43, 44	41, 42, 43, 44	42, 43, 44
Maximum driving force	2600 N	2600 N	4520 N
Maximum speed of movement of the load	8 m/s	2 m/s	1.25 m/s
working stroke	9 ... 5500 mm	150 ... 2500 mm	9 ... 3000 mm
Repeatability	± 0.05 mm	± 0.05 mm	± 0.02 mm
Options	■ Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution) ■ Wide range of sensors for the limit switch function ■ Choice of carriage type for adapting to the load ■ Option to add carriages ■ Increased corrosion resistance, with cover strip ■ Anti-static belt ■ Protective metal strip ■ Several different motor and gearbox mounting options	■ No options available ■ PAS 4•E axes are pre-configured PAS 4•B axes	■ Choice of pitch ■ Wide range of sensors for the limit switch function ■ Choice of carriage type for adapting to the load ■ Several carriages possible ■ Protective metal strip ■ Ballscrew supports for longer axes ■ Several different motor and gearbox mounting options
Reference	PAS 4•B	PAS 4•E	PAS 4•S
Page	8	13	16

Linear tables	Cantilever axes with mobile structure on profile	Cantilever axes with mobile structure on parallel rods	Telescopic axes
1			
Generally horizontal	Generally vertical		Generally horizontal
On carriage	On the side of the profile or on the 2 end blocks	On the 2 end blocks	On carriage
Ballscrew	Toothed belt	Toothed belt or rack	Toothed belt
Double ball	Ball or roller	Linear ball bearing	Ball or roller



■ High precision movement (positioning, repeatability, guiding) ■ High feed forces ■ High rigidity ■ Feed movement without mechanical backlash	■ Long stroke length ■ High feed forces ■ Option to mount the load on the side of the profile or on the end blocks ■ High rigidity	■ Compact ■ Mobile structure with light travel weight	■ Long stroke length from a compact unit ■ High rigidity ■ High dynamic response
★★	★★★★	★★★★	★★★★
★★★★★	★★★	★★★	★★
41, 42, 43	41, 42, 43, 44	30, 31, 32, 33, 34	24
2580 N	2150 N	705 N	1500 N
1 m/s	3 m/s	3 m/s	3 m/s
7 ... 1500 mm	9 ... 1800 mm	8 ... 500 mm	13 ... 2400 mm
± 0.02 mm	± 0.05 mm	± 0.05 mm	± 0.1 mm
■ Choice of pitch ■ Several different motor mounting options	■ Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution) ■ Wide range of sensors for the limit switch function ■ Increased corrosion resistance, with cover strip ■ Anti-static belt ■ Protective metal strip ■ Several different motor and gearbox mounting options	■ Anti-corrosion version ■ Anti-static belt ■ Several different motor and gearbox mounting options	■ Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution) ■ Choice of carriage type for adapting to the load ■ Several different motor and gearbox mounting options
TAS 4	CAS 4	CAS 3	CAS 2
For more information, please refer to the catalog "Lexium Cartesian Robots Table Axes"		For more information, please refer to the catalog "Lexium Cartesian Robots Cantilever and Telescopic Axes"	

Lexium Cartesian Robots

Combinations of drive units/cantilever axes

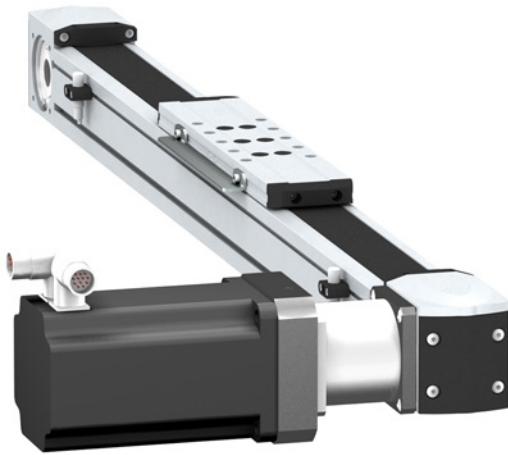
Drive element (1)	Type	Portal axes				Cantilever and telescopic axes	
		PAS41B CAS41B	PAS42B PAS42S CAS42B	PAS43B PAS43S CAS43B	PAS44B PAS44S CAS44B	CAS30R	CAS31B
Stepper motors	BRS368						
	BRS397						
	BRS39A						
	BRS39B						
	BRS3AC						
	BRS3AD						
Integrated stepper motors	ILS1●571						
	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 (Fa. Neugart)	PLE40 (WPLE40)						
	PLE60 (WPLE60)						
	PLE80 (WPLE80)						
	PLE120 (WPLE120)						

(1) Please refer to our website www.schneider-electric.com.

	Possible to combine
	Incompatible

[illegible]

PF094920



Lexium PAS4●B portal axis with motor and gearbox mounted

Presentation (1)

Lexium PAS B portal axes are linear motion axes with a toothed belt for driving the carriage and roller or ball guides for guidance. The carriage moving the load is mobile and the body of the axis is fixed.

Lexium PAS B portal axes are designed for applications that require positioning of heavy loads over long distances with a high dynamic response.

These axes, with a ball guide, are particularly suitable for applications requiring high forces and significant torque. Rollers offer a simple and cost-effective guiding solution for other applications.

Lexium PAS B portal axes offer various configuration options. These include axis length, various types of sensor for the limit switch function, the addition of a protective metal strip, a choice between various carriage types of different sizes, and the option of having up to 3 carriages and an anti-static toothed belt (see page 8).

The axis design is based on a very strong and torsionally rigid aluminum profile.

Schneider Electric offers a number of drive elements that can be used to drive Lexium PAS B axes (2) (see pages 4 and 9).

Third-party drive elements can also be used under certain conditions. Contact our Customer Care Center for further details.

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

- Profile with T-slots on 3 sides
- Carriage with centering tapped holes for mounting the load
- Grease nipples accessible from each side of the carriage to simplify routine maintenance
- Quick-coupling system for easy motor or gearbox assembly
- Stroke in various lengths available per millimeter
- Sensors slidable in T-slots

The PAS42BB with ball guiding is suitable for clean room applications with the following configurations:

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

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

Increased clean room class PAS42BBM1000A1RA●●●R with suction 11.7 m³/h/60.03 cu ft/h

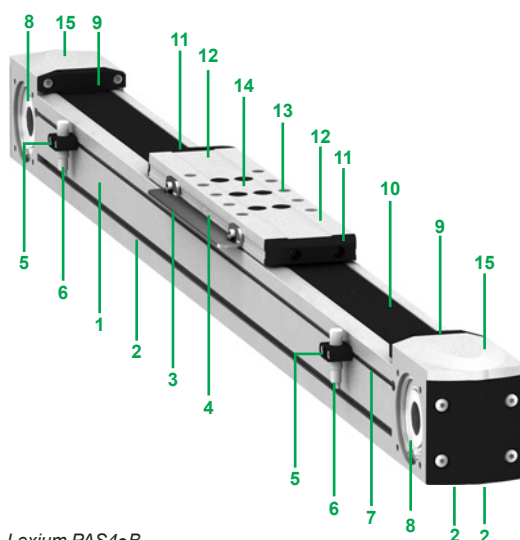
- Clean room class 2 (ISO14644-1) at 1.8 m/s/5.91 ft/s with 10 kg/22.05 lb load
- Clean room class 1 (ISO14644-1) at 1.0 m/s/3.28 ft/s with 10 kg/22.05 lb load



(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS B portal axes is available on our website www.schneider-electric.com.

(2) When selecting the drive element, the maximum permissible driving torque for the axis drive shaft must always be taken into account.

Description (1) (2)



- 1 Lexium PAS4B portal axis
- 2 T-slots for mounting the axis
- 3 Detection plate for sensors
- 4 Grease nipples on each side of carriage
- 5 Sensor supports
- 6 Sensors for the limit switch function
- 7 T-slot for positioning sensor supports
- 8 Hollow shafts for connecting drive unit or journal
- 9 Brackets for protective metal strip
- 10 Protective metal strip
- 11 Buffers
- 12 Protective metal strip deflectors
- 13 Tapped holes with centering holes for mounting the load
- 14 Carriage to support load
- 15 End blocks

Lexium PAS4B

Mechanical characteristics (1)

Force and torque (F_y , F_z , M_x , M_y , M_z) are calculated for a service life of 30,000 km/18,641 miles

Type of portal axis		PAS41BR	PAS42BR	PAS42BB 	PAS43BR	PAS43BB	PAS44BB
Type of drive		Toothed belt					
Type of guide		Rollers	Rollers	Ball	Rollers	Ball	Ball
Constant feed rate	mm/U	84	155		205		264
Max. driving force (F_x) (3)	N	300	800		1,100		2,600
Max. speed	m/s/ft/s	8/26.25		5/16.40	8/26.25	5/16.40	
Max. acceleration	m/s ² /ft/s ²	20/65.62		50/164.04	20/65.62	50/164.04	
Max. driving torque	Nm	4	20		36		110
Max. force (F_y) (3)	N	660		2,810	1,760	4,410	6,270
Max. force (F_z) (3)	N	430		2,810	1,040	4,410	6,270
Max. torque (M_x) (3)	Nm	5	9	19	29	42	68
Max. torque (M_y) (3)							
With carriage type 1	Nm	—	18	74	51	162	256
With carriage type 2	Nm	11	31	194	87	379	655
With carriage type 4	Nm	28	56	362	160	687	1,209
Max. torque (M_z) (3)							
With carriage type 1	Nm	—	28	74	86	162	256
With carriage type 2	Nm	17	48	194	148	379	655
With carriage type 4	Nm	43	87	362	271	687	1,209
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					
Profile cross-section	mm/in.	40 x 40/ 1.58 x 1.58	60 x 60/2.36 x 2.36			80 x 80/3.15 x 3.15	
Typical payload (5)	kg/lb	12/26.46	18/39.68	40/88.19	35/187.39	85/77.16	160/352.74

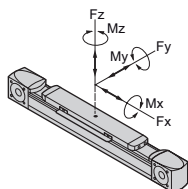
(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS B portal axes is available on our website www.schneider-electric.com.

(2) Description of a Lexium PAS B portal axis; the configuration options selected will determine whether or not certain components are included.

(3) Forces and moments acting on the portal axis Lexium PAS B. If there are several forces and moments acting at the same time, refer to the manufacturer's documentation.

(4) Larger strokes at the ball guides on request.

(5) Values are used for orientation in horizontal mounting position, carriage up, and centric load. Values can also be exceeded. Refer to max. force (F_z) value and manufacturer's documentation.



References (1)

To order a Lexium PAS B portal axis, complete each reference by replacing the "●" (2):

Example: PAS 4 1 B R M 1000 A 2 B A XXX R/... rest of the reference on page 9

		PAS 4	●	●	●	●	●●●●	●	●	●	●	●●●	●	/(2)
Size (profile cross-section)	40 (40 x 40 mm cross-section)	1												/
	60 (60 x 60 mm cross-section)	2												/
	80 (80 x 80 mm cross-section)	3												/
	110 (110 x 110 mm cross-section)	4												/
Type of drive for carriage	Toothed belt	B												/
	Axis with no drive facility (for support only)	H												/
Type of guide for carriage	Roller (for PAS41BR, 42BR, 43BR)			R										/
	Ball (for PAS42BB, 43BB, 44BB)			B										/
Feed per revolution	84 mm/revolution (for PAS41B)				M									/
	155 mm/revolution (for PAS42B)				M									/
	205 mm/revolution (for PAS43B)				M									/
	264 mm/revolution (for PAS44B)				M									/
	Axis with no drive facility (for PAS4●H)				N									/
Stroke	Maximum 3,000 mm (for PAS41)					●●●●								/
	Maximum 5,500 mm (for PAS42, PAS43 and PAS44)					●●●●								/
Limit switches (3)	2 sensors with PNP output, NC contact, not connected							A						/
	2 sensors with PNP output, NO contact, not connected							C						/
	2 sensors with NPN output, NC contact, not connected							E						/
	2 sensors with NPN output, NO contact, not connected							G						/
	Without sensor/without detection plate							N						/
Type of carriage (4)	Type 1 (only for PAS42B, 43B, 44B)								1					/
	Type 2								2					/
	Type 4								4					/
Options	With protective metal strip									B				/
	Anti-corrosion version/without protective metal strip									C				/
	With anti-static toothed belt/without protective metal strip									A				/
	Anti-corrosion version/with anti-static toothed belt/without protective metal strip									E				/
	With anti-static toothed belt/with protective metal strip									L				/
	Increased clean room class/with protective metal strip (at PAS42BB)									R				/
	Without option									N				/
Number of carriages (5)	1										A			/
	2										B			/
	3										C			/
Distance between two carriages	State the distance in mm											●●●		/
	1 carriage only, state "XXX"											XXX		/
Interface for the drive element (6)	Drive element mounted on right-hand side												R	/
	Drive element mounted on left-hand side												L	/
	Without connection/without adapter plate												H	/
	Axis with no drive facility (only for PAS4●H)												N	/

(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS B portal axes is available on our website www.schneider-electric.com.

(2) For the second part of the reference, see page 9.

(3) Supplied with a 0.1 m/0.33 ft cable equipped with an M8 connector. Other cable lengths are also available (see the accessories on page 18).

(4) See characteristics and dimensions on our website www.schneider-electric.com or refer to the documentation CD-ROM supplied with this catalog.

(5) Only carriages of the same type (type 1, type 2, or type 4) are permitted.

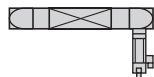
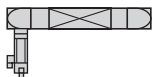
(6) Types of interface for the drive element:

PAS4●B●M●●●●●●●●●●R/...

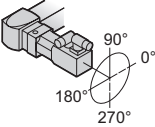
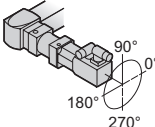
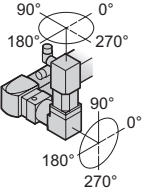
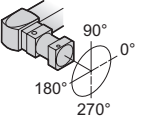
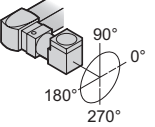
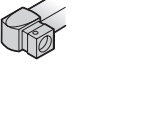
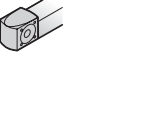
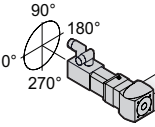
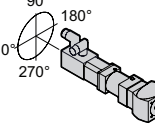
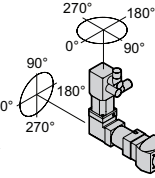
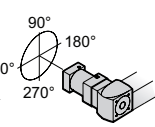
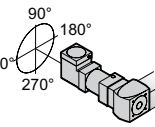
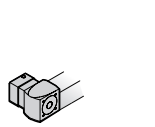
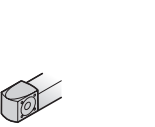
PAS4●B●M●●●●●●●●●●L/...

PAS4●B●M●●●●●●●●●●H/...

PAS4●H●N●●●●●●●●●●N/...



(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS B portal axes is available on our website www.schneider-electric.com
 (2) For the first part of the reference, see page 8.
 (3) For possible motor drive configurations and orientation (view from motor/gearbox towards the axis or from motor towards the gearbox), see page 10.

Mounting directions						
Right mounting						
PAS4●B.../ 1XX●●●	PAS4●B.../ 2●G●●●	PAS4●B.../ 2●A●●●	PAS4●B.../ 3●G●XXX	PAS4●B.../ 3●A●XXX	PAS4●B.../ 4XX●●●	PAS4●B.../ XXXXXXX
						
Left mounting						
PAS4●B.../ 1XX●●●	PAS4●B.../ 2●G●●●	PAS4●B.../ 2●A●●●	PAS4●B.../ 3●G●XXX	PAS4●B.../ 3●A●XXX	PAS4●B.../ 4XX●●●	PAS4●B.../ XXXXXXX
						

Presentation

Lexium PAS E portal axes are linear motion axes with a toothed belt for driving the carriage and roller or ball guides for guidance.

The carriage moving the load is mobile and the body of the axis is fixed.

They are ideal for applications that require high-precision positioning of heavy loads over long distances with highly dynamic performance.

The Lexium PAS E offer has been designed to offer a sophisticated "ready-to-use" solution offering a standard configuration and characteristics: the range sizes are predefined and they are supplied with a BMH or BSH motor, depending on the model, plus a planetary gearbox and two limit switches.

This configuration reduces the selection criteria to just two parameters, the load and the length.

Regardless of the axis size, only one curve is needed to determine the positioning time as a function of the stroke (see curve on opposite page).

This ready-to-use solution is simple and low-cost: the axis setup time is minimized thanks to simplified wiring, resulting in optimized setup and maintenance costs. This solution also makes it possible to have very short lead times.

Applications

Applications with the following requirements:

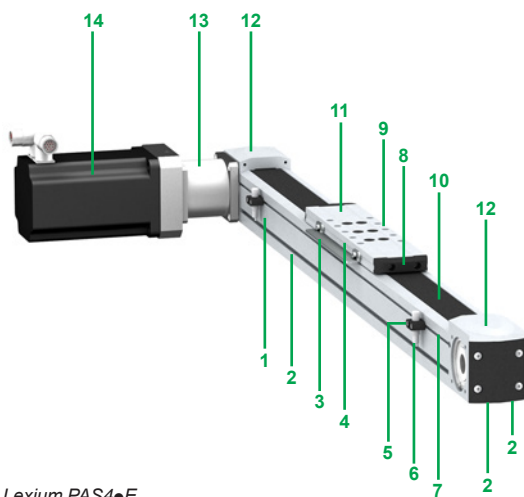
- Positioning over long distances: material handling, palletizers, etc.
- Positioning of parts at high speeds: flying shear, optical and measuring applications, labeling, etc.
- High feed forces: hoisting, cutting, machining, etc.

Special product features

- Profile with T-slots on 3 sides
- Carriage with centering tapped holes for mounting the load
- Grease nipples accessible from each side of the carriage to simplify regular maintenance
- Different stroke lengths available
- Sensors slidable in T-slots

Description

- 1 Lexium PAS4●E portal axis
- 2 T-slots for mounting the axis
- 3 Detection plate for sensors
- 4 Grease nipples on each side of carriage
- 5 Sensor supports
- 6 Sensors for the limit switch function: 2 sensors with PNP output, NC contact
- 7 T-slot for positioning sensor supports
- 8 Buffers
- 9 Tapped holes with centering holes for mounting the load
- 10 Drive belt
- 11 Carriage to support load
- 12 End blocks
- 13 Planetary gearbox
- 14 Motor (BMH or BSH depending on the model)



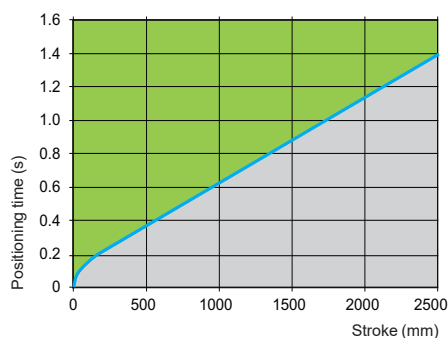
Lexium PAS4●E

Mechanical characteristics

Force and torque (F_y , F_z , M_x , M_y , M_z) are calculated for a service life of 30,000 km/18,641 miles

Type of portal axis		PAS41E	PAS42E	PAS43E	PAS44E
Type of drive		Toothed belt			
Type of guide		Roller	Ball		
Constant feed rate	mm/U	84	155	205	264
Max. driving force (F_x) (1)	N	300	800	1100	2,600
Max. speed	m/s/ft/s	2/6.25			
Max. acceleration	m/s ² /ft/s ²	15/49.21			
Max. driving torque	Nm	4	20	36	110
Max. force (F_y) (2)	N	660	2,810	4,410	6,270
Max. force (F_z) (2)	N	430	2,810	4,410	6,270
Max. torque (M_x) (2)	Nm	5	19	42	67
Max. torque (M_y) (2)	Nm	11	74	162	256
Max. torque (M_z) (2)	Nm	17	74	162	256
Min....max. stroke	mm/in.	150...2,500/5.91...98.43			
Repeatability	mm/in.	± 0.05/± 0.002			
Profile cross-section (width x height)	mm/in.	40 x 40/1.58 x 1.58	60 x 60/2.36 x 2.36	80 x 80/3.15 x 3.15	110 x 110/4.33 x 4.33
Typical payload (3)	kg/lb	4/8.82	12/26.46	25/55.12	50/110.23

Axis positioning time as a function of the stroke

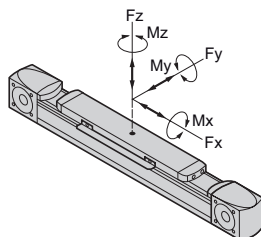


	Applicable
	Not applicable

(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS E portal axes is available on our website www.schneider-electric.com.

(2) Forces and torques exerted on the Lexium PAS E portal axis: If there are several forces and moments acting at the same time, refer to the manufacturer's documentation.

(3) Values are used for orientation in horizontal mounting position, carriage up, and centric load. Please contact our Customer Care Center.



Lexium Cartesian Robots

Lexium PAS E portal axes

References

To order a Lexium PAS E portal axis, complete each reference by replacing the “●”:

For example: PAS 4 1 E 0150

	PAS 4	●	E	●●●●
Size (profile cross-section)/ Typical payload	40 (cross-section 40 x 40 mm) 4 kg/8.82 lb	1		
	60 (cross-section 60 x 60 mm) 12 kg/26.46 lb	2		
	80 (cross-section 80 x 80 mm) 25 kg/55.12 lb	3		
	110 (cross-section 110 x 110 mm) 50 kg/110.23 lb	4		
Axis type	Lexium PAS E series			E
Stroke	From 150 mm to 2,500 mm in increments of 50 mm			●●●●

Associated components

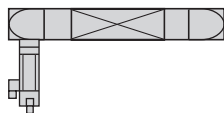
Lexium PAS E portal axes are supplied with a motor (BMH or BSH depending on the model) and a planetary gearbox, in the combinations shown below. The configuration has been designed to suit a wide range of applications.

The servo drive must be ordered separately, according to the combination recommended below.

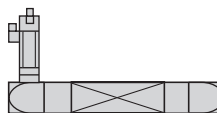
Portal axis	Servo motor	Planetary gearbox (third-party gearboxes from Neugart)	Recommended servo drive (not supplied)
PAS41E●●●●	BSH0552P01A2A	PLE 40 (gear ratio: 3:1)	LXM32●U60N4
PAS42E●●●●	BMH0702P06A2A	PLE 60 (gear ratio: 5:1)	LXM32●D12N4
PAS43E●●●●	BMH1002P06A2A	PLE 80 (gear ratio: 5:1)	LXM32●D18N4
PAS44E●●●●	BMH1401P06A2A	PLE 120 (gear ratio: 5:1)	LXM32●D72N4

Servo motor mounting

The drive unit is always mounted on the right side, but can be positioned on the left by the user.



Standard drive unit mounting



Drive unit mounted on the left

For more information concerning the servo motor mounting, please consult the user manual for Lexium PAS B portal axes, which is available on our website “www.schneider-electric.com”.



Lexium PAS 4S portal axis with motor and gearbox mounted

Presentation (1)

Lexium PAS S portal axes are linear motion axes with a ballscrew for driving the carriage and ball guides for guidance.

The carriage moving the load is mobile and the body of the axis is fixed.

Lexium PAS S portal axes are particularly suited to applications that require precise positioning of heavy loads at low speeds and high feed forces.

To facilitate integration into a large number of applications, there are a range of different configuration options. These include axis length, different pitches for the ballscrew, various types of sensor for the limit switch function, adding a protective metal strip, a choice between 2 carriage types of different sizes, and the option of having up to 3 carriages (see page 16).

The axis design is based on a very strong and torsionally rigid aluminum profile.

Schneider Electric offers a number of drive elements that can be used to drive Lexium PAS S axes (2) (see pages 4 and 17).

Third-party drive elements can also be used under certain conditions. Contact our Customer Care Center for further details.

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.

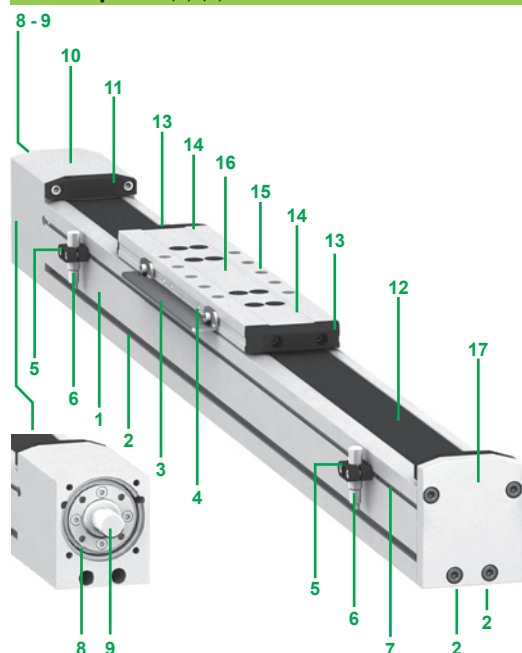
Special product features

- Profile with T-slots on 3 sides
- Carriage with centering tapped holes for mounting the load
- Grease nipples accessible from each side of the carriage to simplify routine maintenance
- Quick-coupling system for easy motor or gearbox assembly
- Stroke in various lengths available per millimeter
- Sensors slidable in T-slots

(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS S portal axes is available on our website www.schneider-electric.com.

(2) When selecting the drive element, the maximum permissible driving torque for the axis drive shaft must always be taken into account.

Description (1) (2)



- 1 Lexium PAS4S portal axis
- 2 T-slots for mounting the axis
- 3 Detection plate for sensors
- 4 Grease nipples on each side of carriage
- 5 Sensor supports
- 6 Sensors for the limit switch function
- 7 T-slot for positioning sensor supports
- 8 Flange for mounting drive element
- 9 Drive shaft
- 10 Drive block
- 11 Brackets for protective metal strip
- 12 Protective metal strip
- 13 Buffers
- 14 Protective metal strip deflectors
- 15 Tapped holes with centering holes for mounting the load
- 16 Carriage to support load
- 17 End plate

Lexium PAS4S

Mechanical characteristics (1)

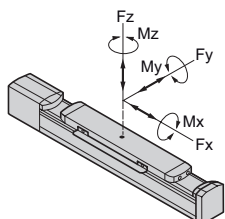
Force and torque (F_y , F_z , M_x , M_y , M_z) are calculated for a service life of 10,000 km/6,214 miles

Type of portal axis		PAS42SBB	PAS42SBD	PAS42SBF	PAS43SBB	PAS43SBD	PAS43SBG	PAS44SBB	PAS44SBD	PAS44SBH
Type of drive		Ballscrew								
Type of guide		Ball								
Ballscrew step	mm/U	5	10	16	5	10	20	5	10	25
Ballscrew diameter	mm/in.	16/0.63			20/0.79			24/0.94		
Max. driving force (Fx) (3)	N	2980	1560	1540	3400	2600	1720	3700	4520	3000
Max. speed	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	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. driving torque	Nm	3.2	3.3	4.9	3.7	5.3	6.8	4.3	9	14.3
Max. force (Fy) (3)	N	4,050			6,360			9,040		
Max. force (Fz) (3)	N	4,050			6,360			9,040		
Max. torque (Mx) (3)	Nm	27			60			98		
Max. torque (My) (3)										
With carriage type 1	Nm	304			556			935		
With carriage type 4	Nm	668			1,224			2,155		
Max. torque (Mz) (3)	Nm									
With carriage type 1		304			556			935		
With carriage type 4	Nm	668			1224			2,155		
Min....max. stroke	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								
Profile cross-section (Width x height)	mm/in.	60 x 60/2.36 x 2.36			80 x 80/3.15 x 3.15			110 x 110/4.33 x 4.33		
Typical payload (4)	kg/lb	40/88.18			85/187.39			160/352.74		

(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS S portal axes is available on our website www.schneider-electric.com.

(2) Description of a Lexium PAS S portal axis; the configuration options selected will determine whether or not certain components are included.

(3) Forces and moments acting on the portal axis Lexium PAS S: If there are several forces and moments acting at the same time, refer to the manufacturer's documentation.



(4) Values are used for orientation in horizontal mounting position, carriage up, and centric load. Values can also be exceeded. Refer to max. force (F_z) value and manufacturer's documentation.

References (1)

To order a Lexium PAS S portal axis, complete each reference by replacing the "●" (2):

Example: PAS 4 2 S B F 1000 A 1 B A XXX S/... rest of the reference on page 17

		PAS 4	●	●	B	●	●●●●	●	●	●	●	●●●	●	/(2)
Size (profile cross-section)	60 (60 x 60 mm cross-section)	2												/
	80 (80 x 80 mm cross-section)	3												/
	110 (110 x 110 mm cross-section)	4												/
Type of drive for carriage	Ballscrew		S											/
	Axis with no drive facility (for support only)		A											/
Type of guide for carriage	Ball			B										/
Ballscrew step	5 mm/revolution (for PAS4●SBB)				B									/
	10 mm/revolution (for PAS4●SBD)				D									/
	16 mm/revolution (for PAS42SBF)				F									/
	20 mm/revolution (for PAS43SBG)				G									/
	25 mm/revolution (for PAS44SBH)				H									/
	Axis with no drive facility (for PAS4●A)				N									/
Stroke	Maximum 1,500 mm (for PAS42)					●●●●								/
	Maximum 3,000 mm (for PAS43 and PAS44)					●●●●								/
Limit switches (3)	2 sensors with PNP output, NC contact, not connected							A						/
	2 sensors with PNP output, NO contact, not connected							C						/
	2 sensors with NPN output, NC contact, not connected							E						/
	2 sensors with NPN output, NO contact, not connected							G						/
	Without sensors/without detection plate							N						/
Type of carriage (4)	Type 1								1					/
	Type 4								4					/
Options (5)	With protective metal strip/without ballscrew support									B				/
	With protective metal strip/with 1 ballscrew support									C				/
	Without protective metal strip/with 1 ballscrew support									D				/
	With protective metal strip/with 2 ballscrew supports									E				/
	Without protective metal strip/with 2 ballscrew supports									F				/
	Without protective metal strip/without ballscrew support									N				/
Number of carriages (6)	1										A			/
	2										B			/
	3										C			/
Distance between two carriages	State the distance in mm										●●●			/
	1 carriage only, state "XXX"										XXX			/
Interface for the drive element (7)	With drive element or adapter plate											S		/
	With shaft											D		/
	Axis with no drive facility (only for PAS4●A)											N		/

(1) All technical data (characteristics, dimensions, etc.) for Lexium PAS S portal axes is available on our website www.schneider-electric.com.

(2) For the second part of the reference, see page 17.

(3) Supplied with a 0.1 m/0.33 ft cable equipped with an M8 connector. Other cable lengths are also available (see the accessories on page 18).

(4) See characteristics and dimensions on our website www.schneider-electric.com.

(5) Ballscrew support corresponds to total axis length and ballscrew speed.

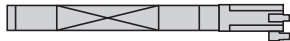
(6) Only carriages of the same type (type 1 or type 4) are permitted (only the carriage next to the motor is driven).

(7) Types of interface for the drive element:

PAS4●SB●●●●●●●●●●S/...

PAS4●SB●●●●●●●●●●D/...

PAS4●AN●●●●●●●●●●N/...



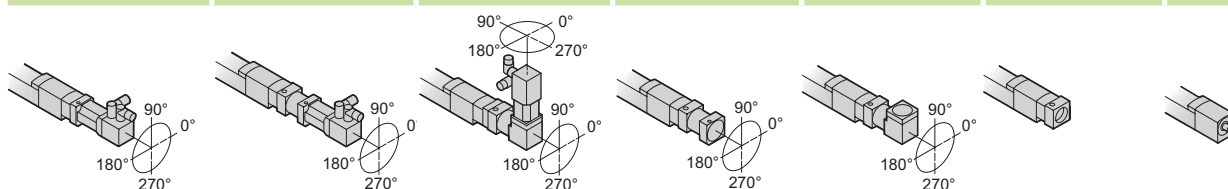
References (continued) (1)									
To order a Lexium PAS S portal axis, complete each reference by replacing the “●” (2):									
Example: PAS 4 2 S B F 1000 A 1 B A XXX S (2)/1 XX X H7 0 + PLE60 3:1 + PAS 4 ●● B ●●●●●●●●●●●●●● (2)/ ● ●● ● ●● ● + ...									
BMH 0702P01A2A									
Motor drive configuration (3)	Motor only	/	1						
	Motor + gearbox	/	2						
	Gearbox only	/	3						
	Without motor/without gearbox/with adapter plate for the drive	/	4						
	Without motor/without gearbox	/	X						
Gearbox interface	PLE 40 gearboxes	/		0G					
	PLE 60 gearboxes	/		1G					
	PLE 80 gearboxes	/		3G					
	PLE 120 gearboxes	/		5G					
	WPLE 40 gearboxes	/		0A					
	WPLE 60 gearboxes	/		1A					
	WPLE 80 gearboxes	/		3A					
	WPLE 120 gearboxes	/		5A					
	Other third-party gearboxes not assembled by Schneider Electric (gearbox drawings required)	/		YY					
	Other third-party gearboxes assembled by Schneider Electric (gearbox and drawings required)	/		ZZ					
	Without gearbox	/		XX					
Gearbox orientation (3)	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			
	No motor	/				XX			
Motor orientation (3)	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) All technical data (characteristics, dimensions, etc.) for Lexium PAS S portal axes is available on our website www.schneider-electric.com

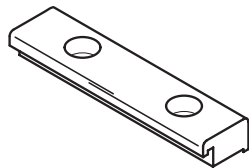
(2) For the first part of the reference, see page 16.

(3) Possible drive element configurations and orientation (view from motor/gearbox towards the axis or from motor towards the gearbox):

PAS4●S... /1XXX●●●	PAS4●S... /2●G●●●●	PAS4●S... /2●A●●●●	PAS4●S.../ 3●G●XXX	PAS4●S... /3●A●XXX	PAS4●S... /4XXX●●●	PAS4●S.../ XXXXXXX
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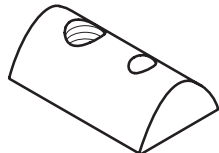


DF539870



VW33MF10●●●

DF539872



VW33MF010T●●●

Clamping jaws (1)

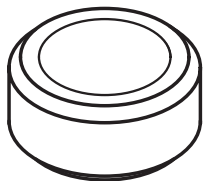
Description	For Lexium portal axes	Reference
Clamping jaws These are used to mount portal axes on a fixed support. (sold in lots of 10)	PAS41B PAS41E	VW33MF10511
	PAS42B PAS42E PAS42S	VW33MF10512
	PAS43B PAS43E PAS43S	VW33MF10613
	PAS44B PAS44E PAS44S	VW33MF10814

T-slot nuts (1)

Description	For Lexium portal axes	T-slot width and retaining screw Ø	Reference
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)	PAS41B PAS41E PAS42B PAS42E PAS42S	Width: 5 M5 screw	VW33MF010T5N5
	PAS43B PAS43E PAS43S	Width: 6 M6 screw	VW33MF010T6N6
	PAS44B PAS44E PAS44S	Width: 8 M6 screw	VW33MF010T8N6
		Width: 8 M8 screw	VW33MF010T8N8

(1) All technical data for accessories is available on our website www.schneider-electric.com.

DF538974

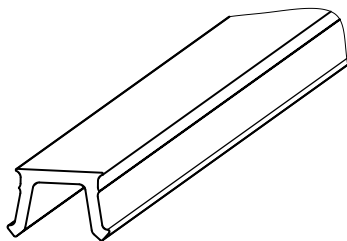


VW33MF020LD0●

Adapters (1)

Description	For Lexium portal axes	Reference
Adapters These 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	VW33MF020LD01
	PAS41E	
	PAS42B	
	PAS42E	
	PAS42S	
	PAS43B	VW33MF020LD02
	PAS43E	
	PAS43S	
	PAS44B	VW33MF020LD03
	PAS44E	
	PAS44S	

DF538976

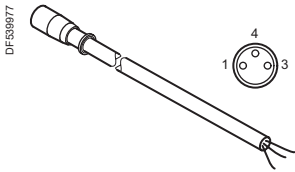


VW33MC05●0●

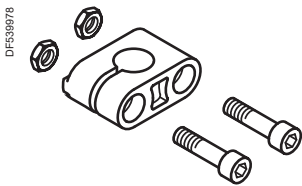
Protective covers for T-slots (1)

Description	For Lexium portal axes	Reference
Protective covers for T-slots These help to protect the profile T-slots. Length 2 m/6.56 ft (sold in lots of 5)	PAS41B	VW33MC05A05
	PAS41E	
	PAS42B	VW33MC05B05
	PAS42E	
	PAS42S	
	PAS43B	VW33MC05A06
	PAS43E	
	PAS43S	
	PAS44B	VW33MC05A08
	PAS44E	
	PAS44S	

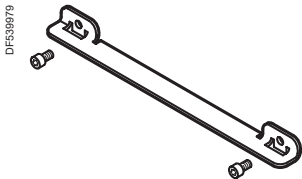
(1) All technical data for accessories is available on our website www.schneider-electric.com.



VW32SBCBGA ●●●



VW33MF010M8



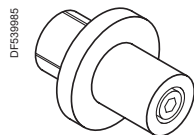
VW33MASP1

Extension cables for sensor (1)			
Description	For Lexium portal axes	Length m/ft	Reference
Extension cables for sensor 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 PAS4●E PAS4●S	5/16.40	VW32SBCBGA050
		10/32.81	VW32SBCBGA100
		20/65.62	VW32SBCBGA200

Sensor support (1)		
Description	For Lexium portal axes	Reference
Sensor support This is used to hold a standard Ø 8 mm sensor for the limit switch function. It is inserted in the axis Tslots. (sold in lots of 10)	PAS4●B PAS4●E PAS4●S	VW33MF010M8

Detection plate for sensor (1)		
Description	For Lexium portal axes	Reference
Detection plate for sensor This acts as a physical marker for the sensors acting as limit switches when detecting the presence of the carriage. It is mounted on the axis carriage and is supplied with retaining screws.	PAS4●B PAS4●E PAS4●S	VW33MASP1

(1) All technical data for accessories is available on our website www.schneider-electric.com.



VW33MF1S●●A●●

Shaft journals (1)

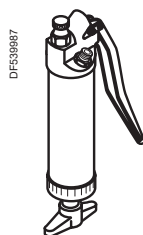
Description	For Lexium portal axes	Maximum radial force N	Moment of inertia kgcm ²	Maximum driving torque N.m/lbf.in	Reference
Shaft journals Coupled to the axis, these can be used, via a mechanical adapter (not supplied), to connect: An encoder indicating the axis position A third-party application-specific drive	PAS41B PAS41E PAS41S	230	0.002	7.7 N.m/ 68.14 lbf.in	VW33MF1S12A12
	PAS42B PAS42E PAS42S	400	0.05	35.7 N.m/ 315.93 lbf.in	VW33MF1S27A20
	PAS43B PAS43E PAS43S	700	0.16	82 N.m/ 725.66 lbf.in	VW33MF1S32A25
	PAS44B PAS44E PAS44S	1,300	0.54	182 N.m/ 1,610.62 lbf.in	VW33MF1S37A32



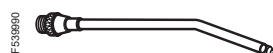
VW33MAP01

Lubrication accessories (1)

Description	For Lexium portal axes	Nozzle angle	Reference
High-pressure grease pump (2) This is used to lubricate axes with ball guides: Grease capacity: 120 cm ³ Flow rate: 0.5 cm ³ /pressure	PAS4●BB PAS4●EB PAS4●SB	—	VW33MAP01
High-pressure oil pump (2) This is used to lubricate axes with roller guides: Oil capacity: 120 cm ³ Flow rate: 0.5 cm ³ /pressure	PAS4●BR PAS4●ER	—	VW33MAP02
D6 rigid nozzles These are mounted on VW33MAP01 and VW33MAP02 high-pressure pumps to lubricate the Lexium axes.	PAS4●B● PAS4●E● PAS4●S●	90°	VW33MAT01



VW33MAP02



VW33MAT01

(1) All technical data for accessories is available on our website www.schneider-electric.com.

(2) Requires a D type nozzle, to be ordered separately.

P	
PAS41BR	7
PAS41E	12
PAS42BB	7
PAS42BR	7
PAS42E	12
PAS42SBB	15
PAS42SBD	15
PAS42SBF	15
PAS43BB	7
PAS43BR	7
PAS43E	12
PAS43SBB	15
PAS43SBD	15
PAS43SBG	15
PAS44BB	7
PAS44E	12
PAS44SBB	15
PAS44SBD	15
PAS44SBH	15

V	
VW32SBCBGA050	20
VW32SBCBGA100	20
VW32SBCBGA200	20
VW33MAP01	21
VW33MAP02	21
VW33MASP1	20
VW33MAT01	21
VW33MC05A05	19
VW33MC05A06	19
VW33MC05A08	19
VW33MC05B05	19
VW33MF010M8	20
VW33MF010T5N5	18
VW33MF010T6N6	18
VW33MF010T8N6	18
VW33MF010T8N8	18
VW33MF020LD01	19
VW33MF020LD02	19
VW33MF020LD03	19
VW33MF10511	18
VW33MF10512	18
VW33MF10613	18
VW33MF10814	18
VW33MF1S12A12	21
VW33MF1S27A20	21
VW33MF1S32A25	21
VW33MF1S37A32	21

The Next Generation



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