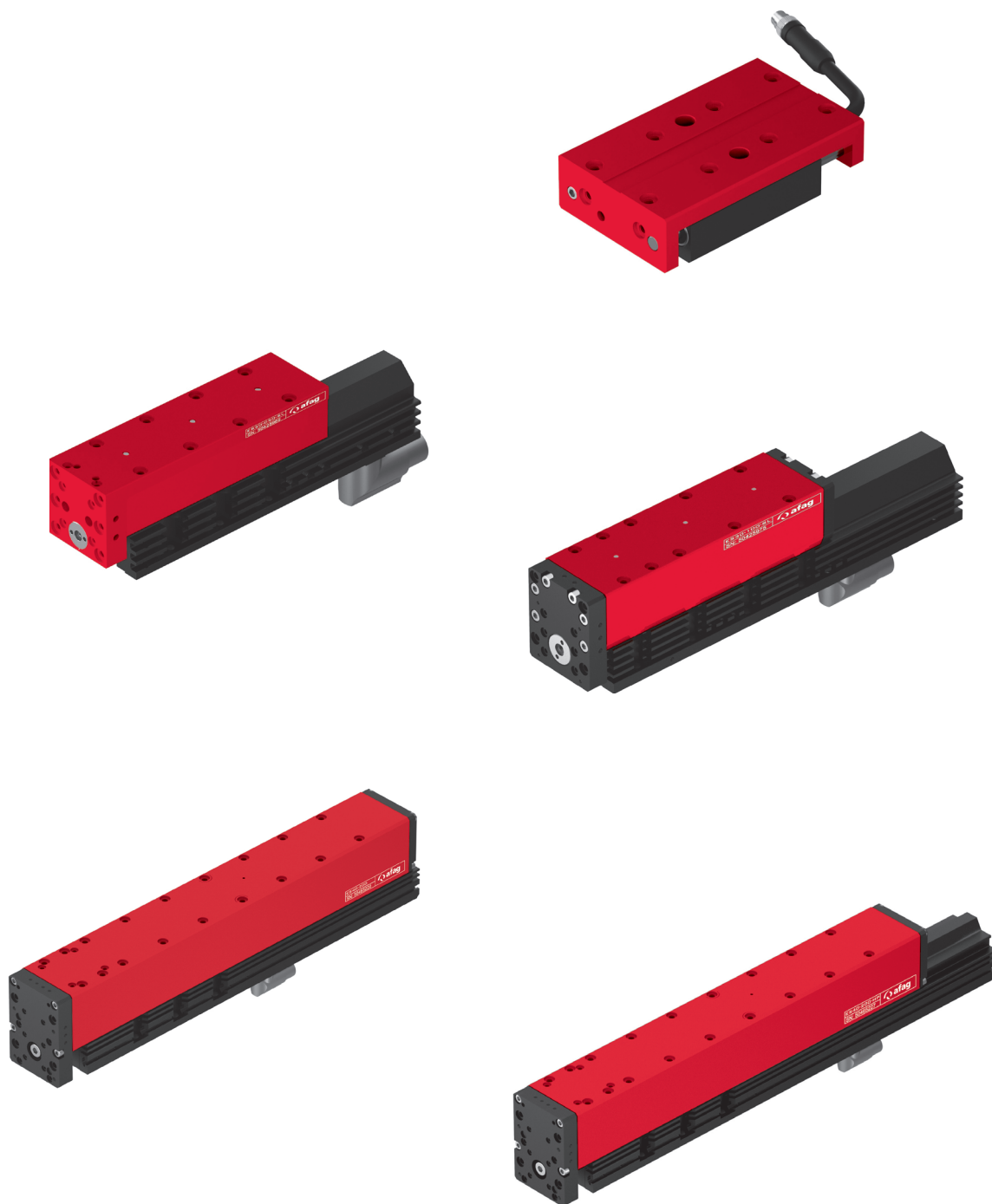
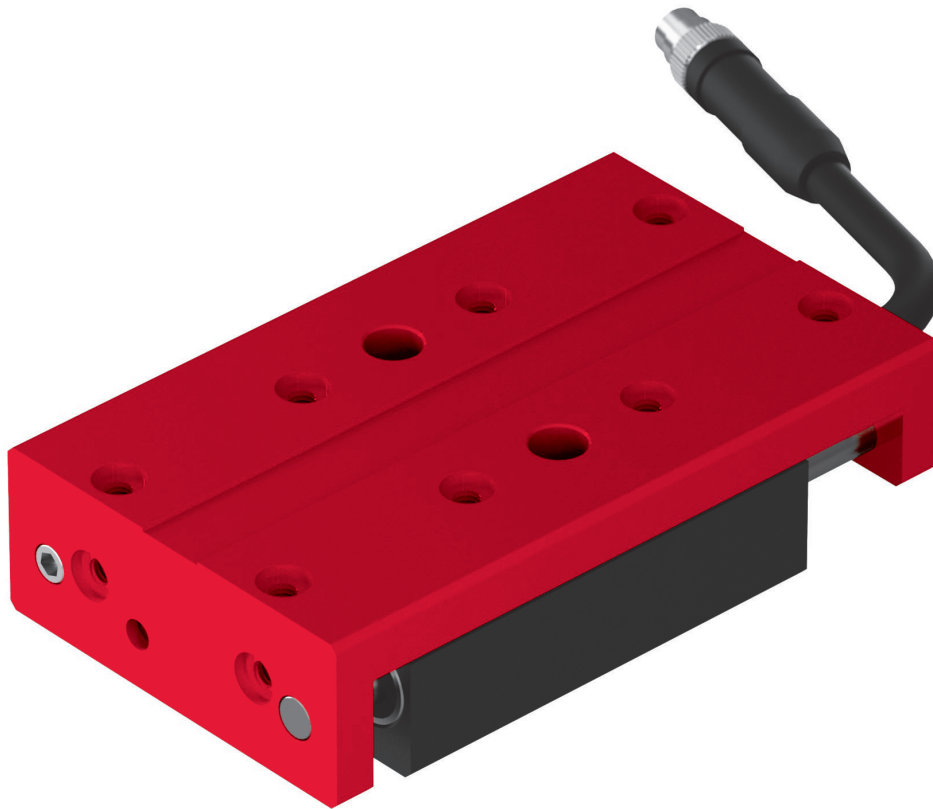




Content

Electro Slide Module	Page
ES 12	3
ES 20	8
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ES 40 HP	33
ES Accessories (MagSprings)	40

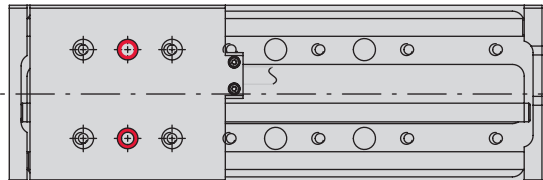


- Compact electrical slide
- Freely programmable
- Modular

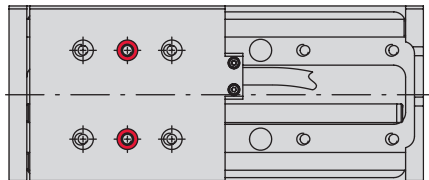
Dimensions and dimension drawings

Type	ES12-20	ES12-60	ES12-100
A	100 mm	140 mm	180 mm
B	3x30 mm	4x30 mm	5x30 mm

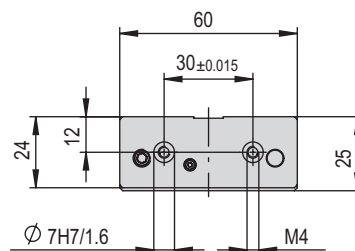
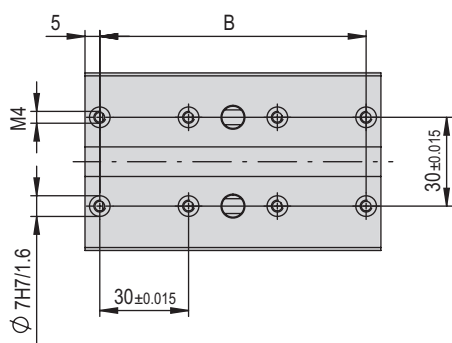
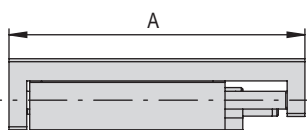
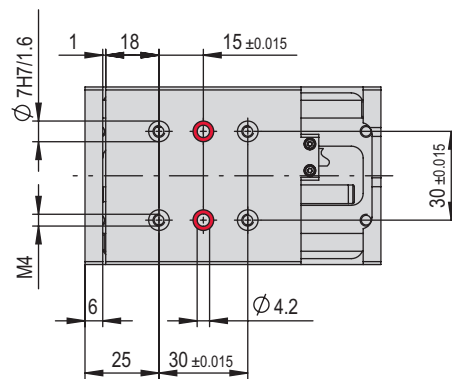
ES-12-100



ES-12-60



ES-12-20



 Bores can be screwed through

Technical data



ES12	
Attachment grid	30 x 30 mm
Attachment thread	M4
Attachment thread alternative	M3
Operating temperature	10 - 40 °C
Storage temperature	10 - 40 °C
Humidity	< 90 %

Type	ES12-20	ES12-60	ES12-100
Order number	50433802	50433803	50433804
Stroke H	20 mm	60 mm	100 mm
Net weight	0.331 kg	0.368 kg	0.403 kg
Moving weight	0.126 kg	0.163 kg	0.199 kg
Nominal voltage	< 75 VDC	< 75 VDC	< 75 VDC
Drive	Linear motor, electric		
Protection type	IP 30	IP 30	IP 30
Peak force Fx	10.7 N	10.7 N	10.7 N
Force constant	6.43 N/A	6.43 N/A	6.43 N/A
Permanent force	3.6 N	3.6 N	3.6 N
Peak force	10.7 N	10.7 N	10.7 N
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	↔	↔	↔

Cleanroom class ISO 14644-1, class ISO 7

*Vertical installation upon request

Included in the delivery (Catalogue HT accessories)

- 2x Centering bushing Ø7x3
- 4x Mounting screw M4x22

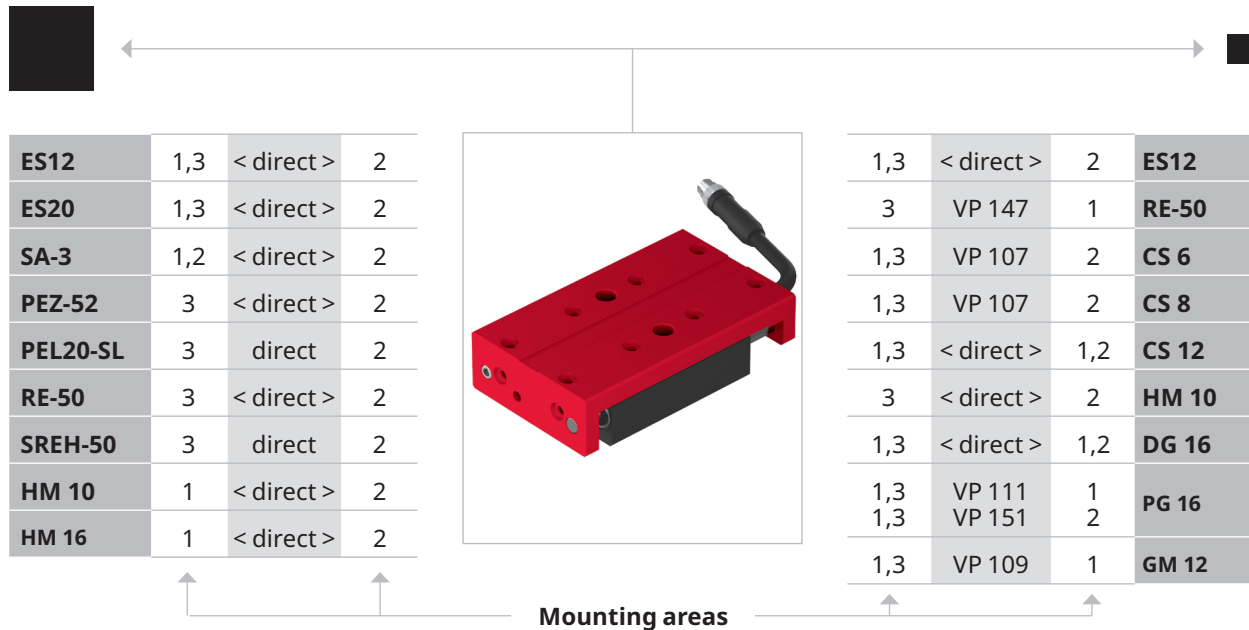
Accessories (Catalogue HT accessories)

- Adapter ES8/12 LinMot
- Motor cable-M16
- Controller C1xxx-1S
- Plug kit for C1xxx-1S
- USB-RS232 Converter for controllers

Alternative accessories (Catalogue HT accessories)

- Additional motor cables
- Additional controllers

Preferred combinations



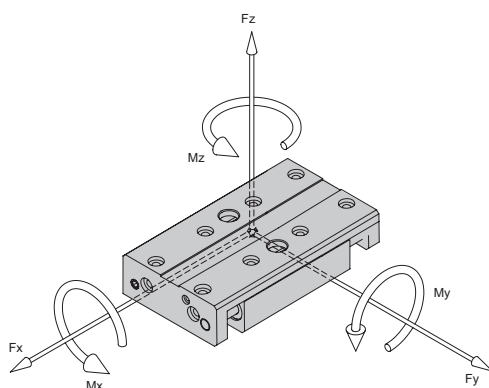
CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA

Note that there might be different mounting positions from one module to another one.

The required connection elements and the range of support columns are depicted in the catalogue HT accessories.

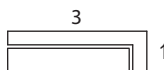
Module stresses

Type	ES12-20	ES12-60	ES12-100
Max. static torque Mx	10 Nm	10 Nm	10 Nm
Max. static torque My	10 Nm	10 Nm	10 Nm
Max. static torque Mz	10 Nm	10 Nm	10 Nm
Max. dynamic torque Mx	0.5 Nm	0.5 Nm	0.5 Nm
Max. dynamic torque My	0.5 Nm	0.5 Nm	0.5 Nm
Max. dynamic torque Mz	0.5 Nm	0.5 Nm	0.5 Nm
Peak force Fx	10.7 N	10.7 N	10.7 N



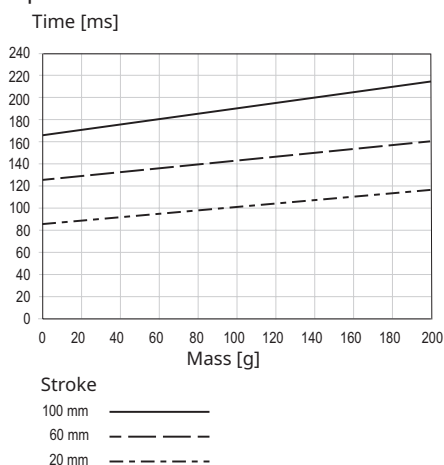
Maximum payload/type	ES12-20	ES12-60	ES12-100
Installation position (horizontal) for mounting side 1/3	0.2 kg	0.2 kg	0.2 kg

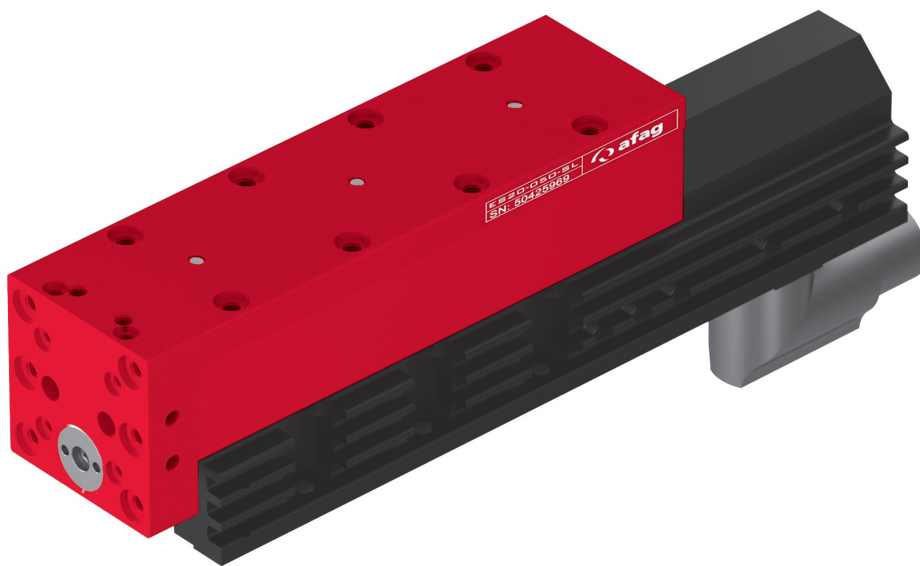
Assembly sides module mounting horizontal:



Operation time diagrams

Operation time ES12

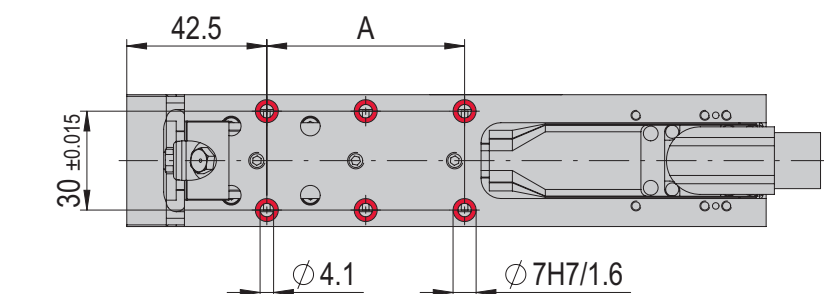




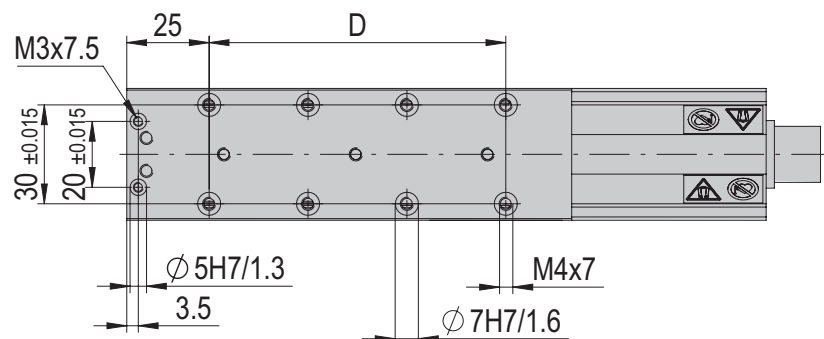
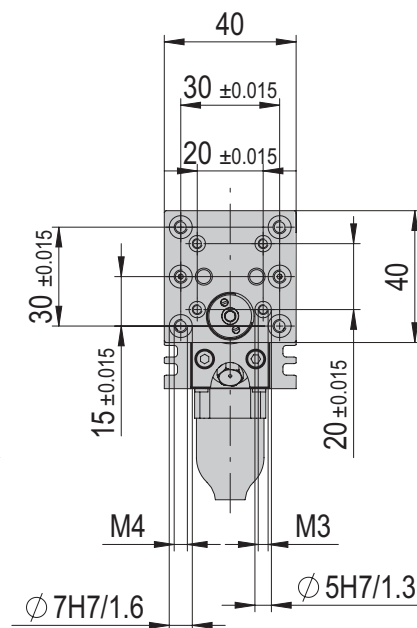
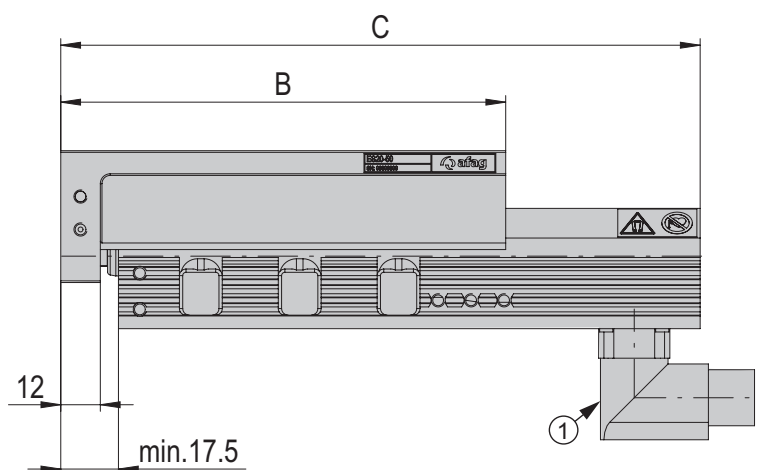
- Extremely light-weight linear motor axis
- Freely programmable
- High dynamics up to 120 m/s² acceleration

Dimensions and dimension drawings

Type	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
A	2 x 30 mm	4 x 30 mm	4 x 30 mm	4 x 30 mm
B	135 mm	185 mm	343 mm	443 mm
C	194 mm	287.5 mm	367.5 mm	497.5 mm
D	3 x 30 mm	5 x 30 mm	10 x 30 mm	13 x 30 mm

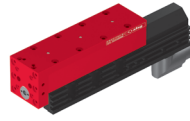


① Stecker 270° drehbar
270° rotatable connector



⊕ Bores can be screwed through

Technical data



ES20				
Attachment grid	30 x 30 mm			
Attachment thread	M4			
Attachment thread alternative	M3			
Operating temperature	0 - 50 °C			
Storage temperature	0 - 50 °C			
Humidity	< 90 %			

Type	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
Order number	50425969	50425970	50425971	50425972
Stroke H	50 mm	100 mm	200 mm	300 mm
Net weight	1.1 kg	1.5 kg	2.1 kg	2.5 kg
Moving weight	0.5 kg	0.7 kg	1.1 kg	1.4 kg
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric			
Protection type	IP 30	IP 30	IP 30	IP 30
Max. speed v	6.8 m/s	4.8 m/s	4.8 m/s	4.8 m/s
Peak force Fx	67 N	137 N	137 N	137 N
Constant force Fx	15 N	31 N	31 N	31 N
Force constant	9 N/A	12.5 N/A	12.5 N/A	12.5 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	✦	✦	✦	✦

Note: Note: For vertical installation, a weight compensation via MagSpring or compensation spring (ES20-50-SL) is required. This compensates the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.
Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery (Catalogue HT accessories)

- 2x Centering bushing Ø7x3
- 4x Mounting screw M4x12
- 4x Spring ring M4

Accessories

- MagSpring side/front[p.
- Compensation spring ES20-50-SL
- External position measuring system ES20

(Catalogue HT accessories)

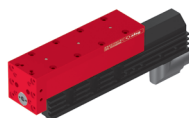
- Centering bushing Ø5x2.5
- Motor cable-M16
- Controller C1xxx-1S
- Plug kit for C1xxx-1S
- USB-RS232 Converter for controllers
- Power supply S01-72/500, 1-phase
- MTZ 25x2b Double centric mounting module

Alternative accessories

(Catalogue HT accessories)

- Additional motor cables
- Additional controllers
- Additional power supplies
- Additional mounting modules

Technical data



ES20	
Attachment grid	30 x 30 mm
Attachment thread	M4
Attachment thread alternative	M3
Operating temperature	0 - 50 °C
Storage temperature	0 - 50 °C
Humidity	< 90 %

Type	ES20 -50-SL-2S	ES20 -100-SL-2S	ES20 -200-2S	ES20 -300-2S
Order number	50615114	50595422	50595423	50595424
Stroke H	50 mm	100 mm	200 mm	300 mm
Net weight	1.1 kg	1.5 kg	2.1 kg	2.5 kg
Moving weight	0.5 kg	0.7 kg	1.1 kg	1.4 kg
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric + enhanced safety 2S *			
Protection type	IP 30	IP 30	IP 30	IP 30
Max. speed v	6.8 m/s	4.8 m/s	4.8 m/s	4.8 m/s
Peak force Fx	67 N	137 N	137 N	137 N
Constant force Fx	15 N	31 N	31 N	31 N
Force constant	9 N/A	12.5 N/A	12.5 N/A	12.5 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	↕	↕	↕	↕

Note: Note: For vertical installation, a weight compensation via MagSpring or compensation spring (ES20-50-SL) is required. This compensates the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.

* 2S: may include following safety functions: STO, SS1, SS2, SLS, SOS, SBC, SBT (for more details see Operating Instructions).

Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery (Catalogue HT accessories)

- 2x Centering bushing Ø7x3
- 4x Mounting screw M4x12
- 4x Spring ring M4

Accessories

- MagSpring side/front
- Compensation spring ES20-50-SL
- External position measuring system ES20

(Catalogue HT accessories)

- Centering bushing Ø5x2.5
- Motor cable-M16
- Controller C1251-2S
- Plug kit for C1251-2S
- USB-RS232 Converter for controllers
- Power supply S01-72/500, 1-phase
- MTZ 25x2b Double centric mounting module

Alternative accessories (Catalogue HT accessories)

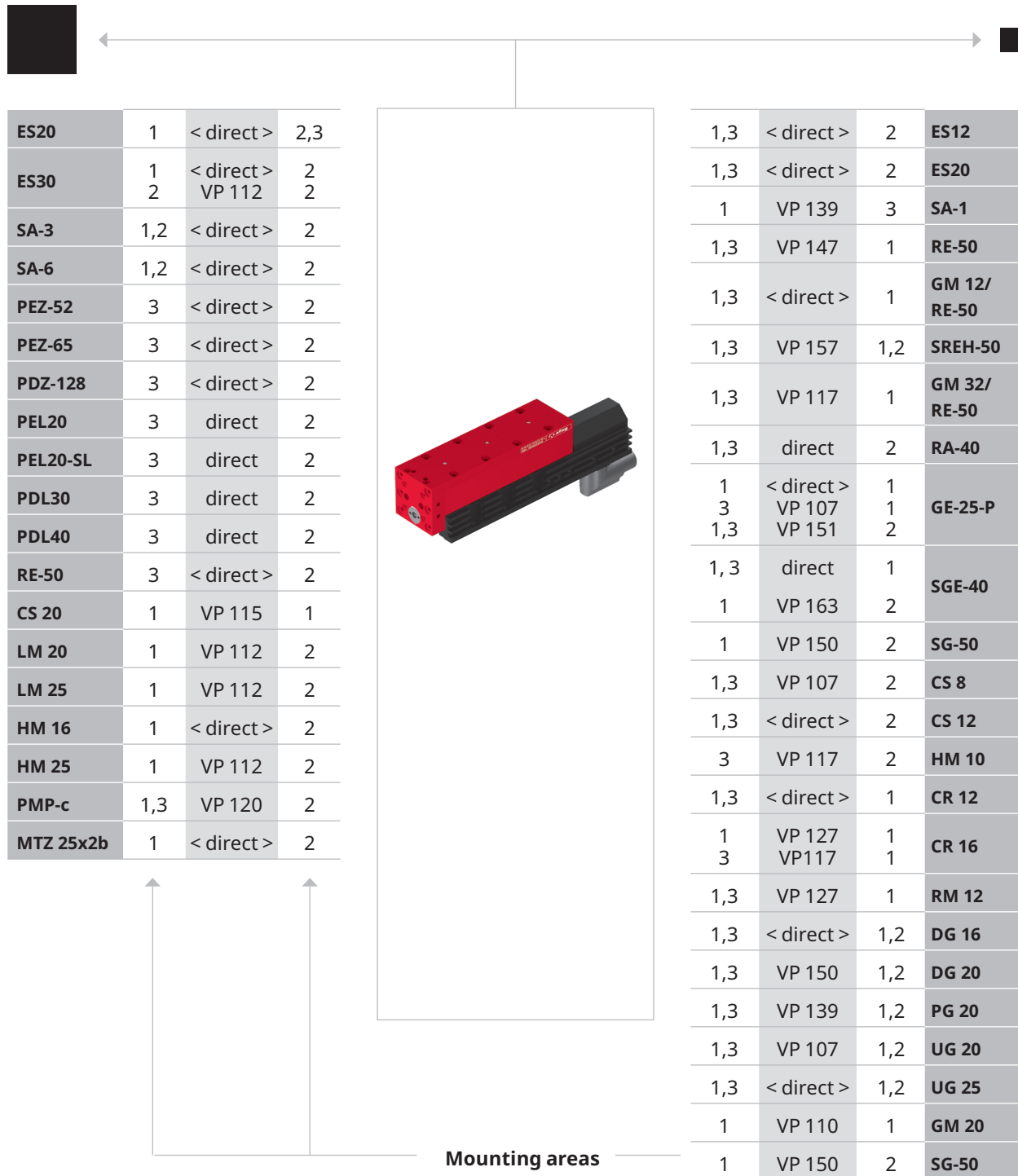
- Additional motor cables
- Additional power supplies
- Additional mounting modules

Series ES20 Electro Slides

Datasheet - Operating Instructions

ES20-SL
ES20-SL-2S

Preferred combinations



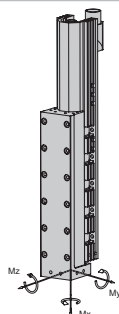
CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA

Note that there might be different mounting positions from one module to another one.

The required connection elements and the range of support columns are depicted in the catalogue HT accessories.

Module stresses

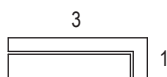
Type	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
Max. dynamic torque M_x	5 Nm	5 Nm	5 Nm	5 Nm
Max. dynamic torque M_y	25 Nm	25 Nm	50 Nm	50 Nm
Max. dynamic torque M_z	25 Nm	25 Nm	50 Nm	50 Nm
Peak force F_x	67 N	137 N	137 N	137 N



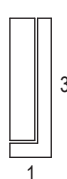
Maximum payload/type	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
Installation position (horizontal) for mounting side 1/3	4 kg	4 kg	3 kg	2 kg
Installation position (vertical) for mounting side 1/3	4 kg	4 kg	3 kg	2 kg

Assembly sides module mounting

horizontal:

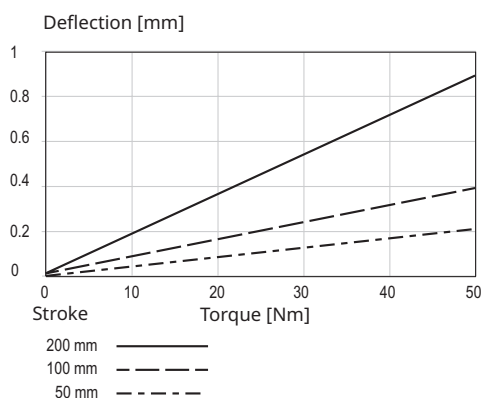


vertical:

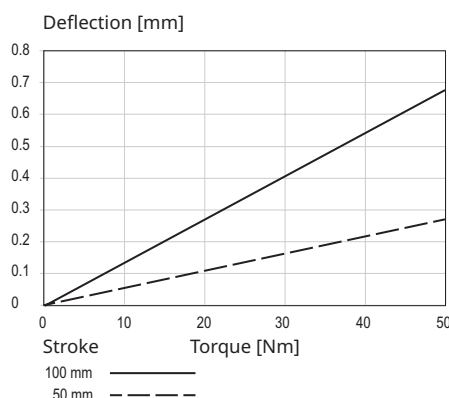


Diagrams

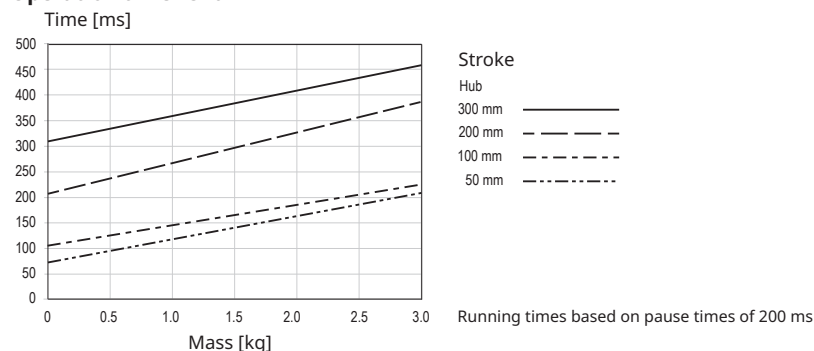
Deflection ES20



Deflection ES20-SL



Operation time ES20



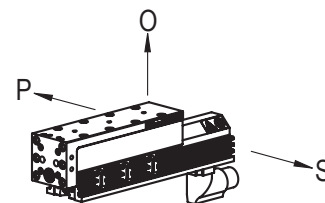
Ordering Examples

Order form	ES20	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	X	X
		Electric slide	Compensation spring	MagSpring	External position measuring system	Position MagSpring	External position measuring system

Coordinate system

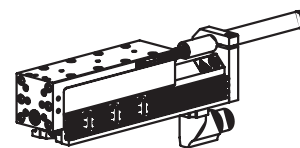
The coordinate system allows you to define the position of the MagSpring as well as that of the external position measuring system.

- P = left
- O = top
- S = right



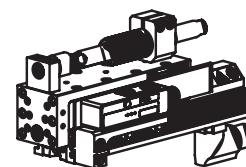
Ordering example 1 with compensation spring

ES20	50425969	50427546	X	X	X	X
------	----------	----------	---	---	---	---



Ordering example 2 with MagSpring and external position measuring system

ES20	50425969	X	50427554	50427547	O	S
------	----------	---	----------	----------	---	---



Ordering process

- Select the desired electric slide, compensation spring (only for ES20-50SL), external position measuring system and exMagSpring from the order key.
- Enter the corresponding red order numbers in the order form in the place of the cross.
- Determine the desired position of the MagSpring and the external position measuring system.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

Compensation spring

- The compensation spring can only be used for the ES20-50-SL. It serves as an inexpensive alternative to the MagSpring.

MagSpring

- The MagSpring serves to balance the weight forces in a vertical installation position.
- The dimensioning of the MagSpring must match the moving weight in the vertical installation position.

External position measuring system

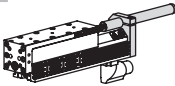
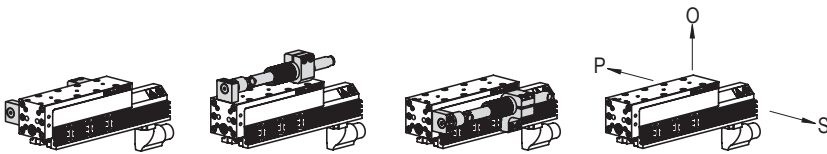
- The external position measuring system must be ordered in accordance with the module length.

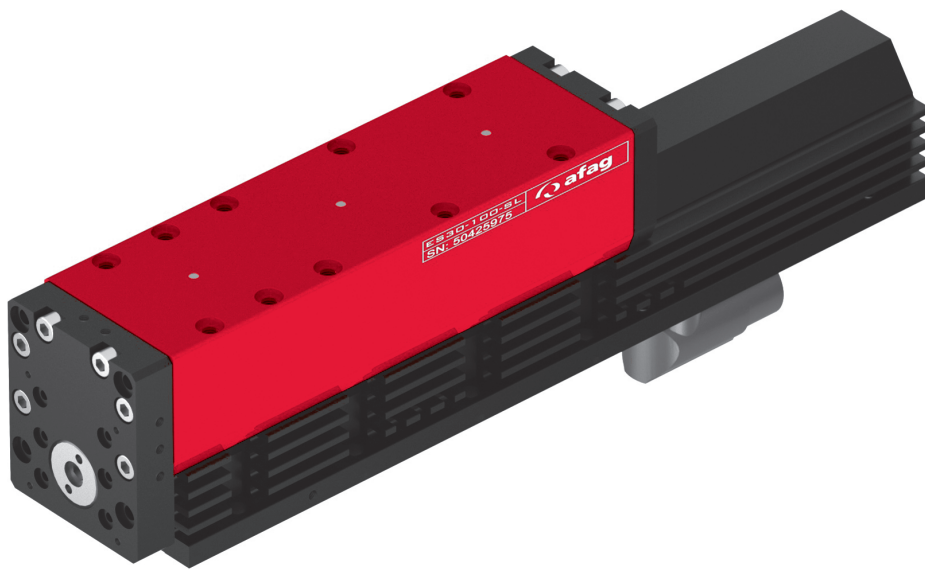
Series ES20 Electro Slides

Datasheet - Operating Instructions

ES20-SL
ES20-SL-2S

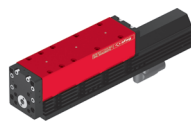
Order Key

Electro slide	ES20	XXXXXXXXXX		XXXXXXXXXX	XXXXXXXXXX		XXXXXXXXXX	X	X	
	ES20-50-SL /-2S	50425969	50615114	Compensation spring 50427546	MagS- pring side (s)	MagSpring front (v)	External position measuring system	Position MagSpring	Position external position measuring system	
	ES20-100-SL /-2S	50425970	50595422							
	ES20-200 /-2S	50425971	50595423							
	ES20-300 /-2S	50425972	50595424							
Compensati- on spring	Compensation spring ES20-50-SL									
	Without compensation spring			X						
MagSpring for ES20-50	MagSpring ES20 s/v 11N				50427548	50427554				
	MagSpring ES20 s/v 17N				50427549	50427555				
	MagSpring ES20 s/v 22N				50427550	50427556				
	MagSpring ES20 s/v 40N				50427551	50427557				
	MagSpring ES20 s/v 50N				50427552	50427558				
	MagSpring ES20 s/v 60N				50427553	50427559				
MagSpring for ES20-100	MagSpring ES20 s/v 11N				50427561	50427567				
	MagSpring ES20 s/v 17N				50427562	50427568				
	MagSpring ES20 s/v 22N				50427563	50427569				
	MagSpring ES20 s/v 40N				50427564	50427570				
	MagSpring ES20 s/v 50N				50427565	50427571				
	MagSpring ES20 s/v 60N				50427566	50427572				
MagSpring for ES20-200	MagSpring ES20 s/v 11N				50427574	50427580				
	MagSpring ES20 s/v 17N				50427575	50427581				
	MagSpring ES20 s/v 22N				50427576	50427582				
	MagSpring ES20 s/v 40N				50427577	50427583				
	MagSpring ES20 s/v 50N				50427578	50427584				
	MagSpring ES20 s/v 60N				50427579	50427585				
MagSpring for ES20-300	MagSpring ES20 s/v 11N				50427587	50427593				
	MagSpring ES20 s/v 17N				50427588	50427594				
	MagSpring ES20 s/v 22N				50427589	50427595				
	MagSpring ES20 s/v 40N				50427590	50427596				
	MagSpring ES20 s/v 50N				50427591	50427597				
	MagSpring ES20 s/v 60N				50427592	50427598				
External pos. me- asuring system	Without MagSpring				X					
	External position measuring system ES20 050mm						50427547			
	External position measuring system ES20 100mm						50427560			
	External position measuring system ES20 200mm						50427573			
	External position measuring system ES20 300mm						50427586			
Mounting	Position MagSpring								P O S	
	Position external position measuring system								P S	



- Rigid linear motor axis
- Freely programmable
- Cantilever axis with large stroke

Technical data



ES30								
Attachment grid	48 x 48 mm							
Attachment thread	M6							
Operating temperature	0 - 50 °C							
Storage temperature	0 - 50 °C							
Humidity	< 90 %							
Type	ES30-50-SL	ES30-100-SL	ES30-100	ES30-200-SL	ES30-200	ES30-300	ES30-400	ES30-500
Order number	50425973	50425974	50425975	50425976	50425977	50425978	50425979	50425980
Stroke H	50 mm	100 mm	100 mm	200 mm	200 mm	300 mm	400 mm	500 mm
Net weight	3.1 kg	3.5 kg	4.1 kg	4.3 kg	4.9 kg	5.7 kg	6.5 kg	7.2 kg
Moving weight	1.3 kg	1.6 kg	1.85 kg	2.2 kg	2.6 kg	3.2 kg	3.8 kg	4.4 kg
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric							
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Max. speed v	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s
Peak force Fx	255 N	255 N	255 N	255 N	255 N	255 N	255 N	255 N
Constant force Fx	51 N	51 N	51 N	51 N	51 N	51 N	51 N	51 N
Force constant	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position								

Note: For vertical installation, a weight compensation via MagSpring or pneumatic weight balancing is required. If the weight compensation is not carried out, the slide will fall below when in a deenergised state. Furthermore, the operation time from the operation time diagram cannot be achieved.
Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery

(Catalogue HT accessories)

- 2x Centering bushing Ø9x4
- 4x Mounting screw M6x20

Accessories

- MagSpring side/front
- External position measuring system ES30

(Catalogue HT accessories)

- Motor cable-M23
- Controller C1xxx-1S
- Plug kit for C1xxx-1S
- USB-RS232 Converter for controllers
- Power supply S01-72/1000, 3-phase
- MTZ 45x2b Double centric mounting module

Alternative accessories

(Catalogue HT accessories)

- Additional motor cables
- Additional controllers
- Additional power supplies
- Additional mounting modules

Technical data



ES30								
Attachment grid	48 x 48 mm							
Attachment thread	M6							
Operating temperature	0 - 50 °C							
Storage temperature	0 - 50 °C							
Humidity	< 90 %							
Type	ES30-50 -SL-2S	ES30-100 -SL-2S	ES30-100 -2S	ES30-200 -SL-2S	ES30-200 -2S	ES30-300 -2S	ES30-400 -2S	ES30-500 -2S
Order number	50595429	50595430	50595431	50595432	50595433	50595434	50595435	50595436
Stroke H	50 mm	100 mm	100 mm	200 mm	200 mm	300 mm	400 mm	500 mm
Net weight	3.1 kg	3.5 kg	4.1 kg	4.3 kg	4.9 kg	5.7 kg	6.5 kg	7.2 kg
Moving weight	1.3 kg	1.6 kg	1.85 kg	2.2 kg	2.6 kg	3.2 kg	3.8 kg	4.4 kg
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric + enhanced safety 2S *							
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Max. speed v	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s	3.2 m/s
Peak force Fx	255 N	255 N	255 N	255 N	255 N	255 N	255 N	255 N
Constant force Fx	51 N	51 N	51 N	51 N	51 N	51 N	51 N	51 N
Force constant	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A	17 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	✦	✦	✦	✦	✦	✦	✦	✦

Note: Note: For vertical installation, a weight compensation via MagSpring or compensation spring (ES20-50-SL) is required. This compensates the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.

* 2S: may include following safety functions: STO, SS1, SS2, SLS, SOS, SBC, SBT (for more details see Operating Instructions).

Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery

(Catalogue HT accessories)

- 2x Centering bushing Ø9x4
- 4x Mounting screw M6x20

Accessories

- MagSpring side/front
- External position measuring system ES30

(Catalogue HT accessories)

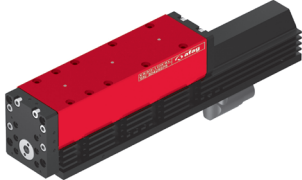
- Motor cable-M23
- Controller C1251-2S
- Plug kit for C1251-2S
- USB-RS232 Converter for controllers
- Power supply S01-72/1000, 3-phase
- MTZ 45x2b Double centric mounting module

Alternative accessories

(Catalogue HT accessories)

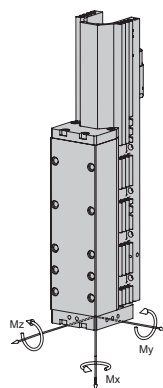
- Additional motor cables
- Additional power supplies
- Additional mounting modules

Preferred combinations

ES30	3	< direct >	2		1	< direct >	2	ES20
ES40	1,3	< direct >	2		3	VP 112	2	ES30
ES40-HP	1,3	< direct >	2		3	< direct >	2	SA-3
PEZ-65	3	< direct >	2		1	VP 146	3	RE-50
PEZ-80	3	< direct >	2		1,3	VP 112	1	RE-75
PDZ-128	3	< direct >	2		1,3	VP 148	1	SREH-50
PDZ-160	3	< direct >	2		1,3	VP 157	1	EG-20/ GM20
PEL20	3	< direct >	2		1,3	VP 159	2	GM 12/ RE-50
PDL30	3	< direct >	2		1	< direct >	1	GM 20/ RE-50
PDL40	3	< direct >	2		3	VP 112	1	GM 32/ RE-50
PDL40-HP	3	< direct >	2		1	< direct >	1	GM 32/ RE-75
RE-75	3	< direct >	2		3	VP 112	1	RA-40
HM 16	1	< direct >	2		1	direct	2	SGE-40
HM 25	1	< direct >	2		3	VP 112	2	SG-50
PMP	1,3	< direct >	2		1	direct	1	CS 12
MT 45x2c	1	< direct >	2		3	VP 163	2	CS 16
MTZ 45x2b	1	< direct >	2		1	VP 112	1	CS 20

Module stresses

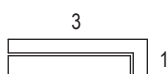
Type	ES30-50-SL	ES30-100-SL	ES30-100	ES30-200-SL	ES30-200	ES30-300	ES30-400	ES30-500
Max. dynamic torque Mx	30 Nm	30 Nm	30 Nm	30 Nm	30 Nm	30 Nm	30 Nm	30 Nm
Max. dynamic torque My	40 Nm	40 Nm	80 Nm	40 Nm	80 Nm	80 Nm	80 Nm	80 Nm
Max. dynamic torque Mz	40 Nm	40 Nm	80 Nm	40 Nm	80 Nm	80 Nm	80 Nm	80 Nm
Peak force Fx	255 N	255 N	255 N	255 N	255 N	255 N	255 N	255 N



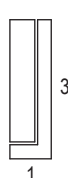
Maximum payload/type	ES30-50-SL	ES30-100-SL	ES30-100	ES30-200-SL	ES30-200	ES30-300	ES30-400	ES30-500
Installation position (horizontal) for mounting side 1/3	10 kg	10 kg	10 kg	8 kg	8 kg	6 kg	5 kg	4 kg
Installation position (vertical) for mounting side 1/3	10 kg	10 kg	10 kg	8 kg	8 kg	6 kg	5 kg	4 kg

Assembly sides module mounting

horizontal:



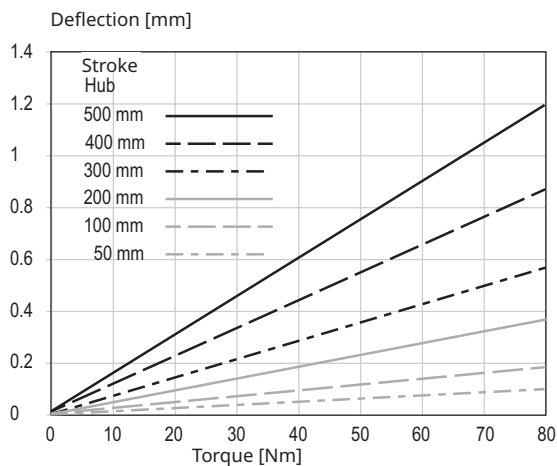
vertical:



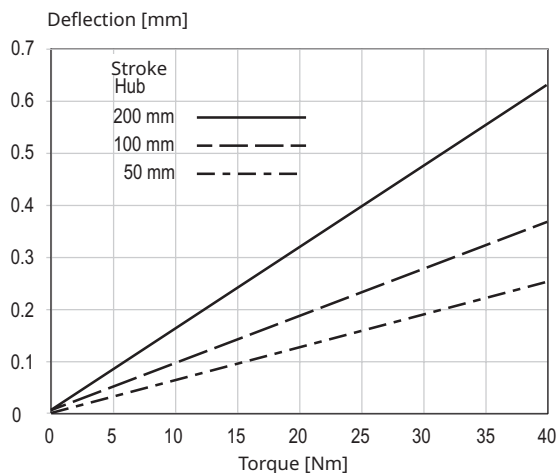
Module stresses

Diagrams

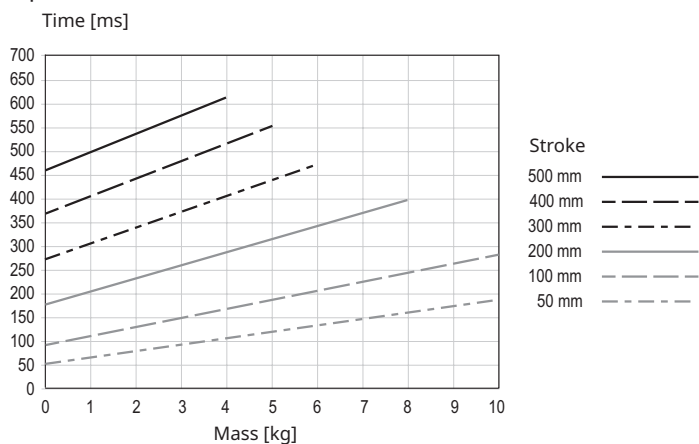
Deflection ES30



Deflection ES30-SL



Operation time ES30



Running times based on pause times of 200 ms

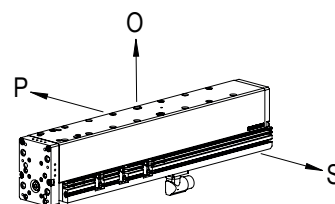
Ordering Example

Order form	Electro slide	XXXXXXXX	XXXXXXXX	XXXXXXXX	X	X
		Electric slide	MagSpring	External position measuring system	Position MagSpring	Position external position measuring system

Coordinate system

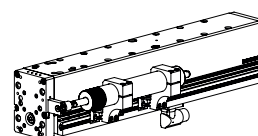
The coordinate system allows you to define the position of the MagSpring as well as that of the external position measuring system.

- P = left
- O = top
- S = right



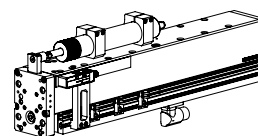
Ordering example 1 with MagSpring

ES40	50465220	50470232	X	S	X
------	----------	----------	---	---	---



Ordering example 2 with MagSpring and external position measuring system

ES40	50465220	50470235	50470245	O	S
------	----------	----------	----------	---	---



Ordering process

- Select the desired electric slide, external position measuring system and MagSpring from the order key.
- Enter the corresponding red order numbers in the order form in the place of the cross.
- Determine the desired position of the MagSpring and the external position measuring system.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

MagSpring

- The MagSpring serves to balance the weight forces in a vertical installation position.
- The dimensioning of the MagSpring must match the moving weight in the vertical installation position.

External position measuring system

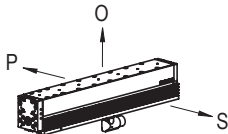
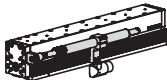
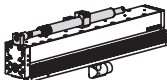
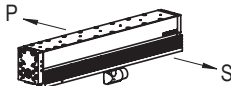
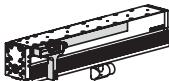
- The external position measuring system must be ordered in accordance with the module length.

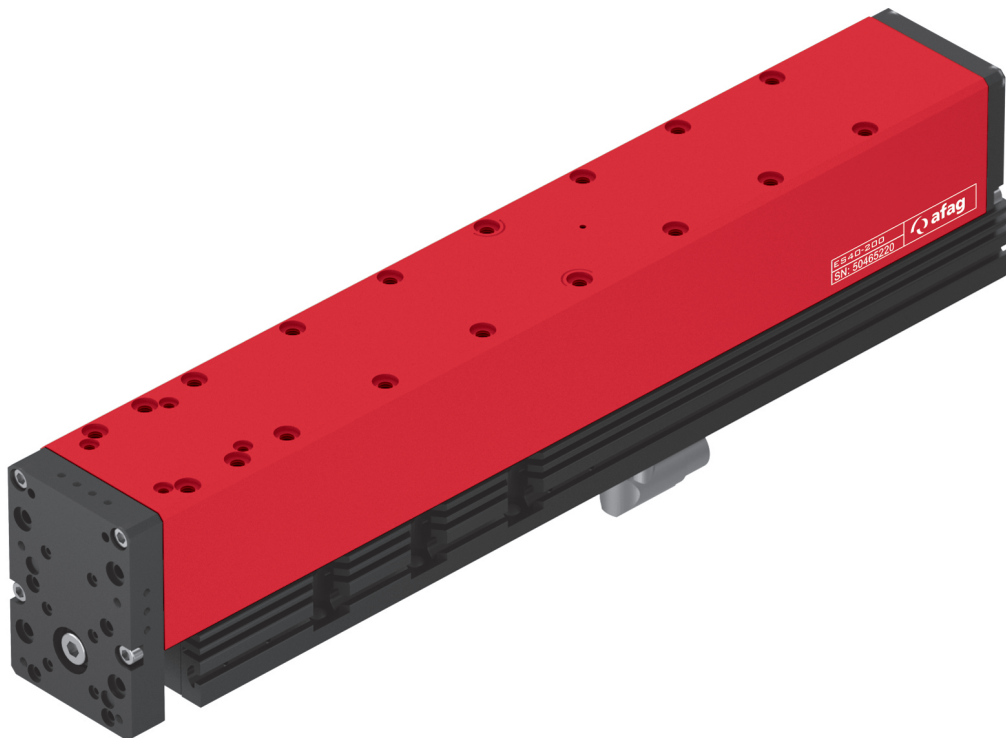
Series ES30 Electro Slides

Datasheet - Operating Instructions

ES30-SL
ES30-SL-2S

Order Key

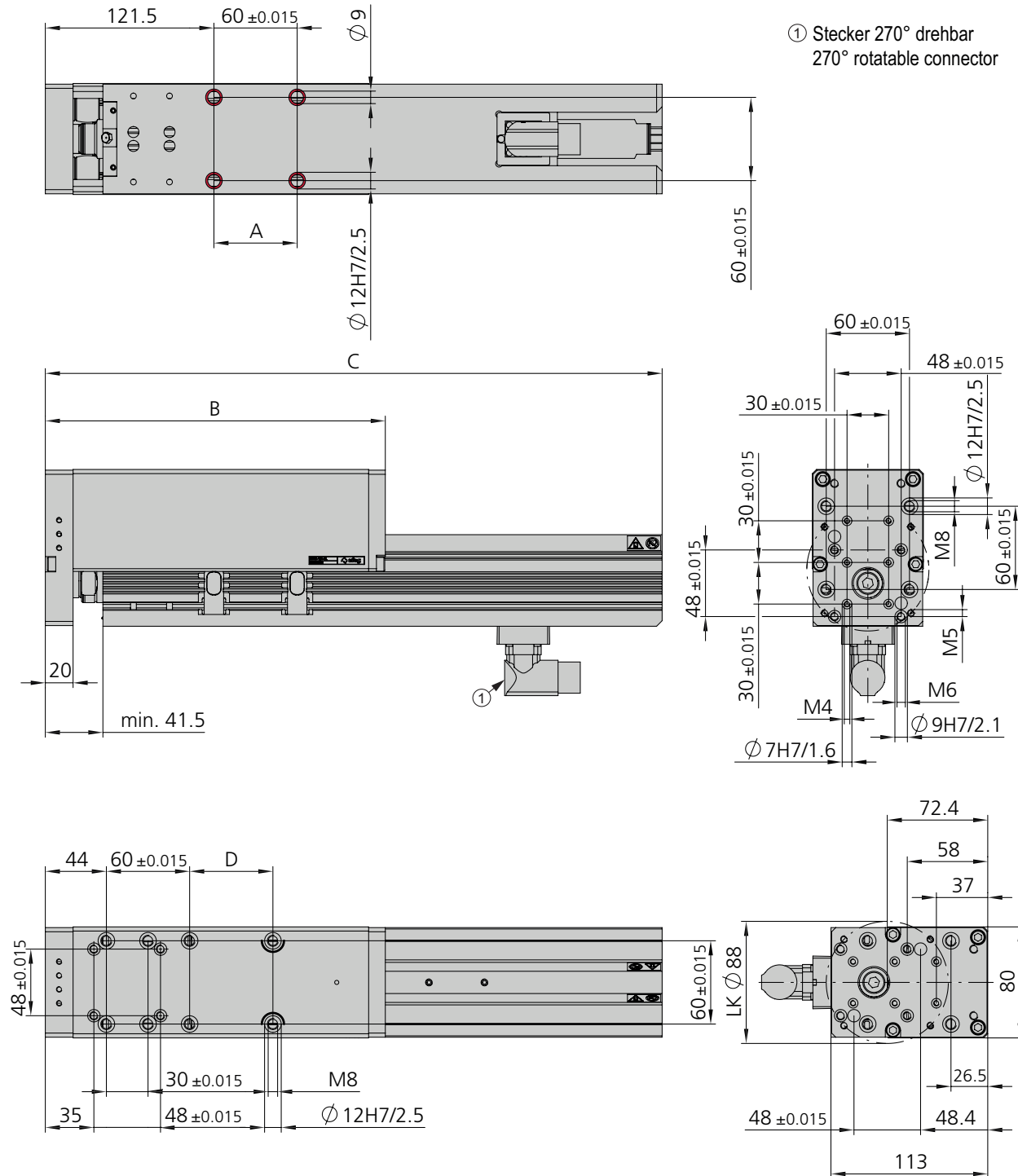
Electro slide	ES30	XXXXXXXX		XXXXXXXX		XXXXXXXX	X	X									
	ES30-50-SL /-2S	50425973	50595429	MagSpring side (s)	MagSpring front (v)	External position measuring system	Position MagSpring	Position external position measuring system									
	ES30-100-SL /-2S	50425974	50595430														
	ES30-100 /-2S	50425975	50595431														
	ES30-200-SL /-2S	50425976	50595432														
	ES30-200 /-2S	50425977	50595433														
	ES30-300 /-2S	50425978	50595434														
	ES30-400 /-2S	50425979	50595435														
	ES30-500 /-2S	50425980	50595436														
MagSpring for ES30-50	MagSpring ES30 s/v 11N			50429205	50429211												
	MagSpring ES30 s/v 17N			50429206	50429212												
	MagSpring ES30 s/v 22N			50429207	50429213												
	MagSpring ES30 s/v 40N			50429208	50429214												
	MagSpring ES30 s/v 50N			50429209	50429215												
	MagSpring ES30 s/v 60N			50429210	50429216												
MagSpring for ES30-100	MagSpring ES30 s/v 11N			50429218	50429224												
	MagSpring ES30 s/v 17N			50429219	50429225												
	MagSpring ES30 s/v 22N			50429220	50429226												
	MagSpring ES30 s/v 40N			50429221	50429227												
	MagSpring ES30 s/v 50N			50429222	50429228												
	MagSpring ES30 s/v 60N			50429223	50429229												
MagSpring for ES30-200	MagSpring ES30 s/v 11N			50429231	50429237												
	MagSpring ES30 s/v 17N			50429232	50429238												
	MagSpring ES30 s/v 22N			50429233	50429239												
	MagSpring ES30 s/v 40N			50429234	50429240												
	MagSpring ES30 s/v 50N			50429235	50429241												
	MagSpring ES30 s/v 60N			50429236	50429242												
MagSpring for ES30-300	MagSpring ES30 s/v 11N			50429244	50429250												
	MagSpring ES30 s/v 17N			50429245	50429251												
	MagSpring ES30 s/v 22N			50429246	50429252												
	MagSpring ES30 s/v 40N			50429247	50429253												
	MagSpring ES30 s/v 50N			50429248	50429254												
	MagSpring ES30 s/v 60N			50429249	50429255												
	Without MagSpring			X													
External position measuring system	External position measuring system ES30 050mm					50429204											
	External position measuring system ES30 100mm					50429217											
	External position measuring system ES30 200mm					50429230											
	External position measuring system ES30 300mm					50429243											
	External position measuring system ES30 400mm					50429256											
	External position measuring system ES30 500mm					50429257											
	Without external position measuring system					X											
Mounting	Position MagSpring																
	 P O S																
Mounting	Position external position measuring system																
	 P S																



- Powerful cantilever axis
- Freely programmable
- High dynamics

Dimensions and dimension drawings

Type	ES40-100-SL	ES40-100	ES40-200	ES40-300	ES40-400	ES40-500
A	1 x 60 mm	2 x 60 mm	2 x 60 mm	2 x 60 mm	2 x 60 mm	3 x 60 mm
B	245 mm	445 mm	545 mm	645 mm	745 mm	904 mm
C	444.5 mm	451.5 mm	551.5 mm	651.5 mm	751.5 mm	910.5 mm
D	2 x 60 mm	6 x 60 mm	7 x 60 mm	9 x 60 mm	11 x 60 mm	13 x 60 mm



⊕ Bores can be screwed through

Technical data



ES40						
Attachment grid	60 x 60 mm					
Attachment thread	M8					
Operating temperature	0 - 50 °C					
Storage temperature	0 - 50 °C					
Humidity	< 90 %					

Type	ES40-100-SL	ES40-100	ES40-200	ES40-300	ES40-400	ES40-500
Order number	50465218	50465219	50465220	50465221	50465222	50465223
Stroke H	100 mm	100 mm	200 mm	300 mm	400 mm	500 mm
Net weight	8.23 kg	10.08 kg	11.65 kg	13.35 kg	14.91 kg	17.11 kg
Moving weight	3.84 kg	5.33 kg	6.48 kg	7.67 kg	8.91 kg	10.5 kg
Max. speed	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s	1.8 m/s
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric					
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Peak force Fx	550 N	550 N	550 N	550 N	550 N	550 N
Constant force Fx	145 N	145 N	145 N	145 N	145 N	145 N
Force constant	22 N/A	22 N/A	22 N/A	22 N/A	22 N/A	22 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	✦	✦	✦	✦	✦	✦

Note: For vertical installation, a weight compensation via MagSpring or pneumatic weight balancing is required. If the weight compensation is not carried out, the slide will fall below when in a deenergised state. Furthermore, the operation time from the operation time diagram cannot be achieved.
Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery

(Catalogue HT accessories)

- 2x Centering bushing Ø12x4.8
- 4x Mounting screw M8x25

Accessories

(Product-specific accessories)

- MagSpring side/front
- External pos. measuring system ES40

(Catalogue HT accessories)

- Motor cable-M17
- Controller C1xxx-1S
- Plug kit for C1xxx-1S
- USB-RS232 Converter for controllers
- Power supply T01-72/1500 Multi, 3-phase
- Double module support centric MTZ 45x2c

Alternative accessories

(Catalogue HT accessories)

- Additional motor cables
- Additional controllers
- Additional power supplies

Technical data



ES40						
Attachment grid	60 x 60 mm					
Attachment thread	M8					
Operating temperature	0 - 50 °C					
Storage temperature	0 - 50 °C					
Humidity	< 90 %					
Type	ES40-100 -SL-2S	ES40-100 -2S	ES40-200 -2S	ES40-300 -2S	ES40-400 -2S	ES40-500 -2S
Order number	50595445	50595446	50595447	50595448	50595449	50595450
Stroke H	100 mm	100 mm	200 mm	300 mm	400 mm	500 mm
Net weight	8.23 kg	10.08 kg	11.65 kg	13.35 kg	14.91 kg	17.11 kg
Moving weight	3.84 kg	5.33 kg	6.48 kg	7.67 kg	8.91 kg	10.5 kg
Max. speed	2.9 m/s	2.9 m/s	2.9 m/s	2.9 m/s	2.9 m/s	2.9 m/s
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric + enhanced safety 2S *					
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Peak force Fx	572 N	572 N	572 N	572 N	572 N	572 N
Constant force Fx	170 N	170 N	170 N	170 N	170 N	170 N
Force constant	22 N/A	22 N/A	22 N/A	22 N/A	22 N/A	22 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	✦	✦	✦	✦	✦	✦

Note: Note: For vertical installation, a weight compensation via MagSpring or compensation spring (ES20-50-SL) is required. This compensates the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.

* 2S: may include following safety functions: STO, SS1, SS2, SLS, SOS, SBC, SBT (for more details see Operating Instructions).

Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery

(Catalogue HT accessories)

- 2x Centering bushing Ø12x4.8
- 4x Mounting screw M8x25

Accessories

(Product-specific accessories)

- MagSpring side/front

(Catalogue HT accessories)

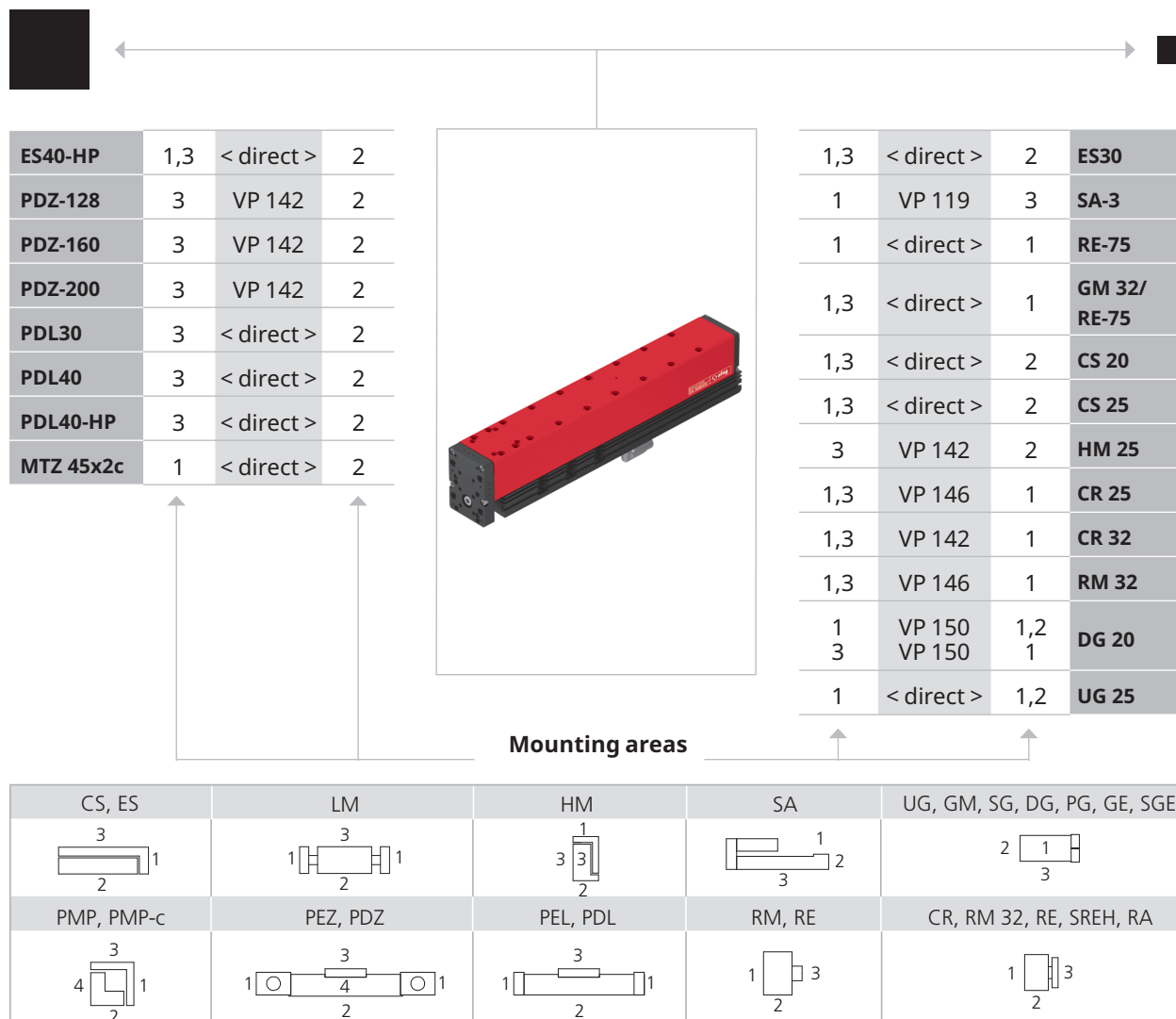
- Motor cable-M17
- Controller C1251-2S
- Plug kit for C1251-2S
- USB-RS232 Converter for controllers
- Power supply T01-72/1500 Multi, 3-phase
- Double module support centric MTZ 45x2c

Alternative accessories

(Catalogue HT accessories)

- Additional motor cables
- Additional power supplies

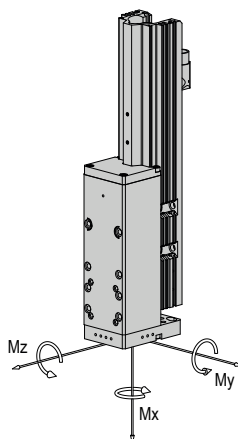
Preferred combinations



Note that there might be different mounting positions from one module to another one. The required connection elements and the range of support columns are depicted in the catalogue HT accessories.

Module stresses

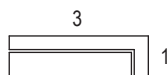
Type	ES40-100-SL	ES40-100	ES40-200	ES40-300	ES40-400	ES40-500
Max. dynamic torque Mx	35 Nm	45 Nm	45 Nm	45 Nm	45 Nm	45 Nm
Max. dynamic torque My	80 Nm	180 Nm	180 Nm	180 Nm	180 Nm	200 Nm
Max. dynamic torque Mz	80 Nm	180 Nm	180 Nm	180 Nm	180 Nm	200 Nm



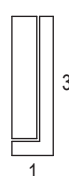
Maximum payload/type	ES40-100-SL	ES40-100	ES40-200	ES40-300	ES40-400	ES40-500
Installation position (horizontal) for mounting side 1/3	25 kg	30 kg	30 kg	30 kg	30 kg	30 kg
Installation position (vertical) for mounting side 1/3	8 kg	6 kg	5 kg	4 kg		

Assembly sides module mounting

horizontal:

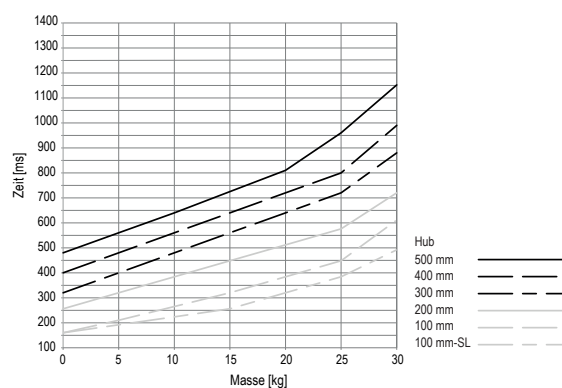


vertical:



Diagrams ES40

Operation time ES40

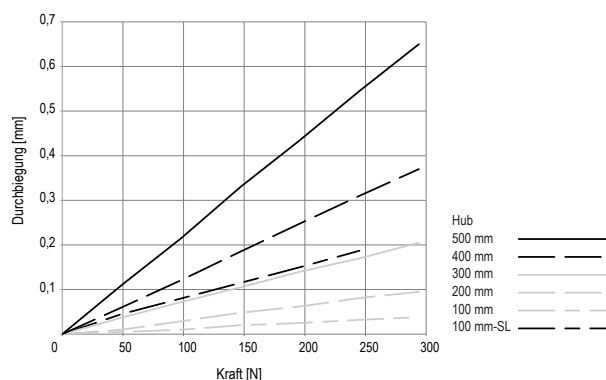


Die Fahrzeiten wurden unter den nachfolgenden Bedingungen gemessen:

- horizontal
- Umgebungstemperatur 20 °C
- Servoregler C1150-1S-PN
- Motorspannung 72 VDC
- Motorkabel-M17-8m-0-1-1

The times refer to break times of 200 ms.

Deflection ES40



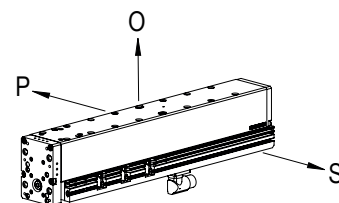
Ordering Example

Order form	ES40	XXXXXXXX	XXXXXXXX	XXXXXXXX	x	x
		Electric slide	MagSpring	External position measuring system	Position MagSpring	Position external position measuring system

Coordinate system

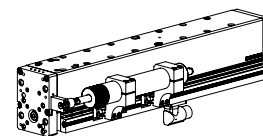
The coordinate system allows you to define the position of the MagSpring as well as that of the external position

- P = left
- O = top
- S = right



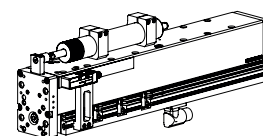
Ordering example 1 with MagSpring

ES40	50465220	50470232	X	S	X
------	----------	----------	---	---	---



Ordering example 2 with MagSpring and external position measuring system

ES40	50465220	50470235	50470245	O	S
------	----------	----------	----------	---	---



Ordering process

- Select the desired electric slide, external position measuring system and MagSpring from the order key.
- Enter the corresponding red order numbers in the order form in the place of the cross.
- Determine the desired position of the MagSpring and the external position measuring system.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

MagSpring

- The MagSpring serves to balance the weight forces in a vertical installation position.
- The dimensioning of the MagSpring must match the moving weight in the vertical installation position.

External position measuring system

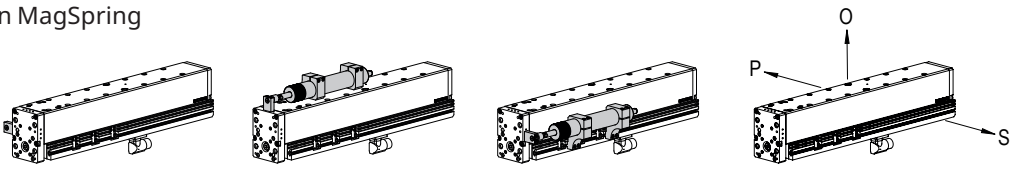
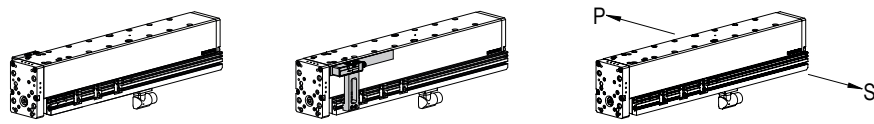
- The external position measuring system must be ordered in accordance with the module length.

Series ES40 Electro Slides

Datasheet - Operating Instructions

ES40-SL
ES40-SL-2S

Order key

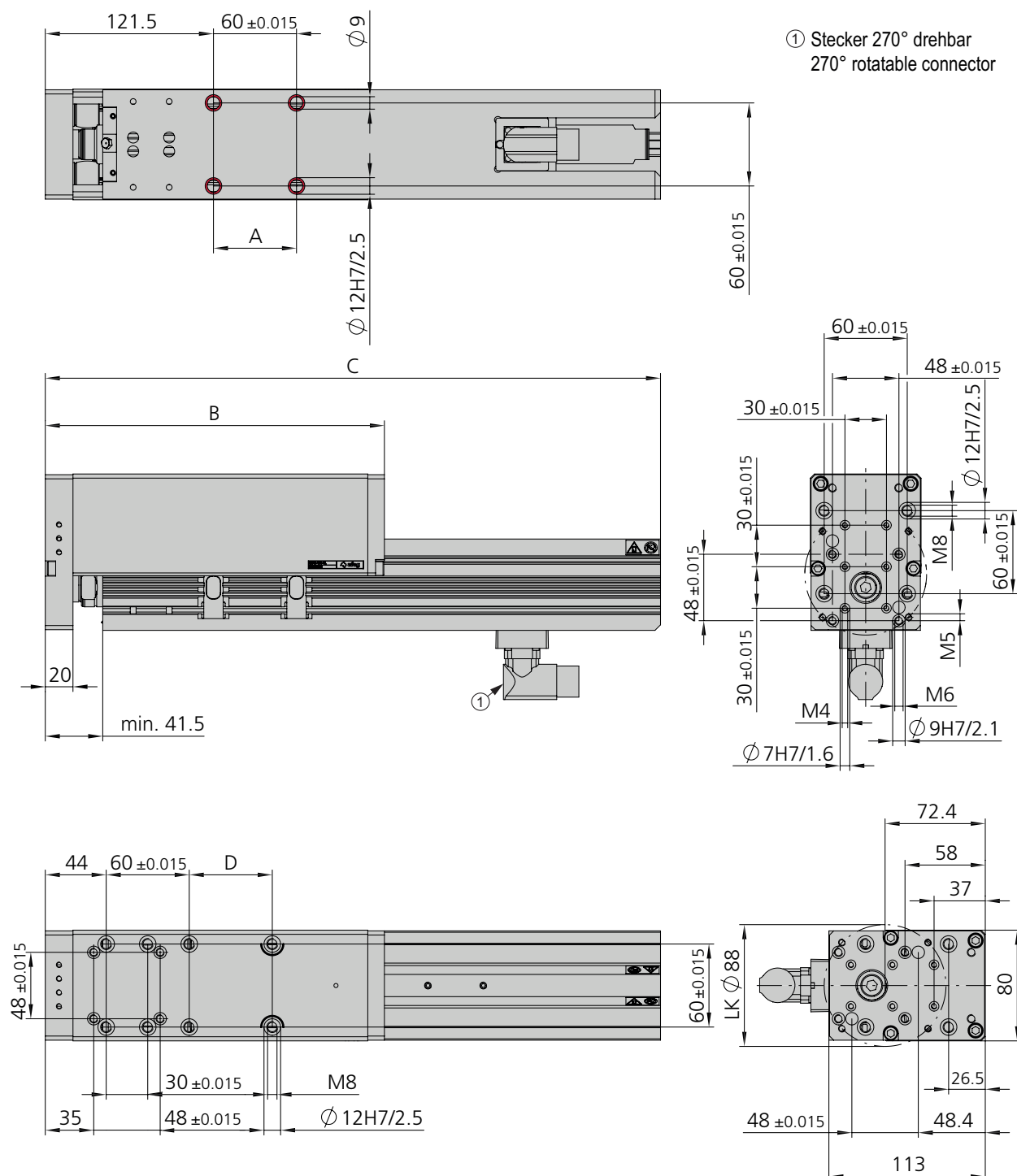
Electro slide	ES40	XXXXXXXXXX		XXXXXXXXXX		XXXXXXXXXX	X	X
	ES40-100-SL /-2S	50465218	50595445	MagSpring side (s)	MagSpring front (v)	External pos. meas. system	Position MagSpring	Position external position measuring system
	ES40-100 /-2S	50465219	50595446					
	ES40-200 /-2S	50465220	50595447					
	ES40-300 /-2S	50465221	50595448					
	ES40-400 /-2S	50465222	50595449					
	ES40-500 /-2S	50465223	50595450					
MagSpring for ES40-100	MagSpring ES40 s/v 40N		50470226	50470229				
	MagSpring ES40 s/v 50N		50470227	50470230				
	MagSpring ES40 s/v 60N		50470228	50470231				
MagSpring for ES40-200	MagSpring ES40 s/v 40N		50470232	50470235				
	MagSpring ES40 s/v 50N		50470233	50470236				
	MagSpring ES40 s/v 60N		50470234	50470237				
MagSpring for ES40-300	MagSpring ES40 s/v 40N		50470238	50470241				
	MagSpring ES40 s/v 50N		50470239	50470242				
	MagSpring ES40 s/v 60N		50470240	50470243				
	Without MagSpring		X					
External position measuring system	External position measuring system ES40 100mm		50470244					
	External position measuring system ES40 200mm		50470245					
	External position measuring system ES40 300mm		50470246					
	External position measuring system ES40 400mm		50470247					
	External position measuring system ES40 500mm		50470248					
Without external position measuring system		X						
Mounting	Position MagSpring						P O S	
	Position external position measuring system						P S	



- The strongest gantry axis of its kind
- Freely programmable
- For press-in tasks up to 1000 N

Dimensions and dimension drawings

Type	ES40-100-HP-SL	ES40-100-HP	ES40-200-HP	ES40-300-HP	ES40-400-HP	ES40-500-HP
A	1 x 60 mm	2 x 60 mm	2 x 60 mm	2 x 60 mm	2 x 60 mm	3 x 60 mm
B	245 mm	445 mm	545 mm	645 mm	745 mm	1024 mm
C	534.5 mm	534.5 mm	654.5 mm	744.5 mm	834.5 mm	1031.5 mm
D	2 x 60 mm	6 x 60 mm	7 x 60 mm	9 x 60 mm	11 x 60 mm	15 x 60 mm



⊕ Bores can be screwed through

Technical data



ES40-HP						
Attachment grid	60 x 60 mm					
Attachment thread	M8					
Operating temperature	0 - 50 °C					
Storage temperature	0 - 50 °C					
Humidity	< 90 %					

Type	ES40-100-HP-SL	ES40-100-HP	ES40-200-HP	ES40-300-HP	ES40-400-HP	ES40-500-HP
Order number	50465225	50465226	50465227	50465228	50465229	50465230
Stroke H	100 mm	100 mm	200 mm	300 mm	400 mm	500 mm
Net weight	10.08 kg	11.9 kg	13.7 kg	15.21 kg	16.73 kg	18.91 kg
Moving weight	4.27 kg	5.75 kg	7.04 kg	8.18 kg	9.34 kg	11.06 kg
Max. speed	2 m/s	2 m/s	1.8 m/s	1.8 m/s	1.8 m/s	1.7 m/s
Nominal voltage	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC	72 VDC
Drive	Linear motor, electric					
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Peak force Fx	1024 N	1024 N	1024 N	1024 N	1024 N	1024 N
Constant force Fx	203 N	203 N	203 N	203 N	203 N	203 N
Force constant	32 N/A	32 N/A	32 N/A	32 N/A	32 N/A	32 N/A
Repeat accuracy	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm	+/- 0.05 mm
- with external position measuring system	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
Mounting position	✦	✦	✦	✦	✦	✦

Note: For vertical installation, a weight compensation via MagSpring or pneumatic weight balancing is required. If the weight compensation is not carried out, the slide will fall below when in a deenergised state. Furthermore, the operation time from the operation time diagram cannot be achieved.
Cleanroom class ISO 14644-1, class ISO 7

Included in the delivery

(Catalogue HT accessories)

- 2x Centering bushing Ø12x4.8
- 4x Mounting screw M8x25

Accessories

(Product-specific accessories)

- MagSpring side/front
- External position measuring system ES40

(Catalogue HT accessories)

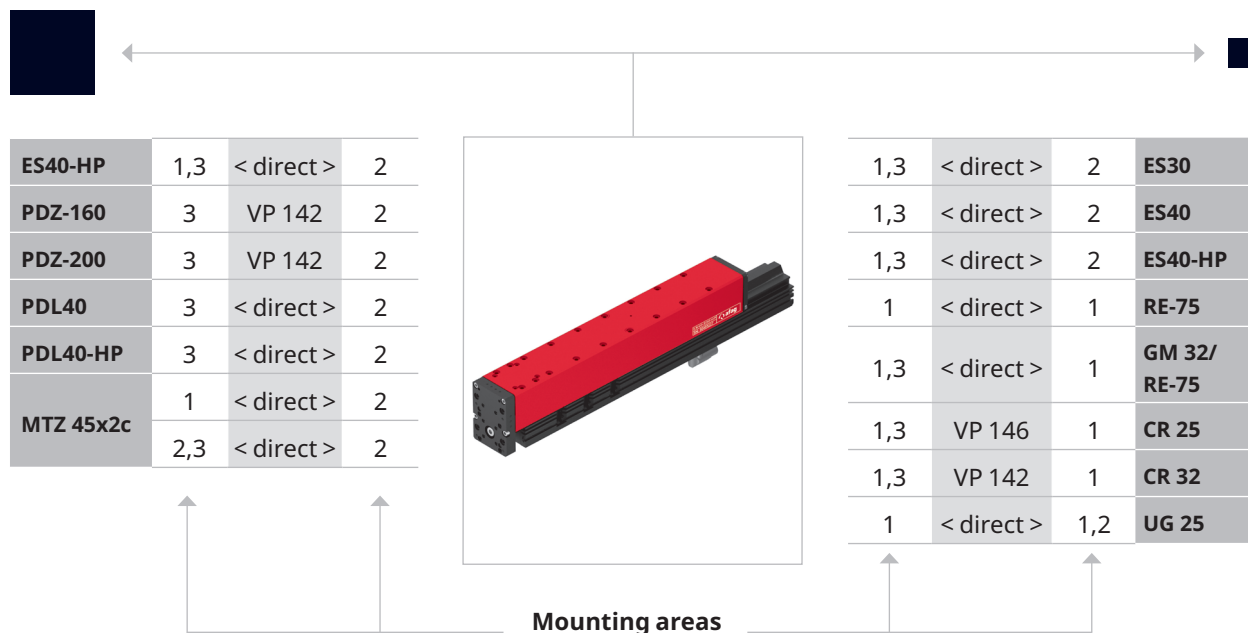
- Motor cable-M17
- Controller C1xxx-1S
- Plug kit for C1xxx-1S
- USB-RS232 Converter for controllers
- Power supply T01-72/1500 Multi, 3-phase
- Double module support centric MTZ 45x2c

Alternative accessories

(Catalogue HT accessories)

- Additional motor cables
- Additional controllers
- Additional power supplies

Preferred combinations

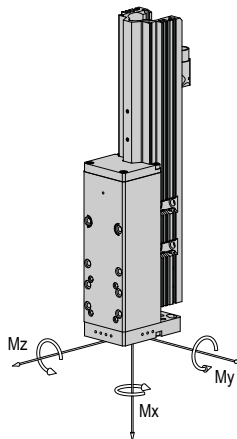


CS, ES	LM	HM	SA	UG, GM, SG, DG, PG, GE, SGE
PMP, PMP-c	PEZ, PDZ	PEL, PDL	RM, RE	CR, RM 32, RE, SREH, RA

Note that there might be different mounting positions from one module to another one. The required connection elements and the range of support columns are depicted in the catalogue HT accessories.

Module stresses

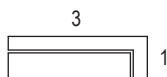
Type	ES40-100-HP-SL	ES40-100-HP	ES40-200-HP	ES40-300-HP	ES40-400-HP	ES40-500-HP
Max. dynamic torque Mx	40 Nm	45 Nm	45 Nm	45 Nm	45 Nm	45 Nm
Max. dynamic torque My	80 Nm	180 Nm	180 Nm	180 Nm	180 Nm	200 Nm
Max. dynamic torque Mz	80 Nm	180 Nm	180 Nm	180 Nm	180 Nm	200 Nm



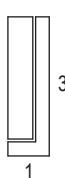
Maximum payload/type	ES40-100-HP-SL	ES40-100-HP	ES40-200-HP	ES40-300-HP	ES40-400-HP	ES40-500-HP
Installation position (horizontal) for mounting side 1/3	25 kg	30 kg	30 kg	30 kg	30 kg	30 kg
Installation position (vertical) for mounting side 1/3	7 kg	6 kg	4 kg	3 kg		

Assembly sides module mounting

horizontal:

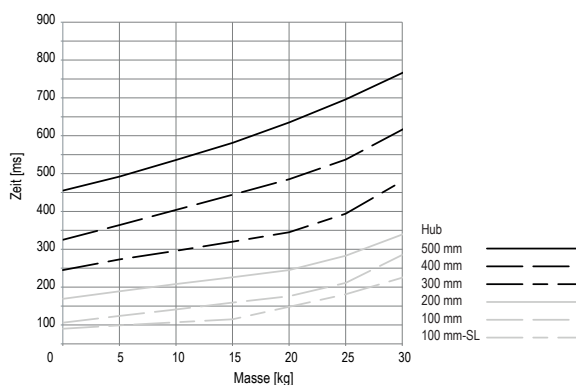


vertical:



Diagrams ES40-HP

Operation time ES40-HP

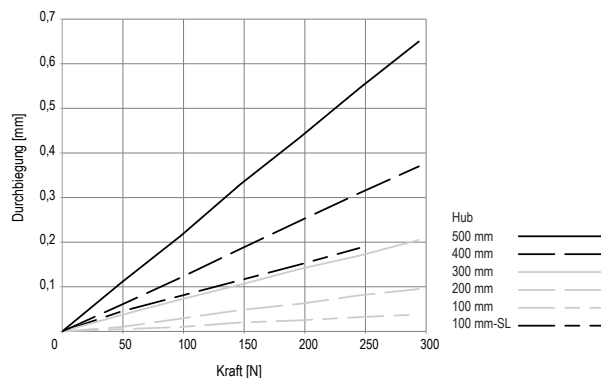


Die Fahrzeiten wurden unter den nachfolgenden Bedingungen gemessen:

- horizontal
- Umgebungstemperatur 20 °C
- Servoregler E1250-1S-PN (32A)
- Motorspannung 72 VDC
- Motorkabel-M17-8m-0-1-1

The times refer to break times of 200 ms.

Deflection ES40-HP



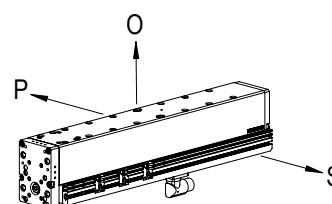
Ordering Example

Order form	ES40-HP	xxxxxxx	xxxxxxx	xxxxxxx	x	x
		Electric slide	MagSpring	External position measuring system	Position MagSpring	Position external position measuring system

Coordinate system

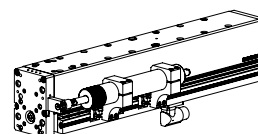
The coordinate system allows you to define the position of the MagSpring as well as that of the external position measuring system.

- P = left
- O = top
- S = right



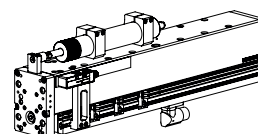
Ordering example 1 with MagSpring

ES40-HP	50465227	50470232	X	S	X
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Ordering example 2 with MagSpring and external position measuring system

ES40-HP	50465227	50470235	50470245	O	S
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Ordering process

- Select the desired electric slide, external position measuring system and MagSpring from the order key.
- Enter the corresponding red order numbers in the order form in the place of the cross.
- Determine the desired position of the MagSpring and the external position measuring system.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

MagSpring

- The MagSpring serves to balance the weight forces in a vertical installation position.
- The dimensioning of the MagSpring must match the moving weight in the vertical installation position.

External position measuring system

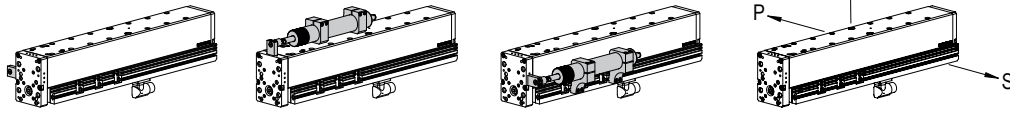
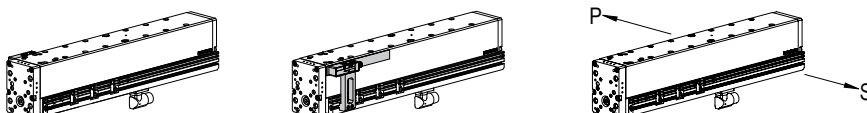
- The external position measuring system must be ordered in accordance with the module length.

Series ES40-HP Electro Slides

Datasheet - Operating Instructions

ES40-HP

Order Key

Electro slide	ES40-HP	XXXXXXXX	XXXXXXXX		XXXXXXXX	X	X
	ES40-100-HP-SL	50465225	MagSpring side (s)	MagSpring front (v)	External pos. meas. system	Position MagSpring	Position external position measuring system
	ES40-100-HP	50465226					
	ES40-200-HP	50465227					
	ES40-300-HP	50465228					
	ES40-400-HP	50465229					
	ES40-500-HP	50465230					
MagSpring for ES40-100-HP	MagSpring ES40 s/v 40N		50470226	50470229			
	MagSpring ES40 s/v 50N		50470227	50470230			
	MagSpring ES40 s/v 60N		50470228	50470231			
MagSpring for ES40-200-HP	MagSpring ES40 s/v 40N		50470232	50470235			
	MagSpring ES40 s/v 50N		50470233	50470236			
	MagSpring ES40 s/v 60N		50470234	50470237			
MagSpring for ES40-300-HP	MagSpring ES40 s/v 40N		50470238	50470241			
	MagSpring ES40 s/v 50N		50470239	50470242			
	MagSpring ES40 s/v 60N		50470240	50470243			
	Without MagSpring				X		
External position measuring system	External position measuring system ES40 100mm				50470244		
	External position measuring system ES40 200mm				50470245		
	External position measuring system ES40 300mm				50470246		
	External position measuring system ES40 400mm				50470247		
	External position measuring system ES40 500mm				50470248		
Mounting	Position MagSpring						
							P O S
Mounting	Position external position measuring system						
							P S

Overview MagSpring ES20

The MagSpring is a passive component which supplies a constant force via a specific stroke range based on permanent magnets. This balances the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.

The MagSpring and holder are provided in accordance with the ES electric slides ES20, ES30 and ES40. This can be mounted on the left, right or front side of the axis.

Advantages:

- Constant force over the entire stroke range
- Overstretching of the spring is impossible
- Energy-efficient weight compensation

MagSpring ES20-50-SL

Description	Order number
MagSpring ES20 s 11N 050mm	50427548
MagSpring ES20 s 17N 050mm	50427549
MagSpring ES20 s 22N 050mm	50427550
MagSpring ES20 v 11N 050mm	50427554
MagSpring ES20 v 17N 050mm	50427555
MagSpring ES20 v 22N 050mm	50427556
MagSpring ES20 s 40N 050mm	50427551
MagSpring ES20 s 50N 050mm	50427552
MagSpring ES20 s 60N 050mm	50427553
MagSpring ES20 v 40N 050mm	50427557
MagSpring ES20 v 50N 050mm	50427558
MagSpring ES20 v 60N 050mm	50427559

MagSpring ES20-100-SL

Description	Order number
MagSpring ES20 s 11N 100mm	50427561
MagSpring ES20 s 17N 100mm	50427562
MagSpring ES20 s 22N 100mm	50427563
MagSpring ES20 v 11N 100mm	50427567
MagSpring ES20 v 17N 100mm	50427568
MagSpring ES20 v 22N 100mm	50427569
MagSpring ES20 s 40N 100mm	50427564
MagSpring ES20 s 50N 100mm	50427565
MagSpring ES20 s 60N 100mm	50427566
MagSpring ES20 v 40N 100mm	50427570
MagSpring ES20 v 50N 100mm	50427571
MagSpring ES20 v 60N 100mm	50427572

MagSpring ES20-200

Description	Order number
MagSpring ES20 s 11N 200mm	50427574
MagSpring ES20 s 17N 200mm	50427575
MagSpring ES20 s 22N 200mm	50427576
MagSpring ES20 v 11N 200mm	50427580
MagSpring ES20 v 17N 200mm	50427581
MagSpring ES20 v 22N 200mm	50427582
MagSpring ES20 s 40N 200mm	50427577
MagSpring ES20 s 50N 200mm	50427578
MagSpring ES20 s 60N 200mm	50427579
MagSpring ES20 v 40N 200mm	50427583
MagSpring ES20 v 50N 200mm	50427584
MagSpring ES20 v 60N 200mm	50427585

MagSpring ES20-300

Description	Order number
MagSpring ES20 s 11N 300mm	50427587
MagSpring ES20 s 17N 300mm	50427588
MagSpring ES20 s 22N 300mm	50427589
MagSpring ES20 v 11N 300mm	50427593
MagSpring ES20 v 17N 300mm	50427594
MagSpring ES20 v 22N 300mm	50427595
MagSpring ES20 s 40N 300mm	50427590
MagSpring ES20 s 50N 300mm	50427591
MagSpring ES20 s 60N 300mm	50427592
MagSpring ES20 v 40N 300mm	50427596
MagSpring ES20 v 50N 300mm	50427597
MagSpring ES20 v 60N 300mm	50427598

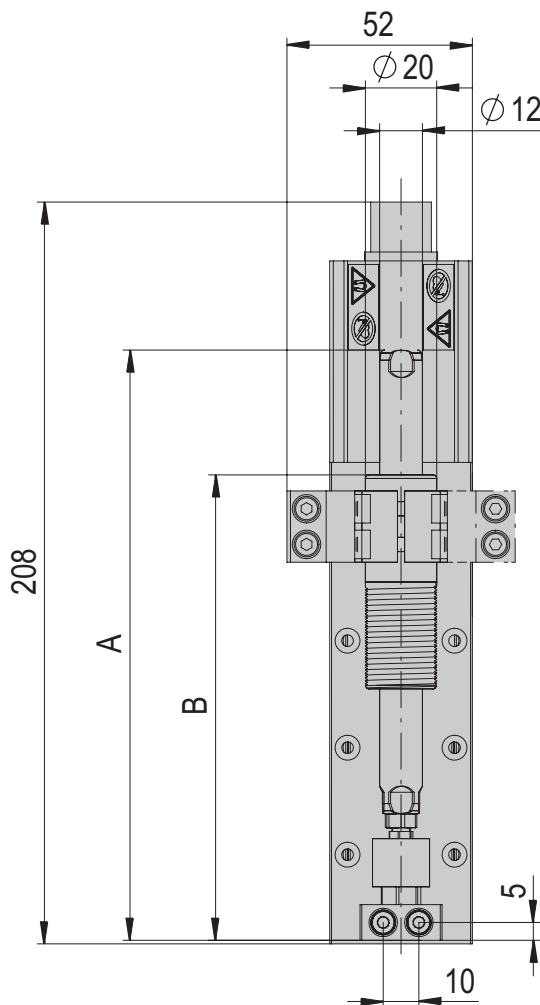
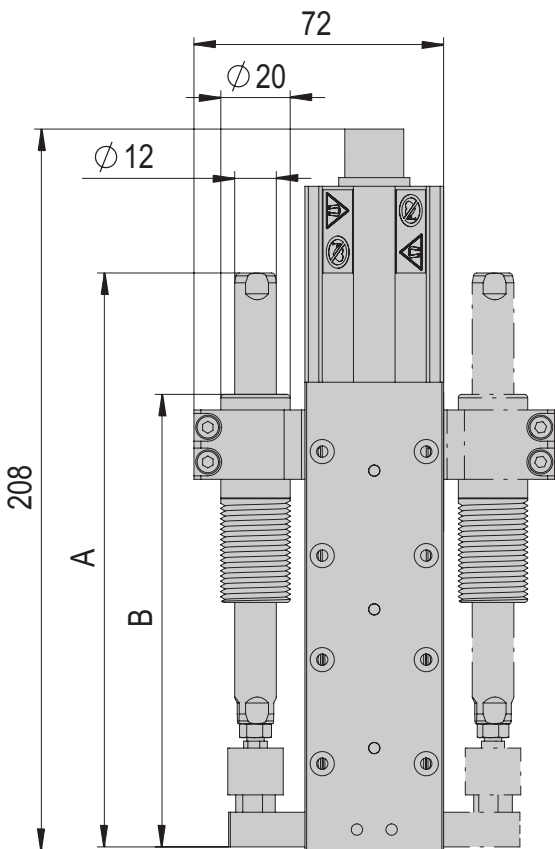
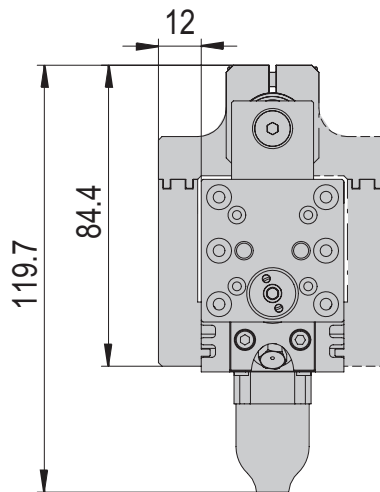
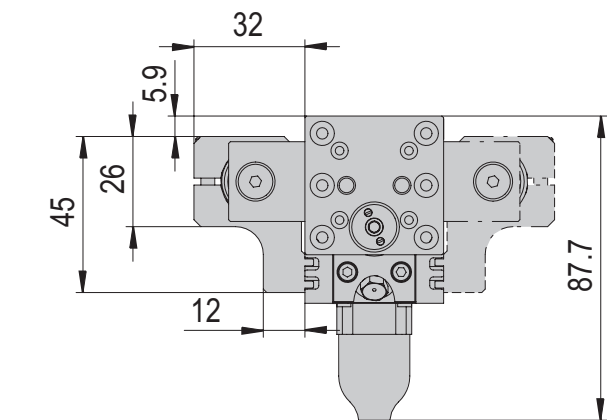
Accessories - MagSpring

Datasheet - Operating Instructions

ES20
11N-22N

MagSpring side	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
A	165 mm	245 mm	325 mm	405 mm
B	130 mm	210 mm	290 mm	370 mm

MagSpring front	ES20-50-SL	ES20-100-SL	ES20-200	ES20-300
A	165 mm	245 mm	325 mm	405 mm
B	130 mm	210 mm	290 mm	370 mm



Accessories - MagSpring

Datasheet - Operating Instructions

ES20
11N-22N

MagSpring ES20-50-SL	side			front		
Order number	50427548	50427549	50427550	50427554	50427555	50427556
Stroke H	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Net weight	0.235 kg	0.235 kg	0.235 kg	0.265 kg	0.265 kg	0.265 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

MagSpring ES20-100-SL	side			front		
Order number	50427561	50427562	50427563	50427567	50427568	50427569
Stroke H	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Net weight	0.42 kg	0.42 kg	0.42 kg	0.45 kg	0.45 kg	0.45 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

MagSpring ES20-200	side			front		
Order number	50427574	50427575	50427576	50427580	50427581	50427582
Stroke H	200 mm	200 mm	200 mm	200 mm	200 mm	200 mm
Net weight	0.59 kg	0.59 kg	0.59 kg	0.62 kg	0.62 kg	0.62 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

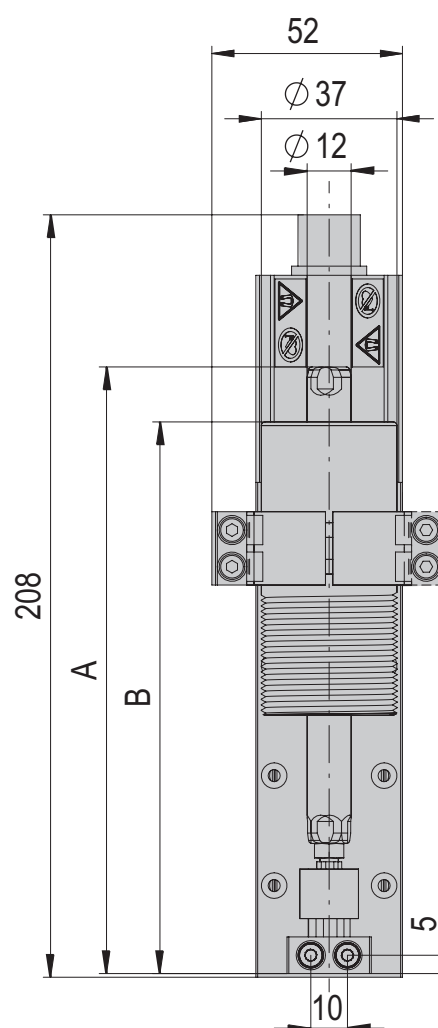
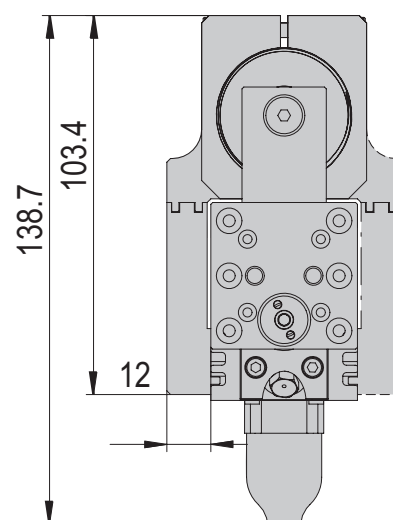
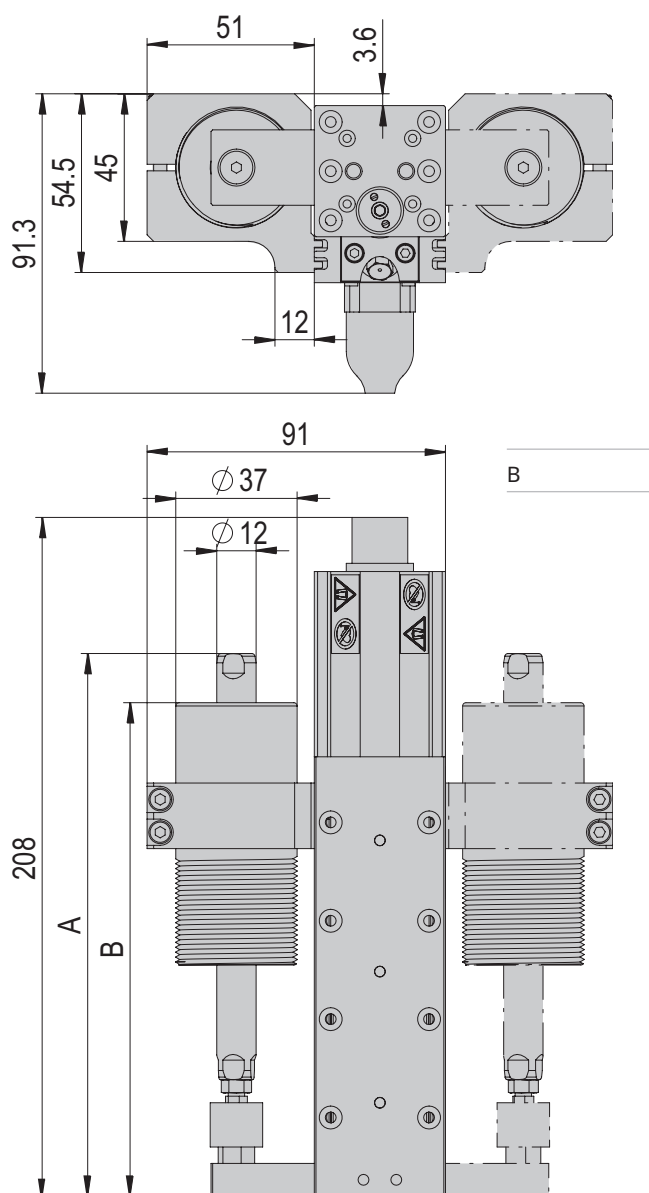
MagSpring ES20-300	side			front		
Order number	50427587	50427588	50427589	50427593	50427594	50427595
Stroke H	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Net weight	0.753 kg	0.753 kg	0.753 kg	0.783 kg	0.783 kg	0.783 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

Datasheet - Operating Instructions

40N-60N

A	165 mm	245 mm	325 mm	405 mm
B	150 mm	210 mm	300 mm	375 mm

A	165 mm	245 mm	325 mm	405 mm
B	150 mm	225 mm	300 mm	375 mm



Accessories - MagSpring

Datasheet - Operating Instructions

ES20
40N-60N

MagSpring ES20-50-SL	side			front		
Order number	50427551	50427552	50427553	50427557	50427558	50427559
Stroke H	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Net weight	0.632 kg	0.632 kg	0.632 kg	0.662 kg	0.662 kg	0.662 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES20-100-SL	side			front		
Order number	50427564	50427565	50427566	50427570	50427571	50427572
Stroke H	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Net weight	1.152 kg	1.152 kg	1.152 kg	1.182 kg	1.182 kg	1.182 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES20-200	side			front		
Order number	50427577	50427578	50427579	50427583	50427584	50427585
Stroke H	200 mm	200 mm	200 mm	200 mm	200 mm	200 mm
Net weight	1.657 kg	1.657 kg	1.657 kg	1.687 kg	1.687 kg	1.687 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES20-300	side			front		
Order number	50427590	50427591	50427592	50427596	50427597	50427598
Stroke H	275 mm	275 mm	275 mm	275 mm	275 mm	275 mm
Net weight	2.197 kg	2.197 kg	2.197 kg	2.227 kg	2.227 kg	2.227 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

Overview MagSpring ES30

The MagSpring is a passive component which supplies a constant force via a specific stroke range based on permanent magnets. This balances the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state.

The MagSpring and holder are provided in accordance with the ES electric slides ES20, ES30 and ES40. This can be mounted on the left, right or front side of the axis.

Advantages:

- Constant force over the entire stroke range
- Overstretching of the spring is impossible
- Energy-efficient weight compensation

MagSpring ES30-50/-SL

Description	Order number
MagSpring ES30 s 11N 050mm	50429205
MagSpring ES30 s 17N 050mm	50429206
MagSpring ES30 s 22N 050mm	50429207
MagSpring ES30 v 11N 050mm	50429211
MagSpring ES30 v 17N 050mm	50429212
MagSpring ES30 v 22N 050mm	50429213
MagSpring ES30 s 40N 050mm	50429208
MagSpring ES30 s 50N 050mm	50429209
MagSpring ES30 s 60N 050mm	50429210
MagSpring ES30 v 40N 050mm	50429214
MagSpring ES30 v 50N 050mm	50429215
MagSpring ES30 v 60N 050mm	50429216

MagSpring ES30-100/-SL

Description	Order number
MagSpring ES30 s 11N 100mm	50429218
MagSpring ES30 s 17N 100mm	50429219
MagSpring ES30 s 22N 100mm	50429220
MagSpring ES30 v 11N 100mm	50429224
MagSpring ES30 v 17N 100mm	50429225
MagSpring ES30 v 22N 100mm	50429226
MagSpring ES30 s 40N 100mm	50429221
MagSpring ES30 s 50N 100mm	50429222
MagSpring ES30 s 60N 100mm	50429223
MagSpring ES30 v 40N 100mm	50429227
MagSpring ES30 v 50N 100mm	50429228
MagSpring ES30 v 60N 100mm	50429229

MagSpring ES30-200/-SL

Description	Order number
MagSpring ES30 s 11N 200mm	50429231
MagSpring ES30 s 17N 200mm	50429232
MagSpring ES30 s 22N 200mm	50429233
MagSpring ES30 v 11N 200mm	50429237
MagSpring ES30 v 17N 200mm	50429238
MagSpring ES30 v 22N 200mm	50429239
MagSpring ES30 s 40N 200mm	50429234
MagSpring ES30 s 50N 200mm	50429235
MagSpring ES30 s 60N 200mm	50429236
MagSpring ES30 v 40N 200mm	50429240
MagSpring ES30 v 50N 200mm	50429241
MagSpring ES30 v 60N 200mm	50429242

MagSpring ES30-300

Description	Order number
MagSpring ES30 s 11N 300mm	50429244
MagSpring ES30 s 17N 300mm	50429245
MagSpring ES30 s 22N 300mm	50429246
MagSpring ES30 v 11N 300mm	50429250
MagSpring ES30 v 17N 300mm	50429251
MagSpring ES30 v 22N 300mm	50429252
MagSpring ES30 s 40N 300mm	50429247
MagSpring ES30 s 50N 300mm	50429248
MagSpring ES30 s 60N 300mm	50429249
MagSpring ES30 v 40N 300mm	50429253
MagSpring ES30 v 50N 300mm	50429254
MagSpring ES30 v 60N 300mm	50429255

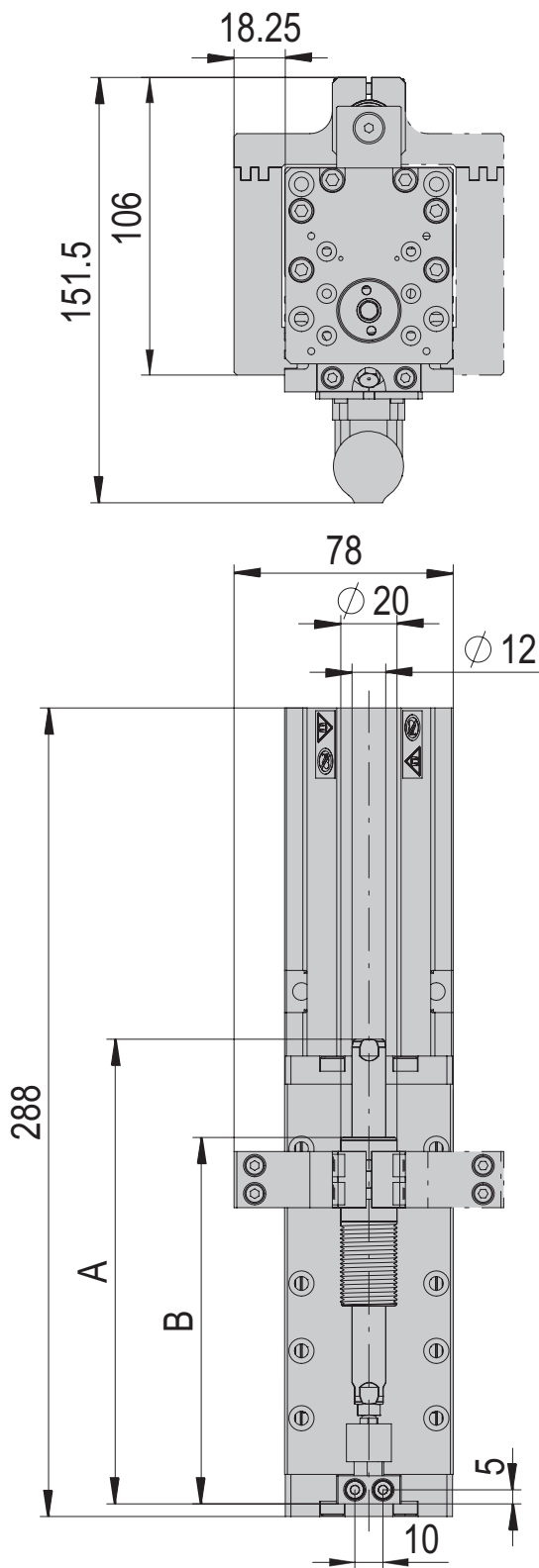
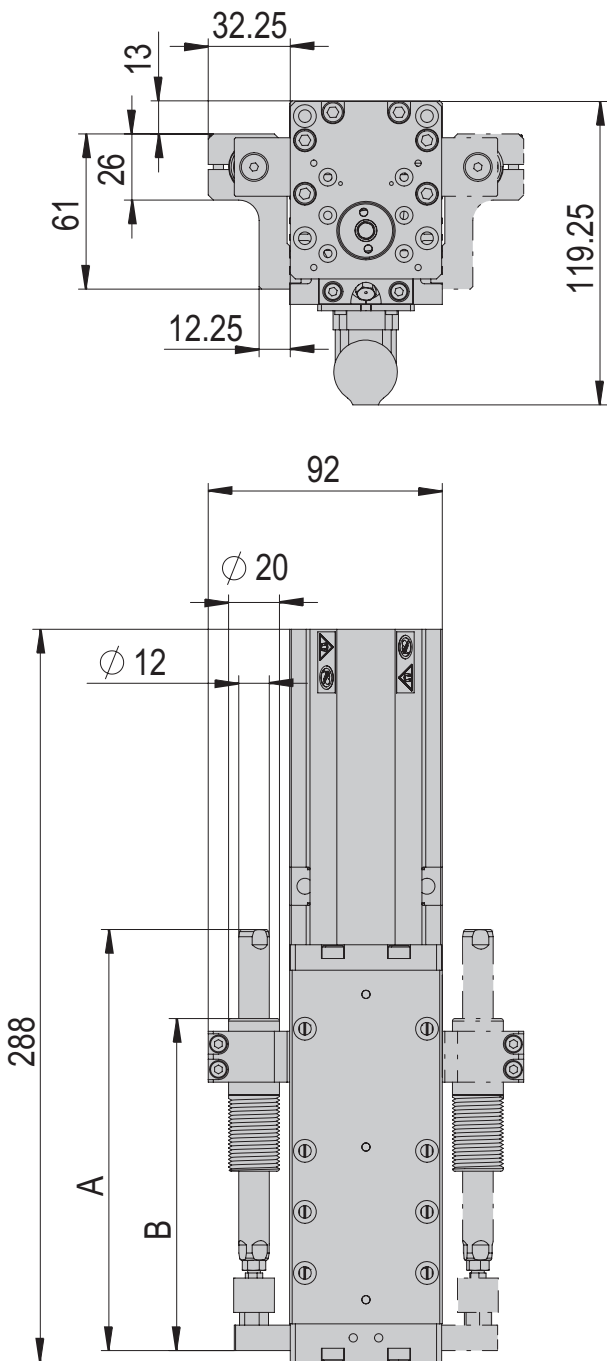
Accessories - MagSpring

Datasheet - Operating Instructions

ES30
11N-22N

MagSpring side	ES30-50-SL	ES30-100/-SL	ES30-200/-SL	ES30-300
A	165 mm	245 mm	325 mm	405 mm
B	130 mm	210 mm	290 mm	370 mm

MagSpring front	ES30-50-SL	ES30-100/-SL	ES30-200/-SL	ES30-300
A	165 mm	245 mm	325 mm	405 mm
B	130 mm	210 mm	290 mm	370 mm



Accessories - MagSpring

Datasheet - Operating Instructions

ES30
11N-22N

MagSpring ES30-50-SL	side			front		
Order number	50429205	50429206	50429207	50429211	50429212	50429213
Stroke H	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Net weight	0.243 kg	0.243 kg	0.243 kg	0.315 kg	0.315 kg	0.315 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

MagSpring ES30-100/-SL	side			front		
Order number	50429218	50429219	50429220	50429224	50429225	50429226
Stroke H	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Net weight	0.428 kg	0.428 kg	0.428 kg	0.5 kg	0.5 kg	0.5 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

MagSpring ES30-200/-SL	side			front		
Order number	50429231	50429232	50429233	50429237	50429238	50429239
Stroke H	200 mm	200 mm	200 mm	200 mm	200 mm	200 mm
Net weight	0.598 kg	0.598 kg	0.598 kg	0.67 kg	0.67 kg	0.67 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

MagSpring ES30-300	side			front		
Order number	50429244	50429245	50429246	50429250	50429251	50429252
Stroke H	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Net weight	0.761 kg	0.761 kg	0.761 kg	0.833 kg	0.833 kg	0.833 kg
Permanent force	11 N	17 N	22 N	11 N	17 N	22 N

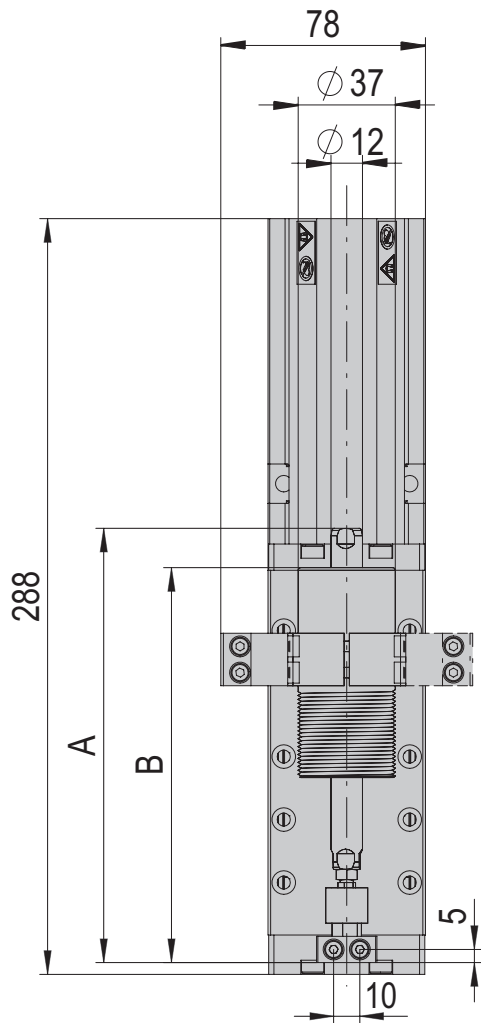
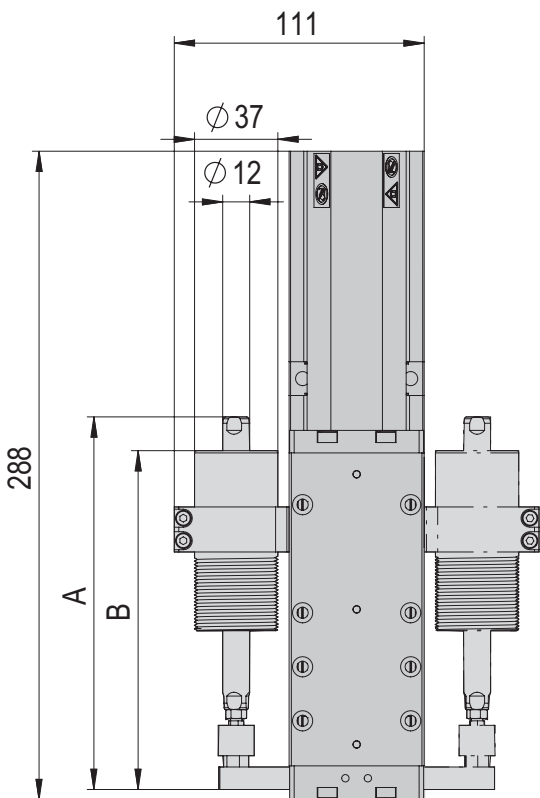
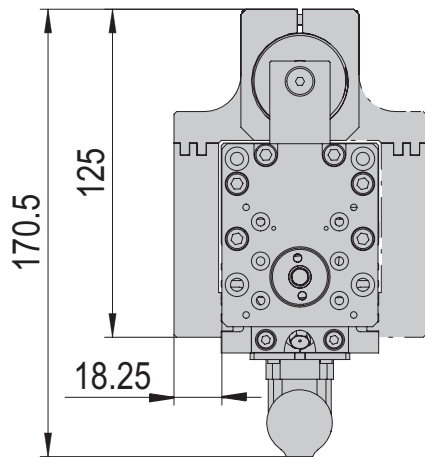
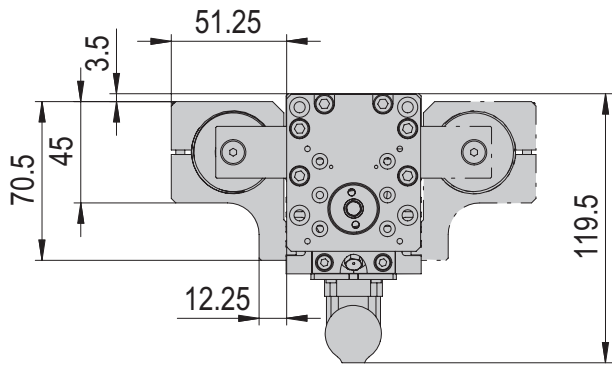
Accessories - MagSpring

Datasheet - Operating Instructions

ES30
40N-60N

MagSpring side	ES30-50-SL	ES30-100/-SL	ES30-200/-SL	ES30-300
A	165 mm	245 mm	325 mm	405 mm
B	150 mm	225 mm	300 mm	375 mm

MagSpring side	ES30-50-SL	ES30-100/-SL	ES30-200/-SL	ES30-300
A	165 mm	245 mm	325 mm	405 mm
B	150 mm	225 mm	300 mm	375 mm



Accessories - MagSpring

Datasheet - Operating Instructions

ES30
40N-60N

MagSpring ES30-50-SL	side			front		
Order number	50429208	50429209	50429210	50429214	50429215	50429216
Stroke H	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Net weight	0.646 kg	0.646 kg	0.646 kg	0.718 kg	0.718 kg	0.718 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES30-100/-SL	side			front		
Order number	50429221	50429222	50429223	50429227	50429228	50429229
Stroke H	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Net weight	1.166 kg	1.166 kg	1.166 kg	1.238 kg	1.238 kg	1.238 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES30-200/-SL	side			front		
Order number	50429234	50429235	50429236	50429240	50429241	50429242
Stroke H	200 mm	200 mm	200 mm	200 mm	200 mm	200 mm
Net weight	1.671 kg	1.671 kg	1.671 kg	1.743 kg	1.743 kg	1.743 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

MagSpring ES30-300	side			front		
Order number	50429247	50429248	50429249	50429253	50429254	50429255
Stroke H	275 mm	275 mm	275 mm	275 mm	275 mm	275 mm
Net weight	2.211 kg	2.211 kg	2.211 kg	2.283 kg	2.283 kg	2.283 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

Overview MagSpring ES40

The MagSpring is a passive component which supplies a constant force via a specific stroke range based on permanent magnets. This balances the load mass for vertically installed axes. Furthermore, the peripherals and the workpiece are also prevented from falling when the electric slide is in a deenergised state. The MagSpring and holder are provided in accordance with the ES electric slides ES20, ES30 and ES40. This can be mounted on the left, right or front side of the axis.

Advantages:

- Constant force over the entire stroke range
- Overstretching of the spring is impossible
- Energy-efficient weight compensation

MagSpring ES40-100/-HP/-SL

Description	Order number
MagSpring ES40 s 40N 100mm	50470226
MagSpring ES40 s 50N 100mm	50470227
MagSpring ES40 s 60N 100mm	50470228
MagSpring ES40 v 40N 100mm	50470229
MagSpring ES40 v 50N 100mm	50470230
MagSpring ES40 v 60N 100mm	50470231

MagSpring ES40-200/-HP

Description	Order number
MagSpring ES40 s 40N 200mm	50470232
MagSpring ES40 s 50N 200mm	50470233
MagSpring ES40 s 60N 200mm	50470234
MagSpring ES40 v 40N 200mm	50470235
MagSpring ES40 v 50N 200mm	50470236
MagSpring ES40 v 60N 200mm	50470237

MagSpring ES40-300/-HP

Description	Order number
MagSpring ES40 s 40N 300mm	50470238
MagSpring ES40 s 50N 300mm	50470239
MagSpring ES40 s 60N 300mm	50470240
MagSpring ES40 v 40N 300mm	50470241
MagSpring ES40 v 50N 300mm	50470242
MagSpring ES40 v 60N 300mm	50470243

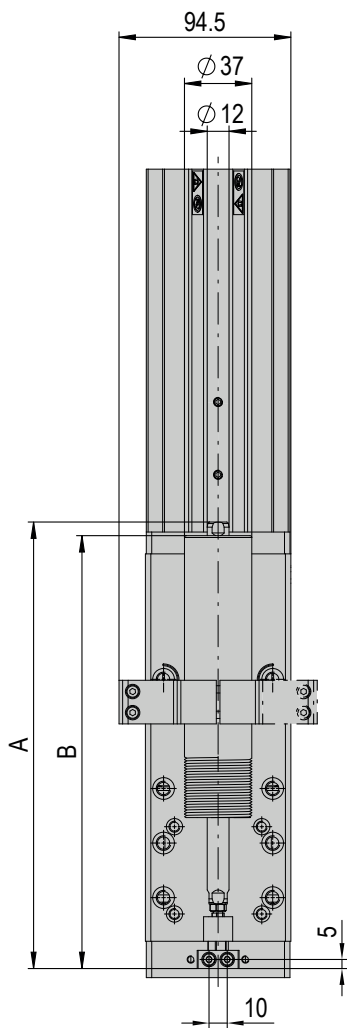
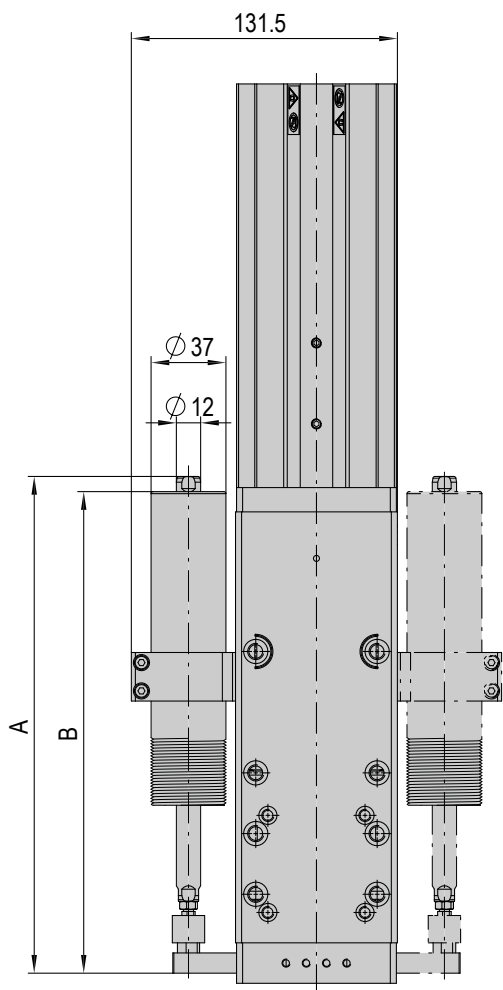
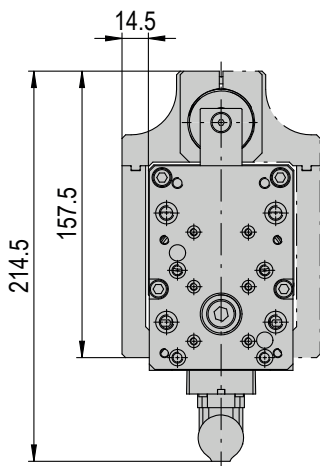
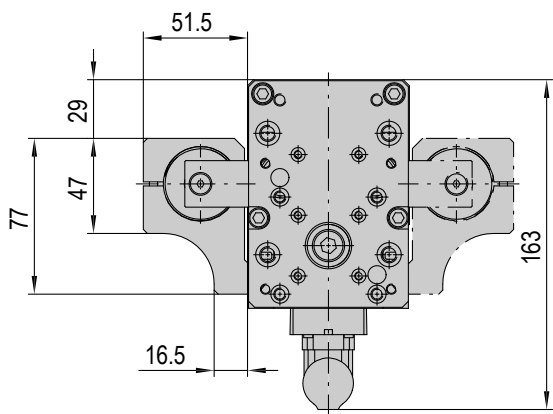
Accessories - MagSpring

Datasheet - Operating Instructions

ES40
40N-60N

MagSpring side	ES40-100/-SL/-HP	ES40-200/-HP	ES40-300/-HP
A	245.5 mm	325.5 mm	405.5 mm
B	238 mm	300.5 mm	363 mm

MagSpring front	ES40-100/-SL/-HP	ES40-200/-HP	ES40-300/-HP
A	245.5 mm	325.5 mm	405.5 mm
B	238 mm	300.5 mm	363 mm



Accessories - MagSpring

Datasheet - Operating Instructions

ES40
40N-60N

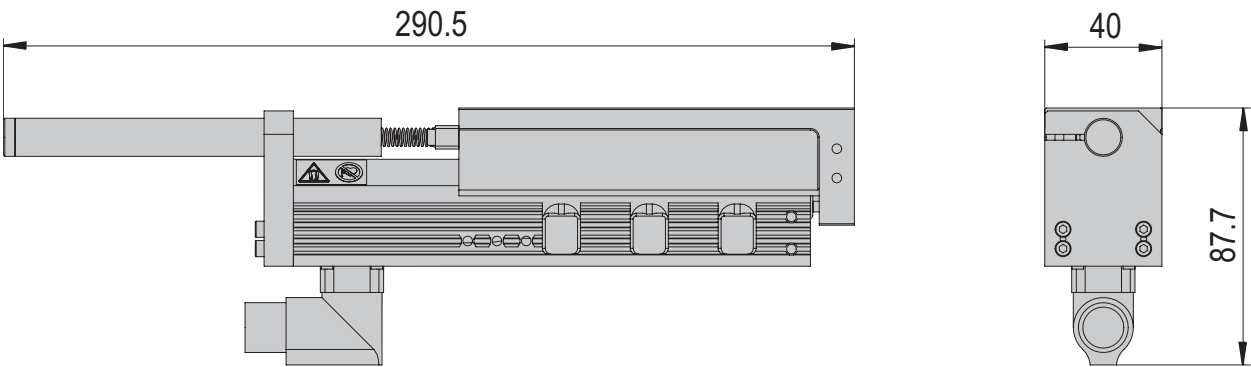
Magspring ES40-100	side			front		
Order number	50470226	50470227	50470228	50470229	50470230	50470231
Stroke H	100 mm	100 mm	100 mm	100 mm	100 mm	100 mm
Net weight	1.205 kg	1.205 kg	1.205 kg	1.295 kg	1.295 kg	1.295 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

Magspring ES40-200	side			front		
Order number	50470232	50470233	50470234	50470235	50470236	50470237
Stroke H	200 mm	200 mm	200 mm	200 mm	200 mm	200 mm
Net weight	1.842 kg	1.842 kg	1.842 kg	2.02 kg	2.02 kg	2.02 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

Magspring ES40-300	side			front		
Order number	50470238	50470239	50470240	50470241	50470242	50470243
Stroke H	275 mm	275 mm	275 mm	275 mm	275 mm	275 mm
Net weight	2.382 kg	2.382 kg	2.382 kg	2.56 kg	2.56 kg	2.56 kg
Permanent force	40 N	50 N	60 N	40 N	50 N	60 N

Compensation spring ES20-50-SL

Order number	50427546
Net weight	0.079 kg
Peak force	11 N



Note: Note: The compensation spring is only available for the module ES20-50-SL

Inlcuded in the delivery
(Catalogue HT accessories)

- 1x Mounting screw M3x12
- 2x Mounting screw M3x14
- 4x Mounting screw M3x16

External position measuring system ES

External position measuring system for ES20, ES30 and ES40

The contact-free, absolute, magnetic-based position measuring system with integrated analysis electronics is used wherever the axes cannot be securely referenced. In addition, a high positional accuracy and smooth movements are also achieved. The system consists of a sensor and a strip on which magnetic information is stored. Both components are fixed to the module.

The motor's internal position sensor achieves a repeat accuracy of ± 0.05 mm and an absolute accuracy deviation of between 0.1% and 0.4% (depending on the drive unit). If this does not suffice, we recommend an external position measuring system.

Advantages:

- Referencing not necessary
- High absolute accuracy
- Smooth movements
- Minimization of control noises

Order numbers for ES20

Description	Order number
External position measuring system ES20 050mm	50427547
External position measuring system ES20 100mm	50427560
External position measuring system ES20 200mm	50427573
External position measuring system ES20 300mm	50427586

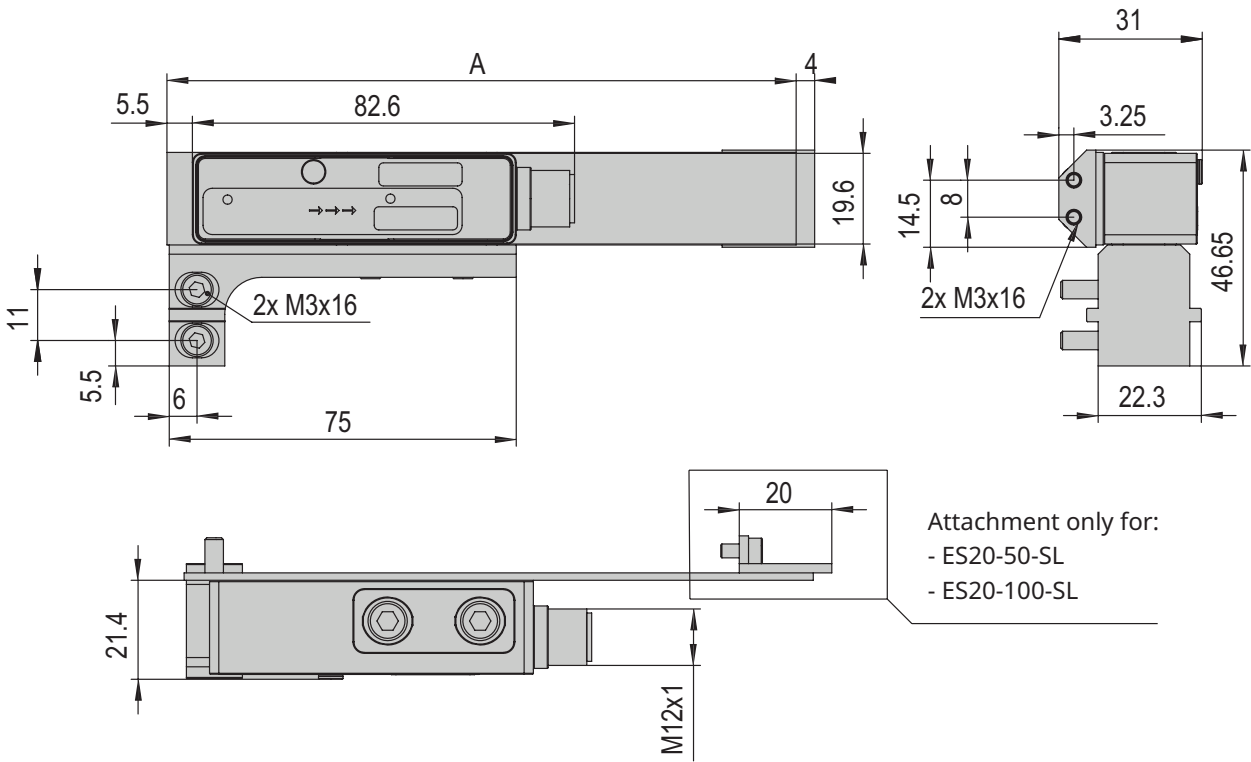
Order numbers for ES30

Description	Order number
External position measuring system ES30 050mm	50429204
External position measuring system ES30 100mm	50429217
External position measuring system ES30 200mm	50429230
External position measuring system ES30 300mm	50429243
External position measuring system ES30 400mm	50429256
External position measuring system ES30 500mm	50429257

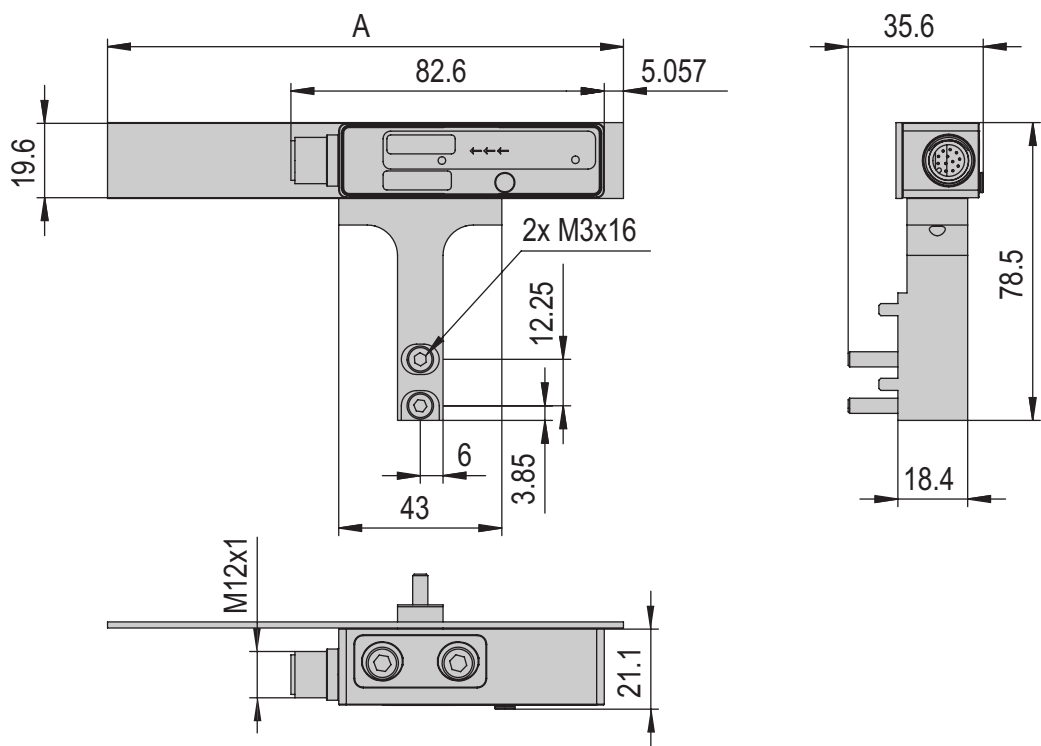
Order numbers for ES40

Description	Order number
External position measuring system ES40 100mm	50470244
External position measuring system ES40 200mm	50470245
External position measuring system ES40 300mm	50470246
External position measuring system ES40 400mm	50470247
External position measuring system ES40 500mm	50470248

External position measuring system ES20	50	100	200	300
Order number	50427547	50427560	50427573	50427586
Net weight	0.143 kg	0.149 kg	0.158 kg	0.17 kg
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
A	136 mm	186 mm	286 mm	386 mm



External position measuring system ES30	50	100	200	300	400	500
Order number	50429204	50429217	50429230	50429243	50429256	50429257
Net weight	0.144 kg	0.15 kg	0.163 kg	0.175 kg	0.188 kg	0.2 kg
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
A	136 mm	186 mm	286 mm	386 mm	486 mm	586 mm



External position measuring system ES

External position measuring system ES40/-HP/-SL	100	200	300	400	500
Order number	50470244	50470245	50470246	50470247	50470248
Net weight	0.172 kg	0.185 kg	0.197 kg	0.21 kg	0.222 kg
Repeat accuracy	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm	+/- 0.02 mm
A	186 mm	286 mm	386 mm	486 mm	586 mm

