Telescope spindle axis SA

SA-1 - SA-6

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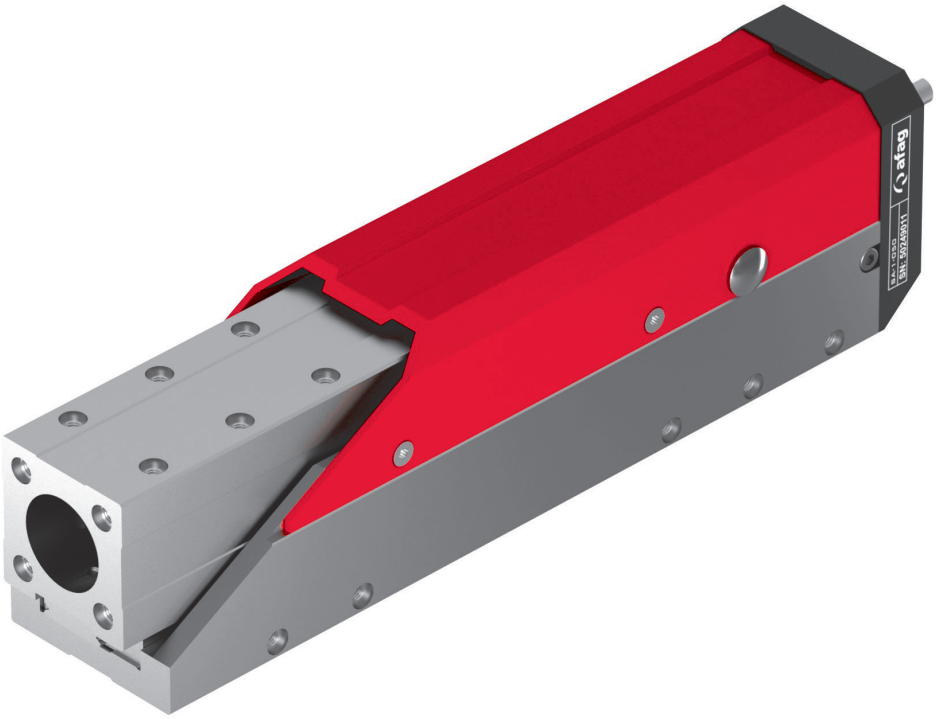
Telescope spindle axis SA

SA-1 & SA-1-FL

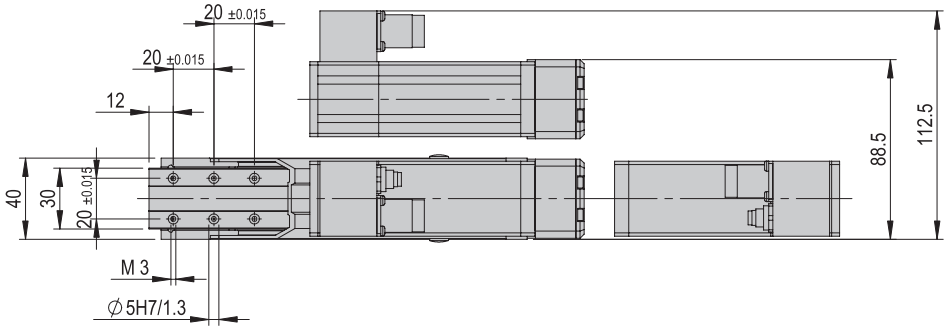


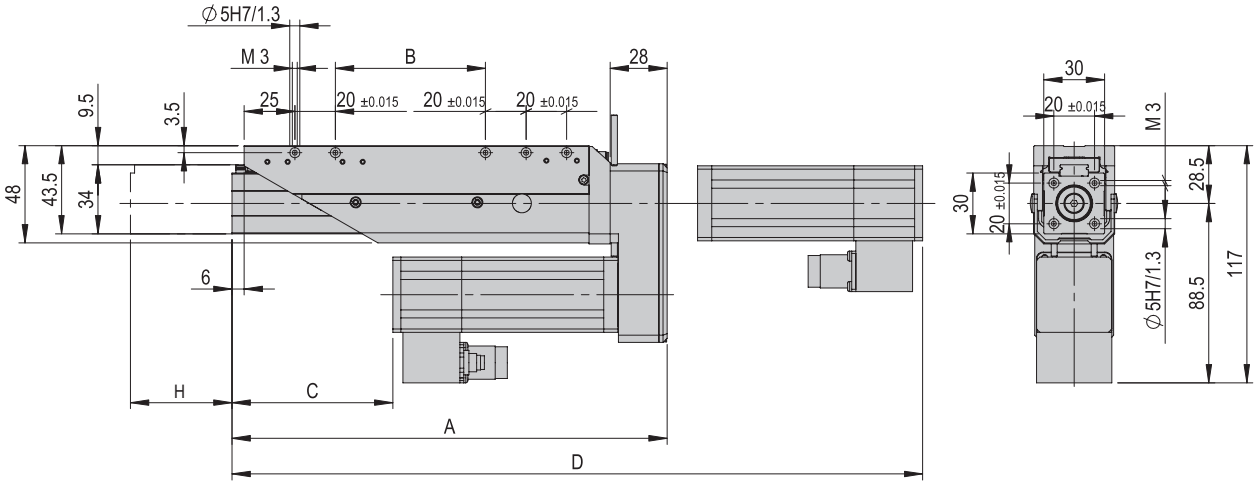
- Extremely compact and higher power density for -FL variety
- Flexible motor mounting
- Precise spindle drive

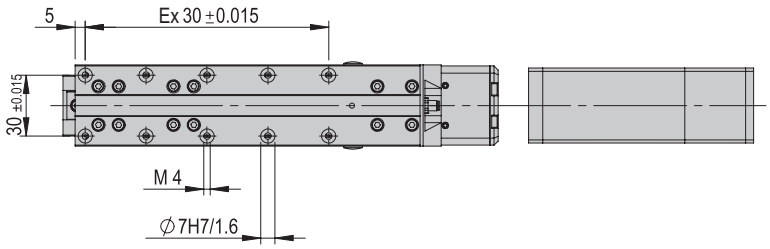
Dimensions and dimension drawings

SA-1 / SA-1-FL

Type	SA-1-050/-FL	SA-1-100/-FL	SA-1-150/-FL
A	213.5 mm	263.5 mm	313.5 mm
B	74 mm	124 mm	174 mm
C	***79.3 mm ****109.3 mm	***129.3 mm ****159.3 mm	***179.3 mm ****209.3 mm
D	***306 mm ****336 mm	***356 mm ****386 mm	***410 mm ****440 mm
E	4 x	6 x	7 x
H	50 mm	100 mm	150 mm







Technical data

SA-1

Type	SA-1-xxx	SA-1-xxx-FL
Spindle Ø	8 mm	8 mm
Spindle pitch (mm/1 turn)	12 mm	4 mm
Drive shaft Ø	5 mm	5 mm
Operating temperature	10 - 40 °C	10 - 40 °C
Storage temperature	0 - 50 °C	0 - 50 °C
Humidity	< 90 %	< 90 %

Type	SA-1-050	SA-1-050-FL	SA-1-100	SA-1-100-FL	SA-1-150	SA-1-150-FL
Order number	**50249011**	**50471882**	**50249013**	**50471883**	**50249014**	**50471884**
Stroke H	50 mm	50 mm	100 mm	100 mm	150 mm	150 mm
Net weight	0.8 kg	0.8 kg	1.0 kg	1.0 kg	1.2 kg	1.2 kg
Moving weight	**0.45 kg	**0.45 kg	**0.55 kg	**0.55 kg	**0.65 kg	**0.65 kg
Weight, gear	**0.15 kg	**0.15 kg	**0.15 kg	**0.15 kg	**0.15 kg	**0.15 kg
Weight, motor	**0.45 kg	**0.45 kg	**0.45 kg	**0.45 kg	**0.45 kg	**0.45 kg
Noise level	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)
Max. drive torque	0.07 Nm	0.07 Nm	0.07 Nm	0.07 Nm	0.07 Nm	0.07 Nm
Inertia, spindle	3.08 gcm^2	3.08 gcm^2	4.65 gcm^2	4.65 gcm^2	6.22 gcm^2	6.22 gcm^2
Drive	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Max. speed v	*1.2 m/s	*0.3 m/s	*1.2 m/s	*0.3 m/s	*1.2 m/s	*0.3 m/s
Max. acceleration a	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2
Peak force Fx	50 N	150 N	50 N	150 N	50 N	150 N
Measuring system	Resolver	Resolver	Resolver	Resolver	Resolver	Resolver
Repeat accuracy	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm
Mounting position	✥	✥	✥	✥	✥	✥

The technical data pertains to Afag standard test conditions.
Note: The inductive reference sensor is integrated within the SA axis.
Cleanroom class ISO 14644-1, class ISO 7

*The maximum values listed above depend on the application and must not be combined. In case of doubt, please contact your Afag partner.
**Total weight = gross weight + slide + gear + motor
***Without brakes
****With brakes

Inlcuded in the delivery
(Catalogue HT accessories)
- 2x Centering bushing Ø5x2.5
- 2x Centering bushing Ø7x3

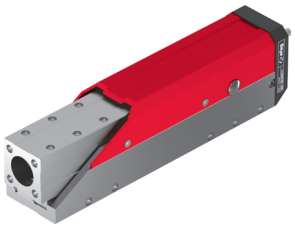
Accessories
- Toothed belt drive SA-1
- Coupling flange SA-1
- Coupling flange SA-1 without motor
- Grease press attachment SA

(Catalogue HT accessories)
- Servo motor-11-72VDC-060W
- Servo controller-11-320VDC-060W
- Servo controller C1xxx -1S
- Servo controller E12xx
- Servo controller SE-Power

Preferred combinations

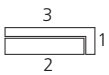
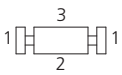
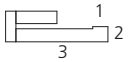
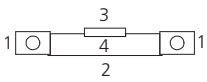
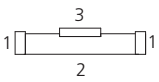
SA-1 / SA-1-FL

ES20	1	VP 139	3
PEZ-52	3	VP 137	3
PEZ-65	1	VP 119	3
PEL20	3	VP 146	3
PEL20-SL	3	VP 146	3
SA-3	2	VW 316	3
SA-6	2	VW 308	3
RE-50	3	VP 137	3
RE-75	3	VP 146	3
CS 20	1	VP 105	3
CS 25	1	VP 105	3
LM 20	1	VP 117	3
LM 25	1	VP 117	3
HM 16	1	VP 137	3
CR 20	3	VP 105	3
CR 25	3	VP 105	3
PMP-c	1	VP 113	3



1,2	VP 157	1,2	SREH-50
1,2 1,2	< direct > VP 101	1 2	GE-25-P
1, 2	VP 149	1	SGE-40
1,2	VP 150	2	SG-50
1,2	< direct >	2	CS 6
1,2 1,2	< direct > VP 100	2 2	CS 8
1	VP 112	2	CS 12
1	VP 112	1	CR 12
1,2	VP 149	1,2	DG 16
1,2 1,2	VP 153 VP 152	1 2	PG 12
1 2 2	VS 503 VP 101 VP 100	1,2 1 2	PG 16
1,2	< direct >	2	UG 20
1,2	VP 102	2	GM 12

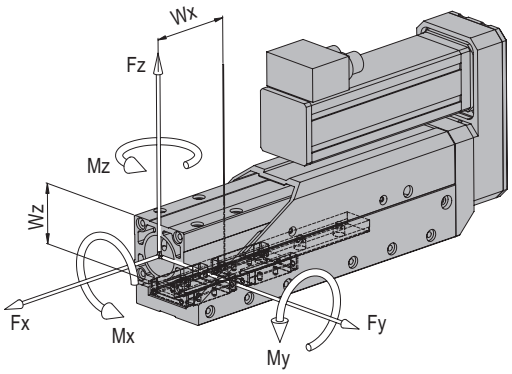
Mounting areas

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.

Slide loads

Type	SA-1-050	SA-1-050-FL	SA-1-100	SA-1-100-FL	SA-1-150	SA-1-150-FL
Max. torque Mx	6 Nm	6 Nm	6 Nm	6 Nm	6 Nm	6 Nm
Max. torque My	15 Nm	15 Nm	15 Nm	15 Nm	15 Nm	15 Nm
Max. torque Mz	15 Nm	15 Nm	15 Nm	15 Nm	15 Nm	15 Nm
Effective distance Wx	41 mm	41 mm	41 mm	41 mm	41 mm	41 mm
Effective distance Wy	0 mm	0 mm	0 mm	0 mm	0 mm	0 mm
Effective distance Wz	32 mm	32 mm	32 mm	32 mm	32 mm	32 mm
Peak force Fx	50 N	150 N	50 N	150 N	50 N	150 N



$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} < 1$$

Maximum payload/type	SA-1-050	SA-1-050-FL	SA-1-100	SA-1-100-FL	SA-1-150	SA-1-150-FL
Installation position (horizontal) for mounting side 1/2	4 kg	4 kg	4 kg	4 kg	4 kg	4 kg
Installation position (vertical) for mounting side 1/2	4 kg	4 kg	4 kg	4 kg	4 kg	4 kg

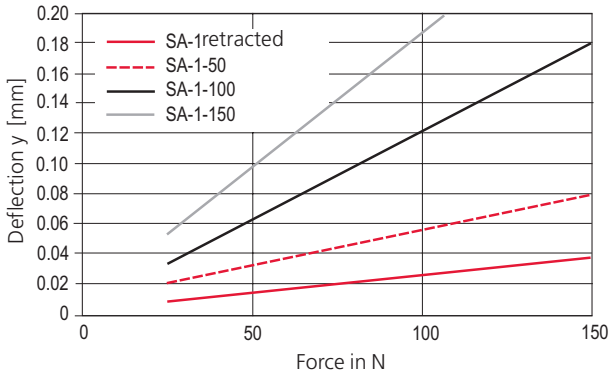
Assembly sides module mounting

horizontal:

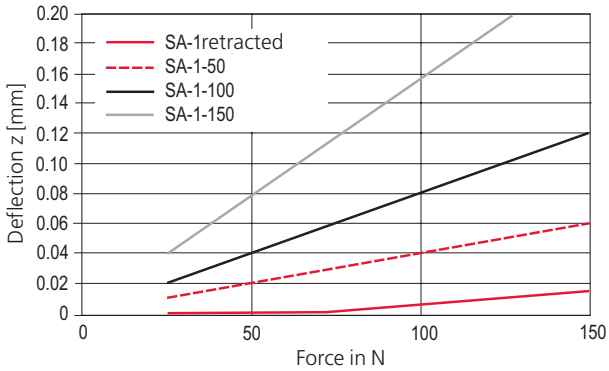
vertical:

Load diagrams

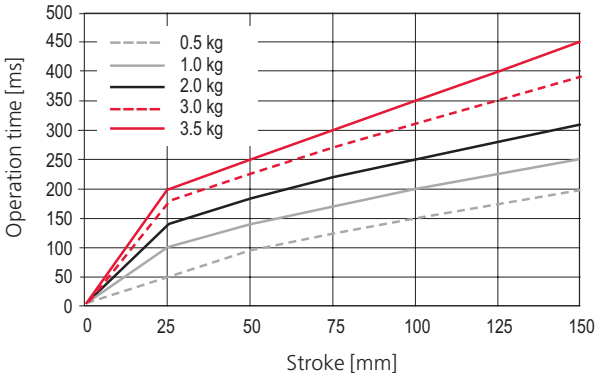
Deflection in Y direction



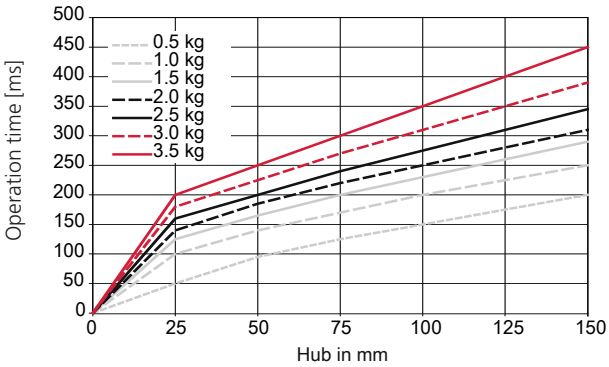
Deflection in Z direction



Operation time SA-1



Operation time SA-1-FL



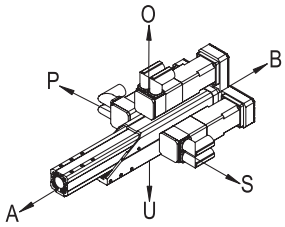
Ordering example

Order form	SA-1 / -FL	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
		Stroke	Gear	Motor	Position gear	Position motor plug.

Coordinate system

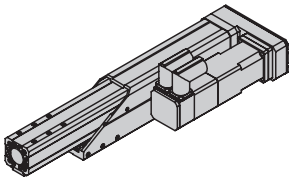
The coordinate system allows you to define the position of the gear as well as that of the motor plug.

- A = before
- B = base
- O = top
- P = left
- S = right
- U = downside



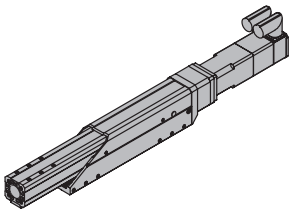
Ordering example 1

	SA-1	50249013	50249015	50495879	S	O



Ordering example 2

	SA-1	50249013	50249016	50485876	B	O



Ordering process

- Select the desired stroke length, gear and motor 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 gear and the motor plug.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

Third-party motors

- If motors from other suppliers are to be attached to Afag modules, an adapter plate will be required. This adapter plate can be provided by Afag, if desired.

External controller

- Mechanical limiting values of the module must be observed (v max., a max.,...).
- The controller parametrisation is carried out by the customer.

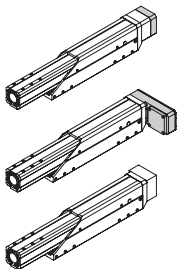
Order key

SA-1/SE-Power/C1xxx/E12xx

Telescope spindle axis

SA-1	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
	Stroke	Gear	Motor	Position gear	Position motor plug
SA-1-050	50249011				
SA-1-050-FL	50471882				
SA-1-100	50249013				
SA-1-100-FL	50471883				
SA-1-150	50249014				
SA-1-150-FL	50471884				

Gear



50249016	afag BG1	
50249015		
50261931	M0	B — X

Motor/controller

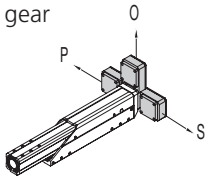
Without motor M0		X
Servomotor-11-72VDC-060W-60-B-I-x-x	B	50485433
Servomotor-11-72VDC-060W-60-x-I-x-x		50495876
Servomotor-11-320VDC-060W-60-B-R-x-x	B	50495879
Servomotor-11-320VDC-060W-60-x-R-x-x		50495878

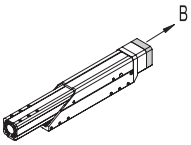
afag BG1

SE-Power 1 kVA — C1xxx, E12xx

Assembly

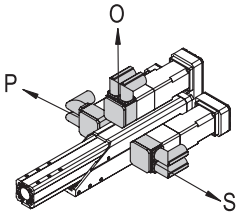
Position gear

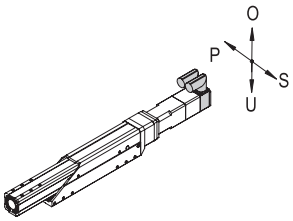




B
O
P
S

Position motor plug





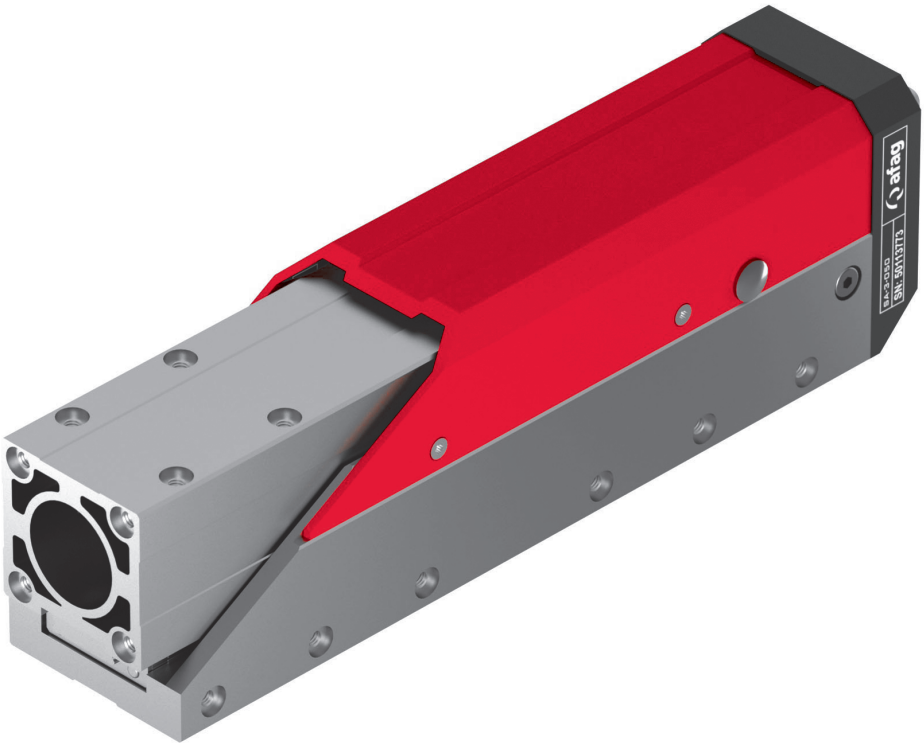
O
P
S
U

The plug can be turned 180°.
You can find further information in the operating manual.

B: Motor with brakes
BG: Motor size

Telescope spindle axis SA

SA-3 & SA-3-FL

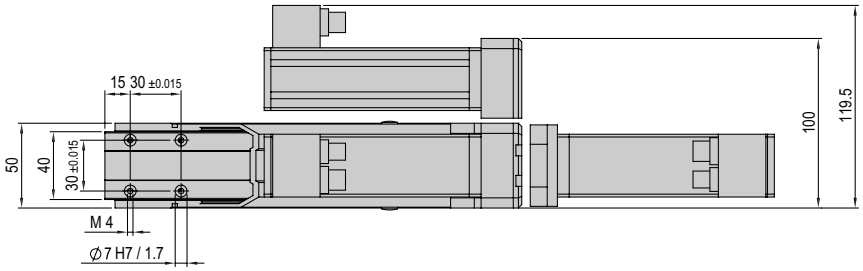


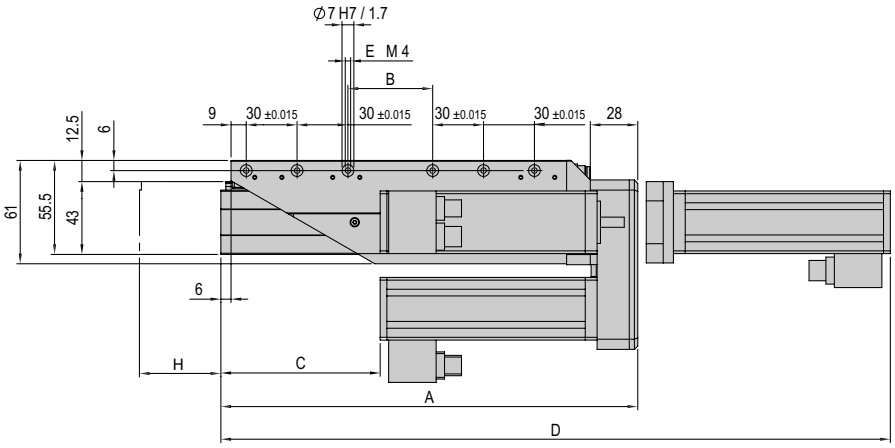
- Extremely compact and higher power density for -FL variety
- Flexible motor mounting
- Precise spindle drive

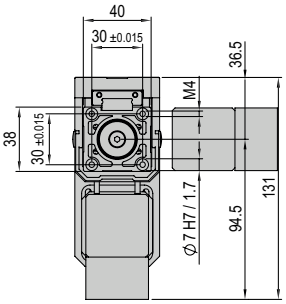
Dimensions and dimension drawings

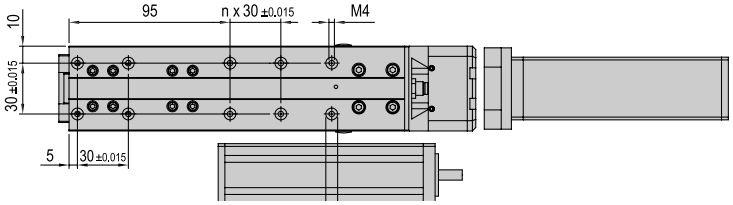
SA-3 / SA-3-FL

Type	SA-3-050/-FL	SA-3-100/-FL	SA-3-150/-FL
A	246 mm	296 mm	346 mm
B	50 mm	100 mm	150 mm
C	***94 mm ****124 mm	***144 mm ****174 mm	***154 mm ****184 mm
D	***365 mm ****395 mm	***415 mm ****445 mm	***465 mm ****495 mm
E	6 x both sides	6 x both sides	6 x both sides
F	2	3	5
H	50 mm	100 mm	150 mm

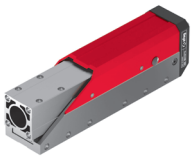








Technical data



SA-3

Type	SA-3-xxx	SA-3-xxx-FL
Spindle Ø	10 mm	10 mm
Spindle pitch (mm/1 turn)	10 mm	5 mm
Drive shaft Ø	6 mm	6 mm
Operating temperature	10 - 40 °C	10 - 40 °C
Storage temperature	0 - 50 °C	0 - 50 °C
Humidity	< 90 %	< 90 %

Type	SA-3-050	SA-3-050-FL	SA-3-100	SA-3-100-FL	SA-3-150	SA-3-150-FL
Order number	**50113773**	**50471885**	**50113781**	**50471886**	**50251726**	**50471887**
Stroke H	50 mm	50 mm	100 mm	100 mm	150 mm	150 mm
Net weight	1.35 kg	1.35 kg	1.65 kg	1.65 kg	1.95 kg	1.95 kg
Moving weight	**0.6 kg	**0.6 kg	**0.75 kg	**0.75 kg	**0.9 kg	**0.9 kg
Weight, gear	**0.25 kg	**0.25 kg	**0.25 kg	**0.25 kg	**0.25 kg	**0.25 kg
Weight, motor	**0.6 kg	**0.6 kg	**0.6 kg	**0.6 kg	**0.6 kg	**0.6 kg
Noise level	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)
Max. drive torque	0.17 Nm	0.17 Nm	0.17 Nm	0.17 Nm	0.17 Nm	0.17 Nm
Inertia, spindle	9.58 gcm^2	9.58 gcm^2	13.41 gcm^2	13.41 gcm^2	17.24 gcm^2	17.24 gcm^2
Drive	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Max. speed v	*1.0 m/s	*0.5 m/s	*1.0 m/s	*0.5 m/s	*1.0 m/s	*0.5 m/s
Max. acceleration a	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2
Peak force Fx	100 N	300 N	100 N	300 N	100 N	300 N
Measuring system	Resolver	Resolver	Resolver	Resolver	Resolver	Resolver
Repeat accuracy	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm
Mounting position	✥	✥	✥	✥	✥	✥

The technical data pertains to Afag standard test conditions.
Note: The inductive reference sensor is integrated within the SA axis.
Cleanroom class ISO 14644-1, class ISO 7

*The maximum values listed above depend on the application and must not be combined. In case of doubt, please contact your Afag partner.
**Total weight = gross weight + slide + gear + motor
***Without brakes
****With brakes

Inlcuded in the delivery
(Catalogue HT accessories)
- 4x Centering bushing Ø7x3

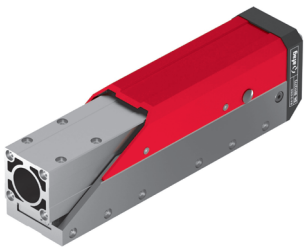
Accessories
- Coupling flange SA-3
- Toothed belt drive SA-3
- Coupling flange SA-3 without motor]
- Grease press attachment SA

(Catalogue HT accessories)
- Servomotor-11-72VDC-120W
- Servo motor- 11-320VDC-120W
- Servo controller C1xxx -1S
- Servo controller E12xx
- Servo controller SE-Power

Preferred combinations

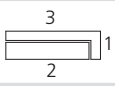
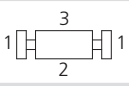
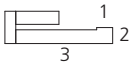
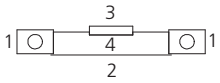
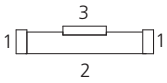
SA-3 / SA-3-FL

ES30	1	VP 146	3
ES40	1	VP 119	3
SA-6	2	VW 308	3
PEZ-80	3	VP 118	3
PDZ-128	3	VP 154	3
PEL20	3	VP 146	3
PEL20-SL	3	VP 146	3
PDL30	3	VP 146	3
RE-75	3	VP 146	3
CS 20	3	VP 105	3
CS 25	3	VP 105	3
PS 25	2 3	VP 117 VP 113	3 3
PMP	1,3	VP 119	3
PMP-c	1,3	VP 113	3
MH 45x1	1	VP 117	3
MT 45x2 a	1	VP 117	3
MTZ 45x2	1	VP 117	3



1,2	< direct >	2	ES12
1,2	< direct >	2	ES20
2	VW316	3	SA-1
1,2	VP 147	1	RE-50
1,2	VP 158	1,2	SREH-50
1,2	< direct >	1	GM RE
1,2	direct	2	RA-40
1 2 2	VP 163 direct VP 163	1, 2 1 2	SGE-40
1,2	VP 150	2	SG-50
1,2	VP 107	2	CS 8
1,2	< direct >	2	CS 12
1,2	VP 105	2	LM 12
1,2	VP 117	2	LM 16
1,2 1 2	VP 117 < direct > VW 300	1 2 2	CR 16
1,2 1 2	VP 112 VP 127 VP 117	1 2 2	RM 16
1,2	VP 150	1,2	DG 20
1 2 2	VP 111 VP 111 VP 151	1,2 1 2	PG 16
1 2 2	< direct > VP 137 VP 151	1,2 1 2	PG 20
1,2	VP 107	1,2	UG 20
1,2	< direct >	1,2	UG 25
1,2	VP 109	1	GM 12
1,2	VP 110	1	GM 20
1,2	VP 117	1	GM 32

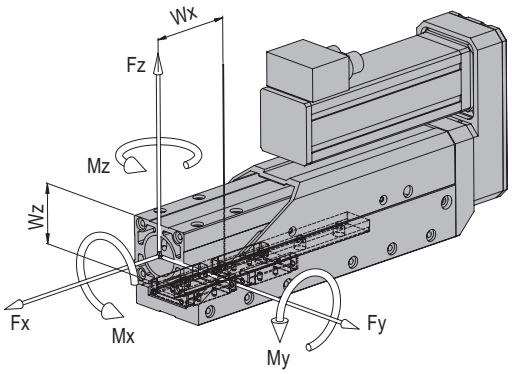
Mounting areas

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.

Slide loads

Type	SA-3-050	SA-3-050-FL	SA-3-100	SA-3-100-FL	SA-3-150	SA-3-150-FL
Max. torque Mx	10 Nm	10 Nm	10 Nm	10 Nm	10 Nm	10 Nm
Max. torque My	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm
Max. torque Mz	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm
Effective distance Wx	50 mm	50 mm	50 mm	50 mm	50 mm	50 mm
Effective distance Wy	0 mm	0 mm	0 mm	0 mm	0 mm	0 mm
Effective distance Wz	41 mm	41 mm	41 mm	41 mm	41 mm	41 mm
Peak force Fx	100 N	300 N	100 N	300 N	100 N	300 N



$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} < 1$$

Maximum payload/type	SA-3-050	SA-3-050-FL	SA-3-100	SA-3-100-FL	SA-3-150	SA-3-150-FL
Installation position (horizontal) for mounting side 1/2	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg
Installation position (vertical) for mounting side 1/2	8 kg	8 kg	8 kg	8 kg	8 kg	8 kg

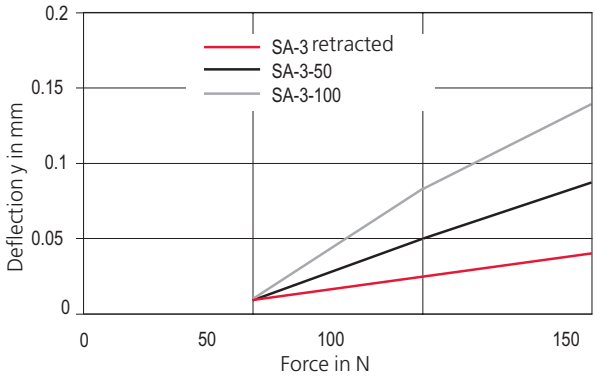
Assembly sides module mounting

horizontal:

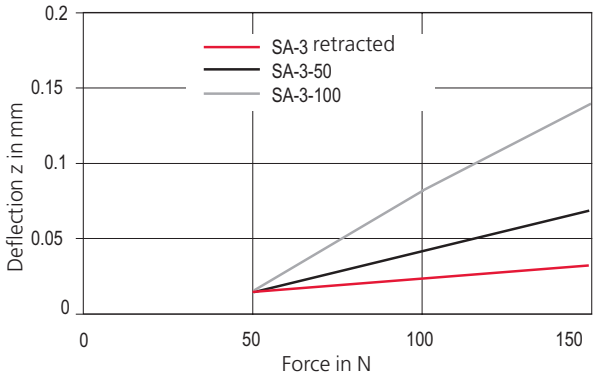
vertical:

Load diagrams

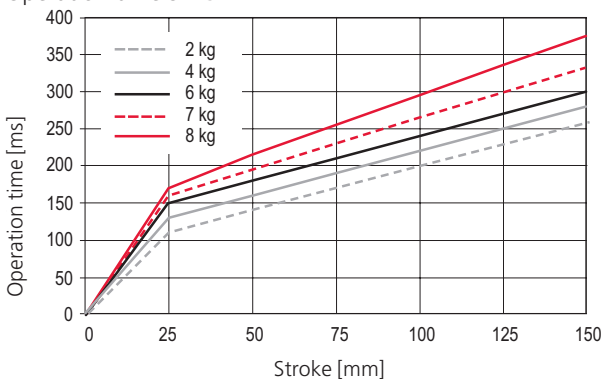
Deflection in Y direction



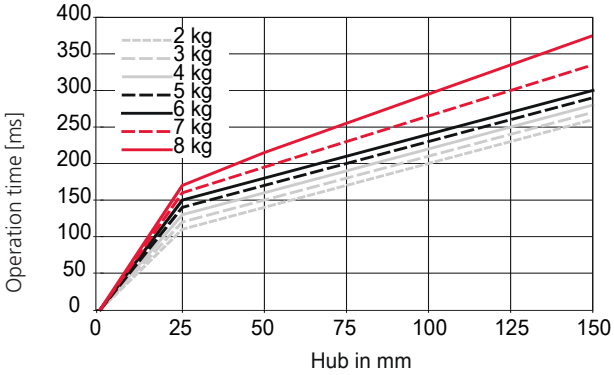
Deflection in Y direction



Operation time SA-3



Operation time SA-3-FL



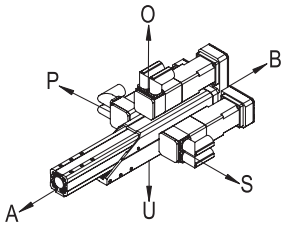
Ordering example

Order form	SA-3 / -FL	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
		Stroke	Gear	Motor	Position gear	Position motor plug.

Coordinate system

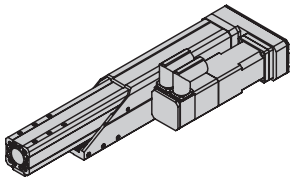
The coordinate system allows you to define the position of the gear as well as that of the motor plug.

- A = before
- B = base
- O = top
- P = left
- S = right
- U = downside



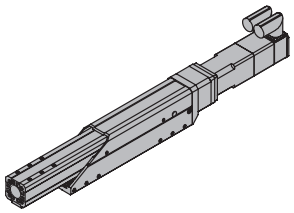
Ordering example 1

	SA-3	50113773	50113764	50495881	S	O



Ordering example 2

	SA-3	50113773	50113754	50495877	B	O



Ordering process

- Select the desired stroke length, gear and motor 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 gear and the motor plug.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

Third-party motors

- If motors from other suppliers are to be attached to Afag modules, an adapter plate will be required. This adapter plate can be provided by Afag, if desired.

External controller

- Mechanical limiting values of the module must be observed (v max., a max.,...).
- The controller parametrisation is carried out by the customer.

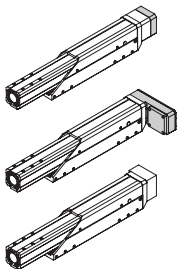
Order key

SA-3/SE-Power/C1xxx/E12xx

Telescope spindle axis

SA-3	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
	Stroke	Gear	Motor	Position gear	Position motor plug
SA-3-050	50113773				
SA-3-050-FL	50471885				
SA-3-100	50113781				
SA-3-100-FL	50471886				
SA-3-150	50251726				
SA-3-150-FL	50471887				

Gear



50113754	afag BG1		
50113764			
50164698	M0	B	X

Motor/controller

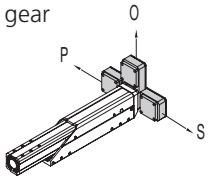
Without motor M0	X	B	X

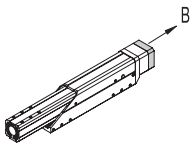
afag BG1			
Servomotor-11-72VDC-120W-60-B-I-x-x	B	50485434	
Servomotor-11-72VDC-120W-60-x-I-x-x		50495877	
Servomotor-11-320VDC-120W-60-B-R-x-x	B	50495881	
Servomotor-11-320VDC-120W-60-x-R-x-x		50495880	

SE-Power C1xxx E12xx 1 kVA

Assembly

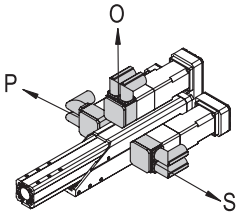
Position gear

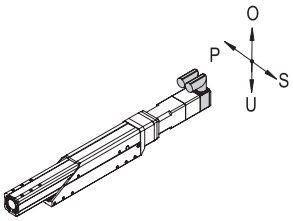




B
O
P
S

Position motor plug





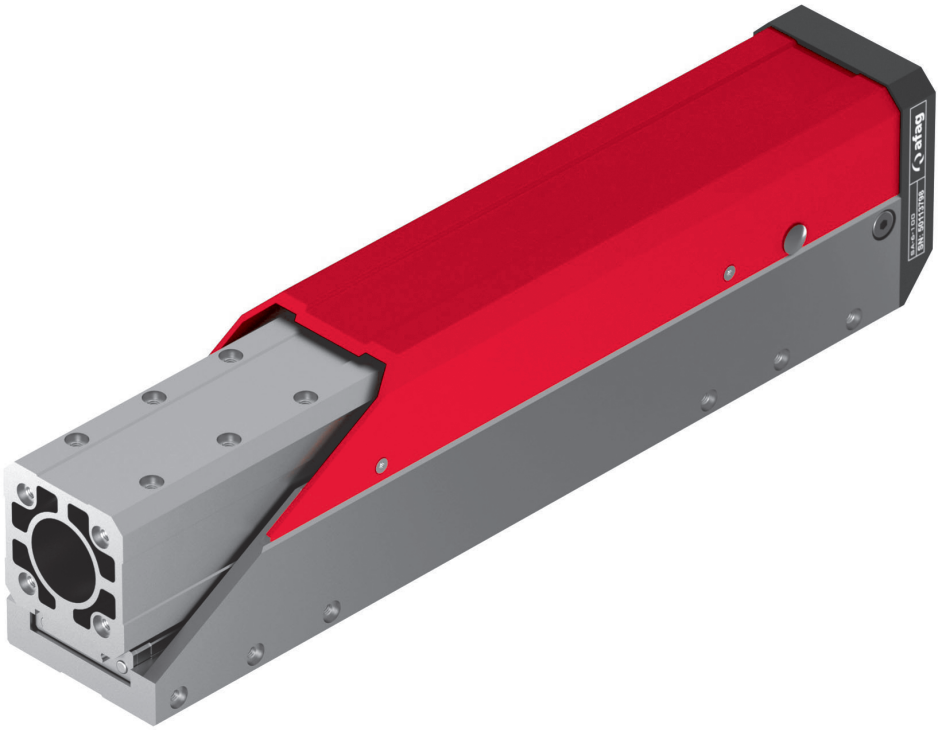
O
P
S
U

The plug can be turned 180°.
You can find further information in the operating manual.

B: Motor with brakes
BG: Motor size

Telescope spindle axis SA

SA-6 & SA-6-FL

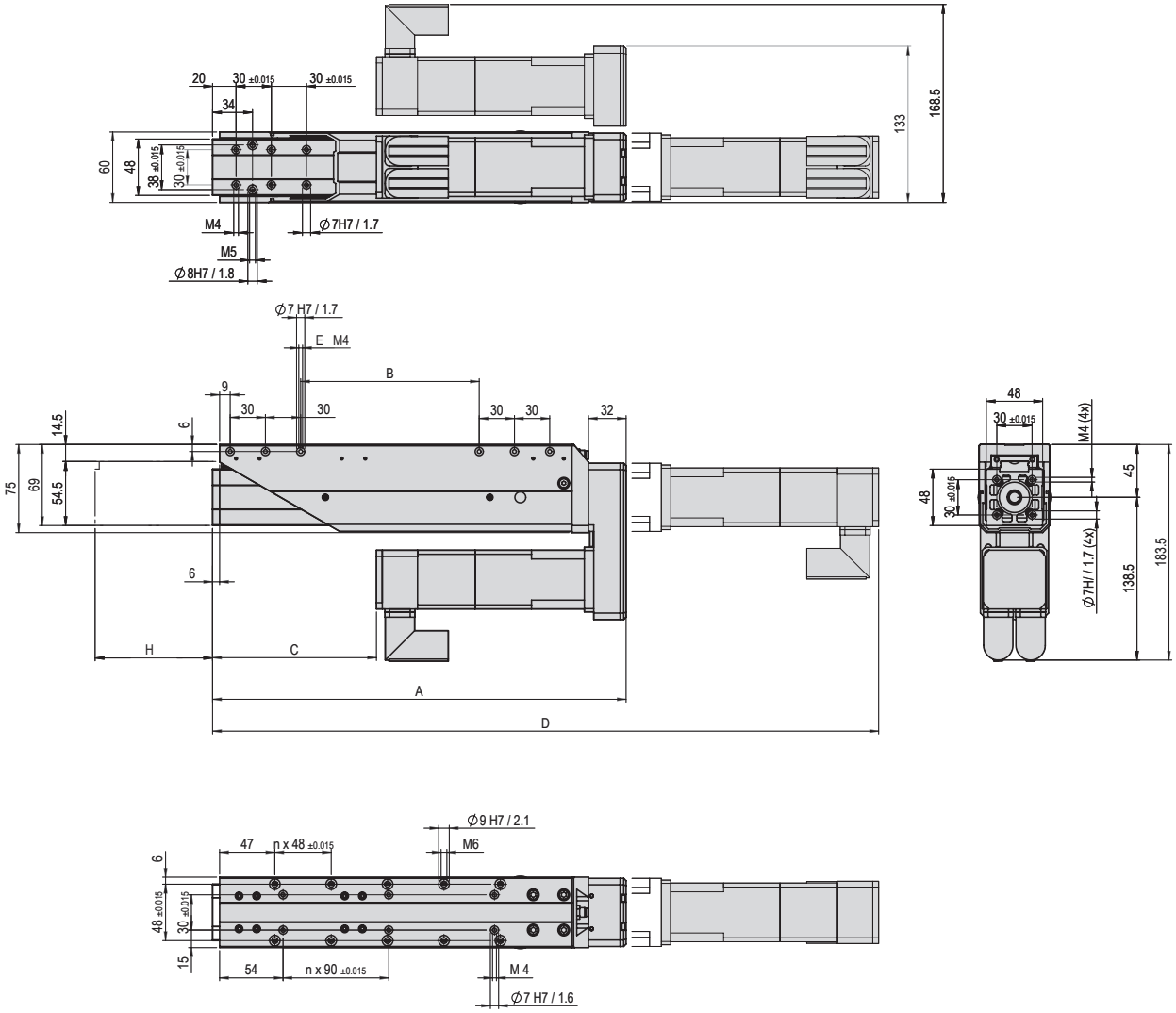


- Extremely compact and higher power density for -FL variety
- Flexible motor mounting
- Precise spindle drive

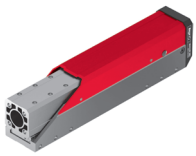
Dimensions and dimension drawings

SA-6 / SA-6-FL

Type	SA-6-100/-FL	SA-6-200/-FL	SA-6-300/-FL
A	352 mm	452 mm	552 mm
B	152 mm	252 mm	352 mm
C	***139 mm ****174 mm	***239 mm ****274 mm	***339 mm ****374 mm
D	***532 mm ****567 mm	***632 mm ****667 mm	***732 mm ****767 mm
E	6 x both sides	6 x both sides	6 x both sides
F	4	6	8
H	100 mm	200 mm	300 mm



Technical data



SA-6

Type	SA-6-xxx	SA-6-xxx-FL
Spindle Ø	12.7 mm	12 mm
Spindle pitch (mm/1 turn	25.4 mm	10 mm
Drive shaft Ø	8 mm	8 mm
Operating temperature	10 - 40 °C	10 - 40 °C
Storage temperature	0 - 50 °C	0 - 50 °C
Humidity	< 90 %	< 90 %

Type	SA-6-100	SA-6-100-FL	SA-6-200	SA-6-200-FL	SA-6-300	SA-6-300-FL
Order number	**50113798**	**50471888**	**50113800**	**50471889**	**50113804**	**50471890**
Stroke H	100 mm	100 mm	200 mm	200 mm	300 mm	300 mm
Net weight	2.80 kg	2.80 kg	3.65 kg	3.65 kg	4.50 kg	4.50 kg
Moving weight	**1.32 kg	**1.32 kg	**1.32 kg	**1.32 kg	**1.32 kg	**1.32 kg
Weight, gear	**0.44 kg	**0.44 kg	**0.44 kg	**0.44 kg	**0.44 kg	**0.44 kg
Weight, motor	**1.57 kg	**1.57 kg	**1.57 kg	**1.57 kg	**1.57 kg	**1.57 kg
Noise level	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)	65 dB (A)
Max. drive torque	0.85 Nm	0.85 Nm	0.85 Nm	0.85 Nm	0.85 Nm	0.85 Nm
Inertia, spindle	33.5 gcm^2	33.5 gcm^2	52.19 gcm^2	52.19 gcm^2	70.89 gcm^2	70.89 gcm^2
Drive	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo	AC Servo
Protection type	IP 30	IP 30	IP 30	IP 30	IP 30	IP 30
Max. speed v	*1.5 m/s	*0.6 m/s	*1.5 m/s	*0.6 m/s	*1 m/s	*0.6 m/s
Max. acceleration a	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2	*25 m/s^2
Peak force Fx	200 N	600 N	200 N	600 N	200 N	600 N
Measuring system	Resolver	Resolver	Resolver	Resolver	Resolver	Resolver
Repeat accuracy	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm	+/- 0.01 mm
Mounting position	✥	✥	✥	✥	✥	✥

The technical data pertains to Afag standard test conditions.
Note: The inductive reference sensor is integrated within the SA axis.
Cleanroom class ISO 14644-1, class ISO 7

*The maximum values listed above depend on the application and must not be combined. In case of doubt, please contact your Afag partner.
**Total weight = gross weight + slide + gear + motor + controller SE-48 (0.9 kg)
***Without brakes
****With brakes

Inlcuded in the delivery
(Catalogue HT accessories)
- 2x Centering bushing Ø7x3
- 2x Centering bushing Ø9x4

Accessories
- Toothed belt drive SA-6
- Coupling flange SA-6
- Coupling flange SA-6 without motor
- Grease press attachment SA

(Catalogue HT accessories)
- Servo motor-21-72VDC-400W
- Servo motor 21-320VDC-400W
- Servo controller SE-Power
- Servo controller C1xxx -1S
- Servo controller E12-xx

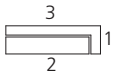
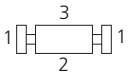
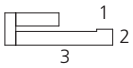
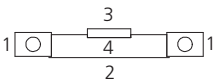
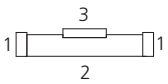
Preferred combinations

SA-6 / SA-6-FL

PEZ-80	3	VP 119	3
PEZ-100	3	VP 118	3
PDZ-128	3	VP 154	3
PDZ-160	3	VP 118	3
PDZ-200	3	VP 126	3
PDL30	3	VP 146	3
PDL40	3	VP 146	3
RE-75	3	VP 146	3
HM 25	1	VP 146	3
PMP	1,3	VP 119	3
MH 45x1	1	< direct >	3
MT 45x2a	1	< direct >	3
MT 45x2b	1	< direct >	3
MTZ 45x2	1	< direct >	3

1,2	< direct >	2	ES20
2	VW 308	3	SA-3
1,2	VP 147	1	RE-50
1,2	< direct >	1	GM RE
1,2	direct	2	RA-40
1 2 2	VP 163 direct VP 163	1, 2 1 2	SGE-40
1,2	VP 150	2	SG-50
1,2	VP 107	2	CS 8
1,2	< direct >	2	CS 12
1,2 2	< direct > VW 308	2 2,3	CS 16
1,2	VP 105	2	LM 12
1,2	VP 112	2	LM 16
1,2	VP 112	2	LM 20
1,2	< direct >	1,2	CR 12
1,2 1	VP 112 < direct >	1 2	CR 16
1,2	VP 112	1,2	CR 20
1,2	VP 127	1,2	RM 12
1,2	VP 127	1,2	RM 16
1,2	VP 112	1,2	RM 25
1,2	VP 150	1,2	DG 20
1 2 2	< direct > VP 137 VP 151	1,2 1 2	PG 20
1,2	VP 107	1,2	UG 20
1,2	< direct >	1,2	UG 25
1,2	VP 110	1	GM 20
1,2	VP 112	1	GM 32

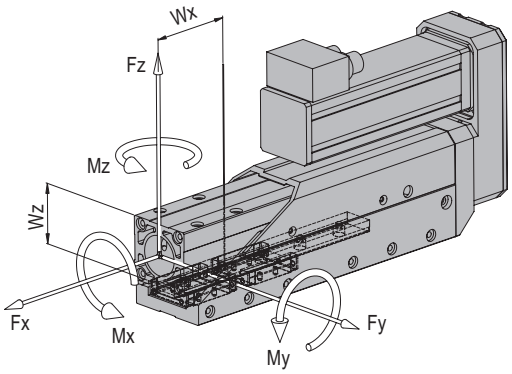
Mounting areas

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.

Slide loads

Type	SA-6-100	SA-6-100-FL	SA-6-200	SA-6-200-FL	SA-6-300	SA-6-300-FL
Max. torque Mx	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm	25 Nm
Max. torque My	70 Nm	70 Nm	70 Nm	70 Nm	70 Nm	70 Nm
Max. torque Mz	70 Nm	70 Nm	70 Nm	70 Nm	70 Nm	70 Nm
Effective distance Wx	75 mm	75 mm	75 mm	75 mm	75 mm	75 mm
Effective distance Wy	0 mm	0 mm	0 mm	0 mm	0 mm	0 mm
Effective distance Wz	52 mm	52 mm	52 mm	52 mm	52 mm	52 mm
Peak force Fx	200 N	600 N	200 N	600 N	200 N	600 N



$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} < 1$$

Maximum payload/type	SA-6-100	SA-6-100-FL	SA-6-200	SA-6-200-FL	SA-6-300	SA-6-300-FL
Installation position (horizontal) for mounting side 1/2	16 kg	16 kg	16 kg	16 kg	16 kg	16 kg
Installation position (vertical) for mounting side 1/2	16 kg	16 kg	16 kg	16 kg	16 kg	16 kg

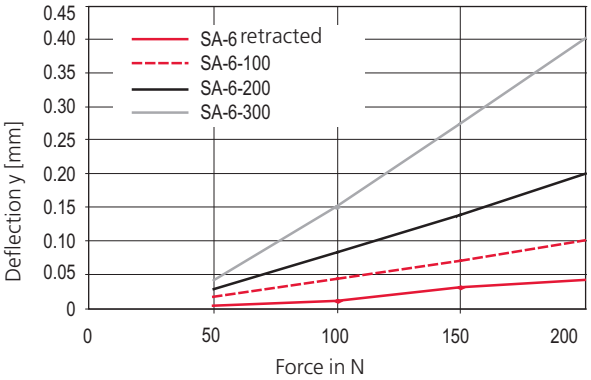
Assembly sides module mounting

horizontal:

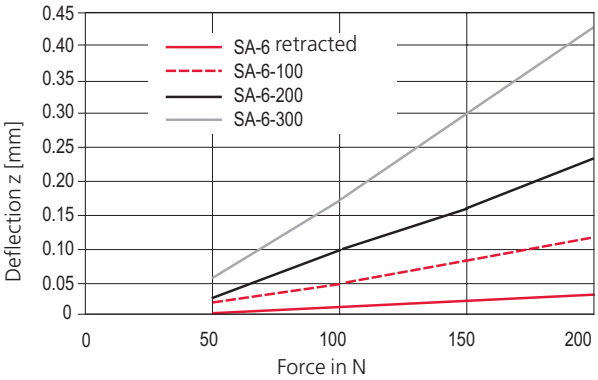
vertical:

Load diagrams

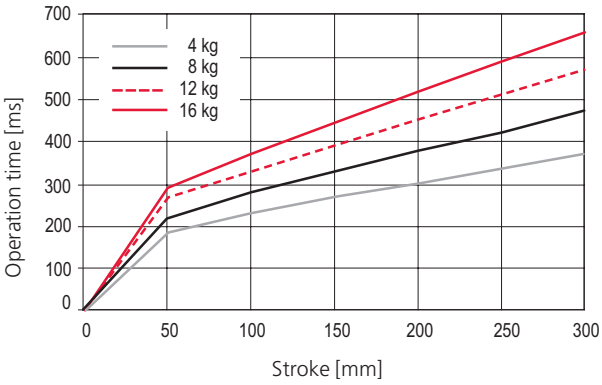
Deflection in Y direction



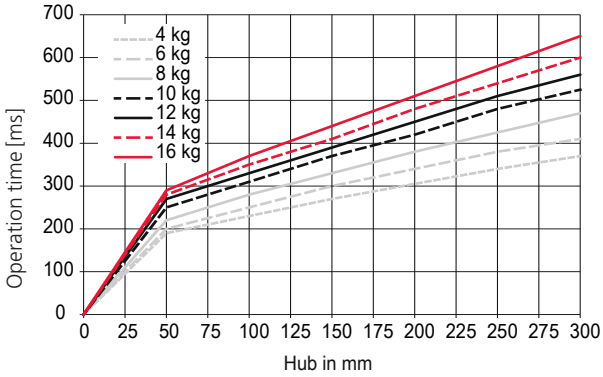
Deflection in Z direction



Operation time SA-6



Operation time SA-6-FL



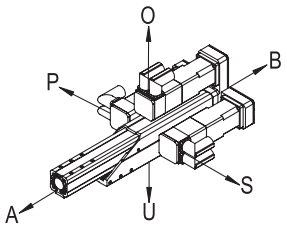
Ordering example

Order form	SA-6 /-FL	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
		Stroke	Gear	Motor	Position gear	Position motor plug

Coordinate system

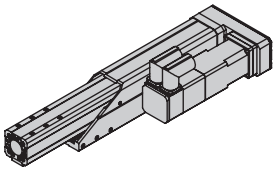
The coordinate system allows you to define the position of the gear, control as well as that of the motor plug.

- A = before
- B = base
- O = top
- P = left
- S = right
- U = downside



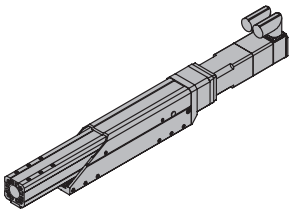
Ordering example 1

	SA-6	50113798	50164846	50495884	S	A



Ordering example 2

	SA-6	50113798	50164846	50495883	B	A



Ordering process

- Select the desired stroke length, gear and motor 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 gear and the motor plug.
- Enter the corresponding letters from the coordinate system in the order form in the place of the cross.

Third-party motors

- If motors from other suppliers are to be attached to Afag modules, an adapter plate will be required. This adapter plate can be provided by Afag, if desired.

External controller

- Mechanical limiting values of the module must be observed (v max., a max.,...).
- The controller parametrisation is carried out by the customer.

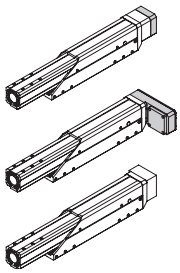
Order key

SA-6/SE-Power/C1xxx/E12xx

Telescope spindle axis

SA-6	xxxxxxxx	xxxxxxxx	xxxxxxxx	x	x
	Stroke	Gear	Motor	Position gear	Position motor plug
SA-6-100	50113798				
SA-6-100-FL	50471888				
SA-6-200	50113800				
SA-6-200-FL	50471889				
SA-6-300	50113804				
SA-6-300-FL	50471890				

Gear



50164846	afag BG2	
50113795		
50164873	M0	B — X

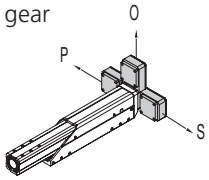
Motor/controller

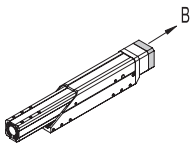
Without motor M0			X
afag BG2	Servomotor-21-72VDC-400W-45-B-I-x-x	B	50485435
	Servomotor-21-72VDC-400W-45-x-I-x-x		50495882
	Servomotor-21-320VDC-400W-45-B-R-x-x	B	50495884
	Servomotor-21-320VDC-400W-45-x-R-x-x		50495883

SE-Power C1xxx E12xx 1 kVA

Assembly

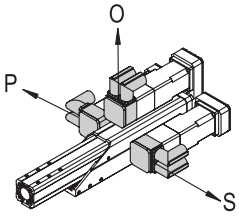
Position gear

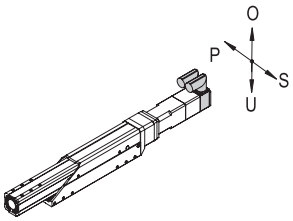




B
O
P
S

Position motor plug





O
P
S
U

The plug can be turned 180°.
You can find further information in the operating manual.

B: Motor with brakes
BG: Motor size

Accessories SA

Toothed belt drive SA-1	
Order number	**50249015**
Net weight	0.185 kg

Coupling flange SA-1	
Order number	**50249016**
Net weight	0.127 kg

Coupling flange SA-1 without motor	
Order number	**50261931**
Net weight	0.091 kg

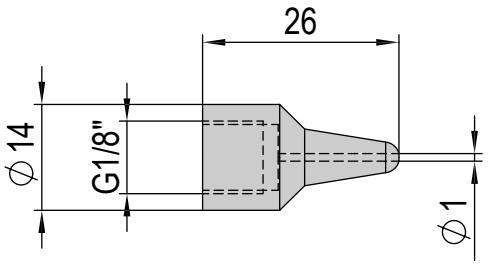
Toothed belt drive SA-3	
Order number	**50113764**
Net weight	0.236 kg

Coupling flange SA-3	
Order number	**50113754**
Net weight	0.236 kg

Coupling flange SA-3 without motor	
Order number	**50164698**
Net weight	0.178 kg

Toothed belt drive SA-6	
Order number	**50113795**
Net weight	0.397 kg

Coupling flange SA-6	
Order number	**50164846**
Net weight	0.448 kg

Coupling flange SA-6 without motor	
Order number	**50164873**
Net weight	0.299 kg

Grease press attachment SA	
Order number	**11012190**
Net weight	0.01 kg