

# Lifting column



technology<sup>?</sup>

**X-series**

X13

X23

Max 10.000 N






## Description

The X13 and X23-columns are the most robust columns in the industry. It is extremely stable with offset loads and suits demanding applications. With its extremely stiff aluminum tubes and long-life pads, it offers a stable and reliable guiding system that is maintenance free.



### Features

-  Long lifetime
-  Extreme offset capacity
-  Extremely robust

- Push
- Build in hall sensors
- Cable out small tube (SX-A)
- Cable out large tube (SX-E, SX-F, SX-S)
- Limit switch

### Options

- Pull
- Potentiometer
- Cable out large tube (SX-A)
- Cable out small tube (SX-E, SX-F, SX-S)
- Cable through
- Customizable top/bottom plates

## Technical data

	SX-AF13 SX-AF23	SX-AM13 SX-AM23	SX-SF13 SX-SF23	SX-AO13 SX-AO23	SX-AE13 SX-AE23	SX-EF13 SX-EF23	SX-SD13 SX-SD23
Force, max push*	1.000 N	1.500 N	1.750 N	2.000 N		2.250 N	
Self-locking force**	2.500 N	2.500 N	1.000 N	2.500 N		1.200 N	1.750 N
Speed @max load	45 mm/s	38 mm/s	21 mm/s	30 mm/s	24 mm/s	32 mm/s	16 mm/s
Stroke, S (longer strokes on request)	700 mm			1.000 mm	800 mm	700 mm	
Retracted length, R***	SX-AF13: R=S+60mm SX-AF23: R=S+120mm	SX-AM13: R=S+70mm SX-AM23: R=S+120mm	R=S+120 mm	SX-AO13: R=S+70mm SX-AO23: R=S+120mm	SX-AE13: R=S+60mm SX-AE23: R=S+120mm	R=S+120 mm	
Duty cycle [%]	10 % (1 min ON / 9 min OFF)						
Voltage	24 VDC						
Ambient temp	+10°C to +40°C						
Current @max load	8 A		5,5 A	8 A		10 A	5,5 A
IP Class	IP 30						
Safety factor Static centric load @ max stroke & load*	7	5	4	5	4	3	1,2

\* See diagrams on page 4-5

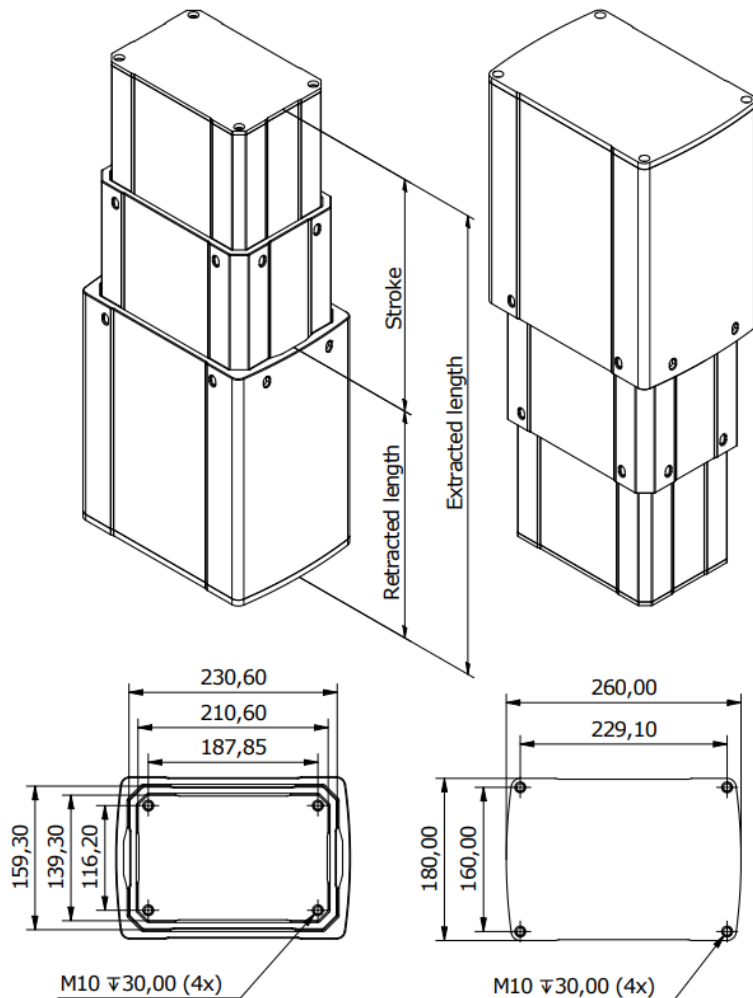
\*\* Only applied when connected by short circuit

\*\*\* Longer retracted length enables more offset load, see diagrams on page 4-5

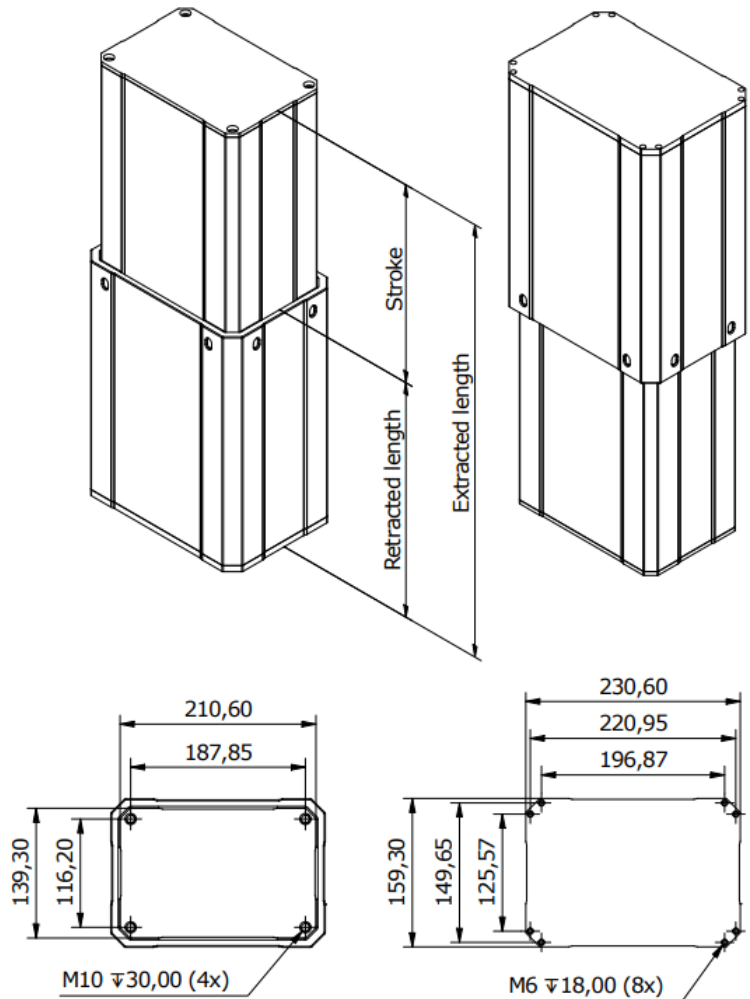
## Technical data

	SX-ED13 SX-ED23	SX-AB13 SX-AB23	SX-SE13 SX-SE23	SX-EE13 SX-EE23	SX-AP13 SX-AP23	SX-AN13 SX-AN23	SX-FE13 SX-FE23	SX-EA13 SX-EA23
Force, max push*	2.750 N	2.800 N	3.000 N	3.500 N	4.000 N	5.000 N	6.000 N	10.000 N
Self-locking force**	1.500 N	3.000 N	2.750 N	1.500 N	5.000 N	6.000 N	6.000 N	10.000 N
Speed @max load	24 mm/s	12 mm/s	10 mm/s	16 mm/s	15 mm/s	12 mm/s	8 mm/s	6 mm/s
Stroke, S (longer strokes on request)	500 mm	800 mm	700 mm		1.000 mm	700 mm		500 mm
Retracted length, R***	$R = S + 120 \text{ mm}$	SX-AB13: $R=S+60\text{mm}$ SX-AB23: $R=S+120\text{mm}$	$R = S + 120 \text{ mm}$		SX-AP13 / SX-AN13: $R=S+70 \text{ mm}$ SX-AP23 / SX-AN23: $R=S+120 \text{ mm}$		$R = S + 120 \text{ mm}$	
Duty cycle [%]	10% (1 min ON / 9 min OFF)							
Voltage	24 VDC							
Ambient temp	+10°C to +40°C							
Current @max load	10 A	8 A	5,5 A	10 A	8 A		10 A	15 A
IP Class	IP 30							
Safety factor Static centric load @ max stroke & load*	1,8	2,5	3,5	3	2,5	1,8	1,5	1,8

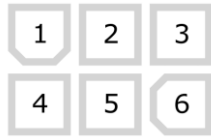
### Technical drawing X13



### Technical drawing X23



### Pin layout (SX-A / SX-E / SX-F)



6 pin 172160-1 Male

### Connectors

	Description	Colour
1.	Motor -	Black
2.	Motor +	Blue
3.	Hall sensor +5V,	Red
4.	Hall sensor output 2	Violet
5.	Hall sensor -	Black
6.	Hall sensor output 1	Green

### Pin layout (SX-S)



8 pin JS-1149-08 Male

### Connectors

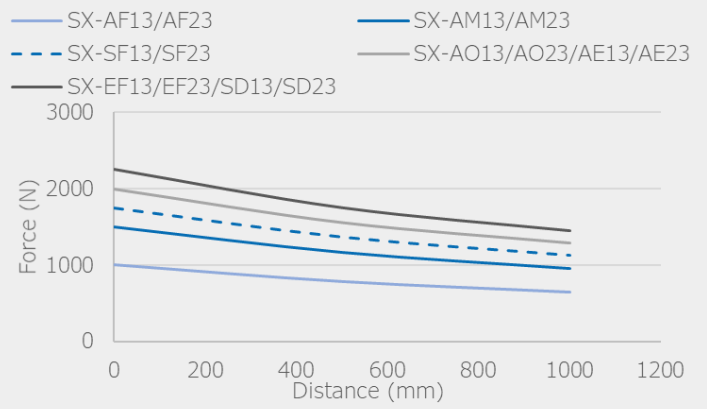
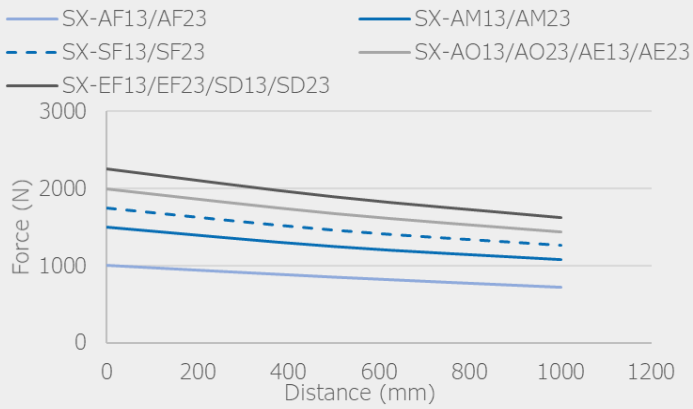
	Description	Colour
1.	Hall sensor 1	White
2.	+5V	Red
3.	Limit switch 2 (NC)	-
4.	Motor+	Green (motor: White)
5.	Hall sensor 2	Blue
6.	Limit switch 1 (NC)	-
7.	GND	Black
8.	Motor-	Yellow

## Diagrams (Up to 2 250N)

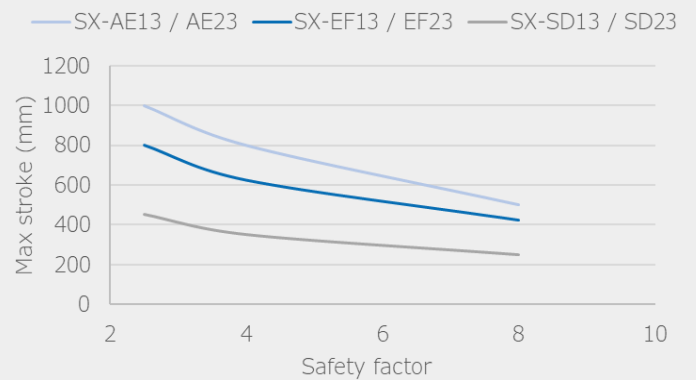
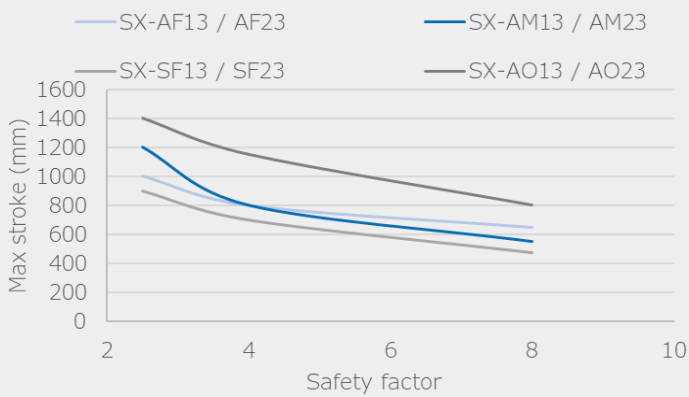
### Offset load

Long retracted length,  $R = \text{Stroke} + 270 \text{ mm}$

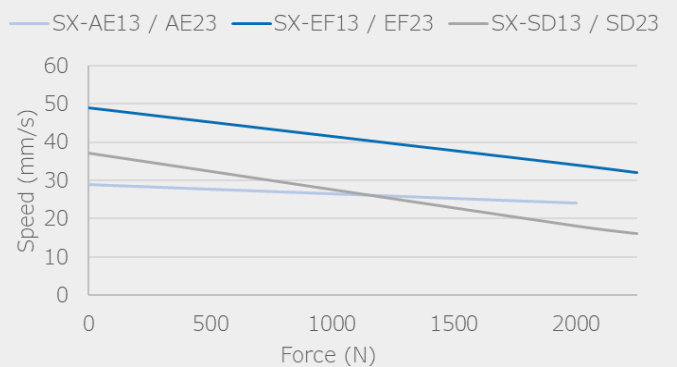
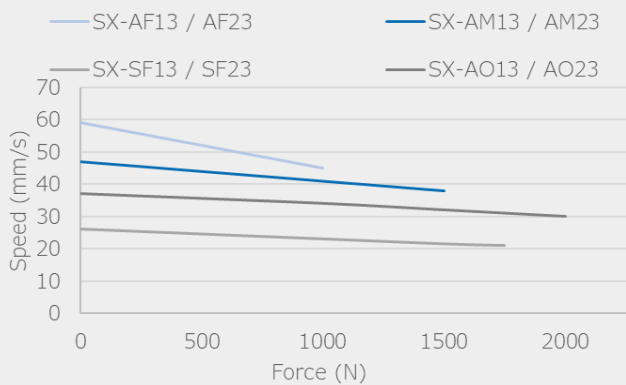
Short retracted length,  $R = \text{Stroke} + 195 \text{ mm}$



### Safety factor



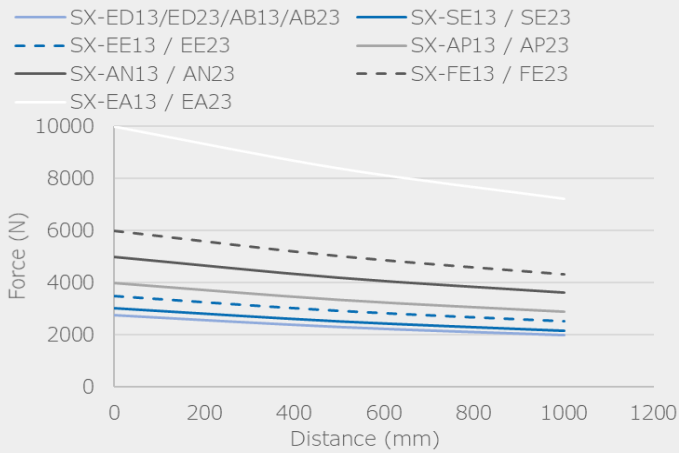
### Speed



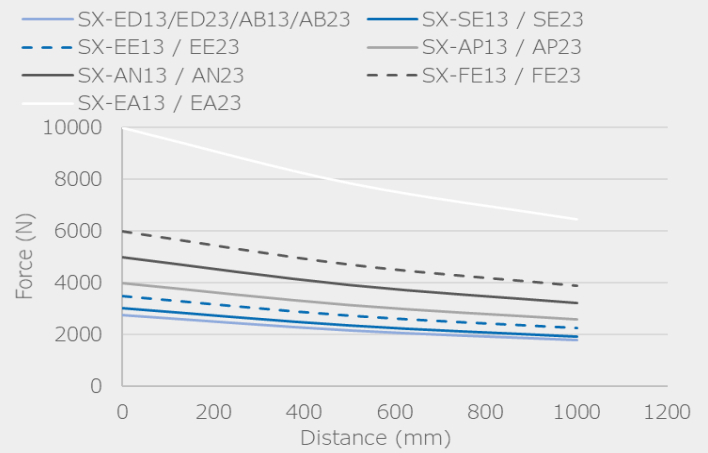
## Diagrams (From 2 750N to 10 000N)

### Offset load

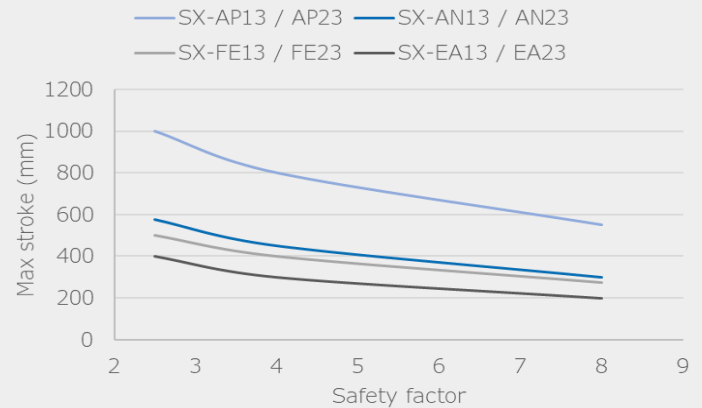
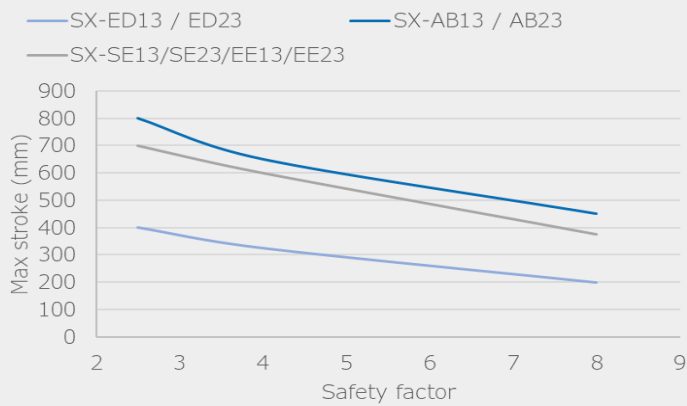
Long retracted length,  $R = \text{Stroke} + 270 \text{ mm}$



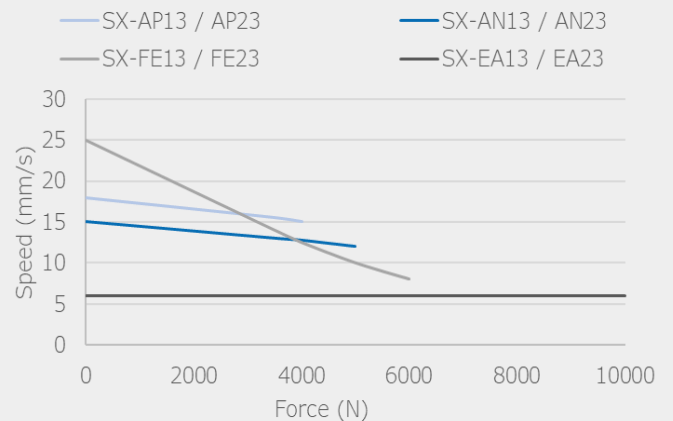
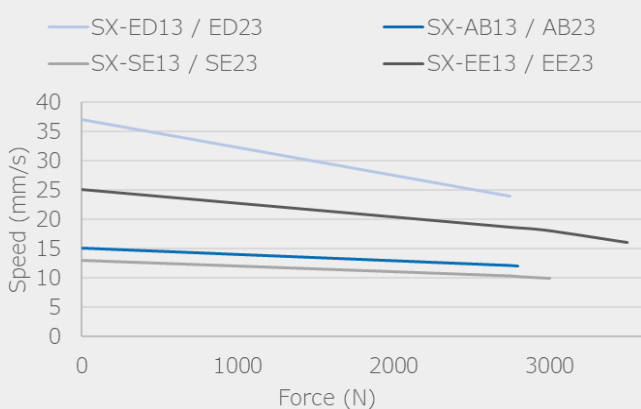
Short retracted length,  $R = \text{Stroke} + 195 \text{ mm}$



### Safety factor



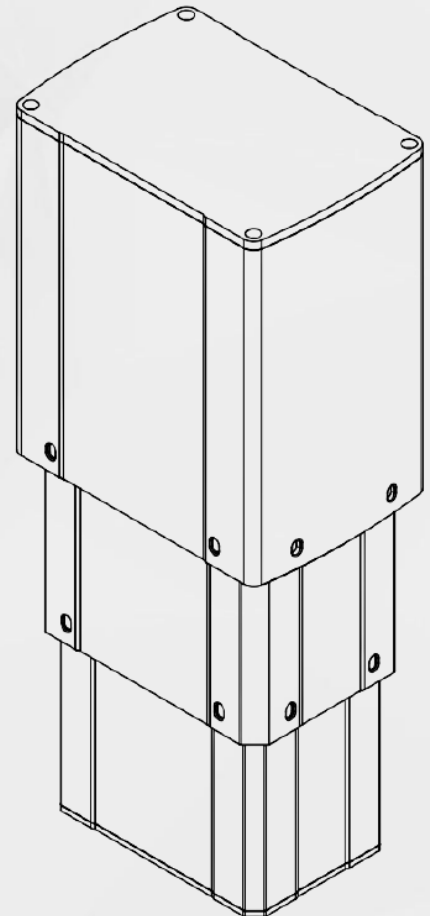
### Speed



# X2 Technology – The Customizer

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