

## MSCE 25

Mini electric slider MSCE is a mini linear drive with an integrated linear guiding system and slide. By using an integrated precision ball screw drive, the rotary motion (rotation) of the drive shaft is converted to the linear motion (translation) of the slide with high mechanical efficiency and low internal friction.

A preassembled standard motor (in-line with a motor adapter and a coupling or in-parallel with a motor side drive and a timing belt) together with the standard drive, makes the system plug and play ready. Compact dimensions and optimally selected motor combinations cover a wide range of applications.

The aluminium base profile includes T-slots on the bottom for fixing the electric slider, as well as side slots for clamping fixtures and magnetic field sensors.

The aluminium slide and the front plate of the electric slider allow a wide range of options for mounting the working tools and attaching additional accessories. There are prepared connection holes on the slide and the front plate for an easy combination of the MSCEs to the multiaxis system, which makes this product highly flexible. There is also an option of the mini electric slider without the preassembled motor if an individual motor is required.

Positioning rod together with the rod seal ensures the protection of the ball screw drive from dust and other contamination.

Each MSCE is optimally pre-lubricated and ready for a maintenance-free operating process.

### Note!

All the data of the dynamic load capacities (linear guiding system and ball screw drive) stated in the tables above are theoretical without considering any safety factor. The safety factor depends on the application and its requested safety and service life.

We recommend a minimum dynamic safety factor of 5,0 or more. Please refer to the Linear guiding and the Ball screw drive section, where the calculation of the safety factor of the ball screw drive and the linear guiding system and how the applied load affects the service life are presented.

Dimensions in mm.

Contact us for further information.

**Axial Backlash (mm):**  $\leq 0.05$

**Max. Acceleration (m/s):** 20

**Protection class:** IP40

**Ambient Temperature (°C):** 0 – +50

**Duty cycle:** 100%

**Maintenance:** Life-time pre-lubricated



## MSCE 25



## Variant Data

Designation	Description	Ball screw (d x l)	Dynamic Load Capacity C (N)	Max. Drive Torque M <sub>p</sub> (Nm)	Max. Travel Speed V <sub>max</sub> (m/s)
<b>MSCE 25 - 6x2</b>	Without motor	6x2 mm	1310	0.06	0.15
<b>MSCE 25 - 6x6</b>	Without motor	6x6 mm	1310	0.1	0.45
<b>MSCE 25 - VK - 28 - 6x2</b>	With motor size 28 and motor adapter VK	6x2 mm	1310	-	0.1
<b>MSCE 25 - VK - 28 - 6x6</b>	With motor size 28 and motor adapter VK	6x6 mm	1310	-	0.3
<b>MSCE 25 - MSD - 28 - 6x2</b>	With motor size 28 and motor side drive MSD	6x2 mm	1310	-	0.094
<b>MSCE 25 - MSD - 28 - 6x6</b>	With motor size 28 and motor side drive MSD	6x6 mm	1310	-	0.281

Designation	Max. Rotational Speed n <sub>max</sub> (min <sup>-1</sup> ) (rev/min)	No Load Torque M <sub>0</sub> (Nm)	Axial Dynamic Load Capacity C <sub>a</sub> (N)	Max. Repeatability (mm)	Max. Permissible Axial Load F <sub>pa</sub> (N)	Absolute stroke
<b>MSCE 25 - 6x2</b>	4500	0.03	1900	±0.015	170	25, 50, 75, 100, 125, 150, 175, 200
<b>MSCE 25 - 6x6</b>	4500	0.03	1700	±0.015	90	25, 50, 75, 100, 125, 150, 175, 200
<b>MSCE 25 - VK - 28 - 6x2</b>	3000	-	1900	±0.015	170	25, 50, 75, 100, 125, 150, 175, 200
<b>MSCE 25 - VK - 28 - 6x6</b>	3000	-	1700	±0.015	90	25, 50, 75, 100, 125, 150, 175, 200
<b>MSCE 25 - MSD - 28 - 6x2</b>	2810	-	1900	±0.015	170	25, 50, 75, 100, 125, 150, 175, 200
<b>MSCE 25 - MSD - 28 - 6x6</b>	2810	-	1700	±0.015	80	25, 50, 75, 100, 125, 150, 175, 200

Designation	Max. Permissible Payload Horizontal m <sub>ph</sub> (kg)	Max. Permissible Payload Vertical m <sub>pv</sub> (kg)	Max. Permissible Radial Load on Shaft F <sub>pr</sub> (N)	Dynamic Moment M <sub>x</sub> (Nm)	Dynamic Moment M <sub>y</sub> (Nm)	Dynamic Moment M <sub>z</sub> (Nm)
<b>MSCE 25 - 6x2</b>	57	14	25	4.8	4.1	4.1
<b>MSCE 25 - 6x6</b>	30	7	25	4.8	4.1	4.1
<b>MSCE 25 - VK - 28 - 6x2</b>	57	14	-	4.8	4.1	4.1
<b>MSCE 25 - VK - 28 - 6x6</b>	13	7.3	-	4.8	4.1	4.1
<b>MSCE 25 - MSD - 28 - 6x2</b>	57	14	-	4.8	4.1	4.1
<b>MSCE 25 - MSD - 28 - 6x6</b>	13	6.5	-	4.8	4.1	4.1

Designation	Max. Permissible Loads Forces Fpy (N)	Max. Permissible Loads Forces Fpz (N)	Max. Permissible Loads Moments Mpx (Nm)	Max. Permissible Loads Moments Mpy (Nm)	Max. Permissible Loads Moments Mpz (Nm)	Motor type
MSCE 25 - 6x2	280	580	4.8	4.1	4.1	-
MSCE 25 - 6x6	280	580	4.8	4.1	4.1	-
MSCE 25 - VK - 28 - 6x2	280	580	4.8	4.1	4.1	Stepper
MSCE 25 - VK - 28 - 6x6	280	580	4.8	4.1	4.1	Stepper
MSCE 25 - MSD - 28 - 6x2	280	580	4.8	4.1	4.1	Stepper
MSCE 25 - MSD - 28 - 6x6	280	580	4.8	4.1	4.1	Stepper



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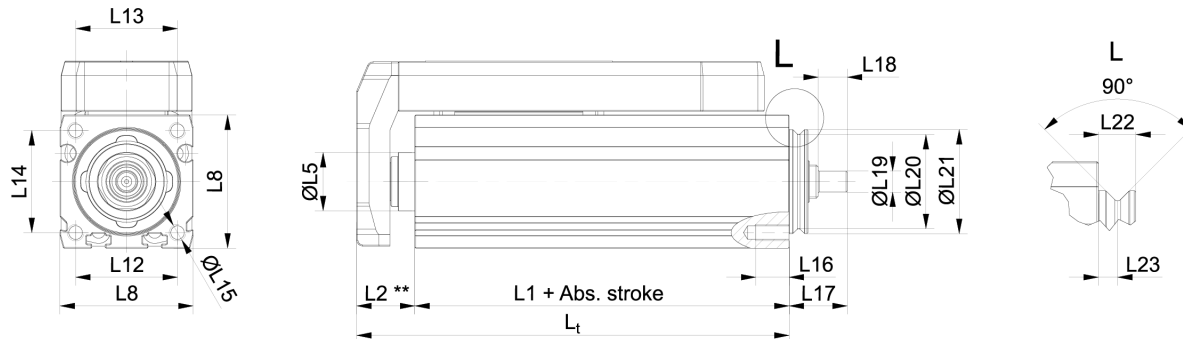
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## Variant Data

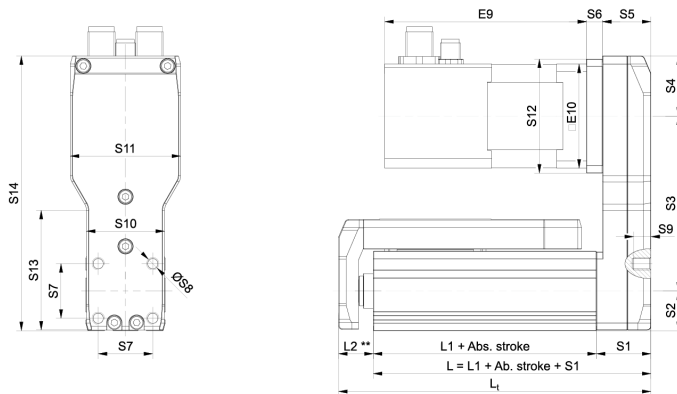
Designation	Motor size (mm)
MSCE 25 - 6x2	-
MSCE 25 - 6x6	-
MSCE 25 - VK - 28 - 6x2	28
MSCE 25 - VK - 28 - 6x6	28
MSCE 25 - MSD - 28 - 6x2	28
MSCE 25 - MSD - 28 - 6x6	28

## Dimensions

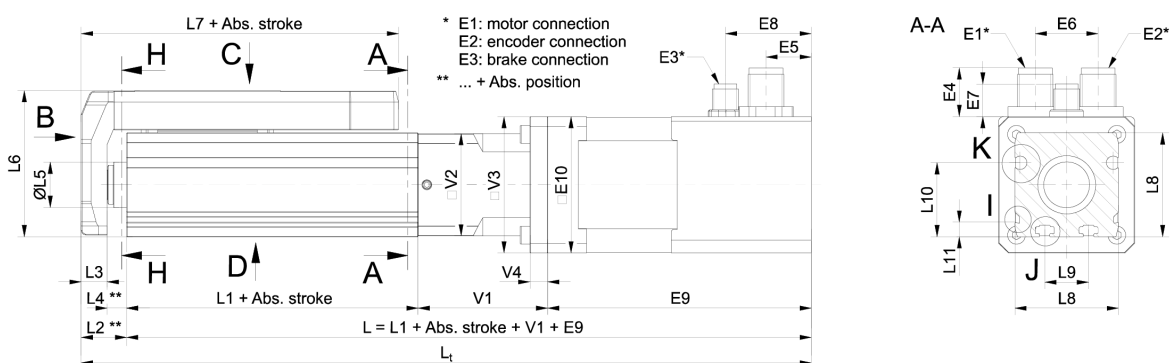
### MSCE without a motor



### MSCE with motor side drive MSD

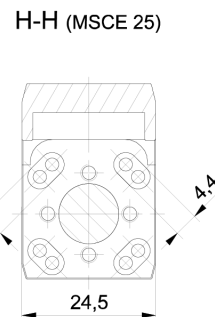
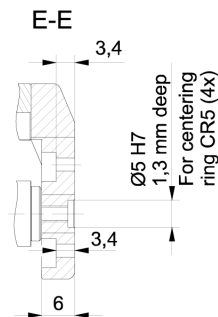
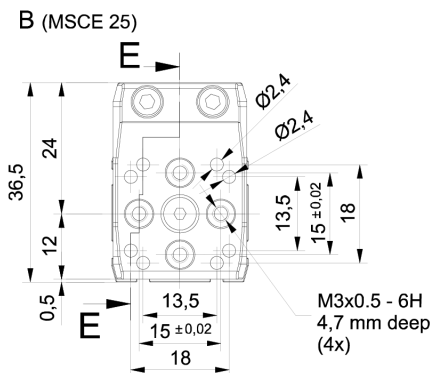


### MSCE with motor adapter VK

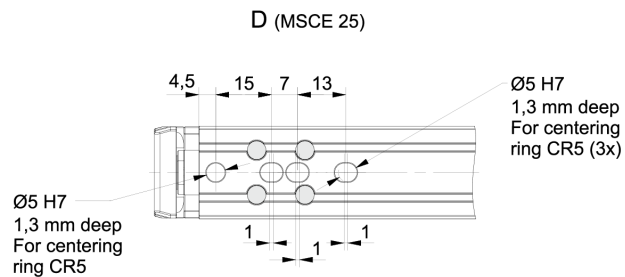
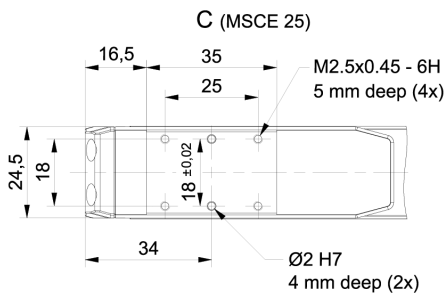


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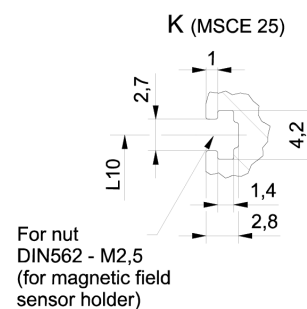
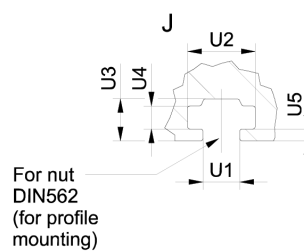
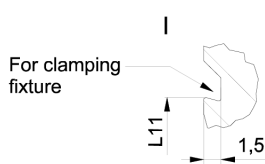
### MSCE 25 with motor adapter VK



### MSCE 25 with motor adapter VK



### MSCE 25 with motor adapter VK



Designation	L1	L2	L3	L4	L5	L6	L7	L8	V1
MSCE 25 - 6x2	50	12	6	6	Ø 12	36,5	58	25	-
MSCE 25 - 6x6	50	12	6	6	Ø 12	36,5	58	25	-
MSCE 25 - VK - 28 - 6x2	50	12	6	6	Ø 12	36,5	58	25	35
MSCE 25 - VK - 28 - 6x6	50	12	6	6	Ø 12	36,5	58	25	35
MSCE 25 - MSD - 28 - 6x2	50	12	6	6	Ø 12	36,5	58	25	35
MSCE 25 - MSD - 28 - 6x6	50	12	6	6	Ø 12	36,5	58	25	35

## Dimensions

Designation	V2	V3	V4	L9	L10	L11	L12	L13	L14	L15
MSCE 25 - 6x2	-	-	-	13.5	19.25	4.4	19	17	18	Ø M2.5
MSCE 25 - 6x6	-	-	-	13.5	19.25	4.4	19	17	18	Ø M2.5
MSCE 25 - VK - 28 - 6x2	24.5	28	5.5	13.5	19.25	4.4	19	17	18	Ø M2.5
MSCE 25 - VK - 28 - 6x6	24.5	28	5.5	13.5	19.25	4.4	19	17	18	Ø M2.5
MSCE 25 - MSD - 28 - 6x2	24.5	28	5.5	13.5	19.25	4.4	19	17	18	Ø M2.5
MSCE 25 - MSD - 28 - 6x6	24.5	28	5.5	13.5	19.25	4.4	19	17	18	Ø M2.5

Designation	L16	L17	L18	L19	L20	L21	L22	L23	U1	U2
MSCE 25 - 6x2	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2
MSCE 25 - 6x6	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2
MSCE 25 - VK - 28 - 6x2	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2
MSCE 25 - VK - 28 - 6x6	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2
MSCE 25 - MSD - 28 - 6x2	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2
MSCE 25 - MSD - 28 - 6x6	8	14	7	Ø 5 (h7)	Ø 17.6	Ø 20 (h7)	4.5	2.3	2.2	4.2

Designation	U3	U4	U5	S1	S2	S3	S4	S5	S6	S7
MSCE 25 - 6x2	2.8	1.4	1	-	-	-	-	-	-	-
MSCE 25 - 6x6	2.8	1.4	1	-	-	-	-	-	-	-
MSCE 25 - VK - 28 - 6x2	2.8	1.4	1	22	12.5	52.5 (± 0.5)	18.25	19.5	5.5	18
MSCE 25 - VK - 28 - 6x6	2.8	1.4	1	22	12.5	52.5 (± 0.5)	18.25	19.5	5.5	18
MSCE 25 - MSD - 28 - 6x2	2.8	1.4	1	22	12.5	52.5 (± 0.5)	18.25	19.5	5.5	18
MSCE 25 - MSD - 28 - 6x6	2.8	1.4	1	22	12.5	52.5 (± 0.5)	18.25	19.5	5.5	18

Designation	S8	S9	S10	S11	S12	S13	S14
MSCE 25 - 6x2	-	-	-	-	-	-	-
MSCE 25 - 6x6	-	-	-	-	-	-	-
MSCE 25 - VK - 28 - 6x2	Ø M4	6	24.5	31.5	34	38.5	83.25
MSCE 25 - VK - 28 - 6x6	Ø M4	6	24.5	31.5	34	38.5	83.25
MSCE 25 - MSD - 28 - 6x2	Ø M4	6	24.5	31.5	34	38.5	83.25
MSCE 25 - MSD - 28 - 6x6	Ø M4	6	24.5	31.5	34	38.5	83.25

## Mass and mass moment of inertia

### Mass and mass moment of inertia

Additional mass of an electric cylinder when combining the motor with the motor adapter VK or the motor side drive MSD

Designation	Motor		Motor without a brake		Motor with a brake	
	Type	Size □ [mm]	Mass of the motor and motor adapter VK $m_{VK+m}$ [kg]	Mass of the motor and motor side drive MSD $m_{MSD+m}$ [kg]	Mass of the motor and motor adapter VK $m_{VK+m}$ [kg]	Mass of the motor and motor side drive MSD $m_{MSD+m}$ [kg]
MSCE 25	Stepper	28	Available soon	Available soon	Available soon	Available soon
MSCE 32	Stepper	28	Available soon	Available soon	Available soon	Available soon
MSCE 32	Stepper	42	0,52	0,62	0,65	0,75
MSCE 45	Stepper	42	0,57	0,71	0,70	0,84
MSCE 45	Stepper	56	1,31	1,49	1,50	1,68

### Planar moment of inertia

Designation	Slide		Base profile	
	$I_y$ [cm <sup>4</sup> ]	$I_z$ [cm <sup>4</sup> ]	$I_y$ [cm <sup>4</sup> ]	$I_z$ [cm <sup>4</sup> ]
MSCE 25	0,08	0,88	2,10	1,98
MSCE 32	0,18	2,16	6,42	6,58
MSCE 45	0,40	7,34	25,37	25,16

### Holding torque of a motor brake

Type	Motor	Holding torque (brake) [Nm]
	Size □ [mm]	
Stepper	28	Available soon
Stepper	42	0,4
Stepper	56	1,0

□ = Square cross section

Designation	Moved Mass (kg)	Mass of the Mini Electric Slider mMSCE (kg)	Mass moment of inertia JMSCE
<b>MSCE 25 - 6x2</b>	$0.10 + 0.0010 \times \text{Abs. stroke}$	$0.20 + 0.0019 \times \text{Abs. stroke}$	" $0.29 + 0.0007 \times \text{Abs. stroke} + 0.1013 \times \text{mload}$ (10°&#x207B;&#x00B2 kg cm&#x00B2)"
<b>MSCE 25 - 6x6</b>	$0.10 + 0.0010 \times \text{Abs. stroke}$	$0.20 + 0.0019 \times \text{Abs. stroke}$	" $0.36 + 0.0016 \times \text{Abs. stroke} + 0.9119 \times \text{mload}$ (10°&#x207B;&#x00B2 kg cm&#x00B2)"
<b>MSCE 25 - VK - 28 - 6x2</b>	-	-	-
<b>MSCE 25 - VK - 28 - 6x6</b>	-	-	-
<b>MSCE 25 - MSD - 28 - 6x2</b>	-	-	-
<b>MSCE 25 - MSD - 28 - 6x6</b>	-	-	-