

MSCE 45

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): ≤ 0.06

Max. Acceleration (m/s): 20

Protection class: IP40

Ambient Temperature (°C): 0 – +50

Duty cycle: 100%

Maintenance: Life-time pre-lubricated



MSCE 45



Variant Data

Designation	Description	Ball screw (d x l)	Dynamic Load Capacity C (N)	Max. Drive Torque M _p (Nm)	Max. Travel Speed V _{max} (m/s)
MSCE 45 - 10x3	Without motor	10x3 mm	3240	0,37	0,23
MSCE 45 - 10x10	Without motor	10x10 mm	3240	1,23	0,75
MSCE 45 - VK - 42 - 10x3	With motor size 42 and motor adapter VK	10x3 mm	3240	-	0,15
MSCE 45 - VK - 42 - 10x10	With motor size 42 and motor adapter VK	10x10 mm	3240	-	0,49
MSCE 45 - VK - 56 - 10x3	With motor size 56 and motor adapter VK	10x3 mm	3240	-	0,15
MSCE 45 - VK - 56 - 10x10	With motor size 56 and motor adapter VK	10x10 mm	3240	-	0,50
MSCE 45 - MSD - 42 - 10x3	With motor size 42 and motor side drive MSD	10x3 mm	3240	-	0,15
MSCE 45 - MSD - 42 - 10x10	With motor size 42 and motor side drive MSD	10x10 mm	3240	-	0,46
MSCE 45 - MSD - 56 - 10x3	With motor size 56 and motor side drive MSD	10x3 mm	3240	-	0,15
MSCE 45 - MSD - 56 - 10x10	With motor size 56 and motor side drive MSD	10x10 mm	3240	-	0,50

Designation	Max. Rotational Speed n _{max} (min ⁻¹) (rev/min)	No Load Torque M ₀ (Nm)	Axial Dynamic Load Capacity Ca (N)	Max. Repeatability (mm)	Max. Permissible Axial Load F _{pa} (N)	Absolute stroke
MSCE 45 - 10x3	4500	0,08	3500	±0.015	695	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - 10x10	4500	0,10	3200	±0.015	695	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - VK - 42 - 10x3	2980	-	3500	±0.015	450	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - VK - 42 - 10x10	2910	-	3200	±0.015	125	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - VK - 56 - 10x3	3000	-	3500	±0.015	695	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - VK - 56 - 10x10	3000	-	3200	±0.015	575	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - MSD - 42 - 10x3	2920	-	3500	±0.015	380	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - MSD - 42 - 10x10	2740	-	3200	±0.015	115	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - MSD - 56 - 10x3	3000	-	3500	±0.015	695	25, 50, 75, 100, 125, 150, 175, 200
MSCE 45 - MSD - 56 - 10x10	3000	-	3200	±0.015	450	25, 50, 75, 100, 125, 150, 175, 200

ROLLCO

LINEAR SOLUTIONS YOUR WAY

2022-06-27, 19.27.39

Variant Data

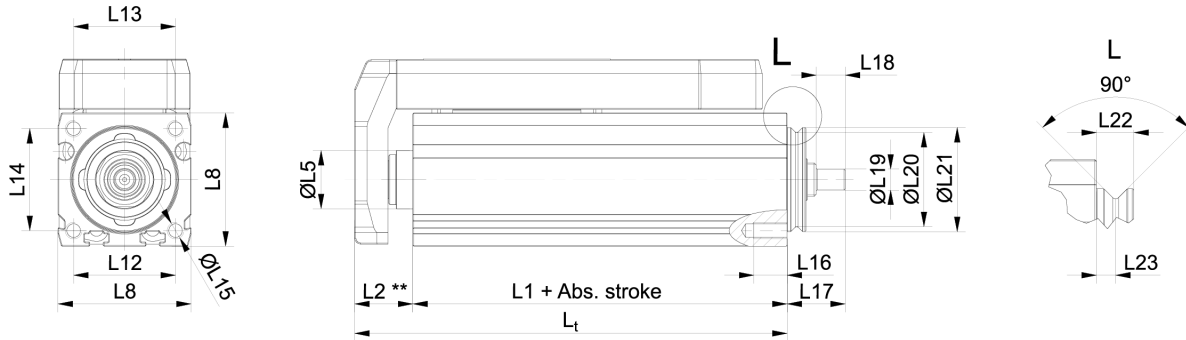
Designation	Max. Permissible Payload Horizontal mpv (kg)	Max. Permissible Payload Vertical mpv (kg)	Max. Permissible Radial Load on Shaft Fpr (N)	Dynamic Moment M _x (Nm)	Dynamic Moment M _y (Nm)	Dynamic Moment M _z (Nm)
MSCE 45 - 10x3	233	58	100	20,10	17,40	17,40
MSCE 45 - 10x10	233	58	100	20,10	17,40	17,40
MSCE 45 - VK - 42 - 10x3	150	37	-	20,10	17,40	17,40
MSCE 45 - VK - 42 - 10x10	21	10	-	20,10	17,40	17,40
MSCE 45 - VK - 56 - 10x3	233	58	-	20,10	17,40	17,40
MSCE 45 - VK - 56 - 10x10	132	48	-	20,10	17,40	17,40
MSCE 45 - MSD - 42 - 10x3	127	31	-	20,10	17,40	17,40
MSCE 45 - MSD - 42 - 10x10	19	9	-	20,10	17,40	17,40
MSCE 45 - MSD - 56 - 10x3	233	58	-	20,10	17,40	17,40
MSCE 45 - MSD - 56 - 10x10	132	37	-	20,10	17,40	17,40

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 45 - 10x3	1000	1000	16,30	16,30	16,30	-
MSCE 45 - 10x10	1000	1000	16,30	16,30	16,30	-
MSCE 45 - VK - 42 - 10x3	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - VK - 42 - 10x10	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - VK - 56 - 10x3	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - VK - 56 - 10x10	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - MSD - 42 - 10x3	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - MSD - 42 - 10x10	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - MSD - 56 - 10x3	1000	1000	16,30	16,30	16,30	Stepper
MSCE 45 - MSD - 56 - 10x10	1000	1000	16,30	16,30	16,30	Stepper

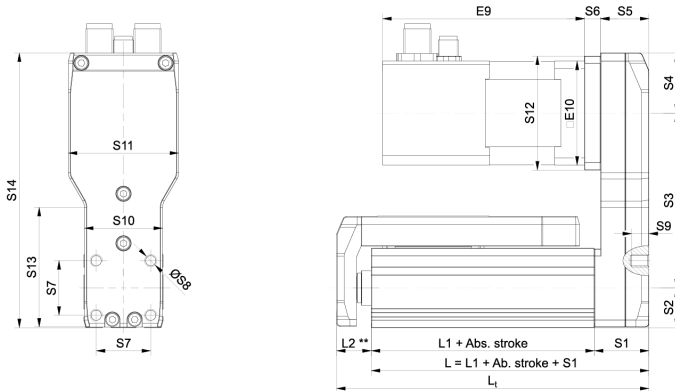
Designation	Motor size (mm)
MSCE 45 - 10x3	-
MSCE 45 - 10x10	-
MSCE 45 - VK - 42 - 10x3	42
MSCE 45 - VK - 42 - 10x10	42
MSCE 45 - VK - 56 - 10x3	56
MSCE 45 - VK - 56 - 10x10	56
MSCE 45 - MSD - 42 - 10x3	42
MSCE 45 - MSD - 42 - 10x10	42
MSCE 45 - MSD - 56 - 10x3	56
MSCE 45 - MSD - 56 - 10x10	56

Dimensions

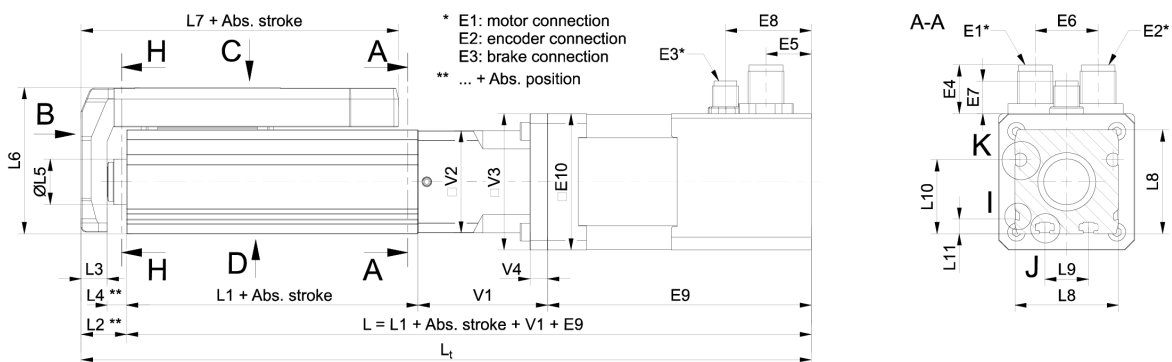
MSCE without a motor



MSCE with motor side drive MSD

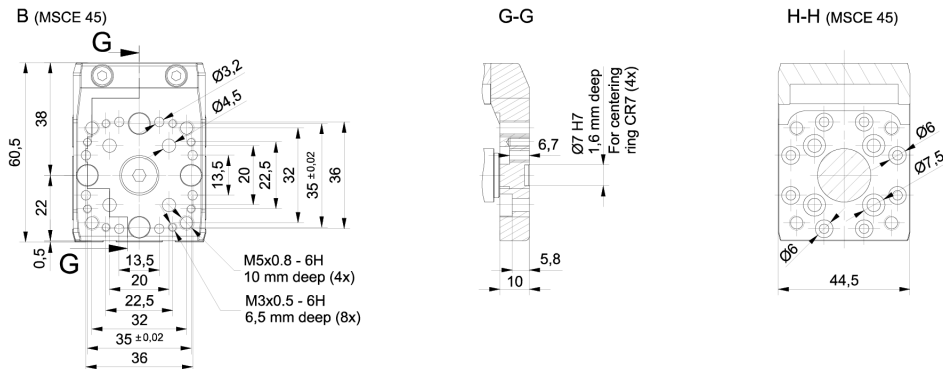


MSCE with motor adapter VK

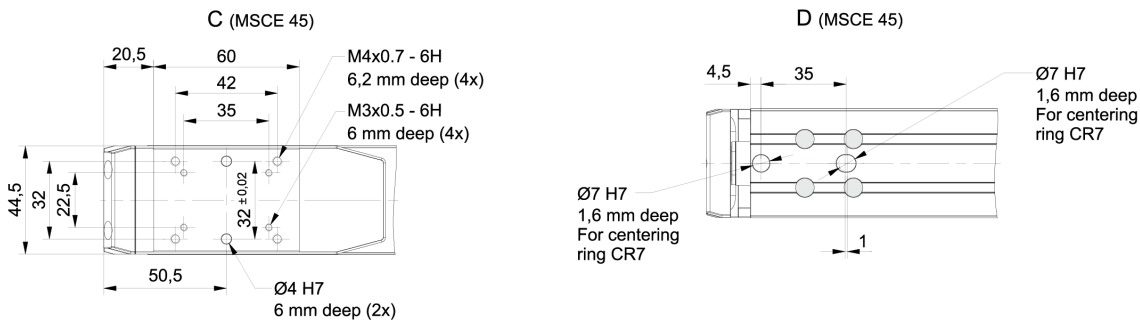


Dimensions

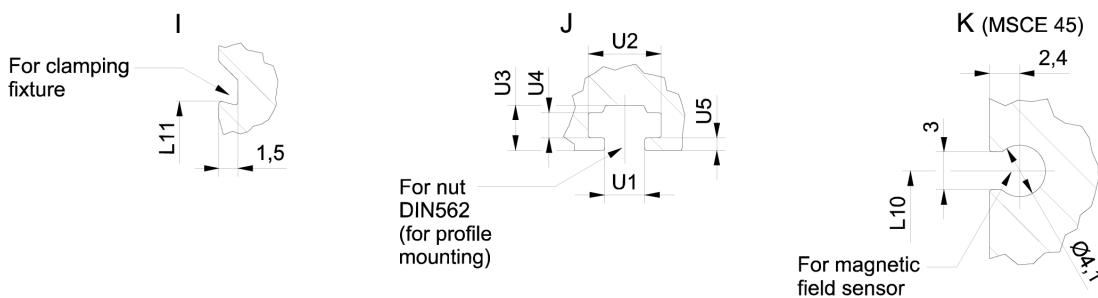
MSCE 45 with motor adapter VK



MSCE 45 with motor adapter VK



MSCE 45 with motor adapter VK



Designation	L1	L2	L3	L4	L5	L6	L7	L8	V1
MSCE 45 - 10x3	80	18	10	8	Ø 18	60,50	91	45	-
MSCE 45 - 10x10	80	18	10	8	Ø 18	60,50	91	45	-
MSCE 45 - VK - 42 - 10x3	80	18	10	8	Ø 18	60,50	91	45	42
MSCE 45 - VK - 42 - 10x10	80	18	10	8	Ø 18	60,50	91	45	42
MSCE 45 - VK - 56 - 10x3	80	18	10	8	Ø 18	60,50	91	45	46
MSCE 45 - VK - 56 - 10x10	80	18	10	8	Ø 18	60,50	91	45	46

Dimensions

Designation	L1	L2	L3	L4	L5	L6	L7	L8	V1
MSCE 45 - MSD - 42 - 10x3	80	18	10	8	Ø 18	60,50	91	45	42
MSCE 45 - MSD - 42 - 10x10	80	18	10	8	Ø 18	60,50	91	45	42
MSCE 45 - MSD - 56 - 10x3	80	18	10	8	Ø 18	60,50	91	45	46
MSCE 45 - MSD - 56 - 10x10	80	18	10	8	Ø 18	60,50	91	45	46

Designation	V2	V3	V4	L9	L10	L11	L12	L13	L14	L15
MSCE 45 - 10x3	-	-	-	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - 10x10	-	-	-	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - VK - 42 - 10x3	44,50	44,50	0	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - VK - 42 - 10x10	44,50	44,50	0	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - VK - 56 - 10x3	44,50	56,40	9,50	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - VK - 56 - 10x10	44,50	56,40	9,50	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - MSD - 42 - 10x3	44,50	44,50	0	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - MSD - 42 - 10x10	44,50	44,50	0	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - MSD - 56 - 10x3	44,50	56,40	9,50	20	30,50	4,40	34	34	34	Ø M4
MSCE 45 - MSD - 56 - 10x10	44,50	56,40	9,50	20	30,50	4,40	34	34	34	Ø M4

Designation	L16	L17	L18	L19	L20	L21	L22	L23	U1	U2
MSCE 45 - 10x3	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - 10x10	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - VK - 42 - 10x3	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - VK - 42 - 10x10	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - VK - 56 - 10x3	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - VK - 56 - 10x10	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - MSD - 42 - 10x3	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - MSD - 42 - 10x10	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - MSD - 56 - 10x3	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50
MSCE 45 - MSD - 56 - 10x10	10	16	8	Ø 8 (h7)	Ø 31.6	Ø 34 (h7)	4,50	2,30	4,20	7,50

Designation	U3	U4	U5	S1	S2	S3	S4	S5	S6	S7
MSCE 45 - 10x3	4,70	2,50	1,20	-	-	-	-	-	-	-
MSCE 45 - 10x10	4,70	2,50	1,20	-	-	-	-	-	-	-
MSCE 45 - VK - 42 - 10x3	4,70	2,50	1,20	27,50	22,50	81	24,75	24,50	6,50	32
MSCE 45 - VK - 42 - 10x10	4,70	2,50	1,20	27,50	22,50	81	24,75	24,50	6,50	32
MSCE 45 - VK - 56 - 10x3	4,70	2,50	1,20	27,50	22,50	88,50	33,25	24,50	6	32
MSCE 45 - VK - 56 - 10x10	4,70	2,50	1,20	27,50	22,50	88,50	33,25	24,50	6	32
MSCE 45 - MSD - 42 - 10x3	4,70	2,50	1,20	27,50	22,50	81	24,75	24,50	6,50	32
MSCE 45 - MSD - 42 - 10x10	4,70	2,50	1,20	27,50	22,50	81	24,75	24,50	6,50	32
MSCE 45 - MSD - 56 - 10x3	4,70	2,50	1,20	27,50	22,50	88,50	33,25	24,50	6	32
MSCE 45 - MSD - 56 - 10x10	4,70	2,50	1,20	27,50	22,50	88,50	33,25	24,50	6	32

Designation	S8	S9	S10	S11	S12	S13	S14	E1	E2	E3
MSCE 45 - 10x3	-	-	-	-	-	-	-	-	-	-

Dimensions

Designation	S8	S9	S10	S11	S12	S13	S14	E1	E2	E3
MSCE 45 - 10x10	-	-	-	-	-	-	-	-	-	-
MSCE 45 - VK - 42 - 10x3	Ø M6	7	44,50	44,50	46	0	128,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - VK - 42 - 10x10	Ø M6	7	44,50	44,50	46	0	128,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - VK - 56 - 10x3	Ø M6	7	44,50	59,50	59,50	64,50	144,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - VK - 56 - 10x10	Ø M6	7	44,50	59,50	59,50	64,50	144,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - MSD - 42 - 10x3	Ø M6	7	44,50	44,50	46	0	128,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - MSD - 42 - 10x10	Ø M6	7	44,50	44,50	46	0	128,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - MSD - 56 - 10x3	Ø M6	7	44,50	59,50	59,50	64,50	144,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)
MSCE 45 - MSD - 56 - 10x10	Ø M6	7	44,50	59,50	59,50	64,50	144,25	M12 5-pole	M12 8-pole	– (with brake: M8 3-pole)

Designation	E4	E5	E6	E7	E8	E9	E10
MSCE 45 - 10x3	-	-	-	-	-	-	-
MSCE 45 - 10x10	-	-	-	-	-	-	-
MSCE 45 - VK - 42 - 10x3	14 ± 1	14 ± 0.3	19,50	– (with brake: 9 ± 1)	– (with brake: 27 ± 0.3)	70.4 ± 1 (with brake: 106.4 ± 0.3)	42,30
MSCE 45 - VK - 42 - 10x10	14 ± 1	14 ± 0.3	19,50	– (with brake: 9 ± 1)	– (with brake: 27 ± 0.3)	70.4 ± 1 (with brake: 106.4 ± 0.3)	42,30
MSCE 45 - VK - 56 - 10x3	14 ± 1	13.4 ± 0.3	23	– (with brake: 9 ± 1)	– (with brake: 12 ± 0.3)	98 ± 1 (with brake: 138 ± 0.3)	56,40
MSCE 45 - VK - 56 - 10x10	14 ± 1	13.4 ± 0.3	23	– (with brake: 9 ± 1)	– (with brake: 12 ± 0.3)	98 ± 1 (with brake: 138 ± 0.3)	56,40
MSCE 45 - MSD - 42 - 10x3	14 ± 1	14 ± 0.3	19,50	– (with brake: 9 ± 1)	– (with brake: 27 ± 0.3)	70.4 ± 1 (with brake: 106.4 ± 0.3)	42,30
MSCE 45 - MSD - 42 - 10x10	14 ± 1	14 ± 0.3	19,50	– (with brake: 9 ± 1)	– (with brake: 27 ± 0.3)	70.4 ± 1 (with brake: 106.4 ± 0.3)	42,30
MSCE 45 - MSD - 56 - 10x3	14 ± 1	13.4 ± 0.3	23	– (with brake: 9 ± 1)	– (with brake: 12 ± 0.3)	98 ± 1 (with brake: 138 ± 0.3)	56,40
MSCE 45 - MSD - 56 - 10x10	14 ± 1	13.4 ± 0.3	23	– (with brake: 9 ± 1)	– (with brake: 12 ± 0.3)	98 ± 1 (with brake: 138 ± 0.3)	56,40

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 ⁴]	I_z [cm ⁴]	I_y [cm ⁴]	I_z [cm ⁴]
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
MSCE 45 - 10x3	0.36 + 0.0025 x Abs. stroke	0.88 + 0.0059 x Abs. stroke	"2.81 + 0.0061 x Abs. stroke + 0.2280 x mload (10 ² kg cm ²)"
MSCE 45 - 10x10	0.36 + 0.0025 x Abs. stroke	0.88 + 0.0059 x Abs. stroke	"3.63 + 0.0121 x Abs. stroke + 2.5330 x mload (10 ² kg cm ²)"
MSCE 45 - VK - 42 - 10x3	-	-	-
MSCE 45 - VK - 42 - 10x10	-	-	-
MSCE 45 - VK - 56 - 10x3	-	-	-
MSCE 45 - VK - 56 - 10x10	-	-	-
MSCE 45 - MSD - 42 - 10x3	-	-	-
MSCE 45 - MSD - 42 - 10x10	-	-	-
MSCE 45 - MSD - 56 - 10x3	-	-	-
MSCE 45 - MSD - 56 - 10x10	-	-	-

