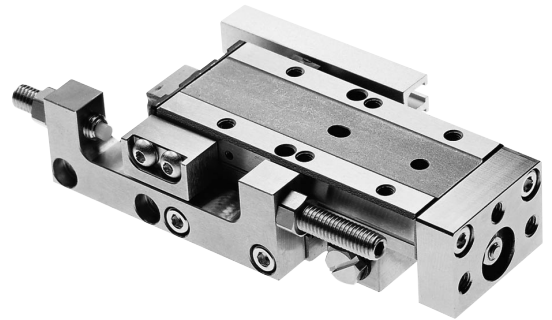


Ideal for applications demanding precise movement

Light weight

Magnetic switching for positional feedback

Excellent service life



Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting precision slide table with external guide

Operating pressure:

1,5 to 7 bar (2 to 7 bar for models with shock absorbers)

Operating temperature:

+ 5°C to + 60°C

Consult our Technical Service for use below +2°C

Cylinder diameters:

10 and 12 mm

Strokes:

15, 30, 45 mm (Ø 10 mm)

20, 30, 45, 60 mm (Ø 12 mm)

Speed:

400 mm/s maximum

Materials

Slide table: stainless steel

Body: stainless steel

End plate: nickel plated carbon steel

Piston rod: stainless steel

External nuts and bolts: nickel plated carbon steel

Stroke adjustment bolts and blocks: nickel plated steel

Stroke adjustment bolts with rubber stops: stainless steel and synthetic rubber

Shock absorbers: brass alloy

Elastomers: synthetic rubber

Ordering information

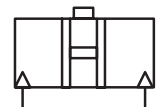
See page 2

Alternative cylinders

See page 2



Non-magnetic



Magnetic





Alternative cylinders

Symbol	Model Non-magnetic	Symbol	Model Magnetic	Description	Page
	M/261100/IR1		M/261100/MR1	No stroke adjustment	8
	M/261100/IR3		M/261100/MR3	With push and pull side stroke adjustment, metal stops	10
	M/261100/IR4		M/261100/MR4	With push and pull side stroke adjustment, shock absorbers	11
	M/261100/IR5		M/261100/MR5	Push side stroke adjustment, rubber stop	10
	M/261100/IR6		M/261100/MR6	With push and pull side stroke adjustment, rubber stops	10
	M/261100/IR7		M/261100/MR7	Push side stroke adjustment, metal stop	10
	M/261100/IR8		M/261100/MR8	Push side stroke adjustment, shock absorber	11
	M/261100/IR*/I		M/261100/MR*/I	Standard location of stroke adjusters and switch rail	8 + 10
	M/261100/IR*/S		M/261100/MR*/S	Symmetrical location of stroke adjusters and switch rail	9 + 10

Options selector

M/2611★ ★/★ R★/★ P/★ ★

<table border="1"> <thead> <tr> <th>Piston diameter (mm)</th> <th>Substitute</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>10</td> </tr> <tr> <td>12</td> <td>12</td> </tr> </tbody> </table>	Piston diameter (mm)	Substitute	10	10	12	12	<table border="1"> <thead> <tr> <th>Stroke length (mm)</th> <th>Substitute</th> </tr> </thead> <tbody> <tr> <td>60 mm max.</td> <td></td> </tr> </tbody> </table>	Stroke length (mm)	Substitute	60 mm max.							
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<table border="1"> <thead> <tr> <th>Piston</th> <th>Substitute</th> </tr> </thead> <tbody> <tr> <td>Magnetic*</td> <td>M</td> </tr> <tr> <td>Non-magnetic</td> <td>I</td> </tr> </tbody> </table>	Piston	Substitute	Magnetic*	M	Non-magnetic	I	<table border="1"> <thead> <tr> <th>Location of switch rail and stroke adjusters</th> <th>Substitute</th> </tr> </thead> <tbody> <tr> <td>Standard</td> <td>I</td> </tr> <tr> <td>Symmetric</td> <td>S</td> </tr> </tbody> </table>	Location of switch rail and stroke adjusters	Substitute	Standard	I	Symmetric	S				
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Stroke adjustment	Substitute																
No stroke adjustment	1																
In and outstroke adjustment with metal stops	3																
In and outstroke adjustment with shock absorbers	4																
Out stroke adjustment with rubber stop	5																
In and outstroke adjustment with rubber stops	6																
Out stroke adjustment with metal stop	7																
Out stroke adjustment with shock absorber	8																

Standard strokes

Ø (mm)	15	20	30	45	60
10	●		●	●	
12		●	●	●	●

Ordering examples

Slide table

To order a Ø 12 mm precision slide table magnetic, push and pull side stroke adjustment with rubber stops and a 20 mm stroke length

quote: **M/261112/MR6/IP/20**





Switches

To order a two wire solid state switch with LED indication, 1 m cable and 90° cable connection, specify part number

quote: **M/419/EAU/1**




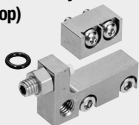









Switches with LED indication

Reed In-line cable	Reed 90° cable	Solid state In-line cable	Solid state 90° cable
			
M/369/LSU/1	M/370/LSU/1	M/418/EAU/1	M/419/EAU/1
M/369/LSU/3	M/370/LSU/3	M/418/EAU/3	M/419/EAU/3
		M/420/EAN/1	M/421/EAN/1
		M/420/EAN/3	M/421/EAN/3

Model	Reed	Solid state	Voltage V d.c.	Current max.	Temperature °C	Output	Protection rating	Cable wire material	Cable type	Cable length	Page
M/369/LSU/1			12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	In-line	1 m	N/UK 4.3.091
M/369/LSU/3			12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	In-line	3 m	N/UK 4.3.091
M/370/LSU/1			12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	90°	1 m	N/UK 4.3.091
M/370/LSU/3			12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	90°	3 m	N/UK 4.3.091
		M/418/EAU/1	12 ... 24	40 mA	+5 ... +60	PNP	IP 67	PVC 2 x 0,15	In-line	1 m	N/UK 4.3.093
		M/418/EAU/3	12 ... 24	40 mA	+5 ... +60	PNP	IP 67	PVC 2 x 0,15	In-line	3 m	N/UK 4.3.093
		M/419/EAU/1	12 ... 24	40 mA	+5 ... +60	PNP	IP 67	PVC 2 x 0,15	90°	1 m	N/UK 4.3.093
		M/419/EAU/3	12 ... 24	40 mA	+5 ... +60	PNP	IP 67	PVC 2 x 0,15	90°	3 m	N/UK 4.3.093
		M/420/EAN/1	5 ... 24	50 mA	+5 ... +60	NPN	IP 67	PVC 3 x 0,18	In-line	1 m	N/UK 4.3.093
		M/420/EAN/3	5 ... 24	50 mA	+5 ... +60	NPN	IP 67	PVC 3 x 0,18	In-line	3 m	N/UK 4.3.093
		M/421/EAN/1	5 ... 24	50 mA	+5 ... +60	NPN	IP 67	PVC 3 x 0,18	90°	1 m	N/UK 4.3.093
		M/421/EAN/3	5 ... 24	50 mA	+5 ... +60	NPN	IP 67	PVC 3 x 0,18	90°	3 m	N/UK 4.3.093

Accessories

		Stroke adjustment bolt (metal stop)		Stroke adjustment bolt (rubber stop)		Push side stroke adjustment assembly (metal stop)	
							
Model	Ø (mm)	Pull side	Push side	Pull side	Push side	Standard	Symmetric
M/261110/.R./...	10	M/P73424/3	M/P73424/2	M/P73425/3	M/P73425/2	QM/261110/17/*	QM/261110/S7/*
M/261112/.R./...	12	M/P73424/6	M/P73424/5	M/P73425/6	M/P73425/5	QM/261110/17/*	QM/261112/S7/*
		Push side stroke adjustment assembly (rubber stop)		Push side stroke adjustment assembly (shock absorber)		Switch rail	
							
Model	Ø (mm)	Standard	Symmetric	Standard	Symmetric	Standard	Symmetric
M/261110/.R./...	10	QM/261110/15/*	QM/261110/S5/*	QM/261110/18/*	QM/261110/S8/*	M/P73430/2/*	M/P73429/2/*
M/261112/.R./...	12	QM/261112/15/*	QM/261112/S5/*	QM/261112/18/*	QM/261112/S8/*	M/P73430/3/*	M/P73429/3/*
		Push and pull side stroke adjustment assembly (rubber stop)	Push and pull side stroke adjustment assembly (metal stop)	Push and pull side stroke adjustment assembly (shock absorber)	Shock absorber	Magnet	
							
Model	Ø (mm)						
M/261110/.R./...	10	QM/261110/6/*	QM/261110/3/*	QM/261110/4/*	M/P73454/1	M/P73431/3	
M/261112/.R./...	12	QM/261112/6/*	QM/261112/3/*	QM/261112/4/*	M/P73454/1	M/P73431/3	

* Insert standard stroke length (Ø 10 mm: 15, 30 and 45 mm; Ø 12 mm: 20, 30, 45 and 60 mm)



Theoretical forces

Ø mm	Theoretical forces (N) at 6 bar	
	Outstroke	Instroke
10	47	40
12	68	56

Stroke adjustment range

Push side stroke adjuster		
Ø mm	Metal or rubber stoppers	Shock absorber
10	-15 mm on both sides	-19 mm both sides
12	-15 mm on both sides	-18 mm both sides

Push and pull side stroke adjuster		
Ø mm	Metal or rubber stoppers	Shock absorber
10	-15 mm on push sides	-19 mm push sides
10	-5 mm on pull sides	-16 mm pull sides
12	-15 mm on push sides	-18 mm push sides
12	-5 mm on pull sides	-16 mm pull sides

Maximum loads

Ø mm	Description	Maximum loads (kg)
10	No stroke adjustment	0,8
10	With stroke adjustment (metal stop)	0,3
10	With stroke adjustment (rubber stop)	0,8
10	With stroke adjustment (shock absorbers)	1,6
12	No stroke adjustment	1,2
12	With stroke adjustment (metal stop)	0,5
12	With stroke adjustment (rubber stop)	1,2
12	With stroke adjustment (shock absorbers)	2,0

For models with shock absorbers – when installed vertically the load should not force the shock absorber to the end of its stroke. In these cases the load mass should be ≤ 20% of the theoretical force of the unit (see 'Theoretical Forces' table above).

Shock absorber collision energy

The energy that the shock absorber of the stopper must absorb consists of three elements: kinetic energy, energy of cylinder thrust and energy due to gravity. The energy collision is the total of all these.

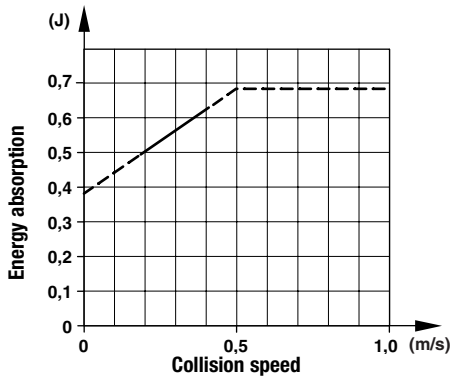
See the shock absorber specifications and energy absorption graphs below to select the correct product.

Shock absorbers specification

Model	Stroke (mm)	Energy absorption J {kgf x m}	Energy absorption per minute J / minute {kgf x m / minute}	Collision speed m / sec.	Usage frequency c.p.m.	Service temperature °C	Piston rod return force N {kgf}
M/P73454/1	5	0,68 {0,07} or less	22,8 (2,3) or less	1 or less	60 or less	-5 ... 70°	4,9 {0,5} or less

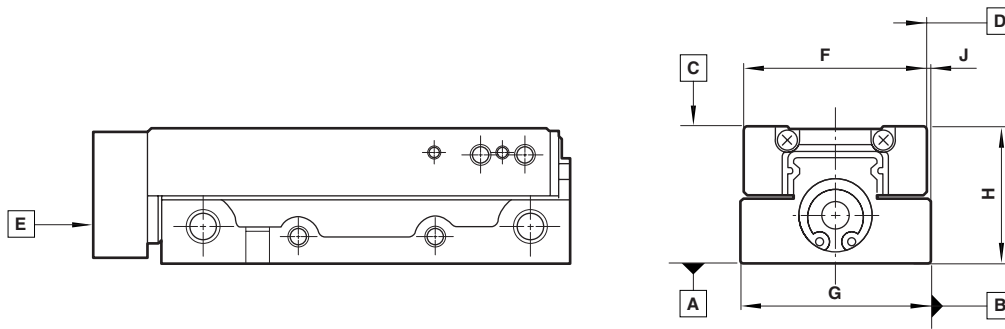
Energy absorption

Ø 10 & 12 mm





Accuracy

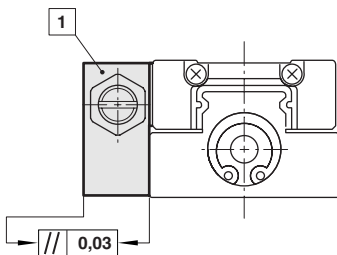


Standard (mm)

Model	Ø	Stroke length (mm)	Parallelism Plane C with respect to plane A	Parallelism Plane D with respect to plane B	Running parallelism Plane C with respect to plane A	Running parallelism Plane D with respect to plane B	Squareness Plane E with respect to plane A	Squareness Plane E with respect to plane B
M/261110/.R./J..	10	15	0,02	0,02	0,004	0,004	0,15	0,15
M/261110/.R./J..	10	30	0,02	0,02	0,004	0,004	0,15	0,15
M/261110/.R./J..	10	45	0,02	0,02	0,004	0,004	0,15	0,15
M/261112/.R./J..	12	20	0,02	0,02	0,004	0,004	0,15	0,15
M/261112/.R./J..	12	30	0,02	0,02	0,004	0,004	0,15	0,15
M/261112/.R./J..	12	45	0,02	0,02	0,004	0,004	0,15	0,15
M/261112/.R./J..	12	60	0,02	0,02	0,006	0,006	0,15	0,15

Model	Ø	Stroke length (mm)	Tolerance of dimension			
			F	G	H	J
M/261110/.R./J..	10	15	±0,2	±0,2	±0,05	±0,025
M/261110/.R./J..	10	30	±0,2	±0,2	±0,05	±0,025
M/261110/.R./J..	10	45	±0,2	±0,2	±0,05	±0,025
M/261112/.R./J..	12	20	±0,2	±0,2	±0,05	±0,025
M/261112/.R./J..	12	30	±0,2	±0,2	±0,05	±0,025
M/261112/.R./J..	12	45	±0,2	±0,2	±0,05	±0,025
M/261112/.R./J..	12	60	±0,2	±0,2	±0,05	±0,025

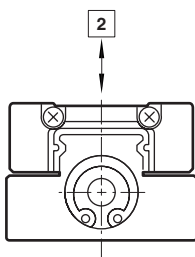
Parallelism of adjustment block



1 Adjustment block

On models with stroke adjustment, the side plane of the adjustment block can be used as a datum plane for installation. Parallelism 0,03 mm.

Radial clearance and preloading (mm)



2 Radial clearance

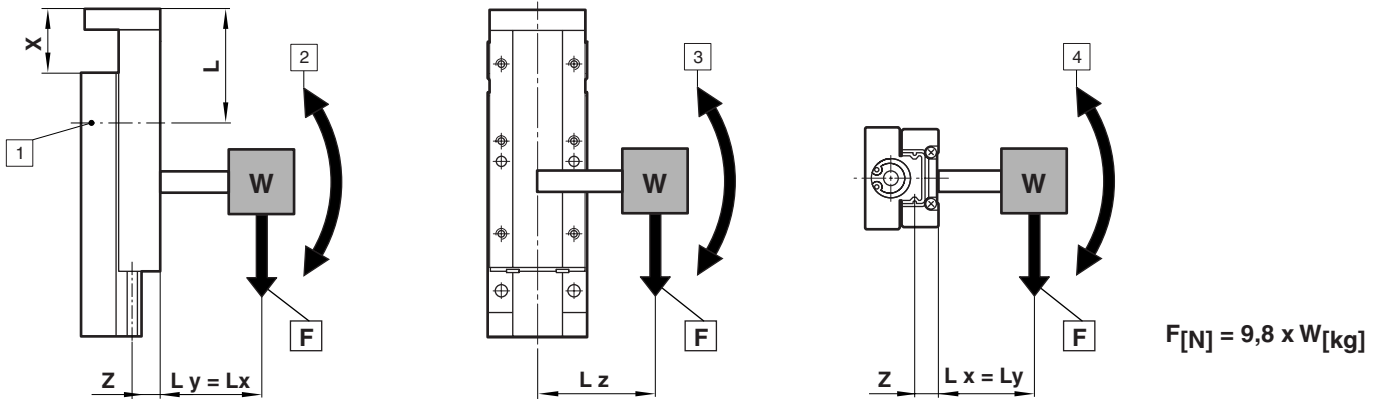
Radial clearance means clearance in vertical direction (see left figure) under constant light load. To minimise this clearance and increase rigidity, all bearings used for M/261000 are preloaded.

Ø	Radial clearance
10	0 ≈ -0,0025
12	0 ≈ -0,003

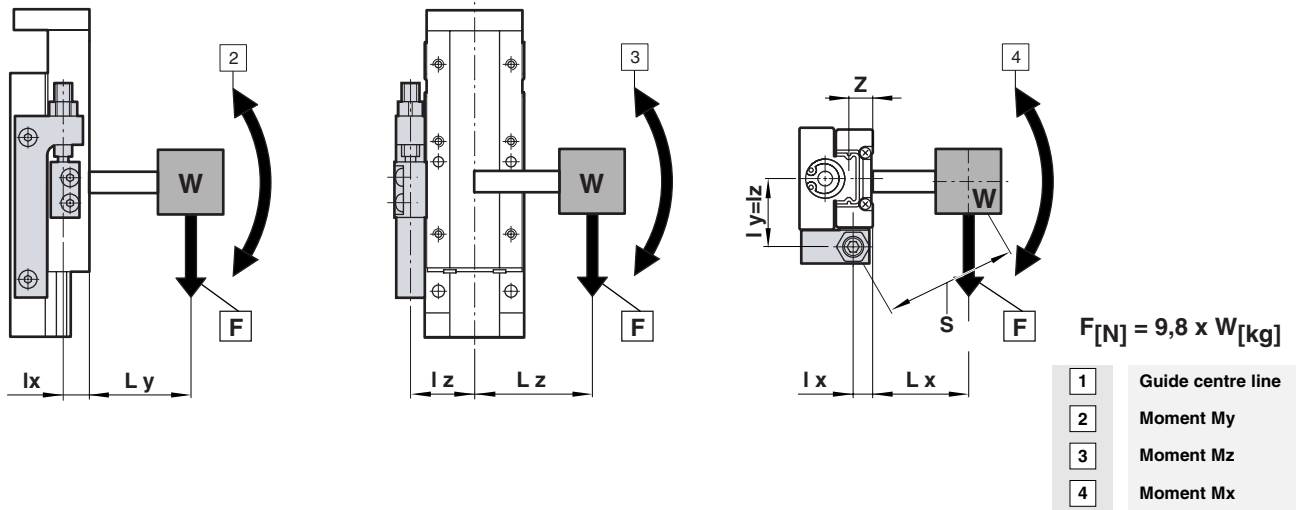


Moments and loads

Without stroke adjuster



With stroke adjuster



Theoretical moments

Ø	Theoretical moments (Nm)		
	Mx	My	Mz
10	1,9	1,8	2,0
12	3,8	3,0	3,4

To calculate theoretical moments use the following formula - Gravity acting on load (9,8) x mass of load (kg) x distance between the centre line of the guide and the centre of gravity of the loaded work (m). Calculated values should not exceed those in the 'Theoretical moments' table.

Position of guide centre line

Model	Ø	Stroke length (mm)	Guide centre line positions (m)	
			(X/2) + 0,035	z
M/261110/R././.	10	15	(X/2) + 0,035	0,0065
M/261110/R././.	10	30	(X/2) + 0,043	0,0065
M/261110/R././.	10	45	(X/2) + 0,050	0,0065
M/261112/R././.	12	20	(X/2) + 0,039	0,0075
M/261112/R././.	12	30	(X/2) + 0,044	0,0075
M/261112/R././.	12	45	(X/2) + 0,052	0,0075
M/261112/R././.	12	60	(X/2) + 0,059	0,0075

Position of stopper centre line

Model	Ø	Models with metal or rubber stops		Models with shock absorbers	
		lx	lz	lx	lz
M/261110/R././.	10	0,0060	0,0180	0,0065	0,0200
M/261112/R././.	12	0,0060	0,0215	0,0065	0,0225

W (kg): mass of a loaded work

F (N): gravity acting on a loaded work

L (m): distance between front face of table and guide centre line

X (m): distance between front face of table and body end plane

z+Lx, z+Ly and Lz (m): distance between guide centre line and centre of gravity of loaded work

lx and lz (m): distance between guide centre line (lz/ly) or the surface of the table (lx) and the adjuster bolt

S (m): distance between centre of gravity of loaded work and stopper

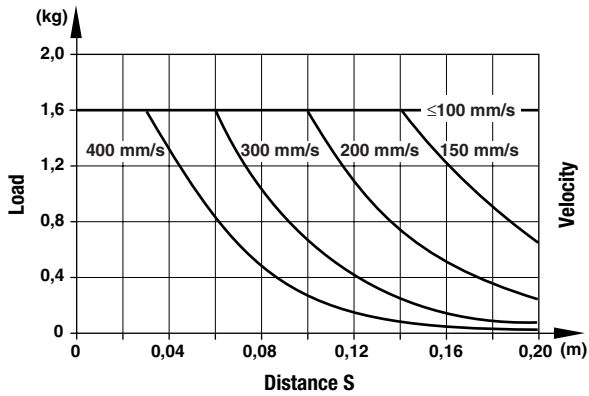


Maximum mass

When a linear slide table stops at the end of its stroke a force is generated due to the inertia of the load. The value of this force depends on various conditions. The graphs below consider the speed of movement, mass of the load and the distance between the load's centre of

gravity and the stroke adjustment bolt of the linear slide table (dimension S on the Moments drawing on the page 06 that details rolling moment Mx for models with stroke adjusters). These graphs can be used as a guide to the allowable values of the load.

∅ 10 mm



∅ 12 mm

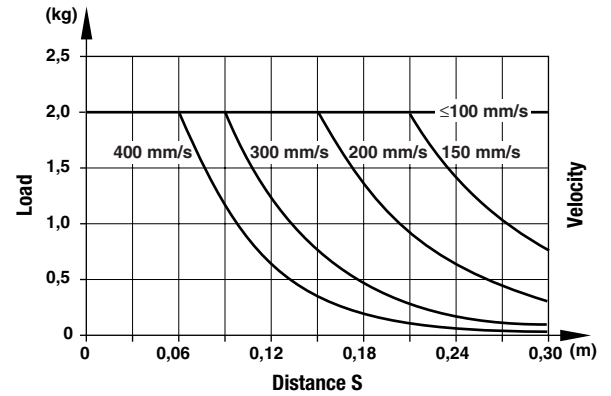
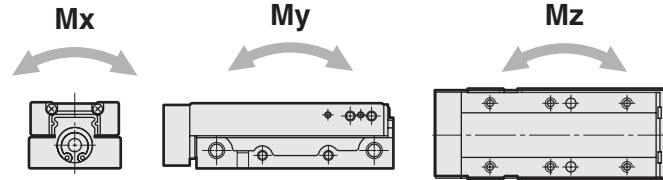


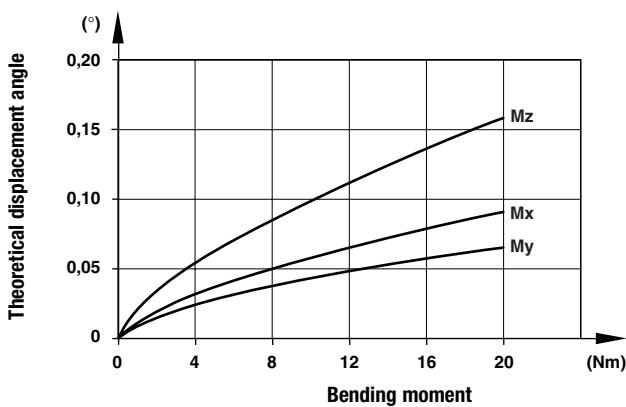
Table deflection angle

The bearings are preloaded, but the table may incline under external load (moment) due to elastic deformation

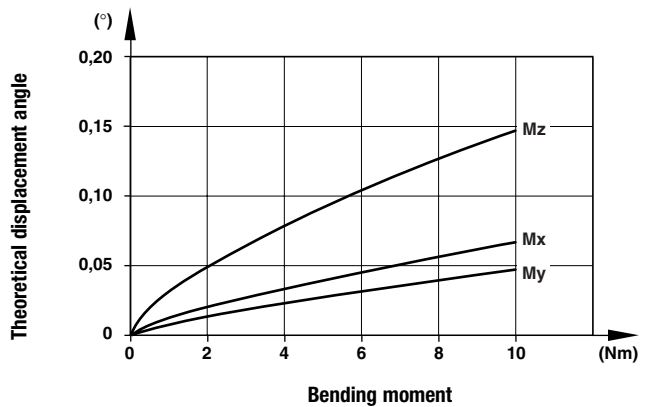
of balls and races. Graphs below show the deflection angle of the table in relation to the appropriate moment.



∅ 10 mm

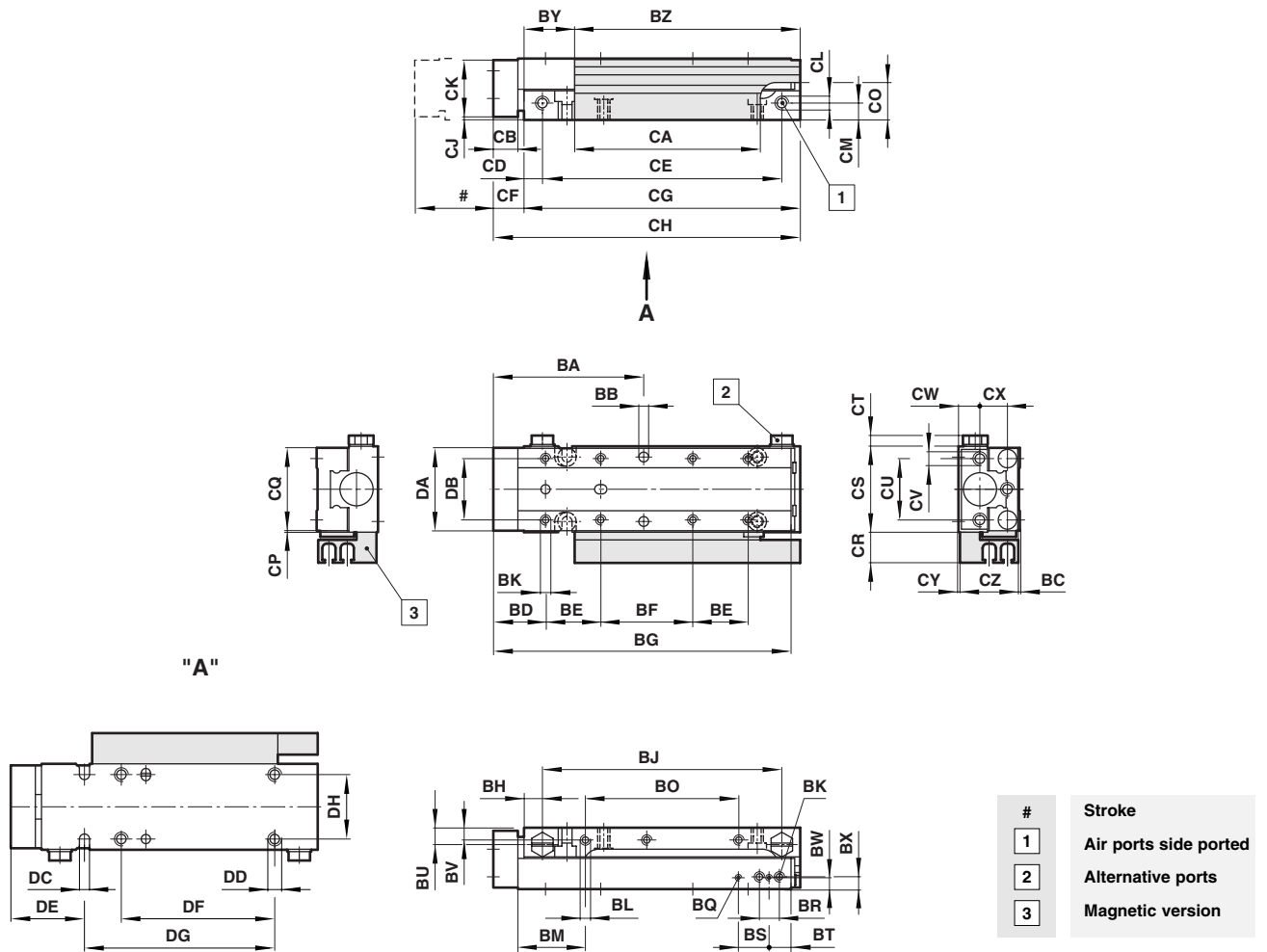


∅ 12 mm





M/26111./R./I. Standard slide tables (Ø 10 and 12 mm)



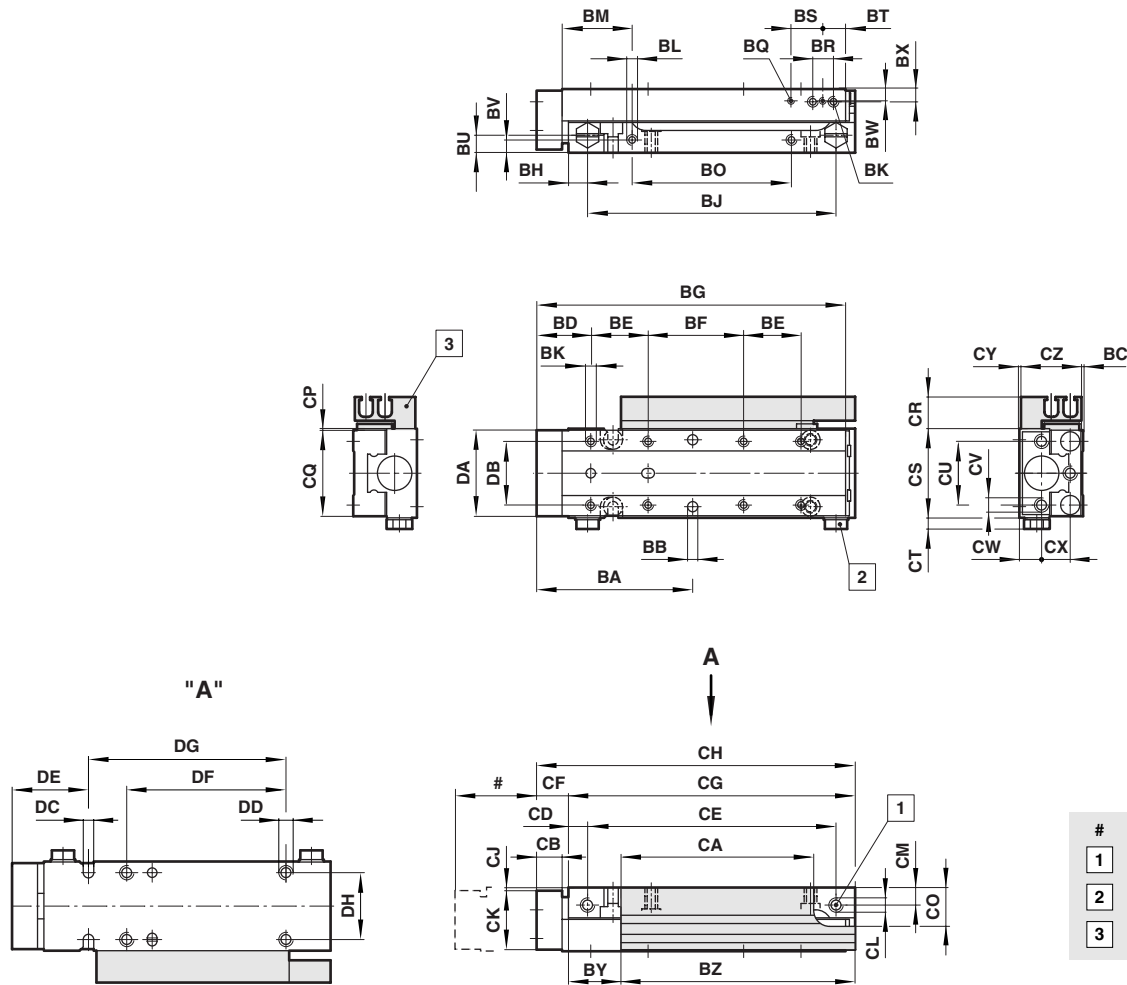
Model	Ø	Ø BB	BC	BD	BH	BK	BL	BM	BQ	BR	BS	BT	BU			
M/261110./R./..	10	3,2	0,5	17	6	M3 x 3 deep	M3 x 5 deep	20	M2 x 3 deep	6,5	10	7,2	5,5			
M/261112./R./..	12	4	1	20	6	M3 x 4 deep	M3 x 5 deep	23	M2 x 3 deep	6,5	10	8,1	5,5			
Model	Ø	BV	BW	BX	BY	CB	CD	CF	CJ	CK	CL	CM	CO	CP	CQ	CR
M/261110./R./..	10	4	3,7	4	16,5	8	6	10	1	18,5	M5	5,5	12,2	0,5 ±0,025	27±0,2	10
M/261112./R./..	12	5,5	4,2	4,5	18,5	8	6	10	1	20,5	M5	5,5	13,7	0,5 ±0,025	32±0,2	10
Model	Ø	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DE	DH		
M/261110./R./..	10	28±0,2	3,5	20	M4 x 8 deep	7	9	0,5	19	27	21	3,3	24	21		
M/261112./R./..	12	33±0,2	3,5	24	M4 x 8 deep	8	9	2	19	32	25	4,4	25	24		

Model	Stroke	BA	BE	BF	BG	BJ	BO	BZ	CA	CE	CG	CH
M/261110./R1/IP/15	15	39	18	-	67	48	20	43,5	30,5	48	60	70
M/261110./R1/IP/30	30	44	18	15	82	63	35	58,5	45,5	63	75	85
M/261110./R1/IP/45	45	49	18	30	97	78	50	73,5	60,5	78	90	100
M/261112./R1/IP/20	20	45	20	-	75	54	20	47,5	34,5	54	66	76
M/261112./R1/IP/30	30	53	25	-	85	64	30	57,5	44,5	64	76	86
M/261112./R1/IP/45	45	53	25	15	100	79	45	72,5	59,5	79	91	101
M/261112./R1/IP/60	60	53	25	30	115	94	60	87,5	74,5	94	106	116

Model	Stroke	DF	DG	Weight kg	Magnet kg
M/261110./R1/IP/15	15	20	32	0,230	0,015
M/261110./R1/IP/30	30	35	47	0,270	0,020
M/261110./R1/IP/45	45	50	62	0,320	0,025
M/261112./R1/IP/20	20	20	36	0,320	0,017
M/261112./R1/IP/30	30	30	46	0,370	0,020
M/261112./R1/IP/45	45	45	61	0,425	0,025
M/261112./R1/IP/60	60	60	76	0,495	0,030



M/26111./R./S. Symmetric slide tables (Ø 10 and 12 mm)



#	Stroke
1	Air ports side ported
2	Alternative ports
3	Magnetic version

Model	Ø	Ø BB	BC	BD	BH	BK	BL	BM	BQ	BR	BS	BT	BU			
M/261110./R./S.	10	3,2	0,5	17	6	M3 x 3 deep	M3 x 5 deep	20	M2 x 3 deep	6,5	10	7,2	5,5			
M/261112./R./S.	12	4	1	20	6	M3 x 4 deep	M3 x 5 deep	23	M2 x 3 deep	6,5	10	8,1	5,5			
Model	Ø	BV	BW	BX	BY	CB	CD	CF	CJ	CK	CL	CM	CO	CP	CQ	CR
M/261110./R./S.	10	4	3,7	4	16,5	8	6	10	1	18,5	M5	5,5	12,2	0,5 ±0,025	27±0,2	10
M/261112./R./S.	12	5,5	4,2	4,5	18,5	8	6	10	1	20,5	M5	5,5	13,7	0,5 ±0,025	32±0,2	10
Model	Ø	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DE	DH		
M/261110./R./S.	10	28±0,2	3,5	20	M4 x 8 deep	7	9	0,5	19	27	21	3,3	24	21		
M/261112./R./S.	12	33±0,2	3,5	24	M4 x 8 deep	8	9	2	19	32	25	4,4	25	24		

Model	Stroke	BA	BE	BF	BG	BJ	BO	BZ	CA	CE	CG	CH
M/261110./R1/SP/15	15	39	18	-	67	48	20	43,5	30,5	48	60	70
M/261110./R1/SP/30	30	44	18	15	82	63	35	58,5	45,5	63	75	85
M/261110./R1/SP/45	45	49	18	30	97	78	50	73,5	60,5	78	90	100
M/261112./R1/SP/20	20	45	20	-	75	54	20	47,5	34,5	54	66	76
M/261112./R1/SP/30	30	53	25	-	85	64	30	57,5	44,5	64	76	86
M/261112./R1/SP/45	45	53	25	15	100	79	45	72,5	59,5	79	91	101
M/261112./R1/SP/60	60	53	25	30	115	94	60	87,5	74,5	94	106	116

Model	Stroke	DF	DG	Weight kg	magnet kg
M/261110./R1/SP/15	15	20	32	0,230	0,015
M/261110./R1/SP/30	30	35	47	0,270	0,020
M/261110./R1/SP/45	45	50	62	0,320	0,025
M/261112./R1/SP/20	20	20	36	0,320	0,017
M/261112./R1/SP/30	30	30	46	0,370	0,020
M/261112./R1/SP/45	45	45	61	0,425	0,025
M/261112./R1/SP/60	60	60	76	0,495	0,030

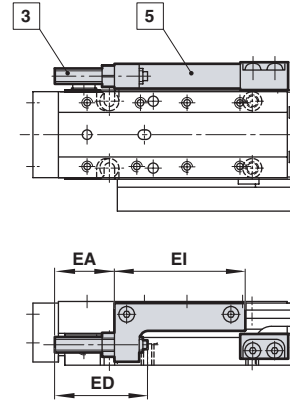
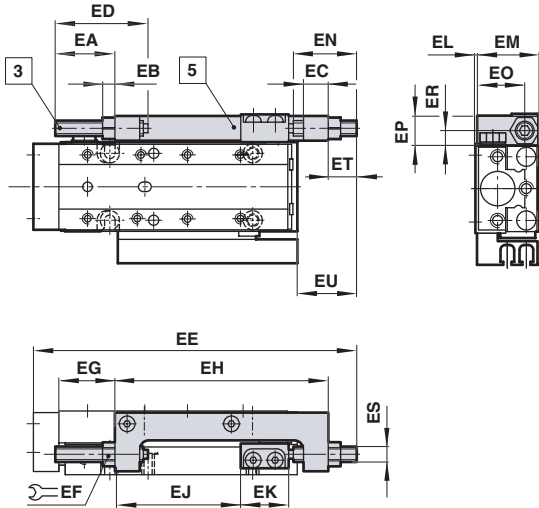


M/26111./R3/... Standard precision linear slide table with push and pull side stroke adjustment, metal stops

M/26111./R6/... Standard precision linear slide table with push and pull side stroke adjustment, rubber stops

M/26111./R7/... Standard precision linear slide table with push and pull side stroke adjustment, metal stops

M/26111./R5/... Standard precision linear slide table with push and pull side stroke adjustment, rubber stops



- 3 Adjuster bolt
- 5 Adjuster block

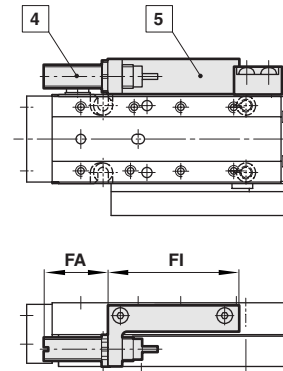
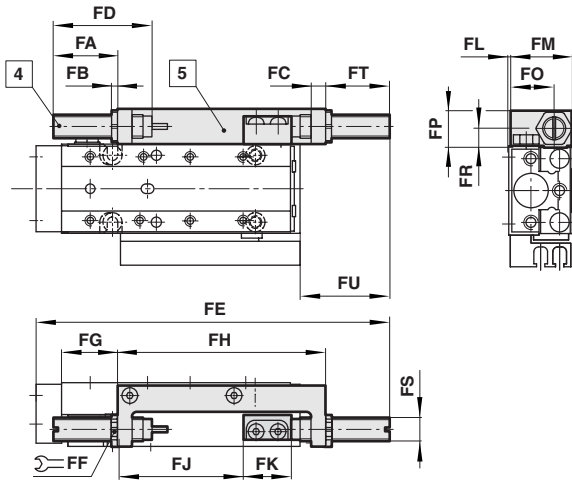
Model	EA	EB	EC	ED	EF	EG	EK	EL	EM	EN	EO	EP	ER	ES	ET	EU
M/261110/R./...	max. 19,3	4	8	30	7	16,5	15,5	0,5	19	22	13,5	8	4	M5	max. 9,2	19,7
M/261112/R./...	max. 19,8	5	7,5	30	8	19	15,5	0,5	21	22	15,5	10	5	M6	max. 9,7	20,7

Model	Stroke	EE	EH	EI	EJ	Weight kg Slide table	Weight kg Push side stroke adjuster Basic model +	Weight kg Push and pull side stroke adjuster Basic model +
M/261110/R././15	15	max. 89,7	54	27	25,7	0,230	0,035	0,055
M/261110/R././30	30	max. 104,7	69	42	40,7	0,270	0,045	0,065
M/261110/R././45	45	max. 119,7	84	57	55,7	0,320	0,055	0,075
M/261112/R././20	20	max. 96,7	58	28	30,2	0,320	0,045	0,080
M/261112/R././30	30	max. 106,7	68	38	40,2	0,370	0,055	0,090
M/261112/R././45	45	max. 121,7	83	53	55,2	0,425	0,070	0,105
M/261112/R././60	60	max. 136,7	98	68	70,2	0,495	0,085	0,120



M/26111./R4/... Standard precision linear slide table with push and pull side stroke adjustment, shock absorbers

M/26111./R8/... Standard precision linear slide table with push side stroke adjustment, shock absorber



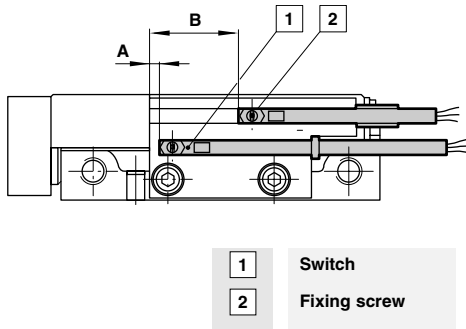
4	Shock absorber
5	Adjuster block

Model	FA	FB	FC	FD	FF	FG	FK	FL	FM	FO	FP	FR	FS	FT	FU
M/261110./R./..	max. 21,3	2	4,2	32	11	16,5	15,5	0,5	19	13	12	6	M8	max. 18,2	max. 29,7
M/261112./R./..	max. 20,8	2	4,7	32	11	18	15,5	0,5	21	15	12	6	M8	max. 18,7	max. 30,7

Model	Stroke	FE	FH	FI	FJ	Weight kg Slide table	Weight kg Push side stroke adjuster Basic model +	Weight kg Push and pull side stroke adjuster Basic model +
M/261110./R././15	15	max. 99,7	55	max. 27	25,7	0,230	0,045	0,075
M/261110./R././30	30	max. 114,7	70	max. 42	40,7	0,270	0,055	0,085
M/261110./R././45	45	max. 129,7	85	max. 57	55,7	0,320	0,065	0,095
M/261112./R././20	20	max. 106,7	60	max. 29	31,2	0,320	0,055	0,095
M/261112./R././30	30	max. 116,7	70	max. 39	41,2	0,370	0,065	0,105
M/261112./R././45	45	max. 131,7	85	max. 54	56,2	0,425	0,075	0,115
M/261112./R././60	60	max. 146,7	100	max. 69	71,2	0,495	0,090	0,130



Switches



Reed

Ø mm	stroke	Setting position	
		A	B
10	15	1,3	16,3
10	30	1,3	31,3
10	45	1,3	46,3
12	20	1,4	21,4
12	30	1,4	31,4
12	45	1,4	46,4
12	60	1,4	61,4

Solid state

Ø mm	stroke	Setting position	
		A	B
10	15	3,3	18,3
10	30	3,3	33,3
10	45	3,3	48,3
12	20	3,4	23,4
12	30	3,4	33,4
12	45	3,4	48,4
12	60	3,4	63,4

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under 'Technical Data'.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult **NORGREN**.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.