

Precise synchronous slide table movement makes these units ideal for use as escapements or grippers

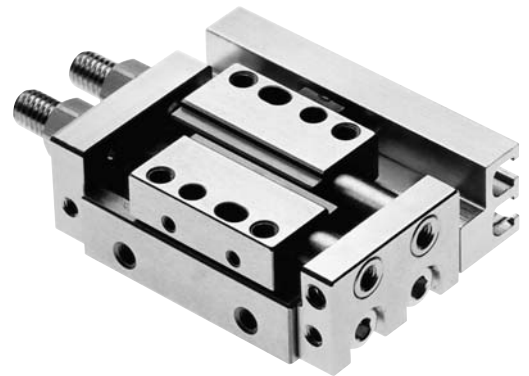
Compact envelope dimensions

High cycle rate – 120 cycles/minute

Light weight

Magnetic switching for positional feedback

Excellent service life



Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting with synchronous slide table movement

Operating pressure:

3 to 7 bar

Operating temperature:

+5°C to +60°C

Consult our Technical Service for use below +2°C

Cylinder diameters:

6 mm

Strokes:

5, 10 mm

Speed:

120 cycles/minute maximum

Materials

Slide tables: stainless steel

Guide rail: stainless steel

Side plates: nickel plated aluminium alloy and nickel plated steel

Piston rods: nickel plated aluminium alloy

Hexagon socket bolts: nickel plated steel

Stroke adjustment bolts: nickel plated steel

Stroke adjustment bolts with rubber stops:

stainless steel and urethane rubber

Locknuts: nickel plated steel

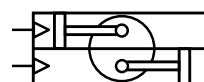
Elastomers: nitrile rubber

Ordering information

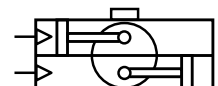
See page 2

Alternative cylinders

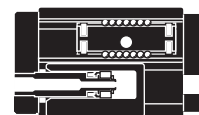
See page 2



Non-magnetic



Magnetic





Alternative cylinders

Symbol	Model Non-magnetic	Symbol	Model (magnetic)	Description Magnetic	Page
	M/261400/IR1		M/261406/MR1	Without stroke adjustment	6
	M/261400/IR3		M/261406/MR3	Without stroke adjustment, metal stops	7
	M/261400/IR6		M/261406/MR6	Without stroke adjustment, rubber stops	7
	M/261400/IR*/I		M/261406/MR*/I	Standard locations of magnet and switch rail (right side of air ports)	6
	M/261400/IR*/S		M/261406/MR*/S	Alternative locations of magnet and switch rail (left side of air ports)	6

Options selector

M/261406/★R★/★/★★

Type	Substitute	Standard stroke lengths
Magnetic	M	5 and 10 mm
Non-magnetic	I	
Stroke adjustment	Substitute	Location of switch rail and stroke adjusters
No stroke adjustment	1	Standard (right side of ports)
Stroke adjustment, metal stops	3	Alternative (left side of ports)
Stroke adjustment, rubber stops	6	
		Substitute
		I
		S

Standard strokes

Ø mm	5	10
6	●	●

Ordering examples

Slide table

To order a Ø 6 mm synchronous linear slide table magnetic, stroke adjustment with rubber stops and a 5 mm stroke length

quote: **M/261406/MR6/I/5**

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**

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.








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

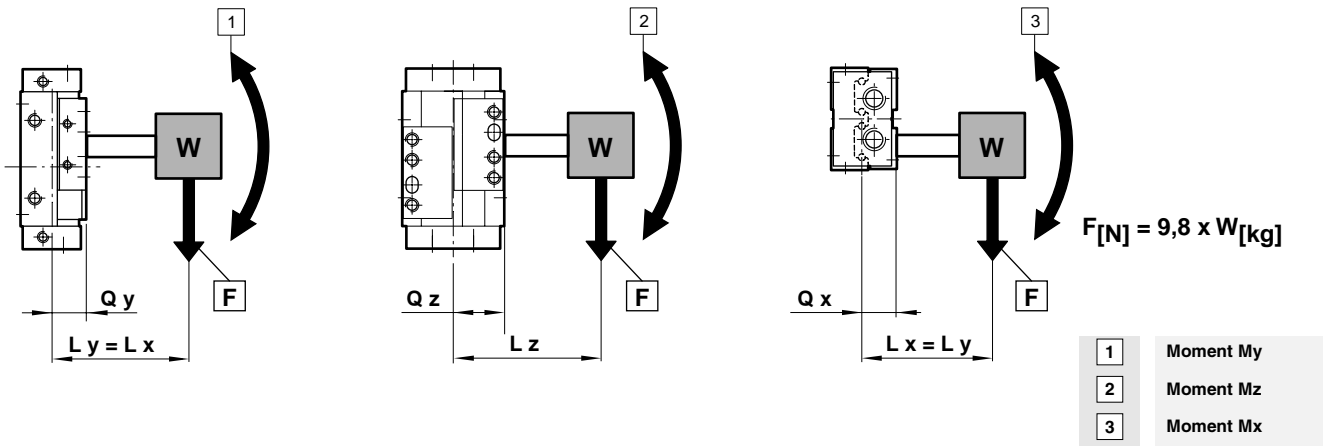
Model Reed	Solid state	Voltage V d.c.	Current max.	Temperature °C	Output	Protection rating	Cable wire material	Cable type	Cable length	Page
M/369/LSU/1		12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	In-line	1 m	N/UK 4.3.091
M/369/LSU/3		12 ... 24	24 mA	+5 ... +60	–	IP 67	PVC 2 x 0,18	In-line	3 m	N/UK 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

Model	Ø	Stroke	Stroke adjustment bolt with nut	Stroke adjustment bolt (rubber stop) and nut	Mounting bracket with fixing bolts	Magnet (with fixing screws)	Switch rail (with fixing bolts)
M/261406/.R././5	6	5					
M/261406/.R././10	6	10	M/P73424/1	M/P73425/1	QM/261406/22	M/P73431	M/P73427/1
			M/P73424/1	M/P73425/1	QM/261406/22	M/P73431	M/P73427/1



Moments and loads



Forces

Ø	Theoretical forces (N) at 6 bar	
	Drive table	Driven table
6	10,8	4,1

Theoretical moments and maximum load

Ø	Theoretical moments (Nm)			Maximum load (kg)
	Mx	My	Mz	
6	0,54	0,29	0,29	0,1

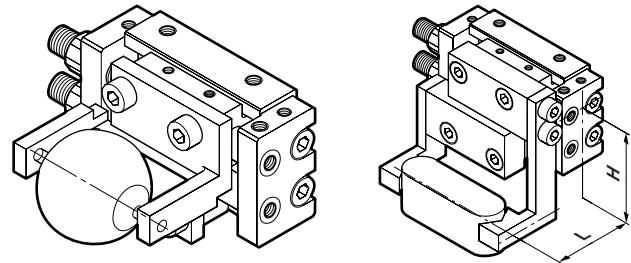
Position of the guide and adjuster bolt

Ø	Guide centre line positions (m)	
	Qx	Qz
6	0,0085	0,0067

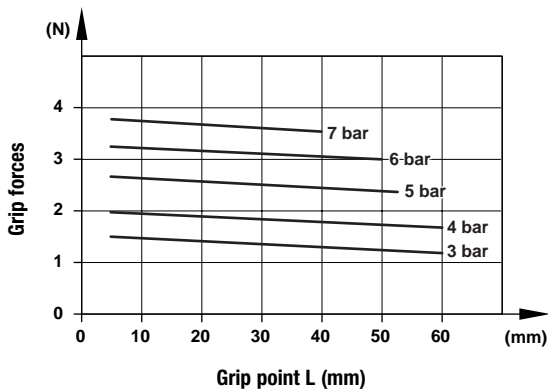
To calculate a theoretical moment use the following formula - Gravity acting on load (9,8) x mass of load (kg) x distance between centre line of linear slide table and load's centre of gravity (mm). Calculated values should not exceed those in the table above.

Stroke adjustment

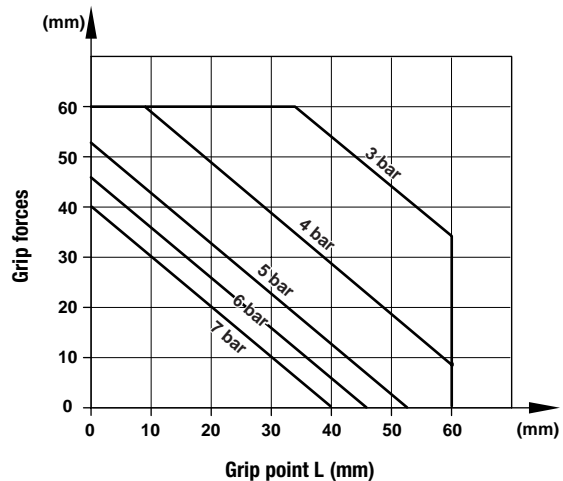
Models specified with stroke adjustment feature two stroke adjusting bolts. By adjusting these bolts the nominal stroke of either side table can be decreased by 5 mm. However, it should be noted that, due to the table's synchronous movement, adjusting the stroke length of one table will determine the stroke of the other.



Effective closing grip force

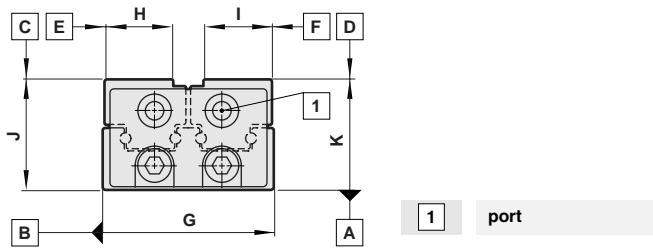


Grip point limitation range



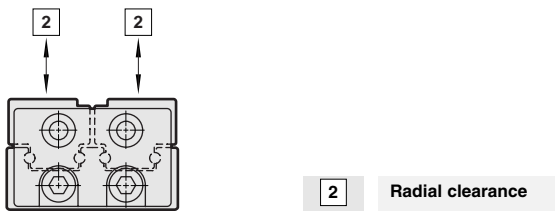


Accuracy



Ø	Parallelism Plane C and D with respect to plane A	Parallelism Plane E and F with respect to plane B	Running parallelism Plane C and D with respect to plane A	Running parallelism Plane E and F with respect to plane B	Level difference between surfaces C and D	Tolerance of dimension				
						G	H	I	J	K
6	0,03	0,03	0,005	0,005	0,02	0-0,1	0-0,1	0-0,1	±0,05	±0,05

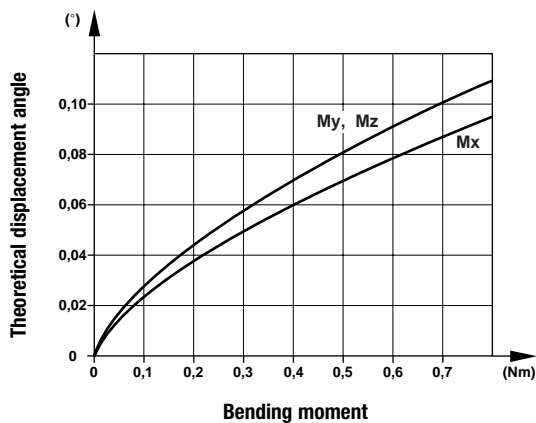
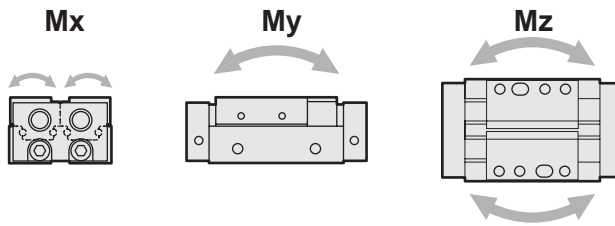
Radial clearance and preloading (mm)



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/261400 are preloaded.

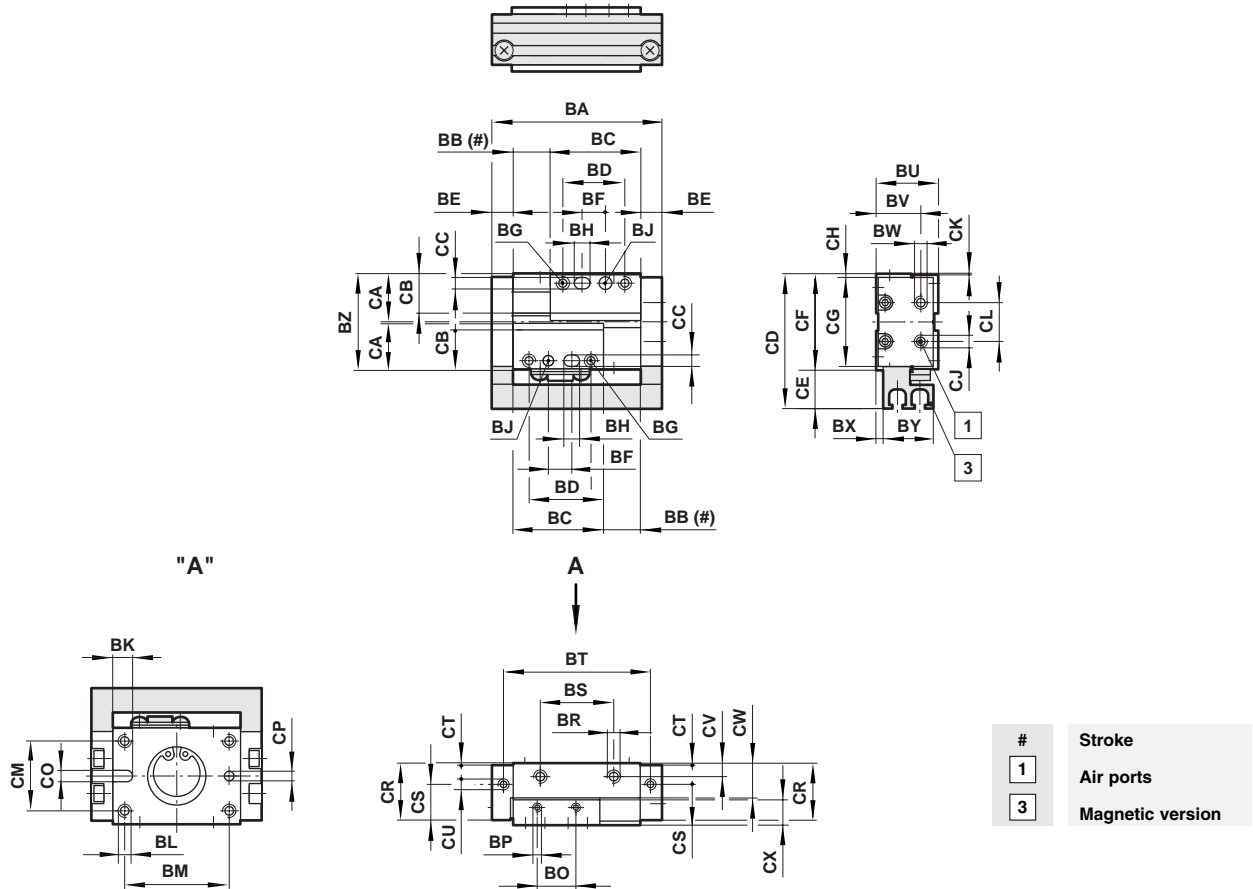
Ø	Radial clearance
6	0 ≈ -0,002

Theoretical displacement of table by moment





M/261406/.R1/..., Standard synchronous linear slide table (Ø 6 mm)



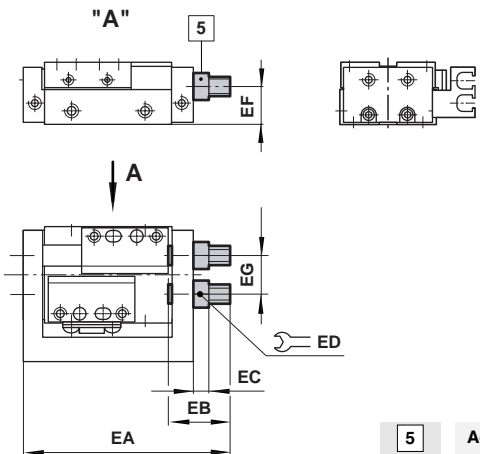
Model	Ø	BC	BD	BE	BF	BG	BH	Ø BJ	BK	BL	BO
M/261406/.R1/..	6	22,4 ^{-0,1}	16	5,5	6	M3 x 3 deep	4	3 x 2,5 deep	5	M3 x 3 deep	10
Model	Ø	BP	BR	BU	BV	BX	BY	BZ	CA	CB	
M/261406/.R1/..	6	M2 x 2,5 deep	M3 x 3 deep	16 ±0,05	11,5	1,8	13	24,4 ±0,05	12	10 ^{-0,1}	
Model	Ø	CC	CD	CE	CF	CG	CH	CJ	CK	CL	CM
M/261406/.R1/..	6	3 x 2,5 deep	35	10	25 ^{-0,1}	23	1	M3	0,3 ±0,1	10	18
Model	Ø	CO	CP	CR	CS	CT	CU	CV	CW	CX	
M/261406/.R1/..	6	3 x 3 deep	Ø 3 x 3 deep	14,7	9,2	0,5	M 2,5 x 3 deep	3,5	9	6,5	

Model	Ø	Stroke	BA	BB	BM	BS	BT	kg	Magnet kg
M/261406/.R1/..J5	6	5	39	5 +0 -0,7	22	14	33	0,070	0,008
M/261406/.R1/..J10	6	10	44	10 +0 -0,7	27	19	38	0,075	0,008



M/261406/.R3/..., Synchronous linear slide table with metal stops (Ø 6 mm)

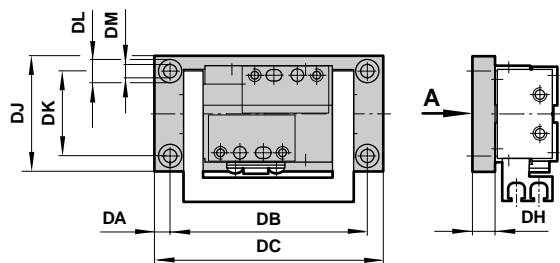
M/261406/.R6/..., Synchronous linear slide table with rubber stops (Ø 6 mm)



Model	Ø	EB	EC	ED	EF	EG
M/261406/.R../..	6	16	4	7	10,5	10

Model	Ø	Stroke	EA max.	kg Basic model +
M/261406/.R3/..	6	5	49,5	0,005
M/261406/.R6/..	6	10	54,5	0,005

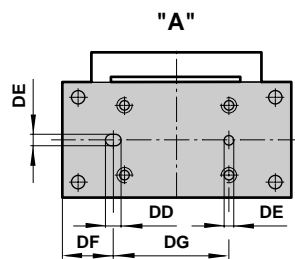
QM/261406/.I22 – Mounting bracket



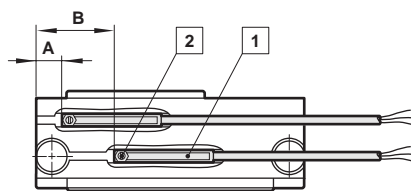
Model	Ø	DA	DD	DE +0,05	DF	DH
M/261406/.R../..	6	4	4	3 x 3 deep	10	6

Model	DJ	DK	DL	DM
M/261406/.R../..	30	22	6 x 3,2 deep	Ø 3,5

Model	Ø	Stroke max.	DB	DC	kg
M/261406/.R3/..	6	5	46	54	0,027
M/261406/.R6/..	6	10	51	59	0,030



Switches



Reed

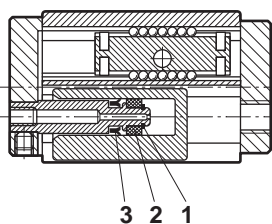
Ø	Stroke	Setting position	
		A	B
6	5	3	9
6	10	3	14

Solid state

Ø	Stroke	Setting position	
		A	B
6	5	5	11
6	10	5	16

- 1 Switch
- 2 Fixing screw

Spares



Ø	Spares kit	Comprising Item	Description	Quantity
6	QM/261406/00	1	Stopper ring	2
		2	Wear ring	2
		3	Piston seal	2