

**New lightweight design extrusion  
with universal mounting grooves**

**Proved and patented sealing system**

**Dust protection as standard**

**Up to 10% higher loading values against  
internal guiding series M/46000**

**Interchangeability with series M/46000**



### Technical data

Medium:

Compressed air, filtered,  
lubricated or non-lubricated

Operation:

M/146000, M/146100, M/146200

Double acting, with adjustable cushioning

M/146000/M, M/146100/M, M/146200/M

Double acting with adjustable cushioning  
and magnetic piston

Models:

M/146000 with internal guide

M/146100 with external adjustable guide

M/146200 with precision roller guide

Operating pressure:

1 to 8 bar

Operating temperature:

-30°C to +80°C max.

(consult our Technical Service for use below +2°C)

Cylinder diameter:

32, 40, 50 mm

Max strokes:

Ø 32 to 40 mm 8500 mm

Ø 50 mm 8000 mm

### Materials:

End covers, closer, carriage and

Top cover: aluminium diecast

Yoke, guiding bridge and profile barrel: anodised aluminium

Seal strip, wiper and piston seal: polyurethane

Cover strip: polyamide

Other seals: nitrile rubber

Mounting screws: A2E

Shim ring: stainless steel (A2)

### Ordering example

See page 4

### Mountings and switches

See page 3 & 4

### Alternative cylinder

See page 2

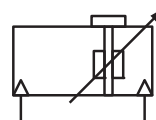
LINTRA® rodless cylinders ø16 to 80 mm  
see page 1.6.002

Heavy duty cylinders

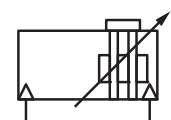
see page 1.6.015

ATEX cylinders

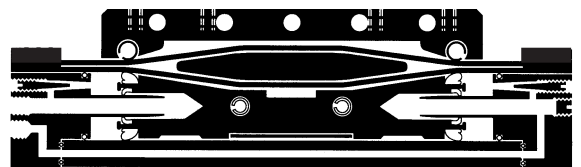
see page ATEX014A\_101



Non-magnetic piston



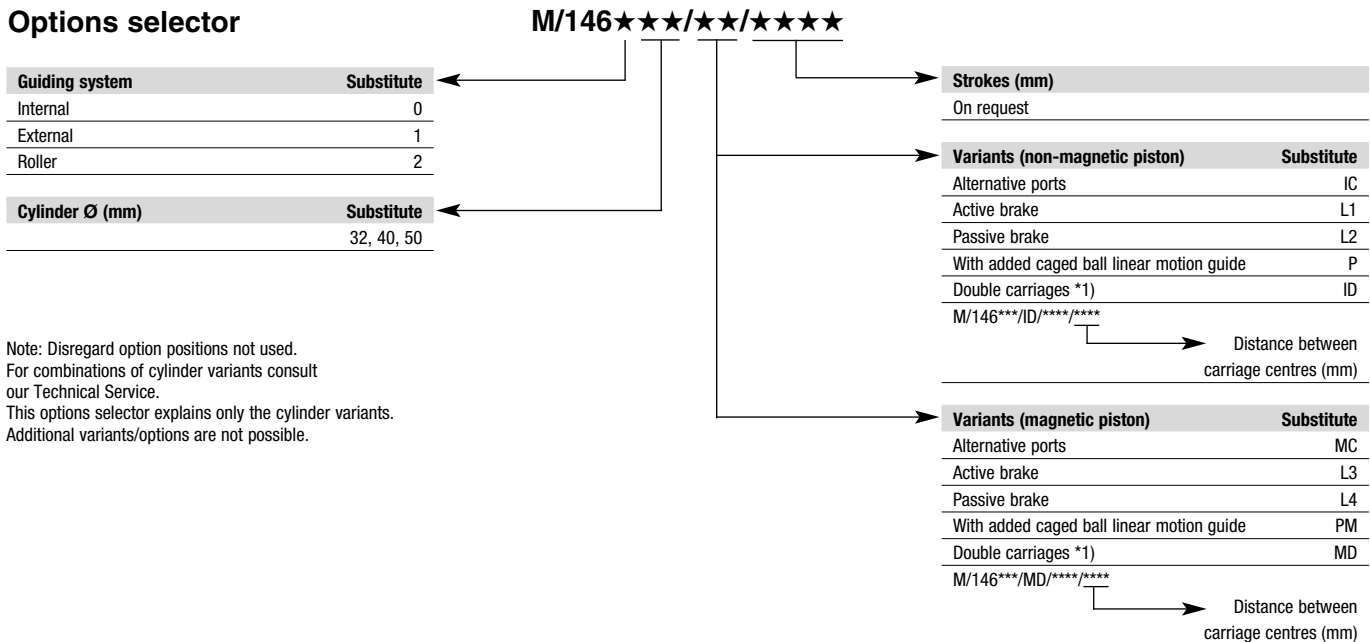
magnetic piston



### Alternative variants

Symbol	Type (non-magnetic piston)	Symbol	Type (magnetic piston)	Description	Page
	M/146000 M/146100 M/146200		M/146000/M M/146100/M M/146200/M	With internal guide With external adjustable guide With precision roller guide	6 7 8
	M/146200/P		M/146200/PM	With added caged ball linear motion guide on request	9
	M/146000/IC M/146100/IC M/146200/IC		M/146000/MC M/146100/MC M/146200/MC	With alternative ports	10
	M/146100/ID M/146200/ID		M/146100/MD M/146200/MD	Cylinder with double carriages	7 + 8
	M/146000/L1 M/146200/L1		M/146000/L3 M/146200/L3	Active holding brake Applying pressure activates the brake The brake lining is pushed against a stainless steel strip. To release, depressurize.	11 + 12
	M/146000/L2 M/146200/L2		M/146000/L4 M/146200/L4	Passive holding brake; Applying pressure releases the brake. When the pressure is released the brake lining is pushed against the stainless steel strip by a spring loaded plate.	11 + 12

### Options selector



Note: Disregard option positions not used.  
For combinations of cylinder variants consult our Technical Service.  
This options selector explains only the cylinder variants.  
Additional variants/options are not possible.

\*1) For M/146100 & M/146200 only

### Ordering information

#### Cylinder

LINTRA® cylinder with internal guiding system, Ø 32 mm cylinder diameter and 3000 mm stroke length with magnetic piston  
Quote: **M/146032/M/3000**

LINTRA® cylinder with external guiding system, Ø 50 mm cylinder diameter and 2000 mm stroke length and non-magnetic piston  
Quote: **M/146150/2000**

#### 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.

#### Mountings

Foot mounting for cylinder Ø 50 mm  
Quote: **QM/46050/21**

#### Switches




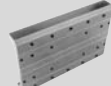


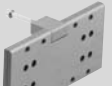



Reed plug with LED and 2 m cable length  
Quote: **M/50/LSU/2V**

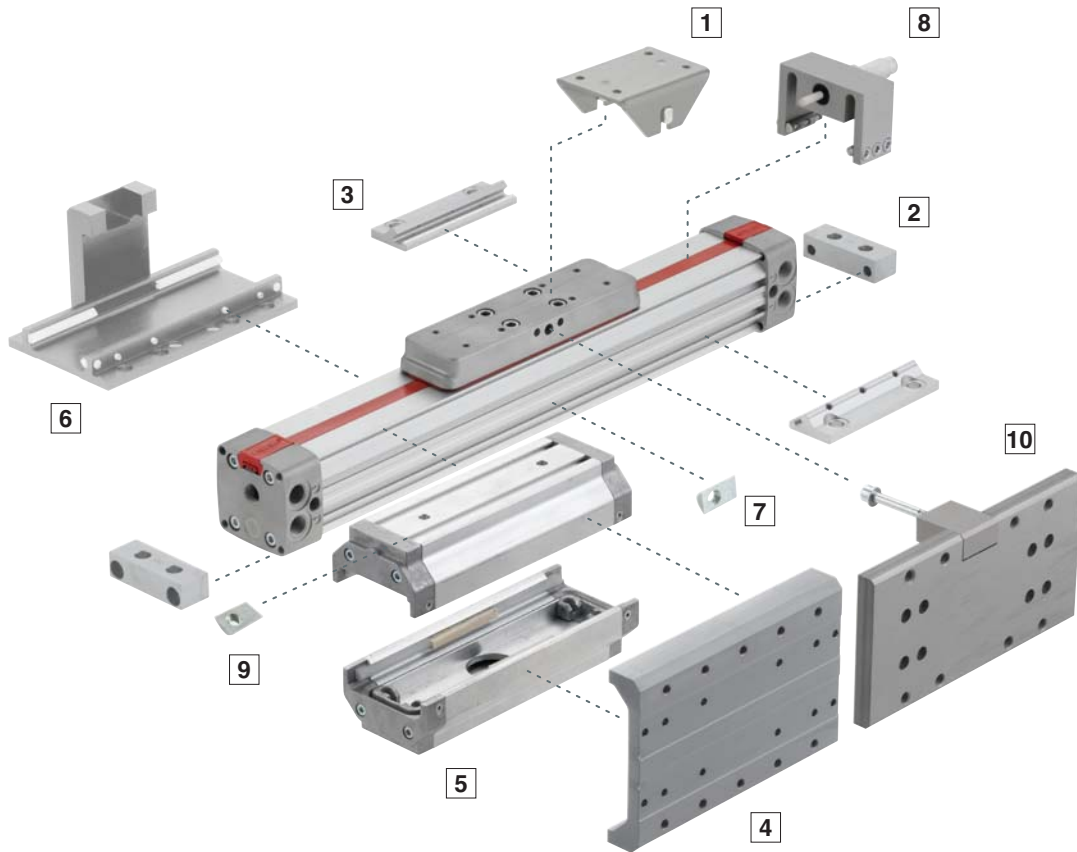
The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

**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.

**Mountings**

	Type C	Type S	Type UV	Type UW	Type V
					
	<b>2</b>	<b>1</b>	<b>6</b>	<b>4</b>	<b>3</b>
<b>Ø mm</b>	<b>Page 12</b>	<b>Page 13</b>	<b>Page 13</b>	<b>Page 13</b>	<b>Page 12</b>
32	QM/46032/21	QM/146032/37	QM/46032/34	QM/46132/36	QM/46032/32
40	QM/46040/21	QM/146032/37	QM/46040/34	QM/46140/36	QM/46040/32
50	QM/46050/21	QM/146050/37	QM/46050/34	QM/46150/36	QM/46050/32
	<b>Type W</b>	<b>Assembly kit for caged ball linear motion guide</b>	<b>Adjustable stop</b>	<b>Groove key for profile barrel</b>	<b>Groove key for guiding bridge</b>
					
	<b>5</b>	<b>10</b>	<b>8</b>	<b>7</b>	<b>9</b>
<b>Ø mm</b>	<b>Page 13</b>	<b>Page 9</b>	<b>Page 14</b>	<b>Page 14</b>	<b>Page 7</b>
32	QM/146132/35	QM/146232/P/70	QM/146132/75	M/P74065	M/P74065
40	QM/146140/35	QM/146240/P/70	QM/146140/75	M/P74065	M/P74066
50	QM/146150/35	QM/146250/P/70	-	M/P74065	M/P41858



### Switches

Type	With cable		With connector (M8x1)		Current max.	Temperature °C	LED	Features	Cable Connector length	Cable type	Cable with connector straight	Datasheet
	Reed	Solid state	Voltage V AC	V DC								
M/50/LSU/*V	-	-	10 to 240	10 to 170	180 mA	-20 to +80	•	-	2, 5, 10 m	PVC 2 x 0,25	-	N/en 4.3.005
M/50/LSU/5U	-	-	10 to 240	10 to 170	180 mA	-20 to +80	•	-	5 m	PUR 2 x 0,25	-	N/en 4.3.005
TM/50/RAU/2S	-	-	10 to 240	10 to 170	180 mA	-20 to +150	-	-	2 m	Silicone 2 x 0,25	-	N/en 4.3.005
M/50/RAC/SV	-	-	10 to 240	10 to 170	180 mA	-20 to +80	-	Changeover	5 m	PVC 3 x 0,25	-	N/en 4.3.005
M/50/LSU/CP	-	-	10 to 60	10 to 75	180 mA	-20 to +80	•	Plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/en 4.3.005
-	M/50/EAP/*V	-	-	10 to 30	150 mA	-20 to +80	•	PNP	2, 5, 10 m	PVC 3 x 0,25	-	N/en 4.3.007
-	M/50/EAP/CP	-	-	10 to 30	150 mA	-20 to +80	•	PNP, plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/en 4.3.007
-	M/50/EAP/CC	-	-	10 to 30	150 mA	-20 to +80	•	PNP, plug M12x1	5 m	PVC 3 x 0,25	M/P34614/5	N/en 4.3.007
-	M/50/EAN/*V	-	-	10 to 30	150 mA	-20 to +80	•	NPN	2, 5, 10 m	PVC 3 x 0,25	-	N/en 4.3.007
-	M/50/EAN/CP	-	-	10 to 30	150 mA	-20 to +80	•	NPN, plug M8x1	5 m	PVC 3 x 0,25	M/P73001/5	N/en 4.3.007

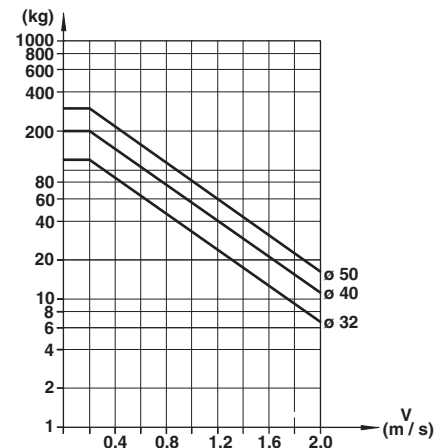
\* Please insert cable length Further information (Technical data, cable material, dimensions) see data sheet

### Theoretical forces, air consumption, cushioning length, holding forces

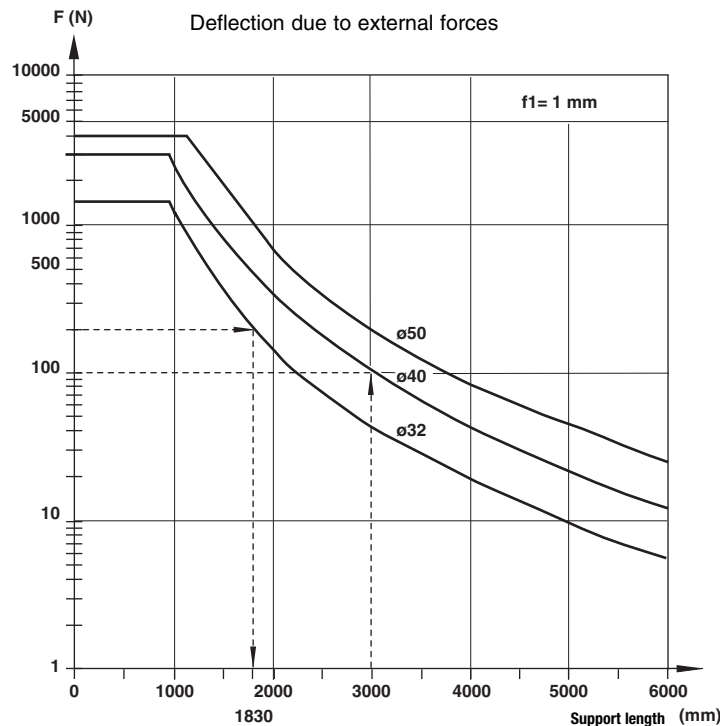
Cylinder Ø mm	Theoretical forces (N) at 6 bar	Air consumption (l/cm) of stroke at 6 bar	Cushioning length (mm)	Holding forces (N) of brake (on dry braking surface) active (L1 + L3) at 6 bar	Holding forces (N) of brake (on dry braking surface) passive (L2 + L4)
32	482	0,056	35	900	375
40	754	0,088	50	1500	630
50	1178	0,137	60	2500	1000

### Cushioning Performance

The dynamic energy of a LINTRA® cylinder is caused by direct or partial external loads which must be absorbed by pneumatic cushioning. The cushioning ability depends to a large extent on the pneumatic circuit (e. g. counter pressure, pre-exhaust). The values given in the diagram were tested with an operation pressure of 6 bar using a 5/2 control valve. When installed horizontally, depending upon the speed, dynamic energy can be absorbed by the cylinder. Whenever the values given in the diagram are exceeded, the transported mass must be cushioned by additional shock absorbers. These have to be located at the center of gravity of the mass.

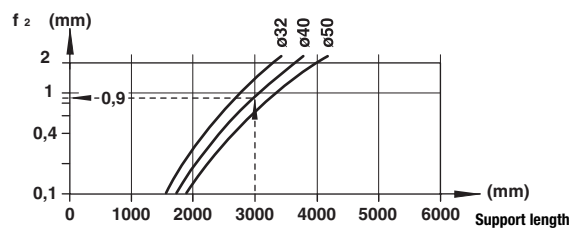


### Cylinder deflection



**Example:**  
Cylinder Ø 32 mm, stroke length 3500 mm, external load 200 N and a deflection about 1 mm  
Maximum distance between supports = 1830 mm (see diagrams).  
Therefore an additional support is required.

### Deflection due to cylinder weight



### Example:

Cylinder Ø 40 mm, external force 180 N, distance between supports 3000 mm  
Required: total deflection  
1. Deflection due to external force (f1)  
see Diagram 1 (1mm/100 N) · 180 N  
2. Deflection due to cylinder weight diagram 2  
Total deflection:

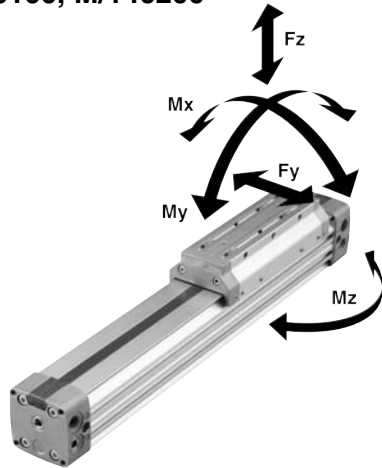
$$1,8 \text{ mm} + 0,9 \text{ mm} = 2,7 \text{ mm}$$

### Max. permitted deflection (f1 + f2)

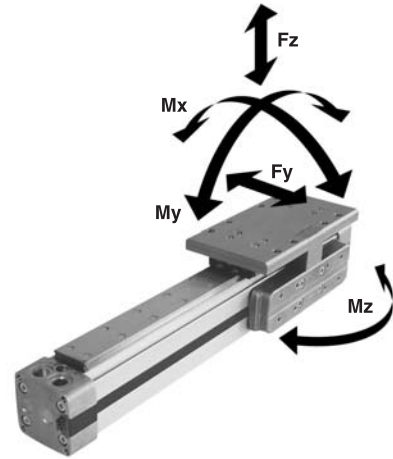
$$< \frac{1 \text{ mm}}{1000 \text{ mm Hub}}$$

A deflection of more than 3 mm is not permitted.

**M/146000, M/146100, M/146200**



**M/146200/P**

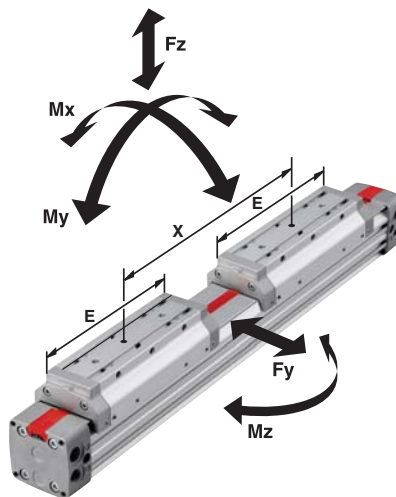


Ø mm	Internal guide M/146000					External adjustable guide M/146100			Precision roller guide M/146200				Added caged linear ball motion guide M/146200/P		
	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)	Fy, Fz (N)	Mx (Nm)	My, Mz (Nm)	Fy (N)	Fz (N)	Mx (Nm)	My, Mz (Nm)	Fy, Fz	Mx	My, Mz
32	165	500	3	33	10	780	17	43	780	1560	25	64	4000	64	400
40	330	990	6,5	84	24	1600	39	110	1500	3000	58	160	4000	64	400
50	440	1320	11	120	35	2000	65	160	2000	4000	97	240	8000	180	800

Loading values applicable to a speed of ≤ 0,2 m/s. Maximum working life is normally reached below a speed of 1 m/s.

\* The forces and moments refers to the centre of the guide. They must not be exceeded in dynamic applications.

**M/146100/ID, M/146100/MD**



Ø mm	External adjustable guide, M/146100/ID and M/146100/MD											
	Fy, Fz (N)	Mx (Nm)	My, Mz (Nm)									
			x min.=E	x=100 mm	x=150 mm	x=200 mm	x=250 mm	x=300 mm	x=350 mm	x=400 mm	x=450 mm	x=500 mm
32	1560	34	155	-	-	181	213	246	278	310	343	375
40	3000	78	393	-	-	-	435	496	557	618	679	740
50	4000	130	457	-	-	-	457	518	579	639	700	761

Ø mm	Precision roller guide M/146200/ID and M/146200/MD											
	Fy, Fz (N)	Mx (Nm)	My, Mz (Nm)									
			x min.=E	x=100 mm	x=150 mm	x=200 mm	x=250 mm	x=300 mm	x=350 mm	x=400 mm	x=450 mm	x=500 mm
32	1560	50	202	-	-	235	277	320	361	403	446	488
40	3000	116	511	-	-	-	566	645	724	803	883	962
50	4000	194	594	-	-	-	594	673	753	831	910	989

Loading values applicable to a speed of ≤ 0,2 m/s. Maximum working life is normally reached below a speed of 1 m/s.

\* The forces and moments refers to the centre of the guide. They must not be exceeded in dynamic applications.

**Loading values for LINTRA® cylinders with double carriages**

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz. All values are applicable only for speeds of max. 0,2 m/s.

A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder. The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

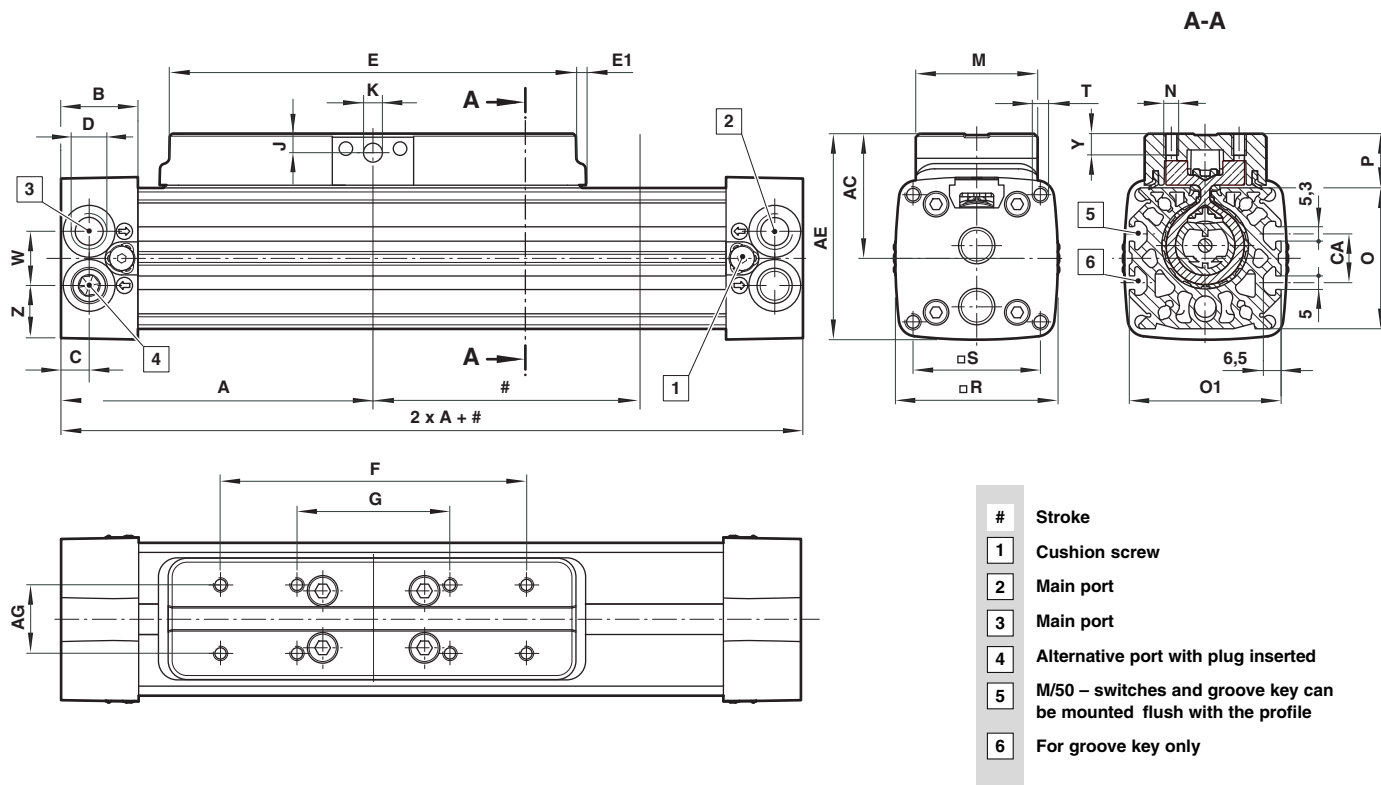
**For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.**

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{M_x}{M_{x \max}} + \frac{M_y}{M_{y \max}} + \frac{M_z}{M_{z \max}} + \frac{F_y}{F_{y \max}} + \frac{F_z}{F_{z \max}} \leq 1$$

### Basic dimensions

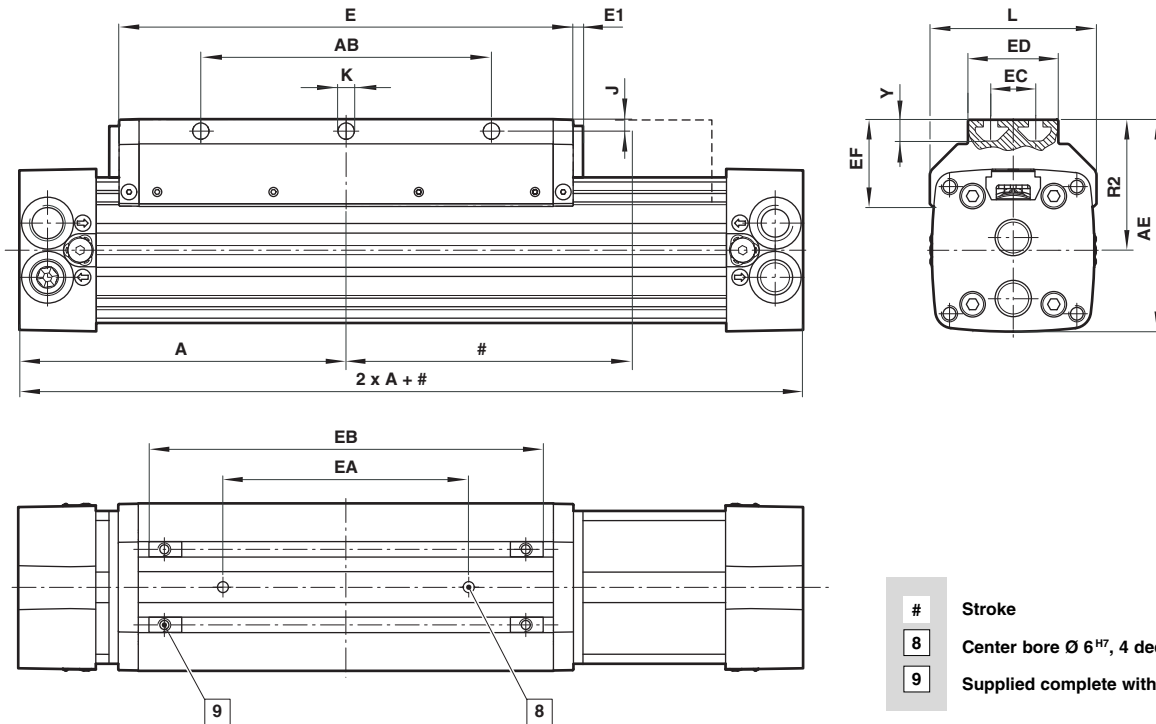
M/146000 – cylinder with internal guide



Type	Ø	A	AC	AE	AG	B	C	CA	D	E	E1	F	G	J	Ø K <sup>07</sup>
M/146032/...	32	120	46	76	25	28,5	10,5	18	G1/4	160	3,5	120	60	7	7
M/146040/...	40	150	52,5	90	25	28,5	11,5	18	G1/4	215	–	160	80	7	7
M/146050/...	50	180	65,5	110	25	38	15	24	G3/8	250	–	190	95	9,5	9
Type	Ø	M	N	O	O 1	P	R	S	T	W	Y	Z	Weight at 0 mm	Weight per 100 mm	
M/146032/...	32	45	M5	52	56	20	60	47	M6-17*1)	20	8	20	1,40 kg	0,30 kg	
M/146040/...	40	45	M6	65	68	20	74,5	58	M8-20*1)	25	8	25	2,50 kg	0,42 kg	
M/146050/...	50	50	M8	80	84	25,5	89	70	M8-20*1)	30	11	29,5	4,40 kg	0,62 kg	

\*1) deep

M/146100 – cylinder with external adjustable guide

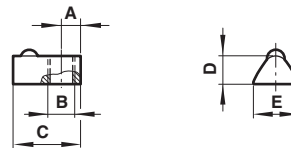


Missing cylinder dimensions see page 6

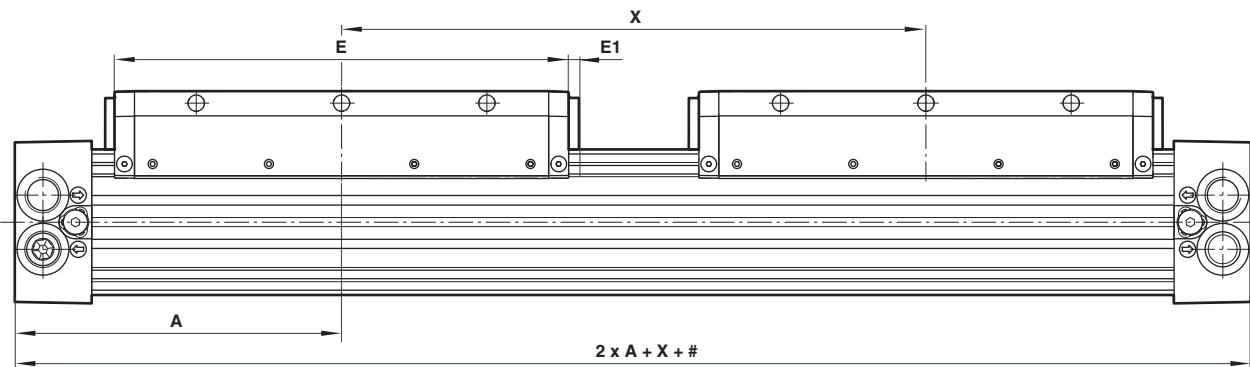
Type	Ø	A	AB	AE	E	E1	EA ±0,05	EB	ED	EC	EF	J	Ø K	L	R 2	Y	Weight at 0 mm	Weight per 100 mm
M/146132/..	32	120	90	82	160	4	70	138	45	25	36,5	5	5,5	64	52	6,5	1,50 kg	0,30 kg
M/146140/..	40	150	120	97,5	215	-	105	193	45	25	43	5	6,6	79	60	9,5	2,60 kg	0,42 kg
M/146150/..	50	180	160	116,5	250	-	105	228	50	25	47,5	6,5	9	92	72	11,5	4,50 kg	0,62 kg

Groove key for carriage (pos. 9)

Type	Ø	A	B	C	D	E	Weight (kg)
M/P74065	32	4	M5	12	9	8	0,01
M/P74066	40	4,5	M6	17	12	10,5	0,02
M/P41858	50	7,5	M8	23	7,5	13,5	0,03



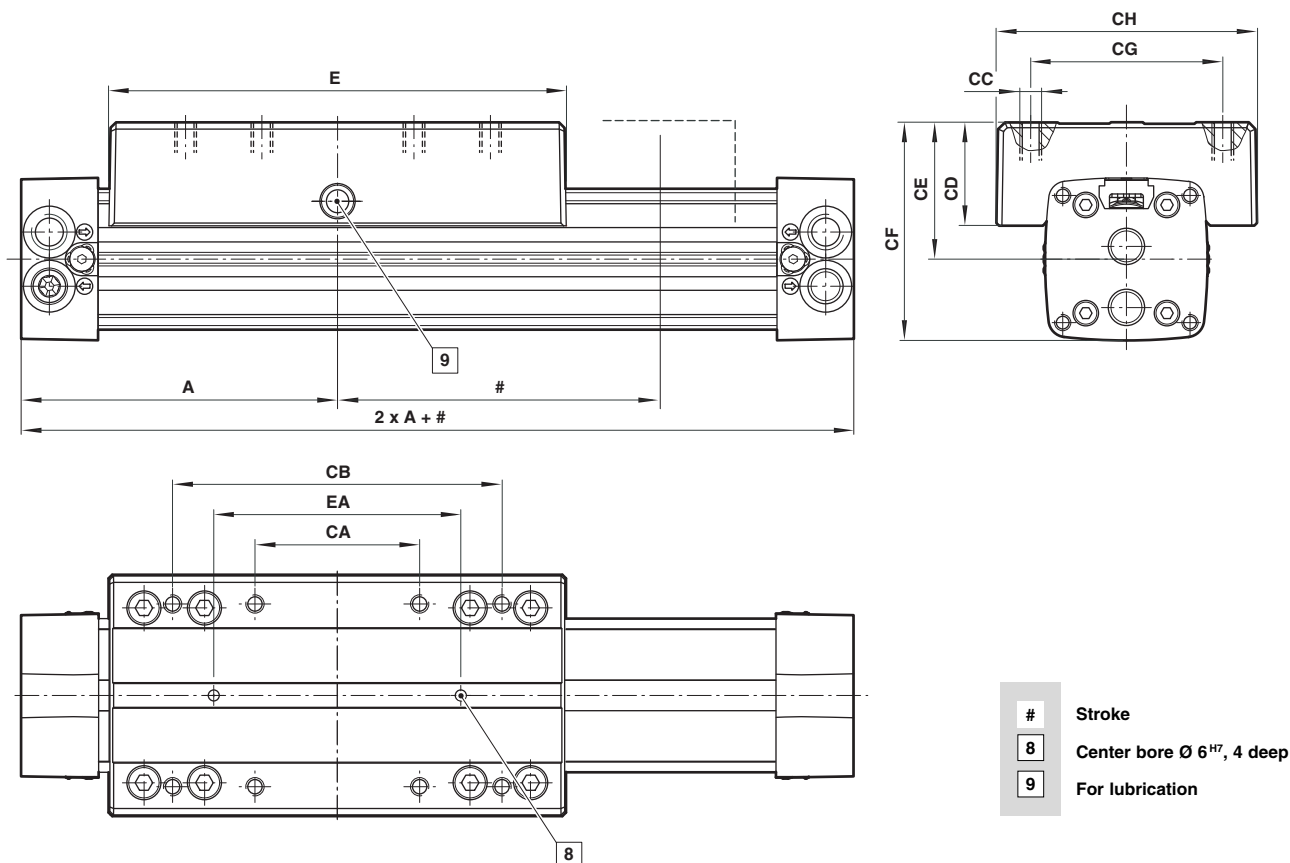
M/146100/ID, .../MD – cylinder with external adjustable guide and double carriages



Missing cylinder dimensions see page 6

Type	Ø	A	E	E1	X min.	X max.	Weight at 0 mm	Weight per 100 mm
M/146132/D	32	120	160	4	168	500	2,00 kg	0,30 kg
M/146140/D	40	150	215	-	215	500	3,20 kg	0,42 kg
M/146150/D	50	180	250	-	250	500	5,40 kg	0,62 kg

M/146200 – cylinder with precision roller guide



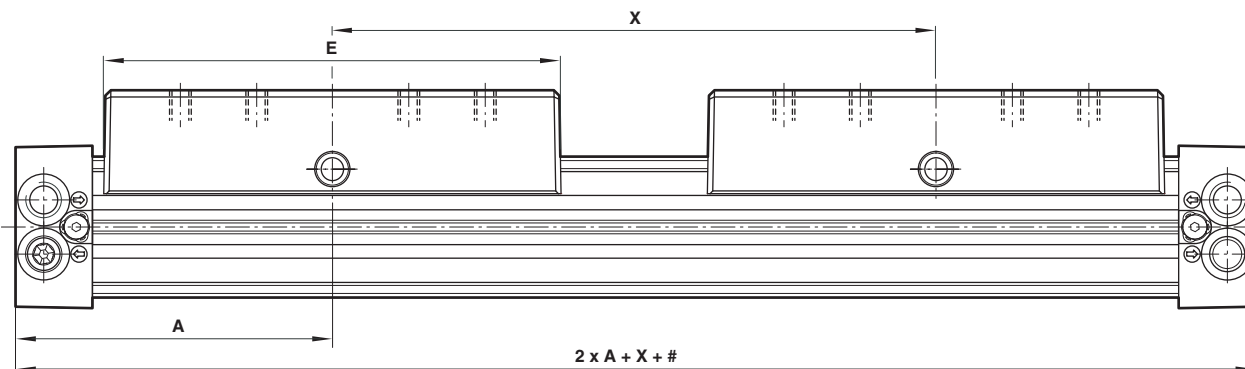
- # Stroke
- 8 Center bore  $\text{Ø } 6^{\text{H7}}$ , 4 deep
- 9 For lubrication

Missing cylinder dimensions see page 6

Type	Ø	A	CA	CB	CC	CD	CE	CF	CG	CH	E	EA ±0,05	Weight at 0 mm	Weight per 100 mm
M/146232/..	32	120	60	120	M8-16*1)	38	50	80	75	98	180	90	2,80 kg	0,40 kg
M/146240/..	40	150	80	150	M8-16*1)	42	57,5	95	92	118	215	115	4,50 kg	0,45 kg
M/146250/..	50	180	90	180	M10-20*1)	44	67	111,5	100	132	250	135	8,20 kg	0,90 kg

\*1) deep

M/146200/ID and .../MD – cylinder with precision roller guide and double carriages



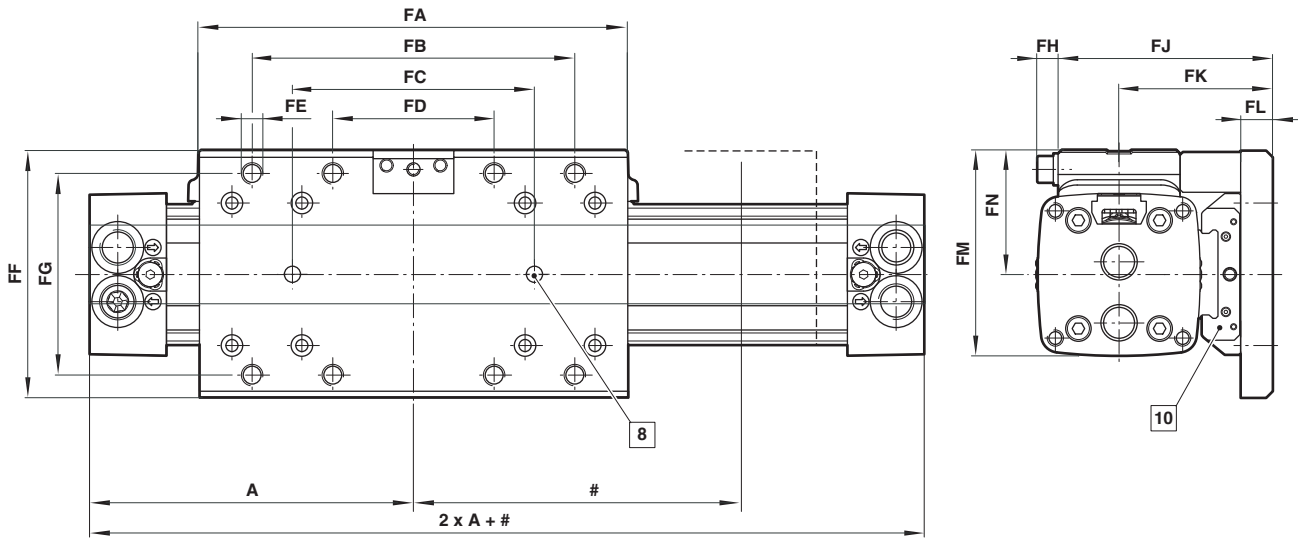
Missing cylinder dimensions see page 6

- # Stroke

Type	Ø	A	E	X min.	X max.	Weight at 0 mm	Weight per 100 mm
M/146232/.D/...	32	120	180	180	500	4,20 kg	0,40 kg
M/146240/.D/...	40	150	215	215	500	7,00 kg	0,45 kg
M/146250/.D/...	50	180	250	250	500	11,10 kg	0,90 kg



M/146200/P and M/146200/PM – cylinder with added caged ball linear motion guide

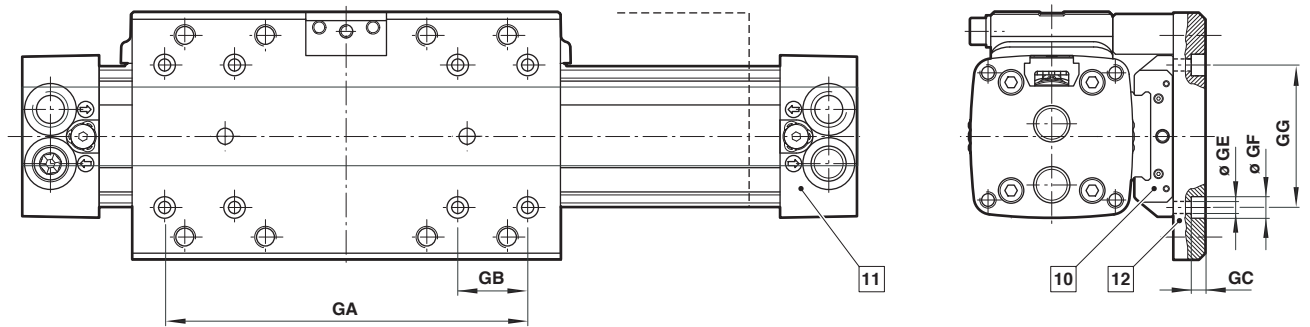


Missing cylinder dimensions see page 6

Type	Ø	A	FA	FB	FC ±0,05	FD	FE	FF	FG	FH	FJ	FK	FL	FM	FN	Weight at 0 mm	Weight per 100 mm
M/146232/P/..	32	120	160	120	90	60	M8	92	75	7,5	79,5	57	12	76	46	2,90 kg	0,50 kg
M/146240/P/..	40	150	215	150	115	80	M8	105	92	7,5	85,5	63	12	89,5	52,5	4,70 kg	0,65 kg
M/146250/P/..	50	180	250	180	135	90	M10	131	100	9,5	109	84	15	110	65,5	8,50 kg	1,10 kg

Note: stroke max Ø 32 & 40 = 1500, Ø 50 = 2600

QM/146200/P/70 – Assembly kit for caged ball linear motion guide

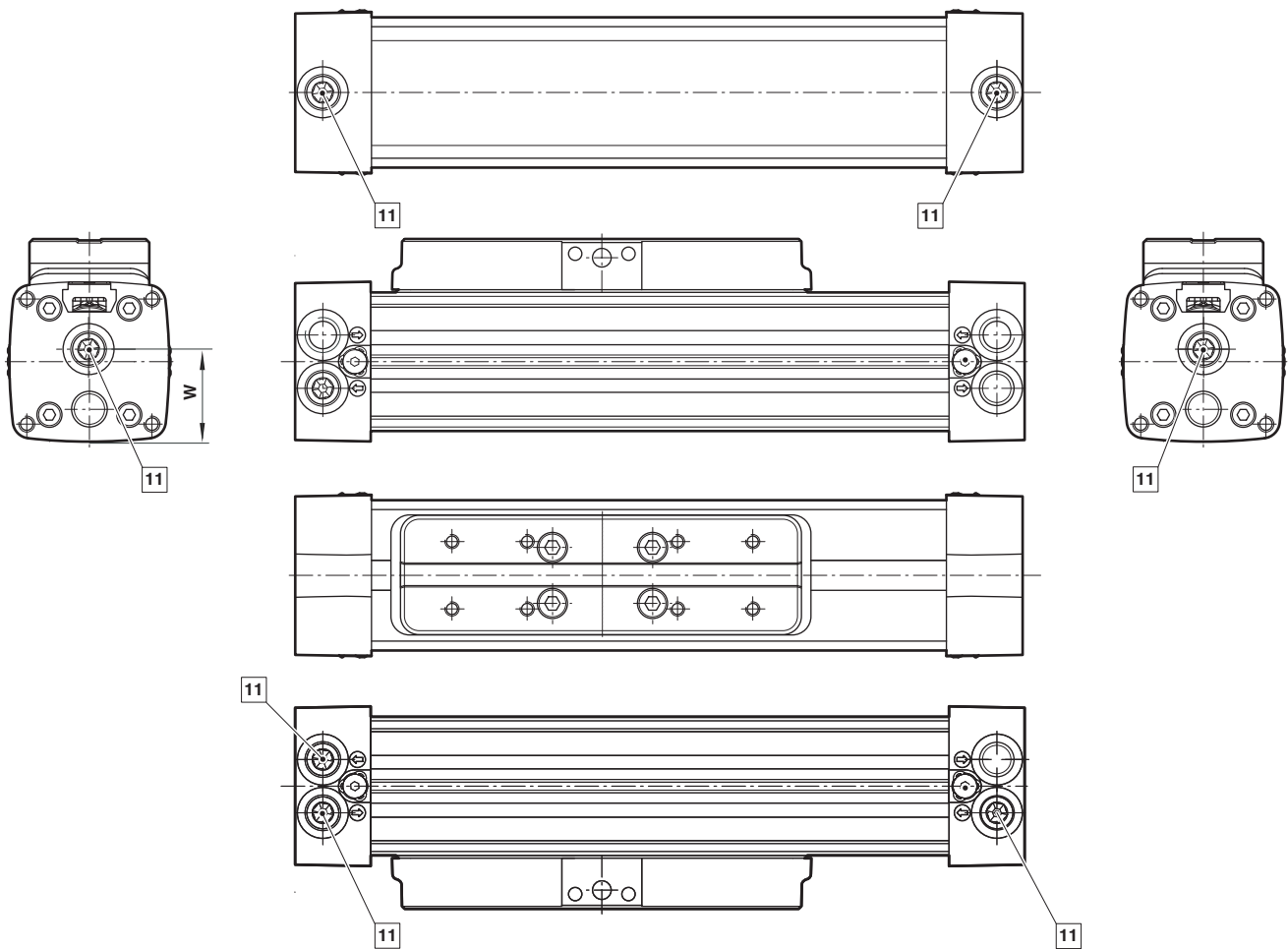


- # Stroke
- 8 Center bore Ø 6<sup>H7</sup>, 4 deep
- 10 Recommended supplier/series for caged ball linear motion guide  
Cylinder Ø 32 and 40  
IKO/LWFF33  
NSK/LW17ELZ  
THK/SHW17CAM  
  
Cylinder Ø 50  
IKO/LWFF42  
NSK/LW27ELZ  
THK/SHW27CA
- 11 Standard cylinder M/146000
- 12 Assembly kit for caged ball linear motion guide

Missing dimensions on the top

Type	Ø	GA	GB	GC	Ø GE	Ø GF	GG	Weight kg
QM/146232/P/70	32	135	26	4,5	4,5	8	53	0,470
QM/146240/P/70	40	177	26	4,5	4,5	8	53	0,470
QM/146250/P/70	50	215	40	6,5	6,6	11	70	1,315

M/146000/IC, .../MC; M/146100/IC, .../MC; M/146200/IC, .../MC – cylinder with alternative ports

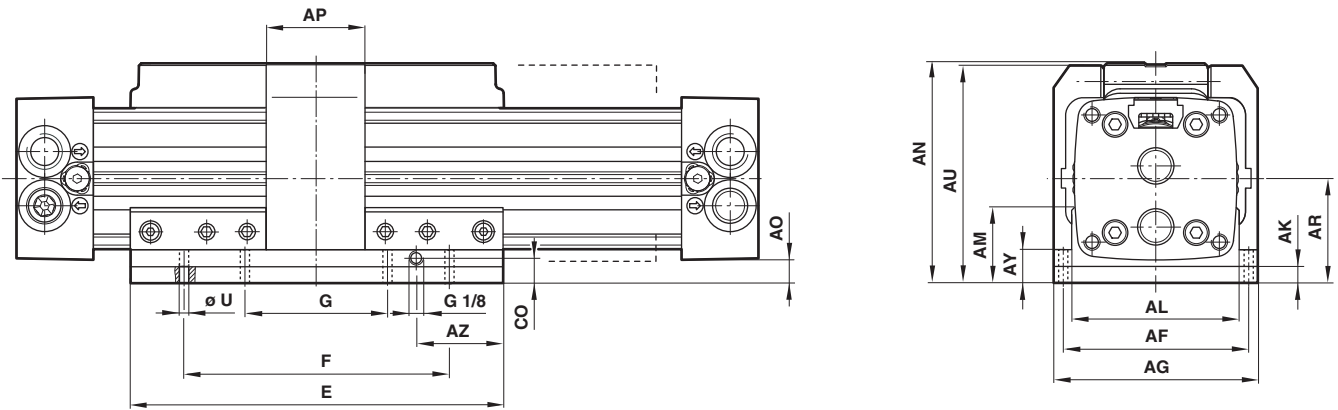


Missing cylinder dimensions and weights  
see the corresponding series on page 6, 7 or 8.

Type	Ø	W
M/146.32/..	32	34,5
M/146.40/..	40	43,5
M/146.50/..	50	53

**11** Alternative ports

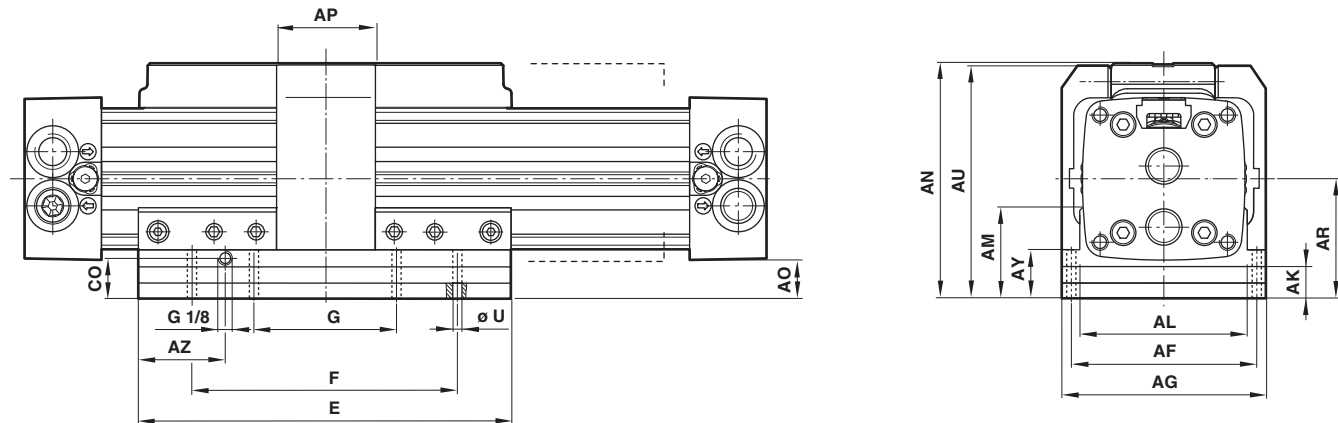
M/146000/L1, M/146000/L3 – cylinder with active brake



Missing cylinder dimensions see page 6

Type	Ø	AF	AG	AK	AL	AM	AN	AO	AP	AR	AU	AY	AZ	CO	E	F	G	Ø U	Weight at 0 mm	Weight per 100 mm
M/146032/L	32	78	92	12	64	29	90	14	55	44	89,5	17,5	32,5	6	160	120	60	9	2,50 kg	0,35 kg
M/146040/L	40	94	112	12	81	34,5	103,5	13,5	65	51	103	18	52,5	6	215	160	80	9	4,20 kg	0,50 kg
M/146050/L	50	112	132	12	94	35,5	124,5	14,5	75	59,5	124	18,5	65	6	250	190	95	11	6,90 kg	0,75 kg

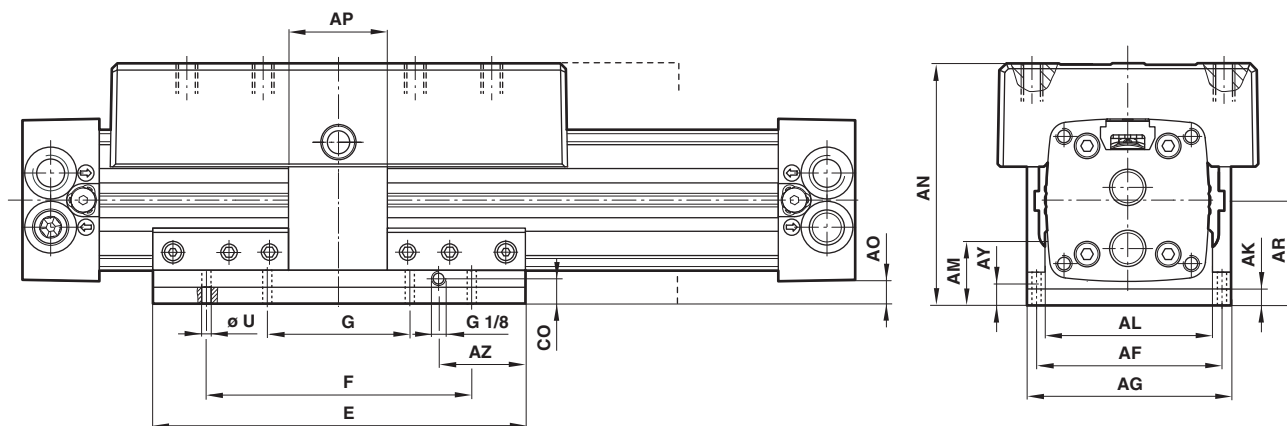
M/146000/L2, M/146000/L4 – cylinder with passive brake



Missing cylinder dimensions see page 6

Type	Ø	AF	AG	AK	AL	AM	AN	AO	AP	AR	AU	AY	AZ	CO	E	F	G	Ø U	Weight at 0 mm	Weight per 100 mm
M/146032/L	32	78	92	24	64	41	102	26	55	56	101,5	29,5	32,5	18	160	120	60	9	2,60 kg	0,35 kg
M/146040/L	40	94	112	24	81	46,5	115,5	25,5	65	63	115	30	52,5	18	215	160	80	9	4,70 kg	0,50 kg
M/146050/L	50	112	132	30	94	53,5	142,5	32,5	75	77,5	142	36,5	65	24	250	190	95	11	7,20 kg	0,75 kg

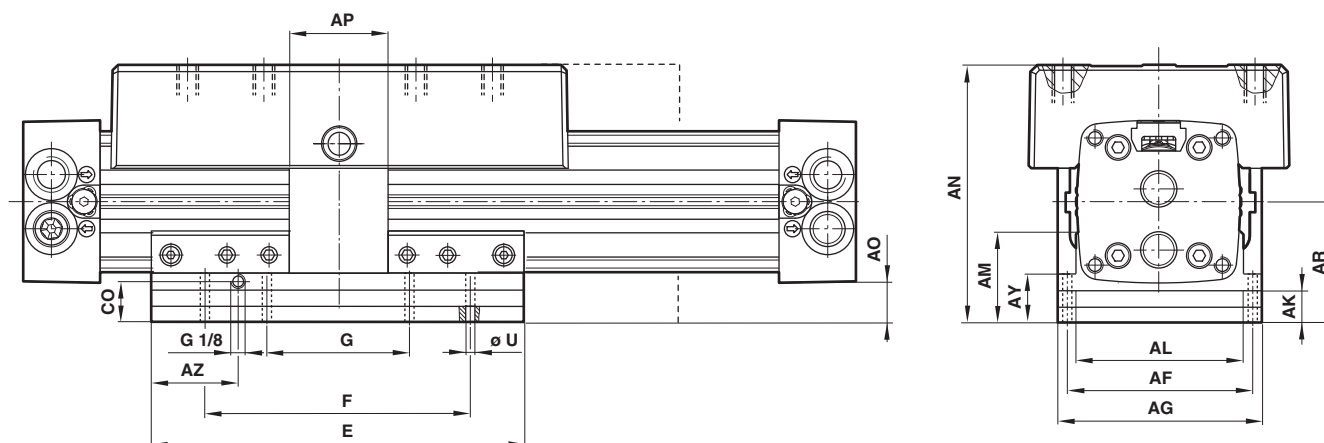
M/146200/L1, M/146200/L3 – cylinder with precision roller guide and active brake



Missing cylinder dimensions see page 8

Type	Ø	AF	AG	AK	AL	AM	AN	AO	AP	AR	AU	AY	AZ	CO	E	F	G	Ø U	Weight at 0 mm	Weight per 100 mm
M/146232/L	32	78	92	12	64	29	94	14	55	44	89,5	17,5	32,5	6	160	120	60	9	3,90 kg	0,35 kg
M/146240/L	40	94	112	12	81	34,5	108,5	13,5	65	51	103	18	52,5	6	215	160	80	9	6,20 kg	0,50 kg
M/146250/L	50	112	132	12	94	35,5	126,5	14,5	75	59,5	124	18,5	65	6	250	190	95	11	10,70 kg	0,75 kg

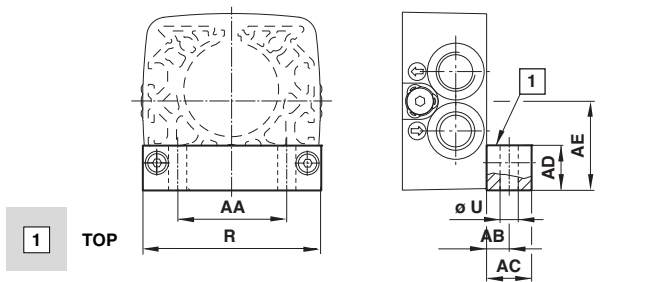
M/146200/L2, M/146200/L4 – cylinder with precision roller guide and passive brake



Missing cylinder dimensions see page 8

Type	Ø	AF	AG	AK	AL	AM	AN	AO	AP	AR	AU	AY	AZ	CO	E	F	G	Ø U	Weight at 0 mm	Weight per 100 mm
M/146232/L	32	78	92	24	64	41	106	26	55	56	101,5	29,5	32,5	18	160	120	60	9	4,00 kg	0,35 kg
M/146240/L	40	94	112	24	81	46,5	120,5	25,5	65	63	115	30	52,5	18	215	160	80	9	6,70 kg	0,50 kg
M/146250/L	50	112	132	30	94	53,5	144,5	32,5	75	77,5	142	36,5	65	24	250	190	95	11	11,00 kg	0,75 kg

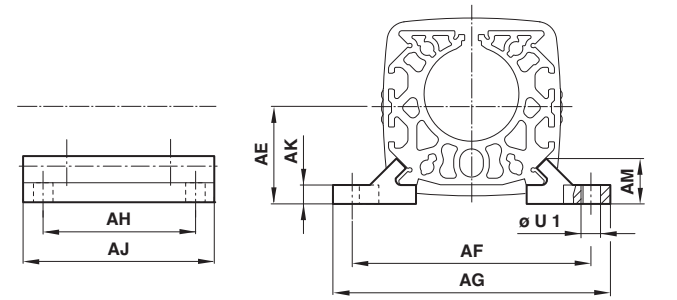
**Mountings**  
**Foot mounting C**



Style	Ø	AA	AB	AC	AD	AE	R	Ø U	kg
QM/46032/21	32	26	11	22	16,5	30,5 (33)	60	9	0,1
QM/46040/21	40	30	11	22	19,5	37,5 (40,5)	75	9	0,2
QM/46050/21	50	42	12	25	24	45 (49)	90	11	0,3

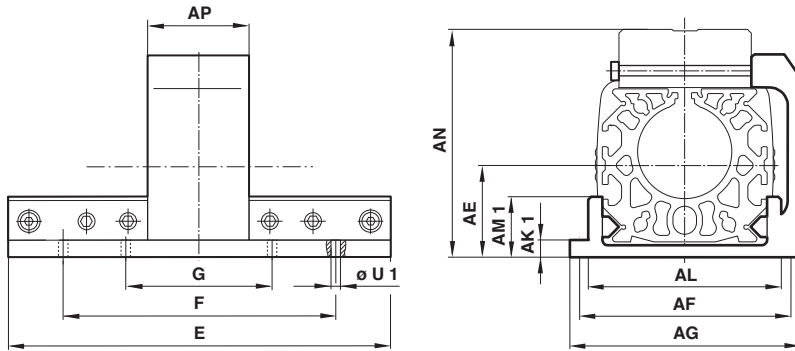
Attention: Foot mounts can be attached to give different distances AE. When used together with a centre support mounting the word **TOP** should be visible on the top face of the mount.

**Centre support V**



Style	Ø	AE	AF	AG	AH	AJ	AK	AM	Ø U1	kg
QM/46032/32	32	30,5	76	92	70	100	6,5	13,5	9	0,07
QM/46040/32	40	37,5	92	108	90	120	7,5	18,5	9	0,2
QM/46050/32	50	45	110	128	110	140	7,5	18,5	11	0,2

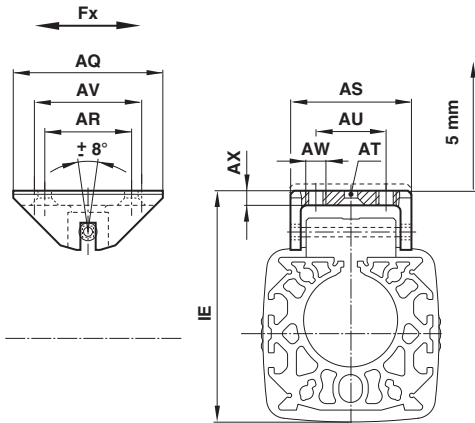
**Carriage plate mounting UV**



Style	Ø	AE	AF	AG	AK1	AL	AM1	AN	AP	E	F	G	Ø U1	kg
QM/46032/34	32	33	78	92	6,5	64	18	79	55	160	120	60	9	0,40
QM/46040/34	40	40,5	94	112	7,5	81	24	93	65	215	160	80	9	0,80
QM/46050/34	50	49	112	132	8	94	25	114	75	250	190	95	11	1,20

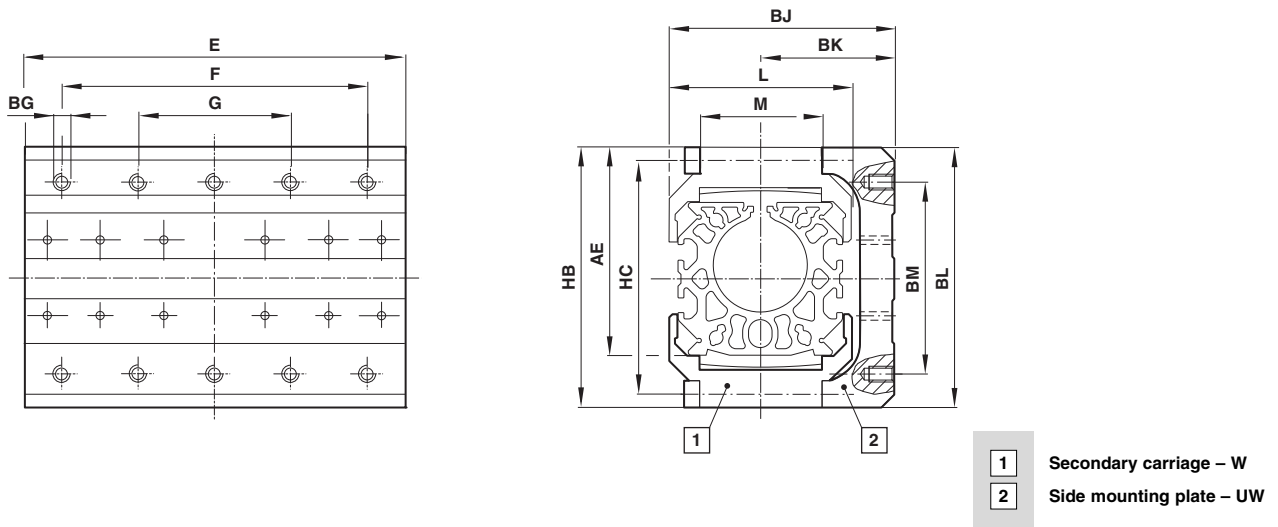
**Swinging bridge S**

For cylinders with internal guiding only



Style	Ø	AQ	AR	AS	AT	AU	AV	AW	AX	IE	Fx (N)	kg
QM/146032/37	32	80	50	59	DIN74-Bm6	30	60	M6	5,5	88,5+5	410	0,30
QM/146040/37	40	80	50	59	DIN74-Bm6	30	60	M6	5,5	102,5+5	640	0,30
QM/146050/37	50	100	60	65	DIN74-Bm8	40	80	M8	6,5	124+5	1000	0,50

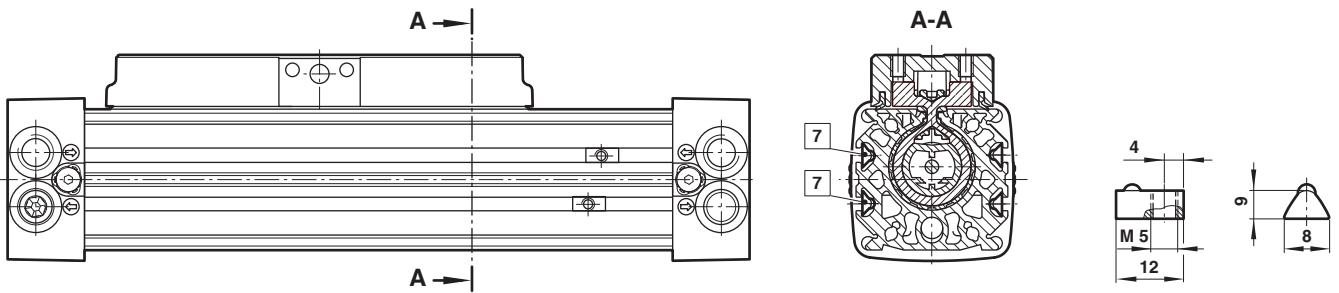
**Secondary carriage W  
Side mounting plate UW**



Style (W)	Style (UW)	Ø	AE	BG	BJ	BK	BL	BM	E	F	G	HB	HC	L	M	W	UW
QM/146132/35	QM/46132/36	32	82	M 5 x 12*1)	77	45	103	80	160	120	60	104	94	64	45	0,50 kg	0,50 kg
QM/146140/35	QM/46140/36	40	97,5	M 6 x 12*1)	98	58,5	119	90	215	160	80	120	110	79	45	0,65 kg	1,08 kg
QM/146150/35	QM/46150/36	50	117	M 6 x 15*1)	117,5	71,5	143	120	250	190	95	144	131	92	50	1,10 kg	1,85 kg

\*1) deep

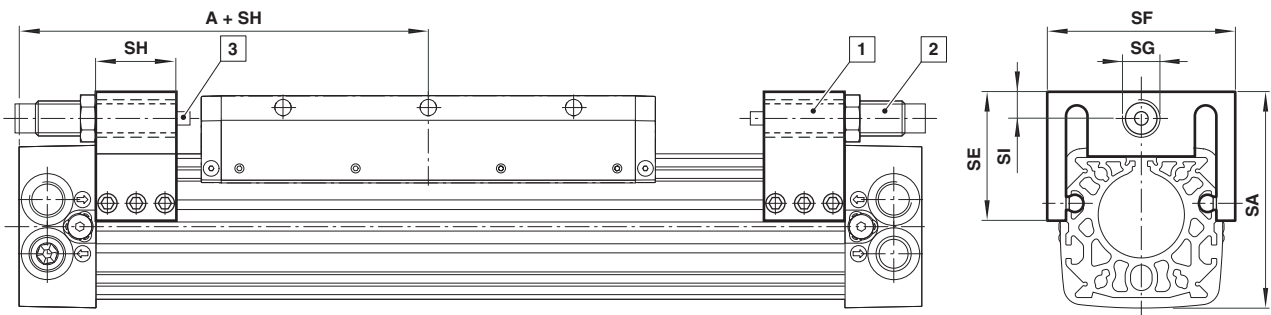
**M/P74065 – Groove key for profile barrel  
Weight: 0,01 kg**



7 Groove key for profile barrel

**Adjustable stop**

For M/146100, /... /.../M, M/146200/..., .../M

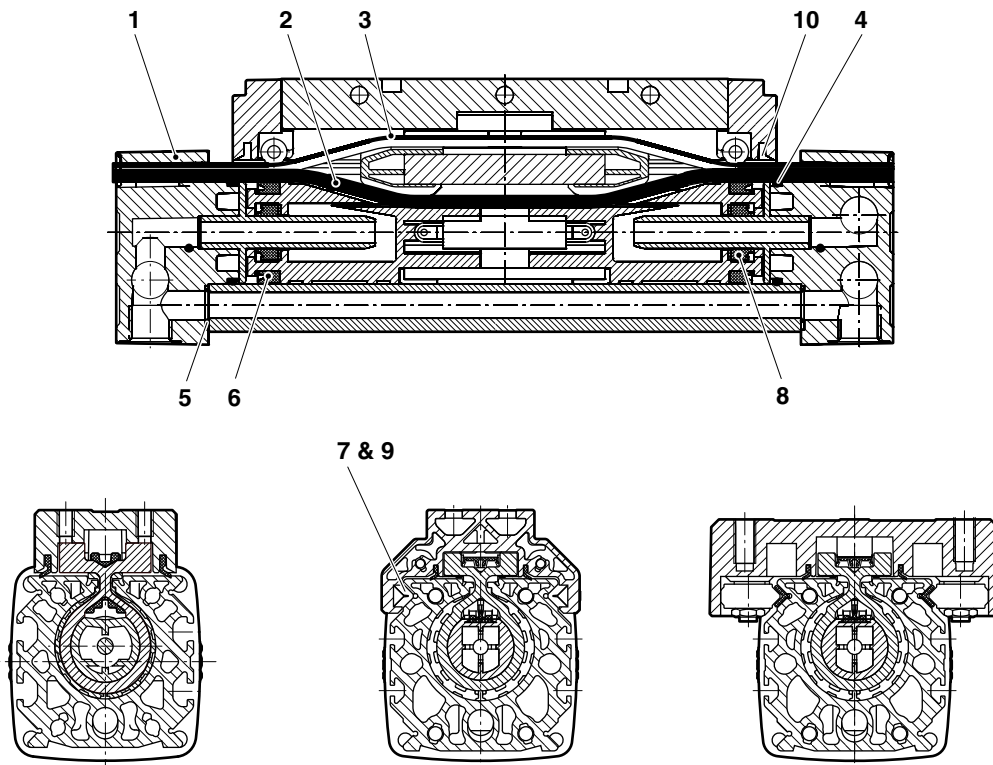


Missing cylinder dimensions see the corresponding series on pages 7 or 8

Style	Ø	A	SA	SE	SF	SG	SH	SI	Weight
QM/146132/75	32	120	80	48	70	M14x1,5	30	10,5	0,17 kg
QM/146140/75	40	150	102	62	83	M20x1,5	30	15	0,22 kg

- 1 Assembly kit
- 2 Please order shock absorber separately, see ACE program
- 3 Reaction forces (Q max)  
ø 32 = 1500 N, ø 40 = 1850 N

**Spares**



**For M/146000, .../M, M/146200, .../M**

Ø	Type	Spares kit	Comprising Item	Description	Quantity	Seal strip Item 2	Cover strip Item 3
32	M/146032,.../M, M/146232,.../M	QM/146032/88/*	1	Clamping lever	2	M/P 40344/*	M/P73936/*
40	M/146040,.../M, M/146240,.../M	QM/146040/88/*	2 + 3	Seal-/cover strip	1	M/P 40263/*	M/P73945/*
50	M/146050,.../M, M/146250,.../M	QM/146050/88/*	4 + 5	O-ring	2	M/P 40626/*	M/P73946/*
			6	Seal	2		
			8	Seal	2		
			10	Wiper	1		
				Grease	1		

\* Insert stroke length

Note: Please quote the cylinder type number when ordering spare parts

**For M/146100, .../M**

Ø	Type	Spares kit	Comprising Item	Description	Quantity	Seal strip Item 2	Cover strip Item 3
32	M/146132,.../M	QM/146132/88/*	1	Clamping lever	2	M/P 40344/*	M/P73936/*
40	M/146140,.../M	QM/146140/88/*	2 + 3	Seal-/cover strip	1	M/P 40263/*	M/P73945/*
50	M/146150,.../M	QM/146150/88/*	4 + 5	O-ring	2	M/P 40626/*	M/P73946/*
			6	Seal	2		
			7	Guide bar	4		
			8	Seal	2		
			9	Felt	2		
			10	Wiper	1		
				Grease	1		

\* Insert stroke length

Note: Please quote the cylinder type number when ordering spare parts