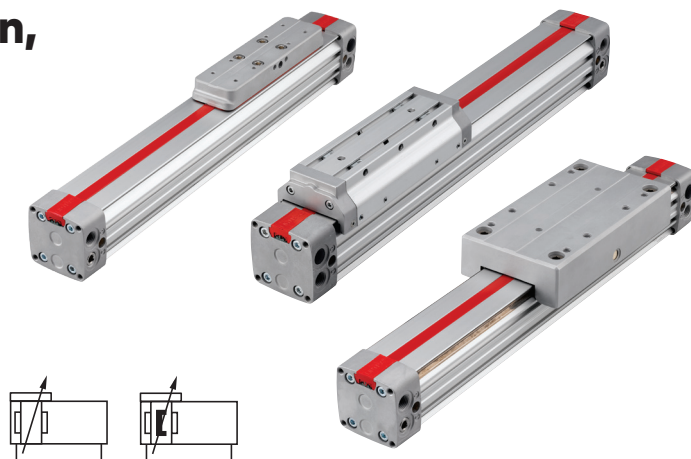


# M/146000, M/146100, M/146200, LINTRA®PLUS rodless cylinder Magnetic & Non-magnetic piston, double acting

- >  $\varnothing$  16 ... 80 mm
- > New lightweight design extrusion with universal mounting grooves
- > Proved and patented sealing system
- > Dust protection as standard ( $\varnothing$  25 ... 63 mm)
- > Interchangeability with series M/46000



## Technical features

### 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 ... 8 bar (14 ... 116 psi)

### Cylinder diameters:

16, 20, 25, 32, 40, 50, 63, 80 mm

### Max strokes:

$\varnothing$  16 ... 40 mm 8500 mm

$\varnothing$  50 and 63 mm 8000 mm

$\varnothing$  80 mm 5500 mm

### Operating temperature:

-30 ... +80°C max.

(-22 ... +176°F)

Air supply must be dry enough

to avoid ice formation at temperatures below +2°C

(+35°F).

### Materials:

End covers: aluminium diecast, moulded plastic ( $\varnothing$  16) and anodised aluminium ( $\varnothing$  20 & 80)

Yoke: anodised aluminium, moulded plastic ( $\varnothing$  16 & 20)

Carriage, closer & cover:

aluminium diecast

Guiding bridge and profile barrel:

anodised aluminium

Seal strip, wiper and piston seal:

PUR

Cover strip: PA

Other seals: NBR











Mounting screws: A2E

Shim ring: stainless steel (A2)

## Technical data

Cylinder $\varnothing$ (mm)	16	20	25	32	40	50	63	80
Port size	M5	G1/8	G1/8	G1/4	G1/4	G3/8	G1/2	G1/2
Cushion length (mm)	12	26	26	35	50	60	70	75
Theoretical thrusts at 6 bar outstroke (N)	120	188	294	482	754	1178	1870	3016
Air consumption at 6 bar outstroke (l/cm stroke)	0,014	0,022	0,035	0,056	0,088	0,137	0,218	0,35
Holding forces (N) of brake (on dry braking surface)								
Activ (L1 + L3) at 6 bar	—	—	500	900	1500	2500	4000	—
Passive (L2 + L4)	—	—	220	375	630	1000	1650	—

## Alternative variants

Symbol	Model (non-magnetic piston)	Symbol	Model (magnetic piston)	Description	Page
	M/146000		M/146000/M	With internal guide	7, 8 & 16
	M/146100		M/146100/M	With external adjustable guide	7, 9 & 16
	M/146200		M/146200/M	With precision roller guide (ø 25 ... 63 mm)	10
	M/146200/P		M/146200/PM	With added caged ball linear motion guide (ø 25 ... 63 mm)	11
	M/146000/IC		M/146000/MC	With alternative ports	12
	M/146100/IC		M/146100/MC	With alternative ports	12
	M/146000/ID		M/146100/MD	With external adjustable guide (ø 16 ... 80 mm)	7, 9 & 16
	M/146200/ID		M/146200/MD	With precision roller guide (ø 25 ... 63 mm)	10
	M/146000/L1		M/146000/L3	Active holding brake (ø 25 ... 63 mm)	13
	M/146200/L1		M/146200/L3	Applying pressure activates the brake The brake lining is pushed against a stainless steel strip. To release, depressurize.	14
	M/146000/L2		M/146000/L4	Passive holding brake; (ø 25 ... 63 mm)	13
	M/146200/L2		M/146200/L4	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.	14
			M/146000/F1	With internal guide and linear position sensor (ø 32 ... 63 mm) Electrical data of linear position sensor: Operating voltage: 10 ... 30 V d.c., resolution 16 bit, Repeat accuracy 0,006 %, output 4 ... 20 mA, short-circuit protection, linearity 0,05 % of measuring range, protection class IP67	15
			M/146100/F1	With external adjustable guide and linear position sensor (ø 32 ... 63 mm)	15
			M/146200/F1	With precision roller guide and linear position sensor (ø 32 ... 63 mm)	15

Corrosion resistant cylinders see page N/en 1.6.011

## Options selector

Guiding system	Substitute
Internal	0
External	1
Precision roller guide	2
Cylinder Ø (mm)	Substitute
16	16
20	20
25	25
32	32
40	40
50	50
63	63
80	80

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.

M/146\*\*\*/\*/\*/\*/\*

Strokes (mm)	
On request	
Variants (non-magnetic piston)	Substitute
Alternative ports	IC
Active brake	L1
Passive brake	L2
With added caged ball linear motion guide	P
Double carriages *1)	ID
M/146***/ID/*/*/*/*	
└─ Distance between carriage centres (mm)	
Variants (magnetic piston)	Substitute
Alternative ports	MC
Active brake	L3
Passive brake	L4
With added caged ball linear motion guide	PM
With linear position sensor	F1
Double carriages *1)	MD
M/146***/MD/*/*/*/*	
└─ Distance between carriage centres (mm)	

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