NORGREN

OBSOLETE DOCUMENT
Technical Reference Only

A44000

LINTRA-LITE® Rodless cylinders
Non-magnetic and magnetic piston
Double acting
Ø 25 to 40 mm

New compact, space-saving design

Proven sealing system

Integral switch mounting

Buffer or adjustable cushioning

Standard foot mountings

Technical data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, buffer or adjustable cushioning, magnetic or non-magnetic

Operating pressure:
1 to 8 bar

Operating temperature:
-30 to +80°C max.
(consult our Technical Service for use below +2°C)

Cylinder diameter:
25, 32, 40 mm

Strokes:
6000 mm max.
further strokes on request

Materials:

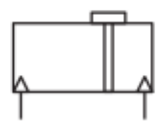
Barrel: anodised aluminium alloy
End covers: zinc plated steel/aluminium
Yoke: anodised aluminium
Cover and piston: plastic
Sealing strip: polyurethane
Cover strip: polyamide
Seals: nitrile rubber and polyurethane

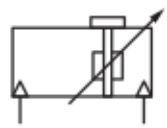
Ordering information

See page 2

Mountings and switches

See page 2





Cylinder variants

Symbol	Type	Description	Dimensions see page
	A44000AAAAA*	Cylinder, non-magnetic piston with buffer	4
	A44000AAAAB*	Cylinder, magnetic piston with buffer	4
	A44000AAAAC*	Cylinder, non-magnetic piston with adjustable cushioning	4
	A44000AAAAD*	Cylinder, magnetic piston with adjustable cushioning	4

Options selector

A44★★★AA★AA★★★★

Cylinder Ø (mm)	Substitute
25	025
32	032
40	040

Strokes (mm)
6000 max.

Variants (magnetic piston)	Substitute
Buffer	B
Adjustable cushioning	D

Variants (non-magnetic piston)	Substitute
Buffer	A
Adjustable cushioning	C

Note: When specifying NPT ports the stroke should be given in inches Part number must retain the given number of digits e.g. A44025AACAA0800 (stroke 800 mm)

Ordering information

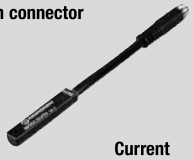
Cylinder
LINTRA® Cylinder Ø 25 mm
with adjustable cushioning, magnetic piston,
stroke 800 mm
Quote: **A44025AADAA0800**

Mounting
Centre support mounting type V for cylinder Ø 25 mm,
Quote: **Q44025AAAAAM332**

Switch
Magnetic switch with LED, cable length 2 m
Quote: **M/50/LSU/2V**

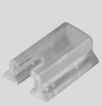
Mounting for switch
Mounting for switch M/50,
cylinder Ø 25 mm
Quote: **M/P72487**

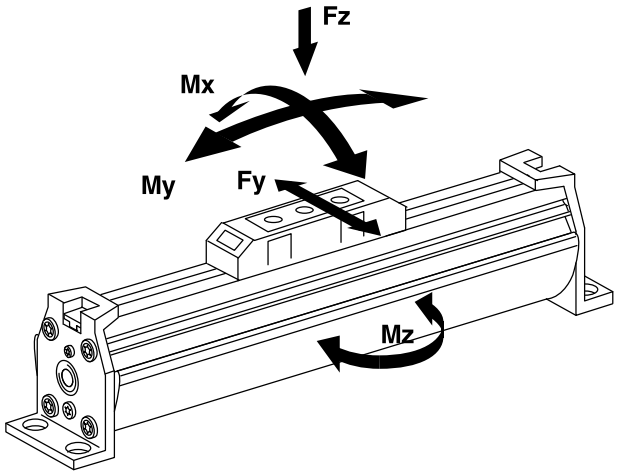
Switches

	With cable		With connector									
												
Type Reed	Solid state	Voltage V a.c.	V d.c.	Current max.	Temperature °C	LED	Features	Cable/ Connector length	Cable type	Cable with Connector	Datasheet
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/UK **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/UK **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/UK **4.3.**005
M/50/RAC/5V	–	10 to 240	10 to 170	180 mA	-20 to +80	–	Changeover	5 m	PVC 3 x 0,25	–	N/UK **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/UK **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/UK **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/UK **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/UK **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/UK **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/UK **4.3.**007

* Please insert cable length
Further information (technical data, cable material, dimensions) see datasheet.

Mountings

	Type V	Type S	Bracket for switches
			
Ø	Page 5	Page 5	
25	Q44025AAAAAM332	Q44025AAAAAM337	M/P72487
32	Q44032AAAAAM332	Q44032AAAAAM337	M/P72487
40	Q44040AAAAAM332	Q44040AAAAAM337	M/P72487



Loading values for LINTRA-LITE® cylinders

The values given in the table below show the forces in the directions Fy and Fz and the maximum moments Mx, My and Mz. All values are applicable for speeds up to 0,2 m/s. A requirement for using these values is a smooth movement 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 piston.

Total loads

When a Lintra-LITE® cylinder has to take several loads and moments, an additional calculation is necessary using the following formula:

$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} + \frac{Fy}{Fy\ max} + \frac{Fz}{Fz\ max} \leq 1$$

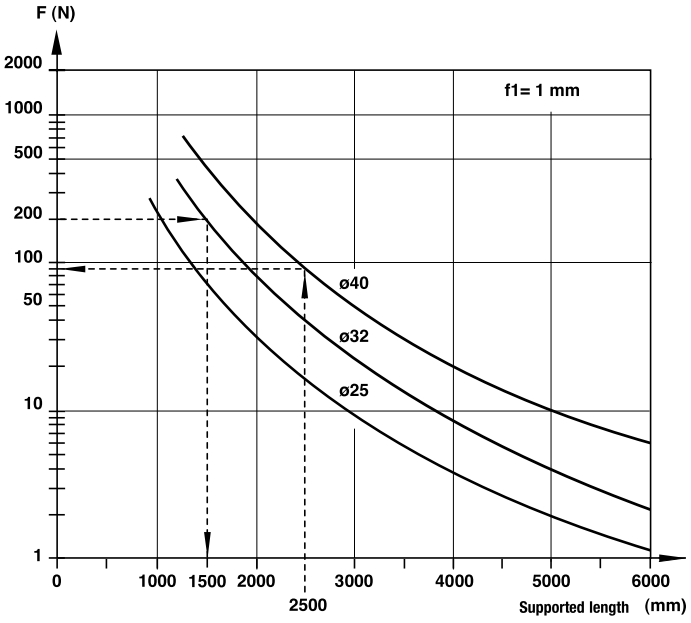
Forces, air consumption, cushioning length, loading values

Ø	Theoretical forces (N) at 6 bar	Air consumption per stroke (l/cm) at 6 bar	Cushioning length (mm)	Loading values Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
25	250	0,035	18	90	280	1	13	4
32	410	0,056	23	120	370	2	21	6
40	640	0,088	35	240	720	4	56	16

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

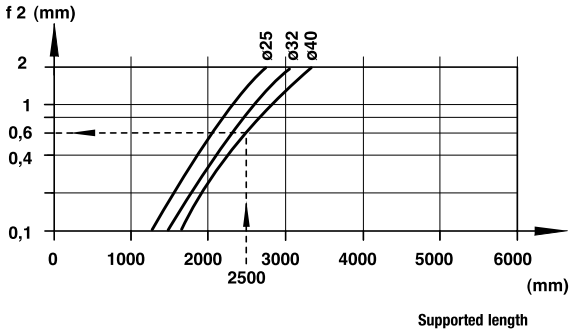
Cylinder defelction

Deflection due to external force



Cylinder Ø 32 mm, stroke 3500 mm, external force 200 N, deflection 1 mm
Required: Distance between supports
Max. distance between supports 1 = 1500 mm.
Therefore additional support is required!

Deflection due to cylinder weight.



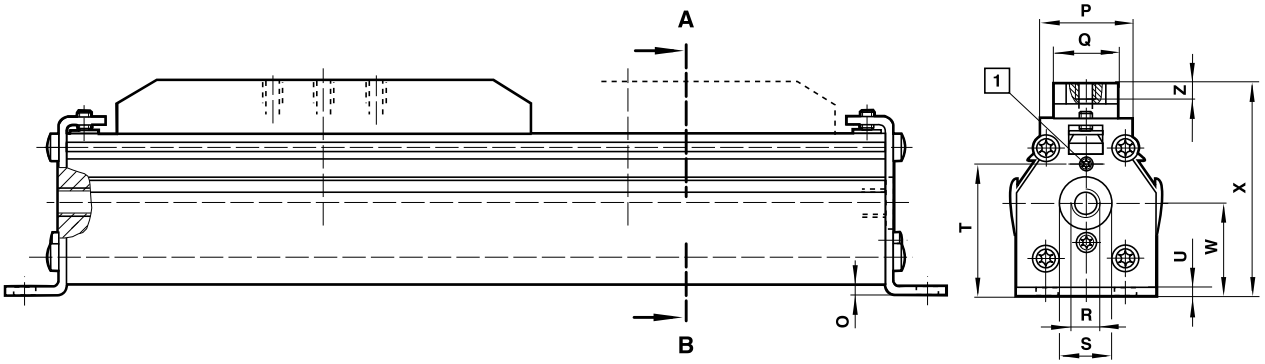
Cylinder Ø 40 mm, external force 120 N, distance between supports 2500 mm
Required: total defelction

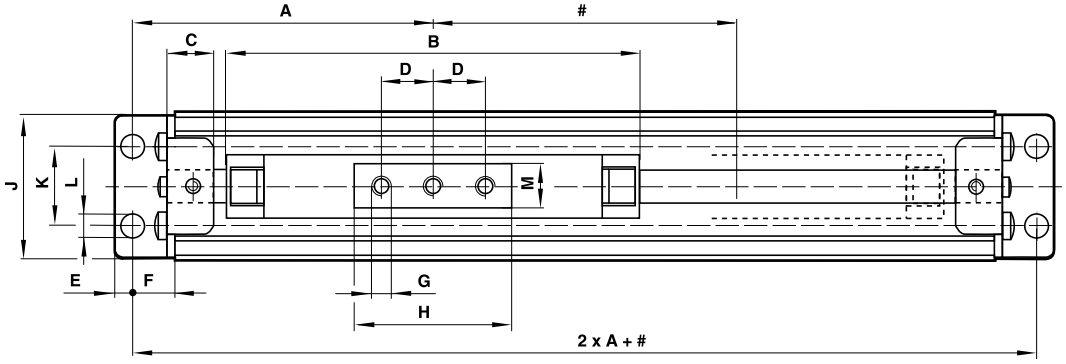
1. Deflection due to external force (f1) (1mm/90 N) · 120 N	1,3 mm
2. Deflection due to cylinder weight (f2) ➔	+ 0,6 mm
Total deflection:	1,9 mm

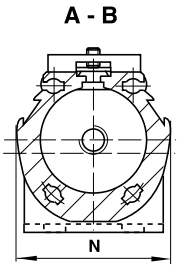
Max. permitted defelction:
f1 + f2 ⩽ 1 mm per 1000 mm stroke
Result:
1,9 mm are below the max. permitted deflection of 2,5 mm

Basic dimensions

A44000... – Standard cylinder





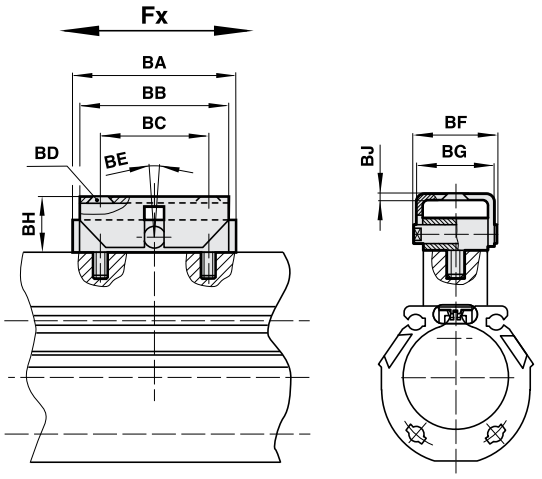


#	stroke
1	cushioning screw

Type	Ø	A	B	C	D	E	F	G	H	J	K	Ø L	M	N
A44025.	25	77	100	12	12,5	5	12	M 5	40	36	18	7	18	40
A44032.	32	93	120	18	15	7	15	M 6	50	48	26	9	20	49,5
A44040.	40	127,5	165	18	20	7	17	M 6	60	54	30	9	20	57

Type	Ø	O	P	Q	R	Ø S	T	U	W	X	Z max.	at 0 mm	per 100 mm
A44025.	25	2,5	28	22	G 1/8	12	30,5	2	21,5	53,5	7	0,50 kg	0,15 kg
A44032.	32	3,5	32	24	G 1/8	17	40	3	28,5	70	10	0,80 kg	0,25 kg
A44040.	40	3,5	36	24	G 1/4	20	49,5	3	35	81,5	10	1,30 kg	0,35 kg

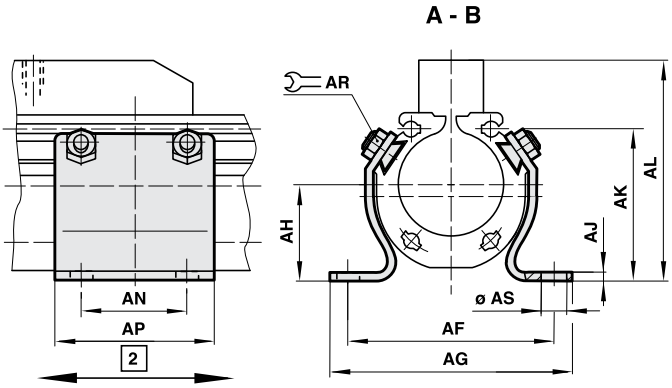
QM44000AAAAAM337 – Swinging bridge mounting, style S



Type (S)	Ø	BA	BB	BC	BD (Din74)	BE	BF
QM44025AAAAAM337	25	40	40	28	BM 5	± 8	27
QM44032AAAAAM337	25	50	55	40	BM 6	± 8	29
QM44040AAAAAM337	25	60	55	40	BM 6	± 8	29

Type (S)	Ø	BG	BH	BJ	Fx	kg
QM44025AAAAAM337	25	26	68,5 +5	2	250 N	0,15
QM44032AAAAAM337	25	28	87,5 + 5	2	410 N	0,20
QM44040AAAAAM337	25	28	99,5 + 5	2	640 N	0,25

Q44000AAAAAM332 – Centre support mounting, style V



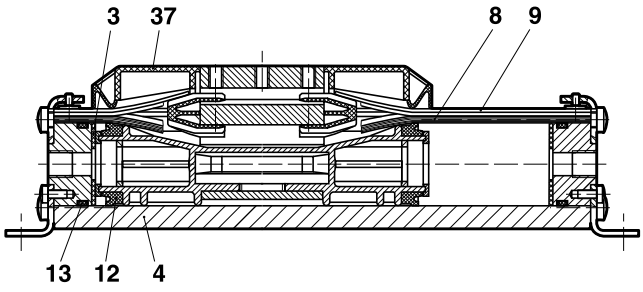
2 adjustable

Type (V)	Ø	AB	AC	AD	Ø AE	AF	AG
QM44025AAAAAM337	25	25	40	10	6,6	58	70
QM44025AAAAAM337	32	30	50	10	9	70	83
QM44040AAAAAM337	40	40	60	10	9	79	92

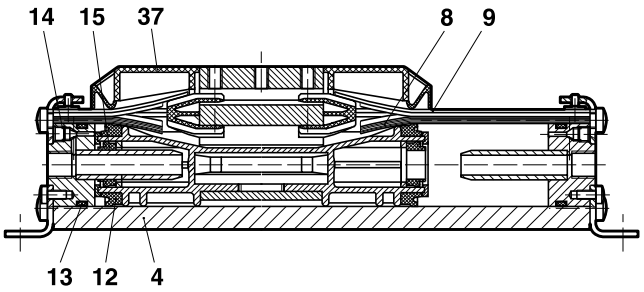
Type (V)	Ø	AH	AJ	AK	AL	kg
QM44025AAAAAM337	25	21,5	3	31	53,5	0,07
QM44025AAAAAM337	32	28,5	3	43	70	0,15
QM44040AAAAAM337	40	35	3	55	81,5	0,25

Spare parts

With buffer



with adjustable cushioning



Cylinder Ø (mm)	Type	Spare part	Comprising: Item	Description	Quantity	Seal strip Item 8	Cover strip Item 9	Barrel Item 4
25	A44025AA*AA	Q44025AACAAT788*	3	Seal/cover strip	2	M/P41628/*2)	M/P41631/*2)	M/P41607/*2)
32	A44032AA*AA	Q44032AACAAT788*	8/9	Piston-/cushion seal	1/1	M/P41629/*2)	M/P41632/*2)	M/P41613/*2)
40	A44040AA*AA	Q44040AACAAT788*	12/15	O-Ring	2/2	M/P41630/*2)	M/P41633/*2)	M/P41602/*2)
			13/14	Cover	2/2			
			37	Grease	1			

* Variants A, B, C or D
*2) Insert stroke length
Note: Spares kits are common for all cylinder types.
Please quote the cylinder type number when ordering spare parts

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.