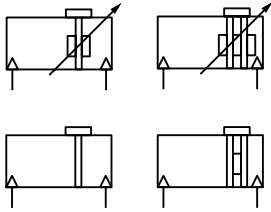


# LINTRA®-Lite rodless cylinders

## A44000

Double acting  
 Ø 25 ... 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 piston

Operating pressure:  
 15 to 116 psig

Operating temperature:  
 -22°F to +180°F max.  
 Consult our Technical Service for use below +35°F

Strokes:  
 Made to order maximum 236 inches

Materials  
 Barrel: anodised aluminum alloy  
 End covers: zinc plated steel/aluminum  
 Yoke: anodized aluminum alloy  
 Pistons: plastic  
 Cover: plastic  
 Sealing strip: polyurethane  
 Cover strip: polyamide  
 Seals: nitrile rubber & polyurethane

### Standard models

Ø	Non-magnetic		Magnetic	
	Buffer cushioning	Adjustable cushioning	Buffer cushioning	Adjustable cushioning
25	A44025AAAAAN*	A44025AACAN*	A44025AABAN*	A44025AADAN*
32	A44032AAAAAN*	A44032AACAN*	A44032AABAN*	A44032AADAN*
40	A44040AAAAAN*	A44040AACAN*	A44040AABAN*	A44040AADAN*

\* Cylinders shown above use NPT porting, stroke length in inches.  
 For ISO G porting insert an "A" in the 11th position and provide stroke length in mm.  
 Note: For service kits see Norgren website reference below.

### Options selector

A440\*\*AA\*A\*\*\*\*\*

Cylinder Diameters Nominal Inch (mm)	Specify
ø 1" (ø 25mm)	25
ø 1-1/4" (ø 32mm)	32
ø 1-1/2" (ø 40mm)	40

Variants	Specify
Bumper cushioning, non-magnetic piston	A
Bumper cushioning, magnetic piston	B
Adjustable cushioning, non-magnetic piston	C
Adjustable cushioning, magnetic piston	D

Porting	Specify
ISO G-thread (Specify stroke in mm)	A
NPT-Thread (Specify stroke in inches)	N

Fractional Increments of Stroke in Inch			
A = 0	E = 1/4	J = 1/2	P = 3/4
B = 1/16	F = 5/16	K = 9/16	R = 13/16
C = 1/8	G = 3/8	M = 5/8	S = 7/8
D = 3/16	H = 7/16	N = 11/16	T = 15/16
X = Special			

**Specify Stroke Length\***  
 236 inches (6000mm) maximum

\*inches for NPT (mm for ISO G) thread

Bore Size Conversion:	
ø 25mm =	.984" 1"
ø 32mm =	1.260" 1-1/4"
ø 40mm =	1.575" 1-1/2"

### Mountings

Ø	S	V
25	Q44025AAAAAM337	Q44025AAAAAM332
32	Q44032AAAAAM337	Q44032AAAAAM332
40	Q44040AAAAAM337	Q44040AAAAAM332

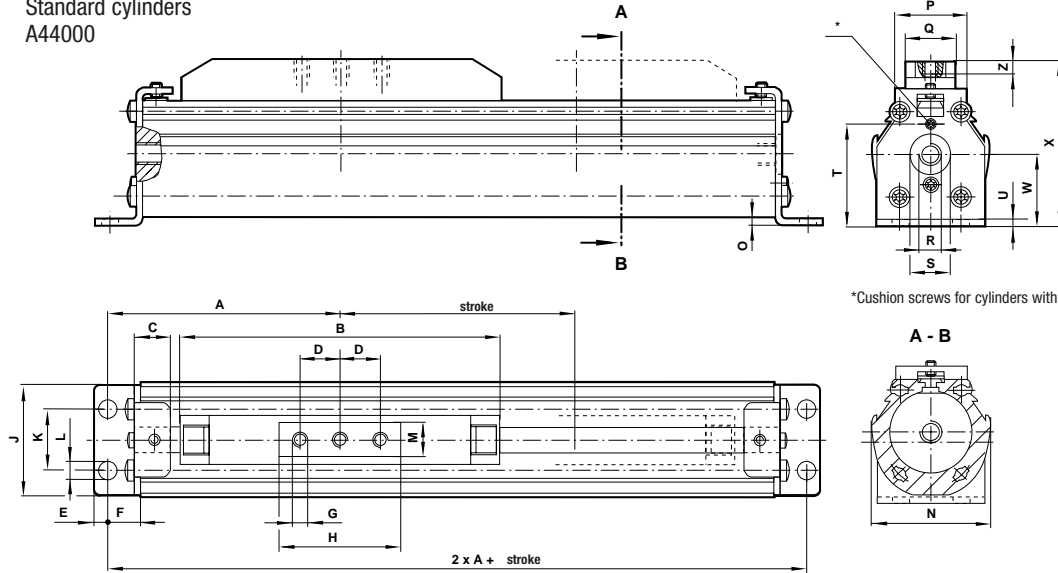
# LINTRA®-Lite rodless cylinders

A44000

Double acting

Ø 25 ... 40 mm

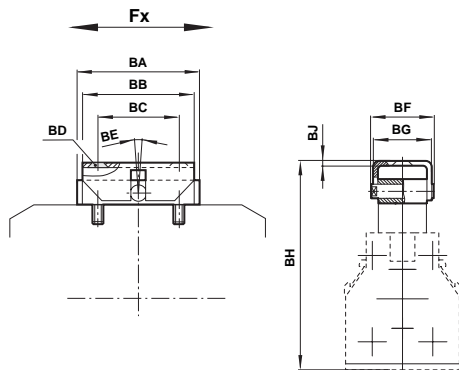
Standard cylinders  
A44000



Ø	A	B	C	D	E	F	G	H	J	K	Ø L	M	N	O	P	Q	R (port)	Ø S	T	U	W	X	Z max.	Wt per inch (mm) of stroke lb (kg)
25	3.03 (77)	3.94 (100)	0.47 (12)	0.49 (12.5)	0.20 (05)	0.47 (12)	M5	1.57 (40)	1.42 (36)	0.71 (18)	0.28 (07)	0.71 (18)	1.57 (40)	0.10 (2.5)	1.10 (28)	0.87 (22)	NPT 1/8"	0.47 (12)	1.20 (30.5)	0.08 (2)	0.85 (21.5)	2.10 (53.5)	0.28 (7)	0.08 (0.15)
32	3.66 (93)	4.72 (120)	0.71 (18)	0.59 (15)	0.28 (07)	0.59 (15)	M6	1.97 (50)	1.89 (48)	1.02 (26)	0.35 (09)	0.79 (20)	1.95 (49.5)	0.10 (2.5)	1.26 (32)	0.94 (24)	NPT 1/8"	0.67 (17)	1.57 (40)	0.12 (3)	1.12 (28.5)	2.76 (70)	0.39 (10)	0.14 (0.25)
40	4.63 (117.5)	6.50 (165)	0.71 (18)	0.79 (20)	0.28 (07)	0.67 (17)	M6	2.36 (60)	2.13 (54)	1.18 (30)	0.35 (09)	0.79 (20)	2.24 (57)	0.14 (3.5)	1.42 (36)	0.94 (24)	NPT 1/4"	0.79 (20)	1.95 (48.5)	0.12 (3)	1.38 (35)	3.21 (81.5)	0.39 (10)	0.19 (0.35)

Dimensions in inches (mm)

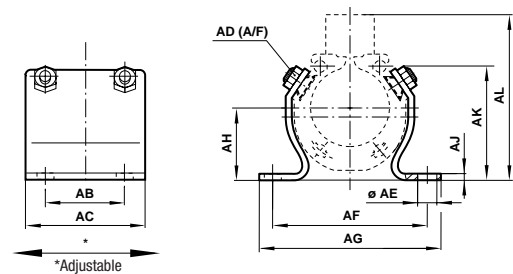
Swinging bridge – S  
Q44000AAAAAM337



Ø mm	BA	BB	BC	BD	BE	BF	BG	BH	BJ	Weight lbs (kg)
25	1.57 (40)	1.57 (40)	1.10 (28)	BM6 (DIN74)	± .315 (± 8)	1.14 (29)	1.10 (28)	2.70 +0.2 -0 (68.5 +5 -0)	0.08 (2)	0.33 (0.15)
32	1.97 (50)	2.17 (55)	1.57 (40)	BM6	± .315 (± 8)	1.22 (31)	1.18 (30)	3.44 +0.2 -0 (87.5 +5 -0)	0.08 (2)	0.44 (0.20)
40	2.36 (60)	2.17 (55)	1.57 (40)	BM6	± .315 (± 8)	1.22 (31)	1.18 (30)	3.92 +0.2 -0 (99.5 +5 -0)	0.08 (2)	0.55 (0.25)

Dimensions in inches (mm)

Center support – V  
Q44000AAAAAM332



Ø mm	AB	AC	AD (A/F)	Ø AE	AF	AG	AH	AJ	AK	AL	Weight lbs (kg)
25	0.98 (25)	1.57 (40)	0.39 (10)	0.26 (6.6)	2.28 (58)	2.76 (70)	0.85 (21.5)	0.12 (3)	1.22 (31)	2.11 (53.5)	0.15 (0.07)
32	1.18 (30)	1.97 (50)	0.39 (10)	0.35 (9)	2.76 (70)	3.27 (83)	1.12 (28.5)	0.12 (3)	1.69 (43)	2.76 (70)	0.33 (0.15)
40	1.57 (40)	2.36 (60)	0.39 (10)	0.35 (9)	3.11 (79)	3.62 (92)	1.37 (35)	0.12 (3)	2.17 (55)	3.21 (81.5)	0.55 (0.25)

Dimensions in inches (mm)

# LINTRA®-Lite rodless cylinders

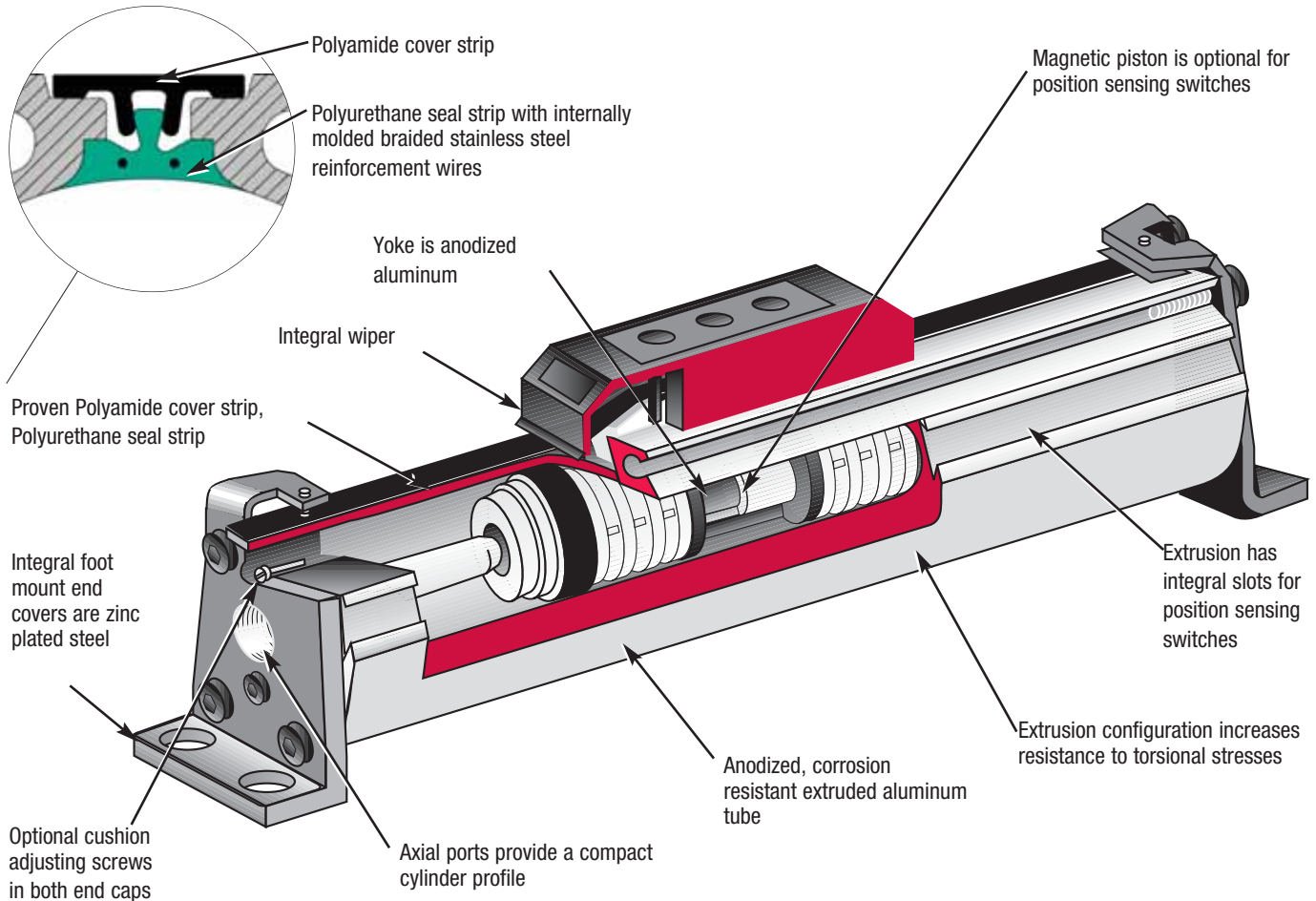
## A44000

Double acting

Ø 25 ... 40 mm

Self-retaining Sealing System has one of the lowest leakage rates in the industry.

The LINTRA®-LITE rodless cylinder is a cost effective solution for application where light loading is required or where external guiding will be used to support the load.



# LINTRA®-Lite rodless cylinders

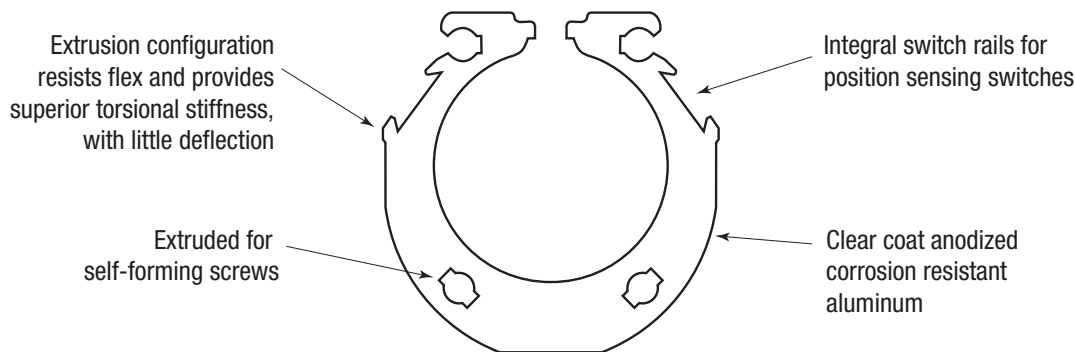
A44000

Double acting  
Ø 25 ... 40 mm

## Features

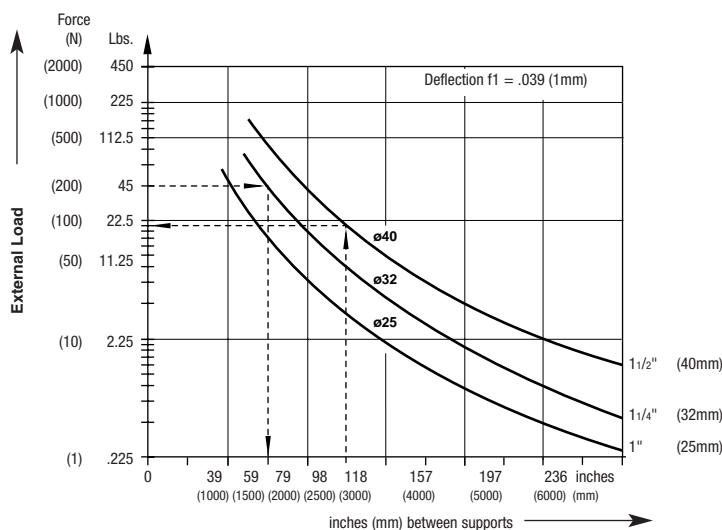
- Lintra®-Lite rodless cylinders require less space for installation since the stroke of the cylinder is contained within the length of the cylinder itself.
- Non-rotating load carrying capability without additional guide rods and bearings.
- Rodless design means there is no rod that can buckle or kink.
- Equal forces can be applied to each stroke direction.
- All stroke lengths are custom made to customer requirements.
- Stroke lengths are available up to 236" (6000mm). For longer stroke lengths, consult factory.
- Lintra®-Lite features a choice of bore sizes:  
 Ø 1" = 0.984" (Ø 25mm)  
 Ø 1 1/4" = 1.260" (Ø 32mm)  
 Ø 1 1/2" = 1.575" (Ø 40mm)
- Cushion adjustment optional at both ends of the cylinder.
- Magnetic piston optional.
- Integral switch rail on both sides of the extrusion.
- Main components are made of anodized, corrosion resistant aluminum, with zinc plated steel integral foot mount end covers.
- Velocities up to 4.9 ft/sec (1.5 m/s) are achievable.
- The Lintra®-Lite is designed for easy maintenance.
- Polyurethane seals provide long life.

## The Extruded Tube of the LINTRA®-LITE Series A44000 Cylinder



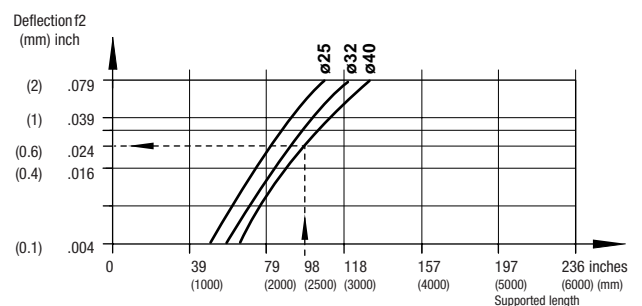
## Cylinder Deflection

Deflection due to external load.



Cylinder ø1-1/4" (32mm), stroke length 138" (3500mm), external load 45 lbs. (200 N). Maximum distance between supports = 59 inches (1500mm) (see diagram). Therefore additional support is required.

Deflection due to cylinder weight.



Cylinder ø 40mm, external force 25 lbs. force (120 N), distance between supports 98 inches (2500mm).

Required: Total deflection

1. Deflection due to external force (f1): See diagram	.039"/20.23 lbs. (1mm/90 N) x 25 lbs. (120 N)	.051" (1.3mm)
2. Deflection due to cylinder weight (f2): See diagram		+.024" (0.6mm)
	Total deflection:	.075" (1.9mm)

Maximum permitted deflection:

$f1 + f2 \leq .039$  inches (1mm) per 39.37 inches (1000mm) stroke. Result: .075 inches (1.9mm) are below the maximum permitted deflection of .098 inches (2.5mm).

**Operating Specifications**

**Operating Temperature:**

-22° to 180°F\* (-30°C to 80°C)

\*With dewpoint of supply air less than ambient air temperature at cylinder, consult our Technical Service for use below +36°F (+2°C)

**Operating Pressure:**

15 to 116 psig (1 to 8 bar)

**Bore Sizes:**

- Ø 1" = 0.984" (Ø 25mm)
- Ø 1-1/4" = 1.260" (Ø 32mm)
- Ø 1-1/2" = 1.575" (Ø 40mm)

**Stroke Lengths:**

236 inches (6000mm) max.

**Supply:**

Compressed air, filtered to 50-microns and lubricated.

**Cushion Lengths:**

- Ø 1" = 0.709" (Ø 25mm = 18mm)
- Ø 1-1/4" = 0.906" (Ø 32mm = 23mm)
- Ø 1-1/2" = 1.378" (Ø 40mm = 35mm)

**Materials of Construction**

- Barrel: Anodized aluminum alloy
- End covers: Zinc plated steel/aluminum
- Yoke: Anodized aluminum alloy
- Cover and Pistons: Plastic
- Sealing strip: Polyurethane
- Cover strip: Polyamide
- Seals: Nitrile rubber and polyurethane

**Loading values for LINTRA®-LITE cylinders**

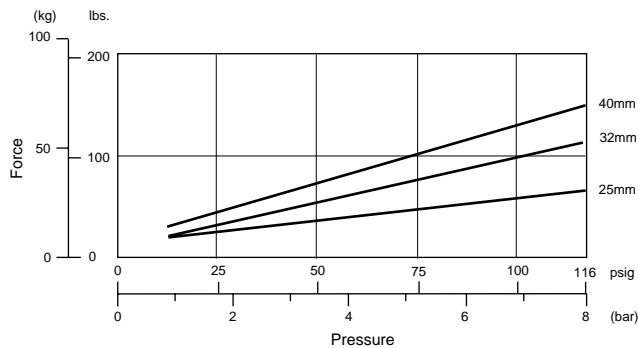
The values given in the table below show the forces in the directions Fy and Fz and the maximum moments Mx, My and Mz. All values are applicable for speeds up to .66 ft/s (0.2 m/s). A requirement for using these values is a smooth movement of the mass over the whole stroke length of the cylinder. The reference point from which the moments for all cylinders should be calculated is the center line of the piston.

**Total loads**

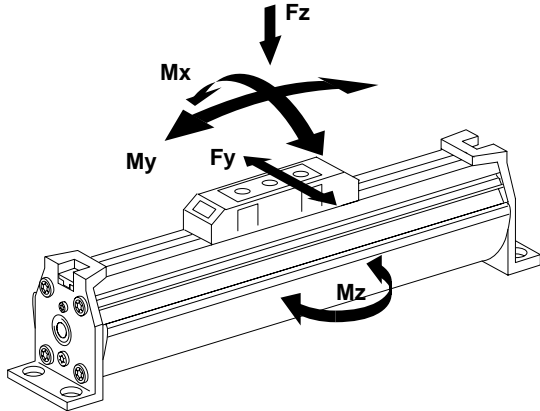
When a LINTRA®-LITE cylinder has to take several loads and moments, an additional calculation is necessary using the following formula:

$$\frac{M_x}{M_x \text{ max}} + \frac{M_y}{M_y \text{ max}} + \frac{M_z}{M_z \text{ max}} + \frac{F_y}{F_y \text{ max}} + \frac{F_z}{F_z \text{ max}} \leq 1$$

**Thrust – Based on 75% of Theoretical Thrust**



1 bar = 14.5 PSI  
 1 kg = 2.205 lbs.  
 1 m/s = 3.3 ft/s



**Thrust • Air Consumption • Cushion Length • Loading Values**

Cylinder Inch Ø mm	Theoretical forces at 6 bar lbs (N)	Air consumption per stroke at 6 bar cu.ft./in. (l/cm)	Cushion length Inch (mm)	Loading values				
				Fy lbs (N)	Fz lbs (N)	Mx in/lbs (Nm)	My in/lbs (Nm)	Mz in/lbs (Nm)
1" 25	56 (250)	0.03 (0.035)	.709 (18)	20 (90)	63 (280)	9 (1)	115 (13)	35 (4)
1-1/4" 32	92 (410)	0.04 (0.056)	.906 (23)	27 (120)	83 (370)	18 (2)	186 (21)	53 (6)
1-1/2" 40	143 (640)	0.06 (0.088)	1.378 (35)	54 (240)	162 (720)	36 (4)	496 (56)	142 (16)

Loading values applicable to a speed of ≤ 66 ft/s (≤ 0.2 m/s). Maximum working life is normally reached below a speed of 3.3 ft/s (1 m/s).

## Spares

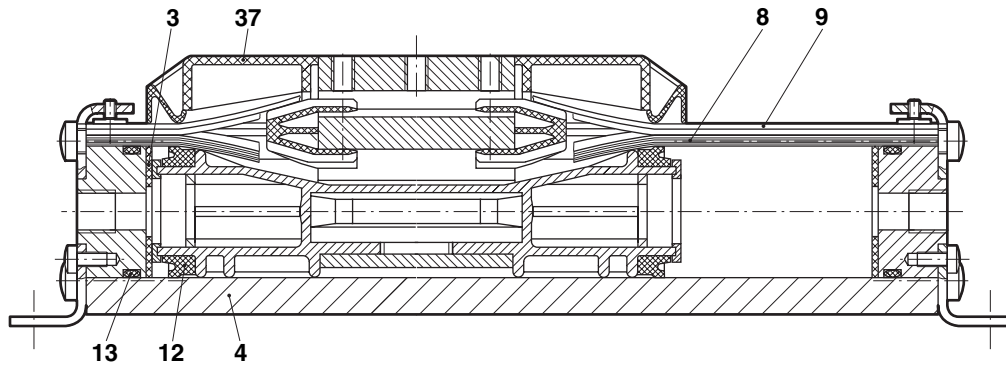
### Cylinders with Bumper Cushioning

# LINTRA®-Lite rodless cylinders

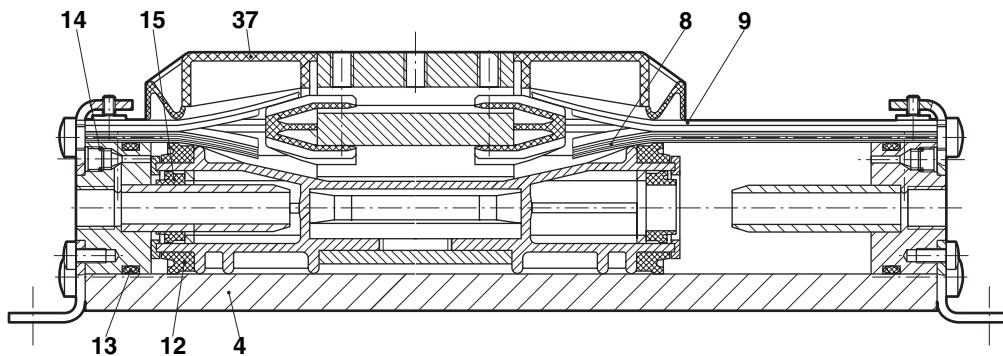
A44000

Double acting

Ø 25 ... 40 mm



### Cylinders with Adjustable Cushioning



### Replacement Parts for A44000AAVAN with NPT Port Thread and Stroke in inches

Cylinder Ø	Model	Spares kit includes:	Item	Description	Quantity	Seal strip	Cover strip	Tube
						Item 8	Item 9	Item 4
1"	A44025AAVAN	Q44025AACANT788*	3	Bumper	2	C/P 41628/*	C/P 41631/*	C/P 41607/*
1 1/4"	A44032AAVAN	Q44032AACANT788*	8/9	Seal/cover strip	1/1	C/P 41629/*	C/P 41632/*	C/P 41613/*
1 1/2"	A44040AAVAN	Q44040AACANT788*	12/15	Piston/cushion seal	2/2	C/P 41630/*	C/P 41633/*	C/P 41602/*
			13/14	O-Ring	2/2			
			37	Cover	1			
				Grease	2	* Insert stroke length in inches.		

NOTE: Spares kits are common for all cylinder variants. Please specify the cylinder model number when ordering spare parts.

### Replacement Parts for A44000AAVAA with ISO-G Port Thread and Stroke in mm

Cylinder Ø	Model	Spares kit includes:	Item	Description	Quantity	Seal strip	Cover strip	Tube
						Item 8	Item 9	Item 4
25mm	A44025AAVAA	Q44025AACAAAT788*	3	Bumper	2	M/P 41628/*	M/P 41631/*	M/P 41607/*
32mm	A44032AAVAA	Q44032AACAAAT788*	8/9	Seal/cover strip	1/1	M/P 41629/*	M/P 41632/*	M/P 41613/*
			12/15	Piston/cushion seal	2/2			
40mm	A44040AAVAA	Q44040AACAAAT788*	13/14	O-Ring	2/2	M/P 41630/*	M/P 41633/*	M/P 41602/*
			37	Cover	1			
				Grease	2	* Insert stroke length in mm.		

NOTE: Spares kits are common for all cylinder variants. Please specify the cylinder model number when ordering spare parts.

## Torx® Screws

### Tube Torque Torx® Screw 1 (4)

Cylinder Ø	Screw Size	Torque	Tool Size
1" (25mm)	M4x16	3-3.5 Nm	T-20
1 1/4" (32mm)	M5x20	6-7 Nm	T-25
1 1/2" (40mm)	M6x25	9-10 Nm	T-30

### Cap to Mounting Plate Torx® Screw 2 (1)

Cylinder Ø	Screw Size	Torque	Tool Size
1" (25mm)	M3x8	.8-1 Nm	T-10
1 1/4" (32mm)	M3x8	.8-1 Nm	T-10
1 1/2" (40mm)	M4x10	3-3.5 Nm	T-20

