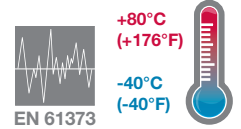
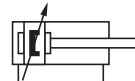


- > Ø 4 ... 8"
- > Adjustable captive cushion needle
- > Constructed of the finest materials
- > Magnetic piston standard
- > Wide temperature range
- > Shock and vibration tested to EN 61373, Category 1, class A and B



### Technical features

**Medium:**  
Filtered compressed air lubricated or non lubricated

**Operation:**  
Double acting, adjustable cushioning and magnetic piston

**Bore sizes:**  
4", 5", 6", 8"

**Operating pressure:**  
250 psi (17 bar)

**Operating temperature:**  
-40 ... +80°C (-40 ... +176°F)  
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

**Strokes:**  
Made to order, available 2 ... 120 inches

**Materials\*:**  
Head and end caps: black anodized aluminum alloy  
Tube: Aluminum alloy  
Tie rods: high-tensile strength steel  
Piston: machined high-strength aluminum alloy.

Piston rod: hard chrome plated steel  
Rod bearing: oil impregnated sintered iron  
Seals: NBR rod seal, urethane rod wiper, NBR piston seals, NBR tube end seals  
Tie rods: high-tensile strength steel

\*consult factory for alternative materials

### Technical data

Cylinder Ø (inch)	4	5	6	8
Air ports	1/2 NPT	1/2 NPT	3/4 NPT	3/4 NPT
Piston rod diameter (inch)	1	1	1 3/8	1 3/8
Cushion length (inch)	0.95	0.95	1.15	1.15
Theoretical thrusts at 80 psi (6 bar) outstroke	1005 lb (4473 N)	1571 lb (6988 N)	2262 lb (10061 N)	4020 lb (17881 N)
Theoretical thrusts at 80 psi (6 bar) instroke	942 lb (4193 N)	1508 lb (6708 N)	2143 lb (9532 N)	3901 lb (17352 N)

### Option selector

A★★77★1-LT-PS-★★-★X★★

Mounting options	Substitute
Head Rectangular Flange (MF1)	03
Head Square (ME3) – 8" bore	03
Side Lugs (MS2)	09
Cap trunnion (MT2)	8R
Cap fixed clevis (MP1)	12
Cap fixed eye (MP3)	32
Piston rod diameters	Substitute
1" for 4" and 5" cylinders	B
1 3/8" for 6" and 8" cylinders	C

Stroke in inch	Substitute
Standard	None
Metal rod scraper	MS
Cushion location	N(33)*
Piston rod boot over	RB
Piston rod extension	RX
Stainless steel piston rod	SS

\* Option required for MT2 mounting style.

**Mountings**

Model	Removable cap trunnion (MT2)	Cap fixed clevis (MP1)	Cap fixed eye (MP3)	Head rectangular flange mount (MF1)	Head square mount (ME3)	Side lug mount (MS2)
Ø (inches)	Page 3	Page 3	Page 4	Page 4	Page 4	Page 5
4	A8R77B1-LT-N(33)-PS-4"x*	A1277B1-LT-PS-4"x*	A3277B1-LT-PS-4"x*	A0377B1-LT-PS-4"x*		A0977B1-LT-PS-4"x*
5	A8R77B1-LT-N(33)-PS-5"x*	A1277B1-LT-PS-5"x*	A3277B1-LT-PS-5"x*	A0377B1-LT-PS-5"x*		A0977B1-LT-PS-5"x*
6	A8R77C1-LT-N(33)-PS-6"x*	A1277C1-LT-PS-6"x*	A3277C1-LT-PS-6"x*	A0377C1-LT-PS-6"x*		A0977C1-LT-PS-6"x*
8	A8R77C1-LT-N(33)-PS-8"x*	A1277C1-LT-PS-8"x*	A3277C1-LT-PS-8"x*		A0377C1-LT-PS-8"x*	A0977C1-LT-PS-8"x*

\* Please insert the stroke length in inches

Model	NFPA rod clevis	Norgren clevis bracket	NFPA eye bracket	Switch mounting bracket for M/50	Service kit
Ø (inches)	Page 5	Page 5	Page 6	Page 6	
4	49030A	49023A	49020A	QM/27/2/1	LTRK-25-400
5	49030A	49023A	49020A	QM/27/2/1	LTRK-25-500
6	49032A	49024A	49019A	QM/27/2/1	LTRK-35-600
8	49032A	49024A	49019A	QM/27/2/1	LTRK-35-800

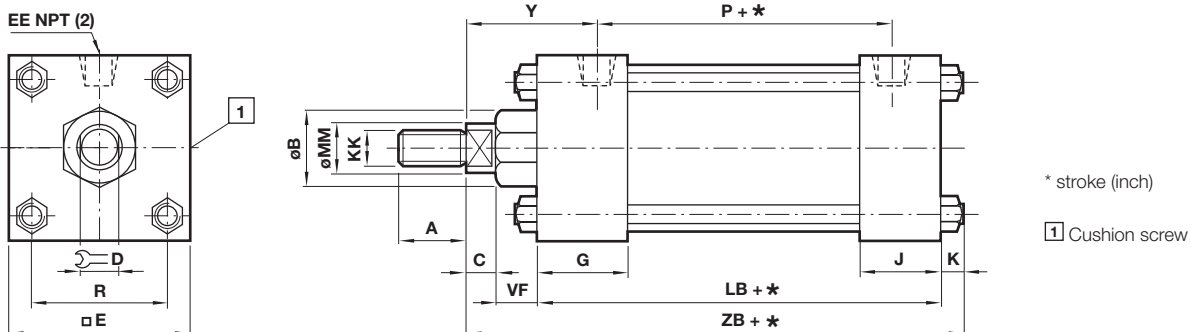
**Electronically switches**

Voltage V d.c.	Current max.	Temperature	LED	Features	Cable length	Cable type	Protection class	Model
10 ... 30	150 mA	-40 ... +80°C (-40 ... 176°F)	•	PNP	2, 5, 10 m	PVC 3 x 0,25	IP65	M/50/EAP*/V
10 ... 30	150 mA	-40 ... +80°C (-40 ... 176°F)	•	NPN	2, 5, 10 m	PVC 3 x 0,25	IP65	M/50/EAN*/V

\* Please insert the cable length 2, 5 or 10 m.

**Basic dimensions**

Dimensions in inch  
Projection/Third angle



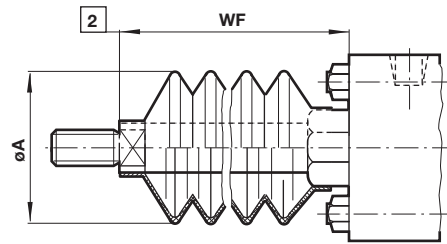
Bore	Ø MM	A	B +0.000 -0.002	C	D	E	EE	G	J	K	KK	LB	P	R	VF	Y	ZB	Weight lb	Add per inch of stroke lb
4"	1"	1.125	1.499	.500	.813	4.500	.500	1.750	1.250	.375	3/4 - 16	4.250	2.690	3.323	.875	2.380	6.000	9.8 (4.45 kg)	0.45 (.20 kg)
5"	1"	1.125	1.499	.500	.813	5.500	.500	1.750	1.250	.438	3/4 - 16	4.500	2.940	4.101	.875	2.380	6.313	15.1 (6.85 kg)	0.51 (.23 kg)
6"	1-3/8"	1.625	1.999	.625	1.125	6.500	.750	2.000	1.500	.438	1 - 14	5.000	3.125	4.870	1.000	2.813	7.063	23.5 (16.19 kg)	0.77 (.35 kg)
8"	1-3/8"	1.625	1.999	.625	1.125	8.500	.750	2.000	1.500	.563	1 - 14	5.125	3.250	6.442	1.000	2.813	7.313	40.0 (18.14 kg)	1.06 (.48 kg)

### Piston rod boot over

A piston rod extension RX ( ) is required when applying a rod boot to a cylinder. See below for required rod extension per bore size and stroke.

Dimensions in inch  
Projection/Third angle

Ø inch	Ø A	Piston rod extension required – RX ( )	WF retracted
4	3.00	0.089 x stroke + 0.547 = RX value	1.375 + RX value
5	3.00	0.089 x stroke + 0.547 = RX value	1.375 + RX value
6	3.50	0.081 x stroke + 0.547 = RX value	1.625 + RX value
8	3.50	0.081 x stroke + 0.547 = RX value	1.625 + RX value

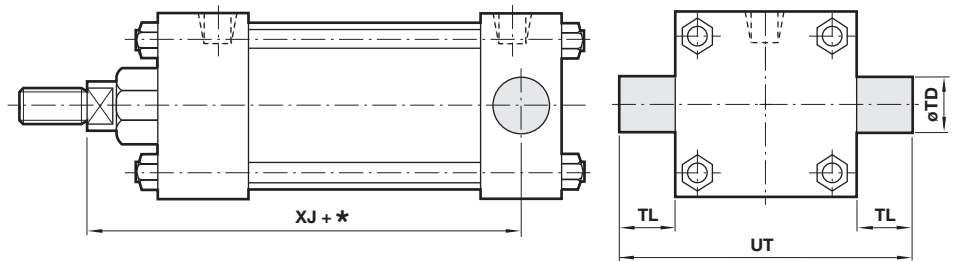


2 Retracted

Example: A1277B1-LT-PB-RB-RX(??)4X5  
 $0.089 \times 5 + 0.547 = 0.992$ " = piston rod extension  
 A1277B1-LT-PS-RB-RX(0.992)4x5  
 WF = 2.367"

### Cylinder with mounting

#### Removable cap trunnion (MT2)

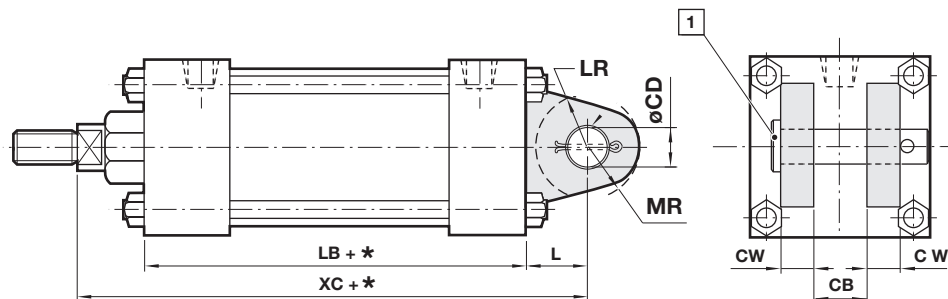


\* stroke

Bore	TD +.000 - .001	TL	UT	XJ	Weight lb	Add per inch of stroke lb	Model
4"	1.000	1.000	6.500	5.000	11.5 (5.22 kg)	0.45 (0.20 kg)	A8R77B1-LT-N(33)-PS-4"x*
5"	1.000	1.000	7.500	5.250	18.7 (8.48 kg)	0.51 (0.23 kg)	A8R77B1-LT-N(33)-PS-5"x*
6"	1.375	1.375	9.250	5.875	27.3 (12.38 kg)	0.77 (0.35 kg)	A8R77C1-LT-N(33)-PS-6"x*
8"	1.375	1.375	11.250	6.000	41.4 (18.78 kg)	1.06 (0.48 kg)	A8R77C1-LT-N(33)-PS-8"x*

\* Please insert the stroke length in inches

#### Cap fixed clevis (MP1)



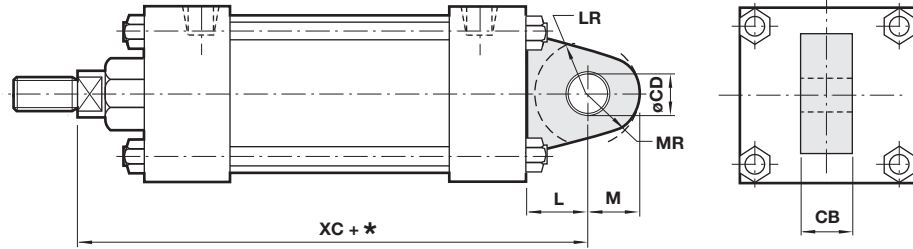
\* stroke

Bore	CB	CD	CW	L	LB	LR	MR	XC	Weight lb	Add per inch of stroke lb	Model
4"	1.250	.750	.625	1.250	4.250	1.250	.938	6.875	14.8 (6.71 kg)	0.45 (0.20 kg)	A1277B1-LT-PS-4"x*
5"	1.250	.750	.625	1.250	4.500	1.250	.938	7.125	22.2 (10.07 kg)	0.51 (0.23 kg)	A1277B1-LT-PS-5"x*
6"	1.500	1.000	.750	1.500	5.000	1.500	1.188	8.125	35.7 (10.66 kg)	0.77 (0.35 kg)	A1277C1-LT-PS-6"x*
8"	1.500	1.000	.750	1.500	5.125	1.500	1.188	8.250	43.0 (19.50 kg)	1.06 (0.48 kg)	A1277C1-LT-PS-8"x*

\* Please insert the stroke length in inches

**Cap fixed eye (MP3)**

Dimensions in inch  
Projection/Third angle



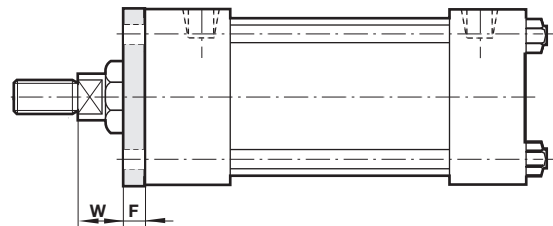
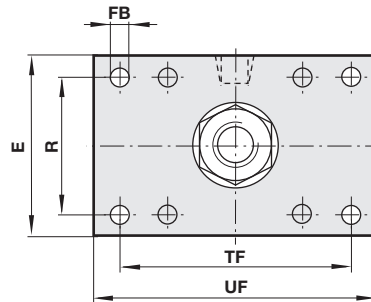
\* stroke

Bore	CB	CD	L	LR	M	MR	XC	Weight lb	Add per inch of stroke lb	Model
4"	1.250	.750	1.250	1.250	.750	.938	6.875	15.5 (7.03 kg)	0.45 (0.20 kg)	A3277B1-LT-PS-4"x*
5"	1.250	.750	1.250	1.250	.750	.938	7.125	22.8 (10.34 kg)	0.51 (0.23 kg)	A3277B1-LT-PS-5"x*
6"	1.500	1.000	1.500	1.500	1.000	1.188	8.125	37.0 (16.78 kg)	0.77 (0.35 kg)	A3277C1-LT-PS-6"x*
8"	1.500	1.000	1.500	1.500	1.000	1.188	8.250	60.5 (27.44 kg)	1.06 (0.48 kg)	A3277C1-LT-PS-8"x*

\* Please insert the stroke length in inches

**Cylinder with mounting**

**Head rectangular flange mount (MF1) \*1)**

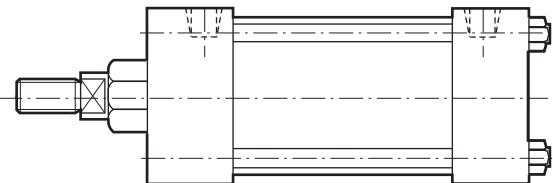
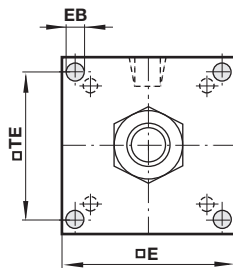


Bore	E	F	FB	R	TF	UF	W (Std.)	Weight lb	Add per inch of stroke lb	Model
4"	4.500	.625	.438	3.323	5.438	6.250	.750	14.8 (6,71 kg)	0.45 (0,21 kg)	A0377B1-LT-PS-4"x*
5"	5.500	.625	.563	4.101	6.625	7.625	.750	22.7 (10,30 kg)	0.51 (0,23 kg)	A0377B1-LT-PS-5"x*
6"	6.500	.750	.563	4.879	7.625	8.625	.875	35.6 (16,15 kg)	0.77 (0,35 kg)	A0377C1-LT-PS-6"x*

\* Please insert the stroke length in inches

\*1) Test results pending - consult Norgren Technical for more information.

**Head square mount (ME3) \*1)**



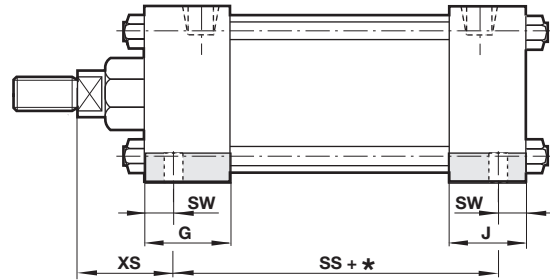
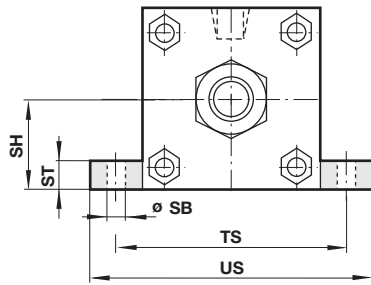
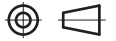
Bore	E	EB	TE	Weight lb	Add per inch of stroke lb	Model
8"	8.500	.688	7.570	40.00 (18,15 kg)	1.06 (0,48 kg)	A0377C1-LT-PS-8"x*

\* Please insert the stroke length in inches

\*1) Test results pending - consult Norgren Technical for more information.

**Side lug mount (MS2) \*1)**

Dimensions in inch  
Projection/Third angle

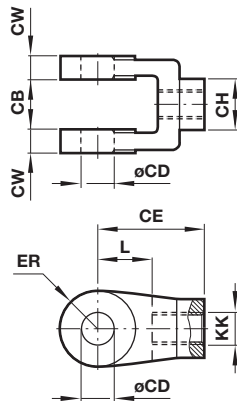


Bore	G	J	SB	SH	SS	ST	SW	TS	US	XS (Std.)	Weight lb	Add per inch of stroke lb	Model
4"	1.750	1.250	.563	2.250	3.250	.750	.500	5.500	6.500	1.875	11.5 (5,22 kg)	0.45 (0,21 kg)	A0977B1-LT-PS-4"x*
5"	1.750	1.250	.813	2.750	3.125	1.000	.688	6.875	8.250	2.062	18.7 (8,48 kg)	0.51 (0,23 kg)	A0977B1-LT-PS-5"x*
6"	2.000	1.500	.813	3.250	3.625	1.000	.688	7.875	9.250	2.313	27.3 (12,38 kg)	0.77 (0,35 kg)	A0977C1-LT-PS-6"x*
8"	2.000	1.500	.813	4.250	3.750	1.000	.688	9.875	11.250	2.313	41.4 (18,78 kg)	1.06 (0,48 kg)	A0977C1-LT-PS-8"x*

\* Please insert the stroke length in inches

\*1) Test results pending - consult Norgren Technical for more information.

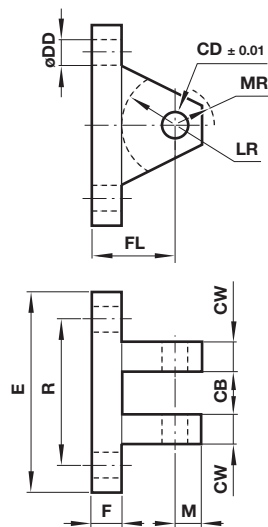
**NFPA rod clevis**



For cyl. Ø	KK	CB	CD	CE		CW	ER	L	Weight lb	Model (Std.)	Model (Assy.)
4" & 5"	3/4 - 16	1.250	.750	2.375	1.250	.625	.750	1.250	3.75 (1,7 kg)	49030	49030A
6" & 8"	1 - 14	1.500	1.000	3.125	1.500	.750	1.000	1.500	7.94 (3,6 kg)	49032	49032A

Note: Rod Clevis Assembly 49102A and 49103A are supplied with NFPA Pin. All others are with Standard Pin

**Norgren clevis bracket**

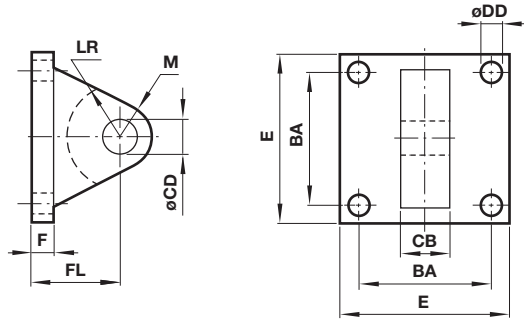


For cyl. Ø	CB	CD	CW	DD	E	F	FL	LR	M	MR	R	Weight lb	Model (Std.)	Model (Assy.)
4" & 5"	1.250	.750	.625	.531	5.000	.625	1.875	1.188	.750	.906	3.828	9.81 (4,45 kg)	49023	49023A
6" & 8"	1.500	1.000	.750	.656	6.500	.750	2.250	1.500	1.000	1.250	4.953	25.25 (11,45 kg)	49024	49024A

Note: Norgren Clevis Bracket Assembly is supplied with Standard Pin.

**NFPA eye bracket**

Dimensions in inch  
Projection/Third angle

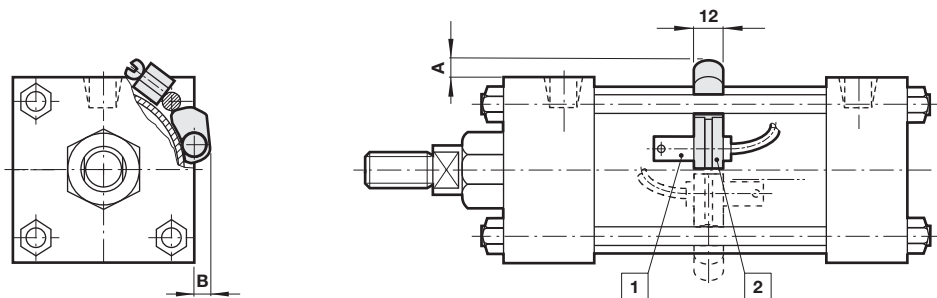


For cyl. Ø	BA	CB	CD	DD	E	F	FL	LR	M	Weight lb	Model (Std.)	Model (Assy.)
4" & 5"	2.563	1.250	.750	.531	3.500	.625	1.875	1.250	.750	9.15 (4,15 kg)	49020	49020A
6" & 8"	3.250	1.500	1.000	.656	4.500	.750	2.250	1.500	1.000	13.45 (6,10 kg)	49019	49019A

Note: NFPA Eye bracket assembly is supplied with standard pin.

**Switch mounting**

QM/27/2/1, switch: M/50



Cylinder Ø	A	B	Weight lb
4"	.13	.06	0.02 (0,01 kg)
5"	.10	.00	0.02 (0,01 kg)
6"	.00	.00	0.02 (0,01 kg)
8"	.00	.00	0.02 (0,01 kg)

**Warning**

These products are intended for use in industrial compressed air and rail transport systems only. Do not use these products where pressures and temperatures can exceed those listed under

»**Technical features/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 IMI 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.