

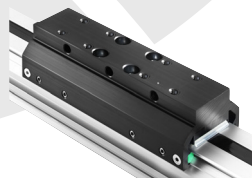
Lintra Rodless Cylinder

Series 46000B, 46100B, and 46200B

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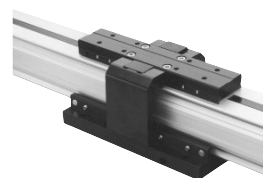
ACT-10-6 – Internally Guided Carriage



ACT-10-8 – Externally Guided Carriage



ACT-10-10 – Roller Guided Carriage



ACT-10-12 – Active Holding Brake System



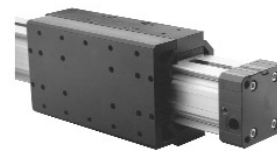
ACT-10-14 – Passive Holding Brake System



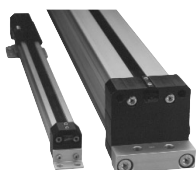
ACT-10-16 – Right Angle Holding System



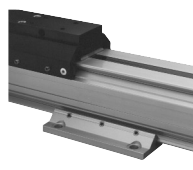
ACT-10-18 – Carriage Without Top Cover



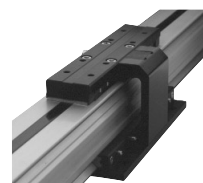
ACT-10-19 – Side Mounting Plate w/Secondary Carriage



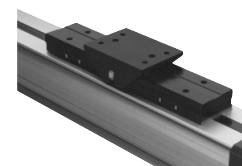
ACT-10-20 – Foot Mount Style "C"



ACT-10-21 – Center Support Style "V"



ACT-10-22 – Carriage Mounting Plate Style "UV"



ACT-10-23 – Swinging Bridge Mounting Style "S"

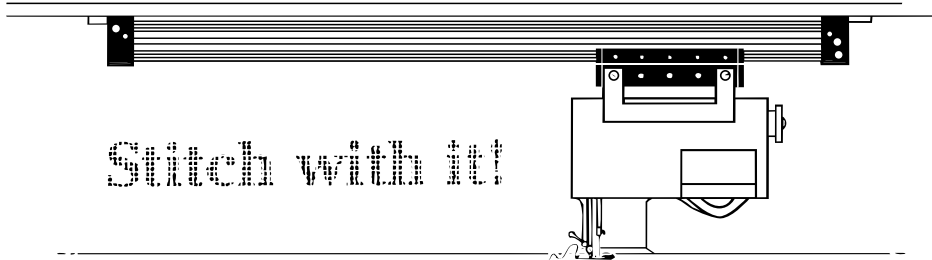


ACT-10-24 – Switches for 16 mm to 80 mm actuators



Proven Applications

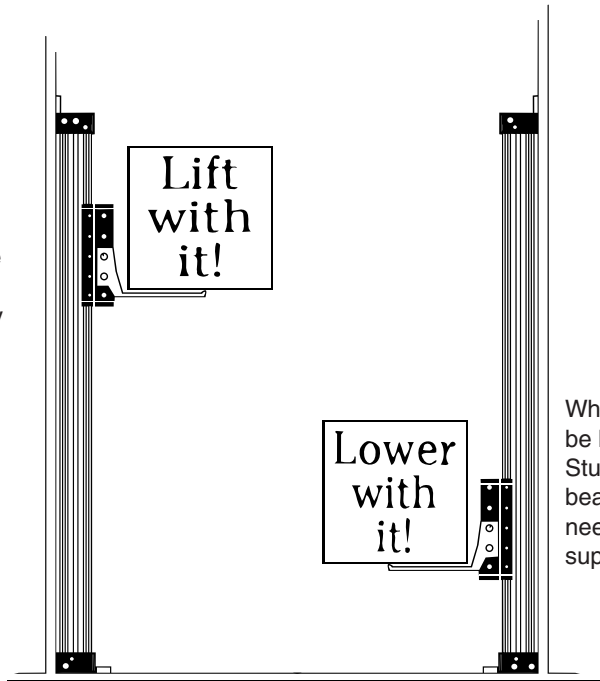
Start something with Lintra. When your application requires movement, especially linear movement, think Lintra. Consider the many possibilities available when you choose Lintra. Shown here are some proven Lintra applications, discover your own.



Stitch with it!

A manufacturer of custom drapery glides his sewing machines down the length of his stitching stations attached to Lintra cylinders. The result is a smooth, even line delivered with precision.

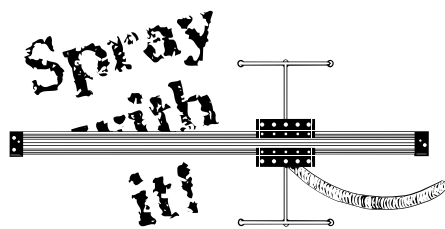
Attach a shelf to the carriage of a vertical Lintra cylinder and you have a lift ready for action. With stroke lengths up to 28 feet (see p. 5), a two-story lift or a two-foot lift can be ready made for your operations.



Lift with it!

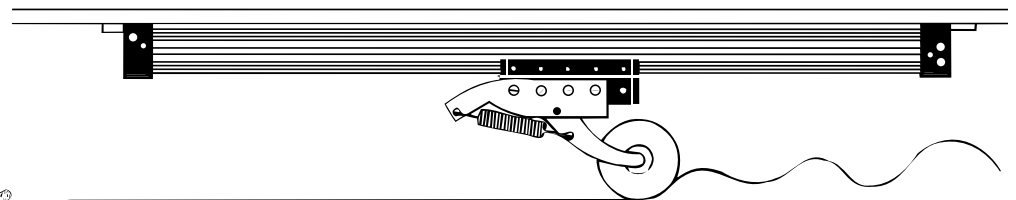
Lower with it!

What goes up...can readily be brought back down. Sturdy Lintra Cylinders bear the load without the need for external guides or supports.



Spray with it!

Mount a paint spray nozzle onto a Lintra carriage and you have an inexpensive automated paint sprayer with excellent repeatability. Lintra doesn't get tired.

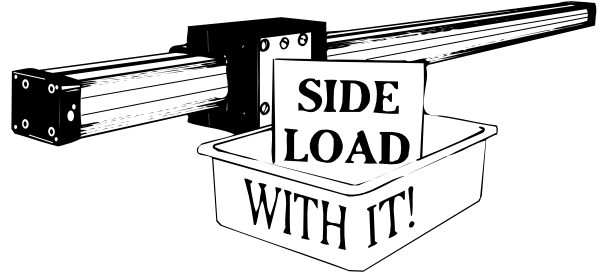
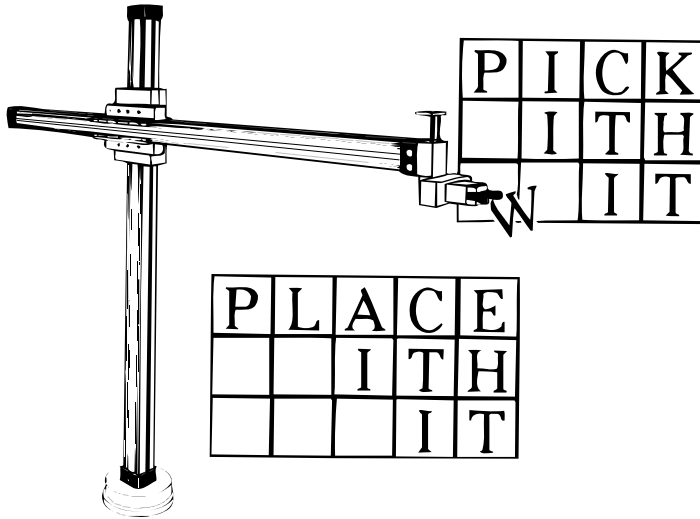


Silk screening, attaching side molding to automobile bodies, any job where there is a need for even pressure to be applied in a straight line is a job for Lintra

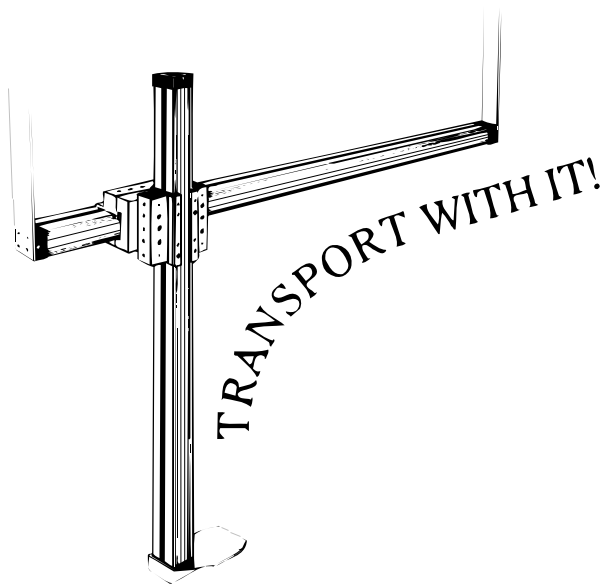


Proven Applications

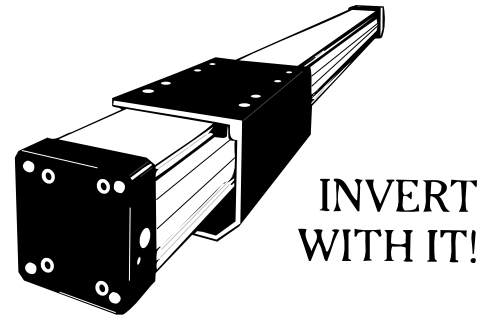
Create new solutions to manufacturing challenges with the simple, durable design of Lintra Cylinders. Your local NORGREN Lintra Distributor is ready today with helpful application ideas. Lintra - Use it!



Fit a Lintra cylinder with a secondary carriage and side mounting plate. Now, not only do you have a new mounting configuration, but a 50% increase in the loading capability of the cylinder is realized. The side loading plate really takes advantage of LINTRA's integral guided carriage.

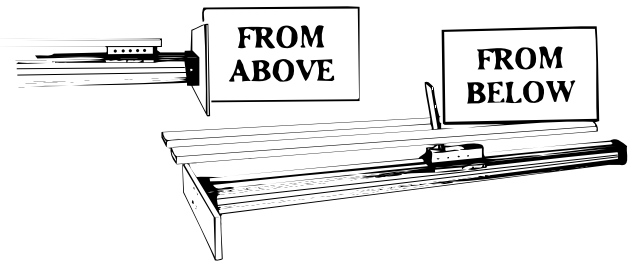


The "Walking Beam" can straddle two areas and provide a transporting bridge to link the two. A horizontal cylinder fitted with a Right Angle Mounting System carries the load from one point to the other while the second cylinder raises and lowers the load.



The Carriage Bracket Accessory transfers power from the top carriage to a guided mounting plate on the opposite side of the cylinder. This allows hanging loads to be transported by the cylinder or the cylinder to be inverted in dirty environments, sheltering the seal strips from contaminants.

TRANSFER WITH IT!



Conveyor lines are moving in the right direction when Lintra cylinders are used to perform transfers along the system. Cylinders secured above conveyors or below roller conveyors provide reliable transfers for the system.

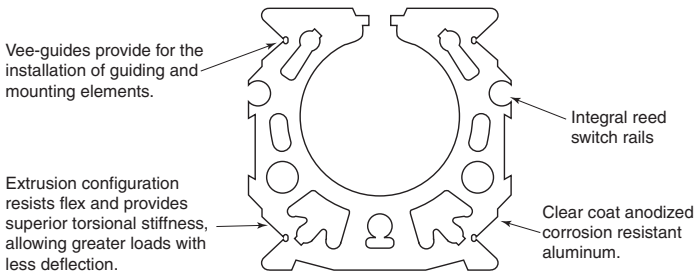


Features

- Lintra 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 expensive 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.
- Extreme stroke lengths are available up to 28 ft. (see ACT-10-5).
- Lintra features a wide range of bore sizes:
 - 16 mm bore — 0.63"
 - 20 mm bore — 0.79"
 - 25 mm bore — 0.98"
 - 32 mm bore — 1.26"
 - 40 mm bore — 1.57"
 - 50 mm bore — 1.97"
 - 63 mm bore — 2.48"
 - 80 mm bore — 3.15"

- Magnetic piston standard
- Integral switch rail on both sides of the extrusion.
- Components are made of anodized, corrosion resistant aluminum.
- Cushion adjustment standard at both ends of the cylinder.
- Stroke velocities up to 98 ft/sec (30 m/s) are available. Contact factory.
- The Lintra is designed for easy maintenance.
- Lintra cylinders can withstand heavy loads and inertial moments.
- Polyurethane seals provide long life.
- For increased load carrying capabilities and mounting versatility a variety of options and accessories are available.

The Extruded Tube of the Lintra Series 46000B Cylinder



For **corrosion resistance** put a "V" in front of the actuator part number. i.e. **VC/46032/M...**

- High corrosion and acid resistance
- Suitable for food, chemical, pharmaceutical and offshore oil industry applications.

Notes: For ISO porting with the corrosion resistance option contact factory.
Corrosion resistance is available for 20 thru 80 mm only.

Materials:

- End covers: Aluminum (HCR® coated*)
 - Carriage: Aluminum (HCR® coated*)
 - Yoke: Moulded plastic – Ø 20 mm, Aluminum (HCR® coated*) – Ø 25 to 80 mm
 - Barrel: Extruded aluminum alloy (HCR® coated*)
 - Sealing strip & piston seals: Polyurethane
 - Cover strip: Polyamide
 - Seals: Nitrile rubber
- *HCR®: High Technology Synergistic Coating

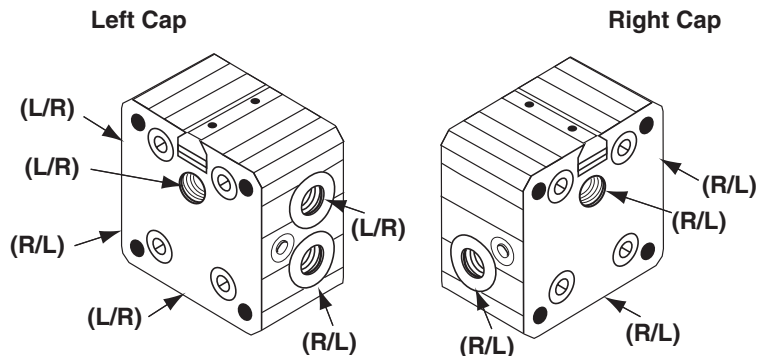
Lintra® 46000 Series Multiple Port Endcaps

Multiple Ported left and right endcaps available in bore sizes 25mm - 63mm, endcaps are ported with NPT or Metric ISO G threads.

(L/R) - indicates air applied to this port will move the carriage from Left to Right.

(R/L) - indicates air applied to this port will move the carriage from Right to Left.

To specify Multiple Port endcaps place **/MC/** in the fourth position instead of **/M/**.





Operating Specifications

Operating Temperature

-22° to 180°F* (-30°C to 80°C)

*With dewpoint of supply air less than ambient air temperature.

Operating Pressure

16 mm: 22 to 150 psig (1.5 to 10 bar)

20 mm to 80 mm: 15 to 150 psig (1 to 10 bar)

Bore Sizes:	Area (sq. in.)
16 mm bore — 0.63"	.31
20 mm bore — 0.79"	.49
25 mm bore — 0.98"	.75
32 mm bore — 1.26"	1.25
40 mm bore — 1.57"	1.94
50 mm bore — 1.97"	3.05
63 mm bore — 2.48"	4.83
80 mm bore — 3.15"	7.79

Stroke lengths:

16 mm to 40 mm bore - to 28 ft. (8500 mm)

50 mm and 63 mm bore - to 23 ft. (7000)

80 mm bore - to 18 ft. (5500 mm)

Supply Fluid: Compressed air filtered to

50-microns and lubricated.

Cushion Lengths:

16 mm bore — 12 mm (0.48")

20 mm bore — 26 mm (1.02")

25 mm bore — 26 mm (1.02")

32 mm bore — 35 mm (1.38")

40 mm bore — 50 mm (1.97")

50 mm bore — 60 mm (2.36")

63 mm bore — 70 mm (2.76")

80 mm bore — 75 mm (2.95")

Magnetic Non-Contact Sensing Switches: ACT-10-24/25

Materials of Construction

Tube and Carriage: Anodized aluminum

End Caps: 16 mm - molded plastic end caps and yoke.

20 mm - anodized aluminum end covers, molded plastic yoke.

25 to 80 mm - anodized aluminum end caps and yoke.

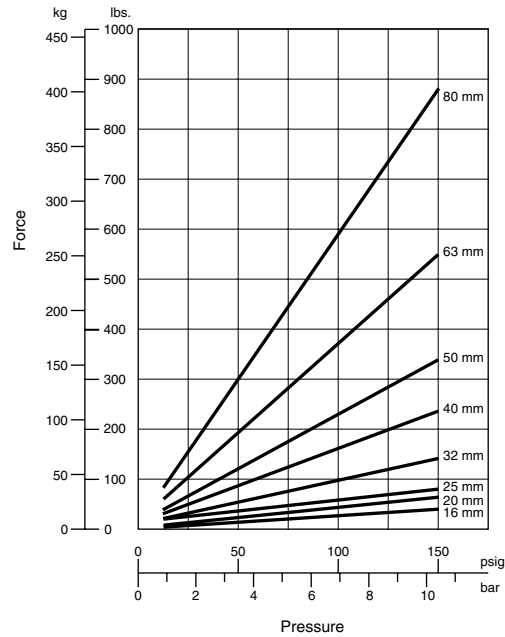
Seal Strips and Piston Seals: Polyurethane

Cover Strips: Polyamide

Guide Rails: UHMW Polymer

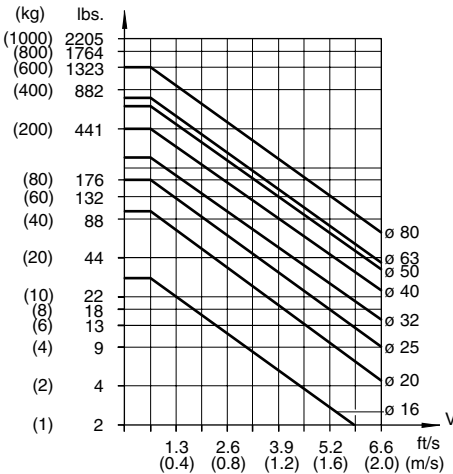
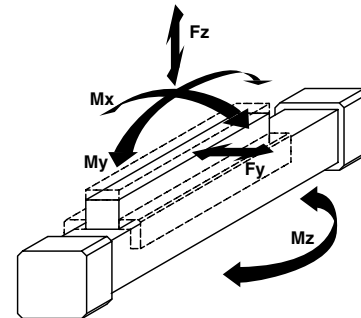
Seals: Nitrile rubber or Polyurethane

THRUST – Based on 75% of Maximum Thrust



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 87 psig (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.



Loading values for Lintra cylinders

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. 0.66 ft/s (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 centerline of the piston.

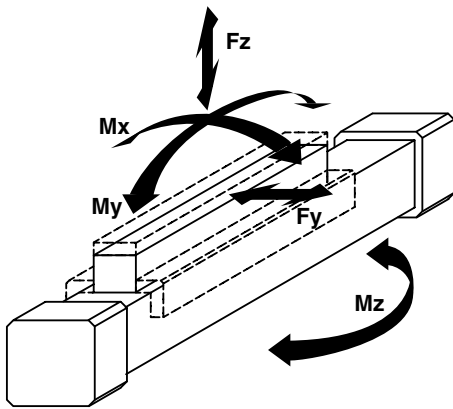
For speeds up to 6.6 ft.s (2 m/s) please use our calculation program PNEUCALC 2A. It is available upon request. PNEUCALC IIA is suitable for all PC's having MS-DOS 3.1 and higher.

Total loads

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

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

- Economical alternative for applications where limited external guiding is needed
- Ideal for light-duty installations, or in applications where external guides are required.
- Can be used to save money and space.
- Same rugged quality construction.
- Available with NPT or ISO G ports



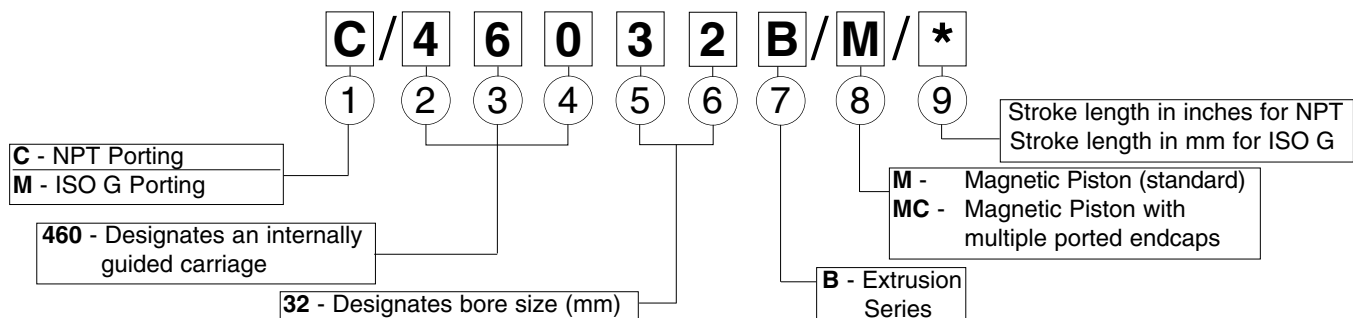
Load capabilities decrease inversely with piston velocities greater than 8 in./sec. Consult factory for additional load/velocity information. Moments are to be calculated with respect to the centerline of the cylinder. Values shown are for single axis moments. For multiple moment applications refer to ACT-10-5.

All Dimensions in Inches (mm)

Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	NA	C/46020B/M*	C/46025B/M*	C/46032B/M*	C/46040B/M*	C/46050B/M*	C/46063B/M*	C/46080B/M*
ISO G Model	M/46016B/M*	C/46020B/M*	M/46025B/M*	M/46032B/M*	M/46040B/M*	M/46050B/M*	M/46063B/M*	M/46080B/M*
Fy Lbs Force	9	20	25	34	68	90	144	176
N	(40)	(90)	(110)	(150)	(300)	(400)	(640)	(780)
Fz Lbs Force	27	63	79	104	203	270	428	518
N	(120)	(280)	(350)	(460)	(900)	(1200)	(1900)	(2300)
Mx In Lbs	2.7	8	12	22	51	87	159	239
Nm	(0.3)	(0.9)	(1.3)	(2.5)	(5.8)	(9.8)	(18)	(27)
My In Lbs	34	106	168	266	681	974	2124	3186
Nm	(3.8)	(12)	(19)	(30)	(77)	(110)	(240)	(360)
Mz In Lbs	9.7	32	50	76	195	283	620	885
Nm	(1.1)	(3.6)	(5.6)	(8.6)	(22)	(32)	(70)	(100)

*Insert stroke length

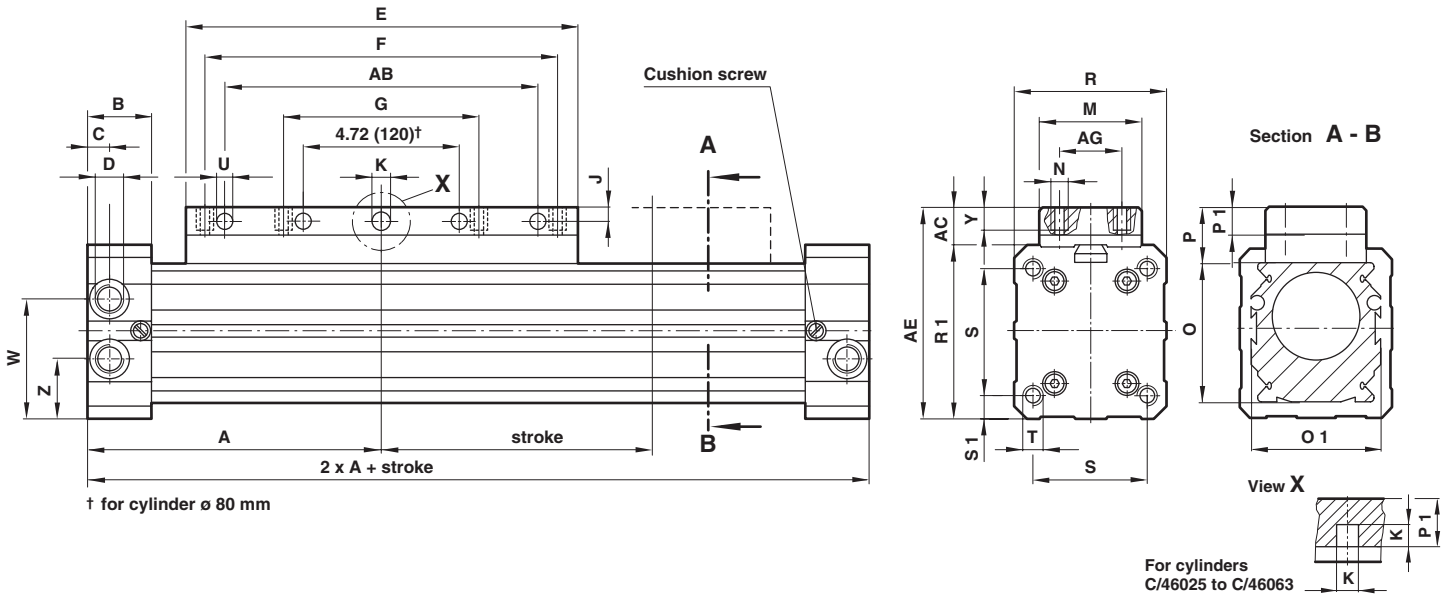
Cylinder Order Information



C/46032B/M/40 is a cylinder with internally guided carriage, and NPT ports. It has a 32 mm bore (bore sizes are always designated in millimeters), magnetic piston, and a 40 inch stroke.



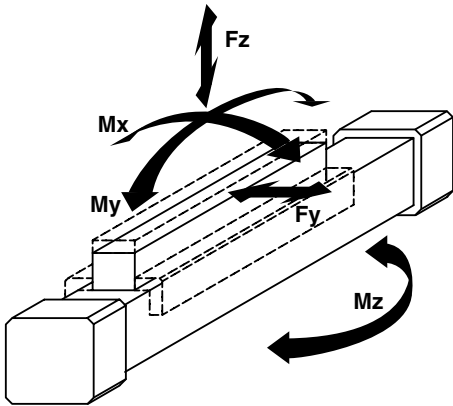
Basic Dimensions for Series 46000 Cylinders



Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	NA	C/46020B/M/*	C/46025B/M/*	C/46032B/M/*	C/46040B/M/*	C/46050B/M/*	C/46063B/M/*	C/46080B/M/*
ISO G Model	M/46016B/M/*	M/46020B/M/*	M/46025B/M/*	M/46032B/M/*	M/46040B/M/*	M/46050B/M/*	M/46063B/M/*	M/46080B/M/*
A	2.46 (62.5)	3.35 (85)	3.94 (100)	4.72 (120)	5.91 (150)	7.09 (180)	8.46 (215)	10.24 (260)
AB	-	-	-	-	-	-	-	9.45 (240)
AC	0.33 (8.5)	0.55 (14)	0.47 (12)	0.63 (16)	0.59 (15)	0.79 (20)	0.79 (20)	0.94 (24)
AE	1.56 (39.5)	2.13 (54)	2.36 (60)	2.99 (76)	3.54 (90)	4.33 (110)	4.92 (125)	6.06 (154)
AG	0.31 (8)	0.71 (18)	0.79 (20)	0.98 (25)	0.98 (25)	0.98 (25)	0.98 (25)	0.98 (25)
B	0.69 (17.5)	0.91 (23)	0.91 (23)	1.06 (27)	1.18 (30)	1.38 (35)	1.57 (40)	1.77 (45)
C	0.31 (8)	0.31 (8)	0.57 (14.5)	0.41 (10.5)	0.45 (11.5)	0.55 (14)	0.55 (14)	0.67 (17)
D	M5	1/8NPT (G-1/8)	1/8NPT (G-1/8)	1/4NPT (G-1/4)	1/4NPT (G-1/4)	3/8NPT (G-3/8)	1/2NPT (G-1/2)	1/2NPT (G-1/2)
E	3.15 (80)	4.33 (110)	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)	15.35 (390)
F	2.36 (60)	3.15 (80)	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)	11.81 (300)
G	-	1.57 (40)	1.77 (45)	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)	5.91 (150)
J	0.10 (2.5)	0.14 (3.5)	-	-	-	-	-	0.35 (9)
K	Ø .12 (3)	Ø .17 (4.2)	0.18 □ (4.5)	0.24 □ (6)	0.24 □ (6)	0.31 □ (8)	0.31 □ (8)	Ø .47 (12)
M	0.71 (18)	1.06 (27)	1.26 (32)	1.77 (45)	1.77 (45)	1.97 (50)	1.97 (50)	1.97 (50)
N	M3 - 4 deep	M5 - 12 deep	M5 - 7 deep	M5 - 8 deep	M6 - 8 deep	M8 - 11 deep	M8 - 11 deep	M10 - 15 deep
O	0.98 (25)	1.26 (32)	1.57 (40)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)	4.72 (120)
O1	1.02 (26)	1.26 (32)	1.61 (41)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)	4.72 (120)
P	0.47 (12)	0.73 (18.5)	0.63 (16)	0.79 (20)	0.79 (20)	0.98 (25)	0.98 (25)	1.14 (29)
P1	-	-	0.30 (7.5)	0.39 (10)	0.39 (10)	0.51 (13)	0.55 (14)	-
R	1.06 (27)	1.57 (40)	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)	5.12 (130)
R1	1.22 (31)	1.57 (40)	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)	5.12 (130)
S	0.63 (16)	1.26 (32)	1.46 (37)	1.85 (47)	2.28 (58)	2.76 (70)	3.31 (84)	3.94 (100)
S1	0.22 (5.5)	0.16 (4)	0.22 (5.5)	0.26 (6.5)	0.33 (8.5)	0.39 (10)	0.41 (10.5)	0.59 (15)
T	M3 - 5 deep	M5 - 12 deep	M5 - 13 deep	M6 - 15 deep	M8 - 20 deep	M8 - 25 deep	M10 - 25 deep	M12 - 25 deep
UØ	-	-	-	-	-	-	-	0.43 (11)
W	-	-	1.30 (33)	1.57 (40)	1.97 (50)	2.36 (60)	2.76 (70)	3.54 (90)
Y	0.16 (4)	0.47 (12)	0.28 (7)	0.31 (8)	0.31 (8)	0.43 (11)	0.43 (11)	0.59 (15)
Z	0.64 (16.3)	0.85 (21.5)	0.67 (17)	0.79 (20)	0.98 (25)	1.18 (30)	1.38 (35)	1.57 (40)

*Insert stroke length

- The external guiding system provides greater resistance to axial and radial loads.
- Reduces the need for external bearings or supports.
- Large load carrying capability
- Operates within its own envelope
- Available with NPT or ISO G ports



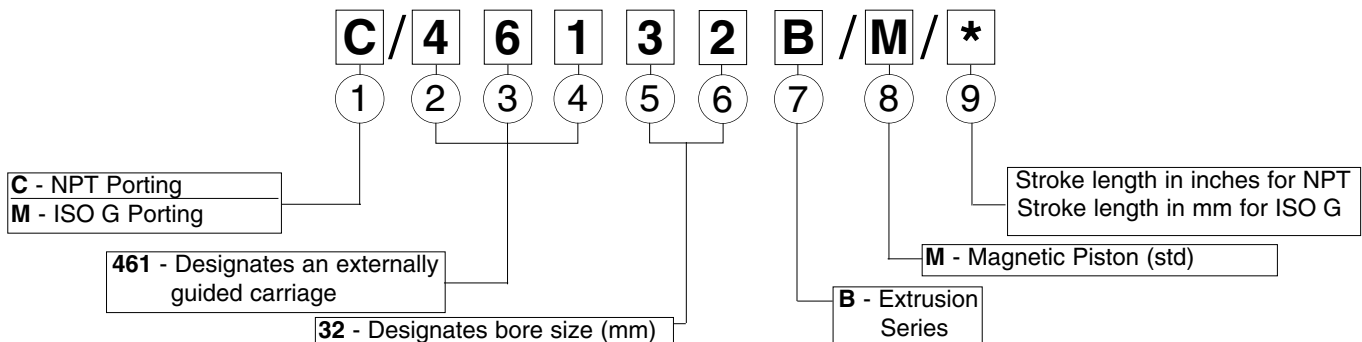
Load capabilities decrease inversely with piston velocities greater than 8 in./sec. Consult factory for additional load/velocity information. Moments are to be calculated with respect to the centerline of the cylinder. Values shown are for single axis moments. For multiple moment applications refer to ACT-10-5.

All Dimensions in Inches (mm)

Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	NA	C/46120B/M*	C/46125B/M*	C/46132B/M*	C/46140B/M*	C/46150B/M*	C/46163B/M*	C/46180B/M*
ISO G Model	M/46116B/M*	M/46120B/M*	M/46125B/M*	M/46132B/M*	M/46140B/M*	M/46150B/M*	M/46163B/M*	M/46180B/M*
F _y Lbs Force	45	106	133	176	338	450	720	878
N	(200)	(470)	(590)	(780)	(1500)	(2000)	(3200)	(3900)
F _z Lbs Force	45	106	133	176	338	450	720	878
N	(200)	(470)	(590)	(780)	(1500)	(2000)	(3200)	(3900)
M _x In Lbs	18	53	80	150	345	577	1066	1598
Nm	(2)	(6)	(9)	(17)	(39)	(65)	(120)	(180)
M _y In Lbs	49	159	249	381	974	1421	3108	4618
Nm	(5.5)	(18)	(28)	(43)	(110)	(160)	(350)	(520)
M _z In Lbs	49	159	249	381	974	1421	3108	4618
Nm	(5.5)	(18)	(28)	(43)	(110)	(160)	(350)	(520)

*Insert stroke length

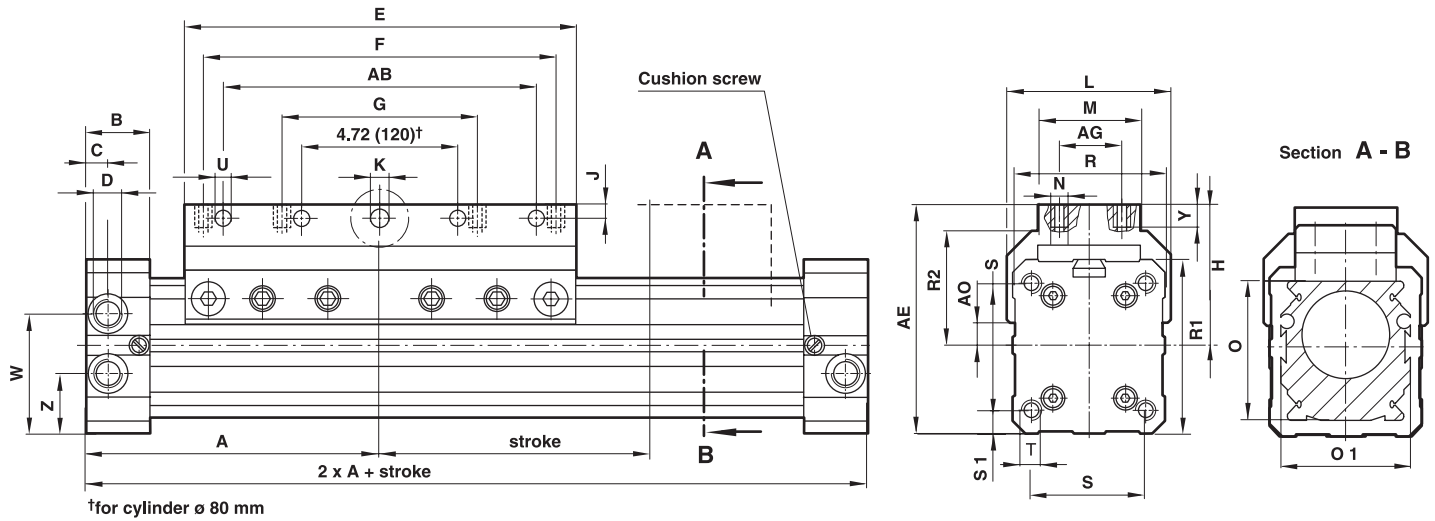
Cylinder Order Information



C/46132/M/40 is a cylinder with externally guided carriage, and NPT ports. It has a 32 mm bore (bore sizes are always designated in millimeters), magnetic piston, and a 40 inch stroke.



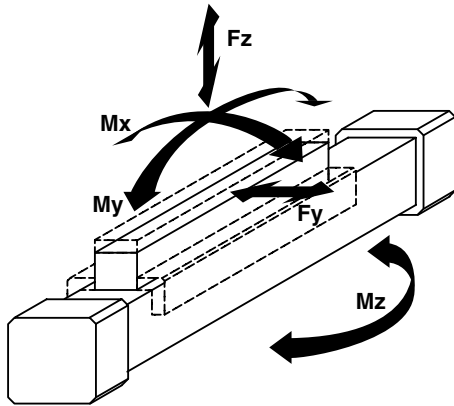
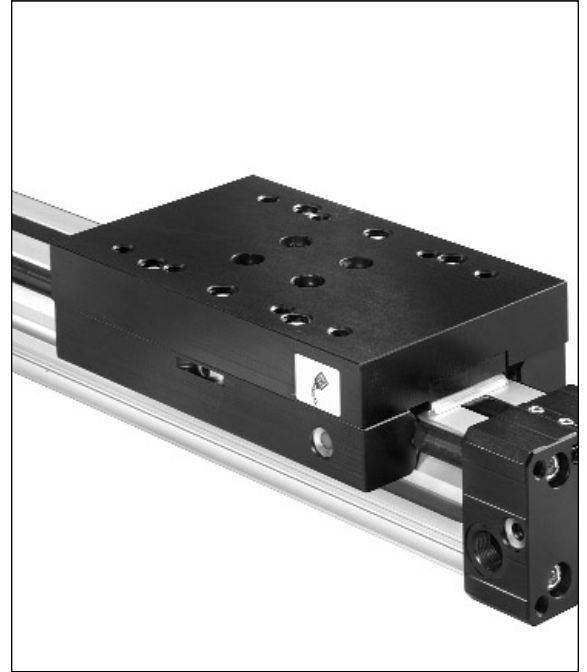
Basic Dimensions for Series 46100 Cylinders



Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	NA	C/46120B/M*	C/46125B/M*	C/46132B/M*	C/46140B/M*	C/46150B/M*	C/46163B/M*	C/46180B/M*
ISO G Model	M/46116B/M*	M/46120B/M*	M/46125B/M*	M/46132B/M*	M/46140B/M*	M/46150B/M*	M/46163B/M*	M/46180B/M*
A	2.46 (62.5)	3.35 (85)	3.94 (100)	4.72 (120)	5.91 (150)	7.09 (180)	8.46 (215)	10.24 (260)
AB	—	2.36 (60)	2.76 (70)	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)
AE	1.50 (38)	2.32 (59)	2.66 (67.5)	3.23 (82)	3.84 (97.5)	4.61 (117)	5.39 (137)	6.50 (165)
AG	0.31 (8)	0.71 (18)	0.79 (20)	0.98 (25)	0.98 (25)	0.98 (25)	0.98 (25)	0.98 (25)
AO	0.30 (7.5)	0.26 (6.5)	0.37 (9.5)	0.61 (15.5)	0.65 (16.5)	0.94 (24)	1.00 (25.5)	1.50 (38)
B	0.69 (17.5)	0.91 (23)	0.91 (23)	1.06 (27)	1.18 (30)	1.38 (35)	1.57 (40)	1.77 (45)
C	0.31 (8)	0.31 (8)	0.57 (14.5)	0.41 (10.5)	0.45 (11.5)	0.55 (14)	0.67 (17)	0.67 (17)
D	M5	1/8NPT (G-1/8)	1/8NPT (G-1/8)	1/4NPT (G-1/4)	1/4NPT (G-1/4)	3/8NPT (G-3/8)	1/2NPT (G-1/2)	1/2NPT (G-1/2)
E	3.15 (80)	4.33 (110)	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)	15.35 (390)
F	2.36 (60)	3.15 (80)	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)	11.81 (300)
G	—	1.57 (40)	1.77 (45)	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)	5.91 (150)
H	0.89 (22.5)	1.54 (39)	1.71 (43.5)	2.05 (52)	2.36 (60)	2.84 (72)	3.33 (84.5)	3.94 (100)
J	—	0.30 (7.5)	0.20 (5)	0.20 (5)	0.20 (5)	0.26 (6.5)	0.30 (7.5)	0.39 (10)
K	—	Ø .22 (5.5)	Ø .22 (5.5)	Ø .22 (5.5)	Ø .26 (6.6)	Ø .35 (9)	Ø .35 (9)	Ø .47 (12)
L	1.22 (31)	1.65 (42)	2.05 (52)	2.52 (64)	3.11 (79)	3.62 (92)	4.33 (110)	5.12 (130)
M	0.71 (18)	1.06 (27)	1.26 (32)	1.77 (45)	1.77 (45)	1.97 (50)	1.97 (50)	1.97 (50)
N	M3 - 4 deep	M5 - 12 deep	M5 - 7 deep	M5 - 8 deep	M6 - 8 deep	M8 - 11 deep	M8 - 11 deep	M10 - 15 deep
O	0.98 (25)	1.26 (32)	1.57 (40)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)	4.72 (120)
O1	1.26 (32)	1.50 (38)	1.77 (45)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)	4.72 (120)
P1	—	—	0.30 (7.5)	0.39 (10)	0.39 (10)	0.51 (13)	0.55 (14)	—
R	1.06 (27)	1.57 (40)	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)	5.12 (130)
R1	1.22 (31)	1.57 (40)	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)	5.12 (130)
R2	0.73 (18.5)	0.94 (24)	1.34 (34)	1.67 (42.5)	1.95 (49.5)	2.30 (58.5)	2.68 (68)	3.19 (81)
S	0.63 (16)	1.26 (32)	1.46 (37)	1.85 (47)	2.28 (58)	2.76 (70)	3.31 (84)	3.94 (100)
S1	0.22 (5.5)	0.16 (4.0)	0.22 (5.5)	0.26 (6.5)	0.33 (8.5)	0.39 (10)	0.41 (10.5)	0.59 (15)
T	M3 - 5 deep	M5 - 12 deep	M5 - 13 deep	M6 - 15 deep	M8 - 20 deep	M8 - 25 deep	M10 - 25 deep	M12 - 25 deep
UØ	—	0.22 (5.5)	0.22 (5.5)	0.22 (5.5)	0.26 (6.6)	0.35 (9)	0.35 (9)	0.43 (11)
W	—	—	1.30 (33)	1.57 (40)	1.97 (50)	2.36 (60)	2.76 (70)	3.54 (90)
Y	0.20 (5)	0.47 (12)	0.47 (12)	0.47 (12)	0.47 (12)	0.67 (17)	0.79 (20)	0.98 (25)
Z	0.64 (16.3)	0.85 (21.5)	0.67 (17)	0.79 (20)	0.98 (25)	1.18 (30)	1.38 (35)	1.57 (40)

*Insert stroke length

- Reduces the need for additional external guiding.
- Reduced friction
- Increased load carrying capability
- Smoother operation
- Large mounting surface
- Available with NPT or ISO G ports



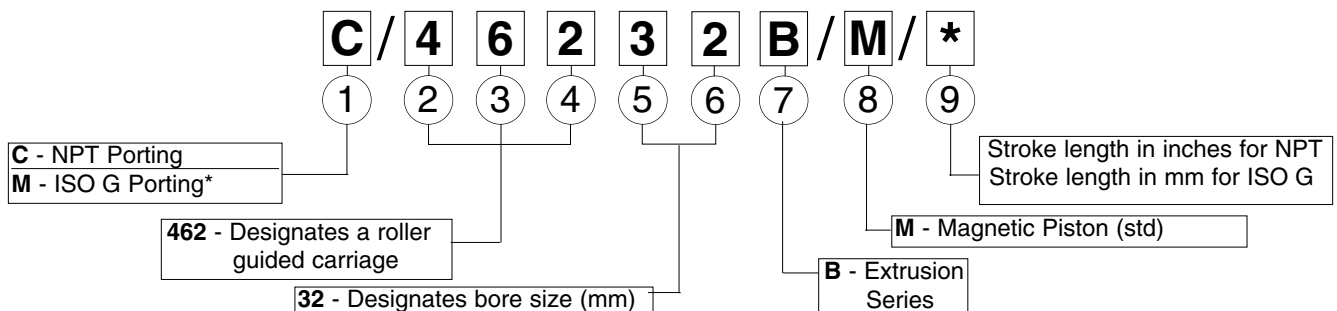
Load capabilities decrease inversely with piston velocities greater than 8 in./sec. Consult factory for additional load/velocity information. Moments are to be calculated with respect to the centerline of the cylinder. Values shown are for single axis moments. For multiple moment applications refer to ACT-10-5.

All Dimensions in Inches (mm)

Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	NA	C/46220B/M*	C/46225B/M*	C/46232B/M*	C/46240B/M*	C/46250B/M*	C/46263B/M*	C/46280B/M*
ISO G Model	M/46216B/M*	M/46220B/M*	M/46225B/M*	M/46232B/M*	M/46240B/M*	M/46250B/M*	M/46263B/M*	M/46280B/M*
Fy	Lbs Force	-	-	133	176	338	450	720
	N	-	-	(590)	(780)	(1500)	(2000)	(3200)
Fz	Lbs Force	-	-	266	351	675	900	1440
	N	-	-	(1180)	(1560)	(3000)	(4000)	(6400)
Mx	In Lbs	-	-	115	222	515	861	1598
	Nm	-	-	(13)	(25)	(58)	(97)	(180)
My	In Lbs	-	-	373	568	1421	2131	4618
	Nm	-	-	(42)	(64)	(160)	(240)	(520)
Mz	In Lbs	-	-	373	568	1421	2131	4618
	Nm	-	-	(42)	(64)	(160)	(240)	(520)

*Insert stroke length

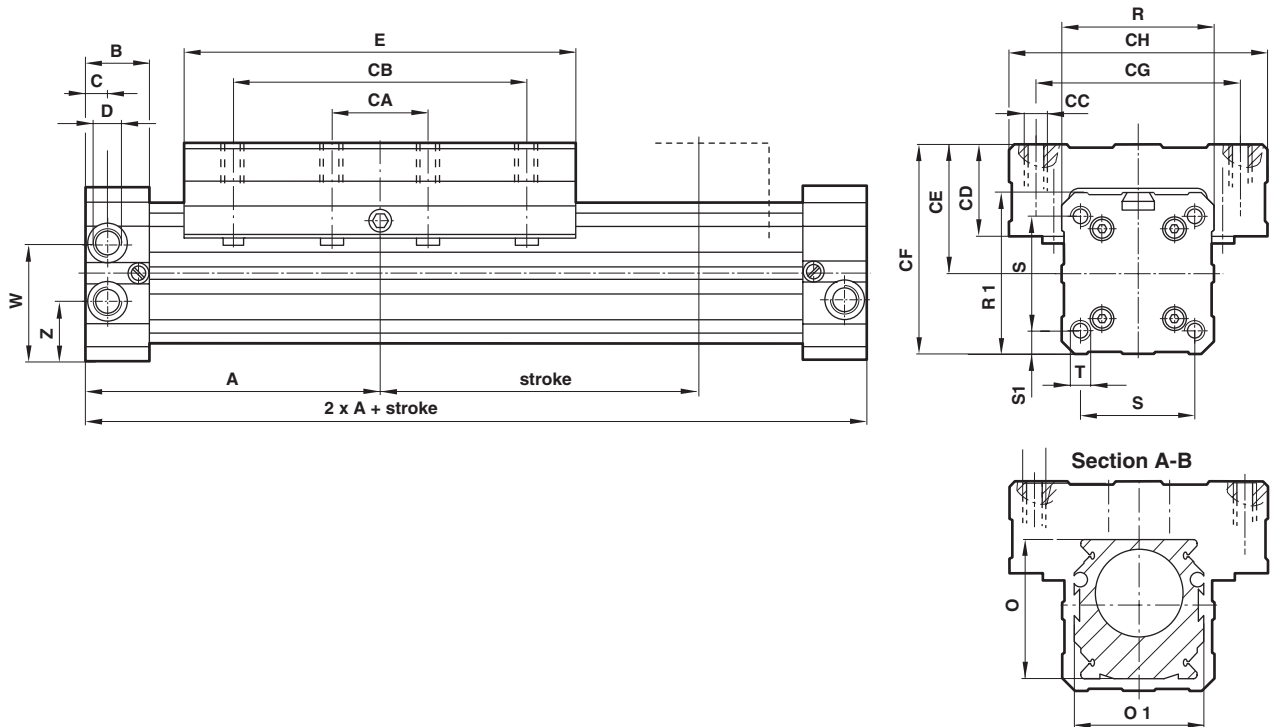
Cylinder Order Information



C/46232B/M/40 is a cylinder with a roller guided carriage, and NPT ports. It has a 32 mm bore (bore sizes are always designated in millimeters), magnetic piston, and a 40 inch stroke.

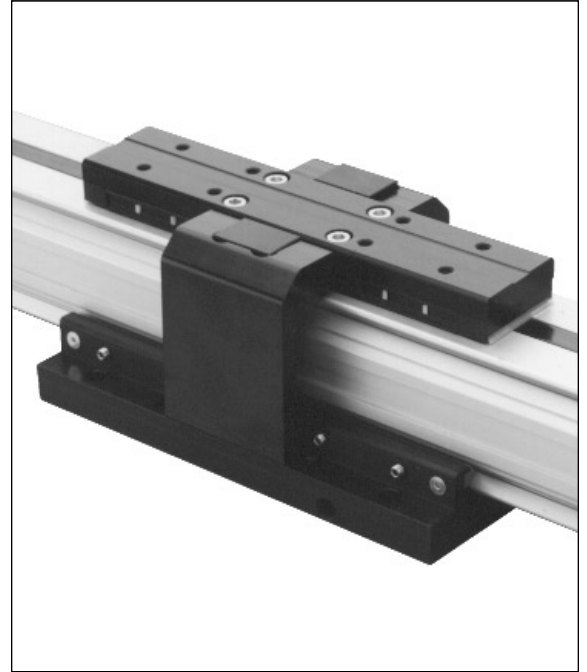


Basic Dimensions for Series 46200 Cylinders



Bore	25 mm	32 mm	40 mm	50 mm	63 mm
NPT Model	C/46225B/M/*	C/46232B/M/*	C/46240B/M/*	C/46250B/M/*	C/46263B/M/*
ISO G Model	M/46225B/M/*	M/46232B/M/*	M/46240B/M/*	M/46250B/M/*	M/46263B/M/*
A	3.94 (100)	4.72 (120)	5.91 (150)	7.09 (180)	8.46 (215)
B	0.91 (23)	1.06 (27)	1.18 (30)	1.38 (35)	1.57 (40)
C	0.57 (14.5)	0.41 (10.5)	0.45 (11.5)	0.55 (14)	0.55 (14)
CA	1.77 (45)	2.36 (60)	3.15 (80)	3.54 (90)	4.72 (120)
CB	3.54 (90)	4.72 (120)	5.91 (150)	7.09 (180)	9.45 (240)
CC	M 6 -14 deep	M 8 - 16 deep	M 8 - 16 deep	M 10 - 20 deep	M 10 - 20 deep
CD	1.42 (36)	1.50 (38)	1.65 (42)	1.73 (44)	1.85 (47)
CE	1.65 (42)	1.97 (50)	2.26 (57.5)	2.64 (67)	2.93 (74.5)
CF	2.60 (66)	3.15 (80)	3.74 (95)	4.41 (112)	5.00 (127)
CG	2.36 (60)	2.95 (75)	3.62 (92)	3.94 (100)	4.33 (110)
CH	3.35 (85)	3.85 (98)	4.65 (118)	5.20 (132)	5.51 (140)
D	1/8 NPT(G-1/8)	1/4 NPT(G-1/4)	1/4 NPT(G-1/4)	3/8 NPT(G-3/8)	1/2 NPT (G-1/2)
E	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.6 (320)
O	1.57 (40)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)
O1	1.61 (41)	2.05 (52)	2.56 (65)	3.15 (80)	3.74 (95)
R	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)
R1	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)
S	1.46 (37)	1.85 (47)	2.28 (58)	2.76 (70)	3.31 (84)
S1	0.22 (5.5)	0.26 (6.5)	0.33 (8.5)	0.39 (10)	0.41 (10.5)
T	M5 - 13 deep	M6 - 15 deep	M8 - 20 deep	M8 - 25 deep	M10 - 25 deep
W	1.30 (33)	1.57 (40)	1.97 (50)	2.36 (60)	2.76 (70)
Z	0.67 (17)	0.79 (20)	0.98 (25)	1.18 (30)	1.38 (35)

- **Attaches to the carriage of the internally guided cylinder.**
- **Loads are guided by the integral guide strips at the sides of the bracket.**
- **With carriage stopped (air applied to brake unit), loads are held firmly in place by the brake.**



Specifications

Pressure Range: 30 to 150 psig
(2 to 10 bar)

Temperature Range: -22° to 180°F
(-30° to 80°C)

Brake Material: Asbestos-Free Brake Pad

Wear Band: Stainless Steel

Body: Aluminum

Technical Data

Brake Selection: Limited by load. No applied force or bending moment may exceed the “Externally Guided Carriage Load Carrying Capability” for that cylinder’s bore size, shown in the table on ACT-10-8.

Brake Operation: Air pressure **applies** the brake.

Note: Brake pad and wear band surfaces must be kept clean and dry, and free of oil.

Cylinder Length: Limited by load. See deflection tables on ACT-10-21 for values on maximum unsupported span, load and resulting deflection.

Cylinder/Brake Circuit

In the air circuit diagrammed at right, pressure is applied to both sides of the cylinder when the Valve 1 (4-Way/3-Position) is in normal, spring centered condition. When solenoid “A” is actuated the carriage will move toward endcap “A”.

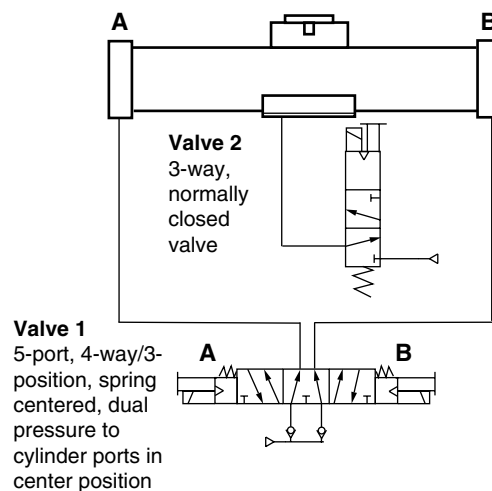
When the carriage reaches the desired location along the cylinder length, the signal to Valve 1 is removed and equal pressure is applied to both sides of the piston, stopping movement of the carriage. The directional control Valve 2 (3-Way, Normally Closed) controlling the brake is then actuated, pressurizing the brake, and causing the brake pad to contact the wear band, thus holding the carriage in place. With equal operating pressure on both sides of the piston, the brake will hold a load (horizontally or vertically) up to the maximum specified weights shown on ACT-10-13 in the **Holding Force of the Active Brake** table.

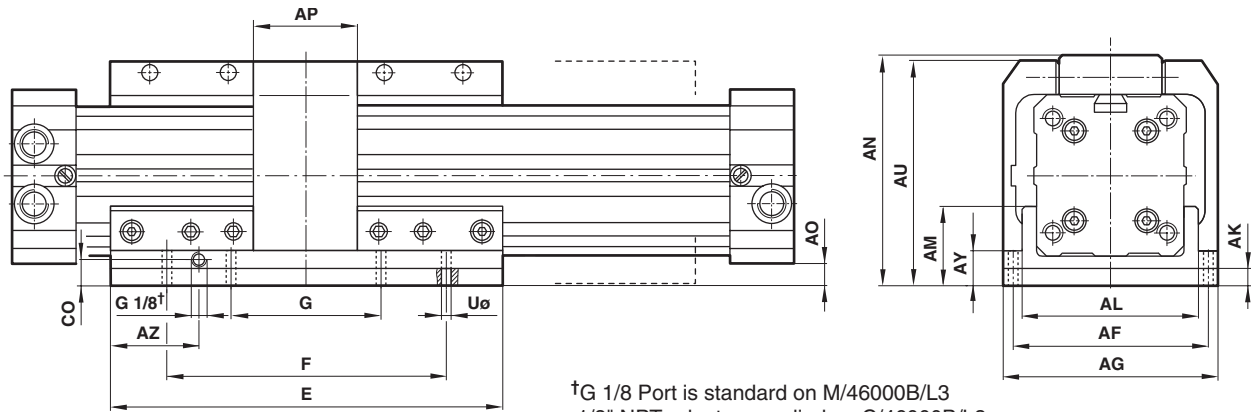
Caution

In order to avoid a runaway condition, the brake must be vented to atmosphere (releasing the brake), allowing the carriage to move freely, before any pressure change is made to the cylinder.

A runaway condition may occur if pressure is applied to one side of the piston and exhausted from the other side before the brake is released.

NOTE: The Active Brake is a static brake, it is not designed to stop or slow moving loads.

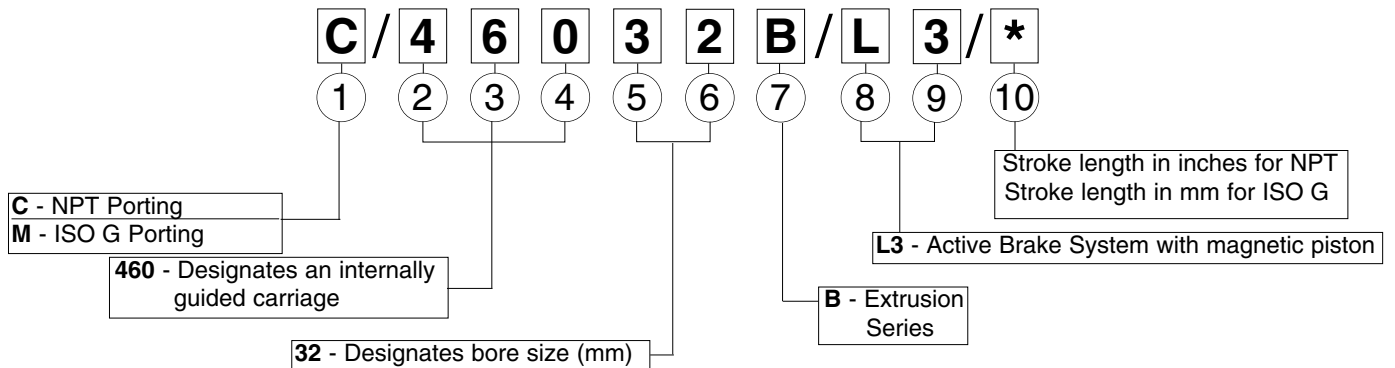




†G 1/8 Port is standard on M/46000B/L3
1/8" NPT adapter supplied on C/46000B/L3

Bore NPT Model ISO G Model	25 mm C/46025B/L3/* M/46025B/L3/*	32 mm C/46032B/L3/* M/46032B/L3/*	40 mm C/46040B/L3/* M/46040B/L3/*	50 mm C/46050B/L3/* M/46050B/L3/*	63 mm C/46063B/L3/* M/46063B/L3/*
AF	2.44 (62)	3.07 (78)	3.70 (94)	4.41 (112)	5.20 (132)
AG	2.95 (75)	3.62 (92)	4.41 (112)	5.20 (132)	5.91 (150)
AK	0.48 (12)	0.48 (12)	0.48 (12)	0.48 (12)	0.48 (12)
AL	2.05 (52)	2.52 (64)	3.19 (81)	3.70 (94)	4.41 (112)
AM	1.12 (28.5)	1.14 (29)	1.36 (34.5)	1.40 (35.5)	1.67 (42.5)
AN	2.89 (73.5)	3.54 (90)	4.07 (103.5)	4.90 (124.5)	5.53 (140.5)
AO	0.53 (13.5)	0.55 (14)	0.53 (13.5)	0.57 (14.5)	0.61 (15.5)
AP	1.77 (45)	2.17 (55)	2.56 (65)	2.95 (75)	3.54 (90)
AU	2.87 (73)	3.52 (89.5)	4.06 (103)	4.88 (124)	5.51 (140)
AY	0.65 (16.5)	0.69 (17.5)	0.71 (18)	0.73 (18.5)	0.81 (20.5)
AZ	1.18 (30)	1.28 (32.5)	2.07 (52.5)	2.56 (65)	4.53 (115)
CO	0.63 (16)	0.71 (18)	0.71 (18)	0.94 (24)	0.94 (24)
E	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)
F	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)
G	—	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)
UØ	0.26 (6.6)	0.35 (9)	0.35 (9)	0.43 (11)	0.51 (13)

Cylinder Order Information

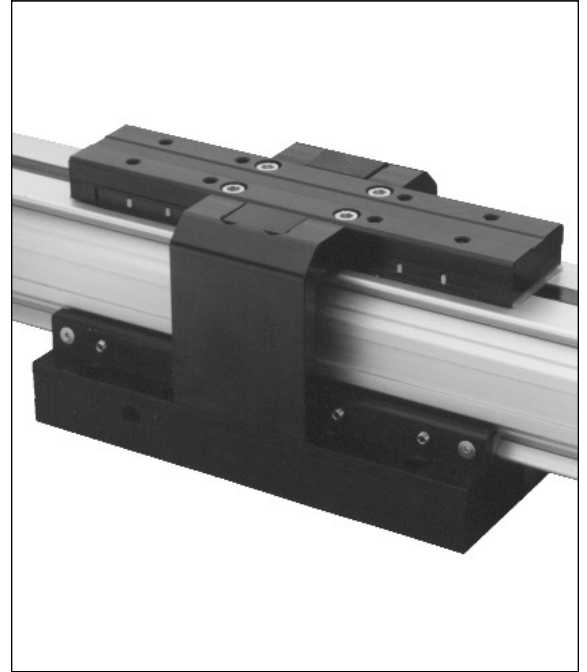


C/46032B/L3/40 is a cylinder with internally guided carriage, and NPT ports. It has a 32 mm bore (bore sizes are always designated in millimeters), and active brake system with magnetic piston, and 40 inch stroke.

Holding force of the Active Brake at 87 psi (6 bar) with dry brake surface:

Cylinder Bore	25	32	40	50	63
Retention forces in lbs. (N)	112.5 (500)	202.5 (900)	337.5 (1500)	562.5 (2500)	900.0 (4000)

- **Attaches to the carriage of the Internally guided cylinder.**
- **Loads are guided by the integral guide strips at the sides of the bracket.**
- **With carriage stopped, (with no air pressure applied to the brake unit) loads are held firmly in place by the brake.**



Specifications

Pressure Range: 73 to 150 psig
(5 to 10 bar)

Temperature Range: -22° to 180°F
(-30° to 80°C)

Brake Material: Asbestos-Free Brake Pad
Wear Band: Stainless Steel
Body: Aluminum

Technical Data

Brake Selection: Limited by load. No applied force or bending moment may exceed the "Externally Guided Carriage Load Carrying Capability" for that cylinder's bore size, shown in the table on ACT-10-8.

Brake Operation: Air pressure **releases** the brake.

Note: Brake pad and wear band surfaces must be kept clean and dry, and free of oil.

Cylinder Length: Limited by load. See deflection tables on ACT-10-21 for values on maximum unsupported span, load and resulting deflection.

Cylinder/Brake Circuit

In the air circuit diagrammed at right, pressure is applied to both sides of the cylinder when the Valve 1 (4-Way/3-Position) is in normal, spring centered position. When solenoid "A" is actuated the carriage will move toward endcap "A".

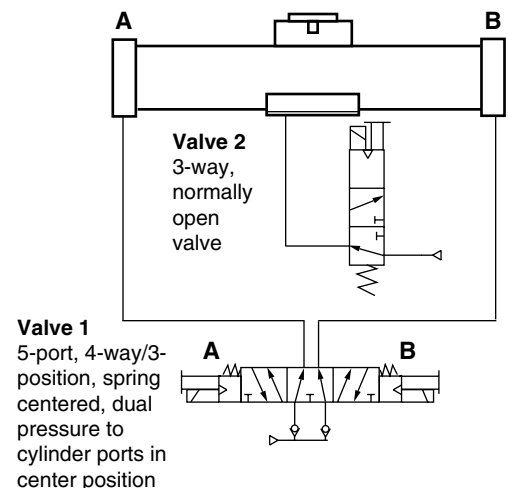
When the carriage reaches the desired location along the cylinder length, the signal to Valve 1 is removed and equal pressure is applied to both sides of the piston, stopping movement of the carriage. The directional control Valve 2 (3-Way, Normally Open) controlling the brake is then actuated, exhausting pressure and causing the brake pad to contact the wear band, thus holding the carriage in place. With equal operating pressure on both sides of the piston, the brake will hold a load (horizontally or vertically) up to the maximum specified weights shown on ACT-10-15 in the **Holding Force of the Passive Brake** table.

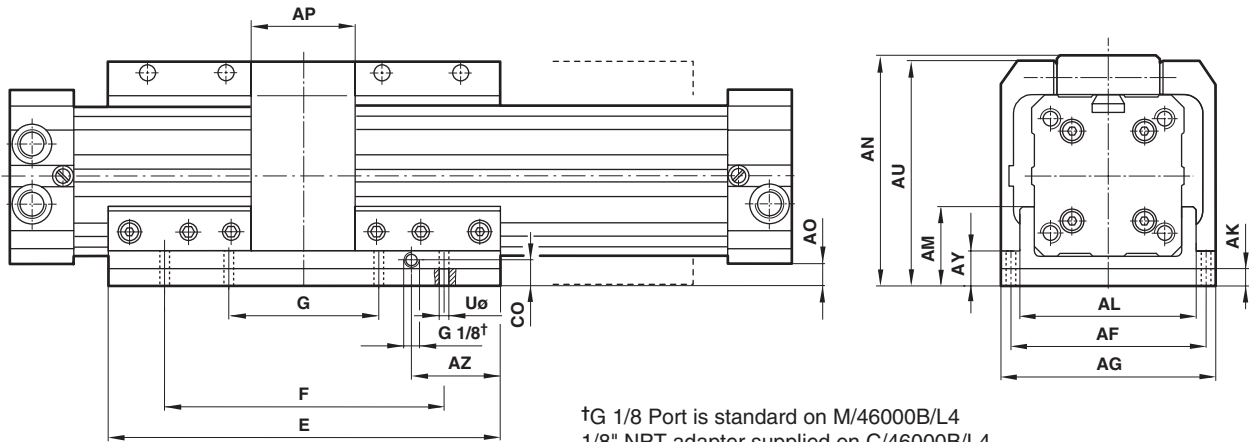
Caution

In order to avoid a runaway condition, the brake must be pressurized (releasing the brake), allowing the carriage to move freely, before any pressure change is made to the cylinder.

A runaway condition may occur if pressure is applied to one side of the piston and exhausted from the other side before the brake is released.

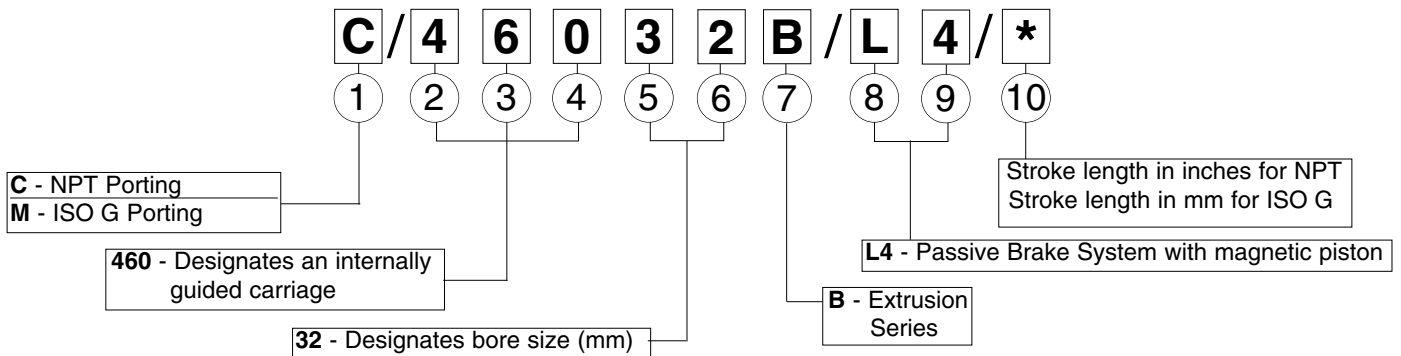
NOTE: The Passive Brake is a static brake, it is not designed to stop or slow moving loads.





Bore NPT Model ISO G Model	25 mm C/46025B/L4/* M/46025B/L4/*	32 mm C/46032B/L4/* M/46032B/L4/*	40 mm C/46040B/L4/* M/46040B/L4/*	50 mm C/46050B/L4/* M/46050B/L4/*	63 mm C/46063B/L4/* M/46063B/L4/*
AF	2.44 (62)	3.07 (78)	3.70 (94)	4.41 (112)	5.20 (132)
AG	2.95 (75)	3.62 (92)	4.41 (112)	5.20 (132)	5.91 (150)
AK	0.39 (10)	0.47 (12)	0.47 (12)	0.71 (18)	0.71 (18)
AL	2.05 (52)	2.52 (64)	3.19 (81)	3.31 (84)	4.41 (112)
AM	1.52 (38.5)	1.61 (41)	1.83 (46.5)	2.11 (53.5)	2.38 (60.5)
AN	3.29 (83.5)	4.02 (102)	4.55 (115.5)	5.61 (142.5)	6.24 (158.5)
AO	0.93 (23.5)	1.02 (26)	1.00 (25.5)	1.28 (32.5)	1.32 (33.5)
AP	1.77 (45)	2.17 (55)	2.56 (65)	2.95 (75)	3.54 (90)
AU	3.27 (83)	4.00 (101.5)	4.53 (115)	5.59 (142)	6.22 (158)
AY	1.04 (26.5)	1.16 (29.5)	1.18 (30)	1.44 (36.5)	1.52 (38.5)
AZ	1.18 (30)	1.28 (32.5)	2.07 (52.5)	2.56 (65)	4.53 (115)
CO	0.63 (16)	0.71 (18)	0.71 (18)	0.94 (24)	0.94 (24)
E	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)
F	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)
G	—	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)
UØ	0.26 (6.6)	0.35 (9)	0.35 (9)	0.43 (11)	0.51 (13)

Cylinder Order Information



C/46032B/L4/40 is a cylinder with internally guided carriage, and NPT ports. It has a 32 mm bore (bore sizes are always designated in millimeters), and passive brake system with magnetic piston, and 40 inch stroke

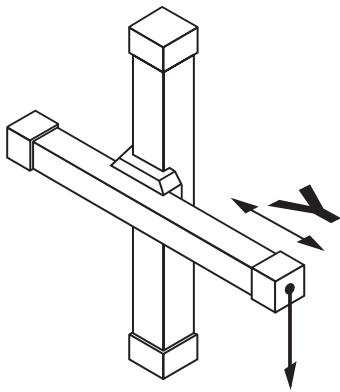
Holding force of the Passive Brake at 0 psi on dry brake surface:

Cylinder Bore	25	32	40	50	63
Retention forces lbs. (N)	49.5 (220)	84.4 (375)	141.8 (630)	225.0 (1000)	371.3 (1650)

- Provides economical, guided X-Y axis motion
- Lintra Series 46000 cylinders of like or different bore sizes may be combined using this Right Angle Mounting System.

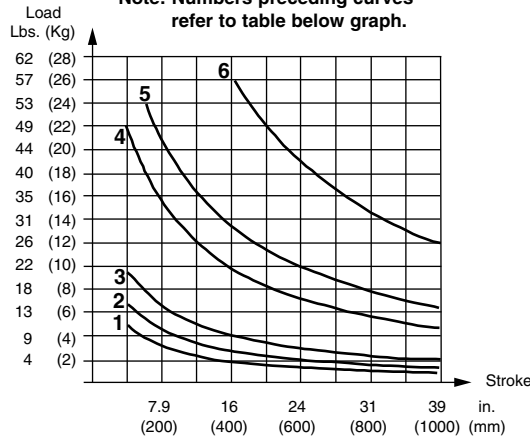


Maximum load for Right Angle Mounting

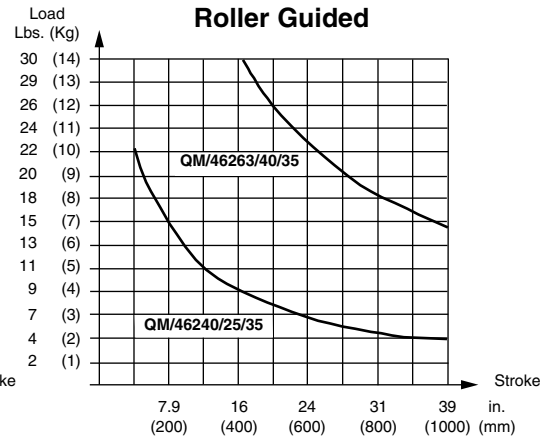


Externally Guided

Note: Numbers preceding curves refer to table below graph.



Roller Guided



1	QM/46125/20/33
2	QM/46125/25/33, QM/46132/25/33, QM/46140/25/33
3	QM/46132/32/33, QM/46140/32/33, QM/46150/32/33
4	QM/46140/40/33, QM/46163/40/33
5	QM/46150/50/33
6	QM/46163/63/33

Ordering a Right Angle Mounting System

All systems require two cylinders and one right angle adapter. Because the Right Angle System mounts directly to the yokes, cylinders do not come with carriages. Right angle adapters incorporate external guided or roller guided systems. When ordering choose from the cylinders and adapters listed on ACT-10-17. **You must order two cylinders and one adapter.** Unless otherwise requested, one cylinder will come with the Right Angle Bracket attached.

Order example for a Right Angle Mounting System using same bore size cylinders

2 cylinders

QC* / 460 32 / M / 40 / 33

QC* / 460 32 / M / 40 / 33

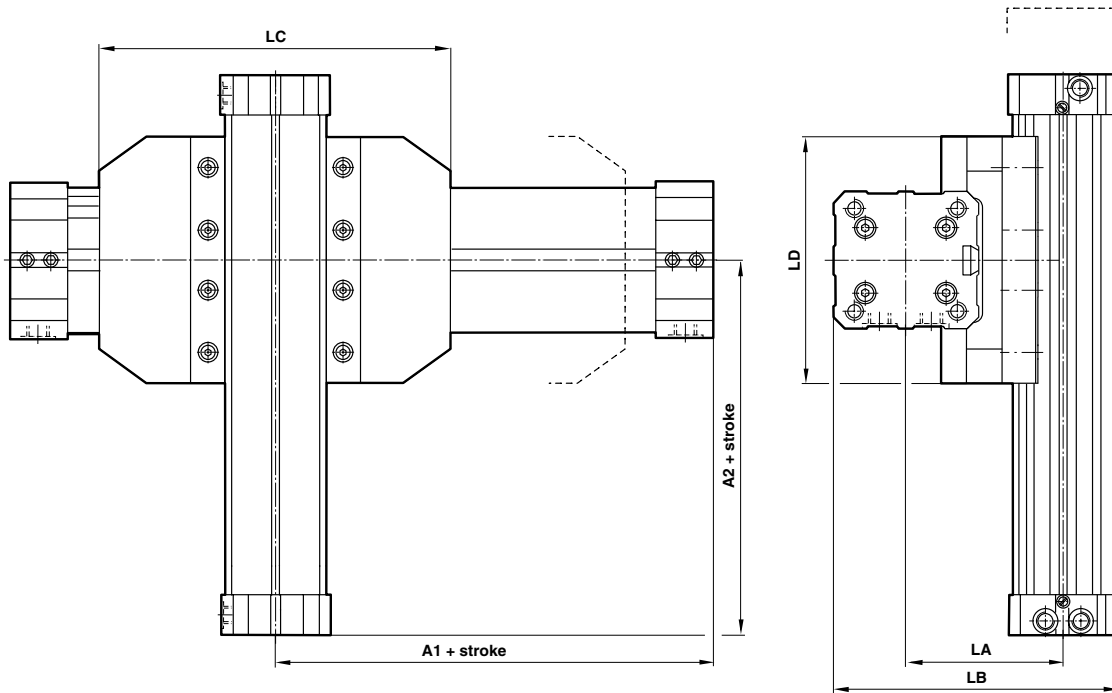
+

Right Angle Adapter

QM / 46132 / 32 / 33

The numbers above represent two cylinders with NPT ports (C), 32 mm bores, magnetic pistons (M) standard, and 40 inch strokes. The "Q" indicates that these cylinders are part of an assembly, and the "33" indicates that these cylinders are part of an externally guided right angle mounting system. When ordering a Right Angle Mounting System, two cylinders must be specified as separate line items.

The number above represents an Externally Guided Right Angle Adapter for 32 mm bore cylinders. This adapter must be ordered as a separate line item when ordering the Right Angle Mounting System. Refer to ACT-10-17 for cylinder and adapter numbers.



Externally Guided Right Angle Mounting System (Same bore size cylinders)

Note: For ISO ports replace "C" with "M" in second position of the cylinder number and state stroke length in mm.

Bore	Model	Right Angle Adapter	A1	A2	LA	LB	LC	LD
25 mm	QC/46025/M*/33	QM/46125/25/33	3.9 (100)	3.9 (100)	2.7 (69)	4.6 (117)	5.1 (130)	5.1 (130)
25 mm	QC/46025/M*/33							
32 mm	QC/46032/M*/33	QM/46132/32/33	4.7 (120)	4.7 (120)	3.3 (84)	5.7 (144)	6.3 (160)	6.3 (160)
32 mm	QC/46032/M*/33							
40 mm	QC/46040/M*/33	QM/46140/40/33	5.9 (150)	5.9 (150)	3.8 (97)	6.8 (172)	8.5 (215)	8.5 (215)
40 mm	QC/46040/M*/33							
50 mm	QC/46050/M*/33	QM/46150/50/33	7.1 (180)	7.1 (180)	4.6 (116)	8.1 (206)	9.8 (250)	9.8 (250)
50 mm	QC/46050/M*/33							

* Insert stroke length

Reduction 1 (One cylinder one size smaller than the other cylinder)

Note: For ISO ports replace "C" with "M" in second position of the cylinder number and state stroke length in mm.

Bore	Model	Right Angle Adapter	A1	A2	LA	LB	LC	LD
25 mm	QC/46025/M*/33	QM/46125/20/33	3.9 (100)	3.4 (85)	2.4 (62)	4.2 (106)	5.1 (130)	4.3 (110)
20 mm	QC/46020/M*/33							
32 mm	QC/46032/M*/33	QM/46132/25/33	4.7 (120)	3.9 (100)	3.0 (77)	5.1 (131)	6.3 (160)	5.1 (130)
25 mm	QC/46025/M*/33							

* Insert stroke length

Reduction 2 (One cylinder two bore sizes smaller than the other cylinder)

Note: For ISO ports replace "C" with "M" in second position of the cylinder number and state stroke length in mm.

Bore	Model	Right Angle Adapter	A1	A2	LA	LB	LC	LD
40 mm	QC/46040/M*/33	QM/46140/25/33	5.9 (150)	3.9 (100)	3.0 (77)	5.5 (139)	8.5 (215)	5.1 (130)
25 mm	QC/46025/M*/33							
50 mm	QC/46050/M*/33	QM/46150/32/33	7.1 (180)	4.7 (120)	3.3 (84)	6.7 (169)	9.8 (250)	6.3 (160)
32 mm	QC/46032/M*/33							
63 mm	QC/46063/M*/33	QM/46163/40/33	8.5 (215)	5.9 (150)	4.3 (108)	7.8 (198)	12.6 (320)	8.5 (215)
40 mm	QC/46040/M*/33							

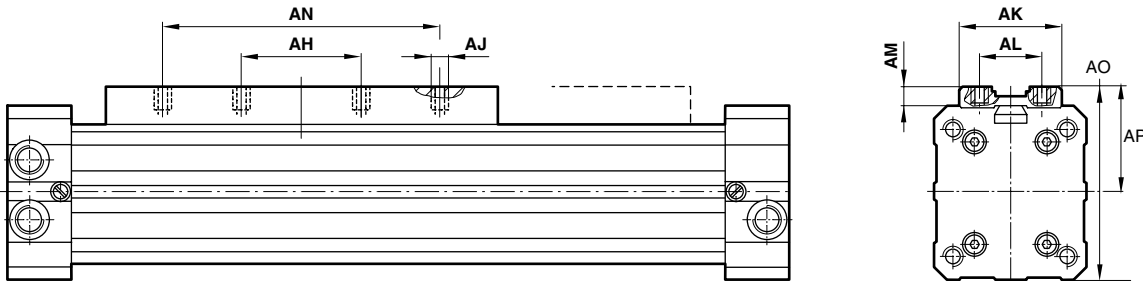
* Insert stroke length

Roller Guided Right Angle Mounting System Reduction 2 (One cylinder two bore sizes smaller than the other cylinder)

Note: For ISO ports replace "C" with "M" in second position of the cylinder number and state stroke length in mm.

Bore	Model	Right Angle Adapter	A1	A2	LA	LB	LC	LD
40 mm	QC/46240/M*/35	QM/46240/25/35	5.9 (150)	3.9 (100)	3.2 (80)	5.6 (142)	8.5 (215)	5.1 (130)
25 mm	QC/46225/M*/35							
63 mm	QC/46263/M*/35	QM/46263/40/35	8.5 (215)	5.9 (150)	4.3 (108)	7.8 (198)	12.6 (320)	8.5 (215)
40 mm	QC/46240/M*/35							

- Removing the top cover plate reduces overall mounting height creating useful space



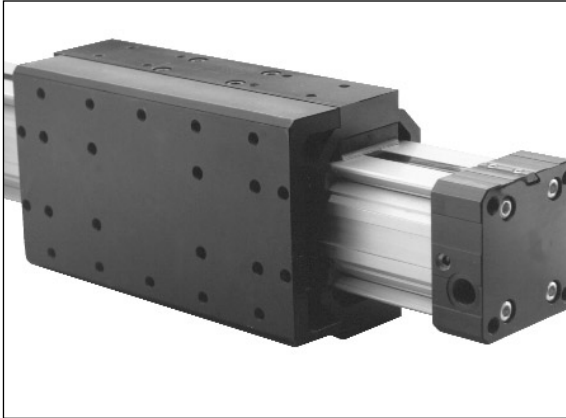
All Dimensions in Inches (mm)

Bore	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
NPT Model	QC/46025/M/*	QC/46032/M/*	QC/46040/M/*	QC/46050/M/*	QC/46063/M/*	QC/46080/M/*
ISO G Model	QM/46025/M/*	QM/46032/M/*	QM/46040/M/*	QM/46050/M/*	QM/46063/M/*	QM/46080/M/*
AH	0.98 (25)	1.57 (40)	2.17 (55)	2.95 (75)	3.54 (90)	2.36 (60)
AJ	M5-.20 (5) deep	M6-.24 (6) deep	M6-.24 (6) deep	M6-.24 (6) deep	M6-.31 (8) deep	M6-.31 (8) deep
AK	1.06 (27)	1.42 (36)	1.42 (36)	1.61 (41)	1.61 (41)	1.61 (41)
AL	0.79 (20)	1.06 (27)	1.06 (27)	1.26 (32)	1.26 (32)	1.26 (32)
AM	0.18 (5)	0.24 (6)	0.20 (5)	0.28 (7)	0.24 (6)	0.28 (7)
AN	—	—	—	—	—	7.09 (180)
AO	2.09 (53)	2.60 (66)	3.15 (80)	3.82 (97)	4.37 (111)	5.39 (137)
AP	1.14 (29)	1.42 (36)	1.67 (42.5)	2.05 (52)	2.30 (58.5)	2.83 (72)

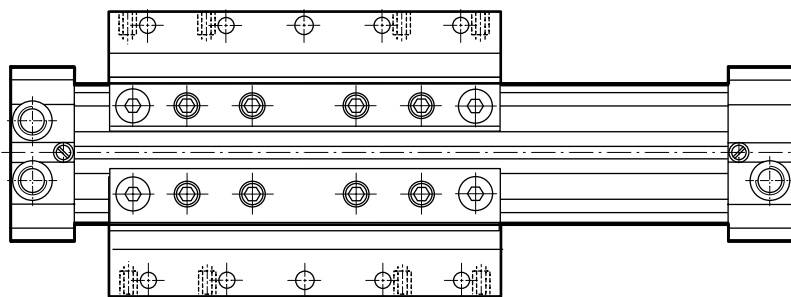
*Insert stroke length

NOTE: If the internally guided cylinder is used without the top cover plate, any tooling plate mounted directly to the yoke must be at least as large as the cover plate area to insure proper preload on the wiper seals.

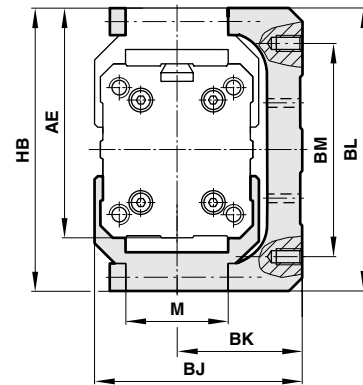
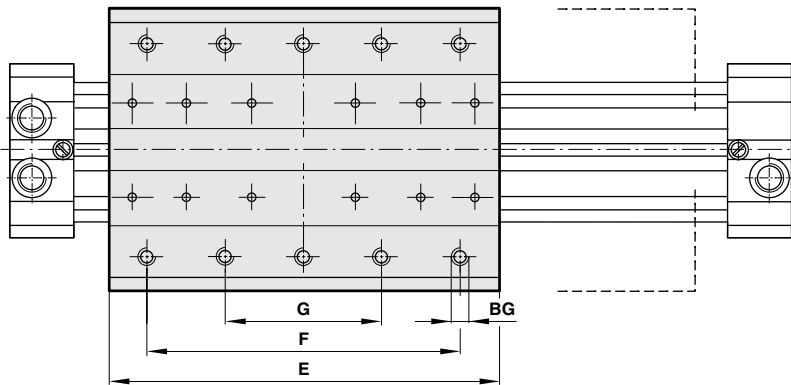
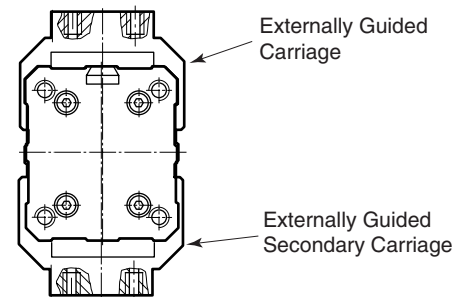
Series 46000 Side Mounting Plate with Secondary Carriage



- Externally guided carriage cylinder is fitted with a secondary carriage and the side mounting plate is bolted to both the secondary and powered carriages.
- Provides a flat mounting surface that moves with the externally guided carriage along the side of the cylinder.
- Provides a 50% increase in the load capabilities of the cylinder.



NOTE: Side Mounting Plate must be used with an externally guided carriage and an externally guided secondary carriage.



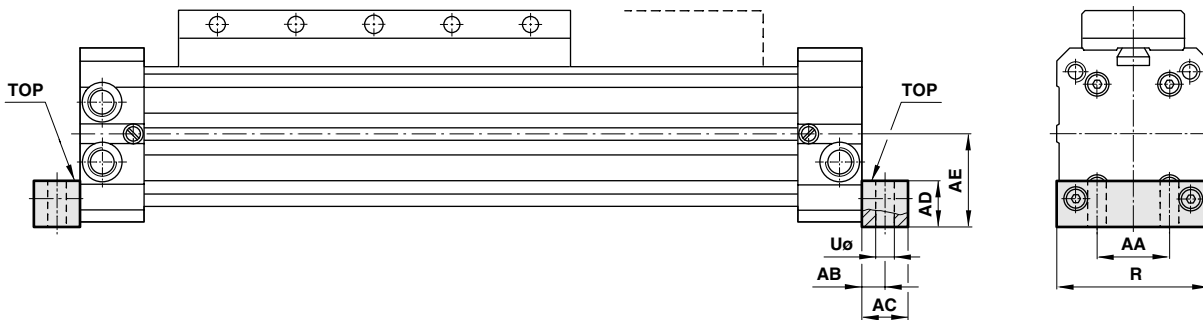
All Dimensions in Inches (mm)

Bore Side Mount Plate	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm
	QM/46120/36	QM/46125/36	QM/46132/36	QM/46140/36	QM/46150/36	QM/46163/36
Secondary Carriage	QM/46120/35	QM/46125/35	QM/46132/35	QM/46140/35	QM/46150/35	QM/46163/35
AE	2.32 (59)	2.66 (67.5)	3.23 (82)	3.84 (97.5)	4.61 (117)	5.39 (137)
BG	M5 - 10 deep	M5 - 10 deep	M5 - 12 deep	M6 - 12 deep	M6 - 15 deep	M8 - 20 deep
BJ	2.13 (54)	2.50 (63)	3.03 (77)	3.86 (98)	4.63 (117.5)	5.49 (139.5)
BK	1.30 (33)	1.46 (37)	1.77 (45)	2.30 (58.5)	2.81 (71.5)	3.33 (84.5)
BL	3.07 (78)	3.39 (86)	4.06 (103)	4.69 (119)	5.63 (143)	6.61 (168)
BM	2.17 (55)	2.56 (65)	3.15 (80)	3.54 (90)	4.72 (120)	5.51 (140)
E	4.33 (110)	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)
F	3.15 (80)	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)
G	1.57 (40)	1.77 (45)	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)
HB	3.11 (79)	3.43 (87)	4.09 (104)	4.72 (120)	5.67 (144)	6.65 (169)
M	1.06 (27)	1.26 (32)	1.77 (45)	1.77 (45)	1.97 (50)	1.97 (50)

- A full line of foot mounting systems and accessories for Series 46000, 46100 and 46200 cylinders.
- Foot mounts are used to bolt cylinders firmly in place.



The Foot Mount, Style C bolts directly into the tapped holes in each end cap and provides two through holes at each end to facilitate foot mounting of the cylinder. Two socket head screws are supplied with each foot mount for mounting to the cylinder end cap.

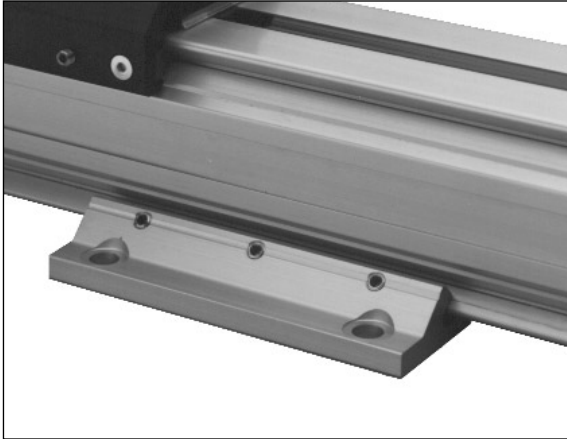


NOTE: When mounted in conjunction with a support bracket the writing 'TOP' should be visible on the top side of the mount.

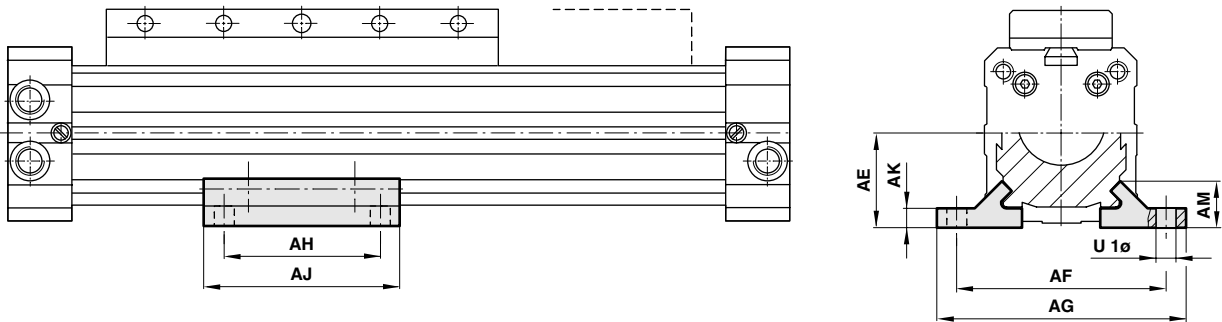
All Dimensions in Inches (mm)

Bore Part	16 mm QM/46016/21	20 mm QM/46020/21	25 mm QM/46025/21	32 mm QM/46032/21	40 mm QM/46040/21	50 mm QM/46050/21	63 mm QM/46063/21	80 mm QM/46080/21
AA	0.63 (16)	0.67 (17)	0.71 (18)	1.02 (26)	1.18 (30)	1.65 (42)	1.89 (48)	2.52 (64)
AB	0.39 (10)	0.20 (5)	0.28 (7)	0.43 (11)	0.43 (11)	0.47 (12)	0.51 (13)	0.49 (12.5)
AC	0.59 (15)	0.39 (10)	0.59 (15)	0.87 (22)	0.87 (22)	0.98 (25)	0.98 (25)	0.98 (25)
AD	0.12 (3)	0.39 (10)	0.53 (13.5)	0.65 (16.5)	0.77 (19.5)	0.94 (24)	1.08 (27.5)	1.38 (35)
AE	0.63 (16)	0.85 (21.5)	0.94 (24)	1.20 (30.5)	1.48 (37.5)	1.77 (45)	2.13 (54)	2.76 (70)
R	1.06 (27)	1.57 (40)	1.89 (48)	2.36 (60)	2.95 (75)	3.54 (90)	4.13 (105)	5.12 (130)
UØ	0.22 (5.5)	0.22 (5.5)	0.28 (7)	0.35 (9)	0.35 (9)	0.43 (11)	0.51 (13)	0.55 (14)

Series 46000 Center Support Style 'V'



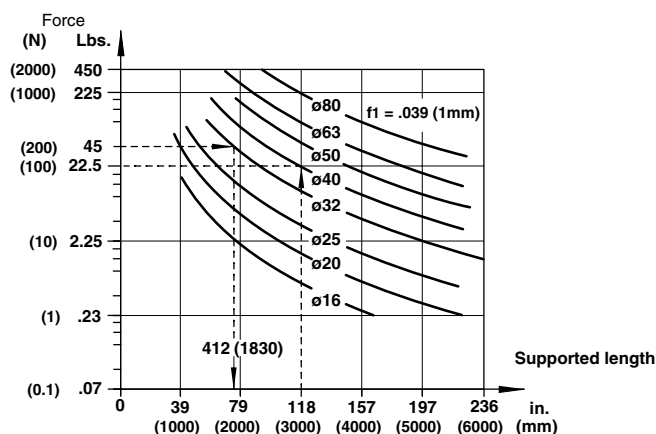
- The Center Support Style V is designed to mount in the bottom "V" grooves of the cylinder tube.
- Center mounts may be positioned anywhere along the length of the cylinder and provide intermediate support for longer stroke applications.
- The supports can be utilized in conjunction with foot mounts.



All Dimensions in Inches (mm)

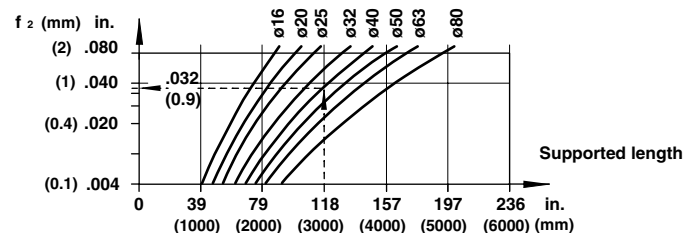
Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Part	QM/46016/32	QM/46020/32	QM/46025/32	QM/46032/32	QM/46040/32	QM/46050/32	QM/46063/32	QM/46080/32
AE	0.63 (16)	0.85 (21.5)	0.94 (24)	1.20 (30.5)	1.48 (37.5)	1.77 (45)	2.13 (54)	2.76 (70)
AF	1.57 (40)	2.05 (52)	2.36 (60)	2.99 (76)	3.62 (92)	4.33 (110)	5.20 (132)	6.10 (155)
AG	1.97 (50)	2.44 (62)	2.83 (72)	3.62 (92)	4.25 (108)	5.04 (128)	6.06 (154)	7.09 (180)
AH	0.79 (20)	1.77 (45)	2.36 (60)	2.76 (70)	3.54 (90)	4.33 (110)	4.72 (120)	5.51 (140)
AJ	1.18 (30)	2.36 (60)	3.15 (80)	3.94 (100)	4.72 (120)	5.51 (140)	6.30 (160)	7.09 (180)
AK	0.14 (3.5)	0.18 (4.5)	0.22 (5.5)	0.26 (6.5)	0.30 (7.5)	0.30 (7.5)	0.35 (9)	0.47 (12)
AM	0.35 (9)	0.47 (12)	0.51 (13)	0.53 (13.5)	0.73 (18.5)	0.73 (18.5)	0.98 (25)	1.12 (28.5)
U1Ø	0.22 (5.5)	0.22 (5.5)	0.26 (6.6)	0.35 (9)	0.35 (9)	0.43 (11)	0.51 (13)	0.55 (14)

Cylinder Deflection Due to External Force (.040" Deflection Chart)



Cylinder Ø 32 mm, stroke length 138 in. (3500 mm), external load 45 lbs. force (200N). Maximum distance between supports = 72 in. (1830 mm) (see diagram). Therefore an additional support is required.

Deflection Due to Cylinder Weight



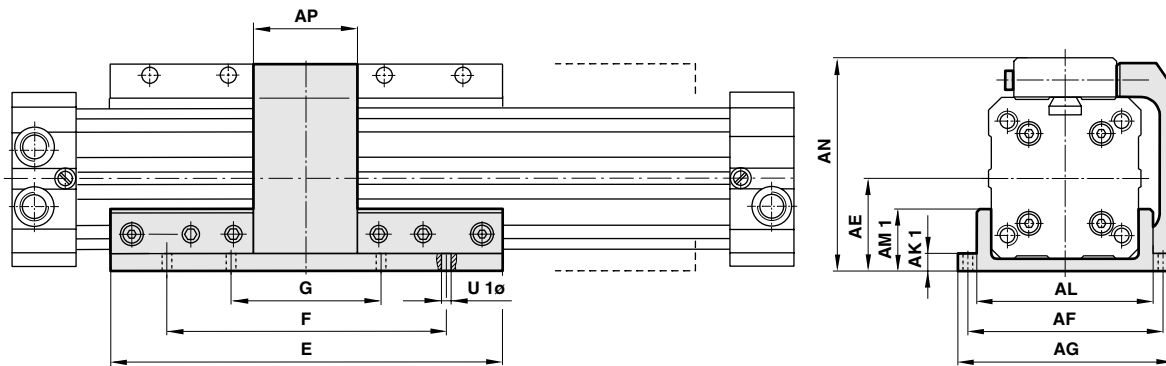
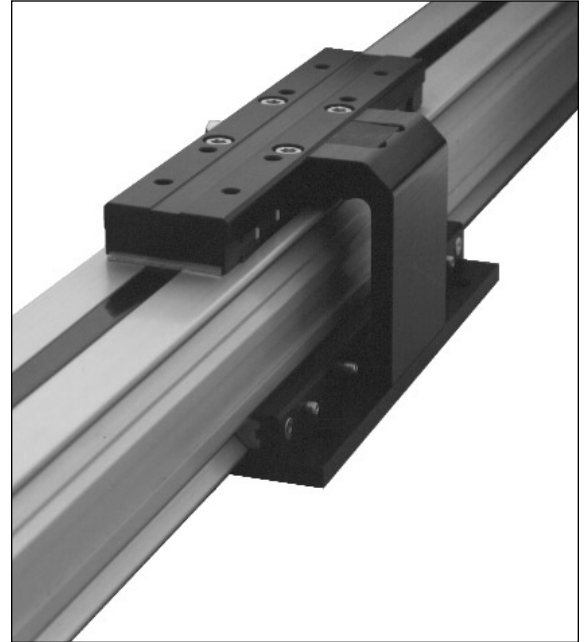
Cylinder Ø 40 mm, external force 40.5 lbs. force (180N), distance between supports 118 in. (3000 mm)
Required: Total deflection

1. Deflection due to external force: See diagram → .03937 in./225 lb. force (1mm/100N) · 40.5 lbs. force (180N) **.07 in. (1.8 mm)**
 2. Deflection due to cylinder weight: See diagram → **+ .04 in. (0.9 mm)**
- Total deflection: **.11 in. (2.7 mm)**

Maximum permitted deflection (f1 + f2) < .039 in (1 mm)
39 in. (1000 mm) stroke

CAUTION: A deflection of more than .080" (2 mm) is not recommended

- Carriage Mounting Plates offer mounting versatility.
- Transfers the powered motion of the carriage to a guided mounting plate on the opposite side of the cylinder.
- Useful in applications with underhanging loads.
- Allows the load to be suspended without inverting the cylinder.
- In dirty environments the Carriage Mount allows the cylinder to be inverted to shelter the sealing strip from settling contaminants.



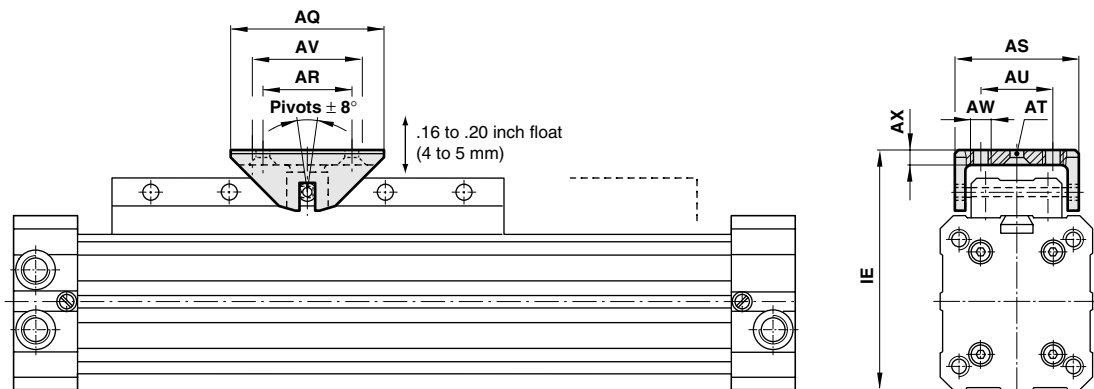
All Dimensions in Inches (mm)

Bore	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Part	QM/46016/34	QM/46020/34	QM/46025/34	QM/46032/34	QM/46040/34	QM/46050/34	QM/46063/34	QM/46080/34
AE	0.63 (16)	0.85 (21.5)	1.04 (26.5)	1.30 (33)	1.59 (40.5)	1.93 (49)	2.26 (57.5)	2.76 (70)
AF	1.57 (40)	2.05 (52)	2.44 (62)	3.07 (78)	3.70 (94)	4.41 (112)	5.20 (132)	6.10 (155)
AG	1.97 (50)	2.44 (62)	2.95 (75)	3.62 (92)	4.41 (112)	5.20 (132)	5.91 (150)	7.09 (180)
AK1	0.14 (3.5)	0.22 (5.5)	0.22 (5.5)	0.25 (6.5)	0.30 (7.5)	0.31 (8)	0.39 (10)	0.39 (10)
AL	1.22 (31)	1.65 (42)	2.05 (52)	2.52 (64)	3.19 (81)	3.70 (94)	4.41 (112)	5.20 (132)
AM1	0.33 (8.5)	0.57 (14.5)	0.69 (17.5)	0.71 (18)	0.94 (24)	0.98 (25)	1.26 (32)	1.26 (32)
AN	1.59 (40.5)	2.20 (56)	2.46 (62.5)	3.11 (79)	3.66 (93)	4.49 (114)	5.12 (130)	6.26 (159)
AP	1.18 (30)	1.42 (36)	1.77 (45)	2.17 (55)	2.56 (65)	2.95 (75)	3.54 (90)	3.94 (100)
E	3.15 (80)	4.33 (110)	5.12 (130)	6.30 (160)	8.46 (215)	9.84 (250)	12.60 (320)	15.35 (390)
F	2.36 (60)	3.15 (80)	3.54 (90)	4.72 (120)	6.30 (160)	7.48 (190)	9.45 (240)	11.81 (300)
G	-	1.57 (40)	1.77 (45)	2.36 (60)	3.15 (80)	3.74 (95)	4.72 (120)	5.91 (150)
U1Ø	0.22 (5.5)	0.22 (5.5)	0.26 (6.6)	0.35 (9)	0.35 (9)	0.43 (11)	0.51 (13)	0.55 (14)

Series 46000
Swinging Bridge Mounting Style 'S'



- Designed for use in applications requiring external guides.
- Mount pivots along the axis of the cylinder
- Provides flexible connection between the cylinder and the external guides
- Bridge floats .16 to .20 inch (4 to 5 mm)



All Dimensions in Inches (mm)

Bore Part	16 mm QM/46016/37	20 mm QM/46020/37	25 mm QM/46025/37	32 mm QM/46032/37	40 mm QM/46032/37	50 mm QM/46050/37	63 mm QM/46050/37	80 mm QM/46080/37
AQ	1.57 (40)	1.97 (50)	2.36 (60)	3.15 (80)	3.15 (80)	3.94 (100)	3.94 (100)	3.94 (100)
AR	-	1.38 (35)	1.57 (40)	1.97 (50)	1.97 (50)	2.36 (60)	2.36 (60)	2.36 (60)
AS	1.02 (26)	1.50 (38)	1.73 (44)	2.32 (59)	2.32 (59)	2.56 (65)	2.56 (65)	2.56 (65)
AT	-	DIN74-Bm 5	DIN74-Bm 5	DIN74-Bm 6	DIN74-Bm 6	DIN74-Bm 8	DIN74-Bm 8	DIN74-Bm 8
AU	0.47 (12)	0.79 (20)	0.79 (20)	1.18 (30)	1.18 (30)	1.57 (40)	1.57 (40)	1.57 (40)
AV	1.18 (30)	1.57 (40)	1.77 (45)	2.36 (60)	2.36 (60)	3.15 (80)	3.15 (80)	3.15 (80)
AW	M4	M5	M5	M6	M6	M8	M8	M8
AX	0.16 (4)	0.20 (5)	0.20 (5)	0.22 (5.5)	0.22 (5.5)	0.26 (6.5)	0.26 (6.5)	0.26 (6.5)
IE	1.89 + .16 (48 + 4)	2.58 + .20 (65.5 + 5)	2.76 + .20 (70 + 5)	3.48 + .20 (88.5 + 5)	4.04 + .20 (102.5 + 5)	4.88 + .20 (124 + 5)	5.47 + .20 (139 + 5)	6.63 + .20 (168.5 + 5)

- Suitable for all cylinder ranges with magnetic piston
- Very neat and compact design
- LED indicator on LSU models
- Simple, reliable switching, very fast response time
- Simple to install



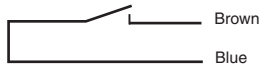
Switch P/N		M/50/LSU*V	M/50/LSU/5U	M/50/RAC/5V	TM/50/RAU/2S	M/50/LSU/CP**
Switch Type	Reed	X	X	X	X	X
	Solid State					
Voltage (V)	AC	10-240	10-240	10-240	10-240	10-60
	DC	10-170	10-170	10-170	10-170	10-75
LED		Yes	Yes	No	No	Yes
Switch Function		Normally Open	Normally Open	Changeover	Normally Open	Normally Open
Wiring Connection		2 wire	2 wire	3 wire	2 wire	2 wire
Switching Current		180mA	180mA	180mA	180mA	180mA
Switching Power		10W	10W	10W	10W	10W
Contact Resistance		150m Ohm	150m Ohm	150m Ohm	150m Ohm	150m Ohm
Switching Time		1.8 ms	1.8 ms	1.8 ms	1.8 ms	1.8 ms
Shock Resistance		50g (11ms)	50g (11ms)	50g (11ms)	50g (11ms)	50g (11ms)
Vibration Resistance		35g (@2000hz)	35g (@2000hz)	35g (@2000hz)	35g (@2000hz)	35g (@2000hz)
Operating Temperature		-20°C to 80°C -5°F to 175°F	-20°C to 80°C -5°F to 175°F	-20°C to 80°C -5°F to 175°F	-20°C to 150°C -5°F to 302°F	-20°C to 80°C -5°F to 175°F
Protection Rating		IP66 (DIN 40050)	IP66 (DIN 40050)	IP66 (DIN 40050)	IP66 (DIN 40050)	IP66 (DIN 40050)
Length of Switch		1.18 in (30mm)	1.18 in (30mm)	1.18 in (30mm)	1.18 in (30mm)	1.18 in (30mm)
Diameter of Switch		0.252 in (6.4mm)	0.252 in (6.4mm)	0.252 in (6.4mm)	0.252 in (6.4mm)	0.252 in (6.4mm)
Cable Material		PVC	Polyurethane	PVC	Silicone	PVC
Cable Length		* Insert 2 = 2 meters * Insert 5 = 5 meters * Insert 10 = 10 meters	5 meters	5 meters	2 meters	0.3 meters With M8 X 1 Cable Plug

** Plug in cable with M8 X 1 connector (3 wire)

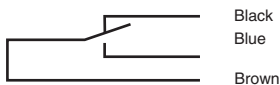
Model	Outer Cover	Cable Length
M/P73001/5	PVC 3 x 0.25	5 meter
M/P73002/5	PUR 3 x 0.25	5 meter

Electrical Schematics

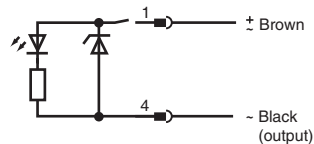
TM/50/RAU/2S
normally open



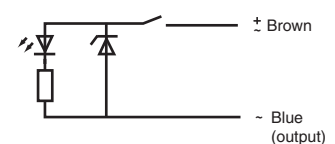
M/50/RAC/5V
changeover



M/50/LSU/CP
normally open



M/50/LSU*V
M/50/LSU/5U
normally open



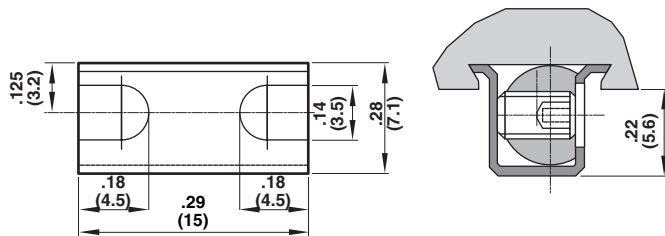
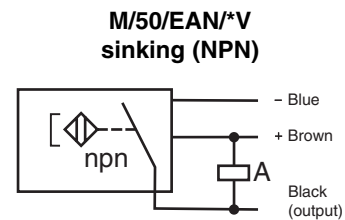
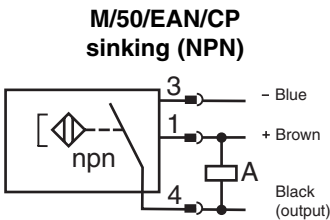
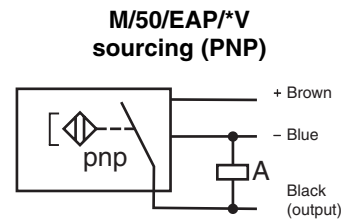
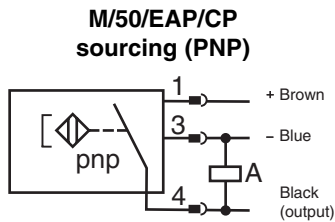


Switch P/N		M/50/EAP/*V	M/50/EAN/*V	M/50/EAP/CP**	M/50/EAN/CP**
Switch Type	Reed				
	Solid State	X	X	X	X
Voltage (V)	AC	-	-	-	-
	DC	10-30	10-30	10-30	10-30
LED		Yes	Yes	Yes	Yes
Switch Function		Sourcing (PNP)	Sinking (NPN)	Sourcing (PNP)	Sinking (NPN)
Wiring Connection		3 wire	3 wire	3 wire	3 wire
Switching Current		150mA	150mA	150mA	150mA
Switching Power		4.5W Max	4.5W Max	4.5W Max	4.5W Max
Contact Resistance		N/A	N/A	N/A	N/A
Switching Time		0.5ms	0.5ms	0.5ms	0.5ms
Shock Resistance		N/A	N/A	N/A	N/A
Vibration Resistance		N/A	N/A	N/A	N/A
Operating Temperature		-20°C to 80°C -5°F to 175°F	-20°C to 80°C -5°F to 175°F	-20°C to 80°C -5°F to 175°F	-20°C to 80°C -5°F to 175°F
Protection Rating		IP67 (DIN 40050)	IP67 (DIN 40050)	IP67 (DIN 40050)	IP67 (DIN 40050)
Length of Switch		1.18 in (30mm)	1.18 in (30mm)	1.18 in (30mm)	1.18 in (30mm)
Diameter of Switch		0.252 in (6.4mm)	0.252 in (6.4mm)	0.252 in (6.4mm)	0.252 in (6.4mm)
Cable Material		PVC	PVC	PVC	PVC
Cable Length		* Insert 2 = 2 meters * Insert 5 = 5 meters * Insert 10 = 10 meters	* Insert 2 = 2 meters * Insert 5 = 5 meters * Insert 10 = 10 meters	0.3 meters With M8 X 1 Cable Plug	0.3 meters With M8 X 1 Cable Plug

** Plug in cable with M8 X 1 connector (3 wire)

Model	Outer Cover	Cable Length
M/P73001/5	PVC 3 x 0.25	5 meter
M/P73002/5	PUR 3 x 0.25	5 meter

Electrical Schematics



Switch Bracket

The M50 switch can be used on pre-Series B extrusion, 16 mm to 25 mm bore size Lintra cylinders by ordering bracket part number **M/P72486**. The M50 switch can be used on pre-series B extrusions, 32mm to 80mm bore size Lintra Cylinders by ordering bracket part number **QU/33/732/22**. These brackets adapt the M/50 (round) switch into the dovetail grooves on these older extrusions.



M/50 Switch Groove Cover

Part number **M/K72725*** is a red plastic switch groove cover that snaps in place along the length of the Lintra cylinder extrusion. It holds and protects M/50 switch cables when mounted to the cylinder.

* Insert cylinder stroke length to order. For C (inch stroke) specify length in inches and for M (metric stroke) specify in mm.



Technical Data

Thrust, Cushion Lengths, Holding Forces

Bore	Thrust at 87 psi (6 bar) lbs. force (N)	Air Consumption at 87 psi (6 bar) cu ft./in stroke (l/cm)	Cushion Length in (mm)	Active Brake (L3) holding force* at 87 psig (6 bar) lb. force (N)	Passive Brake (L4) holding force* at 0 psig lb. force (N)
16	22.5 (100)	0.01 (0.014)	0.47 (12)	- -	- -
20	33.8 (150)	0.02 (0.022)	1.02 (26)	- -	- -
25	56.3 (250)	0.03 (0.035)	1.02 (26)	112.5 (500)	49.5 (220)
32	92.3 (410)	0.04 (0.056)	1.38 (35)	202.5 (900)	84.4 (375)
40	144.0 (640)	0.06 (0.088)	1.97 (50)	337.5 (1500)	141.8 (630)
50	225.0 (1000)	0.10 (0.137)	2.36 (60)	562.5 (2500)	225.0 (1000)
63	337.5 (1500)	0.16 (0.218)	2.76 (70)	900.0 (4000)	371.3 (1650)
80	540.0 (2400)	0.26 (0.350)	2.95 (75)		

*Calculated for dry surface

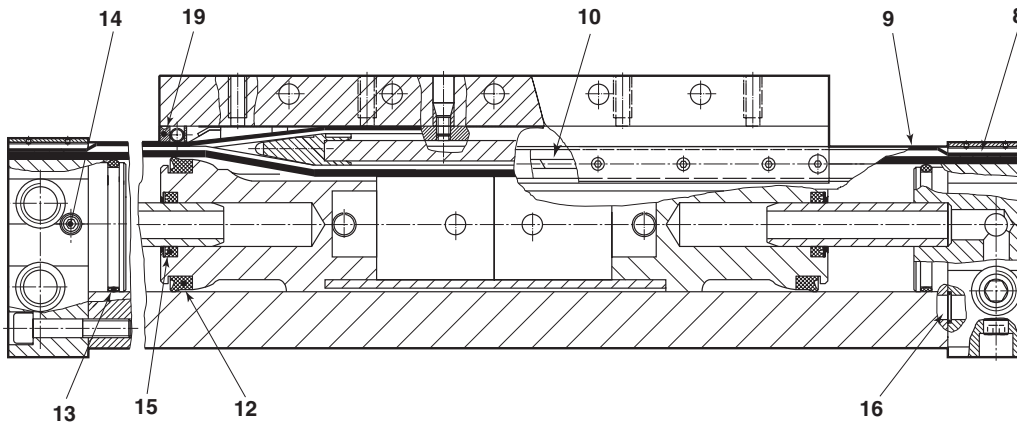
Weights of Cylinders lbs. (kg)

Model Bore	C/46000B Weight at 0 in. stroke	C/46100B Weight at 0 in. stroke	C/46200B Weight at 0 in. stroke	C/46000B/L3 Weight at 0 in. stroke	C/46000B/L4 Weight at 0 in. stroke	Weight per inch of Stroke
16	0.35 (0.16)	0.40 (0.18)				0.07 (0.03)
20	1.10 (0.50)	1.32 (0.60)				0.09 (0.04)
25	1.76 (0.80)	1.98 (0.90)	3.75 (1.7)	3.53 (1.6)	4.19 (1.9)	0.11 (0.05)
32	3.53 (1.60)	3.75 (1.70)	6.84 (3.1)	5.95 (2.7)	6.84 (3.1)	0.20 (0.09)
40	5.95 (2.70)	6.39 (2.90)	11.03 (5.0)	9.92 (4.5)	11.47 (5.2)	0.29 (0.13)
50	10.58 (4.80)	10.80 (4.90)	20.07 (9.1)	16.10 (7.3)	19.62 (8.9)	0.42 (0.19)
63	15.88 (7.20)	16.98 (7.70)	30.65 (13.9)	25.36 (11.5)	27.34 (12.4)	0.55 (0.25)
80	29.11 (13.20)	29.55 (13.40)				0.84 (0.38)

Weights of Mountings and Right Angle Adapters in lbs. (kg)

Bore	Foot Mount (ACT-10-20)	Swinging Bridge (ACT-10-23)	Carriage Mount Plate (ACT-10-22)	Center Mount (ACT-10-21)
16	0.02 (0.01)	0.04 (0.02)	0.22 (0.10)	0.02 (0.01)
20	0.07 (0.03)	0.22 (0.10)	0.44 (0.20)	0.07 (0.03)
25	0.02 (0.01)	0.44 (0.20)	0.66 (0.30)	0.09 (0.04)
32	0.22 (0.10)	0.66 (0.30)	0.88 (0.40)	0.15 (0.07)
40	0.44 (0.20)	0.66 (0.30)	1.76 (0.80)	0.44 (0.20)
50	0.66 (0.30)	1.10 (0.50)	2.65 (1.20)	0.44 (0.20)
63	0.88 (0.40)	1.10 (0.50)	4.41 (2.00)	0.66 (0.30)
80	0.88 (0.40)	1.10 (0.50)	6.39 (2.90)	0.88 (0.40)

Right Angle Adapter (ACT-10-17)			Right Angle Adapter (ACT-10-17)		
QM/46125/25/33	2.43 (1.1)		QM/46140/25/33	3.09 (1.4)	
QM/46132/32/33	3.31 (1.5)		QM/46150/32/33	3.97 (1.8)	
QM/46140/40/33	5.95 (2.7)		QM/46163/40/33	8.38 (3.8)	
QM/46150/50/33	7.94 (3.6)		QM/46240/25/35	5.51 (2.5)	
QM/46125/20/33	2.21 (1.0)		QM/46263/40/35	8.82 (4.0)	
QM/46125/25/33	2.87 (1.3)				



Replacement Parts for C/46000B/M with NPT ports

Internally Guided - C/46000B/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 12 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8, 9 & 12 thru 20 Part No.
C/46020B/M/*	QM/46020/00	QM/46020/88	QC/46020*/88
C/46025B/M/*	QM/46025/00	QM/46025/88	QC/46025*/88
C/46032B/M/*	QM/46032/00	QM/46032/88	QC/46032*/88
C/46040B/M/*	QM/46040/00	QM/46040/88	QC/46040*/88
C/46050B/M/*	QM/46050/00	QM/46050/88	QC/46050*/88
C/46063B/M/*	QM/46063/00	QM/46063/88	QC/46063*/88
C/46080B/M/*	QM/46080/00	QM/46080/88	QC/46080*/88

*Overall stroke length in inches

Externally Guided - C/46100B/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 10 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8 thru 20 Part No.
C/46120B/M/*	QM/46020/00	QM/46120/88	QC/46120*/88
C/46125B/M/*	QM/46025/00	QM/46125/88	QC/46125*/88
C/46132B/M/*	QM/46032/00	QM/46132/88	QC/46132*/88
C/46140B/M/*	QM/46040/00	QM/46140/88	QC/46140*/88
C/46150B/M/*	QM/46050/00	QM/46150/88	QC/46150*/88
C/46163B/M/*	QM/46063/00	QM/46163/88	QC/46163*/88
C/46180B/M/*	QM/46080/00	QM/46180/88	QC/46180*/88

*Overall stroke length in inches

Roller Guided - C/46200B/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 12 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8, 9 & 12 thru 20 Part No.
C/46225B/M/*	QM/46025/00	QM/46025/88	QC/46025*/88
C/46232B/M/*	QM/46032/00	QM/46032/88	QC/46032*/88
C/46240B/M/*	QM/46040/00	QM/46040/88	QC/46040*/88
C/46250B/M/*	QM/46050/00	QM/46050/88	QC/46050*/88
C/46263B/M/*	QM/46063/00	QM/46063/88	QC/46063*/88

*Overall stroke length in inches



Replacement Parts for C/46000B/M, C/46100B/M, and C/46200B/M with NPT Ports

Carriage Assembly

Cylinder	Internally Guided Part No.	Externally Guided Part No.	With Roller Guide Part No.
16 mm	NA	NA	NA
20 mm	QM/46020/68	QM/46120/69	NA
25 mm	QM/46025/68	QM/46125/69	QM/46225/70
32mm	QM/46032/68	QM/46132/69	QM/46232/70
40 mm	QM/46040/68	QM/46140/69	QM/46240/70
50 mm	QM/46050/68	QM/46150/69	QM/46250/70
63 mm	QM/46063/68	QM/46163/69	QM/46263/70
80 mm	QM/46080/68	QM/46180/69	NA

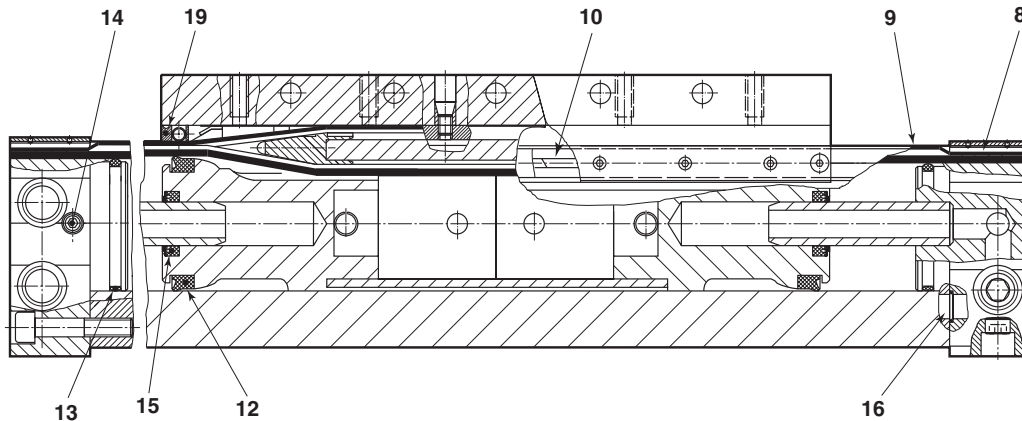
Item	Description
8	Seal strip (1)
9	Cover strip (1)
10	Guide bar (2)
12	Seal (2)
13	O-ring (1)
14	O-ring (1)
15	Seal (2)
16	O-ring (2)
19	Closer assy. (2)
20	Grease (1) tube

Cylinder	Right End Cap Part No.	Left End Cap Part No.	Tube Part No.	Piston Yoke Assembly Part No.
16 mm	NA	NA	NA	NA
20 mm	QC/46020/02	QC/46020/03	C/P41067/*	QM/46020/M/13
25 mm	QC/46025/02	QC/46025/03	C/P41066/*	QM/46025/M/13
32 mm	QC/46032/02	QC/46032/03	C/P41018/*	QM/46032/M/13
40 mm	QC/46040/02	QC/46040/03	C/P41017/*	QM/46040/M/13
50 mm	QC/46050/02	QC/46050/03	C/P41064/*	QM/46050/M/13
63 mm	QC/46063/02	QC/46063/03	C/P41065/*	QM/46063/M/13
80 mm	QC/46080/02	QC/46080/03	C/P41071/*	QM/46080/M/13

*Overall stroke length in inches

Cylinder	Seal Strip (Item 8) Part No.	Cover Strip (Item 9) Part No.
16 mm	NA	NA
20 mm	C/P40262/*	C/P19567/2/*
25 mm	C/P40262/*	C/P19567/2/*
32 mm	C/P40344/*	C/P19587/2/*
40 mm	C/P40263/*	C/P19606/2/*
50 mm	C/P40626/*	C/P19644/2/*
63 mm	C/P40626/*	C/P19644/2/*
80 mm	C/P40715/*	C/P41076/*

*Overall stroke length in inches



Item	Description
8	Seal strip (1)
9	Cover strip (1)
10	Guide bar (2)
12	Piston seal (2)
13	Endcap O-ring (2)
14	Cush. adj. O-ring (2)
15	Cushion seal (2)
16	Port o-ring (2)
19	Closer assembly (2)
20	Grease (1) tube

Replacement Parts for M/46000B/M with Metric Ports

Internally Guided - M/46000B/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 12 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8, 9 & 12 thru 20 Part No.
M/46016B/M*	QM/46016/00	QM/46016/88	QM/46016/*/88
M/46020B/M*	QM/46020/00	QM/46020/88	QM/46020/*/88
M/46025B/M*	QM/46025/00	QM/46025/88	QM/46025/*/88
M/46032B/M*	QM/46032/00	QM/46032/88	QM/46032/*/88
M/46040B/M*	QM/46040/00	QM/46040/88	QM/46040/*/88
M/46050B/M*	QM/46050/00	QM/46050/88	QM/46050/*/88
M/46063B/M*	QM/46063/00	QM/46063/88	QM/46063/*/88
M/46080B/M*	QM/46080/00	QM/46080/88	QM/46080/*/88

Overall stroke length in millimeters

Externally Guided - M/46100B/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 10 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8 thru 20 Part No.
M/46116B/M*	QM/46016/00	QM/46116/88	QM/46116/*/88
M/46120B/M*	QM/46020/00	QM/46120/88	QM/46120/*/88
M/46125B/M*	QM/46025/00	QM/46125/88	QM/46125/*/88
M/46132B/M*	QM/46032/00	QM/46132/88	QM/46132/*/88
M/46140B/M*	QM/46040/00	QM/46140/88	QM/46140/*/88
M/46150B/M*	QM/46050/00	QM/46150/88	QM/46150/*/88
M/46163B/M*	QM/46063/00	QM/46163/88	QM/46163/*/88
M/46180B/M*	QM/46080/00	QM/46180/88	QM/46180/*/88

Overall stroke length in millimeters

Roller Guided - M/46200/M

Cylinder	Basic Seal kit Items 12 thru 16 and 20 Part No.	Spares Set Items 12 thru 20 Part No.	Spares Set with Seal & Cover Strip — Items 8, 9 & 12 thru 20 Part No.
M/46225B/M*	QM/46025/00	QM/46025/88	QM/46025/*/88
M/46232B/M*	QM/46032/00	QM/46032/88	QM/46032/*/88
M/46240B/M*	QM/46040/00	QM/46040/88	QM/46040/*/88
M/46250B/M*	QM/46050/00	QM/46050/88	QM/46050/*/88
M/46263B/M*	QM/46063/00	QM/46063/88	QM/46063/*/88

Overall stroke length in millimeters



Replacement parts for M/46000B/M, M/46100B/M, and M/46200B/M with Metric Ports

Carriage Assembly

Cylinder	Internally Guided Part No.	Externally Guided Part No.	With Roller Guide Part No.	Item	Description
16 mm	QM/46016/68	QM/46116/69	NA	8	Seal strip (1)
20 mm	QM/46020/68	QM/46120/69	NA	9	Cover strip (1)
25 mm	QM/46025/68	QM/46125/69	QM/46225/70	10	Guide bar (2)
32 mm	QM/46032/68	QM/46132/69	QM/46232/70	12	Seal (2)
40 mm	QM/46040/68	QM/46140/69	QM/46240/70	13	O-ring (1)
50 mm	QM/46050/68	QM/46150/69	QM/46250/70	14	O-ring (1)
63 mm	QM/46063/68	QM/46163/69	QM/46263/70	15	Seal (2)
80 mm	QM/46080/68	QM/46180/69	NA	16	O-ring (2)
				19	Closer assy. (2)
				20	Grease (1) tube

Cylinder	Right End Cap Part No.	Left End Cap Part No.	Tube Part No.	Piston Yoke Assembly Part No.
16 mm	QM/46016/02	QM/46016/03	M/P41097/*	QM/46016/M/13
20 mm	QM/46020/02	QM/46020/03	M/P41067/*	QM/46020/M/13
25 mm	QM/46025/02	QM/46025/03	M/P41067/*	QM/46025/M/13
32 mm	QM/46032/02	QM/46032/03	M/P41067/*	QM/46032/M/13
40 mm	QM/46040/02	QM/46040/03	M/P41067/*	QM/46040/M/13
50 mm	QM/46050/02	QM/46050/03	M/P41067/*	QM/46050/M/13
63 mm	QM/46063/02	QM/46063/03	M/P41067/*	QM/46063/M/13
80 mm	QM/46080/02	QM/46080/03	M/P41067/*	QM/46080/M/13

*Overall stroke length in millimeters

Cylinder	Seal Strip (Item 8) Part No.	Cover Strip (Item 9) Part No.
16 mm	M/P40270/*	M/P41101/*
20 mm	M/P40262/*	M/P19567/2/*
25 mm	M/P40262/*	M/P19567/2/*
32 mm	M/P40344/*	M/P19587/2/*
40 mm	M/P40263/*	M/P19606/2/*
50 mm	M/P40626/*	M/P19644/2/*
63 mm	M/P40626/*	M/P19644/2/*
80 mm	M/P40715/*	M/P41076/2/*

*Overall stroke length in millimeters