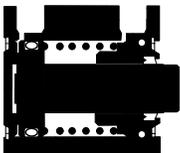
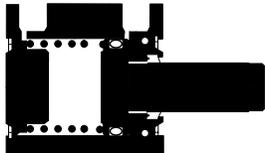


# Series 95000 Compact Actuators

Spring return



Spring extend



### Light weight

Compact design, which is considerably shorter than ISO/VDMA or NFPA equivalent.

Low friction characteristics for high speed operation

Hard anodized body for corrosion protection and longer life

Duralon® rod bearing for reduced wear

Chrome plated stainless steel piston rods

### Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

### Operation:

DM/95000 BSP parallel ports, single acting, non-cushioned, metric ports, spring return

DM/96000 BSP parallel ports, single acting, non-cushioned, metric ports, spring extend

DC/95000 NPT ports, single acting, non-cushioned, metric ports, spring return

DC/96000 NPT ports, single acting, non-cushioned, metric ports, spring extend

Operating pressure:  
14.5 to 145 psig (1 to 10 bar)

Operating temperature:  
-25°F to +250°F (-32°C to +121°C)

Consult our Technical Service for use below 35°F (+2°C)

### Materials

Barrel: hard anodized aluminum

End caps: hard anodized aluminum alloy

Piston rod: stainless steel, hard chrome plated

Elastomers: Buna N

### Options selector

★DC/9★0★\*/★/★/★

Temperature	Substitute
High temperature (Viton® seals)	T

Ports	Substitute
NPT Ports	C
BSP parallel	M

Operation	Substitute
Spring return	5
Spring extend	6

Cylinder ø (mm)	Substitute
12	012
16	016
20	020
25	025
32	032
40	040
50	050

Mounting	Substitute
Without	None
Foot	C
Flange rod end	G
Flange cap end	B
ISO Flange rod end	IG
ISO Flange cap end	IB
Rear clevis	D
Tapped holes - both ends	A

Stroke (mm)
10 mm max. (Ø 12 to 40 mm)
20 mm max. (Ø 50 mm)

Variants (non-magnetic)	Substitute
Std, female rod thread, rod end	X
Male rod thread, rod end	None

For combinations of alternative cylinders consult our Technical Service.

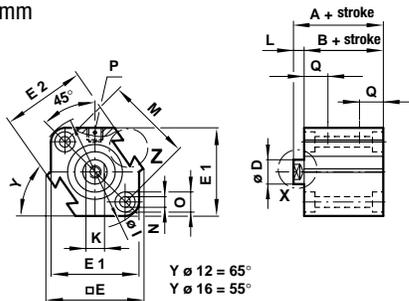
### Strokes (mm)

Ø	5	10	20
12	●	●	-
16	●	●	-
20	●	●	-
25	●	●	-
32	●	●	-
40	●	●	-
50	-	●	●

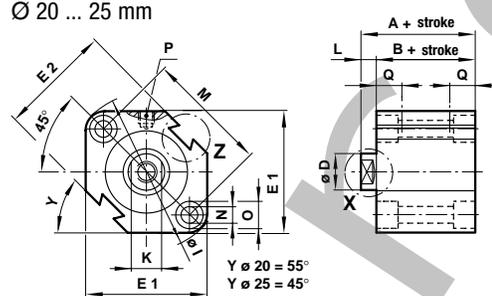
# Compact interchangeable cylinders

Basic dimensions –D\*/95000/X, D\*/96000/X

Ø 12 ... 16 mm

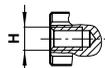


Ø 20 ... 25 mm

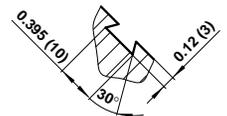


Ø 12 ... 25 mm

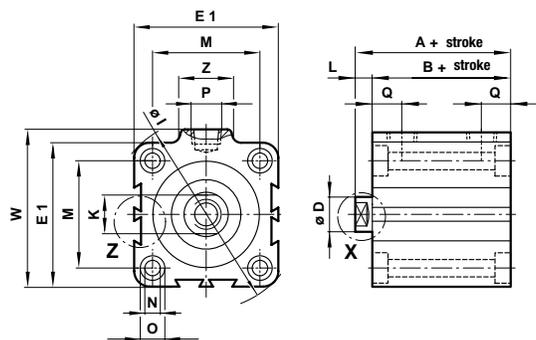
Section X



Section Z



Ø 32 ... 50 mm



Cylinder with rod end male thread

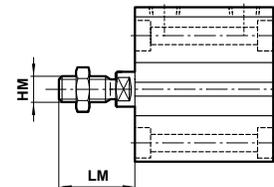
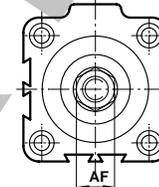
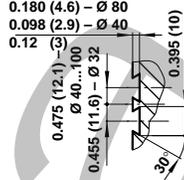
D\*/95000, D\*/96000

Ø 12 ... 50 mm

Section X



Section Z



Ø	Stroke range	A	AF	B	Ø D	E	E1	E2
12	5 ... 10	0.81 (20.5)	0.34 (8)	0.67 (17.0)	0.236 (6)	1.09 (27.7)	0.98 (25)	0.90 (23)
16	5 ... 10	0.87 (22.0)	0.34 (10)	0.73 (18.5)	0.315 (8)	1.25 (31.7)	1.14 (29)	1.07 (27.2)
20	5 ... 10	0.94 (24.0)	0.38 (13)	0.77 (19.5)	0.394 (10)	- (-)	1.42 (36)	1.23 (31.2)
25	5 ... 10	1.08 (27.5)	0.43 (17)	0.86 (22.5)	0.472 (12)	- (-)	1.57 (40)	1.45 (36.9)
32	5 ... 10	1.18 (30.0)	0.50 (22)	0.91 (23.0)	0.630 (16)	- (-)	1.75 (44.5)	- (-)
40	5 ... 10	1.44 (36.5)	0.56 (22)	1.16 (29.5)	0.630 (16)	- (-)	2.05 (52)	- (-)
50	10 ... 20	1.52 (38.5)	0.75 (27)	1.20 (30.5)	0.787 (20)	- (-)	2.51 (63.7)	- (-)

Ø	Stroke range	H	HM	Ø I	K	L	LM	M	Ø N
12	5 ... 10	#8-32 x 0.21 (M3 x 0.5-5 deep)	#8-32 x 0.31 (M5 x 0.8-9 deep)	1.24 (31.5)	0.20 (5)	0.14 (3.5)	0.45 (14)	0.87 (22)	0.14 (3.5)
16	5 ... 10	#8-32 x 0.21 (M4 x 0.7-5 deep)	#8-32 x 0.31 (M6 x 1.0-10 deep)	1.46 (37.1)	0.24 (6)	0.14 (3.5)	0.45 (15.5)	1.10 (28)	0.14 (3.5)
20	5 ... 10	#10-32 x 0.28 (M5 x 0.8-7 deep)	#10-32 x 0.31 (M8 x 1.25-12 deep)	1.85 (47)	0.31 (8)	0.18 (4.5)	0.49 (18.5)	1.42 (36)	0.22 (5.5)
25	5 ... 10	1/4-28 x 0.39 (M6 x 1.0-10 deep)	1/4-28 x 0.37 (M10 x 1.25-15 deep)	2.02 (51.3)	0.39 (10)	0.20 (5)	0.57 (22.5)	1.57 (40)	0.22 (5.5)
32	5 ... 10	5/16-24 x 0.50 (M8 x 1.25-12 deep)	5/16-24 x 0.50 (M14 x 1.5-20.5 deep)	2.32 (58.9)	0.55 (14)	0.28 (7)	0.78 (28.5)	1.34 (34)	0.22 (5.5)
40	5 ... 10	3/8-24 x 0.50 (M8 x 1.25-12 deep)	3/8-24 x 0.63 (M14 x 1.5-20.5 deep)	2.72 (69)	0.55 (14)	0.28 (7)	0.91 (28.5)	1.57 (40)	0.22 (5.5)
50	10 ... 20	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	3.34 (84.9)	0.67 (17)	0.31 (8)	1.08 (33.5)	1.97 (50)	0.26 (6.6)

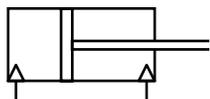
Ø	Stroke range	Ø O	P	Q	W	Z	lb (kg) at 0 mm	lb (kg) per 5 mm
12	5 ... 10	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.28 (7.0)	- (-)	- (-)	0.15 (0.07)	0.04 (0.02)
16	5 ... 10	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.31 (7.8)	- (-)	- (-)	0.20 (0.09)	0.04 (0.02)
20	5 ... 10	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.32 (8.1)	- (-)	- (-)	0.26 (0.12)	0.04 (0.02)
25	5 ... 10	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.33 (8.4)	- (-)	- (-)	0.37 (0.17)	0.07 (0.03)
32	5 ... 10	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.34 (8.7)	1.94 (49.3)	0.84 (21.4)	0.62 (0.28)	0.11 (0.05)
40	5 ... 10	0.35 x 0.28 (9.0 x 7.0 deep)	1/8	0.36 (9.2)	2.24 (57.0)	0.84 (21.4)	0.97 (0.44)	0.13 (0.06)
50	10 ... 20	0.43 x 0.31 (11.0 x 8.0 deep)	1/4	0.41 (10.5)	2.78 (70.6)	1.04 (26.5)	1.10 (0.50)	0.18 (0.08)

Dimensions in inches (mm)

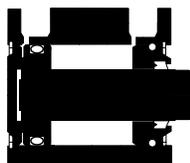
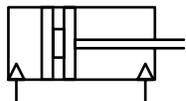
Actuators

Series 99000 Compact Actuators

Non-magnetic



Magnetic



Light weight

Compact design, which is considerably shorter than ISO/VDMA or NFPA equivalent.

Low friction characteristics for high speed operation

Duralon® rod bearing for reduced wear

Chrome plated stainless steel piston rods

Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

DM/99000 BSP parallel ports, double acting, non-cushioned, metric threads

DC/99000 NPT ports, double acting, non-cushioned, inch threads

Operating pressure: 14.5 to 145 psig (1 to 10 bar)

Operating temperature: -25°F to +250°F (-32°C to +121°C)

Consult our Technical Service for use below 35°F (+2°C)

Materials

Barrel: hard anodized aluminum

End caps: hard anodized aluminum alloy

Piston rod: stainless steel, hard chrome plated

Elastomers: Buna N

Options selector

★ D ★ / 99 ★ ★ ★ / ★ / ★ / ★

Temperature	Substitute
High temperature (Viton® seals)	T

Ports	Substitute
NPT Ports (inch threads, stroke in mm)	C
BSP parallel ports (metric ports, threads, stroke in mm)	M

Cylinder diameters (mm)	Substitute
12	012
16	016
20	020
25	025
32	032
40	040
50	050
63	063
80	080
100	100
125	125
140	140
160	160

Mounting	Substitute
Without	None
Foot	C
Flange rod end	G
Flange cap end	B
ISO Flange rod end	IG
ISO Flange cap end	IB
Rear clevis	D
Tapped holes - both ends	A

Stroke (mm)
300 max. (see table below)

Variants (non-magnetic piston)	Substitute
Standard, female rod thread	X
Male rod thread, single rod	None
Double ended piston rod, female rod thread	JX
Double ended piston rod, male thread, both ends	J
Non-rotating piston rod, female rod thread	N1X
Cylinder with guided toolplate	N3
Double ended piston rod, non-rotating, female rod thread	N5X
Boss, rod end, female rod thread	EX
Boss, cap end, female rod thread	FX
Bumpers on both ends, female rod thread (Ø 12 ... 100 mm)	BX
Adjustable stroke, retract, single rod, female rod thread	SX

Variants (magnetic piston)	Substitute
Standard, female rod thread	MX
Male rod thread, single rod	M
Double ended piston rod, male thread, both ends	JM
Double ended piston rod, female rod thread	JMX
Non-rotating piston rod, female rod thread	N2X
Cylinder with guided toolplate	N4
Double ended piston rod, non-rotating, female rod thread	N6X
Boss, rod end, female rod thread	MEX
Boss, cap end, female rod thread	MFX
Bumpers on both ends, female rod thread (Ø 12 ... 100 mm)	MBX
Adjustable stroke, retract, single rod, female rod thread	MSX

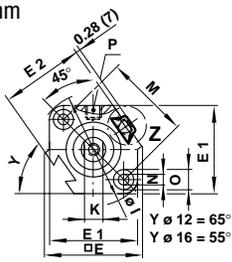
Strokes

Ø	5	10	15	20	25	30	35	40	45	50	75	100	125	150	175	200	250	300	
12	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
63	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
140	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
160	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

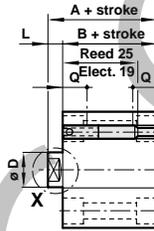
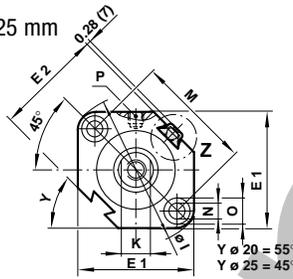
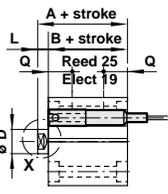
For combinations of alternative cylinders consult our Technical Service.

Basic dimensions – DM/99000/X (Non-magnetic) DM/99000/MX (Magnetic)

Ø 12 ... 16 mm



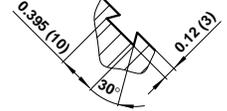
Ø 20 ... 25 mm



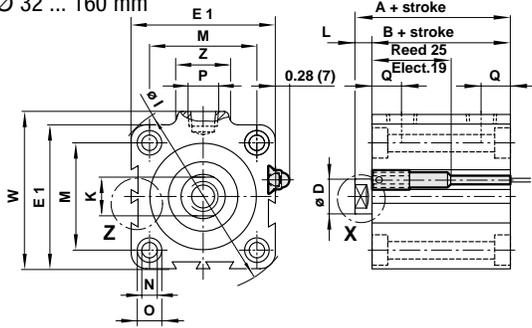
Ø 12 ... 25 mm

Section X

Section Z

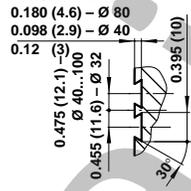


Ø 32 ... 160 mm



Section X

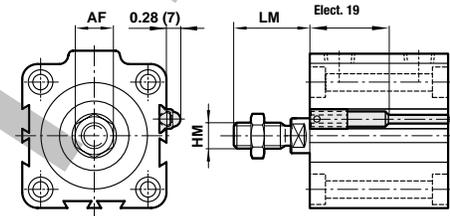
Section Z



Cylinder with rod end male thread

D\*/99000/M

Ø 12 ... 160 mm



Ø	Stroke range	A non-mag	A mag	AF	B non-mag	B mag	Ø D	E	E1	E2
12	5 ... 30	0.81 (20.5)	1.24 (31.5)	0.34 (8)	0.67 (17)	1.10 (28)	0.236 (6)	1.09 (27.7)	0.98 (25)	0.90 (23)
16	5 ... 30	0.87 (22)	1.34 (34)	0.34 (10)	0.73 (18.5)	1.20 (30.5)	0.315 (8)	1.25 (31.7)	1.14 (29)	1.07 (27.2)
20	5 ... 50	0.94 (24)	1.42 (36)	0.38 (13)	0.77 (19.5)	1.24 (31.5)	0.394 (10)	- (-)	1.42 (36)	1.23 (31.2)
25	5 ... 50	1.08 (27.5)	1.48 (37.5)	0.43 (17)	0.86 (22.5)	1.28 (32.5)	0.472 (12)	- (-)	1.57 (40)	1.45 (36.9)
32	5 ... 50	1.18 (30)	1.57 (40)	0.50 (22)	0.91 (23)	1.30 (33)	0.630 (16)	- (-)	1.75 (44.5)	-
40	5 ... 50	1.44 (36.5)	1.83 (46.5)	0.56 (22)	1.16 (29.5)	1.56 (39.5)	0.630 (16)	- (-)	2.05 (52)	-
50	10 ... 50	1.52 (38.5)	1.91 (48.5)	0.75 (27)	1.20 (30.5)	1.59 (40.5)	0.787 (20)	- (-)	2.51 (63.7)	-
63	10 ... 50	1.73 (44)	2.13 (54)	0.75 (27)	1.42 (36)	1.81 (46)	0.787 (20)	- (-)	3.02 (76.7)	-
80	10 ... 50	2.11 (53.5)	2.50 (63.5)	0.93 (32)	1.71 (43.5)	2.11 (53.5)	0.984 (25)	- (-)	3.85 (97.8)	-
100	10 ... 50	2.56 (65)	2.95 (75)	1.13 (46)	2.09 (53)	2.48 (63)	1.181 (30)	- (-)	4.54 (115.3)	-
125	10 ... 300	3.90 (99)	3.90 (99)	1.13 (46)	3.27 (83)	3.27 (83)	1.417 (36)	- (-)	5.59 (142)	-
140	10 ... 300	3.90 (99)	3.90 (99)	1.13 (46)	3.27 (83)	3.27 (83)	1.417 (36)	- (-)	6.22 (158)	-
160	10 ... 300	4.25 (108)	4.25 (108)	1.35 (55)	3.58 (91)	3.58 (91)	1.575 (40)	- (-)	7.01 (178)	-

Ø	Stroke range	H	HM	Ø I	K	L	LM	M
12	5 ... 30	#8-32 x 0.21 (M3 x 0.5-5 deep)	#8-32 x 0.31 (M5 x 0.8-9 deep)	1.24 (31.5)	0.20 (5)	0.14 (3.5)	0.45 (14)	0.87 (22)
16	5 ... 30	#8-32 x 0.21 (M4 x 0.7-5 deep)	#8-32 x 0.31 (M6 x 1.0-10 deep)	1.46 (37.1)	0.24 (6)	0.14 (3.5)	0.45 (15.5)	1.10 (28)
20	5 ... 50	#10-32 x 0.28 (M5 x 0.8-7 deep)	#10-32 x 0.31 (M8 x 1.25-12 deep)	1.85 (47)	0.31 (8)	0.18 (4.5)	0.49 (18.5)	1.42 (36)
25	5 ... 50	1/4-28 x 0.39 (M6 x 1.0-10 deep)	1/4-28 x 0.37 (M10 x 1.25-15 deep)	2.02 (51.3)	0.39 (10)	0.20 (5)	0.57 (22.5)	1.57 (40)
32	5 ... 50	5/16-24 x 0.50 (M8 x 1.25-12 deep)	5/16-24 x 0.50 (M14 x 1.5-20.5 deep)	2.32 (58.9)	0.55 (14)	0.28 (7)	0.78 (28.5)	1.34 (34)
40	5 ... 50	3/8-24 x 0.50 (M8 x 1.25-12 deep)	3/8-24 x 0.63 (M14 x 1.5-20.5 deep)	2.72 (69)	0.55 (14)	0.28 (7)	0.91 (28.5)	1.57 (40)
50	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	3.34 (84.9)	0.67 (17)	0.31 (8)	1.08 (33.5)	1.97 (50)
63	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x .77 (M18 x 1.5-26 deep)	4.01 (101.8)	0.67 (17)	0.31 (8)	1.08 (33.5)	2.36 (60)
80	10 ... 50	5/8-18 x 0.88 (M16 x 2.0-22 deep)	5/8-18 x 1.00 (M22 x 1.5-32.5 deep)	5.11 (129.8)	0.87 (22)	0.39 (10)	1.40 (43.5)	3.03 (77)
100	10 ... 50	3/4-16 x 0.88 (M20 x 2.5-22 deep)	3/4-16 x 1.12 (M26 x 1.5-32.5 deep)	6.06 (153.9)	1.06 (27)	0.47 (12)	1.59 (43.5)	3.70 (94)
125	10 ... 300	3/4-16 x 1.06 (M22 x 2.5-27 deep)	3/4-16 x 1.12 (M30 x 1.5-42 deep)	7.48 (190)	1.26 (32)	0.63 (16)	1.75 (58)	4.49 (114)
140	10 ... 300	3/4-16 x 1.06 (M22 x 2.5-27 deep)	3/4-16 x 1.12 (M30 x 1.5-42 deep)	8.27 (210)	1.26 (32)	0.63 (16)	1.75 (58)	5.04 (128)
160	10 ... 300	3/4-16 x 1.06 (M24 x 3.0-27 deep)	3/4-16 x 1.12 (M36 x 1.5-47 deep)	9.37 (238)	1.42 (36)	0.67 (17)	1.79 (64)	5.67 (144)

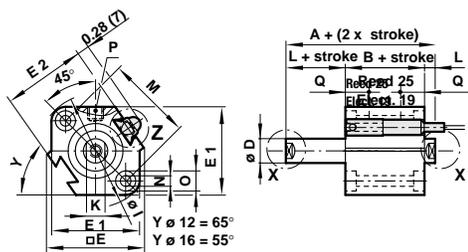
Ø	Stroke range	Ø N	Ø O	P*	Q	W	Z
12	5 ... 30	0.14 (3.5)	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.28 (7)	- (-)	- (-)
16	5 ... 30	0.14 (3.5)	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.31 (7.8)	- (-)	- (-)
20	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.32 (8.1)	- (-)	- (-)
25	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.33 (8.4)	- (-)	- (-)
32	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	1/8*	0.34 (8.7)	1.94 (49.3)	0.84 (21.4)
40	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	1/8*	0.36 (9.2)	2.24 (57)	0.84 (21.4)
50	10 ... 50	0.26 (6.6)	0.43 x 0.31 (11.0 x 8.0 deep)	1/4*	0.41 (10.5)	2.78 (70.6)	1.04 (26.5)
63	10 ... 50	0.35 (9)	0.55 x 0.41 (14.0 x 10.5 deep)	1/4*	0.45 (11.5)	3.29 (83.6)	1.04 (26.5)
80	10 ... 50	0.43 (11)	0.69 x 0.53 (17.5 x 13.5 deep)	3/8*	0.55 (14.0)	4.09 (104)	1.18 (30)
100	10 ... 50	0.43 (11)	0.69 x 0.53 (17.5 x 13.5 deep)	3/8*	0.71 (18)	4.80 (121.9)	1.18 (30)
125	10 ... 300	0.50 (12.7)	0.83 x 0.72 (21.2 x 18.4 deep)	3/8*	0.96 (24.5)	6.02 (153)	1.53 (39)
140	10 ... 300	0.50 (12.7)	0.83 x 0.72 (21.2 x 18.4 deep)	3/8*	0.96 (24.5)	6.61 (168)	1.53 (39)
160	10 ... 300	0.57 (14.5)	0.95 x 0.83 (24.2 x 21.2 deep)	3/8*	1.08 (27.5)	7.40 (188)	1.53 (39)

\* Port sizes: DM/99000/... = G (BSP parallel ports), DC/99000/... = NPT (NPT ports). Note: M5 x 0.8 port will accept #10-32 male thread fittings.  
Dimensions in inches (mm)

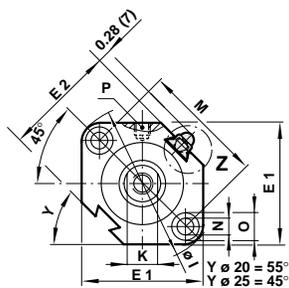
Actuators

Double ended piston rod – DM/99000/JX (Non-magnetic) & DM/99000/JMX (Magnetic)

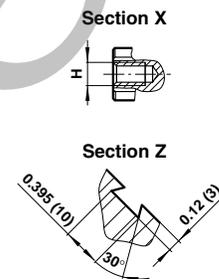
Ø 12 ... 16 mm



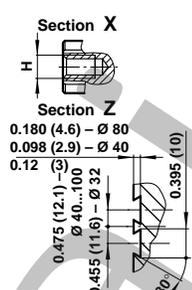
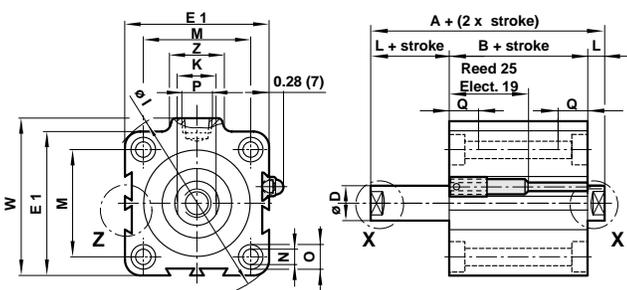
Ø 20 ... 25 mm



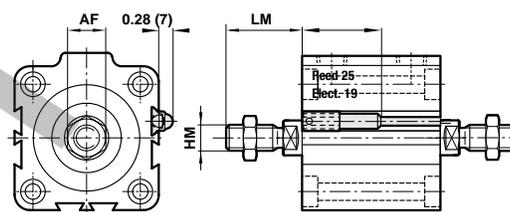
Ø 12 ... 25 mm



Ø 32 ... 160 mm



Cylinder with rod end male thread  
D\*/99000/JM Ø 12 ... 160 mm



Ø	Stroke range	A non-mag	A mag	AF	B non-mag	B mag	Ø D	E	E1	E2
12	5 ... 30	1.27 (32.2)	1.55 (39.4)	0.34 (8)	0.99 (25.2)	1.28 (32.4)	0.236 (6)	1.09 (27.7)	0.98 (25)	0.90 (23)
16	5 ... 30	1.30 (33.0)	1.69 (43.0)	0.34 (10)	1.02 (26.0)	1.42 (36.0)	0.315 (8)	1.25 (31.7)	1.14 (29)	1.07 (27.2)
20	5 ... 50	1.38 (35.0)	1.85 (47.0)	0.38 (13)	1.02 (26.0)	1.50 (38.0)	0.394 (10)	-	1.42 (36)	1.23 (31.2)
25	5 ... 50	1.54 (39.0)	1.93 (49.0)	0.43 (17)	1.14 (29.0)	1.54 (39)	0.472 (12)	-	1.57 (40)	1.45 (36.9)
32	5 ... 50	1.75 (44.5)	2.15 (54.5)	0.50 (22)	1.20 (30.5)	1.59 (40.5)	0.630 (16)	-	1.75 (44.5)	-
40	5 ... 50	2.13 (54.0)	2.52 (64.0)	0.56 (22)	1.57 (40.0)	1.97 (50.0)	0.630 (16)	-	2.05 (52)	-
50	10 ... 50	2.22 (56.5)	2.62 (66.5)	0.75 (27)	1.59 (40.5)	1.99 (50.5)	0.787 (20)	-	2.51 (63.7)	-
63	10 ... 50	2.28 (58.0)	2.68 (68.0)	0.75 (27)	1.65 (42.0)	2.05 (52.0)	0.787 (20)	-	3.02 (76.7)	-
80	10 ... 50	2.80 (71.0)	3.19 (81.0)	0.93 (32)	2.01 (2.38)	2.40 (61.0)	0.984 (25)	-	3.85 (97.8)	-
100	10 ... 50	3.33 (84.5)	3.72 (94.5)	1.13 (46)	2.38 (60.5)	2.78 (70.5)	1.181 (30)	-	4.54 (115.3)	-
125	10 ... 300	4.53 (115)	4.53 (115)	1.13 (46)	3.27 (83.0)	3.27 (83.0)	1.417 (36)	-	5.59 (142)	-
140	10 ... 300	4.53 (115)	4.53 (115)	1.13 (46)	3.27 (83.0)	3.27 (83.0)	1.417 (36)	-	6.22 (158)	-
160	10 ... 300	4.53 (125)	4.92 (125)	1.35 (55)	3.58 (91.0)	3.58 (91.0)	1.575 (40)	-	7.01 (178)	-

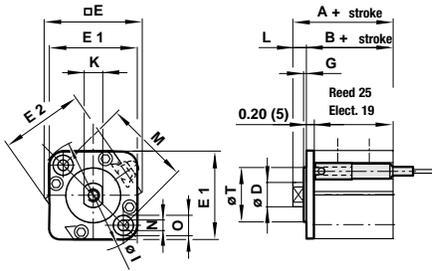
Ø	Stroke range	H	HM	Ø I	K	L	LM	M
12	5 ... 30	#8-32 x .21 (M3 x 0.5-5 deep)	#8-32 x 0.31 (M5 x 0.8-9 deep)	1.24 (31.5)	0.20 (5)	0.14 (3.5)	0.45 (14)	0.87 (22)
16	5 ... 30	#8-32 x .21 (M4 x 0.7-5 deep)	#8-32 x 0.31 (M6 x 1.0-10 deep)	1.46 (37.1)	0.24 (6)	0.14 (3.5)	0.45 (15.5)	1.10 (28)
20	5 ... 50	#10-32 x .28 (M5 x 0.8-7 deep)	#10-32 x 0.31 (M8 x 1.25-12 deep)	1.85 (47)	0.31 (8)	0.18 (4.5)	0.49 (18.5)	1.42 (36)
25	5 ... 50	1/4-28 x .39 (M6 x 1.0-10 deep)	1/4-28 x 0.37 (M10 x 1.25-15 deep)	2.02 (51.3)	0.39 (10)	0.20 (5)	0.57 (22.5)	1.57 (40)
32	5 ... 50	5/16-24 x .50 (M8 x 1.25-12 deep)	5/16-24 x 0.50 (M14 x 1.5-20.5 deep)	2.32 (58.9)	0.55 (14)	0.28 (7)	0.78 (28.5)	1.34 (34)
40	5 ... 50	3/8-24 x .50 (M8 x 1.25-12 deep)	3/8-24 x 0.63 (M14 x 1.5-20.5 deep)	2.72 (69)	0.55 (14)	0.28 (7)	0.91 (28.5)	1.57 (40)
50	10 ... 50	1/2-20 x .50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	3.34 (84.9)	0.67 (17)	0.31 (8)	1.08 (33.5)	1.97 (50)
63	10 ... 50	1/2-20 x .50 (M10 x 1.5-12 deep)	1/2-20 x .77 (M18 x 1.5-26 deep)	4.01 (101.8)	0.67 (17)	0.31 (8)	1.08 (33.5)	2.36 (60)
80	10 ... 50	5/8-18 x .88 (M16 x 2.0-22 deep)	5/8-18 x 1.00 (M22 x 1.5-32.5 deep)	5.11 (129.8)	0.87 (22)	0.39 (10)	1.40 (43.5)	3.03 (77)
100	10 ... 50	3/4-16 x .88 (M20 x 2.5-22 deep)	3/4-16 x 1.12 (M26 x 1.5-32.5 deep)	6.06 (153.9)	1.06 (27)	0.47 (12)	1.59 (43.5)	3.70 (94)
125	10 ... 300	3/4-16 x 1.06 (M22 x 2.5-27 deep)	3/4-16 x 1.12 (M30 x 1.5-42 deep)	7.48 (190)	1.26 (32)	0.63 (16)	1.75 (58)	4.49 (114)
140	10 ... 300	3/4-16 x 1.06 (M22 x 2.5-27 deep)	3/4-16 x 1.12 (M30 x 1.5-42 deep)	8.27 (210)	1.26 (32)	0.63 (16)	1.75 (58)	5.04 (128)
160	10 ... 300	3/4-16 x 1.06 (M24 x 3.0-27 deep)	3/4-16 x 1.12 (M36 x 1.5-47 deep)	9.37 (238)	1.42 (36)	0.67 (17)	1.79 (64)	5.67 (144)

Ø	Stroke range	Ø N	Ø O	P*	Q	W	Z
12	5 ... 30	0.14 (3.5)	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.28 (7.0)	-	-
16	5 ... 30	0.14 (3.5)	0.26 x 0.14 (6.5 x 3.5 deep)	M5 x 0.8	0.31 (7.8)	-	-
20	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.32 (8.1)	-	-
25	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	M5 x 0.8	0.33 (8.4)	-	-
32	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	1/8*	0.34 (8.7)	1.94 (49.3)	0.84 (21.4)
40	5 ... 50	0.22 (5.5)	0.35 x 0.28 (9.0 x 7.0 deep)	1/8*	0.36 (9.2)	2.24 (57.0)	0.84 (21.4)
50	10 ... 50	0.26 (6.6)	0.43 x 0.31 (11.0 x 8.0 deep)	1/4*	0.41 (10.5)	2.78 (70.6)	1.04 (26.5)
63	10 ... 50	0.35 (9)	0.55 x 0.41 (14.0 x 10.5 deep)	1/4*	0.45 (11.5)	3.29 (83.6)	1.04 (26.5)
80	10 ... 50	0.43 (11)	0.69 x 0.53 (17.5 x 13.5 deep)	3/8*	0.55 (14.0)	4.09 (104)	1.18 (30.0)
100	10 ... 50	0.43 (11)	0.69 x 0.53 (17.5 x 13.5 deep)	3/8*	0.71 (18.0)	4.80 (121.9)	1.18 (30.0)
125	10 ... 300	0.50 (12.7)	0.83 x 0.72 (21.2 x 18.4 deep)	3/8*	0.96 (24.5)	6.02 (153)	1.53 (39.0)
140	10 ... 300	0.50 (12.7)	0.83 x 0.72 (21.2 x 18.4 deep)	3/8*	0.96 (24.5)	6.61 (168)	1.53 (39.0)
160	10 ... 300	0.57 (14.5)	0.95 x 0.83 (24.2 x 21.2 deep)	3/8*	1.08 (27.5)	7.40 (188)	1.53 (39.0)

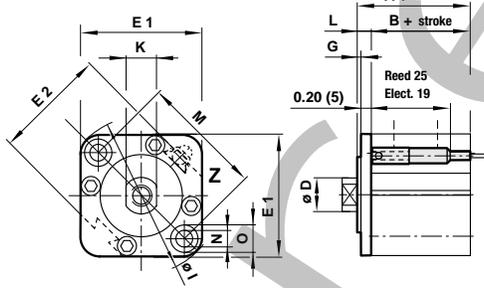
\* Port sizes: DM/99000/... = G (BSP parallel ports), DC/99000/... = NPT (NPT ports). Note: M5 x 0.8 port will accept #10-32 male thread fittings. Dimensions in inches (mm)

Cylinders with non-rotating piston rod – DM/99000/N1X (Non-magnetic), DM/99000/N2X (Magnetic)

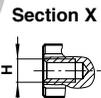
Ø 12 ... 16 mm



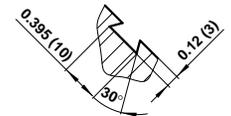
Ø 20 ... 25 mm



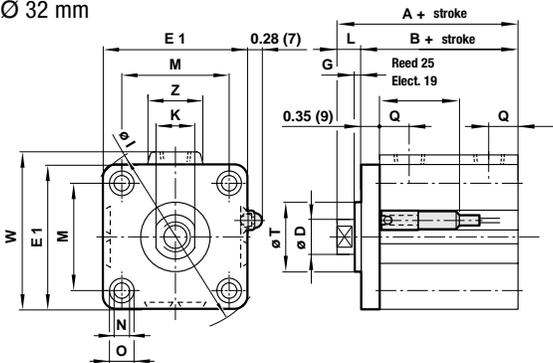
Ø 12 ... 25 mm



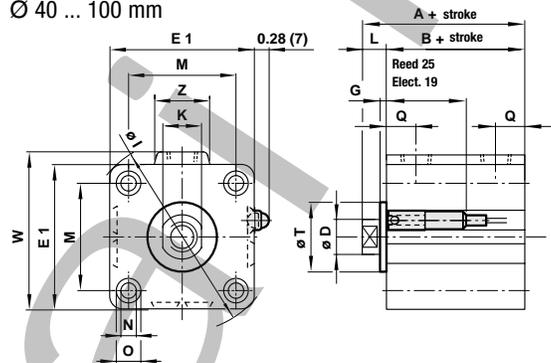
Section Z



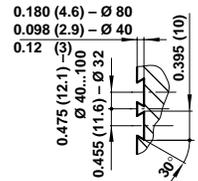
Ø 32 mm



Ø 40 ... 100 mm



Section Z



**WARNING:** This cylinder has a non-rotating rod. To prevent internal damage hold rod by flats ONLY WHEN FULLY RETRACTED while installing or removing attachments. DO NOT SCRATCH OR DENT SHAFT.

Ø	Stroke range	A non-mag	A mag	AF	B non-mag	B mag	Ø D	E	E1	E2	G
12	5 ... 30	1.00 (25.5)	1.44 (36.5)	0.34 (8)	0.87 (22.0)	1.30 (33.0)	0.236 (6)	1.09 (27.7)	0.98 (25)	0.90 (23)	0.059 (1.5)
16	5 ... 30	1.06 (27.0)	1.54 (39.0)	0.34 (10)	0.93 (23.5)	1.40 (35.5)	0.315 (8)	1.25 (31.7)	1.14 (29)	1.07 (27.2)	0.059 (1.5)
20	5 ... 50	1.26 (32.0)	1.73 (44.0)	0.38 (13)	1.08 (27.5)	1.56 (39.5)	0.394 (10)	-	1.42 (36)	1.23 (31.2)	0.079 (2.0)
25	5 ... 50	1.40 (35.5)	1.79 (45.5)	0.43 (17)	1.20 (30.5)	1.59 (40.5)	0.472 (12)	-	1.57 (40)	1.45 (36.9)	0.079 (2.0)
32	5.10 ... 50	1.54 (39.0)	1.93 (49.0)	0.50 (22)	1.26 (32.0)	1.65 (42.0)	0.630 (16)	-	1.75 (44.5)	-	0.079 (2.0)
40	5 ... 50	1.44 (36.5)	1.83 (46.5)	0.56 (22)	1.16 (29.5)	1.56 (39.5)	0.630 (16)	-	2.05 (52)	-	0.079 (2.0)
50	10 ... 50	1.52 (38.5)	1.91 (48.5)	0.75 (27)	1.20 (30.5)	1.59 (40.5)	0.787 (20)	-	2.51 (63.7)	-	0.079 (2.0)
63	10 ... 50	1.73 (44.0)	2.13 (54.0)	0.75 (27)	1.42 (36.5)	1.81 (46.0)	0.787 (20)	-	3.02 (76.7)	-	0.079 (2.0)
80	10 ... 50	2.11 (53.5)	2.50 (63.5)	0.93 (32)	1.71 (43.5)	2.11 (53.5)	0.984 (25)	-	3.85 (97.8)	-	0.079 (2.0)
100	10 ... 50	2.56 (65.0)	2.95 (75.0)	1.13 (46)	2.09 (53.0)	2.48 (63.0)	1.181 (30)	-	4.54 (115.3)	-	0.079 (2.0)

Ø	Stroke range	H	HM	Ø I	K	L	LM	M	Ø N
12	5 ... 30	#8-32 x 0.21 (M3 x 0.5-5 deep)	#8-32 x 0.31 (M5 x 0.8-9 deep)	1.24 (31.5)	0.20 (5.2)	0.14 (3.5)	0.45 (14)	0.87 (22)	0.14 (3.5)
16	5 ... 30	#8-32 x 0.21 (M4 x 0.7-5 deep)	#8-32 x 0.31 (M6 x 1.0-10 deep)	1.46 (37.1)	0.24 (6)	0.14 (3.5)	0.45 (15.5)	1.10 (28)	0.14 (3.5)
20	5 ... 50	#10-32 x 0.28 (M5 x 0.8-7 deep)	#10-32 x 0.31 (M8 x 1.25-12 deep)	1.85 (47)	0.31 (8)	0.18 (4.5)	0.49 (18.5)	1.42 (36)	0.22 (5.5)
25	5 ... 50	1/4-28 x 0.39 (M6 x 1.0-10 deep)	1/4-28 x 0.37 (M10 x 1.25-15 deep)	2.02 (51.3)	0.39 (10)	0.20 (5)	0.57 (22.5)	1.57 (40)	0.22 (5.5)
32	5.10 ... 50	5/16-24 x 0.50 (M8 x 1.25-12 deep)	5/16-24 x 0.50 (M14 x 1.5-20.5 deep)	2.32 (58.9)	0.55 (14)	0.28 (7)	0.78 (28.5)	1.34 (34)	0.22 (5.5)
40	5 ... 50	3/8-24 x 0.50 (M8 x 1.25-12 deep)	3/8-24 x 0.63 (M14 x 1.5-20.5 deep)	2.72 (69)	0.55 (14)	0.28 (7)	0.91 (28.5)	1.57 (40)	0.22 (5.5)
50	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	3.34 (84.9)	0.71 (18)	0.31 (8)	1.08 (33.5)	1.97 (50)	0.26 (6.6)
63	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	4.01 (101.8)	0.71 (18)	0.31 (8)	1.08 (33.5)	2.36 (60)	0.35 (9)
80	10 ... 50	5/8-18 x 0.88 (M16 x 2.0-22 deep)	5/8-18 x 1.00 (M22 x 1.5-32.5 deep)	5.11 (129.8)	0.87 (22)	0.39 (10)	1.40 (43.5)	3.03 (77)	0.43 (11)
100	10 ... 50	3/4-16 x 0.88 (M20 x 2.5-22 deep)	3/4-16 x 1.12 (M26 x 1.5-32.5 deep)	6.06 (153.9)	1.06 (27)	0.47 (12)	1.59 (43.5)	3.7 (94)	0.43 (11)

Ø	Stroke range	Ø 0	P*	Q	Ø T	W	Z
12	5 ... 30	0.26 x 0.14 (6.5 x 3.5)	M5 x 0.8	0.28 (7.0)	0.591 ±0.002 (15 ±0.043)	-	-
16	5 ... 30	0.26 x 0.14 (6.5 x 3.5)	M5 x 0.8	0.31 (7.8)	0.787 ±0.002 (20 ±0.052)	-	-
20	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.32 (8.1)	0.512 ±0.002 (13 ±0.043)	-	-
25	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.33 (8.4)	0.591 ±0.002 (15 ±0.043)	-	-
32	5.10 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.34 (8.7)	0.827 ±0.002 (21 ±0.062)	1.94 (49.3)	0.84 (21.4)
40	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	1/8*	0.36 (9.2)	1.102 ±0.002 (28 ±0.062)	2.24 (57.0)	0.84 (21.4)
50	10 ... 50	0.43 x 0.31 (11.0 x 8.0)	1/4*	0.41 (10.5)	1.378 ±0.002 (35 ±0.062)	2.78 (70.6)	1.04 (26.5)
63	10 ... 50	0.55 x 0.41 (14.0 x 10.5)	1/4*	0.45 (11.5)	1.378 ±0.002 (35 ±0.062)	3.29 (83.6)	1.04 (26.5)
80	10 ... 50	0.69 x 0.53 (17.5 x 13.5)	3/8*	0.55 (14.0)	1.693 ±0.002 (43 ±0.062)	4.09 (104)	1.18 (30.0)
100	10 ... 50	0.69 x 0.53 (17.5 x 13.5)	3/8*	0.71 (18.0)	2.323 ±0.003 (59 ±0.074)	4.8 (121.9)	1.18 (30.0)

Dimensions in inches (mm)

\* Port sizes: DM/99000/... = G (BSP parallel ports), DC/99000/... = NPT (NPT ports). Note: M5 x 0.8 port will accept #10-32 male thread fittings.

### Non-rotation accuracy

Deflection of the mounting plate B (°) at instroke position without load

Ø	12	16	20	25	32	40	50	63	80	100
	±2°	±1°	±1°	±1°	±0.8°	±0.8°	±0.8°	±0.8°	±0.8°	±0.8°

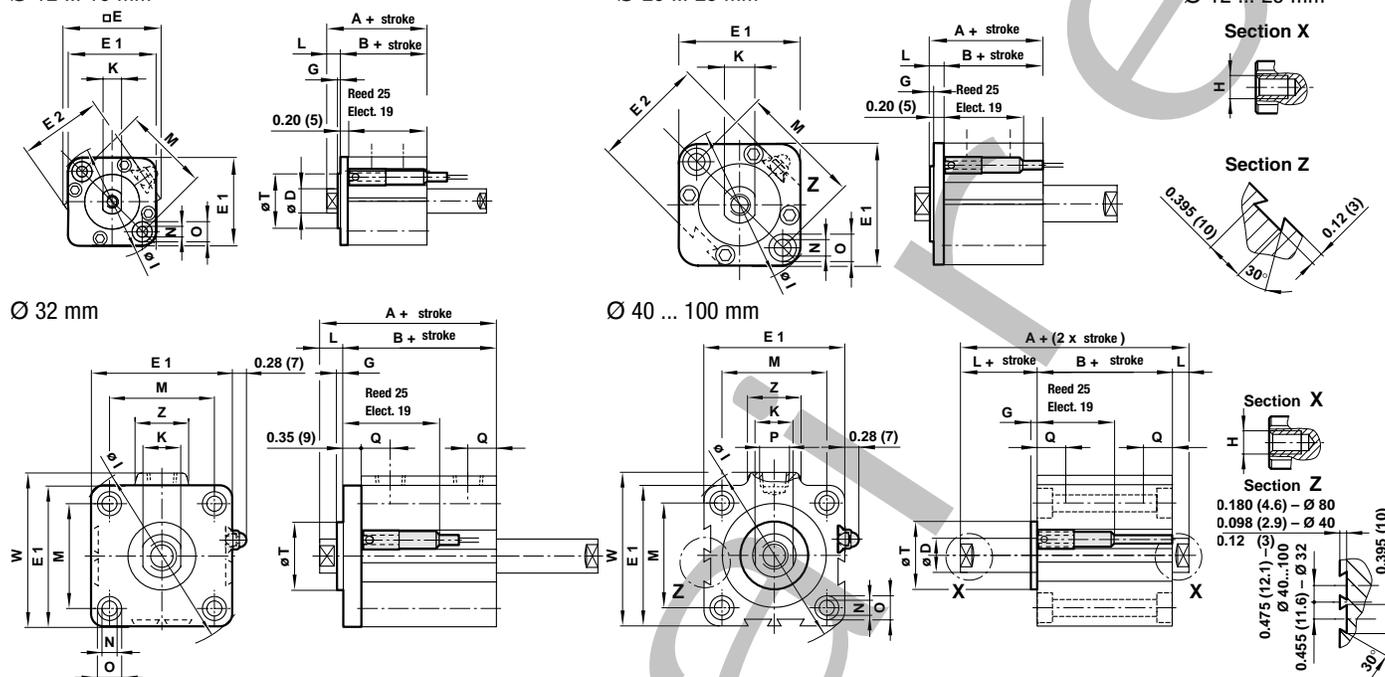
Actuators

Cylinders with non-rotating piston rod – DM/99000/N5X (Non-magnetic) & DM/99000/N6X (Magnetic)

Ø 12 ... 16 mm

Ø 20 ... 25 mm

Ø 12 ... 25 mm



**WARNING:** This cylinder has a non-rotating rod. To prevent internal damage hold rod by flats ONLY WHEN FULLY RETRACTED while installing or removing attachments. DO NOT SCRATCH OR DENT SHAFT.

Ø	Stroke range	A non-mag	A mag	AF	B non-mag	B mag	Ø D	E	E1	E2	G
12	5 ... 30	1.46 (37.2)	1.75 (44.4)	0.34 (8)	1.19 (30.2)	1.47 (37.4)	0.236 (6)	1.09 (27.7)	0.98 (25)	0.90 (23)	0.059 (1.5)
16	5 ... 30	1.50 (38.0)	1.89 (48.0)	0.34 (10)	1.22 (31.0)	1.61 (41.0)	0.315 (8)	1.25 (31.7)	1.14 (29)	1.07 (27.2)	0.059 (1.5)
20	5 ... 50	1.69 (43.0)	2.17 (55.0)	0.38 (13)	1.34 (34.0)	1.81 (46.0)	0.394 (10)	- (-)	1.42 (36)	1.23 (31.2)	0.079 (2.0)
25	5 ... 50	1.85 (47.0)	2.24 (57.0)	0.43 (17)	1.46 (37.0)	1.85 (47.0)	0.472 (12)	- (-)	1.57 (40)	1.45 (36.9)	0.079 (2.0)
32	5.10 ... 50	2.11 (53.5)	2.50 (63.5)	0.50 (22)	1.56 (39.5)	1.95 (49.5)	0.630 (16)	- (-)	1.75 (44.5)	- (-)	0.079 (2.0)
40	5 ... 50	2.13 (54.0)	2.52 (64.0)	0.56 (22)	1.57 (40.0)	1.97 (50.0)	0.630 (16)	- (-)	2.05 (52)	- (-)	0.079 (2.0)
50	10 ... 50	2.22 (56.5)	2.62 (66.5)	0.75 (27)	1.59 (40.5)	1.99 (50.5)	0.787 (20)	- (-)	2.51 (63.7)	- (-)	0.079 (2.0)
63	10 ... 50	2.28 (58.0)	2.68 (68.0)	0.75 (27)	1.65 (42.0)	2.05 (52.0)	0.787 (20)	- (-)	3.02 (76.7)	- (-)	0.079 (2.0)
80	10 ... 50	2.80 (71.0)	3.19 (81.0)	0.93 (32)	2.01 (51.0)	2.40 (61.0)	0.984 (25)	- (-)	3.85 (97.8)	- (-)	0.079 (2.0)
100	10 ... 50	3.33 (84.5)	3.72 (94.5)	1.13 (46)	60.5 (2.38)	2.78 (70.5)	1.181 (30)	- (-)	4.54 (115.3)	- (-)	0.079 (2.0)

Ø	Stroke range	H	HM	Ø I	K	L	LM	M	Ø N
12	5 ... 30	#8-32 x 0.21 (M3 x 0.5-5 deep)	#8-32 x 0.31 (M5 x 0.8-9 deep)	1.24 (31.5)	0.20 (5.2)	0.14 (3.5)	0.45 (14)	0.87 (22)	0.14 (3.5)
16	5 ... 30	#8-32 x 0.21 (M4 x 0.7-5 deep)	#8-32 x 0.31 (M6 x 1.0-10 deep)	1.46 (37.1)	0.24 (6)	0.14 (3.5)	0.45 (15.5)	1.10 (28)	0.14 (3.5)
20	5 ... 50	#10-32 x 0.28 (M5 x 0.8-7 deep)	#10-32 x 0.31 (M8 x 1.25-12 deep)	1.85 (47)	0.31 (8)	0.18 (4.5)	0.49 (18.5)	1.42 (36)	0.22 (5.5)
25	5 ... 50	1/4-28 x 0.39 (M6 x 1.0-10 deep)	1/4-28 x 0.37 (M10 x 1.25-15 deep)	2.02 (51.3)	0.39 (10)	0.20 (5)	0.57 (22.5)	1.57 (40)	0.22 (5.5)
32	5.10 ... 50	5/16-24 x 0.50 (M8 x 1.25-12 deep)	5/16-24 x 0.50 (M14 x 1.5-20.5 deep)	2.32 (58.9)	0.55 (14)	0.28 (7)	0.78 (28.5)	1.34 (34)	0.22 (5.5)
40	5 ... 50	3/8-24 x 0.50 (M8 x 1.25-12 deep)	3/8-24 x 0.63 (M14 x 1.5-20.5 deep)	2.72 (69)	0.55 (14)	0.28 (7)	0.91 (28.5)	1.57 (40)	0.22 (5.5)
50	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x 0.77 (M18 x 1.5-26 deep)	3.34 (84.9)	0.71 (18)	0.31 (8)	1.08 (33.5)	1.97 (50)	0.26 (6.6)
63	10 ... 50	1/2-20 x 0.50 (M10 x 1.5-12 deep)	1/2-20 x .77 (M18 x 1.5-26 deep)	4.01 (101.8)	0.71 (18)	0.31 (8)	1.08 (33.5)	2.36 (60)	0.35 (9)
80	10 ... 50	5/8-18 x 0.88 (M16 x 2.0-22 deep)	5/8-18 x 1.00 (M22 x 1.5-32.5 deep)	5.11 (129.8)	0.87 (22)	0.39 (10)	1.40 (43.5)	3.03 (77)	0.43 (11)
100	10 ... 50	3/4-16 x 0.88 (M20 x 2.5-22 deep)	3/4-16 x 1.12 (M26 x 1.5-32.5 deep)	6.06 (153.9)	1.06 (27)	0.47 (12)	1.59 (43.5)	3.7 (94)	0.43 (11)

Ø	Stroke range	Ø O	P*	Q	Ø T	W	Z
12	5 ... 30	0.26 x 0.14 (6.5 x 3.5)	M5 x 0.8	0.28 (7.0)	0.591 ±0.002 (15 ±0.043)	- (-)	- (-)
16	5 ... 30	0.26 x 0.14 (6.5 x 3.5)	M5 x 0.8	0.31 (7.8)	0.787 ±0.002 (20 ±0.052)	- (-)	- (-)
20	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.32 (8.1)	0.512 ±0.002 (13 ±0.043)	- (-)	- (-)
25	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.33 (8.4)	0.591 ±0.002 (15 ±0.043)	- (-)	- (-)
32	5.10 ... 50	0.35 x 0.28 (9.0 x 7.0)	M5 x 0.8	0.34 (8.7)	0.827 ±0.002 (21 ±0.062)	1.94 (49.3)	0.84 (21.4)
40	5 ... 50	0.35 x 0.28 (9.0 x 7.0)	1/8*	0.36 (9.2)	1.102 ±0.002 (28 ±0.062)	2.24 (57.0)	0.84 (21.4)
50	10 ... 50	0.43 x 0.31 (11.0 x 8.0)	1/4*	0.41 (10.5)	1.378 ±0.002 (35 ±0.062)	2.78 (70.6)	1.04 (26.5)
63	10 ... 50	0.55 x 0.41 (14.0 x 10.5)	1/4*	0.45 (11.5)	1.378 ±0.002 (35 ±0.062)	3.29 (83.6)	1.04 (26.5)
80	10 ... 50	0.69 x 0.53 (17.5 x 13.5)	3/8*	0.55 (14.0)	1.693 ±0.002 (43 ±0.062)	4.09 (104)	1.18 (30.0)
100	10 ... 50	0.69 x 0.53 (17.5 x 13.5)	3/8*	0.71 (18.0)	2.323 ±0.003 (59 ±0.074)	4.8 (121.9)	1.18 (30.0)

Dimensions in inches (mm) \* Port sizes: DM/99000/... = G (BSP parallel ports), DC/99000/... = NPT (NPT ports). Note: M5 x 0.8 port will accept #10-32 male thread fittings.

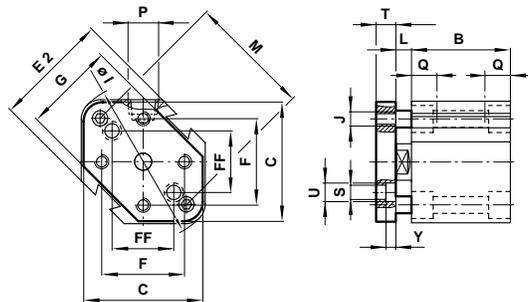
Non-rotation accuracy

Deflection of the mounting plate B (°) at instroke position without load

Ø	12	16	20	25	32	40	50	63	80	100
	±2°	±1°	±1°	±1°	±0.8°	±0.8°	±0.8°	±0.8°	±0.8°	±0.8°

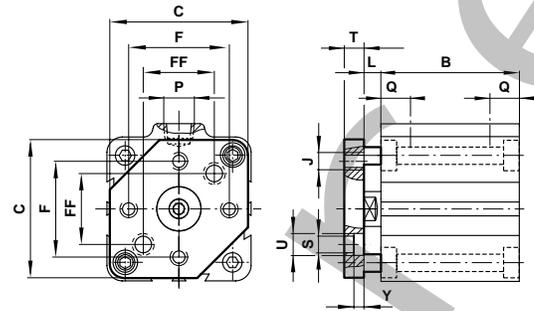
Guided toolplate – DM/99000/N3 (Non-magnetic)

Ø 12 ... 25 mm



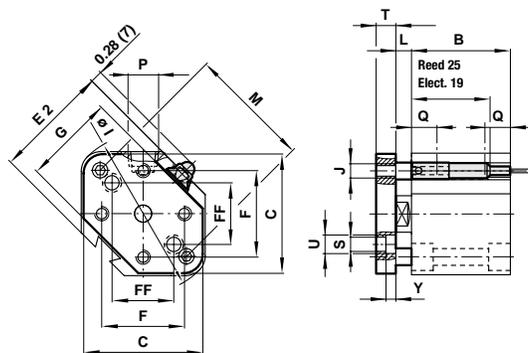
Compact interchangeable cylinders

Ø 32 ... 160 mm

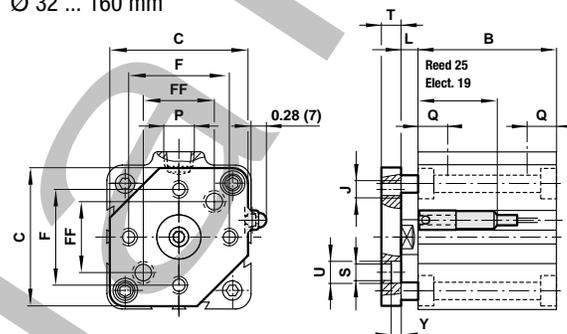


Guided toolplate – DM/99000/N4 (Magnetic)

Ø 12 ... 25 mm



Ø 32 ... 160 mm



Ø	Stroke range	C	E1	E2	F	FF	G	Ø I	J	L	M
12	5 ... 100	0.94 (24)	0.98 (25)	0.90 (23)	0.63 (16)	—	0.82 (20.8)	1.24 (31.5)	6-32	(M3 x 0.5)	0.14 (3.5) 0.87 (22)
16	5 ... 100	1.10 (28)	1.14 (29)	1.07 (27.2)	0.81 (20)	0.44 (11)	0.98 (25)	1.46 (37.1)	6-32	(M4 x 0.7)	0.14 (3.5) 1.10 (28)
20	5 ... 100	1.38 (35)	1.42 (36)	1.23 (31.2)	1.06 (27)	0.57 (14.5)	1.00 (25.4)	1.85 (47)	8-32	(M6 x 1.0)	0.18 (4.5) 1.42 (36)
25	5 ... 100	1.54 (40)	1.57 (40)	1.45 (36.9)	1.13 (28.5)	0.66 (16.6)	1.18 (30)	2.02 (51.3)	8-32	(M6 x 1.0)	0.20 (5) 1.57 (40)
32	5 ... 150	1.71 (43.4)	1.75 (44.5)	—	1.19 (30)	0.84 (21.2)	1.44 (36.7)	2.32 (58.9)	10-24	(M5 x 0.8)	0.28 (7) 1.34 (34)
40	5 ... 150	2.00 (50.5)	2.05 (52)	—	1.38 (35)	0.97 (24.7)	1.78 (45.1)	2.72 (69)	1/4-20	(M6 x 1.0)	0.28 (7) 1.57 (40)
50	5 ... 150	2.47 (62.7)	2.51 (63.7)	—	1.75 (45.5)	1.24 (32.2)	2.25 (57.1)	3.34 (84.9)	5/16-18	(M8 x 1.25)	0.31 (8) 1.97 (50)
63	5 ... 150	2.98 (75.7)	3.02 (76.7)	—	2.00 (50.5)	1.41 (35.7)	2.69 (68.3)	4.01 (101.8)	7/16-14	(M10 x 1.5)	0.31 (8) 2.36 (60)
80	5 ... 150	3.81 (96.9)	3.85 (97.8)	—	2.75 (70)	1.95 (49.5)	3.50 (88.9)	5.11 (129.8)	1/2-13	(M12 x 1.75)	0.39 (10) 3.03 (77)
100	5 ... 150	4.50 (114.4)	4.54 (115.3)	—	3.25 (82.5)	2.30 (58.3)	4.45 (112.9)	6.06 (153.9)	1/2-13	(M12 x 1.75)	0.47 (12) 3.70 (94)
125	5 ... 300	5.55 (141)	5.59 (142)	—	3.74 (95)	2.65 (67.2)	5.30 (134.7)	7.48 (190)	*	(M14 x 2.0)	0.63 (16) 4.49 (114)
140	5 ... 300	6.18 (157)	6.22 (158)	—	4.00 (101.5)	2.83 (71.8)	6.08 (154.5)	8.27 (210)	*	(M14 x 2.0)	0.63 (16) 5.04 (128)
160	5 ... 300	6.91 (175.5)	7.01 (178)	—	4.74 (120.5)	3.35 (85.2)	6.85 (174.1)	9.37 (238)	*	(M16 x 2.0)	0.67 (17) 5.67 (144)

Ø	Stroke range	N	O	P	Q	S	T	U	W	Y	Z
12	5 ... 100	—	(—)	—	(—)	M5 x 0.8	0.28 (7)	—	(—)	0.24 (6.1)	—
16	5 ... 100	—	(—)	0.26 x 14	(6.5 x 3.5 deep)	M5 x 0.8	0.31 (7.8)	0.14 (3.3)	0.24 (6.1)	—	—
20	5 ... 100	—	(—)	0.35 x 0.28	(9.0 x 7.0 deep)	M5 x 0.8	0.32 (8.1)	0.17 (4.2)	0.27 (6.9)	0.28 (7)	—
25	5 ... 100	—	(—)	0.35 x 0.28	(9.0 x 7.0 deep)	M5 x 0.8	0.33 (8.4)	0.17 (4.2)	0.33 (8.3)	—	—
32	5 ... 150	0.22 (5.5)	0.35 x 0.28	(9.0 x 7.0 deep)	1/8*‡	0.34 (8.7)	0.20 (5.2)	0.33 (8.3)	—	1.94 (49.3)	—
40	5 ... 150	0.22 (5.5)	0.35 x 0.28	(9.0 x 7.0 deep)	1/8*	0.36 (9.2)	0.26 (6.1)	0.33 (8.3)	—	2.24 (57)	—
50	5 ... 150	0.26 (6.6)	0.43 x 0.31	(11.0 x 8.0 deep)	1/4*	0.41 (10.5)	0.33 (8.2)	0.48 (12.1)	0.49 (13.5)	2.78 (70.6)	0.10 (2.5) 1.04 (26.5)
63	5 ... 150	0.35 (9)	0.55 x 0.41	(14.0 x 10.5 deep)	1/4*	0.45 (11.5)	0.45 (11.5)	0.49 (12.5)	0.68 (16.5)	3.29 (83.6)	0.18 (3.3) 1.04 (26.5)
80	5 ... 150	0.43 (11)	0.69 x 0.53	(17.5 x 13.5 deep)	3/8*	0.55 (14)	0.52 (12.3)	0.55 (14)	0.77 (18.5)	4.09 (104)	0.18 (3.8) 1.18 (30)
100	5 ... 150	0.43 (11)	0.69 x 0.53	(17.5 x 13.5 deep)	3/8*	0.71 (18)	0.52 (12.3)	0.55 (14)	0.77 (18.5)	4.80 (121.9)	0.13 (3.2) 1.18 (30)
125	5 ... 300	0.50 (12.7)	0.83 x 0.72	(21.2 x 18.4 deep)	3/8*	0.96 (24.5)	*	(14.3)	0.83 (21)	—	6.02 (153) —
140	5 ... 300	0.50 (12.7)	0.83 x 0.72	(21.2 x 18.4 deep)	3/8*	0.96 (24.5)	*	(14.3)	0.83 (21)	—	6.61 (168) —
160	5 ... 300	0.57 (14.5)	0.95 x 0.83	(24.2 x 21.2 deep)	3/8*	1.08 (27.5)	*	(16.7)	0.83 (21)	—	7.40 (188) —

\* Port sizes: DM/99000/... = G (BSP parallel ports), DC/99000/... = NPT (NPT ports). Note: M5 x 0.8 port will accept #10-32 male thread fittings.

‡ Note: On 32 bore, 5 mm stroke, non-magnetic model only, port thread is M5 x 0.8 which will accept #10-32 male thread fittings.

Please see next page for 'B' and 'Q' dimensions.

Dimensions in inches (mm)

## Actuators

Ø Q	Stroke (mm)						
	5 ... 45	5 ... 100	50	75	100	125, 150	175 ... 300
12	0.28 (7)	- (-)	0.35 (9)	0.35 (9)	0.35 (9)	- (-)	- (-)
16	0.31 (8)	- (-)	0.40 (10)	0.40 (10)	0.40 (10)	- (-)	- (-)
20	0.32 (8)	- (-)	0.32 (8)	0.48 (12)	0.48 (12)	- (-)	- (-)
25	0.33 (8.5)	- (-)	0.33 (8.5)	0.50 (12.5)	0.50 (12.5)	- (-)	- (-)
32	- (-)	0.34 (9)	- (-)	- (-)	- (-)	0.50 (12.5)	- (-)
40	- (-)	0.36 (9)	- (-)	- (-)	- (-)	0.50 (12.5)	- (-)
50	- (-)	0.41 (10.5)	- (-)	- (-)	- (-)	0.52 (13)	- (-)
63	- (-)	0.45 (11.5)	- (-)	- (-)	- (-)	0.73 (18.5)	- (-)
80	- (-)	0.55 (14)	- (-)	- (-)	- (-)	0.55 (14)	- (-)
100	- (-)	0.71 (18)	- (-)	- (-)	- (-)	0.71 (18)	- (-)
125	- (-)	0.96 (24.5)	- (-)	- (-)	- (-)	0.96 (24.5)	0.96 (24.5)
140	- (-)	0.96 (24.5)	- (-)	- (-)	- (-)	0.96 (24.5)	0.96 (24.5)
160	- (-)	1.08 (27.5)	- (-)	- (-)	- (-)	1.08 (27.5)	1.08 (27.5)

### Non-magnetic piston

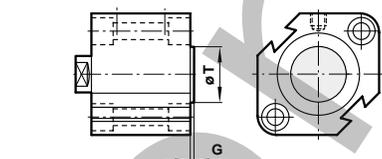
Ø B	Stroke (mm)														
	5	10	15	20	25	30	35	40	45	50	75	100	125	150	
12	1.30 (33)	1.50 (38)	1.69 (43)	1.89 (48)	2.07 (53)	2.28 (58)	- (-)	- (-)	- (-)	3.30 (84)	4.28 (109)	5.27 (134)	- (-)	- (-)	
16	1.40 (35.5)	1.59 (40.5)	1.79 (45.5)	1.99 (50.5)	2.19 (55.5)	2.38 (60.5)	- (-)	- (-)	- (-)	3.39 (86)	4.38 (111)	5.36 (136)	- (-)	- (-)	
20	1.44 (36.5)	1.63 (41.5)	1.83 (46.5)	2.03 (51.5)	2.22 (56.5)	2.42 (61.5)	- (-)	- (-)	- (-)	3.21 (81.5)	4.59 (116.5)	5.57 (141.5)	- (-)	- (-)	
25	1.48 (37.5)	1.67 (42.5)	1.87 (47.5)	2.07 (52.5)	2.26 (57.5)	2.46 (62.5)	- (-)	- (-)	- (-)	3.25 (82.5)	4.82 (122.5)	5.81 (147.5)	- (-)	- (-)	
32	1.10 (28)	1.30 (33)	1.50 (38)	1.69 (43)	1.89 (48)	2.09 (53)	2.28 (58)	2.48 (63)	2.68 (68)	2.87 (73)	4.25 (108)	5.24 (133)	6.80 (173)	7.79 (198)	
40	1.36 (34.5)	1.56 (39.5)	1.75 (44.5)	1.95 (49.5)	2.15 (54.5)	2.34 (59.5)	2.54 (64.5)	2.74 (69.5)	2.93 (74.5)	3.13 (79.5)	4.51 (114.5)	5.49 (139.5)	7.11 (180.5)	8.09 (205.5)	
50	-	1.59 (40.5)	1.79 (45.5)	1.99 (50.5)	2.19 (55.5)	2.38 (60.5)	2.58 (65.5)	2.78 (70.5)	2.97 (75.5)	3.17 (80.5)	4.55 (115.5)	5.53 (140.5)	7.26 (184.5)	8.24 (209.5)	
63	-	1.81 (46)	2.01 (51)	2.20 (56)	2.40 (61)	2.60 (66)	2.80 (71)	2.99 (76)	3.19 (81)	3.39 (86)	4.76 (121)	5.75 (146)	7.46 (189.5)	8.49 (214.5)	
80	-	2.11 (53.5)	2.30 (58.5)	2.50 (63.5)	2.70 (68.5)	2.89 (73.5)	3.09 (78.5)	3.29 (83.5)	3.48 (88.5)	3.68 (93.5)	5.06 (128.5)	6.04 (153.5)	7.66 (194.5)	8.64 (219.5)	
100	-	2.48 (63)	2.68 (68)	2.87 (73)	3.07 (78)	3.27 (83)	3.46 (88)	3.66 (93)	3.86 (98)	4.06 (103)	5.43 (138)	6.42 (163)	7.94 (202)	8.93 (227)	
125	-	3.66 (93)	-	4.06 (103)	-	4.45 (113)	-	4.84 (123)	-	5.24 (133)	6.22 (158)	7.20 (183)	8.19 (208)	9.17 (233)	
140	-	3.66 (93)	-	4.06 (103)	-	4.45 (113)	-	4.84 (123)	-	5.24 (133)	6.22 (158)	7.20 (183)	8.19 (208)	9.17 (233)	
160	-	3.98 (101)	-	4.37 (111)	-	4.76 (121)	-	5.16 (131)	-	5.55 (141)	6.54 (166)	7.52 (191)	8.50 (216)	9.49 (241)	

### Magnetic piston

Ø B	Stroke (mm)														
	5	10	15	20	25	30	35	40	45	50	75	100	125	150	
12	1.30 (33)	1.50 (38)	1.69 (43)	1.89 (48)	2.07 (53)	2.28 (58)	- (-)	- (-)	- (-)	3.30 (84)	4.28 (109)	5.27 (134)	- (-)	- (-)	
16	1.40 (35.5)	1.59 (40.5)	1.79 (45.5)	1.99 (50.5)	2.19 (55.5)	2.38 (60.5)	- (-)	- (-)	- (-)	3.39 (86)	4.38 (111)	5.36 (136)	- (-)	- (-)	
20	1.44 (36.5)	1.63 (41.5)	1.83 (46.5)	2.03 (51.5)	2.22 (56.5)	2.42 (61.5)	- (-)	- (-)	- (-)	3.21 (81.5)	4.59 (116.5)	5.57 (141.5)	- (-)	- (-)	
25	1.48 (37.5)	1.67 (42.5)	1.87 (47.5)	2.07 (52.5)	2.26 (57.5)	2.46 (62.5)	- (-)	- (-)	- (-)	3.25 (82.5)	4.82 (122.5)	5.81 (147.5)	- (-)	- (-)	
32	1.50 (38)	1.69 (43)	1.89 (48)	2.09 (53)	2.28 (58)	2.48 (63)	2.68 (68)	2.87 (73)	3.07 (78)	3.27 (83)	4.25 (108)	5.24 (133)	6.80 (173)	7.79 (198)	
40	1.75 (44.5)	1.95 (49.5)	2.15 (54.5)	2.34 (59.5)	2.54 (64.5)	2.74 (69.5)	2.93 (74.5)	3.13 (79.5)	3.33 (84.5)	3.52 (89.5)	4.51 (114.5)	5.49 (139.5)	7.11 (180.5)	8.09 (205.5)	
50	- (-)	1.99 (50.5)	2.19 (55.5)	2.38 (60.5)	2.58 (65.5)	2.78 (70.5)	2.97 (75.5)	3.17 (80.5)	3.37 (85.5)	3.56 (90.5)	4.55 (115.5)	5.53 (140.5)	7.26 (184.5)	8.24 (209.5)	
63	- (-)	2.20 (56)	2.40 (61)	2.60 (66)	2.80 (71)	2.99 (76)	3.19 (81)	3.39 (86)	3.58 (91)	3.78 (96)	4.76 (121)	5.75 (146)	7.46 (189.5)	8.49 (214.5)	
80	- (-)	2.50 (63.5)	2.70 (68.5)	2.89 (73.5)	3.09 (78.5)	3.29 (83.5)	3.48 (88.5)	3.68 (93.5)	3.88 (98.5)	4.07 (103.5)	5.06 (128.5)	6.04 (153.5)	7.66 (194.5)	8.64 (219.5)	
100	- (-)	2.87 (73)	3.07 (78)	3.27 (83)	3.46 (88)	3.66 (93)	3.86 (98)	4.06 (103)	4.25 (108)	4.45 (113)	5.43 (138)	6.42 (163)	7.94 (202)	8.93 (227)	
125	- (-)	3.66 (93)	- (-)	4.06 (103)	- (-)	4.45 (113)	- (-)	4.84 (123)	-	5.24 (133)	6.22 (158)	7.20 (183)	8.19 (208)	9.17 (233)	
140	- (-)	3.66 (93)	- (-)	4.06 (103)	- (-)	4.45 (113)	- (-)	4.84 (123)	-	5.24 (133)	6.22 (158)	7.20 (183)	8.19 (208)	9.17 (233)	
160	- (-)	3.98 (101)	- (-)	4.37 (111)	- (-)	4.76 (121)	- (-)	5.16 (131)	-	5.55 (141)	6.54 (166)	7.52 (191)	8.50 (216)	9.49 (241)	

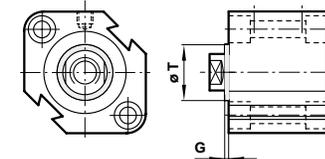
#### Boss, cap end – DM/99000/FX

Ø 12 ... 25 mm

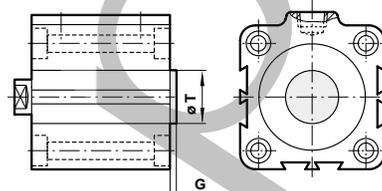


#### Boss, rod end – DM/99000/FX

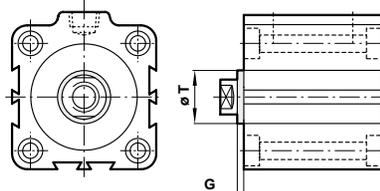
Ø 12 ... 25 mm



Ø 32 ... 160 mm



Ø 32 ... 160 mm



Dimensions in inches (mm)

Ø	Ø T	G
12	0.591 ±0.002 (15 ±0.043)	0.059 (1.5)
16	0.787 ±0.002 (20 ±0.052)	0.059 (1.5)
20	0.512 ±0.002 (13 ±0.043)	0.079 (2.0)
25	0.591 ±0.002 (15 ±0.043)	0.079 (2.0)
32	0.827 ±0.002 (21 ±0.062)	0.079 (2.0)
40	1.102 ±0.002 (28 ±0.062)	0.079 (2.0)
50	1.378 ±0.002 (35 ±0.062)	0.079 (2.0)
63	1.378 ±0.002 (35 ±0.062)	0.079 (2.0)
80	1.693 ±0.002 (43 ±0.062)	0.079 (2.0)
100	2.323 ±0.003 (59 ±0.074)	0.079 (2.0)

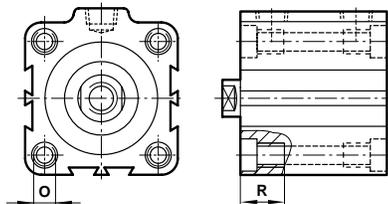
# ACT-88

# Compact interchangeable cylinders

## Mountings

Tapped hole mounting both ends – A

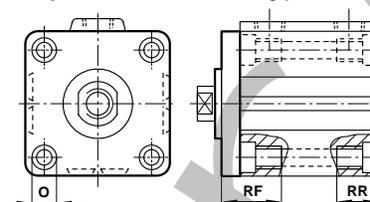
For single and double ended piston rod



Ø	O	R		
12	#8-32	(M4 x 0.7)	0.43	(11)
16	#8-32	(M4 x 0.7)	0.43	(11)
16	1/4-20	(M6 x 1.0)	0.67	(17)
25	1/4-20	(M6 x 1.0)	0.67	(17)
32	1/4-20	(M6 x 1.0)	0.67	(17)
40	1/4-20	(M6 x 1.0)	0.75	(19)
50	5/16-18	(M8 x 1.25)	0.75	(19)
63	7/16-14	(M10 x 1.5)	0.87	(22)
80	1/2-13	(M12 x 1.75)	1.13	(29)
100	1/2-13	(M12 x 1.75)	1.13	(29)
125	–	(M14 x 2.0)	–	(45)
140	–	(M14 x 2.0)	–	(45)
160	–	(M16 x 2.0)	–	(50)

Note: Inch threads for 'C' port code.  
Metric threads for 'M' port codes.  
Metric for foot, flange, or clevis mount.

For cylinders with non-rotating piston rod

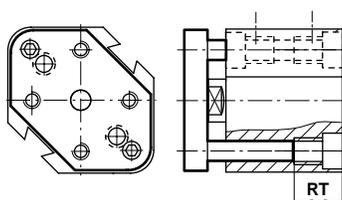


Ø	O		Places front	RF	Places rear	RR
12	#8-32	(M4 x 0.7)	2	0.63 (16)	2	0.43 (11)
16	#8-32	(M4 x 0.7)	2	0.63 (16)	2	0.43 (11)
16	1/4-20	(M6 x 1.0)	2	0.98 (25)	2	0.67 (17)
25	1/4-20	(M6 x 1.0)	2	0.98 (25)	2	0.67 (17)
32	1/4-20	(M6 x 1.0)	2	1.02 (26)	4	0.67 (17)
40	1/4-20	(M6 x 1.0)	4	0.75 (19)	4	0.75 (19)
50	5/16-18	(M8 x 1.25)	4	0.75 (19)	4	0.75 (19)
63	7/16-14	(M10 x 1.5)	4	0.87 (22)	4	0.87 (22)
80	1/2-13	(M12 x 1.75)	4	1.13 (29)	4	1.13 (29)
100	1/2-13	(M12 x 1.75)	4	1.13 (29)	4	1.13 (29)

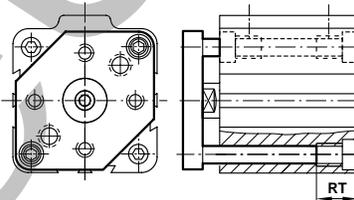
Note: Inch threads for 'C' port code.  
Metric threads for 'M' port codes.  
Metric for foot, flange, or clevis mount.

For cylinders with toolplate

Ø 12 .... 25 mm



Ø 32 .... 100 mm



Ø	OT	RT	
12	#8-32	(M4 x 0.7)	0.38 (9.7)
16	#8-32	(M4 x 0.7)	0.51 (13)
20	1/4-20	(M6 x 1.0)	0.53 (13.5)
25	1/4-20	(M6 x 1.0)	0.59 (15)
32	1/4-20	(M6 x 1.0)	0.67 (17)
40	1/4-20	(M6 x 1.0)	0.75 (19)
50	5/16-18	(M8 x 1.25)	0.75 (19)
63	7/16-14	(M10 x 1.5)	0.87 (22)
80	1/2-13	(M12 x 1.75)	1.13 (29)
100	1/2-13	(M12 x 1.75)	1.13 (29)
125	–	(M14 x 2.0)	– (40)
140	–	(M14 x 2.0)	– (40)
160	–	(M16 x 2.0)	– (45.2)

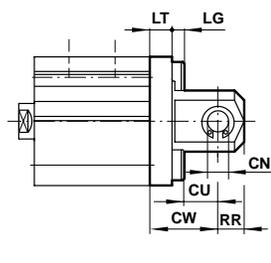
Note: Inch threads for 'C' port code.  
Metric threads for 'M' port codes.  
Metric for foot, flange, or clevis mount.

Dimensions in inches (mm)

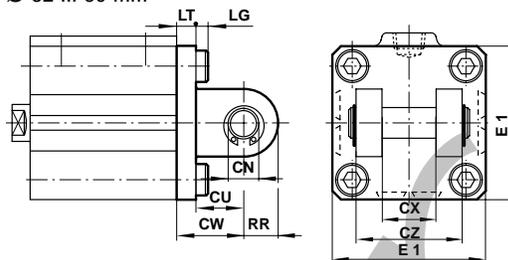
## Actuators

### Rear clevis mounting – D

Ø 12 ... 25 mm



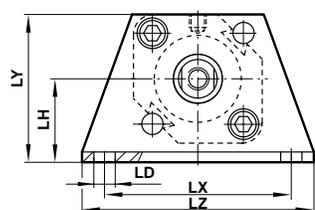
Ø 32 ... 50 mm



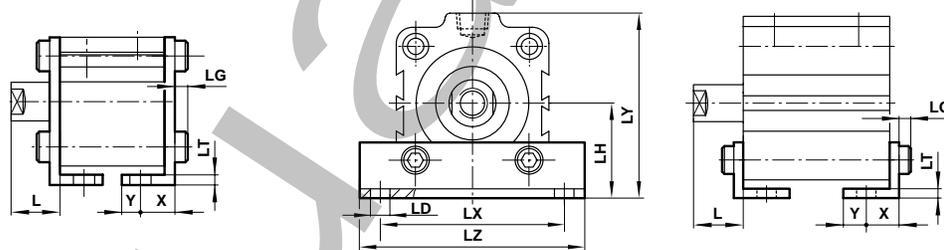
Ø	CN	CW	CU	CX	CZ	LT	LG	RR	E1	□ E	lb (kg)
12	0.187 (5)	0.55 (14)	0.28 (7)	0.21 (5.3)	0.39 (10)	0.2 (5)	0.11 (2.8)	0.24 (6.0)	0.98 (25)	1.09 (27.7)	0.05 (0.02)
16	0.187 (5)	0.59 (15)	0.39 (10)	0.27 (6.8)	0.47 (12)	0.2 (5)	0.11 (2.8)	0.24 (6.0)	1.14 (29)	1.25 (31.7)	0.05 (0.02)
20	0.312 (8)	0.71 (18)	0.47 (12)	0.33 (8.3)	0.63 (16)	0.2 (5)	0.16 (4.0)	0.35 (9.0)	1.42 (36)	– (–)	0.10 (0.05)
25	0.375 (10)	0.79 (20)	0.55 (14)	0.41 (10.3)	0.79 (20)	0.2 (5)	0.16 (4.0)	0.39 (10)	1.57 (40)	– (–)	0.15 (0.07)
32	0.375 (10)	0.79 (20)	0.55 (14)	0.72 (18.3)	1.42 (36)	0.24 (6)	0.16 (4.0)	0.39 (10)	1.75 (44.5)	– (–)	0.20 (0.09)
40	0.375 (10)	0.87 (22)	0.55 (14)	0.72 (18.3)	1.42 (36)	0.31 (8)	0.16 (4.0)	0.39 (10)	2.05 (52)	– (–)	0.29 (0.13)
50	0.5 (14)	1.1 (28)	0.79 (20)	0.88 (22.3)	1.73 (44)	0.31 (8)	0.2 (5.0)	0.55 (14)	2.51 (63.7)	– (–)	0.46 (0.22)
63	0.5 (14)	1.18 (30)	0.79 (20)	0.88 (22.3)	1.73 (44)	0.39 (10)	0.24 (6.0)	0.55 (14)	3.02 (76.7)	– (–)	0.75 (0.34)
80	0.75 (18)	1.5 (38)	1.07 (27)	1.11 (28.3)	2.2 (56)	0.43 (11)	0.28 (7.0)	0.71 (18)	3.85 (97.8)	– (–)	1.19 (0.54)
100	0.875 (22)	1.77 (45)	1.22 (31)	1.27 (32.3)	2.52 (64)	0.55 (14)	0.28 (7.0)	0.87 (22)	4.54 (115.3)	– (–)	1.98 (0.90)

### Foot mounting – C

Ø 12 ... 25 mm



Ø 32 ... 50 mm



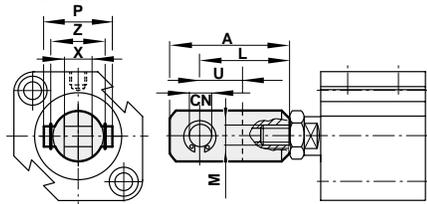
Ø	LD	LH	LX	LY	LZ	L	LT	X	Y	LG	lb (kg)
12	0.18 (4.5)	0.67 (17)	1.39 (34)	1.16 (29.5)	1.73 (44)	0.53 (13.5)	0.08 (2)	0.31 (8)	0.18 (4.5)	0.11 (2.8)	0.04 (0.02)
16	0.18 (4.5)	0.75 (19)	1.50 (38)	1.32 (33.5)	1.89 (48)	0.53 (13.5)	0.08 (2)	0.31 (8)	0.20 (5)	0.11 (2.8)	0.04 (0.02)
20	0.26 (6.5)	0.94 (24)	1.89 (48)	1.65 (42)	2.44 (62)	0.57 (14.5)	0.13 (3.2)	0.36 (9.2)	0.23 (5.8)	0.16 (4)	0.04 (0.02)
25	0.26 (6.5)	1.02 (26)	2.05 (52)	1.81 (46)	2.60 (66)	0.59 (15)	0.13 (3.2)	0.42 (10.7)	0.23 (5.8)	0.16 (4)	0.09 (0.04)
32	0.26 (6.5)	1.18 (30)	2.24 (57)	2.24 (57)	2.80 (71)	0.67 (17)	0.13 (3.2)	0.44 (11.2)	0.23 (5.8)	0.16 (4)	0.09 (0.04)
40	0.26 (6.5)	1.30 (33)	2.52 (64)	2.52 (64)	3.07 (78)	0.67 (17)	0.13 (3.2)	0.44 (11.2)	0.28 (7)	0.16 (4)	0.22 (0.10)
50	0.35 (9)	1.54 (39)	3.11 (79)	3.07 (78)	3.74 (95)	0.71 (18)	0.13 (3.2)	0.58 (14.7)	0.31 (8)	0.20 (5)	0.24 (0.11)
63	0.43 (11)	1.81 (46)	3.74 (95)	3.6 (91.5)	4.45 (113)	0.71 (18)	0.13 (3.2)	0.64 (16.2)	0.35 (9)	0.24 (6)	0.29 (0.13)
80	0.51 (13)	2.32 (59)	4.65 (118)	4.49 (114)	5.51 (140)	0.79 (20)	0.18 (4.5)	0.77 (19.5)	0.43 (11)	0.28 (7)	0.40 (0.18)
100	0.51 (13)	2.80 (71)	5.39 (137)	5.35 (136)	6.38 (162)	0.87 (22)	0.24 (6)	0.91 (23)	0.49 (12.5)	0.28 (7)	1.06 (0.47)

Dimensions in inches (mm)

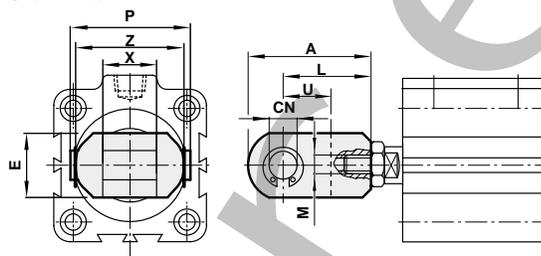
**Accessories**

**Compact interchangeable cylinders**

Piston rod clevis  
Ø 12 ... 25 mm



Ø 32 ... 50 mm

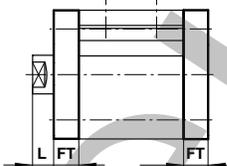
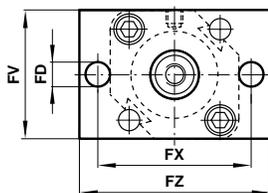


Ø	Model	Metric	CN	M	L	U	X	Z	P	E	A	lb (kg)
Inch												
12	QC/99012/25	QM/99012/25	0.187 (5)	#8-32 (M5 x 0.8 deep)	0.63 (16)	0.27 (7)	0.21 (5.3)	0.39 (10)	0.55 (14)	0.39 (10)	0.85 (21.5)	0.02 (0.01)
16	QC/99016/25	QM/99016/25	0.187 (5)	#8-32 (M6 x 1.0 deep)	0.83 (21)	0.39 (10)	0.26 (6.6)	0.47 (12)	0.63 (16)	0.47 (12)	1.10 (28)	0.02 (0.01)
20	QC/99020/25	QM/99020/25	0.312 (8)	#10-32 (M8 x 1.25 deep)	0.98 (25)	0.45 (11.5)	0.33 (8.3)	0.63 (16)	0.83 (21)	0.63 (16)	1.34 (34)	0.02 (0.01)
25	QC/99025/25	QM/99025/25	0.375 (10)	1/4-28 (M10 x 1.25 deep)	1.18 (30)	0.55 (14)	0.41 (10.3)	0.78 (20)	0.98 (25)	0.78 (20)	1.61 (41)	0.02 (0.01)
32	QC/99032/25	QM/99032/25	0.375 (10)	5/16-24 (M14 x 1.5 deep)	1.18 (30)	0.55 (14)	0.72 (18.4)	1.44 (36.6)	1.61 (41)	0.87 (22)	1.65 (42)	0.04 (0.02)
40	QC/99040/25	QM/99032/25	0.375 (10)	3/8-24 (M14 x 1.5 deep)	1.18 (30)	0.55 (14)	0.72 (18.4)	1.44 (36.6)	1.61 (41)	0.87 (22)	1.65 (42)	0.04 (0.02)
50	QC/99050/25	QM/99050/25	0.500 (14)	1/2-20 (M18 x 1.5 deep)	1.57 (40)	0.79 (20)	0.88 (22.4)	1.75 (44.5)	1.97 (50)	1.10 (28)	2.20 (56)	0.09 (0.04)
63	QC/99050/25	QM/99050/25	0.500 (14)	1/2-20 (M18 x 1.5 deep)	1.57 (40)	0.79 (20)	0.88 (22.4)	1.75 (44.5)	1.97 (50)	1.10 (28)	2.20 (56)	0.20 (0.09)
80	QC/99080/25	QM/99080/25	0.750 (18)	5/8-18 (M22 x 1.5 deep)	1.97 (50)	1.06 (27)	1.12 (28.4)	2.19 (55.6)	2.46 (62.5)	1.50 (38)	2.80 (71)	0.48 (0.22)
100	QC/99100/25	QM/99100/25	0.875 (22)	3/4-16 (M26 x 1.5 deep)	2.17 (55)	1.22 (31)	1.28 (32.4)	2.50 (63.5)	2.78 (70.6)	1.73 (44)	3.11 (79)	0.48 (0.22)

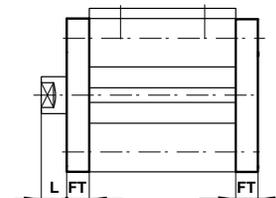
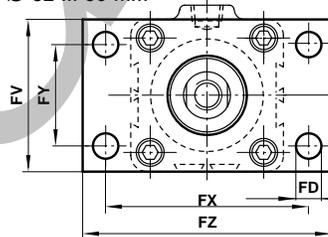
Ordering information To order a basic 25 mm bore cylinder, spring return, with a 10 mm stroke, BSP parallel ports quote: DM/95025/10 plus piston rod clevis mounting: QM/99025/25

Flange rod end mounting – G Flange cap end mounting – B  
ISO Flange rod end mounting – IG ISO Flange cap end mounting – IB

Ø 12 ... 25 mm



Ø 32 ... 50 mm



ISO

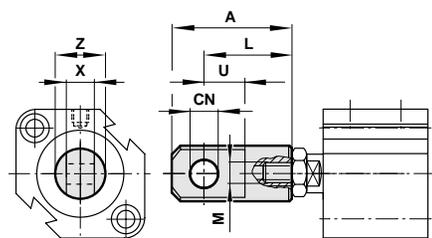
Non-ISO

Ø	FT	L	FD	FY	FX	FV	FZ	FD	FY	FX	FV	F	Z	lb (kg)
12	0.22 (5.5)	0.31 (8.0)	0.22 (5.5)	- (-)	1.57 (40)	0.98 (25)	1.97 (50)	0.18 (4.5)	- (-)	1.77 (45)	0.98 (25)	2.17 (55)	0.04 (0.02)	
16	0.22 (5.5)	0.31 (8.0)	0.22 (5.5)	- (-)	1.57 (40)	1.18 (30)	1.97 (50)	0.18 (4.5)	- (-)	1.77 (45)	1.18 (30)	2.17 (55)	0.04 (0.02)	
20	0.31 (8)	0.26 (6.5)	0.26 (6.6)	- (-)	1.97 (50)	1.54 (39)	2.44 (62)	0.26 (6.5)	- (-)	1.89 (48)	1.54 (39)	2.36 (60)	0.04 (0.02)	
25	0.31 (8)	0.28 (7.0)	0.26 (6.6)	- (-)	1.97 (50)	1.65 (42)	2.44 (62)	0.26 (6.5)	- (-)	2.05 (52)	1.65 (42)	2.52 (64)	0.09 (0.04)	
32	0.31 (8)	0.35 (9.0)	0.28 (7)	1.26 (32)	2.52 (64)	1.89 (48)	2.99 (76)	0.22 (5.5)	1.34 (34)	2.2 (56)	1.89 (48)	2.56 (65)	0.13 (0.06)	
40	0.31 (8)	0.35 (9.0)	0.35 (9)	1.42 (36)	2.83 (72)	2.13 (54)	3.47 (88)	0.22 (5.5)	1.57 (40)	2.44 (62)	2.13 (54)	2.83 (72)	0.33 (0.15)	
50	0.35 (9)	0.35 (9.0)	0.35 (9)	1.77 (45)	3.54 (90)	2.64 (67)	4.17 (106)	0.26 (6.5)	1.97 (50)	2.99 (76)	2.64 (67)	3.5 (89)	0.37 (0.16)	
63	0.35 (9)	0.35 (9)	0.35 (9)	1.97 (50)	3.94 (100)	3.15 (80)	4.57 (116)	0.35 (9)	2.36 (60)	3.62 (92)	3.15 (80)	4.25 (108)	0.73 (0.32)	
80	0.43 (11)	0.35 (9)	0.47 (12)	2.48 (63)	4.96 (126)	3.9 (99)	5.91 (150)	0.43 (11)	3.03 (77)	4.57 (116)	3.9 (99)	5.28 (134)	0.90 (0.40)	
100	0.43 (11)	0.43 (11)	0.55 (14)	2.95 (75)	5.91 (150)	4.61 (117)	7.01 (178)	0.43 (11)	3.7 (94)	5.35 (136)	4.61 (117)	6.06 (154)	1.58 (0.70)	

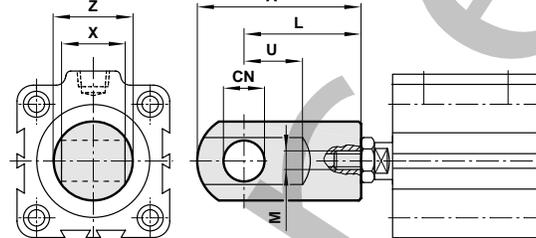
Dimensions in inches (mm)

## Actuators

Piston rod eye  
Ø 12 ... 25 mm



Ø 32 ... 50 mm



Ø	Model Inch	Model Metric	CN	M	L	U	X	Z	A	lb (kg)
12	QC/99012/32	QM/99012/32	0.187 (5)	#8-32 (M5 x 0.8 deep)	0.63 (16)	0.27 (7)	0.18 (4.7)	0.38 (9.7)	0.85 (21)	0.05 (0.02)
16	QC/99016/32	QM/99016/32	0.187 (5)	#8-32 (M6 x 1.0 deep)	0.98 (25)	0.55 (14)	0.24 (6.2)	0.44 (11.2)	1.26 (32)	0.05 (0.02)
20	QC/99020/32	QM/99020/32	0.312 (8)	#10-32 (M8 x 1.25 deep)	0.98 (25)	0.45 (11.5)	0.3 (7.7)	0.63 (16)	1.34 (34)	0.10 (0.05)
25	QC/99025/32	QM/99025/32	0.375 (10)	1/4-28 (M10 x 1.25 deep)	1.18 (30)	0.55 (14)	0.38 (9.7)	0.75 (19)	1.61 (41)	0.15 (0.07)
32	QC/99032/32	QM/99032/32	0.375 (10)	5/16-24 (M14 x 1.5 deep)	1.18 (30)	0.55 (14)	0.69 (17.5)	0.87 (22)	1.65 (42)	0.20 (0.09)
40	QC/99040/32	QM/99032/32	0.375 (10)	3/8-24 (M14 x 1.5 deep)	1.18 (30)	0.55 (14)	0.69 (17.5)	0.87 (22)	1.65 (42)	0.29 (0.13)
50	QC/99050/32	QM/99050/32	0.500 (14)	1/2-20 (M18 x 1.5 deep)	1.57 (40)	0.79 (20)	0.85 (21.5)	1.06 (27)	2.2 (56)	0.73 (0.33)
63	QC/99050/32	QM/99050/32	0.500 (14)	1/2-20 (M18 x 1.5 deep)	1.57 (40)	0.79 (20)	0.85 (21.5)	1.06 (27)	2.2 (56)	0.73 (0.33)
80	QC/99080/32	QM/99080/32	0.750 (18)	5/8-18 (M22 x 1.5 deep)	1.97 (50)	1.06 (27)	1.08 (27.5)	1.50 (38)	2.8 (71)	1.52 (0.67)
100	QC/99100/32	QM/99100/32	0.875 (22)	3/4-16 (M26 x 1.5 deep)	2.17 (55)	1.22 (31)	1.24 (31.5)	1.75 (44.5)	3.11 (79)	1.52 (0.67)

Dimensions in inches (mm)

Ordering information To order a basic 25 mm bore cylinder, spring return, with a 10 mm stroke, BSP parallel ports, quote: DM/95025/10 plus piston rod eye mounting: QM/99025/32

## Spares

Cylinder	Spares kit
D*/99012	QM/99012/00
D*/99016	QM/99016/00
D*/99020	QM/99020/00
D*/99025	QM/99025/00
D*/99032	QM/99032/00
D*/99040	QM/99040/00
D*/99050	QM/99050/00
D*/99063	QM/99063/00
D*/99080	QM/99080/00
D*/99100	QM/99100/00
D*/99125	QM/99125/00
D*/99160	QM/99160/00

## Switches



Model		
Reed	QM/348/RSU/2.75	QM/348/RSU/CP
	QM/348/LSU/2.75	QM/348/LSU/CP
Solid state	QM/348/EAP/2.75	QM/348/EAP/CP
	QM/348/EAN/2.75	QM/348/EAN/CP

## Female cordsets



Model	Length
M/P73326/1	1 m
M/P73326/2	2 m
M/P73326/5	5 m

Note: Quick disconnect styles are supplied with 6 inch pigtail with male connector. Order female cordsets separately.

Model		Voltage	Current	Temperature	LED	Features	Cable/plug length	Cable type
Reed	Solid state	V a.c.	V d.c.	max.	°F°	C		
QM/348/RSU/2.75		0 ... 120	0 ... 120	500 mA	-4° ... +176°	(-20° ... +80°)	9 ft. (2.75 m)	26-3 PVC
QM/348/LSU/2.75		5 ... 120	5 ... 120	30 mA	-4° ... +176°	(-20° ... +80°)	9 ft. (2.75 m)	26-3 PVC
	QM/348/EAP/2.75	-	6 ... 24	200 mA	-4° ... +176°	(-20° ... +80°)	9 ft. (2.75 m)	26-3 PVC
	QM/348/EAN/2.75	-	6 ... 24	200 mA	-4° ... +176°	(-20° ... +80°)	9 ft. (2.75 m)	26-3 PVC

Full information on switches (technical data, cable materials, dimensions etc.) please refer to relevant catalogue pages