

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)

Cylinder diameters:

12, 16, 20, 25, 32, 40, 50 mm

Strokes:

5 mm Ø 12 to 40 mm

10 mm Ø 12 to 50 mm

20 mm Ø 50 mm

See table on page N 1.4.099.02

Non-standard strokes available on request

Materials

Barrel: hard anodized aluminium

End caps: hard anodized aluminium alloy

Piston rod: stainless steel, hard chrome plated

Elastomers: Buna N

Alternative cylinders

See page N 1.4.099.02


Ordering information

To order a basic 25 mm bore cylinder, spring return, with a 10 mm stroke, female thread, BSP parallel ports, metric thread, quote: **DM/95025/X/10**.

To order a basic 40 mm bore cylinder, spring extend, with a 5 mm stroke, female thread, NPT ports, inch thread, quote: **DC/96040/X/5**.

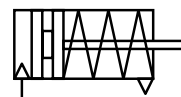
Mountings are included. See Options selector table on page N 1.4.099.02

Accessories

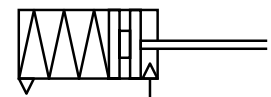
see page

Piston rod clevis mounting N 1.4.099.07

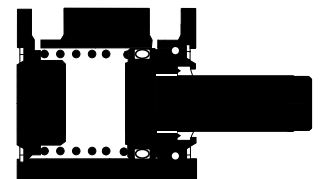
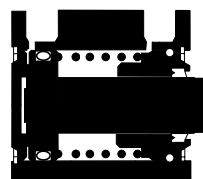
Piston rod eye mounting N 1.4.099.07



Spring return



Spring extend





Cylinder variants

Symbol	Model	Description
	D*/95000/X	Standard cylinders, single acting, spring return, female rod thread, rod end
	D*/95000	Standard cylinders, single acting, spring return, male rod thread, rod end
	TD*/95000	Heat resistant (Viton®) seals, +400°F (+204°C) max., metric ports
	D*/96000/X	Standard cylinders, single acting, spring extend, female rod thread, rod end
	D*/96000	Standard cylinders, single acting, spring extend, male rod thread, rod end
	TD*/96000	Heat resistant (Viton®) seals, +400°F (+204°C) max., metric ports

Options selector

★ D ★ / 9 ★ 0 ★ ★ / ★ / ★ / ★

Temperature	Substitute
High temperature (Viton® seals)	T
Ports	Substitute
NPT Ports (inch threads, stroke in mm)	C
BSP parallel (metric ports and threads, stroke in mm)	M
Operation	Substitute
Spring return	5
Spring extend	6
Cylinder diameters (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 piston)	Substitute
Standard, 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	–	●	●



Theoretical forces • Air consumption

Ø	D*/95000 Theoretical forces lb (N) at 87 psi (6 bar)		D*/96000 Theoretical forces lb (N) at 87 psi (6 bar)		Air consumption in ³ /in. stroke (l/cm stroke) at 87 psi (6 bar)	
	Outstroke	F1	Instroke	F1	Outstroke	Instroke
12	11,7 (52)	1,58 (7)	8,9 (40)	1,58 (7)	1,24 (0,008)	0,93 (0,006)
16	23,7 (105)	2,81 (12,5)	15,4 (61)	2,81 (12,5)	2,17 (0,014)	1,71 (0,011)
20	39,1 (174)	3,26 (14,5)	26,0 (116)	3,26 (14,5)	3,41 (0,022)	2,64 (0,017)
25	61,5 (274)	4,50 (20)	44,7 (199)	4,50 (20)	5,43 (0,035)	4,19 (0,027)
32	103,5 (460)	7,20 (32)	75,2 (335)	7,20 (32)	8,68 (0,056)	6,51 (0,042)
40	162,9 (725)	9,90 (44)	136,1 (605)	9,90 (44)	13,64 (0,088)	11,47 (0,074)
50	252,4 (1123)	12,71 (56,5)	204,0 (907)	12,71 (56,5)	21,39 (0,138)	17,98 (0,116)

F1 = Return force of spring lb (N)

Cylinder weights

Ø	Stroke (mm)			Additional weight for male thread
	5	10	20	
12	0,19 (0,09)	0,23 (0,11)	– (–)	0,004 (0,002)
16	0,24 (0,11)	0,28 (0,13)	– (–)	0,007 (0,003)
20	0,30 (0,14)	0,34 (0,16)	– (–)	0,015 (0,007)
25	0,44 (0,20)	0,51 (0,23)	– (–)	0,04 (0,017)
32	0,73 (0,33)	0,84 (0,38)	– (–)	0,09 (0,040)
40	1,10 (0,50)	1,23 (0,56)	– (–)	0,09 (0,040)
50	– (–)	1,46 (0,66)	1,82 (0,82)	0,18 (0,080)

Weights in lb (kg)

Please note: estimated weights for single rod models

Warning

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

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

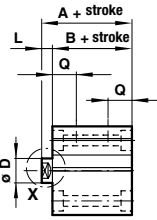
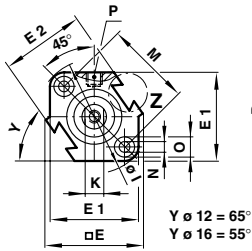
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

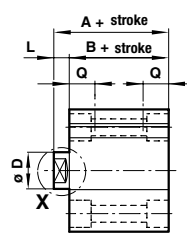
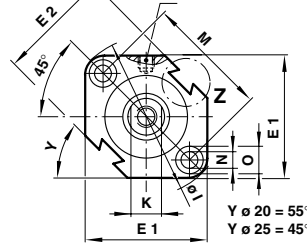


Basic dimensions –D*/95000/X, D*/96000/X

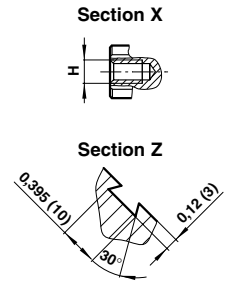
Ø 12 ... 16 mm



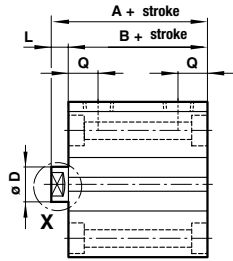
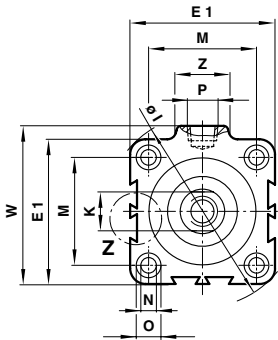
Ø 20 ... 25 mm



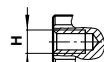
Ø 12 ... 25 mm



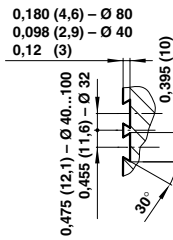
Ø 32 ... 50 mm



Section X

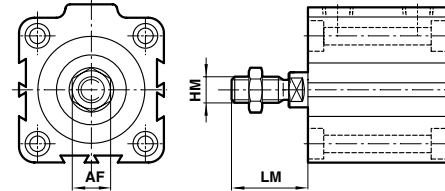


Section Z



**Cylinder with rod end male thread
D*/95000, D*/96000**

Ø 12 ... 50 mm



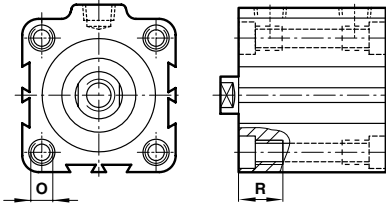
Ø	Stroke range	A	AF	B	Ø D	□ E	E1	E2	
12	5 ... 10	0,81 (20,5)	0,34 (8)	0,67 (17,0)	0,236 (6)	1,09 (27,7)	0,98 (25)	0,90 (23)	
16	5 ... 10	0,87 (22,0)	0,34 (10)	0,73 (18,5)	0,315 (8)	1,25 (31,7)	1,14 (29)	1,07 (27,2)	
20	5 ... 10	0,94 (24,0)	0,38 (13)	0,77 (19,5)	0,394 (10)	- (-)	1,42 (36)	1,23 (31,2)	
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)



Mountings

Tapped hole mounting both ends – A



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)

Dimensions in inches (mm)

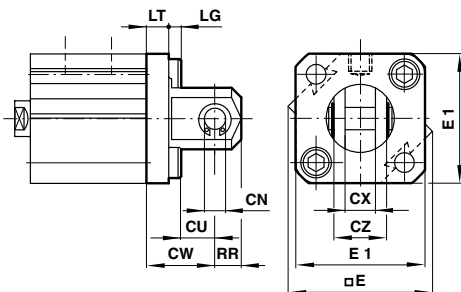
Note: Inch threads for 'C' port code.

Metric threads for 'M' port codes.

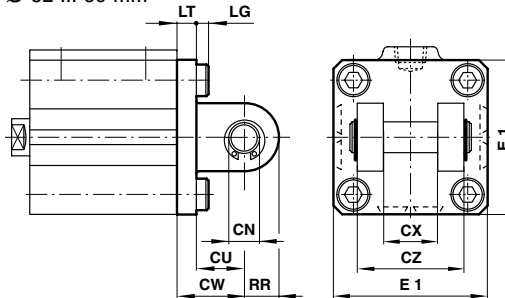
Metric for foot, flange, or clevis mount.

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)

Dimensions in inches (mm)

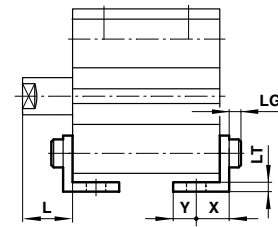
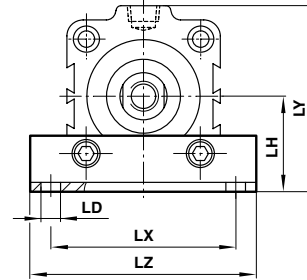
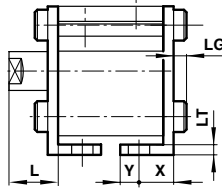
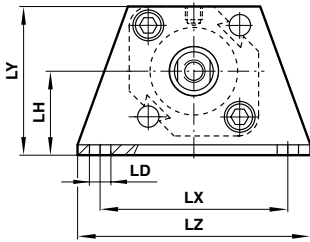
For basic cylinder dimensions, see page N 1.4.099.04



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)

Dimensions in inches (mm)

For basic cylinder dimensions, see page N 1.4.099.04

Flange rod end mounting – G

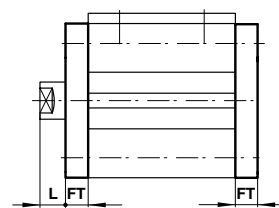
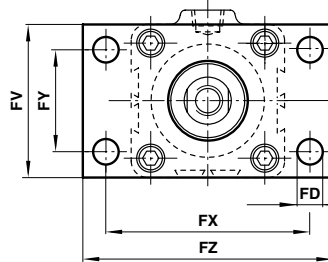
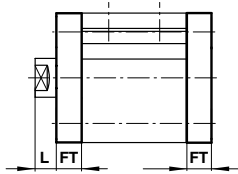
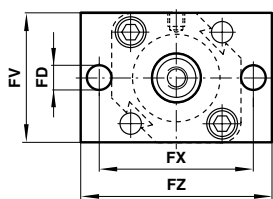
Flange cap end mounting – B

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	FZ	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)

Dimensions in inches (mm)

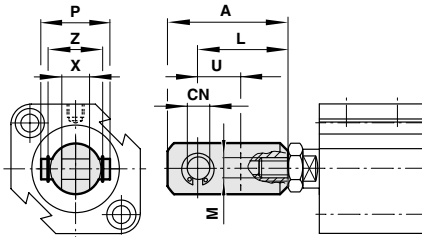
For basic cylinder dimensions, see page N 1.4.099.04



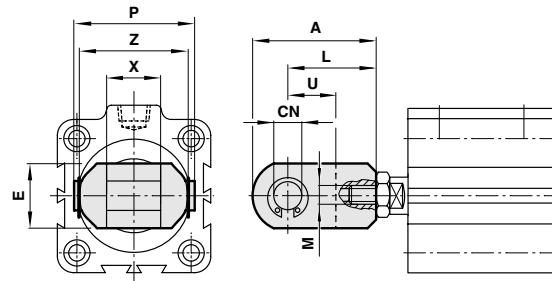
Accessories

Piston rod clevis

Ø 12 ... 25 mm



Ø 32 ... 50 mm



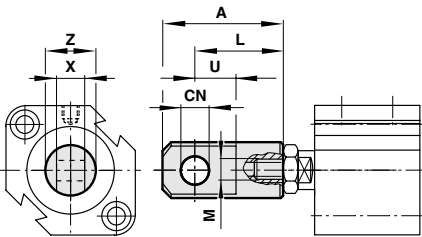
Ø	Model Inch	Metric	CN	M	L	U	X	Z	P	E	A	lb (kg)
12	QC/99012/25	QM/99012/25	0,187 (5)	#8-32 (M5 x 0,8 deep)	0,63 (16)	0,27 (7)	0,21 (5,3)	0,39 (10)	0,55 (14)	0,39 (10)	0,85 (21,5)	0,02 (0,01)
16	QC/99016/25	QM/99016/25	0,187 (5)	#8-32 (M6 x 1,0 deep)	0,83 (21)	0,39 (10)	0,26 (6,6)	0,47 (12)	0,63 (16)	0,47 (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)

Dimensions in inches (mm) For basic cylinder dimensions, see page N 1.4.099.04

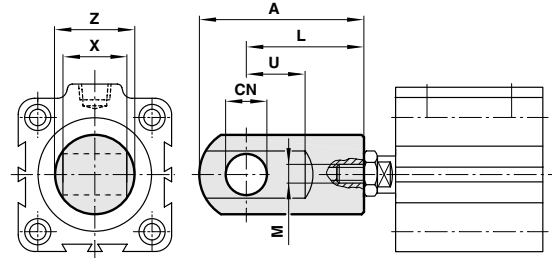
Ordering information To order a basic 25 mm bore cylinder, spring return, with a 10 mm stroke, BSP parallel ports quote: **DM/95025/10** plus piston rod clevis mounting: **QM/99025/25**

Piston rod eye

Ø 12 ... 25 mm



Ø 32 ... 50 mm



Ø	Model Inch	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)

Dimensions in inches (mm) For basic cylinder dimensions, see page N 1.4.099.04

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*/95012, D*/96012	QM/99012/00
D*/95016, D*/96016	QM/99016/00
D*/95020, D*/96020	QM/99020/00
D*/95025, D*/96025	QM/99025/00
D*/95032, D*/96032	QM/99032/00
D*/95040, D*/96040	QM/99040/00
D*/95050, D*/96050	QM/99050/00