OBSOLETE DOCUMENT Technical Reference Only

DM/..., DC/95000, DM/..., DC/96000

Compact cylinders
Single acting
Ø 12 to 50 mm

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, sprung in
DM/96000 BSP parallel ports, single acting, non-cushioned, metric ports, sprung out
DC/95000 NPT ports, single acting, non-cushioned, metric ports, sprung in
DC/96000 NPT ports, single acting, non-cushioned, metric ports, sprung out

Operating pressure:
1 to 10 bar

Operating temperature:
-32°C to +121°C
Consult our Technical Service for use below +2°C

Cylinder diameters:
12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125, 140, 160 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

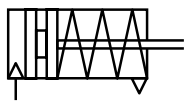
To order a basic 25 mm bore cylinder, sprung in, with a 10 mm stroke, female thread, BSP parallel ports, metric thread, quote: **DM/95025/X/10**.

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

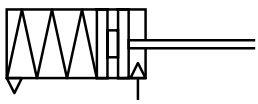
Mountings are included. See Options selector table on page N 1.4.099.02

Accessories

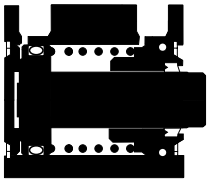
	see page
Piston rod clevis mounting	N 1.4.099.07
Piston rod eye mounting	N 1.4.099.07

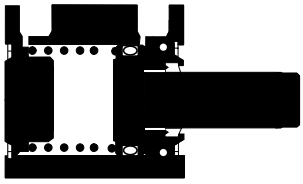


Sprung in



Sprung out





Cylinder variants

Symbol	Model	Description
	D*/95000/X	Standard cylinders, single acting, sprung in, female rod thread, rod end
	D*/95000	Standard cylinders, single acting, sprung in, male rod thread, rod end
	TD*/95000	Heat resistant (Viton®) seals, +204°C max., metric ports
	D*/96000/X	Standard cylinders, single acting, sprung out, female rod thread, rod end
	D*/96000	Standard cylinders, single acting, sprung out, male rod thread, rod end
	TD*/96000	Heat resistant (Viton®) seals , +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
Sprung in	5
Sprung out	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 (N) at 6 bar Outstroke	F1	D*/96000 Theoretical forces (N) at 6 bar Instroke	F1	Air consumption l/cm stroke at 6 bar Outstroke	Instroke
12	52	7	40	7	0,008	0,006
16	105	12,5	61	12,5	0,014	0,011
20	174	14,5	116	14,5	0,022	0,017
25	274	20	199	20	0,035	0,027
32	460	32	335	32	0,056	0,042
40	725	44	605	44	0,088	0,074
50	1123	56,5	907	56,5	0,138	0,116

F1 = Return force of spring (N)

Cylinder weights

Ø	Stroke (mm) 5	10	20	Additional weight for male thread
12	0,09	0,11	–	0,002
16	0,11	0,13	–	0,003
20	0,14	0,16	–	0,007
25	0,20	0,23	–	0,017
32	0,33	0,38	–	0,040
40	0,50	0,56	–	0,040
50	–	0,66	0,82	0,080

Weights in 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.

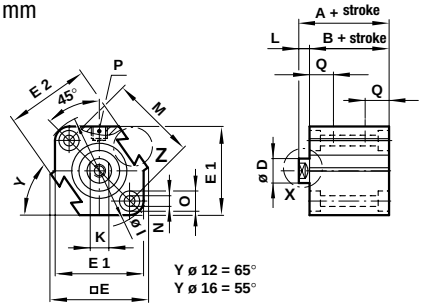
The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

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

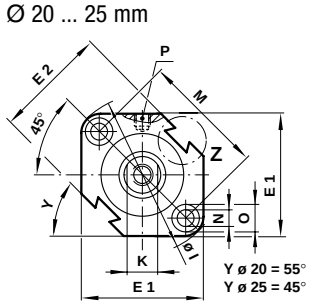
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

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

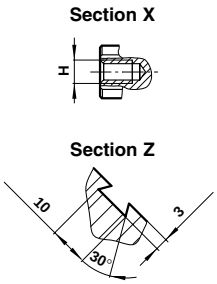
Ø 12 ... 16 mm



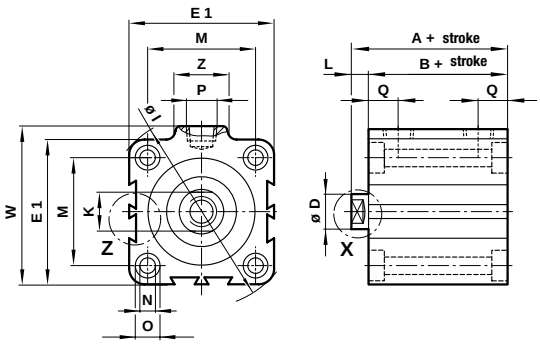
Ø 20 ... 25 mm

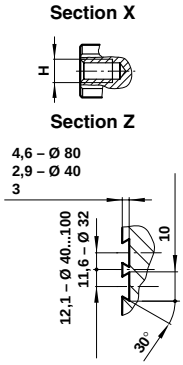


Ø 12 ... 25 mm



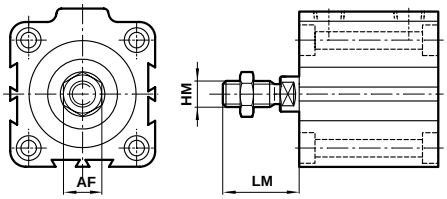
Ø 32 ... 50 mm





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

Ø 12 ... 50 mm



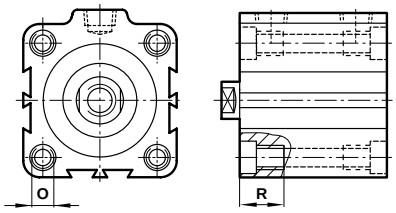
Ø	Stroke range	A	AF	B	Ø D	❑ E	E1	E2
12	5 ... 10	20,5	8	17,0	6	27,7	25	23
16	5 ... 10	22,0	10	18,5	8	31,7	29	27,2
20	5 ... 10	24,0	13	19,5	10	–	36	31,2
25	5 ... 10	27,5	17	22,5	12	–	40	36,9
32	5, 10	30,0	22	23,0	16	–	44,5	–
40	5 ... 10	36,5	22	29,5	16	–	52	–
50	10 ... 20	38,5	27	30,5	20	–	63,7	–

Ø	Stroke range	H	HM	Ø I	K	L	LM	M
12	5 ... 10	M3 x 0,5-5 deep	M5 x 0,8-9 deep	31,5	5	3,5	14	22
16	5 ... 10	M4 x 0,7-5 deep	M6 x 1,0-10 deep	37,1	6	3,5	15,5	28
20	5 ... 10	M5 x 0,8-7 deep	M8 x 1,25-12 deep	47	8	4,5	18,5	36
25	5 ... 10	M6 x 1,0-10 deep	M10 x 1,25-15 deep	51,3	10	5	22,5	40
32	5, 10	M8 x 1,25-12 deep	M14 x 1,5-20,5 deep	58,9	14	7	28,5	34
40	5 ... 10	M8 x 1,25-12 deep	M14 x 1,5-20,5 deep	69	14	7	28,5	40
50	10 ... 20	M10 x 1,5-12 deep	M18 x 1,5-26 deep	84,9	17	8	33,5	50

Ø	Stroke range	Ø N	Ø O	P	Q	W	Z
12	5 ... 10	3,5	6,5 x 3,5 deep	M5 x 0,8	7,0	–	–
16	5 ... 10	3,5	6,5 x 3,5 deep	M5 x 0,8	7,8	–	–
20	5 ... 10	5,5	9,0 x 7,0 deep	M5 x 0,8	8,1	–	–
25	5 ... 10	5,5	9,0 x 7,0 deep	M5 x 0,8	8,4	–	–
32	5, 10	5,5	9,0 x 7,0 deep	M5 x 0,8	8,7	49,3	21,4
40	5 ... 10	5,5	9,0 x 7,0 deep	1/8	9,2	57,0	21,4
50	10 ... 20	6,6	11,0 x 8,0 deep	1/4	10,5	70,6	26,5

Mountings

Tapped hole mounting both ends – A

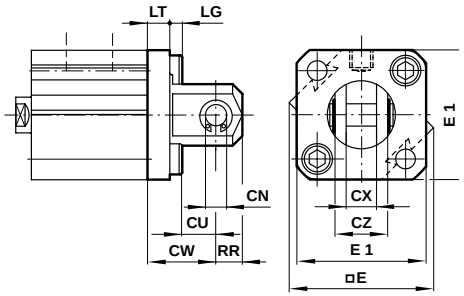


Ø	O	R
12	M4 x 0,7	11
16	M4 x 0,7	11
16	M6 x 1,0	17
25	M6 x 1,0	17
32	M6 x 1,0	17
40	M6 x 1,0	19
50	M8 x 1,25	19

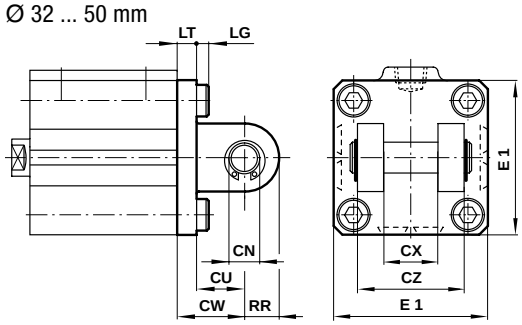
Note: Inch threads for 'C' port code.
Metric threads for 'M' port codes.
Metric for foot, flange, or clevis mount.

Rear clevis mounting – D

Ø 12 ... 25 mm



Ø 32 ... 50 mm

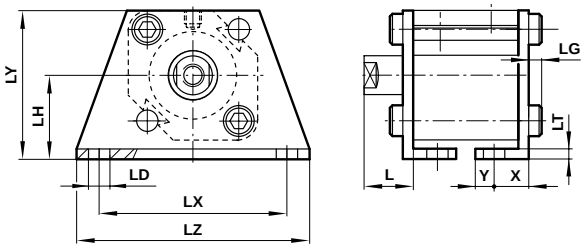


Ø	CN	CW	CU	CX	CZ	LT	LG	RR	E1	❑ E	kg
12	5	14	7	5,3	10	5	2,8	6,0	25	27,7	0,02
16	5	15	10	6,8	12	5	2,8	6,0	29	31,7	0,02
20	8	18	12	8,3	16	5	4,0	9,0	36	–	0,05
25	10	20	14	10,3	20	5	4,0	10	40	–	0,07
32	10	20	14	18,3	36	6	4,0	10	44,5	–	0,09
40	10	22	14	18,3	36	8	4,0	10	52	–	0,13
50	14	28	20	22,3	44	8	5,0	14	63,7	–	0,22

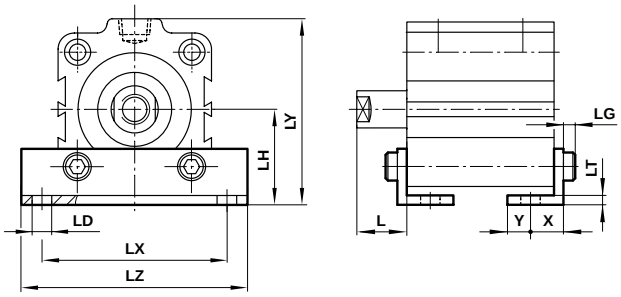
For basic cylinder dimensions, see pages N 1.4.099.04

Foot mounting – C

Ø 12 ... 25 mm



Ø 32 ... 50 mm

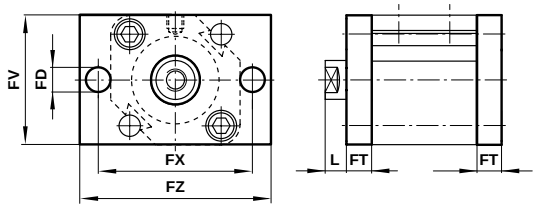


Ø	LD	LH	LX	LY	LZ	L	LT	X	Y	LG	kg
12	4,5	17	34	29,5	44	13,5	2	8	4,5	2,8	0,02
16	4,5	19	38	33,5	48	13,5	2	8	5	2,8	0,02
20	6,5	24	48	42	62	14,5	3,2	9,2	5,8	4	0,02
25	6,5	26	52	46	66	15	3,2	10,7	5,8	4	0,04
32	6,5	30	57	57	71	17	3,2	11,2	5,8	4	0,04
40	6,5	33	64	64	78	17	3,2	11,2	7	4	0,10
50	9	39	79	78	95	18	3,2	14,7	8	5	0,11

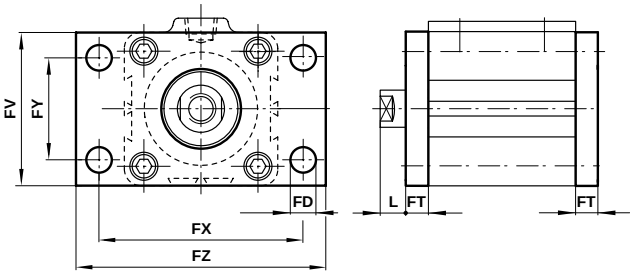
For basic cylinder dimensions, see pages N 1.4.099.04

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

Ø 12 ... 25 mm



Ø 32 ... 50 mm



ISO | **Non-ISO**

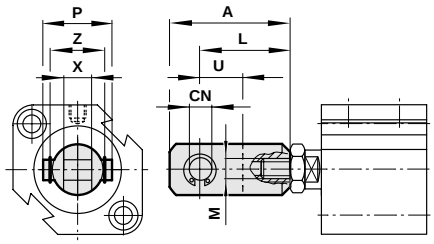
Ø	FT	L	FD	FY	FX	FV	FZ	FD	FY	FX	FV	FZ	kg
12	5,5	8	5,5	–	40	25	50	4,5	–	45	25	55	0,02
16	5,5	8	5,5	–	40	30	50	4,5	–	45	30	55	0,02
20	8	6,5	6,5	–	50	39	62	6,5	–	48	39	60	0,02
25	8	7	6,5	–	50	42	62	6,5	–	52	42	64	0,04
32	8	9	7	32	64	48	76	5,5	34	56	48	65	0,06
40	8	9	9	36	72	54	88	5,5	40	62	54	72	0,15
50	9	9	9	45	90	67	106	6,5	50	76	67	89	0,16

For basic cylinder dimensions, see pages N 1.4.099.04

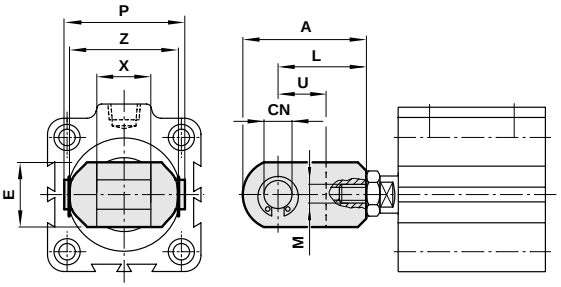
Accessories

Piston rod clevis

Ø 12 ... 25 mm



Ø 32 ... 50 mm



Ø	Model		CN	M	L	U	X	Z	P	E	A	kg
	Inch	Metric										
12	QC/99012/25	QM/99012/25	5	M5 x 0,8 deep	16	7	5,3	10	14	10	21,5	0,01
16	QC/99016/25	QM/99016/25	5	M6 x 1,0 deep	21	10	6,6	12	16	12	28	0,01
20	QC/99020/25	QM/99020/25	8	M8 x 1,25 deep	25	11,5	8,3	16	21	16	34	0,01
25	QC/99025/25	QM/99025/25	10	M10 x 1,25 deep	30	14	10,3	20	25	20	41	0,01
32	QC/99032/25	QM/99032/25	10	M14 x 1,5 deep	30	14	18,4	36,6	41	22	42	0,02
40	QC/99040/25	QM/99032/25	10	M14 x 1,5 deep	30	14	18,4	36,6	41	22	42	0,02
50	QC/99050/25	QM/99050/25	14	M18 x 1,5 deep	40	20	22,4	44,5	50	28	56	0,04

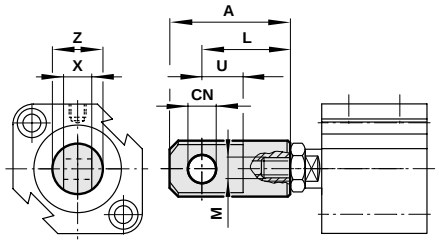
For basic cylinder dimensions, see pages N 1.4.099.04

Ordering information

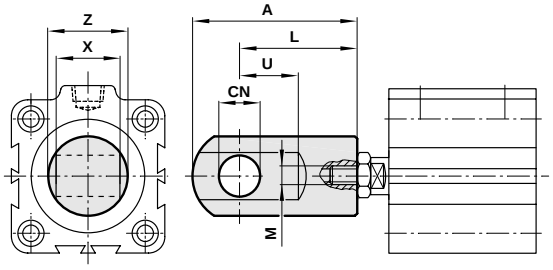
To order a basic 25 mm bore cylinder, sprung in, with a 10 mm stroke, BSP parallel ports quote: **DM/95025/10** plus piston rod clevis mounting: **QM/99025/25**

Piston rod eye

Ø 12 ... 25 mm



Ø 32 ... 50 mm



Ø	Model		CN	M	L	U	X	Z	A	kg
	Inch	Metric								
12	QC/99012/32	QM/99012/32	5	M5 x 0,8 deep	16	7	4,7	9,7	21	0,02
16	QC/99016/32	QM/99016/32	5	M6 x 1,0 deep	25	14	6,2	11,2	32	0,02
20	QC/99020/32	QM/99020/32	8	M8 x 1,25 deep	25	11,5	7,7	16	34	0,05
25	QC/99025/32	QM/99025/32	10	M10 x 1,25 deep	30	14	9,7	19	41	0,07
32	QC/99032/32	QM/99032/32	10	M14 x 1,5 deep	30	14	17,5	22	42	0,09
40	QC/99040/32	QM/99032/32	10	M14 x 1,5 deep	30	14	17,5	22	42	0,13
50	QC/99050/32	QM/99050/32	14	M18 x 1,5 deep	40	20	21,5	27	56	0,33

For basic cylinder dimensions, see pages N 1.4.099.04

Ordering information

To order a basic 25 mm bore cylinder, sprung in, 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