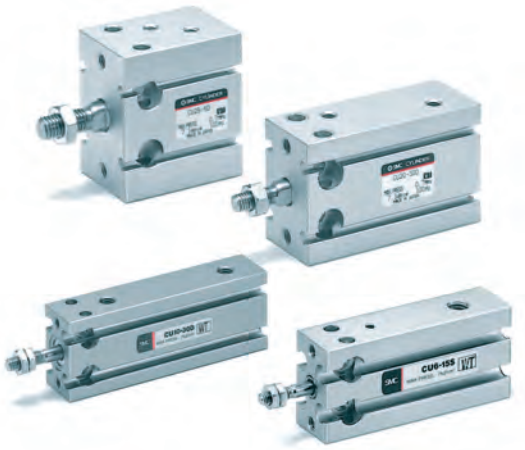


Free Mount Cylinder Double Acting, Single Rod Series CU

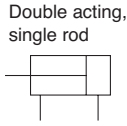
ø6, ø10, ø16, ø20, ø25, ø32



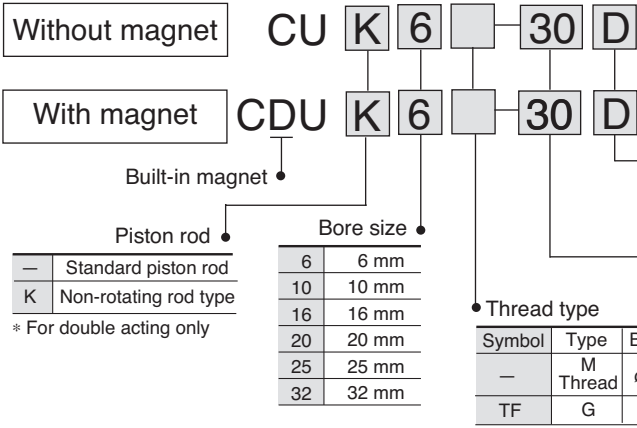
Features

- Compact space saving design.
- Bore sizes ø6, ø10, ø16, ø20, ø32mm.
- Double/Single acting.
- Non-rotating piston rod option.
- Precise and direct mounting.
- Recessed switch mounting grooves.
- Magnetic piston available.

Symbol



How to Order



Actuators

Product Recommendation



Stocked items for fast delivery

Part Number	Bore (*)	Stroke (□)
CDU*-□D	6	5, 10, 15, 20, 25, 30, 50
CDU*-□D	10, 16	5, 10, 15, 20, 25, 30, 40, 50, 60
CDU*-□D	20	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 100
CDU*-□D	25	5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100
CDU*-□D	32	5, 10, 15, 20, 25, 30, 40, 50, 60, 70
CDU*-□S	6, 16	10, 15
CDU*-□S	10	5, 10, 15
CDU*-□S	20	5
CDU*-□S	25	15
CDUK*-□D	6	5, 10, 15, 20, 25, 30, 50
CDUK*-□D	10, 25	5, 10, 15, 20, 25, 30, 40, 50
CDUK*-□D	16	5, 10, 15, 20, 25, 30, 40, 50, 60
CDUK*-□D	20	5, 10, 15, 20, 25, 30, 40, 50, 60, 80, 100
CDUK*-□D	32	5, 10, 15, 20, 25, 30, 40, 50, 100
CDUK*-□S	6	10
CDUK*-□S	10, 16	15
CDUK*-□S	20	5
CU*-□D	6, 10	5, 10, 15, 20, 25, 30
CU*-□D	16	5, 10, 15, 20, 25, 30, 60
CU*-□D	20, 25, 32	5, 10, 15, 20, 25, 30, 40, 50
CU*-□S	16	10, 15
CU*-□S	20	15
CUK*-□D	6, 10, 16	5, 10, 15, 20, 25, 30
CUK*-□D	20, 25, 32	5, 10, 15, 20, 25, 30, 40, 50
CUK*-□S	10	10



Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



Related Products

- Series AS - Speed Controllers - page 1238
- Series RB - Shock Absorber - page 809
- Series SY - Valves - page 65, 101, 417
- Series SV - Valves - page 20
- Series VQC - Valves - page 193, 211
- Series AC - Air Preparation - page 1076
- Series IDK - Moisture Control Tube - page 1149
- Series TU - Tubing - page 1223
- Series KQ2 - Fittings - page 1184

Also available

Single acting spring extend.
Please contact SMC for details.

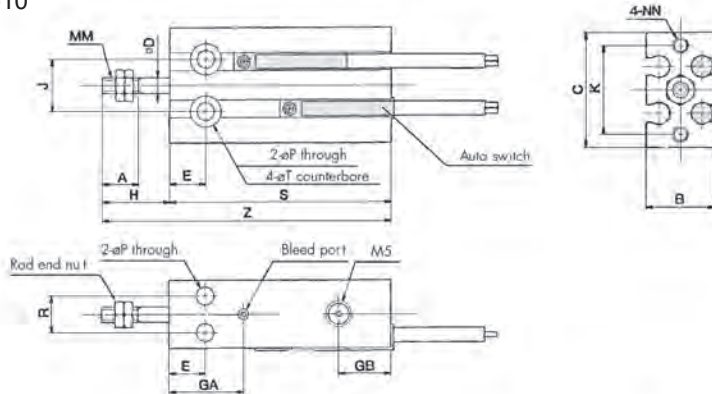


Specifications

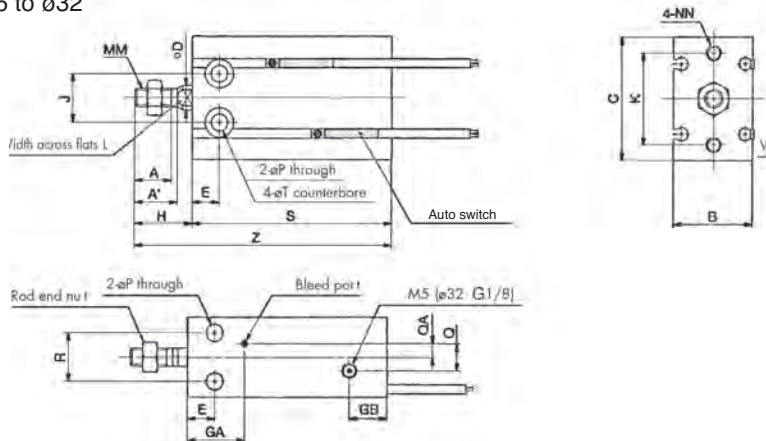
Bore size [mm]	6	10	16	20	25	32
Fluid	Air					
Proof pressure	1.05 MPa					
Maximum operating pressure	0.7 MPa					
Minimum operating pressure	0.12 MPa	0.06 MPa	0.05 MPa			
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)					
Lubrication	Non-lube					
Piston speed	50 to 500 mm/s					
Cushion	Rubber bumper					
Rod end thread	Male thread ^{Note)}					
Thread tolerance	JIS Class 2					
Stroke length tolerance	$+1.0$ ₀ mm					

Dimensions: Double Acting, Single Rod

ø6, ø10



ø16 to ø32



Bore size [mm]	A	A'	B	C	D	E	GA	GB	H	J	K	L	MM	NN	P	Q	QA
6	7	—	13	22	3	7	15	10	13	10	17	—	M3	M3 depth 5	3.2	—	—
10	10	—	15	24	4	7	16.5	10	16	11	18	—	M4	M3 depth 5	3.2	—	—
16	11	12.5	20	32	6	7	16.5 ^{Note)}	11.5	16	14	25	5	M5	M4 depth 6	4.5	4	2
20	12	14	26	40	8	9	19	12.5	19	16	30	6	M6	M5 depth 8	5.5	9	4.5
25	15.5	18	32	50	10	10	21.5	13	23	20	38	8	M8	M5 depth 8	5.5	9	4.5
32	19.5	22	40	62	12	11	23	12.5	27	24	48	10	M10 x 1.25	M6 depth 9	6.6	13.5	4.5

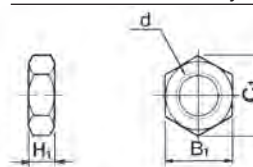
Bore size [mm]	R	T	Without auto switch		With auto switch	
			S	Z	S	Z
6	7	6 depth 4.8	33	46	33	46
10	9	6 depth 5	36	52	36	52
16	12	7.6 depth 6.5	30	46	40	56
20	16	9.3 depth 8	36	55	46	65
25	20	9.3 depth 9	40	63	50	73
32	24	11 depth 11.5	42	69	52	79

Note) 5 stroke (CU16-5D): 14.5 mm

Rod End Nut/Accessory

Material: Carbon steel

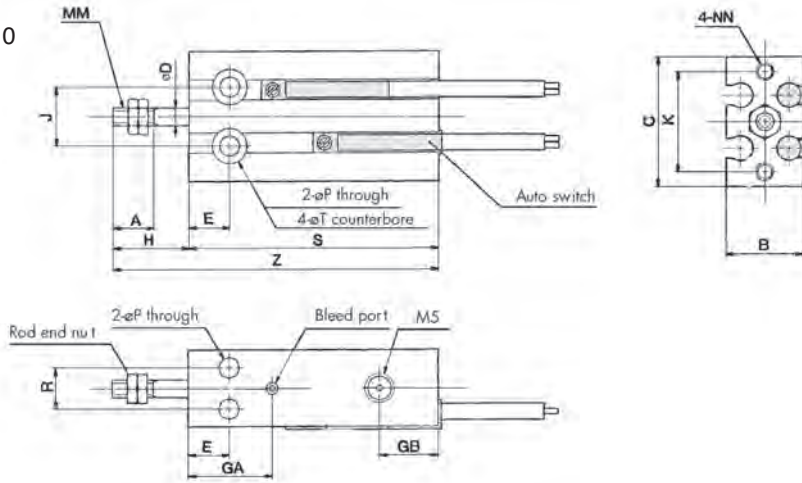
Part no.	Applicable bore [mm]	d	H ₁	B ₁	C ₁
NTP-006	6	M3	1.8	5.5	6.4
NTP-010	10	M4	2.4	7	8.1
NTJ-015A	16	M5	4	8	9.2
NT-015A	20	M6	5	10	11.5
NT-02	25	M8	5	13	15.0
NT-03	32	M10 x 1.25	6	17	19.6



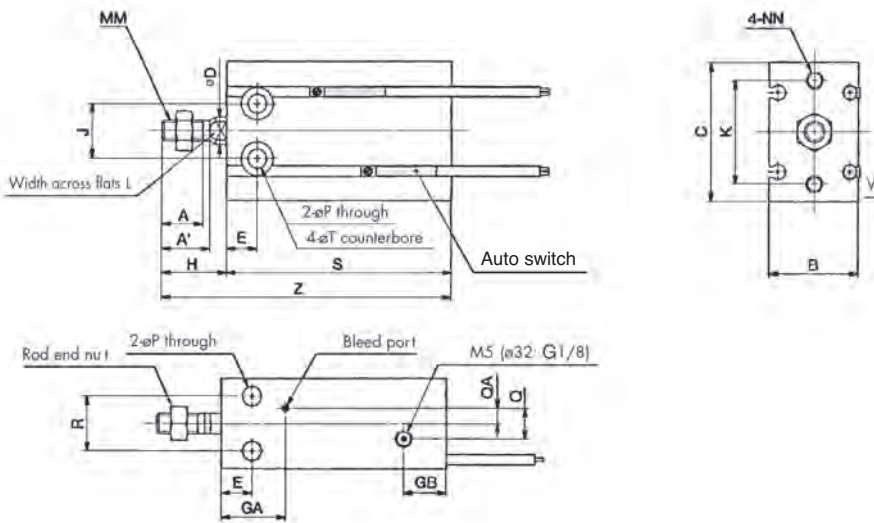
For more product options and details see our specific catalogues or on-line information.

Dimensions: Single Acting, Spring Return

ø6, ø10



ø16 to ø32



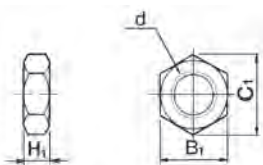
Actuators

Bore size [mm]	A	A'	B	C	D	E	GA	GB	H	J	K	L	MM	NN	P	Q	QA	R	T
6	7	—	13	22	3	7	15	10	13	10	17	—	M3	M3 depth 5	3.2	—	—	7	6 depth 4.8
10	10	—	15	24	4	7	16.5	10	16	11	18	—	M4	M3 depth 5	3.2	—	—	9	6 depth 5
16	11	12.5	20	32	6	7	16.5	11.5	16	14	25	5	M5	M4 depth 6	4.5	4	2	12	7.6 depth 6.5
20	12	14	26	40	8	9	19	12.5	19	16	30	6	M6	M5 depth 8	5.5	9	4.5	16	9.3 depth 8
25	15.5	18	32	50	10	10	21.5	13	23	20	38	8	M8	M5 depth 8	5.5	9	4.5	20	9.3 depth 9
32	19.5	22	40	62	12	11	23	12.5	27	24	48	10	M10x1.25	M6 depth 9	6.6	13.5	4.5	24	11 depth 11.5

Bore size [mm]	Without auto switch						With auto switch					
	S			Z			S			Z		
	5 st	10 st	15 st	5 st	10 st	15 st	5 st	10 st	15 st	5 st	10 st	15 st
6	38	43	48	51	56	61	38	43	48	51	56	61
10	41	46	56	57	62	72	41	46	56	57	62	72
16	35	40	50	51	56	66	45	50	60	61	66	76
20	41	46	56	60	65	75	51	56	66	70	75	85
25	45	50	60	68	73	83	55	60	70	78	83	93
32	47	52	62	74	79	89	57	62	72	84	89	99

Rod End Nut/Accessory

Material: Carbon steel



Part no.	Applicable bore size [mm]	d	H ₁	B ₁	C ₁
NTP-006	6	M3	1.8	5.5	6.4
NTP-010	10	M4	2.4	7	8.1
NTJ-015A	16	M5	4	8	9.2
NT-015A	20	M6	5	10	11.5
NT-02	25	M8	5	13	15.0
NT-03	32	M10x1.25	6	17	19.6

Compact Cylinder: Standard/Non Rotating type Double Acting/Single Acting, Single Rod/Double Rod Series CQS

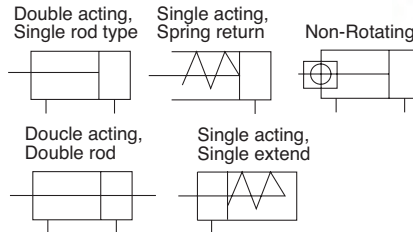
ø12, ø16, ø20, ø25



Features

- Very compact, lightweight, space saving design.
- Bore sizes ø12, ø16, ø20, ø25mm.
- Rubber cushion option.
- Flush fitting autoswitch design capability.
- New 2 way basic mounting (through hole/both ends tapped).
- Higher side load version available.
- Wide range of variations available: anti-lateral load, smooth and low speed types.

Symbol



How to Order

Without magnet: CQS B 20 30 D

With magnet: CDQS B 20 30

Built-in magnet

Rod Type

—	Standard single Rod Type
K	Non-rotating Rod type*
W	Double Rod

*Non-rotating rod type and double rod type for double acting only
*Combination of rod types is available

Mounting style

B	Through-hole/Both ends tapped common (Standard)
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

Bore size

12	12 mm
16	16 mm
20	20 mm
25	25 mm

Action

D	Double acting
S	Single acting, Spring return
T	Single acting, Spring extend

Available only for standard single rod type

Body option

<Standard stroke>	<Long stroke>
—	Standard
C	With rubber bumper
M	Rod end male thread
F	Boss on head side
CM	With rubber bumper Rod end male thread

* Combination of body options ("CM", "FC", "FM", "FCM") is available
• Rubber bumper for single acting or non rotating type is not available.
• Boss on head side for double rod or non-rotating type is not available.

Cylinder stroke for Double Acting Type

Bore size [mm]	Standard stroke [mm]	Long stroke [mm]
12, 16	5, 10, 15, 20, 25, 30	35, 40, 45, 50, 75, 100, 125, 150, 175, 200
20	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	75, 100, 125, 150, 175, 200
25		* 75, 100, 125, 150, 175, 200, 250, 300

* Intermediate stroke cylinders are constructed using internal spacers. Body lengths will be as the next largest standard stroke in the table above. Please contact SMC for clarification if required.
** Long stroke for non-rotating type (-K) and for double rod type (W) not available.

Cylinder stroke for Single Acting Type

Bore size	Standard stroke [mm]
12, 16, 20, 25	5, 10

Product Recommendation



Stocked items for fast delivery

Part Number	Stroke (□)	Option (*)
CDQSB12-□D*	5, 10, 15, 20, 25, 30	-, C, CM, M
CDQSB12-□D*	40, 50, 75, 100	C, CM
CDQSB16-□D*	5, 10, 15, 20, 25, 30	-, C, CM, M
CDQSB16-□D*	35, 40, 50, 75, 100	C, CM
CDQSB20-□D*	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	-, C, CM, M
CDQSB20-□D*	100, 125, 150, 200	C, CM
CDQSB25-□D*	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	-, C, CM, M
CDQSB25-□D*	75, 100, 125, 200, 250	C, CM
CDQSKB12-□D	5, 10, 15, 20, 25, 30	
CDQSKB16-□D	15, 20, 25, 30	
CDQSKB20-□D	5, 10, 15, 20, 40, 50	
CDQSKB25-□D	10, 20, 30	
CQSB12-□D*	5, 10, 15, 20, 30	-, C, CM, M
CQSB16-□D*	5, 10, 15, 20, 25, 30	-, C, CM, M
CQSB20-□D*	5, 10, 15, 20, 25, 30, 40, 50	-, C, CM, M
CQSB20-□D*	35, 45	CM, M
CQSB25-□D*	10, 15, 20, 35, 40, 50	-, C, CM, M
CQSB25-□D*	25, 30	-, CM, M

- : Standard (no option)
C : With rubber bumper, rod end female thread
CM : With rubber bumper, rod end male thread
M : Rod end male thread



Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



Related Products

- Series AS** - Speed Controllers - page 1238
- Series RB** - Shock Absorber - page 809
- Series SY** - Valves - page 65, 101, 417
- Series SV** - Valves - page 20
- Series VQC** - Valves - page 193, 211
- Series AC** - Air Preparation - page 1076
- Series IDK** - Moisture Control Tube - page 1149
- Series TU** - Tubing - page 1223
- Series KQ2** - Fittings - page 1184



For more product options and details see our specific catalogues or on-line information.

Specifications

Bore size [mm]		12	16	20	25
Action		Double acting, Single/Double rod			
Fluid		Air			
Lubrication		Not required (Non-lube)			
Proof pressure		1.5 MPa			
Maximum operating pressure		1.0 MPa			
Minimum operating pressure	Double Acting	0.07 MPa		0.05 MPa	
	Single Acting	0.25 MPa		0.18 MPa	
Ambient and fluid temperature		Without auto switch: -10 to 70°C (No freezing)			
		With auto switch: -10 to 60°C (No freezing)			
Cushion		None, Rubber bumper ^{Note 1)}			
Rod end thread		Female thread			
Stroke length tolerance		Standard stroke: $\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$ Long stroke: $\begin{smallmatrix} +1.4 \\ 0 \end{smallmatrix}$ ^{Note 2)}			
Mounting		Through-hole/Both ends tapped common, foot, rod end flange, head end flange, double clevis			
Piston speed		50 to 500 mm/s			
Allowable kinetic energy [J]	Standard type	0.022	0.038	0.055	0.09
	With rubber bumper	0.043	0.075	0.11	0.18
Rod non-rotating accuracy		$\pm 1^\circ$		$\pm 0.7^\circ$	

Note 1) Only rubber bumper is for the long stroke type.
 Note 2) Stroke length tolerance does not include the deflection of the bumper.

Theoretical Force

Unit: N

Action	Bore size [mm]	Rod diameter [mm]	Operation	Piston area [mm ²]	Operating press [MPa]			Beginning	Ending
					0.3	0.5	0.7		
Spring return	12	6	IN	—	20	43	65	14	4
			OUT	113					
	16	8	IN	—	45	86	126	15	6
			OUT	201					
	20	10	IN	—	78	141	204	15	6
			OUT	314					
	25	12	IN	—	126	224	323	21	11
			OUT	491					
Spring extend	12	6	IN	84.8	14	31	48	10	3
			OUT	—					
	16	8	IN	151	24	54	85	19	4
			OUT	—					
	20	10	IN	236	44	91	138	27	5
			OUT	—					
	25	12	IN	378	84	160	235	29	10
			OUT	—					

Cylinder Mounting Accessories



Bore size	Front/Rear Flange	Double Clevis ^{Note 1)}	Foot ^{Note 2)}
12	CQS-F012 (CQSK-F012)	CQS-D012 (CQSK-D012)	CQS-L012 (CQSK-L012)
16	CQS-F016 (CQSK-F016)	CQS-D016 (CQSK-D016)	CQS-L016 (CQSK-L016)
20	CQS-F020 (CQSK-F020)	CQS-D020 (CQSK-D020)	CQS-L020 (CQSK-L020)
25	CQS-F025 (CQSK-F025)	CQS-D025 (CQSK-D025)	CQS-L025 (CQSK-L025)

Note 1) Not possible in the Double Rod type.
 Note 2) 2 pieces per cylinder should be ordered.
 Note 3) () : in case of Non-rotating type.

Additional variations are also available

Anti-lateral load type



Smooth cylinder



Low-speed cylinder



Replacements Parts: Seal Kits

Action	Bore size [mm]	Kit No.
Double Acting, Single Rod	12	CQSB12-PS
	16	CQSB16-PS
	20	CQSB20-PS
	25	CQSB25-PS

Action	Bore size [mm]	Kit No.
Double Acting, Double Rod	12	CQSWB12-PS
	16	CQSWB16-PS
	20	CQSWB20-PS
	25	CQSWB25-PS

Action	Bore size [mm]	Kit No.
Single acting Spring return	12	CQSB12-S-PS
	16	CQSB16-S-PS
	20	CQSB20-S-PS
	25	CQSB25-S-PS

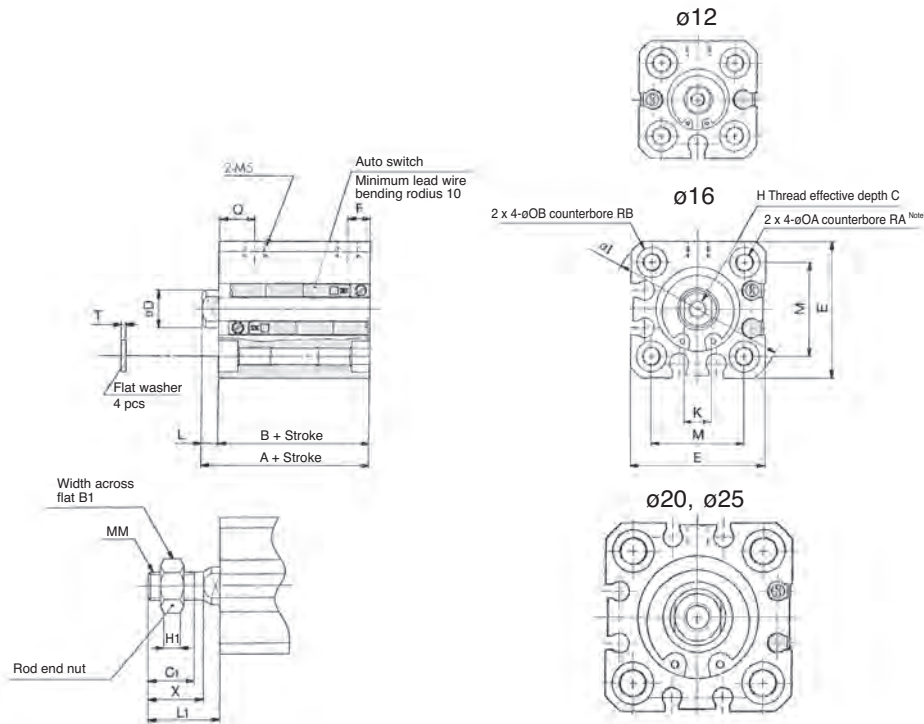
Action	Bore size [mm]	Kit No.
Single acting Spring extend	12	CQSB12-T-PS
	16	CQSB16-T-PS
	20	CQSB20-T-PS
	25	CQSB25-T-PS

Action	Bore size [mm]	Kit No.
Non Rotating, Double Acting, Single Rod	12	CQSKB12-PS
	16	CQSKB16-PS
	20	CQSKB20-PS
	25	CQSKB25-PS

Action	Bore size [mm]	Kit No.
Non Rotating, Double Acting, Double Rod	12	CQSKWB12-PS
	16	CQSKWB16-PS
	20	CQSKWB20-PS
	25	CQSKWB25-PS

Dimensions $\phi 12$ to $\phi 25$ /Double acting/Single Rod

Basic style (Through-hole/Both ends tapped common): CQSB/CDQSB


Rod end male thread

Bore [mm]	Standard stroke		Long stroke		B ₁	C ₁	MM	H ₁	X
	L ₁	L ₁	L ₁	L ₁					
12	14	24	8	9	M5	4	10.5		
16	15.5	25.5	10	10	M6	5	12		
20	18.5	28.5	13	12	M8	5	14		
25	22.5	32.5	17	15	M10 X 1.25	6	17.5		

("L" is the only dimension that changes between standard stroke and long stroke.)

• Length with intermediate stroke

- (1) Spacer ... The dimensions will be identical to those of the nearest long stroke. Those that exceed the standard stroke will have the long stroke dimensions.
- (2) Exclusive body (-XB10) ... Add stroke. Also, the stroke length that exceeds the standard stroke would be the long stroke dimension.

Basic Style

Bore size [mm]	Standard stroke range [mm]	Standard stroke								Long stroke range [mm]	Long stroke																	
		Without auto switch				With auto switch					With/Without auto switch				C	D	E	H	I	K	M	N	OA	OB	Q	RA	RB	T
		A	B	F	L	A	B	F	L		A	B	F	L														
12	5 to 30	20.5	17	5	3.5	25.5	22	5	3.5	35 to 200	45.5	32	7.5	13.5	6	6	25	M3	32	5	15.5	3.5	M4	6.5	7.5	7	4	0.5
16	5 to 30	20.5	17	5	3.5	25.5	22	5	3.5	35 to 200	45.5	32	7.5	13.5	8	8	29	M4	38	6	20	3.5	M4	6.5	7.5	7	4	0.5
20	5 to 50	24	19.5	5.5	4.5	34	29.5	5.5	4.5	75 to 200	55.5	41	9	14.5	7	10	36	M5	47	8	25.5	5.4	M6	9	8	10	7	1
25	5 to 50	27.5	22.5	5.5	5	37.5	32.5	5.5	5	75 to 300	59	44	11	15	12	12	40	M6	52	10	28	5.4	M6	9	9	10	7	1

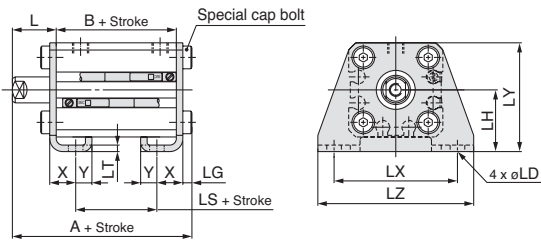
 Note 1) For the following bore/stroke sizes through-hole is threaded over the entire length: Basic style $\phi 12$ and $\phi 16$; 5 stroke, $\phi 20$; 5 to 15 stroke, $\phi 25$; 5 to 10 stroke, $\phi 20$ with auto switch built-in magnet; 5 stroke.

Note 2) Rubber bumper type has the same dimensions as those indicated above.

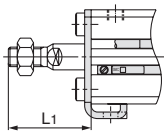


Dimensions

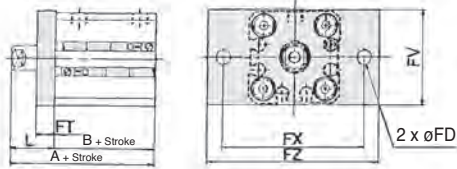
Foot style: CQSL/CDQSL



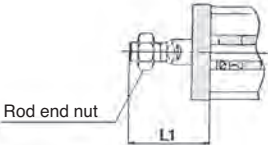
Rod end male thread



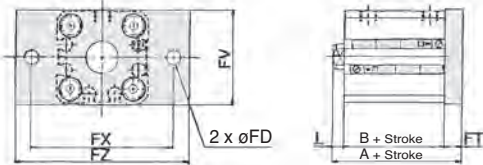
Rod side flange style: CQSF/CDQSF



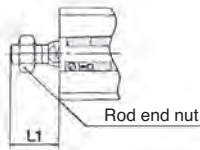
Rod end male thread



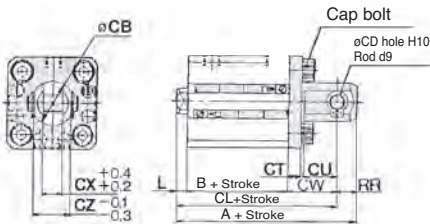
Head side flange style: CQSG/CDQSG



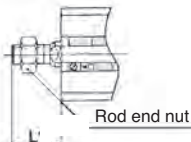
Rod end male thread



Double clevis style: CQSD/CDQSD



Rod end male thread



Foot Style

Bore size [mm]	Standard stroke range [mm]	Standard stroke						Long stroke range [mm]	Long stroke		
		Without auto switch			With auto switch				Without/With auto switch		
		A	B	LS	A	B	LS		A	B	LS
12	5 to 30	35.3	17	5	40.3	22	10	35 to 200	50.3	32	20
16	5 to 30	35.3	17	5	40.3	22	10	35 to 200	50.3	32	20
20	5 to 50	41.2	19.5	7.5	51.2	29.5	17.5	75 to 200	62.7	41	29
25	5 to 50	44.7	22.5	7.5	54.7	32.5	17.5	75 to 300	66.2	44	29

Bore size [mm]	L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
12	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Side Flange Style

Bore size [mm]	Standard stroke range [mm]	Standard stroke				Long stroke range [mm]	Long stroke	
		Without auto switch		With auto switch			Without/With auto switch	
		A	B	A	B		A	B
12	5 to 30	30.5	17	35.5	22	35 to 200	45.5	32
16	5 to 30	30.5	17	35.5	22	35 to 200	45.5	32
20	5 to 50	34	19.5	44	29.5	75 to 200	55.5	41
25	5 to 50	37.5	22.5	47.5	32.5	75 to 300	59	44

Bore size [mm]	FD	FT	FV	FX	FZ	L	L1
12	4.5	5.5	25	45	55	13.5	24
16	4.5	5.5	30	45	55	13.5	25.5
20	6.6	8	39	48	60	14.5	28.5
25	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Side Flange Style

Bore size [mm]	Standard stroke range [mm]	Standard stroke						Long stroke range [mm]	Long stroke					
		Without auto switch			With auto switch				Without/With auto switch					
		A	B	L	L1	A	B		L	L1	A	B	L	L1
12	5 to 30	26	17	3.5	14	31	22	3.5	14	35 to 200	51	32	13.5	24
16	5 to 30	26	17	3.5	15.5	31	22	3.5	15.5	35 to 200	51	32	13.5	25.5
20	5 to 50	32	19.5	4.5	18.5	42	29.5	4.5	18.5	75 to 200	63.5	41	14.5	28.5
25	5 to 50	35.5	22.5	5	22.5	45.5	32.5	5	22.5	75 to 300	67	44	15	32.5

Bore size [mm]	FD	FT	FV	FX	FZ
12	4.5	5.5	25	45	55
16	4.5	5.5	30	45	55
20	6.6	8	39	48	60
25	6.6	8	42	52	64

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis Style

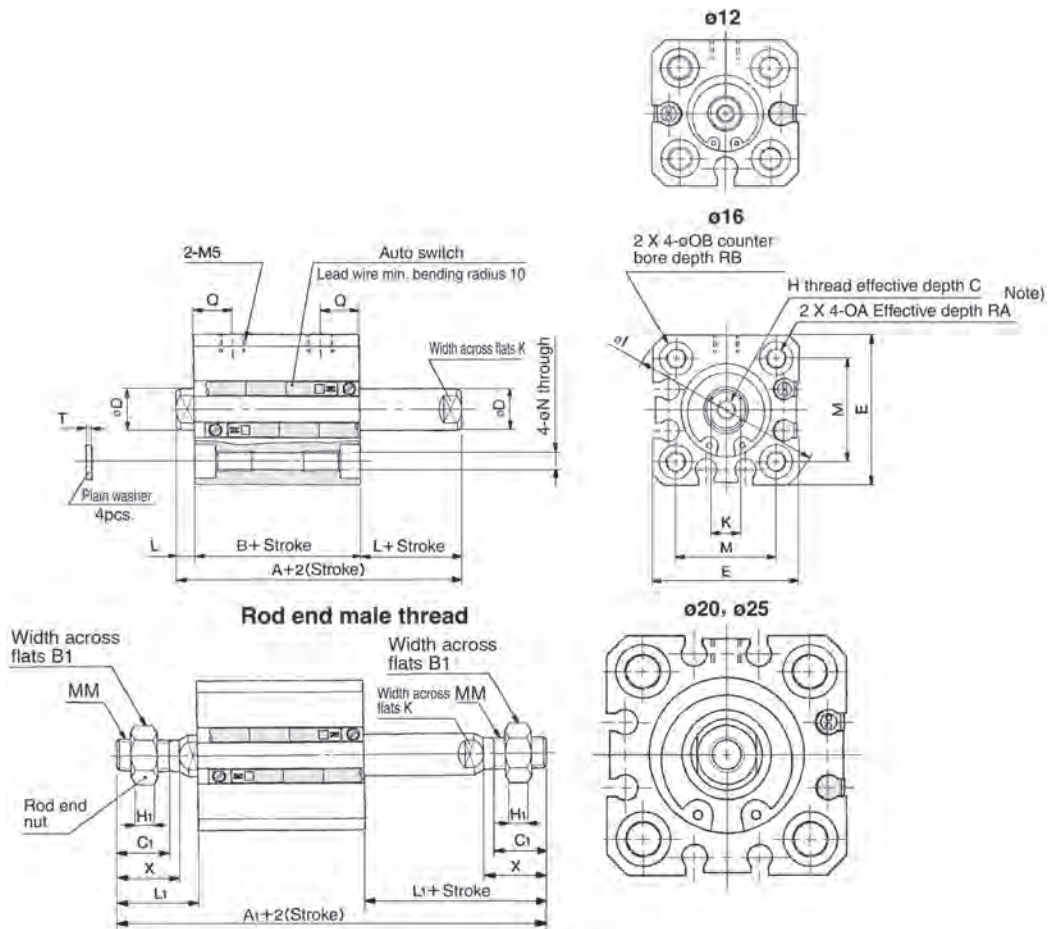
Bore size [mm]	Standard stroke range [mm]	Standard stroke						Long stroke range [mm]	Long stroke								
		Without auto switch			With auto switch				Without/With auto switch								
		A	B	CL	L	L1	A		B	CL	L	L1	A	B	CL	L	L1
12	5 to 30	40.5	17	34.5	3.5	14	45.5	22	39.5	3.5	14	35 to 200	65.5	32	59.5	13.5	24
16	5 to 30	41.5	17	35.5	3.5	15.5	46.5	22	40.5	3.5	15.5	35 to 200	66.5	32	60.5	13.5	25.5
20	5 to 50	51	19.5	42	4.5	18.5	61	29.5	52	4.5	18.5	75 to 200	82.5	41	73.5	14.5	28.5
25	5 to 50	57.5	22.5	47.5	5	22.5	67.5	32.5	57.5	5	22.5	75 to 300	89	44	79	15	32.5

Bore size [mm]	CB	CD	CT	CU	CW	CX	CZ	RR
12	12	5	4	7	14	5	10	6
16	14	5	4	10	15	6.5	12	6
20	20	8	5	12	18	8	16	9
25	24	10	5	14	20	10	20	10

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

Dimensions $\phi 12$ to $\phi 25$ / Double acting / Double rod

Basic style (Through-hole/Both ends tapped): CQSWB/CDQSWB


Rod end male thread (All dimensions are common except "A".)

Bore [mm]	W/o auto switch		With auto switch		B ₁	C ₁	MM	L ₁	H ₁	X
	A ₁	A ₁	A ₁	A ₁						
12	50	55	8	9	M5	14	4	10.5		
16	53	58	10	10	M6	15.5	5	12		
20	63	73	13	12	M8	18.5	5	14		
25	74	84	17	15	M10 X 1.25	22.5	6	17.5		

Basic

(All dimensions are common except "A" and "B".)

Bore [mm]	Stroke range [mm]	W/o auto switch		With auto switch		C	D	E	H	I	K	L	M	N	OA	OB	Q	RA	RB	T
		A	B	A	B															
12	5 to 30	29	22	34	27	6	6	25	M3	32	5	3.5	15.5	3.5	M4	6.5	7.5	7	4	0.5
16	5 to 30	29	22	34	27	8	8	29	M4	38	6	3.5	20	3.5	M4	6.5	7.5	7	4	0.5
20	5 to 50	35	26	45	36	7	10	36	M5	47	8	4.5	25.5	5.4	M6	9	8	10	7	1
25	5 to 50	39	29	49	39	12	12	40	M6	52	10	5	28	5.4	M6	9	9	10	7	1

 Note 1) For the following bore/stroke sizes, through-hole is threaded over the entire length: Basic $\phi 20$, $\phi 25$; stroke.

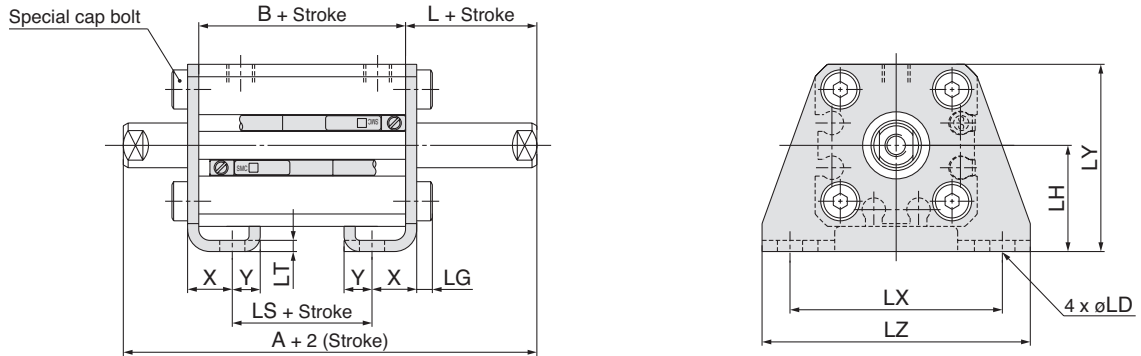
Note 2) Rubber bumper style has the same dimensions as those indicated above.

Note 3) The positions of width across flat on both sides are not the same.

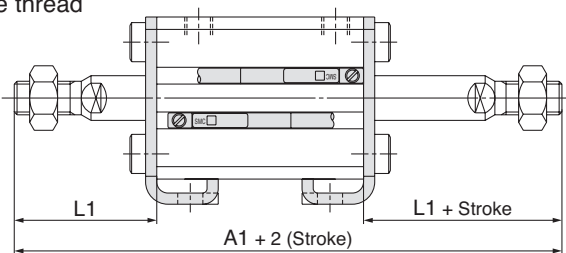


Dimensions

Foot style: CQSWL/CDQSWL



Rod end male thread

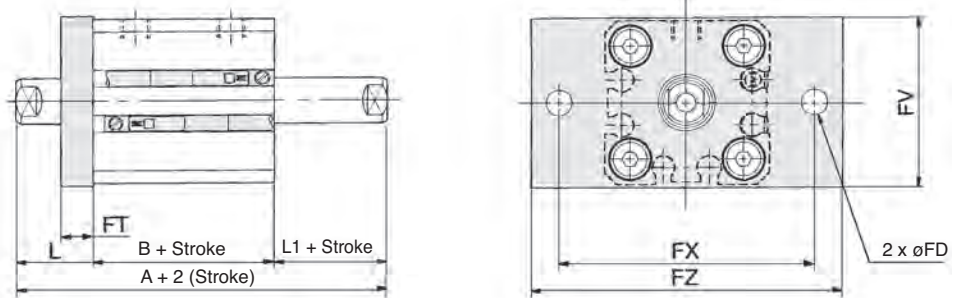


Foot Style

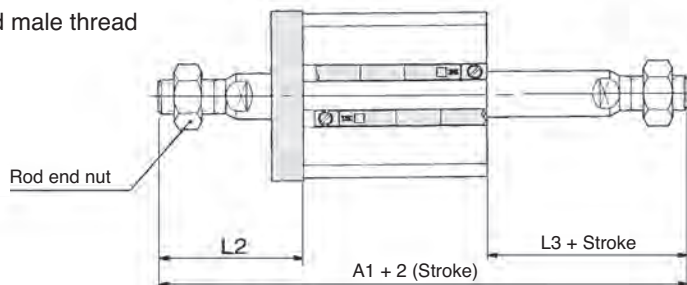
Bore size [mm]	Stroke range [mm]	Without auto switch				With auto switch				L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
		A	A1	B	LS	A	A1	B	LS											
12	5 to 30	49	70	22	10	54	75	27	15	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	5 to 30	49	73	22	10	54	78	27	15	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	5 to 50	55	83	26	14	65	93	36	24	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	5 to 50	59	94	29	14	69	104	39	24	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Flange style: CQSWF/CDQSWF



Rod end male thread



Flange Style

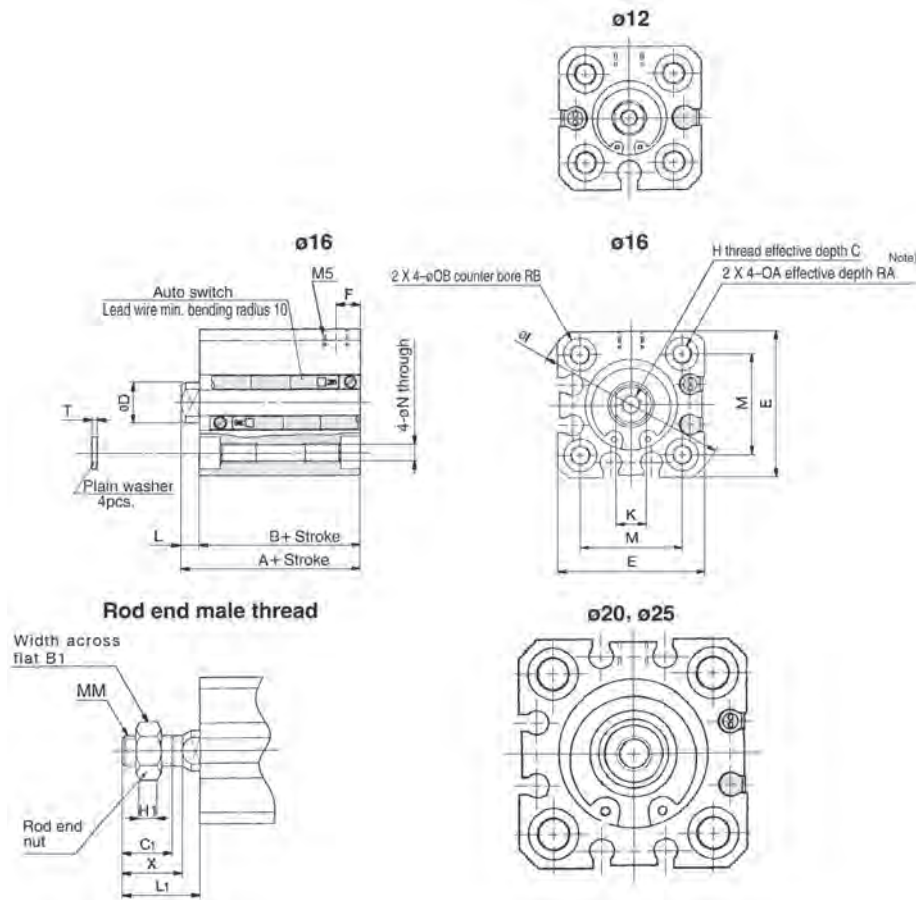
Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			FD	FT	FV	FX	FZ	L	L1	L2	L3
		A	A1	B	A	A1	B									
12	5 to 30	39	60	22	44	65	27	4.5	5.5	25	45	55	13.5	3.5	24	14
16	5 to 30	39	63	22	44	68	27	4.5	5.5	30	45	55	13.5	3.5	25.5	15.5
20	5 to 50	45	73	26	55	83	36	6.6	8	39	48	60	14.5	4.5	28.5	18.5
25	5 to 50	49	84	29	59	94	39	6.6	8	42	52	64	15	5	32.5	22.5

Note 1) The positions of width across flats on both sides are not the same.

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Dimensions $\phi 12$ to $\phi 25$ / Spring Return

Basic style (Through-hole/Both ends tapped): CQSB/CDQSB


Rod end male thread

Bore [mm]	B ₁	C ₁	H ₁	L ₁	H ₁	X
12	8	9	M5	14	4	10.5
16	10	10	M6	15.5	5	12
20	13	12	M8	18.5	5	14
25	17	15	M10 X 1.25	22.5	6	17.5

Basic

(All dimensions are common except "A" and "B".)

Bore [mm]	Stroke range [mm]	Without auto switch				With auto switch				C	D	E	F	H	I	K	L	M	N	OA	OB	RA	RB	T
		A		B		A		B																
		5 ST	10 ST	5 ST	10 ST	5 ST	10 ST	5 ST	10 ST															
12	5, 10	25.5	30.5	22	27	30.5	35.5	27	32	6	6	25	5	M3	32	5	3.5	15.5	3.5	M4	6.5	7	4	0.5
16		25.5	30.5	22	27	30.5	35.5	27	32	8	8	29	5	M4	38	6	3.5	20	3.5	M4	6.5	7	4	0.5
20		29	34	24.5	29.5	39	44	34.5	39.5	7	10	36	5.5	M5	47	8	4.5	25.5	5.4	M6	9	10	7	1
25		32.5	37.5	27.5	32.5	42.5	47.5	37.5	42.5	12	12	40	5.5	M6	52	10	5	28	5.4	M6	9	10	7	1



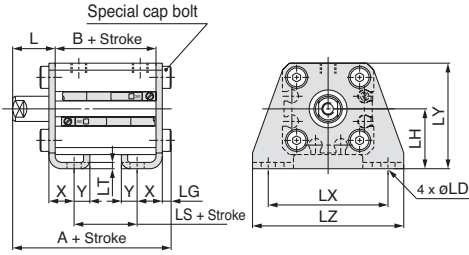
Note) Basic: For the following bore/stroke sizes, through-hole is threaded over the entire length.

 $\phi 12$ and $\phi 16$; 5 stroke, $\phi 20$ and $\phi 25$; 5 to 10 stroke

 (With auto switch (Built-in magnet): $\phi 20$; 5 stroke)


Dimensions

Foot style: CQSL/CDQSL

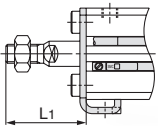


Foot Style

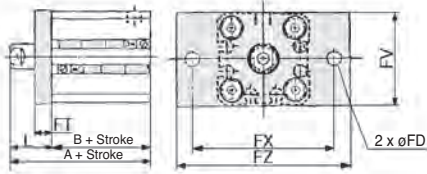
Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			L	L ₁	LD	LG	LH	LT	LX	LY	LZ	X	Y
		A	B	LS	A	B	LS											
12	5, 10	35.3	17	5	40.3	22	10	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16		35.3	17	5	40.3	22	10	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20		41.2	19.5	7.5	51.2	29.5	17.5	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25		44.7	22.5	7.5	54.7	32.5	17.5	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Rod side flange style: CQSF/CDQSF

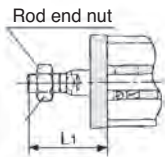


Rod Side Flange Style

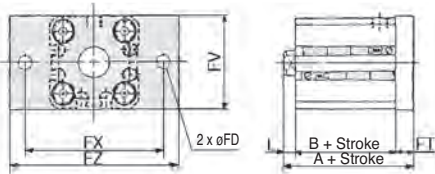
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5, 10	30.5	17	35.5	22	4.5	5.5	25	45	55	13.5	24
16		30.5	17	35.5	22	4.5	5.5	30	45	55	13.5	25.5
20		34	19.5	44	29.5	6.6	8	39	48	60	14.5	28.5
25		37.5	22.5	47.5	32.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Head side flange style: CQSG/CDQSG

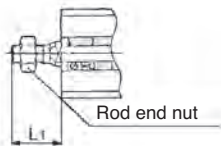


Head Side Flange Style

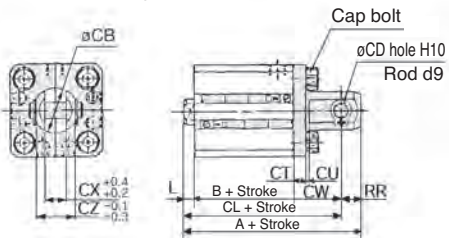
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5, 10	26	17	31	22	4.5	5.5	25	45	55	3.5	14
16		26	17	31	22	4.5	5.5	30	45	55	3.5	15.5
20		32	19.5	42	29.5	6.6	8	39	48	60	4.5	18.5
25		35.5	22.5	45.5	32.5	6.6	8	42	52	64	5	22.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Double clevis style: CQSD/CDQSD

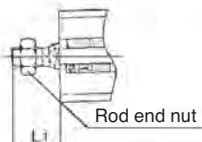


Double Clevis Style

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			CB	CD	CT	CU	CW	CX	CZ	L	L ₁	RR
		A	B	CL	A	B	CL										
12	5, 10	40.5	17	34.5	45.5	22	39.5	12	5	4	7	14	5	10	3.5	14	6
16		41.5	17	35.5	46.5	22	40.5	14	5	4	10	15	6.5	12	3.5	15.5	6
20		51	19.5	42	61	29.5	52	20	8	5	12	18	8	16	4.5	18.5	9
25		57.5	22.5	47.5	67.5	32.5	57.5	24	10	5	14	20	10	20	5	22.5	10

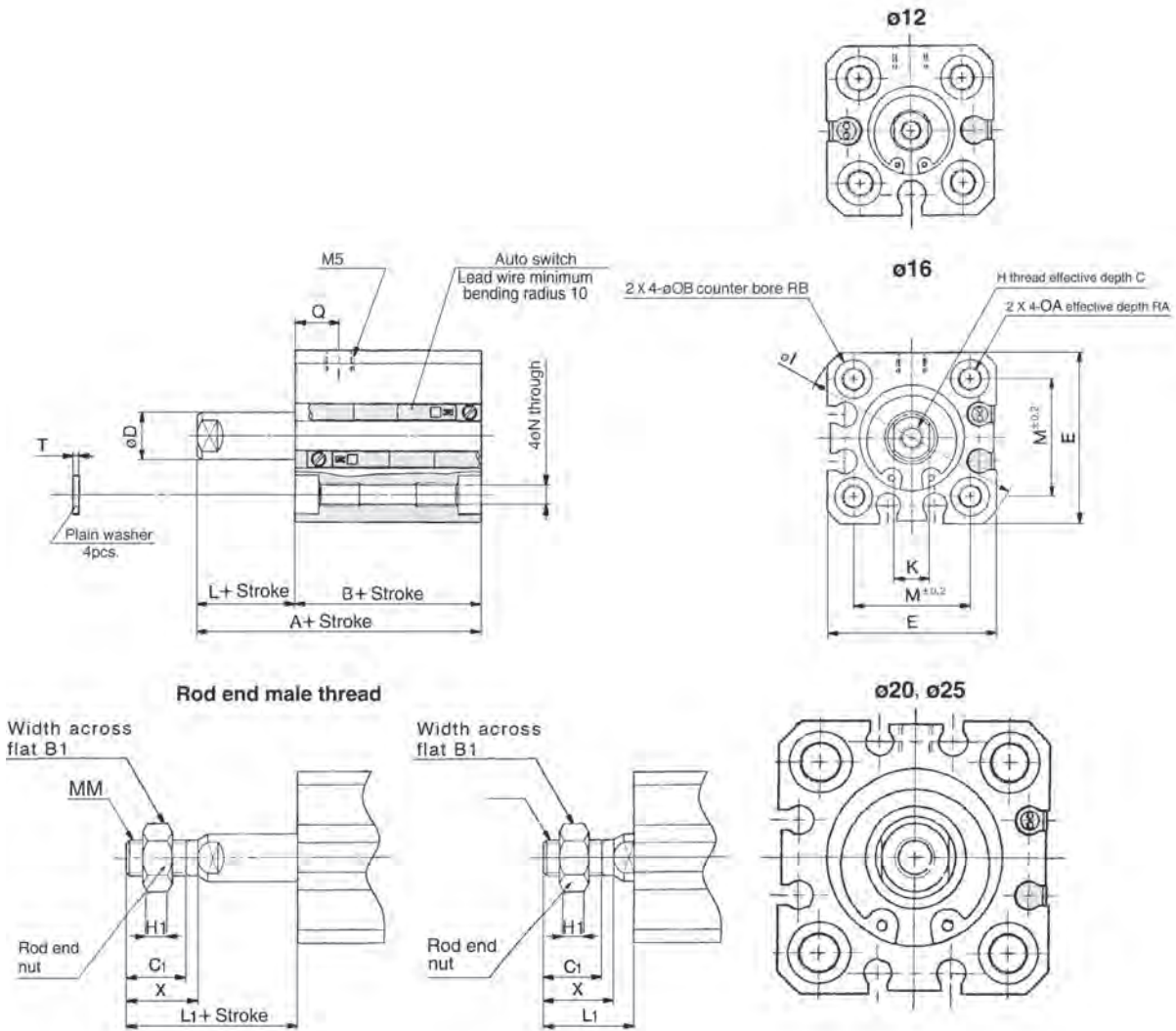
Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Dimensions $\phi 12$ to $\phi 25$ / Spring Extend

Basic style (Through-hole/Both ends tapped): CQSB/CDQSB


Rod end male thread

Bore [mm]	B ₁	C ₁	MM	L ₁		H ₁	X
				5 ST	10 ST		
12	8	9	M5	19	24	4	10.5
16	10	10	M6	20.5	25.5	5	12
20	13	12	M8	23.5	28.5	5	14
25	17	15	M10 X 1.25	27.5	32.5	6	17.5

Basic

(All dimensions are common between standard stroke and long stroke except "A" and "B".)

Bore [mm]	Stroke range [mm]	Without auto switch				With auto switch				C	D	E	H	I	K	L		M	N	OA	OB	Q	RA	RB	T
		A		B		A		B								5 ST	10 ST								
		5 ST	10 ST	5 ST	10 ST	5 ST	10 ST	5 ST	10 ST																
12	5, 10	30.5	40.5	22	27	35.5	45.5	27	32	6	6	25	M3	32	5	8.5	13.5	15.5	3.5	M4	6.5	7.5	7	4	0.5
		30.5	40.5	22	27	35.5	45.5	27	32	8	8	29	M4	38	6	8.5	13.5	20	3.5	M4	6.5	7.5	7	4	0.5
		34	44	24.5	29.5	44	54	34.5	39.5	7	10	36	M5	47	8	9.5	14.5	25.5	5.4	M6	9	8	10	7	1
25		37.5	47.5	27.5	32.5	47.5	57.5	37.5	42.5	12	12	40	M6	52	10	10	15	28	5.4	M6	9	9	10	7	1



Note) For the following bore/stroke sizes, through-hole is threaded over the entire length.

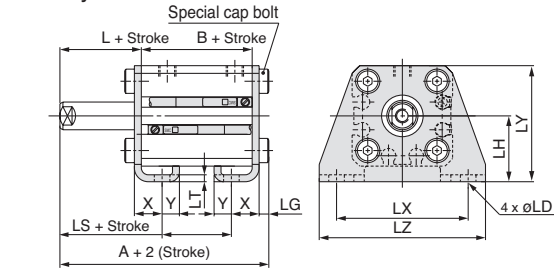
 Basic $\phi 12$ and $\phi 16$; 5 stroke, $\phi 20$ and $\phi 25$; 5 to 10 stroke

 With auto switch (Built-in magnet)/ $\phi 20$; 5 stroke.

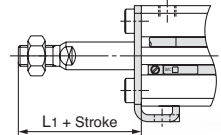

For more product options and details see our specific catalogues or on-line information.

Dimensions

Foot style: CQSL/CDQSL



Rod end male thread



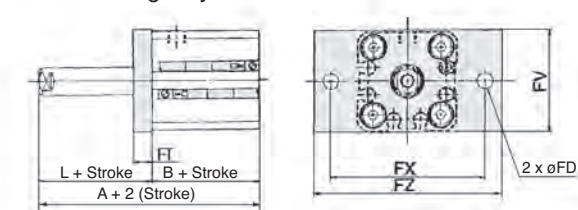
Foot Style

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch		
		A	B	LS	A	B	LS
12	5, 10	35.3	17	5	40.3	22	10
16		35.3	17	5	40.3	22	10
20		41.2	19.5	7.5	51.2	29.5	17.5
25		44.7	22.5	7.5	54.7	32.5	17.5

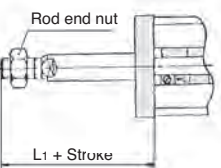
Bore size [mm]	L	L ₁	LD	LG	LH	LT	LX	LY	LZ	X	Y
12	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod side flange style: CQSF/CDQSF



Rod end male thread

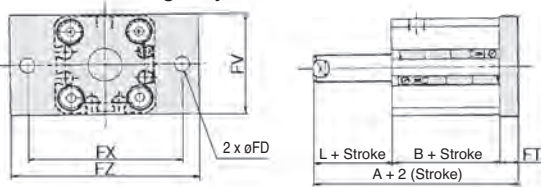


Rod Side Flange Style

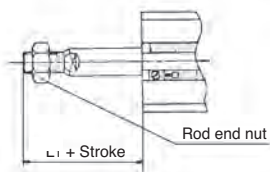
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5, 10	30.5	17	35.5	22	4.5	5.5	25	45	55	13.5	24
16		30.5	17	35.5	22	4.5	5.5	30	45	55	13.5	25.5
20		34	19.5	44	29.5	6.6	8	39	48	60	14.5	28.5
25		37.5	22.5	47.5	32.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head side flange style: CQSG/CDQSG



Rod end male thread

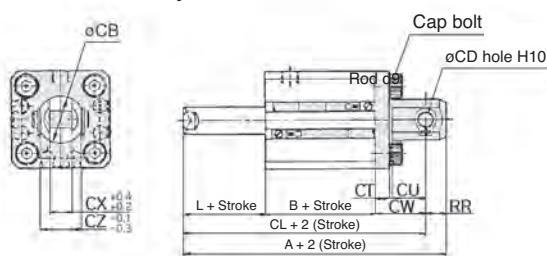


Head Side Flange Style

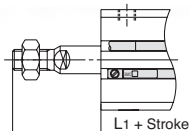
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5, 10	26	17	31	22	4.5	5.5	25	45	55	3.5	14
16		26	17	31	22	4.5	5.5	30	45	55	3.5	15.5
20		32	19.5	42	29.5	6.6	8	39	48	60	4.5	18.5
25		35.5	22.5	45.5	32.5	6.6	8	42	52	64	5	22.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double clevis style: CQSD/CDQSD



Rod end male thread



Double Clevis Style

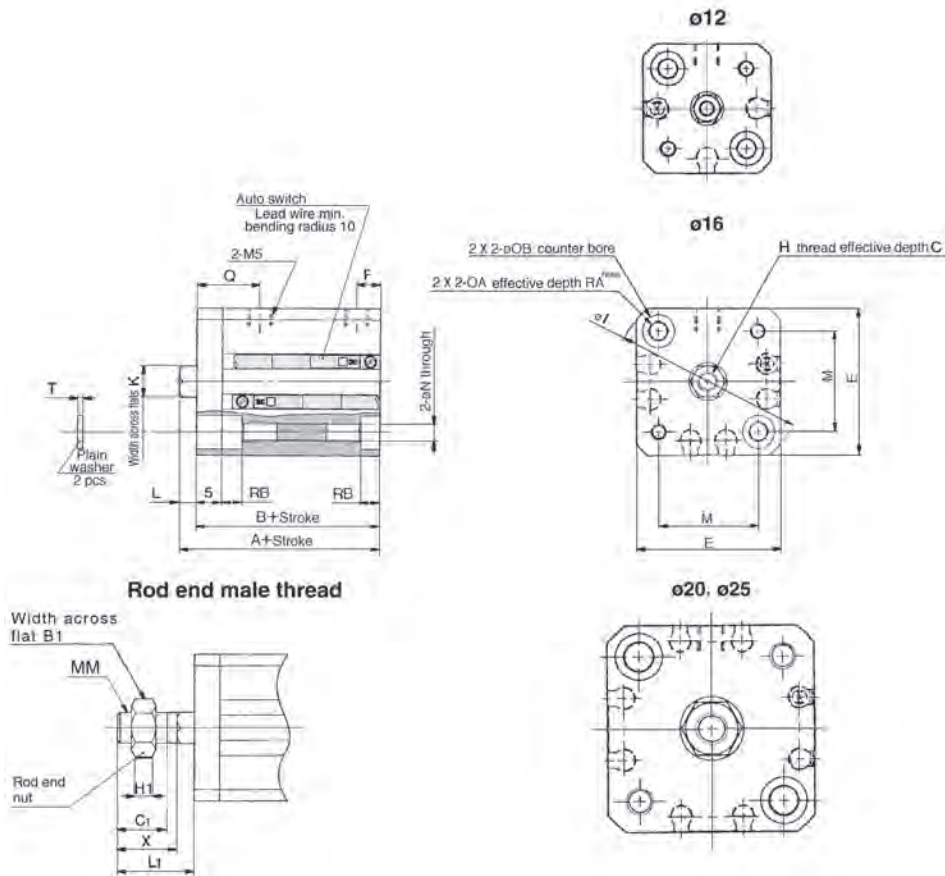
Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch		
		A	B	CL	A	B	CL
12	5, 10	40.5	17	34.5	45.5	22	39.5
16		41.5	17	35.5	46.5	22	40.5
20		51	19.5	42	61	29.5	52
25		57.5	22.5	47.5	67.5	32.5	57.5

Bore size [mm]	CB	CD	CT	CU	CW	CX	CZ	L	L ₁	RR
12	12	5	4	7	14	5	10	3.5	14	6
16	14	5	4	10	15	6.5	12	3.5	15.5	6
20	20	8	5	12	18	8	16	4.5	18.5	9
25	24	10	5	14	20	10	20	5	22.5	10

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

Dimensions $\phi 12$ to $\phi 25$ / Non-rotating / Double acting / Single rod

Basic style (Through-hole/Both ends tapped): CQSK/CDQSK


Rod end male thread

Bore [mm]	B ₁	C ₁	MM	H ₁	L ₁	X
12	8	9	M5	14	4	10.5
16	10	10	M6	15.5	5	12
20	13	12	M8	18.5	5	14
25	17	15	M10 X 1.25	22.5	6	17.5

Basic

(All dimension are common except "A" and "B").

Bore [mm]	Stroke range [mm]	W/o auto switch		With auto switch		C	E	F	H	I	K	L	M	N	OA	OB	Q	RA	RB	T
		A	B	A	B															
12	5 to 30	25.5	22	30.5	27	6	25	5	M3	32	5.2	3.5	15.5	3.5	M4	6.5	12.5	7	4	0.5
16	5 to 30	25.5	22	30.5	27	8	29	5	M4	38	6.2	3.5	20	3.5	M4	6.5	12.5	7	4	0.5
20	5 to 50	29	24.5	39	34.5	7	36	5.5	M5	47	8.2	4.5	25.5	5.4	M6	9	14	10	7	1
25	5 to 50	32.5	27.5	42.5	37.5	12	40	5.5	M6	52	10.2	5	28	5.4	M6	9	16	10	7	1



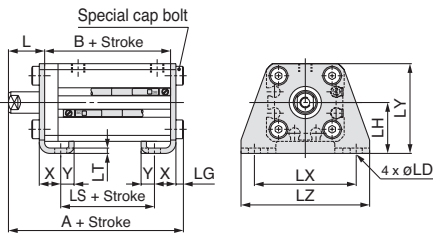
Note) For the following bore/stroke sizes, through hole is threaded over the entire length.

 Basic: $\phi 12$ and $\phi 16$; 5 stroke, $\phi 20$; 5 to 15 stroke, $\phi 25$; 5 and 10 stroke.

 Note) With auto switch (Built-in magnet): $\phi 20$; 5 stroke.


Dimensions

Foot style: CQSKL/CDQSKL

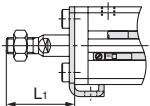


Foot Style

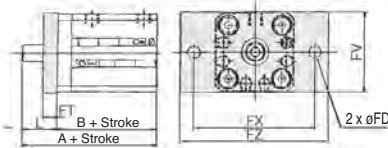
Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			L	L ₁	LD	LG	LH	LT	LX	LY	LZ	X	Y
		A	B	LS	A	B	LS											
12	5 to 30	40.3	22	10	45.3	27	15	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	5 to 30	40.3	22	10	45.3	27	15	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	5 to 50	46.2	24.5	12.5	56.2	34.5	22.5	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	5 to 50	49.7	27.5	12.5	59.7	37.5	22.5	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Rod side flange style: CQSKF/CDQSKF



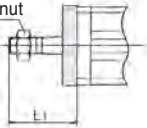
Rod Side Flange Style

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5 to 30	35.5	22	40.5	27	4.5	5.5	25	45	55	13.5	24
16	5 to 30	35.5	22	40.5	27	4.5	5.5	30	45	55	13.5	25.5
20	5 to 50	39	24.5	49	34.5	6.6	8	39	48	60	14.5	28.5
25	5 to 50	42.5	27.5	52.5	37.5	6.6	8	42	52	64	15	32.5

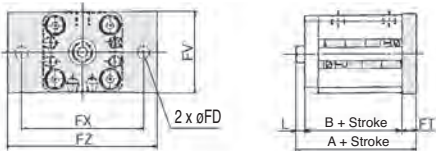
Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread

Rod end nut



Head side flange style: CQSKG/CDQSKG

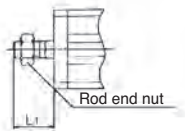


Head Side Flange Style

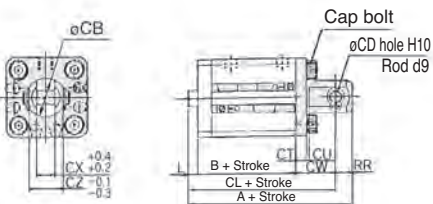
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁
		A	B	A	B							
12	5 to 30	31	22	36	27	4.5	5.5	25	45	55	3.5	14
16	5 to 30	31	22	36	27	4.5	5.5	30	45	55	3.5	15.5
20	5 to 50	37	24.5	47	34.5	6.6	8	39	48	60	4.5	18.5
25	5 to 50	40.5	27.5	50.5	37.5	6.6	8	42	52	64	5	22.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Double clevis style: CQSKD/CDQSKD

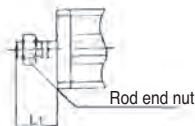


Double Clevis Style

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			CB	CD	CT	CU	CW	CX	CZ	L	L ₁	RR
		A	B	CL	A	B	CL										
12	5 to 30	45.5	22	39.5	50.5	27	44.5	12	5	4	7	14	5	10	3.5	14	6
16	5 to 30	46.5	22	40.5	51.5	27	45.5	14	5	4	10	15	6.5	12	3.5	15.5	6
20	5 to 50	56	24.5	47	66	34.5	57	20	8	5	12	18	8	16	4.5	18.5	9
25	5 to 50	62.5	27.5	52.5	72.5	37.5	62.5	24	10	5	14	20	10	20	5	22.5	10

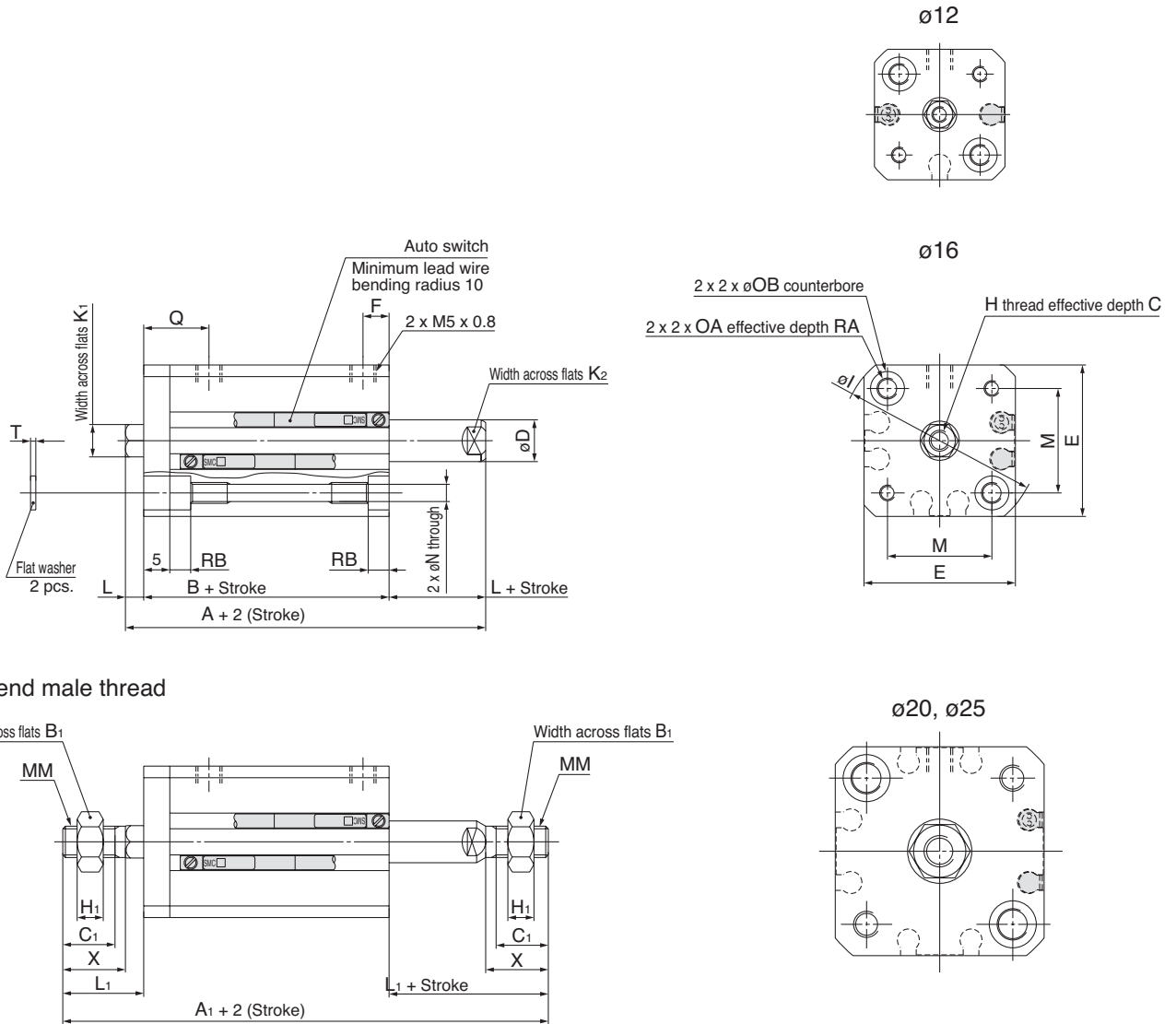
Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Dimensions $\phi 12$ to $\phi 25$ / Non-rotating / Double acting / Double rod

Basic style (Through-hole/Both ends tapped common): CQSKW/CDQSKW


Rod End Male Thread

Bore size [mm]	Without auto switch	With auto switch	B ₁	C ₁	H ₁	L ₁	MM	X
	A ₁	A ₁						
12	55	60	8	9	4	14	M5	10.5
16	58	63	10	10	5	15.5	M6	12
20	68	78	13	12	5	18.5	M8	14
25	79	89	17	15	6	22.5	M10 x 1.25	17.5

Basic Style

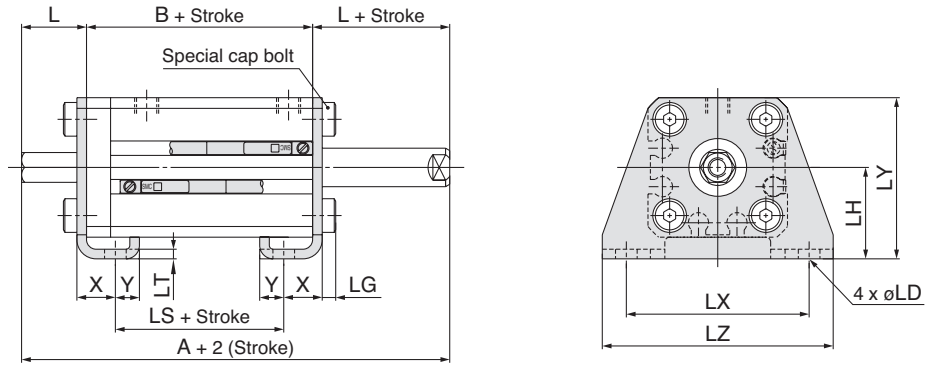
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		C	D	E	F	H	I	K ₁	K ₂	L	M	N	OA	OB	Q	RA	RB	T
		A	B	A	B																	
12	5 to 30	34	27	39	32	6	6	25	7.5	M3	32	5.2	5	3.5	15.5	3.5	M4	6.5	12.5	7	4	0.5
16	5 to 30	34	27	39	32	8	8	29	7.5	M4	38	6.2	6	3.5	20	3.5	M4	6.5	12.5	7	4	0.5
20	5 to 50	40	31	50	41	7	10	36	9	M5	47	8.2	8	4.5	25.5	5.4	M6	9	14	10	7	1
25	5 to 50	44	34	54	44	12	12	40	11	M6	52	10.2	10	5	28	5.4	M6	9	16	10	7	1

Note 1) For basic style $\phi 20$ and $\phi 25$ with 5 stroke, through-hole is threaded over the entire length.
 Note 2) The positions of width across flats (K₂) on both sides are not the same.

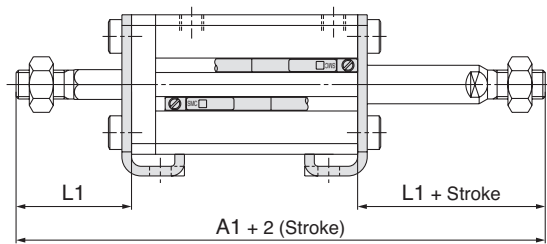


Dimensions

Foot style: CQSKWL/CDQSKWL



Rod end male thread

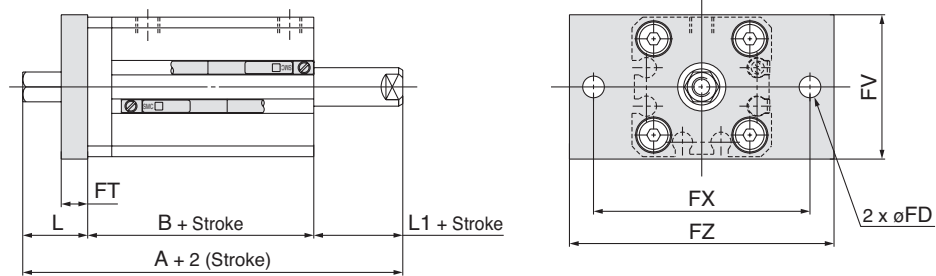


Foot Style

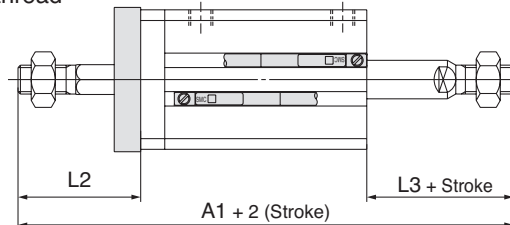
Bore size [mm]	Stroke range [mm]	Without auto switch				With auto switch				L	L1	LD	LG	LH	LT	LX	LY	LZ	X	Y
		A	A1	B	LS	A	A1	B	LS											
12	5 to 30	54	75	27	15	59	80	32	20	13.5	24	4.5	2.8	17	2	34	29.5	44	8	4.5
16	5 to 30	54	78	27	15	59	83	32	20	13.5	25.5	4.5	2.8	19	2	38	33.5	48	8	5
20	5 to 50	60	88	31	19	70	98	41	29	14.5	28.5	6.6	4	24	3.2	48	42	62	9.2	5.8
25	5 to 50	64	99	34	19	74	109	44	29	15	32.5	6.6	4	26	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Flange style: CQSKWF/CDQSKWF



Rod end male thread



Flange Style

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			FD	FT	FV	FX	FZ	L	L1	L2	L3
		A	A1	B	A	A1	B									
12	5 to 30	44	65	27	49	70	32	4.5	5.5	25	45	55	13.5	3.5	24	14
16	5 to 30	44	68	27	49	73	32	4.5	5.5	30	45	55	13.5	3.5	25.5	15.5
20	5 to 50	50	78	31	60	88	41	6.6	8	39	48	60	14.5	4.5	28.5	18.5
25	5 to 50	54	89	34	64	99	44	6.6	8	42	52	64	15	5	32.5	22.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Compact Cylinder: Guide Rod Type Double Acting, Single Rod Series CQM

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Features

- 2 to 4 times stronger anti-lateral load (compared to CQ2).
- Loads can be directly mounted.
- Compatible mounting dimensions with CQS/CQ2.
- Autoswitch is mountable/removable even when the plate is retracted.

How to Order

Without magnet
CQM B 20 [] 10

With magnet
CDQM B 20 [] 10

With auto switch

Mounting

Cylinder stroke [mm]

For "Standard Stroke" see below.

* Intermediate stroke cylinders are constructed using internal spacers. Body lengths will be as the next largest standard stroke in the table below. Please contact SMC for clarification if required.

B	Through-hole (standard)
A	Both end tapped style (ø32 to ø100)

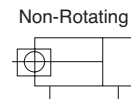
Bore size	
12	12 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Symbol	Port thread	Bore size
–	M thread	ø12 to ø25
TF	G	ø32 to ø100

Note) M thread to be used for without auto switch type of ø32, 5 stroke exceptionally.

Note) Cylinder bodies of ø12 to ø25 are common for both B (Through-hole) and A (Both end tapped) types. Symbol to order is unified to "B" for those sizes.

Symbol



Product Recommendation



Stocked items for fast delivery

Part Number	Stroke (□)	Part Number	Stroke (□)
CDQMA32TF-□	20, 30, 40, 50, 75	CDQMB63TF-□	10, 20, 50, 75, 100
CDQMA40TF-□	50, 75, 100	CDQMB80TF-□	20, 40, 50, 75, 100
CDQMA50TF-□	25, 50	CDQMB100TF-□	20, 50, 75, 100
CDQMB12-□	5, 10, 15, 20, 25, 30	CQMB12-□	5, 10, 15, 20
CDQMB16-□	5, 10, 15, 20, 25, 30	CQMB16-□	5, 10, 15, 20, 30
CDQMB20-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	CQMB20-□	10, 15, 20, 30, 40, 50
CDQMB25-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	CQMB25-□	10, 15, 20, 25, 40, 50
CDQMB32TF-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	CQMB32TF-□	10, 20, 100
CDQMB40TF-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	CQMB63TF-□	20
CDQMB50TF-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	CQMB80TF-□	20

Standard Stroke

Bore size [mm]	Standard stroke [mm]
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



Related Products

- Series ASR/ASQ - Air Saving Valves - www.smc.eu
- Series AS - Speed Controllers - page 1238
- Series RB - Shock Absorber - page 809
- Series SY - Valves - page 65, 101, 417
- Series SV - Valves - page 20
- Series VQ - Valves - page 241
- Series AC - Air Preparation - page 1076
- Series IDK - Moisture Control Tube - page 1149
- Series TU - Tubing - page 1223
- Series KQ2 - Fittings - page 1184



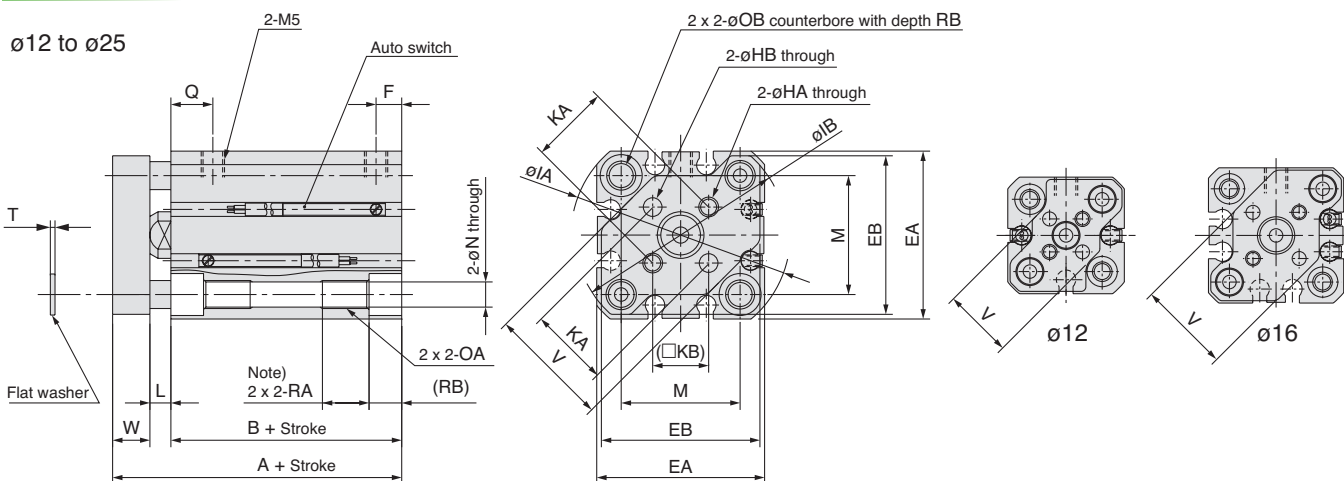
For more product options and details see our specific catalogues or on-line information.

Technical Specifications

Type	Pneumatic (non-lube)	
Action	Double acting, Single rod	
Fluid	Air	
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Minimum operating pressure	ø12, 16	0.12 MPa
	ø20 to 100	0.1 MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C (with no freezing) With auto switch: -10°C to 60°C (with no freezing)	
Cushion	Rubber bumper on both ends	
Stroke length tolerance (Note)	+1.0 mm 0	
Mounting	Through-hole	
Piston speed	ø12 to 40	50 to 500 mm/s
	ø50 to 100	50 to 300 mm/s

Note) Stroke tolerance does not include damper compression.

Dimensions



[mm]

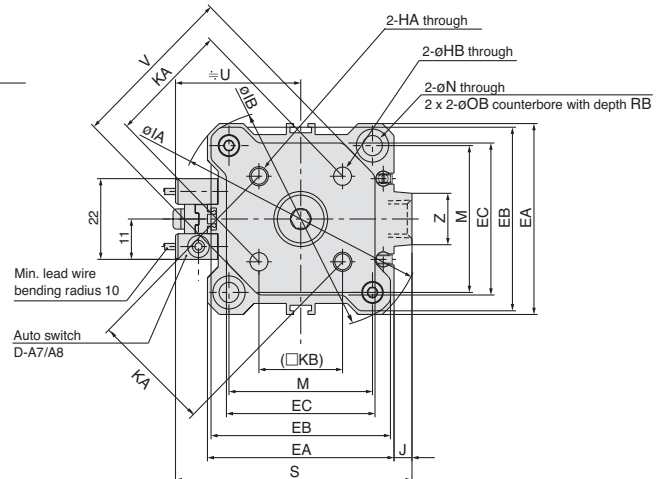
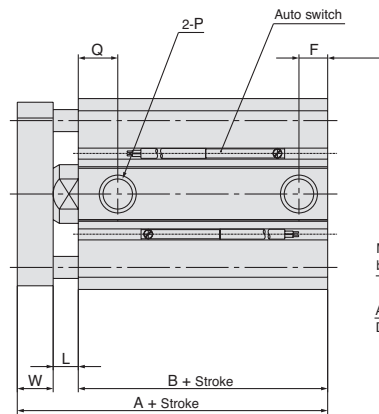
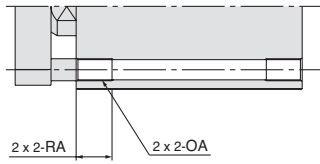
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		EA	EB	F	HA	OA	HB	IA	IB
		A	B	A	B								
12	5 to 30	26.5	17	31.5	22	25	24	5	M3	M4	3	32	31.5
16	5 to 30	26.5	17	31.5	22	29	28	5	M3	M4	3	38	37
20	5 to 50	32	19.5	42	29.5	36	34	5.5	M4	M6	4	47	45.5
25	5 to 50	35.5	22.5	45.5	32.5	40	38	5.5	M5	M6	5	52	50.5

Bore size [mm]	KA	KB	L	M	N	OB	Q	RA	RB	T	V	W
12	10	7.1	3.5	15.5	3.5	6.5	7.5	7	4	0.5	14.9	6
16	14	9.9	3.5	20	3.5	6.5	7.5	7	4	0.5	20	6
20	17	12	4.5	25.5	5.4	9	9	10	7	1	26	8
25	22	15.6	5	28	5.4	9	11	10	7	1	30	8

Note)
For the following bore/stroke sizes, the through-hole is threaded.
Standard without auto switch: ø12 and ø16; 5 stroke, ø25; 5 to 10 stroke.
Built-in magnet with auto switch: ø20; 5 stroke

Dimensions

ø32 to ø50

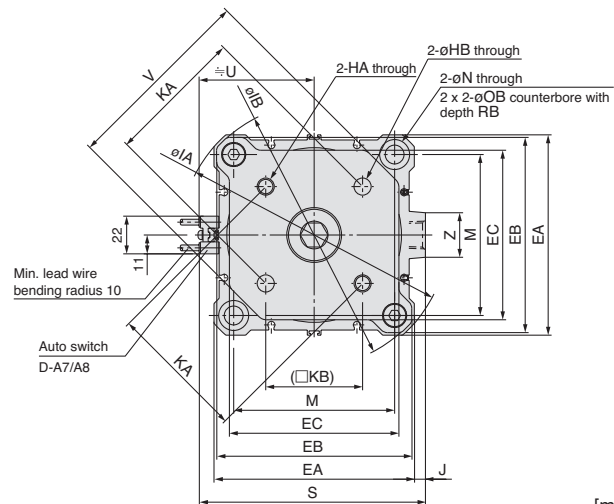
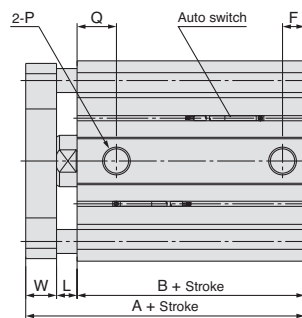
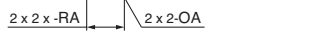


[mm]

Bore size [mm]	Stroke range [mm]	Without auto switch					With auto switch					EA	EB	EC
		A	B	F	Q	P TF	A	B	F	Q	P TF			
32	5	40	23	5.5	11.5	—	50	33	7.5	10.5	G1/8	45	43	34.4
	10 to 50	50	33	7.5	10.5	G1/8								
	75, 100	50	33	7.5	10.5	G1/8								
40	5 to 50	46.5	29.5	8	11	G1/8	56.5	39.5	8	11	G1/8	52	50	41.4
	75, 100	56.5	39.5	8	11	G1/8								
50	10 to 50	50.5	30.5	10.5	10.5	G1/4	60.5	40.5	10.5	10.5	G1/4	64	62	53.4
	75, 100	60.5	40.5	10.5	10.5	G1/4								

Bore size [mm]	OA	HA	HB	IA	IB	J	KA	KB	L	M	N	OB	RA	RB	S	U	V	W	Z
	TF	TF																	
32	M6	M5	5	60	58.5	4.5	28	19.8	7	34	5.5	9	10	7	58.5	31.5	38	10	14
40	M6	M5	5	69	67.5	5	33	23.3	7	40	5.5	9	10	7	66	35	46	10	14
50	M8	M6	6	86	84.5	7	42	29.7	8	50	6.6	11	14	8	80	41	58	12	19

ø63 to ø100



[mm]

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		EA	EB	EC	F	HA	HB	IA	IB	J	KA	KB	L	M
		A	B	A	B													
63	10 to 50	56	36	66	46	77	74	59.6	10.5	M6	6 ^{+0.2} ₀	103	100	7	50	35.4	8	60
	75, 100	66	46	66	46	77	74	59.6	10.5	M6	6 ^{+0.2} ₀	103	100	7	50	35.4	8	60
80	10 to 50	67.5	43.5	77.5	53.5	98	95	79.5	12.5	M8	8 ^{+0.2} ₀	132	129	6	65	46	10	77
	75, 100	77.5	53.5	77.5	53.5	98	95	79.5	12.5	M8	8 ^{+0.2} ₀	132	129	6	65	46	10	77
100	10 to 50	79	53	89	63	117	114	99	13	M10	10 ^{+0.2} ₀	156	153	6.5	80	56.6	10	94
	75, 100	89	63	89	63	117	114	99	13	M10	10 ^{+0.2} ₀	156	153	6.5	80	56.6	10	94

Bore size [mm]	N	OA	OB	P	Q	RA	RB	S	U	V	W	Z
				TF								
63	9	M10	14	G1/4	15	18	10.5	93	47.5	69	12	19
80	11	M12	17.5	G3/8	16	22	13.5	112.5	57.5	89	14	26
100	11	M12	17.5	G3/8	23	22	13.5	132.5	67.5	113	16	26



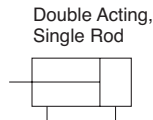
ISO Standard [ISO 21287] Compact Cylinder Double Acting, Single Rod Series C55

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Features

- Standard ISO compact cylinders with standard outside dimensions according to ISO21287.
- Full range of brackets available.
- Tapped body with through holes for easy mounting.
- Male rod thread is available as an option.

Symbol



How to Order



Built in magnet

Mounting style

B Through-hole/Both ends tapped common (Standard)

* Order mounting brackets separately. See table on page XXX

Bore size	
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Rod end thread

—	Rod end female thread
M	Rod end male thread *

* Rod end male thread upon request.

Cylinder stroke [mm]

Bore size [mm]	Standard stroke [mm]
20 to 63	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125

Product Recommendation



Stocked items for fast delivery

Part Number	Stroke (□)
C*55B20-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B20-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B25-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B25-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B32-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B32-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B40-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B40-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B50-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B50-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B63-□	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B63-□M	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125, 150
C*55B80-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125
C*55B80-□M	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125
C*55B100-□	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125
C*55B100-□M	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 80, 100, 125

* Autoswitch —: without
D: with



Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



Related Products

- Series ASR/ASQ - Air Saving Valves - www.smc.eu
- Series AS - Speed Controllers - page 1238
- Series RB - Shock Absorber - page 809
- Series SY - Valves - page 65, 101, 417
- Series SV - Valves - page 20
- Series VQC - Valves - page 193, 211
- Series AC - Air Preparation - page 1076
- Series TU - Tubing - page 1223
- Series KQ2 - Fittings - page 1184

Specifications

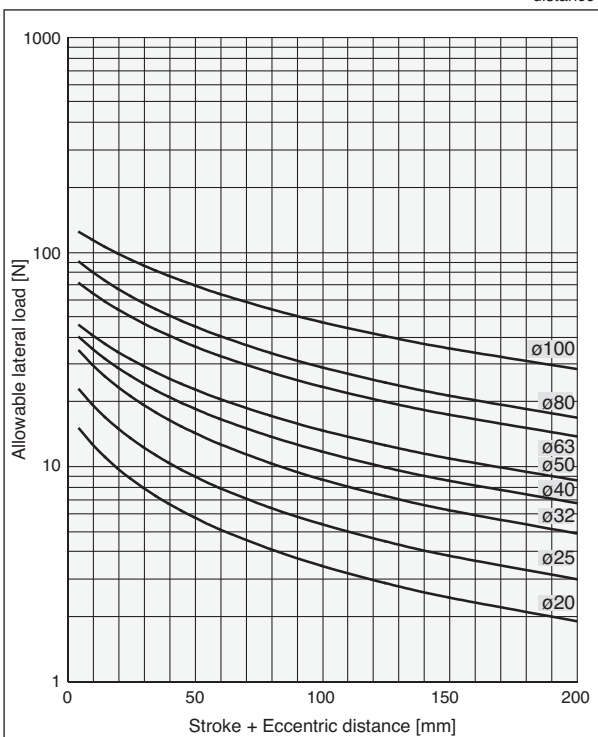
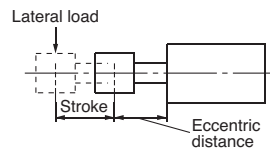
Type	Pneumatic (Non-lube)	
Action	Double acting, Single rod	
Fluid	Air	
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Minimum operating pressure	0.05 MPa (ø20 to ø63), 0.03 MPa (ø80, ø100)	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)	
Cushion	Rubber bumper on both end	
Stroke length tolerance (Note)	+1.0 0 mm	
Mounting	Through-hole/Both ends tapped common, foot, rod flange, single clevis	
Piston speed	ø20 to ø63	50 to 500 mm/s
	ø80, ø100	50 to 300 mm/s

Note) Stroke length tolerance dose not include the amount of bumper change.

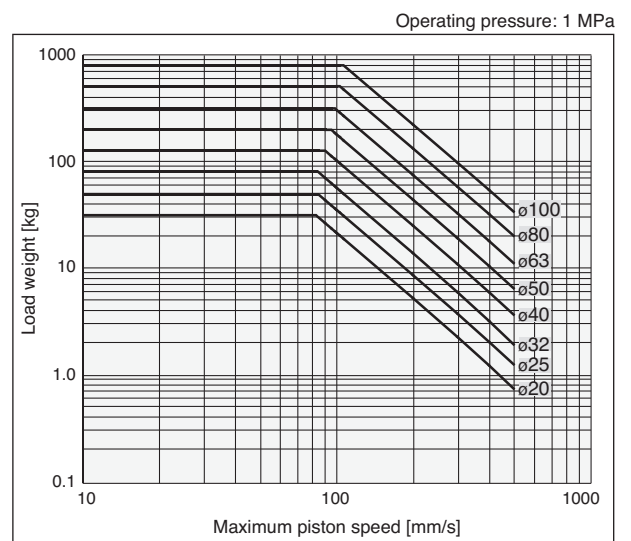
Replacement Parts: Seal Kit

Bore size [mm]	Kit no.
20	CQ2B20-PS
25	CQ2B25-PS
32	CQ2B32-PS
40	CQ2B40-PS
50	CQ2B50-PS
63	CQ2B63-PS
80	CQ2B80-PS
100	CQ2B100-PS

Allowable Lateral Load

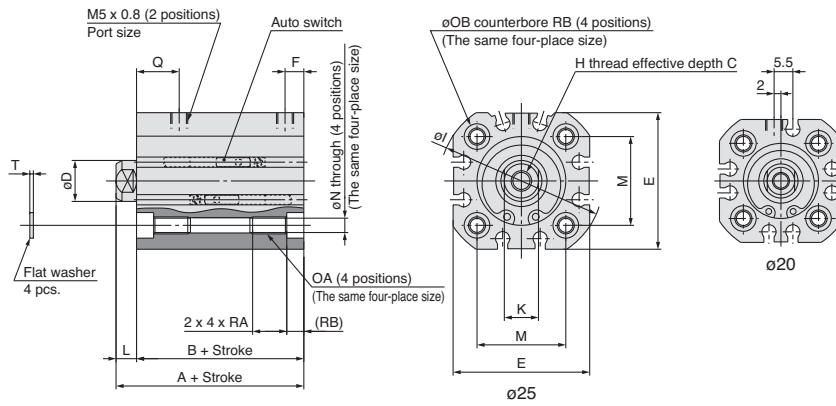


Allowable Kinetic Energy

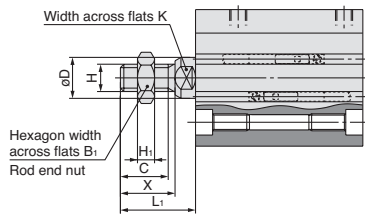


Dimensions

ø20, ø25



M: Rod end male thread



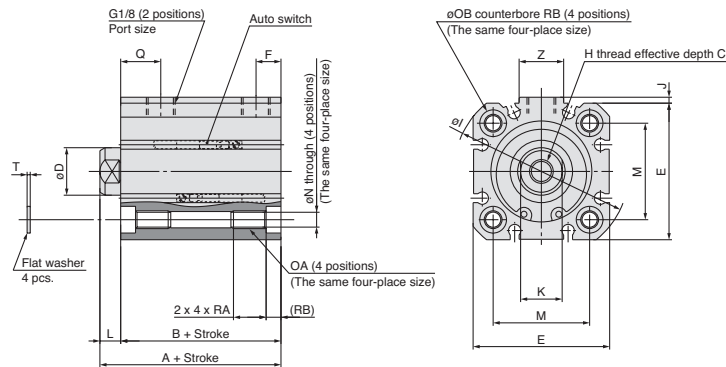
Bore size [mm]	B ₁	C	D	H	H ₁	K	L ₁	X
20	13	14	10	M8	5	8	22	16
25	13	14	12	M8	5	10	22	16

Basic Style

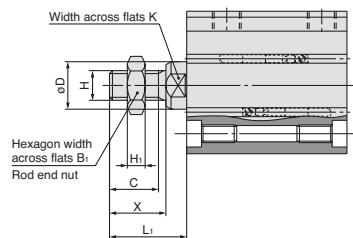
Bore size [mm]	A	B	C	D	E	F	H	I	K	L	M	N	OA	OB	Q	RA	RB	T
20	43	37	10	10	36	5.5	M6	43	8	6	22	4.5	M5	7.5	13	10	5	0.8
25	45	39	10	12	40	5.5	M6	48	10	6	26	4.5	M5	7.5	13	10	5	0.8

Dimensions

ø32 to ø63



M: Rod end male thread



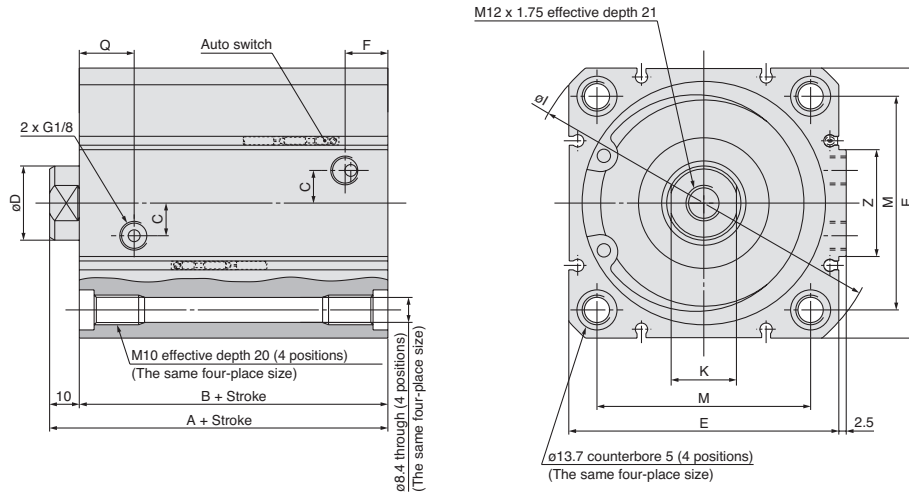
Bore size [mm]	B ₁	C	D	H	H ₁	K	L ₁	X
32	17	16.5	16	M10	6	14	26	19
40	17	16.5	16	M10	6	14	26	19
50	19	19.5	20	M12	7	17	30	22
63	19	19.5	20	M12	7	17	30	22

Basic Style

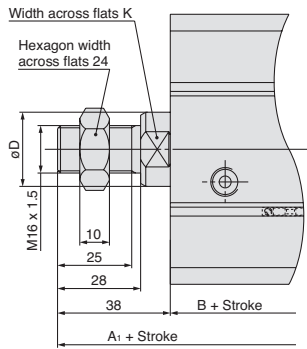
Bore size [mm]	A	B	C	D	E	F	H	I	J	K	L	M	N	OA	OB	Q	RA	RB	T	Z
32	51	44	12	16	46	8.5	M8	59	2	14	7	32.5	5.5	M6	9	14.5	11	5	1	15
40	52	45	12	16	52	9.5	M8	67	3	14	7	38	5.5	M6	9	14.5	11	5	1	17
50	53	45	16	20	64	10.5	M10	82	2	17	8	46.5	6.6	M8	10.5	13.5	15	5	1.6	17
63	57	49	16	20	74	14.5	M10	96	3	17	8	56.5	6.6	M8	10.5	15.5	15	5	1.6	17

Dimensions

ø80, ø100



M: Rod end male thread



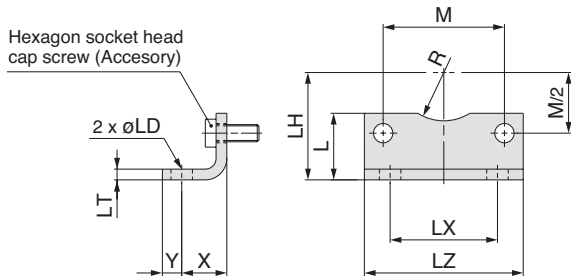
Basic Style											[mm]
Bore size [mm]	A	B	C	D	E	F	I	K	M	Q	Z
80	64	54	11	25	91	15	121	22	72	19	36
100	77	67	14	30	111	18	145	27	89	26	42

Rod End Male Thread		[mm]
Bore size [mm]	A ₁	
80	92	
100	106.5	



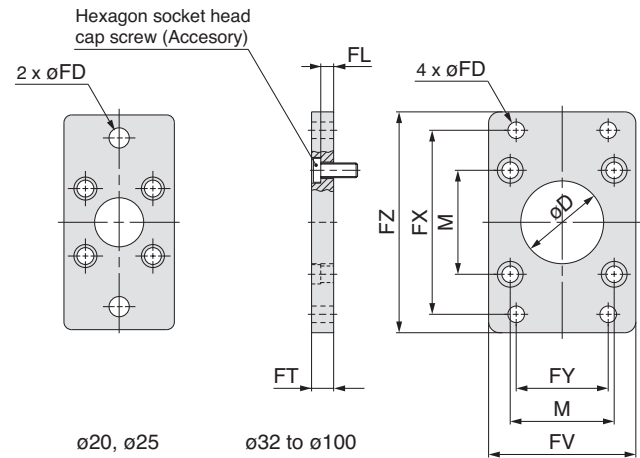
Mounting Brackets

Foot bracket



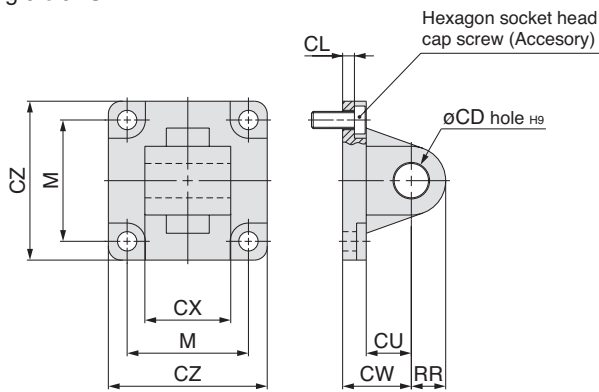
Bore size [mm]	L	LD	LH	LT	LX	LZ	M	R	X	Y	Hexagon socket head cap screw
20	22	7	27	4	22	36	22	8	16	7	M5
25	22	7	29	4	26	40	26	10	16	7	M5
32	24.5	7	33.5	4	32	46	32.5	15	16	7	M6
40	26	10	38	4	36	52	38	17.5	18	9	M6
50	31	10	45	5	45	64	46.5	20	21	9	M8
63	31	10	50	5	50	74	56.5	22.5	21	9	M8
80	38.5	12	63	6	63	96	72	—	26	11	M10
100	45	14.5	74	6	75	116	89	—	27	13	M10

Flange bracket



Bore size [mm]	D _{H11}	M	FD	FL	FT	FV	FX	FY	FZ	Hexagon socket head cap screw
20	16	22	6.6	2.8	8	38	55	—	68	M5
25	16	26	6.6	2.8	8	38	60	—	73	M5
32	30	32.5	7	5	10	50	64	32	79	M6
40	35	38	9	5	10	55	72	36	90	M6
50	40	46.5	9	6	12	70	90	45	110	M8
63	45	56.5	9	6	12	80	100	50	120	M8
80	45	72	12	8	16	100	126	63	153	M10
100	55	89	14	8	16	120	150	75	178	M10

Single clevis



Bore size [mm]	CD _{H9}	CL	CU	CW	CX _{0.2/0.6}	CZ	M	RR	Hexagon socket head cap screw
20	8	3	12	20	16	35	22	9	M5
25	8	3	12	20	16	40	26	9	M5
32	10	5.5	12	22	26	45	32.5	9.5	M6
40	12	5.5	15	25	28	51	38	12	M6
50	12	6.5	15	27	32	64	46.5	12	M8
63	16	6.5	20	32	40	74	56.5	16	M8
80	16	10	20	36	50	94	72	16	M10
100	20	10	25	41	60	113	89	20	M10

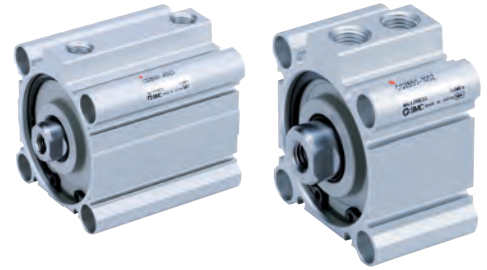
Mounting Bracket Part No.

Bore size [mm]	Foot	Flange	Single clevis
20	C55-L020	C55-F020	C55-C020
25	C55-L025	C55-F025	C55-C025
32	C55-L032	C55-F032	C55-C032
40	C55-L040	C55-F040	C55-C040
50	C55-L050	C55-F050	C55-C050
63	C55-L063	C55-F063	C55-C063
80	C55-L080	C55-F080	C55-C080
100	C55-L100	C55-F100	C55-C100

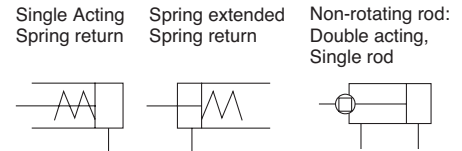
- Order two foot brackets per cylinder.
- Parts belonging to each bracket are as follows.
Foot, Flange, Single clevis/Body mounting bolt

Compact Cylinder: Standard/Non-rotating type Double Acting/Single Acting, Single rod Series CQ2

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63,
ø80, ø100, ø125, ø140, ø160, ø180, ø200



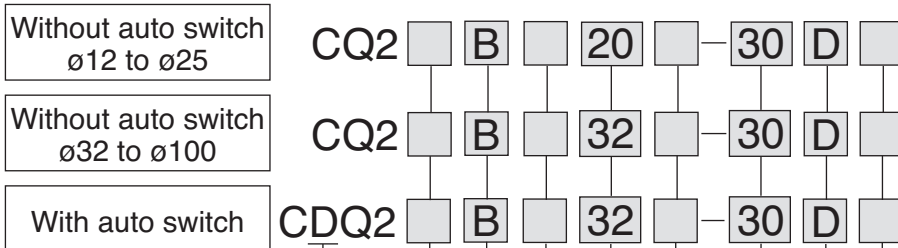
Symbol



Features

- Available in bores up to 200 mm and strokes up to 300 mm as standard.
- Extremely compact and light weight.
- No need to use auto switch brackets.
- No protrusion of auto switch.
- Wide range of variations available: double rod, axial piping, anti-lateral load, with en lock, water resistant, smooth and low speed types.

How to Order



With auto switch
(Built-in magnet)

Rod Type

—	Standard
K	Non-rotating ^{Note 1)}

Note 1) Non-rotating only available in double acting, pneumatic type and from ø12 to ø63.

Mounting

B	Through-hole (Standard) ^{Note 2) 3) 4)}	F	Rod flange
A	Both ends tapped	G	Head flange
L	Foot	D	Double clevis

- * Cylinder mounting bolts are not included. Order them separately.
- * Mounting brackets are shipped together (but not assembled)
- Note 2) For ø125 to ø200, B-Standard only available.
- Note 3) For long stroke types, B-Standard is not available.
- Note 4) In the Non-rotating type from ø12 to ø32, B-Standard only available.

Bore size

12 ^{Note 8)}	12 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm
40	40 mm
50	50 mm
63	63 mm ^{Note 7)}
80	80 mm ^{Note 7)}
100	100 mm ^{Note 7)}
125	125 mm ^{Note 7)}
140	140 mm ^{Note 7)}
160	160 mm ^{Note 7)}
180	180 mm ^{Note 7)}
200	200 mm ^{Note 7)}

- Note 7) Bore available only for double acting types.
- Note 8) When ø12 Non-rotating with auto switch is required, the body option should be with rubber bumper (C).

Type

—	Pneumatic
H	Air-hydro ^{Note 5) Note 6)}

Note 5) Bore sizes available for air-hydro type are ø20 to ø100.

Note 6) Option only available for double acting types.

Port thread type

—	M5 thread	ø12 to ø25
TF	Rc	ø32 to ø200
F	G ^{Note 9)}	
F	Built-in one-touch fittings ^{Note 10)}	

Note 9) "TF" is not available for air-hydro type.

Note 10) Bore sizes available with one-touch fittings are ø32 to ø63. Besides, it is not possible to use for air-hydro type.

* For ø32-5 stroke without auto switch, the type of threads is M5.

Auto switch mounting groove

Z	ø12 to ø25	2 surfaces
	ø32 to ø200	4 surfaces

Body option

—	Standard (Rod end female thread)
F	With boss on head end ^{Note 11)}
C	With rubber bumper ^{Note 12) Note 13) Note 14) Note 15)}
M	Rod end male thread

* Combination of body options ("CM", "FC", "FM", "FCM") is available.

Note 11) Option not available for ø125 to ø200 or long stroke type.

Note 12) Option only available for double acting types.

Note 13) Air-hydro type with rubber bumper is not available.

Note 14) Option mandatory for ø125 to ø 200 for long stroke type and when ø12 non rotating with auto switch is required.

Note 15) In the Non-rotating type, C is only possible for ø12 with auto switch.

Action

D	Double acting
S	Single acting, Spring return
T	Single acting, Spring extend

Cylinder stroke [mm]

Pneumatic type (Double Acting Types)

Bore size	Standard stroke	Long stroke
12, 16	5, 10, 15, 20, 25, 30	—
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50	—
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	125, 150, 175, 200, 250, 300
50 to 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100	—
125 to 200	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300	—

Air-hydro type (Double Acting Types)

Bore size	Standard stroke
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Single Acting Types

Bore size	Standard stroke
12, 16, 20, 25, 32, 40	5, 10
50	10, 20



Product Recommendation



Stocked items for fast delivery

Part Number (With auto-switch)	Stroke (□)
CDQ2A16-□DZ	10, 20, 25, 30
CDQ2A20-□DZ	15, 50
CDQ2A25-□DZ	15, 20, 25, 40
CDQ2A32TF-□DZ	10, 15, 35, 40, 50, 100
CDQ2A40TF-□DZ	15, 20, 25, 30, 40, 50, 75, 100
CDQ2A50TF-□DZ	10, 25, 30, 50, 75
CDQ2A63TF-□DZ	10, 50, 75, 100
CDQ2A80TF-□DZ	40, 100
CDQ2B12-□DZ	5, 10, 15, 20, 25, 30
CDQ2B16-□DZ	5, 10, 15, 20, 25, 30
CDQ2B20-□DZ	5, 10, 15, 20, 25, 30, 35, 40, 50
CDQ2B25-□DZ	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
CDQ2B32TF-□DZ	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CDQ2B40TF-□DZ	5, 10, 15, 20, 25, 30, 40, 45, 50, 75, 100
CDQ2B50TF-□DZ	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CDQ2B63TF-□DZ	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CDQ2B80TF-□DZ	10, 15, 20, 25, 30, 40, 45, 50, 75, 100
CDQ2B100TF-□DZ	10, 15, 20, 25, 30, 40, 45, 50, 75, 100
CDQ2KB16-□DZ	10, 20, 30
CDQ2KB20-□DZ	10, 20, 30, 50
CDQ2KB25-□DZ	25
CDQ2KB32TF-□DZ	10, 15, 20, 25, 30, 40, 50, 75, 100
CDQ2KB40TF-□DZ	5, 10, 20, 25, 40, 50, 100
CDQ2KB50TF-□DZ	25, 30, 50, 75, 100
CDQ2KB63TF-□DZ	10, 15, 20, 25, 30, 50



Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



Related Products

- Series D-□7 / R□K** - Trimmer Auto Switch - page 1032
- Series ASR/ASQ** - Air saving valves - www.smc.eu
- Series AS** - Speed Controllers - page 1238
- Series RB** - Shock Absorber - page 809
- Series SY** - Valves - page 65, 101, 417
- Series VQ** - Valves - page 241
- Series AC** - Air Preparation - page 1076
- Series IDK** - Moisture Control Tube - page 1149
- Series TU** - Tubing - page 1223
- Series KQ2** - Fittings - page 1184



Stocked items for fast delivery

Part Number (Without auto-switch)	Stroke (□)
CQ2A12-□D	5, 10, 15, 20, 25, 30
CQ2A16-□D	5, 10, 15, 20, 25, 30
CQ2A20-□D	5, 10, 15, 20, 25, 30, 40, 50
CQ2A25-□D	5, 10, 15, 20, 25, 30, 40, 45, 50
CQ2A32TF-□DZ	10, 50, 75, 100
CQ2A40TF-□DZ	25, 30, 40, 50, 75
CQ2A50TF-□DZ	40, 50, 75, 100
CQ2A63TF-□DZ	10, 25, 30
CQ2B12-□D	5, 10, 15, 20, 25, 30
CQ2B16-□D	5, 10, 15, 20, 25, 30
CQ2B20-□D	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
CQ2B25-□D	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
CQ2B32TF-□DZ	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CQ2B40TF-□DZ	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CQ2B50TF-□DZ	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CQ2B63TF-□DZ	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
CQ2B80TF-□DZ	10, 15, 20, 25, 30, 40, 50, 75, 100
CQ2B100TF-□DZ	10, 15, 20, 25, 30, 40, 50, 75, 100
CQ2KB12-□D	5, 10, 15, 20, 25, 30
CQ2KB16-□D	5, 10, 15, 20, 30
CQ2KB20-□D	5, 10, 15, 20, 25, 30, 40, 45, 50
CQ2KB25-□D	5, 10, 15, 20, 25, 30, 40, 50
CQ2KB32TF-□DZ	15, 20, 25, 30, 40, 50
CQ2KB40TF-□DZ	10, 15, 25, 40, 50
CQ2KB50TF-□DZ	10, 15, 50

Additional variations are also available:

- Double Acting with Double Rod
- Axial Piping
- Anti Lateral Load
- With End Lock
- Water Resistant
- Smooth Cylinder
- Low Speed Cylinder

Compact Cylinder: Standard, Double Acting, Single Rod

Specifications

Pneumatic type

Bore size [mm]	12	16	20	25	32	40	50	63	80	100	
Action	Double acting, Single rod										
Fluid	Air										
Proof pressure	1.5 MPa										
Maximum operating pressure	1.0 MPa										
Minimum operating pressure	0.07 MPa	0.05 MPa									
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)										
Lubrication	Not required (Non-lube)										
Piston speed	50 to 500 mm/s										
Allowable kinetic energy [J]	Standard	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
	With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54
Stroke length tolerance	+1.0 mm (Note) 0										
Mounting	Through-hole, both ends, tapped, foot, rod flange, head flange, double clevis										

Note) Stroke length tolerance does not include the amount of bumper change.

Air-hydro type

Bore size [mm]	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Turbine oil (Note)							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.18 MPa						0.1 MPa	
Ambient and fluid temperature	5 to 60°C							
Piston speed	5 to 50 mm/s							
Cushion	None							
Stroke length tolerance	+1.0 mm 0							
Mounting	Through-hole, both ends, tapped, foot, rod flange, head flange, double clevis							

Note) Refer to "Handling Precautions for SMC Products" (M-E03-3) for Actuator Precautions (5).

Mounting Brackets/Part No.

Bore size [mm]	Model	Foot (Note 1)	Flange	Double clevis	
12	Without switch	CQ2□□-□D	CQ-L012	CQ-F012	CQ-D012
	With switch	CQ2□□-□DZ	CQ-LZ12		
16	Without switch	CQ2□□-□D	CQ-L016	CQ-F016	CQ-D016
	With switch	CQ2□□-□DZ	CQ-LZ16		
20	Without switch	CQ2□□-□D	CQ-L020	CQ-F020	CQ-D020
	With switch	CQ2□□-□DZ	CQ-LZ20		
25	Without switch	CQ2□□-□D	CQ-L025	CQ-F025	CQ-D025
	With switch	CQ2□□-□DZ	CQ-LZ25		
32	CQ2□□-□DZ	CQ-L032	CQ-F032	CQ-D032	
40	CQ2□□-□DZ	CQ-L040	CQ-F040	CQ-D040	
50	CQ2□□-□DZ	CQ-L050	CQ-F050	CQ-D050	
63	CQ2□□-□DZ	CQ-L063	CQ-F063	CQ-D063	
80	CQ2□□-□DZ	CQ-L080	CQ-F080	CQ-D080	
100	CQ2□□-□DZ	CQ-L100	CQ-F100	CQ-D100	

Note 1) When ordering a foot bracket, the required quantity will be different depending on the bore size.

- $\phi 12$ to $\phi 25$:
 - Without switch: Order 2 pieces per cylinder.
 - With switch: Order 1 piece per cylinder. (Part number for a set of 2 foot brackets)
- $\phi 32$ to $\phi 100$:
 - Order 2 pieces per cylinder.

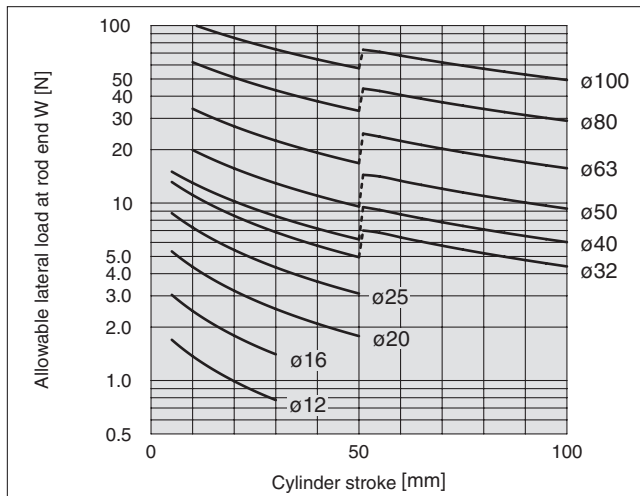
Note 2) Parts belonging to each bracket are as follows.

- Foot or Flange: Body mounting bolts
- Double clevis: Clevis pin, Type C retaining rings for axis, Body mounting bolts

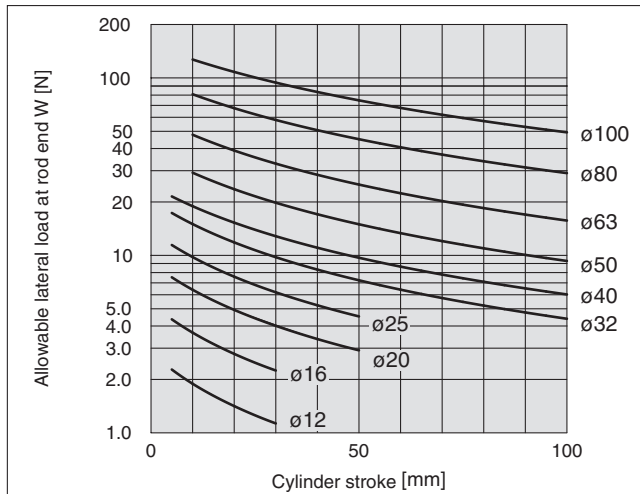


Allowable Lateral Load at Rod End

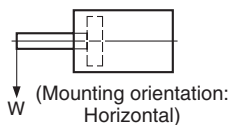
Without Auto Switch



With Auto Switch



If an allowable lateral load at rod end is exceeding the value in the graph, we recommend anti-lateral load type cylinder be used.



Actuators

Replacement Parts/Seal Kit (Pneumatic type)

Bore size [mm]	Kit no.
12	CQ2B12-PS
16	CQ2B16-PS
20	CQ2B20-PS
25	CQ2B25-PS
32	CQ2B32-PS
40	CQ2B40-PS
50	CQ2B50-PS
63	CQ2B63-PS
80	CQ2B80-PS
100	CQ2B100-PS

* Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Replacement Parts/Seal Kit (Air-hydro type)

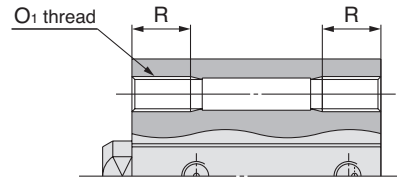
Bore size [mm]	Kit no.
20	CQ2BH20-PS
25	CQ2BH25-PS
32	CQ2BH32-PS
40	CQ2BH40-PS
50	CQ2BH50-PS
63	CQ2BH63-PS
80	CQ2BH80-PS
100	CQ2BH100-PS

* Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

Dimensions

ø12 to ø25/Without Auto Switch

Both ends tapped: CQ2A

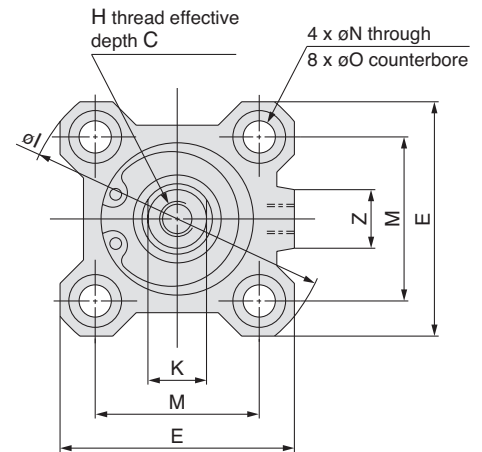
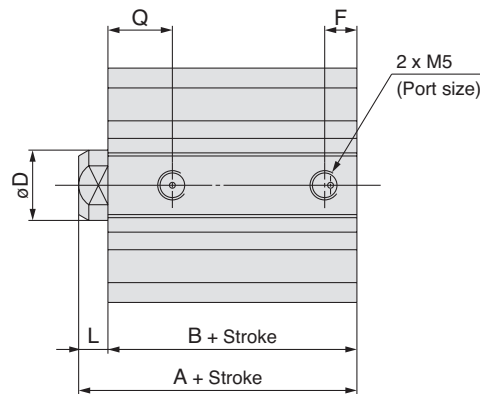


Both Ends

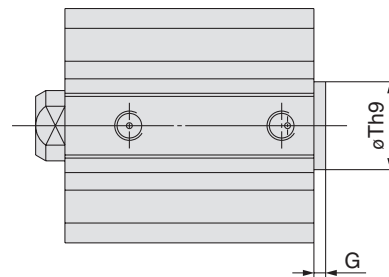
Tapped [mm]		
Bore size [mm]	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

Standard (Through-hole):

CQ2B



With boss on head side

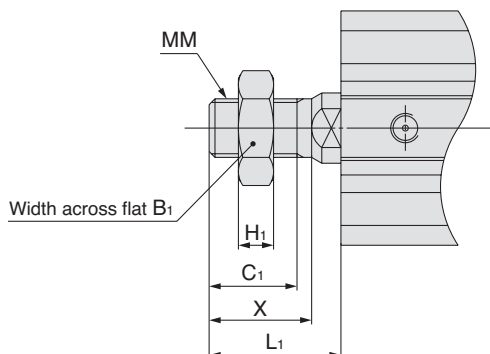


With Boss on Head side [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note 1) With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard

		[mm]															
Bore size [mm]	Stroke range [mm]	A	B	C	D	E	F	H	I	K	L	M	N	O	Q	Z	
12	5 to 30	20.5	17	6	6	25	5	M3 x 0.5	32	5	3.5	15.5	3.5	6.5 depth 3.5	7.5	-	
16	5 to 30	22	18.5	8	8	29	5.5	M4 x 0.7	38	6	3.5	20	3.5	6.5 depth 3.5	8	10	
20	5 to 50	24	19.5	7	10	36	5.5	M5 x 0.8	47	8	4.5	25.5	5.5	9 depth 7	8	10	
25	5 to 50	27.5	22.5	12	12	40	5.5	M6 x 1.0	52	10	5	28	5.5	9 depth 7	9	10	

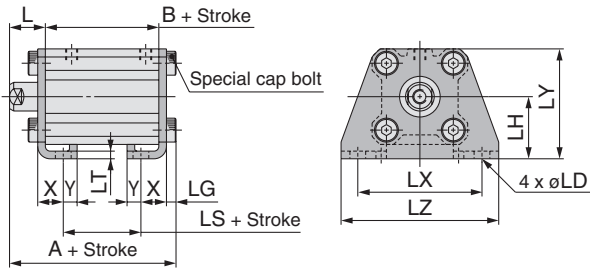
Note 2) The external dimensions with rubber bumper are same as those of the standard, as shown above.

Note 3) For calculation on the longitudinal dimension of intermediate strokes.

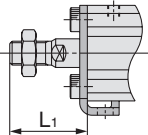


For more product options and details see our specific catalogues or on-line information.

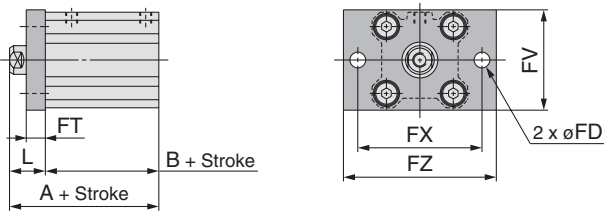
Foot: CQ2L



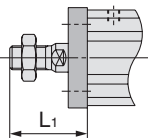
Rod end male thread



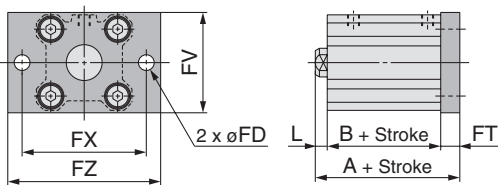
Rod flange: CQ2F



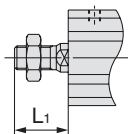
Rod end male thread



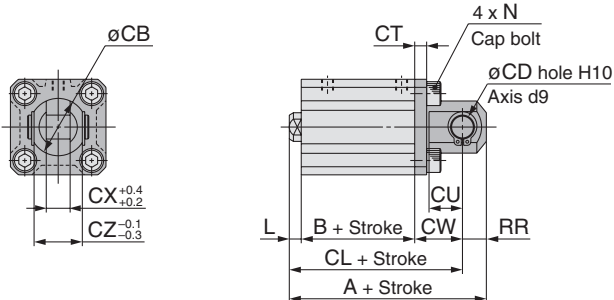
Head flange: CQ2G



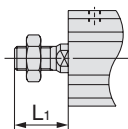
Rod end male thread



Double clevis: CQ2D



Rod end male thread



Foot

[mm]

Bore size [mm]	Stroke range [mm]	A	B	L	L ₁	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	35.3	17	13.5	24	4.5	2.8	17	5	2	34	29.5	44	8	4.5
16	5 to 30	36.8	18.5	13.5	25.5	4.5	2.8	19	6.5	2	38	33.5	48	8	5
20	5 to 50	41.2	19.5	14.5	28.5	6.6	4	24	7.5	3.2	48	42	62	9.2	5.8
25	5 to 50	44.7	22.5	15	32.5	6.6	4	26	7.5	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Flange

[mm]

Bore size [mm]	Stroke range [mm]	A	B	FD	FT	FV	FX	FZ	L	L ₁
12	5 to 30	30.5	17	4.5	5.5	25	45	55	13.5	24
16	5 to 30	32	18.5	4.5	5.5	30	45	55	13.5	25.5
20	5 to 50	34	19.5	6.6	8	39	48	60	14.5	28.5
25	5 to 50	37.5	22.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange

[mm]

Bore size [mm]	Stroke range [mm]	A	L	L ₁
12	5 to 30	26	3.5	14
16	5 to 30	27.5	3.5	15.5
20	5 to 50	32	4.5	18.5
25	5 to 50	35.5	5	22.5

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis

[mm]

Bore size [mm]	Stroke range [mm]	A	B	CB	CD	CL	CT	CU	CW	CX	CZ	L	L ₁	N	RR
12	5 to 30	40.5	17	12	5	34.5	4	7	14	5	10	3.5	14	M4 x 0.7	6
16	5 to 30	43	18.5	14	5	37	4	10	15	6.5	12	3.5	15.5	M4 x 0.7	6
20	5 to 50	51	19.5	20	8	42	5	12	18	8	16	4.5	18.5	M6 x 1.0	9
25	5 to 50	57.5	22.5	24	10	47.5	5	14	20	10	20	5	22.5	M6 x 1.0	10

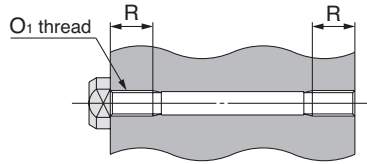
Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

* Double clevis pin and retaining rings are included.

Dimensions

ø12 to ø25/With Auto Switch

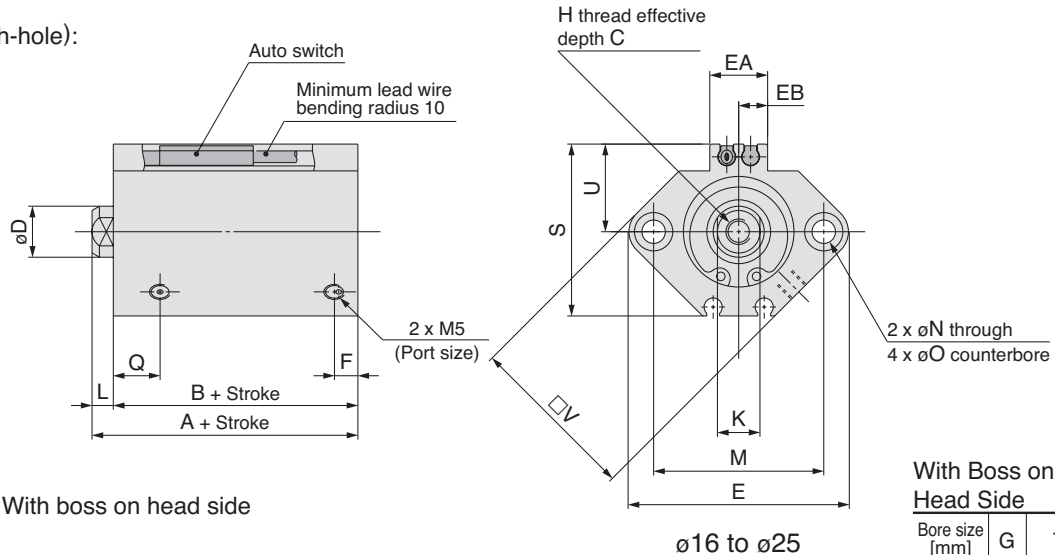
Both ends tapped: CDQ2A



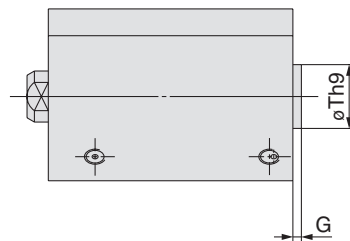
Both Ends

Tapped [mm]

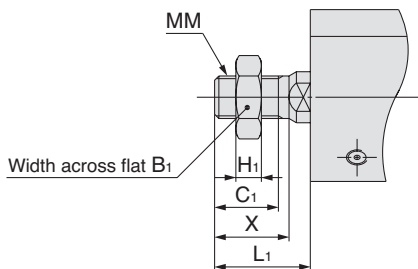
Bore size [mm]	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

 Standard (Through-hole):
CDQ2B


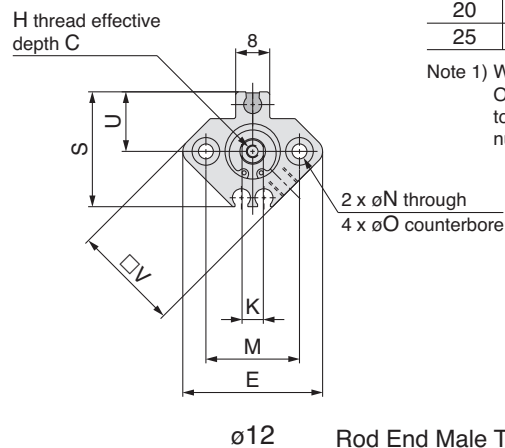
With boss on head side



Rod end male thread


 With Boss on
Head Side [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

 Note 1) With boss on rod end:
Option (Suffix "-XC36"
to the end of model
number.)


ø12

Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard For auto switch proper mounting position and its mounting height.

Bore size [mm]	Stroke range [mm]	A	B	C	D	E	EA	EB	F	H	K	L	M	N	O	Q	S	U	V
12	5 to 30	31.5	28	6	6	33	—	—	6.5	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	11	27.5	14	25
16	5 to 30	34	30.5	8	8	37	13.2	6.6	5.5	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	10	29.5	15	29
20	5 to 50	36	31.5	7	10	47	13.6	6.8	5.5	M5 x 0.8	8	4.5	36	5.5	9 depth 7	8	35.5	18	36
25	5 to 50	37.5	32.5	12	12	52	13.6	6.8	5.5	M6 x 1.0	10	5	40	5.5	9 depth 7	9	40.5	21	40

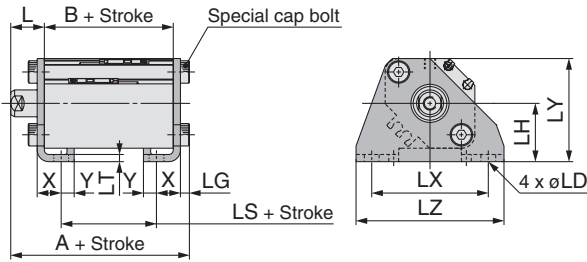
Note 2) The external dimensions with rubber bumper are same as those of the standard, as shown above.

Note 3) For calculation on the longitudinal dimension of intermediate strokes.



For more product options and details see our specific catalogues or on-line information.

Foot: CDQ2L

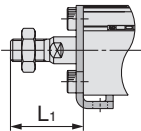


Foot

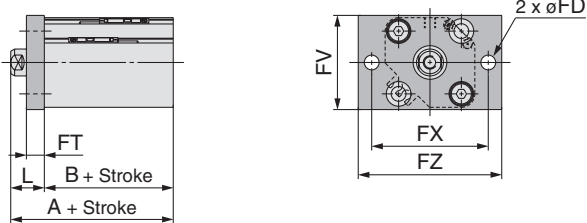
Bore size [mm]	Stroke range [mm]	A	B	L	L ₁	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	46.3	28	13.5	24	4.5	2.8	17	16	2	34	29.5	44	8	4.5
16	5 to 30	48.8	30.5	13.5	25.5	4.5	2.8	19	18.5	2	38	33.5	48	8	5
20	5 to 50	53.2	31.5	14.5	28.5	6.6	4	24	19.5	3.2	48	42	62	9.2	5.8
25	5 to 50	54.7	32.5	15	32.5	6.6	4	26	17.5	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Rod flange: CDQ2F

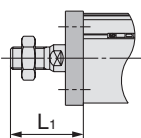


Rod Flange

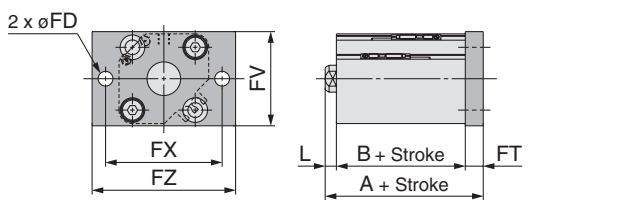
Bore size [mm]	Stroke range [mm]	A	B	FD	FT	FV	FX	FZ	L	L ₁
12	5 to 30	41.5	28	4.5	5.5	25	45	55	13.5	24
16	5 to 30	44	30.5	4.5	5.5	30	45	55	13.5	25.5
20	5 to 50	46	31.5	6.6	8	39	48	60	14.5	28.5
25	5 to 50	47.5	32.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Head flange: CDQ2G



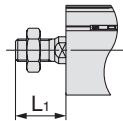
Head Flange

Bore size [mm]	Stroke range [mm]	A	L	L ₁
12	5 to 30	37	3.5	14
16	5 to 30	39.5	3.5	15.5
20	5 to 50	44	4.5	18.5
25	5 to 50	45.5	5	22.5

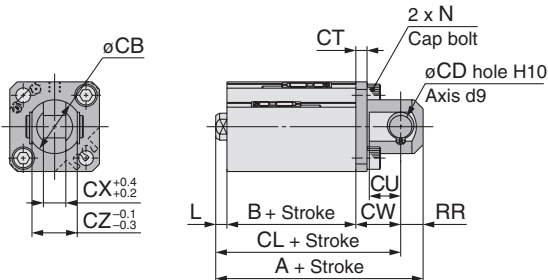
(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Double clevis: CDQ2D



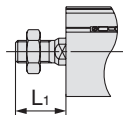
Double Clevis

Bore size [mm]	Stroke range [mm]	A	B	CB	CD	CL	CT	CU	CW	CX	CZ	L	L ₁	N	RR
12	5 to 30	51.5	28	12	5	45.5	4	7	14	5	10	3.5	14	M4 x 0.7	6
16	5 to 30	55	30.5	14	5	49	4	10	15	6.5	12	3.5	15.5	M4 x 0.7	6
20	5 to 50	63	31.5	20	8	54	5	12	18	8	16	4.5	18.5	M6 x 1.0	9
25	5 to 50	67.5	32.5	24	10	57.5	5	14	20	10	20	5	22.5	M6 x 1.0	10

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

* Double clevis pin and retaining rings are included.

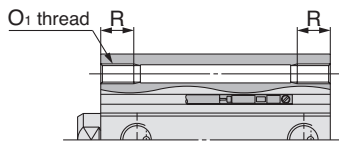
Rod end male thread



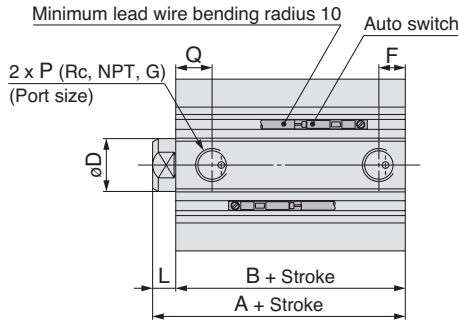
Dimensions

ø32 to ø50/With Auto Switch

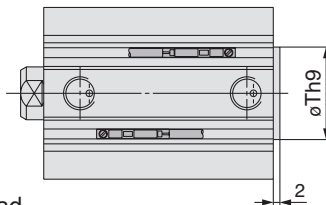
Both ends tapped: CQ2A/CDQ2A



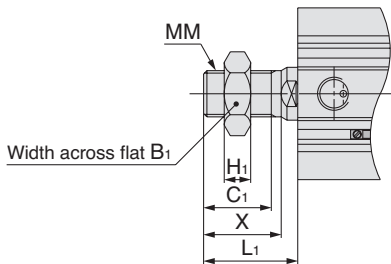
Standard (Through-hole):
CQ2B/CDQ2B



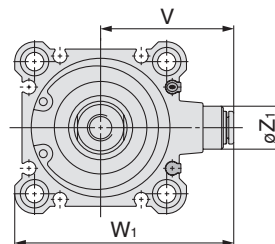
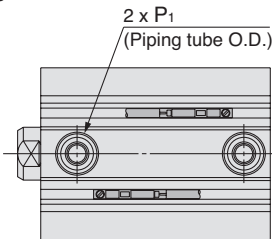
With boss on head side



Rod end male thread



Built-in one-touch fittings: ø32 to ø50



Both Ends Tapped [mm]

Bore size [mm]	O ₁	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

With Boss on Head Side [mm]

Bore size [mm]	Th9
32	21 ⁰ _{-0.052}
40	28 ⁰ _{-0.052}
50	35 ⁰ _{-0.062}

Note 1) With boss on rod end:
Option (Suffix "-XC36"
to the end of model
number.)

Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
32	22	20.5	8	28.5	M14 x 1.5	23.5
40	22	20.5	8	28.5	M14 x 1.5	23.5
50	27	26	11	33.5	M18 x 1.5	28.5

Built-in One-touch Fittings [mm]

Bore size [mm]	Z ₁	P ₁	V	W ₁
32	13	6	36.5	59
40	13	6	40.5	66
50	16	8	50	82

Standard For auto switch proper mounting position and its mounting height.

Bore size [mm]	Stroke range [mm]	Without auto switch					With auto switch					C	D	E	H	J	K	L	M	N
		A	B	F	P	Q	A	B	F	P	Q									
32	5	30	23	5.5	M5 x 0.8	11.5	40	33	7.5	1/8	10	13	16	45	M8 x 1.25	4.5	14	7	34	5.5
	10 to 50	40	33	7.5	1/8	10.5														
40	5 to 50	36.5	29.5	7.5	1/8	11	46.5	39.5	7.5	1/8	12.5	13	16	52	M8 x 1.25	5	14	7	40	5.5
	75, 100	46.5	39.5																	
50	10 to 50	38.5	30.5	10.5	1/4	10.5	48.5	40.5	10.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	8	50	6.6
	75, 100	48.5	40.5																	

Bore size [mm]	O	W	Z
32	9 depth 7	49.5	14
40	9 depth 7	57	15
50	11 depth 8	71	19

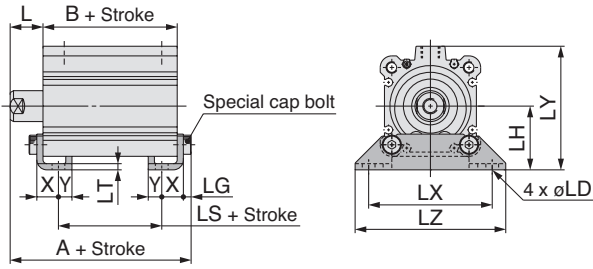
Note 2) The external dimensions with rubber bumper are same as those of the standard, as shown above.
Note 3) For calculation on the longitudinal dimension of intermediate strokes. The spacer-installed type (Standard, -XB10A) and the exclusive body type (-XB10) are available.



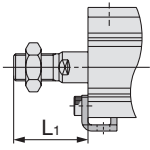
For more product options and details see our specific catalogues or on-line information.

Dimensions

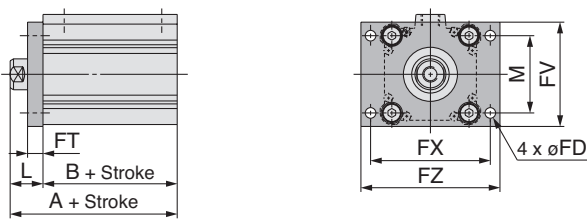
Foot: CQ2L/CDQ2L



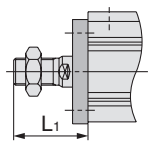
Rod end male thread



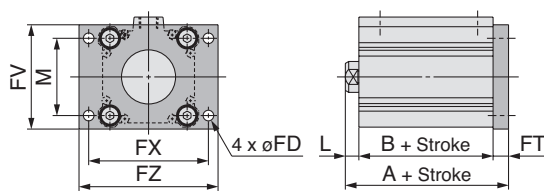
Rod flange: CQ2F/CDQ2F



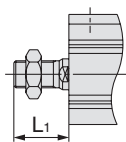
Rod end male thread



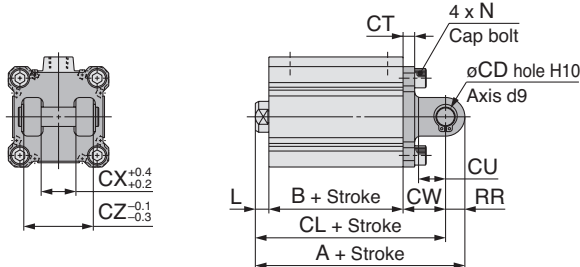
Head flange: CQ2G/CDQ2G



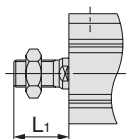
Rod end male thread



Double clevis: CQ2D/CDQ2D



Rod end male thread



Foot

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			L	L ₁	LD	LG	LH	LT	LX	LY
		A	B	LS	A	B	LS								
		32	5 to 50	47.2	23	7	57.2								
	75, 100	57.2	33	17											
40	5 to 50	53.7	29.5	13.5	63.7	39.5	23.5	17	38.5	6.6	4	33	3.2	64	64
	75, 100	63.7	39.5	23.5											
50	10 to 50	56.7	30.5	7.5	66.7	40.5	17.5	18	43.5	9	5	39	3.2	79	78
	75, 100	66.7	40.5	17.5											

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Bore size [mm]	LZ	X	Y
32	71	11.2	5.8
40	78	11.2	7
50	95	14.7	8

Rod Flange

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁	M
		A	B	A	B								
		32	5 to 50	40	23								
	75, 100	50	33										
40	5 to 50	46.5	29.5	56.5	39.5	5.5	8	54	62	72	17	38.5	40
	75, 100	56.5	39.5										
50	10 to 50	48.5	30.5	58.5	40.5	6.6	9	67	76	89	18	43.5	50
	75, 100	58.5	40.5										

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		L	L ₁
		A		A			
		32	5 to 50	38	48		
	75, 100	48					
40	5 to 50	44.5	54.5	7	28.5		
	75, 100	54.5					
50	10 to 50	47.5	57.5	8	33.5		
	75, 100	57.5					

* The dimensions except A,
* L and L₁ are the same as
* those of the rod flange.

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis

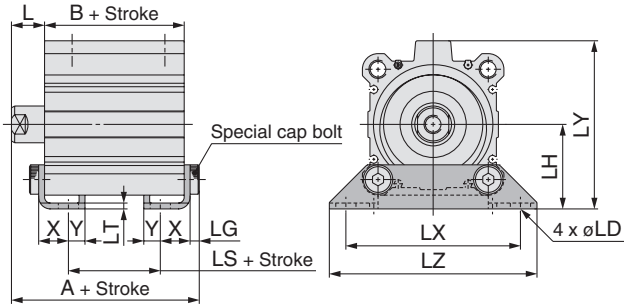
Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			CD	CT	CU	CW	CX	CZ	L	L ₁
		A	B	CL	A	B	CL								
		32	5 to 50	60	23	50	70								
	75, 100	70	33	60											
40	5 to 50	68.5	29.5	58.5	78.5	39.5	68.5	10	6	14	22	18	36	7	28.5
	75, 100	78.5	39.5	68.5											
50	10 to 50	80.5	30.5	66.5	90.5	40.5	76.5	14	7	20	28	22	44	8	33.5
	75, 100	90.5	40.5	76.5											

Double clevis bracket material: Cast iron
Surface treatment: Painted

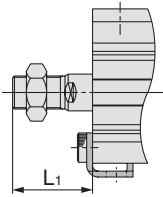
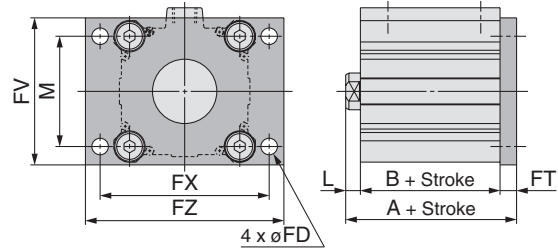
Bore size [mm]	N	RR
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

* Double clevis pin and retaining rings are included.

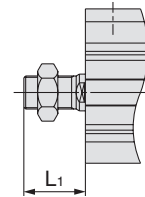
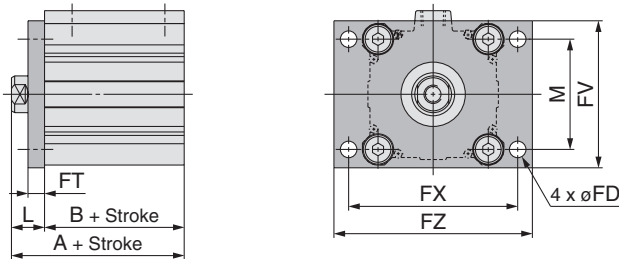
Dimensions

Foot: CQ2L/CDQ2L


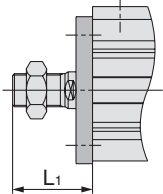
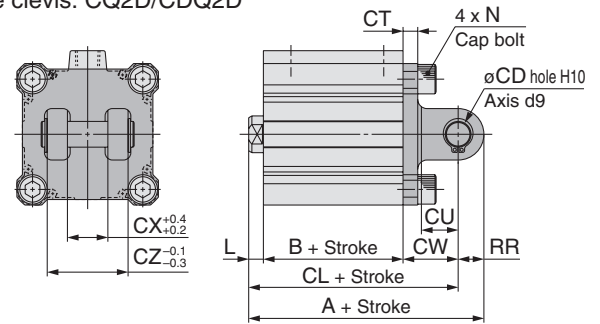
Rod end male thread


Head flange: CQ2G/CDQ2G


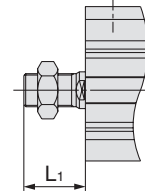
Rod end male thread


Rod flange: CQ2F/CDQ2F


Rod end male thread


Double clevis: CQ2D/CDQ2D


Rod end male thread


Foot [mm]

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			L	L ₁	LD	LG	LH	LT
		A	B	LS	A	B	LS						
63	10 to 50	62.2	36	10	72.2	46	20	18	43.5	11	5	46	3.2
	75, 100	72.2	46	20									
80	10 to 50	75	43.5	13.5	85	53.5	23.5	20	53.5	13	7	59	4.5
	75, 100	85	53.5	23.5									
100	10 to 50	88	53	19	98	63	29	22	53.5	13	7	71	6
	75, 100	98	63	29									

 Foot bracket material: Carbon steel
 Surface treatment: Nickel plated

Bore size [mm]	Stroke range [mm]	LX	LY	LZ	X	Y
80	10 to 50					
	75, 100	118	114	140	19.5	11
100	10 to 50					
	75, 100	137	136	162	23	12.5

Rod Flange [mm]

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L ₁	M
		A	B	A	B								
63	10 to 50	54	36	64	46	9	9	80	92	108	18	43.5	60
	75, 100	64	46										
80	10 to 50	63.5	43.5	73.5	53.5	11	11	99	116	134	20	53.5	77
	75, 100	73.5	53.5										
100	10 to 50	75	53	85	63	11	11	117	136	154	22	53.5	94
	75, 100	85	63										

 Flange bracket material: Carbon steel
 Surface treatment: Nickel plated

Head Flange [mm]

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		L	L ₁
		A	CL	A	CL		
63	10 to 50	53	74	63	84	8	33.5
	75, 100	63	84				
80	10 to 50	64.5	91.5	74.5	101.5	10	43.5
	75, 100	74.5	101.5				
100	10 to 50	76	110	86	120	12	43.5
	75, 100	86	120				

Flange bracket material: Carbon steel Surface treatment: Nickel plated

Double Clevis [mm]

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			CD	CT	CU	CW	CX
		A	B	CL	A	B	CL					
63	10 to 50	88	36	74	98	46	84	14	8	20	30	22
	75, 100	98	46	84								
80	10 to 50	109.5	43.5	91.5	119.5	53.5	101.5	18	10	27	38	28
	75, 100	119.5	53.5	101.5								
100	10 to 50	132	53	110	142	63	120	22	13	31	45	32
	75, 100	142	63	120								

 Double clevis bracket material: Cast iron
 Surface treatment: Painted

Bore size [mm]	Stroke range [mm]	CZ	L	L ₁	N	RR
80	10 to 50					
	75, 100	56	10	43.5	M12 x 1.75	18
100	10 to 50					
	75, 100	64	12	43.5	M12 x 1.75	22

* Double clevis pin and retaining rings are included.



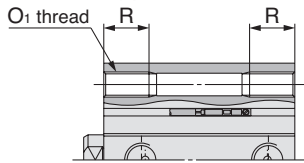
For more product options and details see our specific catalogues or on-line information.

Dimensions

(In the case of without auto switches, the A, B dimensions will be only changed. Refer to the dimension table.)

ø63 to ø100/With Auto Switch

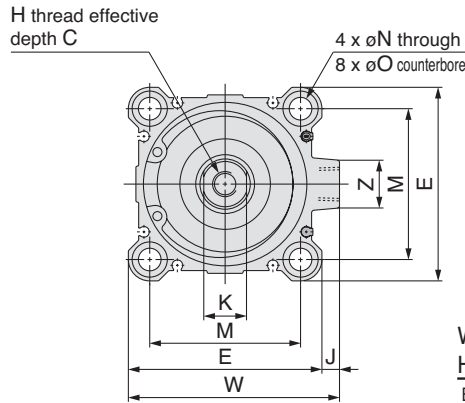
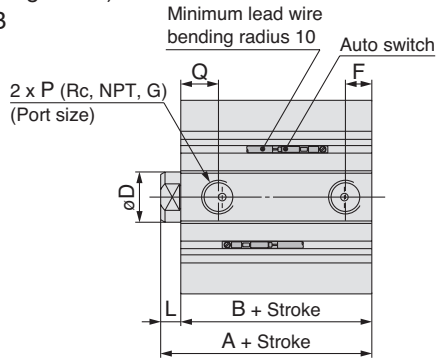
Both ends tapped: CQ2A/CDQ2A



Both Ends Tapped [mm]

Bore size [mm]	O1	R
63	M10 x 1.5	18
80	M12 x 1.75	22
100	M12 x 1.75	22

Standard (Through-hole): CQ2B/CDQ2B

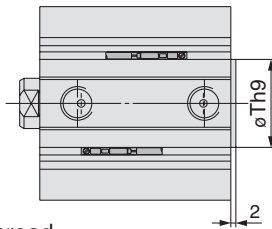


With Boss on Head Side [mm]

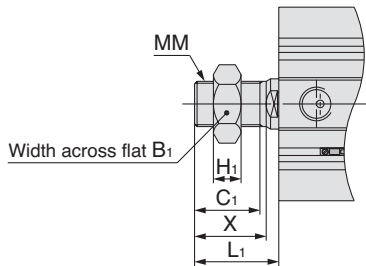
Bore size [mm]	Th9
63	35 ⁰ _{-0.062}
80	43 ⁰ _{-0.062}
100	59 ⁰ _{-0.074}

Note 1) With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

With boss on head side



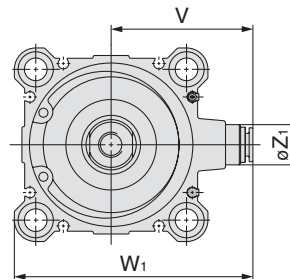
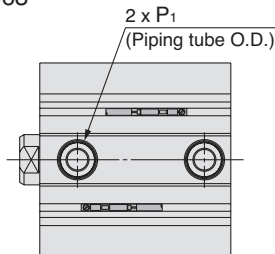
Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B1	C1	H1	L1	MM	X
63	27	26	11	33.5	M18 x 1.5	28.5
80	32	32.5	13	43.5	M22 x 1.5	35.5
100	41	32.5	16	43.5	M26 x 1.5	35.5

Built-in one-touch fittings: ø63



Built-in One-touch Fittings [mm]

Bore size [mm]	Z1	P1	V	W1
63	16	8	56.5	95

Standard For auto switch proper mounting position and its mounting height.

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		C	D	E	F	H	J	K	L	M	N	O	P	Q	W	Z
		A	B	A	B															
63	10 to 50	44	36	54	46	15	20	77	10.5	M10 x 1.5	7	17	8	60	9	14 depth 10.5	1/4	15	84	19
	75, 100	54	46																	
80	10 to 50	53.5	43.5	63.5	53.5	21	25	98	12.5	M16 x 2.0	6	22	10	77	11	17.5 depth 13.5	3/8	16	104	25
	75, 100	63.5	53.5																	
100	10 to 50	65	53	75	63	27	30	117	13	M20 x 2.5	6.5	27	12	94	11	17.5 depth 13.5	3/8	23	123.5	25
	75, 100	75	63																	

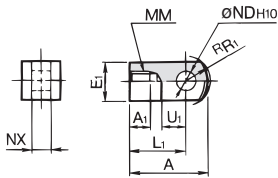
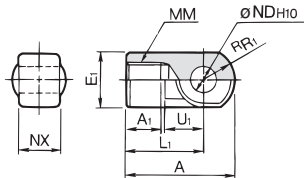
Note 2) The external dimensions with rubber bumper are same as those of the standard, as shown above.

Note 3) For calculation on the longitudinal dimension of intermediate strokes.

Accessory Brackets

Single Knuckle Joint

 I-G012, I-Z015A
 I-G02, I-G03

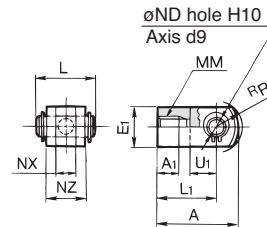
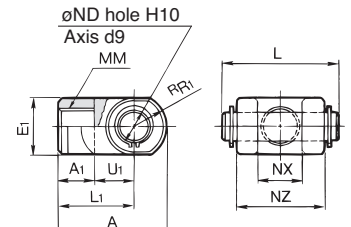
 I-G04, I-G05
 I-G08, I-G10

 Material: Carbon steel
 Surface treatment: Nickel plated

 Material: Cast iron
 Surface treatment: Nickel plated

[mm]

Part no.	Applicable bore size [mm]	A	A ₁	E ₁	L ₁	MM	[°] R ₁	U ₁	ND _{H10}	NX
I-G012	12	21.5	6	□10	16	M5 x 0.8	6.3	7	5 ^{+0.048} ₀	5 ^{-0.2} _{-0.4}
I-Z015A	16	32	8	□12	25	M6 x 1	8.1	14	5 ^{+0.048} ₀	6.4 ^{-0.1} _{-0.3}
I-G02	20	34	8.5	□16	25	M8 x 1.25	10.3	11.5	8 ^{+0.058} ₀	8 ^{-0.2} _{-0.4}
I-G03	25	41	10.5	□20	30	M10 x 1.25	12.8	14	10 ^{+0.058} ₀	10 ^{-0.2} _{-0.4}
I-G04	32, 40	42	14	∅22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.3} _{-0.5}
I-G05	50, 63	56	18	∅28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.3} _{-0.5}
I-G08	80	71	21	∅38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{-0.3} _{-0.5}
I-G10	100	79	21	∅44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{-0.3} _{-0.5}

Double Knuckle Joint

 Y-G012, Y-Z015A
 Y-G02, Y-G03

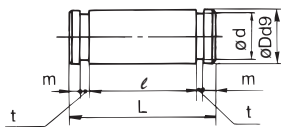
 Y-G04, Y-G05
 Y-G08, Y-G10

 Material: Carbon steel
 Surface treatment: Nickel plated

 Material: Cast iron
 Surface treatment: Nickel plated

[mm]

Part no.	Applicable bore size [mm]	A	A ₁	E ₁	L ₁	MM	[°] R ₁	U ₁	ND _{H10}	NX	NZ	L	Applicable pin part no.
Y-G012	12	21.5	6	□10	16	M5 x 0.8	6.3	7	5 ^{+0.048} ₀	5 ^{+0.4} _{+0.2}	10	14.6	IY-G012
Y-Z015A	16	28	11	□12	21	M6 x 1	8.1	10	5 ^{+0.048} ₀	6.5 ^{+0.2} _{+0.3}	12	16.6	IY-J015
Y-G02	20	34	8.5	□16	25	M8 x 1.25	10.3	11.5	8 ^{+0.058} ₀	8 ^{+0.4} _{+0.2}	16	21	IY-G02
Y-G03	25	41	10.5	□20	30	M10 x 1.25	12.8	14	10 ^{+0.058} ₀	10 ^{+0.4} _{+0.2}	20	25.6	IY-G03
Y-G04	32, 40	42	16	∅22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{+0.5} _{+0.3}	36	41.6	IY-G04
Y-G05	50, 63	56	20	∅28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{+0.5} _{+0.3}	44	50.6	IY-G05
Y-G08	80	71	23	∅38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{+0.5} _{+0.3}	56	64	IY-G08
Y-G10	100	79	24	∅44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{+0.5} _{+0.3}	64	72	IY-G10

* Knuckle pin and retaining rings are included.

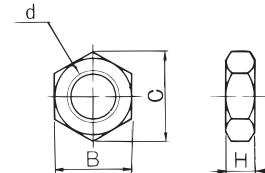
Knuckle Pin (Common with double clevis pin)


 Material: Carbon steel
 [mm]

Part no.	Applicable bore size [mm]	Dd9	L	d	ℓ	m	t	Applicable retaining ring
IY-G012	12	5 ^{-0.030} _{-0.060}	14.6	4.8	10.2	1.5	0.7	Type C5 for axis
IY-J015	16	5 ^{-0.030} _{-0.060}	16.6	4.8	12.2	1.5	0.7	Type C5 for axis
IY-G02	20	8 ^{-0.040} _{-0.076}	21	7.6	16.2	1.5	0.9	Type C8 for axis
IY-G03	25	10 ^{-0.040} _{-0.076}	25.6	9.6	20.2	1.55	1.15	Type C10 for axis
IY-G04	32, 40	10 ^{-0.040} _{-0.076}	41.6	9.6	36.2	1.55	1.15	Type C10 for axis
IY-G05	50, 63	14 ^{-0.050} _{-0.093}	50.6	13.4	44.2	2.05	1.15	Type C14 for axis
IY-G08	80	18 ^{-0.050} _{-0.093}	64	17	56.2	2.55	1.35	Type C18 for axis
IY-G10	100	22 ^{-0.065} _{-0.117}	72	21	64.2	2.55	1.35	Type C22 for axis

* Type C retaining rings for axis are included.

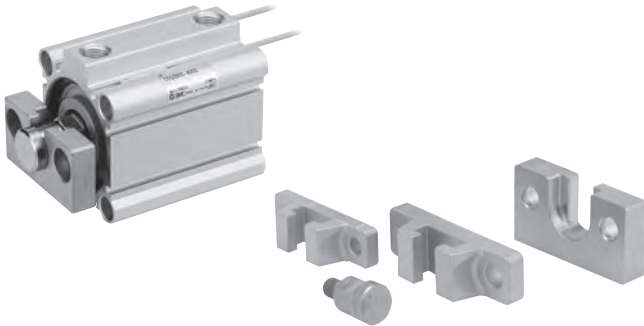
Rod End Nut


 Material: Carbon steel
 Surface treatment: Nickel plated
 [mm]

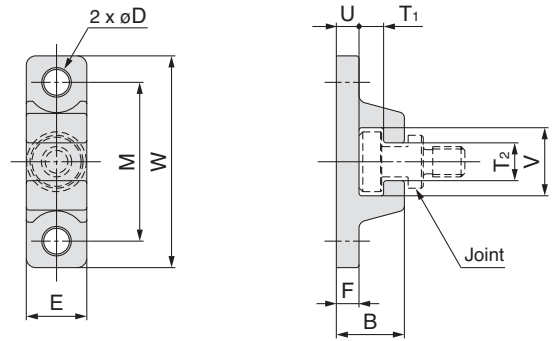
Part no.	Applicable bore size [mm]	d	H	B	C
NTJ-015A	12	M5 x 0.8	4	8	9.2
NT-015A	16	M6 x 1	5	10	11.5
NT-02	20	M8 x 1.25	5	13	15.0
NT-03	25	M10 x 1.25	6	17	19.6
NT-04	32, 40	M14 x 1.5	8	22	25.4
NT-05	50, 63	M18 x 1.5	11	27	31.2
NT-08	80	M22 x 1.5	13	32	37.0
NT-10	100	M26 x 1.5	16	41	47.3



Simple Joint (CQ2): $\phi 32$ to $\phi 100$



Type A Mounting Bracket



Material: Chromium molybdenum steel (Nickel plated) [mm]

Joint/Mounting Bracket (Type A/B)/Part No.

YA — 03

- Applicable air cylinder bore size

03	For $\phi 32, \phi 40$
05	For $\phi 50, \phi 63$
08	For $\phi 80$
10	For $\phi 100$
- Mounting bracket

YA	Type A mounting bracket
YB	Type B mounting bracket
YU	Joint

Part no.	Bore size [mm]	B	D	E	F	M	T ₁	T ₂
YA-03	32, 40	18	6.8	16	6	42	6.5	10
YA-05	50, 63	20	9	20	8	50	6.5	12
YA-08	80	26	11	25	10	62	8.5	16
YA-10	100	31	14	30	12	76	10.5	18

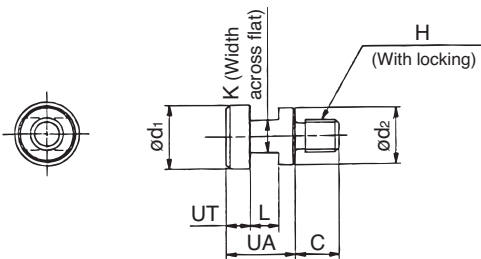
Part no.	Bore size [mm]	U	V	W	Weight [g]
YA-03	32, 40	6	18	56	55
YA-05	50, 63	8	22	67	100
YA-08	80	10	28	83	195
YA-10	100	12	36	100	340

Bore size [mm]	Allowable Eccentricity [mm]					
	32	40	50	63	80	100
Eccentricity tolerance	±1			±1.5		±2
Backlash	0.5					

<Ordering>
 • Joints are not included with type A or B mounting brackets. Order them separately.
 (Example)
 Bore size $\phi 40$ Part no.
 • Type A mounting bracket YA-03
 • Joint YU-03

Joint/Mounting Bracket (Type A/B)/Part No.

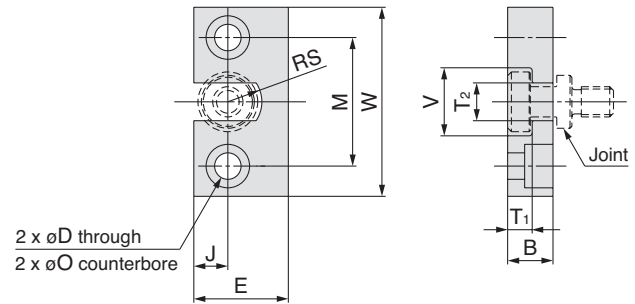
Bore size [mm]	Joint	Applicable mounting bracket	
		Type A mounting bracket	Type B mounting bracket
32, 40	YU-03	YA-03	YB-03
50, 63	YU-05	YA-05	YB-05
80	YU-08	YA-08	YB-08
100	YU-10	YA-10	YB-10



Material: Chromium molybdenum steel (Nickel plated) [mm]

Part no.	Applicable bore size [mm]	UA	C	d ₁	d ₂	H	K	L	UT	Weight [g]
YU-03	32, 40	17	11	15.8	14	M8 x 1.25	8	7	6	25
YU-05	50, 63	17	13	19.8	18	M10 x 1.5	10	7	6	40
YU-08	80	22	20	24.8	23	M16 x 2	13	9	8	90
YU-10	100	26	26	29.8	28	M20 x 2.5	14	11	10	160

Type B Mounting Bracket



Material: Stainless steel [mm]

Part no.	Bore size [mm]	B	D	E	J	M	ϕO
YB-03	32, 40	12	7	25	9	34	11.5 depth 7.5
YB-05	50, 63	12	9	32	11	42	14.5 depth 8.5
YB-08	80	16	11	38	13	52	18 depth 12
YB-10	100	19	14	50	17	62	21 depth 14

Part no.	Bore size [mm]	T ₁	T ₂	V	W	RS	Weight [g]
YB-03	32, 40	6.5	10	18	50	9	80
YB-05	50, 63	6.5	12	22	60	11	120
YB-08	80	8.5	16	28	75	14	230
YB-10	100	10.5	18	36	90	18	455

Compact Cylinder: Standard, Single Acting, Single Rod

Specifications

Bore size [mm]	12	16	20	25	32	40	50
Action	Single acting, Single rod						
Fluid	Air						
Proof pressure	1.5 MPa						
Maximum operating pressure	1.0 MPa						
Minimum operating pressure [MPa]	0.25	0.25	0.18	0.18	0.17	0.15	0.13
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)						
Lubrication	Not required (Non-lube)						
Piston speed	50 to 500 mm/s						
Allowable kinetic energy [J]	0.022	0.038	0.055	0.09	0.15	0.26	0.46
Stroke length tolerance	+1.0 mm 0						
Mounting	Through-hole, both ends, tapped, foot, rod flange, head flange, double clevis						

Mounting Brackets/Part No.

Bore size [mm]	Model	Foot ^{Note 1)}	Flange	Double clevis	
12	Without switch	CQ2□□-□D	CQ-L012	CQ-F012	CQ-D012
	With switch	CQ2□□-□DZ	CQ-LZ12		
16	Without switch	CQ2□□-□D	CQ-L016	CQ-F016	CQ-D016
	With switch	CQ2□□-□DZ	CQ-LZ16		
20	Without switch	CQ2□□-□D	CQ-L020	CQ-F020	CQ-D020
	With switch	CQ2□□-□DZ	CQ-LZ20		
25	Without switch	CQ2□□-□D	CQ-L025	CQ-F025	CQ-D025
	With switch	CQ2□□-□DZ	CQ-LZ25		
32	CQ2□□-□DZ	CQ-L032	CQ-F032	CQ-D032	
40	CQ2□□-□DZ	CQ-L040	CQ-F040	CQ-D040	
50	CQ2□□-□DZ	CQ-L050	CQ-F050	CQ-D050	

Note 1) When ordering a foot bracket, the required quantity will be different depending on the bore size.

- ø12 to ø25:
 - Without switch: Order 2 pieces per cylinder.
 - With switch: Order 1 piece per cylinder.
 (Part number for a set of 2 foot brackets)
- ø32 to ø100:
 - Order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows.

- Foot or Flange: Body mounting bolts
- Double clevis: Clevis pin, Type C retaining rings for axis, Body mounting bolts

Spring Force

Single Acting, Spring Return [N]

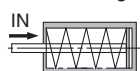
Bore size [mm]	Stroke [mm]	Spring reaction force [N]	
		Second	First
12	5	13	8.6
	10	13	3.9
16	5	15	10.3
	10	15	5.9
20	5	15	10
	10	15	5.9
25	5	20	16
	10	20	11
32	5	30	23
	10	30	16
40	5	30	13
	10	39	21
50	10	50	30
	20	54	24

Single Acting, Spring Extend [N]

Bore size [mm]	Stroke [mm]	Spring reaction force [N]	
		Second	First
12	5	11	2.9
	10	9.7	2.8
16	5	20	3.9
	10	20	3.9
20	5	27	5.3
	10	27	5.9
25	5	29	9.8
	10	29	9.8
32	5	29	20
	10	29	20
40	5	29	20
	10	29	20
50	10	83	24
	20	83	24

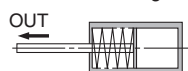
Single acting, Spring return

Spring state with first mounting load



When spring is set in cylinder

Spring state with second mounting load



When spring is compressed with air

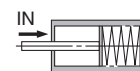
Single acting, Spring extend

Spring state with first mounting load



When spring is set in cylinder

Spring state with second mounting load



When spring is compressed with air

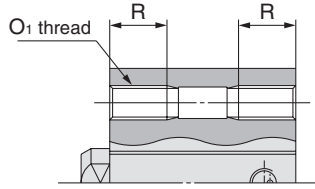


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Dimensions

ø12 to ø25/Spring Return Without Auto Switch

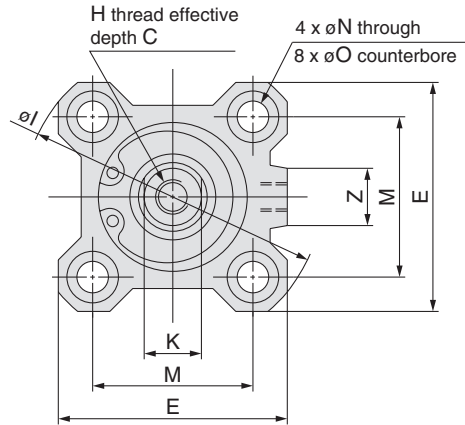
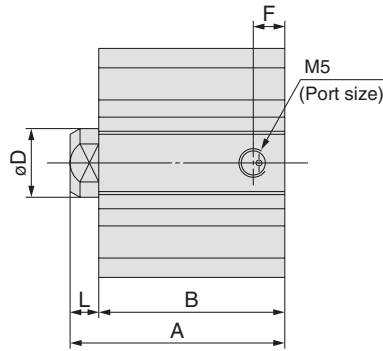
Both ends tapped: CQ2A



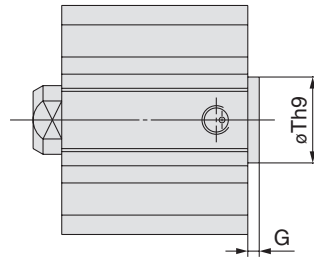
Both Ends

Tapped [mm]		
Bore size [mm]	O1	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

Standard (Through-hole): CQ2B



With boss on head side

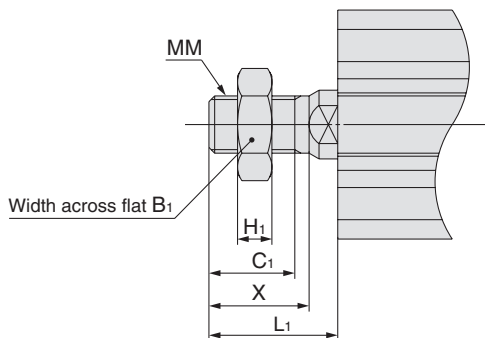


With Boss on Head Side [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note) With boss on rod cover side: Option (Suffix “-XC36” to the end of model number.)

Rod end male thread



Rod End Male Thread [mm]

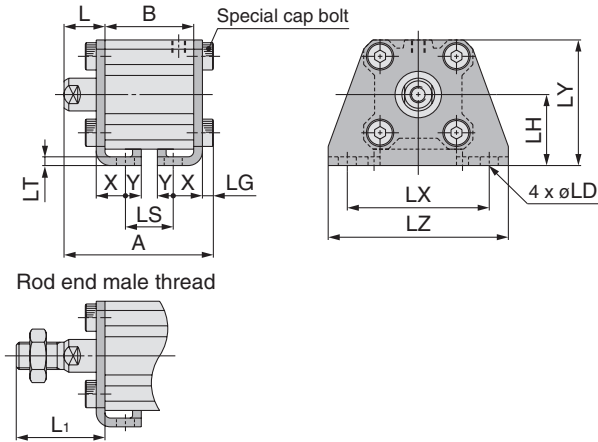
Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard

Bore size [mm]	Stroke [mm]	A	B	C	D	E	F	H	I	K	L	M	N	O	Z
12	5	25.5	22	6	6	25	5	M3 x 0.5	32	5	3.5	15.5	3.5	6.5 depth 3.5	—
	10	30.5	27												
16	5	27	23.5	8	8	29	5.5	M4 x 0.7	38	6	3.5	20	3.5	6.5 depth 3.5	10
	10	32	28.5												
20	5	29	24.5	7	10	36	5.5	M5 x 0.8	47	8	4.5	25.5	5.5	9 depth 7	10
	10	34	29.5												
25	5	32.5	27.5	12	12	40	5.5	M6 x 1.0	52	10	5	28	5.5	9 depth 7	10
	10	37.5	32.5												

Dimensions

Foot: CQ2L



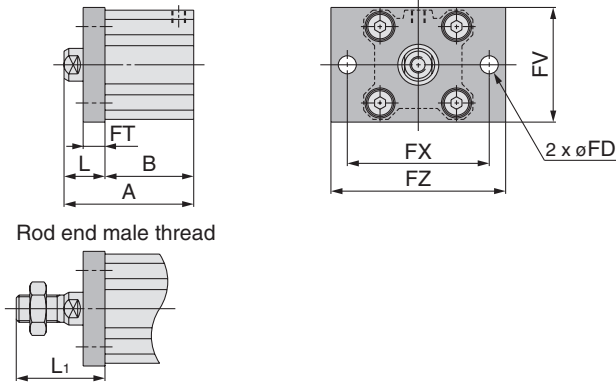
Foot [mm]

Bore size [mm]	A		B		L	L ₁	LD	LG	LH	LS	
	5st	10st	5st	10st						5st	10st
12	40.3	45.3	22	27	13.5	24	4.5	2.8	17	10	15
16	41.8	46.8	23.5	28.5	13.5	25.5	4.5	2.8	19	11.5	16.5
20	46.2	51.2	24.5	29.5	14.5	28.5	6.6	4	24	12.5	17.5
25	49.7	54.7	27.5	32.5	15	32.5	6.6	4	26	12.5	17.5

Bore size [mm]	LT	LX	LY	LZ	X	Y
12	2	34	29.5	44	8	4.5
16	2	38	33.5	48	8	5
20	3.2	48	42	62	9.2	5.8
25	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod flange: CQ2F

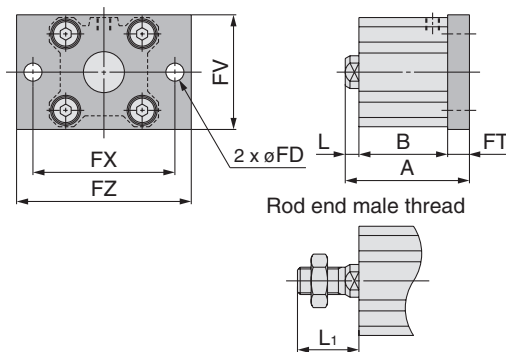


Rod Flange [mm]

Bore size [mm]	A		B		FD	FT	FV	FX	FZ	L	L ₁
	5st	10st	5st	10st							
12	35.5	40.5	22	27	4.5	5.5	25	45	55	13.5	24
16	37	42	23.5	28.5	4.5	5.5	30	45	55	13.5	25.5
20	39	44	24.5	29.5	6.6	8	39	48	60	14.5	28.5
25	42.5	47.5	27.5	32.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head flange: CQ2G



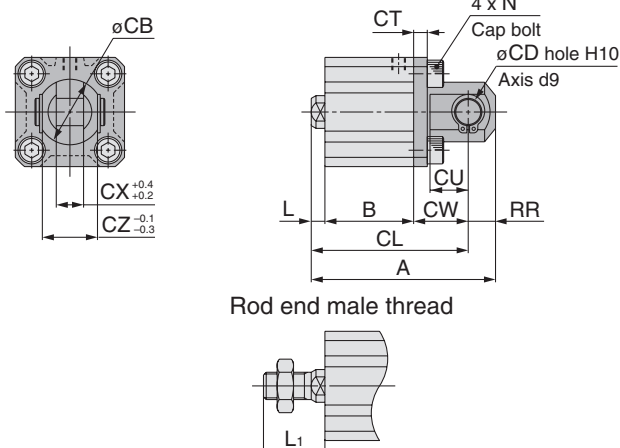
Head Flange [mm]

Bore size [mm]	A		L	L ₁
	5st	10st		
12	31	36	3.5	14
16	32.5	37.5	3.5	15.5
20	37	42	4.5	18.5
25	40.5	45.5	5	22.5

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double clevis: CQ2D



Double Clevis [mm]

Bore size [mm]	A		B		CB	CD	CL		CT	CU	CW
	5st	10st	5st	10st			5st	10st			
12	45.5	50.5	22	27	12	5	39.5	44.5	4	7	14
16	48	53	23.5	28.5	14	5	42	47	4	10	15
20	56	61	24.5	29.5	20	8	47	52	5	12	18
25	62.5	67.5	27.5	32.5	24	10	52.5	57.5	5	14	20

Bore size [mm]	CX	CZ	L	L ₁	N	RR
12	5	10	3.5	14	M4 x 0.7	6
16	6.5	12	3.5	15.5	M4 x 0.7	6
20	8	16	4.5	18.5	M6 x 1.0	9
25	10	20	5	22.5	M6 x 1.0	10

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

* Double clevis pin and retaining rings are included.

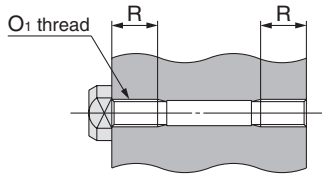


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Dimensions

ø12 to ø25/Spring Return With Auto Switch

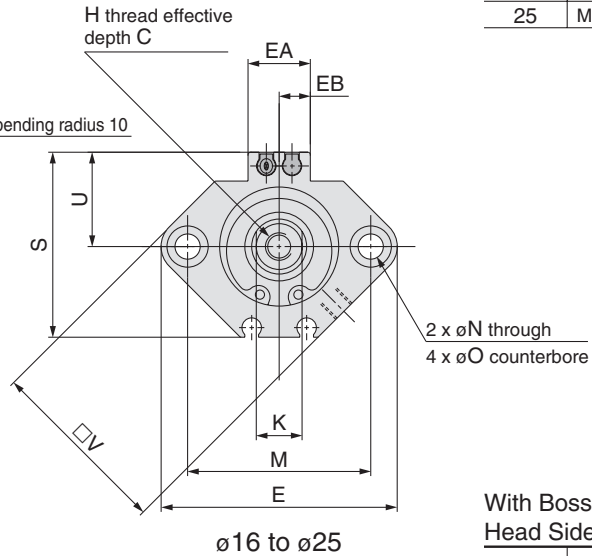
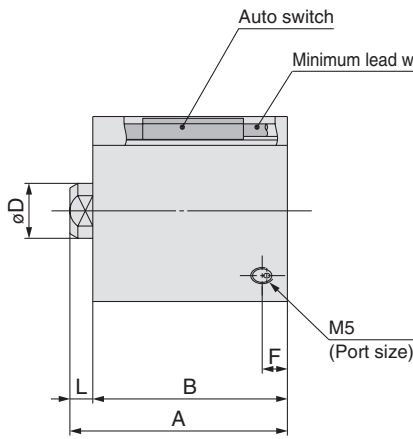
Both ends tapped: CDQ2A



Both Ends

Tapped [mm]		
Bore size [mm]	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

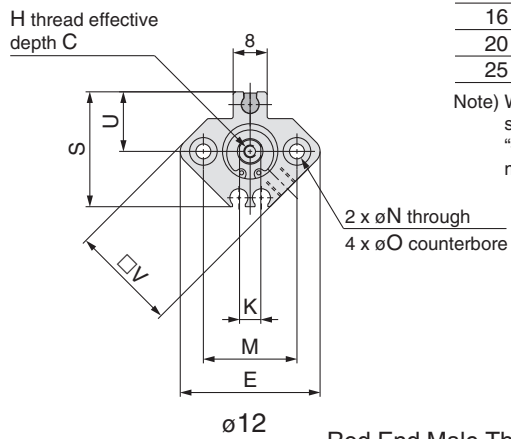
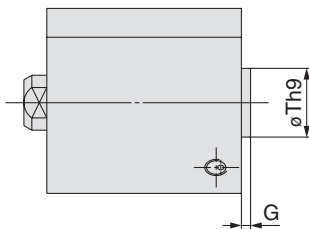
Standard (Through-hole): CDQ2B



With Boss on

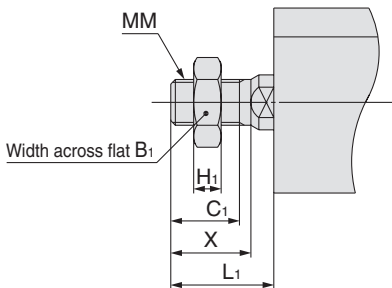
Head Side [mm]		
Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

With boss on head side



Note) With boss on rod cover side: Option (Suffix "-XC36" to the end of model number.)

Rod end male thread



Rod End Male Thread [mm]

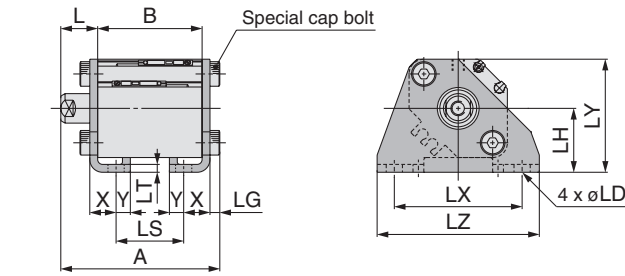
Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard For auto switch proper mounting position and its mounting height.

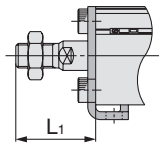
Bore size [mm]	Stroke [mm]	A	B	C	D	E	EA	EB	F	H	K	L	M	N	O	S	U	V
12	5	36.5	33	6	6	33	—	—	6.5	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	27.5	14	25
	10	41.5	38	6	6	33	—	—	6.5	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	27.5	14	25
16	5	39	35.5	8	8	37	13.2	6.6	5.5	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	29.5	15	29
	10	44	40.5	8	8	37	13.2	6.6	5.5	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	29.5	15	29
20	5	41	36.5	7	10	47	13.6	6.8	5.5	M5 x 0.8	8	4.5	36	5.5	9 depth 7	35.5	18	36
	10	46	41.5	7	10	47	13.6	6.8	5.5	M5 x 0.8	8	4.5	36	5.5	9 depth 7	35.5	18	36
25	5	42.5	37.5	12	12	52	13.6	6.8	5.5	M6 x 1.0	10	5	40	5.5	9 depth 7	40.5	21	40
	10	47.5	42.5	12	12	52	13.6	6.8	5.5	M6 x 1.0	10	5	40	5.5	9 depth 7	40.5	21	40

Dimensions

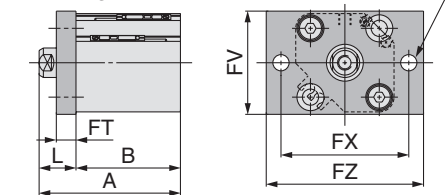
Foot: CDQ2L



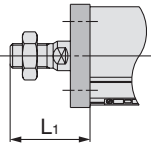
Rod end male thread



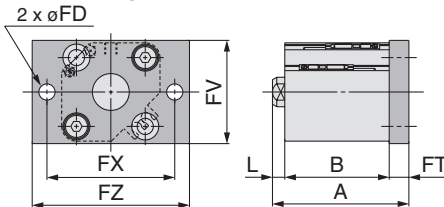
Rod flange: CDQ2F



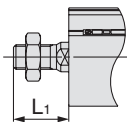
Rod end male thread



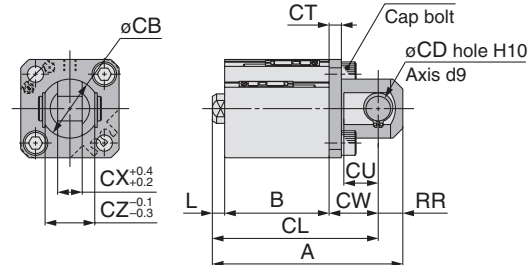
Head flange: CDQ2G



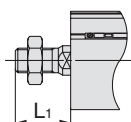
Rod end male thread



Double clevis: CDQ2D



Rod end male thread



Foot

[mm]

Bore size [mm]	A		B		L	L ₁	LD	LG	LH	LS	
	5st	10st	5st	10st						5st	10st
12	51.3	56.3	33	38	13.5	24	4.5	2.8	17	21	26
16	53.8	58.8	35.5	40.5	13.5	25.5	4.5	2.8	19	23.5	28.5
20	58.2	63.2	36.5	41.5	14.5	28.5	6.6	4	24	24.5	29.5
25	59.7	64.7	37.5	42.5	15	32.5	6.6	4	26	22.5	27.5

Bore size [mm]	LT	LX	LY	LZ	X	Y
12	2	34	29.5	44	8	4.5
16	2	38	33.5	48	8	5
20	3.2	48	42	62	9.2	5.8
25	3.2	52	46	66	10.7	5.8

 Foot bracket material: Carbon steel
 Surface treatment: Nickel plated

Rod Flange

[mm]

Bore size [mm]	A		B		FD	FT	FV	FX	FZ	L	L ₁
	5st	10st	5st	10st							
12	46.5	51.5	33	38	4.5	5.5	25	45	55	13.5	24
16	49	54	35.5	40.5	4.5	5.5	30	45	55	13.5	25.5
20	51	56	36.5	41.5	6.6	8	39	48	60	14.5	28.5
25	52.5	57.5	37.5	42.5	6.6	8	42	52	64	15	32.5

 Flange bracket material: Carbon steel
 Surface treatment: Nickel plated

Head Flange

[mm]

Bore size [mm]	A		L	L ₁
	5st	10st		
12	46.4	51.4	3.5	14
16	44.5	49.5	3.5	15.5
20	49	54	4.5	18.5
25	50.5	55.5	5	22.5

 (* The dimensions except A, L and L₁ are the same as those of the rod flange.)

 Flange bracket material: Carbon steel
 Surface treatment: Nickel plated

Double Clevis

[mm]

Bore size [mm]	A		B		CB	CD	CL		CT	CU	CW
	5st	10st	5st	10st			5st	10st			
12	56.5	61.5	33	38	12	5	50.5	55.5	4	7	14
16	60	65	35.5	40.5	14	5	54	59	4	10	15
20	68	73	36.5	41.5	20	8	59	64	5	12	18
25	72.5	77.5	37.5	42.5	24	10	62.5	67.5	5	14	20

Bore size [mm]	CX	CZ	L	L ₁	N	RR
12	5	10	3.5	14	M4 x 0.7	6
16	6.5	12	3.5	15.5	M4 x 0.7	6
20	8	16	4.5	18.5	M6 x 1.0	9
25	10	20	5	22.5	M6 x 1.0	10

 Double clevis bracket material: Carbon steel
 Surface treatment: Nickel plated

* Double clevis pin and retaining rings are included.



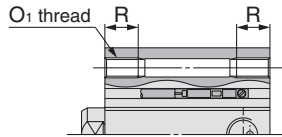
For more product options and details see our specific catalogues or on-line information.

Dimensions

(In the case of without auto switches, the A, B, F and P dimensions will be only changed. Refer to the dimension table.)

ø32 to ø50/Spring Return With Auto Switch

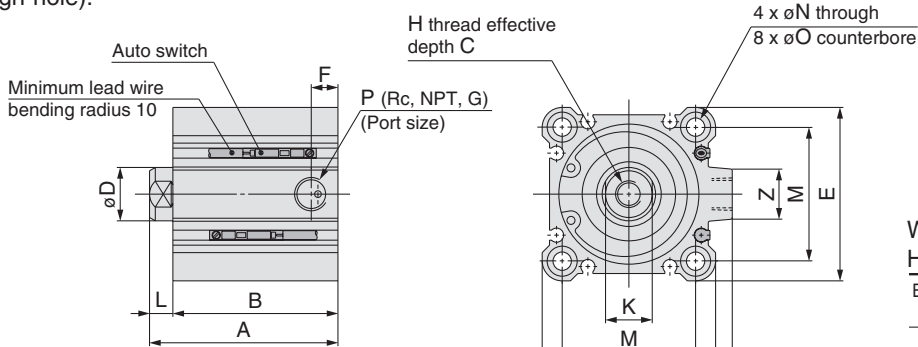
Both ends tapped: CQ2A/CDQ2A



Both Ends Tapped [mm]

Bore size [mm]	O1	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

Standard (Through-hole): CQ2B/CDQ2B

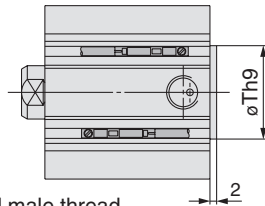


With Boss on Head End [mm]

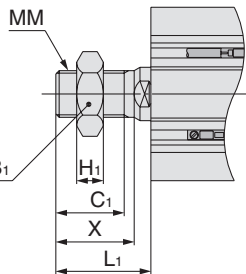
Bore size [mm]	Th9
32	21 ⁰ _{-0.052}
40	28 ⁰ _{-0.052}
50	35 ⁰ _{-0.062}

Note 1) With boss on rod end:
Option (Suffix "-XC36" to the end of model number.)

With boss on head end



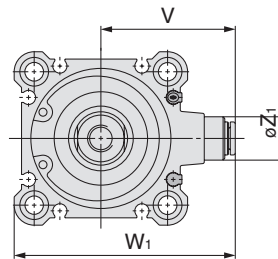
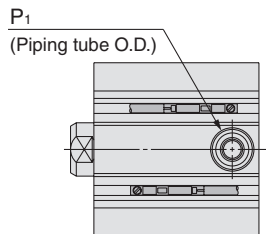
Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B1	C1	H1	L1	MM	X
32	22	20.5	8	28.5	M14 x 1.5	23.5
40	22	20.5	8	28.5	M14 x 1.5	23.5
50	27	26	11	33.5	M18 x 1.5	28.5

Built-in one-touch fittings: ø32 to ø50



Built-in One-touch Fittings [mm]

Bore size [mm]	Z1	P1	V	W1
32	13	6	36.5	59
40	13	6	40.5	66.5
50	16	8	50	82

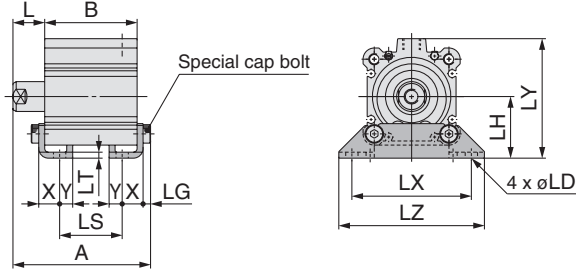
Standard For auto switch proper mounting position and its mounting height.

Bore size [mm]	Stroke [mm]	Without auto switch				With auto switch				C	D	E	H	J	K	L	M	N	O	W	Z
		A	B	F	P	A	B	F	P												
32	5	35	28	5.5	M5 x 0.8	45	38	7.5	1/8	13	16	45	M8 x 1.25	4.5	14	7	34	5.5	9 depth 7	49.5	14
	10	40	33	7.5	1/8	50	43														
40	5	41.5	34.5	8	1/8	51.5	44.5	8	1/8	13	16	52	M8 x 1.25	5	14	7	40	5.5	9 depth 7	57	15
	10	46.5	39.5	8		56.5	49.5														
50	10	48.5	40.5	10.5	1/4	58.5	50.5	10.5	1/4	15	20	64	M10 x 1.5	7	17	8	50	6.6	11 depth 8	71	19
	20	58.5	50.5	10.5		68.5	60.5														

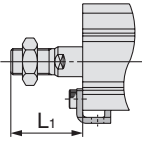
Note 2) The A, B dimensions of the ø32-5 mm stroke with built-in one-touch fittings without auto switch are the same as those of the ø32-10 mm stroke without auto switch.

Dimensions

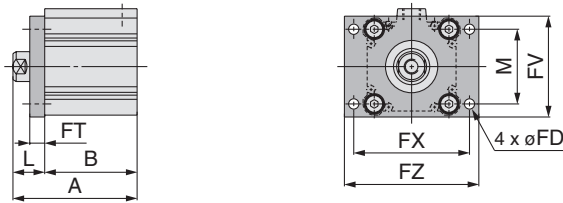
Foot: CQ2L/CDQ2L



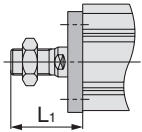
Rod end male thread



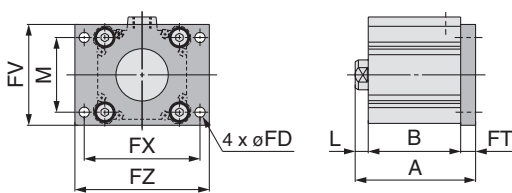
Rod flange: CQ2F/CDQ2F



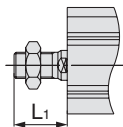
Rod end male thread



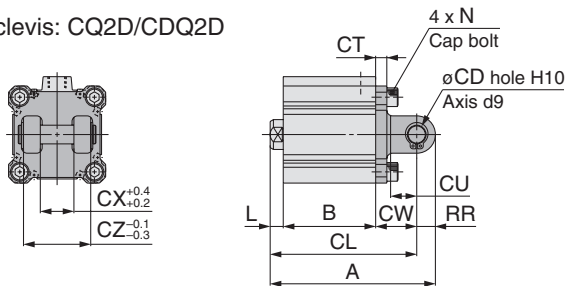
Head flange: CQ2G/CDQ2G



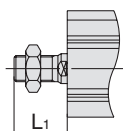
Rod end male thread



Double clevis: CQ2D/CDQ2D



Rod end male thread



Foot [mm]

Bore size [mm]	Without auto switch									With auto switch								
	A			B			LS			A			B			LS		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	52.2	57.2	—	28	33	—	12	17	—	62.2	67.2	—	38	43	—	22	27	—
40	58.7	63.7	—	34.5	39.5	—	18.5	23.5	—	68.7	73.7	—	44.5	49.5	—	28.5	33.5	—
50	—	66.7	76.7	—	40.5	50.5	—	17.5	27.5	—	76.7	86.7	—	50.5	60.5	—	27.5	37.5

Bore size [mm]	L	L ₁	LD	LG	LH	LX	LT	LY	LZ	X	Y
32	17	38.5	6.6	4	30	57	3.2	57	71	11.2	5.8
40	17	38.5	6.6	4	33	64	3.2	64	78	11.2	7
50	18	43.5	9	5	39	79	3.2	78	95	14.7	8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Flange [mm]

Bore size [mm]	Without auto switch						With auto switch					
	A			B			A			B		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	45	50	—	28	33	—	55	60	—	38	43	—
40	51.5	56.5	—	34.5	39.5	—	61.5	66.5	—	44.5	49.5	—
50	—	58.5	68.5	—	40.5	50.5	—	68.5	78.5	—	50.5	60.5

Bore size [mm]	FD	FT	FV	FX	FZ	L	L ₁	M
32	5.5	8	48	56	65	17	38.5	34
40	5.5	8	54	62	72	17	38.5	40
50	6.6	9	67	76	89	18	43.5	50

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange [mm]

Bore size [mm]	Without auto switch			With auto switch			L	L ₁
	A			A				
	5st	10st	20st	5st	10st	20st		
32	43	48	—	53	58	—	7	28.5
40	49.5	54.5	—	59.5	64.5	—	7	28.5
50	—	57.5	67.5	—	67.5	77.5	8	33.5

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis [mm]

Bore size [mm]	Without auto switch									With auto switch								
	A			B			CL			A			B			CL		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	65	70	—	28	33	—	55	60	—	75	80	—	38	43	—	65	70	—
40	73.5	78.5	—	34.5	39.5	—	63.5	68.5	—	83.5	88.5	—	44.5	49.5	—	73.5	78.5	—
50	—	90.5	100.5	—	40.5	50.5	—	76.5	86.5	—	100.5	110.5	—	50.5	60.5	—	86.5	96.5

Bore size [mm]	CD	CT	CU	CW	CX	CZ	L	L ₁	N	RR
32	10	5	14	20	18	36	7	28.5	M6 x 1.0	10
40	10	6	14	22	18	36	7	28.5	M6 x 1.0	10
50	14	7	20	28	22	44	8	33.5	M8 x 1.25	14

Double clevis bracket material: Cast iron
Surface treatment: Painted

* Double clevis pin and retaining rings are included.

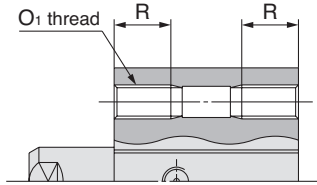


For more product options and details see our specific catalogues or on-line information.

Dimensions

ø12 to ø25/Spring Extend Without Auto Switch

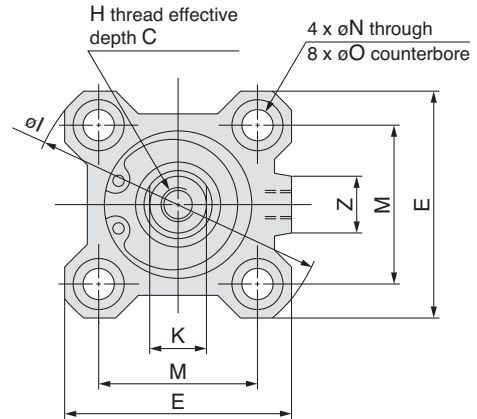
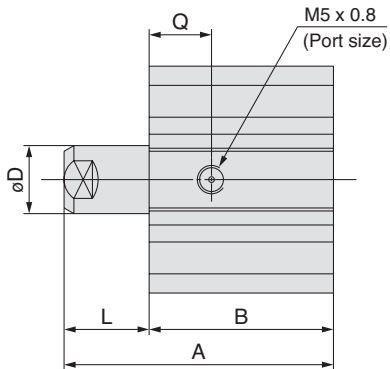
Both ends tapped: CQ2A



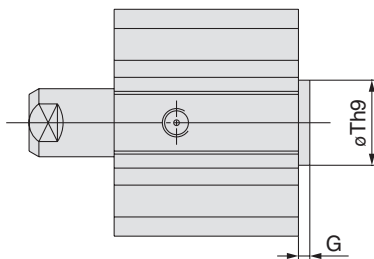
Both Ends Tapped [mm]

Bore size [mm]	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

Standard (Through-hole): CQ2B



With boss on head side

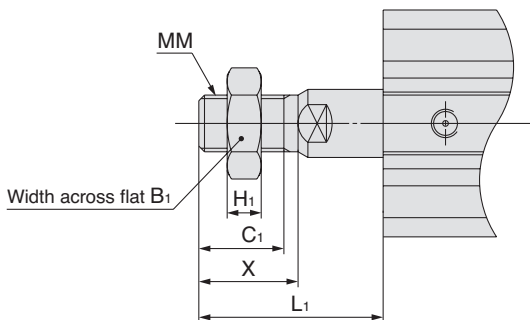


With Boss on Head Side [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note) With boss on rod cover side: Option (Suffix "-XC36" to the end of model number.)

Rod end male thread



Rod End Male Thread [mm]

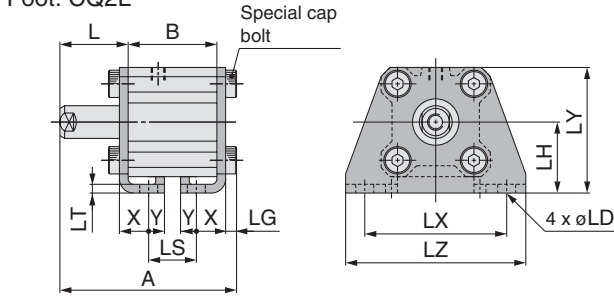
Bore size [mm]	B ₁	C ₁	H ₁	L ₁		MM	X
				5st	10st		
12	8	9	4	19	24	M5 x 0.8	10.5
16	10	10	5	20.5	25.5	M6 x 1.0	12
20	13	12	5	23.5	28.5	M8 x 1.25	14
25	17	15	6	27.5	32.5	M10 x 1.25	17.5

Standard

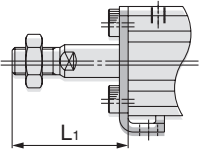
Bore size [mm]	Stroke [mm]	[mm]														
		A	B	C	D	E	H	I	K	L	M	N	O	Q	Z	
12	5	30.5	22	6	6	25	M3 x 0.5	32	5	8.5	15.5	3.5	6.5 depth 3.5	7.5	—	
	10	40.5	27							13.5						
16	5	32	23.5	8	8	29	M4 x 0.7	38	6	8.5	20	3.5	6.5 depth 3.5	8	10	
	10	42	28.5							13.5						
20	5	34	24.5	7	10	36	M5 x 0.8	47	8	9.5	25.5	5.5	9 depth 7	8	10	
	10	44	29.5							14.5						
25	5	37.5	27.5	12	12	40	M6 x 1.0	52	10	10	28	5.5	9 depth 7	9	10	
	10	47.5	32.5							15						

Dimensions

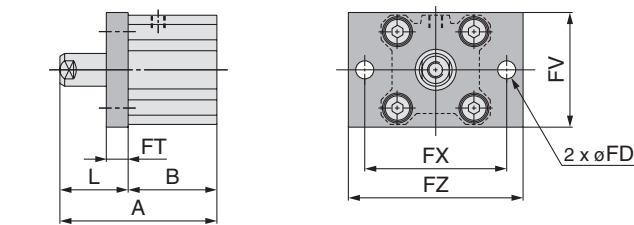
Foot: CQ2L



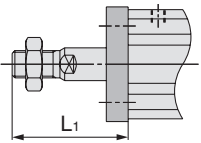
Rod end male thread



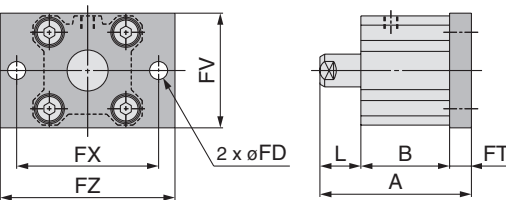
Rod flange: CQ2F



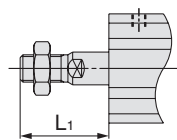
Rod end male thread



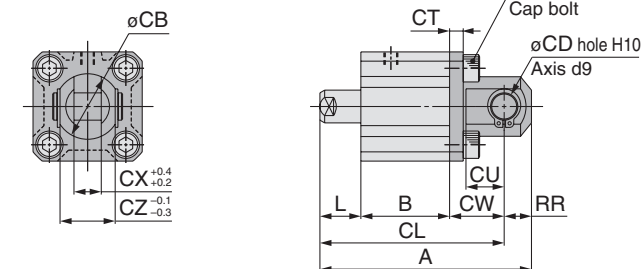
Head flange: CQ2G



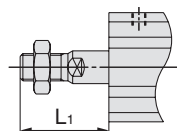
Rod end male thread



Double clevis: CQ2D



Rod end male thread



Foot

Bore size [mm]	A		B		L		L ₁		LD	LG	LH	LS	
	5st	10st	5st	10st	5st	10st	5st	10st				5st	10st
12	45.3	55.3	22	27	18.5	23.5	29	34	4.5	2.8	17	10	15
16	46.8	56.8	23.5	28.5	18.5	23.5	30.5	35.5	4.5	2.8	19	11.5	16.5
20	51.2	61.2	24.5	29.5	19.5	24.5	33.5	38.5	6.6	4	24	12.5	17.5
25	54.7	64.7	27.5	32.5	20	25	37.5	42.5	6.6	4	26	12.5	17.5

Bore size [mm]	LT	LX	LY	LZ	X	Y
12	2	34	29.5	44	8	4.5
16	2	38	33.5	48	8	5
20	3.2	48	42	62	9.2	5.8
25	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Flange

Bore size [mm]	A		B		FD	FT	FV	FX	FZ	L		L ₁	
	5st	10st	5st	10st						5st	10st	5st	10st
12	40.5	50.5	22	27	4.5	5.5	25	45	55	18.5	23.5	29	34
16	42	52	23.5	28.5	4.5	5.5	30	45	55	18.5	23.5	30.5	35.5
20	44	54	24.5	29.5	6.6	8	39	48	60	19.5	24.5	33.5	38.5
25	47.5	57.5	27.5	32.5	6.6	8	42	52	64	20	25	37.5	42.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange

Bore size [mm]	A		L		L ₁	
	5st	10st	5st	10st	5st	10st
12	36	46	8.5	13.5	19	24
16	37.5	47.5	8.5	13.5	20.5	25.5
20	42	52	9.5	14.5	23.5	28.5
25	45.5	55.5	10	15	27.5	32.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Double Clevis

Bore size [mm]	A		B		CB	CD	CL		CT	CU	CW	CX	CZ
	5st	10st	5st	10st			5st	10st					
12	50.5	60.5	22	27	12	5	44.5	54.5	4	7	14	5	10
16	53	63	23.5	28.5	14	5	47	57	4	10	15	6.5	12
20	61	71	24.5	29.5	20	8	52	62	5	12	18	8	16
25	67.5	77.5	27.5	32.5	24	10	57.5	67.5	5	14	20	10	20

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

Bore size [mm]	L		L ₁		N	RR
	5st	10st	5st	10st		
12	8.5	13.5	19	24	M4 x 0.7	6
16	8.5	13.5	20.5	25.5	M4 x 0.7	6
20	9.5	14.5	23.5	28.5	M6 x 1.0	9
25	10	15	27.5	32.5	M6 x 1.0	10

* Double clevis pin and retaining rings are included.

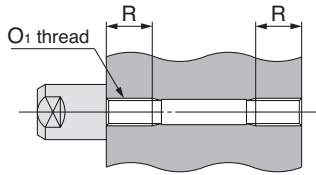


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Dimensions

ø12 to ø25/Spring Extend With Auto Switch

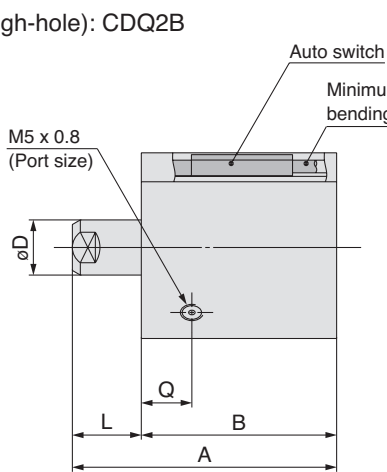
Both ends tapped: CDQ2A



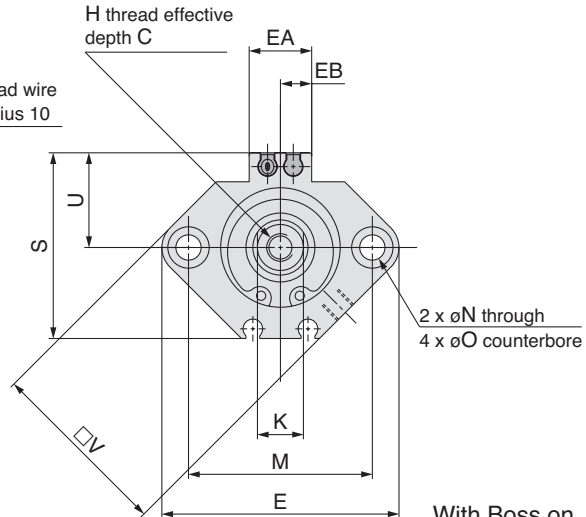
Both Ends Tapped [mm]

Bore size [mm]	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10

Standard (Through-hole): CDQ2B



With boss on head end

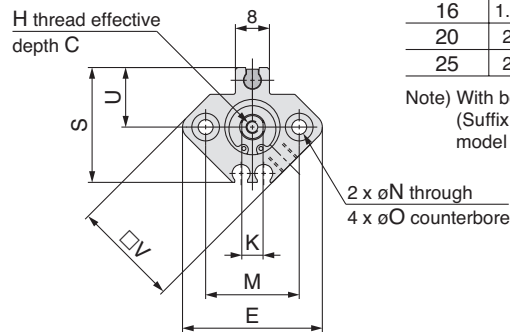
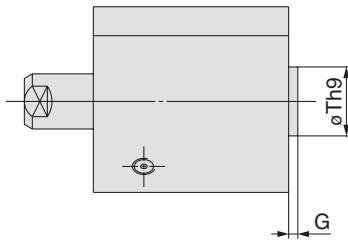


ø16 to ø25

With Boss on Head End [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note) With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

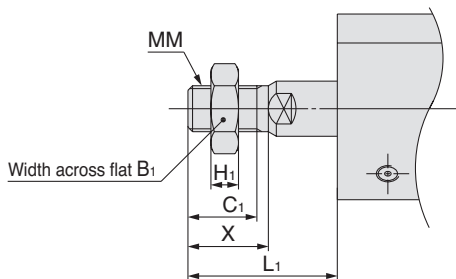


ø12

Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁		MM	X
				5st	10st		
12	8	9	4	19	24	M5 x 0.8	10.5
16	10	10	5	20.5	25.5	M6 x 1.0	12
20	13	12	5	23.5	28.5	M8 x 1.25	14
25	17	15	6	27.5	32.5	M10 x 1.25	17.5

Rod end male thread

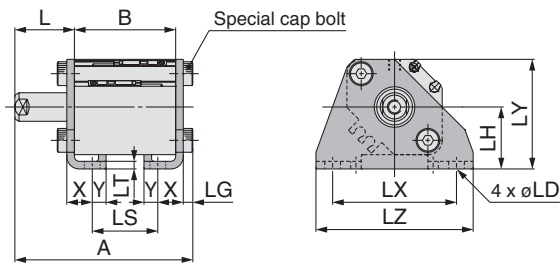


Standard For auto switch proper mounting position and its mounting height.

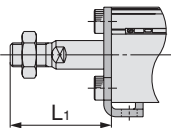
Bore size [mm]	Stroke [mm]	A	B	C	D	E	EA	EB	H	K	L	M	N	O	Q	S	U	V
12	5	45.9	37.4	6	6	33	—	—	M3 x 0.5	5	8.5	22	3.5	6.5 depth 3.5	11	27.5	14	25
	10	55.9	42.4	6	6	33	—	—	M3 x 0.5	5	13.5	22	3.5	6.5 depth 3.5	11	27.5	14	25
16	5	44	35.5	8	8	37	13.2	6.6	M4 x 0.7	6	8.5	28	3.5	6.5 depth 3.5	10	29.5	15	29
	10	54	40.5	8	8	37	13.2	6.6	M4 x 0.7	6	13.5	28	3.5	6.5 depth 3.5	10	29.5	15	29
20	5	46	36.5	7	10	47	13.6	6.8	M5 x 0.8	8	9.5	36	5.5	9 depth 7	8	35.5	18	36
	10	56	41.5	7	10	47	13.6	6.8	M5 x 0.8	8	14.5	36	5.5	9 depth 7	8	35.5	18	36
25	5	47.5	37.5	12	12	52	13.6	6.8	M6 x 1.0	10	10	40	5.5	9 depth 7	9	40.5	21	40
	10	57.5	42.5	12	12	52	13.6	6.8	M6 x 1.0	10	15	40	5.5	9 depth 7	9	40.5	21	40

Dimensions

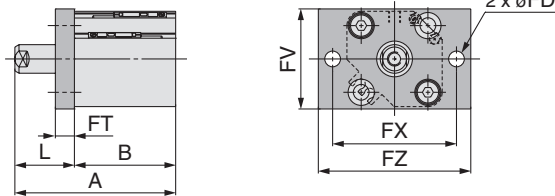
Foot: CDQ2L



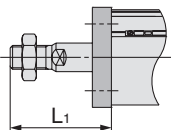
Rod end male thread



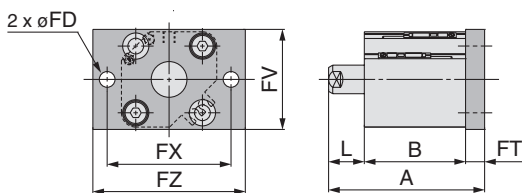
Rod flange: CDQ2F



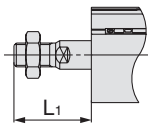
Rod end male thread



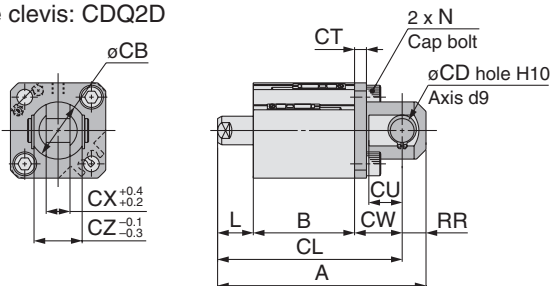
Head flange: CDQ2G



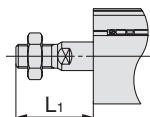
Rod end male thread



Double clevis: CDQ2D



Rod end male thread



Foot [mm]

Bore size [mm]	A		B		L		L ₁		LD	LG	LH	LS	
	5st	10st	5st	10st	5st	10st	5st	10st				5st	10st
12	60.7	70.7	37.4	42.4	18.5	23.5	29	34	4.5	2.8	17	25.4	30.4
16	58.8	68.8	35.5	40.5	18.5	23.5	30.5	35.5	4.5	2.8	19	23.5	28.5
20	63.2	73.2	36.5	41.5	19.5	24.5	33.5	38.5	6.6	4	24	24.5	29.5
25	64.7	74.7	37.5	42.5	20	25	37.5	42.5	6.6	4	26	22.5	27.5

Bore size [mm]	LT	LX	LY	LZ	X	Y
16	2	38	33.5	48	8	5
20	3.2	48	42	62	9.2	5.8
25	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Flange [mm]

Bore size [mm]	A		B		FD	FT	FV	FX	FZ	L		L ₁	
	5st	10st	5st	10st						5st	10st	5st	10st
12	55.9	65.9	37.4	42.4	4.5	5.5	25	45	55	18.5	23.5	29	34
16	54	64	35.5	40.5	4.5	5.5	30	45	55	18.5	23.5	30.5	35.5
20	56	66	36.5	41.5	6.6	8	39	48	60	19.5	24.5	33.5	38.5
25	57.5	67.5	37.5	42.5	6.6	8	42	52	64	20	25	37.5	42.5

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange [mm]

Bore size [mm]	A		L		L ₁	
	5st	10st	5st	10st	5st	10st
12	51.4	61.4	8.5	13.5	19	24
16	49.5	59.5	8.5	13.5	20.5	25.5
20	54	64	9.5	14.5	23.5	28.5
25	55.5	65.5	10	15	27.5	32.5

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis [mm]

Bore size [mm]	A		B		CB	CD	CL		CT	CU	CW	CX	CZ
	5st	10st	5st	10st			5st	10st					
12	65.9	75.9	37.4	42.4	12	5	59.9	69.9	4	7	14	5	10
16	65	75	35.5	40.5	14	5	59	69	4	10	15	6.5	12
20	73	83	36.5	41.5	20	8	64	74	5	12	18	8	16
25	77.5	87.5	37.5	42.5	24	10	67.5	77.5	5	14	20	10	20

Bore size [mm]	L		L ₁		N	RR
	5st	10st	5st	10st		
12	8.5	13.5	19	24	M4 x 0.7	6
16	8.5	13.5	20.5	25.5	M4 x 0.7	6
20	9.5	14.5	23.5	28.5	M6 x 1.0	9
25	10	15	27.5	32.5	M6 x 1.0	10

Double clevis bracket material: Carbon steel
Surface treatment: Nickel plated

* Double clevis pin and retaining rings are included.

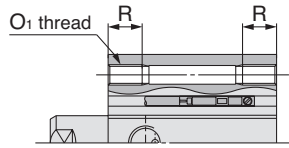


Dimensions

ø32 to ø50/Spring Extend With Auto Switch

(In the case of without auto switches, the A, B, P and Q dimensions will be only changed. Refer to the dimension table.)

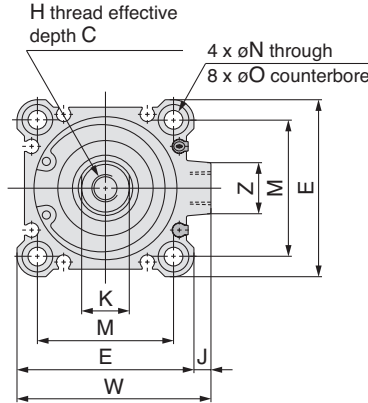
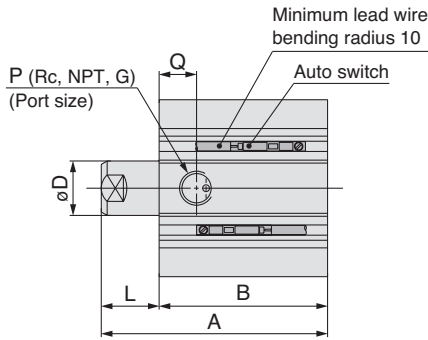
Both ends tapped: CQ2A/CDQ2A



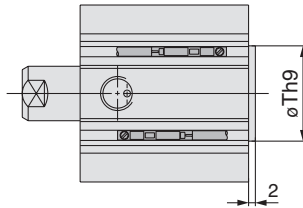
Both Ends

Tapped [mm]		
Bore size [mm]	O ₁	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

Standard (Through-hole): CQ2B/CDQ2B



With boss on head end

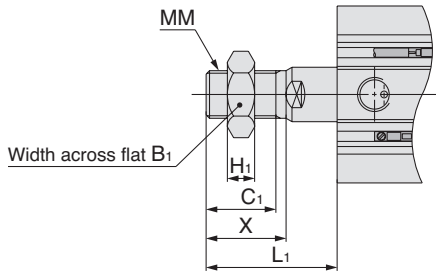


With Boss on Head End [mm]

Bore size [mm]	Th9
32	21 ⁰ _{-0.052}
40	28 ⁰ _{-0.052}
50	35 ⁰ _{-0.062}

Note) With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

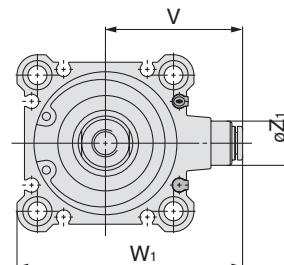
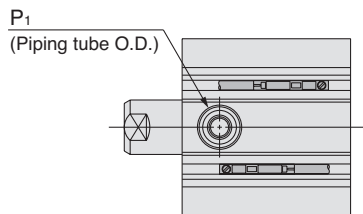
Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁			MM	X
				5st	10st	20st		
32	22	20.5	8	33.5	38.5	—	M14 x 1.5	23.5
40	22	20.5	8	33.5	38.5	—	M14 x 1.5	23.5
50	27	26	11	—	43.5	53.5	M18 x 1.5	28.5

Built-in one-touch fittings: ø32 to ø50



Built-in One-touch Fittings [mm]

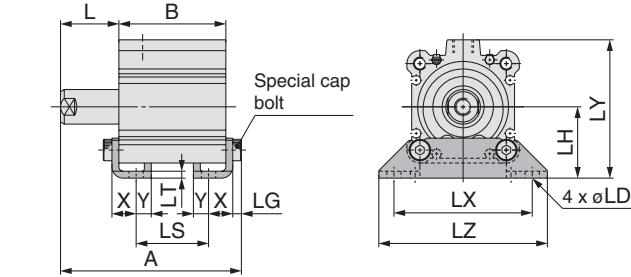
Bore size [mm]	Z ₁	P ₁	V	W ₁
32	13	6	36.5	59
40	13	6	40.5	66.5
50	16	8	50	82

Standard For auto switch proper mounting position and its mounting height.

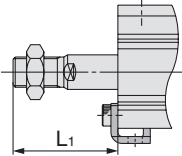
Bore size [mm]	Stroke [mm]	Without auto switch				With auto switch				C	D	E	H	J	K	L	M	N	O	W	Z
		A	B	P	Q	A	B	P	Q												
32	5	40	28	M5 x 0.8	10	50	38	1/8	10	13	16	45	M8 x 1.25	4.5	14	12	34	5.5	9 depth 7	49.5	14
	10	50	33	1/8	10	60	43	1/8	10	13	16	52	M8 x 1.25	5	14	17	40	5.5	9 depth 7	57	15
40	5	46.5	34.5	1/8	12.5	56.5	44.5	1/8	12.5	13	16	52	M8 x 1.25	5	14	12	40	5.5	9 depth 7	57	15
	10	56.5	39.5	1/8	12.5	66.5	49.5	1/8	12.5	13	16	52	M8 x 1.25	5	14	17	40	5.5	9 depth 7	57	15
50	10	68.5	40.5	1/4	10.5	68.5	50.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	18	50	6.6	11 depth 8	71	19
	20	78.5	50.5	1/4	10.5	88.5	60.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	28	50	6.6	11 depth 8	71	19

Dimensions

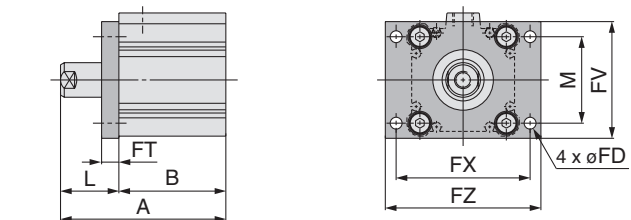
Foot: CQ2L/CDQ2L



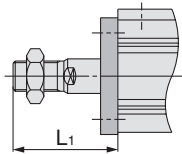
Rod end male thread



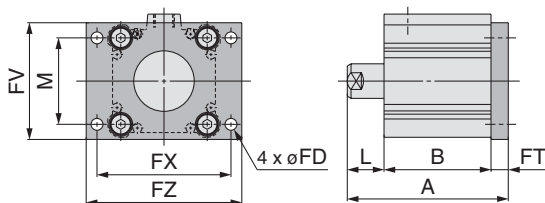
Rod flange: CQ2F/CDQ2F



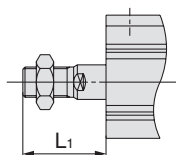
Rod end male thread



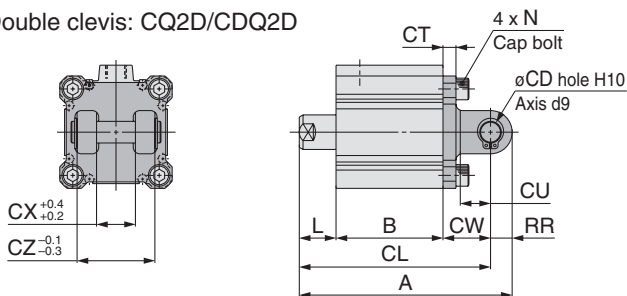
Head flange: CQ2G/CDQ2G



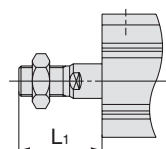
Rod end male thread



Double clevis: CQ2D/CDQ2D



Rod end male thread



Foot [mm]

Bore size [mm]	Without auto switch									With auto switch								
	A			B			LS			A			B			LS		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	57.2	67.2	-	28	33	-	12	17	-	67.2	77.2	-	38	43	-	22	27	-
40	63.7	73.7	-	34.5	39.5	-	18.5	23.5	-	73.7	83.7	-	44.5	49.5	-	28.5	33.5	-
50	-	76.7	96.7	-	40.5	50.5	-	17.5	27.5	-	86.7	106.7	-	50.5	60.5	-	27.5	37.5

Bore size [mm]	L			L ₁			LD	LG	LH	LT	LX	LY	LZ	X	Y
	5st	10st	20st	5st	10st	20st									
	32	22	27	-	43.5	48.5									
40	22	27	-	43.5	48.5	-	6.6	4	33	3.2	64	64	78	11.2	7
50	-	28	38	-	53.5	63.5	9	5	39	3.2	79	78	95	14.7	8

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod Flange [mm]

Bore size [mm]	Without auto switch						With auto switch						FD	FT	FV	FX	FZ
	A			B			A			B							
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st					
32	50	60	-	28	33	-	60	70	-	38	43	-	5.5	8	45	56	65
40	56.5	66.5	-	34.5	39.5	-	66.5	76.5	-	44.5	49.5	-	5.5	8	54	62	72
50	-	68.5	88.5	-	40.5	50.5	-	78.5	98.5	-	50.5	60.5	6.6	9	67	76	89

Bore size [mm]	L			L ₁			M
	5st	10st	20st	5st	10st	20st	
	32	22	27	-	43.5	48.5	
40	22	27	-	43.5	48.5	-	40
50	-	28	38	-	53.5	63.5	50

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange [mm]

Bore size [mm]	Without auto switch			With auto switch			L			L ₁		
	A			A			L			L ₁		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	48	58	-	58	68	-	12	17	-	33.5	38.5	-
40	54.5	64.5	-	64.5	74.5	-	12	17	-	33.5	38.5	-
50	-	67.5	87.5	-	77.5	97.5	-	18	28	-	43.5	53.5

* The dimensions except A, L and L₁ are the same as those of the rod flange.

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Double Clevis [mm]

Bore size [mm]	Without auto switch									With auto switch								
	A			B			CL			A			B			CL		
	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st	5st	10st	20st
32	70	80	-	28	33	-	60	70	-	80	90	-	38	43	-	70	80	-
40	78.5	88.5	-	34.5	39.5	-	68.5	78.5	-	88.5	98.5	-	44.5	49.5	-	78.5	88.5	-
50	-	100.5	120.5	-	40.5	50.5	-	86.5	106.5	-	110.5	130.5	-	50.5	60.5	-	96.5	116.5

Bore size [mm]	CD	CT	CU	CW	CX	CZ	L			L ₁			N	RR
							5st	10st	20st	5st	10st	20st		
							32	10	5	14	20	18		
40	10	6	14	22	18	36	12	17	-	33.5	38.5	-	M6 x 1.0	10
50	14	7	20	28	22	44	-	18	28	-	43.5	53.5	M8 x 1.25	14

Double clevis bracket material: Cast iron
Surface treatment: Painted

* Double clevis pin and retaining rings are included.



For more product options and details see our specific catalogues or on-line information.

Compact Cylinder: Large Bore Size, Double Acting, Single Rod

Specifications

Bore size [mm]	125	140	160	180	200
Action	Double acting, Single rod				
Fluid	Air				
Proof pressure	1.5 MPa			1.05 MPa	
Maximum operating pressure	1.0 MPa			0.7 MPa	
Minimum operating pressure	0.05 MPa				
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)				
Lubrication	Not required (Non-lube)				
Piston speed	50 to 500 mm/s			20 to 400 mm/s	
Allowable kinetic energy [J]	7.4	9.8	12.4		
Stroke length tolerance	+1.4 mm (Note) 0				
Mounting	Through-hole, both ends, tapped, common				

Note) Stroke length tolerance does not include the amount of bumper change.

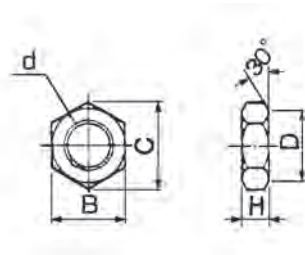
Replacement Parts/Seal Kit

Bore size [mm]	Kit no.
125	CQ2B125-PS
140	CQ2B140-PS
160	CQ2B160-PS
180	CQ2B180-PS
200	CQ2B200-PS

* Since the seal kit does not include a grease pack, order it separately.

Grease pack part no.: GR-S-010 (10 g)

Accessory Brackets: Rod End Nut



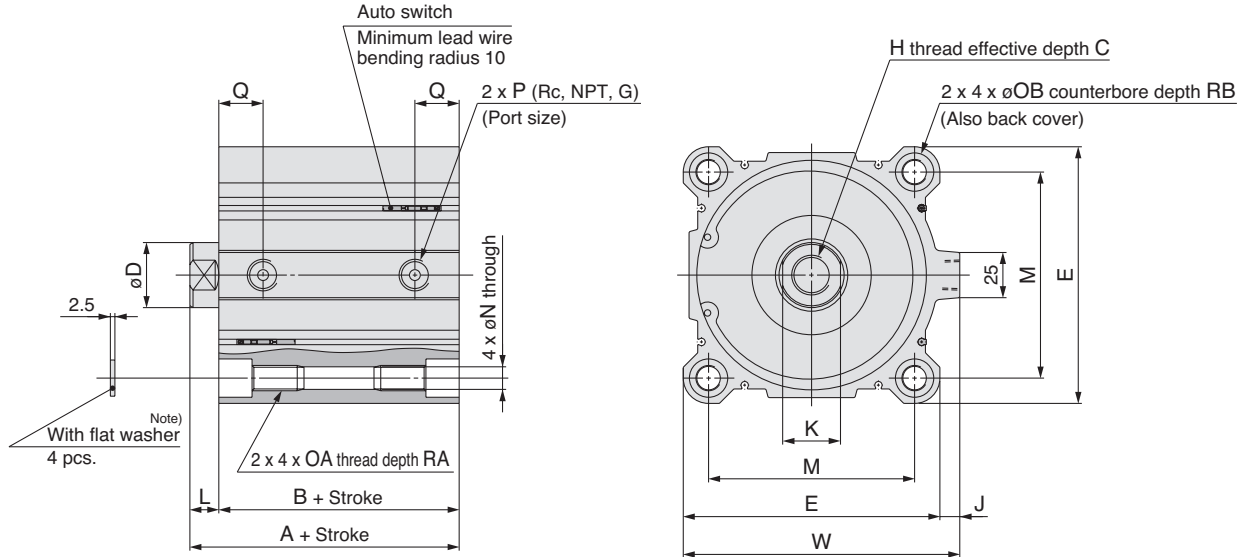
Material: Carbon steel
Surface treatment: Nickel plated

Part no.	Applicable bore size [mm]	d	H	B	C	D
NT-12	125, 140	M30 x 1.5	18	46	53.1	44
NT-16	160, 180, 200	M36 x 1.5	21	55	63.5	53

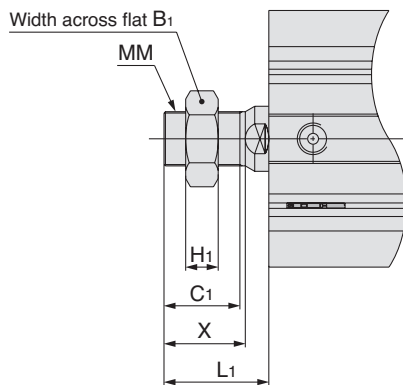
Dimensions

ø125 to ø160/Standard (Through-hole): C□Q2B

The dimensions are the same with or without an auto switch.



Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
125	46	42	18	58	M30 x 1.5	45
140	46	42	18	58	M30 x 1.5	45
160	55	47	21	64	M36 x 1.5	50

Bore size [mm]	Standard stroke	[mm]																	
		A	B	C	D	E	H	J	K	L	M	N	OA	OB	P	Q	RA	RB	W
125	10, 20, 30, 40, 50	99	83	30	36	142	M22 x 2.5	11	32	16	114	12.5	M14 x 2	21.2	3/8	24.5	25	18.4	153
140	75, 100, 125, 150	99	83	30	36	158	M22 x 2.5	10	32	16	128	12.5	M14 x 2	21.2	3/8	24.5	25	18.4	168
160	175, 200, 250, 300	108	91	33	40	178	M24 x 3	10	36	17	144	14.5	M16 x 2	24.2	3/8	27.5	28	21.2	188

Note) Be sure to use the attached flat washer for mounting cylinder with through-holes.

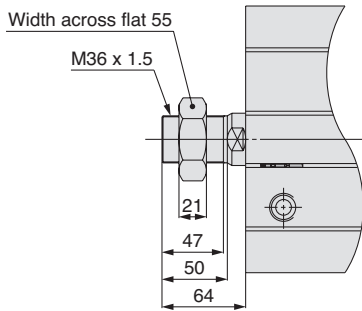
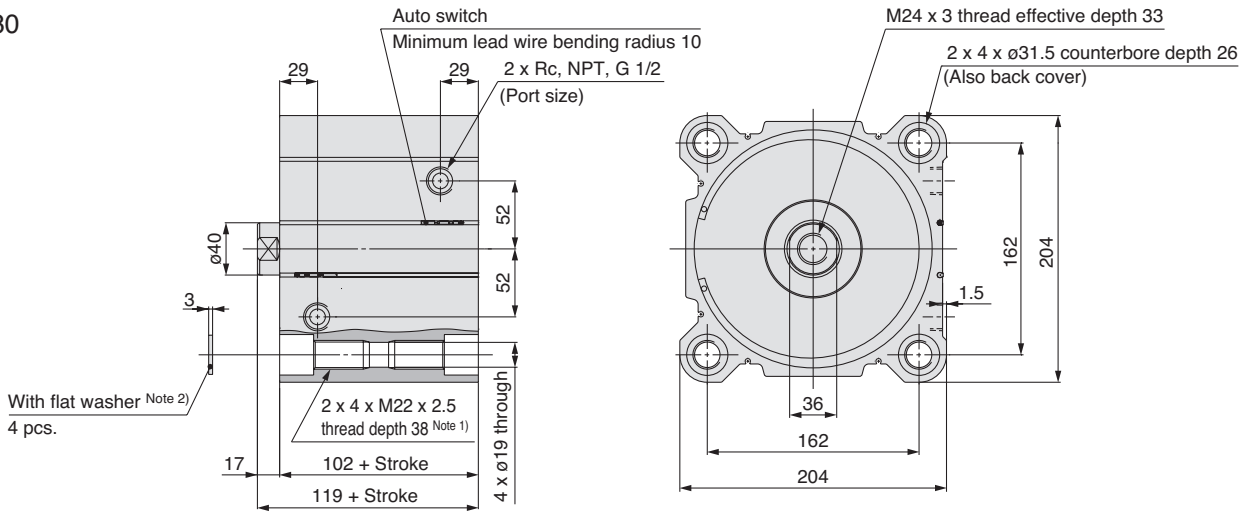


Dimensions

ø180, ø200/Standard (Through-hole): C□Q2B

The dimensions are the same with or without an auto switch.

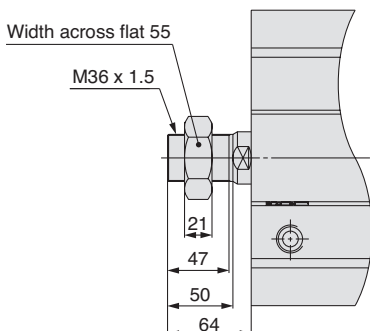
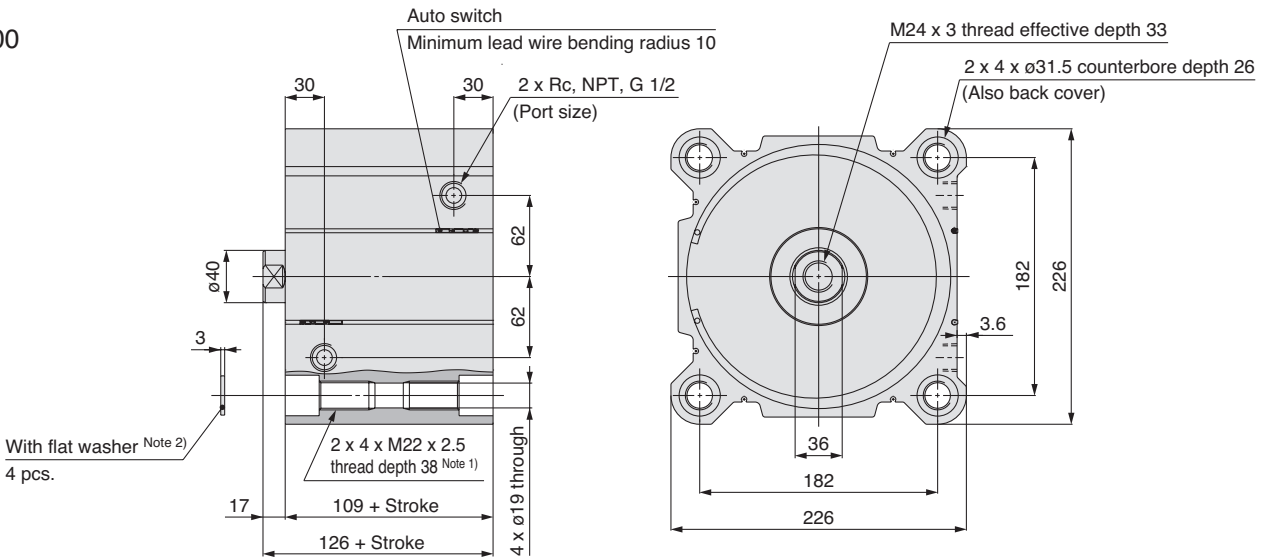
ø180



Note 1) In the case of 20 mm stroke or less, it would come with 2 x 4 x M22 x 2.5 through thread.

Note 2) Be sure to use the attached flat washer for mounting cylinder with through-holes.

ø200



Note 1) In the case of 20 mm stroke or less, it would come with 2 x 4 x M22 x 2.5 through thread.

Note 2) Be sure to use the attached flat washer for mounting cylinder with through-holes.

Compact Cylinder: Long Stroke, Double Acting, Single Rod

Specifications

Bore size [mm]	32	40	50	63	80	100
Action	Double acting, Single rod					
Fluid	Air					
Proof pressure	1.5 MPa					
Maximum operating pressure	1.0 MPa					
Minimum operating pressure	0.05 MPa					
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)					
Lubrication	Not required (Non-lube)					
Piston speed	50 to 500 mm/s					
Allowable kinetic energy [J]	0.29	0.52	0.91	1.54	2.71	4.54
Stroke length tolerance	+1.4 mm Note) 0					
Mounting	Both ends tapped, foot, rod flange, head flange, double clevis					

Note) Stroke length tolerance does not include the amount of bumper change.

Mounting Brackets/Part No.

Bore size [mm]	Foot Note 1)	Flange	Double clevis
32	CQ-L032	CQ-F032	CQ-D032
40	CQ-L040	CQ-F040	CQ-D040
50	CQ-L050	CQ-F050	CQ-D050
63	CQ-L063	CQ-F063	CQ-D063
80	CQ-L080	CQ-F080	CQ-D080
100	CQ-L100	CQ-F100	CQ-D100

Note 1) When ordering a foot bracket, order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows.

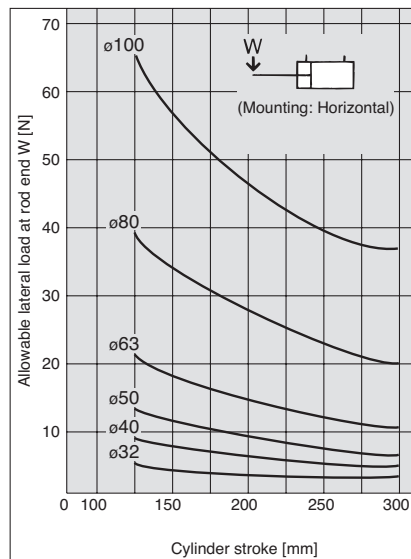
Foot or Flange: Body mounting bolts
Double clevis: Clevis pin, Body mounting bolts, Type C retaining rings for axis

Replacement Parts/Seal Kit

Bore size [mm]	Kit no.
32	CQ2A32-L-PS
40	CQ2A40-L-PS
50	CQ2A50-L-PS
63	CQ2A63-L-PS
80	CQ2A80-L-PS
100	CQ2A100-L-PS

* Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

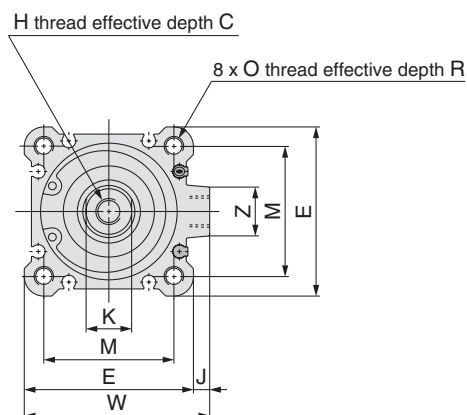
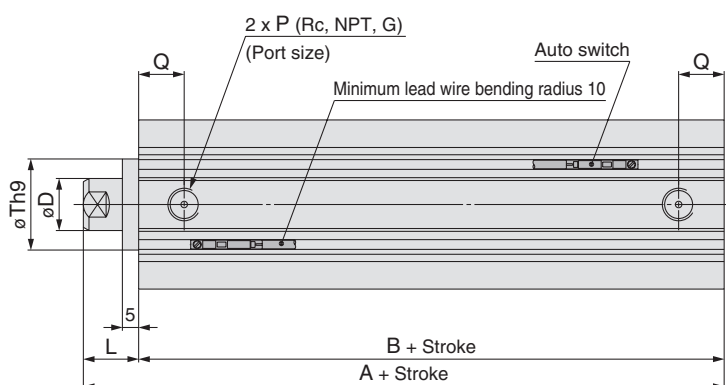
Allowable Lateral Load at Rod End



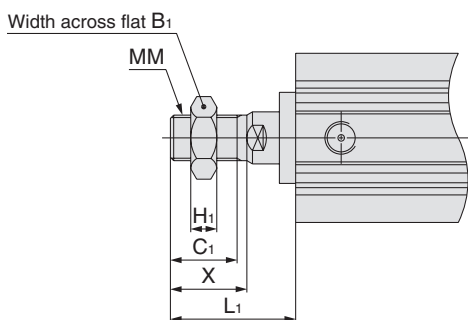
Dimensions

ø32 to ø50/Both ends tapped: C□Q2A

The dimensions are the same with or without an auto switch.



Rod end male thread



Rod End Male Thread [mm]						
Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
32	22	20.5	8	38.5	M14 x 1.5	23.5
40	22	20.5	8	38.5	M14 x 1.5	23.5
50	27	26	11	43.5	M18 x 1.5	28.5

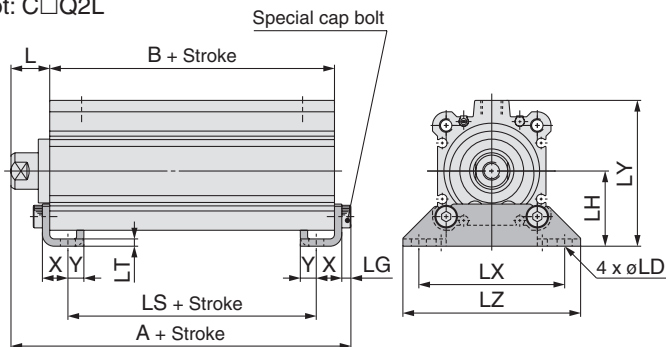
The dimensions with built-in one-touch fittings are equivalent to those of the CQ2 series, double acting, single rod.

Both Ends Tapped For auto switch proper mounting position and its mounting height. [mm]

Bore size [mm]	Stroke range [mm]	A	B	C	D	E	H	J	K	L	M	O	P	Q	R	Th9	W	Z
32	125 to 200 Note 1) 250, 300	62.5	45.5	13	16	45	M8 x 1.25	4.5	14	17	34	M6 x 1.0	1/8	12.5	10	22 ⁰ _{-0.052}	49.5	14
40		72	55	13	16	52	M8 x 1.25	5	14	17	40	M6 x 1.0	1/8	14	10	28 ⁰ _{-0.052}	57	15
50		73.5	55.5	15	20	64	M10 x 1.5	7	17	18	50	M8 x 1.25	1/4	14	14	35 ⁰ _{-0.062}	71	19

Note 1) For 125 to 200 strokes, strokes are available in 25 mm intervals.
 Note 2) For calculation on the longitudinal dimension of intermediate strokes.

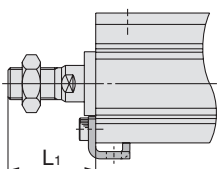
Foot: C□Q2L



Foot [mm]														
Bore size [mm]	A	B	L	L ₁	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
32	69.7	45.5	17	38.5	6.6	4	30	29.5	3.2	57	57	71	11.2	5.8
40	79.2	55	17	38.5	6.6	4	33	39	3.2	64	64	78	11.2	7
50	81.7	55.5	18	43.5	9	5	39	32.5	3.2	79	78	95	14.7	8

Foot bracket material: Carbon steel
 Surface treatment: Nickel plated

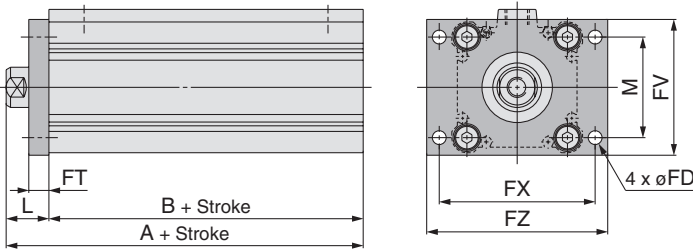
Rod end male thread



Dimensions

The dimensions are the same with or without an auto switch.

Rod flange: C□Q2F

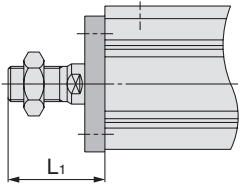


Rod Flange

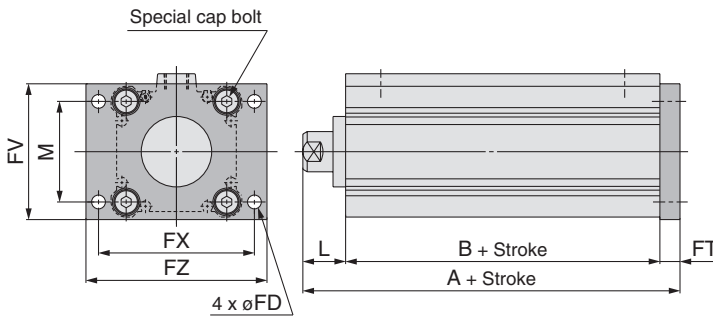
Bore size [mm]	A	B	FD	FT	FV	FX	FZ	L	L ₁	M
32	62.5	45.5	5.5	8	48	56	65	17	38.5	34
40	72	55	5.5	8	54	62	72	17	38.5	40
50	73.5	55.5	6.6	9	67	76	89	18	43.5	50

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Head flange: C□Q2G



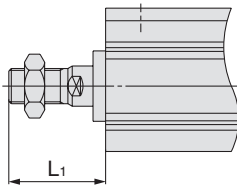
Head Flange

Bore size [mm]	A
32	70.5
40	80
50	82.5

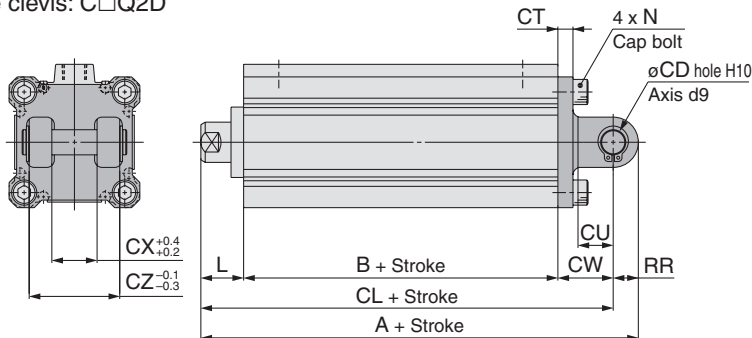
Flange bracket material: Carbon steel
Surface treatment: Nickel plated

(* The dimensions
* except A are the
* same as those of the
* rod flange.)

Rod end male thread



Double clevis: C□Q2D



Double Clevis

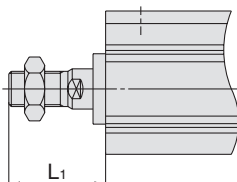
Bore size [mm]	A	B	CD	CL	CT	CU	CW	CX	CZ
32	92.5	45.5	10	82.5	5	14	20	18	36
40	104	55	10	94	6	14	22	18	36
50	115.5	55.5	14	101.5	7	20	28	22	44

Bore size [mm]	L	L ₁	N	RR
32	17	38.5	M6 x 1.0	10
40	17	38.5	M6 x 1.0	10
50	18	43.5	M8 x 1.25	14

Double clevis bracket material: Cast iron
Surface treatment: Painted

* Double clevis pin and retaining rings are shipped together.

Rod end male thread



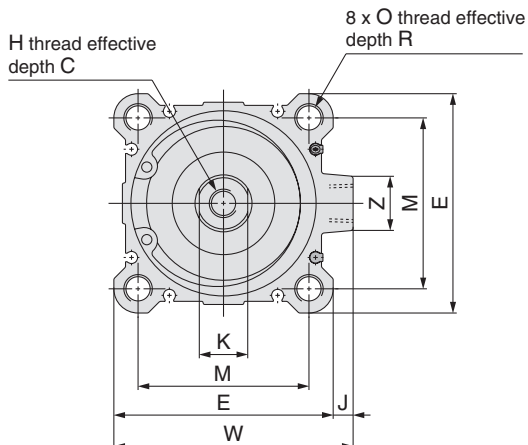
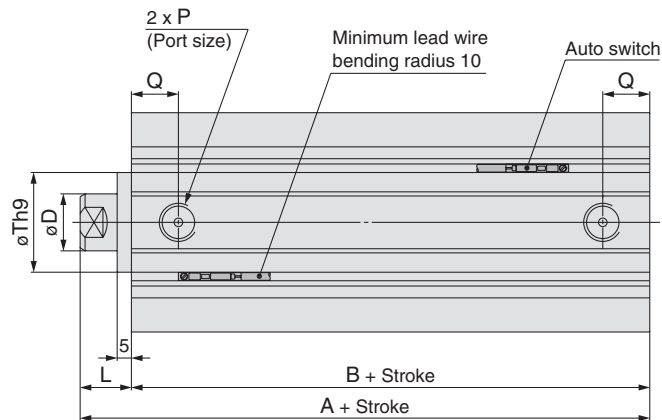
For more product options and details see our specific catalogues or on-line information.

Dimensions

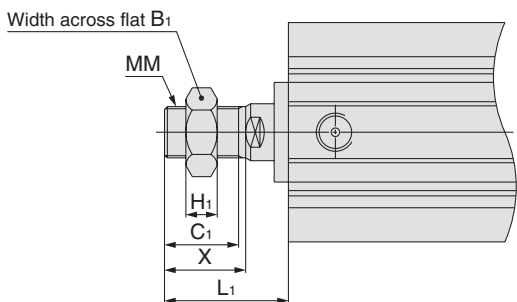
ø63 to ø100

Both ends tapped: C□Q2A

The dimensions are the same with or without an auto switch.



Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
63	27	26	11	43.5	M18 x 1.5	28.5
80	32	32.5	13	53.5	M22 x 1.5	35.5
100	41	32.5	16	53.5	M26 x 1.5	35.5

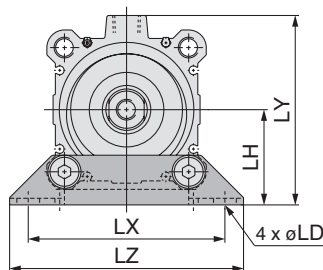
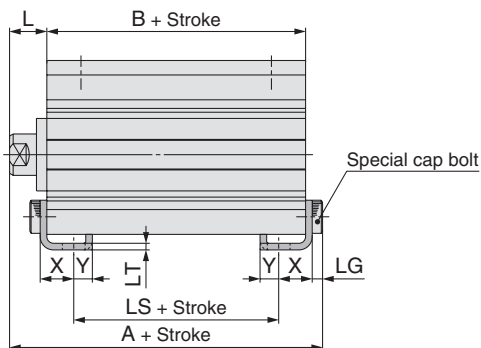
The dimensions with built-in one-touch fittings are equivalent to those of the CQ2 series, double acting, single rod.

Both Ends Tapped For auto switch proper mounting position and its mounting height. [mm]

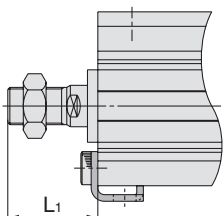
Bore size [mm]	Stroke range [mm]	A	B	C	D	E	H	J	K	L	M	O	P	Q	R	Th9	W	Z
63	125 to 200 (Note 1) 250, 300	75	57	15	20	77	M10 x 1.5	7	17	18	60	M10 x 1.5	1/4	16.5	18	35 ⁰ _{-0.062}	84	19
80		86	66	21	25	98	M16 x 2.0	6	22	20	77	M12 x 1.75	3/8	19	22	43 ⁰ _{-0.062}	104	25
100		97.5	75.5	27	30	117	M20 x 2.5	6.5	27	22	94	M12 x 1.75	3/8	23	22	59 ⁰ _{-0.074}	123.5	25

Note 1) For 125 to 200 strokes, strokes are available in 25 mm intervals.
 Note 2) For calculation on the longitudinal dimension of intermediate stroke.

Foot: C□Q2L



Rod end male thread



Foot [mm]

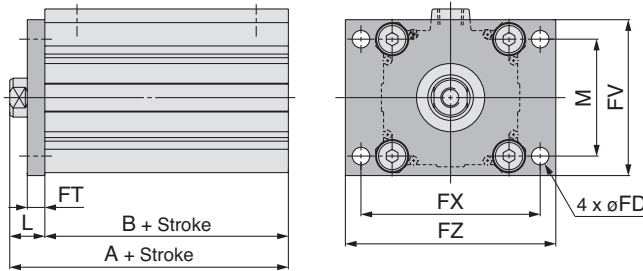
Bore size [mm]	A	B	L	L ₁	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
63	83.2	57	18	43.5	11	5	46	31	3.2	95	91.5	113	16.2	9
80	97.5	66	20	53.5	13	7	59	36	4.5	118	114	140	19.5	11
100	110.5	75.5	22	53.5	13	7	71	41.5	6	137	136	162	23	12.5

Foot bracket material: Carbon steel
 Surface treatment: Nickel plated

Dimensions

The dimensions are the same with or without an auto switch.

Rod flange: C□Q2F

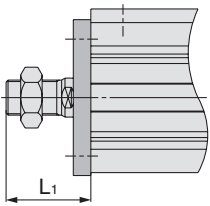


Rod Flange

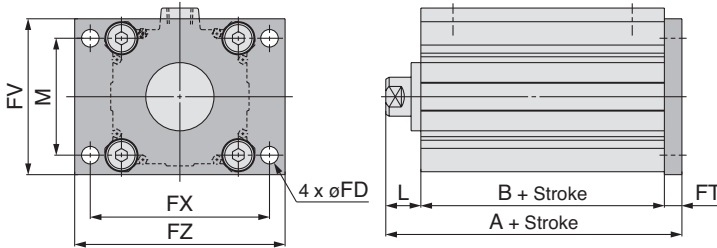
Bore size [mm]	A	B	FD	FT	FV	FX	FZ	L	L ₁	M
63	75	57	9	9	80	92	108	18	43.5	60
80	86	66	11	11	99	116	134	20	53.5	77
100	97.5	75.5	11	11	117	136	154	22	53.5	94

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Head flange: C□Q2G



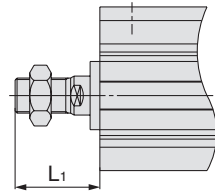
Head Flange

Bore size [mm]	A
63	84
80	97
100	108.5

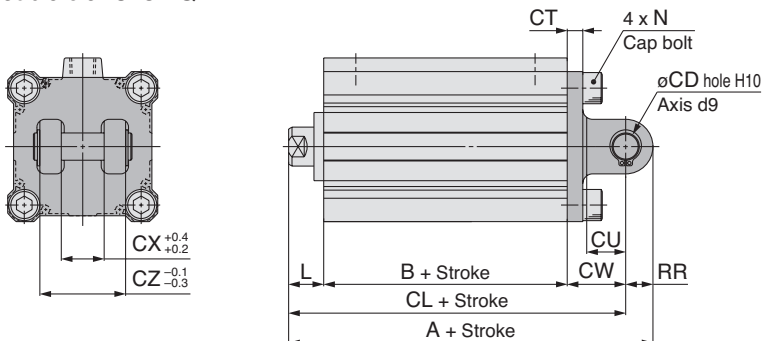
* The dimensions except A are the same as those of the rod flange.

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Double clevis: C□Q2D



Double Clevis

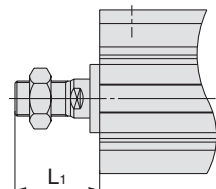
Bore size [mm]	A	B	CD	CL	CT	CU	CW	CX	CZ
63	119	57	14	105	8	20	30	22	44
80	142	66	18	124	10	27	38	28	56
100	164.5	75.5	22	142.5	13	31	45	32	64

Bore size [mm]	L	L ₁	N	RR
63	18	43.5	M10 x 1.5	14
80	20	53.5	M12 x 1.75	18
100	22	53.5	M12 x 1.75	22

Double clevis bracket material: Cast iron
Surface treatment: Nickel plated

* Double clevis pin and retaining rings are shipped together.

Rod end male thread



For more product options and details see our specific catalogues or on-line information.

Compact Cylinder: Non-rotating Rod, Double Acting, Single Rod

Specifications

Bore size [mm]	12	16	20	25	32	40	50	63
Action	Double acting, Single rod							
Fluid	Air							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.07 MPa	0.05 MPa						
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)							
Lubrication	Not required (Non-lube)							
Piston speed	50 to 500 mm/s							
Allowable kinetic energy [J]	0.022 0.043 Note 1)	0.038	0.055	0.09	0.15	0.26	0.46	0.77
Stroke length tolerance	+1.0 mm Note 2) 0							
Rod non-rotating accuracy	±2°	±1°			±0.8°			
Mounting	Through hole, both ends tapped, foot, rod flange, head flange, double clevis							

* ø12 with auto switch: With rubber bumper (Standard)

Note 1) For cylinders with rubber bumper (ø12 with auto switch only)

Note 2) Stroke length tolerance does not include the amount of bumper change.

Mounting Brackets/Part No.

Bore size [mm]	Foot Note 1)	Flange	Double clevis
40	CQ-L040	CQ-F040	CQ-D040
50	CQ-L050	CQ-F050	CQ-D050
63	CQ-L063	CQ-F063	CQ-D063

Note 1) When ordering a foot bracket, order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows.

Foot or Flange: Body mounting bolts
Double clevis: Clevis pin, Body mounting bolts, Type C retaining rings for axis

Replacement Parts/Seal Kit

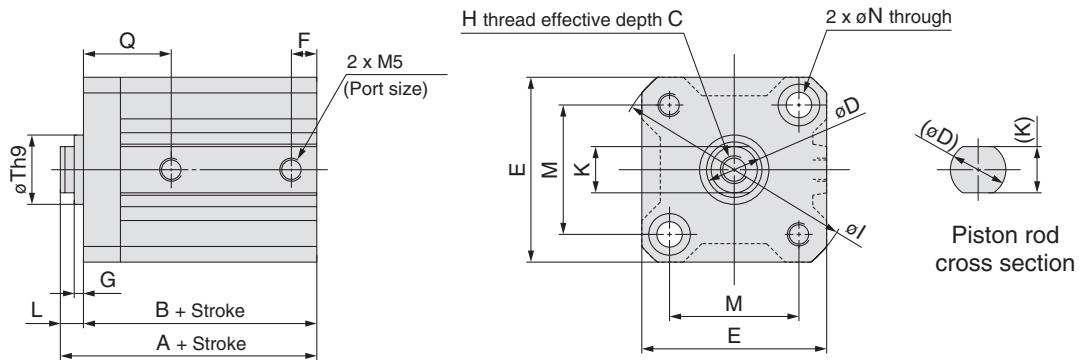
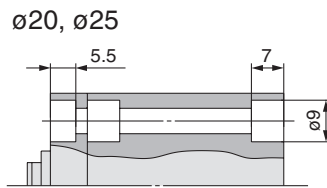
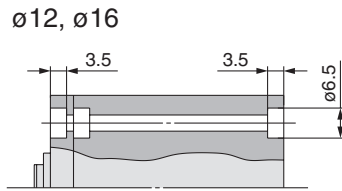
Bore size [mm]	Kit no.
12	CQ2KB12-PS
16	CQ2KB16-PS
20	CQ2KB20-PS
25	CQ2KB25-PS
32	CQ2KB32-PS
40	CQ2KB40-PS
50	CQ2KB50-PS
63	CQ2KB63-PS

* Since the seal kit does not include a grease pack, order it separately.

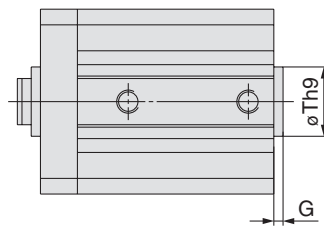
Grease pack part no.: GR-S-010 (10 g)

Dimensions

ø12 to ø25/Without Auto Switch
 Standard (Through-hole): CQ2KB



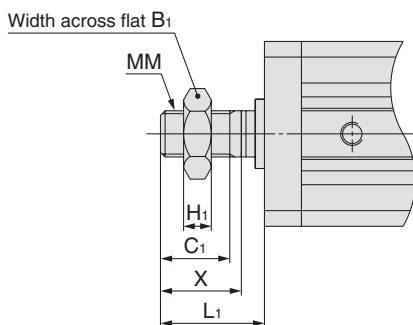
With boss on head side



With Boss on Head Side [mm]

Bore size [mm]	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Rod end male thread



Rod End Male Thread [mm]

Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard

[mm]

Bore size [mm]	Stroke range [mm]	A	B	C	D	E	F	G	H	I	K	L	M	N	Q	Th9
12	5 to 30	25.5	22	6	6	25	5	1.5	M3 x 0.5	32	5.2	3.5	15.5	3.5	12.5	15 ⁰ _{-0.043}
16	5 to 30	27	23.5	8	8	29	5.5	1.5	M4 x 0.7	38	6	3.5	20	3.5	13	20 ⁰ _{-0.052}
20	5 to 50	32	27.5	7	10	36	5.5	2	M5 x 0.8	47	8	4.5	25.5	5.5	17	13 ⁰ _{-0.043}
25	5 to 50	35.5	30.5	12	12	40	5.5	2	M6 x 1.0	52	10	5	28	5.5	19	15 ⁰ _{-0.043}

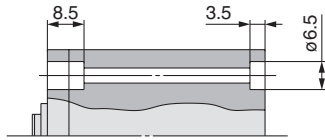


Dimensions

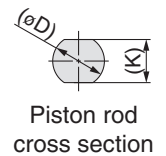
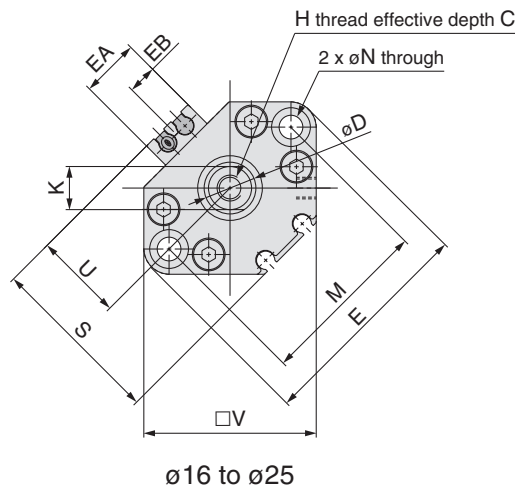
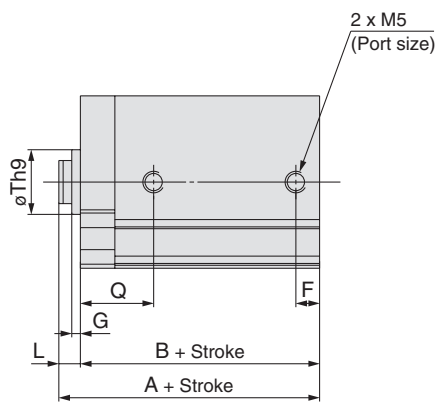
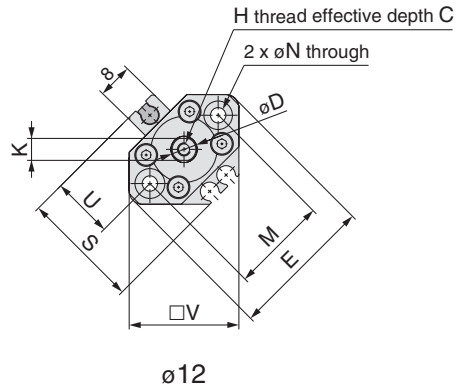
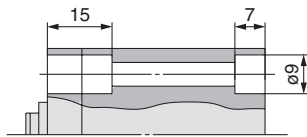
ø12 to ø25/With Auto Switch

Standard (Through-hole): CDQ2KB

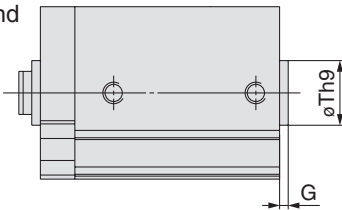
ø12, ø16



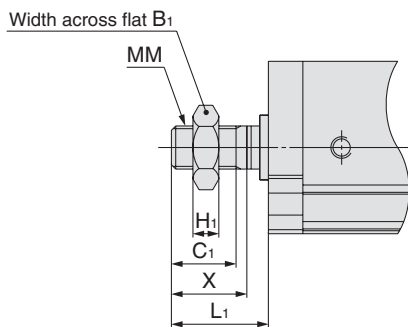
ø20, ø25



With boss on head end



Rod end male thread



Rod End Male Thread [mm]

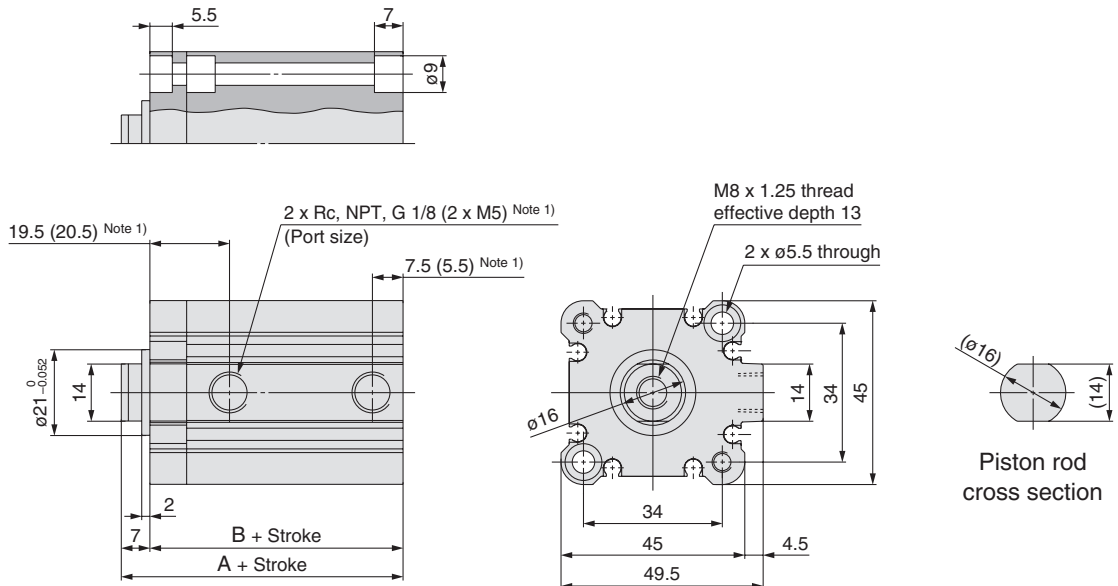
Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

Standard For auto switch proper mounting position and its mounting height.

Bore size [mm]	Stroke range [mm]	A	B	C	D	E	EA	EB	F	G	H	K	L	M	N	Q	S	Th9	U	V
12	5 to 30	36.5	33	6	6	33	—	—	6.5	1.5	M3 x 0.5	5.2	3.5	22	3.5	16	27.5	15 ⁰ _{-0.043}	14	25
16	5 to 30	39	35.5	8	8	37	13.2	6.6	5.5	1.5	M4 x 0.7	6	3.5	28	3.5	15	29.5	20 ⁰ _{-0.052}	15	29
20	5 to 50	44	39.5	7	10	47	13.6	6.8	5.5	2	M5 x 0.8	8	4.5	36	5.5	18.5	35.5	13 ⁰ _{-0.043}	18	36
25	5 to 50	45.5	40.5	12	12	52	13.6	6.8	5.5	2	M6 x 1.0	10	5	40	5.5	19	40.5	15 ⁰ _{-0.043}	21	40

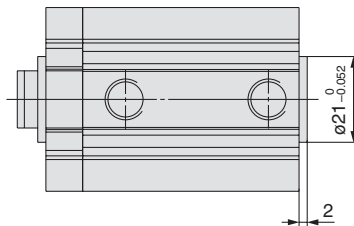
Dimensions

ø32/Without Auto Switch



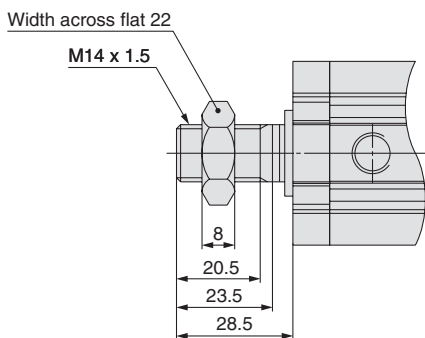
Note 1) (): Stroke 5 mm

With boss on head side

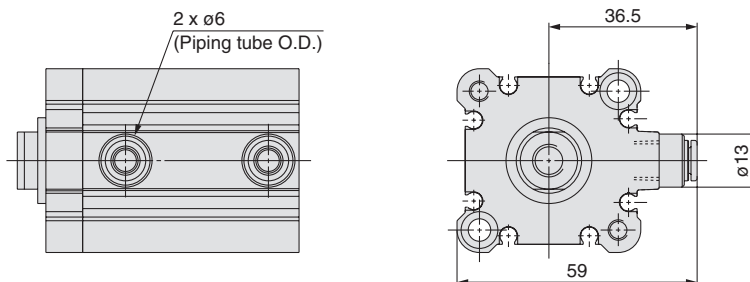


Stroke range [mm]	[mm]	
	A	B
5 to 50	39	32
75, 100	49	42

Rod end male thread



Built-in one-touch fittings: ø32



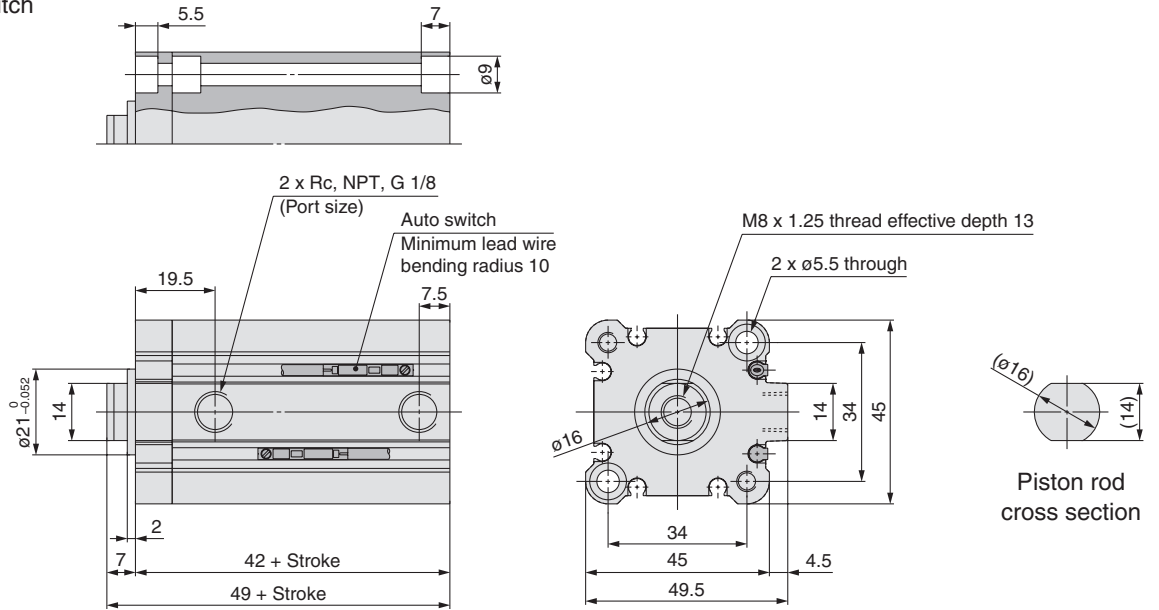
Note 2) The dimensions of the ø32-5 mm stroke with built-in one-touch fittings are the same as those of the 10 mm stroke cylinder tube.



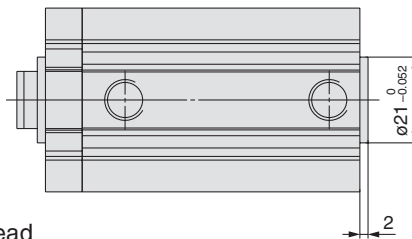
For more product options and details see our specific catalogues or on-line information.

Dimensions

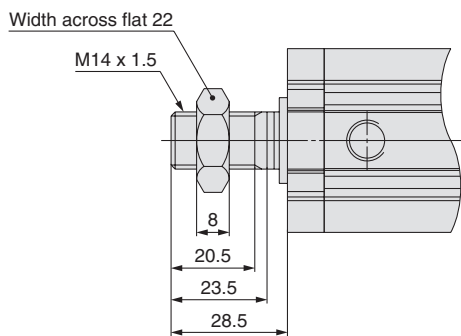
ø32/With Auto Switch



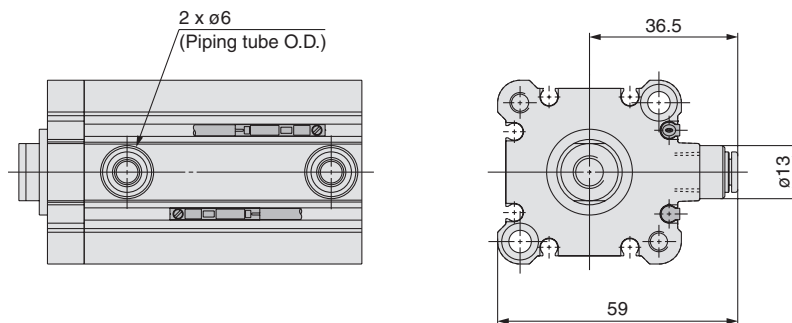
With boss on head end



Rod end male thread



Built-in one-touch fittings: ø32

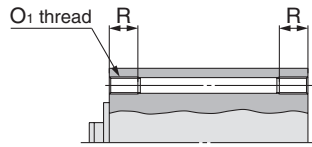


Dimensions

ø40 to ø63/With Auto Switch

(In the case of without auto switches, the A and B dimensions will be only changed. Refer to the dimension table.)

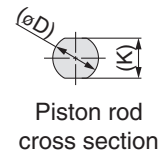
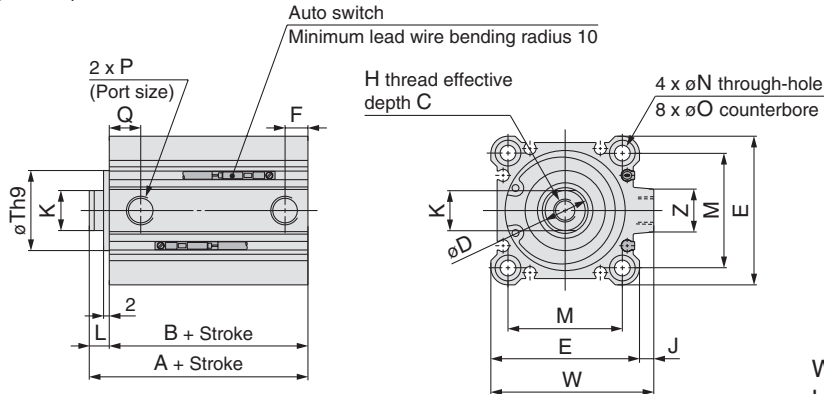
Both ends tapped: CDQ2KA



Both Ends Tapped [mm]

Bore size [mm]	O1	R
40	M6 x 1.0	10
50	M8 x 1.25	14
63	M10 x 1.5	18

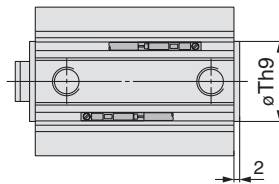
Standard (Through-hole): CDQ2KB



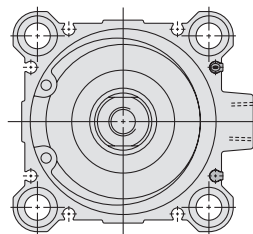
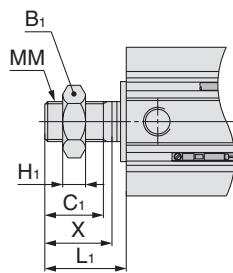
With Boss on Head Side [mm]

Bore size [mm]	Th9
40	28 ⁰ _{-0.052}
50	35 ⁰ _{-0.062}
63	35 ⁰ _{-0.062}

With boss on head side



Rod end male thread

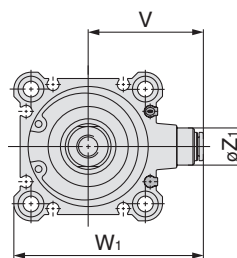
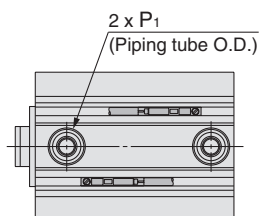


Cylinder tube form ø63

Rod End Male Thread [mm]

Bore size [mm]	B1	C1	H1	L1	MM	X
40	22	20.5	8	28.5	M14 x 1.5	23.5
50	27	26	11	33.5	M18 x 1.5	28.5
63	27	26	11	33.5	M18 x 1.5	28.5

Built-in one-touch fittings: ø40 to ø63



Built-in One-touch Fittings [mm]

Bore size [mm]	Z1	P1	V	W1
40	13	6	40.5	66.5
50	16	8	50	82
63	16	8	56.5	95

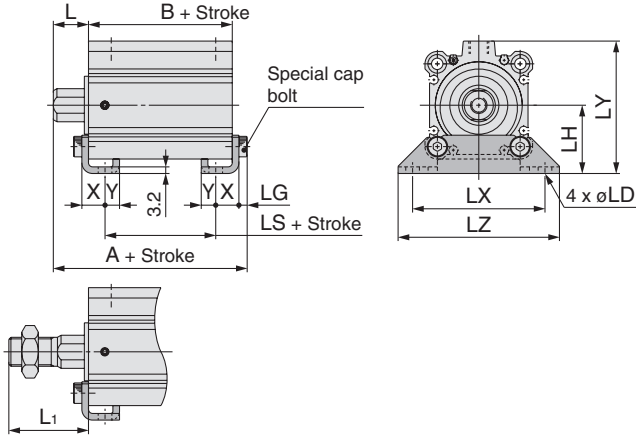
Standard

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		C	D	E	F	H	J	K	L	M	N	O	P	Q	Th9	W	Z
		A	B	A	B																
40	5 to 50	36.5	29.5	46.5	39.5	13	16	52	8	M8 x 1.25	5	14	7	40	5.5	9 depth 7	1/8	11	28 ⁰ _{-0.052}	57	15
	75, 100	46.5	39.5																		
50	10 to 50	38.5	30.5	48.5	40.5	15	20	64	10.5	M10 x 1.5	7	18	8	50	6.6	11 depth 8	1/4	10.5	35 ⁰ _{-0.062}	71	19
	75, 100	48.5	40.5																		
63	10 to 50	44	36	54	46	15	20	77	10.5	M10 x 1.5	7	18	8	60	9	14 depth 10.5	1/4	15	35 ⁰ _{-0.062}	84	19
	75, 100	54	46																		



Dimensions

Foot: CDQ2KL



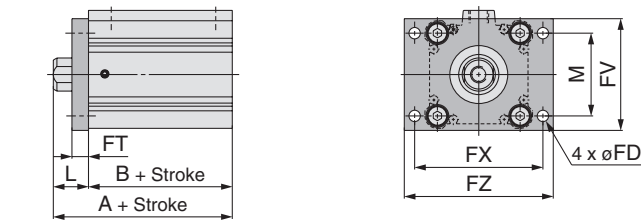
Foot

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			L	L ₁	LD
		A	B	LS	A	B	LS			
40	5 to 50	53.7	29.5	13.5	63.7	39.5	23.5	17	38.5	6.6
	75, 100	63.7	39.5	23.5						
50	10 to 50	56.7	30.5	7.5	66.7	40.5	17.5	18	43.5	9
	75, 100	66.7	40.5	17.5						
63	10 to 50	62.2	36	10	72.2	46	20	18	43.5	11
	75, 100	72.2	46	20						

Bore size [mm]	LG	LH	LX	LY	LZ	X	Y
40	4	33	64	64	78	11.2	7
50	5	39	79	78	95	14.7	8
63	5	46	95	91.5	113	16.2	9

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Rod flange: CDQ2KF



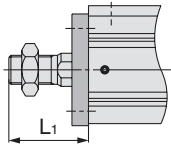
Rod Flange

Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		FD	FT	FV	FX	FZ
		A	B	A	B					
40	5 to 50	46.5	29.5	56.5	39.5	5.5	8	54	62	72
	75, 100	56.5	39.5							
50	10 to 50	48.5	30.5	58.5	40.5	6.6	9	67	76	89
	75, 100	58.5	40.5							
63	10 to 50	54	36	64	46	9	9	80	92	108
	75, 100	64	46							

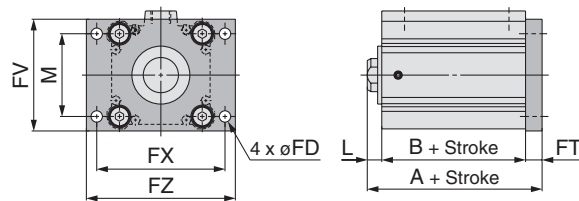
Bore size [mm]	L	L ₁	M
40	17	38.5	40
50	18	43.5	50
63	18	43.5	60

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Head flange: CDQ2KG

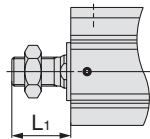


Head Flange

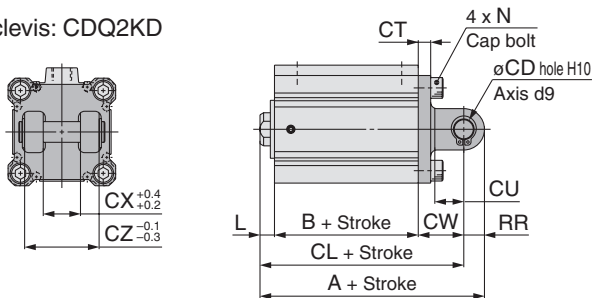
Bore size [mm]	Stroke range [mm]	Without auto switch		With auto switch		L	L ₁
		A	B	A	B		
40	5 to 50	44.5		54.5	7	28.5	* The dimensions except * A, L and L ₁ are the * same as those of the * rod flange.
	75, 100	54.5					
50	10 to 50	47.5		57.5	8	33.5	
	75, 100	57.5					
63	10 to 50	53		63	8	33.5	
	75, 100	63					

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Rod end male thread



Double clevis: CDQ2KD



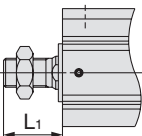
Double Clevis

Bore size [mm]	Stroke range [mm]	Without auto switch			With auto switch			CD	CT	CU
		A	B	CL	A	B	CL			
40	5 to 50	68.5	29.5	58.5	78.5	39.5	68.5	10	6	14
	75, 100	78.5	39.5	68.5						
50	10 to 50	80.5	30.5	66.5	90.5	40.5	76.5	14	7	20
	75, 100	90.5	40.5	76.5						
63	10 to 50	88	36	74	98	46	84	14	8	20
	75, 100	98	46	84						

Bore size [mm]	CW	CX	CZ	L	L ₁	N	RR
40	22	18	36	7	28.5	M6 x 1.0	10
50	28	22	44	8	33.5	M8 x 1.25	14
63	30	22	44	8	33.5	M10 x 1.5	14

Double clevis bracket material: Cast iron
Surface treatment: Painted

* Double clevis pin and retaining rings are included.

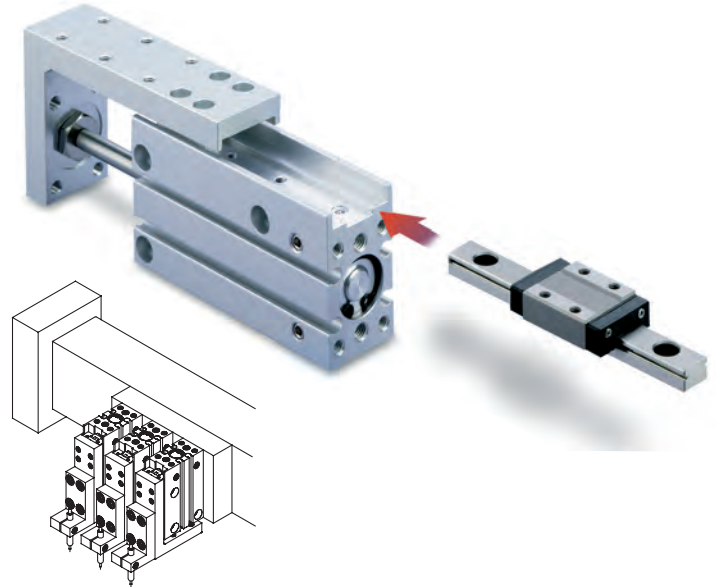


Compact Slide Series MXH

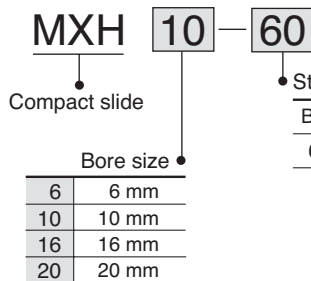
ø6, ø10, ø16, ø20

Features

- The use of an endless track linear guide produces a table cylinder having excellent rigidity, linearity and non-rotating accuracy.
- Improved moment tolerance compared to MXU series, allowable moment is approximately 6 times improved.
- Long strokes up to 60 st are standardized.
- A table cylinder suitable for short pitch mounting.
- Piping is possible from 3 directions.
- Mounting is possible from 4 directions.



How to Order



Bore size [mm]	Standard stroke [mm]
6, 10, 16, 20	5, 10, 15, 20, 25, 30, 40, 50, 60

Product Recommendation



Stocked items for fast delivery

MXH6-5	MXH6-40	MXH10-20	MXH16-5	MXH16-40	MXH20-20
MXH6-10	MXH6-50	MXH10-25	MXH16-10	MXH16-50	MXH20-25
MXH6-15	MXH6-60	MXH10-30	MXH16-15	MXH16-60	MXH20-30
MXH6-20	MXH10-5	MXH10-40	MXH16-20	MXH20-5	MXH20-40
MXH6-25	MXH10-10	MXH10-50	MXH16-25	MXH20-10	MXH20-50
MXH6-30	MXH10-15	MXH10-60	MXH16-30	MXH20-15	MXH20-60

Technical Specifications

Bore Size [mm]	6	10	16	20
Guide rail width [mm]	5	7	9	12
Fluid	Air			
Action	Double acting			
Piping port size	M5			
Minimum operating pressure	0.15 MPa	0.06 MPa	0.05 MPa	
Maximum operating pressure	0.7 MPa			
Proof pressure	1.05 MPa			
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)			
Piston speed	50 to 500 mm/s			
Allowable kinetic energy [J]	0.0125	0.025	0.05	0.1
Lubrication	Non-lube			
Cushion	Rubber bumper on both ends			
Stroke length tolerance	+1.0 0			
Auto switch (Option)	Reed switch: D-A9□ Solid state switch: D-M9□/D-F9□			



Auto Switches

- D-M9PWL (PNP 2-colour indication)
- D-M9NWL (NPN 2-colour indication)

Note) For more options see the Auto Switch section, page XXX



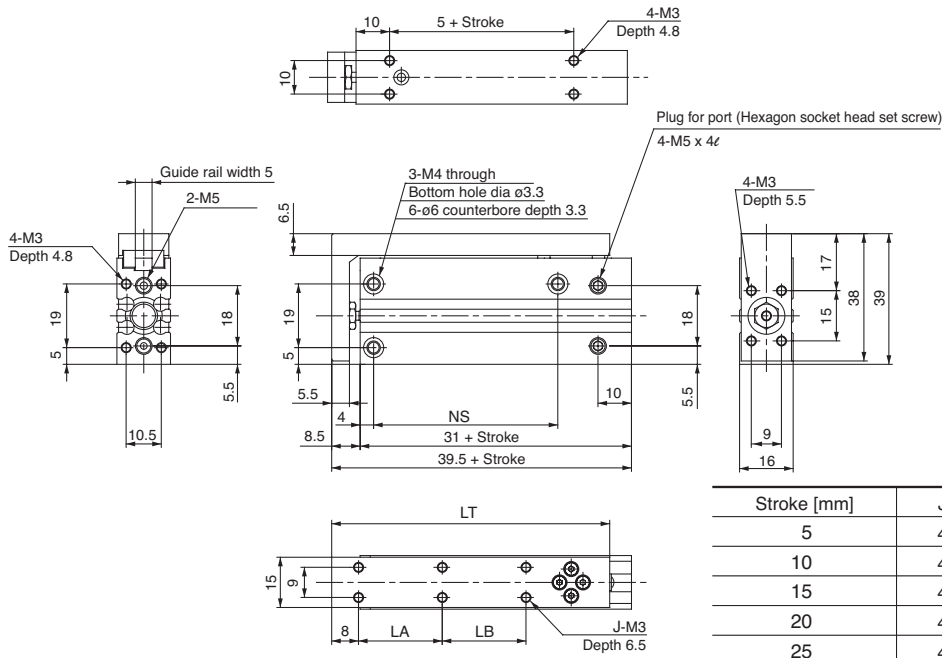
Related Products

- Series AS** - Speed Controllers - page 1238
- Series RB** - Shock Absorber - page 809
- Series SY** - Valves - page 65, 101, 417
- Series VQC** - Valves - page 193, 211
- Series AC** - Air Preparation - page 1076
- Series IDK** - Moisture Control Tube - page 1149
- Series TU** - Tubing - page 1223
- Series KQ2** - Fittings - page 1184



For more product options and details see our specific catalogues or on-line information.

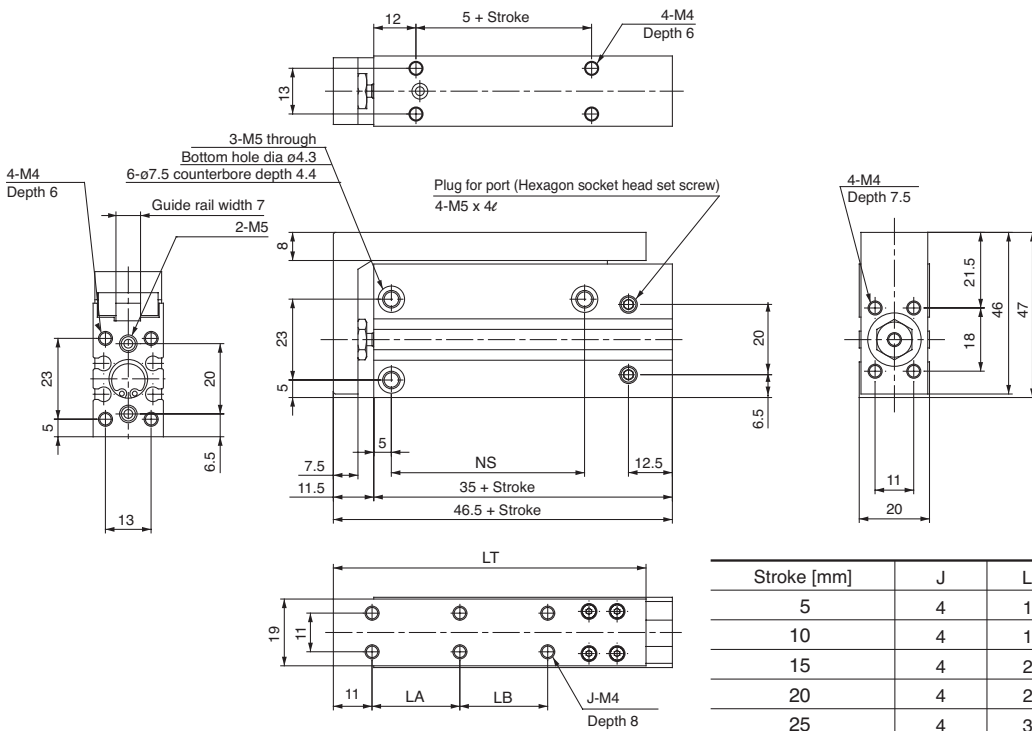
Dimensions MXH6



Stroke [mm]	J	LA	LB	LT	NS
5	4	10	—	42	14
10	4	10	—	42	14
15	4	20	—	52	24
20	4	20	—	52	24
25	4	30	—	62	30
30	4	30	—	62	30
40	6	20	20	72	45
50	6	25	25	82	55
60	6	30	30	92	60

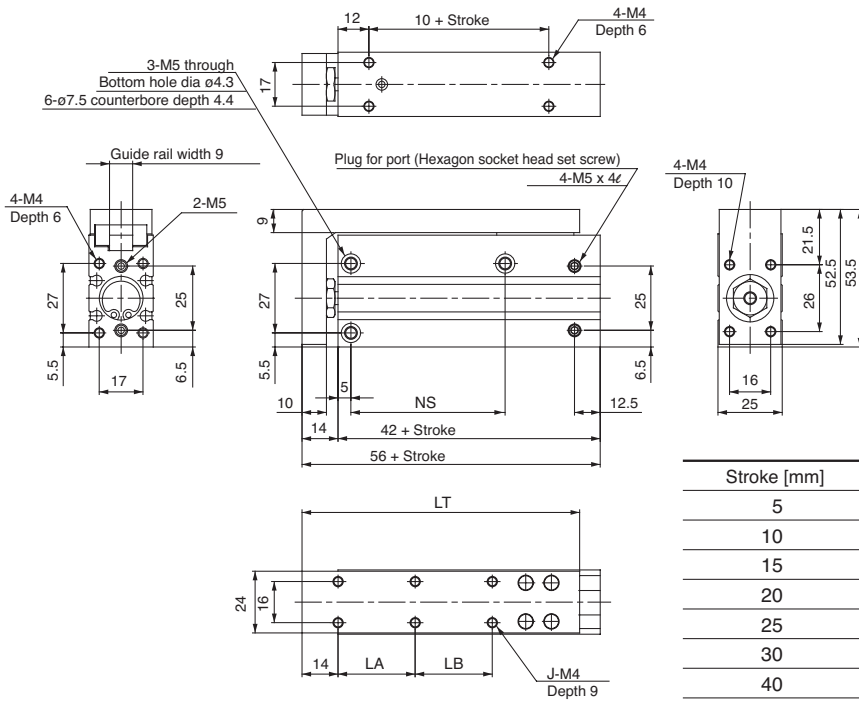
Actuators

Dimensions MXH10



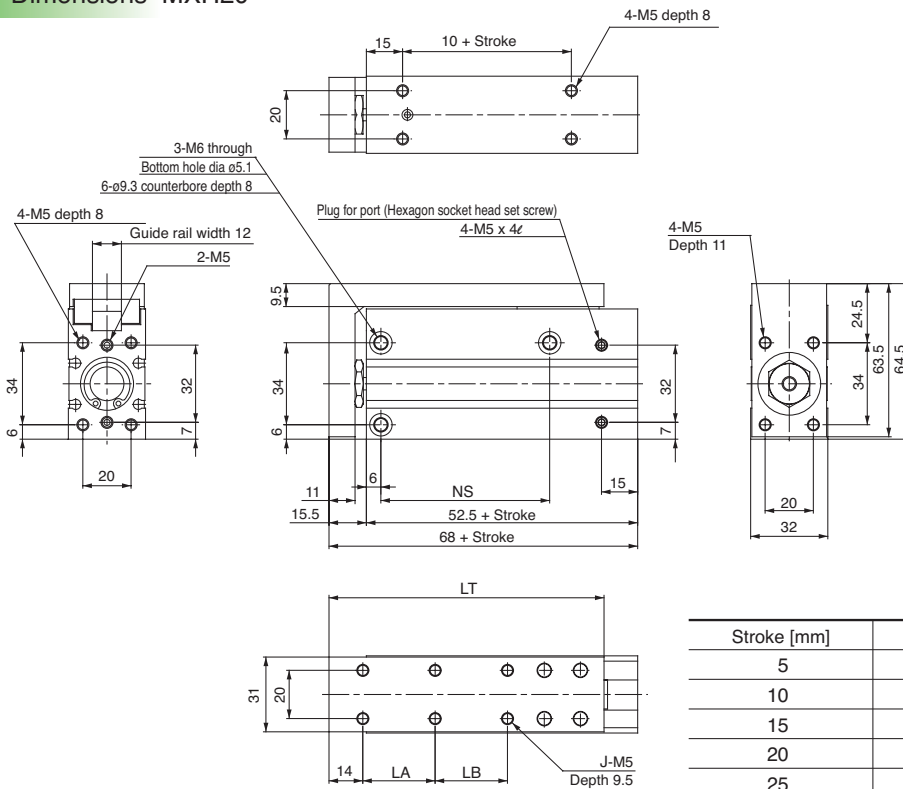
Stroke [mm]	J	LA	LB	LT	NS
5	4	10	—	49	14
10	4	10	—	49	14
15	4	20	—	59	24
20	4	20	—	59	24
25	4	30	—	69	30
30	4	30	—	69	30
40	6	20	20	79	45
50	6	25	25	89	55
60	6	30	30	99	60

Dimensions MXH16



[mm]					
Stroke [mm]	J	LA	LB	LT	NS
5	4	10	—	58	20
10	4	10	—	58	20
15	4	20	—	68	30
20	4	20	—	68	30
25	4	30	—	78	40
30	4	30	—	78	40
40	6	20	20	88	50
50	6	25	25	98	60
60	6	30	30	108	60

Dimensions MXH20



[mm]					
Stroke [mm]	J	LA	LB	LT	NS
5	4	10	—	64	20
10	4	10	—	64	20
15	4	20	—	74	25
20	4	20	—	74	25
25	4	30	—	84	40
30	4	30	—	84	40
40	6	20	20	94	50
50	6	25	25	104	70
60	6	30	30	114	70

