

air Link clamp

Dual cylinder model Double acting 0.5 MPa

model **CLZ**

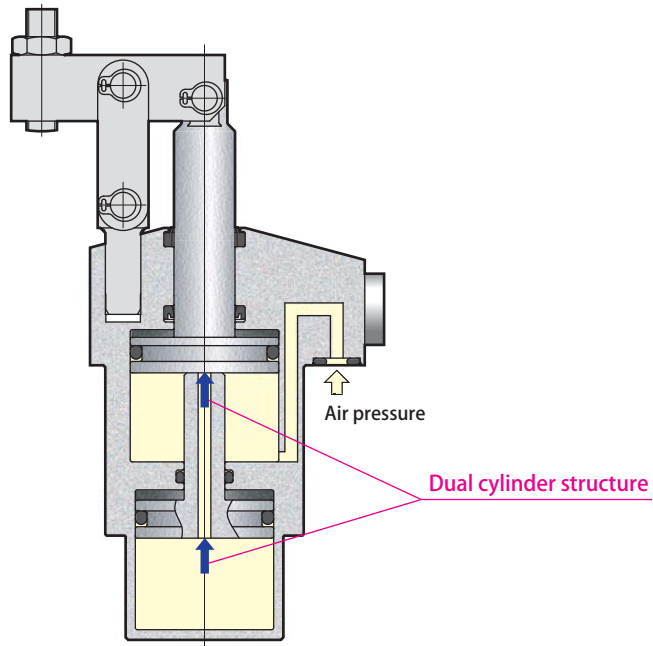


Air link clamp **Dual cylinder model**
model CLZ25-F

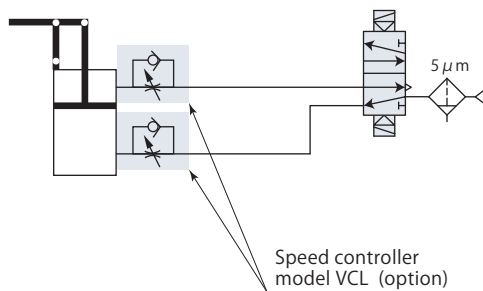
Dual cylinder model

model CLZ□-□ PAT.

Dual cylinder structure enables cylinder force upper than that of single cylinder's.



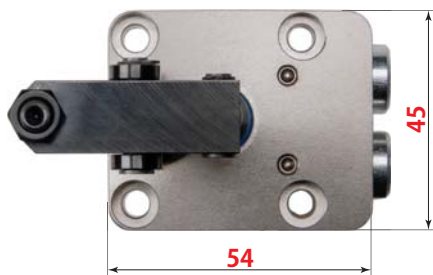
Pneumatic circuit diagram



Comparison with the current model

Air link clamp
Dual cylinder model
CLZ25

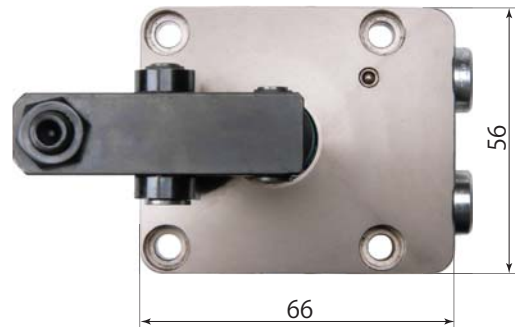
Cylinder force : 590 N
(Air pressure 0.5MPa)



Cylinder force
Equality

Air link clamp
Standard model
CLX40

Cylinder force : 630 N
(Air pressure 0.5MPa)



Flange area
approx. 66%



Less space

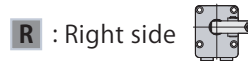
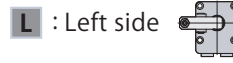


Height from
mounting surface
approx. 70%



Specifications

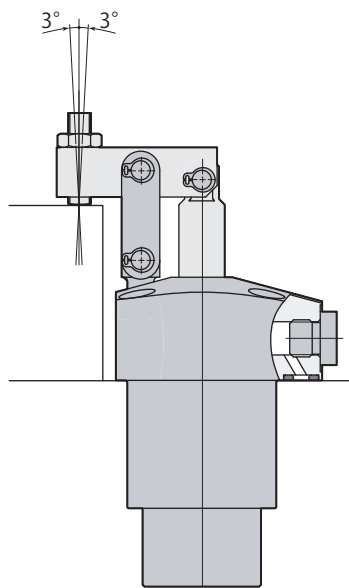
Size Clamp arm mounting direction



 indicates made to order.

Model		CLZ25	
Cylinder force (Air pressure 0.5 MPa)	N	590	
Rod diameter	mm	12	
Effective area (clamp)	mm ²	1183	
Full stroke	mm	19	
Clamp stroke	mm	17.5	
Stroke margin	mm	1.5	
Cylinder capacity	Clamp	cm ³	22.5
	Unclamp	cm ³	20.3
Mass	kg	0.34	
Recommended tightening torque of mounting screws	N·m	4.0	

- Air pressure range: 0.1~0.5 MPa
 - Proof pressure: 0.75 MPa
 - Operating temperature: 0~70 °C
 - Fluid used: Air*
 - Seals are resistant to chlorine-based cutting fluid.
- *: Supply the dry and filtered air. Particulate size 5 μm or less is recommended.



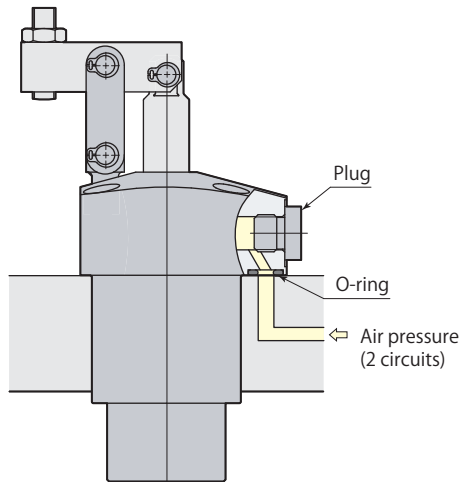
Clamping point

When clamping the workpiece, the clamp arm should be situated like the sketch as shown below. (Clamping point)
Please avoid any non-axial force such as the bending moment toward the piston rod.
(Allowable angle ±3°)

Manifold piping and G port piping are available.

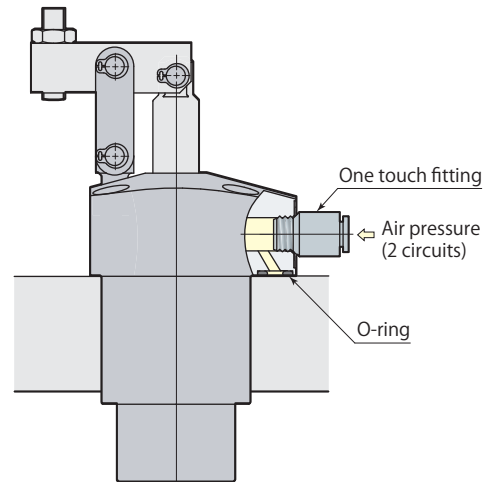
Manifold piping

When choosing manifold piping, a speed controller model VCL is mountable on the G ports of the clamp.



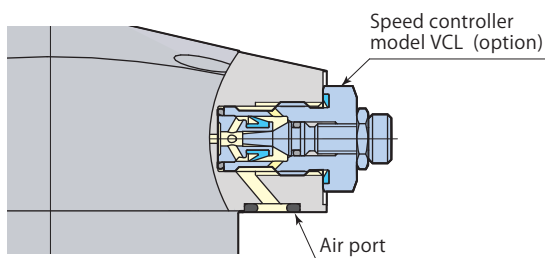
G port piping

Dismount plugs when choosing G port piping. (O-ring must be used.) The one touch fitting or the speed controller with one touch fitting should be mounted when choosing G port piping.



Speed controller model VCL

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Performance diagram and Performance table

Clamping force varies depending on the clamp arm length (LH) and air pressure (P).

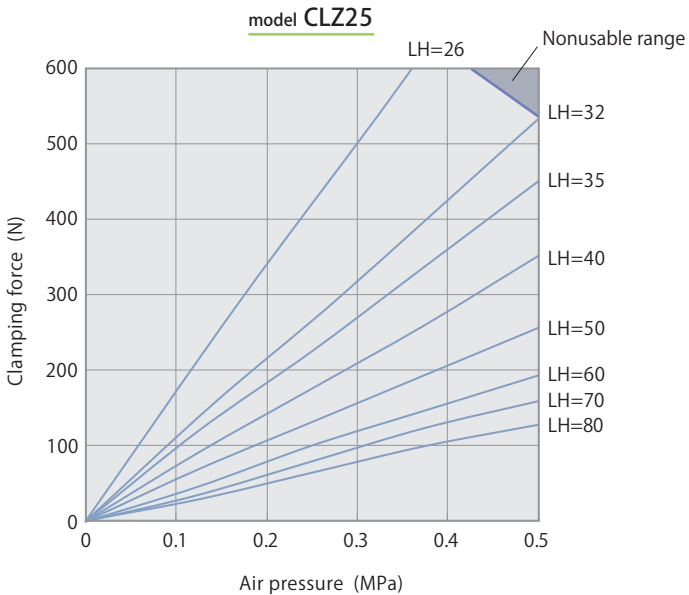
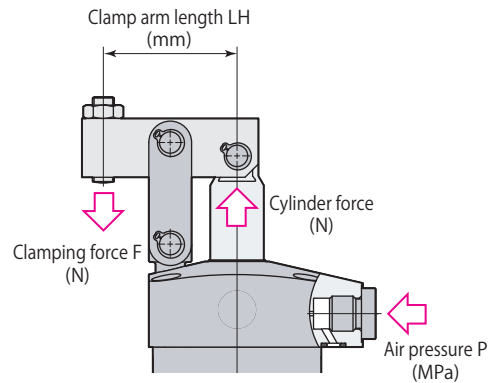
Clamping force calculation formula

$$F = \text{Coefficient 1} \times P \times 1000 / (\text{LH} - \text{Coefficient 2})$$

F: Clamping force P: Air pressure LH: Clamp arm length

Clamp arm length (LH) 50 mm, at air pressure 0.5 MPa,
Clamping force $F = 17.03 \times 0.5 \times 1000 / (50 - 16) = 250.44 \text{ N}$

Do not use the clamp in the nonusable range. It may cause damage of link mechanism.



model CLZ25		Clamping force $F = 17.03 \times P \times 1000 / (\text{LH} - 16)$								
Air pressure MPa	Cylinder force N	Clamping force N								Min. arm length Min. LH mm
		Clamp arm length LH mm								
		26	32	35	40	50	60	70	80	
0.5	590		530	450	350	250	190	160	130	32
0.4	470		420	360	280	200	150	130	110	27
0.3	350		320	270	210	150	110	90	80	24
0.2	240		220	180	140	100	80	60	50	24
0.1	120		110	90	70	50	40	30	30	24

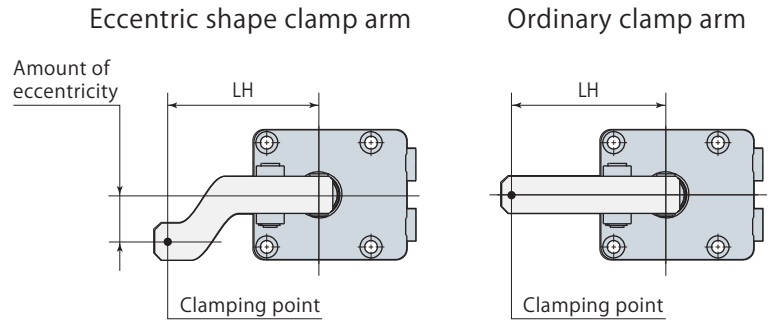
■ indicates nonusable range

Clamp arm allowable eccentricity

An eccentric shape clamp arm, as shown in diagram on right can be used with link clamp model CLZ, if it is not possible to set clamping point at tip section of clamp arm in alignment with center line of piston rod and clamp arm.

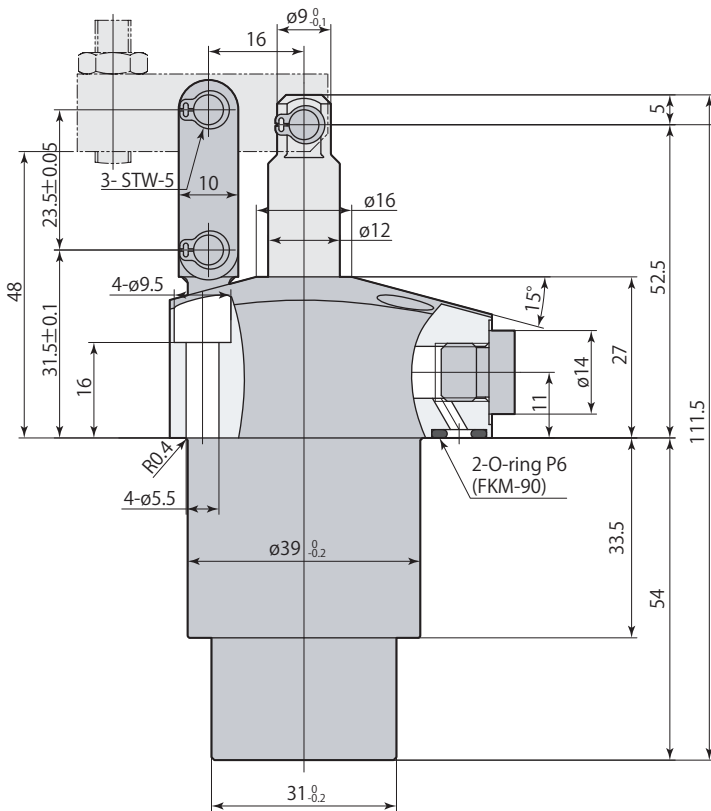
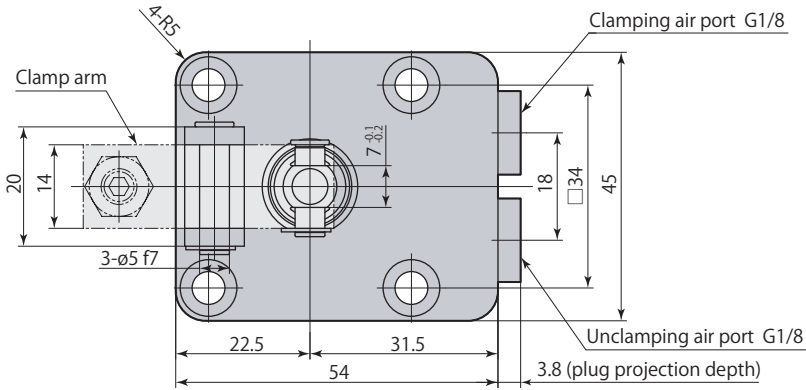
Amount of eccentricity, however, must be within allowable eccentricity shown below.

Using a clamp arm that exceeds allowable eccentricity results in significant eccentric load on link mechanism and piston rod, leading to malfunction.

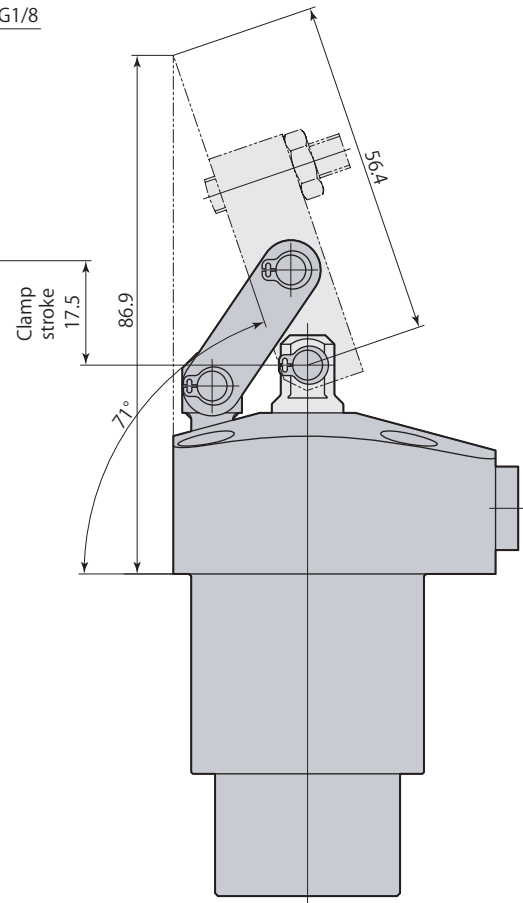


model CLZ25		■ indicates nonusable range						
Air pressure MPa	Allowable eccentricity mm							
	Clamp arm length LH mm							
	26	32	35	40	50	60	70	80
0.5	■	■	■	2	6	10	13	18
0.4	■	2	3	6	12	18	22	28
0.3	1	6	9	13	22	32	41	47
0.2	6	15	19	27	41	53	60	60
0.1	24	32	35	40	50	60	60	60

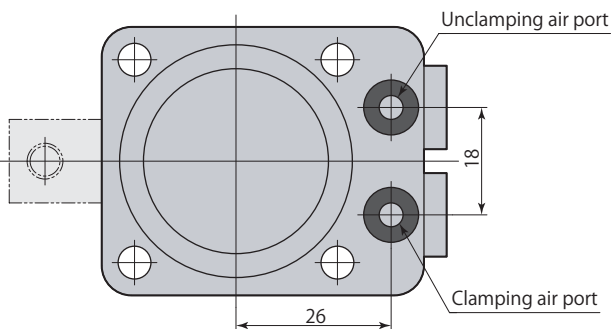
Dimensions



Clamp

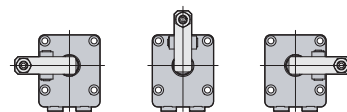


Unclamp



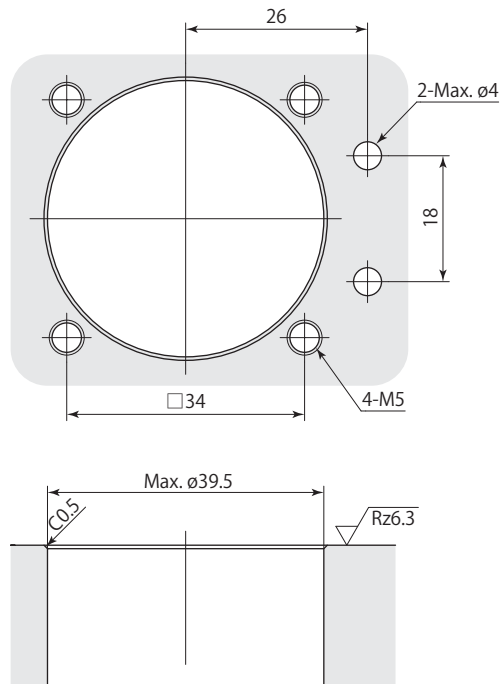
● This diagram represents external contour of CLZ25-F, CLZ25-L and CLZ25-R differ only in terms of mounting direction of clamp arm and otherwise all dimensions are identical to those of CLZ25-F.

L: Left side F: Front side R: Right side



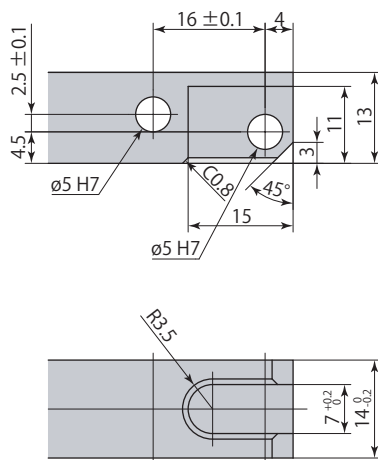
- Clamp arm and mounting screws are not included.
- Use a snap ring (STW-5) and a pin (ø5) when installing a clamp arm.

Mounting details



Clamp arm mounting details

Manufacture a clamp arm with the dimensions shown in the table below.



Recommended material: S45C (HB167~229)

Specifications

I : Meter-in

O : Meter-out

G port size

Control method



Locknut color : Silver

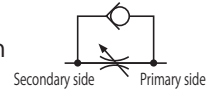
Locknut color : Black

VCL

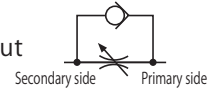
01 : G1/8

02 : G1/4

I : Meter-in

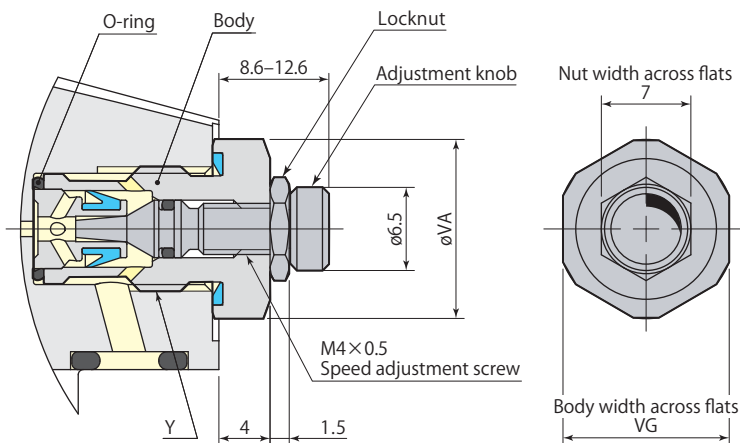


O : Meter-out



Model	VCL01-I	VCL01-O	VCL02-I	VCL02-O
G port size	G1/8		G1/4	
Orifice area	mm ²	2.8	6.2	
Recommended tightening torque	N·m	7	15	
Mass	kg	0.01	0.02	

- Pressure range: 0.1–1.0 MPa
 - Proof pressure: 1.5 MPa
 - Operating temperature: 0–70 °C
 - Fluid used: Air*
- *: Supply the dry and filtered air. Particulate size 5 μm or less is recommended.



Model	VCL01	VCL02
Y	G1/8	G1/4
øVA	14	19
VG	13	17
Adjustment screw number of turns	8 rotations	
O-ring*1	6.0×1.0*2	8.0×1.0*2

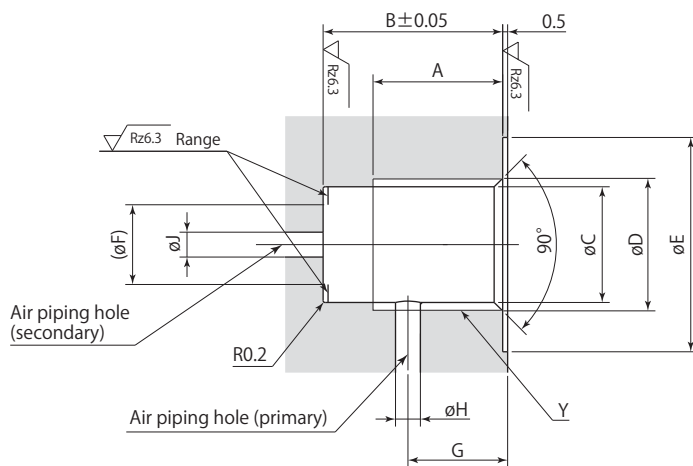
- *1: Fluorocarbon hardness Hs90
- *2: Inner diameter × Thickness

- Use a closed wrench or socket wrench for mounting and dismounting.
- Speed controller can be mounted on air port (G port) when using manifold piping.
- This diagram depicts mounted condition for meter-out (VCL□-O).
- VCL is shipped with the valve fully open. Adjust the flow rate by loosening the screw after it is tightened up to close the valve. Tighten the locknut after adjustment is completed.

Applicable clamp

Model	VCL01	VCL02
Air swing clamp	CTX32 · CTX40 CTY25 · CTY32 · CTY40	CTX50 · CTX63 CTY50 · CTY63
Air link clamp	CLX32 · CLX40 CLY32 · CLY40* CLZ25	CLX50 · CLX63 CLY50 · CLY63*

*: Air link clamp boost model CLY are meter-out only

Mounting details

Rz: ISO4287(1997)

Model	VCL01	VCL02
A	9	13
B	14	18
øC	8.7 ^{+0.1} ₀	11.6 ^{+0.1} ₀
øD	9.9	13.3
øE	17.5	21.5
øF	6	8
G	8-11	9-12.5
øH	2	3
øJ	2	3
Y	G1/8	G1/4

Mounting & dismounting of speed controller

- When mounting or dismounting a speed controller, be sure to set pressure within air circuit to 0 MPa before starting.
- When mounting a speed controller, be sure to tighten it with the recommended tightening torque.



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