

# Work Support

Hollow type 7MPa



### Specifications

Size

04

06

CST 10 — C : Hollow type

16

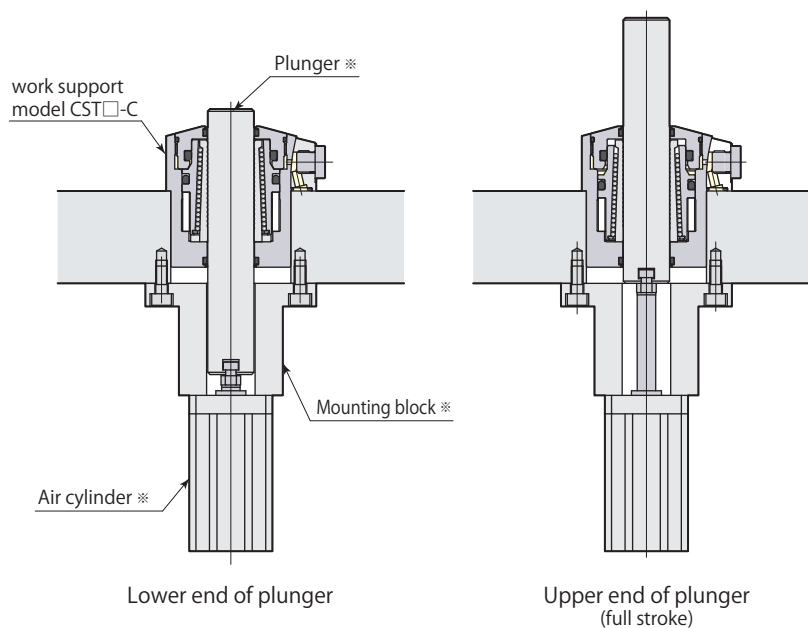
25

Model		CST04-C	CST06-C	CST10-C	CST16-C	CST25-C
Support force (hydraulic pressure 7MPa) *	kN	4	5.6	8	12.8	20
Cylinder capacity	cm <sup>3</sup>	0.7	0.9	1.2	2.1	3.3
Mass	kg	0.5	0.8	1.0	1.6	2.7
Recommended tightening torque of mounting screws (ISO R898 class 12.9)	N·m	7	7	7	12	29

- Pressure range: 2.5~7 MPa
- Proof pressure: 10.5 MPa
- Operating temperature: 0~70 °C
- Fluid used: General mineral based hydraulic oil (ISO-VG32 equivalent)
- Seals are resistant to chlorine-based cutting fluid.

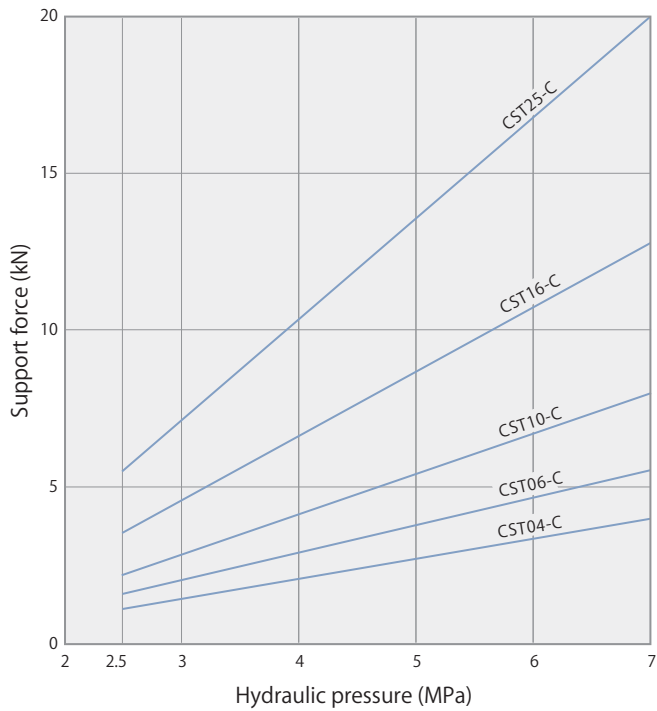
\*: When work support and clamp are used facing each other, work support and clamp must be selected in such a way that the support force is 1.5 times the applied load (clamping force + machining force).

### Usage example



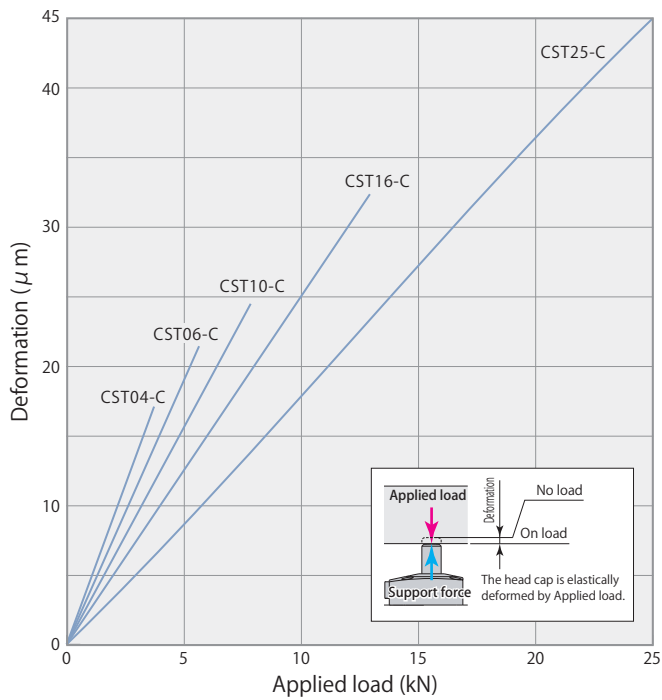
\*: Plunger and ascending / descending device not included.

Hydraulic pressure & support force



Hydraulic pressure MPa	Support force kN				
	CST04-C	CST06-C	CST10-C	CST16-C	CST25-C
2.5	1.1	1.6	2.2	3.6	5.6
3.0	1.4	2.0	2.9	4.6	7.2
3.5	1.8	2.5	3.5	5.6	8.8
4.0	2.1	2.9	4.2	6.7	10.4
4.5	2.4	3.4	4.8	7.7	12.0
5.0	2.7	3.8	5.4	8.7	13.6
5.5	3.0	4.3	6.1	9.7	15.2
6.0	3.4	4.7	6.7	10.8	16.8
6.5	3.7	5.2	7.4	11.8	18.4
7.0	4.0	5.6	8.0	12.8	20.0

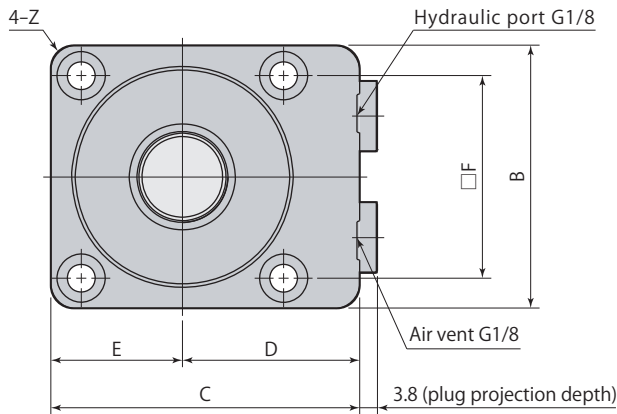
Applied load & deformation



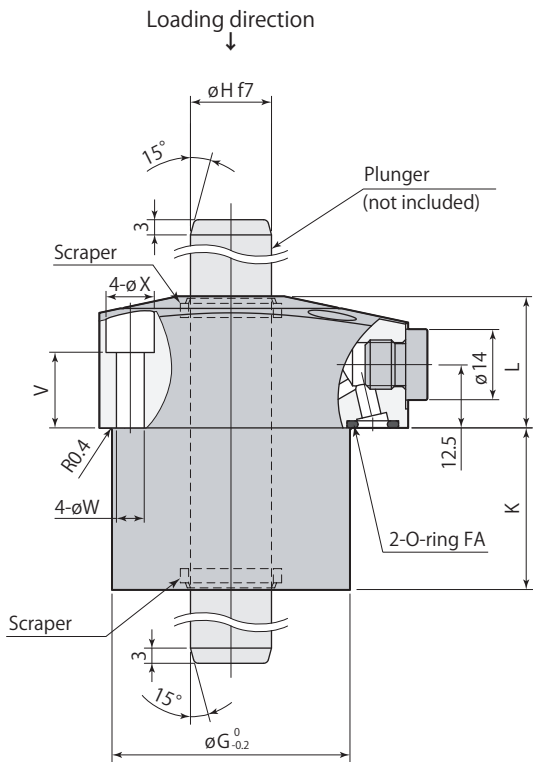
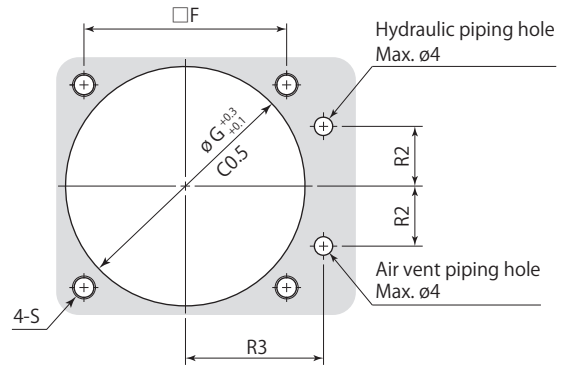
Applied load kN	Deformation μm				
	CST04-C	CST06-C	CST10-C	CST16-C	CST25-C
0	0	0	0	0	0
3	14	11	9	8	5
5	23	19	16	13	9
7	32	28	22	18	13
10	45	39	30	25	18
15	68	58	45	37	27
20	91	77	60	50	36
25	114	96	75	62	45

Held with hydraulic pressure of 7 MPa.

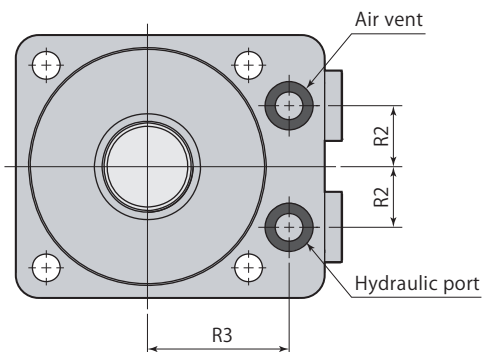
Dimensions



Mounting details



- Do not supply hydraulic pressure without plunger.
- If CST-C is used with high pressure coolant system, be aware of the intrusion of the cutting fluid from the scraper. It may cause malfunction due to rust or corrosion.
- Plunger's surface hardness should be more than HRC58 (Cr coating works fine), and no rougher than Rz3.2 ~ 6.3. The rougher is better for gaining higher support force.
- As plunger's end face is R or chamfered, be careful not to damage scraper when inserting plunger up/down.
- Place load as shown by the direction of the arrow in the diagram.
- The mounting surface finish must be no rougher than Rz6.3 (ISO4 287:1997).
- Mounting screws are not included.



<b>CST□-C</b>	<b>Work support</b>	<b>Hollow type</b>	<b>7MPa</b>		
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Model	CST04-C	CST06-C	CST10-C	CST16-C	CST25-C
B	45	52	56	65	78
C	55	61	65	73	85
D	32.5	35	37	40.5	46
E	22.5	26	28	32.5	39
F	34	40	44	52	62
øG	40	47	52	60	72
øH	15 <sup>-0.016</sup> <sub>-0.034</sub>	16 <sup>-0.025</sup> <sub>-0.050</sub>	20 <sup>-0.020</sup> <sub>-0.041</sub>	22 <sup>-0.020</sup> <sub>-0.041</sub>	25 <sup>-0.020</sup> <sub>-0.041</sub>
K	21	32	33	47	67
L	26	26	28	30	30
R2	10	12	13	15	18
R3	25.5	28	30	33.5	39
S	M5	M5	M5	M6	M8
V	15	15	16.5	15.9	12
W	5.5	5.5	5.5	6.8	9
X	9.5	9.5	9.5	11	14
Z	R3	R5	R5	R6	R7
O-ring FA (fluorocarbon hardness Hs90)	P7	P7	P7	P7	P7
Air bleeding valve	VCE01	VCE01	VCE01	VCE01	VCE01

mm

Caution in use

- Avoid following usages. These may cause sleeve deformation that could lead to malfunction of plunger or decreased support force.
  - ✗ Applying eccentric load on plunger.
  - ✗ Applying load that exceeds rated support force.
  - ✗ Rotating plunger when locked.
  
- Air vent must be opened to atmosphere. Any blockage on the vent results in malfunction. Provide the piping if there is a risk of coolant or metal chips intrusion. Allowing intrusion of cutting fluid may cause rusting and other problems.
  
- Air (oil free) must be fed through a 5  $\mu$ m filter that is connected to an air vent port for air cleaning. Perform air cleaning only when replacing workpiece. Plunger will rise during air cleaning.

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CERTIFICATE OF APPROVAL ISO9001