

HIGH PRESSURE CHLORINE CYLINDER VALVE

THREADED/ 2 PORT/ PN 32



CHLORINE CYLINDER

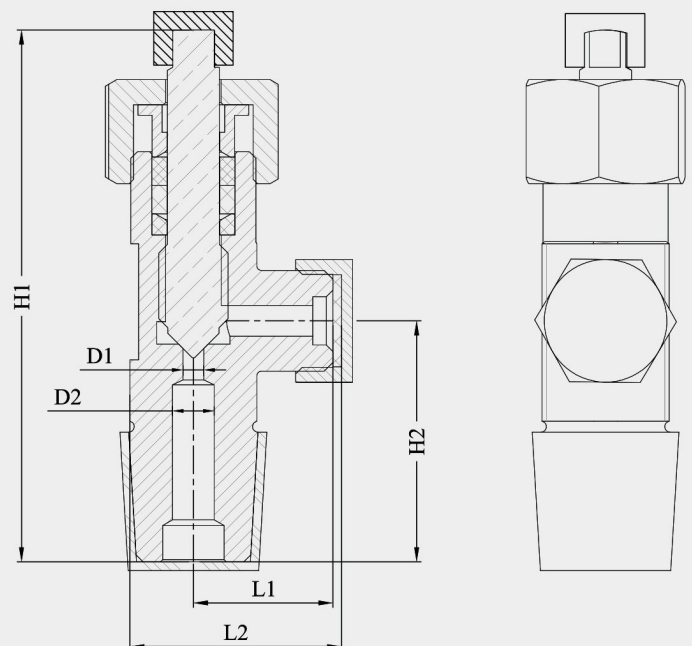
▶ TECHNICAL DATA, INSTALLATION & MAINTENANCE

TECHNICAL DATA

CHARACTERISTICS	VALUE / TYPE	UNIT
Nominal size	3/4	Inch
Thread type	V3	Inch
Lateral thread type	W23	Inch
Working pressure	32	Bar
Body test pressure	53	Bar
Test temperature	50	°C
Minimum operating temperature	0	°C
Maximum operating temperature	50	°C
Recommended Stem closing torque	13-16	N.m
Packing nut installation torque	34-41	N.m
Cap installation torque	25	N.m

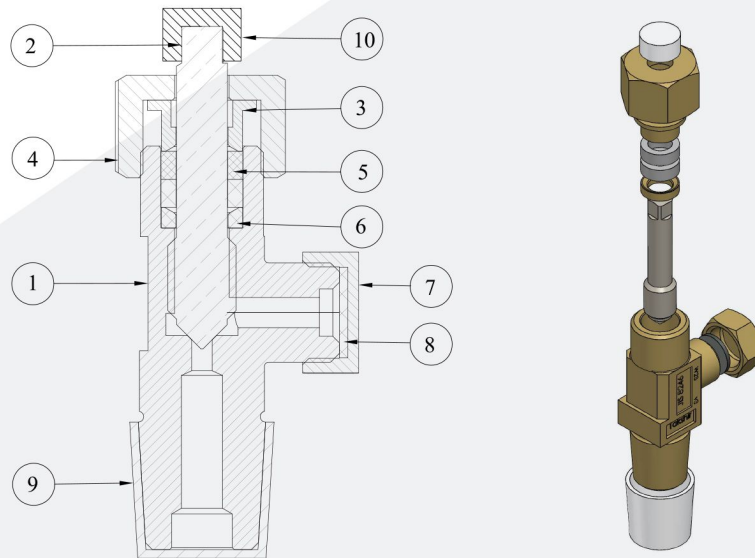
DIMENSIONS/ WEIGHT VALUE ACCORDING TO FIG.1

Weight (gr)	765
H1 (mm)	121.4
H2 (mm)	55.0
L1 (mm)	36.3
L2 (mm)	50.8
D1 (mm)	4.8
D2 (mm)	9.5



MANUFACTURING STANDARD

TYPE	VALVE DESIGN	GENERAL VALVE TOLERANCE	THREAD	THREAD TOLERANCE
Standard Number	JIS B 8246	JIS B 0405	JIS B 0208	JIS B 0212



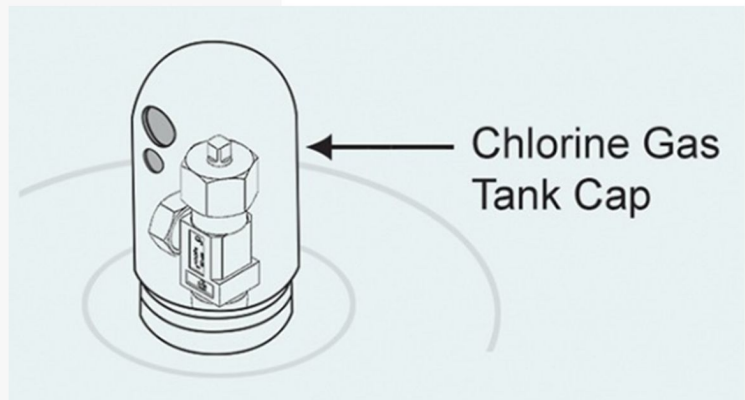
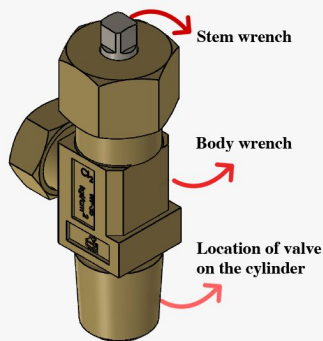
PART LIST ACCORDING FIG.2

NO	DESCRIPTION	SPECIFICATIONS
1	Body ¹	Brass C46400-ASTM B124
2	Stem ²	Monel 400- ASTM B164- C 4400
3	Packing gland	Brass C36000 H02- ASTM 16
4	Packing nut	Brass C36000 H02- ASTM 16
5	Packing	PTFE
6	Packing ring	Bronze C64210- ASTM B124
7	Cap	Brass C36000 H02- ASTM 16
8	Cap gasket	Lead
9	Plastic cap	PE
10	Stem Cap	PE

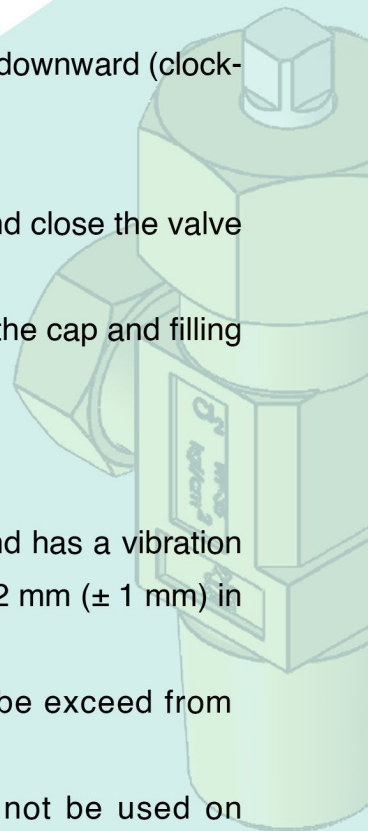
1. At the customer's request, the material of the body can be brass alloy
 2. At the customer's request, the material of the stem can be stainless steel 304

INSTRUCTION OF VALVE INSTALLATION

- Remove the plastic cap of the valve and close the valve with the appropriate seal such as Teflon tape or lead coating on the empty cylinder as shown in the figure. Use the square section of valve body to apply the wrench.



- The minimum torque required to close the valve on the cylinder is 280 N.m and the maximum torque is 550 N.m.
- Put the stem in close position. The stem is positioned from the body and directed downward (clockwise) and upwards (counter clockwise) by twisting its wrench head. Stem has a straight sealing position.
- The maximum torque applied to the stem to close the valve is 6 N.m. So open and close the valve with a suitable torque wrench and avoid further torque to the body.
- Side nozzle valve that cover with lead gasket closed on the valve. After opening the cap and filling or emptying the cylinder, fasten it with 25 N. m torque.
- The maximum torque applied to the side cap shall not exceed 35 Nm. To protect the valve on the cylinder from impact, it is advisable to use a guard.
- The valve has passed the vibration test accordance with JIS B8246 standard and has a vibration tolerance of 30 minutes at a frequency of 2000 cycles per minute and a range of 2 mm (± 1 mm) in each direction.
- The maximum operating temperature of the valve is 50 °C and should not be exceed from mentioned temperature value.
- The design of the valve is just for use on chlorine cylinders and should not be used on other cylinders. The permissible pressure of chlorine cylinders for valve operation is in the range of JIS B8246 standard.
- The valve is internally and externally sealed in accordance with JIS B8246 when leaving the factory and has a leakage test certificate



INSPECTION OF VALVE AND ITS COMPONENT

A) Valve body

- Inspect the valve body for cracks. If cracks are suspected, scrap the valve body. Inspect the valve body chamber bore for dirt, debris and damage. Blow out the valve body chamber using clean, dry compressed air or nitrogen to remove these contaminants.
- Examine all internal and external threads for damage or deterioration due to wear or corrosion.
- Examine the stem seat inside body for excessive wear or corrosion build up. Wear creating a $1/8" \times 90^\circ$ or greater bevel should be eliminated with reseating tool. The valve has reached its end of life and should be replaced when the tool can no longer remove this bevel.
- If the valve body is damaged or corroded, do not attempt to repair and should be changed.

B) Components

- Replace any component that is suspected of being cracked. Also, replace components that is damaged, worn or corroded, otherwise there is a possibility of leakage.
- Special attention should be given to wear grooves in the nose of the stem. Stem with grooves $1/64"$ or greater in depth, should be replaced.
- Its recommended that both of the packing be replaced before the valve is disassembled.

MAINTENANCE

Due to the high safety class of valve, any change in the structure and disassembly of the valve is prohibited and no liability will be accepted by the manufacturer for the consequences of out- service repair.

Pay attention to the following points when disassembling the valve:

- Place the assembled valve into a vise or similar holding fixture. The holding fixture must securely grip the valve body, so no damage is done to the internal bores, external or internal threads, outlet or fusible plug.
- Using a $1 \frac{1}{4}"$ socket or hex box wrench to remove the packing nut by turning it counter clockwise.
- Using a $3/8"$ square socket wrench to remove stem from the valve chamber by turning it counter clockwise. The packing gland, two packings and packing ring will be removed with the stem.
- Remove the outlet cap from the assembled valve by turning it counter clockwise.

VALVE ASSEMBLY

Pay attention to the following points when assembling the valve:

- All parts must be clean, free oil, chips and other contaminants before beginning assembly.
- A properly calibrated torque wrench must be used. Over tightening will damage components and the valve body. Under tightening may result in leaks (According to torque that mentioned in technical data table).

Assembly of valve's internal parts

- Insert the stem into the valve chamber and turn it clockwise, engage it one full thread. Engaging the stem more than one full thread may make installation of parts difficult.
- After putting the stem into the valve, place the packing ring, flat side down, onto the stem.
- Install two packings with the flat sides facing each other, and place them onto the stem.
- Place the packing gland with the beveled end down onto the stem.
- Tighten the stem using a 3/8" square socket and a torque wrench to 10-12 ft. lbs. to coin the seat in the body.
- Press down on the packing gland until the tow packings are completely below the top of the body.
- Install the packing nut over the stem. Making sure the threads are properly engaged, tighten the packing nut to 25-30 ft. lbs. using a 1 1/4 socket and torque wrench.

Cap assembly

- Install the outlet cap onto the assembled valve outlet, turning clockwise until hand tight.

TESTING OF ASSEMBLED VALVE

- Only leak detection solutions compatible with chlorine should be used. Thus, only commercial or household detergents should be used that DO NOT contain ammonia, phosphates or other chemicals which are harmful to copper alloy and can initiate stress corrosion cracking of these alloys.
- Test each assembled valve by installing the valve securely in a suitable test fixture and pressurizing the valve with air, nitrogen or carbon dioxide to 500 psig.
- Open the assembled valve slowly and check for leaks through the valve body, past the stem and all threaded connections using a leak detection solution.

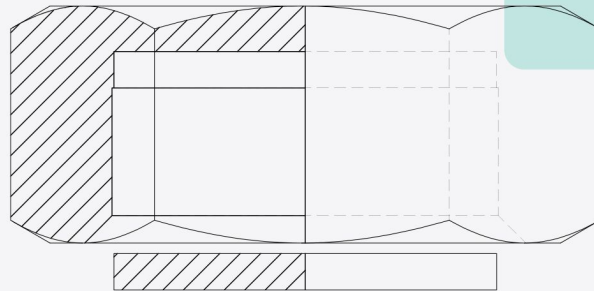
- Close the assembled valve and remove the cap assembly. Pressurize the valve again to 500 psig and check for seat leakage through the outlet.
- If any leakage is detected, in the open or close position, make necessary repairs and retest the valve before returning to service.
- Tightening more than 25-30 ft. lbs. or applying excessive torques will prematurely wear the packings and may damage the packing nut and the valve body thread.

FITTING AND INSTALLATION EQUIPMENTS

All fittings and equipment's that needed for putting the valve on operating are individually packaged and available

Connection cap:

Connection cap with lead gasket for outlet, used when moving the valve.



CONNECTION CAP

STANDARD NUMBER

JIS B 0208

INTERNAL THREAD

W23 T.P.I 14

Wrench:

The wrench is used to installed the valve on the cylinder and also to open and close the valve from the stem.

WRENCH

STEM WRENCH

3/8"

PACKING NUT WRENCH

1 1/4"

