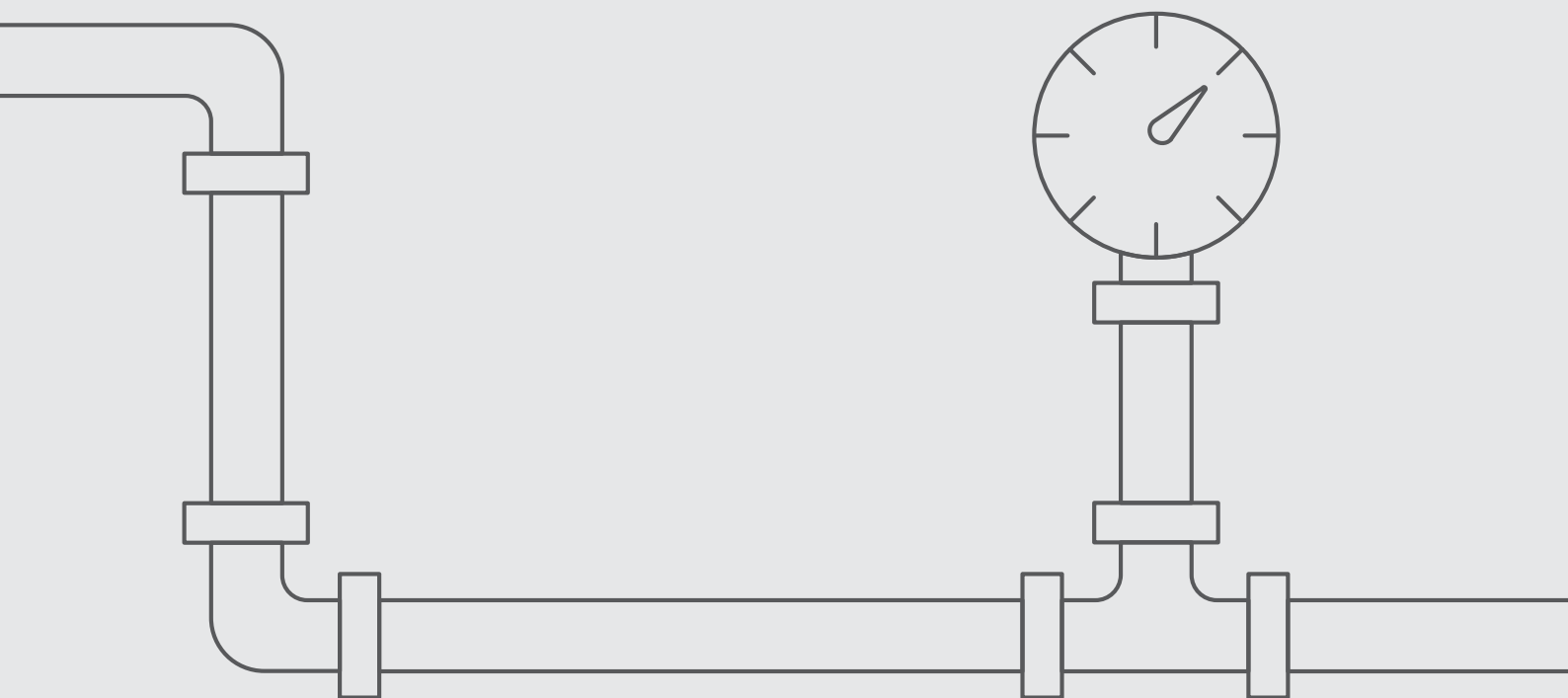




# OXYGEN SERVICE

## BALL VALVES



# O

## Oxygen Service Ball Valves (O)

HABONIM ball valves for oxygen service are suited to be used with both liquid and gaseous oxygen, cleaned and assembled with required measures for a safe use in oxygen service equipment and avoid valve contamination to the media purity.

Note: Habonim oxygen service valves (O) are not following any medical-use or breathing oxygen standards or regulations.

### Oxygen

Oxygen, chemical element with symbol O<sub>2</sub>, content in air is approximately 21% by volume. Oxygen is an odorless, colorless gas, with many industrial uses, mainly in the manufacture of steel and chemicals. Oxygen itself is nonflammable, however materials that are flammable in air, burn far more vigorously mixed with oxygen. Oxygen is shipped as a non-liquefied gas at pressures of 2000 psig (138 bar) and above, also as a cryogenic liquid at pressures and temperatures below 13.8 bar (200 psi) and -146.5 °C (-232 °F). Air separation plants produce pure oxygen via liquefaction of atmospheric air and separation of the oxygen by fractionation. Also minute quantities of Oxygen can be produced by electrolysis of water.

Oxygen density is 1.429 kg/m<sup>3</sup> (1.013 bar at 0 °C) Oxygen boiling point -182.95 °C (-297.31 °F) at a pressure of 1 atmosphere, the liquid oxygen usually stored under high pressure or at cryogenic temperature. Oxygen melting point -218.79 °C (-361.82 °F).

### Oxygen Uses

Oxygen is used extensively in medicine, high altitude flying, deep sea diving and as rocket fuel. Industrial applications include utilization with acetylene, propane, hydrogen and other fuel gases for metal cutting, welding, hardening and scarfing. In steel and iron manufacturing, oxygen helps increase the capacity and efficiency of furnaces. Another major use of oxygen is in the making of 'Synthesis Gas' for production of gasoline, methanol and ammonia. Oxygen is also used in the manufacture of nitric acid, ethylene and other compounds.

### Oxygen Hazards

Oil, grease or other combustible substances should not be allowed to come in contact with oxygen service valves or components. Oxygen combined with these substances can result in explosions.



## General

Oxygen Service feature is available for part of Habonim's valves series – check series ordering codes for availability. Available valve sizes, types and variety of end connections are per each relevant series ordering codes.

### Valve Component Materials

Gaseous oxygen is non corrosive and may be contained in systems constructed of any common metal. Stainless steel, Monel, Bronze and Brass are sometimes the preferred materials for metal components coming into contact with gaseous Oxygen. In the extreme low temperatures of cryogenic liquid oxygen, stainless steel of 3xx series is often the preferred material. TFM, PTFE or glass filled PTFE are inert in oxygen and are considered standard seat and seal materials for oxygen service.

**Warning! Delrin (Acetal resin) seats and Nylatron stem thrust seals MUST NOT BE USED IN OXYGEN SERVICE.**

Habonim oxygen service valves may be used with both liquid and gaseous oxygen. For temperatures below -60°C (-76°F), we recommend using Habonim's Cryogenic valves series.

## Cleaning, Assembling and Packing

A meticulous cleaning and assembly procedure minimize the ignition hazards that can be caused by the presence of hydrocarbon oil, grease, and metal chips.

**Our process of cleaning, assembling and packing refers to international standards in partial or in full:**

ASTM A380 | CGA G 4.1 | EN 12300

Habonim uses an environment friendly, alkaline-based degreasing process with controlled parameters. Valves are assembled in an oil-free restricted area by personnel who are specially equipped and trained to perform this task. The assembling area, work surfaces, equipment and tools are specially maintained to ensure cleanliness requirements are met.

- Valves are capped ends and plastic bagged
- Each valve is packed with a 'Silica-gel pack'
- A sticker on the plastic bag indicating "oxygen use"

## Optional Accessories

### Locking Device (LD)

As a safety measure, it is advisable that valve for ammonia service should be equipped with spring loaded locking device do avoid unauthorized or unintentional valve operation.

For mor information see Habonim Valve Accessories catalog.



Fail Close Assembly