

## North American Adjustable Port Valves for Oxygen Lubricant

Sheet 1010A-1

### LUBRICATION INSTRUCTIONS for 1008A-C and 1010A-C VALVES for OXYGEN SERVICE

#### Scope

This document has been created as a guide for the lubrication requirements for North American 1008A-C and 1010A-C series valves for use in oxygen service. Only *qualified technical personnel* should attempt to service this valve.

**WARNING:** All service required on any oxygen handling equipment should only be performed by trained and experienced personnel familiar with the potential hazards associated with oxygen systems. This document does not attempt to address these requirements. The safe operation and maintenance of oxygen systems are the responsibility of the users who should obtain qualified professional training prior to attempting to perform service.

#### Type of lubrication

1008A-C and 1010A-C adjustable port valves for oxygen use are factory lubricated with Perfluoro Polyether grease (PFPE). PFPE is a synthetic based lubricant designed for difficult chemical environments. It is completely insoluble in most solvents and non-reactive in the presence of concentrated oxygen and chlorine.

**WARNING:** If servicing for lubrication is required, use only an approved oxygen compatible lubricant such as PFPE-2 (North American part number R400-6415) using accepted and approved oxygen clean equipment and environment standards.

#### Lubrication procedures

To avoid any possible contamination of an oxygen clean component, these valves do not come with grease fittings for field lubrication due to the strict standards required to prevent contamination that could lead to potential hazards. Users must supply their own temporary oxygen-approved grease fitting and greasing tools or remove valve from service to gain access for lubrication through the inlet/outlet ports. The valves are supplied with a 1/8" NPT pipe plug in the greasing port. If a grease fitting is to be used for greasing, the pipe plug needs to be removed and an oxygen-approved, properly cleaned, grease fitting and properly cleaned grease gun used.

When applying the oxygen-approved lubricant to the valve core and curtain assembly, the curtain (valve port opening) should be fully closed. Before closing curtain, note existing valve curtain position. A good method of indicating initial curtain position is to count and record the number of turns required on the adjusting screw to fully close the curtain. Turning the adjusting screw back open the same number of turns will set curtain back to its initial position.

To adjust curtain, remove adjusting knob cover, slightly loosen packing nut, turn adjusting screw knob clockwise to open curtain or counterclockwise to close curtain (note that on 3/8" and 1/2" size valves, turn knob clockwise to close curtain or counterclockwise to open curtain). This raises or lowers the curtain in the core, altering valve port opening.

After application of the lubricant, the valve core should be stroked fully open and closed several times and the curtain should be fully opened and closed before resetting back to the initial position to allow lubrication to be distributed evenly within the valve body.

Always retighten the packing nut and replace the adjusting knob cover after servicing. If a grease fitting was used, it should be removed after servicing and replaced with a cleaned 1/8" NPT pipe plug using proper piping practice (i.e. oxygen-approved thread compound such as LA-CO Oxytite pipe thread sealant with PTFE for oxygen. North American part number R002-9820).

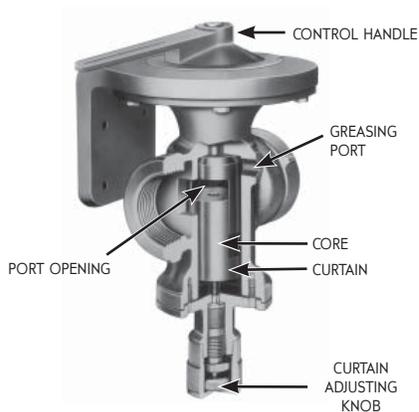
## Frequency

Frequency of lubrication depends entirely on the specific application, type, quality and composition of the O<sub>2</sub> gas, as well as frequency of operation, and operating conditions including temperature, pressure and fluid velocity. We recommend that it is good practice to lubricate "at least" 4 times per year. It is possible that high velocities can carry away some of the lubrication over time. All of these variables need to be considered when determining required lubrication frequency. In rare cases some applications require monthly or even weekly lubrication to help reduce servicing for repair of the valve.

**WARNING:** If lubrication is desired, servicing must be performed by a trained and approved technician familiar with oxygen service safety requirements.

## Storage

Store valve in a properly sealed bag and in a dry, cool environment, avoiding moisture and extreme temperature conditions and any possible contamination. Valves can be stored for an indefinite period of time before commissioning into service. However, it is always good practice and is highly recommended that, before commissioning any valve into service that the valve be thoroughly inspected for proper functionality and adequate lubrication. Valves stored in excess of 6 months will likely require re-lubrication. To inspect valve, manually adjust the curtain adjusting screw opened and closed. Open and close the core by stroking valve 100% while visually inspecting the internals through the inlet and outlet ports of the valve to assure proper operation and observe adequate lubrication. Address any issues that may be observed before commissioning into service.



**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.



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