

Oxygen Service

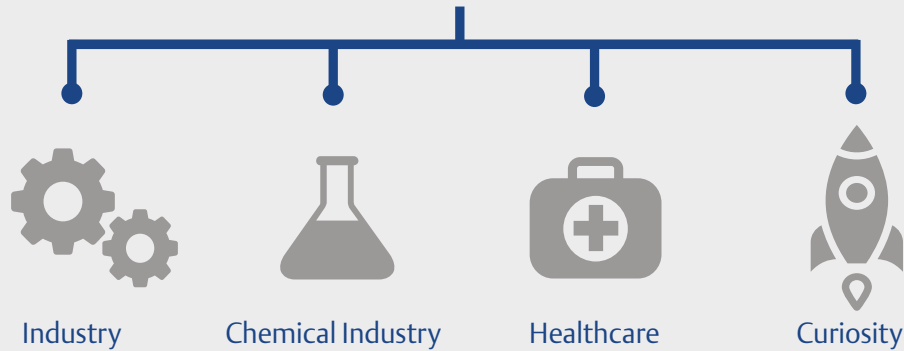


Product Special Applications: O₂ Service
Safely operate the valve used in oxygen service granting high reliability, fast closing and SIL 3 protection level





Oxygen



Oxygen is used in a wide range of applications, including heavy industries like steelmaking and other metals refining and fabrication processes, in chemicals, pharmaceuticals, petroleum processing, glass and ceramic manufacture, and pulp and paper manufacture. It is used for environmental protection in municipal and industrial effluent treatment plants and facilities. Oxygen has numerous uses in healthcare, both in hospitals, outpatient treatment centers, and home use. For some uses, such as effluent treatment and pulp and paper bleaching, oxygen is converted to ozone (O_3), an even more reactive form, to enhance the rate of reaction and to ensure the fullest possible oxidation of undesired compounds.

Oxygen is not combustible alone. However, if there is a combustion event, high-oxygen content means that fuel materials burn much faster. Particle impact, rapid pressurization, or compression of materials can result in heating that could cause combustion. Contamination and mechanical energy, such as friction, can also cause ignition and result in fast and hot fires when more oxygen is present. The higher the concentration of oxygen, the greater the risk of combustion.

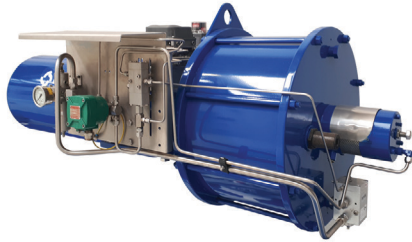
Biffi can offer a complete range of solutions to match better the customer needs and a specific configuration capable of avoiding risks of fire injections. An O_2 compatible and certified grease or oil selection and a correct valve definition is the perfect fit to complete the valve automation solution to support this specific application used in a wide range of productions activities.

Robust, versatile, high performing actuators with fail safe capability

The actuator is installed on top of the valve and not in contact with the O_2 . For this reason, the configuration to consider is a dedicated solution with special grease O_2 compliant BAM certified in the parts of the actuator where the pure O_2 can be in contact in case of unpredictable valve packing leakage. All the seals in touch with the grease are FKM (Viton) type because NBR and low temp NBR are incompatible. Temp ranges from -20°C to 100°C . The Valve Mounting Kit is an open spool-type to avoid high O_2 gas concentration in the locked spool. Valve stem needs to be preferable in horizontal installation.

Pneumatic low-pressure solutions

Scotch yoke actuators



ALGA-ALGAS

ALGA-ALGAS pneumatic scotch yoke actuators are suitable for quarter-turn valves up to the largest sizes, thanks to an efficient design and to high break-out torque. The QA version with damper performs fail stroking in less than 1 second.

- Design pressure: 12 bar g (174 psi)
- Double acting torque: up to 750,000 Nm (6,630,000 lbs in)
- Spring ending torque: up to 235,000 Nm (2,078,000 lbs in)

Heavy duty rack & pinion actuators



RPD-RPS

RPD-RPS rack & pinion actuators offer a reliable, easy and cost effective solution, providing maximum torque output with minimum supply pressure. The housing can be ductile iron or carbon steel; all other parts are in carbon steel as a minimum.

- Design pressure: 12 bar g (174 psi)
- Double acting torque: up to 3,700 Nm (32,700 lbs in)
- Spring ending torque: up to 1,100 Nm (9,700 lbs in)

All low pressure actuators are available in double-acting and spring return versions for any quarter turn valve.

- Scotch Yoke actuators
- Heavy duty rack & pinion actuators

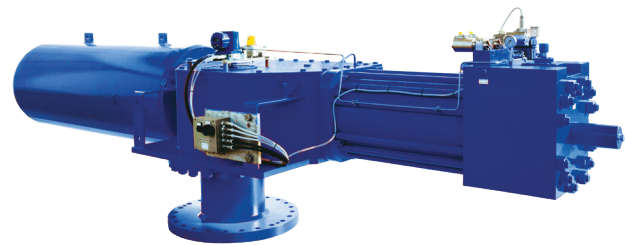
Hydraulic solutions

Scotch yoke actuators

OLGA OLGA-H and OLGAS OLGAS-H

Efficient design and high break-out torque make OLGA OLGA-H and OLGAS OLGAS-H hydraulic actuators suitable for most quarter-turn valves and larger heavy-duty applications.

- Design pressure: up to 350 bar g (5,076 psi)
- Double acting torque: up to 1,000,000 Nm (8,850,745 lbs in)
- Spring ending torque: up to 235,000 Nm (2,079,000 lbs in)



Electric solutions

For completing the range of solutions, it is possible to use the electric actuator in combination with a specific valve and dedicated BAM-certified oil or grease.

Multi-turn actuators

ICON3000

Smart multi-turn actuator with advanced communication technology, data management and reliable operation.

- Torque: 30 to 1,440 Nm (265 to 12,745 lbs in)
- Voltages: 24 V DC to 690 V AC (3 phase)
- Temperature range : -20°C to +85°C (-76°F to +185°F)
- Speed range: 12 to 173 rpm
- A Manager diagnostic software compatibility
- Low power version available 30Nm (265 lbs in) / 24VDC / 1,3A



Biffi is a reliable partner for complete actuation solutions



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