

Instructions for the operation of

GÄBLER-piston slide valves in gaseous oxygen pipelines

1. General:

GÄBLER-piston slide valves are shut-off valves of a high standard that are produced with the most possible care and precision. In order to keep the safety and the reliability and in order to reduce the necessary maintenance to a minimum a few but important rules must be followed.

GÄBLER piston slide valves that are intended for the use in pipelines for oxygen are free of oil and grease and are marked correspondingly on the valve body. The valves have been tested for the behaviour in adiabatic pressure shocks at the German Federal Institute for the Testing and the Research of Materials (BAM) where they have been found suitable for the use in gaseous oxygen within an operating range of max. 100 bar pressure at max. 100°C – provided the strength of the valves acc. to their nom. pressure allows that high pressure. The European Industrial Gases Association recommends using valves that have been found reliable acc. to adiabatic pressure shock tests for an operation range of 30 bar up. The minimum operation temperature for the ambient air as well as for the flowing medium is -20°C.

The metallic materials chosen for the pressure bearing parts in contact with gaseous oxygen are exempt materials according to the EIGA document for oxygen pipelines 13/12/E. They are excluded from the limitation of flow velocity up to a pressure of 20.68 MPa.

Valves that are intended for the use in pipelines in the European Community and that are falling under the validity of the Pressure Equipment Directive PED 2014/68/EU can only be installed into new pipelines if the conformity with the PED is visibly confirmed by a **CE**-sign in combination with the number of the Notified Body.

Oils and greases have to be kept away from the valve during the operation of the valve as well as during maintenance. Further on in case of a leakage oxygen might get in contact with materials lying nearby leading to a sudden combustion. Therefore such materials should be kept in safe distance from the valve. No oils and greases should be stocked near oxygen pipelines and valves.

- 1) The GÄBLER-piston slide valve has to be installed in direction of flow according to the arrows on the valve body. This direction provides a comparatively low pressure drop. Further on the direction of the pressure difference over the closed valve is important for the tightness in the valve seat.
- 2) If a flow in both directions is intended, spring closing valves as well as handlever-operated valves may open by themselves, if the pressure on the outlet side of the valve is higher than on the inlet side of the valve. If this might be the case (at pressure vessel shut-off valves or within circle pipelines where the medium can flow in both directions) the company H. GÄBLER ARMATUREN GMBH & Co. KG should be contacted. In these cases a closing cylinder is recommended for the valve to support the force of the closing spring in cases of an own medium operation or an operation with auxiliary medium instead of own medium might be the solution with an double acting actuator cylinder in order to grant tightness within the valve seat.

