

# Fitting, Operating and Maintenance Instructions

04/2017



## General

The design of the valve depends upon the use and is beneath the responsibility of the buyer. With the application for mediums and temperatures which differ from the type description, it has to be consulted with the manufacturer or the distributor respectively.

The operating instruction is made for valves - gate valves, globe valves, swing check valves, strainers. It refers to valid standards and rules and regulates order, fitting and operation. The instructions cannot replace qualified personnel. Technical changes at the valves as well as changes of this description are in the responsibility of the manufacturer. All valves are provided according to DIN EN 19 with sprinkled or rather stamped signs for the nominal pressure (PN), nominal diameter (DN), construction materials, manufacturer's mark, and as far as necessary with a directional marker. The valves are interpreted according to the Pressure Equipment Directive 2014/68/EU (> DN 25). Before leaving the factory they are tested according to DIN EN 12266 (or corresponding special agreements) with 1,5 fold nominal pressure for safety and tightness of the body by internal pressure test. The seal is tested in any case, if nothing else has been agreed, with 1,1 fold nominal pressure. The maximum allowable seat leakage is specified for stop valves in leakage rate A and for check valves in leakage rate D, according to DIN EN 12266-1.

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## **Delivery, Transport, Storage**

To avoid damages at the sealing areas during transport and storage the valves are supplied in closed position. Locking caps defend the flange openings from pollution. The spindles of the gate valves and globe valves are protected against dirt additionally with oiled paper. A clamp safeguards the flap at swing check valves against damages. The valves may not be damaged upon transport and storage ( dry and dirt free).

For this reason they are coated against corrosion with a primer coat. For further protection the valve has to be adapted in the plant according to the operating conditions.

## **Mounting**

Before fitting the transport securing and locking caps at the flange openings have to be removed and the valves have to be cleaned - especially the sealing areas. At Swing check valves the clamp must be removed which secures the flap at the transportation.

Upon mounting it has to be paid attention to the fact that all sealings are centered at the joining flanges. The pipe relaying is to be done in such a way that harmful shearing and bending stresses will be kept away from the body. While coating the plant, gland bolt nuts and stems are not allowed to be painted. If construction work is still done near or above the valve, this is to be covered from dust, sand, or part of building materials (e.g. with a plastic wrap).

Gate valves and globe valves can be fitted in every position. The more favorable fitting, however, is with vertical stem, because thereby the abrasion appearing with movement and due to possible bending of stem (by the weight of wedge, sealing discs, plugs, or the flow power) is reduced or the possibility of seizing is largely diminished. The fitting of globe valves is done with entering of the through flow medium under the plug, only with globe valves with pressure relief plug the entry has to be done over the plug (see marker). With gate valves it is irrelevant in which direction the through flow is done. Check valves in straightway form can only be fitted in horizontal pipelines. Swing check valves and swing check valves with lever and weight can be fitted in horizontal or vertical pipelines (medium from below). Strainers must be fitted that way that the screen shows down. Upon fitting the flow direction has to be considered (directional marker).

## **Welding in Valves**

Upon welding in precise cleanness must be observed. No unpurities may reach the inside of the body as otherwise damages can be caused at the sealing area or at the stem guide.

The welding seam is to be placed carefully to avoid tensions in the body. The valve has to be closed upon welding in.

## **Putting into Operation and Operation**

Before the putting into operation the oiled paper must be removed at the gate valves at the spindles and globe valves. New plant, especially after repairs have been made, the pipeline system is to be rinsed with full opened valves so that the hard substances and globules which are harmful for the sealing areas will be removed. The valve is closed by turning right. Opening is done vice versa. Stop valves in normal execution are only handled that way that they are either fully opened or fully closed.

For throttling positions globe valves should be provided with a throttling plug. The use of levers upon handling the hand wheel is not allowed. The competence of functioning of the built-in valve is to be proved by some openings and closings. If the medium charges the gland upon working pressure and temperature, its tightness has to be tested. Maybe that it is necessary to tighten the gland nuts evenly. Untightness at the gasket is to be removed by gradually, crosswise and regular screwing of the gasket nuts whereelse it has to be paid attention to the fact that the valve has to be opened before this by about two handwheel rotations.

## **Maintenance**

The valve is constructed maintenance-free as far as possible. With the bellow valves the spindle sealing is guaranteed by a metal bellow out of stainless steel so they are maintenance free. The raw materials of the sliding parts are chosen to keep the wear at minimum. For reasons of operating safety as well as for reduction of costs for maintenance and repairs all valves - especially those which are seldom operated or which are difficult to reach should be tested regularly, i.e. according to the safety standards but at least 4 times a year.

By lubricating of the moveable parts (compability of the medium has to be tested), by complementary re-packing or renewing of the gland packings and gaskets the durability of the valves can be elongated. With the strainers the screen is removed after removing of the cover nuts and cover. The frequency of cleaning depends upon the pollution by the medium.

## **Complementary and New Packing of the Gland**

If the leakage at the gland cannot be stopped by even screwing of the nuts, a complementary packing is recommended. For reasons of safety the valve which has to be complementarily packed has to be made pressureless before loosening the gland nuts (especially with entrance above the plug). If the packings are used up caused by ageing (residues at the stem, frequent complementary packing), the gland has to be packed new.

For complementary and new packing of the gland the gland nuts have to be removed and the fork screws have to be turned to the side respectively the T-head bolts have to be removed, the gland has to be pushed upwards. After the used up packing is removed, gland room, stem and gland packing have to be cleaned seriously from the sticking coating (for this please do not use sharp edged tools, stem eventually to be worked with a fine sandpaper), the new packing rings can be laid in. Here the push joint is displaced by 90 degrees at every incline cut ring regarding the previous one. Each packing ring is to be pressed single with the gland flange. Upon re-tightening of the gland nuts these should not be tightened too much to keep the elastical property of the packing upon sealing.

## **Guarantee**

Guarantee is indicated in the edition of "General Business Conditions of Fromme Armaturen GmbH & Co. KG" valid at the date of delivery or is indicated differing from this in the contract of sale.

For damages, which occur by improper handling or disregard of these fitting and operating instructions, of the standards EN, DIN, VDE and other standards, no guarantee claims can be enforced. Damages which occur during operation caused by working conditions different to those of data sheet or other agreements are also no subject for guarantee. Claims which exceed the guarantee are also concluded. Claims for spare delivery do not exist. The installation of strange parts, changes of the construction as well as natural attrition are also concluded from the guarantee.

Possible transport damages have to be indicated at once not to us but to your competent goods freight depot, the railway or the transporting agent as otherwise the claim for compensation will be lost.



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