



**TECHNICAL INSTRUCTION**  
**No. QT-2/21**

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## **Operation and Maintenance Manual**

*Subject :*

**- *Stop Globe Valves PN 40 - 160***

Cat. No 218, 222, 412, 422, 530

**- *Check Valves PN 40 - 160***

Cat. No. 292, 293, 464, 564

**- *Strainers PN 40 - 160***

Cat. No. 822, 823, 912, 922, 932



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#### **1. General instructions**

These operating instructions apply to all WAKMET shut-off valves, non-return valves and strainers for PN 40, 63, 100 and 160. The design, manufacture and testing of valves are subject to a Quality Assurance System EN ISO 9001 as well as the European Pressure Equipment Directive 97/23/EC.

Only correct installation, maintenance or repair will ensure the proper operation of the valves. The manufacturer shall not accept any liability if the instructions set forth in this manual are not complied with.

The valves must not be operated outside the permissible operating range.

The special attention must be paid to not exceed the pressure-temperature ratings. Operation of the valves outside the above-mentioned conditions may result in serious damages.

The descriptions and instructions specified in this manual refer to the standard models but are also applicable to variants. These operating instructions do not take into account:

- any eventualities and events which might occur during installation, operation and maintenance,
- local regulations; the operator must ensure that such regulations are strictly observed by all, including the personnel called in for installation.

The valve must only be operated by skilled, properly trained personnel. Incorrect operation of the valve may have a substantial impact on the entire system such as fluid leakage, reduction in system's function etc.

This manual complies with the requirements of EU Directives.



## **2. Transport and storage.**

The valves are delivered ready for operation, the closing device is in closed position. The inlet and the outlet are protected by caps. Suitable precautions shall be taken to prevent damage during transport. Heavy valves should be transported by means of ropes attached to the yoke arms or to the cover flange. The valve weights can be found in catalogue leaflets. The valves must never be suspended by the handwheel or by the actuator. After delivery on site and before installation the valves should be checked for potential damages which may occur during transportation. During the storage the valves should be protected against humidity, dust, dirt etc. (indoor storage is recommended). Long lasting storage do not affect the valve functioning. The valves must always be stored in the closed position.

## **3. Installation**

The proper installation has an essential impact on valve functioning. Before installing the protecting caps must be removed. The interior of pipeline and valve must be free of any impurities. The pipeline must be laid in a such way that transverse, bending and torsional forces are avoided. The stem thread must not be painted.

The direction of flow must comply with an arrow marked on the valve bodies.

Installation position:

- shut-off valves: can be mounted in any position; the recommended one is with stem pointed vertically upwards,
- check valves: are equipped with spring as standard and can be mounted in any position; the recommended one is horizontal with the cover pointing upwards, - strainers: in horizontal position; the cover must point downwards.

When installing flanged valves the attention must be paid on centering gaskets between flanges. The mating face on flanges must be clean and undamaged. All flange bolt holes must be used to fasten a valve to a pipeline. The bolts and nuts must be made of appropriate and approved materials.

The welding connections can be made only by qualified staff by means of proper equipment.

The responsibility for this and for any heat treatment required lie with the pipeline owner. When welding valves to a pipeline the special attention must be paid to prevent entering the contamination to the valve body.



#### **4. Maintenance and service**

Repair and maintenance work must be performed by trained personnel only taking into account the relevant health and safety regulations. It is very important that only suitable spare parts and materials are used to ensure proper functioning of the valves.

If the valve stem leakage occurs tighten the stuffing box using the hex. nuts until leakage stops. Before starting any work to the valve or removing the complete valve from the pipeline the pressure must be released and the valve must be cooled down. In case of toxic and flammable fluids the valve must be drained and flushed or vented.

The Wakmet valves are designed to be largely maintenance-free. To ensure reliable operation and to reduce repair costs, however, all valves should be checked regularly, particularly those rarely used or difficult to access.

The user is responsible for setting regular inspections and checkouts depending on the service conditions of the valve.

The proper functioning of valves can be prolonged by:

- keeping the stem well greased,
- re-tightening the stuffing box packing or replacing the packing rings in time, - opening or closing the valve twice a year at least,
- replacing the cover gasket in time.

Every time the valve is dismantled and reassembled, new gaskets and packing rings should be used. Before putting into installation the reassembled valve should be tested for leakage.

#### **5. Safety and warranty**

This operating manual contains basic information which must be complied with during installation, operation and maintenance. It should be read and understood by the installing personnel and operators before installation and start-up. All personnel involved in the operation, maintenance, inspection and installation of the equipment must be fully qualified to carry out the work involved. Personnel responsibilities, competence and supervision must be clearly defined by the operator.

Non-compliance with the instructions contained in this manual may result in destruction of the valve and cause danger to the staff and the environment.

All modifications of the supplied valve are allowed only after the acceptance of the manufacturer.

Original spare parts should be used to ensure safety. No warranty claims can be made if unauthorized elements and materials will be used. The warranty relating to the operating reliability and safety of the valve is only valid if the working conditions do not exceed figures shown in pressure-temperature table( see catalogue leaflets