

Operation and maintenance
manual for

GATE VALVES
WITH SOFT SEALS
AND OPENING INDICATOR

P/N
2502; 2511

Approved for use by

President of Factory, JAFAR S.A.

Failure to comply with the guidelines and instructions in this Operation and Maintenance Manual releases the manufacturer from all obligations, liability and guarantee.

Due to continuous business development, we reserve the right to introduce modifications and structural changes to the presented product.

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hexagon socket head cap screws mounted flush with the valve cover and secured with paraffin compound. The fastening bolts are either galvanized steel or stainless steel. The valve cover to body seal is a rubber gasket which also seals the bolt penetration points to prevent any leaks from their leads. All inner and outer cast-iron surfaces of the valve are epoxy powder coated. The spindle is driven by a hand wheel.

2.2 MATERIALS

The table below lists the structural materials of the gate valves with soft seals.

Item	Part designation	Material	Reference standard
1	Body	Cast-iron, EN-GJS-400-15 EN-GJS-500-7	EN 1563
2	Cover	Cast-iron, EN-GJS-400-15 EN-GJS-500-7	EN 1563
3	Wedge	Cast-iron, EN-GJS-400-15 EN-GJS-500-7 Rubber, EPDM/NBR	EN 1563 EN 1629
4	Skid	Polyamide	EN ISO 1874-1
5	Spindle	Steel grade 1.4057 / 1.4021	EN 10088
6	Link	Grey cast-iron, EN-GJL-250 Polyethylene	EN 1561 EN ISO 1872-1
7	Pointer	Brass Polyethylene	EN 1982 EN ISO 1872-1
8	Indicator dial	Steel grade 1.4021	EN10088-1
9	Sealing plug	Bronze, copper	EN 1982
10	Spindle nut	Bronze, copper	EN 1982
11	Valve cover gasket	Rubber: EPDM/NBR	ISO 1629
12	O-ring	Rubber: EPDM/NBR	ISO 1629
13	O-ring	Rubber: EPDM/NBR	ISO 1629
14	Bolt	Steel, Fe/Zn5, stainless steel	EN ISO 4762
15	Bolt plug	Paraffin	acc. to manufacturer's Technical Guidelines
16	Washer	Polyamide PA6	EN ISO 1874-1
17	Nut	Steel, Fe/Zn5, or stainless steel	EN ISO 4032
18	Set screw	Stainless steel	EN ISO 4027
19	Hand wheel	Grey cast-iron, EN-GJL-250	EN 1561

2.4 REFERENCE STANDARDS

EN 1074-1	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. General requirements
EN 1074-2	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Isolating valves.
89/H-02650	Valves and pipelines. Pressure and temperature ratings.
EN 1092-2	Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated. Cast iron flanges.
EN19	Industrial valves. Marking of metallic valves
EN 12266-1	Industrial valves. Testing of metallic valves. Pressure tests, test procedures and acceptance criteria. Mandatory requirements.
EN 558	Industrial valves. Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems. PN-designated valves.
EN ISO 6708	Pipework components. Definition and selection of DN (nominal size).
EN 1559-1	Founding. Technical conditions of delivery. General.
EN 1561	Founding. Grey cast irons.
EN 1563	Founding. Spheroidal graphite cast irons.
EN 1370	Founding. Surface roughness inspection by visual tactile comparators.
EN 10088-1	Stainless steels. List of stainless steels.
74/H-84032	Spring steel. Grades.
EN 1982	Copper and copper alloys. Ingots and castings.
EN 12420	Copper and copper alloys. Forgings.
EN ISO 4032	Hexagon regular nuts (style 1). Product grades A and B.
ISO 965-1	General purpose ISO metric threads. Tolerances. Principles and basic data.
ISO 2903	Trapezoid ISO metric threads. Tolerances.
EN ISO 4762	Hexagon socket head cap screws.
EN ISO 4027	Hexagon socket set screws with cone point.
EN 10204	Metallic products. Types of inspection documents.
ISO 1629	Rubbers and latices. Nomenclature.
EN ISO 1873-1	Plastics. Polypropylene (PP) moulding and extrusion materials. Designation system and basis for specifications.
EN ISO 1874-1	Plastics. Polyamide (PA) moulding and extrusion materials. Designation system and basis for specification.
EN ISO 12944-5	Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Protective painting systems.

2.5 ORDERING INFORMATION

Water supply system fittings are specific purpose industrial fittings, therefore orders must include:

- Part Number (P/N)
 - intended use, e.g. for water supply systems, sea water, etc.
- and:
- nominal diameter, acc. to EN ISO 6708
 - nominal pressure, acc. to 89/H-02650;
 - type of body material — acc. to EN 1561; EN 1563
 - maximum operating temperature, acc. to 89/H-02650.

2.6 PRODUCTION AND ACCEPTANCE

Type 2502 and 2511 gate valves with soft seals and opening indicator are accepted and produced in accordance with EN 1074-2 (Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Isolating valves) and EN 12266-1 (Industrial valves. Testing of valves). All gate valves are leak tested (100%). The tests include external body tightness and closing tightness.

2.7 MARKINGS

The gate valve marking meets the following standards: EN-19; EN-1074-1.

The valve bodies feature markings on the front and back walls of the body chamber. The marking contains the following data:

- valve type (defined by the product reference standard number)
- nominal diameter
- nominal pressure
- body material type
- manufacturer trademark

The location on the valve specified in the documentation features the nameplate which contains the following data:

- manufacturer's company name and logo
- serial number
- sealing temperature rating
- construction mark "B" and/or mark "CE" (as applicable)
- product type.

3 PROTECTION, STORAGE & TRANSPORT

3.1 PROTECTIVE COATINGS

All inner and outer cast-iron surfaces are protected with electro-deposited epoxy coat. The coat has been approved for contact with foodstuffs.

The anti-corrosion coating layer minimum thickness is 250µm.

The screws connecting the body and the cover are manufactured as stainless, grade OH18N9 or Fe/Zn5 (galvanised steel).

3.2 PACKAGING

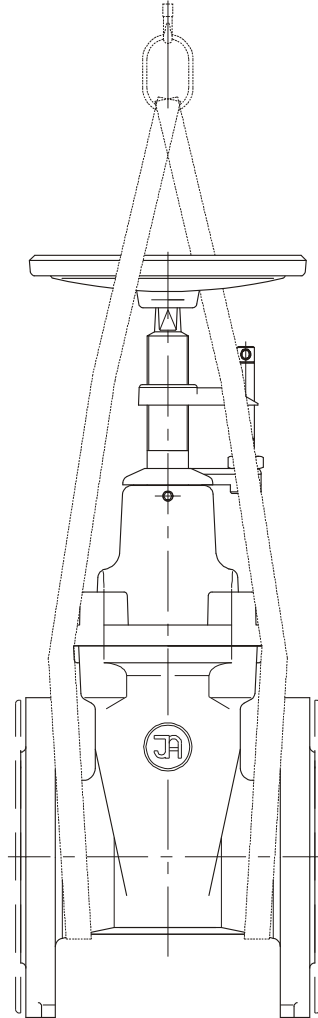
The gate valves are packed on EURO pallets (1200x800) and protected with heat-shrunk film.

3.3 STORAGE

Store the gate valves in sheltered rooms.

3.4 TRANSPORT

Transport the gate valves on sheltered vehicles.



It is recommended to handle and assemble the DN80 to DN300 gate valves with belt slings as shown in the diagram above.

4 ASSEMBLY AND INSTALLATION

4.1 ASSEMBLY GUIDELINES

The TYPE 2502 and TYPE 2511 gate valves with soft seals and position indicator can be installed in surface pipelines both in horizontal or vertical orientation. The listed products are suitable for joining with the flanged ends of pipelines with the size equal to that of the valve flanges. Note that the system must not expose the (gate) valve to bending or tensile stress from loading with the weight of unsupported pipeline sections. Assemble with consideration to pressure and temperature compensation of the pipeline. The valve assembled and adjusted by the manufacturer is ready for installation. Any dismantling of the valve components may result in loss of seal.

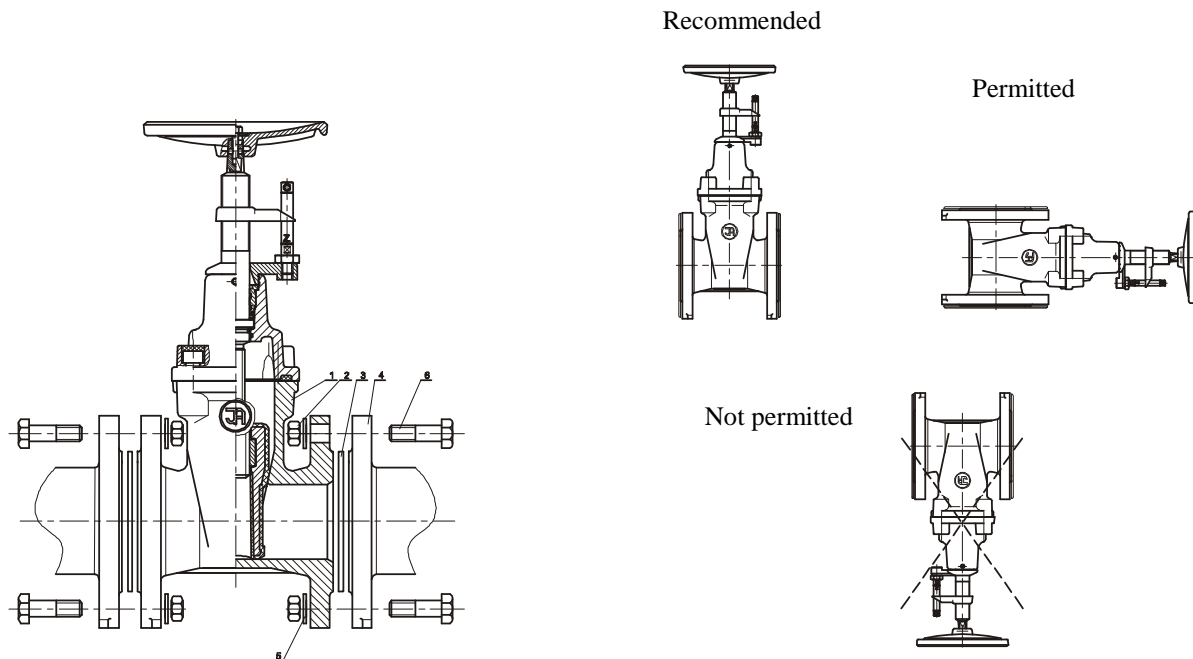
4.2 ASSEMBLY INSTRUCTIONS

Before attempting to install the valve, check the technical and commercial documents delivered with the product to verify that the media and pipeline operating parameters comply with the manufacturer's declaration. Any change in the operating conditions must be consulted with the valve manufacturer beforehand.

Before attempting to assemble the valve, remove the main bore plugs, check the inner surfaces of the valve and thoroughly flush with water, if necessary.

CAUTION! If the product is damaged mechanically, do not install it in the pipeline.

The figure below shows the method for coupling the gate valve and the valve orientation diagrams:



1. Valve; 2. Nut; 3. Gasket; 4. Pipeline flange; 5. Washer; 6. Fastening bolt

4.3 OPERATION

The gate valve shall be operated according to all relevant requirements for cut-off valves, i.e. either in fully open or fully closed positions. Leaving the gate valve partially opened (or closed) may result in seal failure. To ensure full performance, switch the knife gate valve periodically (once a year, from fully open to fully closed). Exceeding the operating limits of the valve may result in damage that will not be covered by the suretyship granted by the manufacturer.

4.4 OCCUPATIONAL HEALTH AND SAFETY

The valves are eligible for the OHS guidelines and recommendation concerning installation of pipelines and devices for water supply stations, heat power plants, water treatment plants, sewage treatment plants, pumping stations and other facilities, and eligible for the Polish Regulation concerning general OHS laws (use of personal protective equipment for hands, legs and head, and safety garment), especially at work with low or high temperature hazard.

Misuse of this product is prohibited.

5 WARRANTY TERMS AND CONDITIONS

The product assembled, installed and operated in compliance with this Manual is covered by a commercial warranty from the manufacturer. The conditions and period of the warranty is specified in the warranty sheet.