

Operation
& Maintenance Manual

**INSPECTION COUPLING WITH
HYDRANT VALVE**

P/N
8890

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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1 TECHNICAL DESCRIPTION

1.1 PRODUCT NAME AND FEATURES

The subject of this O&MM is:

Inspection coupling with hydrant valve Type 8890:

- Cast-iron body prepared for removing impurities (e.g. sand, gravel)
- Aluminium saddle tee C52 per DIN 14317.

1.2 PURPOSE

The inspection coupling type 8890 with hydrant valve for water supply systems for chemically neutral pure water, containing solid impurities and for industrial systems. Recommended for use on above-ground installations on pipelines laid horizontally or vertically below the freezing zone.

The coupling design enables introducing cleaning devices, monitoring and flow measurement devices (probes) into the pipeline.

For transferring water in water supply systems, for pressures up to 1.6 MPa and temperatures from +1°C to +70°C.

1.3 TECHNICAL SPECIFICATION

The inspection coupling with hydrant valve for cleaning and transferring potable water, for industrial water at temperatures from +1°C to +70°C.

- Available diameters DN50 –DN250 — for flanged versions;
- Installation length PN-EN 558:2012;
- Maximum medium flow rate: 4m/s;
- Max working pressure (PS): 1.6 MPa — for flanged version;
- Max. working temperature (TS): 70°C

Connecting flanges for inspection couplings type 8890 according to PN-EN 1092-2: 1999 with the dimensions adequate to the relevant nominal pressure values.

- Nominal pressure values PN: 1,6 MPa
- Connection: - Saddle tees C 52 per DIN 14317: 1985

2 STRUCTURE

2.1 FITTING DESIGN DESCRIPTION

Inspection couplings with hydrant valves supplied by F.A. JAFAR S.A. are supplied in flanged design. A coupling is made up of pipe-shaped body and a bonnet with screwed in hydrant valve (saddle tee C52). There are threaded inspection openings in the coupling body. The couplings feature a cleanout opening in the lower part of the body to enable drainage of liquid left in the pipeline or to flush a valve after completion of service procedures.

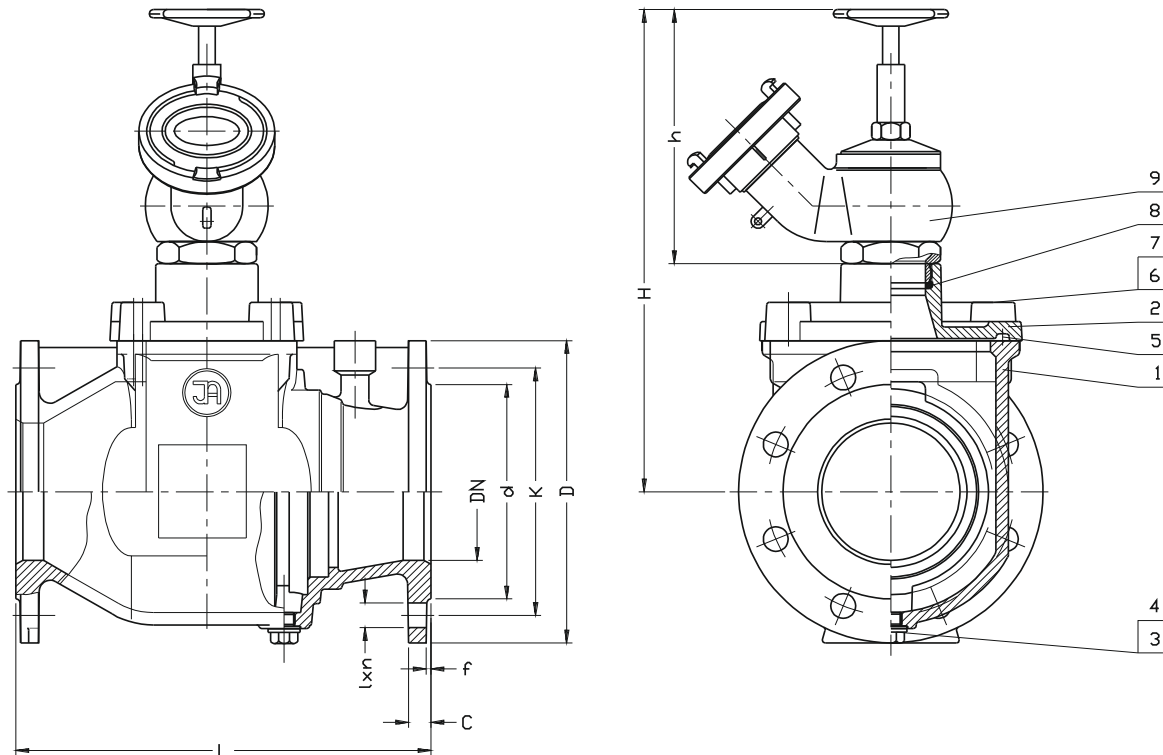
All internal and external surfaces made of cast-iron on the coupling have corrosion protection in the form powder epoxy coat.

2.2 MATERIALS

List of materials used in the inspection couplings:

Item	Part name	Material	Reference standard
1	Body	EN-GJL-250 EN-GJS-400-15	PN-EN1561: 2012 PN-EN1563: 2012
2	Cover	EN-GJL-250 EN-GJS-400-15	PN-EN1561: 2012 PN-EN1563: 2012
3	Cleanout opening	CuZn39Pb1Al-B	PN-EN1982: 2010
4	Cleanout opening seal	Technical fibre	
5	Bonnet gasket	EPDM/NBR	PN-EN1629: 2005
6	Bolt	Steel Fe/Zn5 or stainless steel	PN-EN ISO 4762: 2006
7	Bolt plug	Paraffin	
8	Valve seal	EPDM/NBR	PN-EN1629: 2005
9	Hydrant valve	AlSi Stainless steel 1.4401	PN-EN1706: 2011 PN-EN 10088-2: 2014

2.3 DIMENSIONS



DN	L	D	K PN16 (PN10)	d	h	H	L x n PN16 (PN10)	Weight
[mm]								[kg]
50	200	165	125	102	185	307	18x4	11
80	260	200	160	138	185	329	18x8(4)	18
100	300	220	180	158	185	351	18x8	23
150	400	285	240	212	185	384	22x8	39
200	500	340	295	268	185	420	22x12(8)	58
250	700	405	355 (350)	320	185	390	26(22)x12	106

2.4 STANDARDS

PN-EN 1074-1: 2002	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. General requirements
PN-EN 1074-2: 2002	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Isolating valves.
PN-89/H-02650	Fittings and pipelines. Pressures and temperatures.
PN-EN 19: 2005	Industrial valves. Marking of metallic valves.
PN-EN558: 2012	Industrial valves. Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems. PN-designated valves.
PN-EN 12266-1: 2012	Industrial valves. Testing of metallic valves. Pressure tests, test procedures and acceptance criteria. Mandatory requirements.
PN-EN 1092-2: 1999	Flanges and their connections. Circular flanges for pipes, valves, fittings and accessories, PN designated. Cast iron flanges.
PN-EN ISO 6708: 1998	Definition and selection of DN (nominal size).
PN-EN1561: 2012	Founding. Grey cast irons.
PN-EN1563: 2012	Founding. Spheroidal graphite cast irons.
PN-EN 10088-1: 2014	Stainless steels. List of stainless steels.
PN-EN 1706 2011	Aluminium and aluminium alloys. Foundings.
	Chemical composition and mechanical properties.
PN-EN12420: 2002	Copper and copper alloys. Forgings.
PN-EN 1982:2008	Copper and copper alloys. Ingots and castings.
PN-EN ISO 228-1: 2005	Pipe threads where pressure tight joints are made on the threads.
	Dimensions, tolerances and designation
PN-EN ISO 4762:2006	Hexagon socket headcap screws.
PN-EN ISO 4017:2011	Hexagon head screws.
	Product grades A and B.
PN-EN ISO 4014:2011	Hex head bolt. Product grades A and B.
PN-EN ISO 4032:2013	Hexagon regular nuts (style 1). Product grades A and B.
PN-EN ISO 7091:2003	Plain washers. Normal series. Product grade C
PN-ISO 1629: 2005	Rubbers and lattices. Nomenclature.
PN-EN ISO 1873-1: 2000	Plastic materials. Polypropylene (PP) moulding and extrusion materials.
	Designation system and basis for specifications.
PN-EN ISO 1872-1:2000	Plastic materials. Polyethylene (PE) moulding and extrusion materials.
	Designation system and basis for specifications.
PN-EN ISO 12944-5: 2009	Paints and varnishes. Anti-corrosion protection of steel structures by means of protective painting systems. Protective paint systems.

2.5 ORDERING REGULATIONS

The inspection coupling is a specific purpose industrial valve, therefore orders must include:

- Part Number (P/N)
- intended use, e.g. for water supply systems;
- furthermore:
- nominal diameter — acc. to PN-EN ISO 6708: 1998;

- nominal pressure, acc. to PN-89/H-02650;
- type of body material — acc. to PN-EN 1561: 2012, (PN-EN 1563) or PN-EN 1982: 2008
- max. operating temperature — acc. to PN-89/H — 02650.

2.6 MANUFACTURE AND ACCEPTANCE

Inspection couplings with hydrant valve type 8890 are accepted and produced in accordance with: PN-EN 1074-2:2002 (Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Isolating valves) and PN-EN 12266-1:2012 (Industrial valves. Testing of metallic valves). All valves are leak tested (100%). The tests include external body tightness and closing tightness.

2.7 MARKINGS

The marking of inspection couplings is defined by the following standards: PN-EN-19: 2005; PN-EN-1074-1: 2002.

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

- nominal diameter;
- nominal pressure;
- type of body material;
- manufacturer trade mark;
- an arrow showing flow direction.

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

- manufacturer's company name and logo
- product serial number
- sealing temperature grade
- the Polish Building Mark "B" and/or the CE mark (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 casting surface is pre-treated for epoxy coating in accordance with the relevant technical documentation and standard PN-EN ISO 12944-5: 2009.

3.2 PACKAGING

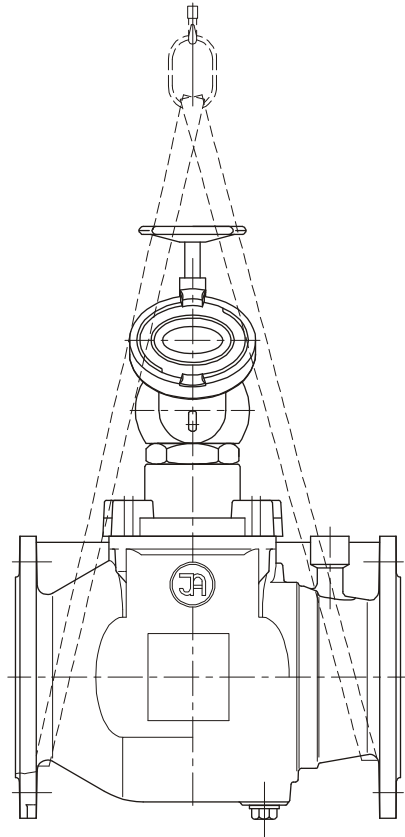
Inspection couplings are placed on pallets and protected with stretch wrap.

3.3 STORAGE

Store the inspection couplings in sheltered rooms.

3.4 TRANSPORT

Transport the couplings on sheltered vehicles.



Use slings sized from DN80 to DN250 for transport and installation of couplings.

4. ASSEMBLY AND INSTALLATION

4.1. INSTALLATION GUIDELINES

Inspection couplings with hydrant valves type 8890 can be installed in above-ground pipelines in horizontal orientation, configured as shown in the following figure. The couplings 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 coupling to bending or tensile stress from loading with the unsupported pipeline sections. It is recommended to perform installation works considering pipeline compensation due to temperature and pressure. A coupling assembled and delivered by the manufacturer is ready for installation in the system. Disassembly of the coupling components without proper care may result in loss of tightness.

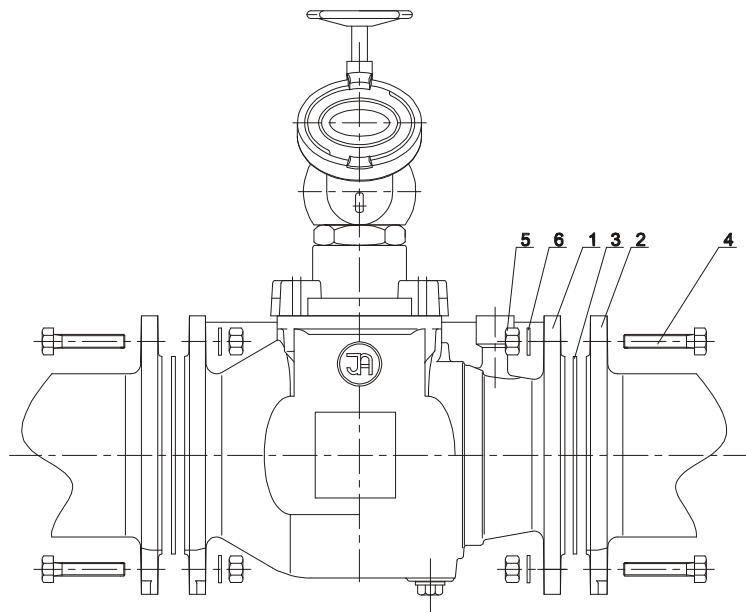
4.2 INSTALLATION INSTRUCTIONS

Before installing the fittings, check the technical and commercial documentation, i.e. application for media and operation parameters of the pipeline, in which they are to be installed. Any change in the operating conditions must be consulted with the fitting's 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.

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

The assembly method is shown in the following figure:



1. Coupling, 2. Pipeline flange, 3. Seal, 4. Fastening bolt, 5. Nut, 6. Washer

4.3 OPERATION

Inspection couplings with hydrant valve type 8890 shall be used in accordance with the requirements for isolating valves. It is recommended to periodically purge the coupling with fresh water (once a year) to assure full performance.

For servicing, shutoff valves shall be installed upstream and downstream the coupling. The installation location shall enable free access to the coupling for servicing and maintenance on the system.

The coupling cannot be situated in a location subject to flooding. The device shall not be subject to temperatures exceeding the allowable scope of work.

Exceeding the operating limits of the fitting may result in damage that will not be covered by the suretyship granted by the manufacturer.

4.4 OH&S REGULATIONS

The inspection couplings 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 GUARANTEE CONDITIONS

The manufacturer grants guarantee for the product being installed and operated according to this O&MM. The conditions and period of the guarantee is specified in the guarantee sheet.