

**Operation and Maintenance Manual**

**STANDPOST HYDRANT**

**P/N**

**TYPE 8001/8010**

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:

Cast-iron standpost hydrant TYPES 8001 and 8010 with automatic water drainage activated by flow stoppage.

### **1.2 PURPOSE**

The cast-iron standpost hydrants TYPES 8001 and 8010 with automatic drainage are designed for installation on underground pipelines laid horizontally below the freezing zone, and are intended for drawing water.

### **1.3 TECHNICAL SPECIFICATION**

Cast-iron standpost hydrant TYPES 8001 and 8010 with automatic water drainage is designed for drawing water at temperatures from +1°C to +50°C.

- Available diameters (dimensions)      ¾"
- Maximum medium flow rate:    - Liquid up to 4 [m/s]
- Equipment control: by pressing a lever.

## **2 STRUCTURE**

### **2.1 FITTING DESIGN DESCRIPTION**

A cast-iron standpost hydrant TYPES 8001 and 8010 with automatic water drainage includes a cast-iron body and head placed above ground and an underground valve chamber with connection, attached to the body with a column with flange located on the hydrant's foot. The hydrant's foot is placed on the ground above water supply network's pipe. The valve chamber contains a closing component (a poppet valve) connected to the outlet in the upper part of the hydrant using a suction pipe also used for drawing water. The movable suction pipe inside the hydrant's top part is coupled with control lever via stopped used for closing the vertical section of the suction pipe supported with a spring. The spring presses the suction pipe to the valve chamber seat. Pressing the lever attached axially inside the hydrant's top part lifts the complete suction pipe and opens water flow. After releasing the lever, the spring pushes the suction pipe downwards and closes water flow. The valve chamber has a seal for the closing component which cuts off the coupling with the column when the suction pipe is raised (open flow) and opens the connection of the suction pipe with the column with suction pipe lowered (closed flow), thus enabling the remaining water from the suction pipe flow to the column. That way, fresh water does not enter the column and after every draw the remaining water flows to the space located between the column and the suction pipe and it may escape to the ground through the water drainage outlet connection.

## 2.2 MATERIALS

List of basic materials used in the construction of the standpost hydrant TYPE 8001 is given in the table:

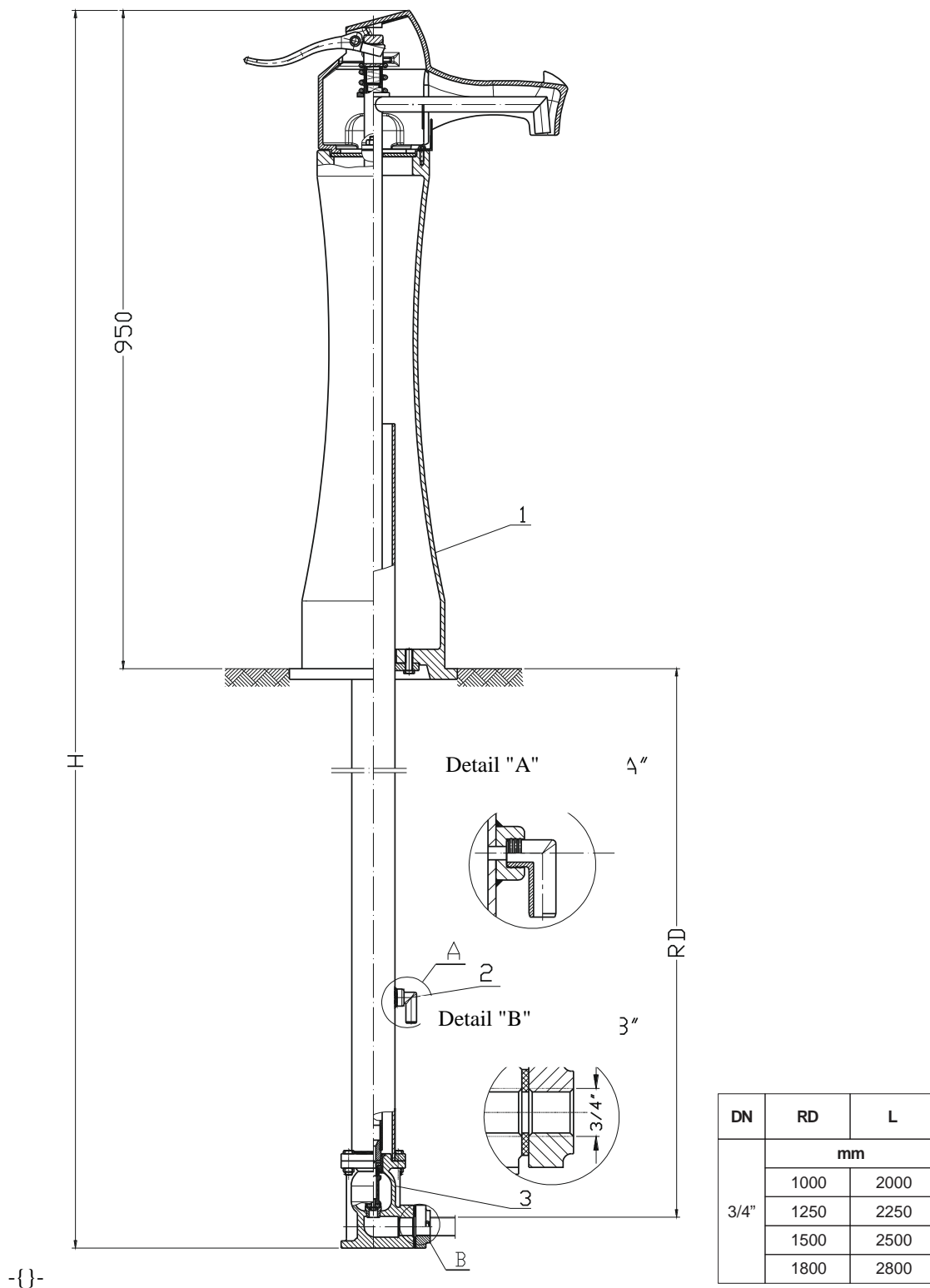
Item	Part name	Material	Reference standard
1	Body	Cast-iron, EN-GJL250	PN-EN1561: 2012
2	Drainage	Polypropylene PP	PN-EN ISO 1873-1:2000
3	Valve chamber	Cast-iron, EN-GJL250	PN-EN1561: 2012

List of basic materials used in the construction of the standpost hydrant TYPE 8010 is given in the table:

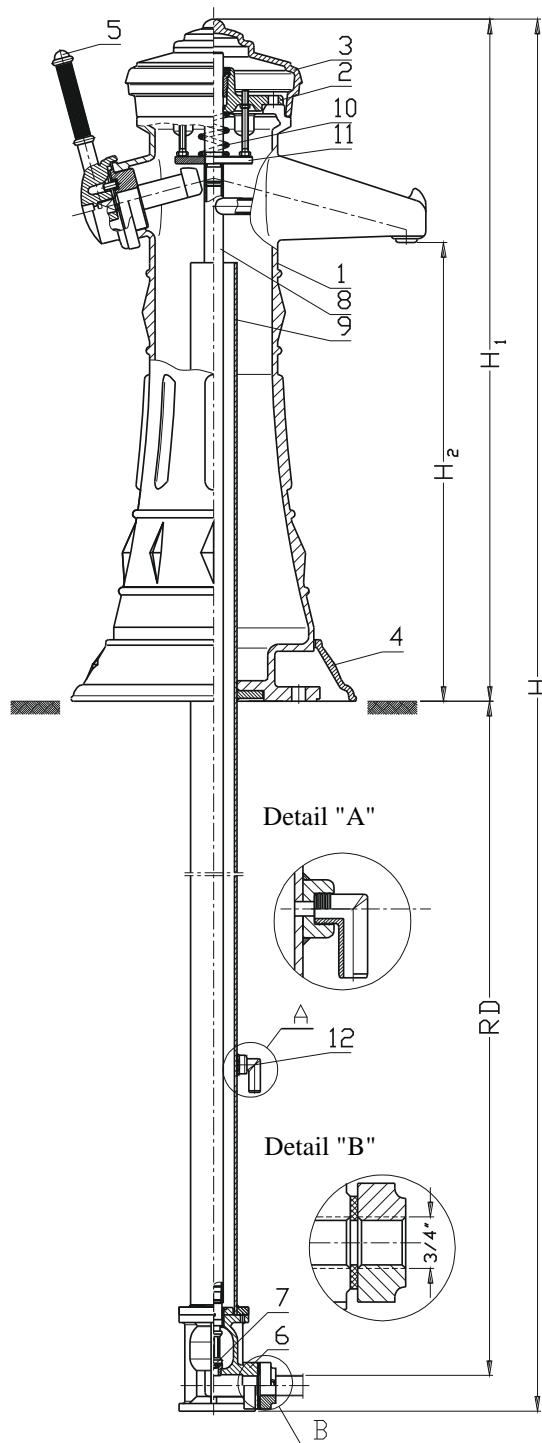
Item	Part name	Material	Reference standard
1	Body	Cast-iron, EN-GJS 400-15	PN-EN1563: 2012
2	Bonnet	Cast-iron, EN-GJS 400-15	PN-EN1563: 2012
3	Dome	Cast-iron, EN-GJS 400-15	PN-EN1563: 2012
4	Decorative ring	Cast-iron, EN-GJS 400-15	PN-EN1563: 2012
5	Lever	Cast-iron, EN-GJL250	PN-EN1561: 2012
6	Valve chamber	Cast-iron, EN-GJL250	PN-EN1561: 2012
7	Closing component	Steel 1.0037	PN-EN 10025-2: 2007
8	Drawing pipe	Stainless steel, 1.4301	PN-EN 10088-1: 2014
9	Drainage pipe	Stainless steel, 1.4301 Steel 1.0037	PN-EN 10088-1: 2014 PN-EN 10025-2: 2007
10	Compression spring	Steel 12R10	PN-EN 10270-3:2011
11	Lifting plate	Steel 1.0037	PN-EN 10025-2: 2007
12	Drainage	Polypropylene PP	PN-EN ISO 1873-1:2000

## 2.3 DIMENSIONS

### TYPE 8001



TYPE 8010



DN	RD	H*	H <sub>1</sub>	H <sub>2</sub>	Weight
[inch]	[mm]				[kg]
3/4"	1000	1930	885	600	35
	1250	2180			39
	1600	2430			43
	1800	2730			47

## 2.4 STANDARDS

PN-EN 1074-1: 2002	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. General requirements
PN-EN 1074-6: 2009	Valves for water supply. Fitness for purpose requirements and appropriate verification tests. Hydrants.
PN-89/H-02650	Fittings and pipelines. Pressures and temperatures.
PN-EN 19:2005	Industrial valves. Marking of metallic valves.
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	Pipework components. Definition and selection of DN (nominal size).
PN-EN 1559-1: 2011	Founding. Technical conditions of delivery. General.
PN-EN 1563: 2012	Founding. Spheroidal graphite cast irons.
PN-EN 1370: 2012	Founding. Examination of surface condition by visual-tactile comparators.
PN-EN 14384: 2009	Standpost hydrants.
PN-EN 10088-1: 2014	Stainless steels. List of stainless steels.
PN-89/H-84023/07	Specific application steel. Pipe steel. Grades.
PN-EN 1706 2011	Aluminium and aluminium alloys. Foundings. Chemical composition and mechanical properties.
PN-EN 1982: 2010	Copper and copper alloys. Ingots and castings.
PN-EN 12420: 2002	Copper and copper alloys. Forgings.
PN-ISO 965-1: 2001	ISO general purpose metric screw threads. Tolerances. Principles and basic data.
PN-ISO 2903: 1996	Trapezoid ISO metric threads. Tolerances.
PN-EN ISO 4762:2006	Hexagon socket headcap screws.
PN-EN ISO 4017:2011	Hexagon head screws.
PN-EN ISO 4014:2011	Product grades A and B.
PN-EN ISO 4032:2013	Hex head bolt. Product grades A and B.
PN-EN ISO 7091:2003	Hexagon regular nuts (style 1). Product grades A and B.
PN-77/M-82008	Plain washers. Normal series. Product grade C
PN-EN ISO 8752:2009	Spring washers.
PN-69/M-80202	Spring-type straight pins. Slotted, heavy duty.
BN-89/8511-15	Steel wires 1x7.
PN-ISO 1629: 2005	Metallic seals.
PN-EN ISO 1873-1: 2000	Rubbers and lattices. Nomenclature.
PN-EN ISO 1872-1:2000	Plastic materials. Polypropylene (PP) moulding and extrusion materials. Designation system and basis for specifications.
PN-EN ISO 12944-5: 2009	Plastic materials. Polyethylene (PE) moulding and extrusion materials. Designation system and basis for specifications.
	Paints and varnishes. Anti-corrosion protection of steel structures by means of protective painting systems. Protective paint systems.

## 2.5 ORDERING REGULATIONS

Standpoint hydrants are specific purpose industrial valves, therefore orders must include:

- product's catalogue number,
  - 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 1563: 2012
  - max. operating temperature — acc. to PN-89/H — 02650.

## **2.6 MANUFACTURE AND ACCEPTANCE**

The standpoint hydrants are accepted and produced in accordance with: PN-EN 1074-6:2005 (Valves for water supply. Fitness for purpose requirements and appropriate verification tests) and PN-EN 12266-1:2012 (Industrial valves. Testing of metallic valves). All hydrants (100%) are subject to tightness testing. The tests include external body tightness and closing tightness.

## **2.7 MARKINGS**

The standpoint hydrants are marked in accordance with: PN-EN-19: 2005, PN-EN-1074-6: 2009 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
- direction of medium flow.

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 and column pipes 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, with UV protection.

The casting surface is pre-treated for epoxy coating in accordance with the relevant technical documentation and standard PN-EN ISO 12944-5: 2009.

The fastening bolts for external hydrant's part, if other than stainless steel grade 1.4301, should have corrosion protection in the form of coat, e.g. Fe/Zn5.

### **3.2 PACKAGING**

The standpoint hydrants are placed in plastic film sleeves and additionally wrapped with stretch wrap when placed on pallets.

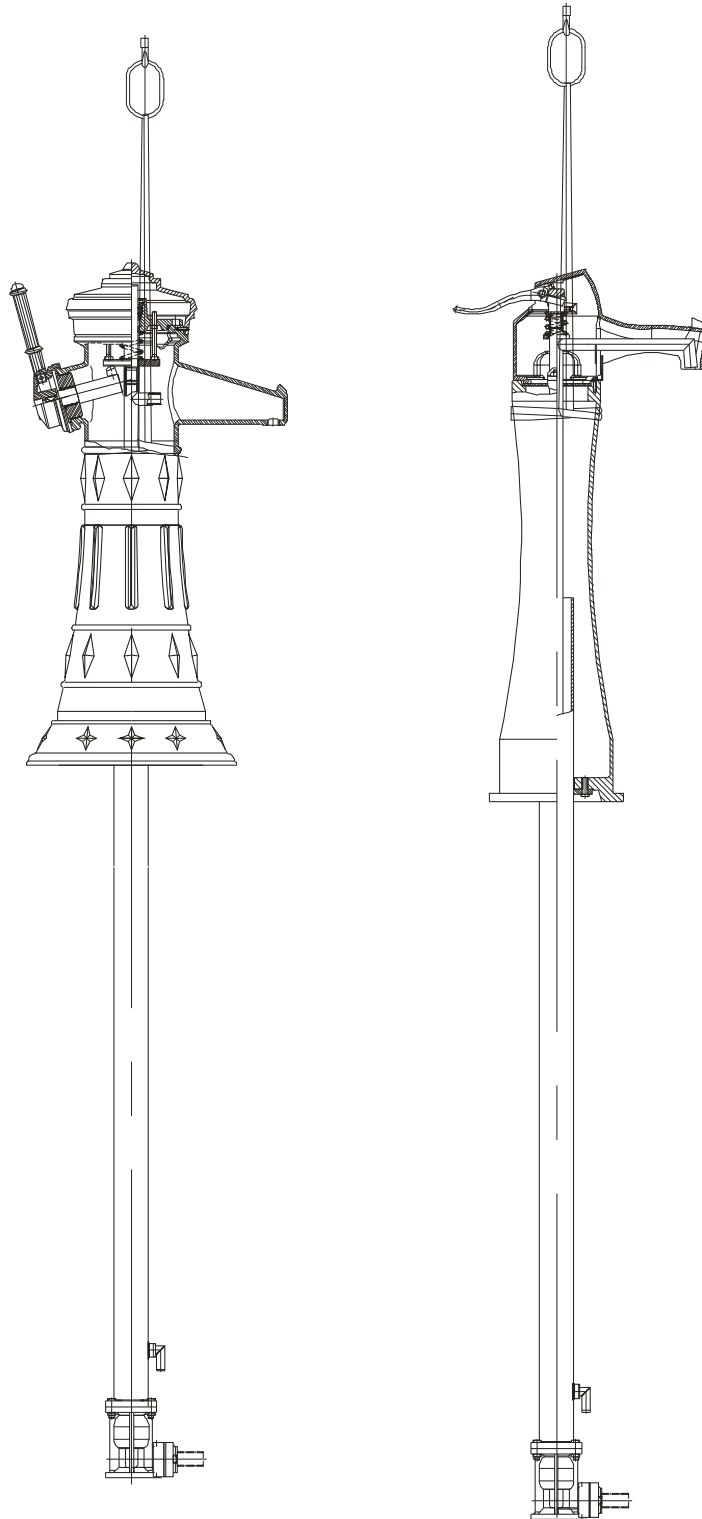
### **3.3 STORAGE**

Hydrants should be stored in covered areas.



### 3.4 TRANSPORT

Transport the hydrants using sheltered vehicles.



## 4 ASSEMBLY AND INSTALLATION

### 4.1 INSTALLATION GUIDELINES

Hydrants may be installed on underground pipelines on horizontal systems. The product described herein is designed for installation using flange on the pipeline acting as medium (water) supply.

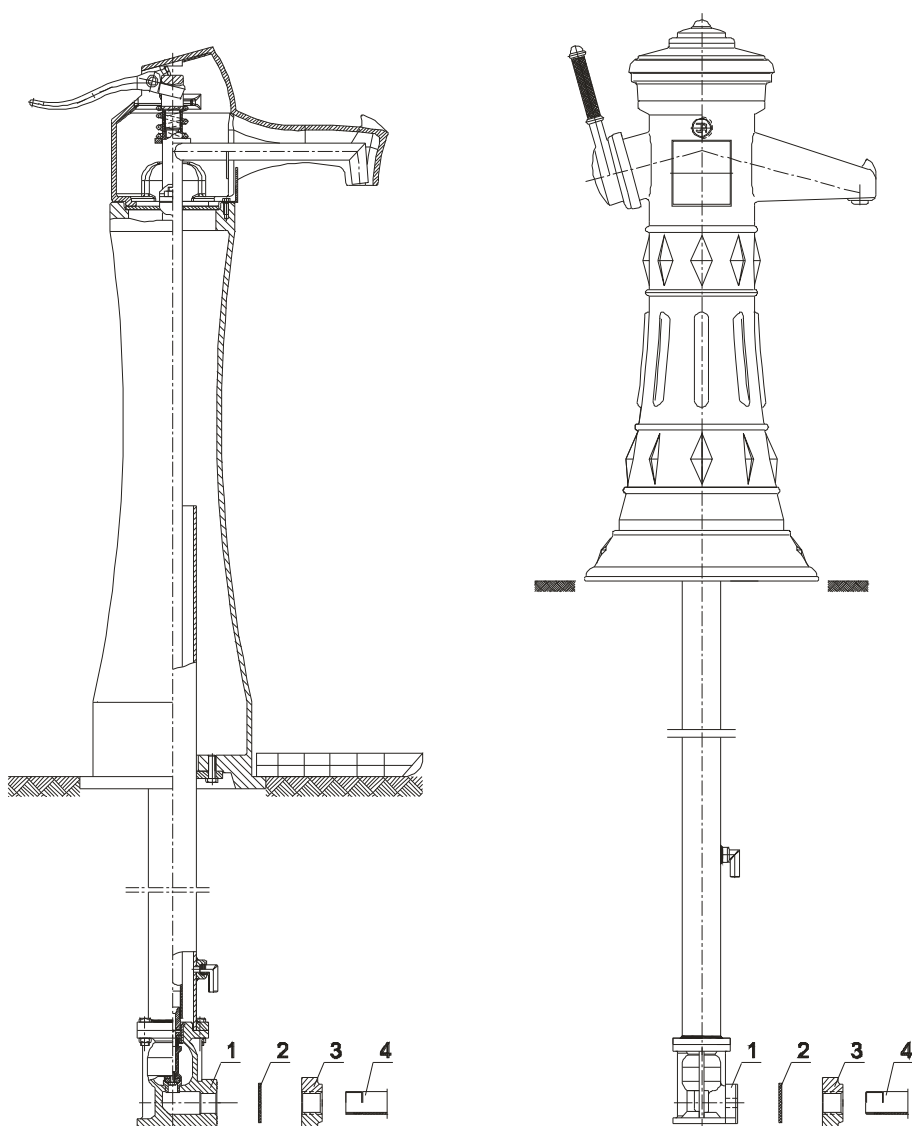
Note that the system must not expose the hydrant to bending or tensile stress from loading with the unsupported pipeline sections. A hydrant assembled and adjusted by the manufacturer is ready for installation in the system. Any dismantling of the hydrant components may result in loss of tightness.

### 4.2 INSTALLATION INSTRUCTIONS

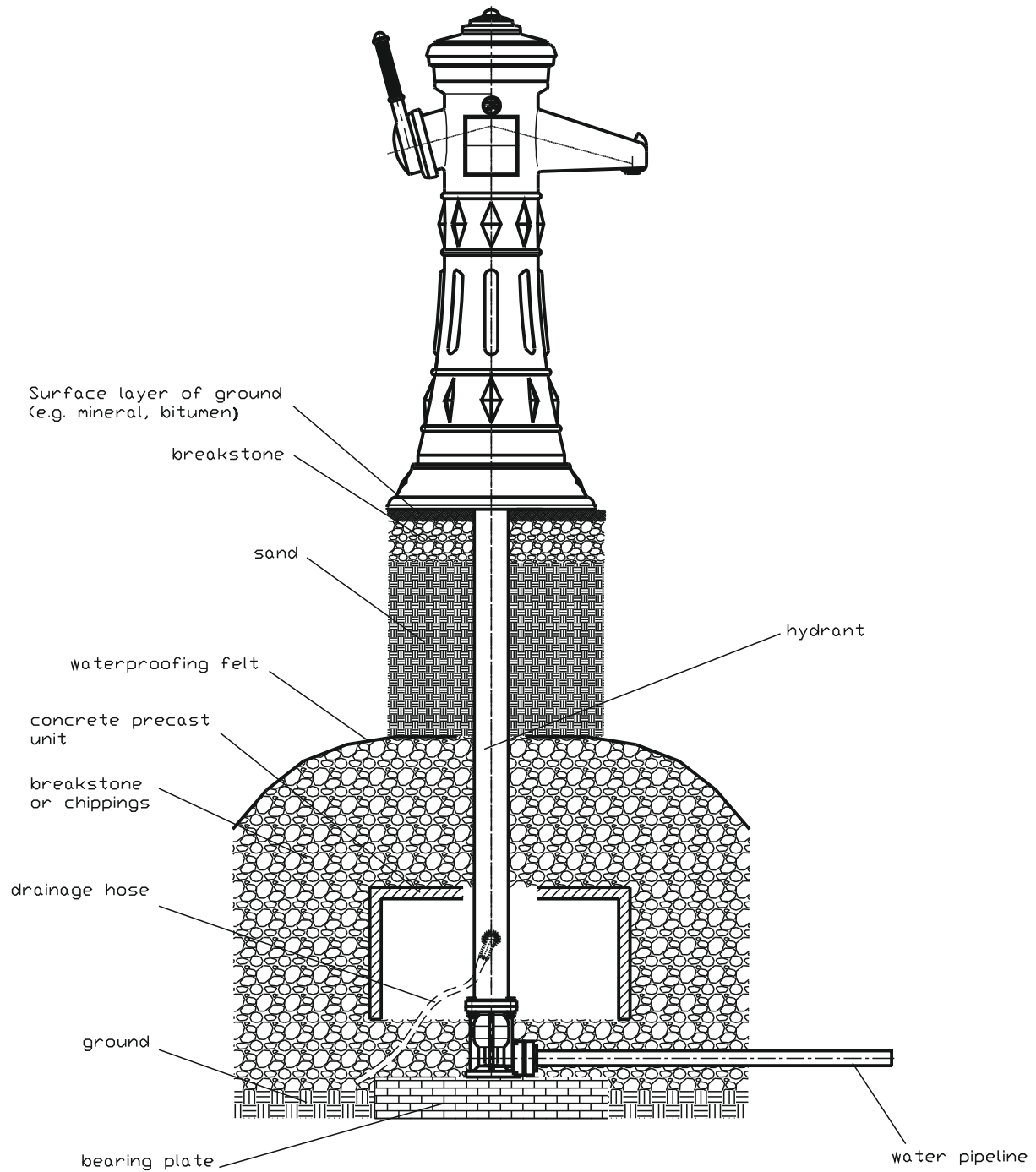
Before installing the hydrants, check the technical and commercial documentation, i.e. application for media and operation parameters of the pipeline, in which they are to be installed.

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

Any change in the operating conditions must be consulted with the hydrant's manufacturer beforehand.



1. — hydrant, 2. — seal, 3. — pipeline connecting flange, 4. — pipeline



### 4.3 OPERATION

The standpost hydrants are designed for drawing water for domestic uses. Detailed requirements are given in applicable regulations defining the need for water for social uses. The diagram above shows the installation method for standpost hydrant, the installation method largely depends on the applied rules based on local climate and geologic conditions.

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

It is recommended to change the hydrant's settings once a year.

#### **4.4 OH&S REGULATIONS**

In case of hydrants, guidelines and recommendations for installation of water systems and devices installed in water supply stations and other facilities apply.

**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.