Device Presentation

Device: **Pillar Fire Hydrant**

type "A", standard EN14384 (Legal obligation)

Manufacturer: Tecoop-eng d.o.o, Pančevo (Serbia)

Intended for:
- fire prevention
- procurement data
- fire protection operatives
- maintenance of fire hydrants

Content

(Hydrant is open)

No.01.25/10.4.1

L 3/18

1. Basic information

0. Made in accordance with the EN14384 standard

The standard EN14384 specifies:

- **minimum performance requirements („the least good" hydrant that can be put into use“)**
- nominal pressure 16 bar

1. Inlet flange
2. Isolation **„ pre-valve“** (closing from below)
3. Obturator – **„main valve“** (closing from above)

3.1 The threaded part of the obturator (out of the flow of water)

4. Body:

4.1 Place of brakage, due to the impact of force F (not specified by standard)

5. Cap (keyless activation, 45Nm)

5.0 Opening **tags** (↙10↖) (direction and number of turns, **legal obligation**)

5.1 Cover

5.2 Blocking of unauthorized use

6. Control valve (pressure relief, air supply into the body)

7. Outlet couplings

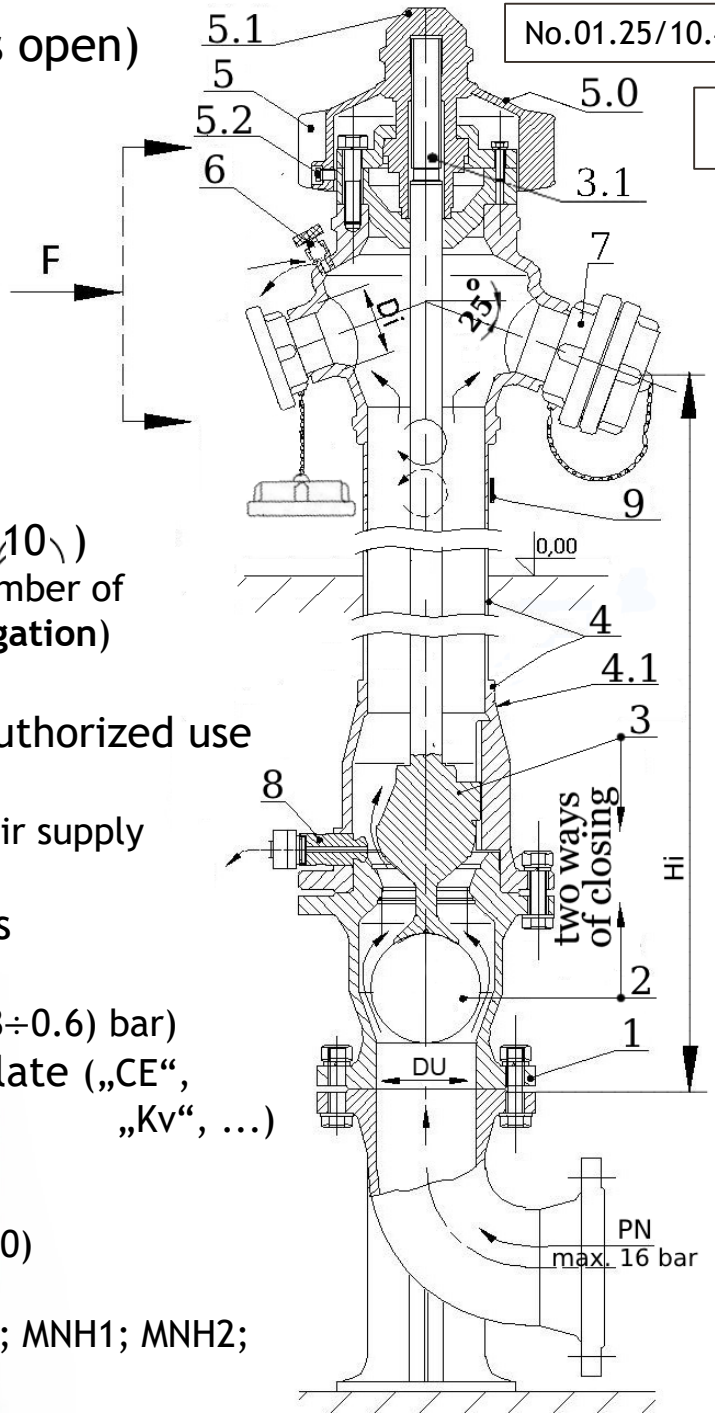
8. Drain valve (activation at (0.8÷0.6) bar)

9. Identification plate („CE“, „Kv“, ...)

Possible sizes [mm]:

- DU (80;100;150)
- Di (50,65,100,150)
- Hi (1200÷2000)

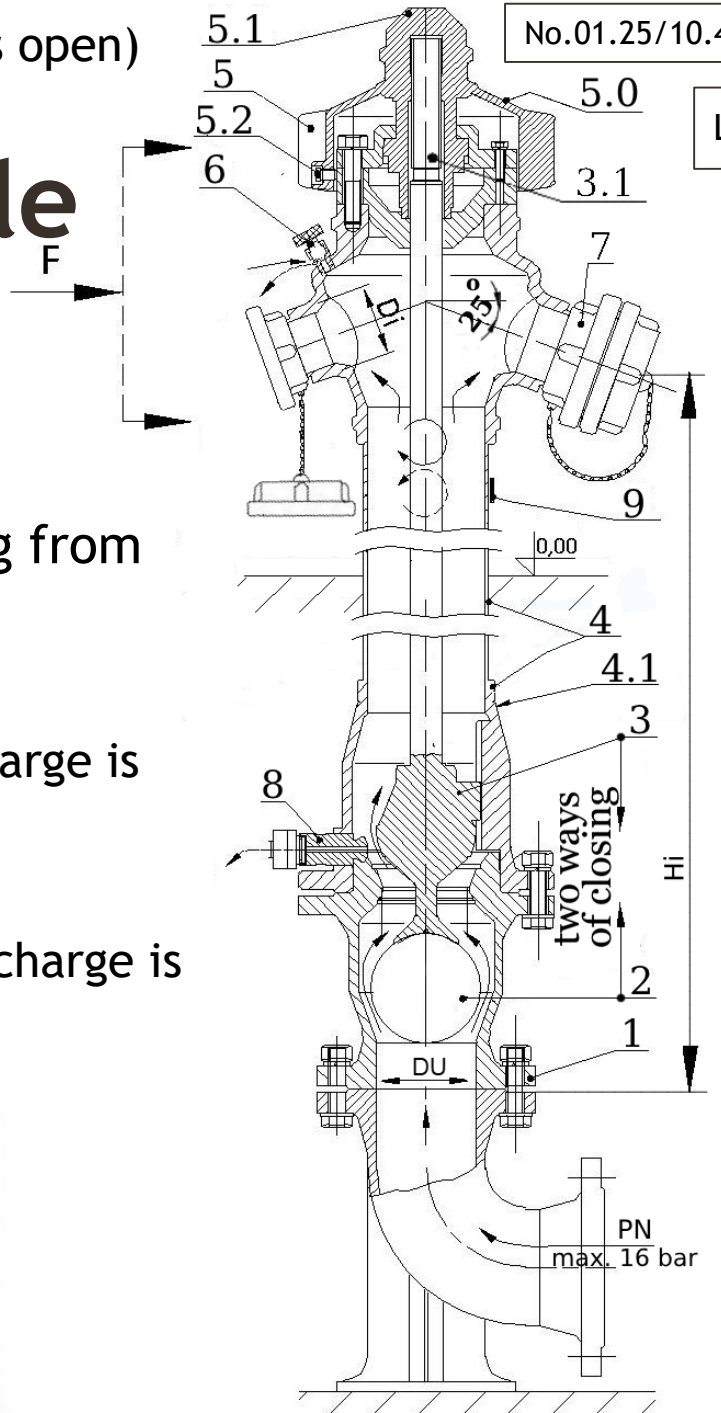
Types: NH1; NH2; NH3; MNH1; MNH2; (LNH1; LNH2)



❖ Discussion...

(Hydrant is open)

2. Operating principle
(Two ways of using)



2.1. In regural operation:

(**The main valve is used** (3), closing from above)

1. **Opening:**
   The main valve (3) rises, and water discharge is initiated.
2. **Closing:**
   The main valve (3) lowers, and water discharge is stopped.

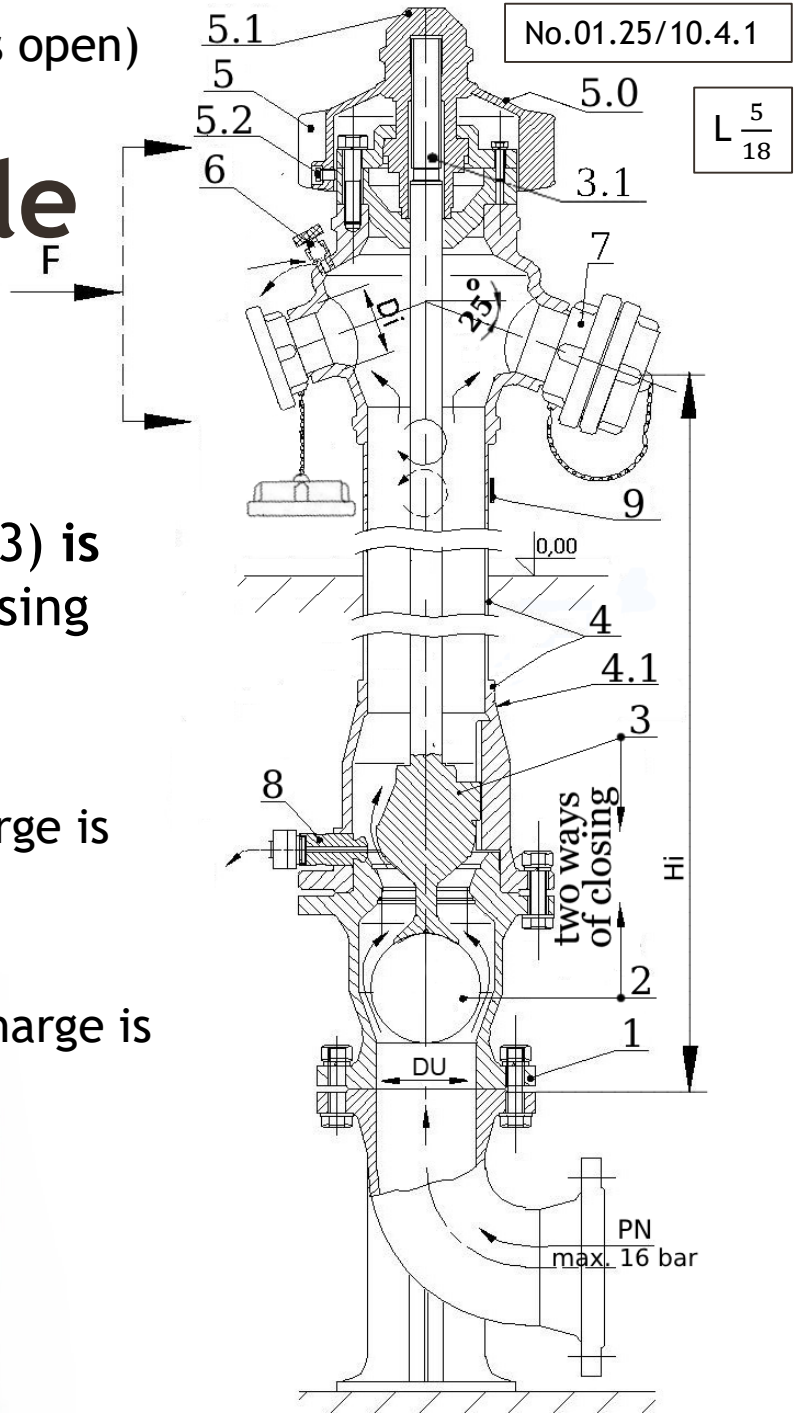
- Discussion...

(Hydrant is open)

2. Operating principle
(Two ways of using)

2.2. In emergency operation:
(**when the seal of the main valve** (3) **is faulty, a pre-valve** (2) **is used**, closing from below)

1. **Closing:**
   The pre-valve (2) rises, and water discharge is stopped.
2. **Opening:**
   The pre-valve (2) lowers, and water discharge is initiated.



❖ Discussion...

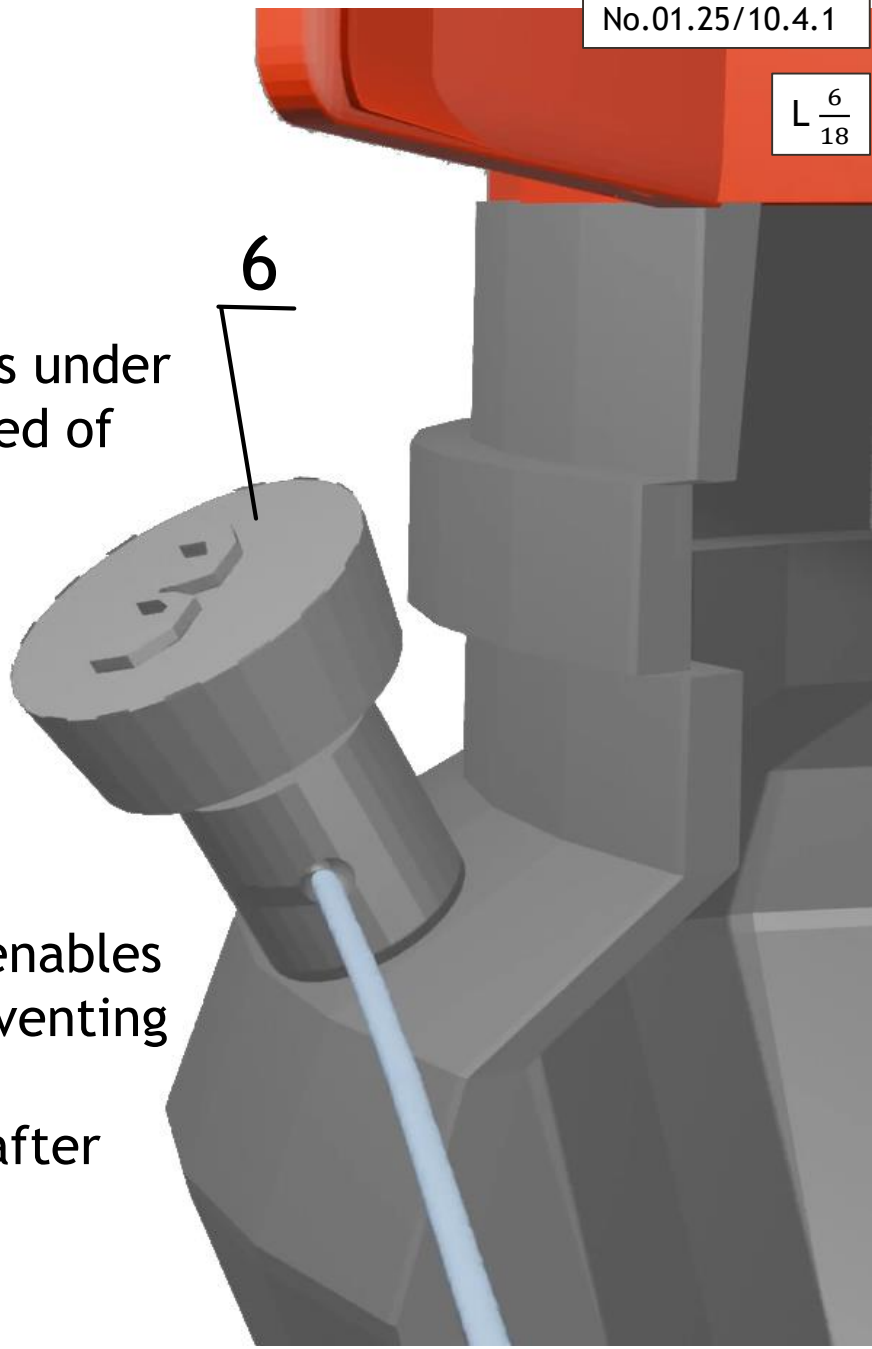
3. Safety

3.1 Executors's safety:

- Open the control valve (6), if it was under pressure the hydrant body is relieved of pressure.
- **Further work on the hydrant is safe.**
- **Recommendation**: Always do this before starting to use the hydrant.

3.2 Safety from freezing:

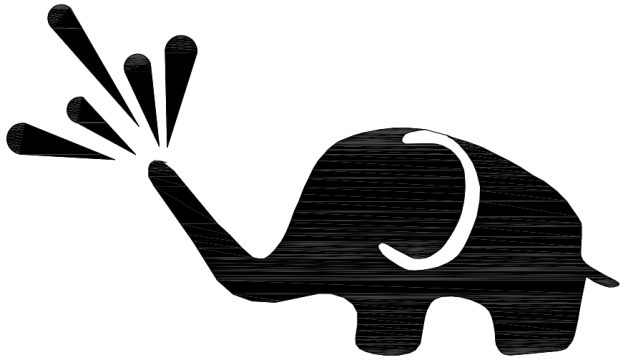
- Open the control valve (6), which enables draining of the hydrand body = preventing the hydrant from freezing.
- **Recommendation**: Always do this after finishing the use of the hydrant.



❖ Discussion...

4. Minor fire damage

Large water flow:



- Kv = 540 m^3/h, for Di = 2x100
- Kv = 515 m^3/h, for Di = 1x150
- Kv = 278 m^3/h, for Di = 2x65
- Kv = 266 m^3/h, for Di = 1x100
- Kv = 145 m^3/h, for Di = 2x50
- Kv = 135 m^3/h, for Di = 1x65

More water for extinguishing = less fire damage

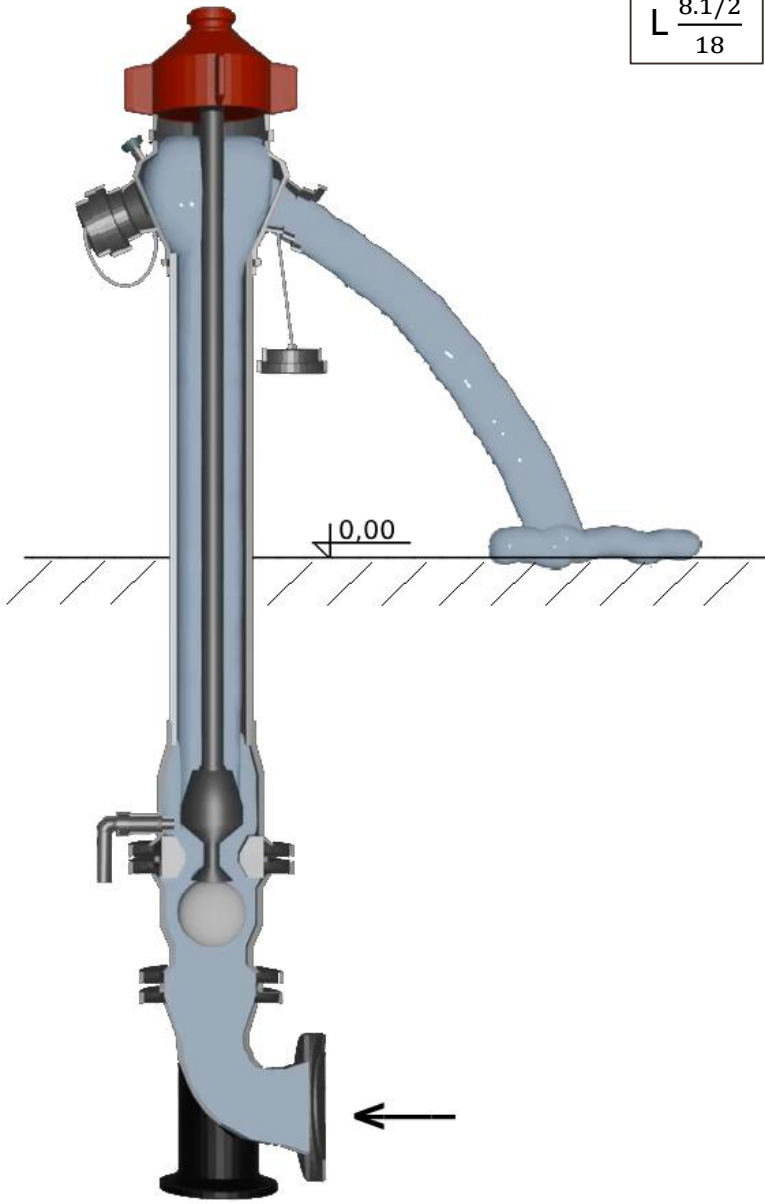
❖ Discussion...

5. Usage

(Two ways of use, double reliability, usable even when the main valve is faulty)

Opening and closing of the hydrant is performed **manually by turning the cap** (5) **(no additional tool – wrench - is needed).**

5.1 In regular operation:
(The main valve is used (3), closing from above)
5.1.1 Opening:
- open the outlet,
- turn the cap to the left, water flow begins.



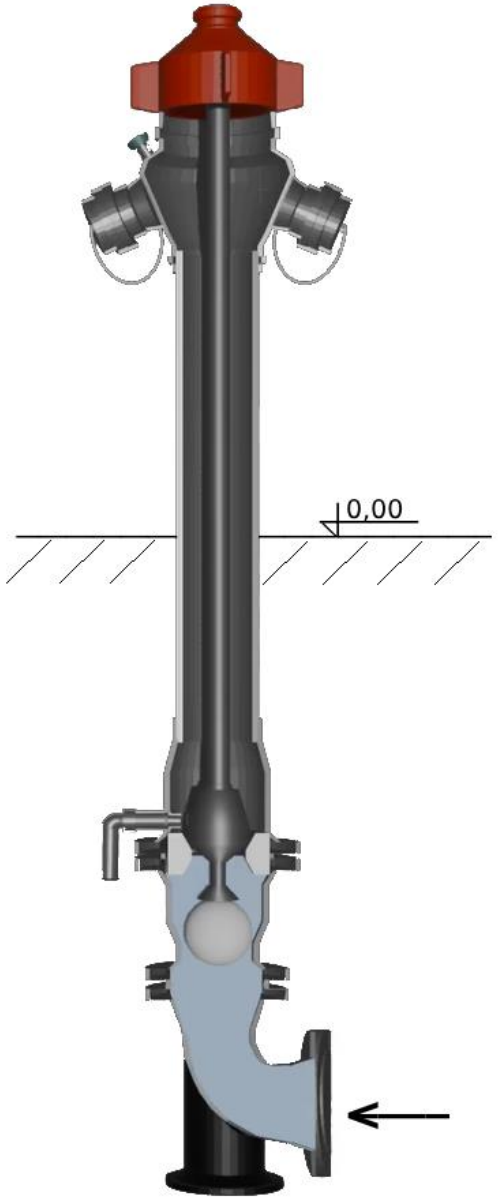
❖ Discussion...

5. Usage

(Two ways of use, double reliability, usable even when the main valve is faulty)

5.1.2 Closing:

- turn the cap to the right, until the water flow stops,
- close the outlet.



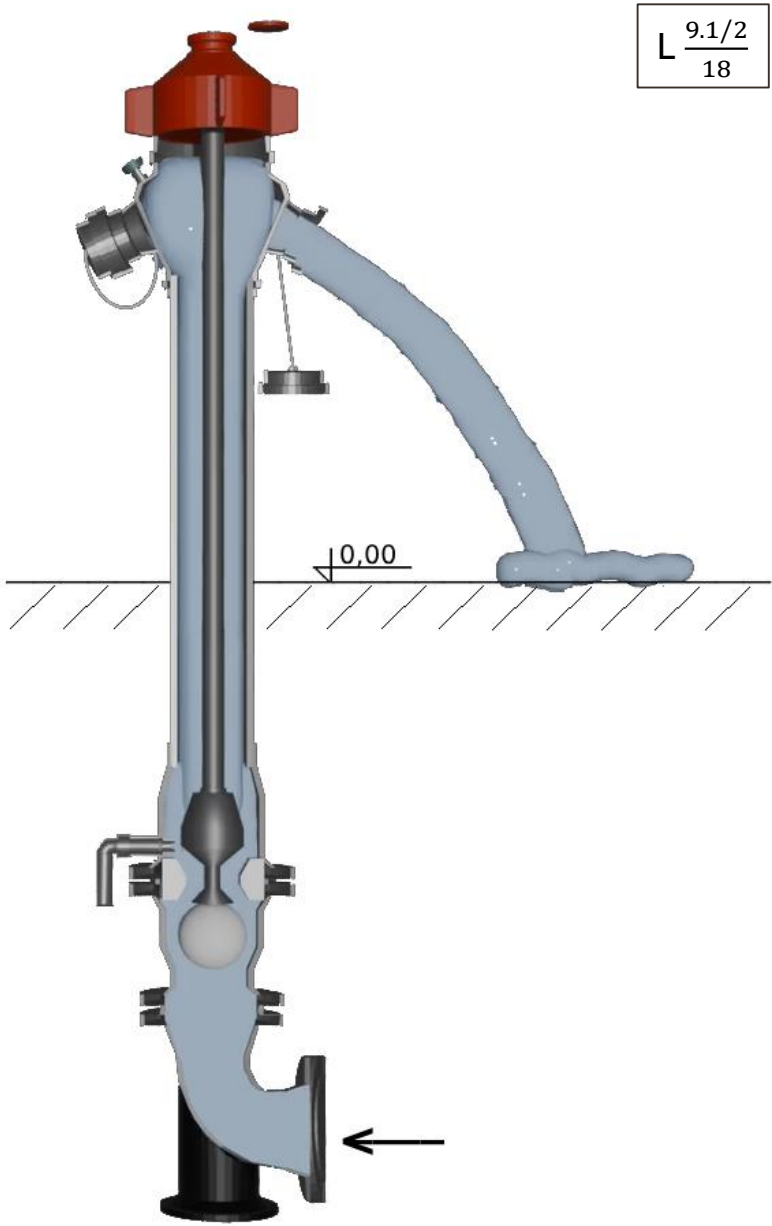
❖ Discussion...

5. Usage

(Two ways of use, double reliability, usable even when the main valve is faulty)

5.2 In emergency operation:
(when the main valve seal is faulty (3), **the pre-valve is used** (2), closing from below)

5.2.1 Opening:
- open the outlet,
- turn the cap to the right, water flow begins.



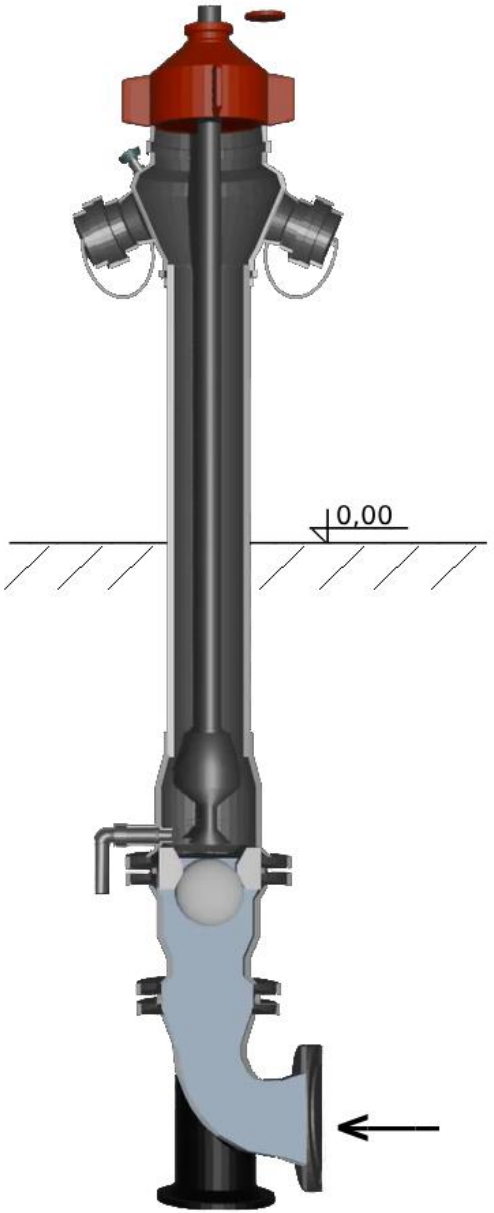
❖ Discussion...

5. Usage

(Two ways of use, double reliability, usable even when the main valve is faulty)

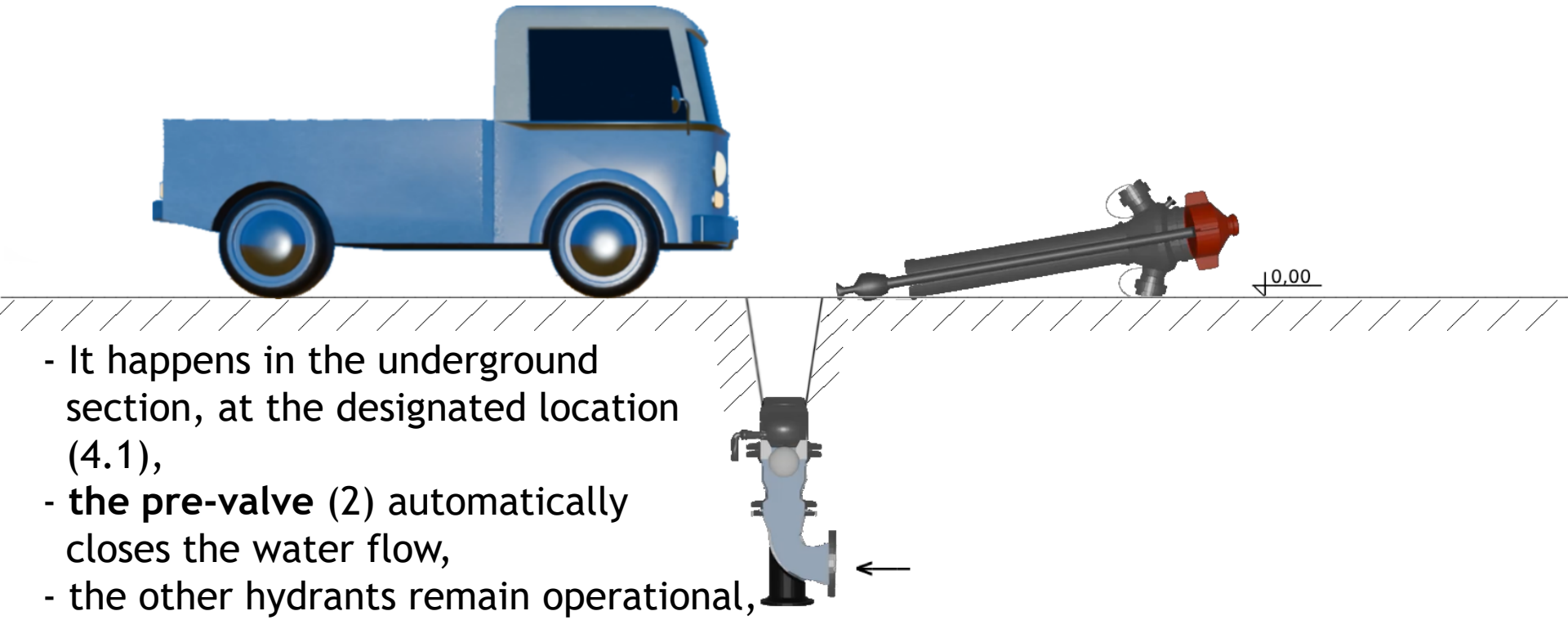
5.2.2 Closing:

- turn the cap to the left, all the way, water flow stops,
- close the outlet.



❖ Discussion...

5. Breakage due to impact

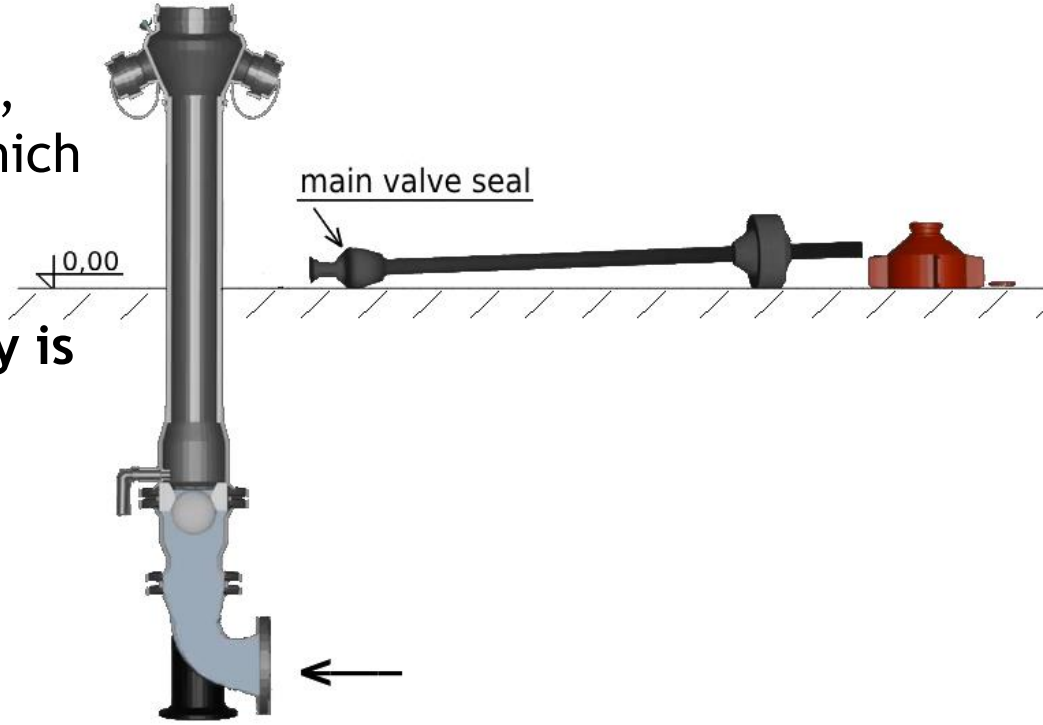


- It happens in the underground section, at the designated location (4.1),
- **the pre-valve** (2) automatically closes the water flow,
- the other hydrants remain operational,
- **no isolation valve is required in front of the hydrant.**

❖ Discussion...

5. Replacement of the main valve seal

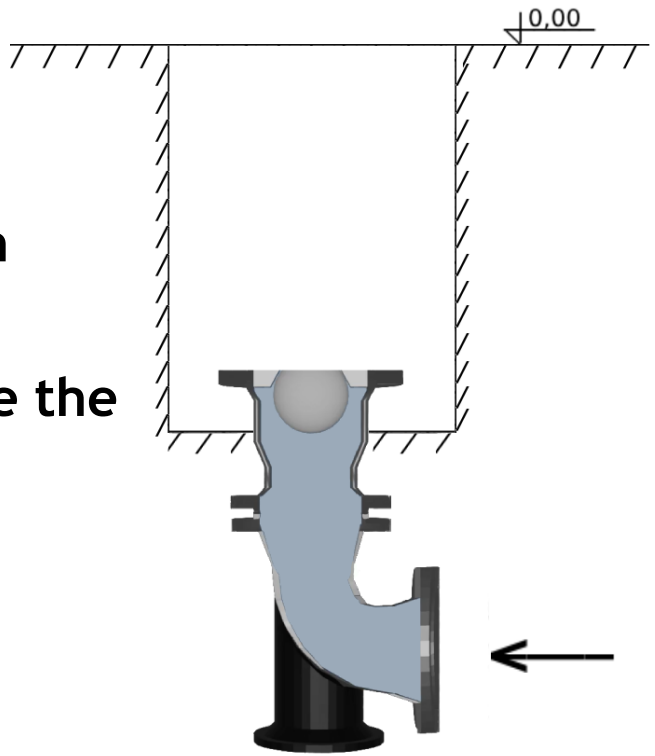
- The hydrant must be in emergency operation (5.2.2), closed,
- remove the cap,
- unscrew the bolts under the cap,
- pull out the valve spindle, on which the main valve seal is located,
- **no digging up the ground or dismantling of the hydrant body is required,**
- **the other hydrants remain operational,**
- **no isolation valve is needed in front of the hydrant.**



❖ Discussion...

8. Repair

- **Close the hydrant from below, using the pre-valve (2) (no isolation valve required in front of the hydrant).**
- Repairs are carried out on this hydrant, **while the other hydrants remain operational.**



❖ Discussion...

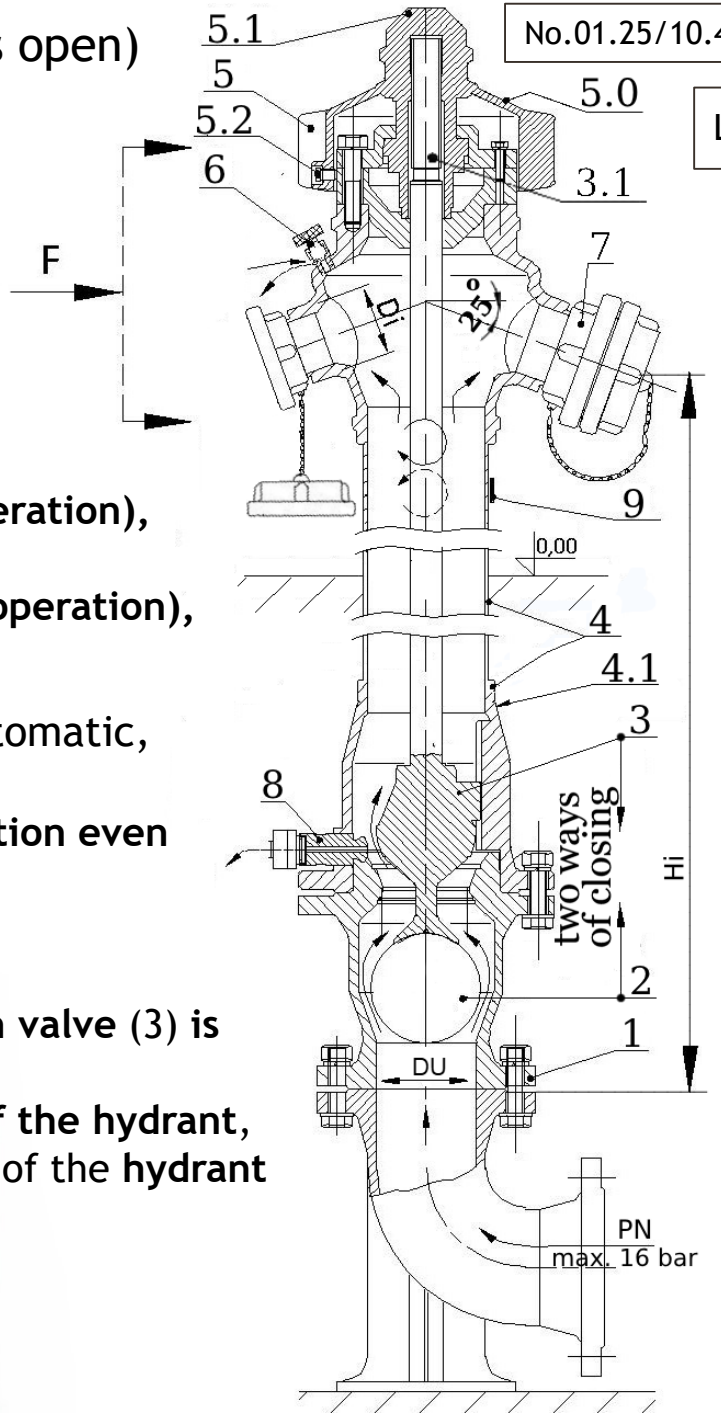
9. Blocking unauthorized use

- Tighten the locking screw (5.2) with a special key; thereby preventing the hydrant from being open.
- This option **should be used after the user has made a specific decision**.

10. Warranty period: 5 years

❖ Discussion...

(Hydrant is open)



11. Advantages

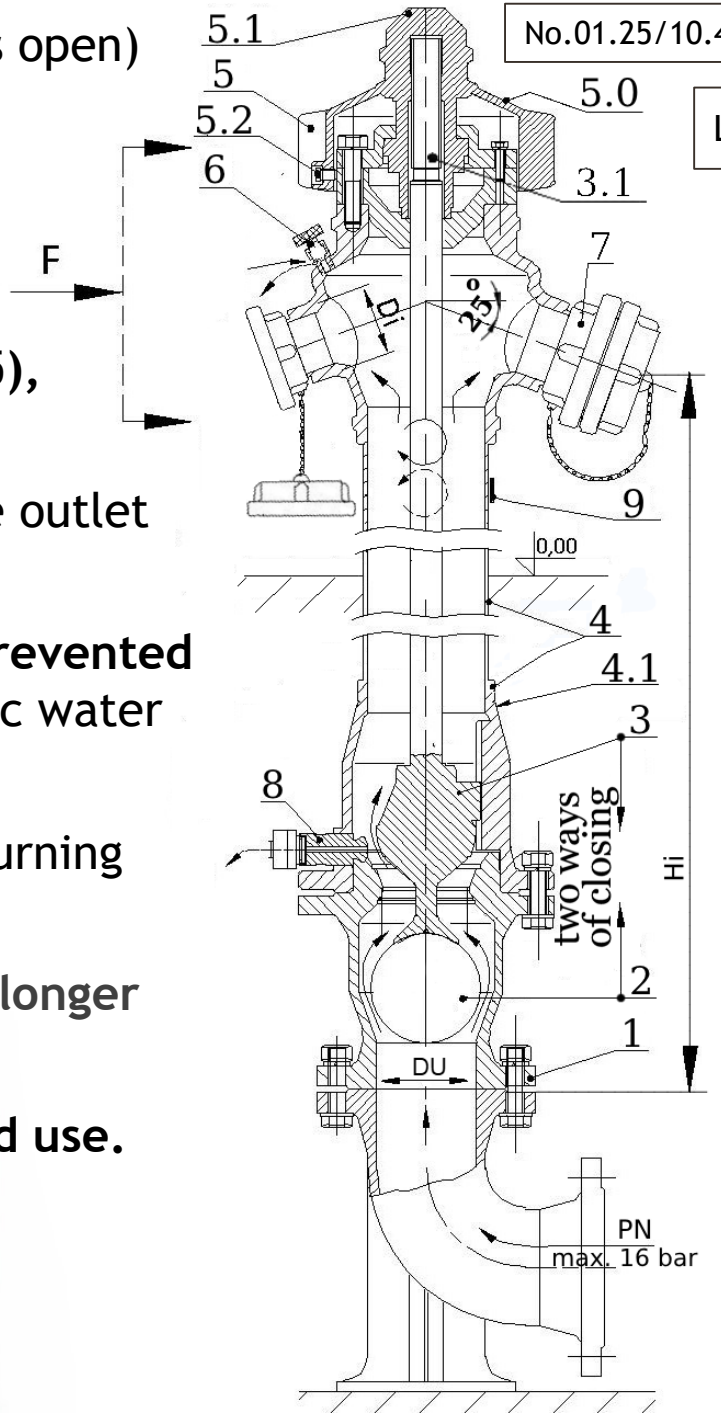
Note,
The EN14384 standard specifies minimum performance requirements („the least good“ hydrant that can be put into use)

1. **Two ways of using = double reliability**
   - **closing with the main valve (3) (regular operation),** from above,
   - **closing with the pre-valve (2) (emergency operation),** from below.

2. **Isolation** pre-valve (2) **insade the hydrant**, automatic, self-locking, **which enables:**
   - **that the other hydrants to remain in operation even when the main valve** (3) **malfunction**,
   - **automatic stop of water flow** in case of breakage (4.1) due to force F,
   - **the use of the hydrant even when the main valve** (3) **is malfunctioning,**
   - **to omit** a separate isolation **valve in front of the hydrant**,
   - **lower cost** of construction and maintenance of the **hydrant network.**

❖ Discussion...

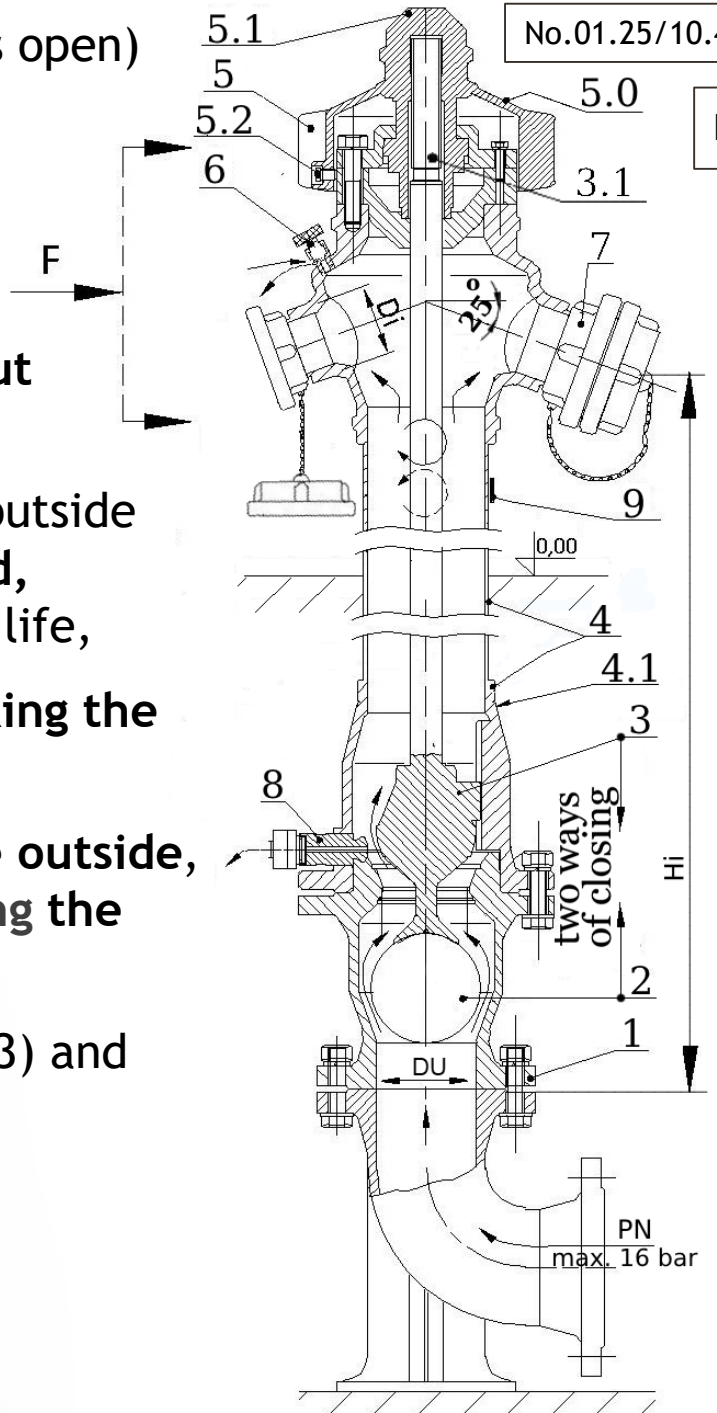
(Hydrant is open)



3. **Large flow: (Kv = 278 m³/h,** for Di = 2x65**), less fire damage.**
4. **Possibility of using the hydrant** (drainage outlet closed) **with a flow rate of (20÷100)%.**
5. **Breakage at point (4.1)** due to impact, **prevented damage to the supply pipeline**; automatic water shut-of.
6. **Activation without additional tools**, by turning the cap (5).
7. **Easy activation: (class 1, MOT < 45Nm), longer service life.**
8. **Possibility of blocking (5.2) unauthorized use.**

- Discussion...

(Hydrant is open)

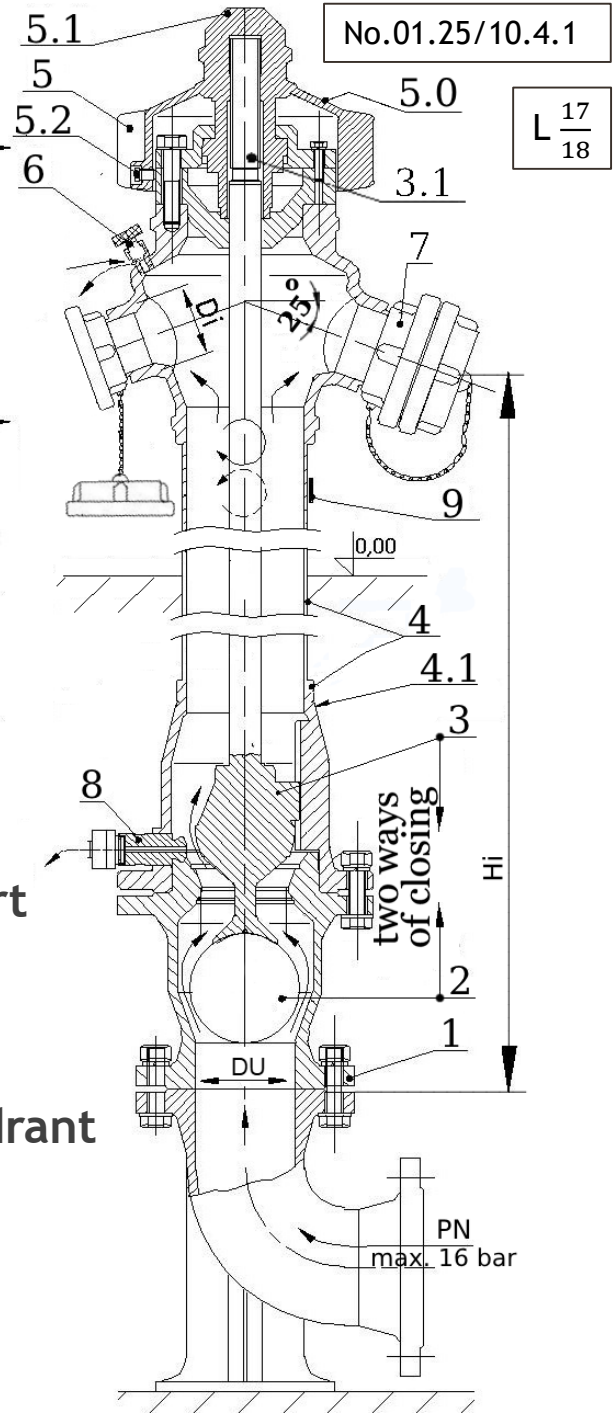


9. Very easy hydrant maintenance:

- **replacing the main valve seal** (3) **without digging up the ground and without dismantling the body** (4)**,**
- **the threaded part of the closure** (3.1) is outside The flow of water, **permanently lubricated, maintenance-free** throughout it's working life,
- **possibility (via control valve** (6)**) of checking the correctness of the dain and main valve,**
- **repair of the drainage valve (8); from the outside**, partial excavation, and **without dismantling the hydrant body** (4),
- **easy replacement** of the main valve seal (3) and pre-valve (2).

❖ Discussion...

(Hydrant is open)



10. **High reliability of the drainage system, self-flushing drain valve.**
11. **Possibility (via control valve (6)) to relieve hydrant body (4) from pressure = increased operator safety and prevention of hydrant freezing.**
12. **High reliability of closing:** impermeability even after 1000 closings.
13. **Outlet openings tilted towards the ground (25^o) = longer service life of fire hoses.**
14. **The main valve seal is conical, self-flushing = dirt retention prevented = longer service life.**
15. **Long warranty period (5 years).**
16. **Probably the best, and the most economical hydrant available.**

- Discussion...

12. Procurement and installation information available at:

- www.tecoop.co.rs
- in our brochures

13. Manufacturer's contact information

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Thank you for your time and attention!

- Discussion...