

ABOVE-GROUND FIRE HYDRANT type NH1


No. 01.23/10.4.2

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<Two in one = hydrant + isolating pre-valve>

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even when the regular closing (from above) is malfunctioning>
<high flow rate ($K_v = 145 \text{ m}^3/\text{h}$) = less damage fire>

PROCUREMENT DATA: *1

- * Name: Above-ground fire hydrant.
- * Made in accordance with the standard EN14384, type "A" *2 
- * Nominal sizes DN80, PN16. * Closing with the main valve "from above".
- * With isolation "pre-valve", closing "from below". * With control valve.
- * Possibility of use even when the main valve seal is malfunctioning.
- * Activation without additional tools.
- * Possibility of blocking unauthorized use.
- * Flow (for $D_i = 2 \times 50$); $K_v = \min. 140 \text{ m}^3/\text{h}$.
- * Activation moment: $MOT = \max. 40 \text{ Nm}$.
- * Repair of the main valve; other hydrants remain in operation, without digging up the ground and without dismantling the hydrant body.
- * Drainage system "all outside"; repair without dismantling the hydrant.
- * Outlets tilted toward the ground by 25° .
- * Breakage due to force F ; without damage pipeline, automatic water stop and draining. *3
- * Breaking moment $M = \max. 6500 \text{ Nm}$. *3
- * Inlet connection:

Flange EN1092-2
(Du80, PN16) (Du100, PN16)

 - Particular request, "describe"
- * Nominal height H_i :

(1300) (1500) (1800)mm

 - Particular request, "specify"
- * Outlets D_i :

(2x50+1x165)mm
- * Outlet couplings:

(2xC+1xB) DIN, system "storz"

 - Specify label and standard
- * Drainage system:

(D1) (D2)

 - Without
- * Medium:

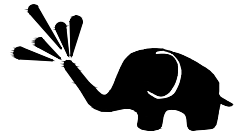
Water (technical) (drinking)
- * Colors of external surfaces:
 - aboveground part (without pipe):

red
 - underground part:

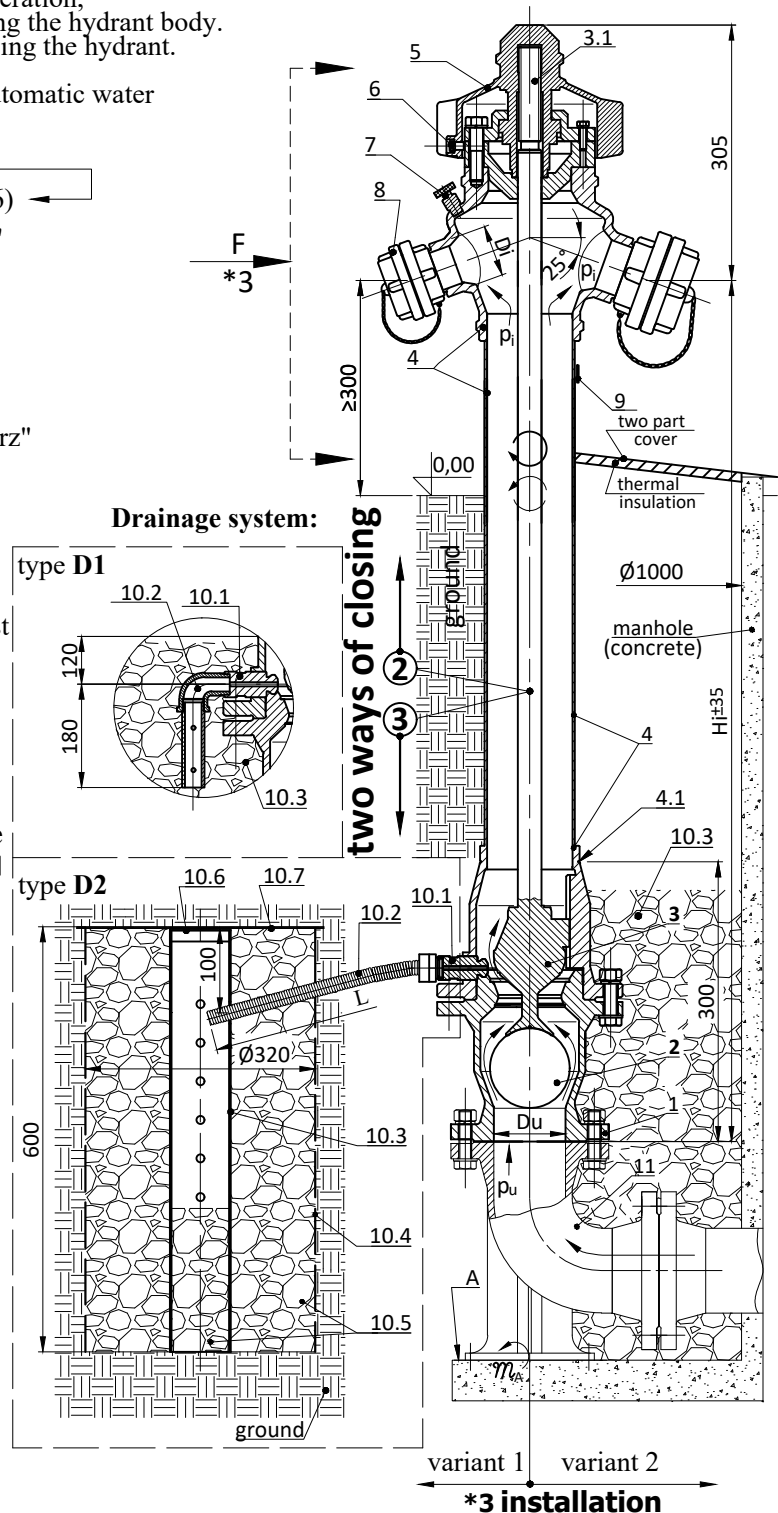
black
 - special request
- * **Warranty period: 5 years.**
- * Deliver documents:
 - "Brochure";
 - "Test Report", issued by an "authorized body";
 - "Certificate of Conformity", issued by an "authorized body";
- *1 \rightarrow If necessary, "omit/add"
- *2 \rightarrow The standard determines the min.performance = "the least good allowed" hydrant.

Appearance:

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
 4. Body
 - 4.1 Place of breakage, Due to the impact of force F
 5. Cap (keyless activation)
 6. Blocking of unauthorized use
 7. Control valve (safety; sealing)
 8. Outlet couplings
 9. Identification plate ("CE", " K_v ",)
 10. Drainage system: (not defined by the standard)
 - type D1:
 - 10.1 Drain valve
 - 10.2 Drain pipe
 - 10.3 Stone $\rightarrow (16 \div 31) \text{ mm}$ *4
 - type D2:
 - 10.1 Drainage valve
 - 10.2 Drain pipe $\rightarrow (L = ?) \text{ mm}$
 - 10.3 Distribution pipe
 - 10.4 Wire basket *4
 - 10.5 Stone $\rightarrow (16 \div 31) \text{ mm}$ *4
 - 10.6 Cover
 - 10.7 Plastic foil *4
 11. Arch with foot EN545 *4
- *4 \rightarrow Provided by the buyer



Appearance



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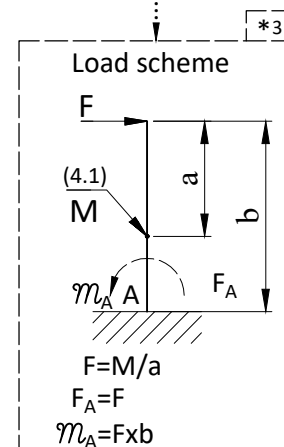
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<Two in one = hydrant + isolating pre-valve>
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Basic technical characteristics:

- * **Safe** = compliant with the requirements of the standard EN 14384 = €€
- * **Purpose:** Taking water from underground pipelines for fire fighting and communal needs
- * See "Procurement data" P1/2
- * **Flow:** $K_v=145 \text{ m}^3/\text{h}$, for $D_i=2 \times 50$
- * **Moment of activation MOT:** max.30Nm (Class 1)
- * **Moment of breakage** (at point 4.1) due to force F $M=6300 \text{ Nm}$
- * **Foundation**
- * **Weight** ~ (51÷65) daN for H_i (1300÷1800) mm
- * **Materials:**
 - hydrant body castings nodular cast
 - cap, and output couplings aluminium
 - pipe of body, spindle, and obturator seat stainless steel
 - sealants polypropylene/elastomers



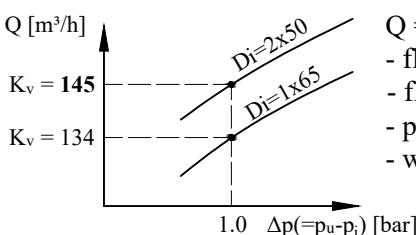
Advantages:

- * **Two ways of use = dual reliability.**
 - closing with the **main valve (3)**, from above (**regular work**),
 - closing with a **pre-valve (2)**, from below (**extraordinary work**),
- * **Isolation pre-valve (2) inside the hydrant**, automatic, self-blocking, which enables:
 - that the other hydrants 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 ,
 - to omit a separate isolation valve in front of the hydrant,
 - lower cost of construction and maintenance of the hydrant network,
 - the use of a hydrant even the main valve (3) is malfunction.
- * **Large flow:** ($K_v=145 \text{ m}^3/\text{h}$, for $D_i=2 \times 50$); less fire damage.
- * **Control valve (7) = great safety of the executor, prevention of hydrant freezing.**
- * **Prevented damage to the supply pipeline = breakage at point 4.1, due to force F .**
- * **Activation without additional tools**, by turning the cap (5).
- * **Easy activation:** (class 1, MOT < 30Nm) longer service life.
- * **Possibility of blocking (6) unauthorized use.**
- * **High reliability of closing:** impermeability even after 1000 closings.
- * **Outlets tilted (25°) down, longer service life of fire hoses.**
- * **The main valve seal is conical, self-flushing** = dirt retention prevented = longer service life.
- * **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 (7) of checking the correctness of the drain and main valve.
 - Repair of the drainage valve (10.1); from the outside, partial excavation, without dismantling the hydrant.
- * **Long warranty period (5 years).**
- * **Probably the best, and the most economical hydrant available.**

Flow of hydrant:

Documents accompanying delivery of hydrant: $Q [\text{m}^3/\text{h}]$

- * Declaration of Performance
- * Instruction for safety work (installation, handling, inspection, maintenance, warranty)



- $Q = K_v \times (1000 \Delta p / \rho)^{1/2}$
- flow..... $Q [\text{m}^3/\text{h}]$
- flow coefficient..... $K_v [\text{m}^3/\text{h}]$
- pressure difference..... $\Delta p [\text{bar}]$
- water density..... $\rho [\text{kg}/\text{m}^3]$