ABOVE-GROUND FIRE HYDRANT type LNH1

<Two in one = hydrant + isolating **pre-valve>**
<Dual reliability = possibility of use (closing from below)
even when the regular closing (from above) is malfunctioning>
<high flow rate (K_v = 150 m^3/h) = less fire damage>

PROCUREMENT DATA:*1

* Name: Above-ground fire hydrant **with break system**
* Made in accordance with the EN14384 standard, type "C" *2 CE
* Nominal sizes DN80, PN16. * Closing with the main valve "from above".
* With isolation "pre-valve", closing "from below". * With control valve.
* Activation without or with an additional tool.
* The possibility of blocking unauthorized use.
* Flow (for Di=2x50); Kv=min.145m^3/h
* Activation moment: MOT=max.60Nm.
* Repair of the main valve; the other hydrants remain in operation, without digging up the ground and without dismantling the hydrant.
* Drainage system "all outside"; repair without dismantling the hydrant.
* Outlets tilted toward the ground by 25°.
* Breakage due to force F; no damage to the lower part of hydrant. *3
* Breaking moment M=max.1200daN. *3
* Inlet connection: → Flange EN1092-2 (Du80, PN16) (Du100, PN16); → Particular request, "describe"
* Nominal height Hi: → (1300) (1500) (1800)mm; → Particular request, "specify"
* Outlets Di: → (2x50+1x65)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; → special request
  - underground part: black
* **Warranty period: 5 years.**
* Deliver documents:
- "Brochure";
- "Test Report", issued by an "authorized body";
- "Certificate of Conformity", issued by an "authorized body";

*1 → If necessary, "omit/add"
*2 → **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)**
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. Ident plate ("CE", "K_v",...)
10. **Drainage system**: (not defined by the standard)

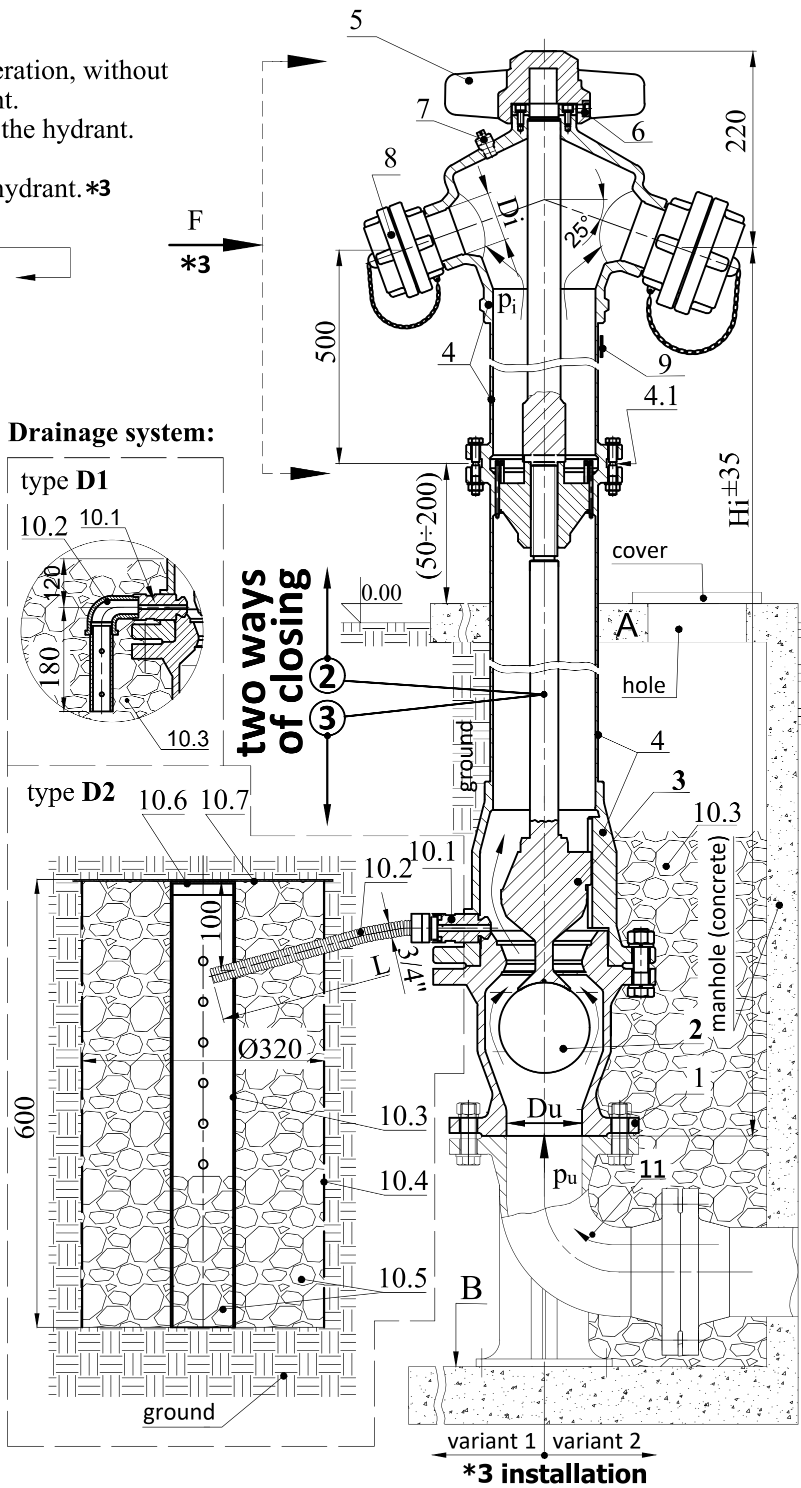
type **D1**:
10.1 Drain valve 10.2 Drain pipe
10.3 Stone → (16÷31)mm*4

type **D2**:
10.1 Drainage valve
10.2 Drain pipe → (L=?)mm
10.3 Distribution pipe 10.4 Wire basket*4
10.5 Stone → (16÷31)mm*4
10.6 Cover 10.7 Plastic foil*4

11. Arch with foot EN545*4

*4 → **Provided by the buyer**

Appearance



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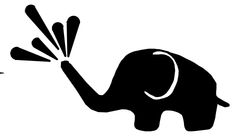
Basic technical characteristics:

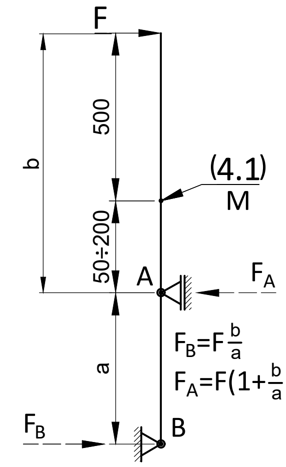
* **Safe = complies with** the requirements of the **EN 14384 standard** = CE
* **Purpose**: Taking water from underground pipelines for **fire fighting and communal needs**
* **See "Procurement data" P1/2**
* **Flow: Kv=150m^3/h, for Di=2x50** ....



* **Moment of activation MOT:max.50Nm (Class 1)**
* **Breaking force** .... F=1100daN
* **In case of breakage: the hydrant remains closed, and part of the hydrant is below the fracture site remains undamaged**
* **Foundation** ....

*3

Load scheme
(obligation under the standard)



* **Weight** .... ~ (53÷67)daN for Hi (1300÷1800)mm
* **Materials**:
 - hydrant body castings .... nodular cast
 - cap, and output couplings .... aluminium
 - sealants .... polypropylene/elastomers
 - pipe of body, spindle, and obtutator seat .... stainless steel

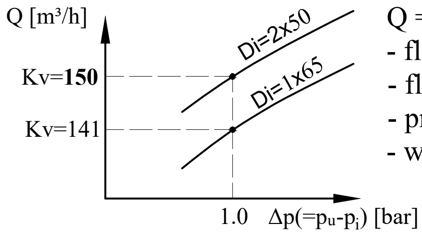
Advantages:

* **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,**
  - **to omit** a separate isolation **valve in front of the hydrant,**
  - **lower cost** of procurement and maintenance of the **hydrant network,**
  - **the use of a hydrant even when the main valve (3) is malfunction,**
* **Large flow: (Kv=150m^3/h**; for Di=2x50); **less fire damage.**
* **Control valve (7) = great safety of the executor, prevention of hydrant freezing.**
* **Activation without additional tools**, by turning the cap (5).
* **Easy activation: (class 1, MOT<50Nm) longer service life**.
* **Possibility of blocking (6) unauthorized use.**
* **High reliability of closing**; impermeablility 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).**
  - **Possibility (7) of checking the correctness of the drain and main valve.**
  - **Repair of the drainage valve (10.1)**; **from the outside**, partial excavation, and **without dismantling the hydrant.**
* **Long warranty period 5 years.**
* **Probably the best, and the most economical hydrant available**

Documents accompanying the delivery of hydrant:

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

Flow of hydrant:



$Q = K_v \times (1000\Delta p / \rho)^{1/2}$
- flow.............................. Q [m³/h]
- flow coefficient........... K_v [m³/h]
- pressure difference...... Δp [bar]
- water density................ ρ [kg/m³]

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