MONITOR type MNH2

<Three in one = hydrant + water launcher + isolating pre-valve>

<Double reliability = use even when main valve is defective>

<High flow: Kv=265 m³/h>

PROCUREMENT DATA*1

Hydrant:
*Name: Above-ground fire hydrant
*Made in accordance with the standard EN14384*2 CE
*Nominal sizes: DN100, PN16
*With isolation "pre-valve" *With control valve,
*Possibility of use even when the main valve seal is broken;
*Activation without additional tools,
*With the blocking of unauthorized activation, or not
*Flow Kv [m3/h]:(for Di=2x65) ⟶ min 260
*Activation moment MOT: max. 50Nm (Class 1)
*Repair of the main valve: the other hydrants remain in operation, without digging up the soil and without dismantling the hydrant body;
*With a defined point of breaking (4.1) due to force F, or not
*Break (4.1): without pipeline damage,automatic stop of water discharge (with the condition "proper foundation"), *3
*Breaking moment: max 7800 Nm

*Input connection:
- Flange EN1092-2
- (DN100, PN16) (DN150, PN16)
- Particular request "describe"

*Nominal height Hi:
- (1350) (1550) (1850) mm
- Particular request, "state"

*Outlet opening Di:
- (2x65+1x100) mm
- Particular request, "describe"

*Outlet couplings: ⟶ Specify label and standard

*Drainage:
- With ⟶ D1
- ⟶ D2 (particular request)
- ⟶ Without

*Medium:Water (technical) (drinking)
*Water launcher: Type(BV1) (BV2)

*Submit documents:
-"Prospect",
-"Test report", issued by the "authorized body"
-Valid "Certificate of Conformity", issued by an "authorized body",
*1 ⟶ "Omit/Add" as needed
*2 ⟶ **The standard determines min. performance, and recommends the better**

Appearance:
1. Inlet flange
2. Isolation **"pre-valve"**
3. Obtutator - **"main valve"**
4. Body   4.1 Place of failure, due to force F
5. Cap   6. Blocking of unauthorized activation
7. Control valve (safety; sealing)
8. Outlet couplings
9. Identification plate ("CE","Kᵥ",...)
10. Nozzle
11. Jet direction positioning lever
12. Fixing the horizontal direction
13. Fixing the vertical direction
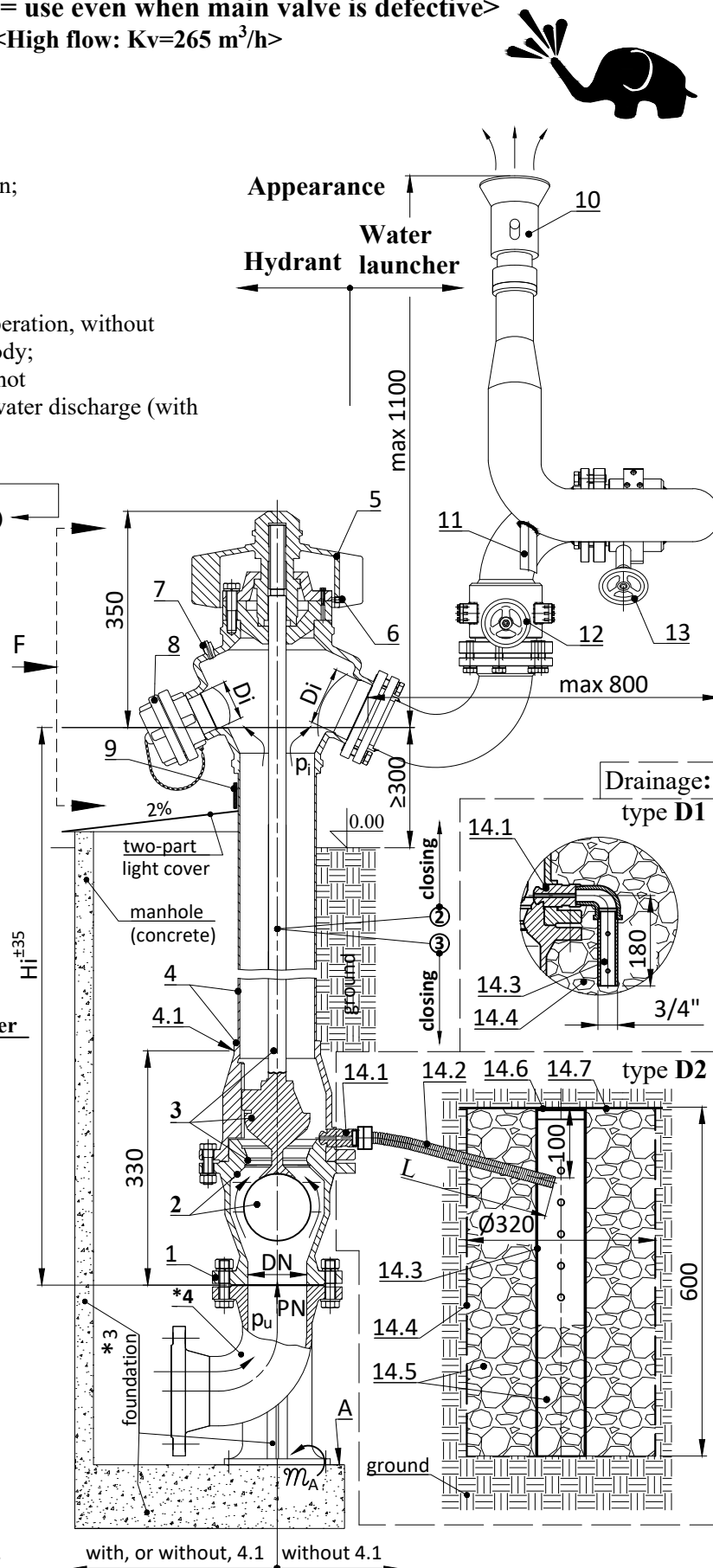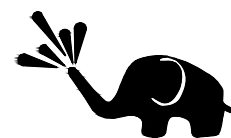14. **Drainage drain:** (not defined by the standard)
type **D1:**
14.1 Drain valve   14.2 Drain pipe
14.3 Stone *4 ⟶ (16÷31) mm
type **D2:**
14.1 Drain valve
14.2 Drain pipe ⟶ (L=?) mm
14.3 Distribution pipe
14.4 Wire basket
14.5 Stone *4 ⟶ (16÷31) mm
14.6 Cover
14.7 Plastic foil*4   **4** ⟶ **Provided by the buyer**

Appearance

Water Hydrant Water launcher

max 1100

max 800

Drainage:
type **D1**

2%
two-part light cover
manhole (concrete)
ground
closing
closing

type **D2**

with, or without, 4.1 | without 4.1

MONITOR type MNH2

<Three in one = hydrant + water launcher + isolating pre-valve>
<Double reliability = use even when main valve is defective>
<High flow: Kv=265 m³/h>

Basic technical characteristics:

Hydrant:
* **Safe = compliant with the** requirements of the standard **EN 14384 = CE**
* ⌐→ **See "Procurement data" L1/2**
* **flow: Kv= 265 m³/h,** for Di = 2x65
* **moment of activation Mot<45 Nm, Class 1**
* **moment of breakage** (at point 4.1) due to force F..... M=7500 Nm
* **foundation** ....
* **weight** .... ~ (55÷92) daN for Hi (1350÷1850) mm
* **materials**:
  - hydrant body ....nodular cast / stainless steel
  - spindle and obturator seat ....stainless steel
  - sealants...................................polypropylene/elastomers
  - cap, and outlet couplings................................aluminium

Water launcher:

type BV 1   type BV 2

- nominal openings.....Di = 65 mm..........Di = 100 mm
- nominal pressure ....PN 16 bar
- choice of jet shape
- choice of jet direction ....vertically / horizontally
- fixing the selected jet position
- weight....................40 daN.............................60 daN
- materials:
    - body ....steel
    - nozzle...aluminium
    - sealants ....elastomers

*3

Load scheme

$$F = M/a$$
$$F_A = F$$
$$\mathcal{M}_A = F \times b$$

Advantages:
* Isolation **pre-valve (2) inside the hydrant**, automatic, self-blocking, **which enables**:
  - **use of the hydrant and in case the main valve (3) is broken,**
  - **that the other hydrants remain in operation even when the main valve seal is replaced**
  - **automatic stop of water leakage,** 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.**
* **High flow: Kv=265 m³/h,** for Di=2x65
* **Replacing the** main valve seal(3)**: without digging up the ground and without disassembling the body**(4),
* **The threaded part of the obturator is:** out of the water flow**, permanently lubricated, maintenance-free** throughout its working life,
* **Prevented damage to the supply pipeline = breakage at point 4.1,** due to force F,
* **Activation without additional tools,** by turning the cap (5) on top of the hydrant,
* **Possibility of blocking** (6) **unauthorized activation**
* **The** main valve **seal is conical, self-flushing** = dirt retention prevented = **longer service life of the seal,**
* **High strength** of the obturator and body of the hydrant**, MsT > 250 Nm,**
* **Easy activation: Class 1, MOT < 45 Nm** (max allowed 130 Nm; Class 3),
* **Quick activation:** 1 turn until water appears, 10 turns until maximum flow (max. 15 turns allowed),
* **High reliability** of the drainage system = **two outlet openings, and self-flushing drainage valve**
* **The possibility of easy control (7) of the correctness of closing and draining.**
* **Obturator tightness even after 1000 activations,**
* **Amount of residual water** in the body of the hydrant, < 80 cm³ (max. allowed 150 cm³),
* **Fast draining, ≤5 min** (permitted max. 10 min/m),
* **Easy replacement of seat,** main valve (3) and pre-valve (2)
* **Drain valve repair** (14.1); from the outside, partial excavation, and **without dismantling the hydrant body.**(4)
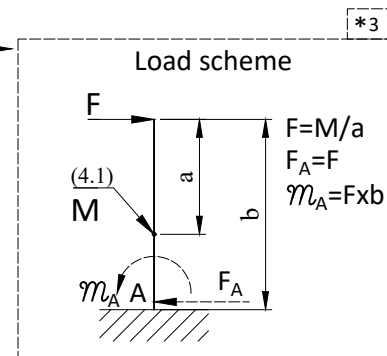
Documents with the delivery of hydrant:
* Declaration of Performance,
* Instruction for safety work (installation, handling, inspection, maintenance, guarantee)

Flow of hydrant:

Q [m³/h]   Di=2x65
measured
by standard
Kv=**265**
Kv=140
1.0   Δp(=p_u-p_i) [bar]
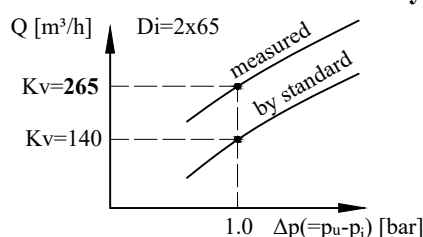
$$Q = K_v \times (1000\Delta p / \rho)^{1/2}$$
- flow............................ Q = [m³/h]
- flow coefficient......... K_v = [m³/h]
- pressure difference...... Δp = [bar]
- water density............. ρ = [kg/m³]