

HYDRANTS SAPHIR, RETRO AND EMERAUDE

INSTALLATION, OPERATION AND MAINTENANCE MANUEL



This manual is intended for new fire hydrants type EMERAUDE, SAPHIR and RÉTRO as well as those equipped with our options SENTINEL, SECURE, COPERNIC and TAGUA.

SAPHIR



RETRO



EMERAUDE



1 - Security and general aspects

1.1 - Preamble

- This manual applies to the range of BAYARD fire hydrants. It is part of the complete documentation on fire hydrants.
- Before installation and commissioning of you fire hydrant, please read carefully these installation, operation and maintenance instructions to guarantee proper operation of the fire hydrant and user safety.
- Installation, use and maintenance operations of the fire hydrant must be performed by qualified and trained staff in accordance with regulations.
- Please use only BAYARD original spare parts to guarantee optimal operating quality and interchangeability. In case of use of parts not provided by BAYARD, the manufacturer guarantee is void.
- Our standard hydrant is not equipped with network backflow protection (cf EN 1717).

1.2 - Basic safety rules

1.2.1 - Following instructions

- Before handling, installing, commissioning or using the fire hydrant and before any maintenance work, the installation, operating and maintenance instructions must be read and applied carefully.
- In the event of non-compliance with these instructions, we cannot be held responsible for any damage or any consequence resulting therefrom according to our general sales conditions.
- In addition to the installation, operation and maintenance instructions, the accident prevention regulations applicable in the user's country and at the place of installation must also be observed.

1.2.2 - Intended use

- Due to design and used materials, fire hydrants must be used only on fire or drinking water networks in accordance with the recommendations indicated in our technical documentation.

1.2.3 - User obligation

- People in charge of installation, commissioning and use of fire hydrants must read all the instructions presented in this manual and understand them.

1.2.4 - Dangers when handling the fire hydrant

- Our fire hydrants are designed according to norms and NF current standards. However they may be a danger in case of handling by nontrained staff, or used in an inappropriate manner. It may result in risks for the life and health of user or third party, or damages for hydrants or other properties.

- A fire hydrant is connected to a water network under pressure, which can be at high or low level. The presence of air can cause dangerous ejection (of caps) on the material you are working on.



1.2.5 - Safety equipment

- Respect the applicable security rules and wear the personal protective equipment necessary and suitable for the corresponding risk analysis.



1.2.6 - Modification of the fire hydrant structure

- Any structure modification of the fire hydrant with parts not supplied by BAYARD results in the loss of CE and NF certifications. In addition, our liability and guarantees no longer apply.

1.2.7 - Safety instructions before use

- Before any use or maintenance operation, apply fire hydrant pressure check procedure. **If it does not work properly, the problem must be reported to the appropriate service/person.**

1.2.8 - Safety instructions for maintenance

- In case maintenance on the fire hydrant requires a water cut (changing the valve, internal parts ...), always close the isolating valve of the hydrant and depressurize the mains before any intervention.

2 - Product and functional description

- Please refer to the related technical data sheet to be found on our web site www.bayard.fr:

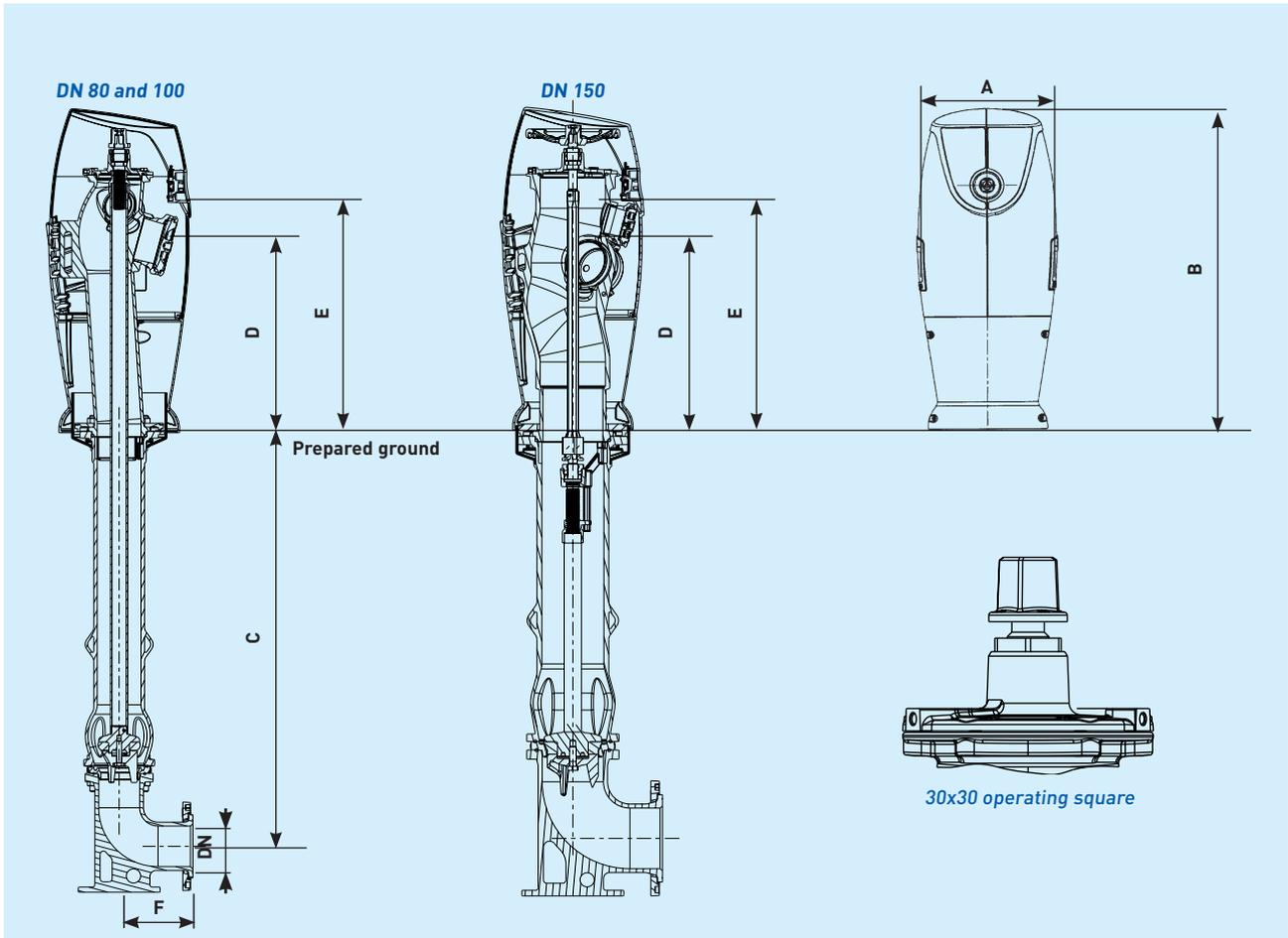
- Fire hydrants with apparent outlets SAPHIR OR **T19018**
- Fire hydrants with apparent outlets SAPHIR ARGENT **T19017**
- Fire hydrants with apparent outlets SAPHIR BRONZE **T19021**

- Fire hydrants with hood EMERAUDE OR **T19019**
- Fire hydrants with hood EMERAUDE ARGENT **T19016**
- Fire hydrants with hood EMERAUDE BRONZE **T19020**

- Fire hydrants with apparent outlets RÉTRO **T11003**

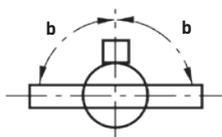
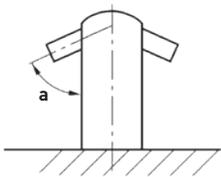
Working conditions:

- Maximum working pressure (PFA) 16 bar.
- Standardized flows = 30 m³/h for DN 80 - 60 m³/h for DN 100 - 120 m³/h for DN 150.
- Working temperature = + 1°C to + 50°C.
- Drinking water or 2 mm filtered water.
- Non-freezing height = 1.00 m and 1.20 m, other possible heights (please consult).

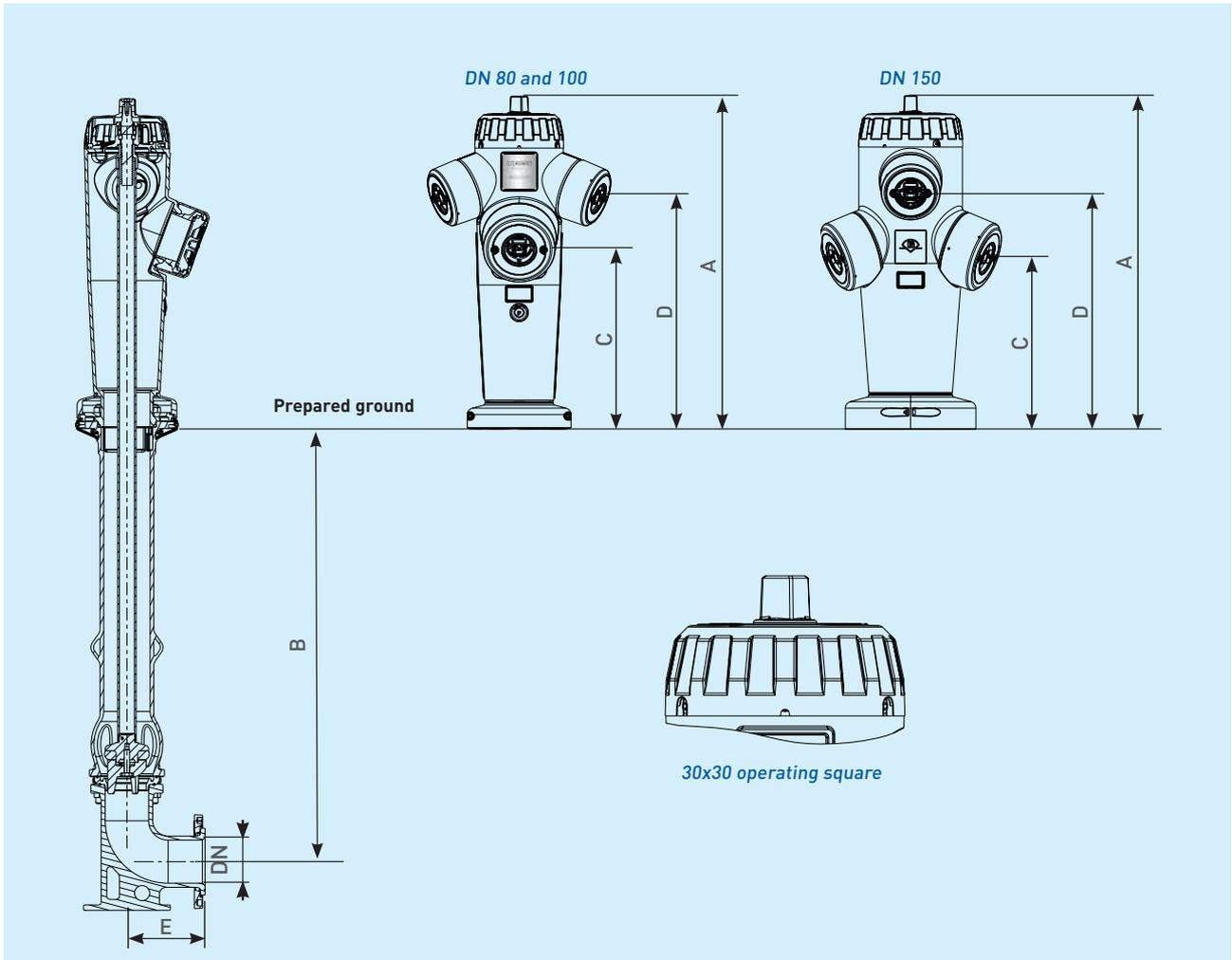


DN	TRAFFIC TYPE (CHOC) TYPE (NON CHOC)	C mm Length	A mm	B mm	D mm	E mm	F mm	Flow normalized in m³/h	Nb outlets	Kv* outlet			Weight kg
										DN 40	DN 65	DN 100	
n° 2 - 80 (60/65)	TRAFFIC TYPE	1000	350	800	500	600	120	30	1 x 65	-	132	-	77
n° 2 - 80 (60/65)	TRAFFIC TYPE	1200	350	800	500	600	120	30	1 x 65	-	132	-	88
n° 2 - 80	TRAFFIC TYPE	1000	350	800	500	600	135	30	1 x 65	-	133	-	78
n° 2 - 80	TYPE	1000	350	800	500	600	135	30	1 x 65	-	131	-	78
n° 2 - 80	TRAFFIC TYPE	1200	350	800	500	600	135	30	1 x 65	-	133	-	78
n° 2 - 80	TYPE	1200	350	800	500	600	135	30	1 x 65	-	131	-	78
n° 3 - 80	TRAFFIC TYPE	1000	350	800	500	600	135	30	1 x 65 + 2 x 40	40	133	-	79
n° 3 - 80	TYPE	1000	350	800	500	600	135	30	1 x 65 + 2 x 40	40	131	-	79
n° 3 - 80	TRAFFIC TYPE	1200	350	800	500	600	135	30	1 x 65 + 2 x 40	40	133	-	90
n° 3 - 80	TYPE	1200	350	800	500	600	135	30	1 x 65 + 2 x 40	40	131	-	90
n° 4 - 100	TRAFFIC TYPE	1000	350	800	500	600	180	60	1 x 100 + 2 x 65	-	133	214	85
n° 4 - 100	TYPE	1000	350	800	500	600	180	60	1 x 100 + 2 x 65	-	124	214	85
n° 4 - 100	TRAFFIC TYPE	1200	350	800	500	600	180	60	1 x 100 + 2 x 65	-	133	214	104
n° 4 - 100	TYPE	1200	350	800	500	600	180	60	1 x 100 + 2 x 65	-	124	214	104
n° 5 - 150	TYPE	1000	350	800	400	535	220	120	2 x 100 + 1 x 65	-	137	253	145
n° 5 - 150	TYPE	1200	350	800	400	535	220	120	2 x 100 + 1 x 65	-	137	253	145

* Kv is the maximum flow in m3/h, measured individually for each outlet, according to norm EN 14384.
Torque Level 1.
Total number of opening turns: 13 ± 1 turns for DN 80 and 100 and 17 ± 1 turns for DN 150.
Number of dead turns: 2 maximum



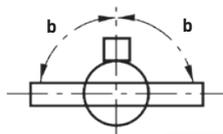
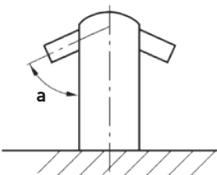
	a±5°				b±5°			
	DN 80 1 outlet	DN 80 3 outlets	DN 100 3 outlets	DN 150 3 outlets	DN 80 1 outlet	DN 80 3 outlets	DN 100 3 outlets	DN 150 3 outlets
EMERAUDE	75°	70°	75°	-	0°	65°	65°	-
EMERAUDE CHOC	-	70°	75°	75°	-	65°	65°	65°



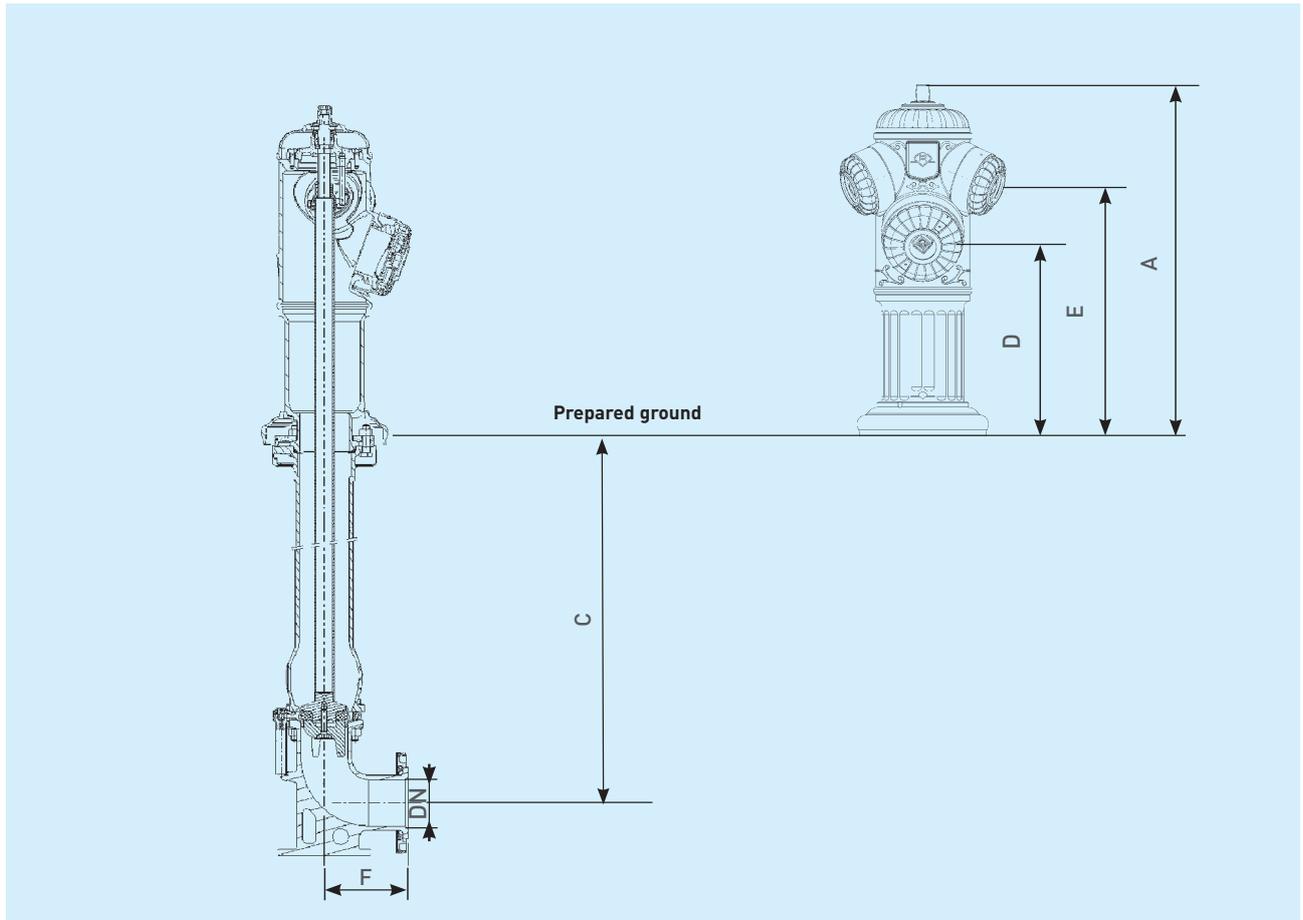
DN	TRAFFIC TYPE (CHOC) TYPE (NON CHOC)	B mm Longueur	A mm	C mm	D mm	E mm	Flow normalized in m³/h	Nb outlets	Kv* outlet			Weight kg
									DN 40	DN 65	DN 100	
n° 2 - 80 (60/65)	TRAFFIC TYPE	1000	760	430	535	120	30	1 x 65	-	134	-	64
n° 2 - 80 (60/65)	TYPE	1200	760	430	535	120	30	1 x 65	-	134	-	66
n° 2 - 80	TRAFFIC TYPE	1000	760	430	535	135	30	1 x 65	-	137	-	65
n° 2 - 80	TYPE	1000	760	430	535	135	30	1 x 65	-	136	-	65
n° 2 - 80	TRAFFIC TYPE	1200	760	430	535	135	30	1 x 65	-	137	-	66
n° 2 - 80	TYPE	1200	760	430	535	135	30	1 x 65	-	136	-	66
n° 3 - 80	TRAFFIC TYPE	1000	760	430	535	135	30	1 x 65 + 2 x 40	45	137	-	77
n° 3 - 80	TYPE	1000	760	430	535	135	30	1 x 65 + 2 x 40	45	136	-	77
n° 3 - 80	TRAFFIC TYPE	1200	760	430	535	135	30	1 x 65 + 2 x 40	45	137	-	83
n° 3 - 80	TYPE	1200	760	430	535	135	30	1 x 65 + 2 x 40	45	136	-	83
n° 4 - 100	TRAFFIC TYPE	1000	760	430	535	180	60	1 x 100 + 2 x 65	-	126	236	93
n° 4 - 100	TYPE	1000	760	430	535	180	60	1 x 100 + 2 x 65	-	132	226	93
n° 4 - 100	TRAFFIC TYPE	1200	760	430	535	180	60	1 x 100 + 2 x 65	-	126	236	104
n° 4 - 100	TYPE	1200	760	430	535	180	60	1 x 100 + 2 x 65	-	132	226	104
n° 5 - 150	TYPE	1000	750	540	400	220	120	2 x 100 + 1 x 65	-	143	261	170
n° 5 - 150	TYPE	1200	750	540	400	220	120	2 x 100 + 1 x 65	-	143	261	170

* Kv is the maximum flow in m3/h, measured individually for each outlet, according to norm EN 14384. Torque Level 1.

Total number of opening turns: 13 ± 1 turns for DN 80 and 100 and 17 ± 1 turns for DN 150.
Number of dead turns: 2 maximum



	a±5°				b±5°			
	DN 80		DN 100		DN 80		DN 100	
	1 outlet	3 outlets	3 outlets	3 outlets	1 outlet	3 outlets	3 outlets	3 outlets
SAPHIR	70°	70°	70°	-	0°	65°	65°	-
SAPHIR CHOC	-	70°	70°	70°	-	65°	65°	65°



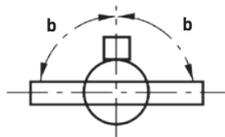
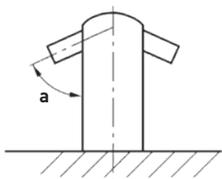
ReTRO	DN	A mm	C mm	D mm	E mm	F mm	Torque	Nominalized Flow in m ³ /h	Nb turns	Nb outlets	Kv* outlet		Weight kg
											DN 65	DN 100	
n° 4 - 1.00 m	100	760	1000	430	535	180	Level 1	60	13	1 x 100 + 2 x 65	110	190	98
n° 4 - 1.20 m	100	760	1200	430	535	180	Level 1	60	13	1 x 100 + 2 x 65	110	190	109
n° 4 choc 1.00 m	100	760	1000	430	535	180	Level 1	60	13	1 x 100 + 2 x 65	110	190	100
n° 4 choc 1.20 m	100	760	1200	430	535	180	Level 1	60	13	1 x 100 + 2 x 65	110	190	111
5 Choc 1.00 m	150	770	1000	410	540	195	Level 1	120	17	2 x 100 + 1 x 65	115	230	197

* Kv is the maximum flow in m³/h, measured individually for each outlet, according to norm EN 14384.

Torque Level 1.

Total number of opening turns: 13 ± 1 turns for DN 80 and 100 and 17 ± 1 turns for DN 150.

Number of dead turns: 2 maximum



RETRO	a±5°				b±5°				
	DN 80		DN 100		DN 80		DN 100		DN 150
	1 outlet	3 outlets	3 outlets	3 outlets	1 outlet	3 outlets	3 outlets	3 outlets	
RETRO	70°	70°	70°	-	0°	65°	65°	-	
RETRO CHOC	-	70°	70°	70°	-	65°	65°	65°	

3 - Transport, handling and lifting

Handle the hydrant with care in its original packing. To lift the hydrant for installation please use:

- 2 round textile slings, Length 3m

or

- 2 round textile slings, length 2 m + 1 steel 2-stand sling with a hook, length 1m
- 1 lifting means suitable for a load of 100 Kg.

Slings are to comply with regulation.

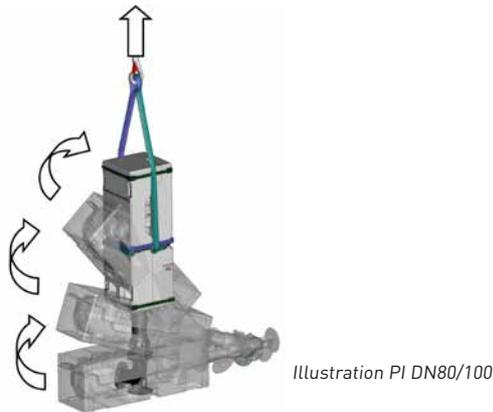
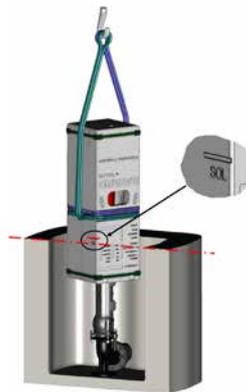


Illustration PI DN80/100

Place the hydrant opposite the connection on the pipe. Check that the "SOL" (ground) mark on packing is aligned or above the prepared ground level. If it is below, you may use a Bayard sleeve or a S-bend.

Secure the hydrant on the pipe.

After the hydrant has been properly set, you can remove the lifting accessories (slings).



Package content:

Fire hydrants DN80 and DN100 whatever the type are packed in polystyrene crates.

DN 150 fire hydrants are packed in wooden crates.

4 - Storage

- Fire hydrants must be stored in their original packing, sheltered from all weather and pollution.

They need to be protected from external influences such as:

- humidity and rain to avoid corrosion,
- sunlight and heat to prevent damage to elastomers and coating.

- Please take into account that a long period of storage in bad conditions may damage coating and elastomers.

- Take care not to damage coating and to store hydrants in a steady position.

- Hydrants are designed for a storage temperature between -10°C and + 50 °C.

- The protection on the flange is to be removed only when connecting to the mains.

WASTE MANAGEMENT AFTER INSTALLATION

- Packing material are recyclable and must be processed according to regulations in force.

5 - Installation instructions

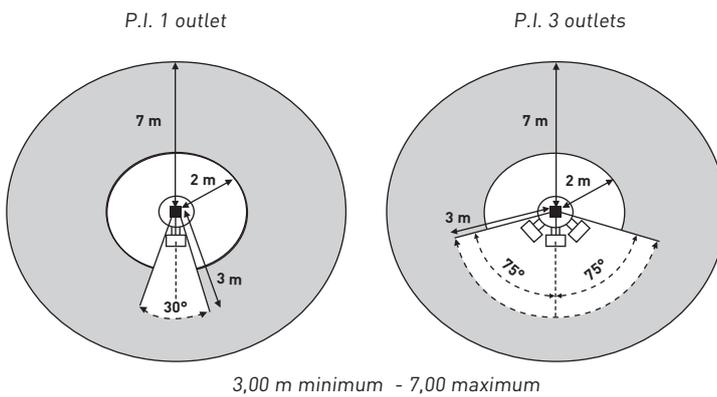
- Before the hydrant installation, proceed to drainage and cleaning of the supply pipe to be sure no foreign body could cause damage.
- Polystyrene packing for our DN 80 and DN 100 hydrants protects them from any projection during installation, do not remove it until reception. Out of their wooden crate, the upper part of our DN150 hydrants, is covered in a textile wrap protecting coating during installation. Do not remove it until reception.
- Whether in the private or public domain, installation and reception of a fire hydrant must comply with the standard NF S 62-200 (in force). This norm is available at AFNOR, www.afnor.org

5.1 - Compulsory composition of installation

- A NF normalized fire hydrant (height 1m, 1,20 m).
- A ground anchorage base to stabilize the device.
- A draining base if surrounding ground tends to have run-offs.
- A levelling device, S-bend or sleeve between seat and duck foot.
- A concrete block under the duck foot.
- Installation anchoring or using self-anchoring couplings.
- A water disposal for hydrant drainage water.

5.2 - Installation examples according to the standard NF S 62-200

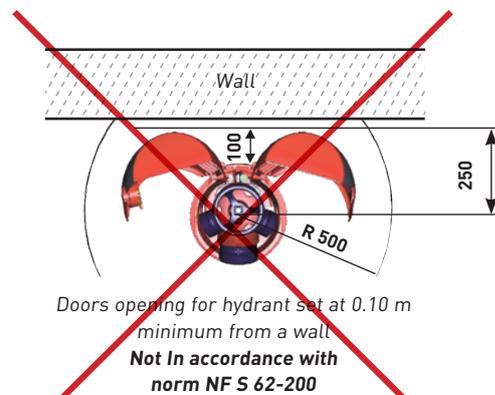
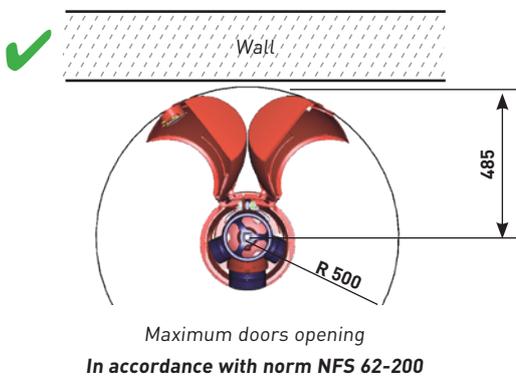
Setting of isolating valve



■ Defined area to set the surface box of the isolating system.

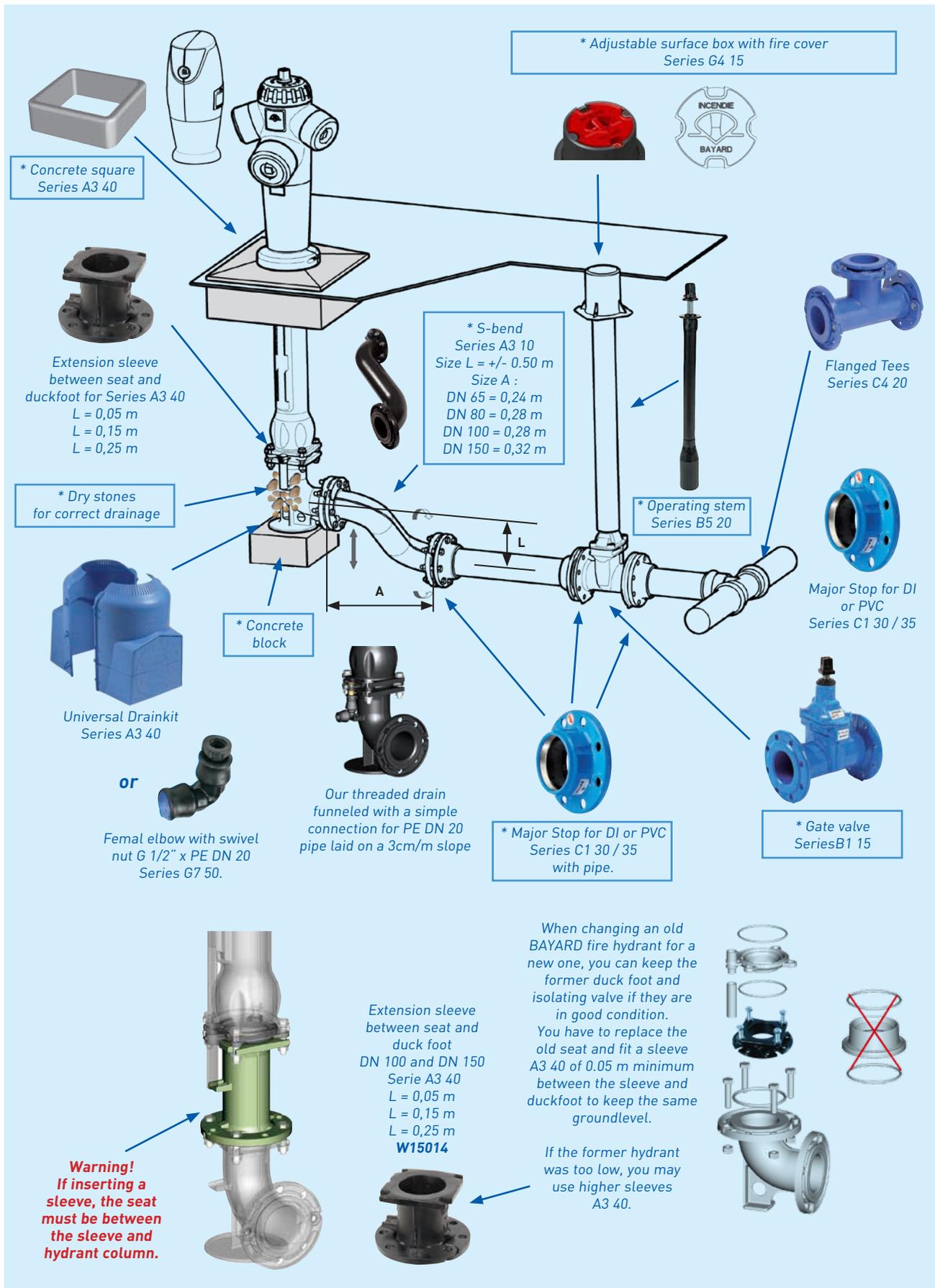


Doors clearance



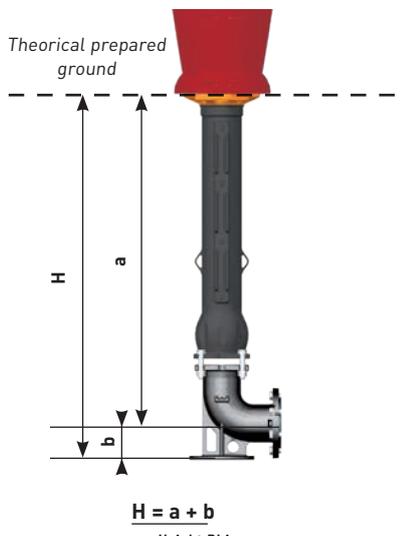
Pour une ouverture maximum des portes, il est alors nécessaire de poser le poteau à 0.10 m minimum d'un mur.

5.3 - Definition of equipment for installation according to: **NORM NF S 62-200***



5.4 - Determination of depth installation (Whatever the non-freezing height of hydrant)

Installation with no anchoring base

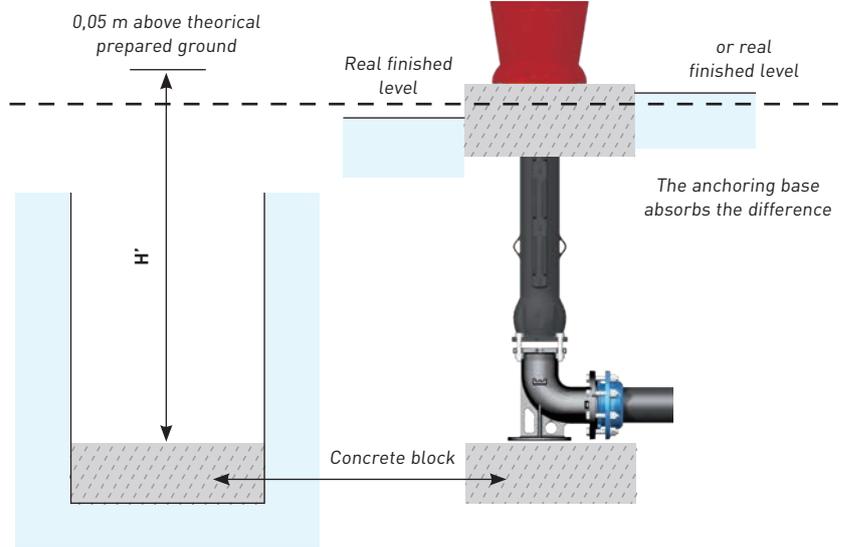


a = Height PI in m
(0.4 m, 1 m, 1.6 m...)
b = Height du coude en m

Example for hydrant a=1 m

DN	b (m)	H (m)
65	0.10	1.10
80	0.11	1.11
100	0.13	1.13
150	0.15	1.15

Installation with anchoring base

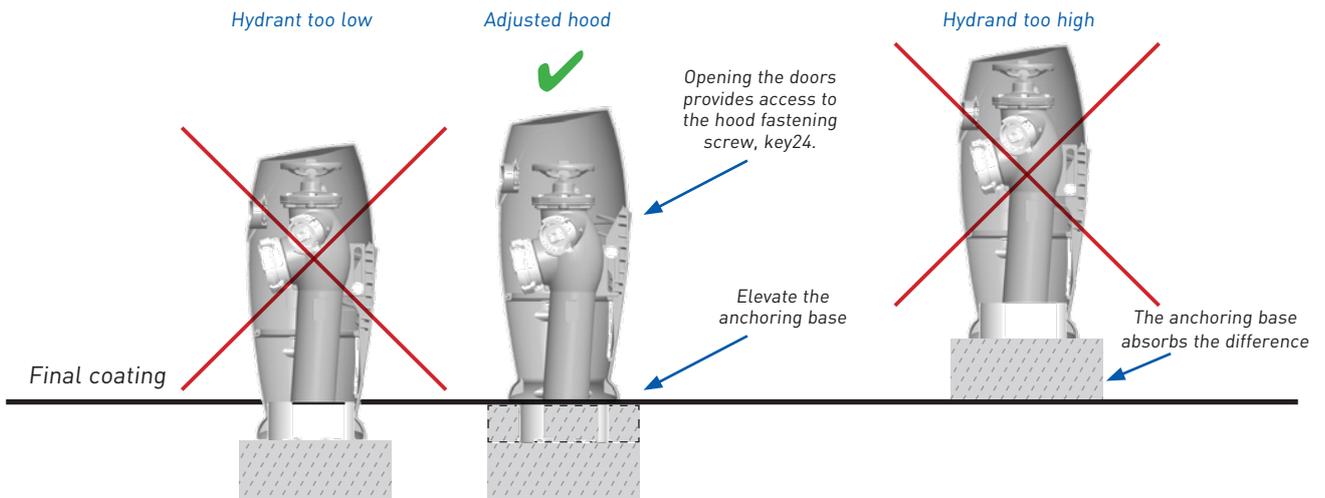


Example for hydrant 1 m

DN	H' (m)	+ 0,05
65	1.10	1.15
80	1.11	1.16
100	1.13	1.18
150	1.15	1.20

5.5 - Finishing fire hydrant installation

- If the prepared ground level is not determined before installation, you can adjust the hood position of 0.10 m for DN 80 and 100, and of 0.05 m for DN 150, before ground coating.



5.6 - Accessories for an easy mounting

Sleeve

Insertion of sleeve (0,05m – 0,15m – 0,25m) between seat and duckfoot to heighten the hydrant during mounting (**Instruction Manual W15014**).



DRAINKIT

It is an easy-to-use device to keep a clean space around the hydrant foot. It can:

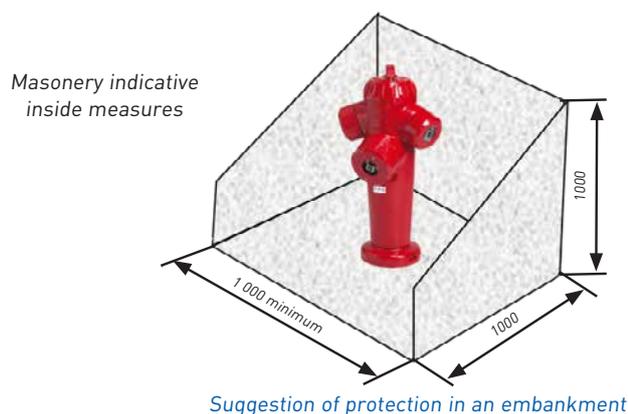
- Improve evacuation of water creating a free space,
- Guarantee a long lasting operating time to the drainage system.
- Using a DRAINKIT does not exempt from the application of the norm NFS 62-200. It is strongly advised to build a drain area (200 l of dried stones + 1 root-repellant geotextile).
- Easy to use, in two presses with no tool, our universal Drainkit is light, solid and efficient. It fits all types of pillar hydrants BAYARD, DN 80, DN 100 and 150 (**see Instruction Manual W12011**).



Protection barrier Series A3 40



Masonry protection



6 - General operating instructions

- Strictly observe the following instructions when using or working on this fire hydrant. For specific applications and higher pressures please check regulation applicable in your area.

1 - Open the hood for EMERAUDE, and check the hydrant is closed.

2 - Check the hydrant is closed pushing on the security valve "Airclap" on a cap.

- If nothing happens, go to step **3** after having removed the cap on outlets for SAPHIR and RÉTRO only.

- If air or water escape and then nothing, proceed to step **3**.

- If air or water continuously escape, the security valve is leaking.

Do not proceed with commissioning, risk of cap projection.

Notify the water department, or refer to the maintenance chapter Repair with water cutoff (page 16 - chapter 10-2).



3 - If the hydrant is not under pressure, place yourself behind the hydrant and remove a cap to connect a flexible sleeve and whatever material you want to supply.

UNDER NO CIRCUMSTANCES TAKE THE RISK OF AN ACCIDENT



4 - Slowly open the hydrant step by step.

- When using the fire hydrant, take care of the inadvertent movement of the flexible hoses.

- Plan to evacuate the volume of drained water volume.

- Avoid the risk of ice formation in winter weather.

- Also take care not to spoil the environment of the hydrant with unwanted runoff.

- If water is not running, the isolating valve may be closed or the network is not supplied with water.



5 - Slowly close the hydrant step by step to prevent any water-hammer in the installation.

- If it is not watertight, do not force it. The high flow may have brought in foreign bodies which cause a leak in the valve.

- Induce a flush by totally opening the hydrant and closing it again slowly and step by step as many times as necessary.

- If you do not reach tightness, notify the water services, or refer to the maintenance chapter (disassembly of the valve).

6 - Close hydrant, unplug material and check that the water level lowers through the hole of the symmetrical outlet

- This level drop indicates that the drain works.

- If the drain is not working, the hydrant may freeze. Notify water services or refer to the maintenance chapter (disassembly of the drain).

7 - The hydrant will drain, then put the cap back into place and close the doors for EMERAUDE type.

7 - Commissioning

7.1 - Receipt of the installation

- According to NF S 62 200 standard, the fire hydrant installation must be the subject of a reception visit in the presence of the contractor, the owner of the installation and the network operator if he is involved.
- The contractor must be able to provide a technical file including:
 - The document indicating the ability of the facility to provide the required flow rate.
 - The test report.
 - "As built" documentation.
 - Operating and maintenance instructions of the manufacturer (this manual).
 - Certificate from the contractor indicating the disinfection procedures of the facility.
- The test report is to implement:
 - General verifications.
 - Visual checks of the hydrant.
 - Functional checks.
 - Drain tightness and operation checks.
 - Hydraulic performance verification of the hydrant.

All these prescriptions are described in NFS 62 200 standard, which proposes models in appendix. www.afnor.org
You can check chapters 6 - 4 and 6-5 "Checks and tests" pages 14 - 15 for commissioning.

7.2 - Water filling

- Filling with water and testing the hydrant supply must be done in respect of the safety instructions, and proper rules of work. Filling hydrants breaks down into chronological operations:

Static test : the cap is closed, filling the hydrant and controlling the drain function.

- 1** - Check the isolating valve is open.
- 2** - Apply the safety instructions on page 12.
- 3** - After placing the cap, replace the opposite cap by a cap with pressure gauge.
- 4** - Slightly open the hydrant and purge the air with the airclap.
- 5** - Close the hydrant and check the pressure remains constant:
 - Pressure remains constant, drain is watertight.
 - Pressure drops, drain is not watertight (see maintenance chapter).
- 6** - Decompress the hydrant, and reposition the original cap. Close the hood, for EMERAUDE type.

It is possible to angle outlets after commissioning, see page 15.

8 - Controls and tests

To ensure the continued availability of a fire hydrant installation, regular inspection and maintenance must be performed by qualified personnel with a good knowledge of the NFS 62 200 standard. These operations include two types of checks.

8.1 - Visual checks

- Brand, type, DN, address, accessibility for emergency vehicles.
- Clearance around the hydrant, invasion of vegetation.
- Identification of the surface box of the isolating valve.
- No deterioration, corrosion, general state of the paint.
- Presence and good condition of the anchorage.
- Presence and good condition of the base if necessary.
- Presence of all apparent components of the hydrant (outlets, caps, etc...)
- Presence of the security valve Airclap on one cap.
- Height of the axis of the central outlet to the ground, DN 80 and DN 100 = 0.40 m to 0.55 m. DN 150 = 0.50 m to 0.65 m.
- No apparent leaks.
- No water retention around the hydrant.

8.2 - Hydraulic tests

Dynamic test : with open cap

- Any high flow test may cause disturbances in the supply main. Ask the network operator well in advance for authorization to carry out these tests, specifying the date and time. He must agree and specify the possible restrictive conditions that will release your responsibility in case of problems on the network after your tests.
- Drain the hydrant, according to safety instructions Page 12, then:

1 - Install a calibrated meter equipped with a valve and a pressure gauge on central symmetrical outlet. Connect a flexible sleeve to an outlet capable of absorbing the volume of water required for testing. Pay attention to the risk of ice formation in winter.

2 - Open the hydrant, and, with meter valve closed, note the pressure with zero flow.

3 - Open the meter valve until it reads 1 bar on the pressure gauge, note the flow rate.

4 - Open more the valve, or close it to get a flow rate of:

- 30 m³/h on a hydrant DN 80.
- 60 m³/h on a hydrant DN 100.
- 120 m³/h on a hydrant DN 150.

- Note pressure at this flow rate.

5 - Slowly close the meter valve, step by step, until complete sealing, close the hydrant and check that pressure remains stable:

- Stable pressure = watertight drain.
- Pressure drop = leaking drain (see maintenance chapter).

6 - Decompress the hydrant by opening the meter valve, unplug all devices.

7 - Open the hydrant until the water level comes close to the outlet, then close.

8 - Verify that the drain works by witnessing the lowering of water level inside the hydrant.

9 - Put the cap back into place,

10 - You may write your test report.



This notice must be given to the network operator according to NF S 62-200.

9 - Orientation after commissioning

It is possible to rotate the hydrant after commissioning:

- 1 - Close the isolating valve.
- 2 - Check the hydrant is not under pressure by activating the airclap on one of the caps.
- 3 - Take the cap off while placing yourself behind the hydrant (instructions 3 page 12).

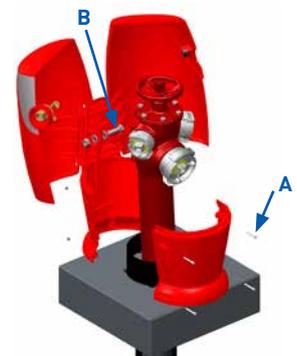


 **4 - Open the hydrant 3 to 4 turns.**

- 5 - **SAPHIR RETRO**: Unset the flanges covering the bolts **(A)** with Allen key of 5, then the half-flanges with 4 bolts **(B)** with a wrench 24 (for DN 80 and 100) and size 30 (DN 150).



- 6 - **EMERAUDE**: Remove the front part of the hood starting with the 4 screws of the base **(A)** with Allen key of 5, then disassemble rear half base **(B)** with 2 wrenches of 24.



- 7 - Rotate the hydrant degree by degree, tighten the 4 bolts (torque 80 Nm for hydrants DN 80 and DN 100 et and torque 110 Nm for DN 150)
- 8 - Replace the cap.
- 9 - Open the isolating valve.
- 10 - Purge the air using the airclap, and check there is no leak around the flange.
- 11 - Close the hydrant and decompress with the air clap.
- 12 - Open the cap to check the water level drops.
- 13 - Close the cap for all hydrants types.
For **l'EMERAUDE**, you need to replace the cover (key of 24, Allen key of 5).

10 - Maintenance

- Experience shows that a fire hydrants park with regular maintenance, deteriorates less and costs much less than an abandoned park. Proceed to repairs as soon as downgrades appear (caps, paint, ...). Proceed to controls and tests described in chapter 1 ONCE A YEAR
We advise a new coating every 5 years.

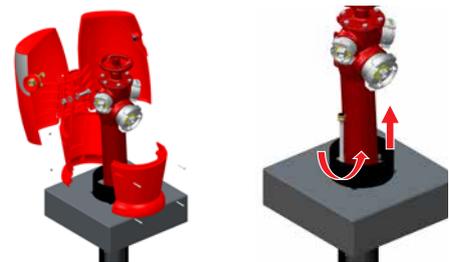
10.1 - Repairs with no water cut-off

- Changing a visible part of a fire hydrant (composite hood for EMERAUDE, cover/ caps for SAPHIR)



- Unsetting the hydraulic drain for all "Silver" or "Gold" hydrants:

- 1** - For **EMERAUDE**, dismantle the hood, unscrew and take the drain off through the top, short socket wrench size 27.



- 2** - For **SAPHIR**, take the flanges apart, unscrew and take the drain off through the top, short socket wrench size 27.



- 3** - Clean the drain.

- 4** - Change the gaskets and grease them slightly with a dietary fat such as KLUBER France ref VR 69-252 N.

- 5** - All caps closed, proceed to a flush through the drain orifice by opening the hydrant 3-4 turns during 30 seconds.

- 6** - Rewind to the stop and screw the drain.

- 7** - Reassemble the hood for **EMERAUDE** and flanges for **SAPHIR**.



10.2 - Repairs with water cut-off

- Before any intervention with a water cut-off, check the following:



- 1** - Close the isolating valve.
- 2** - Decompress the hydrant according to safety instructions page 12.
- 3** - Remove a cap and open the hydrant 4 turns to check if the isolating valve is tight.
- 4** - If the isolation valve is tight, check the hydrant version through the outlet:
(Traffic type (CHOC) with **square** operating stem, Non traffic type (NON CHOC) with a **round** operating stem)
In case the isolating valve is not tight, please advise the network operator.
- 5** - According to version, remove the upper operating part to access the lower operating set.

10.2.1 - Changing the lower operating set with no dismantling of the nose all DN's

For traffic type hydrants (CHOC)

EMERAUDE

- 1** - Open the hood and locate the bonnet position before dismantling so as to put it back in the same position after intervention. Unscrew the bonnet, socket wrench of 19.
- 2** - Open completely the hydrant to pull out both the upper and lower operating sets. If resisting, close the hydrant with 3 turns to have space under the bonnet to use a lever tool.
- 3** - Pull out and change the lower operating set or the valve, see page 20.
- 4** - On reassembly, change the bonnet gaskets if necessary and grease operating screw.



SAPHIR and RETRO

- 1** - Take the bonnet off the hydrant nose, 3 hexagon socket headless screws of 4.
- 2** - Fully open the hydrant before pulling off the upper and lower operating sets.
If resisting, close the hydrant with 3 turns to have space under the bonnet to use a lever tool.
- 3** - Pull out and change the lower operating set or the valve, see page 20.
- 4** - On reassembly, change the bonnet gaskets if necessary and grease operating screw.





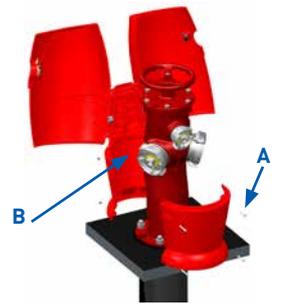
Repair with water cut-off, see procedure page 17

For traffic-type version (choc)

10.2.2 - Changing the lower operating set all DN's

EMERAUDE

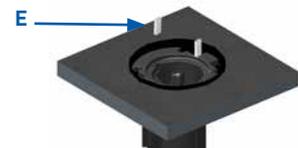
1 - Fully open the hydrant before dismantling.
 For the hood: unscrew the 4 bolts **(A)** CHC M6x45, (male socket wrench of 5) to remove the front base.
 Unscrew the bolt **(B)** (key of 24) and take off the rear base part and the 2 doors.



2 - Dismantling of the nose: unscrew the bolts (key of 24 for DN 80 and 100 Key of 30 for DN 150) and take apart the half-flanges **(C)** and the Oring. Take the nose off.



3 - Remove the 2 pins **(E)** with a screw driver if necessary.



4 - Remove middle and lower operating set **(F)**.



5 - Change the lower operating set or the valve, see page 20.

6 - On reassembly, change the bonnet sealing gasket if necessary and grease the operating screw.

7 - Put the hood back on **EMERAUDE**.

- | |
|---|
| <p>Torques for EMERAUDE up to DN 100:</p> <ul style="list-style-type: none"> - 4 Screws on nose (1/2 Flanges) = 80 N.m <p>Torques for EMERAUDE DN 150 up 2018:</p> <ul style="list-style-type: none"> - 6 Bonnet screws = 40 N.m - 4 Screws on nose (1/2 Flanges) = 110 N.m <p>Torques for EMERAUDE DN 150 as from 2019:</p> <ul style="list-style-type: none"> - 4 Screws on nose (1/2 Flanges) = 110 N.m |
|---|

Features EMERAUDE DN 150

Columns and operating sets DN150, 6 bolts replace the pins **(A)** and the half-flanges **(B)** until 2018 version.

Starting from the 2019 version, the nose is in one part, set on the lower column with 4 screws.



Until 2018

Starting in 2019



Repair with water cut-off, see procedure page 17

SAPHIR and RETRO

- 1** - Take off the 2 cover half-flanges, 2 screws, (Allen key of 5) and fully open the hydrant.

- 2** - Unset the 4 screws (A) (wrench of 24 for DN 80 and 100 – Wrench of 30 for DN 150) and take off the 2 half-flanges (B).

- 3** - Remove the nose (C) and O-ring (D).

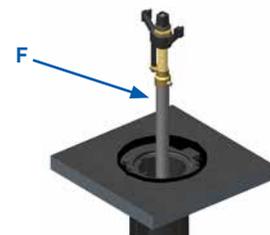
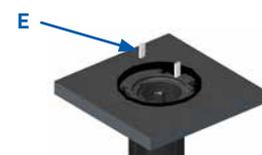
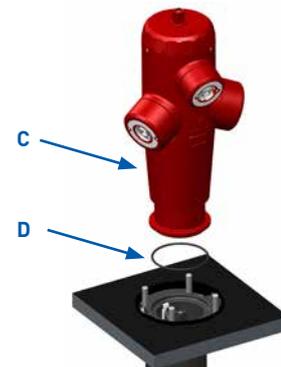
- 4** - Remove the 2 pins (E).

- 5** - Remove the middle and lower operating set (F).

- 6** - Change the lower operating set or the valve, page 20.

- 7** - When refitting the nose, change the bonnet seal if necessary and grease the operating screw.

- 8** - Refit the 2 covers on half flanges of the **SAPHIR**.



Torques for SAPHIR and RETRO up to DN 100:

- 4 Screws on nose (1/2 Flanges) = 80 N.m

Torques for SAPHIR and RETRO DN 150 up 2018:

- 6 Bonnet screws = 40 N.m
- 4 Screws on nose (1/2 Flanges) = 110 N.m

Torques for SAPHIR and RETRO DN 150 as from 2019:

- 4 Screws on nose (1/2 Flanges) = 110 N.m



Repair with water cut-off, see procedure page 17

10.2.3 - Changing the valve or other inner parts

All spare parts references are to be found in our spare parts leaflets W15019 and W16001.

Change the valve:
When changing the valve, we advise to change also the valve holder.

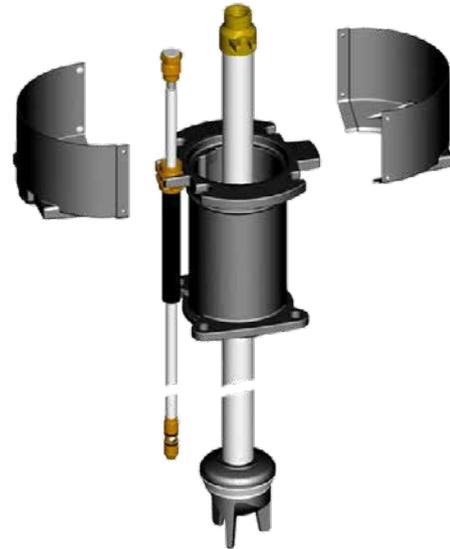
DN	80*	100	150
X	16 mm	20 mm	27 mm
Couple	130 N.m	130 N.m	130 N.m

Torques up to DN 100 :
- 4 screws for the nose (1/2 flanges) = 80 N.m

Torques up for DN 150 :
- 4 screws for the nose (1/2 flanges) = 110 N.m

* For DN before 2016, after 2016 same as DN 100

Extension kit after installation 0.20 m:



Installation manual is supplied with the kit.

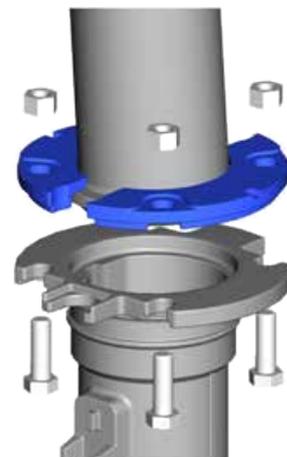
- W05035** : EMERAUDE
- W05038** : EMERAUDE CHOC
- W05036** : SAPHIR RETRO
- W05037** : SAPHIR RETRO CHOC

Drain for fire hydrant Bronze version:

To perform on the ball drain, it is necessary to remove ground down to the foot of apparent outlets hydrants.



Repair kit for traffic type version



Torques for SAPHIR and RÉTRO up to DN 100:

- 4 screws for nose (1/2 flanges) = 80 N.m

Torques for SAPHIR and RÉTRO DN 150 until 2018:

- 6 screws for the bonnet = 40 N.m
- 4 screws for nose (1/2 flanges) = 110 N.m

Torques for SAPHIR et RÉTRO DN 150 as from 2019:

- 4 screws for nose (1/2 flanges) = 110 N.m

If you have any doubt about the recognition of the hydrant to repair, please consult BAYARD Technical Services.

11 - Spare parts

The complete list of spare parts for our fire hydrants is in our leaflets W15019 for hydrants before 2016, and W16001 for hydrants after 2016.



For any further information, do not hesitate to get in touch with our Technical Customer Service (STC).

9 - CE Marking



0679-CPR-0213

Tours d'ouverture :

DN	Nbr of dead turns	Total nbr of turns
80	1	13
100	1	13
150	1	17

All our fire hydrants comply with standards in force.

For any information related to our hydrants performances, please refer to DOP (Declaration of Performances fire hydrants) available on our web site www.bayard.fr

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