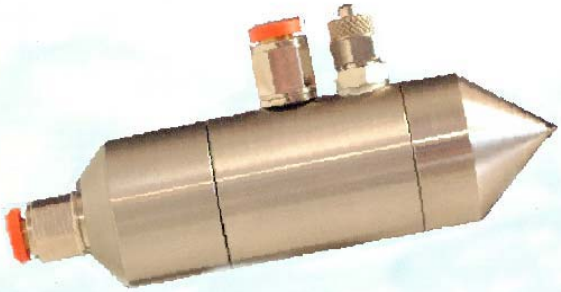
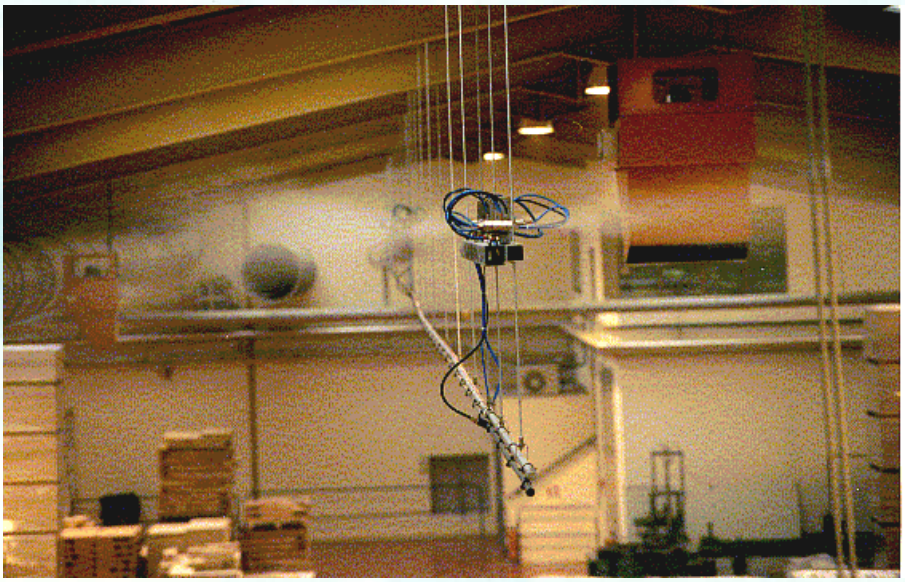
FogSystem

WATER ATOMIZER SYSTEM





HUMIDIFICATION - COOLING

ROOM

PAPER - CARTOON - TEXTILE MATERIAL
COTTOON - GREENHOUSES - WOOD

HygroTemp

devatec

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FogSystem
Venturi nozzle for large area

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INFORMATION 5 Pages

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Venturi nozzle for large area

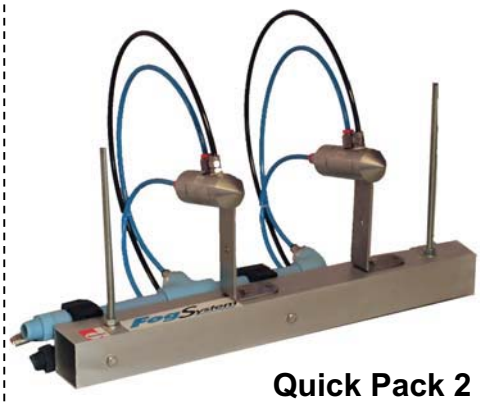
What is BV FogSystem

Modular model to set on wall



BV nozzle with bracket

Pre-wired model to hang



Quick Pack 2 to 6 BV



Water level assembly
With sterelizing cartbridge
and automatic draining
(s.a. page 3)

Material for both models



Regulation cabinet

Optional equipment :



Hygrostat



1 m. long
flexible hose
(blue & grey)



Air filter
3/4″



Proportional sensor

Compulsory equipment with UV system :



NW18 25µ water filter 3/4″
+ 1µ filter with 3/4″ out

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FogSystem
Venturi nozzle for large aera

BV Venturi nozzle

Dry air? High temperature? A slump in quality? Machine breakdowns?…

One solution : humidification by ***FogSystem***

This nozzle system allows to solve many problems of hygrometry in the industry and services at low installation and maintenance costs.
FogSystem can also be used to cool down the air.

Principle of working :

The Venturi nozzle uses compressed air that comes out really quickly from a Venturi Jet, and creates a depression that sucks water from a constant water tank. This water is atomized into tiny droplets (from 10 to 15µ) in the room to facilitate its spreading in the air.

This vacuum nozzle can be used in large or small rooms.
This system offers high security : **because there is no compressed air, there is no water supply so there is no risk of flooding.**



The spraying fog is integrated in the air over a 5-6 metre distance.

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FogSystem
Venturi nozzle for large aera

Legionnaires' disease

The legionnaires' disease only occurs in tanks full of stagnant water.

It is obvious that as soon as there is a demand in hygrometry on a **water compressed air venturi humidifier**, the tank of the water level assembly empties while new water comes in so there is no bacterium.

During the so called humidification period, the machines work without long stopping so there is no risk of bacterium in the water tank.

However, during a long stopping, there are risks (mid-season or summer time).

On the water level assembly is installed an automatic draining system which operates when the regulation or the system stops . The tank and the pipes are drained out, preventing the stagnation of water.

A **UV sterilizer** is set up at the bottom of the water tank.

So, there is no risk of legionella with our FOGSYSTEM **water** compressed air **humidifiers if the automatic draining is correctly** connected and **if the UV option is set up.**

Water qualities



Heavy WATER : nozzle maintenance compulsory.

Demineralized WATER : nozzle maintenance not required.

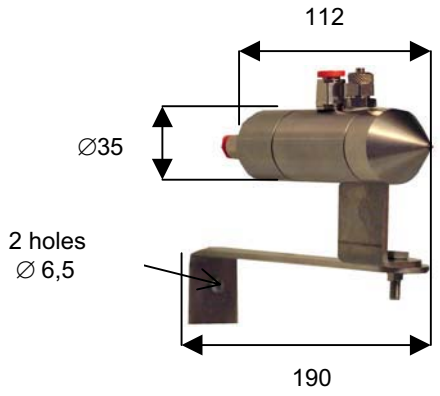
Softened WATER : we do not recommend the use of softened waters.

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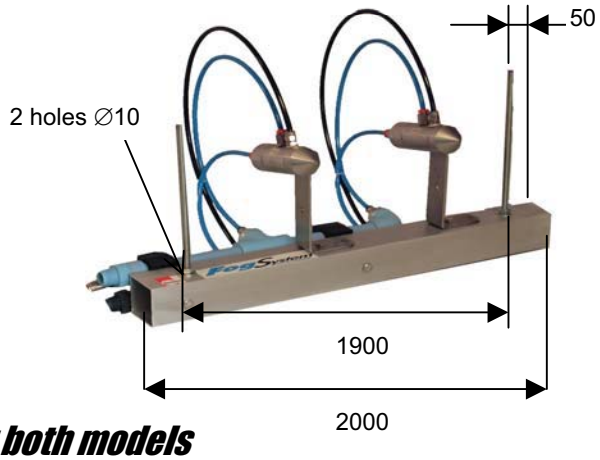
FogSystem
Venturi nozzle for large area

Dimensions (in mm)

BV nozzle with bracket



Quick PacK

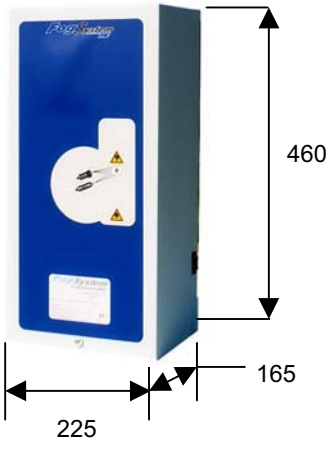


Equipment for both models

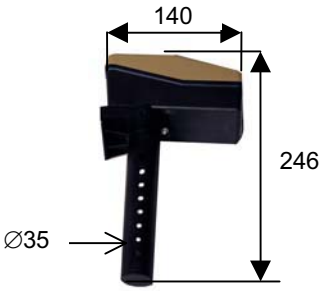
Water level assembly



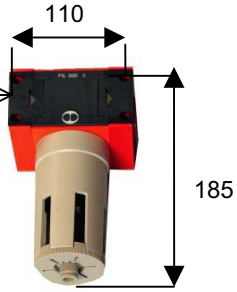
Regulation cabinet



Hygrostat

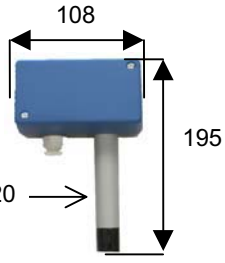


Air filter



Inlet & outlet
in ∅3/4″ or ∅ 21X27mm

Proportional sensor



Water filter



Inlet in ∅3/4″
or ∅ 21X27mm

Pictures for illustrating purposes only

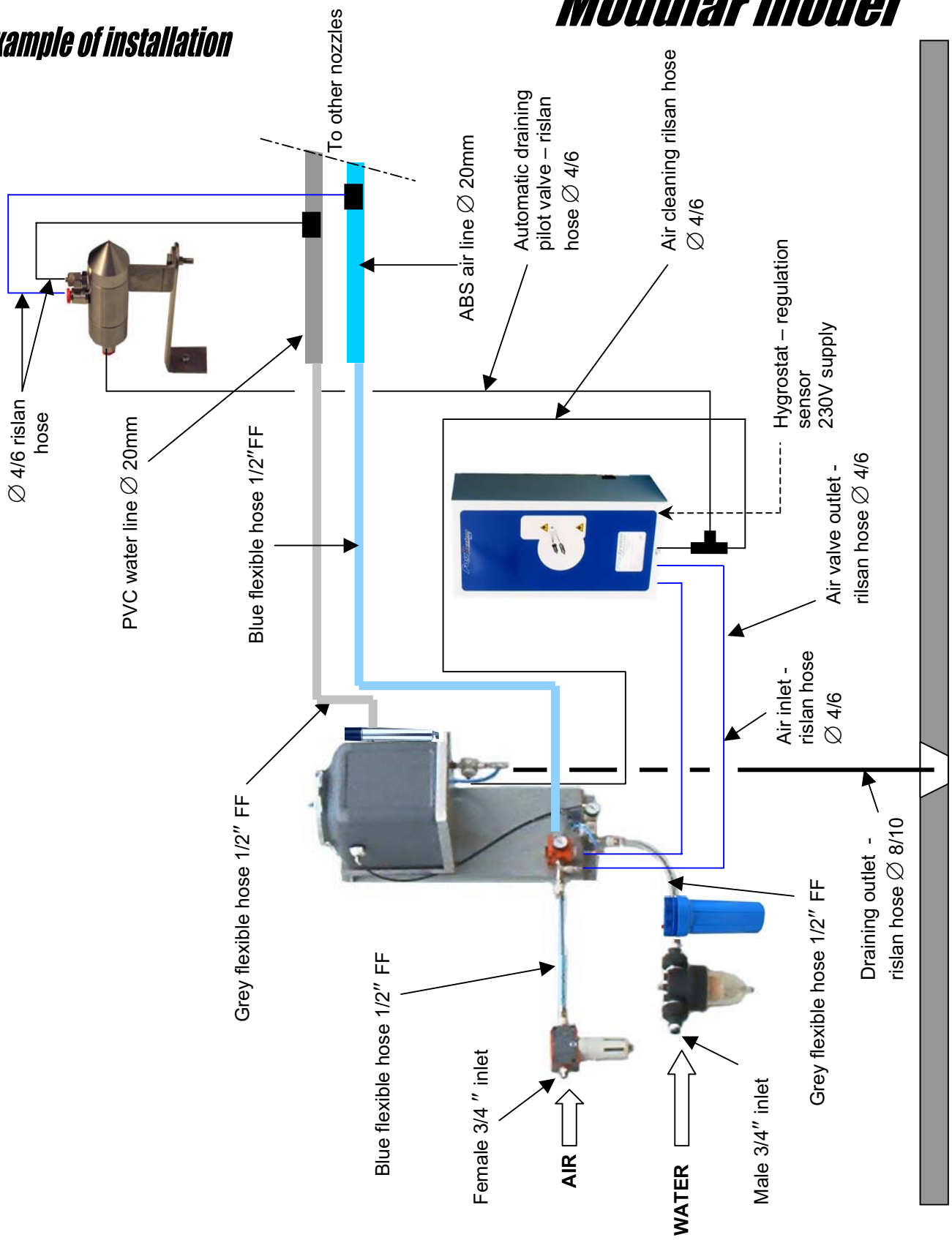
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FogSystem

Venturi nozzle for large area

Modular model

Example of installation



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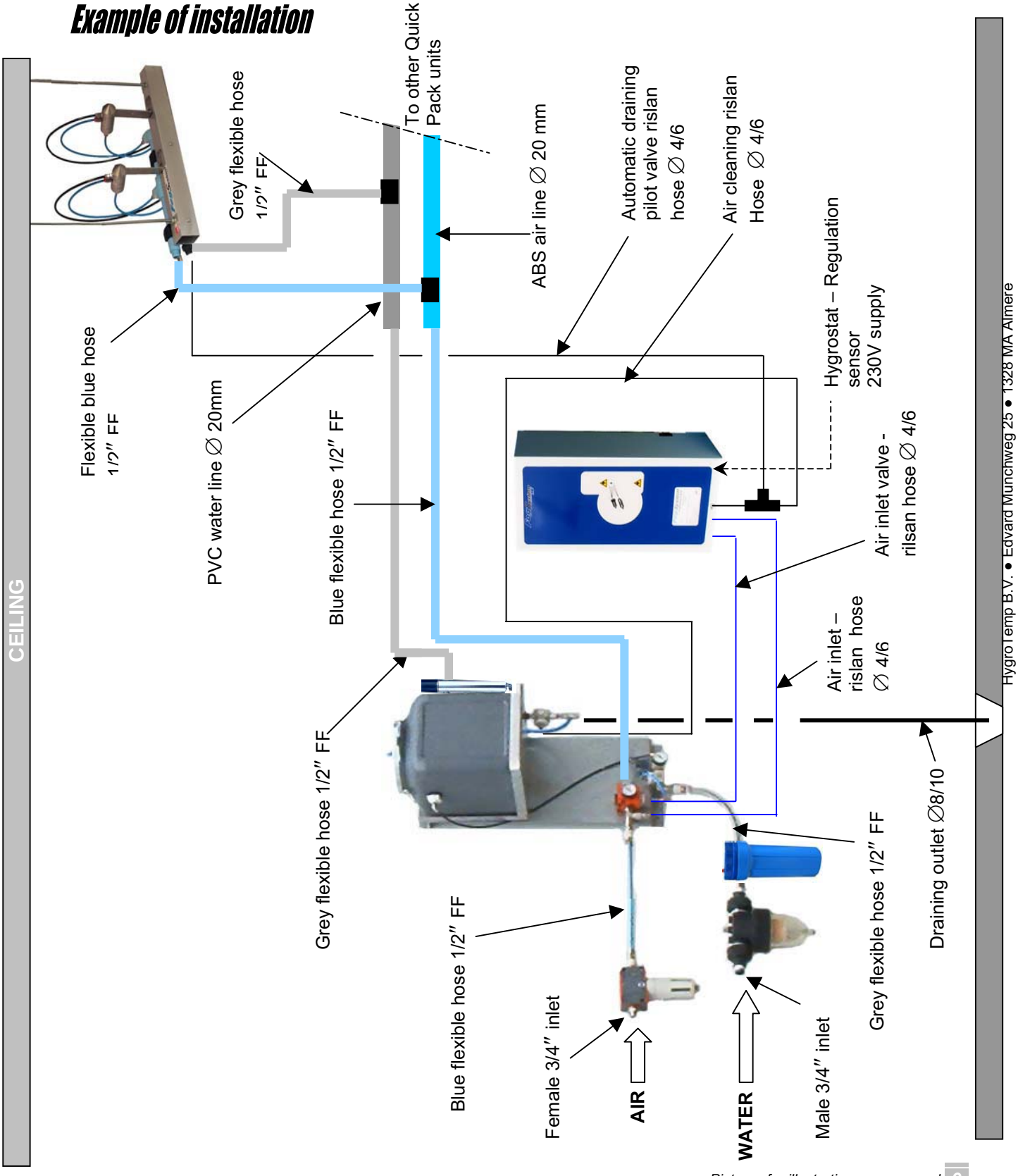
Picture for illustrating pruposes only

FogSystem

Venturi nozzle for large area

Quick-Pack model

Example of installation



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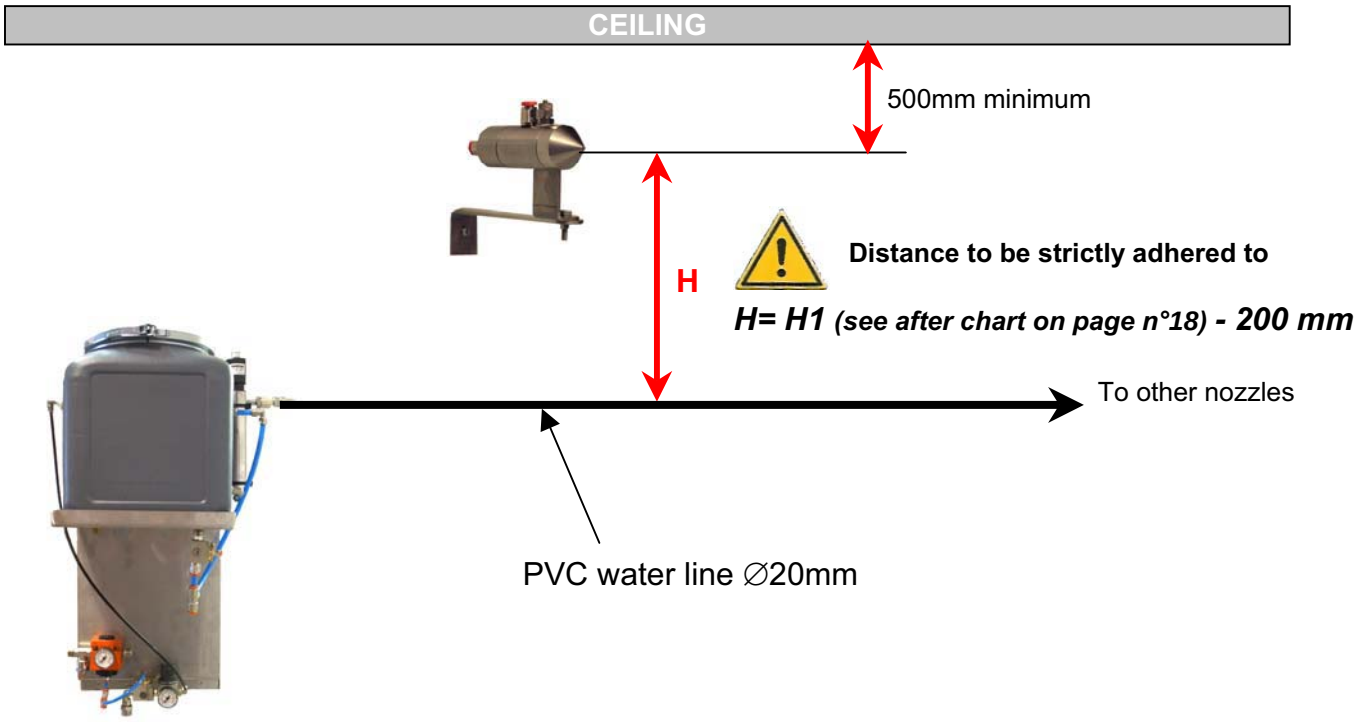
Picture for illustrating purposes only

FogSystem

Venturi nozzle for open space

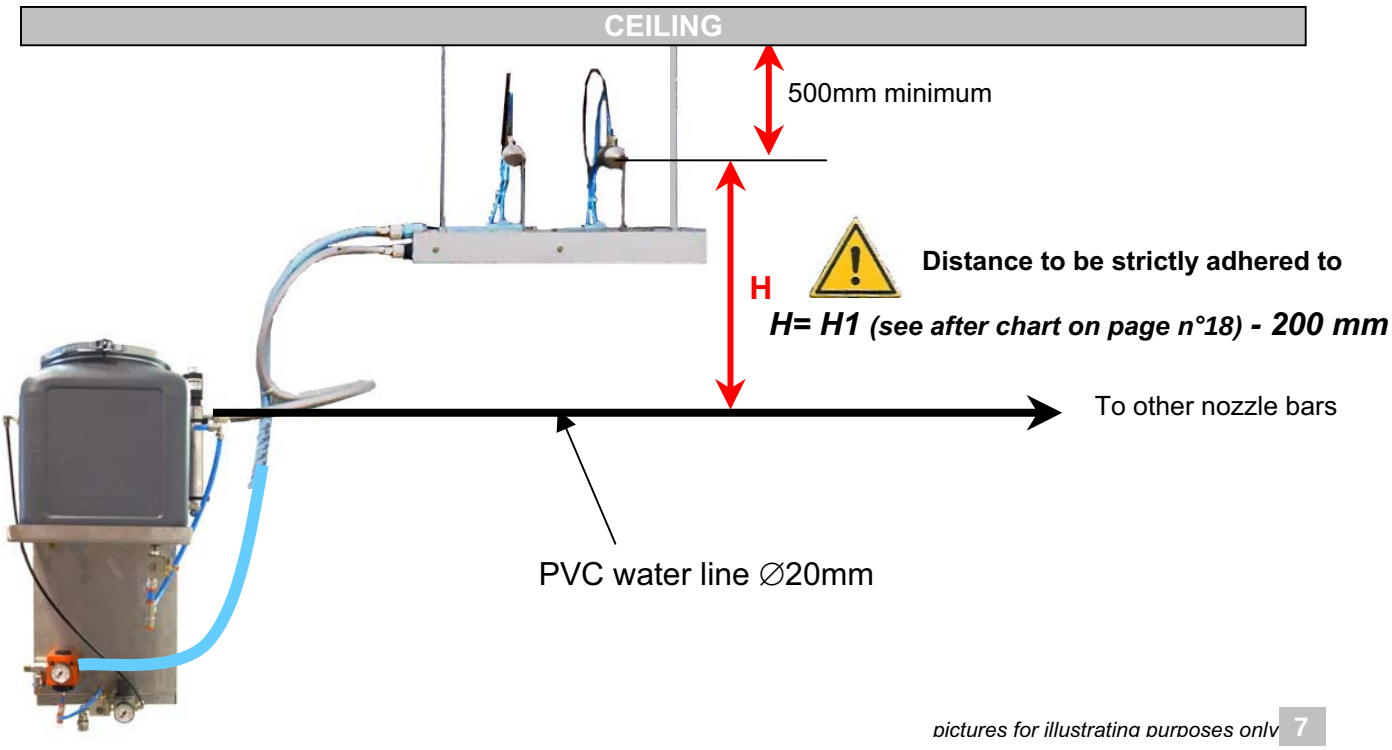
Height between nozzle and water level box

BV nozzle modular :



Height between nozzle and water level box

Quick-Pack BV :



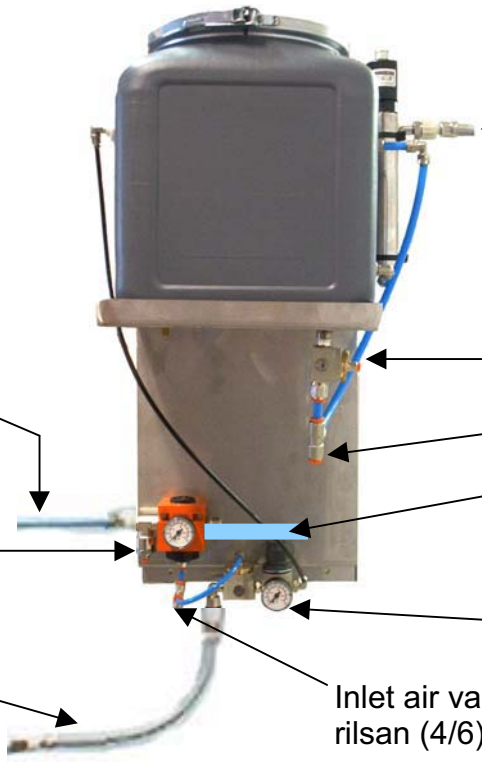
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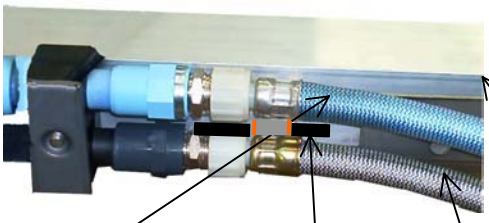
FogSystem
Venturi nozzle for open space

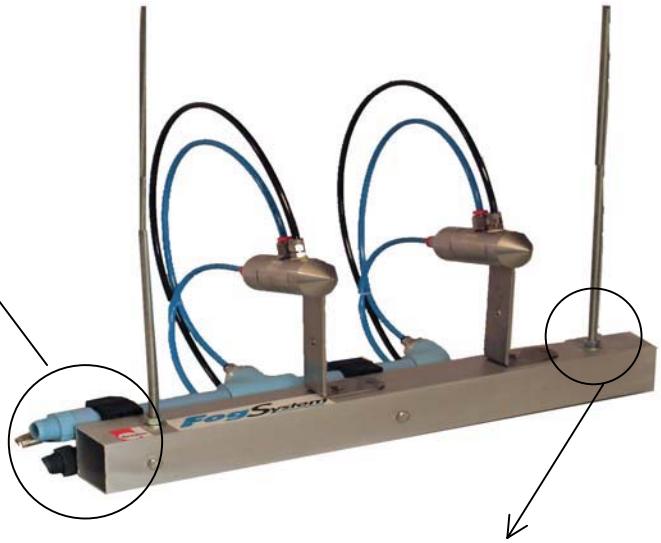
Composition parts

Water level assembly:



BV nozzle bar:





Air coupling flexible
hose (optionnal)

Air cleaning coupling
hose (optional)

Water coupling flexible
hose (optional)

3 drilled holes for nozzle bar
hanging by use of threaded rods
(not supplied)

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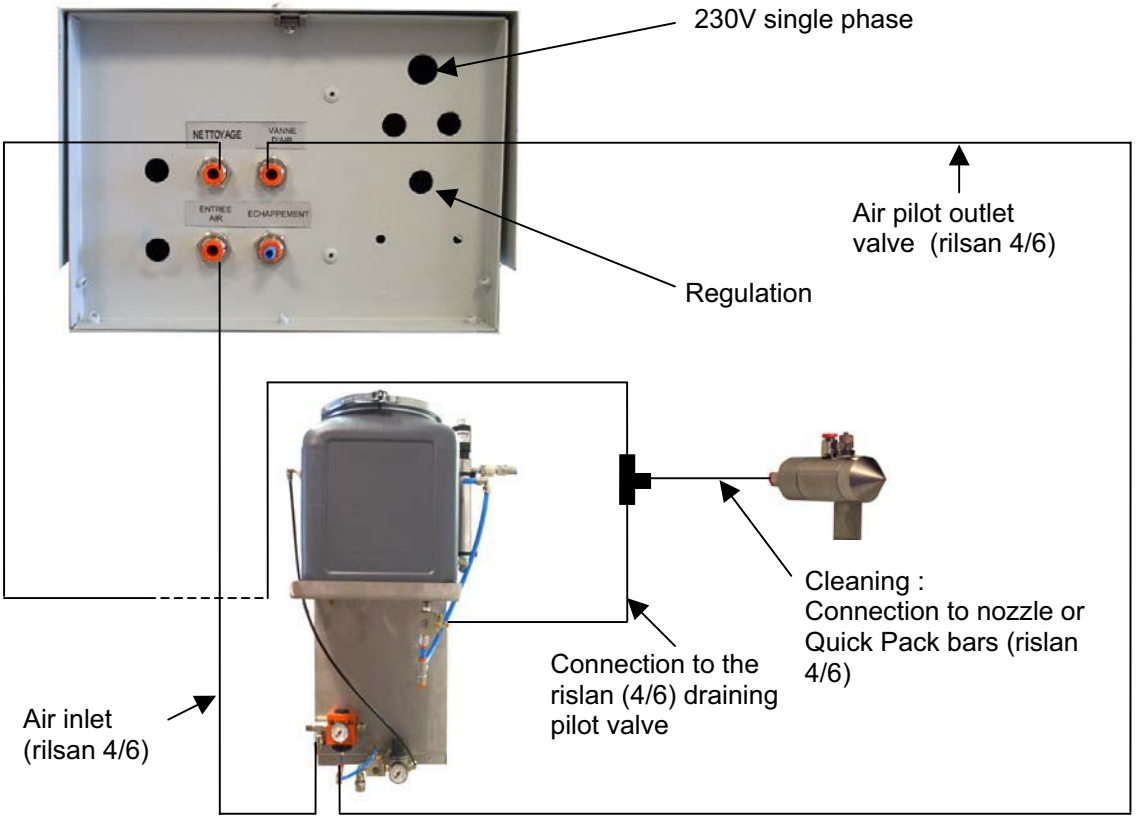
FogSystem
Venturi nozzle for large area

Proportional regulation cabinet

Identification :



Above view



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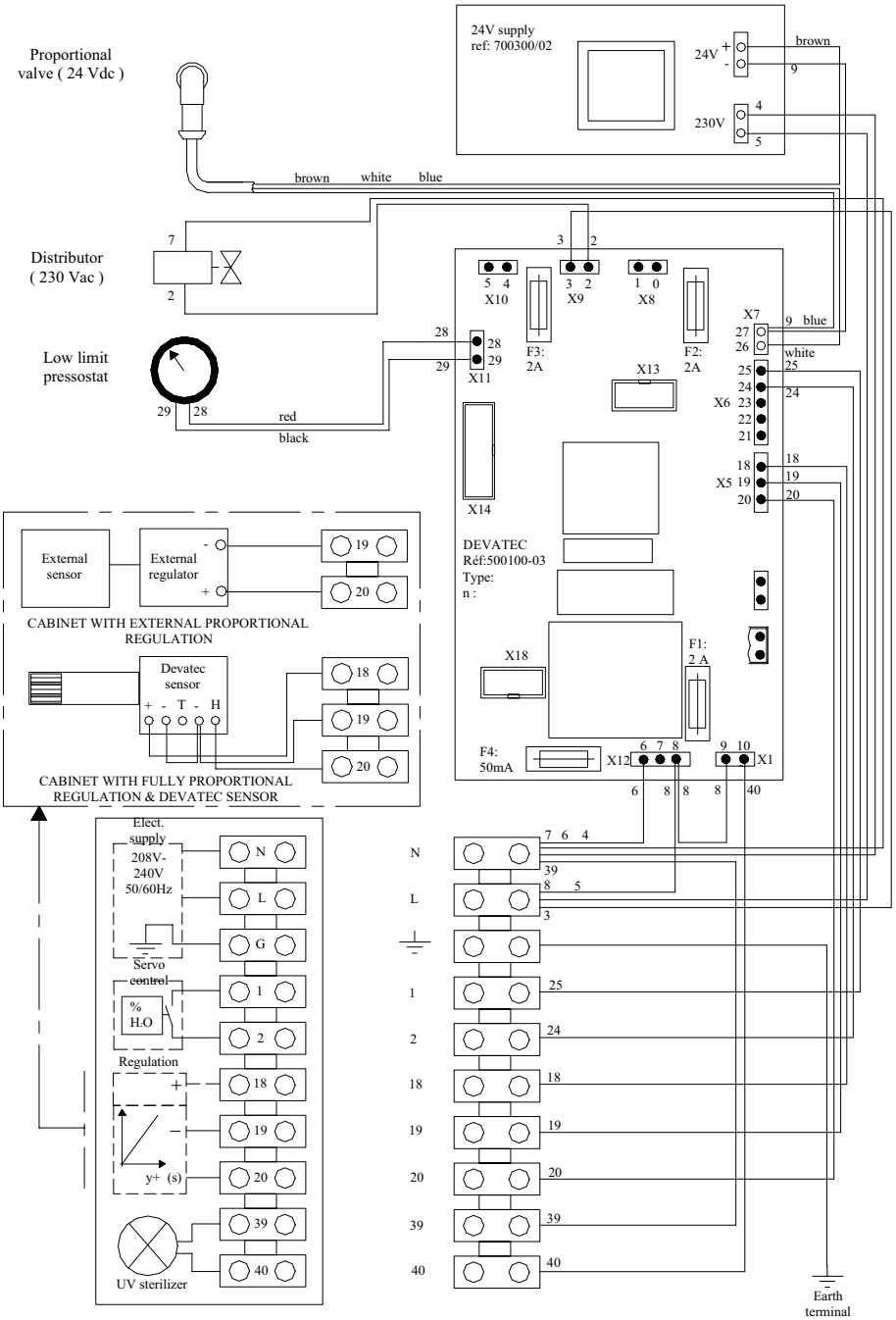
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FogSystem

Venturi nozzle for large area

Proportional regulation cabinet

Wiring scheme :

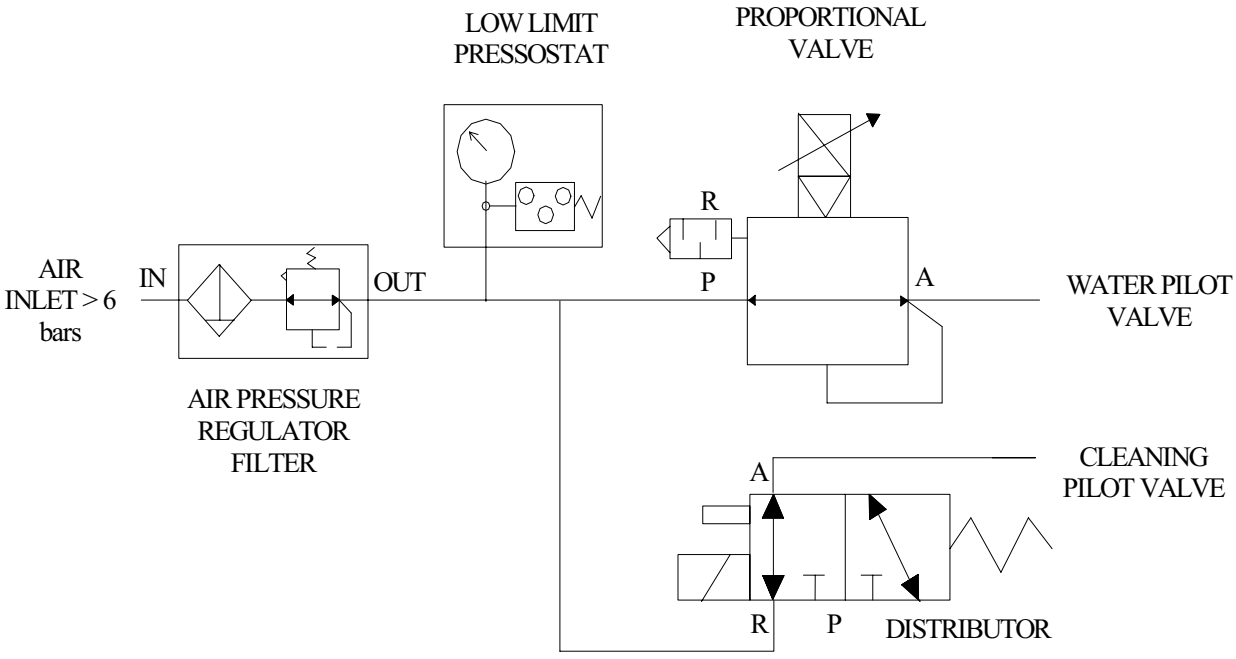


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FogSystem
Venturi nozzle for large area

Proportional regulation cabinet

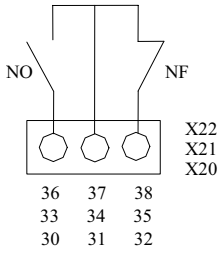
Pneumatical scheme :

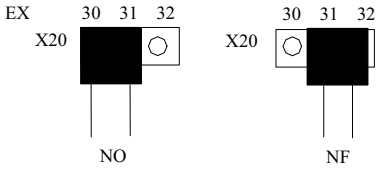


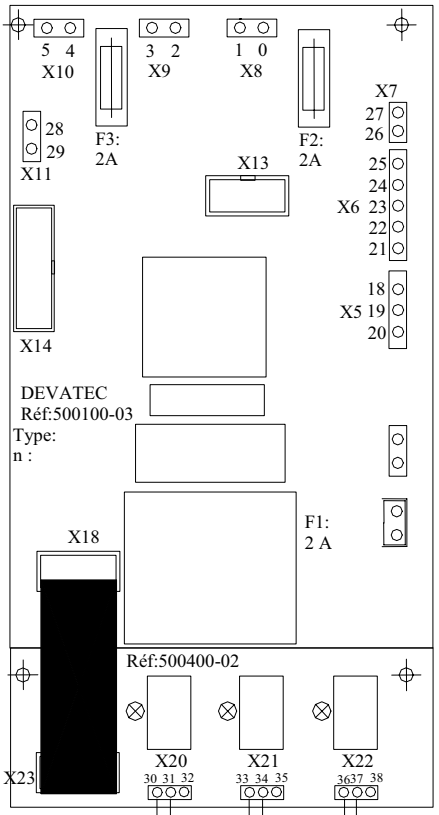
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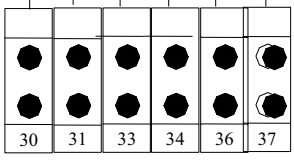
FogSystem
Venturi nozzle for large aera
Remote information board wiring scheme

You can choose a NO or NF contact, with
Position of the connector









TERMINALS 36 AND 37 STEAM PRODUCTION REMOTE WARNING

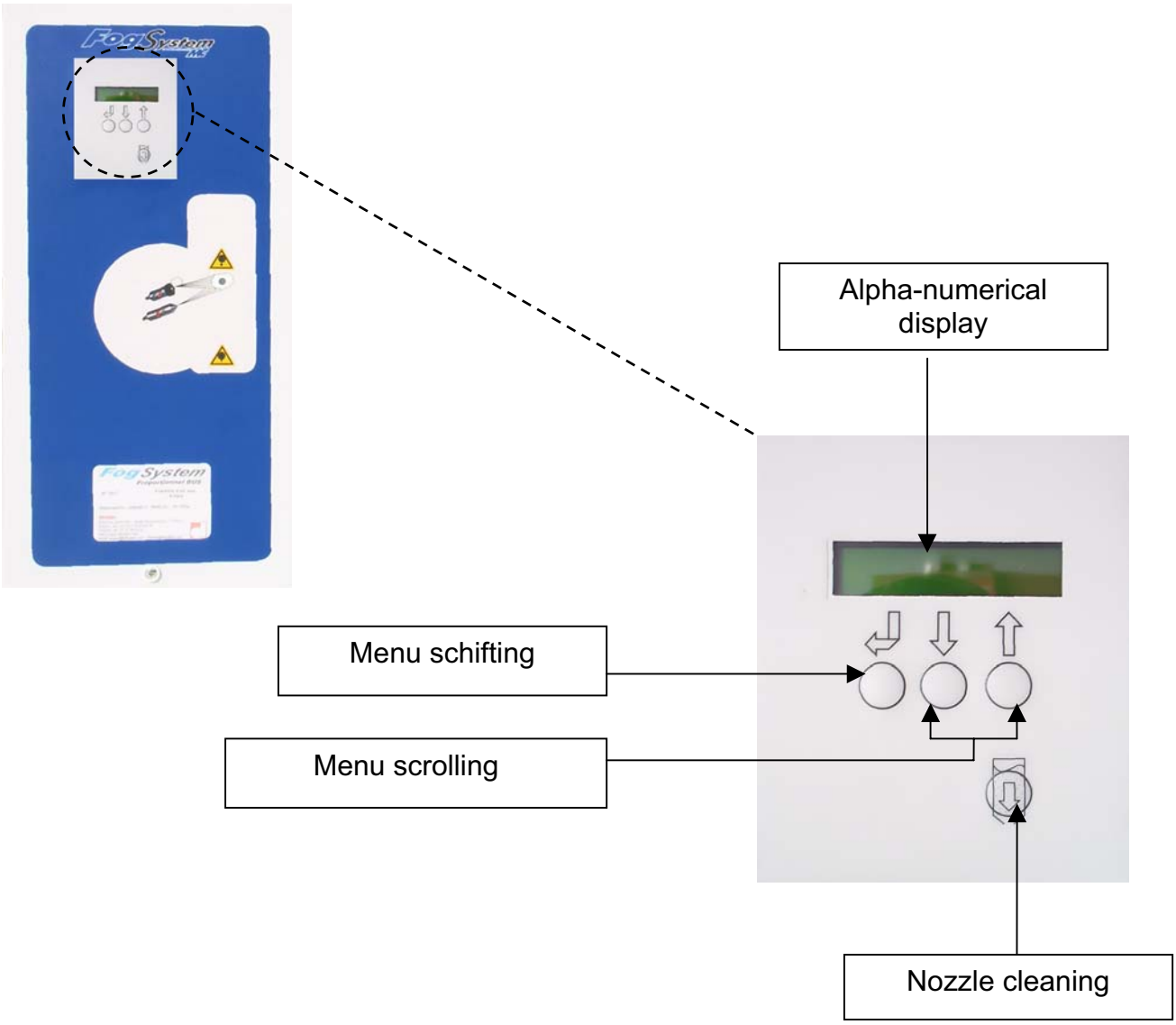
TERMINALS 33 AND 34 CIRCUIT BREAKER REMOTE WARNING (LACK OF AIR)

TERMINALS 30 AND 31 MAINTENANCE REMOTE WARNING (STERILISATOR)

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FogSystem
Venturi nozzle for large area

Model with display panel



The optional display allows to configure the cabinet and offers the reading of information .

Never use solvent for cleaning the cabinet.

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FogSystem
Venturi nozzle for large area

Model with display panel

The display cabinets provides three menus :

- **Humidifier status**

The « User Information » menu provides information on the operating status of the unit. No parameters can be changed from within this menu.

- **Humidifier configuration**

The humidifier configuration menu provides information only regarding the unit set up. No parameters can be changed from within this menu.

- **Changing unit configuration**

The « Changing Parameter System » menu allows the modification and adjustment of the operating pre-set parameters. The level 1 access code 2.3.4 is required to gain entry.

Warning message :

Low air pressure P1

This warning message is shown on the display window and a red lamp is lighted on the front panel of the cabinet (see after page 9).

Possible causes :

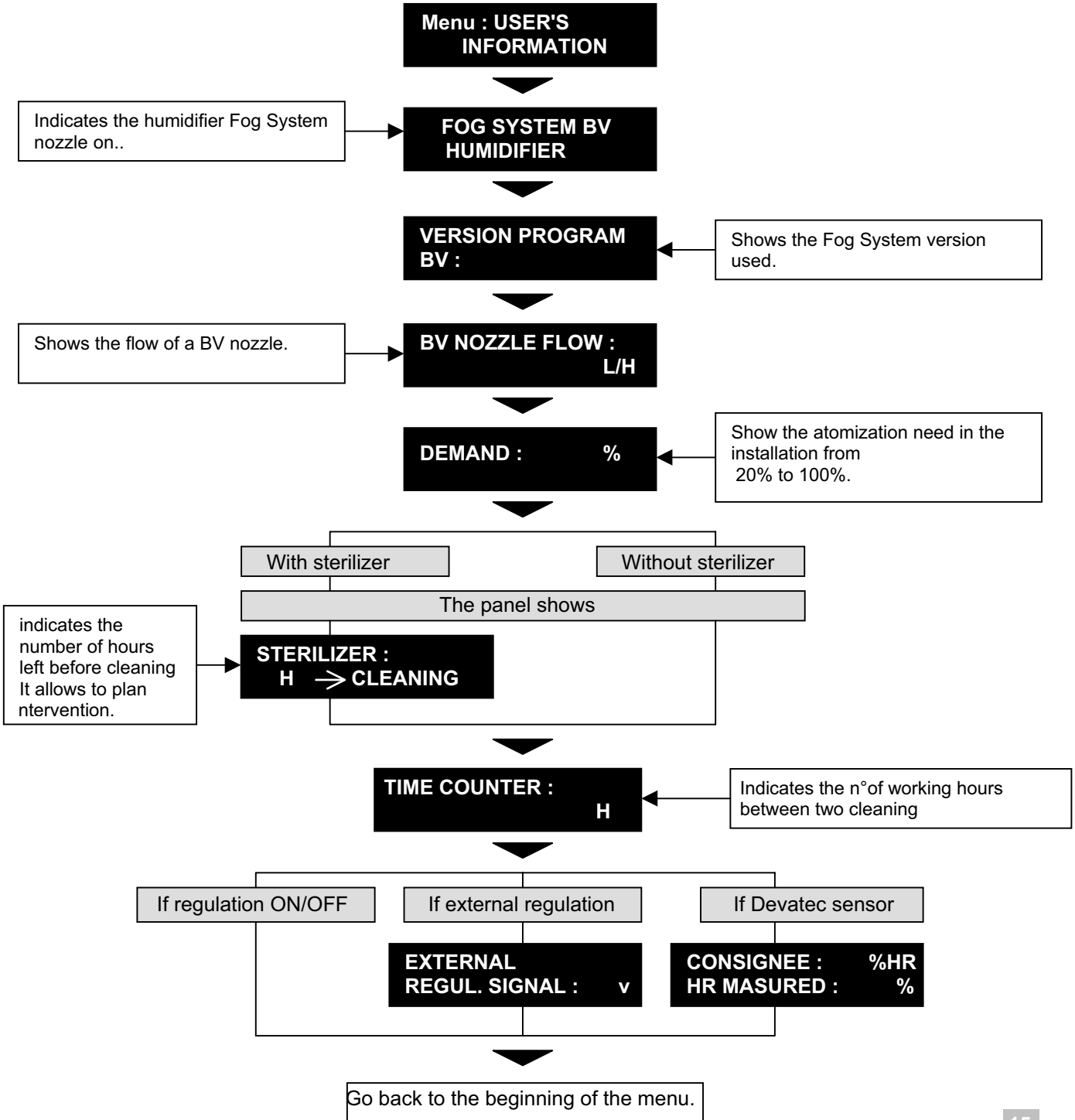
- The inlet air pressure may be lower a than 2.5 bar. Don't exceed 4 bar max. in adjustment
- The pressure gauge filter may be chocked
- The air supply may be cut off
- The air compressor may be faulty

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FogSystem
Venturi nozzle for large aera

User information menu

Caution : to scroll the menu press ⇅, an impulse at any time on ↵ allows you to change the menu.



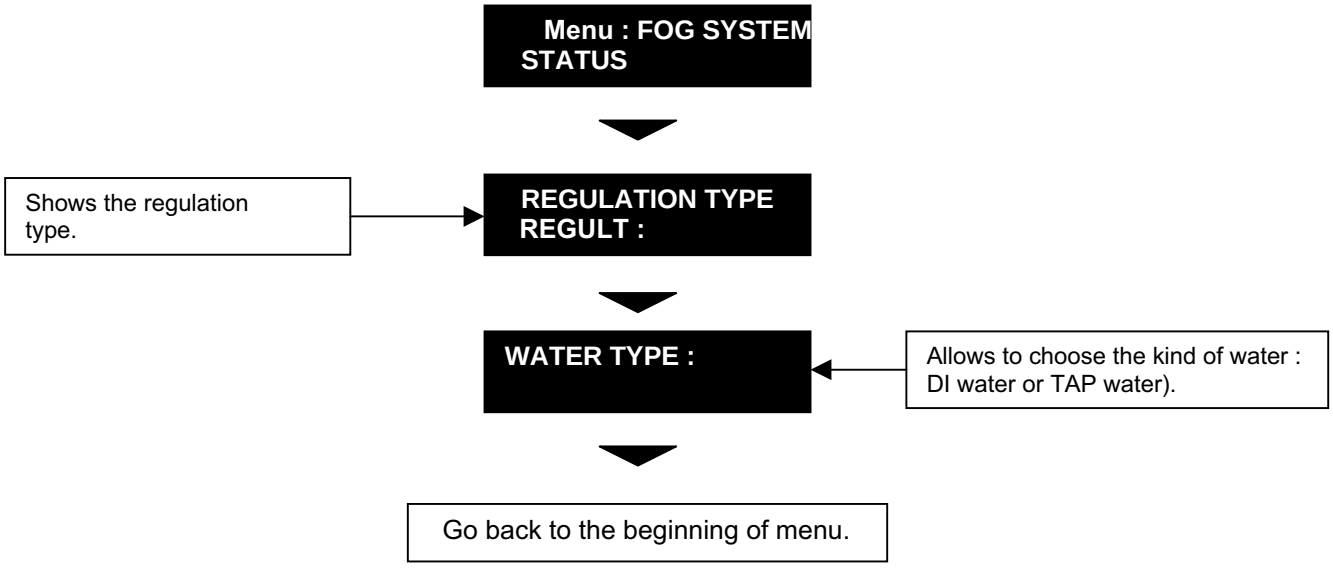
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FogSystem

Venturi nozzle for large aera

Humidifier status menu

Caution : To scroll the menu press, **an impulse at any time on** allows to change menu.



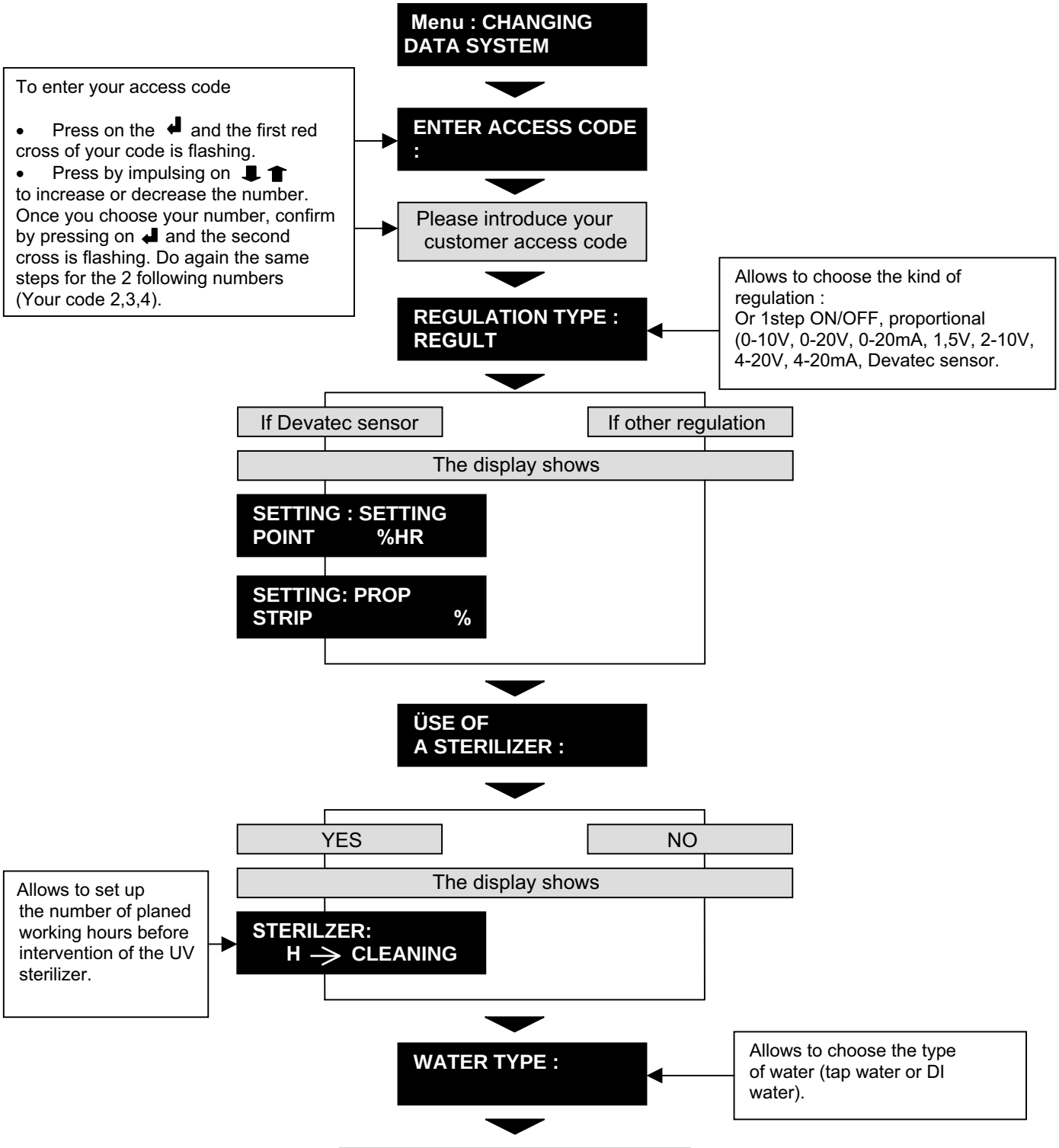
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FogSystem

Venturi nozzle for large aera

Changing data's menu (customer)

Caution : to scroll the menu press, ⬇⬆ an impulse at any time on ↵ allows you to change menu.

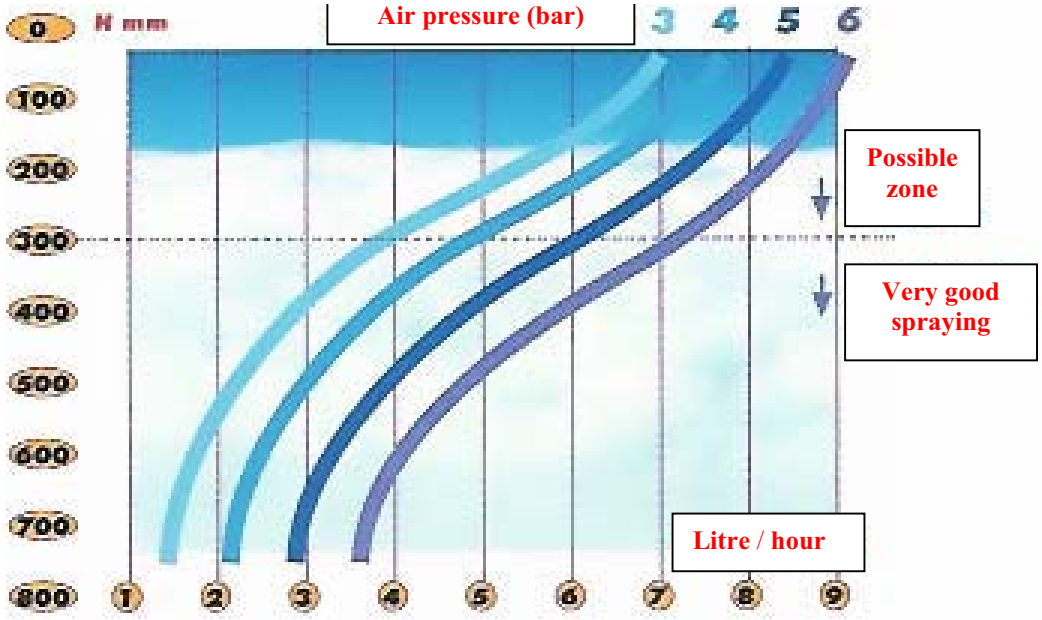


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FogSystem
Venturi nozzle for large aera

Consumption

Spraying graph :



Compressed air consumption for a BV nozzle (with atmospheric pressure) :

Air pressure in bar	Consumption (L/min)	Consumption (M3/H)
2 (b)	45	2,7
3 (b)	53	3,18
4 (b)	60	3,6
5 (b)	70	4,2
6 (b)	75	4,5

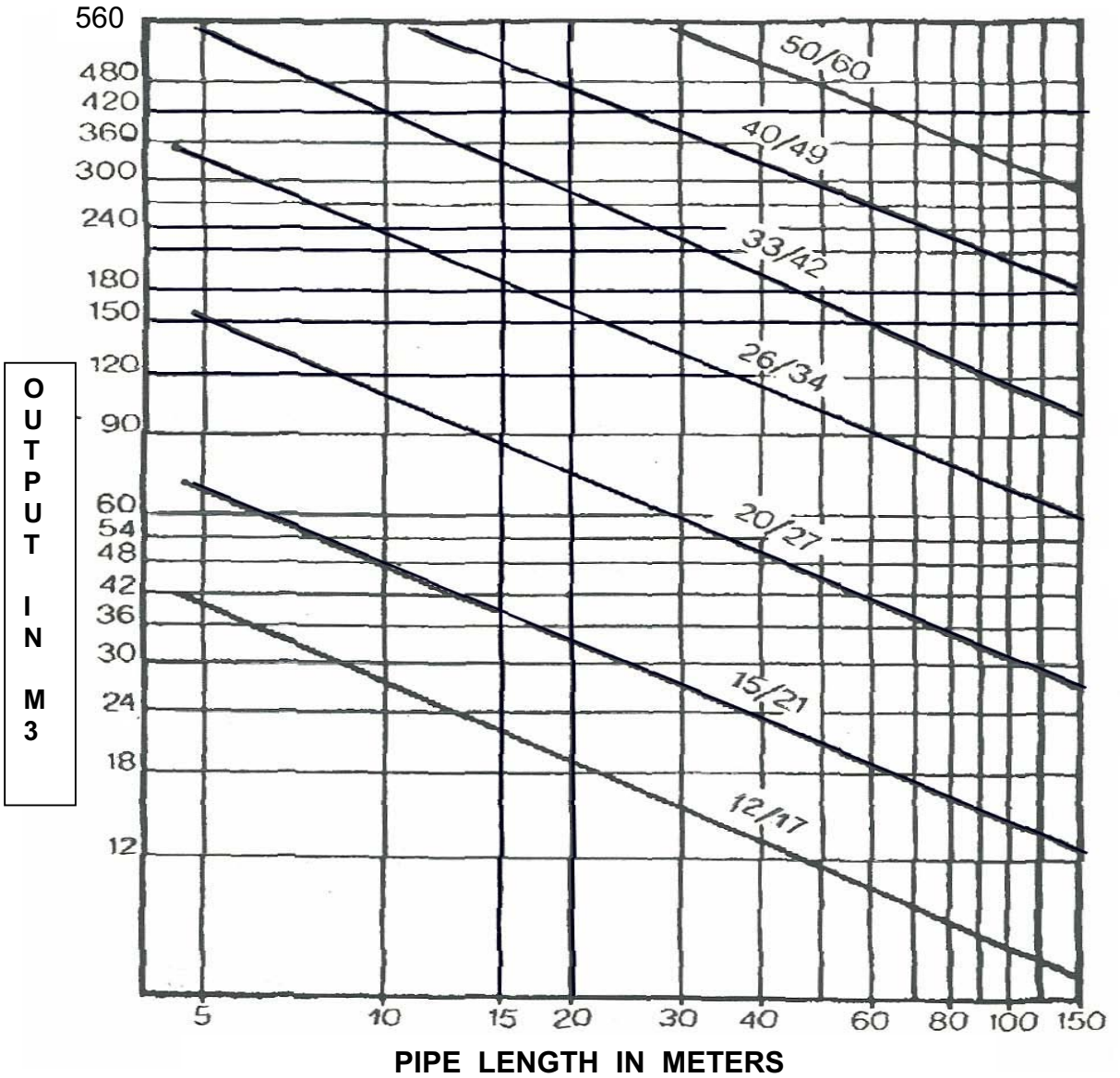
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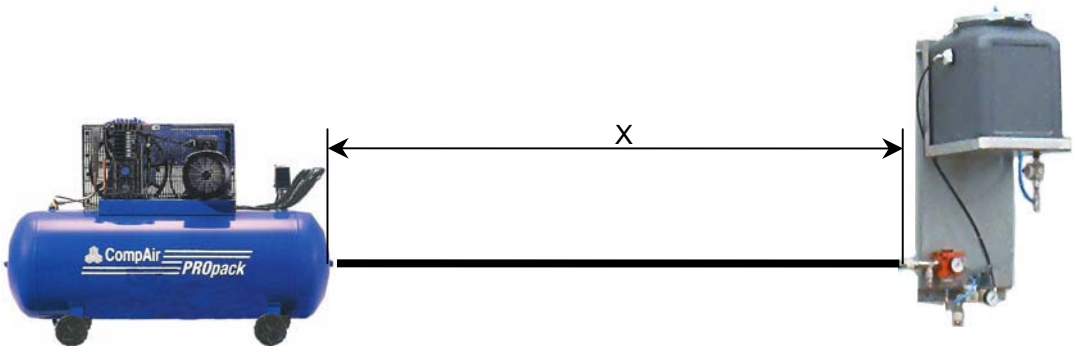
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FogSystem

Venturi nozzle for large area

Determination of the pipe diameter





Example :

For a pipe length of 40 metres (X) between the air compressor and the water level tank and a nozzle output of 2.44 m3/h

⇒ **hose Ø15/21**

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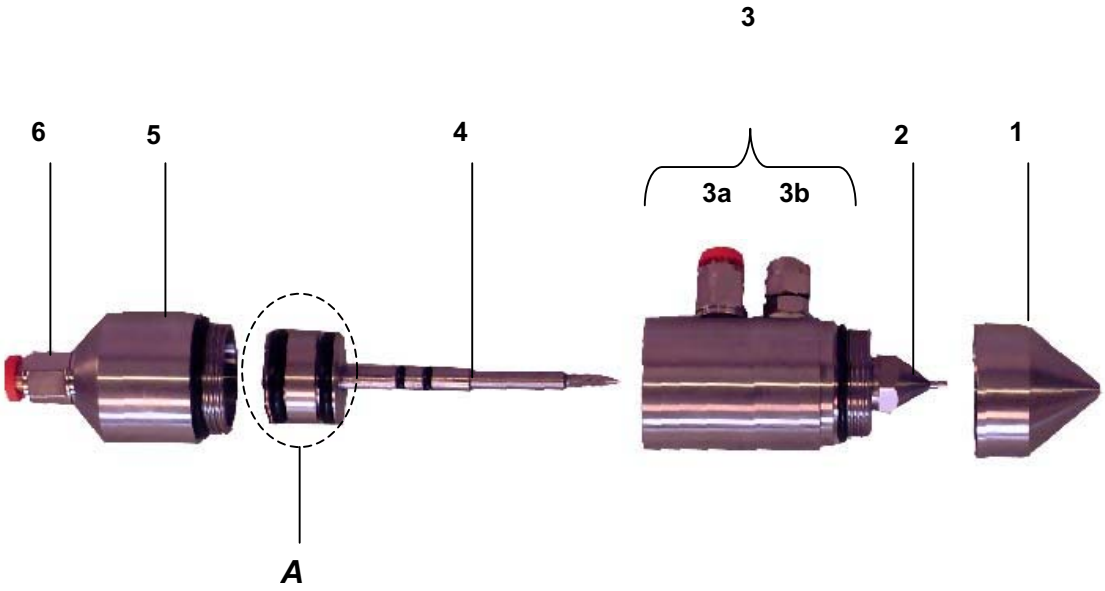
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FogSystem

Venturi nozzle for large aera

Nozzle maintenance

Composition parts :



Nomenclature :

1 – Spreading cone
2 – Jet
3 – Main front body 3a and 3b : water/air link 4-6 1/8
4 – Cleaning needle
5 – Back body
6 –Quick link for air 4-6 1/8

Cleaning : (to be made with heavy water only)

We recommend you:

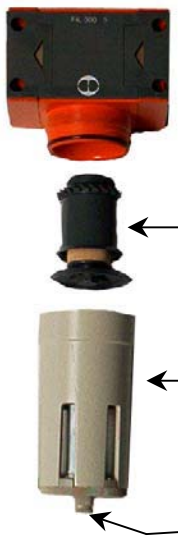
- To change the seal of the front main body (3), of the back body (5) and of the needle (4).
- To clean the spreading cone hole, the jet hole and the end of the cleaning needle.
- To grease the needle A part (4) and inside the back body (5).

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FogSystem
Venturi nozzle for large aera

Filters maintenance

Air filter :



Filtering component to clean or to change

Filter tank to clean.

Drain of the tank.

Water filter :

Air draining.



NW18 filter to change.

Bundle of 5 filters

Tank draining.

Air filter unlock key :



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FogSystem
Venturi nozzle for large aera

Water treatment

Water treatment for compressed air and water humidification system

Humidification by compressed air/water has the drawback to make a dust deposit from the mineral salts in the premises or on the products when used with heavy or softened waters.

Mineral salts must be eliminated before they enter the humidifier.

To demineralize water, you can use a demineralizing resins process or a membrane filtering one.

The initial investment is quite the same, but the exploitation cost with ion exchanging resins is prohibitive, whereas it is trivial with the membrane filtering.

For instance, a humidifier with a water maximum flow of 60 litres per hour needs about 600 litres a day on average, that is to say 219 m3 per year in order to maintain a 55% hygrometric rate.

In Paris, the water mineralization is about 40°F (400-700uSiemens). **To demineralize 219 m3 at 40° F, you have to saturate 4.380 litres of resins and the regeneration would aproximatively cost € 11200.** Indeed, the price of regenerating products, caustic soda and hydrochloric acid explain why this method is almost discontinued today.

With the membrane filtering, the annual explotation cost is about € 800 and mainly comes from the changing of pre-filters and membranes.

Another advantage of this process is that **the produced water is absolutely sterile** which is not the case in the exchanging resins system. What is more, the rejected water needs no neutralisation and does not pollute which is not the case when demineralizing with resins.

Your choice will be function of the humidifier maximum flow rate per hour. Moreover, the TH of the water to treat must be known because if it exceeds 20°F, you must schedule a softening unit in order to protect the membranes of the osmosers.

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FogSystem
Venturi nozzle for large area

Water treatment

Standard ant-bacterium system :

The water level cabinet and the pipes are automatically drained preventing thus the stagnation of water during long stops.



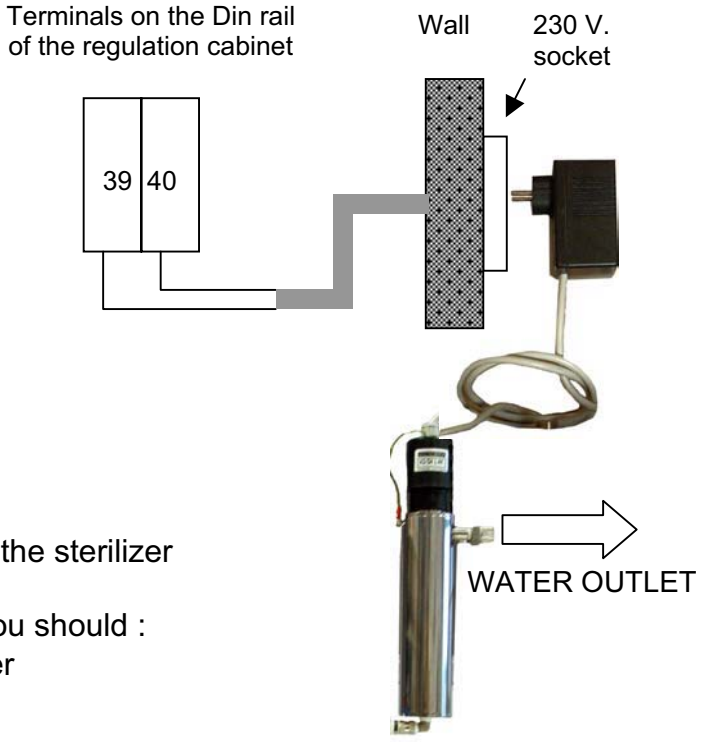
Standard anti-bacterium system with UV sterelizer :

UV sterilizer :

The ultraviolet rays are able to destroy bacterium, virus and other pathogenic microorganisms.
Single light ultraviolet sterilizer with polished stainless steel room.
1µ pre-filtration necessary

Avantages of the UV sterilization :

- Immediate bactericidal action.
- No contact tank.
- No chemical products added.
- No modification of the water quality.
- Low cost maintenance.
- 7000 hours duration UV lamp.



Caution : Do not exceed the maximum output of the sterilizer

If a sample of water for analysis must be made, you should :
- not exceed the maximum output of the sterilizer
- use a sterile tank
- Drain where the sample has been made

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