FogSystem

WATER ATOMIZER SYSTEM

HUMIDIFICATION

COOL ROOMS

devatec

FogSystem

Bus Ultrasonic for cool room

Description

FogSystem

Bus Ultrasonic for cool room

Selection

Company's name :……Activity :……..

Address :……

Zip Code : |_|_|_|_|_| Town :…… Country……

Telephone number :…… Fax number :……..

Contact name & position :…….....……..

Features of the cold room :

Lenght :…….. Widht :…….. Hight :…….

Parameters for studying :

- Internal cold room condition
  Temperature:……C° Hygrometry desired :……...%
- Square space occupied
  In :……m3 In quantity of product :……
- Material storage

……

- Number of evaporators existing or CONSIDERED :……..
- Compressed air existing ☐ YES ☐ NO
- If yes

Capacity of the air compressor :……m3/h Pression :…….bar Capacity of the tank :……..l

- Hygrometry regulation precise ☐ YES ☐ NO
- Regulation by timer ☐ YES ☐ NO

For a selection by fax / Email
Please contact your local representative

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Bus Ultrasonic for cool room

Basic components

BUS ultrasonic nozzle with bracket

FS/MCR3 manifold (for 3 nozzles max.)

FS/MCR15 manifold (for 15 nozzles maxi)

Optional equipment

Air filter

Water filter

UV sterilizer with 1µ filter 3/4″ inlet

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Bus Ultrasonic for cool room

ULTRASONIC BUS NOZZLE

DRY AIR ? HIGH TEMPERATURE ? A SLUMP IN QUALITY? MACHINERY BREAKDOWN?

One solution, the humidification by *FogSystem*

The FogSystem enables to solve hygrometry problems in the industries & services at low installation and maintenance costs.
FogSystem can be also use to cool down the air.

Functioning:

The ultrasonic nozzle BUS uses compressed air to eject water that splashes onto an ultrasonic resonator, atomising the jet of water.
Once broken down into particules, the fog is quickly absorbed by the air.
This nozzle can be used in any air flow (air handling units, air ducts, cold storage rooms, etc)

In a cold storage room, the BUS is fixed on a bracket and situated in the evaporator flow.
The fog pattern must be in the air flow.

Made in stainless steel, without mixing chamber, the maintenance is reduced to a minimum.

The fog is so misty that it is fastly absorbed by the air

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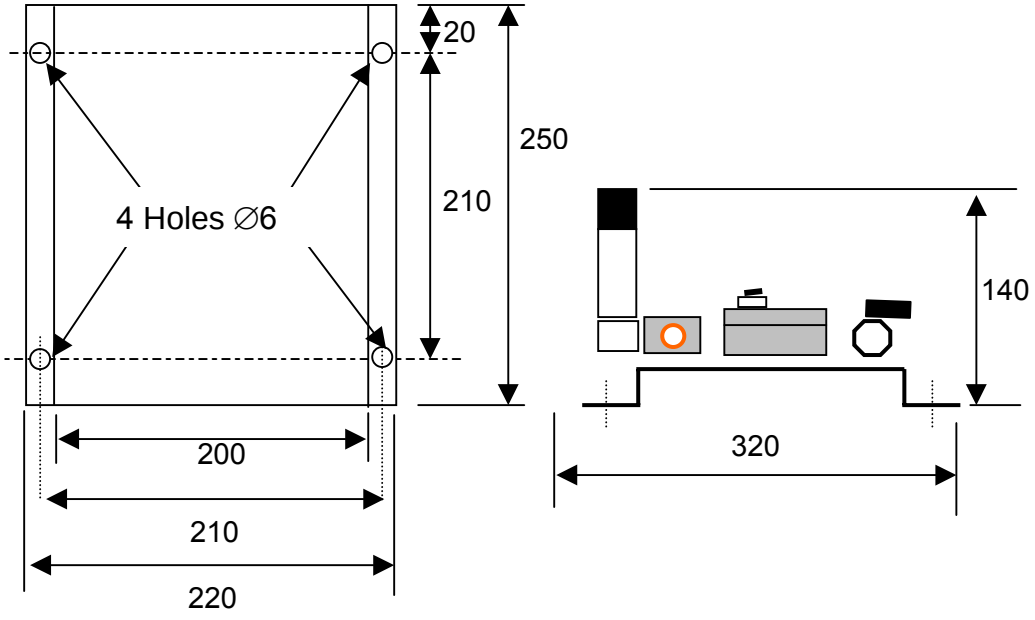
Dimensions

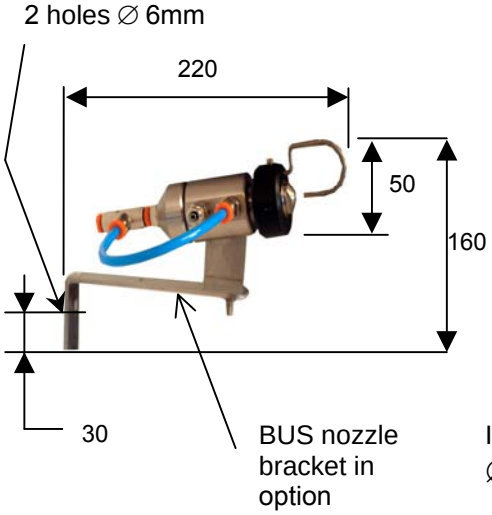
The MCR 3 manifold can drive up to 3 BUS nozzles.
The MCR15 manifold can drive up to 15 BUS nozzles.

All MCR3 and MCR15 manifold components are fitted on a stainless steel bracket.

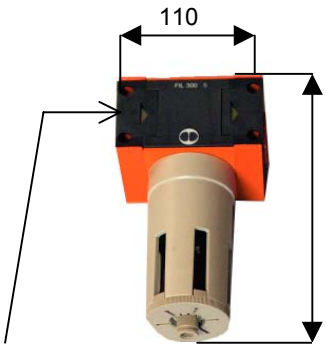
MCR3 and MCR15 manifolds: ***(dimensions in mm)***



BUS nozzle



Air filter



Water filter

pictures for illustrating purposes only

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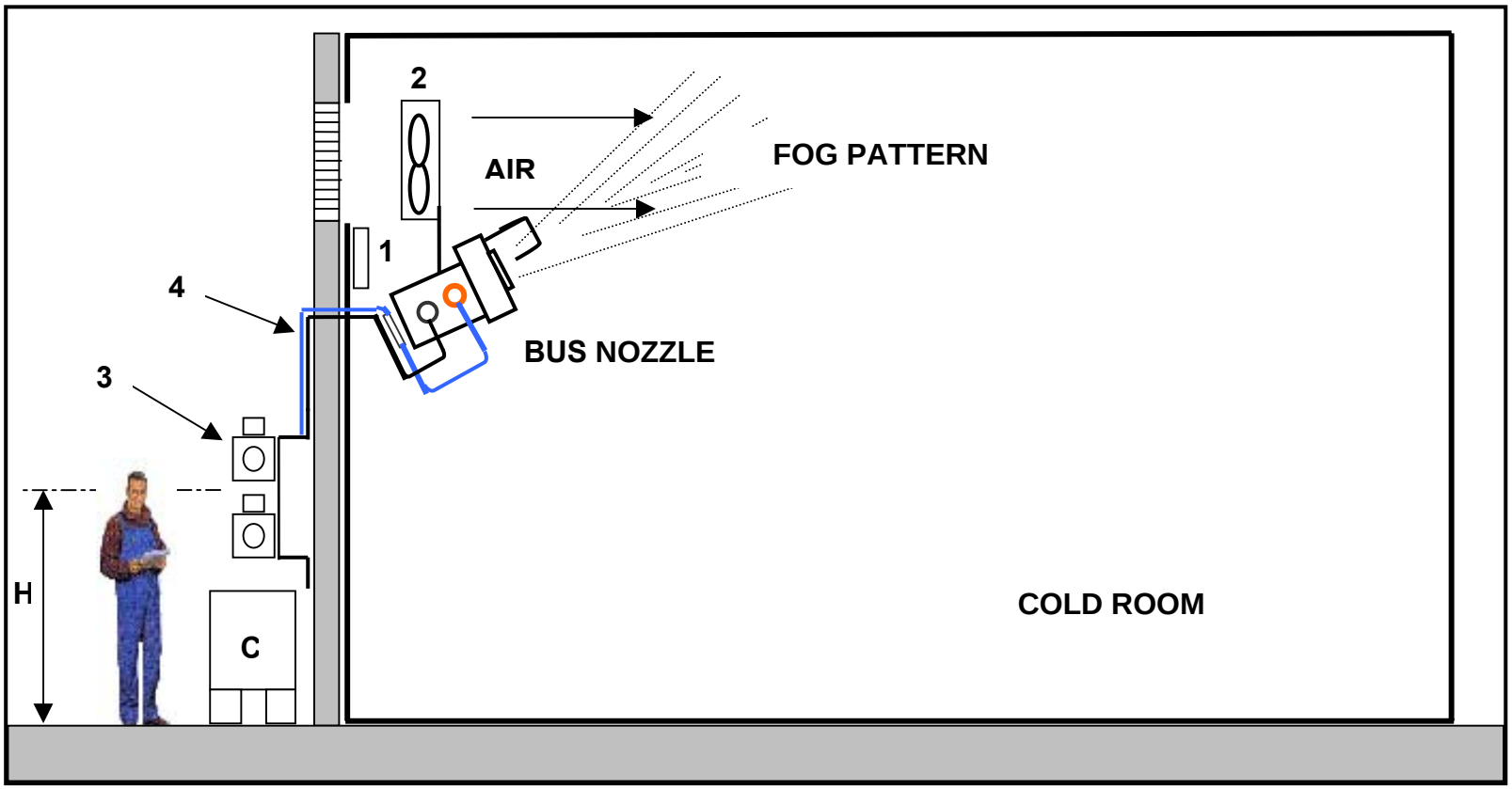
Exemple of installation



Data :

1 Hygrostat (not supplied by Devatec).
2 Evaporator (not supplied by Devatec).
3 MCR3 or MCR15 manifold
4 Rilsan pipe
C Compressed air
H Recommended height

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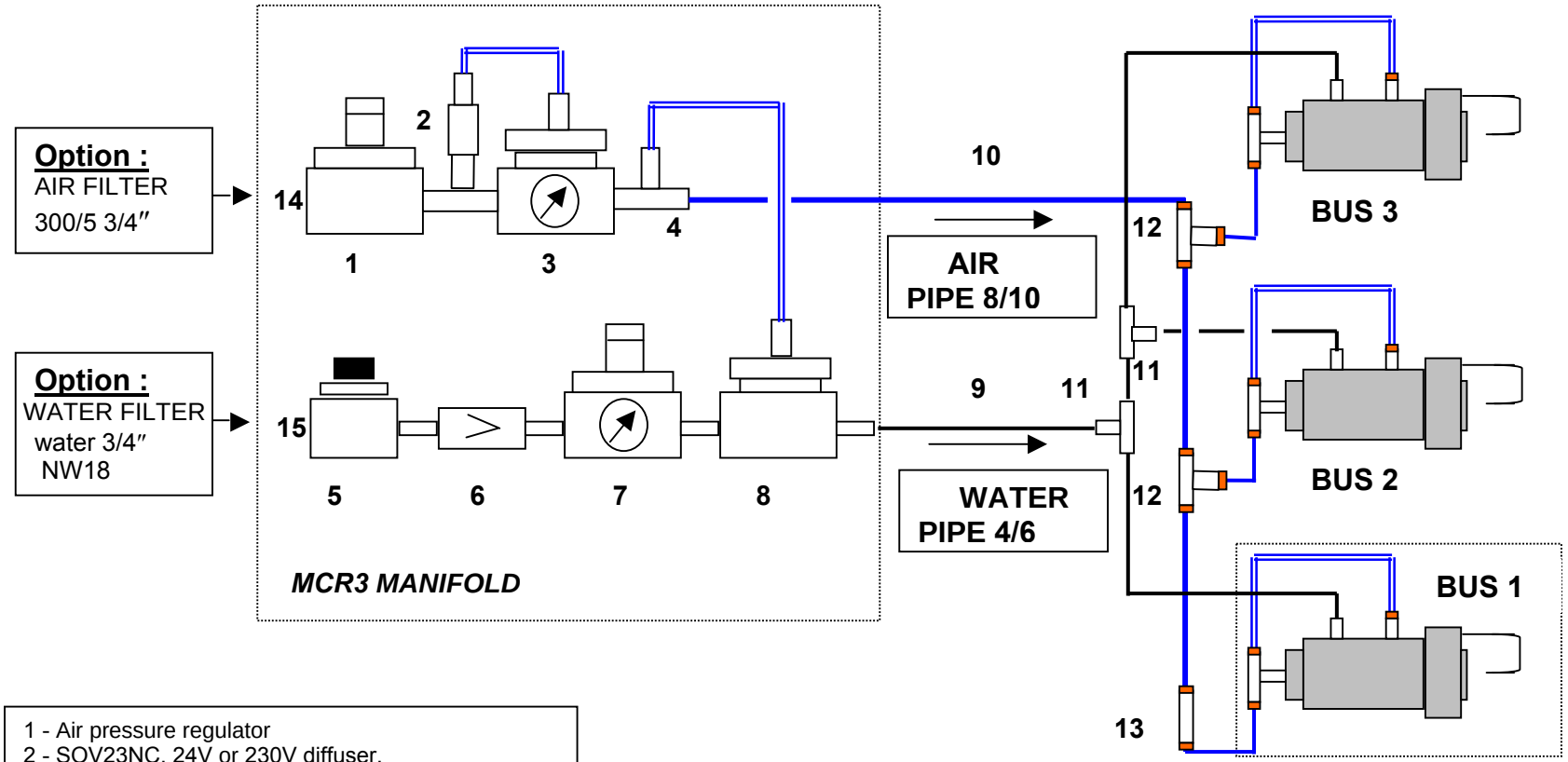
Pneumatic raccording MCR3



1 - Air pressure regulator
2 - SOV23NC. 24V or 230V diffuser.
3 - Air valve with manometer.
4 -Outlet union 10/8.
5 - Regulating valve.
6 - Anti return valve.
7 - Water pressure regulator with manometer.
These components are fixed on stainless steel bracket
8 - Water valve, drived by air pressure.
9 - Pipe dia. 6/4 (TO BE ORDERED).
10 Pipe dia. 10/8 (TO BE ORDERED).
11 T union 4 / 6. (TO BE ORDERED).
12 T union 10 / 8 - 4 / 6 (TO BE ORDERED).
13 Union 10/8-4/6. (TO BE ORDERED).
14Union F 1/4".
15 Union F 1/2".

Assembled and delivered complete.

Possibility to connect 1, 2, 3 nozzles "BUS" to the manifold.
Minimum of air pressure in Ref 14 = 5 Bars = 72.5 PSI.
Air consumption for 1 buse "BUS" at 4 bars = 4,8 M3/H = 2,825 CFM. (See table page 16).
Minimum water pressure in ref 15 = 4 bars = 58 psi.
Water flow of BUS : 2 L/h to 8 L/h according the air and water pressures.

COMMISSIONING.
1 - Ckeck all installation (see handbook).
2 - Check that the water tap is correctly locked REF 5.
3 - Push and turn the regulator REP 1, to set the air valve manometer
REP 3 to 4 bars.
4 - Open the water stop cock REP 5, push and turn the water regulator REP 7 to set manometer at 3 bars.
5 - Connect the hygrostat. **(Not supplied by Devatec)**

NOTE : with a water pressure at 3 bars, and an air pressure at 4 bars, the water flow will be 8 L / H with a very thin fog.
To minimize the flow, decrease the air pressure.
For a good result, the air pressure must be 1 bar higher than the water pressure.

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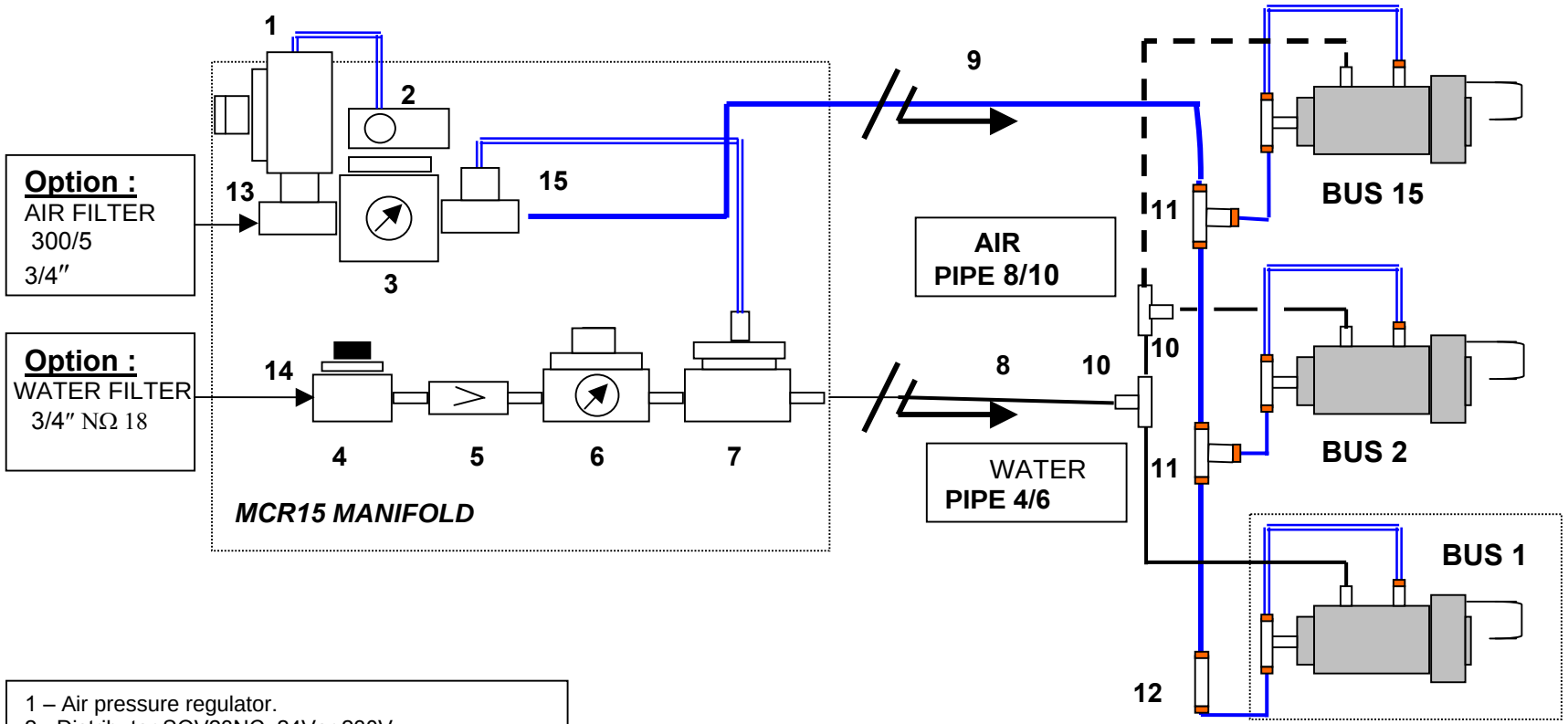
Pneumatic raccording MCR15



1 – Air pressure regulator.
2 - Distributor SOV23NC. 24Vor 230V.
3 - Air valve with manometer.
4 - Valve.
5 - Anti-return valve.
6 -Water pressure regulator with manometer.
These components are fixed on stainless steel bracket
7 - Water valve drived by air pressure.
Union **1/4" F.**
8 -Pipe dia. 6/4 (TO BE ORDERED).
9 Pipe dia. 10/8 (TO BE ORDERED).
10 T UNION 4 / 6. (TO BE ORDERED).
11Union en T 10 / 8 - 4 / 6 (TO BE ORDERED).
12 Union 10/8-4/6. (TO BE ORDERED).
13 Union F 1/2".
14 Union F 1/2".
15 Union F 1/2".

Assembled and delivered complete.

Possibility to connect 1 to 15 nozzles "BUS" to the manifold.
Minimum air pressure in Rep 14 = 5 Bars = 72.5 PSI.
"BUS" nozzle air consumption at 4 bars = 4,8 M3/H = 2,825 CFM. (See table page 16).
Minimumwater pressure in Rep 15 = 4 bars = 58 psi.
Water flow per BUS : 2 L/h to 8L/h following the air and water pressure.

COMMISSIONING.
1 - Check the installation (see manual).
2 - Check that the water stop cock is closed in REP 5.
3 - Push up and turn the air regulator REP 1, ti adjust the manometer of the air valve REP 3 to 4 bars.
4 - Open the valve REP 5, push up and turn the water manometer REP 7 to adjust it at 3 bars.
5 - Connect the hygrostat. **(not supplied by Devatec)**.

NB : With a water pressure of 3 bars, and an air pressure of 4 bars, the water flow will of 8 L / H with a very thin atomisation.
To minimize the flow, bring down the water pressure.
For a good atomisation the air pressure must be1 bar higher than that of the water.

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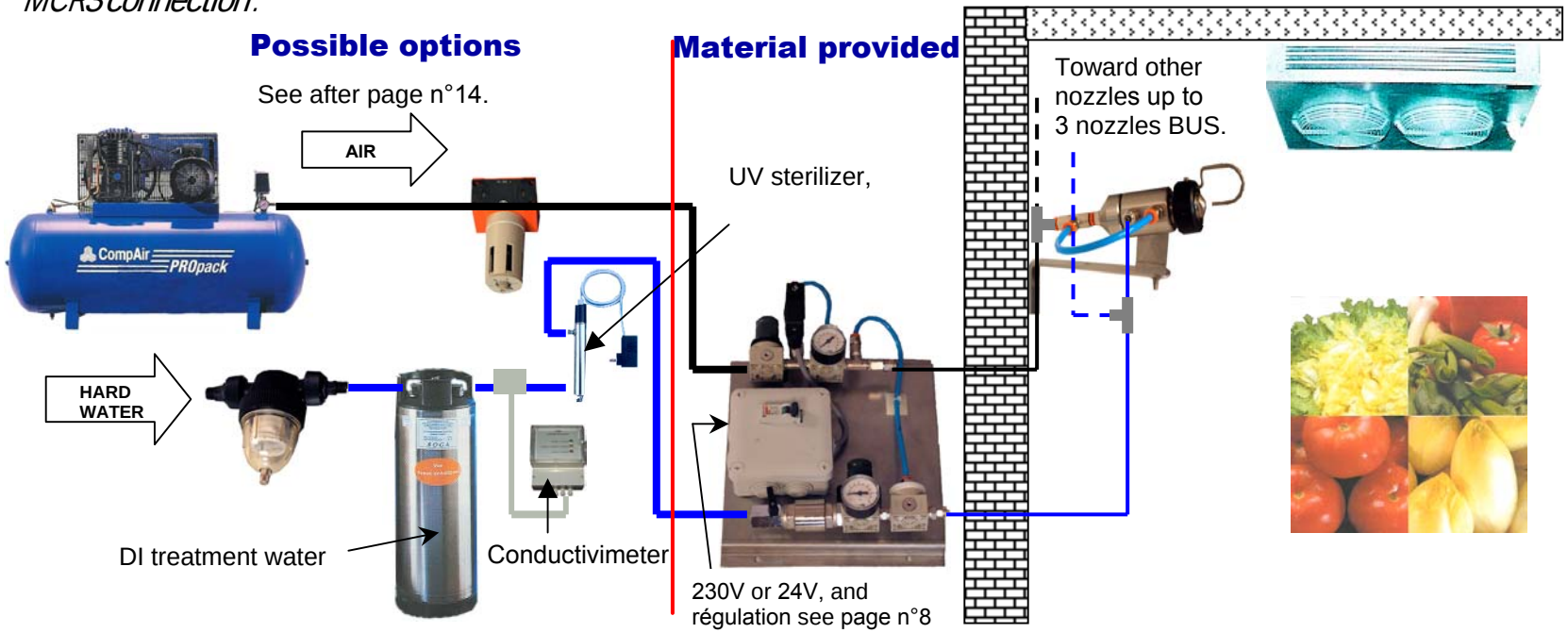
Exemple raccording MCR3 and MCR15

MCR3 connection :

Possible options

See after page n°14.

Material provided

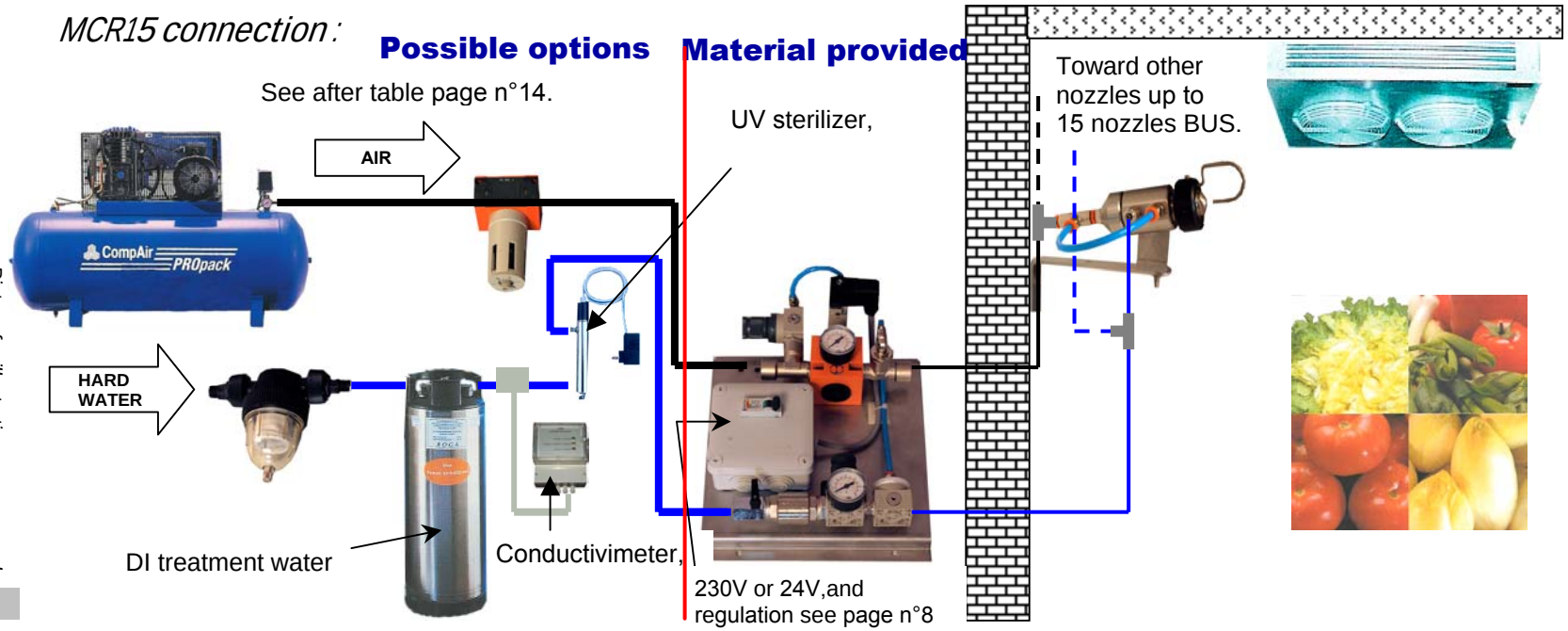


MCR15 connection :

Possible options

See after table page n°14.

Material provided



Picture for illustrating purposes only

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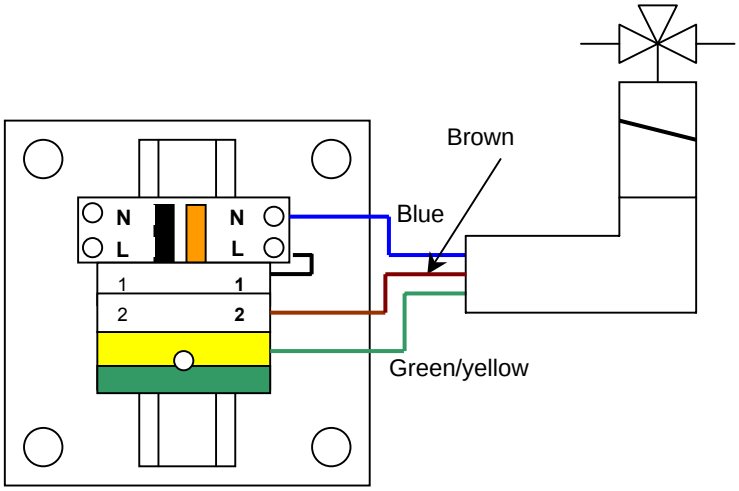
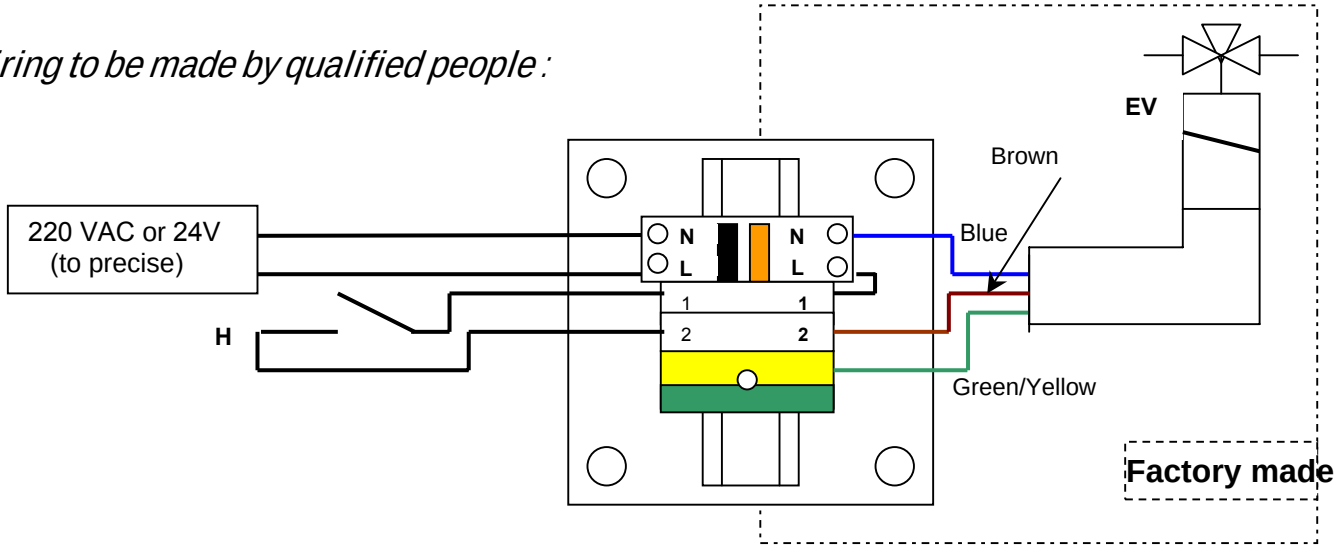
Electrical connections

Factory made wiring:



Wiring to be made by qualified people :



SUPPLY: 220 VAC - POWER 10 W/H
24V - POWER 10 W/H

CB : Magnet circuit breaker 2A/selector switch ON/OFF.
1-2 : Hygrostat connection.
H : Hygrostat ON/OFF or timer. **not provided**
EV : Valve on the MCR3 or MCR15 manifold.

The electrical connection to valve EV is via the waterproof cable grommet.

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TECHNICAL FEATURES

WARNING:

Minimum of air pressure : 5 Bars
Minimum of water pressure : 4 Bars } before the manifold

ADJUSTMENT OF THE REGULATORS :

Pull up and turn the manometer button to adjust the air and water pressures (figure 1), and save adjustments by pushing down (figure 2). See below.

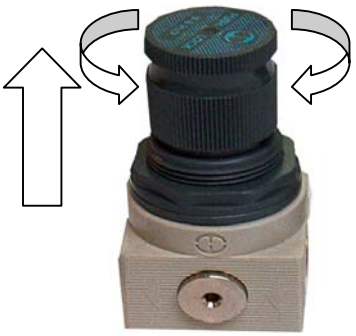

Fig.1

Fig.2

Commissionning :

1 : Inspect the installation and the connections.
2 : Check the water valve closed REP 5 or 6.
3 : Switch the magnet circuit breaker on. The valve is powered on if hygrometry is required
4 : Pull up and turn off the button of the air pressure regulator REP1 to adjust the manometer at 4 bars of pressure.
5 : Open the water valve.
6 : Pull up and turn off the button of the water pressure REP7 for the MCR3 and REP6 for the MCR15, to get a water pressure of 3 bars.
7 : Push down all buttons to save the adjustment.

Note :

With a water pressure of 3 bars and an air pressure of 4 bars, the water flow will be of 8 l/h and air consumption will be of 4,8m3/h.
To reduce the spray, decrease the water and air pressure valve, adjust the regulator below.

The air pressure must be 1 bar higher than the water pressure.
GREAT SAFETY : NO AIR = NO WATER = NO RISK OF DROPPLET OR FLOODING.

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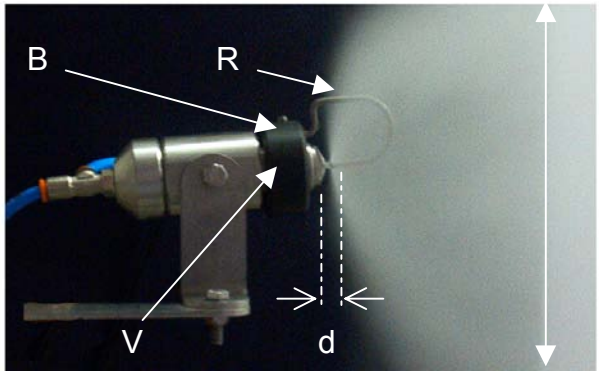
Adjustment of the nozzle

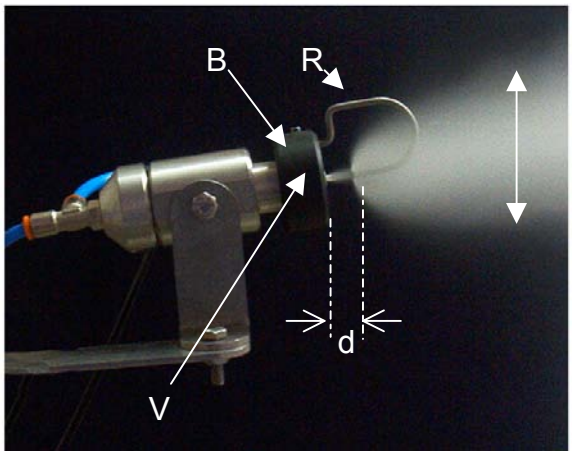
The resonator :

The position of the resonator (R) can be adjusted to get a more or less wide fog pattern.
The closer the resonator is of the jet hole, the larger the fog pattern is.

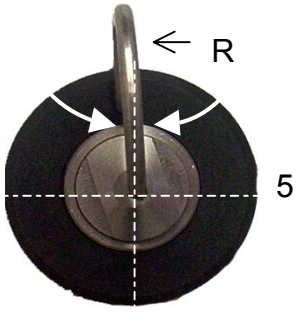
- To widen the fog pattern, untigthen the small screw (V) with an Hexagon key ∅ 2.5) and move gently back the ring (B) to decrease the spay distance (d).



- To narrow the fog pattern, untighten the small screw (V) with an Hexagon key Diam 2.5 and move the ring gently on (B) to increase the spray distance (d).



- Make sure that the resonator end (R) is exactly in line with the nozzle jet hole (5).



5

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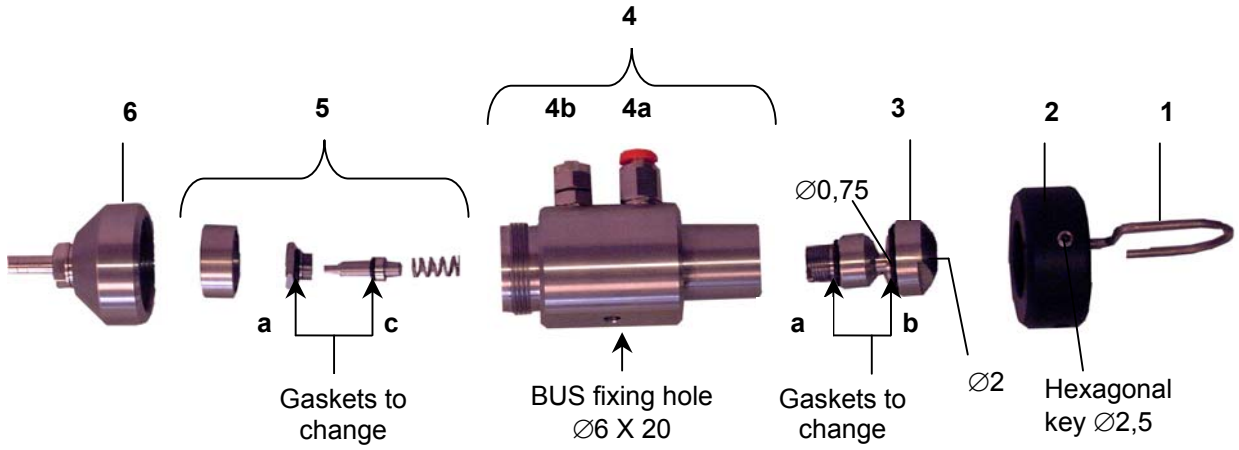
Nozzle maintenance

Components :



Nomenclature :

1 – Resonator
2 – Ring
3 – jet spray outlet + gaskets : a (7,65 X 1,78) + b (14 X 1,78).
4 – Main body 4a &t 4b = air/water unions 4-6 1/8
5 – Needle + seat + spring + shaft + gaskets a (7,65 X 1,78) + c (3,68 X 1,78).
(bundle of 10 pieces)
6 – Rear body

Cleaning : (for hard waters only)

It is recommended to change the gaskets of the jet spray outlet (3) and of the needle (5), to clean the resonator (1) and also the ∅ 2mm & ∅ 0,75 mm jet spray holes (3).

The harder the water is (TH), the more frequent the maintenance will be.

To clean the jet spray, proceed as follows (s.a. page 12).

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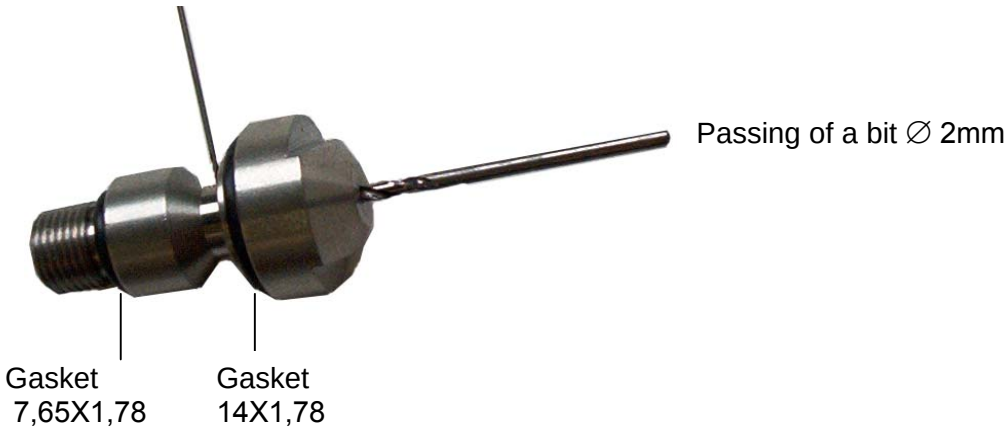
Nozzle maintenance

Maintenance of the jet spay: (ONLY WITH HARD WATER)



Maintenance of the main body: (ONLY WITH HARD WATER)

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Maintenance of the filters

Air filter :

Filtering component to clean or to change.

Filter tank to clean.

Drain of the tank.

Water filter :

Air draining.

Filter NW18 to change.

Bundle of 5 filters

Tank draining.

Air tank filter key :

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PIPING ACCESSORIES

A set of unions will be supplied if ordered as per following specifications.

Air pipe

Union straight male (fast) :

1/4″-4/6	*Qty :
3/8″-4/6	*Qty :
1/2″-8/10	*Qty :

Union straight female (fast) :

1/4″-4/6	*Qty :
3/8″-4/6	*Qty :
1/2″-8/10	*Qty :

Union bend (fast) :

4/6	*Qty :
8/10	*Qty :
8/10-4/6	*Qty :

Union extention (fast) :

4/6	*Qty :
8/10	*Qty :

Union T (fast) :

4/6	*Qty :
8/10	*Qty :
8/10-8/10-4/6	*Qty :

Reductor :

1/4″F-3/8″M	*Qty :
3/8″F-1/2″M	*Qty :

Flexible hose blue :

1/2″F Lg 1m *Qty :

Water pipe

Union straight male (to screw :

1/4″-4/6	*Qty :
3/8″-4/6	*Qty :
1/2″-8/10	*Qty :

Union straight female (to screw) :

1/4″-4/6	*Qty :
3/8″-4/6	*Qty :
1/2″-8/10	*Qty :

Union bend (to screw) :

4/6	*Qty :
8/10	*Qty :
8/10-4/6	*Qty :

Union extention (to screw) :

4/6	*Qty :
8/10	*Qty :

Union T (to screw) :

4/6	*Qty :
8/10	*Qty :
8/10-8/10-4/6	*Qtt :

Reductor :

1/4″F-3/8″M	*Qty :
3/8″F-1/2″M	*Qty :

Flexible hose grey :

1/2″F Lg 1m *Qty :

Neccessary accessories for a good installation:

Teflon ribbon :

*Qty :

Rilsan pipe :

4/6	*Qty :
8/10	*Qty :

Watertightness :

*Qty :

Cutting pipe :

*Qty :

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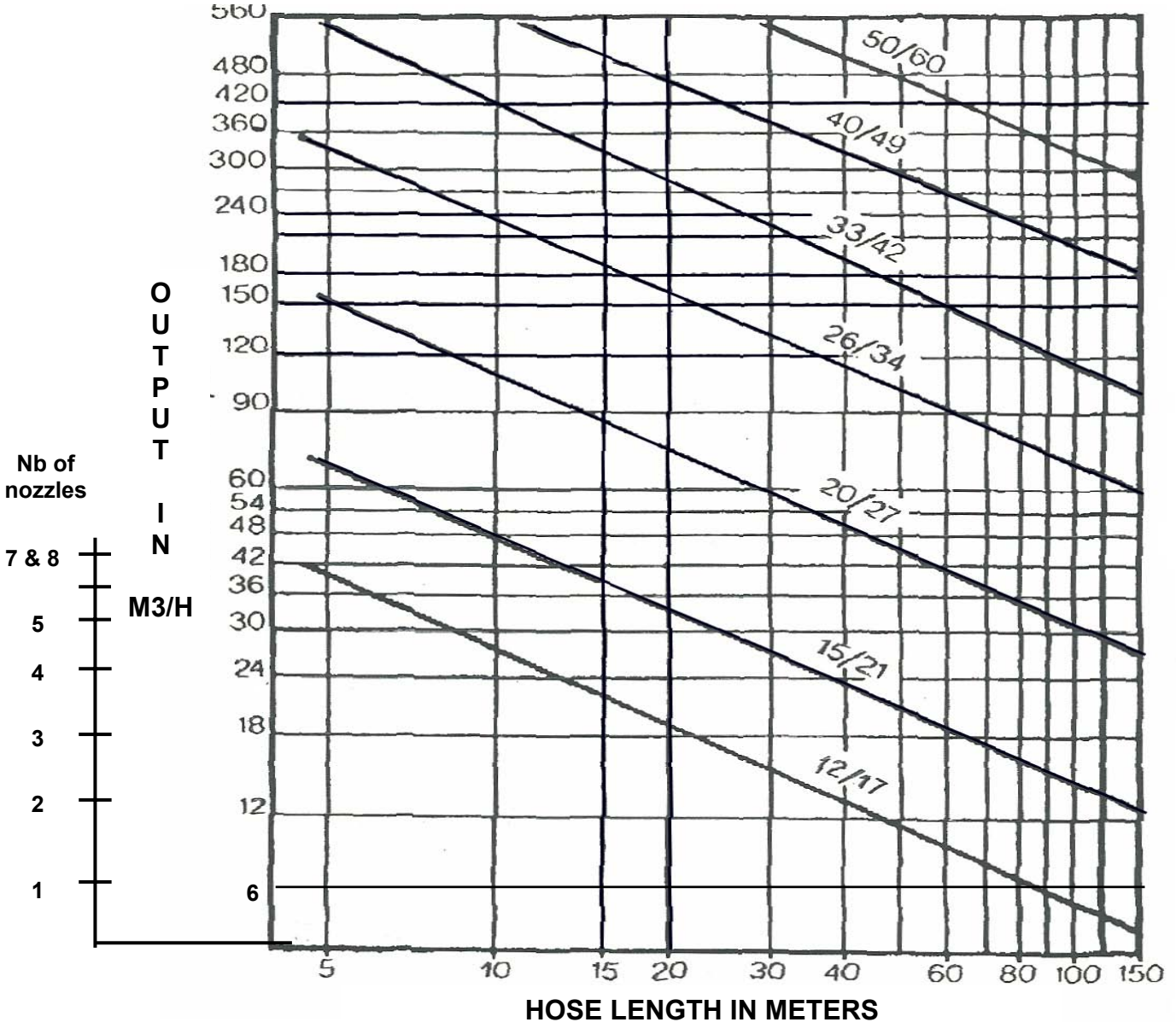
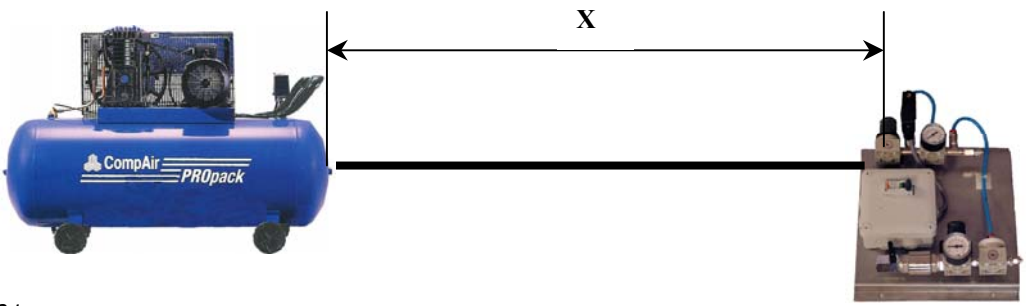
Pipe diameter





Example :

For a pipe of 40 meter long (X) between the compressed air and the MCR3 or MCR15 and an air flow of 24 m3/H pr nozzle :

⇒ **pipe hose ∅ 15/21**

FogSystem

Bus ultrasonic nozzle for cool room

UV sterilizer

Presentation :

The ultraviolet rays are able to destroy bacterium, virus and other pathogenic micro organisms.
Single light ultraviolet sterelizer with polished stainless steel room.
1µ prefiltration necessary.

Avantages of the UV sterilization :

- Immediate bactericidal action.
- No contact tank.
- No chemical product addition.
- No alteration of the water quality.
- Low maintenance cost.
- 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 out where the sample has been picked up

Characteritics :

Lamp range :	Quartz
Maxi. contant pressure :	9 bars
Maxi/mini temperature :	2°C to 40°C
Mains supply :	230V – 50Hz
Radiation :	30 mJ/cm²
Protective grade :	IP55

Technical features :

Reference	Model	Max. output Litre/hour	Nb of lamps	Power (watts)	Water connection ∅	Diameter (in mm)	Length (in mm)
E 7402	SL1-12 E	300	1	10	3/4″	50	240

Pictures for illustrating purposes only

Notes

devatec

RV3 / RV4

ELMC and Steam Bath
ELMC et bain vapeur

HLK / OEM

International certification
Homologation internationale

Our units ***ELMC*** *or* ***FogSystem*** *are listed or in conformity with:*
Nos appareils **ELMC** ou **FogSystem** sont homologués ou certifiés aux normes suivantes :

Germany / Allemagne **: TÜV**
Austria / Autriche **: ÖVE**
U.K. / Grande Bretagne **: WRC**
USA **: UL**
Canada **: CSA**
Europe **: C.E.**

CE

76550 Ambrumesnil - France
Tél : 33 (0)2 35 83 06 44
33 (0)2 35 83 03 86
Fax : 33 (0)2 35 85 36 72
www.devatec.com
Email : export@devatec.com

Edition : 24-08-06