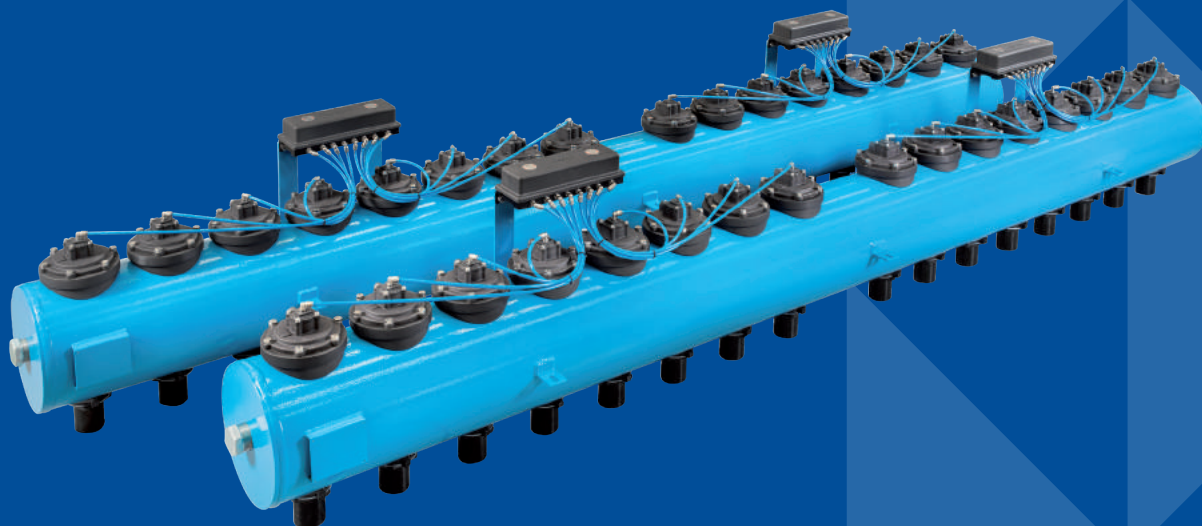




5" TANK  $\frac{3}{4}$ " VALVE AND 6" TANK 1" VALVE

# HEADER TANK SOLUTIONS

# MECAIR - 5" TANK ¾" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

PRODUCT LEAFLET

### DESCRIPTION

#### FULL IMMERSION SYSTEM

The patented Mecair "Full Immersion" System consists of a round header tank with fully integrated diaphragm valves, suitable for dust collector filter applications, in particular for reverse pulse-jet filter cleaning of filter bags, cartridges, envelope filters, ceramic filters and sintered metal fibre filters. The Mecair 500 Series diaphragm valve has been specifically designed to be mounted onto a round header tank. This valve is exclusively a Mecair design and has a worldwide patent. The particular design of the Mecair 500 Series diaphragm valve allows you to fully optimise the increased flow rate and performance this valve has to offer, and also the simple way in which you can mount the header tank onto the filter wall, eliminating the excessive weight of the traditional square header tanks. The Mecair header tanks are manufactured and tested 100%, in accordance with global pressure vessel certificate (CE PED or ASME certified).

#### STANDARD CARBON STEEL PAINT SPECIFICATION

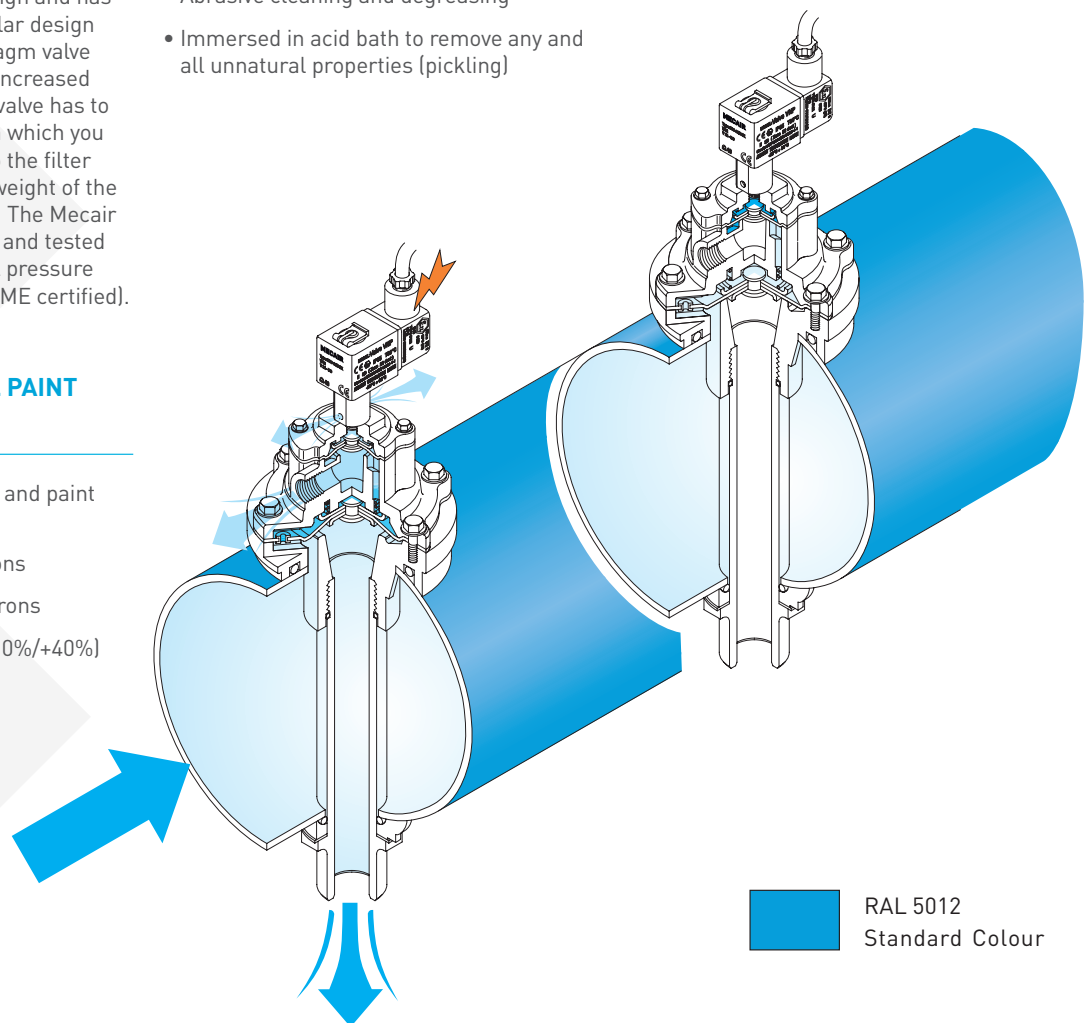
- Abrasive cleaning, degreasing and paint preparation
- Undercoat RAL 7042: 25 microns
- Final colour RAL 5012: 25 microns
- Total thickness 50 microns (-10%/+40%)

#### FULL IMMERSION STAINLESS STEEL

The Mecair 500 Series diaphragm valve is manufactured from diecast aluminium and is anodised. The valves are mounted on a painted carbon steel, stainless steel or aluminium tank.

#### TANK PREPARATION SPECIFICATION

- Abrasive cleaning and degreasing
- Immersed in acid bath to remove any and all unnatural properties (pickling)



# MECAIR - 5" TANK 3/4" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

### PRODUCT LEAFLET

#### CODES AND TECHNICAL CHARACTERISTICS

The 500 Series is available in the following versions:

- **VNP**, with integrated solenoid pilot
- **VEM**, with remote pneumatic connection. (upon request, the solenoid enclosures can be mounted and pre-cabled on tank.)

#### CONSTRUCTION FEATURES - VALVE

|                        |                              |
|------------------------|------------------------------|
| TOP COVER              | Diecast aluminium (anodised) |
| BODY                   | Diecast aluminium (anodised) |
| PILOT BASE             | Brass (chromed)              |
| PILOT                  | Stainless steel              |
| DIAPHRAGM              | NBR                          |
| BOLTS                  | Stainless steel              |
| DIAPHRAGM BACKING DISK | Stainless steel              |
| DIAPHRAGM SPRING       | Alloy steel                  |

#### ELECTRICAL CHARACTERISTICS - SOLENOID

|                            |                                                                                                                                                                                                                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COIL INSULATION            | Class H                                                                                                                                                                                                                                                                               |
| DIN SOCKET CONNECTOR       | PG9 connection                                                                                                                                                                                                                                                                        |
| DIN SOCKET SPECIFICATION   | EN175301 - 803 / A/ISO 4400                                                                                                                                                                                                                                                           |
| DIN SOCKET OPTIONAL        | 94/9/CE ATEX II 3GD T6                                                                                                                                                                                                                                                                |
| ISOLATION CLASS DIN SOCKET | VDE 0110 - 1/89                                                                                                                                                                                                                                                                       |
| ELECTRICAL PROTECTION      | IP65 EN60529                                                                                                                                                                                                                                                                          |
| VOLTAGE RANGE              | 12 V DC [-5%, +20%] 18 W<br>24 V DC [-5%, +20%] 18 W<br>48 V DC [-10%, +20%] 18 W<br>110 V DC [-10%, +20%] 18 W<br>24 V 50/60 Hz [-10%, +20%] 38/31 VA<br>48 V 50/60 Hz [-10%, +20%] 41/32 VA<br>110/127 V 50/60 Hz [-10%, +20%] 63/53 VA<br>220/240 V 50/60 Hz [-10%, +20%] 46/37 VA |

#### GENERAL CHARACTERISTICS

|                |                                                       |
|----------------|-------------------------------------------------------|
| FLUIDS         | Filtered air and oil free                             |
| DIAPHRAGM      | Standard:<br>NBR: -20°C/+120°C<br>Viton: -30°C/+200°C |
| PRESSURE RANGE | 0.5 to 7.5 bar                                        |

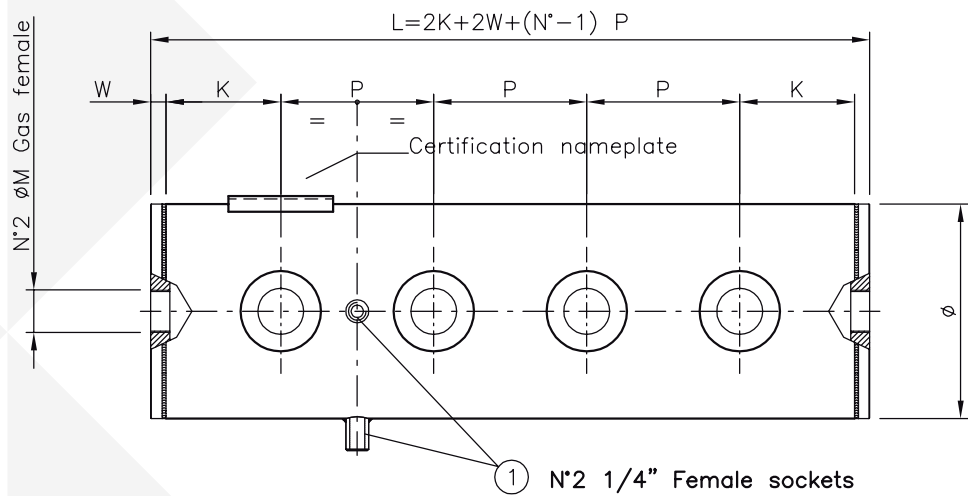
| MODEL  | PORT SIZE | NO. DIAPH. | PRESSURE RANGE (BAR) |      | COIL | KV   | CV   |
|--------|-----------|------------|----------------------|------|------|------|------|
|        |           |            | MIN.                 | MAX. |      |      |      |
| VNP506 | 3/4"      | 1          | 0.5                  | 7.5  | Yes  | 15.1 | 17.5 |
| VNP508 | 1"        | 1          | 0.5                  | 7.5  | Yes  | 26.3 | 30.6 |
| VEM506 | 3/4"      | 1          | 0.5                  | 7.5  | No   | 15.1 | 17.5 |
| VEM508 | 1"        | 1          | 0.5                  | 7.5  | No   | 26.3 | 30.6 |

# MECAIR - 5" TANK 3/4" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

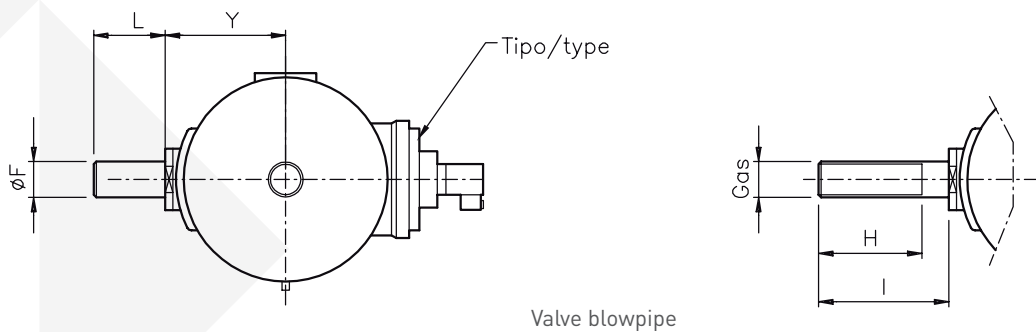
PRODUCT LEAFLET

### TANK DIMENSIONS TABLE



|        |         |        |        |    |     | TO BE COMPLETED BY CUSTOMER |                    |            |
|--------|---------|--------|--------|----|-----|-----------------------------|--------------------|------------|
| Ø TANK | Ø VALVE | P MIN. | K MIN. | W  | Ø M | P DISTANCE REQUIRED         | N NUMBER OF VALVES | K OPTIONAL |
| DN5"   | 3/4"    | 95     | 75     | 15 | 1"  |                             |                    |            |
| DN6"   | 1"      | 120    | 90     | 15 | 1"  |                             |                    |            |

\* Only available with flat end caps and max. length size 4.6 metres. For lengths superior to those specified, please contact our technical department.



| Ø TANK | Ø F  | Y   | SHORT UNTHREADED | L  | LONG UNTHREADED | L   | LONG THREADED | Ø G GAS | H  | I   |
|--------|------|-----|------------------|----|-----------------|-----|---------------|---------|----|-----|
| DN5"   | 26.7 | 93  | TS506            | 60 | TL506           | 80  | TF506         | 3/4"    | 70 | 80  |
| DN6"   | 33.4 | 106 | TS508            | 60 | TL508           | 100 | TF508         | 1"      | 90 | 100 |

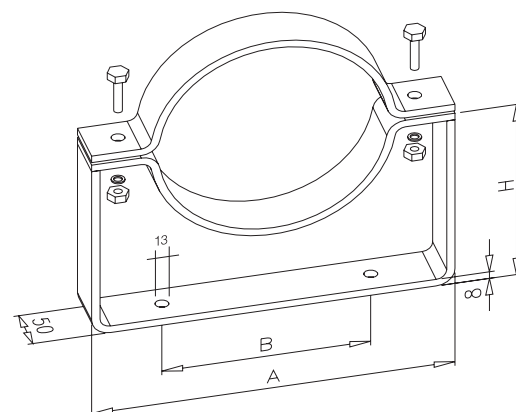
# MECAIR - 5" TANK 3/4" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

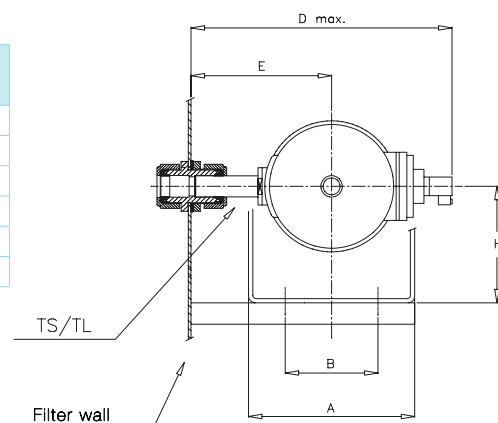
PRODUCT LEAFLET

### BRACKET AND BLOWTUBE CONFIGURATIONS

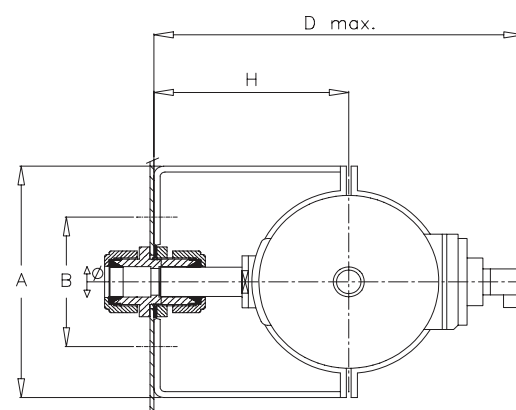
| DN TANK       | TYPE OF BRACKET | A   | B   | H   |
|---------------|-----------------|-----|-----|-----|
| 5"<br>[141.3] | TH05            | 264 | 150 | 180 |
|               | TM05            | 264 | 150 | 160 |
|               | TB05            | 264 | 150 | 95  |
| 6"<br>[168.3] | TH06            | 292 | 150 | 200 |
|               | TM06            | 292 | 150 | 170 |
|               | TB06            | 292 | 150 | 109 |



| DN TANK       | TYPE OF BRACKET | VALVE BLOWPIPE | E   | D MAX. | VALVE BLOWPIPE | E   | D MAX. |
|---------------|-----------------|----------------|-----|--------|----------------|-----|--------|
| 5"<br>[141.3] | TH05            | TS506          | 160 | 305    | TL506          | 180 | 325    |
|               | TM05            | TS506          | 160 | 305    | TL506          | 180 | 325    |
|               | TB05            | TS506          | 160 | 305    | TL506          | 180 | 325    |
| 6"<br>[168.3] | TH06            | TS508          | 175 | 360    | TL508          | 212 | 400    |
|               | TM06            | TS508          | 175 | 360    | TL508          | 212 | 400    |
|               | TB06            | TS508          | 175 | 360    | TL508          | 212 | 400    |



| DN TANK       | TYPE OF BRACKET | D MAX.  | VALVE BLOWPIPE | Ø    |
|---------------|-----------------|---------|----------------|------|
| 5"<br>[141.3] | TH05            | 325/360 | TL506/558      | 3/4" |
|               | TM05            | 305/340 | TS506/558      | 3/4" |
| 6" [168.3]    | TM06            | 360/420 | TS508/564      | 1"   |



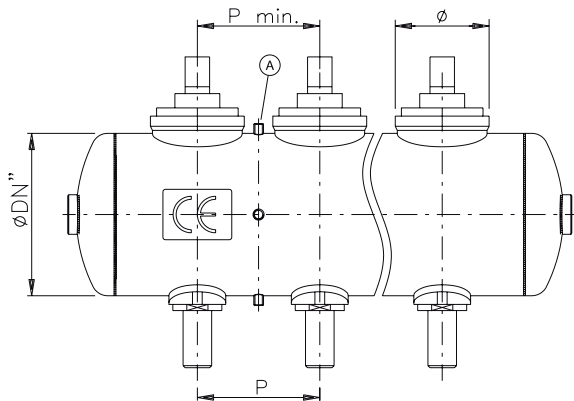
# MECAIR - 5" TANK 3/4" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

PRODUCT LEAFLET

TANK ASSEMBLY TABLE

| Ø TANK     | P MIN. | Ø VALVE BODY | P MIN. FOR INSTALLATION OF STANDARD BRACKETS | P MIN. PIPE STUB A |
|------------|--------|--------------|----------------------------------------------|--------------------|
| 5" [141.3] | 95     | 80           | 140                                          | 115                |
| 6" [168.3] | 120    | 95           | 150                                          | 140                |



### OPERATING RECOMMENDATIONS

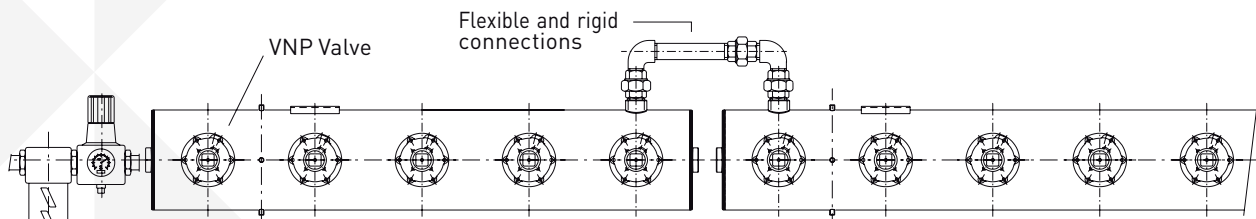
Ensure air supply is clean and dry. (We recommend the installation of compressed-air filter units to be installed directly before the pressure vessel, in order to ensure clean and dry air is supplied to the diaphragm valve). Operating pressure min./ max. 0.5–7.5 bar.

- a) **AIR INLET PIPE TO HEADER TANK/ PRESSURE VESSEL:** Minimum Ø 1" for tanks with a 1" valve or 1½" valves. We

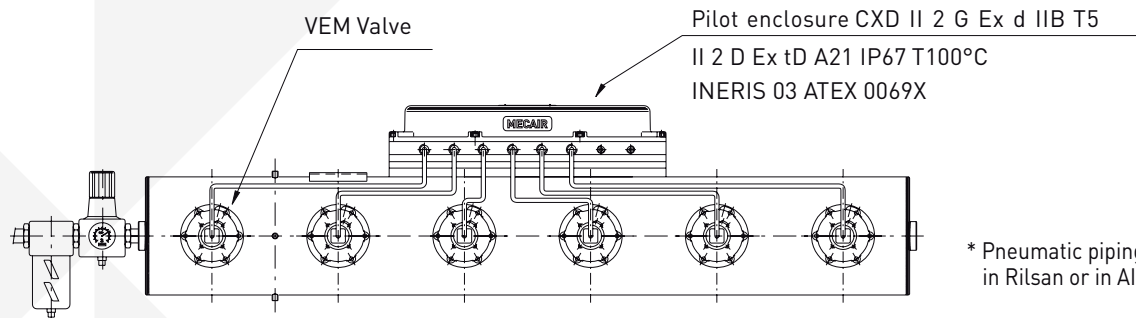
always recommend the air inlet pipe to tank to be the same size as the diameter of valve being used, or the next available size down. This ensures that the air supply to the tank is sufficient to allow the tank to refill in as short a time as possible. With the correct volume of air in the tank, this ensures the correct and efficient functioning of the diaphragm valve without any waste of compressed air.

- b) **ORIENTATION:** Can work in all orientations.

- c) **ELECTRICAL ON TIMES AND PULSE TIMES:** For the correct and efficient use of a diaphragm valve, it is important to set the correct pulse times and pause times. Average pulse times range from 100 ms–250 ms depending on size of the valves being used. Pause times also depend on number of valves in the filter, but MECAIR recommends a total cycle time of between 300 and 360 seconds for the total number of valves installed.



Flat End Caps: Allow easier coupling of tanks with a very tight distance between each valve. When necessary we recommend a "U" type radial connection to join the two tanks.



\* Pneumatic piping on valves can be in Rilsan or in AISI (stainless steel)

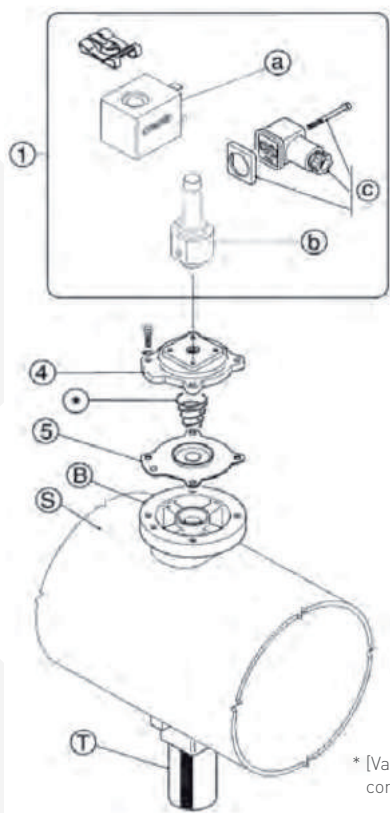
# MECAIR - 5" TANK 3/4" VALVE AND 6" TANK 1" VALVE

## HEADER TANK SOLUTIONS

PRODUCT LEAFLET

### SPARE PARTS

VEM/VNP 506 - 508



\* [Valve Body(B) + Tank(S) + Valve blowpipe (T) are to be considered single and complete module.] [No spare parts available for this configuration.]

### STANDARD VERSION

| POS. | DESCRIPTION                                   | CODE                |
|------|-----------------------------------------------|---------------------|
| 1    | a) Solenoid*                                  | a) KIT SB4 - ../..* |
|      | b) Pilot group complete with base and ferrule | b) KIT CP1/4        |
|      | c) DIN connector PG9EN175301-803 IP65         | c) KIT PLG9         |

### OPTIONAL VERSION

| POS. | DESCRIPTION                                   | CODE                |
|------|-----------------------------------------------|---------------------|
| 1    | a) Solenoid                                   | a) KIT SB4 -24/DCX  |
|      | b) Pilot group complete with base and ferrule | b) KIT CP1/4        |
|      | c) DIN connector PG9EN175301-803 IP65         | c) KIT PLG11 – ATEX |

In conformity with 94/9/CE ATEX Directive (cod. KIT PV-24/DCX)

| POS   | DESCRIPTION                                               | CODE               |                    |
|-------|-----------------------------------------------------------|--------------------|--------------------|
|       |                                                           | VEM/VNP506         | VEM/VNP508         |
| 1     | Pilot group complete with solenoid* and DIN connector     | KIT PV - ../..*    | KIT PV - ../..*    |
| a+b+4 | Pilot group complete with solenoid*, top cover and screws | KIT PVM06 - ../..* | KIT PVM08 - ../..* |
| 4     | Top cover                                                 | KIT M110082        | KIT M10086         |
| 5     | Diaphragm                                                 | KIT DB 16          | KIT DB 18          |

\* Specify voltage and frequency



**MECAIR SRL**

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