1. INSTALLATION INSTRUCTIONS

VALVE INLET: Mount valve inlet to tank stub pipe and ensure correctly connected. Valve reference "IN".

VALVE OUTLET: To be connected to blowpipe within the filter. Valve reference "OUT".

SEALING OF BLOWPIPE:

Suited to a threaded blowpipe only - The pipe must not enter entirely into the valve body, but must be blocked with a counter nut to properly fix the blowpipe to the valve outlet.

FLUID:

COMPRESSED AIR – 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.

AIR INLET PIPE TO HEADER TANK/ PRESSURE VESSEL:

Minimum ∅ 1″ for tanks with a 1″ valve or 1½″ valves.

COMPRESSOR:

With the appropriate compressor size being utilised, this ensures the tank can be refilled from 0–2 bar in a few seconds.

PROTECTION FROM RAIN:

Always ensure a small roof/lid is installed on top of the valves and/ or electronic controllers as this protects the valves and controllers from exposure to harsh environmental conditions.

ELECTRICAL ON TIMES AND PULSE TIMES:

Average pulse times range from 100 ms–250 ms depending on size of the valves being used.

2. START-UP

Before commencing to pulse the valves and to pressurise the tank/pressure vessel, it is important to eliminate all particulate, including dirt, rust, metal shavings, and other types of particulate, which may eventually enter the piping. The draining of any condensation or liquid within the tank/ pressure vessel is also important and should be performed prior to pressurising the system. The drain valve should always be installed and should be used prior to start-up. Minimum ∅ of the drain valve socket is ¼″. If during the start phase, there is insufficient air in the airline, and you are unable to adequately fill the tank/pressure vessel (the valves may remain slightly open), it is necessary to close the air inlet valve to the tank, wait for the pressure to reach 6–7 bar and then re-open the valve quickly. This will ensure that the tank fills quickly, also providing significant pressure which ensures the valves remain properly closed.

3. SPARE PART RECOMMENDATION

3.1 FOR START-UP
- Minimum quantity of 5% of the supply (min. 1 piece)
- Pilot Group (pos. 1), complete with pilot body, solenoid coil, DIN connector.

3.2 FOR THE FIRST TWO YEARS OF OPERATION
- Minimum quantity of 10% of the supply (min. 2 pieces)
- Pilot Group (pos. 1), complete with pilot body, solenoid coil, DIN connector.
- Diaphragms (pos. 5) for single diaphragm valves.

4. MAINTENANCE AND REPAIRS

4.1 COMMON PROCESS FOR ALL CONTROLS, MAINTENANCE AND REPAIRS TO BE CONDUCTED:
- Before conducting any maintenance activity on the system, ensure that the components are fully isolated from pressure and power supplies.
- Replacement or controls relating to diaphragms (pos. 5): in reinstalling/re-positioning the diaphragm, ensure that the diaphragm bleed is in the correct position lined up with the valve body position. The bleed should fit into the valve body eyelet.
- Secure the bolts on the top cover to the valve body without over-tightening. We recommend the use of a torque wrench to properly secure the bolts: **1,6 kgm** for **M6** (¾″ - 1″), **3,8 kgm** for **M8** (1½″) and **7 kgm** for **M10** (2″ - 2½″ - 3″).
- Substitution of or controls relating to the solenoid pilot: Prior to removing the solenoid pilot, ensure power supply is disconnected. Remove carefully DIN socket and then remove solenoid coil.

4.2 PERIODICAL MAINTENANCE
- Annually check. Diaphragm and pilot inspection should be conducted annually:
  - In the case of VNP/VXP models, check the integrity of the electrical connections and that the DIN socket connection is properly fixed to the solenoid coil.
  - In the case of VEM models, check the integrity of all pneumatic connections including pneumatic piping and all pneumatic connections.

4.3 MALFUNCTION/TROUBLESHOOTING:
- Proceed with controls and checks below:

DEFECT / FAULT	CONTROL / CHECKS
The valve does not open or vibrates	– Verify integrity of the solenoid or that the wires are not damaged. – Verify that the electrical connections are properly connected to the valve and that the wiring has been performed correctly. – Verify that the outlets from the electronic controller are free from disturbances and within the specified tolerances of +/–10% of the nominal value.
The valve remains opens or loses air continuously	– Check that the bolts of the top cover are properly secured, in case of diaphragm substitution. – Remove the top cover and verify that there are no particulates underneath the diaphragm.