P.A. - S.p.A. - EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO
VIA MILANO, 13 - CASELLA POSTALE 115 - 42048 RUBIERA (REGGIO EMILIA) - ITALY
Tel. +39 0522 623611 - Fax. +39 0522 629600 - R.E.A. RE 156319 - R. I. RE 11535 - Mecc. RE 013446
C.F. e P. IVA 01035950359 - Cap. Soc. i.v. € 750.000,00 - Codice Identificativo C.E.E. IT 01035950359
ART. 2497 - BIS C.C. DIREZIONE E COORDINAMENTO BENETTI srl R.I. TRIB. DI RE 01480690351
http://www.pa-etl.it - E-mail: info@pa-etl.it

VS28 – PROTECTION VALVE - OPEN DISCHARGE

Technical manual: **E 254**

.

DN8

- **60.0555.00** VS28/1 1/4Bsp M
- **60.0555.20** VS28/2 1/4Bsp M
- **60.0555.30** VS28/3 1/4Bsp M

- Brass central body.
- Sst ball sealing.
- Totally protected moving parts.
- Leak-preventing sealings.
- External discharge to show valve intervention.

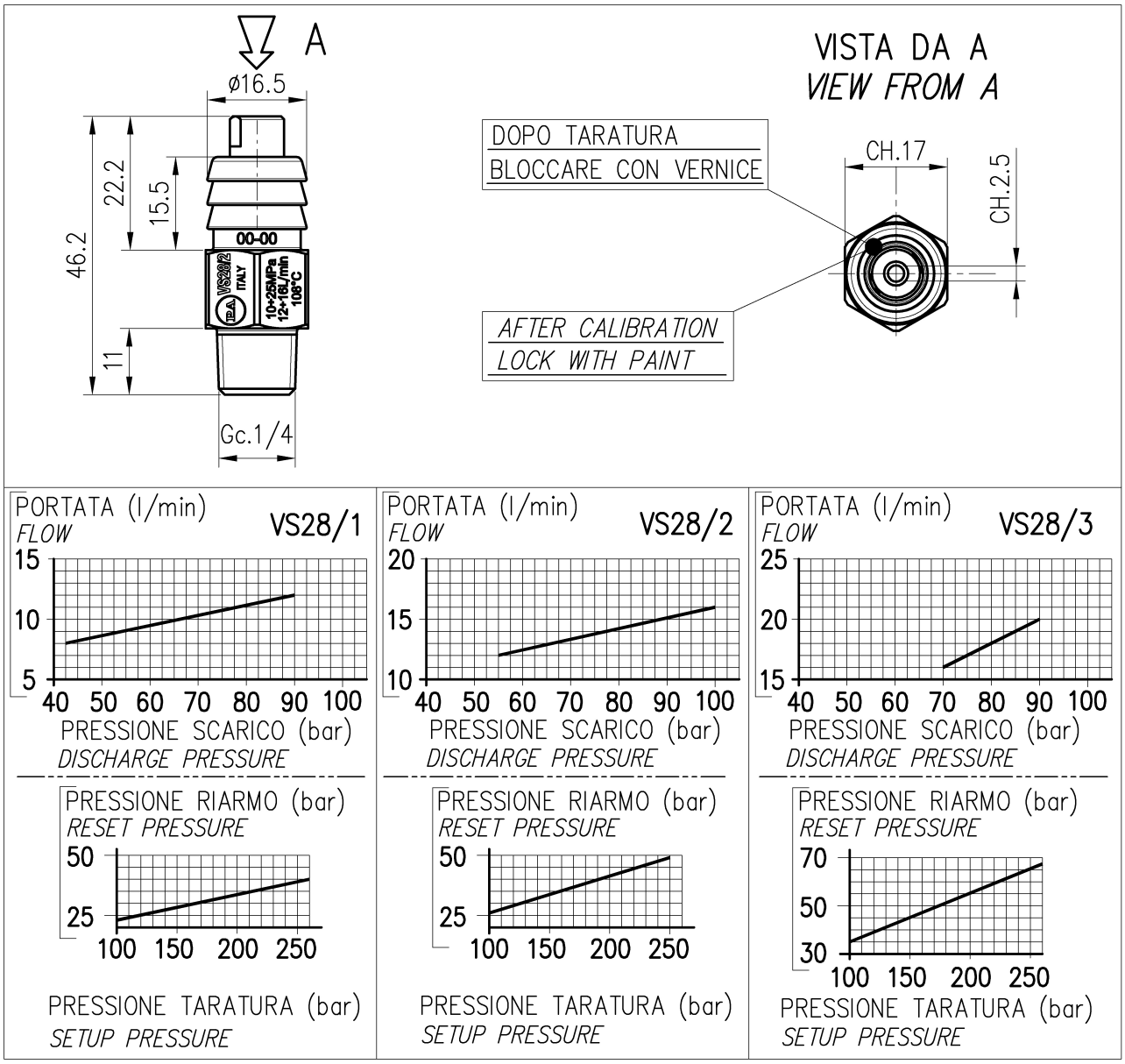
TECHNICAL SPECIFICATIONS

Maximum temperature 108 °C

PART N.	RATED PRESSURE bar (MPa)	PERMISSIBLE PRESSURE bar - MPa	MINIMUM ADJUSTABLE PRESSURE bar - MPa	RESETTING PRESSURE bar (MPa)	MAX FLOW RATE L/ min	INLET	WEIGHT g
60.0555.00	100-250 (10-25)	280 - 28	100 - 10	25-40 (2.5-4)	8-12	G1/4 M	55
60.0555.20	100-250 (10-25)	280 - 28	100 - 10	30-50 (3-5)	12-16	G1/4 M	55
60.0555.30	100-250 (10-25)	280 - 28	100 - 10	35-65 (3.5-6.5)	16-19.5	G1/4 M	55

Instruction manual, maintenance, installation, spare parts. For a correct utilization, follow the directions of this manual. **Re-print them on the use and maintenance booklet of the machine.**	n. 12.9220.00

DIMENSIONAL DRAWING



INSTRUCTIONS

SELECTION

This product is to be used with clean fresh water, even slightly additivated with normal detergents. For use involving different or corrosive liquids, contact the PA Technical department. Choose the valve in line with the data of nominal running (system rated pressure, max flow and max temperature). In no case shall the pressure of the machine exceed the **permissible pressure** printed on valve body. The valve VS28 prevents pressure spikes while the machine is in operation. To do this, the valve must be fitted following these instructions.

INSTALLATION

The VS28 valve is a protective element of the system. There are three installation sites, depending on the system part that needs to be protected:

A) it can be fitted on the pump head before the unloader valve or the regulator valve, in order to achieve an optimal protection of the pump and the initial circuit side;

B) on cold systems, it can be fitted after the unloader valve or regulator valve. In this way the secondary line (from the unloader to the gun) is protected from harmful overpressure caused by malfunctions or by an incorrect pressure adjustment in the system ;

C) on hot water systems, the valve can be fitted after the burner where its potential activation, involving an abundant flow of water in by-pass, removes heat from the system thus protecting it thermally.

PRESSURE ADJUSTMENT/SETTING

The adjustment screw is to be found on the hose barb side. To adjust the screw, use a CH 2.5 Allen wrench. When turning the screw clockwise, the pressure rises, when turning it anti-clockwise, the pressure drops. Calibration of the valve must be carried out slowly, with small movements (pressure varies approximately 100bar – 10MPa for each turn of the screw); check the adjustment process by using a pressure sensor inserted on the side which needs to be protected.

IMPORTANT: do not stand in front of valve or let hands cross water discharge path during setting operations.

1. To maintain pressure settings for longer, let the valve release and unload flow completely before calibration. To do this, follow these steps accurately. With the spring totally released, screw in the plug for one turn. Turn on the pump and, with gun in operation, increase system pressure until the VS28 valve releases and unloads flow completely. Then, turn off the pump.
2. Perform a preliminary calibration by screwing in the adjustment screw, until the VS28 valve is set at a pressure 50 bar – 5 MPa higher than the desired setting pressure. Please note that, from a position of completely released spring, 1 turn ≈ 100bar – 10MPa.
3. Set the gun in operation and turn on the pump: working on the primary regulator valve of the system, reach the desired calibration pressure.
4. Working on the valve adjustment screw with an Allen wrench, gradually unscrew until water starts to drip out.
5. Lower system pressure of about 10% of calibration pressure and turn off the pump. With gun in operation, turn on the pump again and verify valve sealing.

The final calibration pressure must be at least 20% higher than the maximum pressure occurring in the side protected by the VS28 but in any case not superior to the maximum pressure lay-out of the system.

After calibration, paint the adjustment screw to make sure settings are sealed.

IMPORTANT: the protection valve is a secondary safety device and shall not replace neither an unloader valve nor an ordinary safety valve.

OPERATIONS

In case of overpressure, the protection valve intervenes by opening a by-pass. To reset to operating pressure, it is necessary to turn off the pump, in order to allow the shutter to close down: then search for the problem source,and only then, turn on the pump again.

PROBLEMS AND SOLUTIONS

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Pressure spikes	- Clogged nozzle - Incorrect setting	- Clean - Reset & replace nozzle
Water leaks at discharge	- Damaged seat	- Replace valve
Decrease of pressure set up	- Valve wear caused by excessive pressure discharge	- Replace valve

REGULATIONS : see standard manual

The equipment hereby described bears the CE marking in accordance with the Rules and Directives referred to in the Declaration of Conformity.

For a correct utilization, follow the instructions described in this manual and re-print them on the Use and maintenace manual of the machine.
Make sure that you are given **the Original Declaration of Conformity** for the chosen item. This manual is applicable for all unloader valves type **VS28**

MAINTENANCE

Life span of protection valves is 10 years, with a general check up carried out by the supplier after 3 years. The practical life is however subordinated to the harshness of application, fluids, ambiental conditions and exertion (pressure & temperature).
ATTENTION: in case of replacement, assemble the new valve correctly, paying special attention to the valve setting as described in the paragraph PRESSURE ADJUSTMENT/SETTING.
The manufacturer is not liable for damages resulted from incorrect fitting and maintenance.
Technical data, descriptions and illustrations are indicative and subject to modification without notice.