



**P.A. – S.p.A. – EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO**

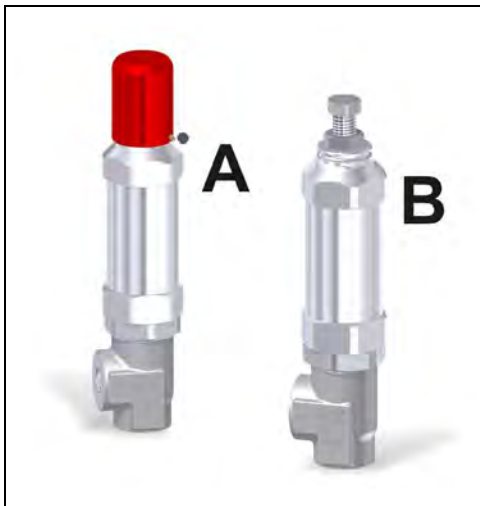
VIA MILANO, 13 – CASELLA POSTALE 115 – 42048 RUBIERA (REGGIO EMILIA) – ITALY  
 Tel. +39 0522 623611 – Fax. +39 0522 629600 – R.E.A. RE 156319 – R.I. RE11535 – Mecc. RE 013446  
 C.F. e P. IVA 01035950359 – Cap. Soc. i.v. € 750.000,00 – Codice Identificativo C.E.E. IT 01035950359  
 ART. 2497 – BIS C.C. DIREZIONE E COORDINAMENTO BENETTI srl R.I. TRIB. DI RE 01480690351  
**Web:** <http://www.pa-etl.it> – **E-mail:** [info@pa-etl.it](mailto:info@pa-etl.it)



# VS1100 - RELIEF VALVE - STAINLESS STEEL AISI 303

Suitable for use as a relief valve in high pressure systems.

DN 10



- **60.0680.00** VS1100
- **60.06\*\* .00** VS1100

**TYPE A**  
**TYPE B**

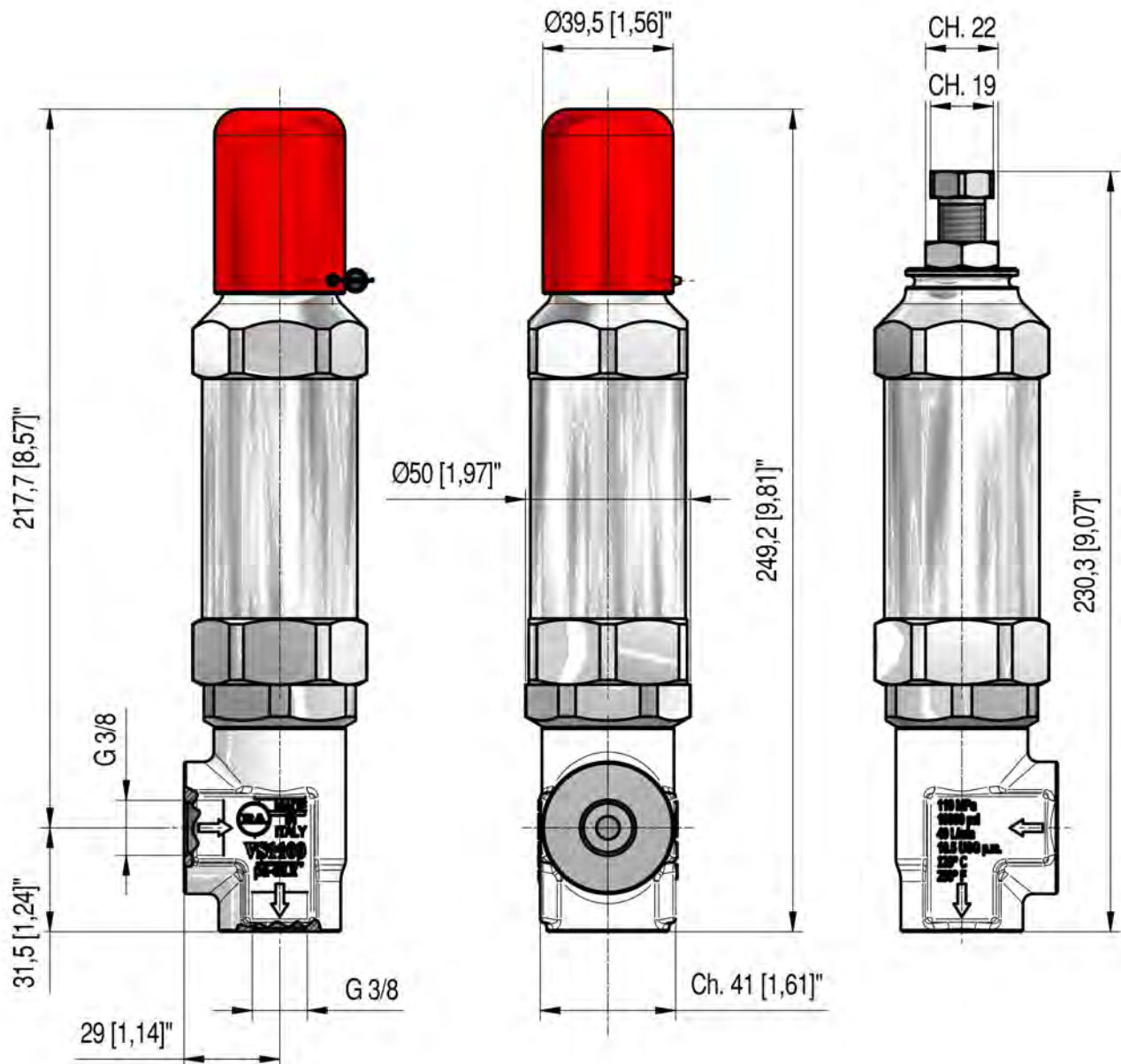
- Valve intended for professional use
- Stainless steel body AISI 303
- Stainless steel internal parts
- Totally protected moving parts
- Calibration protection (TYPE A)

## TECHNICAL SPECIFICATIONS

<b>CONSTRUCTION MATERIAL</b>				BODY: AISI 303 Stainless steel SPRING HOLDER: nickel plated brass SEALS: Hnbr									
PART NUMBER	RATED PRESSURE		PERMISSIBLE PRESSURE		MINIMUM CALIBRATION PRESSURE		MAX TEMPERATURE (1)		MAX FLOW RATE		WEIGHT		INLET OUTLET
	bar	psi	bar	psi	bar	psi	°C	°F	l/min	USG	g	oz.	
60.0680.00	1000	14500	1100	15960	300	4350	100	212	40	10.6	2100	74.08	G 3/8" F
60.06** .00	1000	14500	1100	15960	300	4350	100	212	40	10.6	2100	74.08	G 3/8" F

1) The valve has been designed for a continuous use at a water temperature of 100°C (212°F).  
 It can work for short periods at a maximum temperature of 120°C (250°F)

## DIMENSIONAL DRAWING



## INSTRUCTIONS

### SELECTION

This product is to be used with clean water, even slightly mixed with normal detergents. For use with different or corrosive liquids, please contact the PA Technical department. Appropriate filtration should be installed when using unpure liquids. Please make sure that the valve is in line with the working data of the machine where it is to be installed (permissible pressure, maximum flow and rated temperature of the system). In any case, the pressure of the machine must not exceed the permissible pressure marked on the valve.

### OPERATION

The valve limits the maximum pressure in the circuit. In case of overpressure, a bypass port is opened through which the excess water is discharged. During normal operation of the system, a spring-pulled shutter closes the bypass. The calibration pressure is adjusted by varying the spring thrust through the appropriate adjusting screw.

### INSTALLATION

In a hot water machine, the valve should be mounted upstream of the boiler. In any case, even in cold water applications, if an accidental overheating of the water is foreseen, the installation of thermal protection devices is advisable in order to keep the water temperature below the maximum allowed temperature (MAX TEMPERATURE).

It is advisable to return the discharge flow to a tank. It is advisable for the tank to be equipped with baffles in order to reduce any turbulence and air bubbles generated by the bypass flow, which could be damaging to the pump. When discharging in the atmosphere, ensure to direct the valve properly in order to avoid serious injuries.

**PRESSURE CALIBRATION**

The valve is supplied not calibrated. The calibration should be carried out with the system in operation under pressure. The valve calibration pressure is determined by operating on the adjusting screw (item 2): the calibration pressure is increased by turning the adjusting screw clockwise. Once the desired calibration pressure has been reached, lock the screw by tightening the nut (pos. 3). It is possible (in Type A version) to seal the calibration with the anti-tampering cap (pos. 1) and its pin (pos. 1) and finally applying the wire and the lead.

The relief valve should be calibrated at a pressure at least 10-15% higher than the working pressure of the system.

Abnormal operating pressure of the system causing repeated or continuous discharge of the relief valve could compromise the sealing capacity of the valve itself.

**MAINTENANCE**

Once a year check the calibration of the valve, either directly on the machine or on a test bench.

After every discharge of the relief valve, please make sure that no debris are cumulated between the shutter and the seat.

In any case, even if no discharge occurred, a general servicing of the valve is advisable every two years. Check the wear condition of the seals and interior components, and, if needed, replace them with original PA spare parts. When reassembling, lubricate with water-resistant grease.

Maintenance must be carried out by qualified technicians.

**The manufacturer is not responsible for any damage caused by improper installation and / or maintenance.**

**TROUBLE SHOOTING**

PROBLEMS	PROBABLE CAUSE	REMEDY
Leakage from the bypass during the normal operation of the system	- Damaged seat or shutter - Impurity between seat and shutter	- Change - Clean

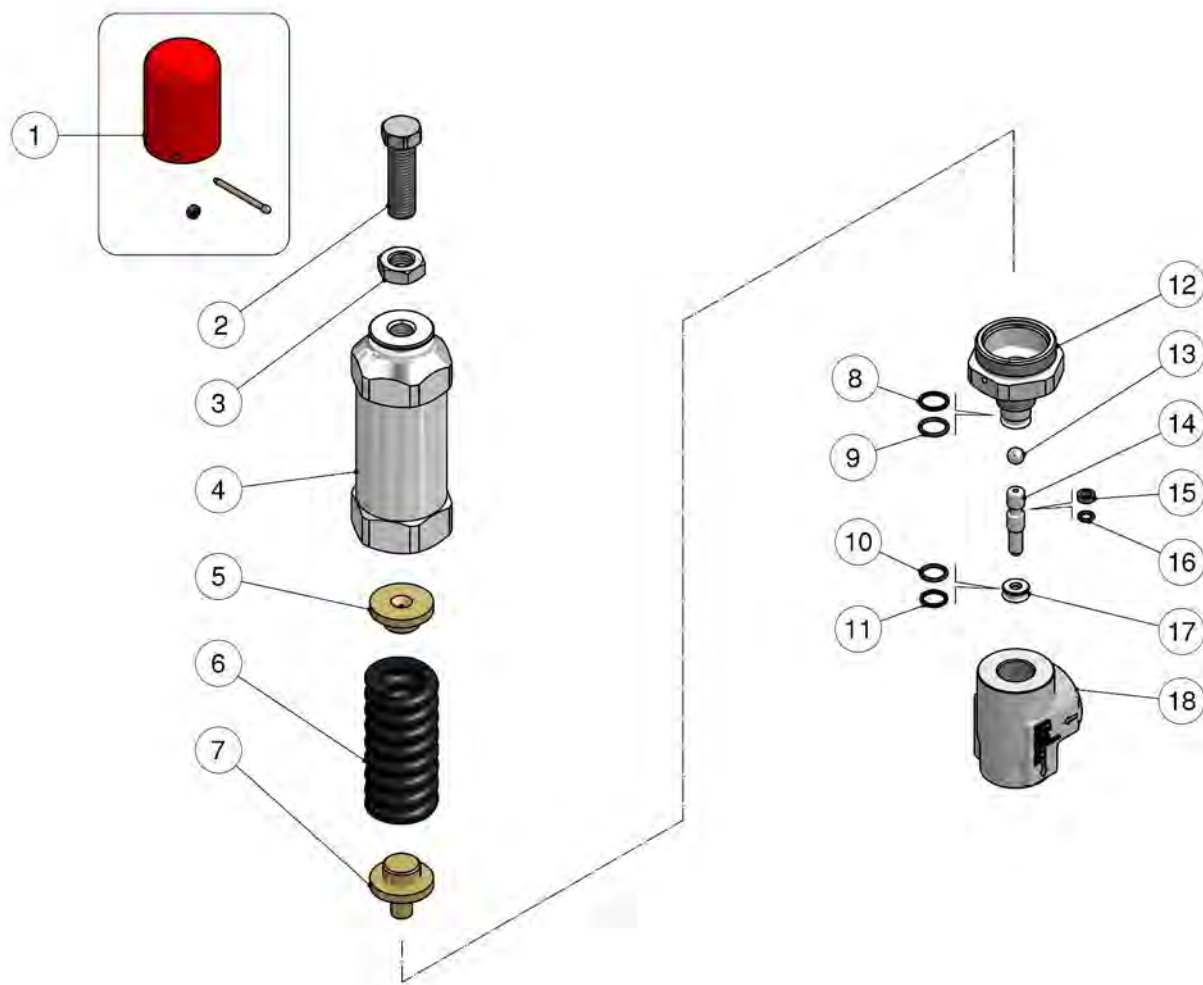
**NORMAL:** see the *Manual*.

For a proper use, follow the instructions contained in this manual and re-write them on the Operation and Maintenance manual of the machine where the relief valve is supposed to be installed. This manual is valid for all valve types named VS 1100.

Technical data, descriptions and illustrations are indicative and may be modified without prior notice.

<b>Instruction manual, maintenance, installation, spare parts.</b>	n. MPA.0002EN
--	---------------

60.0680.00 VS1100 saf.valv.3/8F Bsp to bloc



Pos.	P/N	Description	Q.ty	K1	K2	K3	K4
1	60.1412.24	Spare kit knob	1				1
1	60.0598.41R	Knob x block. press al-red	1				5
1	60.5114.31R	4 mm brass pin	1				5
1	13.1214.03R	14 mm lead seal **	1				5
2	60.4307.51R	Valve regulating screw, M14 sst.	1				2
3	11.4760.00R	Hex. nut, M14	1				10
4	60.0685.31R	Spring holder, brass	1				1
5	60.0652.31R	Spring guide spacer, brass	1				2
6	60.0434.61R	Spring, 8,5x38x80 mm black	1				3
7	60.0654.31R	Spring rest pin, brass	1				2
8	10.4015.12R	Back-up ring, 12,7x15,5x1,2 mm	1	•			10

Pos.	P/N	Description	Q.ty	K1	K2	K3	K4
9	10.3060.85R	O-ring, 1,78x12,42 mm HNbr 85	1	•			10
10	10.3059.85R	O-ring, 1,78x 11,11 mm HNbr 85	1	•			10
11	10.4012.14R	Back-up ring, 11,2x143x1,2 mm	1	•			10
12	60.0684.51R	Piston holder, Sst.	1				1
13	14.7443.10R	Ball, 11/32" Sst.	1				10
14	60.0682.51R	Piston, 10 mm Sst.	1	•			3
15	10.4006.09R	Back-up ring, 6 x 9 x 3 mm	1	•			10
16	10.3049.85R	O-ring, 1,78x 5,28 mm HNbr 85	1	•			10
17	60.0683.51R	Seat, 5,8x13,9x6 mm Sst.	1	•			3
18	60.0681.55R	Housing -VS1100 3/8 Bsp FF aisi303	1				2

\*\* On request

Kit	P/N	Description	Q.ty
K1	60.0688.24	Spares kit -Vs 1100, 8x1pcs.	1