



# IMPORTANT INFORMATION FOLLOW ALL INSTRUCTIONS

## TECHNICAL INSTRUCTIONS FOR PERIODICAL REFURBISHMENT OF PV SERIES SAFETY VALVES WITH REPLACEMENT OF THE SETTABLE SAFETY CARTRIDGE *ProxyV*









	<p style="text-align: center;"> <b>Danger</b></p> <ul style="list-style-type: none"><li>• Gas leaks may cause fires or fatal explosions</li><li>• Only skilled personnel are allowed to work on gas installations</li><li>• Replace the valves as suggested</li><li>• Non-compliance with these instructions may cause serious risks to your health</li></ul>
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The Manufacturer reserves the right to modify this instruction sheet without any notice

**NO OPERATOR IS AUTHORIZED TO REPLACE THE "PROXYV" SETTABLE SAFETY CARTRIDGE WITHOUT FIRST HAVING RECEIVED EXPLICIT AUTHORIZATION FROM THE OWNER OF THE LPG TANK INSTALLATION, CERTIFYING THE TRAINING FOR THE APPLICATION OF THIS TECHNICAL INSTRUCTION**

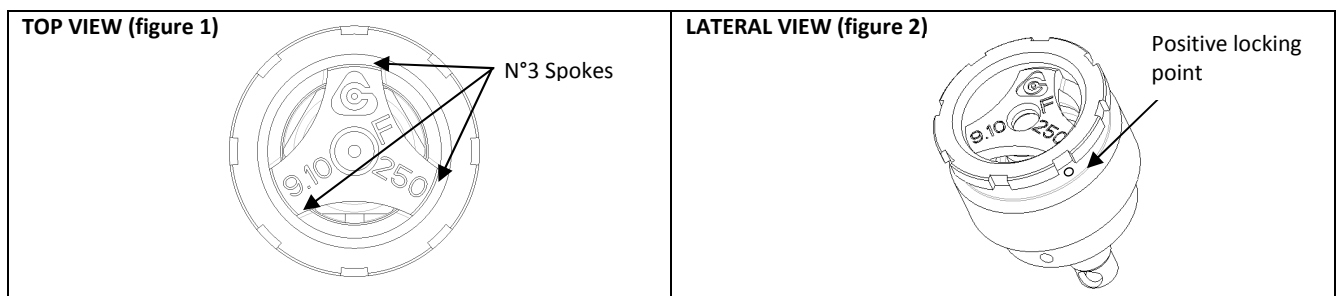
**NON-OBSERVANCE OF THE INSTRUCTIONS STATED IN THIS TECHNICAL INSTRUCTION SHEET WILL IMPLY THE AUTOMATIC CANCELLATION OF WARRANTY ON THE PRODUCT GRANTED BY THE MANUFACTURER AND HIS RELEASE FROM ANY LIABILITY IN CASE OF DAMAGE.**

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THE WORKING LIFE OF THE PRODUCT DEPENDS ON THE ENVIRONMENT IN WHICH IT OPERATES. THE PERIODIC MAINTENANCE OPERATIONS MUST BE CARRIED OUT BY TRAINED PERSONNEL IN ACCORDANCE WITH THE NATIONAL LEGISLATION IN FORCE, AUTHORIZED AND ABLE TO OPERATE ON THE PRODUCT AND THE TANK. THE OPERATOR IN CHARGE OF THE PERIODICAL MAINTENANCE OF THE TANK MUST MAKE SURE THAT NO PRODUCT DAMAGE HAS OCCURRED. IF THE TANK HAS BEEN EXPOSED TO FLAMES, THE PRODUCT MUST BE REMOVED AND SCRAPPED. THE PRODUCT SHALL NOT BE RECONDITIONED. CAPS AND SPARE PARTS ARE AVAILABLE FROM THE SUPPLIER OF GAS EQUIPMENT.

THE PRODUCT HAS BEEN DESIGNED TO BE USED ONLY WITH "CF" ACCESSORY THAT CAN BE REPLACED ONLY IN CASE OF USE ON TANKS IN ACCORDANCE WITH NFPA 59.



The "CF" accessory must not be tampered for any reason whatever; these interventions will cause a revocation of guarantee rights on the product and will release the Manufacturer from any liability.

**ATTENTION:** As concerns the "CF" accessory, the alignment with the three spokes of the ring nut (figure 1) and the three positive locking points (figure 2) means a correct calibration.

THE "CF" ACCESSORY REPLACEMENT SHALL BE CARRIED OUT FOLLOWING THIS INSTRUCTION, ONLY BY TRAINED PERSONNEL. THE "CF" ACCESSORY REPLACEMENT SHALL BE CARRIED OUT IF THERE ARE TWO OR MORE RELIEF DEVICES INSTALLED ON A TANK. ONLY ONE PRODUCT SHALL BE WORKED ON AT ONE TIME. THE REMAINING PRODUCTS SHALL REMAIN FUNCTIONAL, AND PROVIDE THE RATED RELIEVING CAPACITY REQUIRED FOR THE CONTAINER.

## 1. Scope

Aim of these technical instructions is to define the tools and the modalities for the replacement of the settable safety cartridge, “ProxyV” series, which is required on the safety relief valves, PV series, fitted to LPG tanks; therefore, they must always be made available to the following operators:

- VALVE FITTER, who shall record in the documents the tank where the valves have been installed
- TANK FITTER, who shall log in the site where the tank has been installed
- MAINTENANCE OPERATORS AND QUALIFIED STAFF WHO HAVE BEEN AUTHORIZED FOR REPLACEMENT
- ANY OTHER OPERATOR WHO SHALL WORK ON THE VALVE OR ON THE TANK

## 2. Periodical upgrading

The owner of the tank is in charge with the inspections to be carried out at regular intervals pursuant to the national regulations in force.

### 2.1 Functional inspection

Aim of the inspection is to ascertain that safety valve calibration lies within the required limits.

As concerns PV series safety valves, this fulfillment can be accomplished by replacing the settable safety cartridge “ProxyV” with a new cartridge, which shall be provided with a calibration certificate issued by the manufacturer and stating the identification markings and reference date in order to define the expiry date for next replacement.

### 2.2 Kit of tools to replace the settable safety cartridge “ProxyV”

The kit includes all required tools to safely disassemble and assemble the settable safety cartridges “ProxyV” which have been foreseen for PV series safety valves, without removing these latter from the tank.

### 2.3 Description

The kit includes the following tools:

- torque wrench (calibration 12 Nm);
- ProxyV wrench to disassemble the calibration cartridge “ProxyV”;
- tool for locking the safety valves piston upon replacement of the settable safety cartridge “ProxyV” ;
- instructions;
- case.

Two kits have been foreseen, according to the kind of PV Series Valves to be operated.



PV- Series	Kit code
PV19 - PV20	<b>68.0.390.0004</b>
PV24 - PV25 - PV36	
PV29 – PV30 - PV31 - PV45	

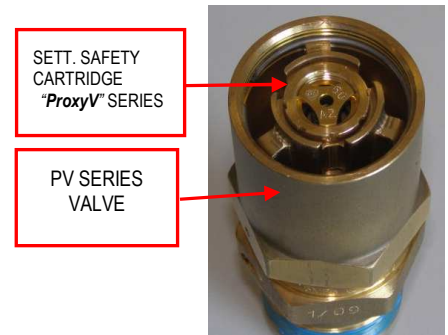


PV Series	Kit code
PV60	<b>68.0.390.0075</b>

### 3. Settable safety cartridge “ProxyV” disassembling operations

#### 3.1 Identification of safety valve model, PV series

Before starting any disassembling operation, and in order to choose the suitable tool (3.2), you have to identify the model of safety valve which is fitted to the tank. The settable safety cartridge “ProxyV” has been foreseen only for PV series safety valves.



#### 3.2 Piston locking device positioning

Check that the tool is in coupling position: the external hand-wheel must be rotated anti-clockwise until the internal bushing is lined up with the corresponding upper plane.



#### 3.3 Tool fitting into the valve.

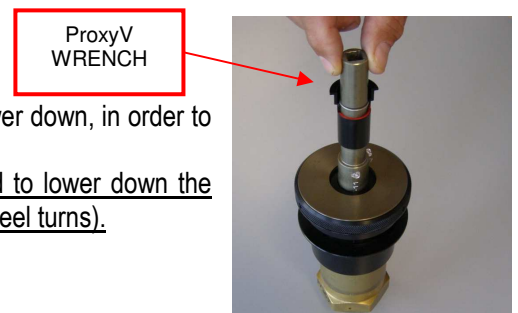
After having removed the protection cap from the valve, check that there are no foreign matters in its inside and introduce the tool into the valve. For underground tanks, to ventilate adequately the well in order to eliminate any presence of LPG.

Insert the tool thoroughly and then rotate it clockwise until you can hear the *snap* of the lower ring. In this condition the tool has been positioned in a way that it cannot be unintentionally disassembled.

#### 3.4 Safety valve piston locking

By rotating the hand-wheel clockwise the internal bushing is caused to lower down, in order to prevent the opening stroke of the safety valve piston.

Do not apply a tightening torque higher than the torque which is needed to lower down the internal bushing in contact with the piston (approx. from 0.5 to 1.5 hand-wheel turns).



#### 3.5 Settable safety cartridge “ProxyV” disassembling

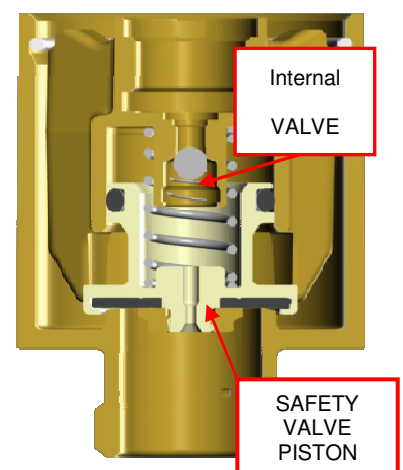
Fit the special wrench for the “ProxyV” settable safety cartridge into the central bore; manually rotate to reach the full-coupling and then disassemble the calibration cartridge by making use of the reversible ratchet torque spanner to be rotated anti-clockwise.



#### 3.6 Indication of internal valve actuation

Series PV valves have an internal valve which limits the escape of gas upon disassembling the settable safety cartridge (“ProxyV”). The internal valve closes before the cartridge (“ProxyV”) is completely unscrewed and its actuation is evidenced by the reduction of leakage which can be perceived immediately after the unscrewing. A reference plane on the special wrench indicates the unscrewing level within which a reduction of leakage must occur.

If the internal valve does not operate before the reference plane is lined up with the upper plane of piston locking device hand-wheel, interrupt all operations and re-tighten the settable safety cartridge (“ProxyV”). In this case, you have to replace the series PV safety valve. Once you have checked these steps, completely unscrew the cartridge (“ProxyV”) and remove the special wrench. The cartridge (“ProxyV”) remains connected to the special wrench and can be detached by pulling it manually.



## 4. New settable safety cartridge “ProxyV” replacement and fitting

### 4.1 Special wrench positioning

Position the new cartridge (“**ProxyV**”) onto the special wrench and screw the whole unit by hand.

### 4.2 Application of the tightening torque

Reverse the tightening direction on the torque wrench and apply it to the special wrench. Thoroughly tighten until the torque wrench, previously **calibrated at 12 Nm**, gets released. Remove the main piston locking device unit and make sure that there are no leakages. Refer to § 5 for tightness check.

### 4.3 Piston locking device disassembling

Rotate the hand-wheel anti-clockwise in order to position the internal bushing flush with the upper plane of the hand-wheel. Pull the lower ring upwards and rotate the piston locking device unit anti-clockwise. Remove the device from the valve.

*Upon each replacement of the settable safety cartridge “ProxyV”, mark (e.g. with a spring punch ) a symbol in the hexagon area of PV in order to identify the replacement intervention (be careful not to interfere with other existing markings) and record the carried out operation in the form which has been foreseen for the traceability of spare parts (ref. attached Form 238).*



## 5. Tightness check

ONCE FITTED, THE PRODUCT MUST BE TESTED WITHIN THE RANGE OF THE WORKING PRESSURES TO DETECT ANY LEAKAGE BEFORE BEING PUT ON THE MARKET. THE INSPECTION MODALITIES MUST ASSURE THE DETECTION OF ANY LEAKAGE. IN CASE OF A LEAK, NEVER USE GAS LEAK DETECTOR CONTAINING AMMONIA. A LEAKAGE IN THE CONNECTING POINTS WITH THE RING NUT CAN BE REMEDIED BY FURTHER TIGHTENING, BUT WITHOUT EXCEEDING THE STATED LIMITS OR, AFTER HAVING REMOVED THE ORIGINAL DOPE, BY ADDING SOME NEW. IF THE PRODUCT DOES NOT STOP LEAKING, IT MUST BE REPLACED.

After having checked the presence of the settable safety cartridge fitted on the valve, Check the tightness of the components under pressure by making use of a suitable product (which must be absolutely ammonia-free). Manually assemble the protection plastic cap. The settable safety cartridges that have been disassembled cannot be re-used and must be scrapped.



## **6. Calibration certificate**

The calibration certificate attached to the new installed cartridge (**ProxyV**) must be filled-in on the backside by the operator who performed the replacement and, must be enclosed to the documents pertaining to the tank and must be made available in case of check of the inspecting Bodies that define the new expiry date for the periodical upgrading (point 2).

## **7. Traceability**

Each cartridge has to be identified in order to assure the traceability of materials according to the provisions in force. Said traceability refers to the production lot to which the cartridge belongs. The traceability elements, marked on the cartridge and appearing in the Certificate of Calibration are:

- ✓ manufacturer's name or initials
- ✓ date of manufacture
- ✓ calibration code

The markings appearing on the product cannot be modified nor removed.

The Purchaser of the Product and/or Valve undertakes the responsibility to guarantee the downstream traceability of the Product/Valve, also in case the Product/Valve is re-sold to other subjects; this in order to enable the Manufacturer to be always informed of their exact location.