

# Relief valve

## Introduction

This Safe Use Guide provides instructions and safety information on pressure equipment so as to avoid any foreseeable risk during the use.

For further information refer to Types V/ Series Instruction Manual, n° 0082 (V/50 and V/60 types) and n° 0155 (V/20-2 type).

To receive a copy of the Bulletin n° 0129 (V/ Series Relief Valves), contact your local O.M.T. Tartarini Sales Office or O.M.T Tartarini Sales Representative.

## General Remark

The standard gas pressure devices (relief valves) are those used in the assemblies dealt with into EN 12186 and EN 12279 and their use has to be under the provisions into ENs 12186 & 12279.

## P.E.D. Categories/Fluid Group and Description

The V/ Self-Operated Series back pressure relief valves are pressure accessories and are designed according such as functional service.

They are typically used in gas pressure reducing stations for overpressure protection by releasing small amounts of gas in the event of not perfect pressure regulator closing.

This product is a pressure equipment in the following Pressure Equipment Directive 97/23/EC categories.

| Type       | Inlet Connection Style | Outlet Connection Style | Category | Fluid Group |
|------------|------------------------|-------------------------|----------|-------------|
| V/50-51-52 | 1" GAS                 | 1 1/2" GAS              | SEP      | 1           |
| V/60-61-62 | 1 1/2" GAS             | 2" GAS                  | I        |             |
| V/20-2     | 1" NPT                 | 1" NPT                  | SEP      |             |

If V/ Self-Operated Series relief valves are used as full-capacity safety relief device (according clause 8.3.2 EN 12186), downstream equipments protected by this products shall have technical features such as not to have an higher classification (according to Directive 97/23/EC "PED").

## Specifications

**! WARNING !**

### Maximum Outlet Set Pressure Ranges (1)

V/20-2: 1.5 ÷ 40 bar

V/50-51-52: 0.025 ÷ 2 bar

V/60-61-62: 0.025 ÷ 2 bar

### Minimum/Maximum Allowable Temperature (TS) (1)

See nameplate

(1) : The pressure/temperature limits in this installation guide and any applicable standard or code limitation should not be exceeded.

## Marking

**TARTARINI** **CE** **XXXX** **APPARECCHIO TIPO / DEVICE TYPE**  
**Note 1**  
 MATRICOLA SERIAL N°: [ ] DN1: [ ]  
 ANNO YEAR: [ ] **Note 2** DN2: [ ]  
 NORME ARMONIZ. I ARMONIZED STD. EN [ ] W<sub>3</sub>: [ ] bar  
 CLASSE DI PERDITA LEAKAGE CLASS [ ] W<sub>50</sub>: [ ] bar  
 CLASSE FUNZIONALE FUNCTIONAL CLASS [ ] C<sub>g</sub> [ ] W<sub>60</sub>: [ ] bar  
 FLUIDO GRUPPO FLUID GROUP **1** p<sub>max</sub>: [ ] bar p<sub>60</sub>: [ ] bar  
 TS **Note 3** °C PS body **Note 4** bar PS covers - bar PT= **1.5** x PS bar

**Note 1:** See "Specifications" paragraph

**Note 2:** See page header

**Note 3:** Class 1: -10/+60 °C  
 Class 2: -20/+60 °C

**Note 4:** V/50-51-52 PS = 4 bar  
 V/60-61-62 PS = 2,5 bar  
 V/20-2 PS = 100 bar

## Overpressure Protection

The recommended pressure limitations are stamped on the relief valve's nameplate (PS).

Some type of overpressure protection is needed if the actual inlet pressure exceeds the above recommended pressure limitations.

Relief valve operation below the maximum pressure limitations does not preclude the possibility of damage from external sources or debris in the line.

The valve should be inspected for damage after any overpressure condition.

## Transport and Handling

Established transport and handling procedures shall be followed to avoid any damage on the pressure containing parts (body and spring case of the relief valve) by shocks or anomalous stresses.

## Installation

### **! WARNING !**

**Only qualified personnel should install or service a relief valve.**

**Relief valves should be installed, operated, and maintained in accordance with international and applicable codes and regulations, and O.M.T. Tartarini instructions.**

**Failure to take the relief valve out of service immediately may create a hazardous condition. Personal injury, equipment damage, or leakage due to escaping fluid or bursting of pressure-containing parts may result if this relief valve is over-pressured or is installed where service conditions could exceed the limits given in the Specifications section, or where conditions exceed any ratings of the adjacent piping or piping connections.**

**To avoid such injury or damage, provide pressure-limiting devices (as required by the appropriate code, regulation, or standard) to prevent service conditions from exceeding limits. Additionally, physical damage to the relief valve could result in personal injury and property damage due to escaping fluid. To avoid such injury and damage, install the relief valve in a safe location.**

**Before installation, check shall be done if service conditions are consistent with use limitations.**

**All means for draining must be provided in the equipment installed before relief valves (ENs 12186 & 12279).**

**If using a V/ series relief valve on hazardous or flammable gas service, personal injury and**

**property damage could occur due to fire or explosion of vented gas that may have accumulated. To prevent such injury or damage, provide piping or tubing to vent the gas to a safe, well-ventilated area in accordance also with international and applicable codes and regulations. In particular, when venting a hazardous gas, the piping or tubing should be located far enough away from any buildings or windows so to not create a further hazard, and the vent opening should be protected against anything that could clog it.**

**If installing the relief valve at an outside location, adequate protection, such as rain caps or elbow piping, must be attached to the outlet to keep the relief valve from getting plugged or from collecting moisture, corrosive chemicals, or other foreign materials.**

**For outdoor installations, the relief valve should be located away from vehicular traffic.**

Further the ENs 12186 & 12279, where this product is used :

- provide the cathodic protection and electrical isolation to avoid any corrosion and
- in accordance with clause 7.3/7.2 of aforesaid standards, the gas shall be cleaned by proper filters/separators/scrubbers to avoid any technical & reasonable hazard of erosion or abrasion for pressure containing parts

Pressure equipment in subject shall be installed in non-seismic area and hasn't to undergo fire and thunderbolt action.

Clean out all pipelines before installation of the relief valve and check to be sure it has not been damaged or has collected foreign material during shipping.

For flanged bodies, use suitable line gaskets and approved piping and bolting practices.

Install the relief valve in any position desired, unless otherwise specified, but be sure flow through the body is in the direction indicated by the arrow on the body.

Installation must to be done avoiding anomalous stresses on the body and using suitable joint means (bolts, flanges, ...) according equipment dimensions and service conditions.

For a safe use of the connections check also Instruction Manuals and Bulletin before installation.

**Note:** It is important that the relief valve and relief valve be installed so that the pilots and possible booster valve vent holes are unobstructed at all times.

For outdoor installations, the relief valve should be located away from vehicular traffic and positioned so that water, ice, and other foreign materials cannot enter through the vent.

Avoid placing the equipment beneath eaves or downspouts, and be sure it is above the probable snow level.

### Start-up

The relief valve's spring is factory set at approximately the midpoint of the spring range or the pressure requested, so an initial adjustment may be required to give the desired results.

With proper installation completed and system equipment properly adjusted, slowly open the upstream shut-off device while using pressure gauges to monitor pressure.

### Spring Adjustment

To change the set-points, remove the vent line (V/20-2 type) or spring closing cap (V/50 and V/60 types) and turn the adjusting screws clockwise to increase outlet pressure or counter-clockwise to decrease pressures.

Monitor the outlet pressure with a test gauge during the adjustment.

Replace the vent line and closing cap to maintain the desired setting.

### Taking Out of Service (Shutdown)

#### **! WARNING !**

**To avoid personal injury resulting from sudden release of pressure, close the upstream shut-off device before attempting disassembly and release trapped pressure from the equipment and pressure line.**

**In case of disassembly of main pressure retaining parts for checks and maintenance procedures, external and internal tightness tests have to be done according applicable codes.**

### Checks and Maintenance

The relief valve and its pressure accessories are subject to normal wear and must be inspected periodically and replaced as necessary.

The frequency of inspection/checks and replacement depends upon the severity of service conditions and upon applicable National or Industry codes, standards and regulations/recommendations.

Maintenance is possible by following proper procedures detailed in the Instruction Manual.

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In accordance with applicable National or Industry codes, standards and regulations/recommendations, all hazards covered by specific tests after final assembling before applying the CE marking, shall be covered also after every subsequent reassembly at installation site, in order to ensure that the equipment will be safe throughout its intended life.

### Commissioning / de-commissioning

See Instruction Manual for proper operations.

Safety requirements are according taking out of service above information.

### Spare parts

See Instruction Manual for spare parts tracing.

Spare parts storage shall be done by proper procedures according also national standard/rules to avoid too much aging or any damage.

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