

OPERATING INSTRUCTIONS

EN

PRV.22 / PRV.33 / PRV.44

Relief valves

PRV valves are used to limitate pressure or vacuum on lateral channel blowers.

When the pressure or vacuum is reached the valve opens and, connecting the internal part of blower to atmosphere, prevents to overcome the blower design limit.

The discharge connection may be, according to the plant design, opened to atmosphere directly or channeled to a discharge pipe.

RUNNING PRINCIPLES

The fluid pressured is opposed by the force effected on shutter by the spring. This starts to open when fluid pressure overcomes the spring force reaching the fully open position.

And when the pressure goes below the set pressure the valve closes.

INTENDED USE

The PRV valves are suitable:

- are intended for industrial applications,
- operating range of differential pressure (Δp) is between 100 mbar up to 600 mbar,
- handling air and gas that is not explosive, not inflammable, not poisonous, and not aggressive,
- Gas inlet temperature must be in the range of -15° to $+160^{\circ}\text{C}$,

OPERATING RANGE AND CHOICE OF SPRING

The PRV valves are supplied with two different springs, each spring is to be used within a specific pressure or vacuum operating range. For PRV.33 and PRV.44 are also provided for the use of the two springs together.

Refer to the **%SPRING OPERATING RANGE TABLE+** to verify that the valve mounts suitable spring to your use.

SPRING OPERATING RANGE TABLE						
SIZE	RELIEF VALVE CODE	SPRING IDENTIFICATION	OPERATING RANGE Δp [mbar] min / max		SPRING BY DEFAULT	
2"	PRV.22	White	100	/	300	Spring supplied assembled by factory
		Green	300	/	600	Spring supplied loose
3"	PRV.33	White	100	/	200	Spring supplied assembled by factory
		Green	200	/	400	Spring supplied loose
		White + Green	400	/	600	-
4"	PRV.44	Green	100	/	200	Spring supplied assembled by factory
		White	200	/	400	Spring supplied loose
		Green + White	400	/	600	-

INSTRUCTION FOR SPRING REPLACEMENT OR MOUNTING ADDITIONAL SPRING

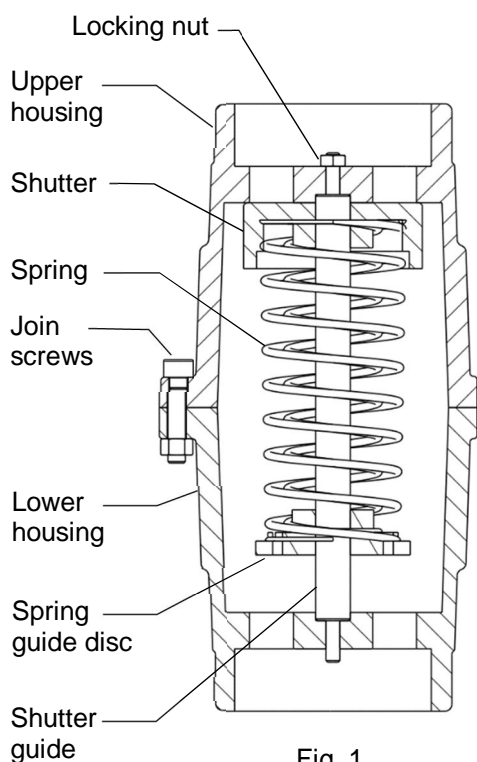
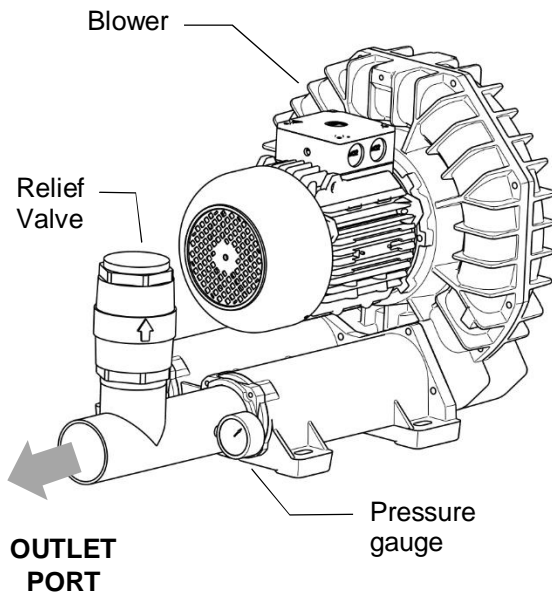


Fig. 1

Refer to the fig. 1

- 1- Ensure **locking nut** is locked on the **upper housing**.
- 2- Unscrew **join screws**,
- 3- Remove **lower housing** from **upper housing**,
- 4- Unscrew **spring guide disc** taking it out from **shutter guide**,
- 5- Remove **spring** (only in case of replacement)
- 6- Install the appropriate **spring** into **shutter**,
- 7- Compress **spring** and screw **spring guide disc** on the **shutter guide** for at least 10 full laps thread,
- 8- Check that both ends **spring** are properly positioned within their seats,
- 9- Install the **lower housing**
- 10- Tighten **join screws**.

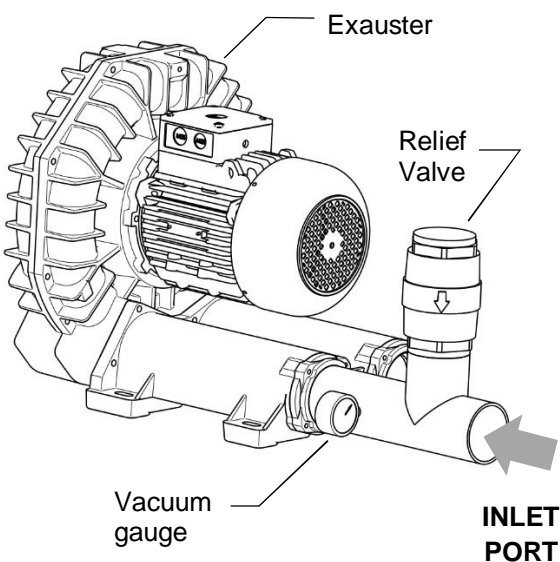
INSTALLATION SKETCH AS PRESSURE RELIEF VALVE AND SETTING-UP



Installation and setting-up at allowed pressure level

- 1- Remove locking nut (see fig 1) from upper housing and place it on the lower housing. **Do not tighten**,
- 2- Position valve on the discharge by-pass and connect a pressure gauge as close as possible to the blower outlet,
- 3- Relieve spring tension by backing on shutter guide with the key,
- 4- Turn on blower. Induce highest attainable pressure by throttling air discharge downstream of the valve (normally reducing throttle to fully-closed),
- 5- Unscrew shutter guide until maximum allowable pressure level is reached,
- 6- Tighten locking nut,
- 7- Open discharge line.

INSTALLATION SKETCH AS VACUUM RELIEF VALVE AND SETTING-UP



Installation and setting-up at allowed vacuum level

- 1- Position valve on the suction by-pass and connect a vacuum gauge as close as possible to the exhauster inlet,
- 2- Unscrew locking nut (see fig 1),
- 3- Relieve spring tension by backing off on shutter guide with the key,
- 4- Turn on exhauster. Induce highest attainable vacuum by throttling air intake upstream relief valve (normally reducing throttle to fully-closed),
- 5- Screw shutter guide until maximum allowable vacuum level is reached,
- 6- Tighten locking nut,
- 7- Open suction line.