

PLAST-O-MATIC[®]

VALVES, INC.

Series RVTX 90° RELIEF VALVES

Operation, Installation and Maintenance Instructions

INTRODUCTION

90° angle pattern RVTX300 valves, when properly specified, adjusted, and installed, will relieve undesired overpressures in liquid handling systems. These normally closed valves function as relief, bypass, or backpressure valves. As backpressure valves they maintain upstream (or back) pressure maximum recommended flow is 200 GPM (757 LPM). They are not "Pop Safety" valves and are not to be used in compressed air or gas service. Chemical compatibility must be ascertained prior to installation.

OPERATING SPECIFICATIONS

RVTX300 valves have an adjustable set pressure range of 5 to 100 psi. The valve requires increasing overpressure, beyond the set pressure, to achieve increasing flow rates. The valve will gradually open as the set pressure is exceeded. When the inlet pressure drops below the set pressure, the valve will close. The pressure at which the valve closes (re-seats) will be 10-20% less than the set pressure.

CAUTION: The design of this relief valve employs the use of a rolling diaphragm seal which can only be exposed to positive pressure in one direction. Therefore, the outlet port of the relief valve must *not* be exposed to vacuum.

PRESSURE SETTING

Valves can be field adjusted from 5 to 100 psi. Do not attempt to set the pressure outside of this range.

Pressure setting instructions are as follows:

1. A pressurized line, with gauge and regulator, is to be connected to the RVTX inlet port. The regulator must be adjusted to the desired relief pressure.
2. Apply the required pressure to the RVTX valve. If the valve relieves prematurely, turn the adjusting screw down (clockwise) to increase the relief setting. If the valve does not relieve at the desired pressure, turn the adjusting screw up (counterclockwise) to decrease the relief setting.
3. Compressed air may be utilized for pressure setting purposes only. If air is utilized, water should be placed in the outlet port of the valve for detection of a relief condition. When properly adjusted, the valve should emit a steady stream of bubbles, approximately two (2) per second at the set pressure.

Note that if a pressure setting is specified on the flow label, the valve has been pre-set at the factory.

MATERIALS IDENTIFICATION

Material of construction of the valve body is indicated by a suffix (e.g. "PV", "CP") in the part number. This is printed on the flow label. If the label is missing, the body material may be determined by color identification as listed below:

MATERIAL	MAXIMUM TEMP.	SUFFIX	COLOR
PVC	140°F (60°C)	"PV"	Dark Gray
CPVC	180°F (82°C)	"CP"	Light Gray

CAUTION: Materials do not contain ultraviolet (UV) light inhibitors. PVC and CPVC can degrade when subjected to ultraviolet (UV) light. Fluid temperatures below 40°F (5°C) are not recommended. Contact Plast-O-Matic with questions and concerns.

INSTALLATION INSTRUCTIONS

Valves must be installed in the proper flow direction indicated by the flow label. If the label is missing, the valve's inlet port is located 180 degrees opposite the adjustment bolt. An in-line strainer or filter should be installed prior to the valve inlet when suspended solids are present.

A suitable thread sealant (e.g. PTFE tape) should be applied on the threads to assure a "leak-tight" seal. The assembly need only be made "hand-tight" followed by a quarter (1/4) turn with a strap wrench. Do not over tighten or use pipe wrenches on plastic pipe and components. Connections should be made only to plastic fittings. Therefore, metal pipe should not be used without first installing an intervening plastic nipple. Metal pipe and straight threaded pipe tend to stretch or distort the plastic bodies, causing undue stress. This could result in cracking or future ruptures.

CAUTION: Extra care must be applied when using PTFE tape sealant. PTFE tape may "string" as pipe threads are joined. Stray "string" could accumulate near the orifice and prevent the valve from completely re-seating. For socket connections follow solvent welding instructions on manufacturer's product and do not allow solvent cement to drip into the valve interior.

RVTX relief valves should be installed, as near as possible, to the device or line being protected. Never install the valve whereby the outlet would be subjected to back pressure from a pressurized vessel or pipe line, and never have vacuum at the outlet.

SERIES "RVTX" 90° RELIEF VALVE

MAINTENANCE AND
SPECIFICATIONS ON
REVERSE SIDE

Series "RVTX" 90° Relief Valves cont.

MAINTENANCE

The RVTX300 contains replaceable components. Maintenance items include the internal seals and spring. Replacement seal kits are available. Seal life will vary in applications due to cycles, temperatures, pressures, chemicals, and concentration. Plast-O-Matic recommends keeping a spare seal kit available for repairs. Based on the application, a preventative maintenance routine should be established to provide scheduled inspection and/or replacement of the valve's seals.

To order a seal kit for RVTX300 place the prefix "SK" in front of the valve part number and omit the suffix (e.g. "PV" or "CP"). For example, if your valve is a RVTX300V-PV, the corresponding seal kit is SKRVTX300V.

