## PLAST-O-MATIC 90° RELIEF VALVES Series "RVTX"

# 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 <u>relief</u>, <u>by-pass</u>, or <u>back pressure valves</u>. As back pressure 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.

<u>CAUTION</u>: 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:

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.

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.

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, approx. two (2) bubbles per sec. 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

<u>CAUTION</u>: 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. Teflon® 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.

<u>CAUTION</u>: Extra care must be applied when using Teflon® tape sealant. Teflon® tape may "string" as pipe threads are joined. Stray "strings" 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 <u>outlet</u> would be subjected to back pressure from a pressurized vessel or pipe line, and never have vacuum at the outlet.

### **MAINTENANCE**

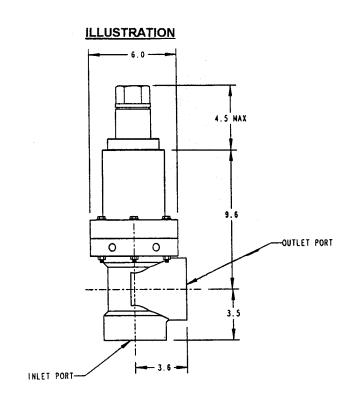
The RVTX300 contains replaceable components. Maintenance items include the internal seals and spring. Replacement seal kits are available. Seal life will vary in applications due to cycles, temperatures, pressures, chemicals, and concentration. Plast-O-Matic recommends keeping a spare seal kit available 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.

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## PLAST-O-MATIC 90° RELIEF VALVES Series RVTX ILLUSTRATION AND PRODUCT GUARANTEE



#### PLAST-O-MATIC Product Guarantee

Plast-O-Matic guarantees its products to be free from defects in material or workmanship over a period of one (1) year from date of shipment from its factory.

approval, the purchaser may return it directly to Plast-O-Matic's factory in New Jersey (USA), shipping charges prepaid. Such products will be inspected by Plast-O-Matic and if determined defective due to material or workmanship shall be replaced or put in proper operating condition, free of all charges, including ground freight, and a credit will be allowed for ground freight to Plast-O-Matic. The correction of any defects by repair or replacement by

If any product is found unsatisfactory under this Guarantee, the purchaser should notify Plast-O-Matic in writing or phone, and after receipt of Plast-O-Matic's shipping

Plast-O-Matic shall constitute fulfillment of all obligations and liability of Plast-O-Matic to the purchaser under this Guarantee. Plast-O-Matic is not responsible for damage to its products through improper installation, maintenance, use or attempts to operate it beyond its mechanical or electrical capacity intentionally or otherwise, or for unauthorized repair including freight charges.

Any failure to notify Plast-O-Matic immediately of unsatisfactory operation, or any improper or unauthorized installation, maintenance, use, repair or adjustments, shall terminate this Guarantee and shall relieve Plast-O-Matic from any further responsibility thereunder.

Plast-O-Matic shall not be liable for special or consequential damages in any claim, action, suit, or proceedings arising under this Guarantee, nor shall there be any liability thereunder for claims for labor, loss or profit or good will, repairs or other expenses incidental to replacement.

The foregoing warranty is exclusive and in lieu of any and all other warranties, expressed or implied. No warranty of merchantability, no implied warranty of fitness for any particular purpose, and no implied warranty arising by usage of trade, course of dealing or course of performance is given by seller or shall arise by or in

connection with this sale and/or the seller's and/or buyer's conduct in relation thereto or to each other, and in no event shall seller be liable on any such warranty with

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respect to any product.