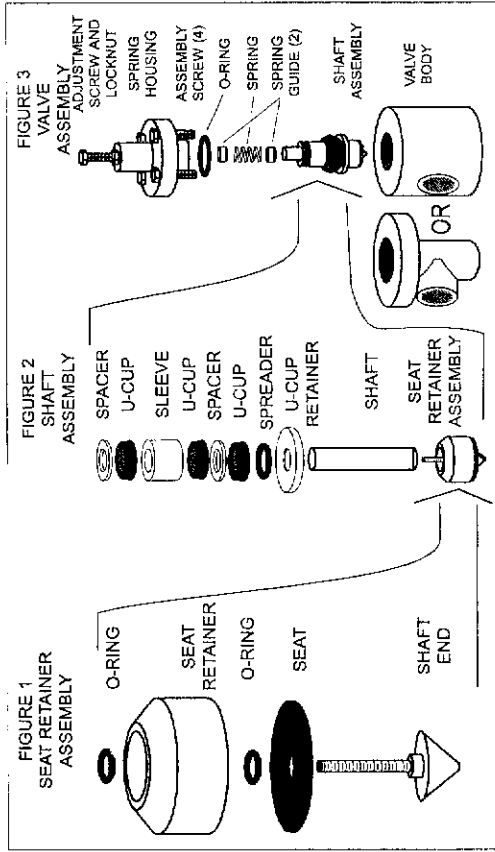


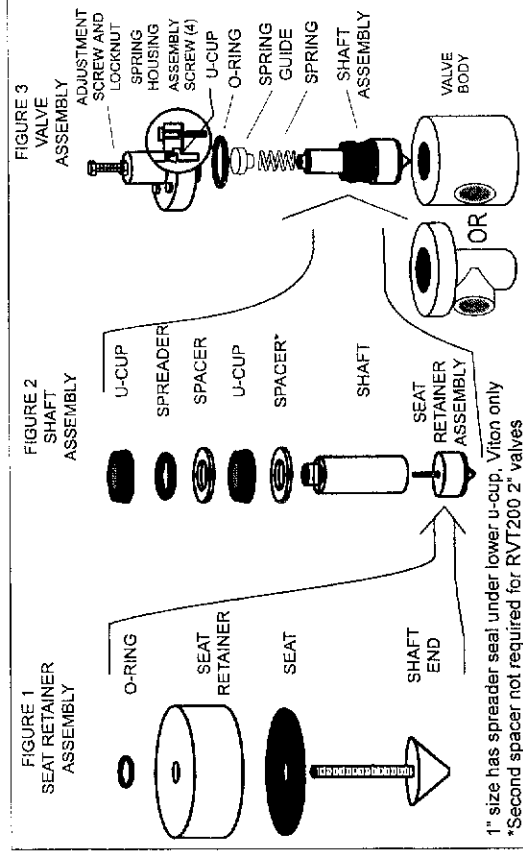
## VI. MAINTENANCE

Plast-O-Matic recommends keeping a spare seal kit available for repairs. Seal life will vary in applications due to cycles, temperatures, pressures, chemicals, and concentration. Based on the application, a periodic inspection and maintenance plan should be established. The seal kit part number is "SK" plus the part number less the material suffix. For example, the seal kit for RVT050V-PV is SKRVT050V.

### PARTS AND ILLUSTRATION - RVT050



### RVT075, RVT100, RVT125, RVT150, RVT200



# INSTALLATION & MAINTENANCE INSTRUCTIONS FOR TRUE BLUE™ SERIES RVT RELIEF VALVES

## I. IMPORTANT - BEFORE INSTALLING

Series RVT relief valves will open when inlet pressure exceeds the set pressure, when properly installed and used within the recommended ranges of pressure, temperature, and chemical compatibility. The ultimate determination of material compatibility is previous successful use in the same application. Call our Technical Support for information about your application.

**CAUTION:** Series RVT is not a pop safety relief valve. It is not intended for air or gas service. It does not regulate pressure downstream of the valve. Connecting the outlet to a suction line may cause air to be drawn into the line. Connecting the outlet to a pressurized line or vessel may cause valve malfunction. Plastic materials will degrade in ultraviolet (UV) light or sunlight. Polypropylene and PVDF often look similar. Do not install in your system if you are not sure.

## MAXIMUM INLET PRESSURES for WATER\*

| BODY MAT'L | COLOR           | at 77°F (25°C) | at 104°F (40°C) | at MAX. TEMP.                 |
|------------|-----------------|----------------|-----------------|-------------------------------|
| PVC        | DARK GRAY       | 150 PSI 10 Bar | 106 PSI 7 Bar   | 34 PSI @ 140°F 2 Bar @ 60°C   |
| CPVC       | LIGHT GRAY      | 150 PSI 10 Bar | 120 PSI 8 Bar   | 37 PSI @ 180°F 2 Bar @ 80°C   |
| Polypro    | TRANSLUC. WHITE | 150 PSI 10 Bar | 125 PSI 8 Bar   | 40 PSI @ 180°F 2 Bar @ 80°C   |
| KymerPVDF  | TRANSLUC. WHITE | 150 PSI 10 Bar | 120 PSI 8 Bar   | 22 PSI @ 280°F 1 Bar @ 140°C  |
| PTFE       | OPAQUE WHITE    | 150 PSI 10 Bar | 140 PSI 9 Bar   | 10 PSI @ 280°F 69 kPa @ 140°C |

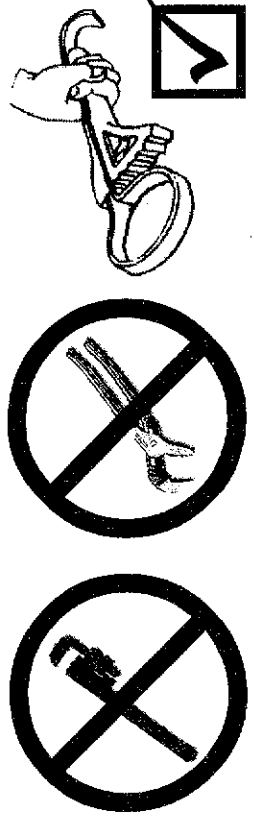
\*or compatible chemical - ratings reduced for some applications. Not rated for suction or vacuum. Minimum temperature 40°F (5°C). EPDM seals limited to 250°F (120°C), Buna-N to 200°F (95°C). See the Product Data Sheet or consult our Technical Support staff for more information.

## II. INSTALLATION INSTRUCTIONS

Install the valve in the proper flow direction as indicated by the flow label. The valve may be set vertically or horizontally.

**A. THREADED CONNECTION** - Apply a suitable thread sealant (for example, PTFE tape) to mate tapered threads to assure a "leak-tight" seal. Assemble "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. **Caution:** PTFE tape will "string" as pipe threads are joined. Loose "strings" could lie across the seating surface and prevent the valve from completely closing. To avoid this problem, clean out old tape, and do not apply tape to the first thread.

continued...



**TRUE BLUE™**

**PLAST-O-MATIC VALVES, INC.**

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**Caution:** Connect to plastic pipe and fittings only; when using metal pipe, install an intervening plastic fitting. Metal pipe and straight threaded pipe tends to cut, stretch, and distort the plastic bodies, resulting in cracking or leaking over time.

**NON-THREADED CONNECTIONS** - For solvent cementing or heat fusion, follow the instructions supplied with the cement or fusion equipment, or contact your distributor.

**MOUNTING** - These valves are designed to be supported by the piping. The piping must be properly supported, taking into account the weight of the valve, piping, and process liquid.

### III. SPRING REPLACEMENT

Pressure setting range can be changed by replacing one or more springs in the valve

RVT Spring Selection Chart

| MODEL   | PIPE SIZE | ADJUST RANGE | SPRINGS             |
|---------|-----------|--------------|---------------------|
| RVT050  | 1/2"      | 5 - 25       | LC042G-7            |
|         |           | 26 - 70      | LC045G-7            |
|         |           | 71 - 100     | LC055G-7            |
| RVT075  | 3/4"      | 5 - 30       | LC049H-10           |
|         |           | 31 - 70      | LC063H-10           |
|         |           | 71 - 100     | LC072H-9            |
| RVT100  | 1"        | 5 - 25       | LC072H-9            |
|         |           | 26 - 55      | LC080H-9            |
|         |           | 56 - 100     | LC080H-9 & LC091K-1 |
| RVT125  | 1 1/4"    | 5 - 15       | LC063H-10           |
|         |           | 16 - 50      | LC105L-8            |
|         |           | 51 - 70      | LC120L-7            |
|         |           | 71 - 100     | LHC156M-6           |
| RVT150  | 1 1/2"    | 5 - 25       | LC105L-8            |
|         |           | 26 - 59      | LC120L-7            |
|         |           | 60 - 100     | LC148J-7            |
| RVT200  | 2"        | 5 - 40       | LHC162N-8           |
|         |           | 41 - 100     | LHC218T-4           |
| RVTX300 | 3"        | 5 - 100      | LHL2000A-8          |

### IV. OPERATION

#### Relief Operation

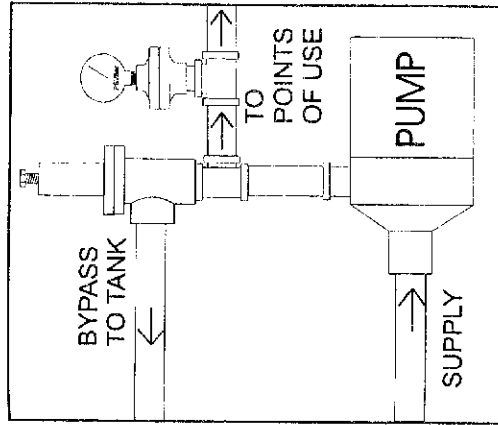
The function of a relief valve is to protect a pressurized pipeline, vessel, or other similar system from excessive pressure. When the inlet pressure exceeds the set point, the valve opens to bleed off the excess pressure.

#### Back Pressure Operation

A back pressure valve controls pressure in a line or system by closing when the pressure drops below the set point. Pressure at the outlet can drop, but upstream pressure is maintained.

#### By-pass Operation

A by-pass valve is set on the outlet of a pump (see figure) to prevent dead-heading and control the pump's outlet pressure. When pressure exceeds the set point, the valve opens to allow the liquid to recycle (by-pass) to the pump inlet.



Typical By-pass Operation

### V. PRESSURE SETTING INSTRUCTIONS

Series RVT pressure relief valves sense inlet pressure; therefore it may be helpful to install a pressure gauge at the inlet of the valve for setting.

#### Setting for relief or backpressure operation:

1. Install the relief valve in the piping system.
2. Loosen the locking nut on the adjusting screw assembly and turn the adjusting screw all the way in.
3. Increase the inlet pressure to the desired set point
4. Turn the adjusting screw slowly out until flow is observed.
5. Tighten the locking nut to lock in the setting.

Relief valves may be set off-line using pressurized air. Connect the inlet to a pressurized air supply that is regulated to the desired set pressure. Fill the outlet port with water, or run a line into a container of water, to observe bubbles.

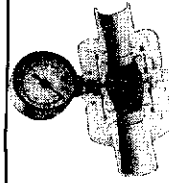
## PLAST-O-MATIC GAUGE GUARDS PROTECT YOUR PROCESS



- Series GGME**
- Economical
  - Superior accuracy
  - Gauge ranges from vacuum to 200 psi



- Series GGM**
- For corrosive & ultra-pure applications
  - Superior accuracy
  - Gauge ranges from vacuum to 200 psi
  - Available with shields, removable housings, and many other optional features



- Series GGMU**
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  - Superior accuracy
  - Gauge ranges from 0 to 200 psi