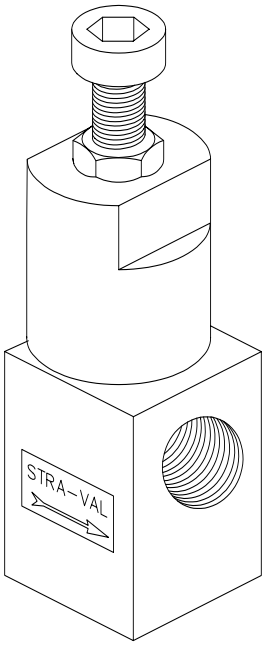
STRA VALVES
STRAINERS VAL

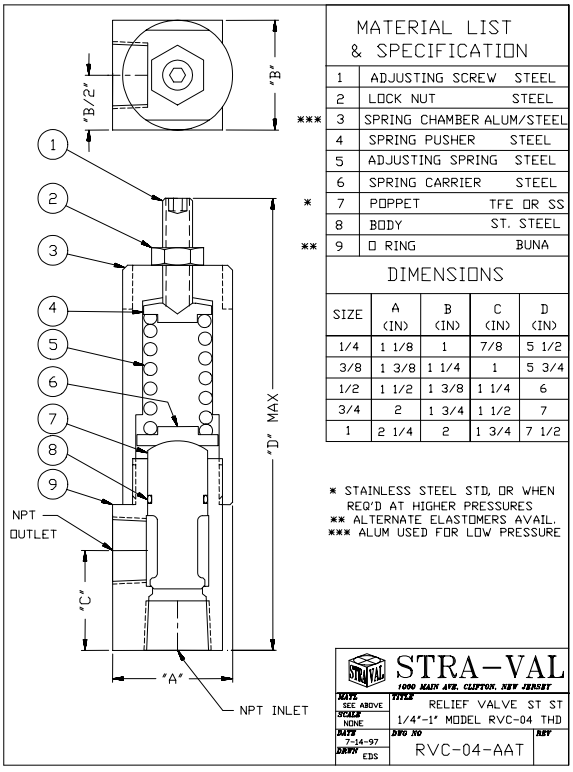
OPERATING INSTRUCTIONS
MODEL RVC-04 THD
PRESSURE RELIEF VALVE



APPLICATIONS:
Valve should only be used for non-corrosive fluids, or where the materials selected are compatible with the fluid and will not cause corrosive buildup which could keep the poppet from opening . (Consult Factory). When liquids contain debris or other solid matter which might cause internal clogging or improper operation of the valve, a strainer with a fine wire mesh should be installed before the inlet of the valve. In-line strainer fittings or basket strainers can be purchased from STRA-VAL to solve this problem.

PRINCIPLE OF OPERATION
This is a poppet and spring type pressure relief valve where the spring constantly opposes the pressure acting against the poppet which seals of the inlet port from the outlet port at the valve seat. The desired set pressure is achieved by compressing the spring until the spring force is adequate to balance the pressure force acting against the poppet. When the inlet pressure exceeds the set pressure, the poppet will open to relieve the excess pressure, and will reseat when the overpressure condition is dissipated.

MAINTENANCE & REPAIR
The valve should be periodically checked for proper operation. This can be easily done by reducing the spring compression from its current pressure setting. Eventually the poppet should open and begin to discharge liquid or gas under pressure. **Make sure that the discharge port is properly piped to a safe area in order avoid any personal injury**



MATERIAL LIST & SPECIFICATION

1	ADJUSTING SCREW	STEEL	
2	LOCK NUT	STEEL	
***	3	SPRING CHAMBER	ALUM/STEEL
4	SPRING PUSHER	STEEL	
5	ADJUSTING SPRING	STEEL	
6	SPRING CARRIER	STEEL	
*	7	POPPET	TFE OR SS
8	BODY	ST. STEEL	
**	9	O RING	BUNA

DIMENSIONS

SIZE	A (IN)	B (IN)	C (IN)	D (IN)
1/4	1 1/8	1	7/8	5 1/2
3/8	1 3/8	1 1/4	1	5 3/4
1/2	1 1/2	1 3/8	1 1/4	6
3/4	2	1 3/4	1 1/2	7
1	2 1/4	2	1 3/4	7 1/2

* STAINLESS STEEL STD, OR WHEN REQ'D AT HIGHER PRESSURES
** ALTERNATE ELASTOMERS AVAIL.
*** ALUM USED FOR LOW PRESSURE

STRA-VAL
1000 MAIN AVE. CLIFTON, NEW JERSEY
SCALE: NONE
DATE: 7-14-97
DRWN: EDS
TITLE: RELIEF VALVE ST ST 1/4"-1" MODEL RVC-04 THD
DWG NO: RVC-04-AAT
REV:

If the poppet fails to open with the adjusting screw sufficiently backed out and the valve is under pressure, the poppet is probably frozen or corroded in place. If this condition exists, the valve must be **immediately removed from service** and repaired or replaced . **Check also to make sure that the discharge pipe thread is not undersized and engagement depth too far causing the poppet to jam closed**

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STRA VAL VALVES STRAINERS

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Another reason for replacing or repairing a valve is if there is excessive leakage from the valve seat. If this happens even with the spring compressed to the maximum(this should only be temporarily done for test purposes only) , this is an indication the poppet and or valve seat on the body is worn, damaged, corroded, or a particle lodged in the seat causing the valve to constantly leakm If leakage is observed through the spring adjusting screw, this indicates there is leakage in the piston seal which requires replacement. This would be observed only while the valve is discharging and there is some pressure on the outlet side of the valve. Ordinarily this is not a major problem as the discharge is usually piped to atmosphere and little or no back pressure exists unless the valve is fully discharging.

PROCEDURE FOR DISASSEMBLY

Make sure the valve is isolated and is not under pressure. Next remove the valve from the system. Back out the spring adjusting screw until there is no longer any spring compression. It may also be removed completely if desired. Unscrew the spring chamber using the flats provided on top of the spring chamber

Now the top of the poppet is exposed. While still assembled, test to see if the poppet is free to move by hand. There should only be a slight resistance to movement resulting from the O-ring friction between the piston and the body. The piston can now be pulled out through the top of the body. Examine the O-ring or seal to see if any deterioration has taken place and replace if necessary. Next examine the poppet seating surface where it contacts the body and the mating surface on the body. Usually if there is severe leakage, the condition of theses seating surfaces will indicate a worn or deteriorated surface finish. If the seat leakage is only minor, a re-lapping procedure using a #600 lapping compound will usually solve the problem.

Examine the body bore where the piston or poppet is housed. If the surface is not smooth, the bore should be polished with a very fine abrasive paper or fine scotch brite. The same should be done with the piston or poppet outside diameter. These operations can be done in a small lathe. Use extreme caution when polishing the body so as not to get a finger caught in the discharge port if the body is rotating in a lathe while polishing If the valve body and poppet require re-machining from extreme wear or corrosion, use only an experienced tool room machinist to perform this operation on a precision lathe, as the parts must be completely concentric . If this is not done properly, the valve will not seat properly and it may not even be possible to lap the valve in. If the bore requires re-machining, there is a risk that too much clearance will result in the seat not closing properly because of excessive side movement. If in doubt, consult factory for repair feasibility, or the valve can be shipped to STRA-VAL for a repair evaluation. or replacement.

Don't forget to examine the adjusting spring to look for signs of corrosion or outright failure. Replace if necessary. Springs are usually always in stock at STRA-VAL and can be shipped readily.

REASSEMBLY & TEST

When all the valve parts are cleaned and inspected, the valve can be reassembled in reverse order.

Make sure a valve seal lubricant is used to lubricate the seal and is compatible with the elastomer used.

Make sure no dirt or foreign particles are embedded in the valve seat which might cause the valve seat to stay partially open and cause unwanted leakage.

When the spring and spring hardware is assembled and the spring chamber threaded on to the body tightly, the valve is ready for final installation and test.

Testing can be done in one of two ways. If the pressure is low, the adjusting screw can be loose and almost backed out all the way. Then while the valve is under the proper system pressure, the adjusting spring can be gradually turned in to compress the spring until the leakage stops. The ideal case is if the system pressure can be adjusted to the precise pressure condition that the valve must open at and then set the spring tension accordingly. If this is not possible or practical, then the above short cut procedure can be used. If the valve is expected to operate at the high end of the spring compression range, then it may be practical to adjust the spring pressure somewhere near the maximum and while the valve is under pressure and slowly begin to release the spring tension until the valve begins to open. At that moment the spring compression can be re-tightened to stop the discharge.

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