OPERATING INSTRUCTIONS

MODEL RVC-05 THD

PRESSURE RELIEF VALVE

APPLICATIONS:

Valve should only be used for non-corrosive, non-adhesive fluids, or where the materials selected are compatible with the fluid and will not cause corrosive buildup, which could cause sticking or keep the poppet from opening. When liquids contain debris or other solid matter, which also 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. Basket strainers or filters can be purchased from STRAVAL to solve this problem. Any problematic fluids that may cause the valve to work improperly will periodic testing and possible frequent flushing.

PRINCIPLE OF OPERATION

This is a poppet and spring type 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 or relief 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 .

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.

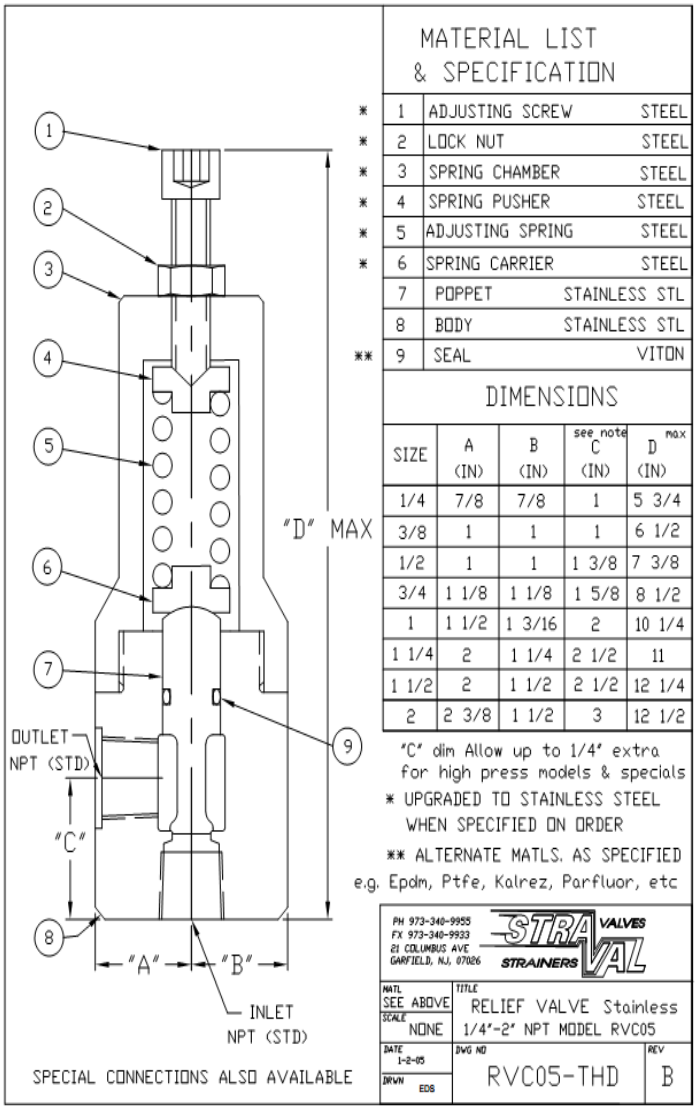
Eventually the poppet must open and begin to discharge liquid or gas under pressure. **Make sure that the discharge is properly piped to a safe area in order avoid any personal injury**.

Before reducing the pressure, a simple measurement of the adjusting screw height will make it easier to reset the pressure to its original setting if the pressure cannot be easily measured.

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 replaced or repaired.

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), 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 leak. 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.



MATERIAL LIST & SPECIFICATION

*	1	ADJUSTING SCREW	STEEL
*	2	LOCK NUT	STEEL
*	3	SPRING CHAMBER	STEEL
*	4	SPRING PUSHER	STEEL
*	5	ADJUSTING SPRING	STEEL
*	6	SPRING CARRIER	STEEL
	7	POPPET	STAINLESS STL
	8	BODY	STAINLESS STL
**	9	SEAL	VITON

DIMENSIONS

SIZE	A (IN)	B (IN)	C (IN) see note	D (IN) max
1/4	7/8	7/8	1	5 3/4
3/8	1	1	1	6 1/2
1/2	1	1	1 3/8	7 3/8
3/4	1 1/8	1 1/8	1 5/8	8 1/2
1	1 1/2	1 3/16	2	10 1/4
1 1/4	2	1 1/4	2 1/2	11
1 1/2	2	1 1/2	2 1/2	12 1/4
2	2 3/8	1 1/2	3	12 1/2

"C" dim Allow up to 1/4" extra for high press models & specials

* UPGRADED TO STAINLESS STEEL WHEN SPECIFIED ON ORDER

** ALTERNATE MATLS. AS SPECIFIED e.g. Epdm, Ptfe, Kalrez, Parfluor, etc

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GARFIELD, NJ, 07026

VALVES STRAINERS STRAVAL

MATL	SEE ABOVE
SCALE	NONE
DATE	1-2-05
DRWN	EDS
TITLE	RELIEF VALVE Stainless 1/4"-2" NPT MODEL RVC05
DWG NO	RVC05-THD
REV	B

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OPERATING INSTRUCTIONS

MODEL RVC-05 THD

PRESSURE RELIEF VALVE

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 to within .001 TIR. 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. Ordinarily the side clearance between the piston and body bore should only be about 0.001 to 0.0025 in depending on the size. Consult factory for proper clearances for your specific valve.

If the valve is severely damaged and if it is not practical to re-machine because side clearances would be excessive, then a new valve should be purchased, or the valve shipped to STRAVAL for a repair evaluation and possible repair 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 STRAVAL and can be readily shipped.

REASEMBLY & 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 should be done with the valve completely piped up with the discharged piped safely away.

At the proper system over pressure, turn the adjusting screw until the valve begins to open. Next reduce the system pressure to the normal operating pressure and check to see if the valve reseats properly and shuts off.

If it is not possible to change the system pressure to an overpressure condition, at which point the valve must open, then the valve must be tested and set off line using a hydrostatic testing device.

IMPORTANT NOTE FOR SOCKET WELD CONNECTIONS:

When socket welded connections are ordered, remove the poppet from the body during welding of the pipe in order to prevent burning of the elastomeric seal. Use minimum heat during welding. Valve may require re-lapping after distortion caused by welding. Also, check to make sure the piston is free to move without binding or sticking. There should only be a slight resistance resulting from friction of the seal against the body bore.

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