

# **THERMAL**

## **ENGINEERING COMPANY**

### **7701 VIZI-VAPR OPERATING INSTRUCTIONS**

The Vizi-Vapr is a rapid visible vapor charging device which eliminates the problem of slow vapor charging by removing the refrigerant from the cylinder as a liquid, but injecting it into the system as a vapor. Vizi-Vapr requires no external heat. Instead it uses the kinetic energy of the liquid refrigerant under pressure to break up the liquid refrigerant into a mist in the same manner a high pressure domestic of burner breaks up the oil. The rate of charging is controlled by an adjustable needle valve and by observing the rate through the sight glass. Since the liquid refrigerant is removed from the cylinder by its own pressure no heat is removed from it and the cylinder does not get cold.

The adjustable needle valve allows the Vizi-Vapr to charge systems from 1/8 to 50 HP with no danger of liquid slugging destroying the compressor.

Set the needle valve for a specific job by watching the charging refrigerant through the clear plastic case of the Vizi-Vapr. If the valve is closed too far, you will see only a fine spray of refrigerant. Opening the metering valve slightly will bring a dense, liquid-vapor spray which will charge rapidly and not affect the compressor. Opening too far will cause liquid to form in the visible portion of the Vizi-Vapr and eventually flood into the compressor, Opening the valve until just a little liquid forms in the visible chamber but stays at a constant level results in the best operating point and maximum safe charging rate.

Vizi-Vapr can be connected to the low side of your charging manifold or, to save on refrigerant, can be attached directly to the refrigerant cylinder. When using a charging cylinder for exact charge, Vizi-Vapr connects to the liquid discharge line and settles the refrigerant level in the cylinder so that it is easily read, even when charging with vapor.

Evacuation through Vizi-Vapr is not recommended but can be accomplished by backing the valve completely out for unrestricted reverse flow evacuation.

Vizi-Vapr charges industrial, commercial, and residential refrigeration and air conditioning systems. Automatic charging of air conditioning systems achieved by charging until Vizi-Vapr loses its front covering.

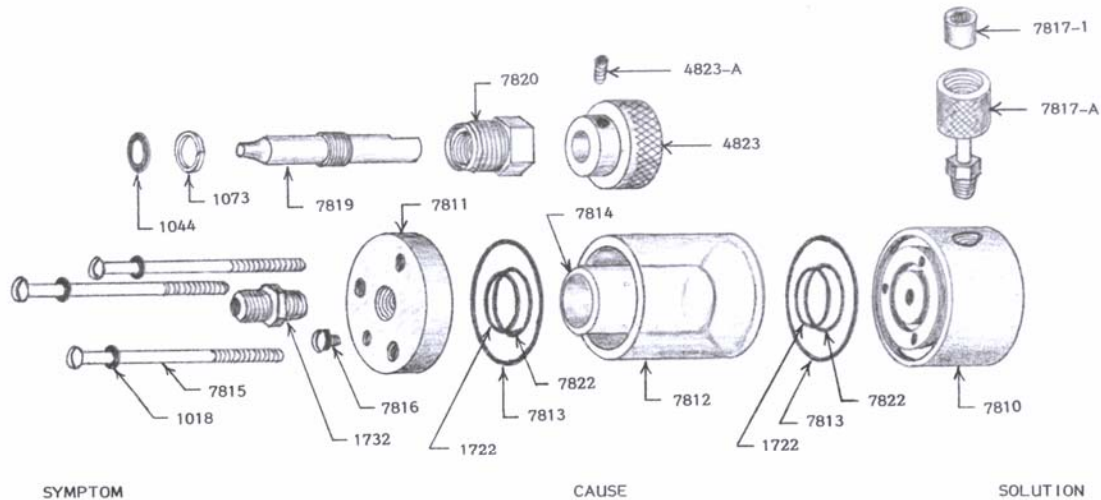
Vizi-Vapr sight glass is protected by an outer Lexan plastic covering. Antifogging of the glass is achieved by a nitrogen gas layer between the glass and the Lexan.

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A Division of Airserco Manufacturing Company LLC

7555 Tyler Boulevard; Mentor, OH 44060 800-473-1754 Fax: 440 946-8188  
[www.thermalengineeringcompany.com](http://www.thermalengineeringcompany.com)

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SYMPTOM	CAUSE	SOLUTION
Valve does not work properly	<ol style="list-style-type: none"> <li>1. Valve stem O-rings need lubrication</li> <li>2. Valve stem O-rings need replacement</li> </ol>	<ol style="list-style-type: none"> <li>1. Lubricate Orings with small amount of bearing grease or equivalent.</li> <li>2. Replace and lubricate O-rings 1044 and 1073</li> </ol>
Valve leaks around packing nut	Worn threads on valve nut and stem	Replace metering valve stem assembly, and lubricate O-rings
Leaks around Lexan plastic covering	<ol style="list-style-type: none"> <li>1. Cracked or hardened O-rings</li> <li>2. Cracked sight glass</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace O-rings, 7813, 7822, 1722</li> <li>2. Replace sight glass and above O-rings.</li> </ol>

### 7701-RK Repair Kit

<u>Quantity</u>	<u>Part #</u>	<u>Description</u>
4	1018	Tie Bolt O-Ring
1	1044	Valve Stem O-Ring
1	1073	Valve Stem Backup Ring
2	7813	Outer Plastic O-Ring
1	7817-1	Quick Coupler Gasket
2	7822	Inner Cylinder O-Ring

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