

Armstrong Mechanical Purger Installation and Operation Manual for Two Gas Systems

Model XR-1500



Installation and Set Up Overview



Warning:

These installation, operation and technical instructions should be used by experienced personnel as a guide to insure that the Armstrong XR-1500 Mechanical Purger functions in a correct manner. Selection or installation of equipment should always be accompanied by competent technical assistance. We encourage you to contact your local representative or the Armstrong Factory if further information is required.

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Installation

XR-1500 Mechanical Purger



Warning:

All installation and service performed on the Armstrong Purger should be performed by competent personnel. Observe all safety precautions plus wear protective clothing and eye protection at all times.

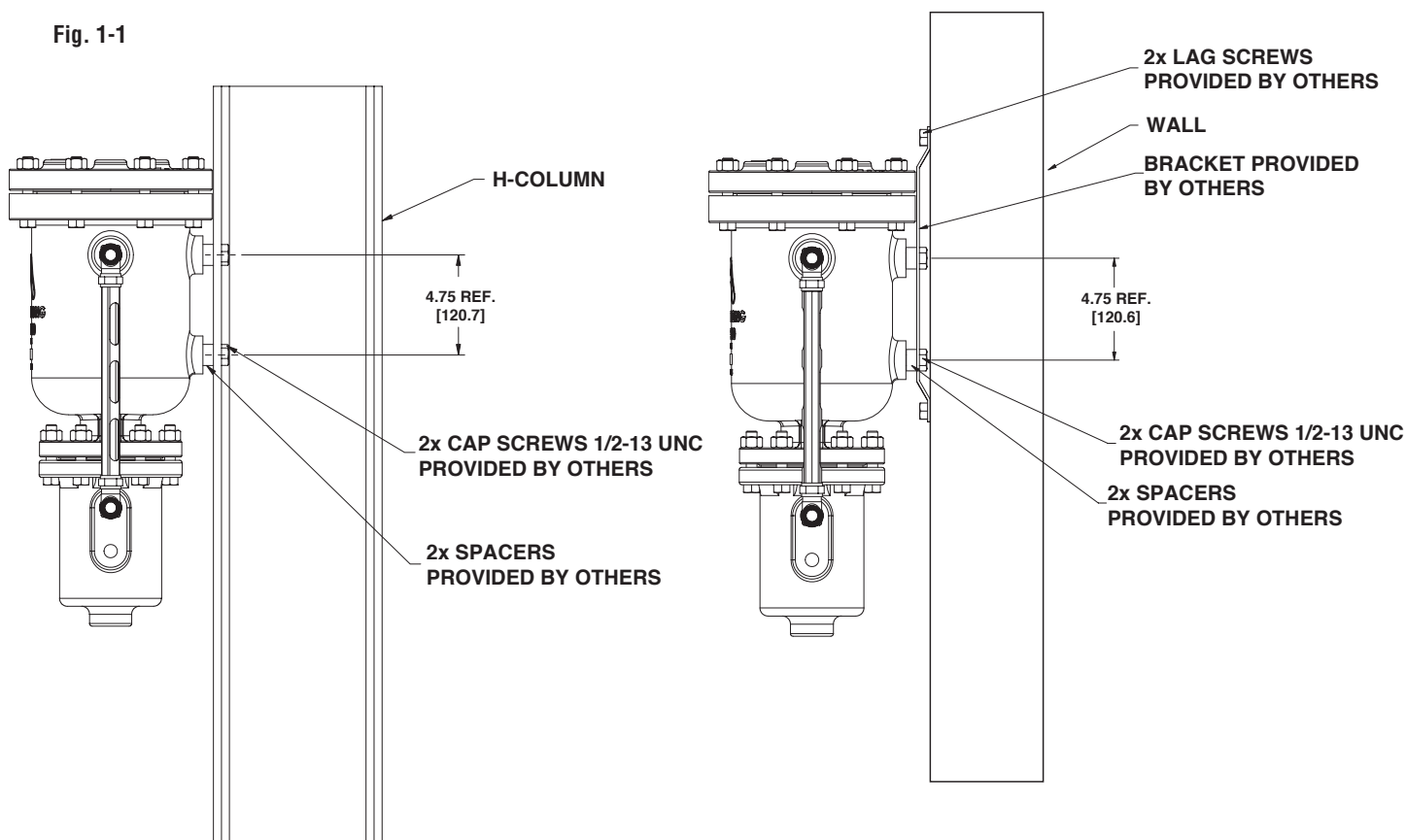
■ **Location of Purger:** The purger should be installed where convenient for operation and inspection, usually in the compressor room. Where practical, install at a higher elevation than the liquid receiver.

■ **Mounting the Purger:** The purger should be fastened securely to a wall or column. Two ½" tapped holes are provided in the purger housing to facilitate mounting. See Fig. 1-1.

The XR-1500 Purger Package is 40" tall by 26" wide. The frame has four (4) 5/8" mounting holes. See Fig. 3-1.

■ **Gauge Glass:** The gauge valves, glass and glass guard supplied with the XR-1500 Purger are packed separately and should be installed after the purger is securely mounted and all installation is complete.

Fig. 1-1



Installation Procedure

Connecting the Purger to the System

How an Armstrong XR-1500 Purger fits into a two gas system, refer to Fig. 2-1.

Two Gas Systems

TWO GAS SYSTEMS that utilize the lower temperature of one refrigerant system (X) to sub-cool the refrigerant or gas of a second system (Y). This piping method can be utilized for situations with only one refrigerant system. For example, R-12 has been used as the cooling medium in the coil of the purger to remove air from vinyl chloride gas. When a gas requires purification, refrigerated purging will give maximum air removal with minimal gas loss. Two systems are completely independent of each other.

- **LIQUID SUPPLY:** Liquid supply for both systems, "X" and "Y" must come from locations where there is always liquid available. Liquid being supplied for system "X" will keep the purger cold to achieve the best condensing in system "Y".
- **SUCTION CONNECTION:** Suction piping for system "X" should be $\frac{1}{2}$ " pipe minimum. This suction should be connected to the lowest possible suction pressure for the best efficiency.
- **PURGE POINT CONNECTIONS B and B1:** Purge point connections from system "Y" should be $\frac{1}{2}$ " pipe minimum. Note: For best results never purge from more than one purge point at a time.
- **LIQUID SUPPLY TO THE PURGER BODY:** The liquid supply from system "Y" is piped into the purger body at point "A". This connection should be $\frac{1}{4}$ " pipe minimum.
- **AIR DISCHARGE TO ATMOSPHERE:** Air being discharged from the purger body will be discharged thru piping "D". This is $\frac{1}{4}$ " pipe.

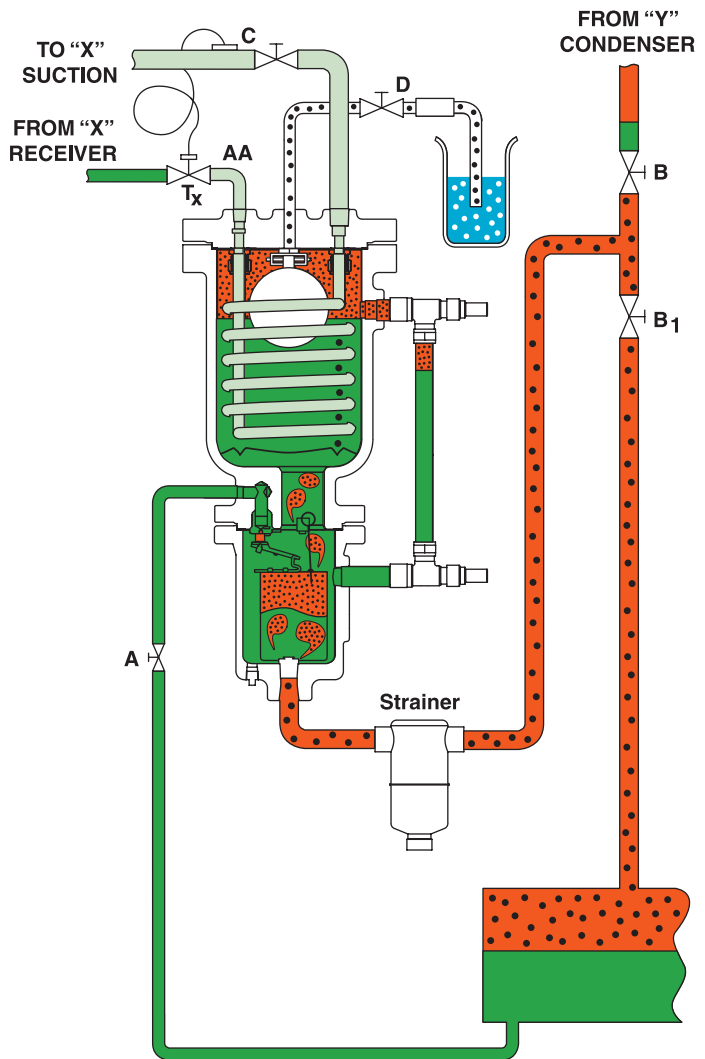


Fig. 2-1. Coil is chilled by refrigerant "X" while purger removes air from refrigerant "Y." (Mechanical purger shown.)

Purger Start-Up and Operation

- **Prime the purger** by opening valve "A" from system "Y" liquid supply. Slowly open valve "D" on the Air Discharge piping. Air inside the purger body will be discharged until the body fills with liquid. (Watch the liquid level in the sight glass and fill it slowly.) When the purger is full of liquid open the liquid supply from system "X" to the TX valve. (Make sure the suction is open to system "X".)

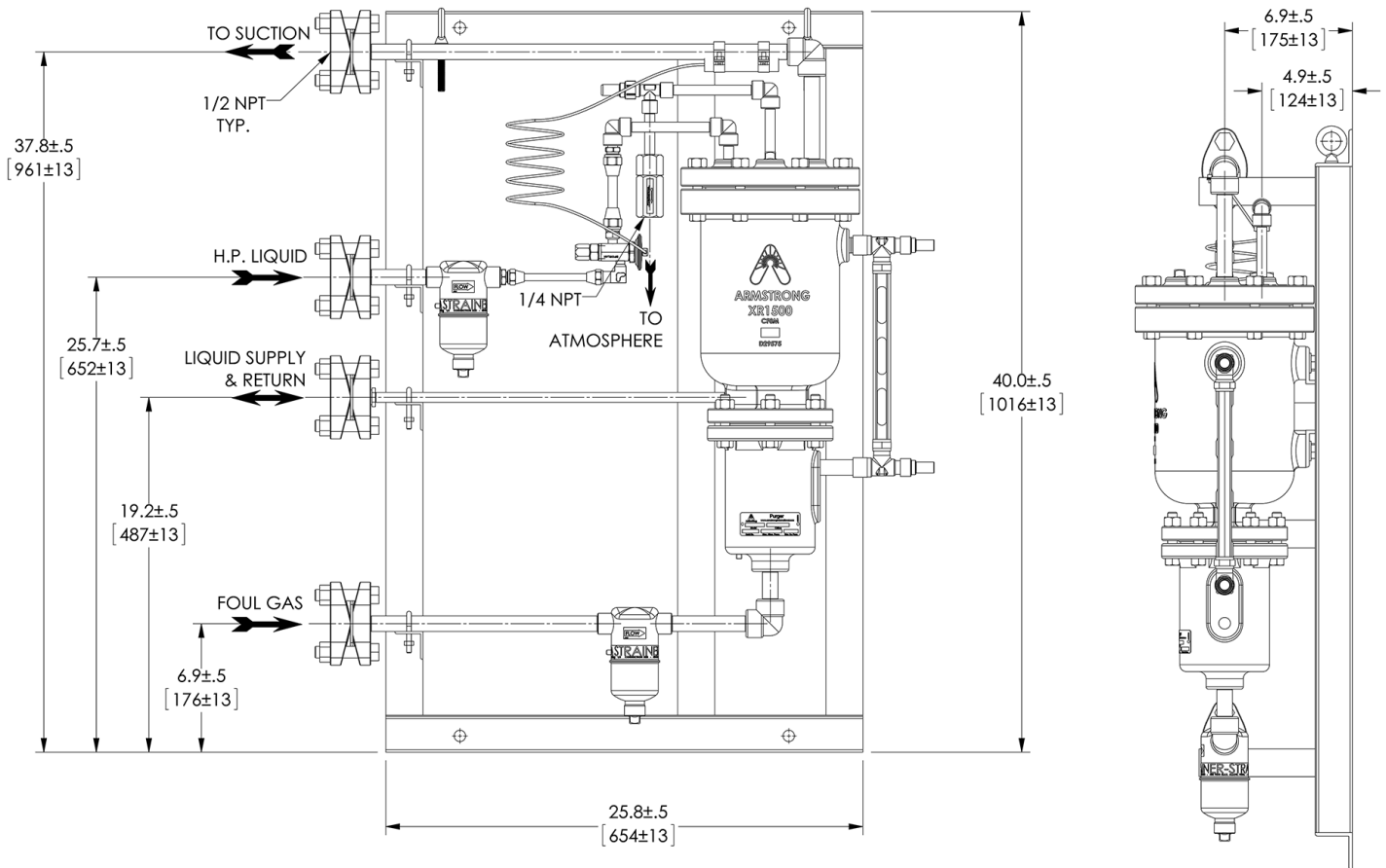
The purger body will start to cool. It is normal for the top half of the purger body to frost if the refrigerated suction is below 32°F (0°C). When the purger body reaches a temperature colder than the entering liquid from system "Y", slowly open one purge point valve, "B" or "B1".

(For best results never purge from more than one purge point at a time.) Entering gas from system "Y" will be condensed leaving the air to accumulate in the top of the purger body. When enough air has accumulated the float mechanism in the top of the purger will open allowing the air to discharge to atmosphere.

Liquid entering the purger from system "Y" foul gas side, will be discharged back to system "Y" receiver by the inverted bucket float in the bottom of the purger body. Be sure the foul gas pressure from system "Y" is equal to or greater than the receiver pressure.

General Assembly Layout

Fig. 3-1



Safety: Armstrong mechanical purgers are designed to be a semi-automatic, supervised operation, product.

Limited Warranty and Remedy

Armstrong International, Inc. ("Armstrong") warrants to the original user of those products supplied by it and used in the service and in the manner for which they are intended, that such products shall be free from defects in material and workmanship for a period of one (1) year from the date of installation, but not longer than 15 months from the date of shipment from the factory, [unless a Special Warranty Period applies, as listed below]. This warranty does not extend to any product that has been subject to misuse, neglect or alteration after shipment from the Armstrong factory. Except as may be expressly provided in a written agreement between Armstrong and the user, which is signed by both parties, Armstrong DOES NOT MAKE ANY OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

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Notes



Armstrong Steam and Condensate Group
816 Maple Street, Three Rivers, MI 49093 – USA Phone: (269) 273-1415 Fax: (269) 278-6555
armstronginternational.com