Installation, Operation and Maintenance of Ball Float Traps

FOR DRAINING WATER FROM COMPRESSED AIR

CAST IRON --- No. 21 -- and No. 71-A
FORGED STEEL --- No. 21-312 and No. 71-315

To get the best results from your Armstrong Ball Float Air Traps, you should observe the installation and operation recommendations outlined below.

Traps Are Not Separators

Armstrong Air Traps will remove all water knocked down by an air separator, or they will remove water that accumulates in the bottom of an air receiver or air line. Frequently, however, water in compressed air is in the form of a fine mist or fog. It is impossible for any air trap to remove these fine particles of water. A separator is required to condense the fog into a stream of water which the trap can remove easily.

Installation

1. Install Ball Float Traps below drip point.
2. Blow out piping at full pressure before screwing trap into position.

Location:

Ball Float Traps must be installed below the drip point, as close to the drip point as is practical. When water must be elevated to the trap be sure to use the Armstrong inverted bucket type.

Clean Piping:

First install piping and valve ahead of trap, then blow down at full air pressure to remove loose dirt. Last of all, screw the trap into position.

Back Venting:

Ordinarily an air trap has little water to handle, and a single line to the top of the trap is sufficient. However, if a ball float trap must be installed at some distance from the drip point, or if there are large quantities of water to be discharged, back venting is good insurance for positive and fast flow of water to the trap. Be sure there are no pockets in the vent line in which water could collect and prevent venting.

Operating Characteristics

Armstrong Air Traps

No. 21. The discharge will be continuous, and rate of flow will vary with the amount of water coming to the trap. See Fig. 1.

No.71A. The discharge will be intermittent. The valve in the No. 71A trap remains tightly closed until the body is substantially full of water. At this point, a snap action spring opens the valve wide. When the trap body is nearly empty, the spring snaps the valve shut. See Fig. 2.

Trap Inspection and Maintenance

No. 21 Trap. Check discharge periodically to make sure that there is no air leak. Loss of air will indicate either a worn valve and seat, or, more likely, a piece of scale lodged between the valve and seat. In either case, open the trap for thorough cleaning. If the valve and seat are in good condition, reassemble and turn on air. If the air leak persists, new valve parts are indicated.

No.71A Trap. As long as this type of trap operates intermittently it can be assumed that no maintenance is required other than a periodic cleaning.

Failure of trap to open could be caused either by a broken spring or a leaky float. Continuous leakage of air could be due to a piece of scale or dirt lodged in the valve seat or wear on the valve parts.

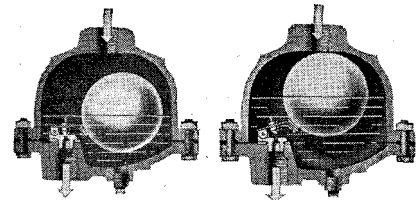

Fig. 1. No. 21 direct acting ball float trap. As the water level rises, the ball float lifts the valve. As the level drops, the valve seats.

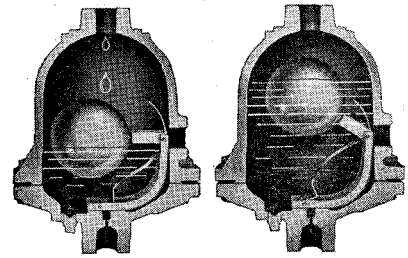

Fig.2No.71A snap action ball float trap. The ball float is connected to the valve lever through a spring strip. In the closed position, the spring is bowed downward. As water accumulates in the trap, the ball float rises, storing energy in the spring. Just before the float reaches the top of the trap, the spring snaps upward and the valve opens wide. As the water level drops, the cycle is reversed and the valve snaps shut while the orifice is stilt covered with water. Do not use the No.71A when the load exceeds 120 lbs./ hr.

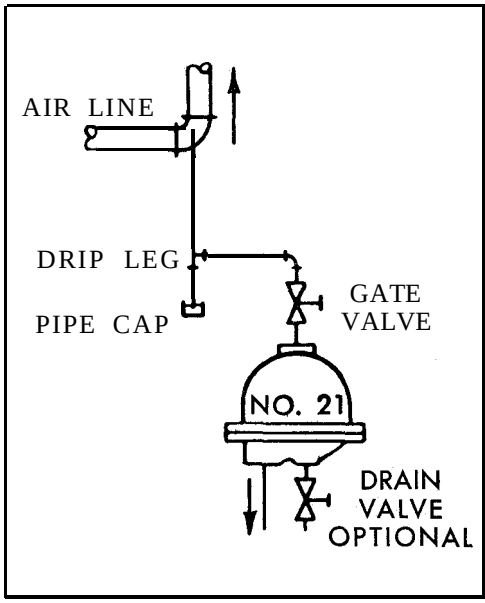

Fig. 3. No. 21 Trap draining air line drip pocket. Be sure to use a gate valve and blow down the assembly before installing trop. The No. 21 does not require priming.

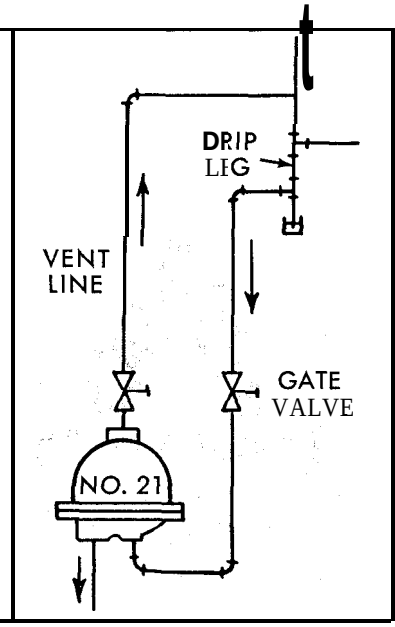

Fig. 4. No. 21 with vent connection. Note gate valve should be used. Vent line connects to a point higher than the drip point;

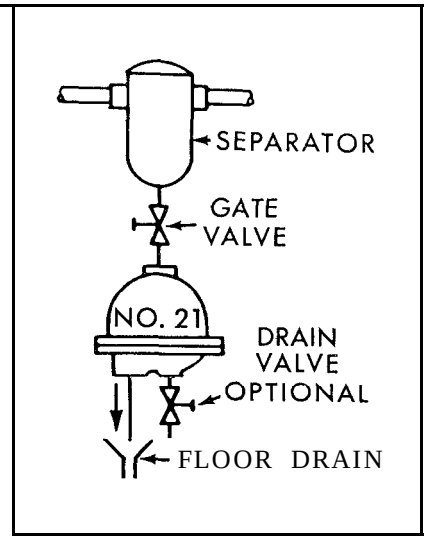

Fig. 5. No. 21 Trap installed below an air line separator. Keep the pipe as short as possible. After installing nipples and gate valve, blow down at full pressure to clean out the dirt. Lost of all, screw the trap in place. The No. 21 does not require priming.

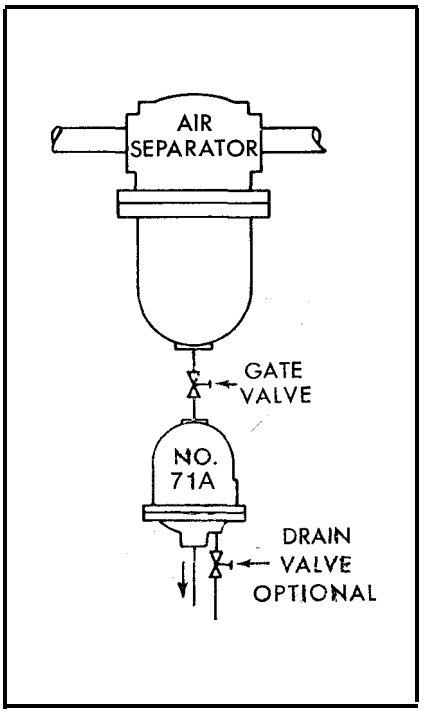

Fig.6. No.71A Snap Action Air Trap installed below air line separator. Keep pipe short as possible. After installing nipples and gate valve, blow down at full pressure to clean out dirt. Last of all, screw trap in place. The No. 71A does not require priming.

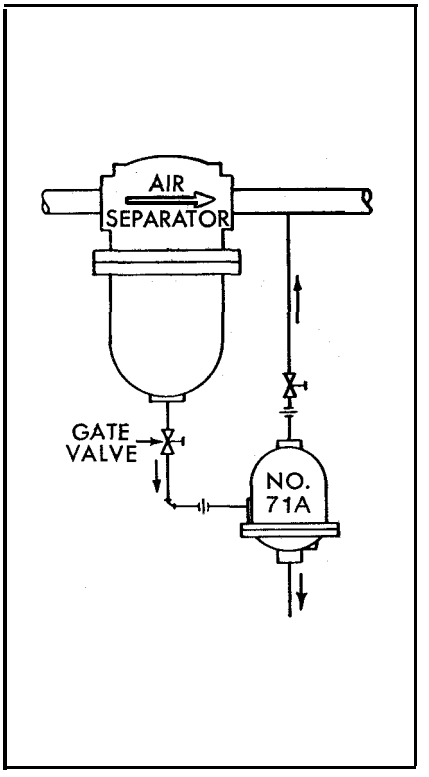

Fig.7. No.71A with vent line to downstream side of air separator. Note side inlet connection from separator.

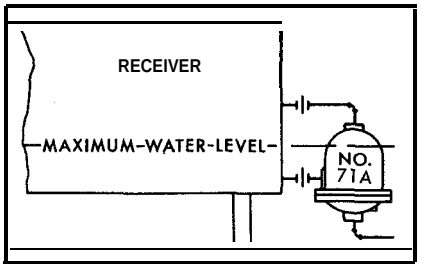

Fig.8. No. 71A installed at side of receiver, close to Boor. Water will rise to broken line before trap opens. If high water level is not objectionable the trap will give a long discharge at infrequent intervals.

If high water level is objectionable, raise the receiver, or dig a pit so top of trap can be at the same level as the bottom of drain line. Otherwise, use an Armstrong No. 213BVSW inverted bucket trap that can be installed above the drip point.

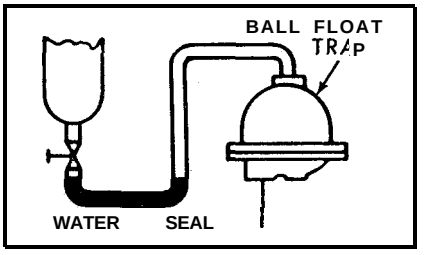

Fig. 9. Do not install a ball float trap above the drip point or put a loop or pocket in the line to the trap. The water seal prevents air from leaving trap body and allowing liquid to enter.

Armstrong
Machine Works

New Braunfels, Texas 78130
Telephone (512) 625-2394
Telex 767604 ARMTRAP/NBRF

Three Rivers, Michigan 49093
Telephone (616) 273-1415/273-8651
Telex 0224445 ARMTRAP/THRV

4400 Herstal . Belgium
Telephone (041) 640867
Telex 41.677 AMTRAP B.

Form IB-25AA-110/78 ML