

ACT[®] ZERO AIR LOSS DRAIN VALVE

For Compressed Air Systems

INSTALLATION GUIDE

Please Read Prior to Installation



For Use with Separators Traps, Air Receivers, Filters, Dryers, Drip Legs And Piping Manifolds.

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ACT® Zero Air Loss Drain Valve

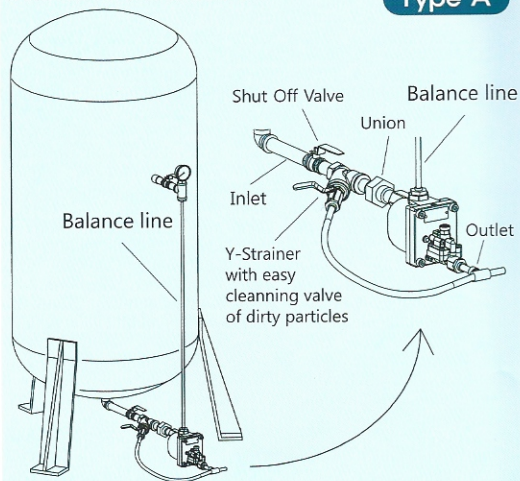
This Manual Covers Installation Instructions for the ACT® Zero Air Loss Drain Valves for Compressed Air Line Systems.

For Effective Operation of the ACT® Drain Valve, Please Follow this Manual Before Installation. If You Have Any Questions Please Contact Midwest-Control at 1-800-304-5599.

1. Installation

Standard Installation

Type A



Caution

For proper installation, balance line should be set up by using 1/4" tubing or larger, and installed on the top of a pipe or vessel, not the bottom and inlet pipe. If not, the ACT® Drain work only when test button pushed.



Balance Line

In order for condensate to properly enter the ACT[®] Drain reservoir, the condensate line to the ACT[®] Drain must always be installed below the bottom of the vessel to be drained. Also we need balance line to make a return of the air that is contained in the reservoir as the condensate enters the reservoir. If the air cannot return to vessel which collect condensate, the condensate will not enter the reservoir. The pressure of return port should be same with that of inlet . Type A is a typical installation of ACT[®] Drain and most drain failures are caused by no balance line. We recommend this A type to Receiver Tank, Inter coolers in Multi-stage compressor, Refrigerated Dryer, etc. However it is possible to install ACT[®] Drain without a balance line by venting to atmosphere if a balance port is not available as shown in Type B. But we recommend a balance line as possible as it is.

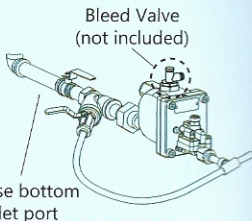
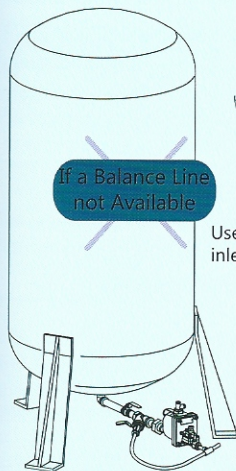


Y-Strainer with easy cleaning valve of dirty particles

In order for ACT[®] Drain to secure long life, we recommend Y- Strainer as an option to protect diaphragm in case of sharp particles or bigger sized particles than 4.5 ~ 7 diameter of discharge nozzle.

When you clean the dirty particles, close the inlet and balance line shut off valves and open the Y-Strainer shut off valve. Routine check depends on how the vessel or the system aged

Type B



Caution

The bleed valve(not included) should be adjusted so that only 3 to 5 bubbles per second are visible, installed on the top of inlet and always the bleeding should be maintained. If not, the ACT® Drain do not work.



Bleed Valve(not included)

It can be adjusted by turning stem valve around to right and left. Very minimal air bleeding recommended.

Installation Tip :

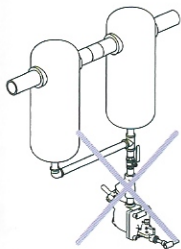
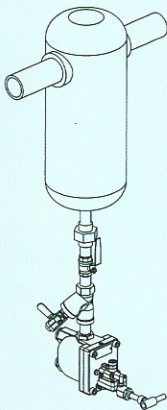
Most drain failures are caused by incorrect installation especially no balance line. The balance line is very important to make ACT® Drain for proper working eventhough it is a little bit tiresome to set up or not available. If possible, we recomend Type A installation. And the line should be above the condensation level.

Type C

In case of Type C, Balance Line not required, if the drain is mounted directly under the condensate source and there are no Elbows or bends in the piping. This C type is for Filters, Separators, Drip legs etc.

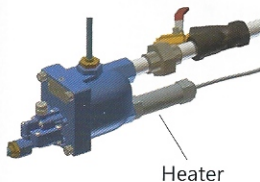
Caution

For reciprocating compressors, use flexible hose on top inlet to reduce vibration.



Alarm Notice :

Do not connect two different condensation source. The condensate of prior vessel could be carried over down stream through the common inlet by force of different pressure of two vessel.



Heater Installation

For very cold environments, the heater must be installed on bottom inlet.

Alarm Notice : Do not grasp by hand! Put on gloves when it is heated.

2. Safety Instructions

There is always pressure in the ACT[®] Drain reservoir. Remove the pressure by pressing the test button before disassembling when service needed.

Compressed air can be dangerous and should never be directed towards people. Improper and unsafe contact with compressed air

For very cold environment we recommend to use the heater to prevent freezing. See section 5.

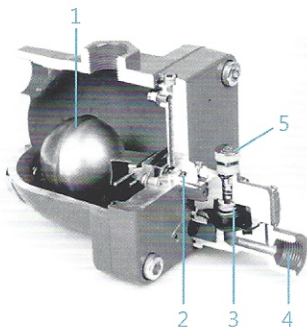
3. Maintenance Instructions

The ACT[®] Drain Valve has Constant Pressure in the Housing, Release the Pressure By Pressing the Test Button Prior to Performing Maintenance.

Service Kits

- 1-Ball Float Kit
- 2-Air Chamber Kit
- 3-Diaphragm Kit
- 4-Discharge Kit
- 5-Test Button Kit

O-Ring Kit
(Not Shown)



4. Trouble shooting

Problem	Cause	Solution
No Condensate Draining	No Pressure	Check Compressed Air Line for Pressure
	No Condensate Present	Re-Install/ Check Balance Line
	Air Lines May Be Clogged Worn Parts	Clean and Check Lines Replace as Needed
Leaks Continuously	Pilot Line May Be Clogged	Cleaning Pilot Line
	Worn Parts	Replace as Needed

5. Heater for Cold Environments



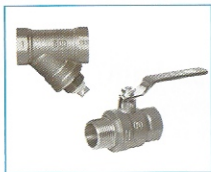
ACT-H110V
110V Heater 1 Phase

ACT-H220V
220V Heater 1 Phase

In Winter, Condensate Inside the Drain Housing Can Freeze. If this Happens the Ball Float & Housing Can be Damaged and the Drain Will Not Operate.

We Recommend a Heater in These Environments. Not Using a Heater in a Cold Environment Will Void the Warranty.

6. Y-Strainer and Ball Valve Kit

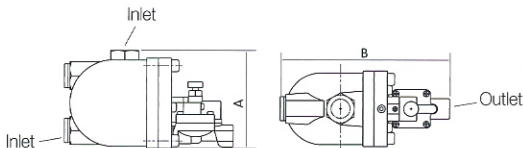


An Optional Y-Strainer/Ball Valve Kit is Recommended to Remove Pipe Scale and Sludge Allowing the Drain Valve to Operate More Reliably.

7. Technical Data

	Size				Pressure	Temp. (F)	Normal/Peak	Application (ft ³ /min) (Compressor)	Weight	
	Inlet	Outlet	A	B						
ACT-1500 ACT-1500C	1/2"	3/8"	5.08	8.15	11.6-43.5	L	32°-140°	3 / 15	350 Hp	2.65
					43.5-145	N				
					145-230	H				
					87-175	Q				
ACT-2000 ACT-2000C	3/4"	1/2"	5.71	9.26	11.6-43.5	L	32°-140°	6 / 30	1,000 Hp	5.1
					43.5-145	N				
					145-230	H				
					87-175	Q				

Use the Model Number With the C Suffix When Ordering for Oil Free & Oil Less Compressor Applications. No Suffix is Required on the Model Number When Ordering for Lubricated Compressor Applications, Add L,N,H, or Q to the Drain Suffix to indicate the Desired Pressure.



Warranty

Midwest-Control Warrants Product to Be Free From Functional Defects in Material and Workmanship for a Period of 18 Months From Date of Shipment or Twelve Months From Date of Installation Whichever Occurs First. Within Said Period, Midwest-Control Will Repair or Replace Any Part Which is Proven to be Defective in Either Material or Workmanship.

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