BULLETIN 6510
JULY 2011

DeZURIK
APCO | WILLAMETTE

APCO AIR RELEASE VALVES FOR FUEL TRANSFER SYSTEMS

Model 200AF

Performance Graph

200AF

Physical Dimensions

Height: 10" (254 mm)

Width: 7" (178 mm)

Weight: 20 lbs. (9 kg)

Inlet: 1" (25 mm) NPT

Materials of Construction

Cast iron body and cover, stainless steel trim and float. Vacuum Ball Included.

Venting Capacity					
Pressure psi/kpa	25 172	50 345	75 517	100 689	300 2068
C.F.F.A.M.* C.M.F.A.M.**	35 .99	55 1.56	50 1.42	35 .99	30 .85
ORIFICE	.313" 8		.25" 6	.188" 5	.094" 2

Inch
Millimeter

* Cubic Feet of Free Air Per Minute

** Cubic Metres of Free Air Per Minute

How To Remove Air From Fuel Transfer Systems

Gasoline is delivered to most bulk plants by tank trucks, railroad cars or barges, and unloaded by centrifugal pumps (frequently self-priming) to storage tanks.

A hose from the tank truck is connected to the suction pipe leading to the pump. When the valve on the truck is opened the liquid flows under gravity conditions into the pump which, in turn, pumps it into the storage tank.

Three distinct problems arise in connection with this operation:

1. Air in the suction line and pump must be removed.

2. The tank trucks have separate compartments and as each one is stripped, dry pockets of air tend to get sucked into the line along with the liquid. These pockets of air must be removed.

3. Small amounts of fuel standing in the system vaporize in hot weather and it is desirable to eliminate this vapor rather than permit it to collect in the system under pressure.

It is desirable to prevent re-entry of air into the system through the air valve when not in use.

The APCO No. 200AF is designed specially for such service and guaranteed not to leak or spill under the most severe conditions.

Installation

Open Systems

Air and vapor from the suction line can usually be removed along with the liquid where the end of the discharge line is open to atmosphere.

Closed Systems

Where the discharge line is part of a closed system, an APCO No. 200AF Vent Valve should be mounted on a 1" (25 mm) close nipple on the discharge side of the pump, between the check valve and the pump, and tied into the pump volute with ¼" (6 mm) pipe from the drain connection on the valve.

Suction Line Flooded

In the flooded suction conditions the usual air valve installation on the discharge side of the pump is recommended, a check valve is installed in the suction line. The air valve must then be located immediately adjacent to and upstream of this check valve. In such installations a second air valve in the usual position on the discharge side of the pump is frequently found necessary. There is presently no known way of anticipating such instances and in view of the trivial cost involved good engineering practice recommends including both valves in the initial design.

Suction Line Not Flooded

Same as closed systems

High Points In Discharge Line

To ensure maximum pump efficiency an APCO No. 200AF Vent Valve should be mounted on a 1" (25 mm) close nipple on all high points in the discharge line where air can possibly collect.

High Points In Suction Line

There must not be any high points in the suction line where air can possibly collect—a regular vent valve will not work here unless used in conjunction with a vacuum priming system and then the valve should not have a vacuum ball. When using a regular vent valve, negative pressure in the suction line pulls air into the positive pressure in the discharge line, forcing air out through the vent valve.

Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:
Web Site: www.dezurik.com E-Mail: info@dezurik.com

250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227

Printed in the U.S.A.