BULLETIN 600
FEBRUARY 2014

DeZURIK
APCO | HILTON

APCO CLEAN WATER AIR RELEASE VALVES

Model 50

Model 55

Model 200A

Air Release Valves

Why and Where to Use

An Air Release Valve has a small venting orifice and is used wherever air is entrained in water under pressure. These pockets of air increase the resistance to the flow of water. In critical installations, air can reduce the capacity of a line down to zero. More common is an increased resistance of 10 to 15%. The increased resistance must be overcome by the pump using more power than necessary to move the required amount of water. Such a loss can continue unnoticed for years creating excessive power consumption costs. This is a major reason why all points where air can collect should be equipped with an APCO Air Release Valve.

How to Operate

These valves have much smaller orifices than the Air/Vacuum Valves. Their function is to release small pockets of air which gather at the high points of a system after it is filled and under pressure. The Air Release Valve has the ability to open against internal pressure because it has a small orifice and a leverage mechanism which multiplies the force of the float. This force must be greater than the internal pressure across the orifice in order to open it when a pocket of air needs to be vented. This explains why, as the internal pressure increases, the orifice decreases in size to facilitate the valve opening.

Simple Lever

#50

.5, .75, 1" (15, 20, 25 mm) Inlet

Physical Dimensions

Height - 5.875" (149 mm)

Width - 3.75" (95 mm)

Weight - 6 lbs (3 kg)

Standard pressures up to 175 psi (1207 kpa) and up to 300 psi (2068 kpa) with special orifice.
Specify if operating pressure is below 20 psi (138 kpa).

#55

.5" (15 mm) Inlet

Physical Dimensions

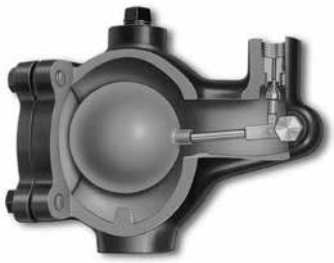
Height - 5" (127 mm)

Length - 6.375" (162 mm)

Width - 3.313" (84 mm)

Weight - 5.5 lbs (2.5 kg)

Standard pressures up to 175 psi (1207 kpa).



#65

.75" (20mm) Inlet

Physical Dimensions

Height - 7" (178 mm)

Length - 8.5" (216 mm)

Width - 4.5" (114 mm)

Weight - 9 lbs (4 kg)

Standard pressures up to 150 psi (1034 kpa).

All APCO Air Release Valves are 100% Hydrostatically factory tested to ANSI/AWWA C512 standards.

APCO Uses Stainless Steel Floats Exclusively

Examine these quality features provided at no extra cost:

1. ASTM quality materials guaranteed throughout
2. Stainless steel floats
3. Conserve pumping power – eliminate restricted high points
4. Create maximum pipeline efficiency

Materials of Construction

Body and Cover - Cast Iron or Ductile Iron

Float - Stainless Steel

Seat - Bronze-Stainless or Buna-N

Needle - Bronze or Stainless Steel

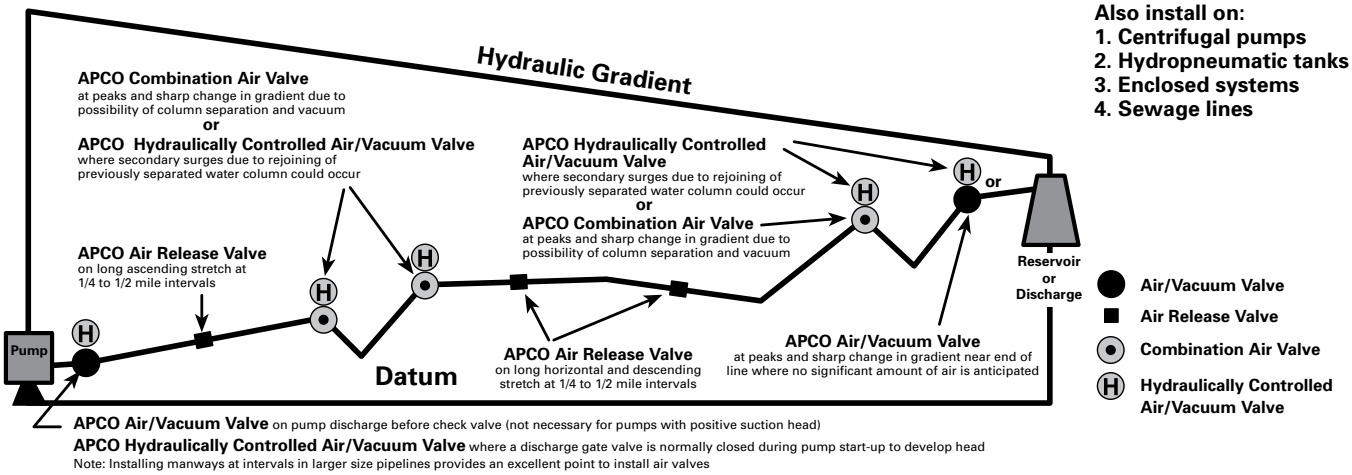
Linkage - Delrin, Bronze or Stainless Steel

Other internal parts – Lever Pins, Retaining Rings, and Screws are Stainless Steel or Bronze.

Note: Great care is taken in the choice of materials to avoid galvanic action. Bronze components meet current lead-free requirments

Where to Install

Typical pipeline and position of necessary APCO air valves



Compound Lever

#200A

1", 2" (25, 50 mm) Inlet

Physical Dimensions

Height - 10" (254 mm)

Width - 7" (179 mm)

Weight - 20 lbs (9 kg)

Inlet - 1" or 2" (25, 51mm) pipe thread

Standard pressures up to 150 psi (1034 kpa) and up to 300 psi (2068 kpa) or higher with special orifice.

Concave float is patented.

#200

2" (50 mm) Inlet

Physical Dimensions

Height - 12.5" (318 mm)

Width - 9.5" (241 mm)

Weight - 45 lbs (20 kg)

Inlet - 2" (51mm) pipe thread

Standard pressures up to 150 psi (1034 kpa) and up to 300 psi (2068 kpa) or higher with special orifice.

#205

2" (50 mm) Inlet

Physical Dimensions

Height - 13" (330 mm)

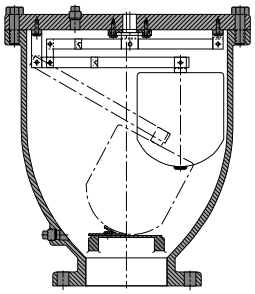
Width - 12" (305 mm)

Weight - 75 lbs (34 kg)

Inlet - 2" (51mm) pipe thread

Flanged inlet available 150 or 300 lb. class

Standard pressures up to 500 psi (3447 kpa) and up to 1500 psi (10342 kpa) with special orifice.



#207

6" (150 mm) Inlet

Physical Dimensions

Height - 28" (711 mm)

Width - 13.5" (343 mm)

Weight - 200 lbs (91 kg)

Inlet - 6" (152 mm) 125# flange

Discharge orifice - 1" (25mm) diameter

HIGH VENTING CAPACITY
Standard pressures up to 150 psi (1034 kpa) and up to 300 psi (2068 kpa) with special orifice.

Higher pressure classes available.

For selection and sizing of all the above air valves, see the Venting Capacity Graph for Air Release Valves on the back page of this bulletin or ask for APCO Air Valve Sizing Software.

Manufactured to AWWA C-512

ISO connections available

Selection

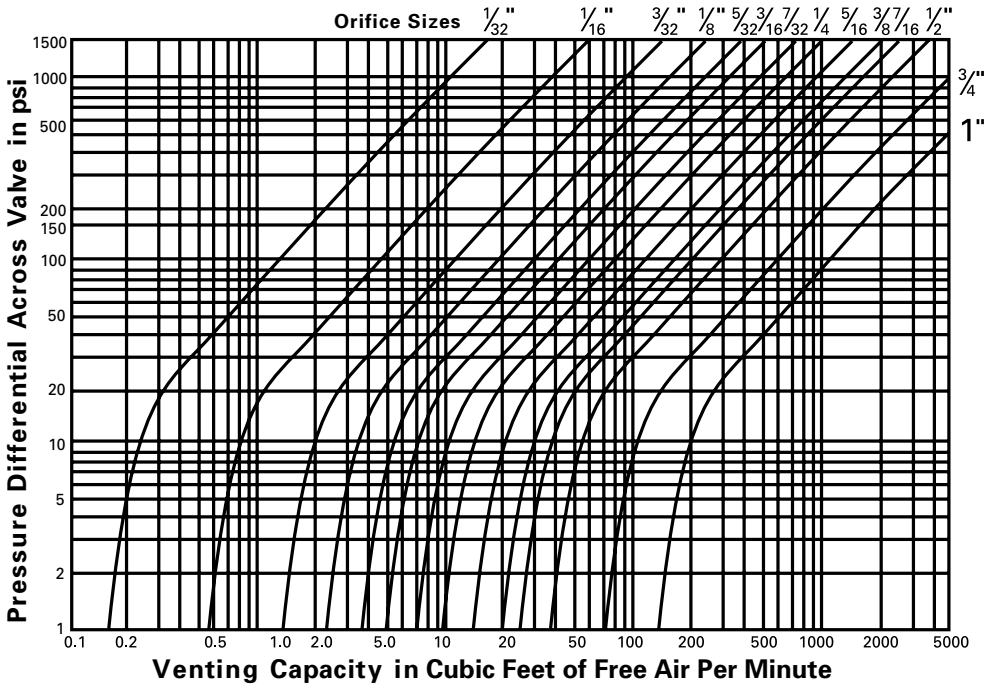
How to select and size an air release valve when a specific venting capacity is required:

A. Enter graph with pressure in system and venting capacity required.

B. Read off nearest orifice diameter to intersection of pressure and capacity lines on graph.

C. Enter table below with orifice diameter and select valve which can use this orifice diameter at the pressure involved.

Venting Capacity Graph for Air Release Valves



Standard orifices on chart are shaded gray

Model	Inlet size	Maximum orifice sizes which can be used with the following pressures - psi/kpa												
		10 69	25 172	50 345	75 517	100 689	125 862	150 1034	200 1379	250 1724	300 2068	500 3447	800 5516	1500 10342
50	.5", .75", 1" 15, 20, 25	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2				—	—	—
55	.5" 15	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2	.094" 2	—	—	—	—	—	—
65	.75" 20	.219" 6	.219" 6	.219" 6	.219" 6	.125" 3	.125" 3	.125" 3	—	—	—	—	—	—
200A	1", 2" 25, 50	.313" 8	.313" 8	.313" 8	.25" 6	.188" 5	.188" 5	.188" 5	.156" 4	.156" 4	.156" 4	—	—	—
200	2" 50	.5" 13	.5" 13	.5" 13	.5" 13	.375" 10	.375" 10	.375" 10	.219" 6	.219" 6	.219" 6	—	—	—
205	2" 50	—	—	—	—	.5" 13	.375" 10	.375" 10	.219" 6	.219" 6	.219" 6	.219" 6	.125" 3	—
206	2" 50	—	—	—	—	—	—	—	—	—	—	—	—	.094" 2
207	6" 150	1" 25	1" 25	1" 25	1" 25	1" 25	1" 25	1" 25	.75" 19	.75" 19	.75" 19	—	—	—
400	2", 3", 4" 50, 80, 100	.313" 8	.313" 8	.313" 8	.25" 6	.25" 6	.25" 6	.25" 6	.188" 5	.156" 4	.156" 4	—	—	—
450	2", 3", 4" 50, 80, 100	.5" 13	.5" 13	.5" 13	.5" 13	.5" 13	.5" 13	.5" 13	.438" 11	.438" 11	.438" 11	—	—	—

Inch
Millimeter

Sewage Air Release Valves

Please see Bulletin 400, "APCO Sewage Air Valves Generation II"

Sales and Service

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

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