



## APCO CLEAN WATER AIR RELEASE VALVES



**Model 50**



**Model 55**



**Model 200A**

# Air Release Valves

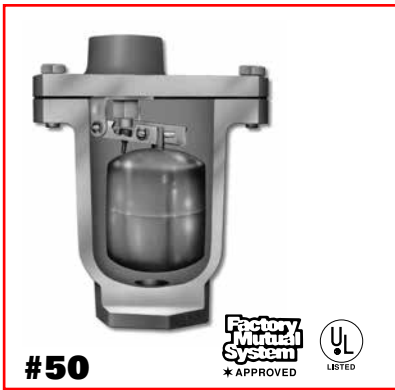
## Why and Where to Use

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

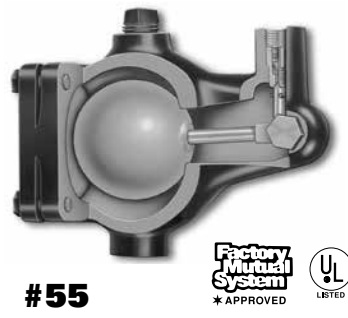
Height - 5.875" (149 mm)

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 requirements**



## 50 AIR VENT VALVE

The APCO #50 Air Vent Valve shall operate (open) under pressure and allow entrapped air to escape from a pipeline, pump, tank or hot water system.

After air escapes out of the APCO #50 Air Vent Valve orifice, the orifice shall close by means of a simple lever mechanism to prevent water from escaping. The orifice will then stay closed until more air accumulates inside and the opening cycle will repeat automatically.

The needle shall be Buna-N, accurately guided to the seat orifice by means of a stainless steel lever and needle arm for drop tight shut-off.

The seat shall be stainless steel with a 3/32" orifice to operate (open) up to 175 psi or 1/16" orifice for 300 psi.

The APCO #50 Air Vent Valve shall have a stainless steel float designed to withstand a shock pressure of 1000 psi or more. (static).

The APCO #50 Air Vent Valve body shall have a 1/2" NPT female threaded inlet and outlet and be rated for 350 psi test pressure.

Materials of construction shall be certified to conform to A.S.T.M. Specifications as follows:

Body & cover	Ductile Iron	
Internal levers	Stainless Steel	ASTM A240 Type 316
Float	Stainless Steel	ASTM A240 Type 316
Needle	Buna-N	
Exterior paint	Universal Primer	FDA Approved for Potable Water contact

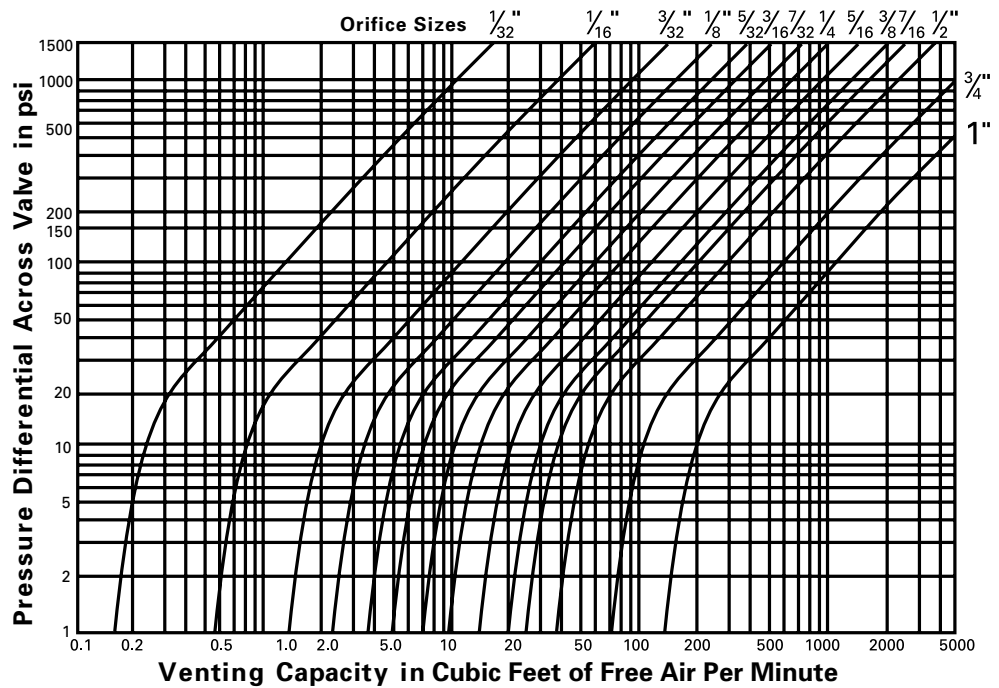
Valve to be APCO Model 50 - Air Vent Valve, Factory Mutual Approved & Underwriters Laboratories Listed, as manufactured by Valve & Primer Corporation, Schaumburg, Illinois, U.S.A.

# Selection

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

- Enter graph with pressure in system and venting capacity required.
- Read off nearest orifice diameter to intersection of pressure and capacity lines on graph.
- 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"

