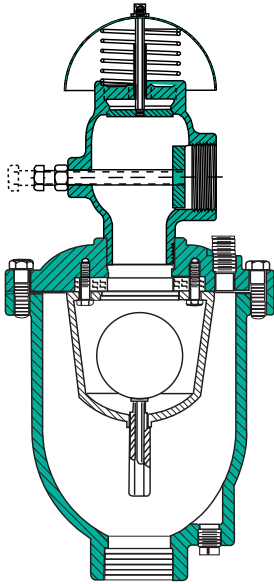
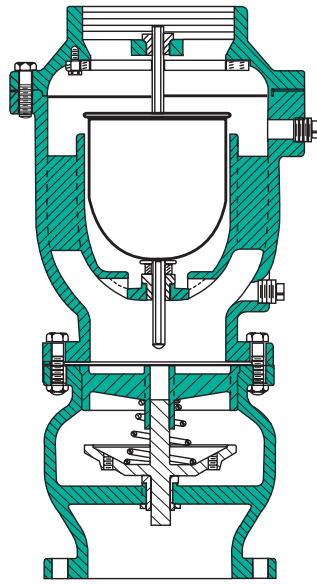




AIR AND VACUUM VALVES FOR VERTICAL TURBINE (WELL SERVICE) PUMP STATIONS AND PIPELINE SERVICE



1/2" - 3"



4" and Larger

- **Stainless Steel T316 Trim Standard**
- **Stainless Steel T316 Floats Guaranteed**
- **Air Throttling Device (Double Port)**
- **Arrestor Check Device (Anti-Shock)**
- **100% Vacuum Protection - No Restrictions**
- **Engineered For Drip Tight Seal At Low Pressures**

Series 37 Well Service Air Valves regulate air discharge from the pump column to prevent shock and air entering the system with each start. Conversely with each pump stop, full flow unrestricted air, is allowed back into the column preventing vacuum forming, which can damage pump seals, but also to prevent the pump restarting against a full head in the column because vacuum will prevent the pump column to drain. Under this condition severe damage to the pump, controls and piping can occur.

All the preceding is accomplished by means of a unique air throttling device (double port) and an arrestor check with built in anti-shock feature.

Well service air vacuum valves, once closed and pressured do not open to air release under pressure.

See series 34 Air Release Valves page 5.

Installation

The Series 37 Well Service Valve is typically installed between the pump discharge and check valve. Mount the unit in the vertical position on top of the pipeline with an isolation valve installed below the valve in the event servicing is required. Provide adequate air venting inside the pump station and from air valve vaults on pipelines.

General Specifications

Sizes

1/2", 1", 2", 3" Threaded Inlet
with double port throttling device
4" through 16"
125 lb. flanged Inlet or
250 lb. flanged Inlet
with arrestor check

Pressure Ratings

150 psi
300 psi
specify when operating pressure
below 10 PSI

Temperature Range

Water to 180°F

Materials:

Body and Cover:
Cast Iron ASTM
A 126, Class B

Float:

Stainless Steel T316

Air Valve Internal Parts:

Stainless Steel T316

Arrestor Check:

Stainless/Bronze

Seal:

Buna-N® Rubber

Design / Purchase Specifications

The Well service air valves shall automatically exhaust large quantities of air in the pump column during pump start-up and allow air to re-enter the column during pump shut-down. The air valve shall be designed for installation between outlet of vertical turbine pumps and the inlet of the pump check valve.

The inlet and outlet area of the air valve shall be equivalent to the valve pipe size same cross-section area. The valve shall have NPT Threaded or ANSI Flanged inlet and outlet. The float shall be guided by a hexagonal stainless steel guide shaft and seal drip-tight against a synthetic rubber seal. 4" and larger valve float shall be double guided and a protective steel discharge hood provided.

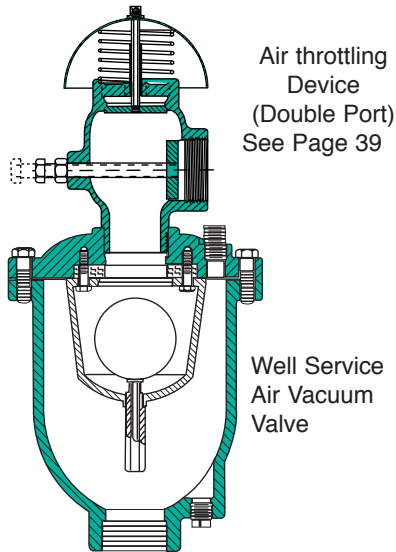
The float shall be of all stainless steel construction and capable of withstanding maximum system surge pressure without failure. The body and cover shall be concentrically located and of cast iron and the valve all internal parts shall be T316 stainless steel with Buna-N® rubber seat.

1/2", 1", 2" and 3" Well Service Air Valves to be supplied with a double ported throttling device to regulate the discharge of air from the pump column to prevent shock to the pump with each start. 4" and larger well service valves to be supplied with an arrestor check to prevent shock to the pump with each pump start. All Well Service Air Valves shall allow full un-restricted air flow into the pump column, to prevent any vacuum from forming, with each pump stop.



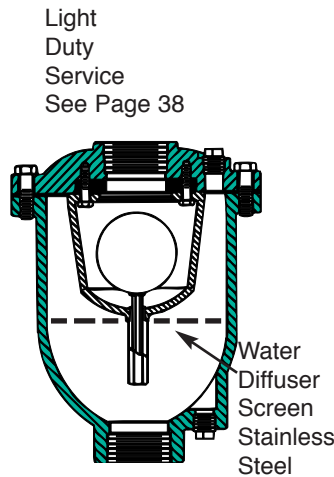
Series 37WS

Well Service Valves



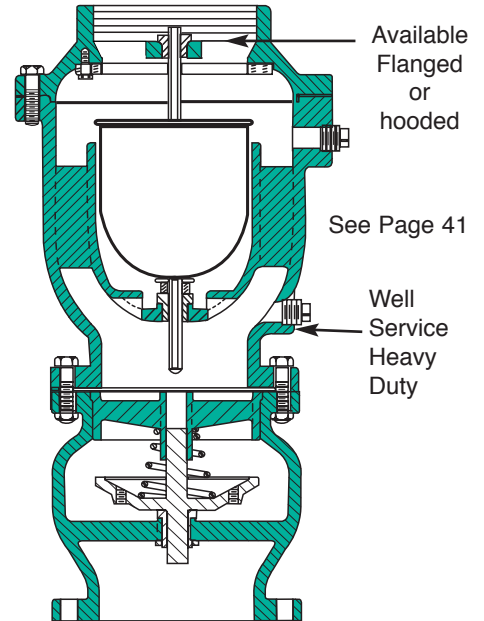
Threaded Inlet 1/2" - 3"

Series 37 Well Service Valves (Heavy Duty) are supplied with air throttling devices. These devices permit regulating the volume of air discharge from the vertical pump column thereby to cushion the shock from the rising water column, as it impacts against a closed pump, discharge check valve or control valve. By utilizing this type air valve damage to the vertical turbine pump. Piping and controls will be prevented. Field adjustment of this air throttling device is quite simple and requires no special tools.



Threaded Inlet 1/2" - 3"

Series 37 Well Service Valves (Light Duty) well service valves are supplied without air throttle device. Instead it is fitted with a water diffuser that function like a water faucet bubbler to break down a solid column of water into small streams there by allowing the water to raise the air valve float slowly into the closed position. Recommended where operating pump pressure are below 40 PSI and GPM velocities less than 5' per/sec



Flanged Inlet 4" and Larger

Flanged Series 37 Well & Pipeline service air valves are supplied with Arrestor Check Valves, function to stop the flow of water, (for a fraction of a second) entering the upper chamber of the air valve. The Arrestor Check then opens instantly, water enters the air valve, all air is exhausted and the air valve shuts. This Arrestor Check action allows for a slow non shock air valve shut-off. To prevent pump or pipeline damage the shut-off/open action of the arrestor check occurs practically instantaneously. It is self regulating and requires no adjustment in the field. Arrestor Check air valves are recommended at high points where velocities approach 10' / second in the main line.

How to Select Size:

1. Refer to desired model chart on pages 38, 39 or 41 of this file.
2. Determine pump flow capacity (in GPM) at little or no head condition.
3. Read corresponding valve size. If flow capacity is near maximum of range, select next larger size as recommended. Flanged outlet available at extra cost. Consult factory for larger sizes

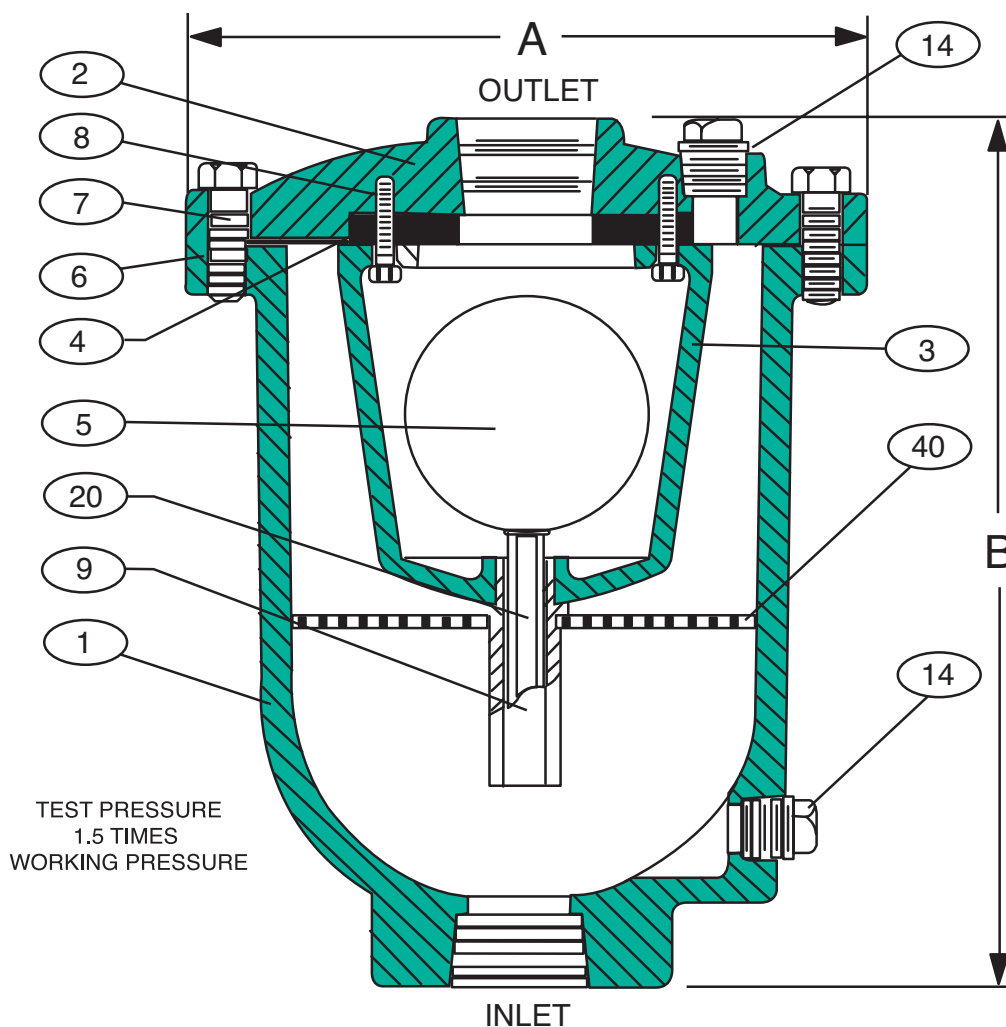
Note: Manufactured to meet ANSI/AWWA C512-04

Note: It is sound engineering practice that outlets of air valves, inside the pump station, be piped to a drain to eliminate high pitched noise of air exhausting.



Series 37

Well Service Valve (Light Duty) with Water Diffuser



Detail No.	Part Name	Material	Detail No.	Part Name	Material
1	Body	Cast Iron ASTM A126, Class B	7	Cover Bolt	Alloy Steel ASTM A449, Grade 5
2	Cover	Cast Iron ASTM A126, Class B	8	Retaining Screw	Stainless Steel T316 ASTM A276
3	Baffle	Ductile Iron ASTM A536-51T	9	Guide Bushing	Stainless Steel T316 ASTM A276
4	Seat	Buna-N®	14	Pipe Plug	Malleable Iron
5	Float	Stainless Steel T316 ASTM A276	20	Guide Shaft	Stainless Steel T316 ASTM A276
6	Gasket	Garlock #3000 (Non-Asbestos)	40	Water Diffuser	Stainless Steel T316 ASTM A276

No Head Pump Capacity GPM	Model No.	Valve Size	A	B	Inlet Size	Outlet Size	WT.
	300 MWP						
0-200	370-WD	1/2"	6 1/8"	7"	1/2" NPT	1/2" NPT	15
201-500	371-WD	1"	7"	9 1/2"	1" NPT	1" NPT	24
501-1200	372-WD	2"	9 1/2"	12"	2" NPT	2" NPT	50
1201-2000	373-WD	3"	9 1/2"	12"	3" NPT	3" NPT	55

Note: Manufactured to meet ANSI/AWWA C512-04



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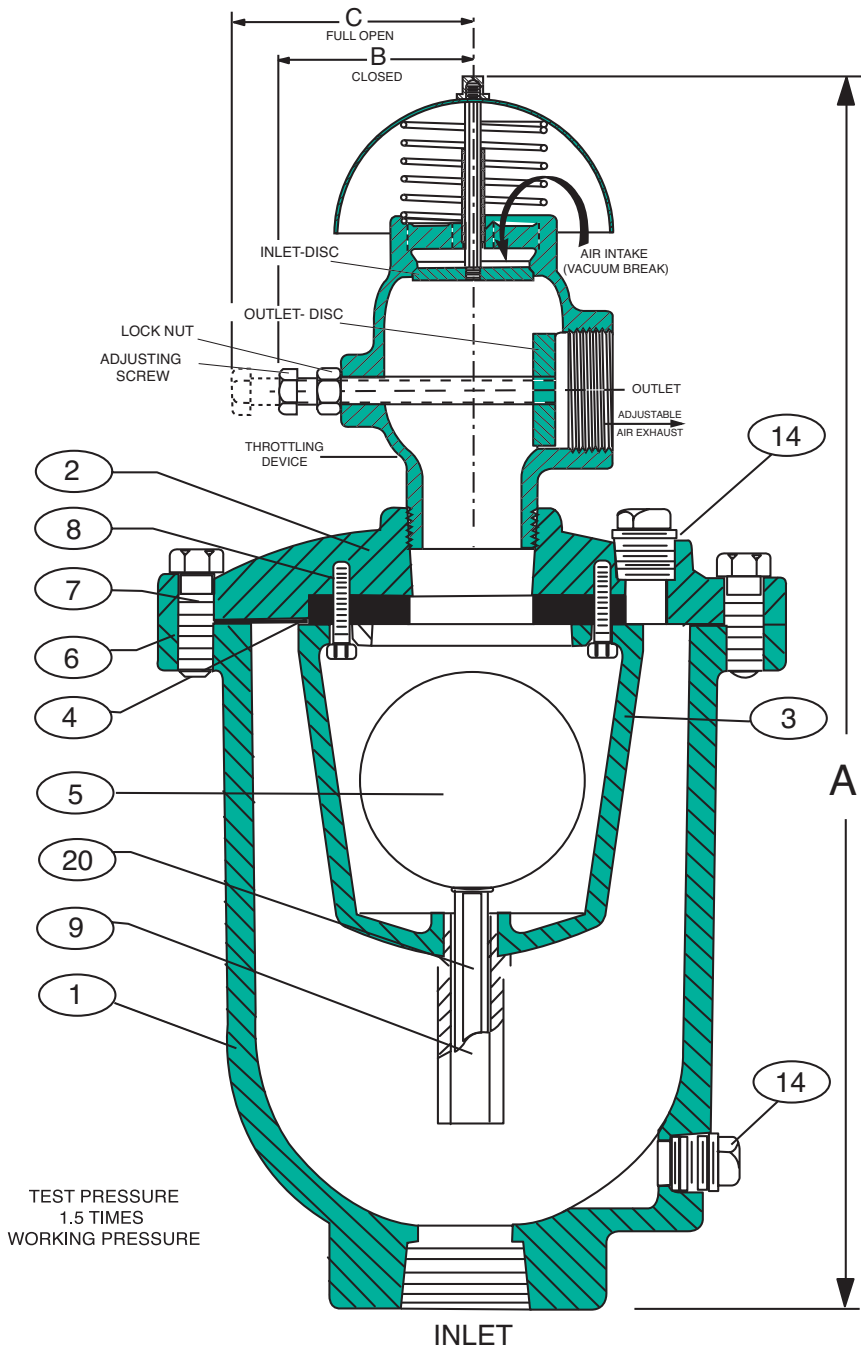
PL-37WS (1/2-3" Baffle Screen) (R-9/06)



1/2" thru 3"

Series 37

Air And Vacuum Valves with Double Port Throttling Device (For Well Service)



Model 37 Well Service Valves

No Head Pump Capacity GPM	Model No.	Valve Size	A	Major Diameter	WT.
	300 MWP				
0-350	370-WS	1/2"	18"	7"	16
351-1350	371-WS	1"	22"	9 1/2"	26
1351-4000	372-WS	2"	29 1/2"	12"	50
4001-7000	373-WS	3"	31 1/2"	12"	60

Detail No.	Part Name	Material
1	Body	Cast Iron ASTM A126, Class B
2	Cover	Cast Iron ASTM A126, Class B
3	Baffle	Ductile Iron ASTM A536-51T
4	Seat	Buna-N®
5	Float	Stainless Steel T316 ASTM A276
6	Gasket	Garlock #3000 (Non-Asbestos)

Detail No.	Part Name	Material
7	Cover Bolt	Alloy Steel ASTM A449, Grade 5
8	Retaining Screw	Stainless Steel T316 ASTM A276
9	Guide Bushing	Stainless Steel T316 ASTM A276
14	Pipe Plug	Malleable Iron
20	Guide Shaft	Stainless Steel T316 ASTM A276

Note: Manufactured to meet ANSI/AWWA C512-04



Series TD

Air Throttle Device (Double Port) For Series 37 Well Service Valves

Detail # Part Name

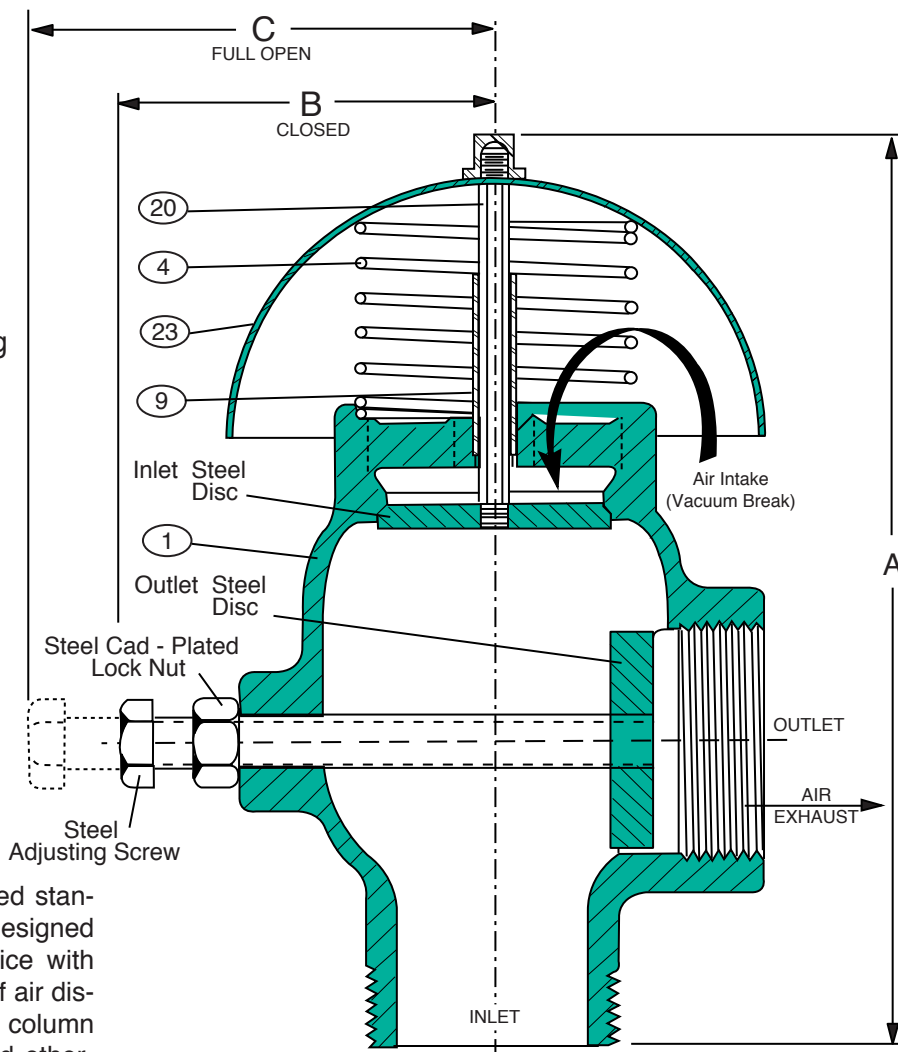
20	Steel Guide Shaft
4	Stainless Steel Spring
23	Stainless Steel Hood
9	Stainless Steel Guide Bushing
1	Cast Iron body

Parts Listed for reference only.
Not sold individually.

Design Function

Series TD Air Throttling device is supplied standard on 1/2" - 3" size Air Vacuum Valves designed for well service. The Air Throttling Device with double ports permits regulating volume of air discharge from vertical turbine well pump column there by to cushion the shock that would otherwise occur from the rising water column as it impacts against the closed discharge pump check or control valve. Utilizing the air throttling device insures prevention of damage to the pumping system from repeated shocks with each pump start. Additionally while port No. 1 of the air throttle device regulates air discharge Port. No.2 allows full unrestricted air into the column for full vacuum prevention and resulting damage that would otherwise occur to pump seals, pipe joints and to the pump itself, If started up under full head because the column under vacuum and has not drained. The air throttle device can be ordered separately for field installation on existing pumps

Note: Manufactured to meet ANSI/AWWA C512-04



Also Available 4" thru 8" sizes Contact the Factory

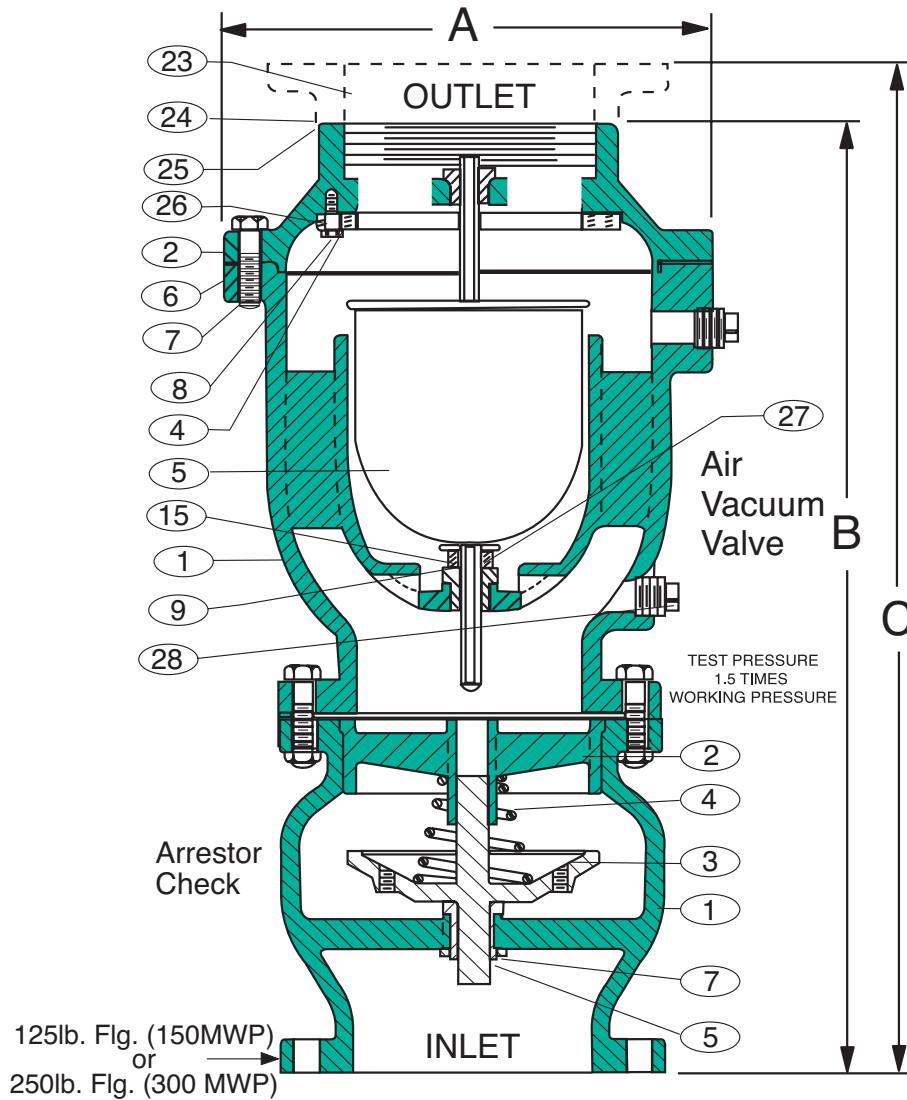
Model #	Stock #	Size NPT	A	B	C	Wt. Lbs.
H-TD	27001-01H	1/2"	4 7/16"	1 7/16"	2"	2
1-TD	27000-02F	1"	5 3/4"	2 1/8"	3"	6
2-TD	27000-03D	2"	8 7/8"	3 1/8"	4 5/16"	10
3-TD	27000-04B	3"	12 5/8"	4 5/16"	6 7/16"	15

Sold only as complete unit.



Series 37WS

Pipeline and Well Service Valve with Arrestor Check
4" thru 12" (For Slow Closing Action)



TEST PRESSURE
1.5 TIMES
WORKING PRESSURE

Arrestor Check

Detail No.	Part Name	Material
1	Body	Cast Iron ASTM A126B
2	Seat	Bronze ASTM B584
3	Plug	Bronze ASTM B584
4	Spring	Stainless Steel T302
5	Bushing	Bronze ASTM B584
7	Retainer	Stainless Steel T316

Note: Manufactured to meet
ANSI/AWWA C512-04

125lb. Flg. (150MWP)
or
250lb. Flg. (300 MWP)

Air & Vacuum Valve

Detail No.	Part Name	Material
1	Body	Cast Iron ASTM A126 Class B
2	Cover	Cast Iron ASTM A126 Class B
4	Seat	Buna -N [®]
5	Float	Stainless Steel T316, ASTM A276
6	Gasket	Lexide Nk-511 (Non-Asbestos)
7	Cover Bolt	Alloy Steel ASTM A449, Grade 5
8	Retaining Screw	Stainless Steel T316, ASTM A276
9	Guide Bushing	Stainless Steel T316, ASTM A276
15	Cushion	Buna-N [®]

Air & Vacuum Valve

Detail No.	Part Name	Material
23	Hood	Steel - #1020
24	Hood Retaining Screw	Steel (Cadmium Plated)
25	Washer - External	Steel (Cadmium Plated)
26	Seat Retaining Sleeve	Stainless Steel T316, ASTM A276
27	Washer - Internal	Stainless Steel T316, ASTM A276
28	Pipe Plug	Malleable Iron

No Head Pump Capacity GPM	Model No.	Valve Size	A	B	C	Inlet Size	Outlet Size	Outlet Size	WT.
	300 MWP								
7001-11000	374-WS	4"	12"	27"	24 5/16"	4" Flg.	4" NPT	4" Flg.	150
11001-24000	376-WS	6"	14"	30"	29"	6" Flg.	6" NPT	6" Flg.	245
24001-50000	378-WS	8"	18"	36"	35 5/16"	8" Flg.	----	8" Flg.	350
50001-70000	3710-WS	10"	20 1/4"	42"	45"	10" Flg.	----	10" Flg.	600
70001-110000	3712-WS	12"	24"	46 1/2"	50"	12" Flg.	----	12" Flg.	875