

Series WAV-D Water Air/Vacuum Valve (Deep-well Service)

Provides for Deep Well Pump Flow Optimization

Well service pumps start up with low water level and a long column of air which results in little or no head (backpressure) while the pump fills the casing.

At pump start, conditions may exist which allow water flow to exceed 10 feet per second as it moves up with little resistance inside a well casing while air is being discharged from the line.

Since a fast water column is rising immediately following the escaping air column, it is critical to protect the float from the in-rushing water column which is 800 times denser than air.

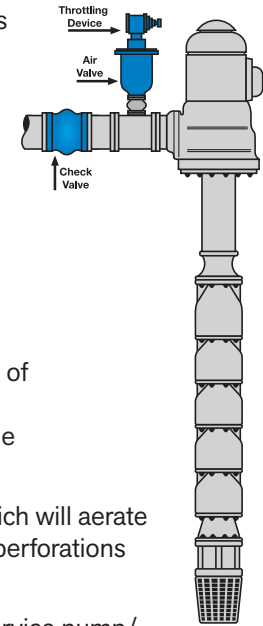
If the float is not shielded the fast moving water column will strike the float and push it or slam it shut prematurely, sometimes closing the valve prematurely before all air escapes.

There are various means to protect the air valve float and system. Each device is ranked in order of increasing degree of protection:

- Diffuser (perforated basket which aerates and moderates water flow)
- Anti-Shock Slow Closing Surge Check Air Valve (perforated disc "sprung open" to allow slow fill of float chamber)
- Double-Acting Throttling Device (device which controls outflowing air backpressure with variable plug closure- but allows free air in)

Positive control of the water flow is provided by a Diffuser – a float-enclosing, perforated basket which will aerate and disperse a fast straight-on column impact into steady, slower flow. Water is forced through the perforations and aerated as it streams through to buoy up the float in a controlled manner.

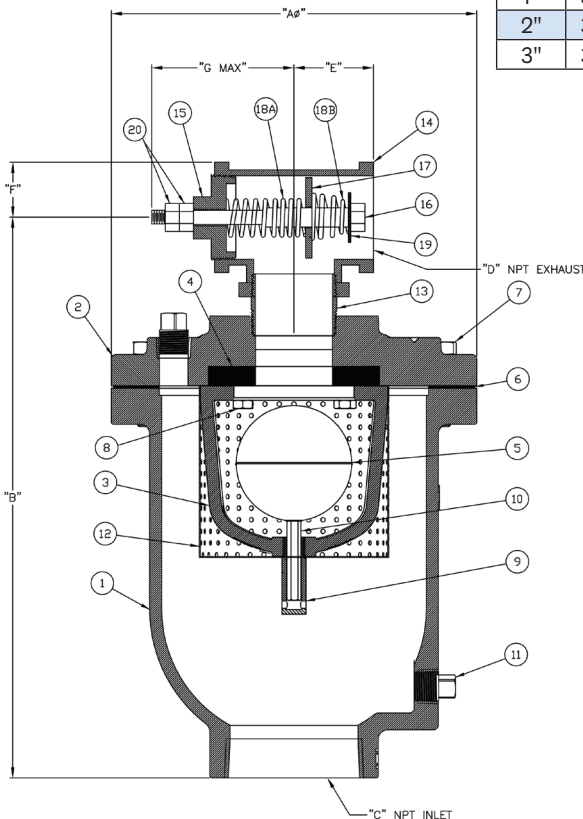
The Henry Pratt throttling device is the final level of protection that can be provided for deep well service pump/pipeline systems. This proven design is the maximum protection that can be provided for slowing down the water column.



Well Service Air Valve General Specification

For a CSI formatted specification describing the AirPro Max Well Service Valves, please contact your local sales representative.

Valve	CWP	AØ	B	C NPT	D NPT	E	F	G	Part #	Wt.
1/2 "	300	9-3/8	1/2"	1/2"	1-1/8	5/8	5/8	2-5/8	WAV05-300D	15
1 "	300	12-1/8	1"	1"	1-1/2	7/8	7/8	3-5/8	WAV10-300D	25
2 "	300	15-15/16	2"	2"	2-1/4	1-1/2	1-1/2	5-3/4	WAV20-300D	54
3 "	300	16-7/16	3"	3"	3-1/16	2-1/8	2-1/8	7-11/16	WAV30-300D	55



Item #	Description	Material
1	Body	Ductile Iron
2	Cover	Ductile Iron
3	Baffle	Ductile Iron
4	Seat	Rubber (BUNA-N) (See Note 1), Rubber (EPDM)
5	Float	ASTM A240 316SS
6	Gasket	Non-Asbestos Fiber
7	Cover Bolts	ASTM F593 316SS
8	Baffle Bracket Bolts	ASTM F593 316SS
9	Guide Bushing	ASTM A240 316SS (See Note 2)
10	Guide Shaft	ASTM A240 316SS (See Note 2)
11	Pipe Plug	Carbon Steel (See Note 3)
12	Diffuser	Perforated 316SS
13	Pipe Nipple	Carbon Steel
14	Tee Pipe Fitting	Cast Iron
15	Plug	Cast Iron ASTM A-126
16	Bolt	ASTM A276 316SS
17	Throttle Disc	ASTM D4181 Delrin
18a	Spring	ASTM A276 316SS (See Note 5)
18b	Antishock Spring	ASTM A276 316SS (See Note 6)
19	Flat Washer	ASTM A276 316SS
20	Hex Lock Nut	Nylon Insert Steel Nut

Notes: (1.) BUNA-N is standard rubber seat (2.) 1/2" valve comes with ASTM A276 316SS (3.) 1/2" valve comes with only one pipe plug on cover (4.) Customers to indicate if operating pressure to be below 10psi (5.) Double acting throttle spring (6.) Optional antishock throttle spring