American WHEATLEY
HVAC PRODUCTS

GLOBAL FLOW PRODUCTS®

American WHEATLEY HVAC PRODUCTS®

2019 CATALOGUE INDEX

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TDV/TSV Valves

TDV/TSV Valve

The unique quarter-turn TDV/TSV design offers backflow protection throughout a wide range of system balancing settings. Upon closing, the plug rotates to block the downstream port of the valve allowing pressure to equalize around clapper so that it closes with little resistance. Final closing is accomplished by the plug camming against the backside of the clapper. The most satisfactory closure is accomplished by turning the plug to normal tight fit, then bumping the plug lightly.

Features:

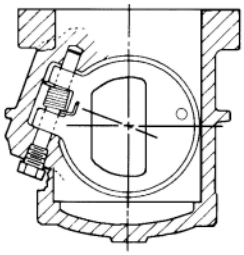
- Available in sizes 1 1/2" through 2 1/2"
- Cast Iron bodies
- Threaded or Flanged ends
- Schrader valve metering connections
- Memory stop which avoids the need for resetting after shut down
- Plug position indicator and calibrated scale for system balancing and flow regulation
- Vertical and/or horizontal installation
- Dual O-ring stem seals
- Non-lubricated operation
- Bubble-tight shut-off
- Painted Exterior

Multi Function Benefits:

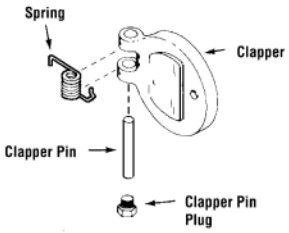
- Flow regulator valve
- Positive shut-off valve
- Convenient connections for gauges
- Compact size reduces space requirements

Internal Spring-loaded Clapper

Valve Clappers are internally spring-loaded for a positive check.

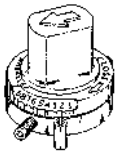


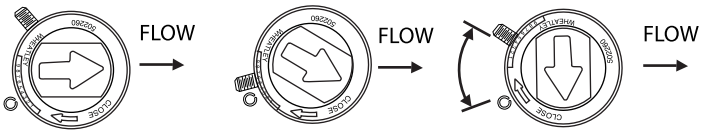
Sectional view looking upstream



NOTE: One end of clapper pin is tapped for pin removal.

Memory Stop





Valve is shown in open position. Memory Stop has not been set

Valve Plug is rotated to selected balance position. Memory Stop is rotated until it intercepts the stop on cover. Tighten lock screw on Memory Stop

Valve plug may be closed and re-opened to same balance position.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
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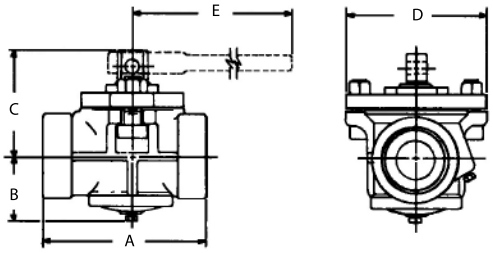
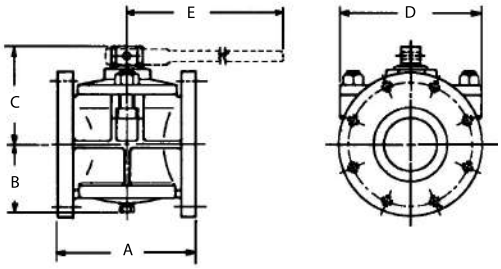
Threaded Ends Bolted Covers



PART NUMBER	SIZE	END TO END THREADED A (IN.)	CENTER OF PORT TO BOTTOM OF VALVE B (IN.)	CENTER OF PORT TO TOP OF VALVE C (IN.)	EXTREME WIDTH OF BODY D (IN.)	WRENCH EXTENSION E (IN.)	WEIGHT (LBS.)
TSV 015-T	1 1/2"	6 3/8	2 1/8	4 5/16	5	14	13
TSV 020-T	2"	6 3/8	2 1/8	4 5/16	5	14	12
TSV 025 -T	2 1/2"	8 1/4	2 3/4	5 3/4	6 5/8	16 1/4	26

*All flange holes tapped size 2 1/2" valves.
1Flange dimensions per ANSI standard B16. 1, Class 125

Flanged Ends Bolted Covers



Wrench Operated Class - 175 lbs. WOG

PART NUMBER	SIZE	END TO END FLANGED A (IN.)	CENTER OF PORT TO BOTTOM OF VALVE B (IN.)	CENTER OF PORT TO TOP OF VALVE C (IN.)	EXTREME WIDTH OF BODY D (IN.)	WRENCH EXTENSION E (IN.)	WEIGHT (LBS.)
TSV 015-F	1 1/2"	7*	2 1/8	4 5/16	5	14	19
TSV 020-F	2"	7	2 1/8	4 5/16	5	14	19
TSV 025 -F	2 1/2"	8*	2 3/4	5 3/4	6 5/8	16 1/4	40

*All flange holes tapped size 2 1/2" valves.
1Flange dimensions per ANSI standard B16. 1, Class 125

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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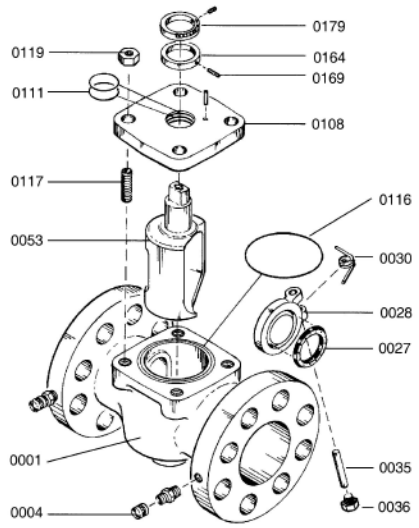
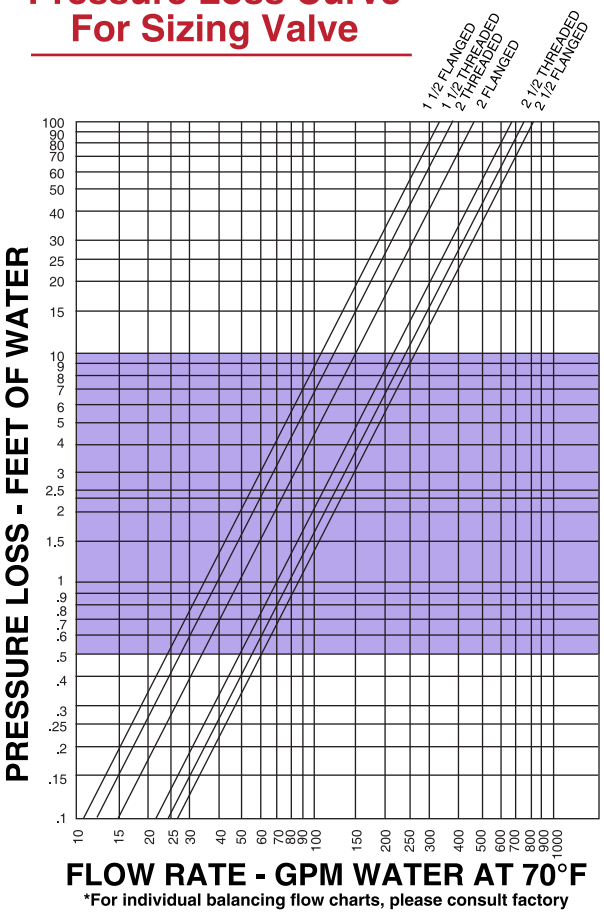


Bill of Materials

ITEM NUMBER	DESCRIPTION	QTY	MATERIAL
0001	Body	1	CI ASTM A 126/DI A536
0004	Metering connector	2	Brass
0027	Clapper seal	1	Buna
0028	Clapper	1	Cast Iron
0030	Spring	1	Stainless Steel
0035	Clapper Pin	1	Stainless Steel
0036	Pipe Plug	1	Steel
0053	Plug	1	CI ASTM A 126/DI A536
0108	Cover	1	CI ASTM A 126/DI A536
0111	O-ring	2	Buna
0116	O-ring	1	Buna
0117	Cover Stud	4	Steel
0119	Nut	4	Steel
0164	Memory Stop Ring	1	Steel
0169	Set Screw	1	Steel
0179	Indication Ring	1	Composite

Pressure Loss Curve For Sizing Valve



*For individual balancing flow charts, please consult factory

Installation:

A. Mount 1 1/2" through 2 1/2" valves in a vertical up or horizontal position with flow in the direction of the flow arrow which is cast on the side of each valve.
B. Install valve in a location which allows easy access to operating wrench and flow meter connections.
C. Install with the equivalent of at least 10 diameters of straight pipe, sized to TDV/TSV valve, upstream of the valve and the equivalent of at least 5 diameters of pipe downstream of the TDV/TSV valve.
D. Once a flow rate has been set, adjust the memory stop located on the stem of the TDV/TSV valve (see memory stop illustration on tag attached to valve for adjustment instructions). The memory stop allows the valve to be closed and re-opened to the same balance position.

Flow Meter Operation:

A. Remove caps from the metering connections at the HI and LO pressure taps.
B. Connect the high pressure hose (red) of the pressure gage to the HI pressure connections on the TDV/TSV valve and the low pressure hose (blue) to the LO pressure connection. Note: Hose ends require valve depressors to be connected. If valve depressor is not visible in hose end check opposite end of hose. Metering connection valves are opened automatically as the hose end is screwed on.
C. Prepare the pressure gauge as per instructions in the gauge kit.
D. The flow can be determined by reading the pressure indicated at the gauge, noting the valve opening from the plug position indicator and calibrated plate and transferring this data to a flow chart.
E. When flow readings are complete, follow directions supplied with the pressure gauge.
F. Replace metal caps on the metering connections of the TDV/TSV valve.

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TDV-A Valve

***Designed, sourced and manufactured from products made in America**

The unique quarter-turn TDV-A design offers backflow protection throughout a wide range of system balancing settings. Upon closing, the plug rotates to block the downstream port of the valve allowing pressure to equalize around clapper so that it closes with little resistance. Final closing is accomplished by the plug camming against the backside of the clapper. The most satisfactory closure is accomplished by turning the plug to normal tight fit, then bumping the plug lightly.

Features:

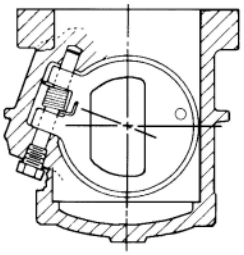
- Available in sizes 2 1/2" through 12"
- Cast Iron bodies
- Threaded or flanged ends
- Schrader valve metering connections
- Memory stop which avoids the need for resetting after shut down
- Plug position indicator and calibrated scale for system balancing and flow regulation
- Vertical and/or horizontal installation
- Dual O-ring stem seals
- Non-lubricated operation
- Bubble-tight shut-off
- In-line serviceability
- Painted Exterior

Multi Function Benefits:

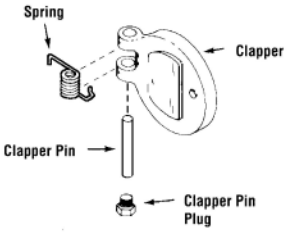
- Flow regulator valve
- Positive shut-off valve
- Convenient connections for gauges
- Compact size reduces space requirements

Internal Spring-loaded Clapper

Valve Clappers are internally spring-loaded for a positive check.

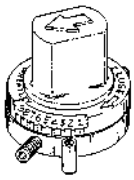


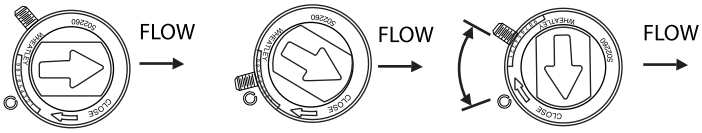
Sectional view looking upstream



NOTE: One end of clapper pin is tapped for pin removal.

Memory Stop





Valve is shown in open position. Memory Stop has not been set

Valve Plug is rotated to selected balance position. Memory Stop is rotated until it intercepts the stop on cover. Tighten lock screw on Memory Stop

Valve plug may be closed and re-opened to same balance position.

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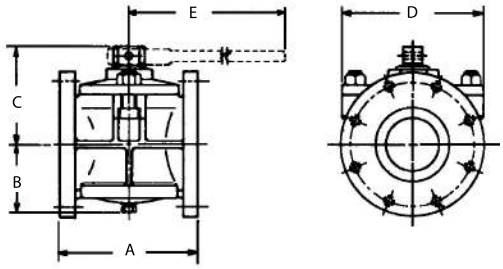
Flanged Ends Bolted Covers



Wrench Operated Class - 175 lbs. WOG

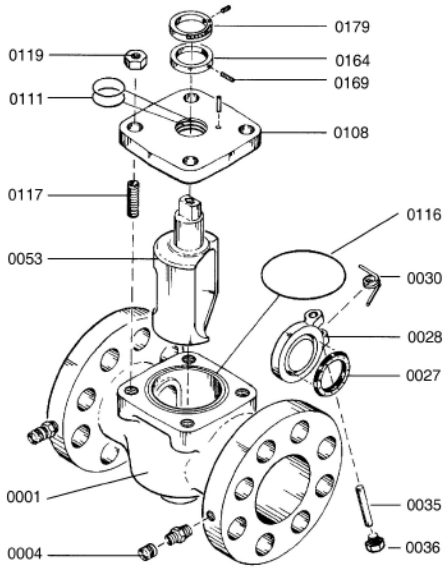
PART NUMBER	SIZE	END TO END FLANGED A (IN.)	CENTER OF PORT TO BOTTOM OF VALVE B (IN.)	CENTER OF PORT TO TOP OF VALVE C (IN.)	EXTREME WIDTH OF BODY D (IN.)	WRENCH EXTENSION E (IN.)	WEIGHT (LBS.)
TDV-025F-A	2 1/2"	8*	2 3/4	5 3/4	7	16 1/4	40
TDV-030F-A	3"	8*	2 3/4	5 3/4	7 1/2	16 1/4	42
TDV-040F-A	4"	9*	3 1/4	6 5/8	9	16 1/4	64
TDV-050F-A	5"	10	3 3/8	6 5/8	10	16 1/4	95
TDV-060F-A	6"	10 1/2*	5	7 7/8	11	33 1/8	122
TDV-080F-A	8"	11 1/2*	5 3/4	7 7/8	13 1/2	31 1/16	165
TDV-100F-A	10"	16	7 1/2	9 7/8	16	33 1/16	270
TDV-120F-A	12"	19	9 5/16	11 3/8	19	31 1/16	450

For Smaller Sizes See TDVA/TSVN

*All flange holes tapped size 2 1/2", 3", 4", 6", and 8" valves.
1Flange dimensions per ANSI standard B16. 1, Class 125

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.



Bill of Materials

ITEM NUMBER	DESCRIPTION	QTY	MATERIAL
0001	Body	1	CI ASTM A 126/DI A536
0004	Metering connector	2	Brass
0027	Clapper seal	1	Buna
0028	Clapper	1	Cast Iron
0030	Spring	1	Stainless Steel
0035	Clapper Pin	1	Stainless Steel
0036	Pipe Plug	1	Steel
0053	Plug	1	CI ASTM A 126/DI A536
0108	Cover	1	CI ASTM A 126/DI A536
0111	O-ring	2	Buna
0116	O-ring	1	Buna
0117	Cover Stud	4	Steel
0119	Nut	4	Steel
0164	Memory Stop Ring	1	Steel
0169	Set Screw	1	Steel
0179	Indication Ring	1	Composite

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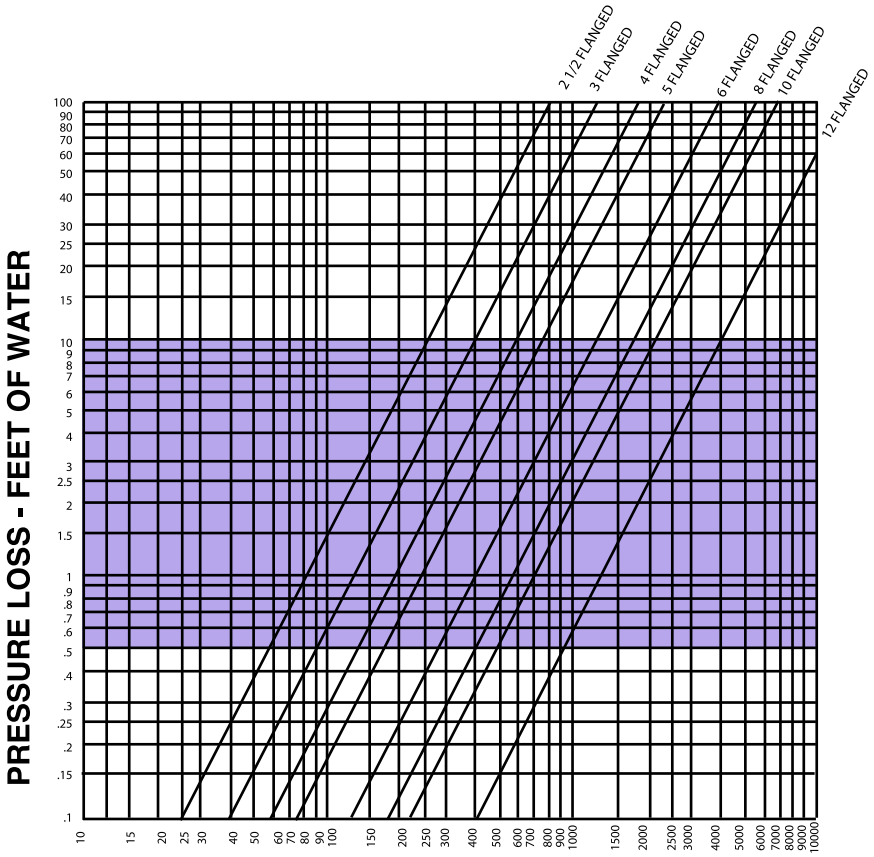
Pressure Loss Curve For Sizing Valve



*For individual balancing flow charts, please consult factory

Installation:

A. Mount 2 1/2" through 8" valves in a vertical up or horizontal position with flow in the direction of the flow arrow which is cast on the side of each valve. Mount 10" through 12" valves in vertical position only.
B. Install valve in a location which allows easy access to operating wrench and flow meter connections.
C. Install with the equivalent of at least 10 diameters of straight pipe, sized to TDV-A valve, upstream of the valve and the equivalent of at least 5 diameters of pipe downstream of the TDV-A valve.
D. Once a flow rate has been set, adjust the memory stop located on the stem of the TDV-A valve (see memory stop illustration on tag attached to valve for adjustment instructions). The memory stop allows the valve to be closed and re-opened to the same balance position.

Flow Meter Operation:

A. Remove caps from the metering connections at the HI and LO pressure taps.
B. Connect the high pressure hose (red) of the pressure gage to the HI pressure connections on the TDV-A valve and the low pressure hose (blue) to the LO pressure connection. Note: Hose ends require valve depressors to be connected. If valve depressor is not visible in hose end check opposite end of hose. Metering connection valves are opened automatically as the hose end is screwed on.
C. Prepare the pressure gauge as per instructions in the gauge kit.
D. The flow can be determined by reading the pressure indicated at the gauge, noting the valve opening firm the plug position indicator and calibrated plate and transferring this data to a flow chart.
E. When flow readings are complete, follow directions supplied with the pressure gauge.
F. Replace metal caps on the metering connections of the TDV-A valve.

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TDV-N/TSV-N Valve

The unique quarter-turn TDV/TSV design offers backflow protection throughout a wide range of system balancing settings. Upon closing, the plug rotates to block the downstream port of the valve allowing pressure to equalize around clapper so that it closes with little resistance. Final closing is accomplished by the plug camming against the backside of the clapper. The most satisfactory closure is accomplished by turning the plug to a normal tight fit, then bumping the plug lightly.

Features:

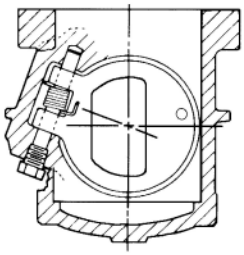
- Available in sizes 2 1/2" through 12"
- Ductile Iron bodies
- Flanged ends
- ENP (Electroless Nickel Plated) Plug & 304 Stainless Steel Clapper for enhanced performance in corrosive environments
- Trunnion supported plug
- Schrader valve metering connections
- Memory stop which avoids the need for resetting after shut down
- Plug position indicator and calibrated scale for system balancing and flow regulation
- Spring loaded clapper allows the valve to be installed horizontally
- Dual O-ring stem seals
- Non-lubricated operation
- Bubble-tight shut-off
- Painted Exterior

Multi Function Benefits:

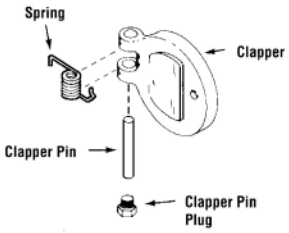
- Flow regulator valve
- Positive shut-off valve
- Convenient connections for gauges
- Compact size reduces space requirements

Internal Spring-loaded Clapper

Valve Clappers are internally spring-loaded for a positive check.

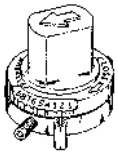


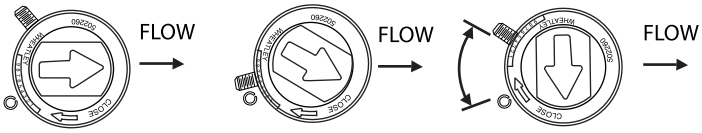
Sectional view looking upstream



NOTE: One end of clapper pin is tapped for pin removal.

Memory Stop





Valve is shown in open position. Memory Stop has not been set

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Valve plug may be closed and re-opened to same balance position.

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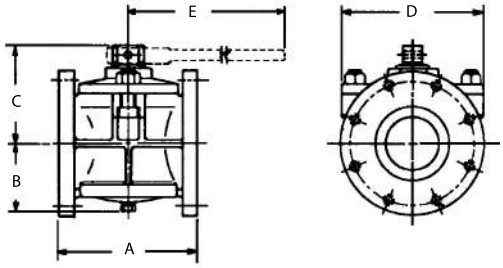

Wrench Operated Class - 175 lbs. WOG

PART NUMBER	SIZE	END TO END FLANGED A (IN.)	CENTER OF PORT TO BOTTOM OF VALVE B (IN.)	CENTER OF PORT TO TOP OF VALVE C (IN.)	EXTREME WIDTH OF BODY D (IN.)	WRENCH EXTENSION E (IN.)	WEIGHT (LBS.)
TSVN-025-F	2 1/2	8*	2 3/4	5 3/4	6 5/8	16 1/4	40
TSVN-030-F	3	8*	2 3/4	5 3/4	6 5/8	16 1/4	41
TSVN-040-F	4	9*	3 1/4	6 5/8	6 3/4	16 1/4	60
TSVN-050-F	5	10	3 3/8	6 5/8	6 3/4	16 1/4	70
TSVN-060-F	6	10 1/2*	5	7 7/8	10 5/8	33 1/8	97
TSVN-080-F	8	11 1/2*	5 3/4	7 7/8	9	31 1/16	146
TSVN-100-F	10	16	7 1/2	9 7/8	10 9/16	33 1/16	210
TSVN-120-F	12	19	9 5/18	11 3/8	13 3/8	31 1/16	337

For Smaller Sizes See TDV/TSV

*All flange holes tapped size 2 1/2", 3", 4", 6", and 8" valves.
1Flange dimensions per ANSI standard B16. 1, Class 125

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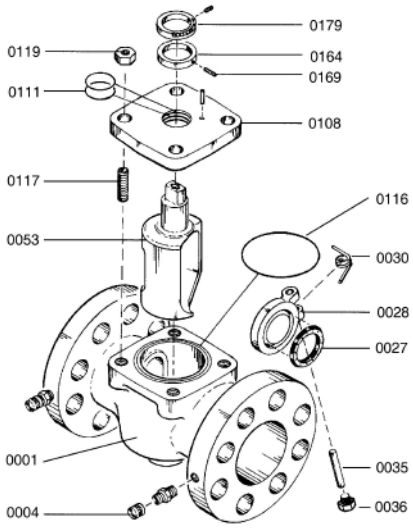

Bill of Materials

ITEM NUMBER	DESCRIPTION	QTY	MATERIAL
0001	Body	1	Ductile Iron (60-40-18)
0004	Metering connector	2	Brass
0027	Clapper seal	1	Buna
0028	Clapper	1	304 Stainless Steel
0030	Spring	1	Stainless Steel
0035	Clapper Pin	1	Stainless Steel
0036	Pipe Plug	1	Steel
0053	Plug	1	DI (60-40-18) ENP (2 mil)
0108	Cover	1	Ductile Iron (60-40-18)
0111	O-ring	2	Buna
0116	O-ring	1	Buna
0117	Cover Stud	4	Steel
0119	Nut	4	Steel
0164	Memory Stop Ring	1	Steel
0169	Set Screw	1	Steel
0179	Indication Ring	1	Steel

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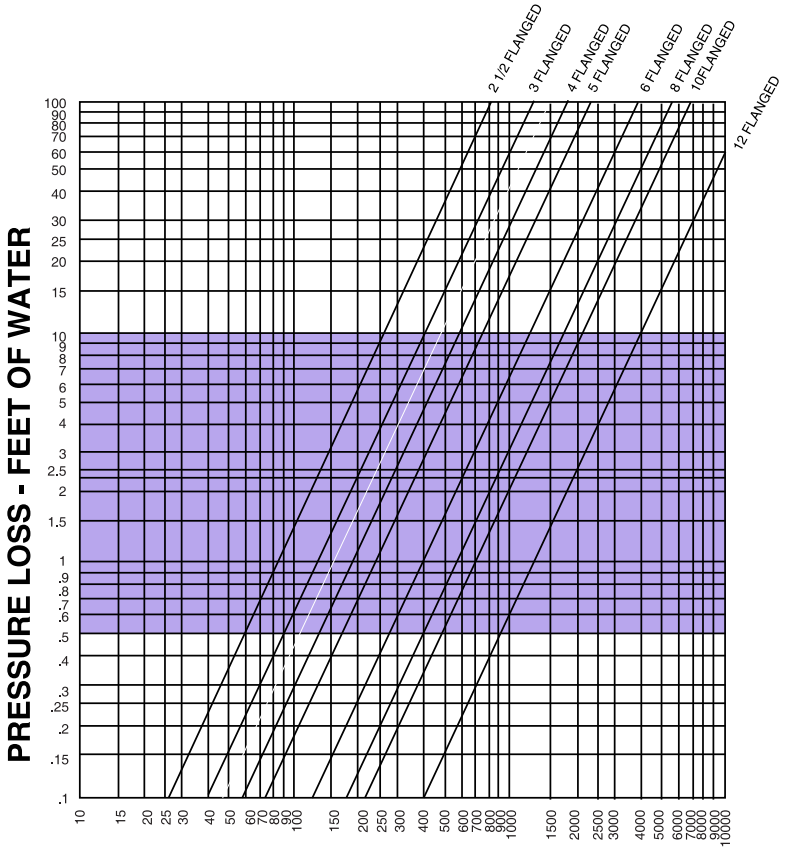

FLOW RATE - GPM WATER AT 70°F

***For individual balancing flow charts, please consult factory**

Installation:

A. Mount 2 1/2" through 12" valves in a vertical up or horizontal position with flow in the direction of the flow arrow which is cast on the side of each valve.
B. Install valve in a location which allows easy access to operating wrench and flow meter connections.
C. Install with the equivalent of at least 10 diameters of straight pipe, sized to TDV/TSV valve, upstream of the valve and the equivalent of at least 5 diameters of pipe downstream of the TDV/TSV valve.
D. Once a flow rate has been set, adjust the memory stop located on the stem of the TDV/TSV valve (see memory stop illustration on tag attached to valve for adjustment instructions). The memory stop allows the valve to be closed and re-opened to the same balance position.

Flow Meter Operation:

A. Remove caps from the metering connections at the HI and LO pressure taps.
B. Connect the high pressure hose (red) of the pressure gage to the HI pressure connections on the TDV/TSV valve and the low pressure hose (blue) to the LO pressure connection. Note: Hose ends require valve depressors to be connected. If valve depressor is not visible in hose end check opposite end of hose. Metering connection valves are opened automatically as the hose end is screwed on.
C. Prepare the pressure gauge as per instructions in the gauge kit.
D. The flow can be determined by reading the pressure indicated at the gauge, noting the valve opening from the plug position indicator and calibrated plate and transferring this data to a flow chart.
E. When flow readings are complete, follow directions supplied with the pressure gauge.
F. Replace metal caps on the metering connections of the TDV/TSV valve.

A GFP COMPANY

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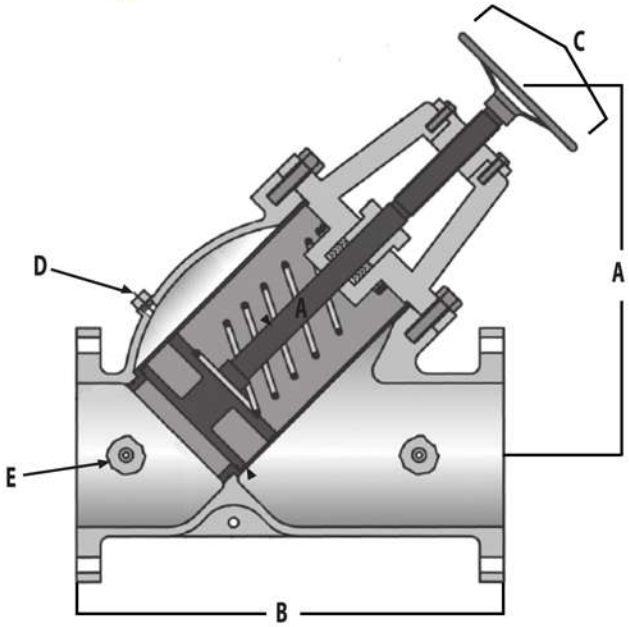
Globe Style Triple Duty Valve

Features:

- Available 2.5" through 16"
- 3 valves in one: Shut off valve-Check valve-Balance valve
- ANSI B16.10 Flat Face Flanges
- Spring assisted disc ensures quiet operation and prevents water hammer
- Ductile Iron 65-45-12 Body
- Seat & Seal EPDM Material
- 300 (20.6843) M.A.W.P. PSIG (Bars) Sizes <=10"
- 250° F 121° C



PART NUMBER	SIZE (IN.)	SIZE (MM)	HEIGHT A (IN.)	HEIGHT A (MM)	LENGTH B (IN.)	LENGTH B (MM)	HANDLE WIDTH C (IN.)	HANDLE WIDTH C (MM)	D N.P.T. (IN.)	D N.P.T. (MM)	E N.P.T. (IN.)	E N.P.T. (MM)	WEIGHT (LBS)	WEIGHT (KG)
TDV-002GL	2"	50	8 3/8	213	9 3/16	233	6 1/4	159	1/2	15	1/4	8	33	15
TDV-025GL	2 1/2"	65	9 7/8	251	9 5/8	245	6 1/4	159	1/2	15	1/4	8	42	19
TDV-003GL	3"	80	10	254	10 3/8	264	9 3/8	238	1/2	15	1/4	8	59	27
TDV-004GL	4"	100	14 1/2	368	13 5/16	338	9 3/8	238	1/2	15	1/4	8	104	47
TDV-005GL	5"	125	16	406	15 3/16	385	11	279	1/2	15	1/4	8	170	77
TDV-006GL	6"	150	18	457	16 7/8	429	11	279	3/4	20	1/4	8	202	92
TDV-008GL	8"	200	21 1/2	546	21 1/8	537	12 1/2	317	3/4	20	1/4	8	280	127
TDV-010GL	10"	250	25 1/2	648	25 1/4	641	12 1/2	317	1	25	1/4	8	422	191
TDV-012GL	12"	300	30	762	27 1/8	688	12 1/2	317	1	25	1/4	8	816	370
TDV-014GL	14"	350	30 3/8	762	29 5/8	753	12 1/2	317	1	25	1/4	8	1112	504
TDV-016GL	16"	400	37	772	42 13/16	1087	12 1/2	317	1	25	1/4	8	1478	670
TDV-018GL	18"	450	41	1048	46 3/16	1174	15 7/8	406	1	25	1/4	8	1500	680

NOTE: B Dimensions are given in full open position.

Valve must be installed with stem/handle in the upward position.

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
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_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

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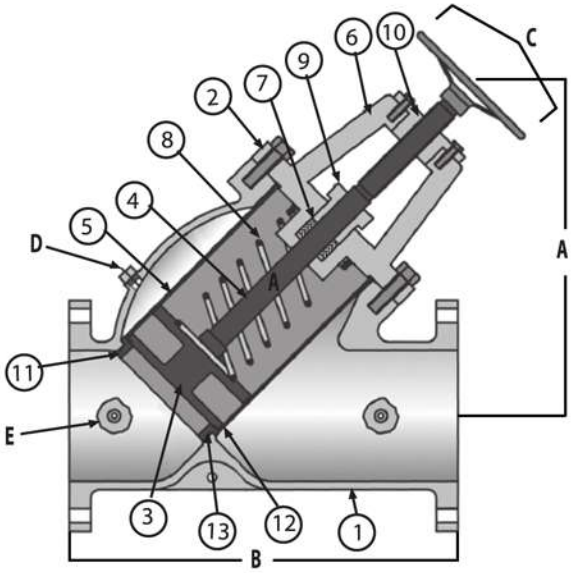
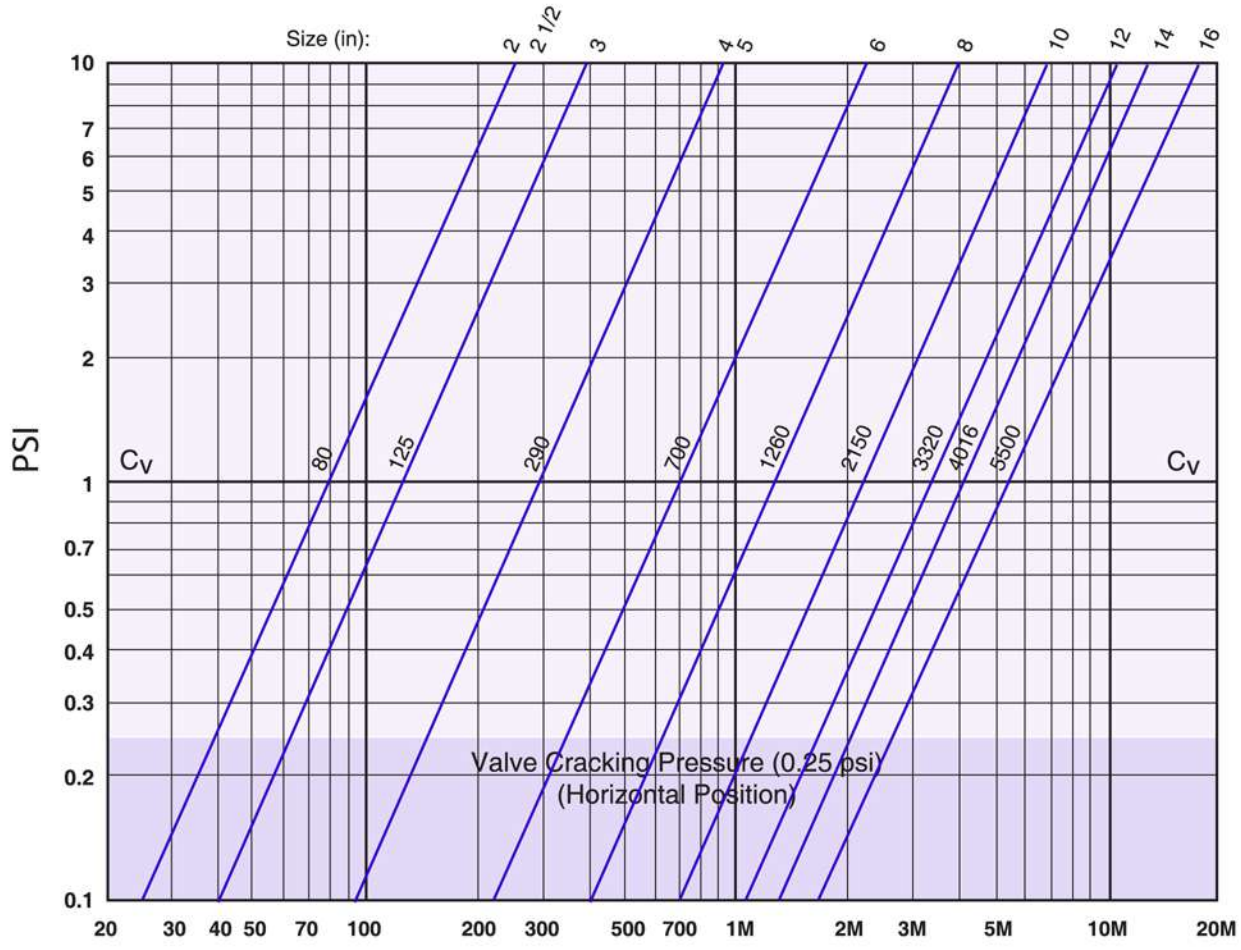
Bill of Materials

ITEM NUMBER	DESCRIPTION	MATERIAL
1	Valve Body	Ductile Iron 65-45-12
2	Cover Flange	Ductile Iron 65-45-12
3	Valve Disc	A536 Nickle Plated*
4	Valve Stem	Type 410 Stainless Steel
5	Valve Seat Guild	A536 Nickle Plated Ductile Iron
6	Flange Gland	Ductile Iron 65-45-12
7	Packing	Non-Asbestos
8	Valve Spring	300 Series Stainless Steel
9	Packing Gland	Ductile Iron 65-45-12
10	Valve Stem Guide	A536 Ductile Iron
11	Valve Seat Ring	A536 Nickle Plated Ductile Iron
12	Valve Seat Seal	EPDM 0-Ring
13	Valve Disc Seat	EPDM 0-Ring

*Optional Material B62 Bronze





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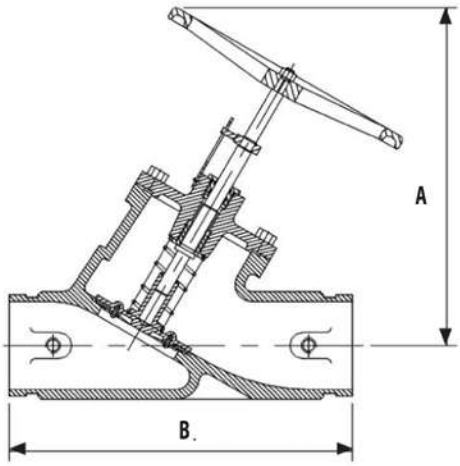
Triple Duty Valve (Grooved End)
Globe Style

Features:

- Sizes 2” to 12”
- Flow Regulator Valve
- Back Flow Preventor
- Positive Shutoff Valve
- HWO Operated
- Grooved End according to AWWA C606
- 16 Bar or 200WOG Working Pressure
- External and internal parts Epoxy Powder coated



PART NUMBER	SIZE (IN.)	SIZE (MM)	HEIGHT A (IN.)	HEIGHT A (MM)	LENGTH B (IN.)	LENGTH B (MM)
TDV-002GR	2	50	11 3/4	300	9	230
TDV-025GR	2 1/2	65	12 5/8	320	11 7/16	290
TDV-003GR	3	80	13 3/4	350	12 13/16	310
TDV-004GR	4	100	17 7/8	455	13 3/4	350
TDV-005GR	5	125	20 5/16	515	15 3/4	400
TDV-006GR	6	150	20 1/2	565	18 7/8	480
TDV-008GR	8	200	27 15/16	710	23 5/8	600
TDV-010GR	10	250	34 1/4	895	28 3/4	730
TDV-012GR	12	300	39 3/8	1000	33 1/2	850

Bill of Materials

DESCRIPTION	MATERIAL
Body and Yoke	DI, ASTM A536 Gr. 65-45-12
Disc	Stainless Steel, SS304
Gasket	EPDM
Disc Seat	EPDM
Spring	Stainless Steel, SS304
Handwheel	CI, ASTM A126 Class B
Indicator	Aluminium
Indicator Plate	Aluminium

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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American Wheatley Triple Duty Valve Installation, Operation & Maintenance Instructions

INSTALLATION:

In order to prevent any objectionable system noise, or damage to the check valve functional components, mounting of the triple duty valve directly to the pump is not recommended. The placement of the triple duty valve directly on the pump discharge places the valve directly into a point of high turbulence, and extreme variances in flow and pressure changes. If the valve is placed at this point, damage to the clapper is almost certain.

When mounted near the pump, at a minimum, the Triple Duty Valves should be mounted to a spool piece on the discharge side of the pump. It is recommended that a spool piece of 12" minimum be used on pumps with a discharge size of 1.5" through 6" and a 24" minimum spool piece be used for discharge sizes 8"through 12". When installed elsewhere in the system, the velocity and pressure changes are acceptable under normal operation.

However, for optimum operation as a balance device measuring differential pressure, it is recommended that a distance of 10 pipe diameters straight pipe be installed upstream of the TDV and 5 times the pipe diameter downstream.

The triple duty valve are not to be left in a fully open position, they are designed to create a pressure drop to ensure that the pump is operating at design. The triple duty valve must be closed at least 10% to ensure proper function. The valve must be installed with the stem pointing upward vertically, or sideways horizontally. Do NOT install the valve with the stem pointing downward as premature failure could occur.

HANDLES-Once initial settings have been reached at start up, remove handles from valve to prevent unwanted movement.

PREVENTATIVE MAINTENANCE:

While Triple Duty Valves do not require day to day maintenance, it is highly suggested that a preventative maintenance program be installed to ensure that the triple duty valve is cycled throughout its entire range of motion, a minimum of once every 30 days. Failure to do so may result in scale and mineral build-up, on or near the plug and seat, which could prevent the valve from future opening or closing. Remove handles after adjustment to prevent unwanted movement.

Failure to follow these guidelines may result in the failure of the Triple Duty Valve to accomplish any or all of the functions for which it was designed, and can void any implied warranty.

AMERICAN WHEATLEY HVAC WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF ITS PRODUCTS OR ANY INCIDENTAL COSTS OF REMOVING OR REPLACING DEFECTIVE PRODUCTS.

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American Wheatley TSV/TDV Triple Duty Valve Troubleshooting

1. Cannot get accurate gauge reading across TDV:
   To use as a balancing device, the valve must be at least 10 pipe diameters away from the pump. Take gauge readings across the pump instead of the TDV. The TDV must be closed at least 15% to obtain accurate gauge readings.

2. Check valve assembly has failed:
   TDV is probably too close to the pump, TDV should be 10 pipe diameters away from the pump discharge. At a minimum, 12" away for sizes up through 4", 24" away for sizes 5" and above.

3. Triple duty valve is making a chattering sound:
   The check valve assembly is chattering, close the TDV at least 15%. Chattering should stop.

4. Valve is making a clinking sound:
   The spring in the check valve assembly may be broken, or some other particulate may be inside the TDV. Disassemble TDV and clean out any particulate, replace spring of necessary.

5. Valve is making whooshing sound:
   Valve is either near fully open or fully closed position. The TDV must be closed at least 15% to operate properly, they are not intended for use fully open. The valve is close to fully closed, this is not recommended, if necessary install a smaller size TDV so that it is operating at mid-range of higher. Possibly the valve is too close to the pump and you're hearing turbulence, TDV should be 10 pipe diameters away from the pump discharge. At a minimum, 12" away for sizes up through 4", 24" away for sizes 5" and above.

6. Valve is making a whistling sound:
   The valve is close to being closed, probably oversized. Replace with smaller valve so that operating point is at 50% open or higher.

7. Loud clapping noise when pump turns on or off:
   The valve is operating properly, but water hammer is present, use of a water hammer arrestor or variable speed pumping can solve this problem.

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8. The TDV setting moves after initial setting:
   Remove the handle. The handle should always be removed after setting of the TDV has been achieved. Memory stop not tightened. Refer to Memory stop setting instructions.

9. TDV will not fully close:
   Something is preventing valve from closing, disassemble valve and check to see if any foreign objects are inside valve body. Check valve assembly has failed, replace check valve assembly.

10. TDV will not fully open:
    Something is preventing valve from opening, disassemble valve and check to see if any foreign objects are inside valve body. Check valve assembly has failed, replace check valve assembly. Excessive corrosion and scale build-up, valve may be able to be cleaned, or completely replaced.

11. Valve will not turn at all:
    Valve has not been operated throughout its range every 30 days as recommended. Scale and corrosion has frozen the components in place. Valve will need to be replaced if it cannot be broken free.

12. Check valve function not working, not holding back-pressure:
    Be sure check valve is properly installed with correct direction of flow, and not with the stem pointing down or sideways, the stem MUST be pointing upward.

    The check valve has been damaged due to excessive chattering cause by turbulence, be sure TDV is far enough away from pump as previously described. Replace check valve assembly.

    Foreign debris may not be allowing check valve to properly seat. Disassemble TDV and remove debris. Clapper seal damaged by temperature extremes, -20F to 240F max. Replace clapper seal.

13. Check valve function not working:
    The TDV is NOT bi-directional, it must be installed in the proper orientation and direction of flow. Horizontal or vertical installation is acceptable as long as the stem is pointing upward or sideways, never install any valve with the stem pointing down.

Horizontal

Vertical

Not Recommended

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14. TDV leaking from cover:
    Cover bolts may be loose, tighten cover bolts. Cover o-ring damaged by temperature extreme, replace cover o-ring. Check chemical treatment.

15. TDV leaking around stem:
    Stem o-ring damaged by temperature extreme, replace stem o-ring. Check chemical treatment.

16. TDV leaking at Schrader fitting:
    Tighten fitting. Check thread sealant and apply additional sealant. Replace Schrader fitting. Check chemical treatment.

17. Schrader fitting leaks water when attaching meter hoses:
    Schrader fitting is operating properly.

18. Leaking at flanged or threaded pipe connection:
    Tighten flange bolts, replace flange gasket if necessary. Tighten threaded connection, check sealant.

IMPORTANT PROCEDURES

- TDV must be a minimum distance away from pump discharge, see above.
- TDV must be closed at least 15% to operate properly, will not operate properly if fully open.
- Remove handle from TDV once desired setting has been achieved, not doing so could result in unwanted movement of valve setting.

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American Wheatley Globe Style Triple Duty Valve Installation, Operation & Maintenance Instructions

VESSEL DESCRIPTION:

The American Wheatley Globe Style Triple Duty Valve combines a calibrated balancing valve, a shut-off valve, and a center guided silent check valve into a single unit.

INSTALLATION:

Determine the system flow requirements. Refer to pressure drop charts and select a valve whose 50% flow rate is closest to this figure. (NOTE: The valve size may not be the same as the line size).

Install valve with flow arrow in direction of flow, 5-10 pipe diameters from the discharge of the pump. System operating conditions are not to exceed operating conditions of 175 psig @ 250 degrees F. Installing the valve too close to the pump may result in premature valve failure and or internal chattering of the valve components. The valve must be installed with the stem pointing upward. Do NOT install with stem pointing downward as premature failure could occur.

OPERATION:

1. Turn hand-wheel counter clockwise until valve is in 100% open position. Ensure indicator reads 100% open position.
2. Install test plugs or pressure gauges in the two ports on the inlet and outlet of the TDV globe style valve.
3. Start system pump, and purge all air from system.
4. Measure the differential pressure across the valve through the test ports. Pressure drop across the valve should not exceed 11 psi. Excessive noise or damage to the valve may occur if pressure drop is above 11 psi.
5. Refer to the appropriate performance curve or Cv rating table to determine flow based on the results from step “4” and the “percent open” as indicated.
6. Slowly close the valve, turning hand-wheel clockwise, until the specified GPM flow rate is achieved. Secure or remove hand-wheel to maintain this setting.
7. Consult pump manufacturers guidelines if specified GPM is achieved with the valve at < 50% open, pump impeller may need to be trimmed.

MAINTENANCE:

The American Wheatley Globe Style TDV requires very little regular maintenance. However, periodic cycling (opening and closing) of the valve is recommended to prevent stem scale buildup. Prior to closing the valve be sure to note % open location and return to this position. Replacement parts are available. Contact the plant or your nearest representative.

JOB NAME _____
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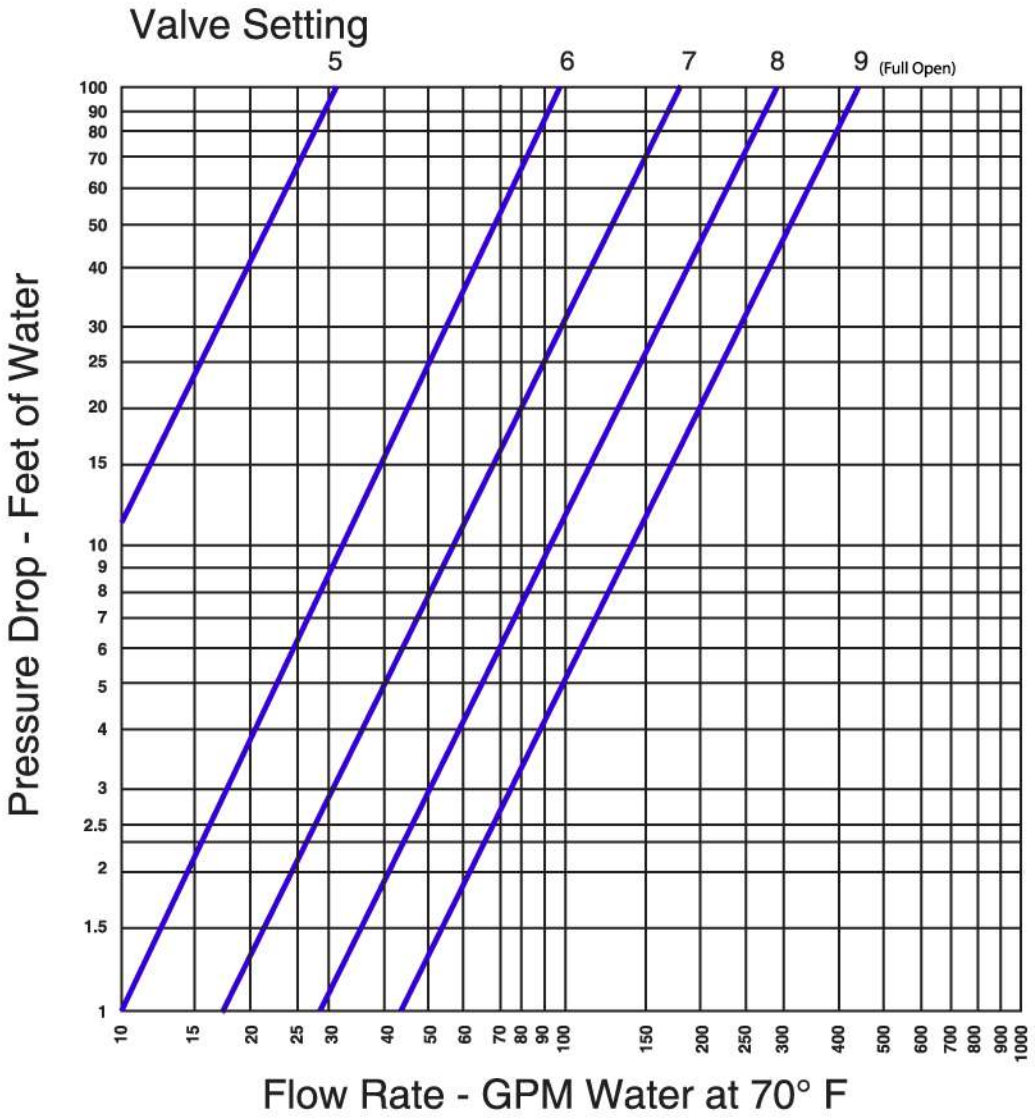
American Wheatley TDV/TSV Valve Pressure Drop Chart vs Flow Rate

1 1/2" Threaded



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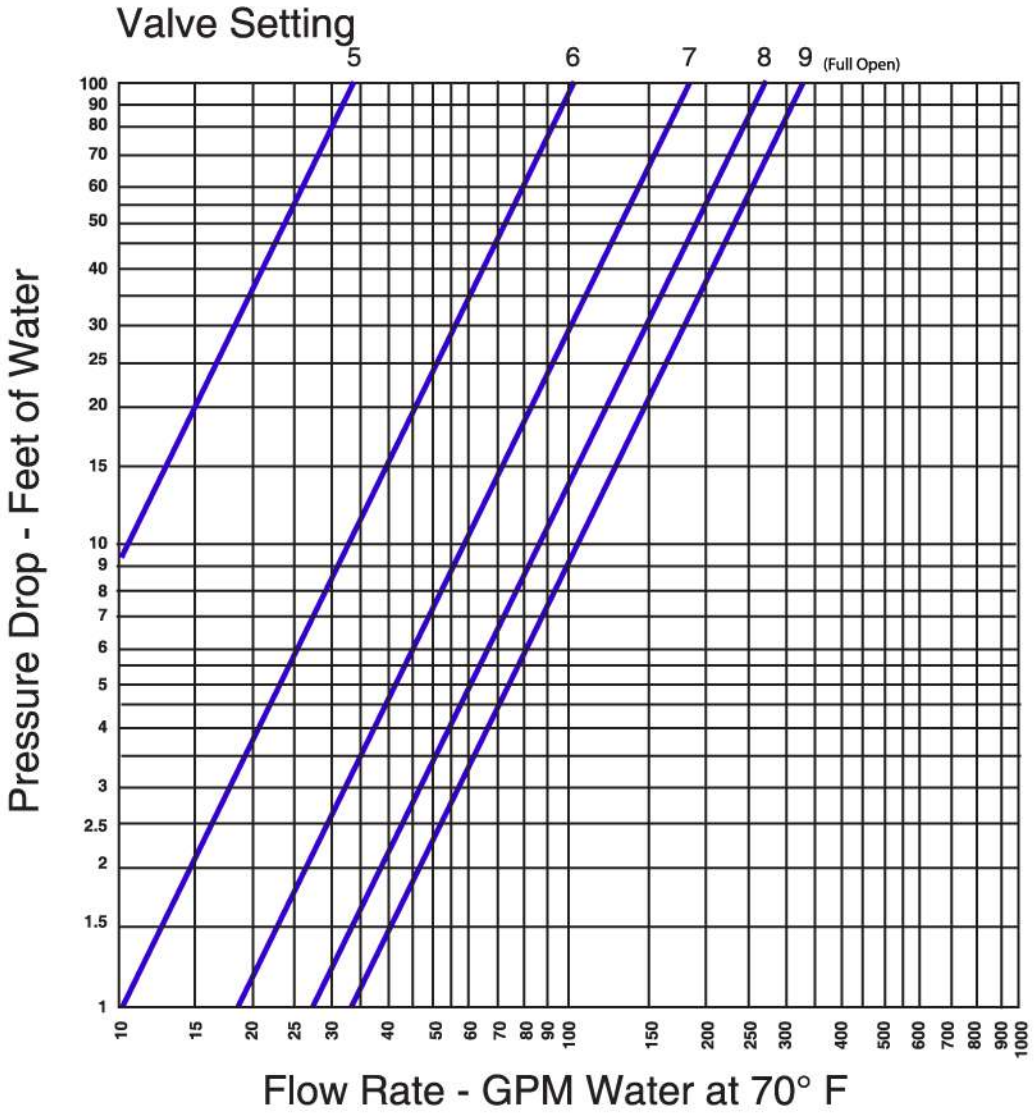
2” Threaded



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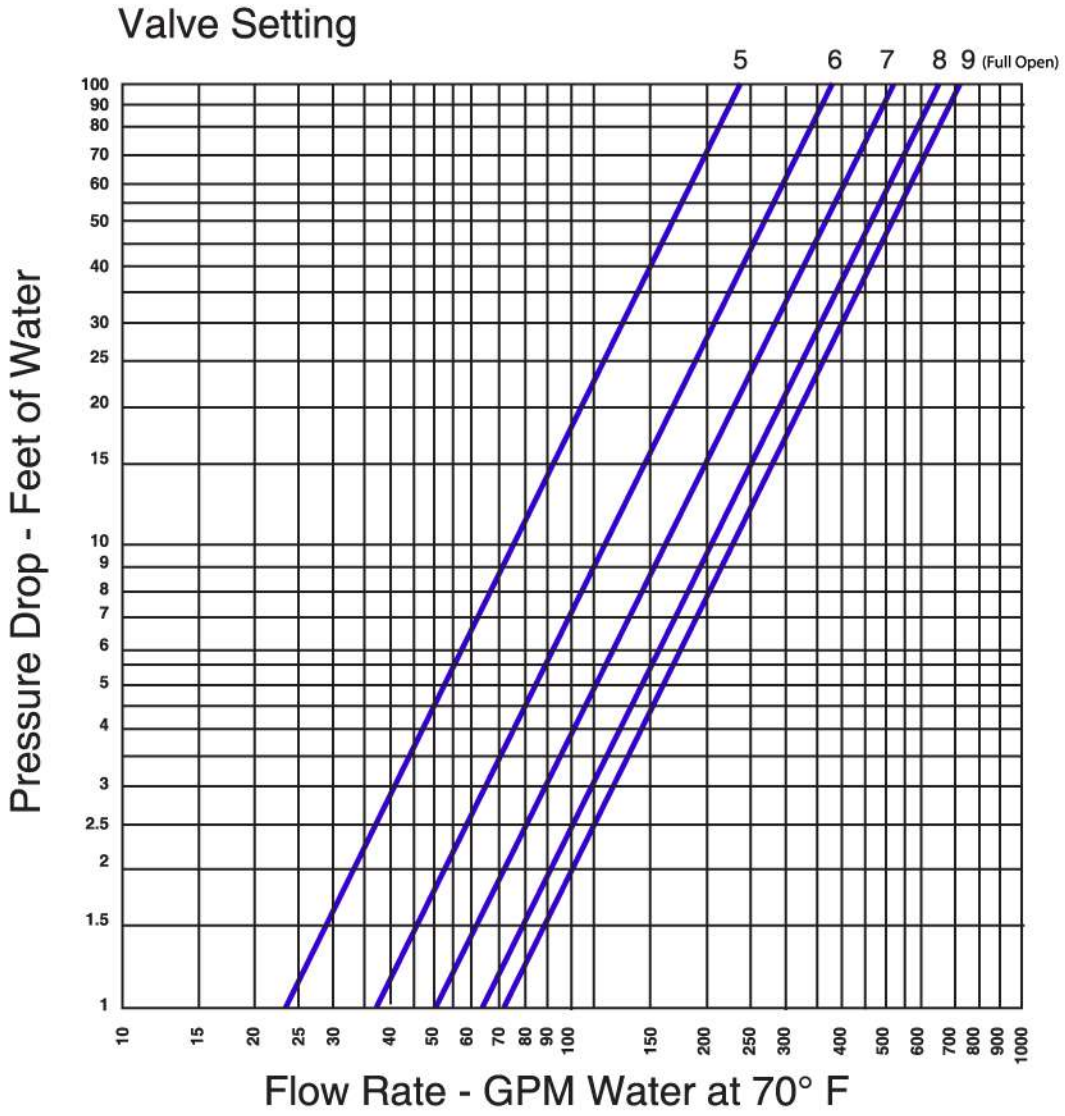
American WHEATLEY HVAC PRODUCTS®

2 1/2" Threaded



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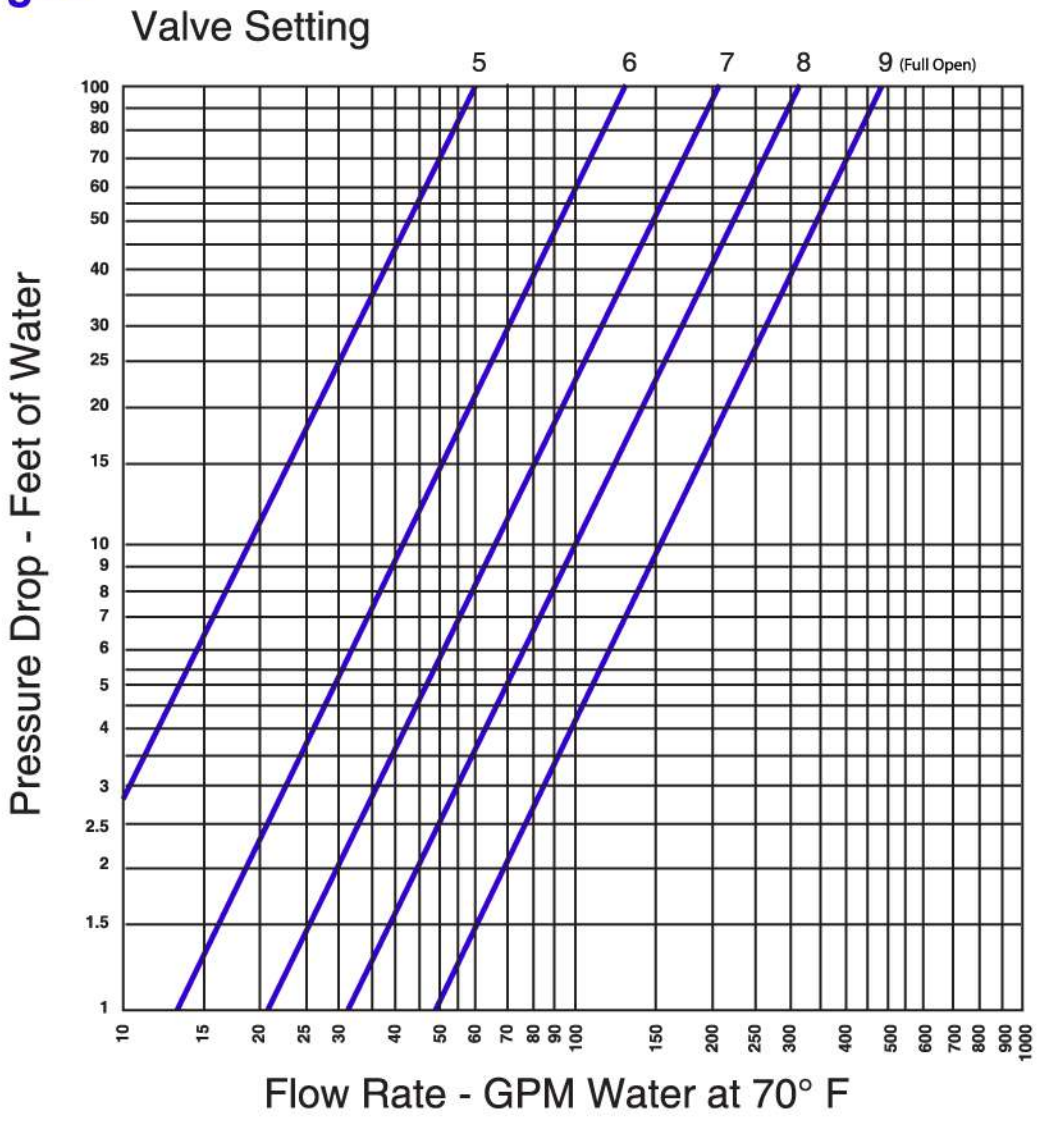
American Wheatley TDV/TSV Valve Pressure Drop Chart vs Flow Rate

2" Flanged



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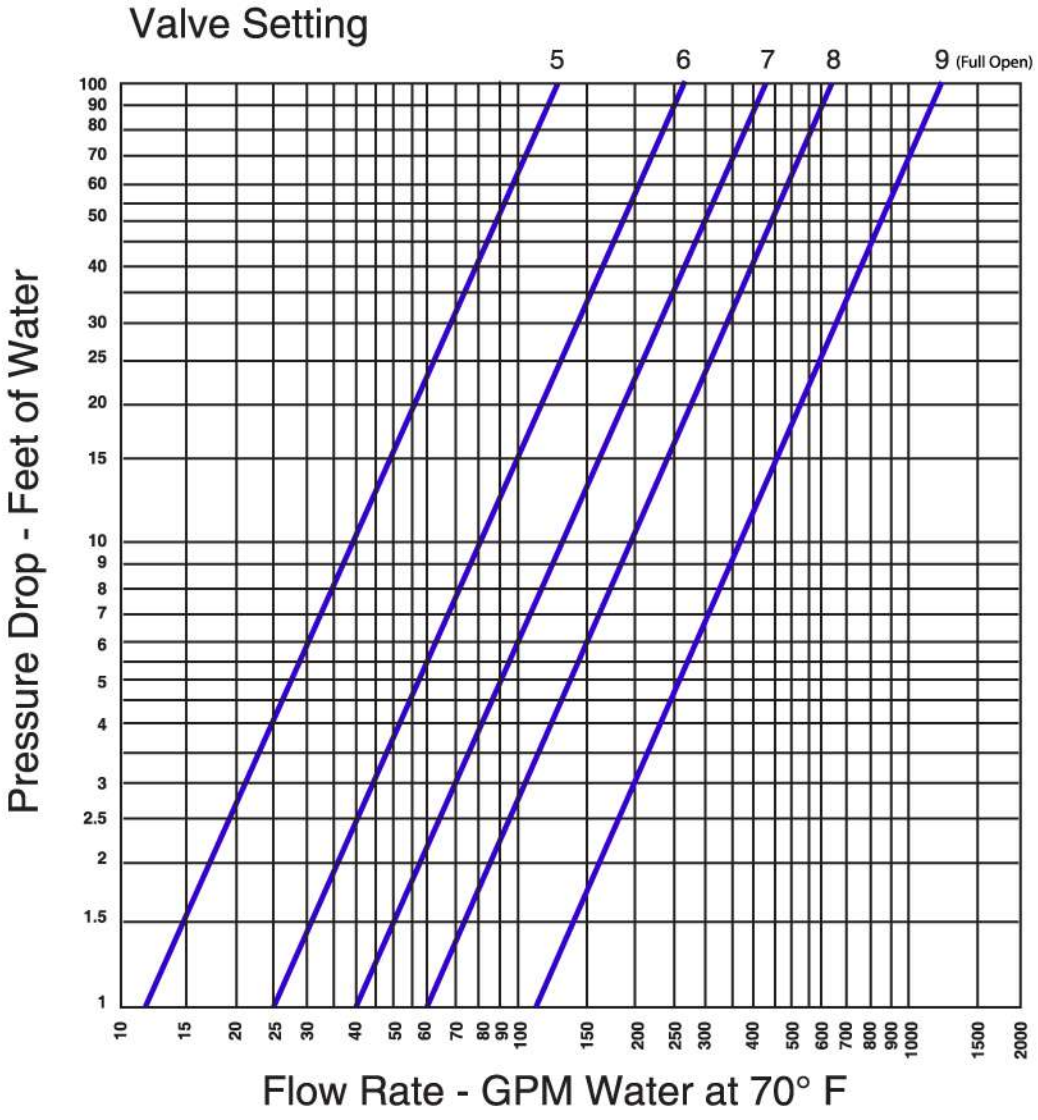
2 1/2" Flanged



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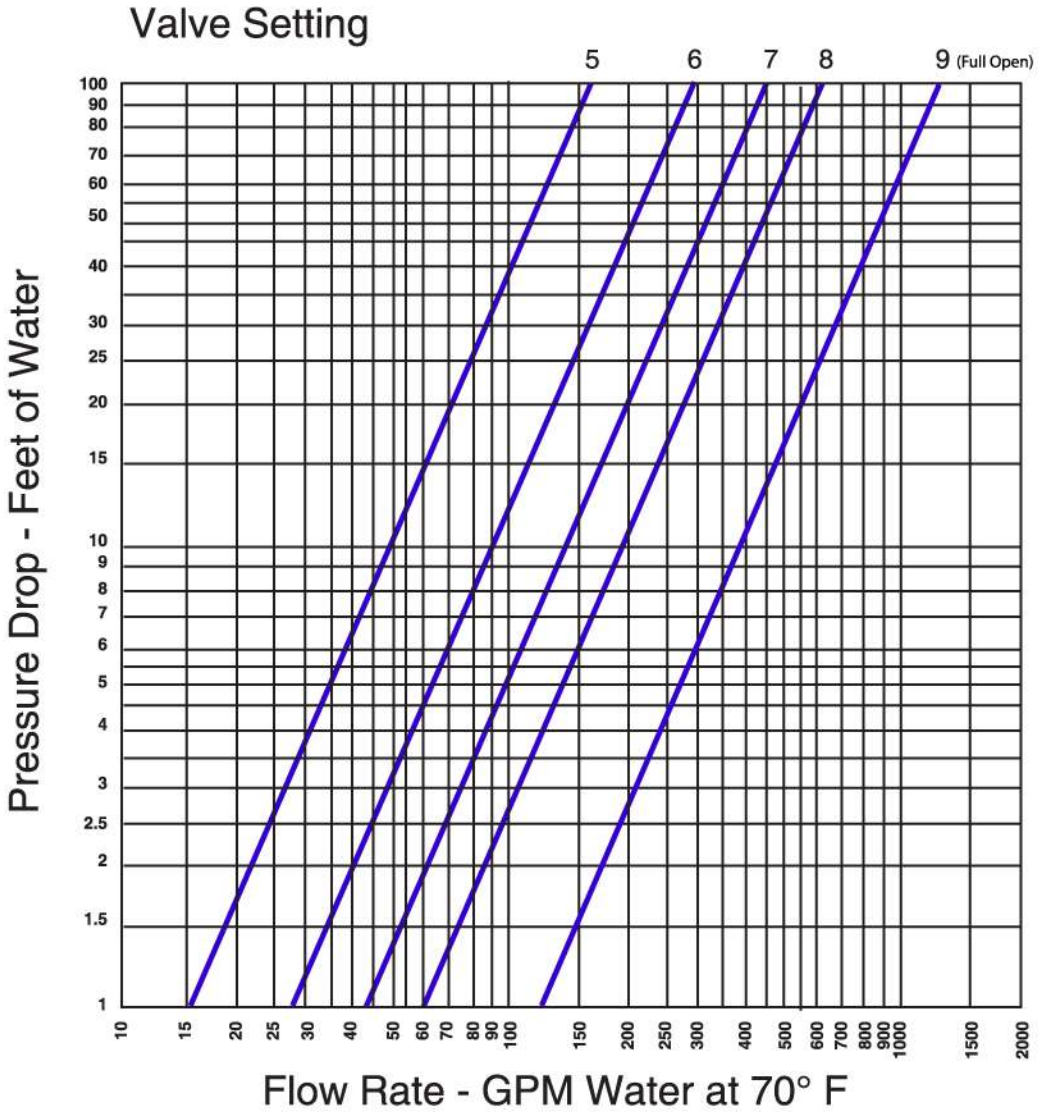
American WHEATLEY HVAC PRODUCTS®

3" Flanged



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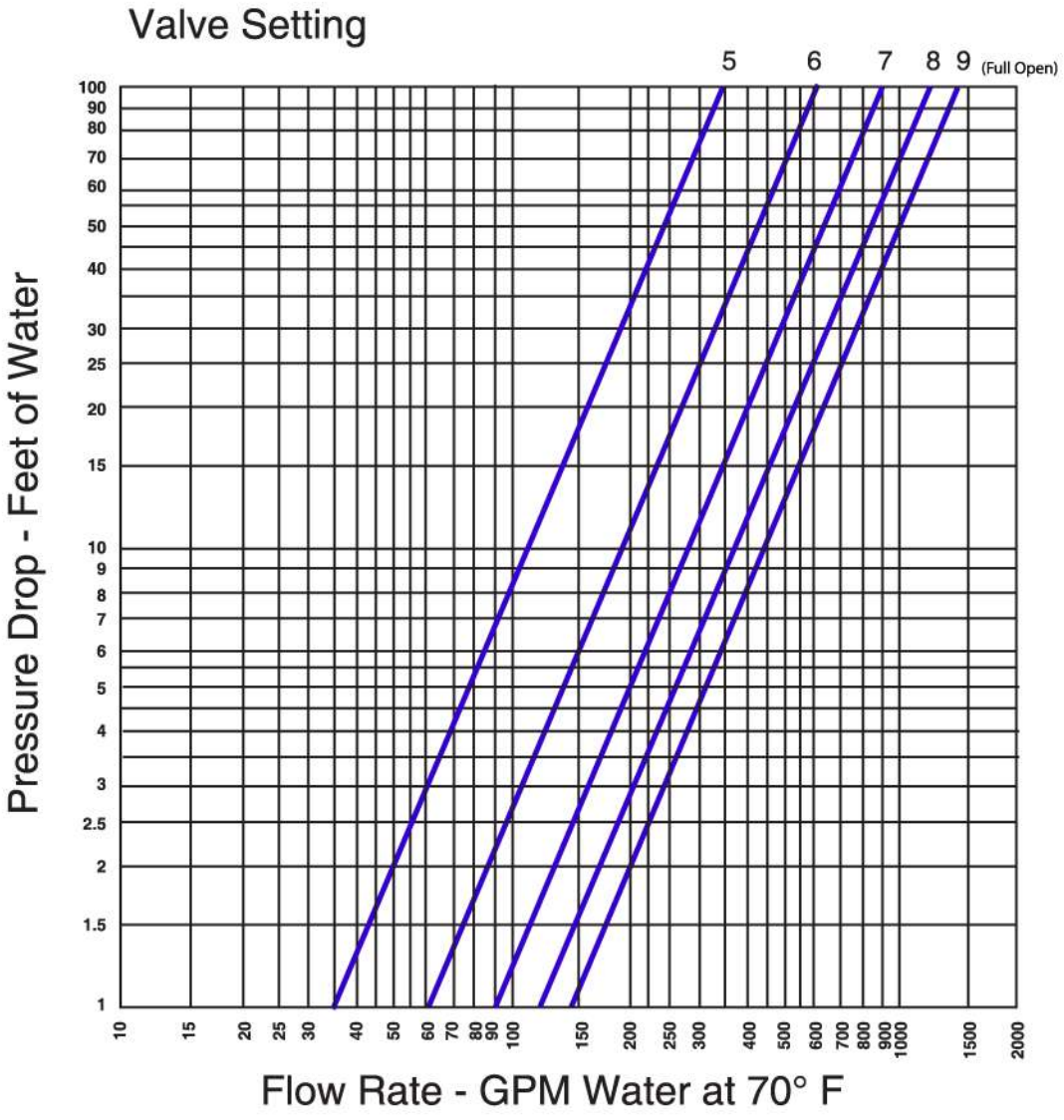
4” Flanged



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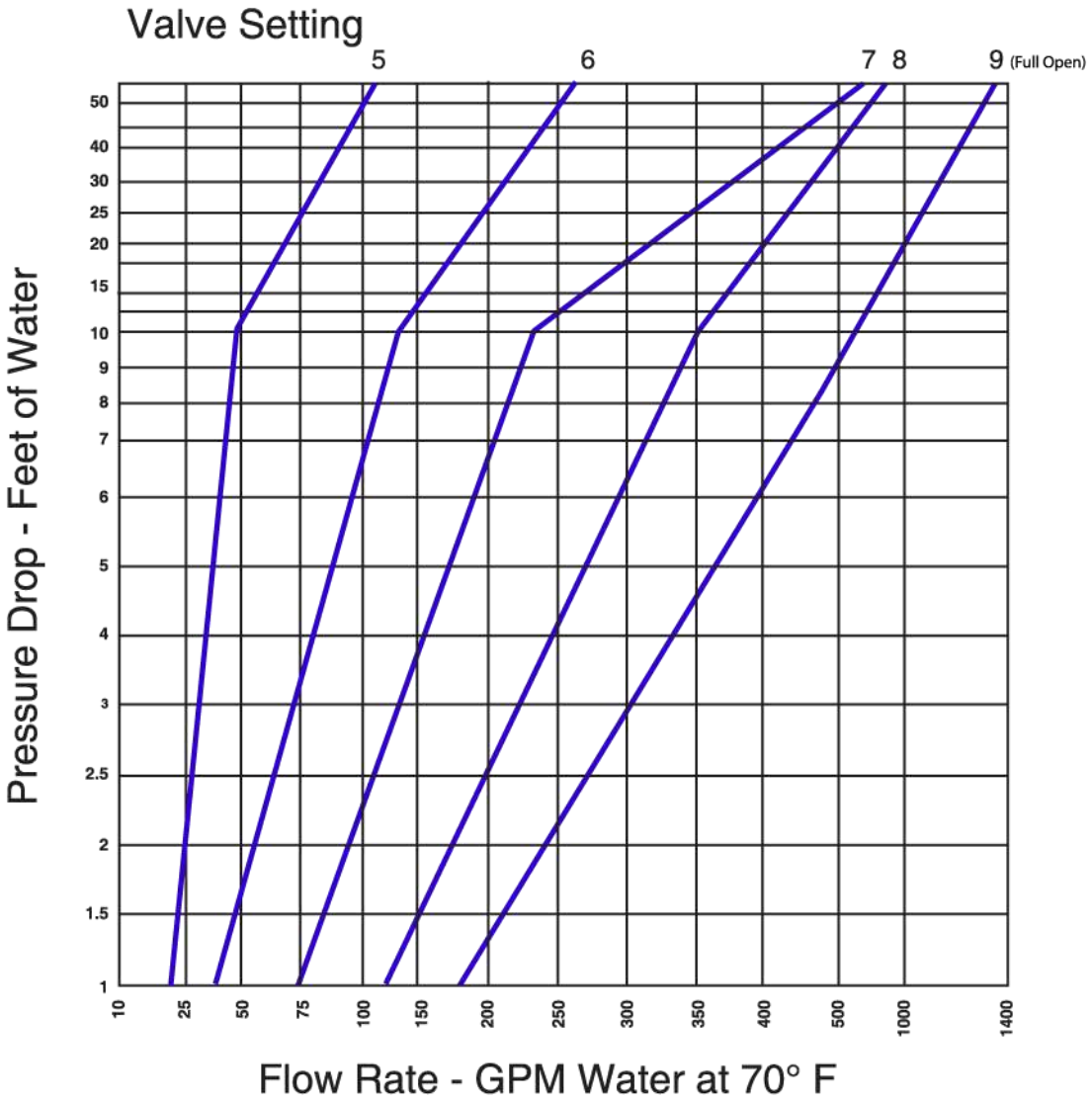
5” Flanged



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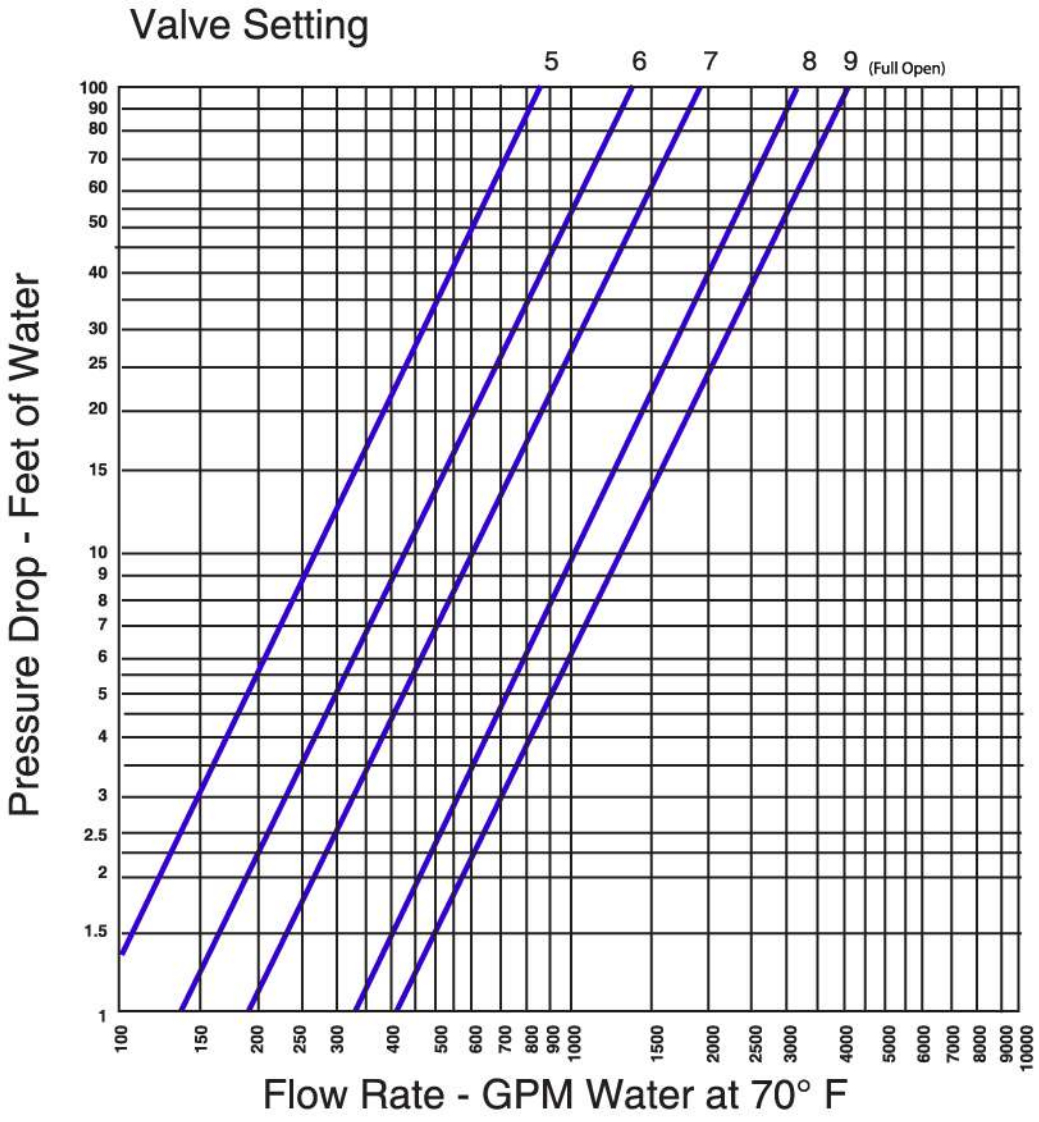
6” Flanged



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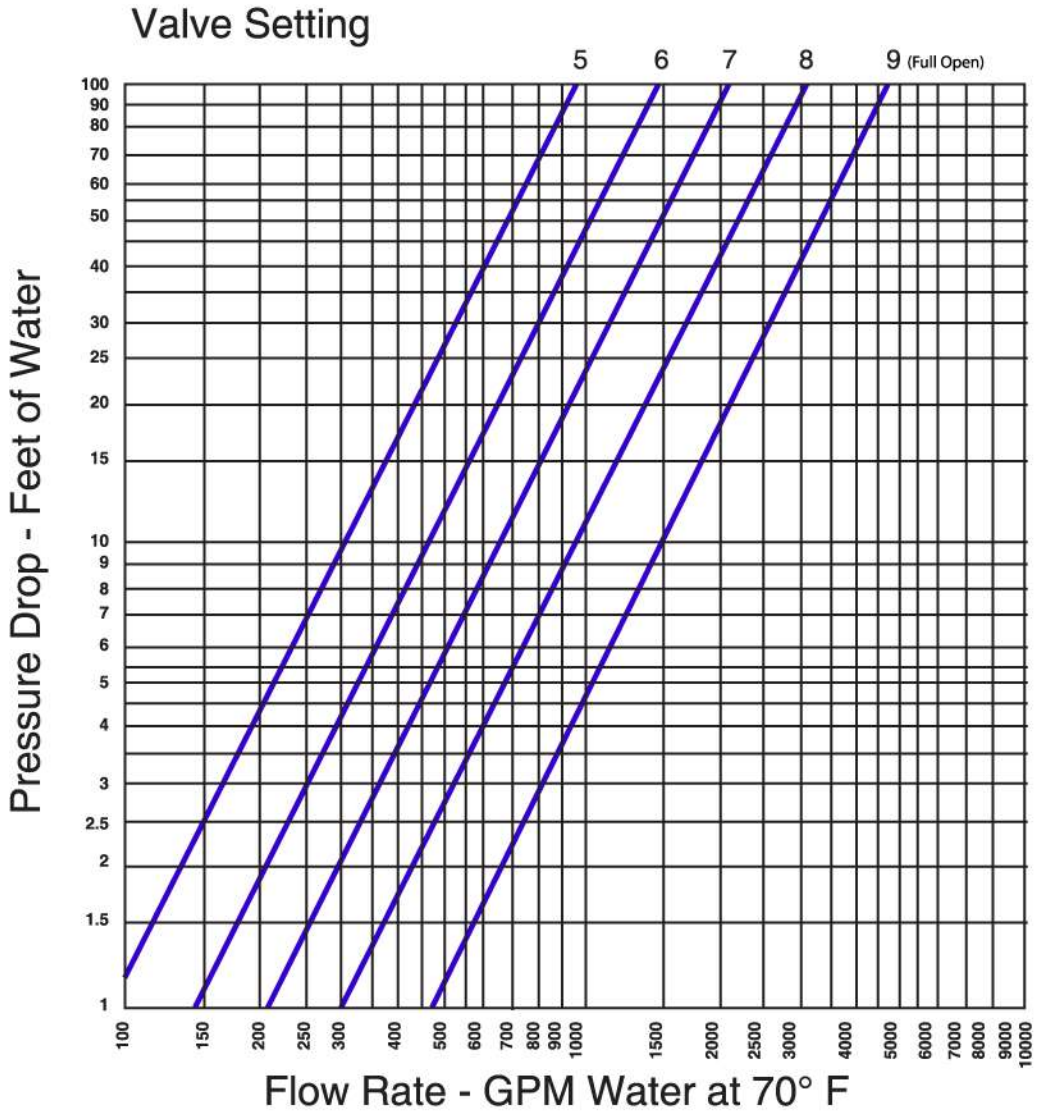
8” Flanged



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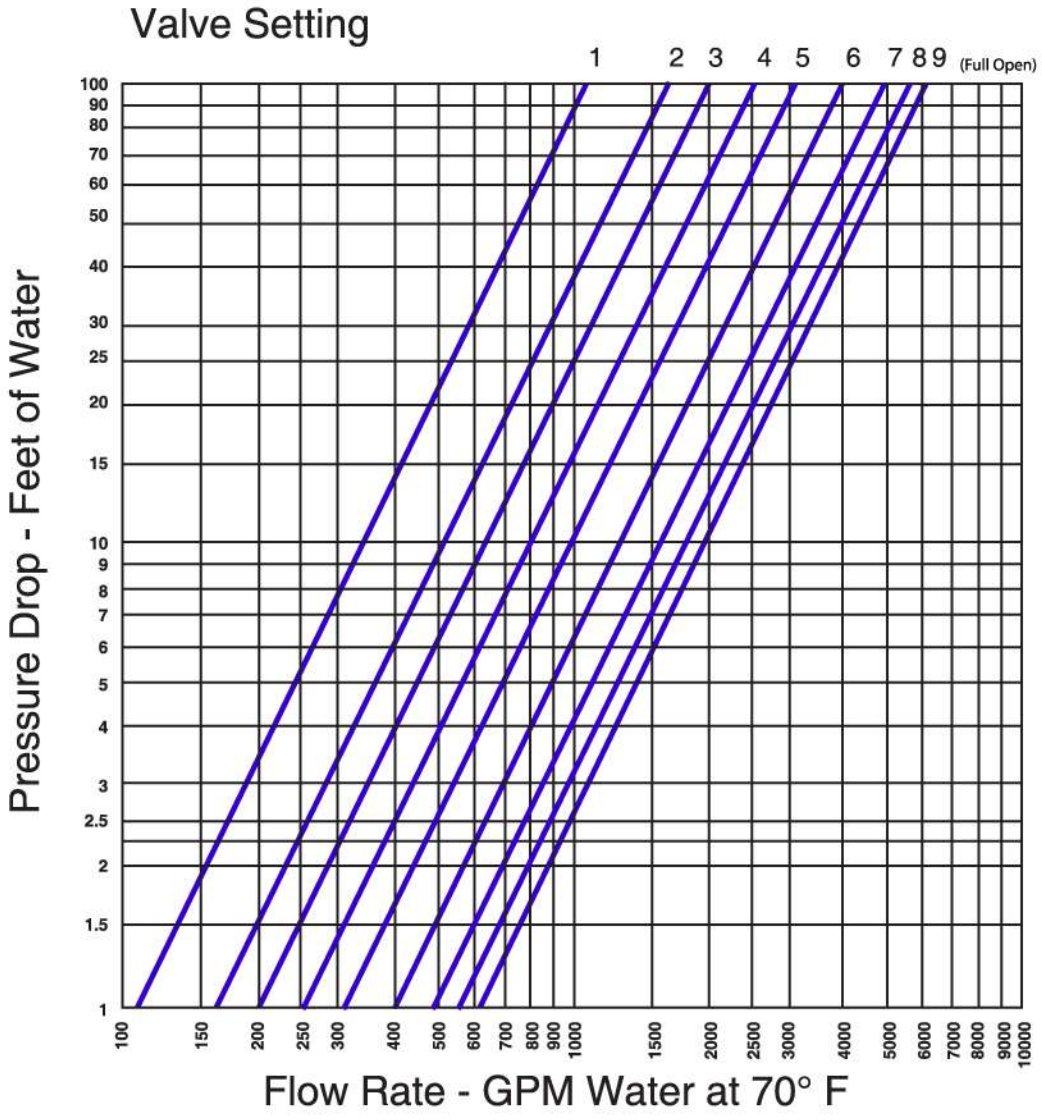
10” Flanged



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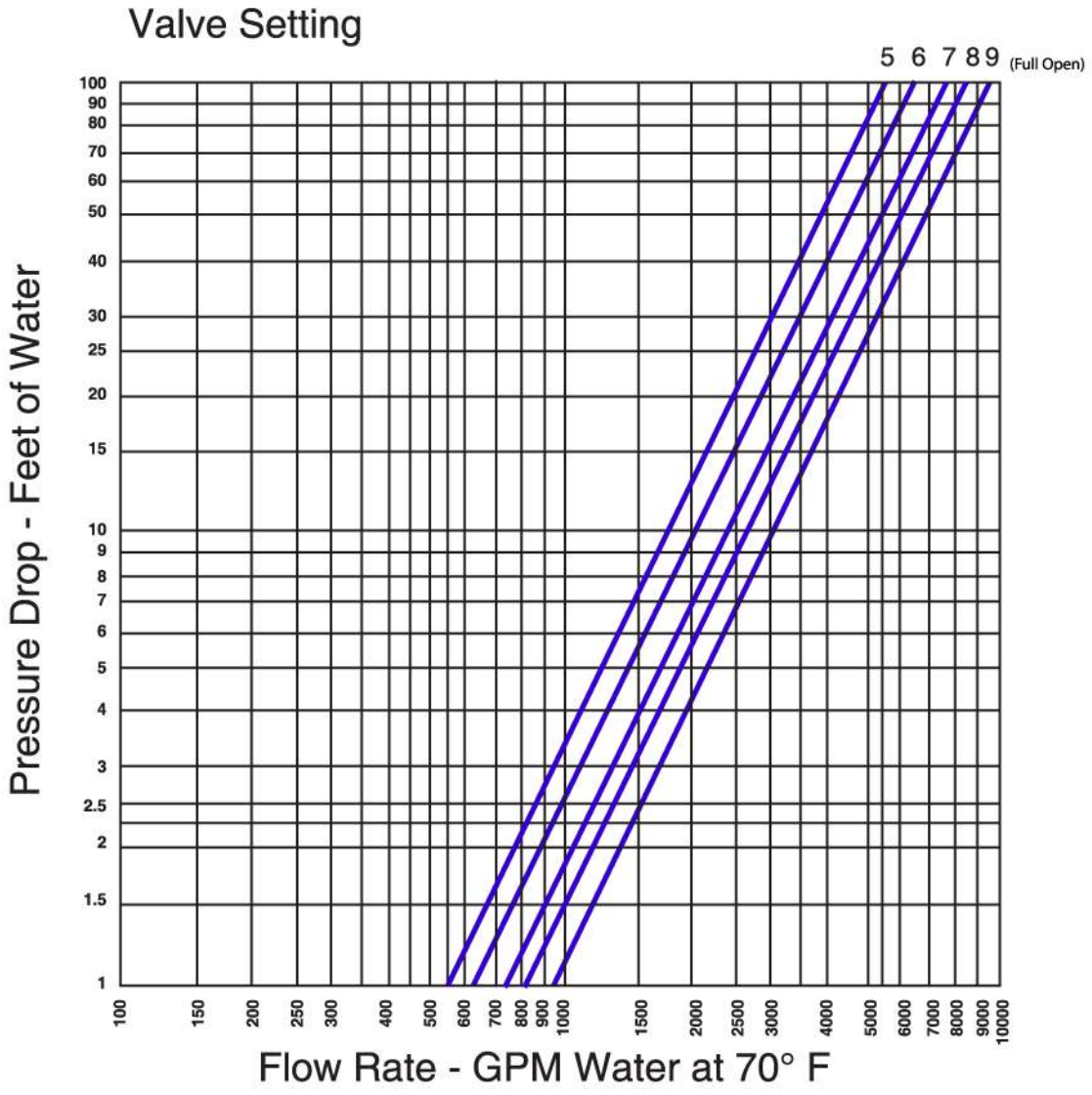
12” Flanged



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Suction Diffuser
Flow Diverters

Wheatley HVAC Suction Diffuser

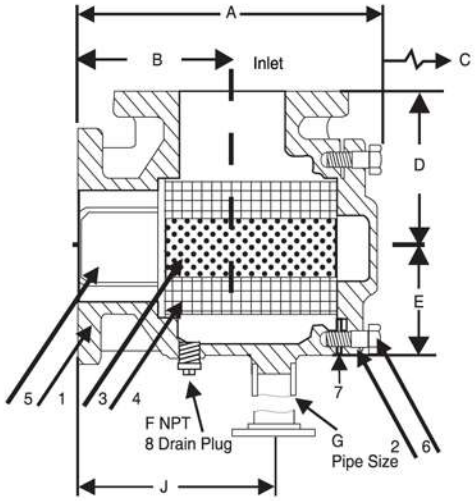
Class 125

The Wheatley Suction Diffuser is designed to reduce space and installation costs by replacing a long radius elbow, strainer and extended entry pipe on suction side of the pump. The flow stabilizing vanes reduce turbulence and resulting stress and vibration.

In addition, the suction Diffuser strainer removes foreign particles which may be hazardous to the pump and other system components. Consult the factory for materials recommendation based on flow media.

Features:

- Available in sizes 2" x 1 1/2" through 12"x12"
- Ductile iron bodies
- Flanged inlet-outlet connections
- Direct mounting in horizontal or vertical position ANSI (ASA) flat faced
- Integrally cast stabilizing vanes
- Separate fine mesh start up screen surrounds each perforated screen
- Cast on pads for convenient mounting of standard I.D. Support foot
- Drain/purge plugs for removal of foreign particles without disassembly
- Class 125 (175 PSI)
- 300° F maximum working temperature
- Painted Exterior



Multi-function Benefits:

- Saves cost and space by replacing: 90° Elbow, strainer and flow stabilizing piping

Bill of Materials

ITEM	DESCRIPTION	MATERIAL
1	Body	ASTM A536 Ductile Iron
2	Cover	ASTM A536 Ductile Iron
3	Strainer	304 Stainless Steel
4	Start Up Strainer	20 Mesh Screen 304 SS
5	Diffuser	ASTM A536 Ductile Iron
6	Cap Screw	Steel
7	Gasket/0-Ring	Consult Factory
8	Plug	Steel

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
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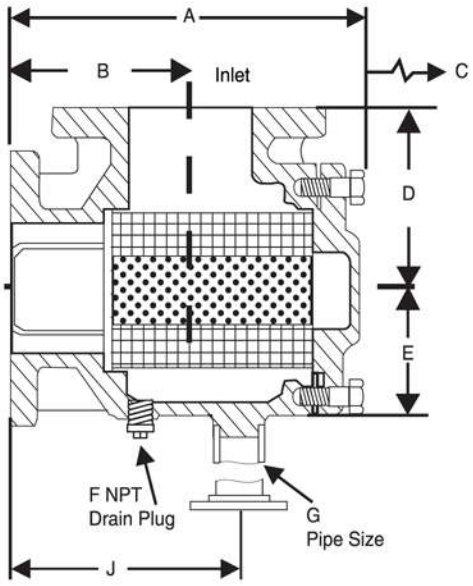

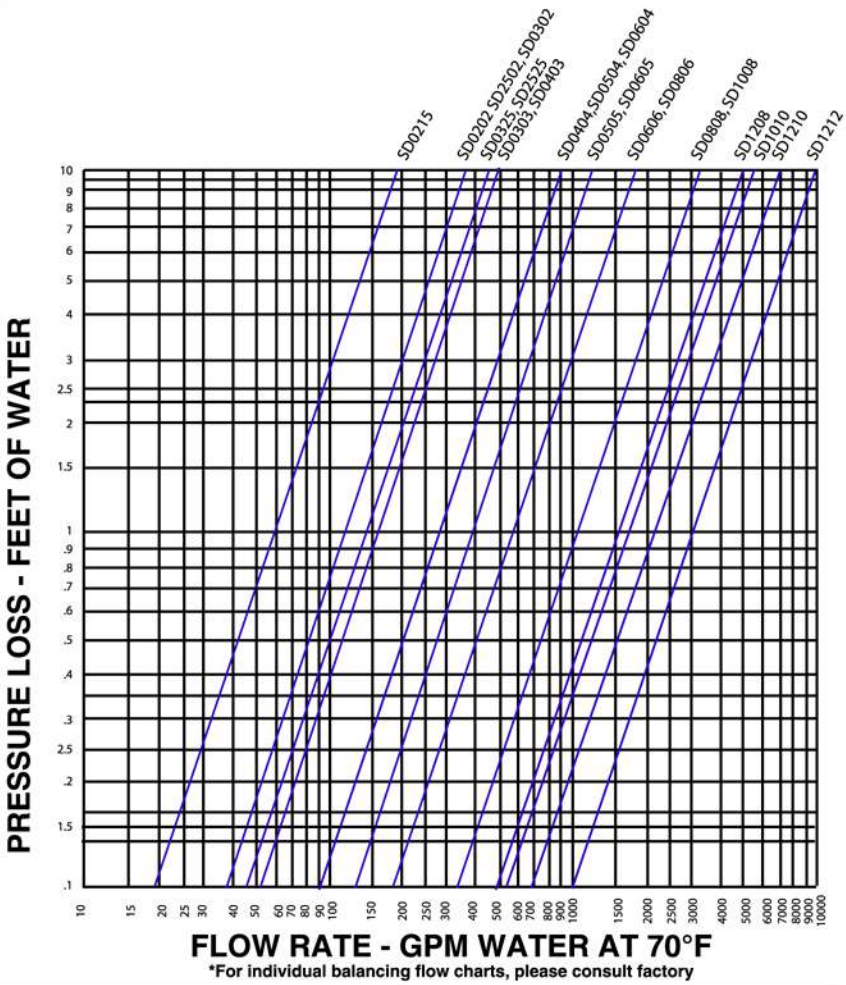

*For individual balancing flow charts, please consult factory

PART NUMBER	INLET	OUTLET	STRAINER FREE AREA	STRAINER DIA. OPEN. (IN.)	DIMENSIONS (IN) A	B	C	D	E	F(NPT)	**G	J	WIDTH	WEIGHT (LBS)
SD0215	2	1 1/2	27	1/8	9 3/8	4 1/2	8 13/16	4 1/2	2 3/16	3/4	1	6 1/8	6 1/2	21
SD0202	2	2	27	1/8	9 3/8	4 1/2	8 13/16	4 1/2	2 3/16	3/4	1	6 1/8	6 1/2	23
SD2502	2 1/2	2	37	1/8	10 3/8	5	9 3/8	5	3 1/8	3/4	1	6 9/16	7 1/2	32
SD2525	2 1/2	2 1/2	37	1/8	10 3/8	5	9 3/8	5	3 1/8	3/4	1	6 9/16	7 1/2	34
SD0302	3	2	37	1/8	8 1/8	4 1/4	5	4 11/16	3 1/8	3/4	1	5 5/8	7 1/2	37
SD0325	3	2 1/2	37	1/8	8 1/4	4 3/8	5	4 11/16	3 1/8	3/4	1	5 3/4	7 1/2	49
SD0303	3	3	50	1/8	9 3/8	4 3/4	5 1/4	4 3/4	3 5/8	3/4	1	6 5/8	7 1/2	55
SD0403	4	3	50	1/8	9 3/8	4 3/4	5 1/4	5 5/8	3 5/8	3/4	1	6 5/8	9	57
SD0404	4	4	82	1/8	11 1/8	5 3/4	6 3/4	5 3/4	4 1/4	3/4	1 1/4	7 5/8	9	92
SD0504	5	4	82	1/8	11 1/8	5 3/4	6 3/4	6 5/8	4 1/4	3/4	1 1/4	7 5/8	10	97
SD0505	5	5	104	1/8	12 5/8	6 1/2	7 1/8	6 1/2	4 7/8	1	1 1/4	8 5/8	10	101
SD0604	6	4	82	1/8	11 1/8	5 3/4	6 3/4	7 1/2	4 1/4	3/4	1 1/4	7 3/4	11	104
SD0605	6	5	104	1/8	12 5/8	6 1/2	7 1/8	7 3/8	4 7/8	1	1 1/4	8 5/8	11	145
SD0606	6	6	153	1/8	13 7/8	7	7 7/8	7	5 7/8	1	2	9 1/8	11	182
SD0806	8	6	153	1/8	13 7/8	7	7 7/8	8 3/4	5 7/8	1	2	9 1/8	13 1/2	197
SD0808	8	8	275	1/8	18 7/8	9 1/4	16 1/4	9 1/4	6 3/8	1	2	11 5/8	13 1/2	292
SD1008	10	8	275	1/8	18 7/8	9 1/4	16 1/4	11	6 3/8	1	2	11 5/8	16	312
SD1010	10	10	420	1/8	23 7/8	11	16 1/8	11 1/4	8	1	2	13 3/4	16	398
SD1208	12	8	250	1/8	18 7/8	9 1/4	16 1/4	12	6 3/8	1	2	11 5/8	19	412
SD1210	12	10	380	1/8	23 7/8	11	16 1/8	12	8	1	2	13 3/4	19	491
SD1212	12	12	560	1/8	26	12	18 1/8	12	9 1/4	1	2	13 7/8	19	573

*Perforated basket includes fine mesh start-up screen. Start-up screen should be removed and disposed of after 1 month of operation.

**Pipe Support supplied by contractor.

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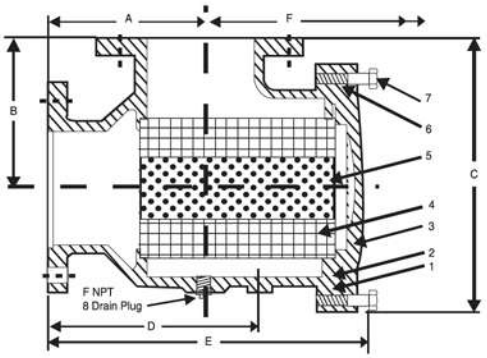
Wheatley HVAC Flow Diverter
(Discontinued 2016 - Parts Still Available)

The American HVAC Flow Diverter is a combination of a 3/16" Stainless Steel Strainer and a Ninety Degree Elbow in a Class 125/150 Flanged Ductile Iron Body design to save space and money. The integral vanes maximize flow efficiencies into the pump and the strainer offers pump protection. The bottom plug can be used as a blow down connection or adapted to a magnetic plug. Additionally, the integral boss located at the bottom of the Diverter can be adapted for use as a foot support.

The Ductile Iron Boddy allows for pressures to 285 PSI (Class 150 Steel Flange Rating) and allt he American HVAC Flow Diverters are tested to 400 PSI. Flanged Diverters can be used with corresponding A105 Class 150 Steel Flanges.



Features:

- Available in sizes 2" x 1 1/2" through 12"x12"
- Ductile iron bodies
- Flanged inlet-outlet connections
- Separate fine mesh start up screen surrounds each perforated screen
- Bottom integral boss can be adapted for foot support
- Drain/purge plugs for removal of foreign particles without disassembly
- Class 125/150
- Painted Exterior

Bill of Materials

ITEM	DESCRIPTION	MATERIAL
1	Body	ASTM A536 Ductile Iron/Class 125/150
2	O'ring	Nitrile Rubber O'Ring
3	Cover	ASTM A536 Ductile Iron
4	Screen	3/16" Perf 304SS Screen
5	Start up Screen	20 Mesh (400 perf.) 304SS Corrosive Resistant
6	Bolts	ASTM 304 Stainless Steel
7	Nuts	ASTM 304 Stainless Steel
8	Plug	ASTM A536 Ductile Iron

Multi-function Benefits:

- Saves cost and space by replacing: 90° Elbow, strainer and flow stabilizing piping

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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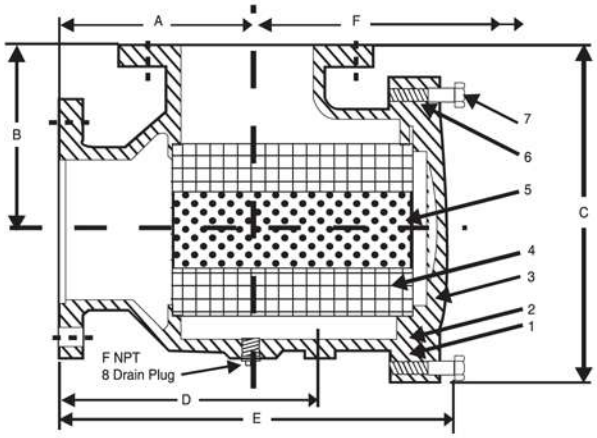

PART NUMBER	INLET	OUTLET	DIMENSIONS (IN) A	B	C	D	E	F	NPT PLUG	PIPE SUPPORT	WEIGHT (LBS)
FD0215	2	1 1/2	4 1/2	4 1/2	6 7/8	6 1/8	9 3/8	8 7/8	3/4	1.00	20
FD0202	2	2	4 1/2	4 1/2	6 7/8	6 1/8	9 3/8	8 7/8	3/4	1.00	23
FD2502	2 1/2	2	5	5	7 5/8	6 1/2	10 3/8	9 3/8	3/4	1 1/2	30
FD2525	2 1/2	2 1/2	5	5	7 5/8	6 1/2	10 3/8	9 3/8	3/4	1 1/2	35
FD0302	3	2	5 1/2	5 1/2	8 1/2	7 1/8	10 7/8	9 3/8	3/4	1 1/2	42
FD0325	3	2 1/2	5 1/2	5 1/2	8 1/2	7 1/8	10 7/8	9 3/8	3/4	1 1/2	48
FD0303	3	3	5 1/2	5 1/2	8 1/2	7 1/8	10 7/8	9 3/8	3/4	1 1/2	52
FD0403	4	3	6 1/2	6 1/2	11	8 3/4	12 1/4	11 1/8	1	1 1/2	66
FD0404	4	4	6 1/2	6 3/4	11	8 3/4	12 1/4	11 1/8	1	1 1/2	72
FD0504	5	4	7 1/2	7 1/2	13	14 7/8	14 7/8	14 1/2	1	1 1/2	93
FD0505	5	5	7 1/2	7 1/2	13	14 7/8	14 7/8	14 1/2	1	1 1/2	100
FD0604	6	4	8	8	14 1/2	10 1/2	16	16 1/4	1	1 1/2	122
FD0605	6	5	8	8	14 1/2	10 1/2	16	16 1/4	1	1 1/2	134
FD0606	6	6	8	8	14 1/2	10 1/2	16	16 1/4	1	1 1/2	140
FD0806	8	6	9	9	11 1/2	11 1/2	18	18	1	1 1/2	170
FD0808	8	8	9	9	16 7/8	11 3/4	19 5/8	22 1/8	1 1/4	1 1/2	245
FD1008	10	8	9	11	18 7/8	11 3/4	19 5/8	22 1/8	1 1/4	1 1/2	264
FD1010	10	10	11	11	20 3/4	14	25 1/4	29 7/8	1 1/4	1 1/2	461
FD1208	12	8	9	12	21 3/4	11 3/4	19 5/8	22 1/8	1 1/4	1 1/2	316
FD1210	12	10	11	12	21 3/4	14	25 1/4	29 7/8	1 1/4	1 1/2	460
FD1212	12	12	12	12	21 3/4	15 1/4	25	28 5/8	1 1/4	1 1/2	490

*Perforated basket includes fine mesh start-up screen. Start-up screen should be removed and disposed of after 1 month of operation.

**Pipe Support supplied by contractor.

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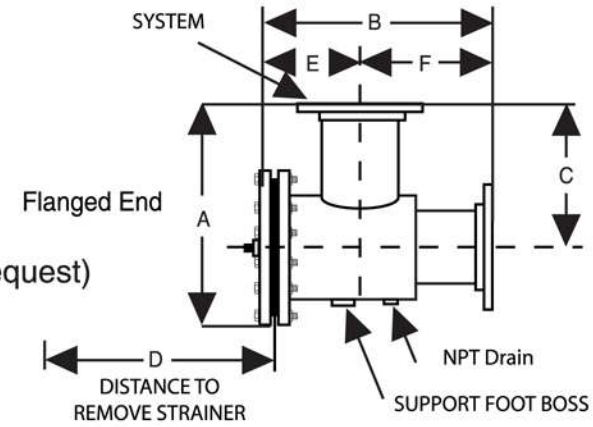
Fabricated Flow Diverter/Suction Diffuser

150# PSI

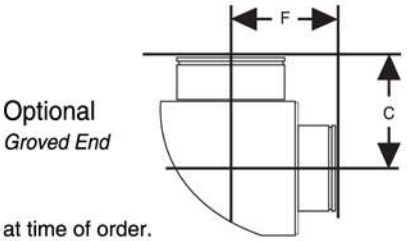
Features:

- Carbon Steel Construction
- Space Saving Design
- 20 Mesh Stainless Steel Start up and 5/32" Permanent Strainer combines Strainer & 90° Elbow
- Back Pull Out Strainer
- Class 150 RF Flanged
- Straightening Vanes (Stainless Steel Material upon request)
- Maximum Temperature 450° Degrees



Optional Features:

- Stainless Steel and other materials
- Larger Sizes upon Request
- Davit arms
- Additional pressure classifications



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	SIZE	SYSTEM CONN. (IN.)*	PUMP CONN. (IN.)*	A	B	C	D	E	F
FD-1515-F1	1.5 X 1.5	1.5	1.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0213-F1	2 X 1.25	2	1.25	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0215-F1	2 X 1.5	2	1.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0202-F1	2 X 2	2	2	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-2515-F1	2.5 X1.5	2.5	1.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-2502-F1	2.5 X 2	2.5	2	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-2525-F1	2.5 X 2.5	2.5	2.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0315-F1	3 X 1.5	3	1.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0302-F1	3 X 2	3	2	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0325-F1	3 X 2.5	3	2.5	11 1/2	12 1/4	7	6 1/2	5 1/4	7
FD-0303-F1	3 X 3	3	3	13	13 1/2	8	7 1/2	5 1/2	8
FD-0415-F1	4 X 1.5	4	1.5	13	13 1/2	8	7 1/2	5 1/2	8
FD-0402-F1	4 X 2	4	2	13	13 1/2	8	7 1/2	5 1/2	8
FD-0425-F1	4 X 2.5	4	2.5	13	13 1/2	8	7 1/2	5 1/2	8
FD-0403-F1	4 X 3	4	3	13	13 1/2	8	7 1/2	5 1/2	8
FD-0404-F1	4 X 4	4	4	14 1/2	15	9	8 1/2	6	9

F1 = Fabricated 150#

*Grooved end available through 10" as Standard Production. Larger sizes are special and priced on application.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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A GFP COMPANY
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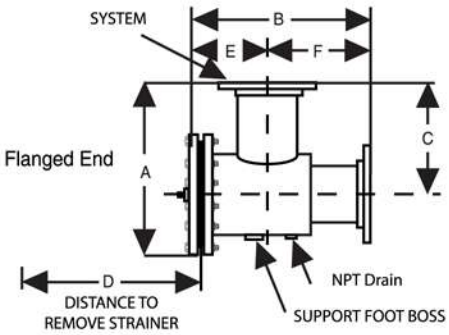

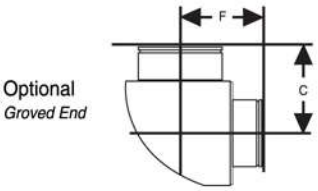

PART NUMBER	SIZE	SYSTEM CONN. (IN.)*	PUMP CONN. (IN.)*	HEIGHT A (IN.)	WIDTH B (IN.)	C	D	E	F
FD-0525-F1	5 X 2.5	5	2.5	14 1/2	15	9	8 1/2	6	9
FD-0503-F1	5 X3	5	3	14 1/2	15	9	8 1/2	6	9
FD-0504-F1	5 X 4	5	4	14 1/2	15	9	8 1/2	6	9
FD-0505-F1	5 X 5	5	5	16 1/2	17 1/4	10	10 1/4	7 1/4	10
FD-0625-F1	6 X 2.5	6	2.5	16 3/4	17 1/4	10	10 1/4	7 1/4	10
FD-0603-F1	6 x 3	6	3	16 3/4	17 1/4	10	10 1/4	7 1/4	10
FD-0604-F1	6 x 4	6	4	16 3/4	17 1/4	10	10 1/4	7 1/4	10
FD-0605-F1	6 x 5	6	5	16 3/4	17 1/4	10	10 1/4	7 1/4	10
FD-0606-F1	6 x 6	6	6	16 3/4	17 1/4	10	10 1/4	7 1/4	10
FD-0804-F1	8 x 4	8	4	20	21	12	12 1/4	9	12
FD-0805-F1	8 x 5	8	5	20	21	12	12 1/4	9	12
FD-0806-F1	8 x 6	8	6	20	21	12	12 1/4	9	12
FD-0808-F1	8 x 8	8	8	20	21	12	12 1/4	9	12
FD-1005-F1	10 x 5	10	5	23 1/2	24 1/2	14	16 3/4	10 1/2	14
FD-1006-F1	10 x 6	10	6	23 1/2	24 1/2	14	16 3/4	10 1/2	14
FD-1008-F1	10 x 8	10	8	23 1/2	24 1/2	14	16 3/4	10 1/2	14
FD-1010-F1	10 x 10	10*	10	23 1/2	24 1/2	14	16 3/4	10 1/2	14
FD-1206-F1	12 x 6	12	6	28	28	16	19	12	16
FD-1208-F1	12 x 8	12	8	28	28	16	19	12	16
FD-1210-F1	12 x 10	12	10	28	28	16	19	12	16
FD-1212-F1	12 x 12	12	12	28	28	16	19	12	16
FD-1408-F1	14 x 8	14	8	29 1/2	29 5/8	17	19 7/8	12 5/8	17
FD-1410-F1	14 x 10	14	10	29 1/2	29 5/8	17	19 7/8	12 5/8	17
FD-1412-F1	14 x 12	14	12	29 1/2	29 5/8	17	19 7/8	12 5/8	17
FD-1414-F1	14 x 14	14	14	29 1/2	29.63	17	19.88	12.63	17
FD-1610-F1	16 x 10	16	10	31.75	31.75	18	21.5	13.75	18
FD-1612-F1	16 x 12	16	12	31.75	31.75	18	21.5	13.75	18
FD-1614-F1	16 x 14	16	14	31.75	31.75	18	21.5	13.75	18
FD-1616-F1	16 x 16	16	16	31.75	31.75	18	21.5	13.75	18
FD-1812-F1	18 x 12	18	12	43	51 5/32	27	33 3/4	21 5/32	30
FD-1814-F1	18 x 14	18	14	43	51 5/32	27	33 3/4	21 5/32	30
FD-2012-F1	20 x 12	20	12	43	51 5/32	27	33 3/4	21 5/32	30
FD-2014-F1	20 x 14	20	14	43	51 5/32	27	33 3/4	21 5/32	30
FD-2016-F1	20 x 16	20	16	43	51 5/32	27	33 3/4	21 5/32	30
FD-2020-F1	20 x 20	20	20	43	51 5/32	27	33 3/4	21 5/32	30
FD-2414-F1	24 x 14	24	14	48 1/8	58 7/8	28 3/4	33 11/16	22 7/16	36 7/16
FD-2416-F1	24 x 16	24	16	48 1/8	58 7/8	28 3/4	33 11/16	22 7/16	36 7/16
FD-2420-F1	24 x 20	24	20	48 1/8	58 7/8	28 3/4	33 11/16	22 7/16	36 7/16

F1 = Fabricated 150#

*Grooved end available through 10" as Standard Production. Larger sizes are special and priced on application.

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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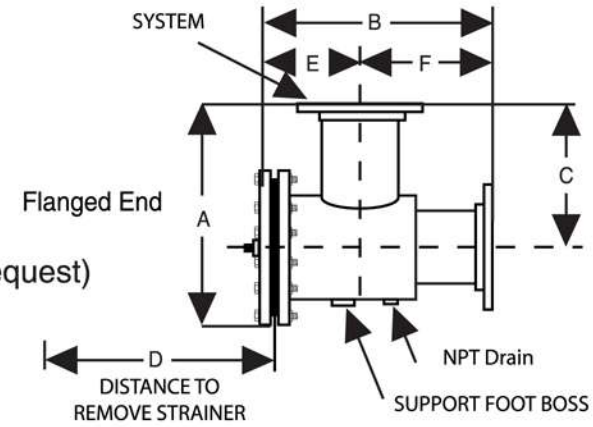
Fabricated Flow Diverter/Suction Diffuser

250#/300# PSI

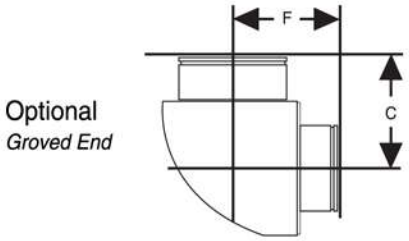
Features:

- Carbon Steel Construction
- Space Saving Design
- 20 Mesh Stainless Steel Start up and 5/32" Permanent Strainer combines Strainer & 90° Elbow
- Back Pull Out Strainer
- Class 250/300 RF Flanged
- Straightening Vanes (Stainless Steel Material upon request)
- Maximum Temperature 250° Degrees



Optional Features:

- Stainless Steel and other materials
- Larger Sizes upon Request
- Davit arms



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	SIZE	SYSTEM CONN. (IN.)*	PUMP CONN. (IN.)*	A	B	C	D	E	F
FD-1515-F3	1.5 X 1.5	1.5	1.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0213-F3	2 X 1.25	2	1.25	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0215-F3	2 X 1.5	2	1.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0202-F3	2 X 2	2	2	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-2515-F3	2.5 X1.5	2.5	1.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-2502-F3	2.5 X 2	2.5	2	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-2525-F3	2.5 X 2.5	2.5	2.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0315-F3	3 X 1.5	3	1.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0302-F3	3 X 2	3	2	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0325-F3	3 X 2.5	3	2.5	12 11/16	13 1/16	7 7/8	7 1/8	5 15/16	7 1/8
FD-0303-F3	3 X 3	3	3	14 1/2	15 15/16	9	9 1/4	6 15/16	9
FD-0415-F3	4 X 1.5	4	1.5	14 1/2	15 15/16	9	9 1/4	6 15/16	9
FD-0402-F3	4 X 2	4	2	14 1/2	15 15/16	9	9 1/4	6 15/16	9
FD-0425-F3	4 X 2.5	4	2.5	14 1/2	15 15/16	9	9 1/4	6 15/16	9
FD-0403-F3	4 X 3	4	3	14 1/2	15 15/16	9	9 1/4	6 15/16	9
FD-0404-F3	4 X 4	4	4	16 1/4	17 1/2	10	10 1/4	7 1/2	10

F3 = Fabricated 250#/300#

*Grooved end available through 10" as Standard Production. Larger sizes are special and priced on application.

JOB NAME _____
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CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
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Broken Arrow, OK 74012
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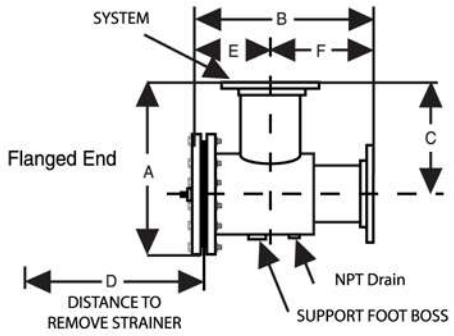

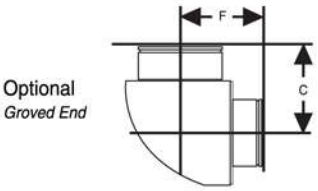

PART NUMBER	SIZE	SYSTEM CONN. (IN.)*	PUMP CONN. (IN.)*	HEIGHT A (IN.)	WIDTH B (IN.)	C	D	E	F
FD-0525-F3	5 X 2.5	5	2.5	16 1/4	17 1/2	10	10 1/4	7 1/2	10
FD-0503-F3	5 X3	5	3	16 1/4	17 1/2	10	10 1/4	7 1/2	10
FD-0504-F3	5 X 4	5	4	16 1/4	17 1/2	10	10 1/4	7 1/2	10
FD-0505-F3	5 X 5	5	5	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0625-F3	6 X 2.5	6	2.5	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0603-F3	6 x 3	6	3	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0604-F3	6 x 4	6	4	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0605-F3	6 x 5	6	5	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0606-F3	6 x 6	6	6	18 1/4	18 5/16	10 3/4	12	8 5/16	10
FD-0804-F3	8 x 4	8	4	21 1/2	22 1/16	12 3/4	14 1/2	10 1/16	12
FD-0805-F3	8 x 5	8	5	21 1/2	22 1/16	12 3/4	14 1/2	10 1/16	12
FD-0806-F3	8 x 6	8	6	21 1/2	22 1/16	12 3/4	14 1/2	10 1/16	12
FD-0808-F3	8 x 8	8	8	21 1/2	22 1/16	12 3/4	14 1/2	10 1/16	12
FD-1005-F3	10 x 5	10	5	24 1/4	25 15/16	14	18 1/2	11 15/16	14
FD-1006-F3	10 x 6	10	6	24 1/4	25 15/16	14	18 1/2	11 15/16	14
FD-1008-F3	10 x 8	10	8	24 1/4	25 15/16	14	18 1/2	11 15/16	14
FD-1010-F3	10 x 10	10	10	24 1/4	25 15/16	14	18 1/2	11 15/16	14
FD-1206-F3	12 x 6	12	6	29 3/4	32 13/16	17	23	15 13/16	17
FD-1208-F3	12 x 8	12	8	29 3/4	32 13/16	17	23	15 13/16	17
FD-1210-F3	12 x 10	12	10	29 3/4	32 13/16	17	23	15 13/16	17
FD-1212-F3	12 x 12	12	12	29 3/4	32 13/16	17	23	15 13/16	17
FD-1408-F3	14 x 8	14	8	32	32 3/16	18	23 1/16	15 3/16	17
FD-1410-F3	14 x 10	14	10	32	32 3/16	18	23 1/16	15 3/16	17
FD-1412-F3	14 x 12	14	12	32	32 3/16	18	23 1/16	15 3/16	17
FD-1414-F3	14 x 14	14	14	32	32 3/16	18	23 1/16	15 3/16	17
FD-1610-F3	16 x 10	16	10	35 1/4	38 1/16	20	23	18 1/16	20
FD-1612-F3	16 x 12	16	12	35 1/4	38 1/16	20	23	18 1/16	20
FD-1614-F3	16 x 14	16	14	35 1/4	38 1/16	20	23	18 1/16	20

F3 = Fabricated 250#/300#

*Grooved end available through 10" as Standard Production. Larger sizes are special and priced on application.

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
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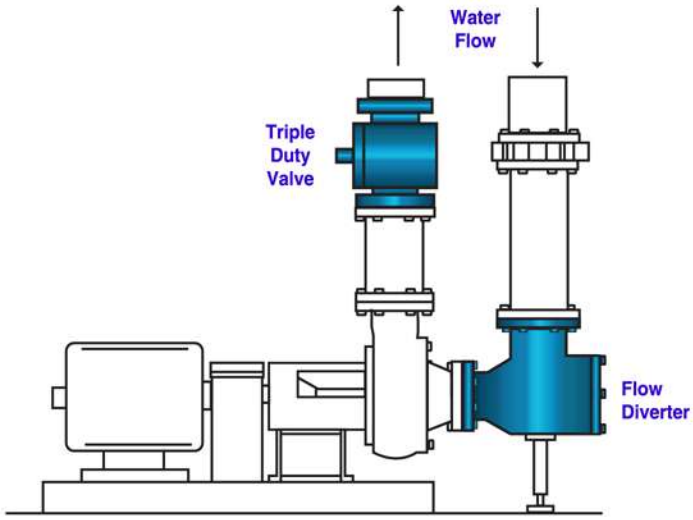
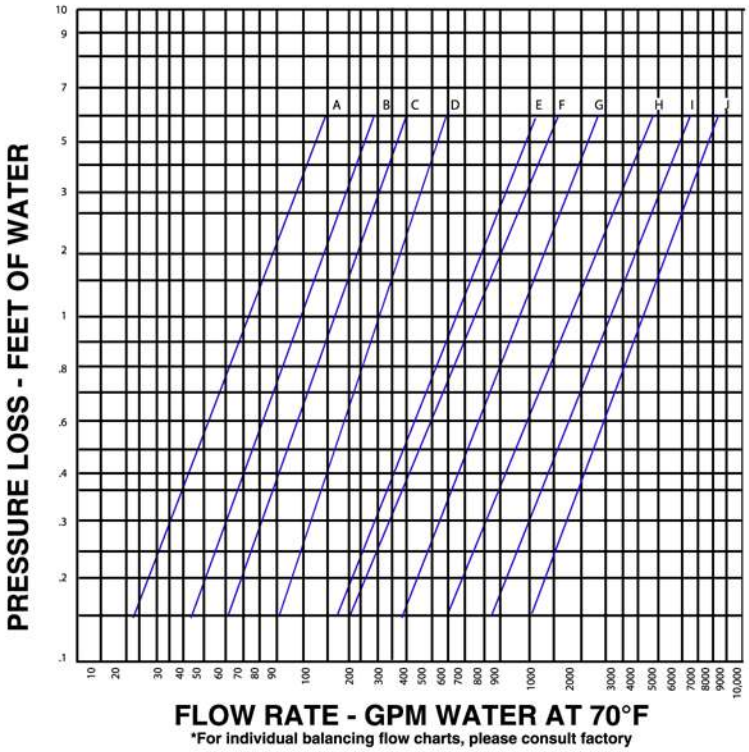
American HVAC Flow Diverter

Centrifugal Pump Accessories

Features:

- 90° Elbow/Strainer Combination
- 304 Stainless Steel Strainer
- 20 Mesh Start up Strainer
- Integral Straightening Vanes
- Ductile Iron Body
- Stainless Bolting
- Pump Protection
- Space Savings
- Class 125/150 maximum pressure 275 PSI
- 240° F maximum working temperature
- Painted Exterior





*For individual balancing flow charts, please consult factory

Bill of Materials

DESCRIPTION	MATERIAL
Body	ASTM A536 Ductile Iron/Class 125/150
O'Ring	Nitrile O'Ring
Cover	ASTM A536 Ductile Iron
Screen	3/16" Perforated 304 Stainless Steel
Start up Screen	20 Mesh 304 Stainless Steel
Bolting	ASTM 304 Stainless Steel
Nuts	ASTM 304 Stainless Steel
Pipe Plugs	ASTM A536 Ductile Iron

A- 2X1.5
B- 2X2, 2.5X2, 3X2
C- 2.5X2.5,3X2.5
D- 3X3, 4X3
E- 4X4, 5X4, 6X4
F- 5X5, 6X5
G- 6X6, 8X6
H- 8X8, 10X8, 12X8
I- 10X10, 12X10
J- 12X12

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

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Suction Diffuser /Flow Diverter Installation and Maintenance Instructions

Features:

- Reduces both space and installation costs by replacing an extended entry pipe, a long radius elbow and a strainer
- Disposable fine mesh start-up strainer provided on all models, guarantees a clean system
- Steel stabilizing vanes ensure smooth flow into the pump
- Drain/Purge plugs furnished to routinely remove foreign particles and protect pump and other system components
- Optional pressure tap allows monitoring of strainer condition
- Blowdown tapping supplied to protect pump seals from damage by foreign particles

Installation:

(1) Provide for distance "C" (see Suction Diffuser Submittal Data Sheet for illustration and "C" dimension). "C" represents distance necessary for removal of strainer and stabilizing vanes.
(2) Mount standard I.D. support leg and foot to pad cast-on body of suction diffuser.
(3) After piping and initial circulation are complete, remove fine mesh start-up strainer.
(4) If optional pressure tap is provided, a gauge can then be connected to both the pump suction and the Suction Diffuser's schrader valve. An increase in pressure drop will indicate when the strainer may require cleaning.

Maintenance:

It is recommended that the stabilizing vanes be periodically inspected and the permanent strainer be periodically cleaned. This will ensure smooth flow into the pump and avoid damage to the pump components.

Typical Specification:

Provide at each pump a Wheatley suction diffuser of size specified in pump schedule. It shall have a cast iron body, cast-in stabilizing vanes and removable stainless steel strainer. The suction diffuser shall be complete with disposable 20 mesh stainless steel start up strainer. Each suction diffuser shall have a provision for pipe support.

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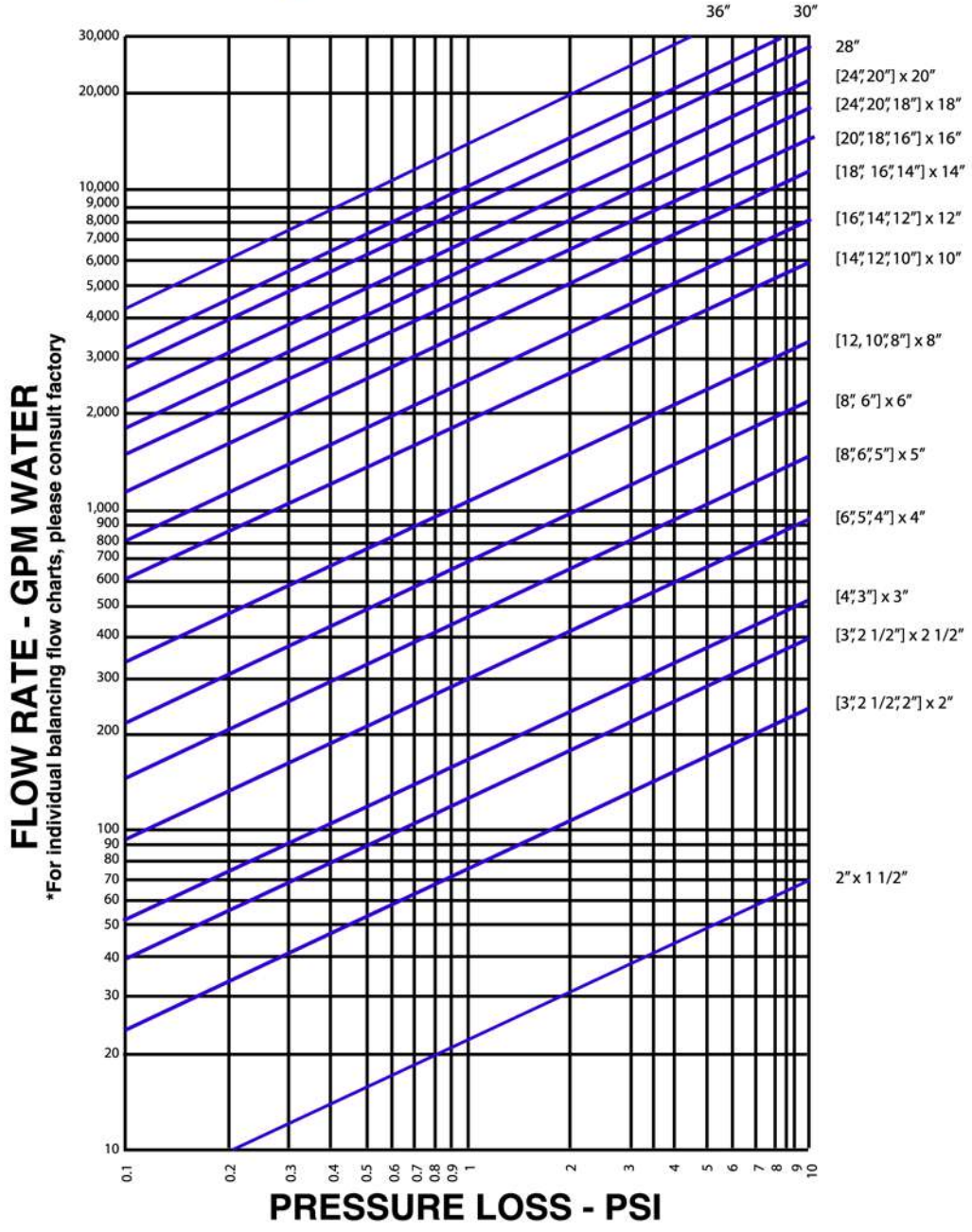
American Wheatley Fabricated Flow Diverter Pressure Drop Chart



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Tanks

BDT Series
ASME "Multi-Purpose" Expansion Tank

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Stainless Steel System Connection
- EPDM Bladder
- Full Acceptance Bladder Design / Replaceable
- Factory Air Charged to 12 P.S.I.
- Maximum Temperature 280°F Intermittent
- Constructed of NSF 61 Compliant Materials
- Primed Exterior

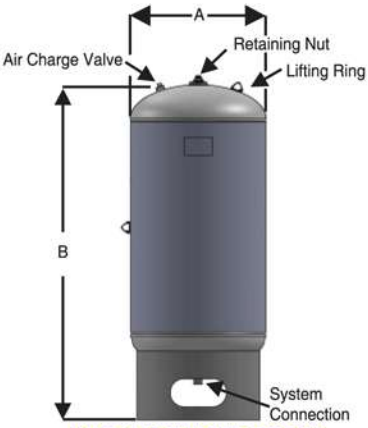
Optional Features:

- Higher working pressures available
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- Painted Exterior, Epoxy Coatings

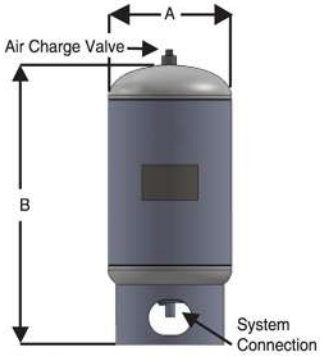
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

BDT-006 & BDT-009



BDT-040 THRU BDT-211



BDT-013, BDT-016 & BDT-026

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT	WORKING PRESSURE
BDT-006	6 GALLON	12	12	3/4"	24	150 PSI
BDT-009	9 GALLON	12	17	3/4"	28	150 PSI
BDT-013	13 GALLON	14	28	3/4"	50	150 PSI
BDT-016	16 GALLON	14	32	3/4'	65	150 PSI
BDT-026	26 GALLON	16	40	3/4"	98	150 PSI
BDT-040	40 GALLON	20	41	1"	140	150 PSI
BDT-060	60 GALLON	24	48	1 1/2"	220	150 PSI
BDT-080	80 GALLON	24	50	1 1/2"	235	150 PSI
BDT-112	112 GALLON	30	52	1 1/2"	273	150 PSI
BDT-135	135 GALLON	30	59	1 1/2"	340	150 PSI
BDT-162	162 GALLON	30	61	1 1/2"	360	150 PSI
BDT-185	185 GALLON	30	80	1 1/2"	545	200 PSI
BDT-211	211 GALLON	32	71	1 1/2"	480	150 PSI

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e-mail: sales@globalflowproducts.com

USE:

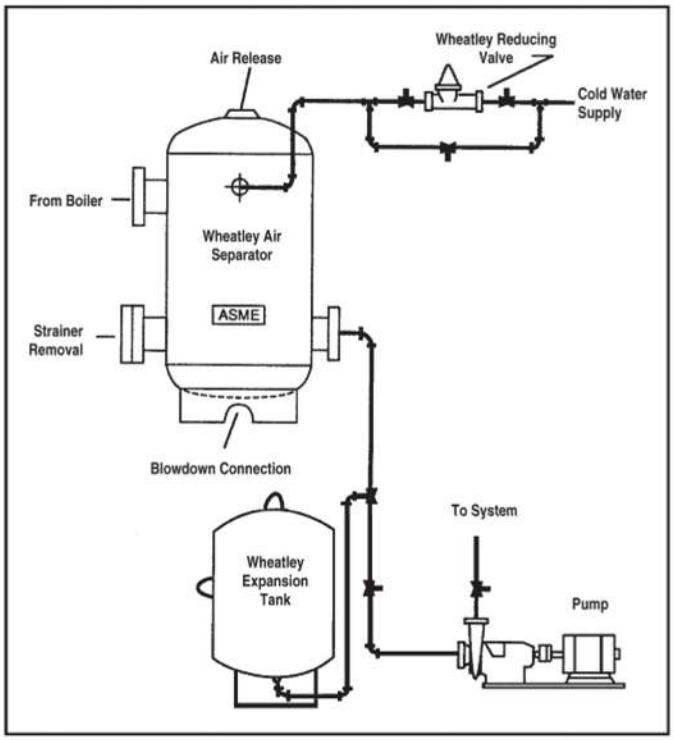
Designed to absorb expansion of fluids in typical hydronic systems. The BDT Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley BDT series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty EPDM bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 150 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (BDT Series)



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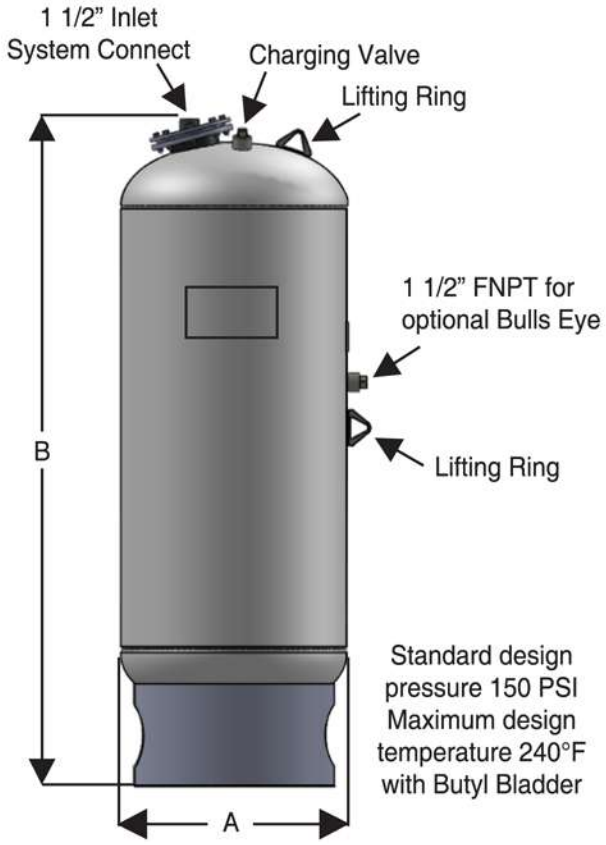
American WHEATLEY HVAC PRODUCTS®

WFA Series
ASME Bladder Expansion Tank
Full Acceptance

Features:
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Heavy Duty Butyl Bladder - NSF 61 Approved - Field Replaceable
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:
- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Higher pressures available upon request Tank dimensions will not change
- Painted Exterior, Epoxy Coatings



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT (LBS)	WORKING PRESSURE
WFA-140	36	20"	39 1/2"	1 1/2"	195	150 PSI
WFA-215	57	20"	54"	1 1/2"	290	150 PSI
WFA-300	82	24"	57 1/8"	1 1/2"	320	150 PSI
WFA-450	120	24"	78 3/8"	1 1/2"	400	150 PSI
WFA-600	165	30"	69 3/4"	1 1/2"	450	150 PSI
WFA-800	220	30"	88"	1 1/2"	590	150 PSI
WFA-1000	See 3.250 WFA Large Series					
WFA-1200						
WFA-1400						
WFA-1600						
WFA-2000						

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USE:

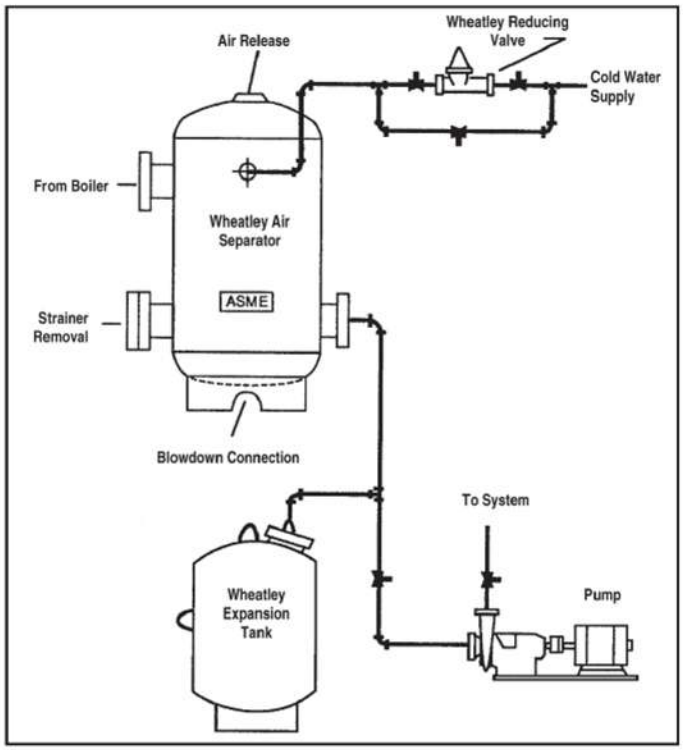
Designed to absorb expansion of fluids in typical hydronic systems. The WFA Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WFA series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty butyl bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 150 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WFA/WPA Series)



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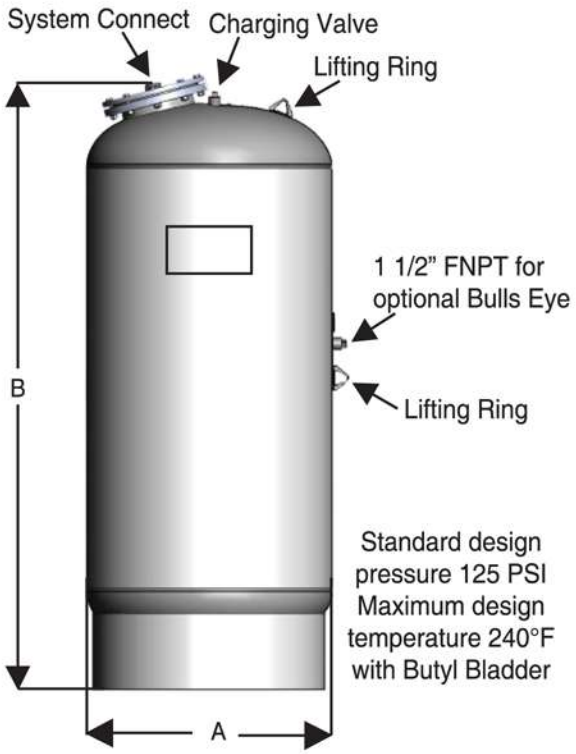
WFA Large Series
ASME Multi-Purpose Expansion Tank
Full Acceptance

Features:
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Fully removable and replaceable heavy-duty Butyl rubber bladder
- NSF Approved Bladder
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:
- Higher working pressures available
- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Higher pressures available upon request Tank dimensions will not change
- Painted Exterior, Epoxy Coatings



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT	WORKING PRESSURE
WFA-1000	271	36	79 1/2	1 1/2	790	125 PSI
WFA-1200	324	36	92	1 1/2	940	125 PSI
WFA-1400	377	36	102 1/2	1 1/2	1020	125 PSI
WFA-1600	422	48	76 1/2	1 1/2	1380	125 PSI
WFA-2000	528	48	88 1/2	1 1/2	1650	125 PSI
WFA-2500	660	48	101	2	1435	125 PSI
WFA-3000L	792	48	120 1/2	2	1550	125 PSI
WFA-3000S	792	60	80	2	2169	125 PSI
WFA-4000	1056	60	100 1/2	2	2638	125 PSI
WFA-5000	1320	60	124	2	3246	125 PSI
WFA-7500	1980	72	130	3	4005	125 PSI
WFA-10000	2640	72	167	3	4845	125 PSI
WFA-15000	3963	72	244	3	5925	125 PSI

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USE:

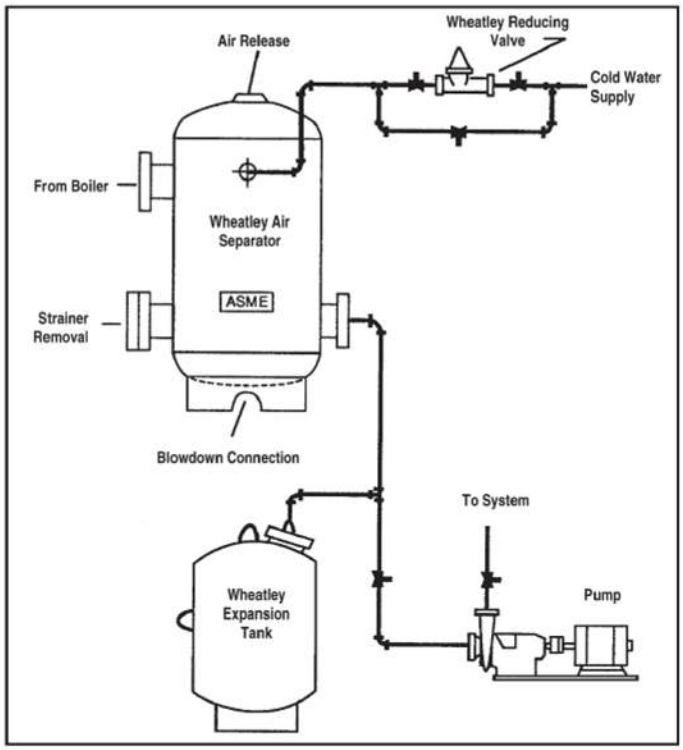
Designed to absorb expansion of fluids in typical hydronic systems. The WFA Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WFA series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty butyl bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 125 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WFA/WPA Series)



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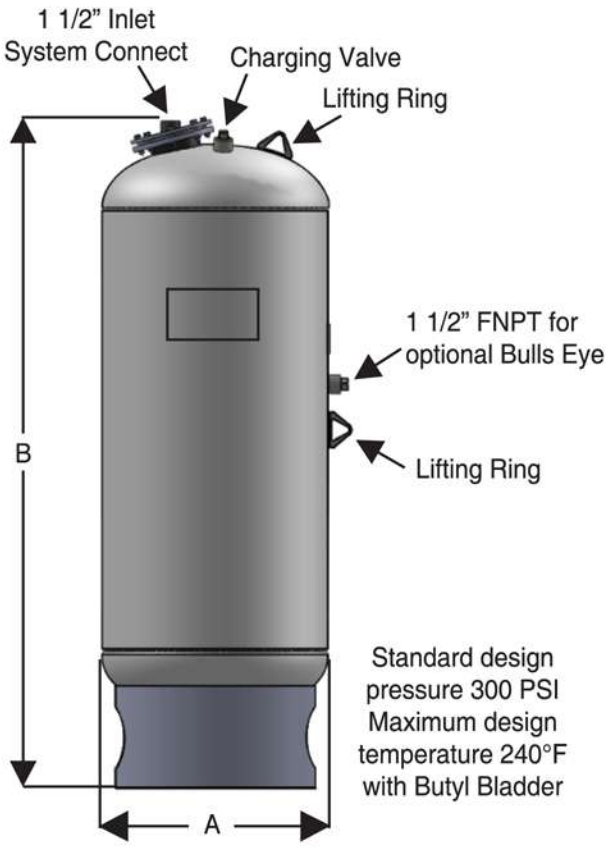
American WHEATLEY HVAC PRODUCTS®

WFA Series
ASME Bladder Expansion Tank
Full Acceptance - 300 P.S.I.

Features:
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Fully removable and replaceable heavy-duty Butyl rubber bladder
- NSF Approved Bladder
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:
- Higher working pressures available
- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Painted Exterior, Epoxy Coatings



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT (LBS.)	WORKING PRESSURE
WFA-140	36	20"	39 1/2"	1 1/2"	259	300 PSI
WFA-215	57	20"	54"	1 1/2"	385	300 PSI
WFA-300	82	24"	57 1/8"	1 1/2"	425	300 PSI
WFA-450	120	24"	78 3/8"	1 1/2"	532	300 PSI
WFA-600	165	30"	69 3/4"	1 1/2"	610	300 PSI
WFA-800	220	30"	88"	1 1/2"	740	300 PSI
WFA-1000	See 3.250 WFA Large Series					
WFA-1200						
WFA-1400						
WFA-1600						
WFA-2000						

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e-mail: sales@globalflowproducts.com

USE:

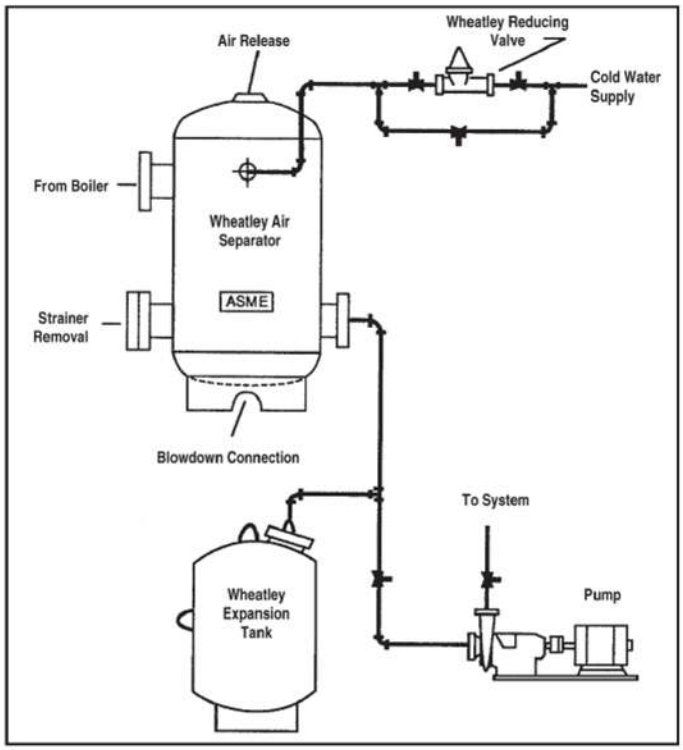
Designed to absorb expansion of fluids in typical hydronic systems. The WFA Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WFA series, vertical, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty butyl bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 300 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade grey oxide primer finish. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WPA/WFA Series)



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WBF Series
ASME Bottom Feed Expansion Tank
Full Acceptance

Features:
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Heavy Duty Butyl Bladder - NSF 61 Approved - Field Replaceable
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:
- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Higher pressures available upon request Tank dimensions will not change
- Painted Exterior, Epoxy Coatings

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

Standard design pressure 125 PSI
Maximum design temperature 240°F with Butyl Bladder

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT (LBS)	WORKING PRESSURE
WBF140	36	20"	37 1/4"	2"	220	125 PSI
WBF215	57	20"	58"	2"	315	125 PSI
WBF300	82	24"	55 3/4"	2"	350	125 PSI
WBF450	120	24"	72 1/2"	2"	425	125 PSI
WBF600	165	30"	73"	2"	485	125 PSI
WBF800	220	30"	88 1/4"	2"	615	125 PSI
WBF1000	271	36"	88 1/2"	3"	815	125 PSI
WBF1200	324	36"	91 1/4"	3"	965	125 PSI
WBF1400	377	36"	102 3/4"	3"	1045	125 PSI
WBF1600	440	48"	80"	3"	1405	125 PSI
WBF2000	550	48"	94"	3"	1675	125 PSI

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USE:

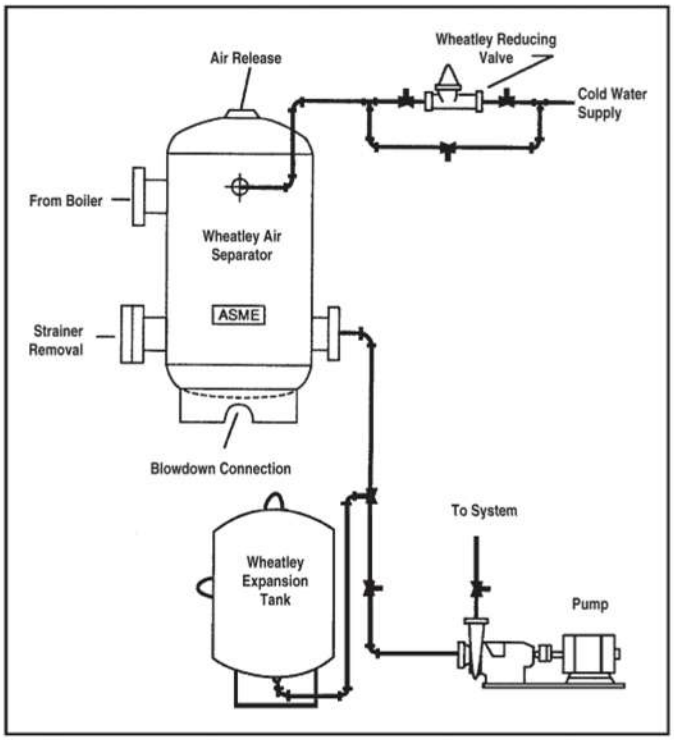
Designed to absorb expansion of fluids in typical hydronic systems. The WBF Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WBF series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty EPDM bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 125 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WBF Series)



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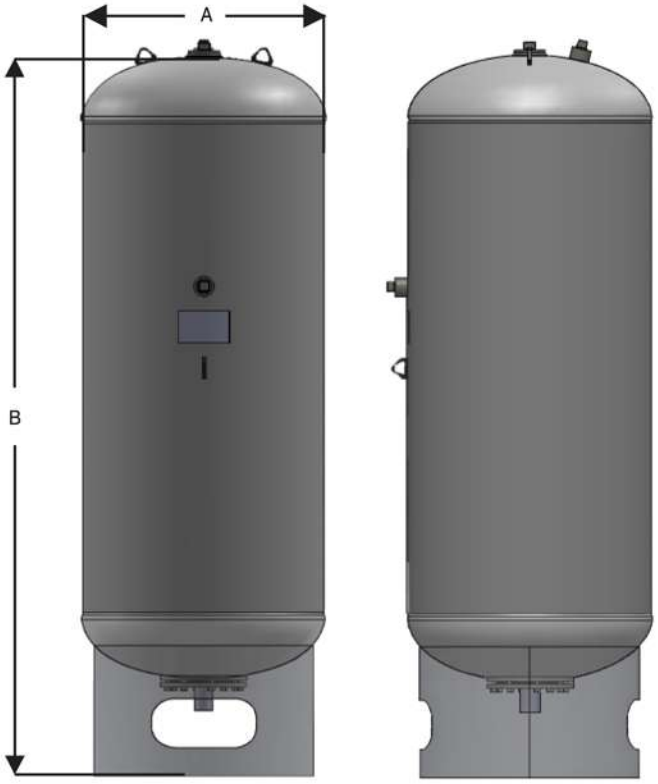
WBF Large Series
ASME Bottom Feed Expansion Tank
Full Acceptance

Features:
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Heavy Duty Butyl Bladder - NSF 61 Approved Field Replaceable
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:
- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Higher pressures available upon request Tank dimensions will not change
- Painted Exterior, Epoxy Coatings



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

Standard design pressure 125 PSI
Maximum design temperature 240°F with Butyl Bladder

PART NUMBER	ACCEPTANCE VOLUME	DIAMETER A (IN.)	HEIGHT B (IN.)	SYSTEM CONNECT (IN.)	WEIGHT (LBS)	WORKING PRESSURE
WBF2500	660	48"	103 3/4"	3"	2000	125 PSI
WBF3000	792	54"	104"	3"	2400	125 PSI
WBF4000	1050	54"	124"	3"	3200	125 PSI
WBF5000	1320	60"	136"	3"	3600	125 PSI
WBF6000	1590	60"	140"	3"	4000	125 PSI
WBF7500	1980	60"	187 1/2"	3"	4500	125 PSI
WBF8000	2100	72"	134"	3"	4600	125 PSI
WBF10000	2640	72"	183"	3"	4845	125 PSI

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USE:

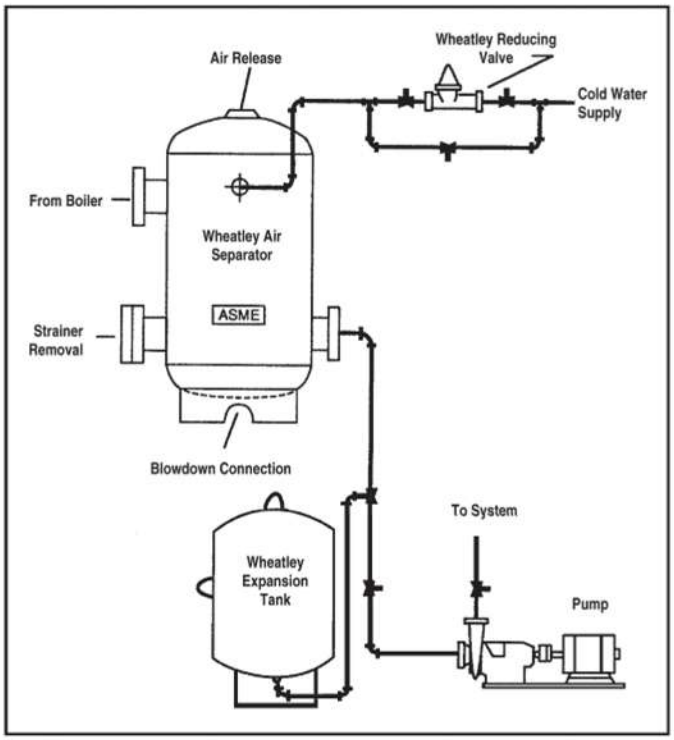
Designed to absorb expansion of fluids in typical hydronic systems. The WBF Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WBF series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty EPDM bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 125 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WBF Series)



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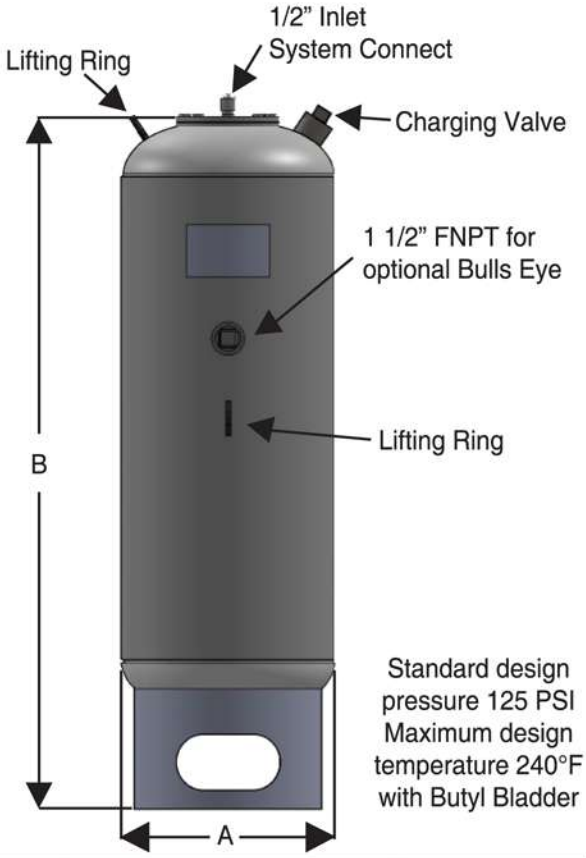
WPA Series
ASME Bladder Expansion Tank

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Heavy Duty Butyl Bladder - NSF 61 Approved - Field Replaceable
- Fully Adjustable Field Air Charging
- Factory Air Charged to 12 P.S.I.
- Primed Exterior

Optional Features:

- Trimmed for Potable Water
- "Bulls Eye" sight glass
- Seismic mounting (clips or legs)
- EPDM Bladder Material
- Higher pressures available upon request. Tank dimensions will not change.
- Painted Exterior, Epoxy Coatings



Standard design pressure 125 PSI Maximum design temperature 240°F with Butyl Bladder

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	TANK VOLUME GALLONS	ACCEPTANCE GALLONS	DIAMETER A (IN.)	HEIGHT B (IN.)	WEIGHT (LBS)	WORKING PRESSURE
WPA-030	8	5	14	22	90	125 PSI
WPA-042	12	5	14	27	105	125 PSI
WPA-084	26	12	16	41	150	125 PSI
WPA-130	35	19	16	52	200	125 PSI
WPA-170	46	24	16	64	240	125 PSI
WPA-215	58	34	20	54	250	125 PSI
WPA-254	68	34	20	62	280	125 PSI
WPA-300	82	43	24	55	300	125 PSI
WPA-350	100	43	24	65	330	125 PSI
WPA-425	115	61	24	72	380	125 PSI
WPA-500	137	61	24	83	425	125 PSI

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USE:

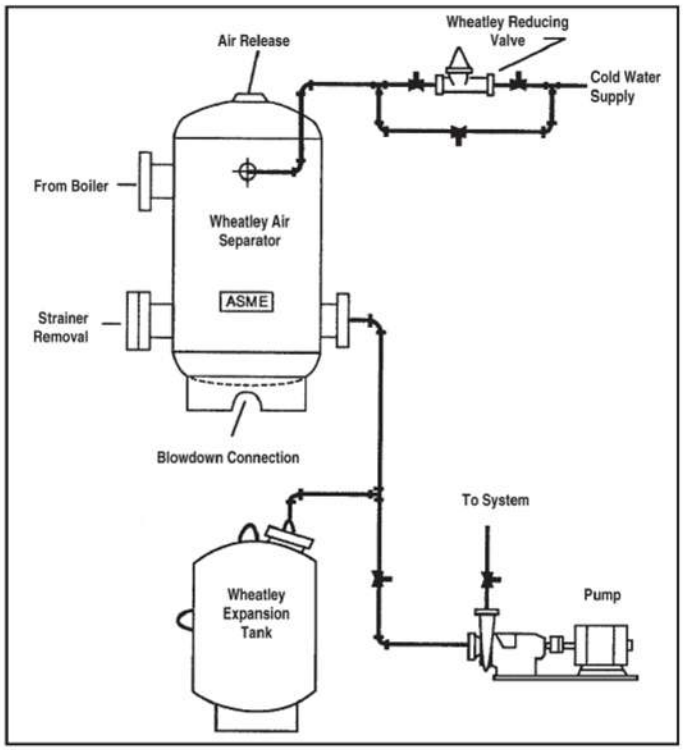
Designed to absorb expansion of fluids in typical hydronic systems. The WPA Tank is designed for pressure boost systems as well as typical cooling and heating applications. Bladder material is suitable for hot water applications. Installation of the tank will help eliminate constant pump use, prolonging pump life and unnecessary blowing of relief valves.

Specifications:

Furnish and install and shown on plans, American Wheatley WPA series, full acceptance expansion tank. Tank shall be constructed of carbon steel in accordance with ASME Section VIII, Division 1, latest edition. Tank shall incorporate a removable and replaceable heavy duty butyl bladder. Tank shall be supplied with 12 psi factory air charge. Tanks shall be supplied on standard base ring unless otherwise specified. Tanks shall be constructed and ASME stamped for 125 psi working pressure at 240°F. Tanks shall be supplied with exterior high grade red oxide primer finish. Vertical or horizontal installation is acceptable. Non-replaceable diaphragm type tanks are not acceptable.

Typical Piping Details

With Bladder Type Tanks (WPA/WFA Series)



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BDT Bladder Tank Series
Installation & Operation Instructions

VESSEL DESCRIPTION:
American Wheatley tanks are ASME constructed, pre-charged bladder expansion tanks. They are designed for storage of potable water for pressure boost systems, as well as typical cooling/heating applications. The system's expanded water is contained in a heavy-duty bladder preventing tank corrosion and water logging problems. The factory set pre-charge for these tanks is 12 psig.

CAUTION-If charging above 80 psi, charge to approximately 60 psi, then slowly introduce approximately 1/3 of tank water volume before SLOWLY charging up to desired pressure.

BDT-006 & BDT-009

IMPORTANT: When pressure testing the system piping, the expansion tank must be isolated from the elevated pressure test. Bladder stress and premature failure may result. When filling the system with water, open valve to tank to ensure that any residual air in the tank is displaced by water. It is recommended that the pre-charge be checked annually to ensure proper system protection and long-life for the vessel.

BDT-013, BDT-016 & BDT-026

TANK PREPARATION: Visually inspect tank for damage, which may occur during transit. Factory pre-charge pressure may not be correct for the installation. Pre-charge is typically set to equal the system pressure. If unsure, consult a factory representative. The tank MUST be pre-charged to system design pressure BEFORE placing into operation. Remove pipe plug covering the valve enclosure. Check and adjust the charge pressure by adding or releasing air for each application.

Set tank in place and pipe system connection to system. Be sure to include isolation valve and drain. Do not loosen nuts on cover plate; this will result in loss of pre-charge. Cover plate should only be removed when replacing bladder, and then only after the tank has been bled to zero gauge pressure.

If system has been filled with water and the tank has been through several cycles, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper charging will occur. After emptying bladder, the tank should be charged to 2-3 psi below system initial fill pressure. This air charge pressure may have to be adjusted periodically.

If the pre-charge adjustment is necessary, oil and water free compressed air may be used. Check the pre-charge using an accurate pressure gauge at the charging valve and adjust as required. Check air valve for leakage. If evident, replace the Schrader-type tire valve core. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace protective cover over the charging valve for protection.

BDT-040 THRU BDT-211

JOB NAME _____
LOCATION _____
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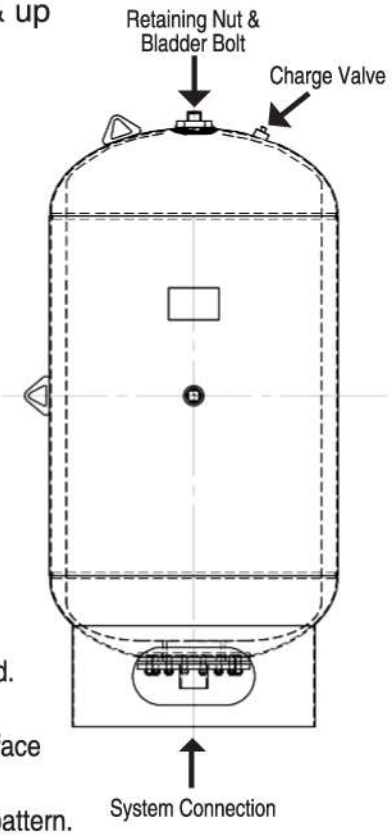
BDT Tank
Instructions for Bladder change

RECOMMENDED TOOLS AND SUPPLIES:

1. Plumbers tool box
2. Compressed air source
3. Replacement Bladder
4. Chain block
5. Pressure Gauge
6. 1/4" (20) all Thread Rod for BDT-040 & up
7. Work light
8. Extension cord



1. Isolate bladder type expansion tank from system. Shut off automatic fill, valve and drain boiler to release all system pressure.
2. Bleed system air charge through air charging valve. Remove air valve core at top of the tank and discharge remaining air.
3. Disconnect tank from the system.
4. Remove bolted bottom flange. Prior to removal, mark mating flanges in order to match up properly when reassembling.
5. Loosen and remove retaining nut on top of tank.
6. Using the chain block and a slight twisting motion, slide the bladder out of the tank. Remove bladder retaining bolt from inside of bladder.
7. Clean up any remaining water, dry out the inside of the tank and clean out any remaining dirt or foreign particles. Check the inside of the tank for any sharp edges that may cut the bladder.
8. Place bladder bot inside new bladder secured with 1/4" All Thread Rod threaded into top of bladder bolt. Roll up bladder as necessary and pull through tank with thread rod.
9. Secure bladder bolt to top of tank with retaining nut. Hand tighten at this point.
10. Postion bottom neck of bladder in bottom of tank opening to act as gasket sealing surface for system connection.
11. Replace the bottom flange, align the marks and tighten the bolts evenly, using a star pattern.
12. Tighten all threaded and bolt connections.
13. Using compressed air source and pressure gauge, apply 10 psi air pressure to the flange connection then relive pressure. These actions should ensure proper positioning of the replacement bladder within the tank.
14. Reassemble the air valve at the top and seal the hanger opening.
15. Precharge tank to fill-pressure or minimum operating pressure.
16. Using soapy water, check the air valve, retaining bolt and nut and bottom flange joint for leakage.
17. Reconnect the system, open the fill-valve and check operation of the tank. Always precharge tank before completing this step.

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WFA Bladder Tank Series
Installation & Operation Instructions

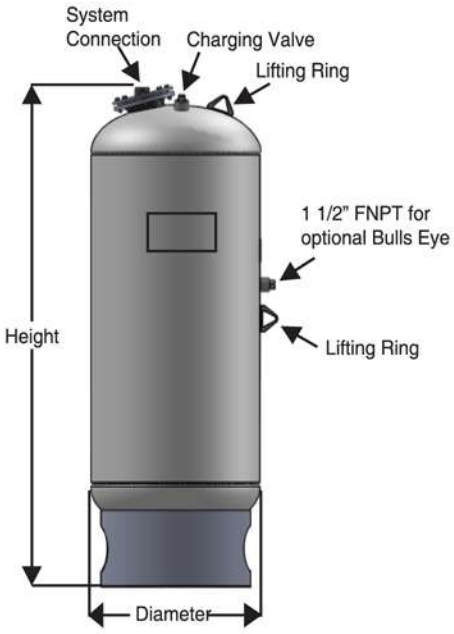
VESSEL DESCRIPTION: American Wheatley tanks are ASME constructed, pre-charged bladder expansion tanks. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems. The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and water logging problems. The factory set pre-charge for these tanks is 12 psig.

The tank pre-charge should be set equal to the minimum system pressure required at the point where the tank is installed.

CAUTION-If charging above 80 psi, charge to approximately 60 psi, then slowly introduce approximately 1/3 of tank water volume before SLOWLY charging up to desired pressure.

IMPORTANT: When pressure testing the system piping, the expansion tank must be isolated from the elevated pressure test. Bladder stress and premature failure may result. When filling the system with water, open valve to tank to ensure that any residual air in the tank is displaced by water. It is recommended that the pre-charge be checked annually to ensure proper system protection and long-life for the vessel.

TANK PREPARATION: Visually inspect tank for damage, which may occur during transit. Factory pre-charge pressure may not be correct for the installation. Pre-charge is typically set to equal the system pressure. If unsure, consult a factory representative. Tank MUST be pre-charged to system design pressure BEFORE placing into operation. Remove pipe plug covering the valve enclosure. Check and adjust the charge pressure by adding or releasing air for each application.



WFA 140 thru WFA 15000

Set tank in place and pipe system connection to system. Be sure to include isolation valve and drain. Do not loosen nuts on cover plate; this will result in loss of pre-charge. Cover plate should only be removed when replacing bladder, and then only after the tank has been bled to zero gauge pressure.

If system has been filled with water and the tank has been through several cycles, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper charging will occur.

If the pre-charge adjustment is necessary, oil and water free compressed air or nitrogen gas may be used. Check the pre-charge using an accurate pressure gauge at the charging valve and adjust as required. Check air valve for leakage. If evident, replace the Schrader-type tire valve core. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace protective cover over the charging valve for protection.

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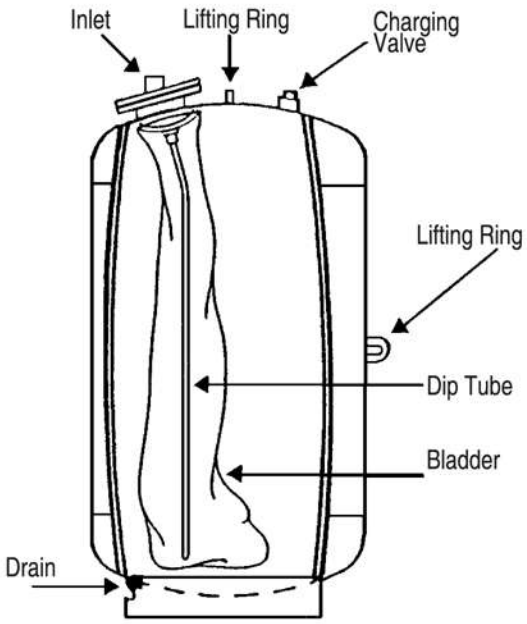
WFA Bladder Expansion Tank

Instructions for Bladder change

RECOMMENDED TOOLS AND SUPPLIES:

1. Plumbers tool box
2. Compressed air source
3. Replacement Bladder
4. Chain block
5. Pressure gauge
6. Length of rope or cord
7. Work light
8. Portable pump (as needed)
9. Extension cord (as needed)
10. Wooden stick, at least 1 ft. longer than tank height



1. Isolate bladder-type expansion tank from system. Shut off automatic fill-valve and drain boiler to release all system pressure.
2. Bleed system air charge through air charging valve. Remove air valve core at top of the tank and discharge remaining air.
3. Open drain plug located at bottom of tank.
4. Disconnect tank from system.
5. Remove bolted upper flange.
6. Examine and clean bladder hose assembly attached to the upper flange. Replace as necessary.
7. Pump water out of the bladder as necessary.
8. Pump any remaining water out of the bottom of the tank. Also, if necessary, hose down the walls of the inside of the tank.
9. Check the internal walls of the tank for any rust debris and sharp edges that may cut the bladder. Remove debris and sharp edges as necessary.
10. Carefully roll up the replacement bladder lengthwise, with both sides rolled toward the middle like a scroll. This insures the bladder will expand without twisting when filled. Secure at intervals with rope or cord in order to keep it rolled.
11. Insert the replacement bladder, removing the rope or cord as it nears the tank opening. Many times, on larger sized tanks, the bladder may be inserted more easily with the tank laying on its side on the floor.
12. With the long wooden stick, carefully clear an opening for the dip tube. Extreme care must be taken not to puncture the bladder.
13. Checking the markings which were made on the flanges, line up the upper and lower flanges and assemble the upper mating flange. Tighten bolts evenly, using a star pattern.
14. Using compressed air source and pressure gauge, apply 10 psi air pressure to the flange connection and then relieve pressure. These actions should ensure proper positioning of the replacement bladder within the tank.
15. Clean drain plug and coupling.
16. Reassemble the drain plug, using a liberal amount of thread sealant. This connection must be air-tight.
17. Reassemble the air valve at the top of the tank.
18. Precharge tank to fill-pressure or minimum operating pressure.
19. Using soapy water, check the drain fitting threads, air valve and flange joint for leakage.
20. Reconnect the system, open the fill-valve and check operation of the tank. Always precharge tank before completing this step.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

WPA Bladder Tank Series
Installation & Operation Instructions

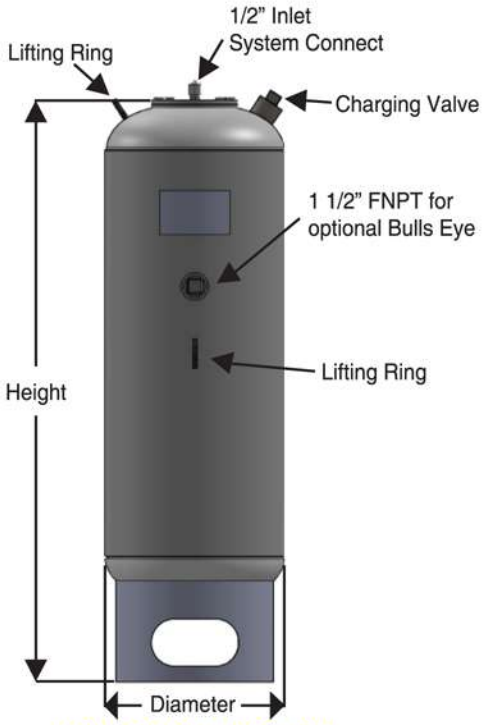
VESSEL DESCRIPTION: American Wheatley tanks are ASME constructed, pre-charged bladder expansion tanks. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems. The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and water logging problems. The factory set pre-charge for these tanks is 12 psig.

The tank pre-charge should be set equal to the minimum system pressure required at the point where the tank is installed.

CAUTION-If charging above 80 psi, charge to approximately 60 psi, then slowly introduce approximately 1/3 of tank water volume before SLOWLY charging up to desired pressure.

IMPORTANT: When pressure testing the system piping, the expansion tank must be isolated from the elevated pressure test. Bladder stress and premature failure may result. When filling the system with water, open valve to tank to ensure that any residual air in the tank is displaced by water. It is recommended that the pre-charge be checked annually to ensure proper system protection and long-life for the vessel.

TANK PREPARATION: Visually inspect tank for damage, which may occur during transit. Factory pre-charge pressure may not be correct for the installation. Pre-charge is typically set to equal the system pressure. If unsure, consult a factory representative. Tank MUST be pre-charged to system design pressure BEFORE placing into operation. Remove pipe plug covering the valve enclosure. Check and adjust the charge pressure by adding or releasing air for each application.



WPA 030 thru WPA 500

Set tank in place and pipe system connection to system. Be sure to include isolation valve and drain. Do not loosen nuts on cover plate; this will result in loss of pre-charge. Cover plate should only be removed when replacing bladder, and then only after the tank has been bled to zero gauge pressure.

If system has been filled with water and the tank has been through several cycles, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper charging will occur.

If the pre-charge adjustment is necessary, oil and water free compressed air or nitrogen gas may be used. Check the pre-charge using an accurate pressure gauge at the charging valve and adjust as required. Check air valve for leakage. If evident, replace the Schrader-type tire valve core. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace protective cover over the charging valve for protection.

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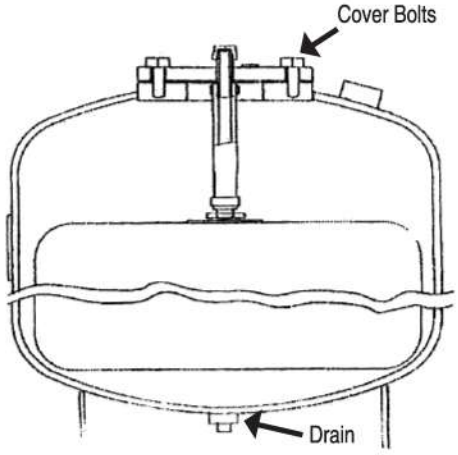
WPA Bladder Expansion Tank

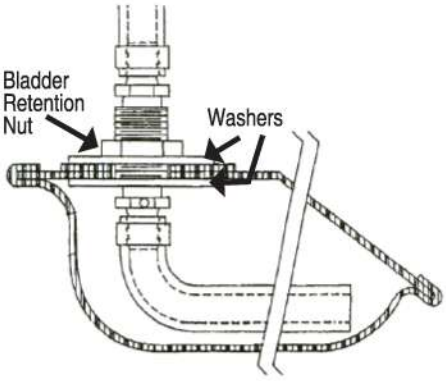
Instructions for Bladder Change in the Field

RECOMMENDED TOOLS AND SUPPLIES:

1. Plumbers tool box
2. Compressed air source
3. Replacement Bladder
4. Pressure gauge
5. Work light
7. Portable pump (as needed)
8. Extension cord (as needed)



Tank Diagram



Tank Diagram

1. Isolate bladder-type expansion tank from system. Shut off automatic fill-valve and drain boiler to release all system pressure.
2. Bleed system air charge through air charging valve. Remove air valve core at top of the tank and discharge remaining air.
3. Open drain plug located at bottom of tank.
4. Disconnect tank from system.
5. Loosen cover bolts from tank. Bladder is secured on bottom of cover flange with a hose assembly. Carefully remove cover flange and hose assembly with bladder from pressure vessel. Note: it may be necessary to cut a hole in bladder allowing extraction from tank.
6. Examine and clean bladder hose assembly attached to the upper flange.
7. Loosen Bladder retention nut and remove defective bladder. Install new Bladder in reverse procedure.
8. If necessary, pump water out of the bottom of the tank. Also, if necessary, hose down the walls of the inside of the tank.
9. Clean up any remaining water, dry out the inside of the tank, and clean out any remaining dirt or foreign particles. Check the inside tank walls for any sharp edges that may cut the bladder.
10. Insert new Bladder, hose assembly and cover into tank.
11. Tighten bolts evenly, using a star pattern.
12. Using compressed air source and pressure gauge, apply 10 psi air pressure to the flange connection and then relieve pressure. These actions should ensure proper positioning of the replacement bladder within the tank.
13. Clean drain plug and coupling.
14. Reassemble the drain plug, using a liberal amount of thread seal compound. The connection must be air-tight.
15. Reassemble the air valve at the top of the tank.
16. Precharge tank to fill-pressure or minimum operating pressure.
17. Using soapy water, check the drain fitting threads, air valve and flange joint for leakage.
18. Reconnect the system, open the fill-valve and check operation of the tank. Always precharge tank before completing this step.

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WBF Bladder Tank Series
Installation & Operation Instructions

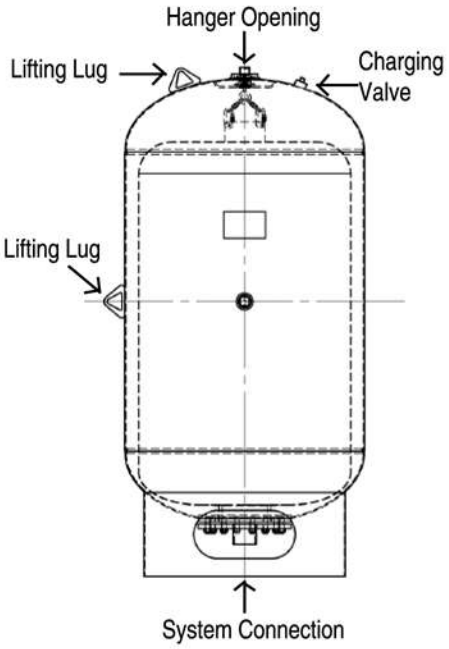
VESSEL DESCRIPTION: American Wheatley tanks are ASME constructed, pre-charged bladder expansion tanks. They are designed to absorb the expansion forces and control the pressure in heating/cooling systems. The system's expanded water (fully compatible with water/glycol mixtures) is contained in a heavy-duty bladder preventing tank corrosion and water logging problems. The factory set pre-charge for these tanks is 12 psig.

The tank pre-charge should be set equal to the minimum system pressure required at the point where the tank is installed.

CAUTION-If charging above 80 psi, charge to approximately 60 psi, then slowly introduce approximately 1/3 of tank water volume before SLOWLY charging up to desired pressure.

IMPORTANT: When pressure testing the system piping, the expansion tank must be isolated from the elevated pressure test. Bladder stress and premature failure may result. When filling the system with water, open valve to tank to ensure that any residual air in the tank is displaced by water. It is recommended that the pre-charge be checked annually to ensure proper system protection and long-life for the vessel.

TANK PREPARATION: Visually inspect tank for damage, which may occur during transit. Factory pre-charge pressure may not be correct for the installation. Pre-charge is typically set to equal the system pressure. If unsure, consult a factory representative. Tank MUST be pre-charged to system design pressure BEFORE placing into operation. Remove pipe plug covering the valve enclosure. Check and adjust the charge pressure by adding or releasing air for each application.



WBF 140 thru WBF 15000

Set tank in place and pipe system connection to system. Be sure to include isolation valve and drain. Do not loosen nuts on cover plate; this will result in loss of pre-charge. Cover plate should only be removed when replacing bladder, and then only after the tank has been bled to zero gauge pressure.

If system has been filled with water and the tank has been through several cycles, the tank must be isolated from the system and the tank emptied before charging. This ensures all fluid has exited the bladder and proper charging will occur.

If the pre-charge adjustment is necessary, oil and water free compressed air or nitrogen gas may be used. Check the pre-charge using an accurate pressure gauge at the charging valve and adjust as required. Check air valve for leakage. If evident, replace the Schrader-type tire valve core. Do not depend on the valve cap to seal the leak. After making sure air charge is correct, replace protective cover over the charging valve for protection.

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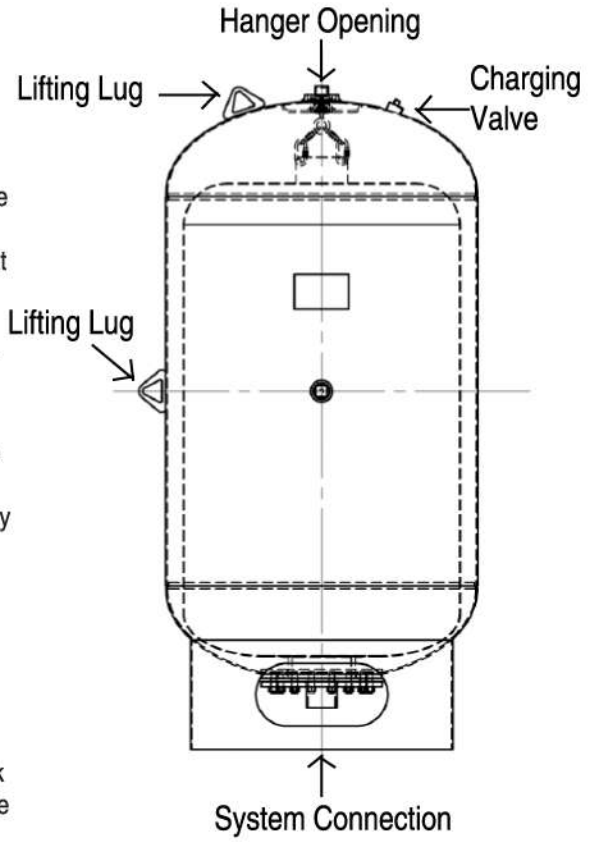
WBF Bladder Tank Series
Instructions for Bladder change

RECOMMENDED TOOLS AND SUPPLIES:

1. Plumbers tool box
2. Compressed air source
3. Replacement Bladder
4. Chain block
5. Pressure Gauge
6. Length of rope
7. Work light
8. Extension cord



WBF 140 thru WBF 15000

1. Isolate bladder type expansion tank from system. Shut off automatic fill, valve and drain boiler to release all system pressure.
2. Bleed system air charge through air charging valve. Remove air valve core at top of the tank and discharge remaining air.
3. Disconnect tank from the system.
4. Remove bolted bottom flange. Prior to removal, mark mating flanges in order to match up properly when reassembling.
5. Open and unhook the hanger from the top of the tank.
6. Using the chain block and a slight twisting motion, slide the bladder out of the tank.
7. Clean up any remaining water, dry out the inside of the tank and clean out any remaining dirt or foreign particles. Check the inside of the tank for any sharp edges that may cut the bladder.
8. Carefully roll up the replacement bladder lengthwise, with both sides rolled toward the middle like a scroll. This insures the bladder will expand without twisting when filled. Secure at intervals with rope or cord in order to keep it rolled.
9. Drop a rope through the top hanger opening and tie it to the bladder.
10. Insert the replacement bladder, removing the rope or cord as it nears the tank opening. Many times on larger sized tanks, the bladder may be inserted more easily with the tank laying on it's side on the floor.
11. By pulling on the rope, the bladder can be pulled up into position, replace the hanger hook and remove the rope.
12. Replace the bottom flange, align the marks and tighten the bolts evenly, using a star pattern.
13. Using compressed air source and pressure gauge, apply 10 psi air pressure to the flange connection then relive pressure. These actions should ensure proper positioning of the replacement bladder within the tank.
14. Reassemble the air valve at the top and seal the hanger opening.
15. Precharge tank to fill-pressure or minimum operating pressure.
16. Using soapy water, check the air valve, hanger plug and bottom flange joint for leakage.
17. Reconnect the system, open the fill-valve and check operation of the tank. Always precharge tank before completing this step.

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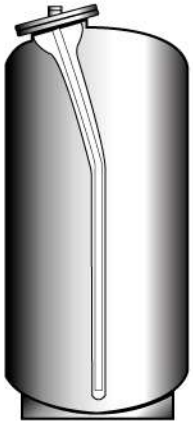
Bladder Tank Series
How do Bladder Tanks Work

1. System Pressure at 12 psi (83kPa) Cold Water, Pmin

Fill the System to minimum operating pressure Pmin. Here the factory pre-charge condition equals 12 psi. Always check the air pressure, using a tire gauge. Add air if low. If the minimum system operating pressure is 12 psi (as used in this example) the bladder is empty.

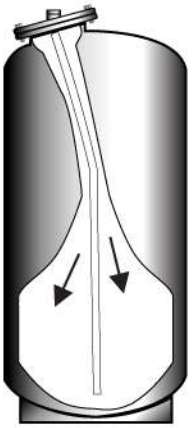


2. Pressure System at 20 psi (138 kPA) with Heated Water

Heat system water to approximately half of the system's maximum temperature.

The expanded water enters the bladder and compresses the air.

The air pressure in the tank now equals the system pressure, or 20 psi.



3. System Pressure at 25 psi (172kPa) at Maximum Temperature

The system water is heated to system's maximum temperature.

The expanded water fills the blader and further compressing the air.

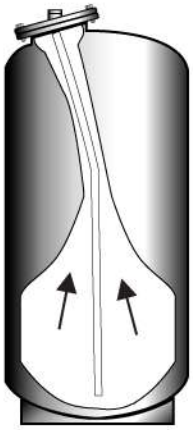
The tank's air pressure now equals the system's maximum pressure of 25 psi (Pmax).

4. System Pressure at 20 psi (138 kPa) Heated Water

The System water cools down to about half of the maximum temperature.

The expanded water in the bladder now is drawn back into the system.

The air pressure in the tank now drops back to the system pressure of 20 psi.



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American WHEATLEY HVAC PRODUCTS®

Expansion Tank Sizing

Job:

1. Enter Total System Water Content _____ gal.
2. a. Enter Minimum System Temperature _____ °F
   b. Enter Maximum System Temperature _____ °F
   c. Enter Expansion Factor From Table 1 _____
3. Calculate Expanded Water Volume (Multiply line 1 by line 2c) _____
4. a. Enter Minimum System Pressure (P1) _____ psig
   b. Enter maximum System Pressure (Po) _____ psig
   c. Enter acceptance Factor From Table 2
5. Calculate Total Tank Volume Required (Divide line 3 by line 4c) _____ gal.
6. Select Tank from Product Data Table--Side 1 Model _____

Note: When using WPA Tanks, amount of expanded water generated (Line 3) must not exceed acceptance volume of tank.

Maximum Temp °f	Initial Temperature °F												
	40	45	50	55	60	65	70	75	80	85	90	95	100
50°	0.00006	0.00008											
55°	0.00025	0.00027	0.00019										
60°	0.00055	0.00057	0.00049	0.0003									
65°	0.00093	0.00095	0.00087	0.00068	0.00033								
70°	0.00149	0.00151	0.00143	0.00124	0.00094	0.00056							
75°	0.00194	0.00196	0.00186	0.00169	0.00139	0.00101	0.00045						
80°	0.0026	0.00262	0.00254	0.00235	0.00205	0.00167	0.00111	0.00066					
85°	0.00326	0.00328	0.0035	0.00301	0.00271	0.00233	0.00177	0.00132	0.00066				
90°	0.00405	0.00407	0.00399	0.0038	0.0035	0.00312	0.00256	0.00211	0.00145	0.00079			
95°	0.00485	0.0087	0.00479	0.0046	0.0043	0.00392	0.00336	0.00291	0.00225	0.00159	0.0008		
100°	0.00575	0.00577	0.00569	0.0055	0.0052	0.00482	0.00426	0.00381	0.00315	0.00249	0.0017	0.0009	
105°	0.00671	0.0067.	0.00665	0.00646	0.00616	0.00578	0.00522	0.00477	0.00411	0.00315	0.00266	0.00186	0.00096
110°	0.00771	0.00773	0.00765	0.00746	0.00715	0.00678	0.00622	0.00577	0.00511	0.00445	0.00366	0.00286	0.00196
115°	0.00879	0.00881	0.00873	0.00854	0.00824	0.00786	0.0073	0.00685	0.00619	0.00553	0.00474	0.00394	0.00304
120°	0.04004	0.01006	0.00998	0.00979	0.00949	0.00911	0.00855	0.0081	0.00744	0.00678	0.00599	0.00519	0.00429
125°	0.00011	0.0113	0.01105	0.01086	0.01056	0.01018	0.00962	0.00917	0.00851	0.00785	0.00706	0.00625	0.00536
130°	0.01236	0.01238	0.0123	0.01211	0.01181	0.01143	0.01087	0.01042	0.00976	0.0091	0.00831	0.00751	0.00661
135°	0.01368	0.0137	0.01362	0.01342	0.01313	0.01275	0.01219	0.01174	0.01108	0.01042	0.00963	0.00883	0.00793
140°	0.01501	0.01503	0.01495	0.01476	0.01446	0.01408	0.01352	0.01307	0.01241	0.01175	0.01096	0.01016	0.00326
145°	0.01643	0.01645	0.01637	0.01318	0.01588	0.0155	0.01494	0.01449	0.01383	0.01317	0.01238	0.01158	0.01068
150°	0.01787	0.01787	0.01779	0.0176	0.0173	0.01692	0.01636	0.01591	0.01525	0.01459	0.0133	0.013	0.0121
155°	0.01937	0.01939	0.01931	0.01912	0.01882	0.01844	0.01788	0.01743	0.01677	0.01611	0.01532	0.01452	0.01362
160°	0.02092	0.02094	0.02086	0.02067	0.02037	0.01999	0.01943	0.01877	0.01811	0.01732	0.01652	0.01572	0.01482
165°	0.02252	0.02254	0.02246	0.02227	0.02197	0.02159	0.02103	0.02058	0.01992	0.01926	0.01847	0.01767	0.01677
170°	0.02418	0.0242	0.02412	0.02393	0.02363	0.02325	0.02269	0.02224	0.02158	0.02092	0.02013	0.01933	0.01843
175°	0.02588	0.0259	0.02582	0.02563	0.02533	0.02495	0.02439	0.02394	0.02328	0.02262	0.02183	0.02103	0.02013
180°	0.02763	0.02765	0.02757	0.02738	0.02708	0.0267	0.02614	0.02569	0.02503	0.02437	0.02358	0.02278	0.02188
185°	0.02941	0.02943	0.02935	0..029616	0.02886	0.02848	0.02792	0.02747	0.02681	0.02615	0.02536	0.02456	0.02366
190°	0.03127	0.03129	0.03121	0.03102	0.03072	0.03034	0.02978	0.02933	0.02867	0.02801	0.02722	0.02642	0.02552
195°	0.03314	0.03316	0.03308	0.03289	0.03259	0.03221	0.03165	0.0312	0.03054	0.02988	0.02909	0.02829	0.02739
200°	0.0351	0.03512	0.0354	0.03485	0.03455	0.03417	0.03361	0.033116	0.0325	0.03184	0.03105	0.03025	0.02935
205°	0.03707	0.03709	0.03701	0.03682	0.03652	0.03614	0.03558	0.03513	0.03447	0.03381	0.03302	0.03222	0.03132
210°	0.03911	0.03913	0.03905	0.03885	0.03856	0.03818	0.03762	0.03717	0.03651	0.03585	0.03506	0.03426	0.03336
215°	0.0412	0.04122	0.04114	0.04095	0.04065	0.04027	0.03971	0.03926	0.0386	0.03794	0.03715	0.03635	0.03545
220°	0.04335	0.04337	0.04329	0.0431	0.0428	0.04242	0.04186	0.04141	0.04075	0.04009	0.0393	0.0385	0.0376
225°	0.04519	0.04551	0.04543	0.04524	0.04494	0.04456	0.044	0.04355	0.04289	0.04223	0.04144	0.04064	0.03974
230°	0.04762	0.04764	0.04756	0.04737	0.04707	0.04669	0.04613	0.04568	0.04502	0.04436	0.04357	0.04277	0.04187
235°	0.04991	0.04993	0.04985	0.04966	0.04936	0.048998	0.04842	0.04797	0.04731	0.04665	0.04586	0.04506	0.04416
240°	0.0522	0.05222	0.05214	0.05195	0.05165	0.05127	0.05071	0.05026	0.0496	0.04894	0.04815	0.04735	0.04645

Po Maximum Operating Press. PSIG	P1 - Mimimum Operating Pressure at Tank (PSIG)										
	5	10	12	15	20	25	30	35	40	45	50
30	0.56	0.477	0.403	0.336	0.224	0.112					
40	0.64	0.548	0.512	0.457	0.366	0.274	0.183	0.091			
50	0.696	0.618	0.587	0.541	0.464	0.386	0.309	0.232	0.155	0.078	
60	0.736	0.669	0.643	0.602	0.536	0.469	0.402	0.335	0.268	0.201	0.134
70	0.767	0.708	0.685	0.649	0.59	0.531	0.472	0.413	0.354	0.295	0.236
80	0.792	0.739	0.718	0.686	0.634	0.581	0.528	0.475	0.422	0.37	0.317
90	0.812	0.764	0.745	0.716	0.669	0.621	0.573	0.525	0.478	0.43	0.382
100	0.828	0.785	0.767	0.741	0.698	0.654	0.61	0.567	0.523	0.479	0.436
110	0.842	0.802	0.786	0.762	0.723	0.682	0.642	0.601	0.561	0.521	0.481
120	0.854	0.817	0.802	0.78	0.742	0.705	0.668	0.631	0.594	0.557	0.52
125	0.859	0.823	0.809	0.787	0.752	0.716	0.68	0.644	0.608	0.573	0.537

Note: If pressures exceeds tables use formula:

$$1 - \frac{P1 + 14.7}{Po - 14.7}$$ to obtain factor

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ASME Bladder Type Expansion Tank Cross Reference

For Hydronic Systems

This Cross Reference is based solely on average tank capacity, and in no way implies a direct replacement between manufacturers.

BDT Series, Full Acceptance, ASME 150

(BDT-185- ASME 200), Bottom Connection

Wheatley	B & G	Taco	Amtrol	Wessels	Wood
BDT-013				FXA/NLA35	
BDT-016				FXA/NLA50	
BDT-026				FXA/NLA85	
BDT-040				FXA/NLA130	
BDT-060				FXA/NLA200	
BDT-080				FXA/NLA300	JOER-22-080
BDT-112				FXA/NLA400	JOER-22-105
BDT-135				FXA/NLA500	JOER-22-135
BDT-162				FXA/NLA600	JOER-22-011
BDT-185				NA	NA
BDT-211				FXA/NLA800	JOER-22-012

WPA Series, Partial Acceptance, ASME 125

Top Connection

Wheatley	B & G	Taco	Amtrol	Wessels	Wood
WPA30		PAX30-150	AX15	TTA-5	JAER23-601
WPA42		PAX42-150	AX20	TTA-12	JAER23-602
WPA84		PAX84-150	AX40	TTA-20	JAER23-603
WPA130		PAX130-150	AX60	TTA-30	JAER23-605
WPA170		PAX170-150	AX80	TTA-42	JAER23-606
WPA215		PAX215-150	AX100	TTA-60	JAER23-607
WPA254		PAX254-150	AX120	TTA-80	JAER23-607
WPA300		PAX300-150	AX144	TTA-100	JAER23-608
WPA350		PAX350-150	AX180	TTA-125	JAER23-668
WPA425		PAX425-150	AX200	TTA-160	JAER23-609
WPA500		PAX500-150	AX240	TTA-180/TTA210	JAER23-610

JOB NAME _____
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CONTRACTOR _____
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ITEMS	QUANTITY

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A GFP COMPANY
2701 W. Concord Street
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e-mail: sales@globalflowproducts.com

WFA Series, Full Acceptance, ASME 125
Top Connection

Wheatley	B & G	Taco	Amtrol	Wessels	Wood
WFA140		CA140		NLAP-150	
WFA215	B-200	CA2145	200L	NLAP-220	
WFA300	B-300	CA300	300L	NLAP-325	
WFA450	B-400	CA450	400L	NLAP-560	
WFA600	B-600	CA600	600L	NLAP-600	JBER25-011
WFA800	B-800	CA800	800L	NLAP-815	JBER25-012
WFA1000	B-1000	CA1000	1000L	NLA1000	JBER25-013
WFA1200	B-1200	CA1200	1200L	NLA1200	JBER25-014
WFA1400	B-1400	CA1400	1400L	NLA1400	JBER25-015
WFA1600	B-1600	CA1600	1600L	NLA1600	JBER25-016
WFA2000	B-2000	CA2000	2000L	NLA2000	JBER25-017

WBF Series, Full Acceptance, ASME 125
Bottom Connection

Wheatley	B & G	Taco	Amtrol	Wessels	Wood
WBF1000		CW1000		NLA1000	JOER-22-013
WBF1200		CW1200		NLA1200	JOER-22-014
WBF1400		CW1400		NLA1400	JOER-22-015
WBF1600		CW1600		NLA1600	JOER-22-016
WBF2000		CW2000		NLA2000	JOER-22-017
WBF2500				NLA2500	JOER-22-018
WBF3000				NLA3000	JOER-22-019
WBF4000				NLA4000	JOER-22-020
WBF5000				NLA5000	JOER-22-021
WBF7500				NLA7500	JOER-22-023
WBF8000				NA	NA
WBF10000				NLA10000	JOER-22-024
WBF15000				NLA15000	JOER-22-039

BDT & WBF Series - Full Acceptance, Bottom System Connection, Potable Water

WFA Series - Full Acceptance, Top System Connection, Potable Water

WPA Series - Partial Acceptance, Top System Connection, Potable Water

All are ASME Rated

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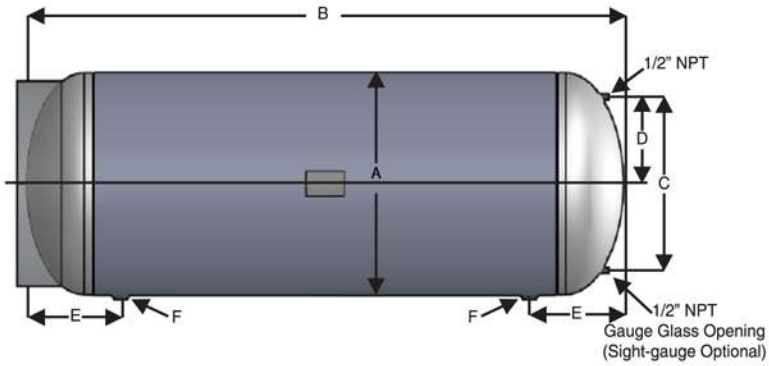
WPS Series
Plain Steel Expansion Tank

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Design pressures:
  12"-20" diameter - 15- psi, test 195 psi 24"-30" diameter - 125 psi, test 163 psi
- Leak-proof - each tank individually hydro tested
- Comes with saddles for vertical installation
- Manufacturer's Data Report for Pressure Vessels, Form U-1 available upon request
- Primed Exterior

Optional Features:

- Complete accessory package available- liquid level sight glass, tank fittings and drainer
- Internal Galvanized coating
- Saddles for horizontal installation
- Customized, or larger sizes, pressures and materials available upon request
- Painted Exterior, Epoxy Coatings



PART NUMBER	VOLUME (GAL.)	DIA. A (IN.)	LGTH B (IN.)	C (IN.)	D (IN.)	E (IN.)	OPENINGS F (IN.)	WEIGHT (LBS) PAINTED	WEIGHT (LBS) GALVANIZED
WPS-015	15	12	33	8	4	7 3/4	1	46	51
WPS-024	24	12	51	8	4	7 3/4	1	64	71
WPS-030	30	14	48	10	5	8 1/2	1	67	75
WPS-040	40	14	63	10	5	8 1/2	1	85	95
WPS-060	60	16	72	12	6	9 1/4	1	115	129
WPS-080	80	20	62 1/4	16	8	10	1	134	149
WPS-100	100	20	78	16	8	10	1	166	185
WPS-120	120	24	65	20	10	11 1/8	1	199	219
WPS-135	135	24	72	20	10	11 1/8	1	219	239
WPS-180	180	30	62	22	11	13 1/2	1 1/2	304	327
WPS-220	220	30	77	22	11	13 1/2	1 1/2	364	392
WPS-240	240	30	84	22	11	13 1/2	1 1/2	394	424
WPS-300	300	30	105 3/4	22	11	13 1/2	1 1/2	489	526
WPS-400	400	36	93 1/2	28	14	14 3/4	1 1/2	647	688

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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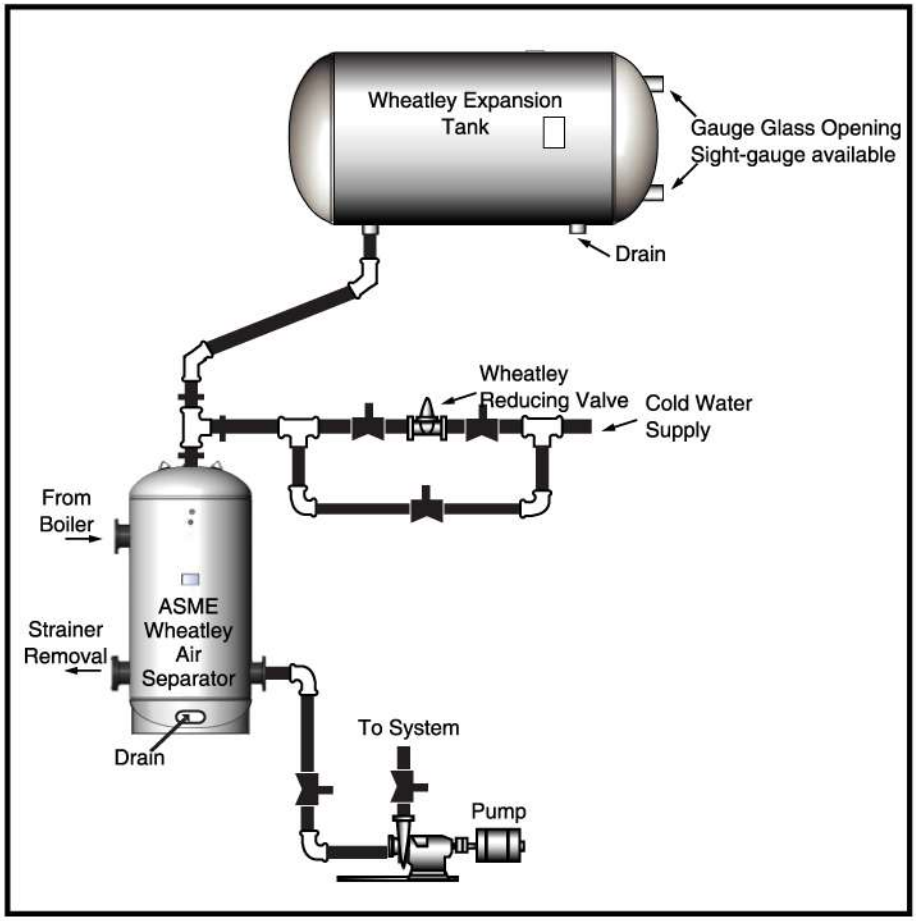
Plain Steel Expansion Tank Series
Installation & Operation Instructions

- Visually inspect tanks for any damage which could have occurred during transit.
- Be sure that the tank is properly supported.
- Ensure that the air line is pitched upward to the tank, failure to do so will result in improper operation.
- The cold water make-up line must be connected to the air line to the compression tank.
- The pressure relief valve MUST NOT be connected to the air line to the compression tank.
- The system must be checked to be air tight.
- An American Wheatley TF fitting should be used and properly installed to ensure the correct air cushion is established the tank.
- An American Wheatley WSG gauge glass assembly should be used for visual indication of water level in compression tank.

Typical Piping Details
With Plain Steel Tanks (WPS Series)



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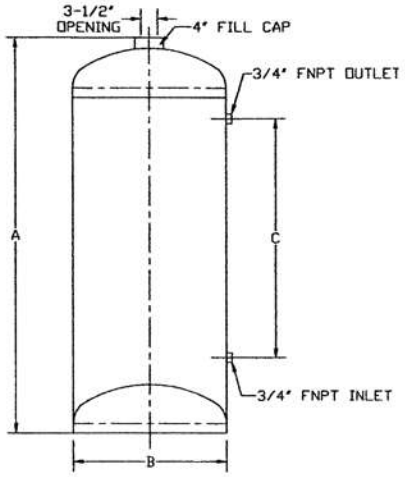
CHEMICAL BY-PASS FEEDERS



TWO FITTINGS STYLE

PART NUMBER	VOLUME	A(IN.)	B(IN.)	C(IN.)	WEIGHT	HEAD GAGE	SHELL GAGE
BFT-002-O	2 GAL.	21-1/4	6	12-3/4	23	11	11
BFT-005-O	5 GAL.	19-3/4	10	10-1/2	37	9	10
BFT-010-O	10 GAL.	35-3/4	10	26-1/2	60	9	10
BFT-012-O	12 GAL.	42	10	32-3/4	68	9	10

Optional Filter Bag Kit must be ordered separately.

USE: For water treatment in closed circulating water systems and boilers.
Great for use with chilled water treatment such as cooling systems and hot water treatment in heating systems.
Helps prolong life of heating and cooling systems.

SPECIFICATIONS:

Carbon Steel Construction
Self Supported Bottom
Coarse Thread with 2 1/2 Turn Design
CAST IRON BODY AND COVER

Working Pressure rated at 300 P.S.I.
Caps are Easy Quick Opening
Bottom of Cap is Epoxy Coated for Liquid

FBK-2 Fits BFT-002
FBK-005 Fits BFT-005
FBK-010 Fits BFT-020 & 012

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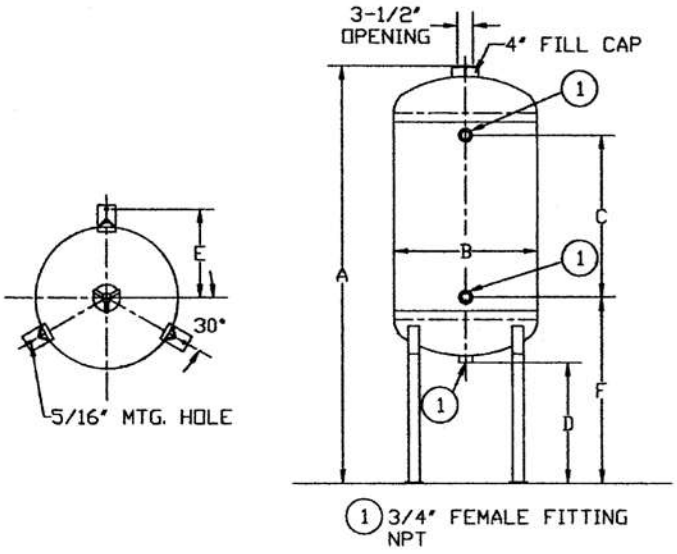
CHEMICAL BY-PASS FEEDERS



DISHED BOTTOM OUT-STYLE

PART NUMBER	VOLUME	A(IN.)	B(IN.)	C(IN.)	D(IN.)	E(IN.)	WEIGHT	HEAD GAGE	SHELL GAGE
VFT-002-0	2 GAL.	31-1/4	6	12-3/4	8-5/8	4-1/8	23	11	11
VFT-002-F	2 GAL.	31-1/4	6	12-3/4	8-5/8	4-1/8	23	11	11
VFT-005-0	5 GAL.	29-3/4	10	10-1/2	8	6-1/8	38	9	10
VFT-005-F	5 GAL.	29-3/4	10	10-1/2	8	6-1/8	38	9	10

PART# SUFFIX: F=Optional Filter Can be Installed
Cap is Cast Iron with Buna N Ring Wide Mouth

USE: For water treatment in closed circulating water systems and boilers. Great for use with chilled water treatment such as cooling systems and hot water treatment in heating systems. Helps prolong life of heating and cooling systems.

SPECIFICATIONS:

Carbon Steel Construction
Self Supported Bottom
Coarse Thread with 2 1/2 Turn Design
Working Pressure rated at 300 P.S.I.
Caps are Easy Quick Opening
Bottom of Cap is Epoxy Coated for Liquid

CARTRIDGE FILTER

PART NUMBER	DESCRIPTION
FC-005	5 MICRON PLEATED FILTER
FC-020	20 MICRON PLEATED FILTER

MODELS BFT-F AND VFT-F INCLUDE BUILT IN SUPPORT FOR FILTER ASSEMBLY.

FILTER ASSEMBLY

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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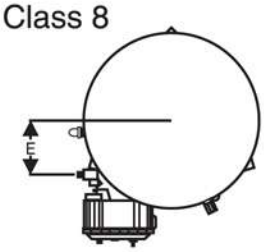
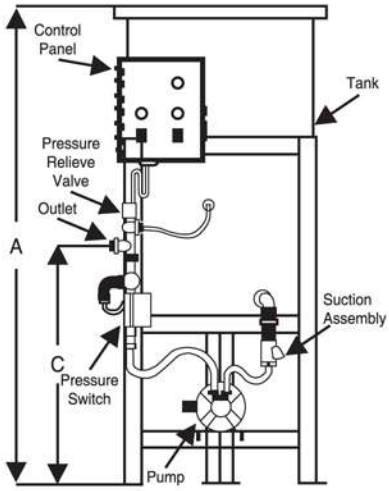
American WHEATLEY HVAC PRODUCTS®

Simplex SGL Series
Glycol Pump System

Features:

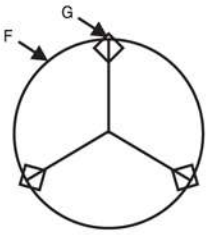
- Polyethylene tank, includes cover
- Carbon steel tank stand, coated with enamel paint
- 1/4 HP Split-phase Pump Motor, single phase, 115 VAC, 5 amp
- 1/4 HP Pump, brass rotary vane type, optional 1/2 HP Pump available
- Thermal protected motor, 1,725 RPM, Insulation Class 8
- Control Panel, 115 VAC, in-line fuse
- Led indicator lights
- Side entry low level switch, 12 amp relay
- NPT Pressure Switch standard 10 psi cut-in, 40 psi cut-out
- Brass pressure relief valve 20-150 PSI
- 100 PSI Max Pressure
- 85° F Max Temperature
- Pressure gauge, strainer, isolation valve, pressure relief valve

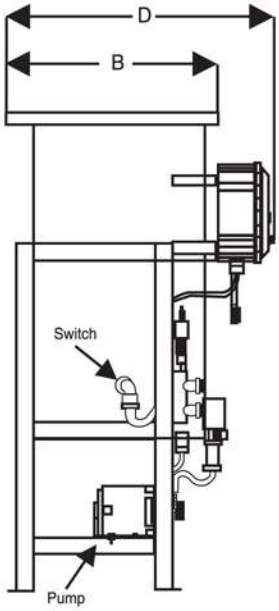




Optional Features:

- 1/2 HP Split-phase Pump Motor, 115/60/1
- Alarm, 95 decibel, with a silence switch
- PLC interface remote dry contact on low level
- Float switch, high level, with remote dry contact (PLC interface)
- Stainless Steel cover, hinge, hardware
- Discharge Steel Manifold with high temperature hoses
- Tank Stand Mounted Mixer, fan cooled, totally enclosed, with control switch
- Pump motor, fan cooled, totally enclosed
- Outdoor rated, fan cooled, totally enclosed pump
- Solid cover, bolted to tank
- Expansion tank





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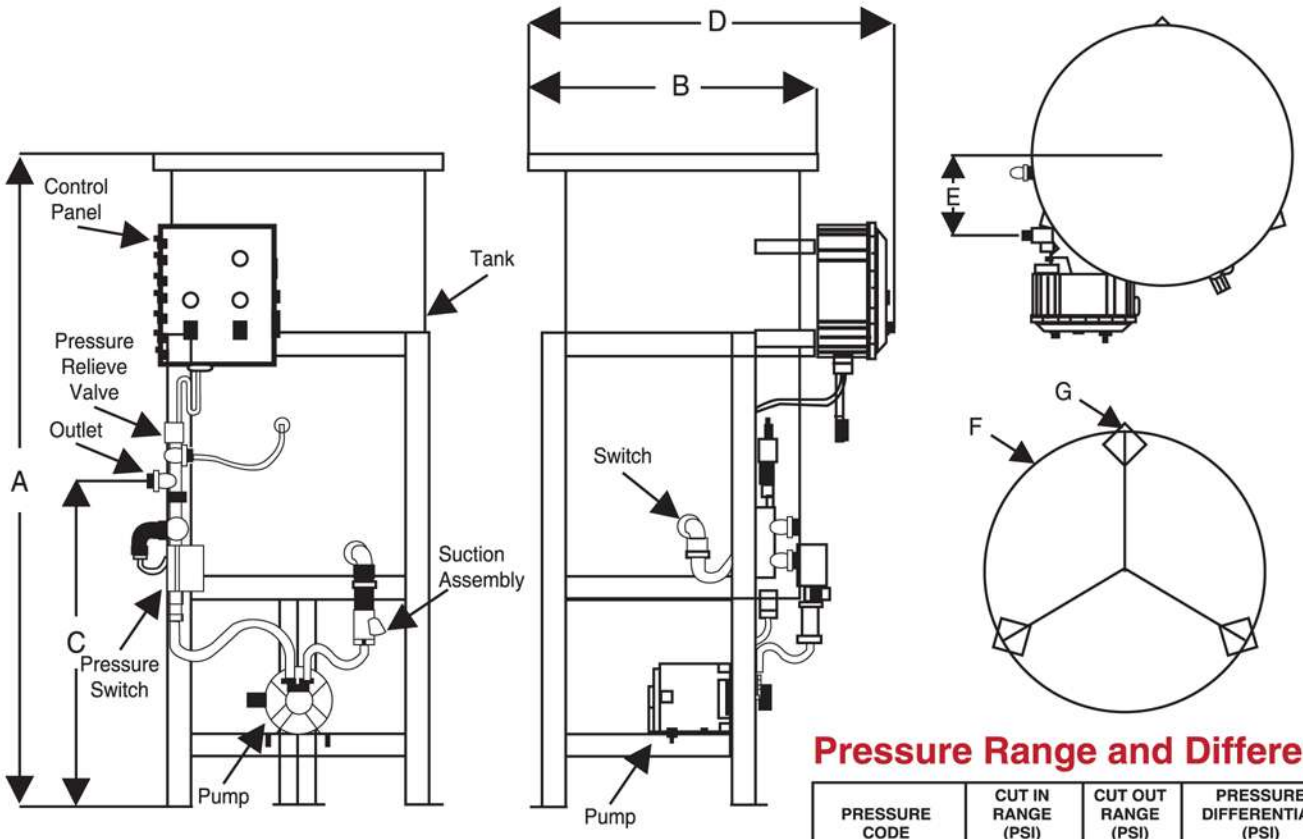


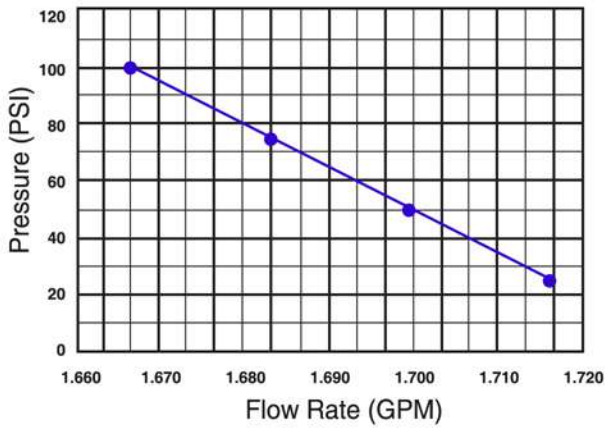
Pressure Range and Differentials

PRESSURE CODE	CUT IN RANGE (PSI)	CUT OUT RANGE (PSI)	PRESSURE DIFFERENTIAL (PSI)
STANDARD	10-45	20-60	10-30
OPTIONAL 1	40-80	65-100	20-40
OPTIONAL 2	3-10	9-30	6-20
DIGITAL	0-149	1-150	1-149

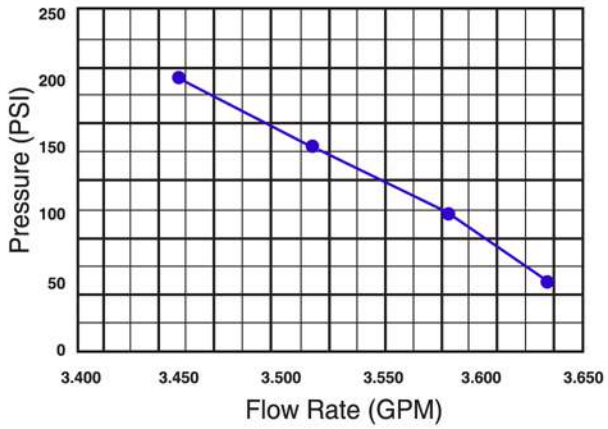
Dimensions

MODEL NO.	GALLONS	HEIGHT A (INCH)	PUMP WIDTH B (INCH)	OVERALL WIDTH C (INCH)	OUTLET TO BASE D (INCH)	OUTLET TO CENTER E (INCH)	DIAMETER F (INCH)	OUTLET G (INCH)	SHIPPING DIMENSIONS	SHIPPING WEIGHT
SGL-15-E-[ ]-[ ]	15	42 1/2"	17 3/8"	19 7/8"	25 1/2"	6"	20 1/4"	3/8"	31"X31"X50"	92 LBS
SGL-30-E-[ ]-[ ]	30	50 1/4"	20 5/16"	28"	28"	7"	23 5/8"	3/8"	31"X37"X56"	118 LBS
SGL-50-E-[ ]-[ ]	50	55 1/2"	24 7/8"	27 7/8"	31"	7 3/4"	27 1/8"	3/8"	31"X37"X62"	132 LBS
SGL-100-E-[ ]-[ ]	100	72 1/4"	30 3/8"	27 7/8"	36"	9"	32 1/8"	3/8"	38"X38"X70"	182 LBS

Standard 1/4 HP Pump
Pressure vs Flow



Optional 1/2 HP Pump
Pressure vs Flow



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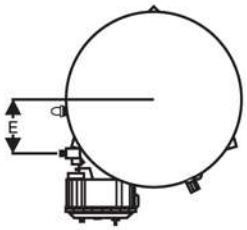
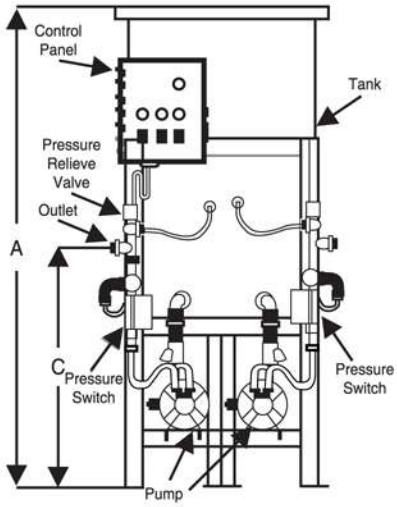
Duplex DGL Series
Glycol Pump System

Features:

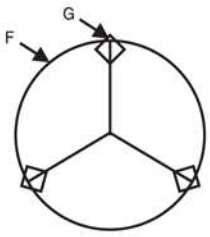
- Two pump duplex system
- 1/4 HP Split-phase Pump Motors, single phase, 115 VAC, 5 amp
- 1/4 HP Pumps, brass rotary vane type, optional 1/2 HP Pump available
- Polyethylene tank, includes cover
- Carbon steel tank stand, coated with enamel paint
- Thermal protected motor, 1,725 RPM, Insulation Class 8
- Control Panel, 115 VAC, in-line fuse
- Led indicator lights
- Side entry low level switches, 12 amp relay
- NPT Pressure Switches standard 10 psi cut-in, 40 psi cut-out
- Brass pressure relief valves 20-150 PSI
- 100 PSI Max Pressure
- 85° F Max Temperature
- Pressure gauge, strainer, isolation valve, pressure relief valve

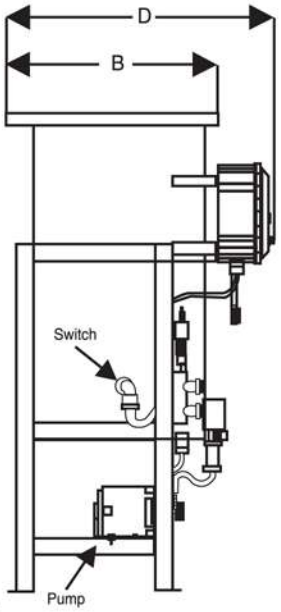




Optional Features:

- 1/2 HP Split-phase Pump Motor, 115/60/1
- Alarm, 95 decibel, with a silence switch
- PLC interface remote dry contact on low level
- Float switch, high level, with remote dry contact (PLC interface)
- Stainless Steel cover, hinge, hardware
- Discharge Steel Manifold with high temperature hoses
- Tank Stand Mounted Mixer, fan cooled, totally enclosed, with control switch
- Pump motor, fan cooled, totally enclosed
- Outdoor rated, fan cooled, totally enclosed pump
- Solid cover, bolted to tank
- Expansion tank





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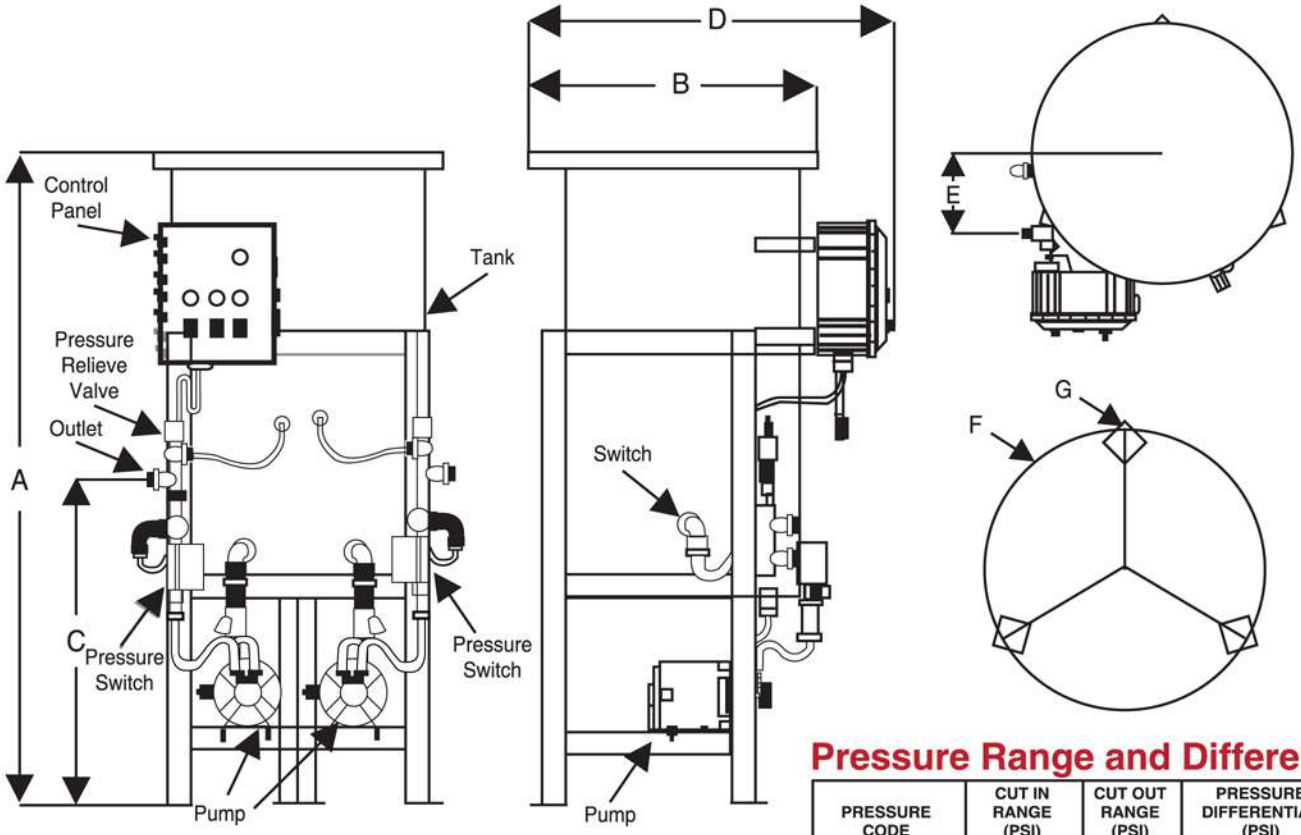


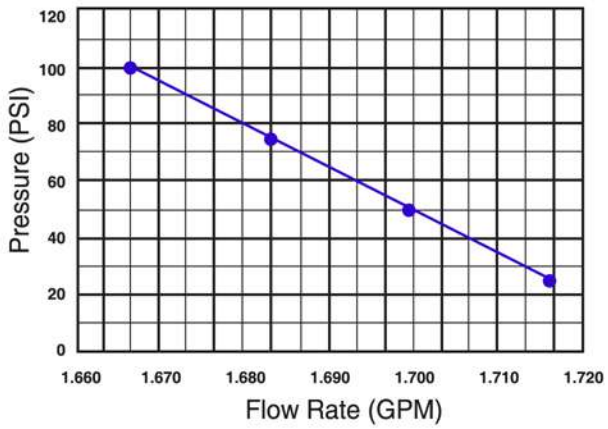
Pressure Range and Differentials

PRESSURE CODE	CUT IN RANGE (PSI)	CUT OUT RANGE (PSI)	PRESSURE DIFFERENTIAL (PSI)
STANDARD	10-45	20-60	10-30
OPTIONAL 1	40-80	65-100	20-40
OPTIONAL 2	3-10	9-30	6-20
DIGITAL	0-149	1-150	1-149

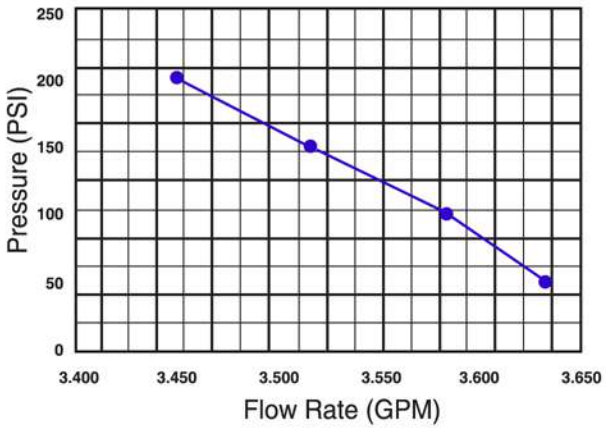
Dimensions

MODEL NO.	GALLONS	HEIGHT A (INCH)	PUMP WIDTH B (INCH)	OVERALL WIDTH C (INCH)	OUTLET TO BASE D (INCH)	OUTLET TO CENTER E (INCH)	DIAMETER F (INCH)	OUTLET G (INCH)	SHIPPING DIMENSIONS	SHIPPING WEIGHT
DGL-50-2E1-1	50	55 7/16"	24 3/4"	27 11/16"	30 15/16"	7 5/8"	27"	3/8"	31"X37"X60"	155 LBS
DGL-100-2E1-1	100	72 3/16"	30 1/4"	27 11/16"	35 13/16"	8 7/8"	32 1/16"	3/8"	36"X37"X69"	205 LBS

Standard 1/4 HP Pump
Pressure vs Flow



Optional 1/2 HP Pump
Pressure vs Flow



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Chemical By-Pass Feeder Tank Series Installation & Operation Instructions

NOTE: Maximum allowable: 200°F@300psi

1. Install as indicated in options A, B, or C below.
2. Isolate feeder from the system for servicing and draining.
3. Position the gasket in the groove under the cap before replacing. Seal the cap by hand tightening only. A new gasket may be required if the cap doesn't seal by hand pressure. NOTE: Do not use any tools or wrenches to tighten the cap, hand tighten only.
4. Open valves slowly when recharging the system.

CAUTION: Do not open under pressure-Close isolation valves and slowly bleed the pressure before opening.

CAUTION: Fluid may be hot, use extreme caution to avoid burn hazard.

5. Consult American Wheatley HVAC for the proper use of this tank with the Chemical in Question.
6. Consult the Chemical Supplier before use in the By-Pass Feeder. Read and follow label instructions before use. Do not combine chemicals in the By-Pass Feeder without Chemical Suppliers recommendation.

JOB NAME_____
LOCATION_____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

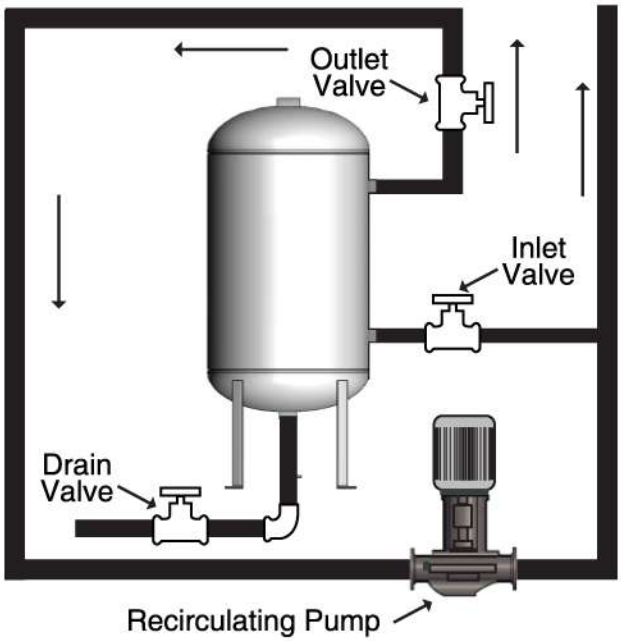
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

Typical Piping Details

With Bladder Type Tanks (BDT Series)

NOTE: (If more than one pump, install feeder across the supply and return headers in an accessible location.)

Option A



Recharge Instructions

1. Close the Inlet and Outlet Valves
2. Open the Drain Vale
3. When feeder is drained, open Cap by turning counter-clockwise.
4. Close Drain Valve
5. Add required chemicals into feeder.
6. Clean Cap and all sealing surfaces.
7. Close Cap by turning clockwise until secure.
8. Open Inlet Valve slowly.
9. Open Outlet Valve slowly and fully open the Inlet Valve.
10. Inspect all seal surfaces and fittings to avoid leaks. Tighten fittings or replace gaskets as required.

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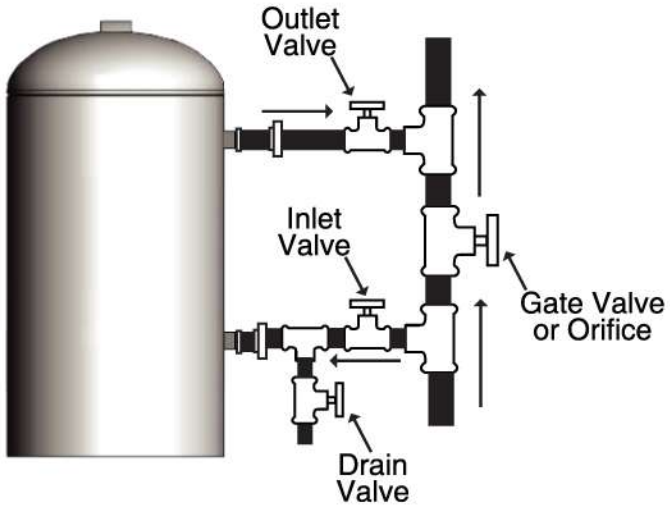
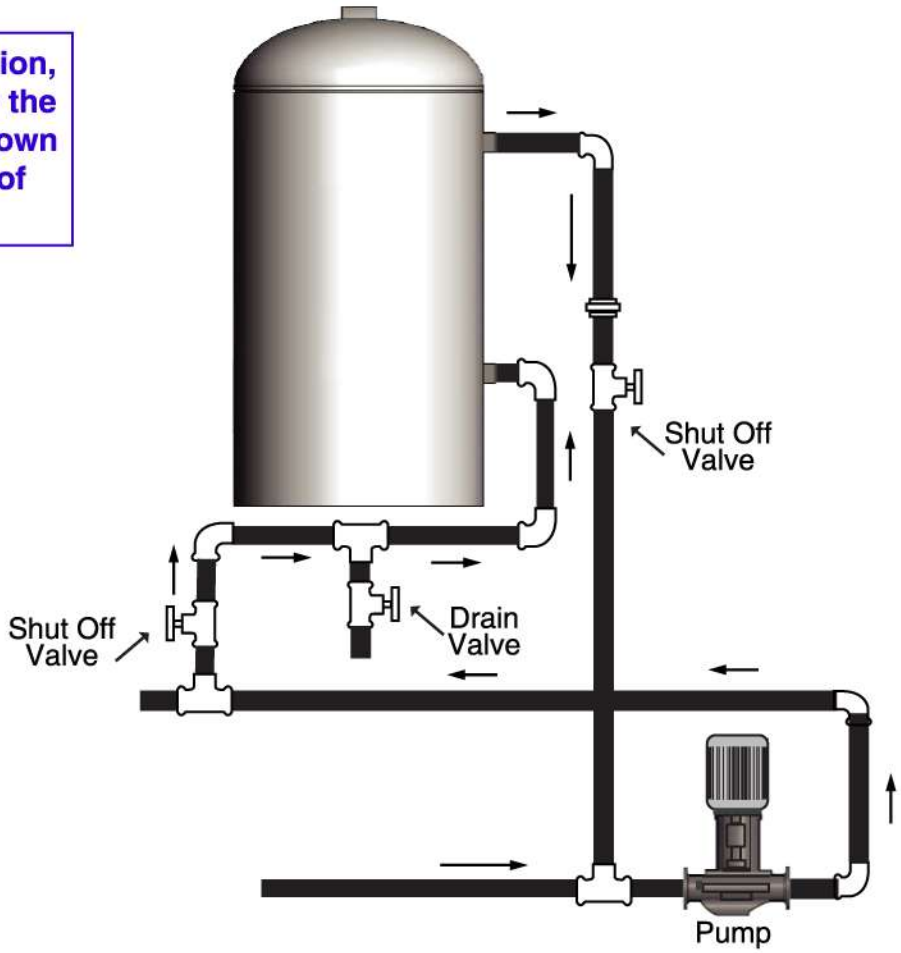
Option B



Option C

For either Option, Note carefully the flow arrow shown for each type of feeder.



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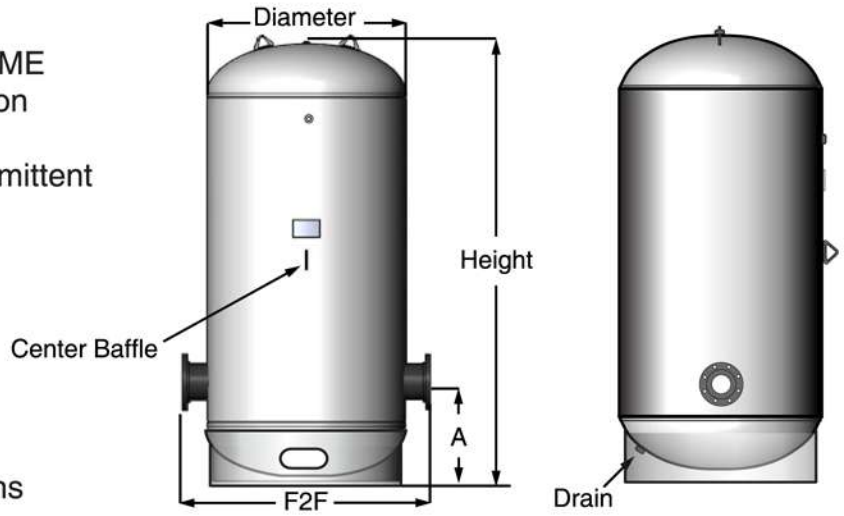
Chilled Water Buffer Tank

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction
- Maximum Temperature 450°F Intermittent
- Design Pressure 125 P.S.I.
- Primed Exterior

Optional Features:

- Manway, Hand hole
- Higher Pressures
- Stainless Steel Construction
- Upper Mounted System Connections
- External Coatings
- Insulation / Jacketing



Center-line Height (A in inches) for various Connection

MODEL	GAL	DIA. (IN.)	HGT (IN.)	2" FLG	2 1/2" FLG	3" FLG	4" FLG	6" FLG	8" FLG	10" FLG	12" FLG	F2F
AWCBT-120	120	24	60	12	12.25	12.50	13	14	15	16	17	36
AWCBT-200	200	30	72	14	14.25	14.50	15	16	17	18	19	42
AWCBT-300	300	36	72	15.75	15.75	16	16.50	17.50	18.5	19.5	20.50	48
AWCBT-400	400	36	99	24	24	24	25	26	27	28	29	48
AWCBT-500	500	42	90	17.50	17.75	18	18.5	19.50	20.5	21.5	22.50	54
AWCBT-750	750	48	106	18.75	19	19.375	19.875	21	21.875	23.5	24.5	60
AWCBT-850	850	54	96	21	21.25	21.50	22	23	24	25	26	66
AWCBT-1040	1040	60	96	22.75	23	23.25	23.75	24.75	25.75	26.75	27.75	72

DESCRIPTION: American Wheatley ASME Chilled Water Buffer Tanks are designed for chilled water systems with insufficient water volume capacity, in relation to the chiller capacity. Relatively low water volume systems require additional "buffer" capacity for the system to eliminate problems such as excessive chiller cycling, poor temperature control, and erratic system operation. The properly sized American Wheatley CBT tank adds the necessary volume to "buffer" the system.

TYPICAL SPECIFICATIONS: Furnish and install as shown on plans, an ASME Chilled Water Buffer Tank as manufactured by American Wheatley HVAC Products. The tank shall in corporate a baffle to promote tank water storage temperature stratification. The system water connections must be ___ inch (NPT/flanged/grooved).

The tank must be constructed in accordance with most recent addition of Section VIII of the ASME Boiler and pressure Vessel Code. Each Chilled Water Buffer Tank shall be American Wheatley Model AWCBT- _____.

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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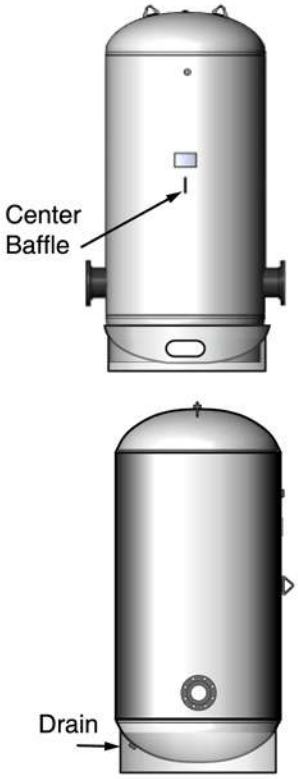
ASME Buffer Tanks for Chilled Water Systems
Installation & Operation Instructions
Replacement

GENERAL INSTRUCTIONS:

1. Chilled water buffer tanks are typically installed to ensure that an adequate water volume is available for the closed loop chilled water system. This includes the thermal mass, improving water temperature control and increasing reliability by reducing compressor cycling.
2. All steel tanks manufactured by the American Wheatley HVAC Products are constructed in accordance with the best commercial practices.
3. The ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 (an American National Standard published by the American Society of Mechanical Engineers) provides rules for the construction of pressure vessels. This includes requirements for materials, design, fabrication, examination, inspection, and marking. All steel tanks constructed in accordance with all of the applicable rules of the Code are identified with the official Code Symbol Stamp on the vessel nameplate.
4. All steel tanks that include the Code U stamp will also include a National Board Number and registration with the National Board of Boiler and Pressure Vessel Inspectors.
5. **IMPORTANT:** The ASME Boiler and Pressure Vessel Code Section VIII, Div. 1 does not permit any field modification to the pressure vessel after the ASME inspection process is completed. Welding to pressure retaining parts will void the ASME certification.
6. All steel tanks are designed for a specific design pressure. This design pressure is clearly marked on the nameplate as the MAWP (Maximum Allowable Working Pressure).
7. **IMPORTANT:** it is the responsibility of the user to ensure that the required overpressure protection device is properly installed prior to initial operation.
8. **IMPORTANT:** This product must be installed by a qualified professional. Failure to properly install and periodically inspect and service the vessel may result in serious or fatal personal injury and property damage.
9. **IMPORTANT:** All steel tanks must be installed on level surfaces designed to support the total weight of the vessel filled to capacity. Certain states require a minimum clearance of 18" around the vessel (check local codes and requirements prior to installation).



INSTALLATION/MAINTENANCE INSTRUCTIONS:

1. Check the vessel for signs of damage during shipping and handling. Report any damage tor concerns to the factory.
2. Follow safe handling procedures when transporting the tank. Use lifting lugs whenever possible (see figure)
3. Following locally accepted codes and practices for proper mounting and installation.
4. When installing a pressure relief device, verify that the device is set to operate at or below the MAWP of the vessel.
5. **IMPORTANT:** Failure to properly align, support, and connect interconnected piping will result in leakage and potentially serious or fatal personal injury and property damage.
6. Examine all connections for proper alignment. After start-up, use a leak detector solution to leak check all connections.
7. **IMPORTANT:** Periodically check the interior and exterior of the tank for signs of leakage or corrosion.
8. **IMPORTANT:** Prior to servicing the vessel, insolate it from the system, verify that the system water is at ambient temperature, and release the system pressure.
9. Inspect all gaskets and gasket surfaces. Replace gaskets that show signs of wear or damage.

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ASME Buffer Tanks for Chilled Water Systems
Tank Sizing

Chiller manufacturers recommend somewhere between 2-6 gallons per ton for nominal cooling in a typical system. Even higher, 6-10 gallons when temperature accuracy is critical.

1. Sizing
   Determine the system volume required by the manufacturer
   Remember to check with the manufacturer for their recommendations as to how many gallons they suggest per ton
   SVR = System Volume Required
   SVR = Total chiller tons X manufacture recommended system volume required gallon per ton

2. Calculate actual existing volume of piping and equipment Table A, below indicate gallons per linear foot of schedule 40 pipe
   ASV = Piping volume (PV) + equipment volume (EV) gallons

3. Calculate actual Buffer Tank size rquired (CBTR)
   Deduct the actual system volume (ASV) from the System Volume Required (SVR)
   CBTR=SVR-ASV

Refer to American Wheatley AWCBT charts for standard sizes. Larger sizes are available POA.

1"	0.04	8"	2.58
1-1/2"	0.1	10"	4.09
2"	0.17	12"	5.82
2-1/2"	0.25	14"	7.02
3"	0.38	16"	9.18
4"	0.66	18"	11.67
5"	1.04	20"	14.45
6"	1.5	24"	23.5

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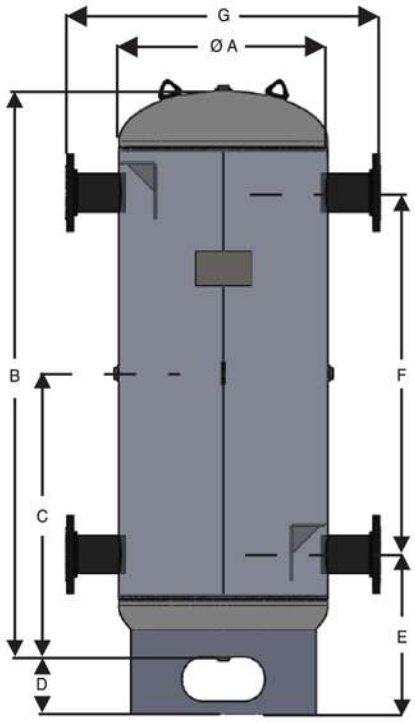
Series HS
Hot Water Hydraulic Separator/Buffer Tanks

American Wheatley HS Series Hot water buffer tanks are designed to operate with modern high efficiency low-mass modular boiler systems. The American Wheatley hot water buffer tank ensures minimal ΔT and provides the necessary thermal storage to prevent short cycling that could occur during low load conditions.



Scale 1:12

Features:

- Prevents flow in one circuit form interfering with flow from another circuit
- Eliminates the need for a primary loop circulating pump, air separator, and strainer, thereby reducing initial cost as well as operating cost
- Eliminates complicated piping, reduces labor and piping costs
- Sized for no more than 4 fps, low velocity in the vessel results in low pressure drops
- Correctly installed hydraulic separation allows the use of multiple circulators to operate independently without interfering with each other
- Ideal for multiple load systems
- Standard sizes 40 gallon through 400 gallon with connections, 2" through 16"
- Custom sizes and pressure ratings readily available

Typical Specifications:

Furnish and install an American Wheatley HS series, vertical hydraulic buffer tank as described on the drawings or schedule. Inlet and outlet connections shall be flanged unless otherwise noted. Unit shall be constructed of carbon steel and built in accordance with ASME Section VIII, Division 1, the nameplate manufacturer shall carry all applicable ASME certificates. Exterior shall be primer base coated.

MODEL NO.	SIZE	GALLON	AQ STAT	DRAIN	VENT	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	WT LBS.
HS-40	2", 2.5", 3" 4"	40	3/4	3/4	3/4	14	58.75	29.38	6.60	14.75	42.38	26	200
HS-120	2", 2.5", 3" 4"	120	3/4	3/4	3/4	24	65.25	32.63	6.60	18.53	41.38	36	440
HS-200	2", 2.5", 3" 4"	200	3/4	3/4	3/4	30	69.31	34.63	6.60	19.56	43.38	42	630
HS-300	2", 2.5", 3" 4"	300	3/4	3/4	3/4	36	73.63	36.82	6.60	21.75	43.38	48	730
HS-400	2", 2.5", 3" 4"	400	3/4	3/4	3/4	36	96.63	48.31	6.60	21.75	66.38	48	800

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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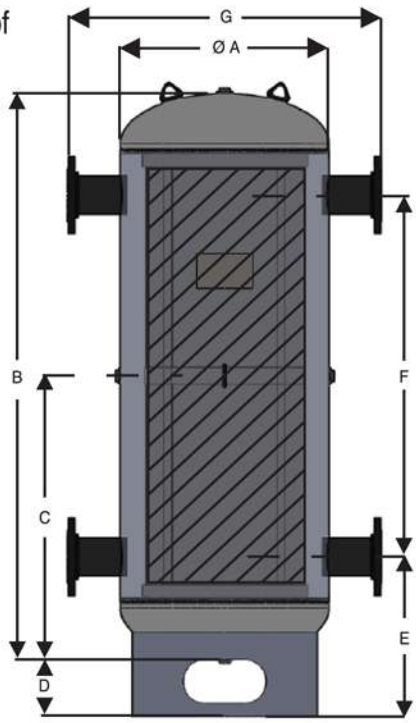
Series HSC Coalescing Type Hydraulic Separator

American Wheatley HSC Series Coalescing type Hydraulic Separators/Hot Water Buffer Tanks are designed to operate with modern high efficiency low-mass modular boiler systems. The American Wheatley HSC Series ensures minimal ΔT and provides the necessary thermal storage to prevent short cycling that could occur during low load conditions, along with the added benefit of a coalescing media for superior air and dirt separation.



Scale 1:12

Features:

- Prevents flow in one circuit form interfering with flow from another circuit
- Eliminates the need for a primary loop circulating pump, air separator, and strainer, thereby reducing initial cost as well as operating cost
- Eliminates complicated piping, reduces labor and piping costs
- High performance stainless steel ring type coalescing media
- Correctly installed hydraulic separation allows the use of multiple circulators to operate independently without interfering with each other
- Ideal for multiple load systems
- Standard sizes 40 gallon through 400 gallon with connections, 2" through 16"
- Custom sizes and pressure ratings readily available

Typical Specifications:

Furnish and install an American Wheatley HSC series, coalescing type vertical hydraulic separator as described on the drawings or schedule. Inlet and outlet connections shall be flanged unless otherwise noted. Unit shall be constructed of carbon steel and built in accordance with ASME Section VIII, Division 1, the nameplate manufacturer shall carry all applicable ASME certificates. Coalescing media must be stainless steel. Exterior shall be primer base coated.

MODEL NO.	SIZE	GALLON	AQ STAT	DRAIN	VENT	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	WT LBS.
HSC-40	2", 2.5", 3" 4"	40	3/4	3/4	3/4	14	58.75	29.38	6.60	14.75	42.38	26	200
HSC-120	2", 2.5", 3" 4"	120	3/4	3/4	3/4	24	65.25	32.63	6.60	18.53	41.38	36	440
HSC-200	2", 2.5", 3" 4"	200	3/4	3/4	3/4	30	69.31	34.63	6.60	19.56	43.38	42	630
HSC-300	2", 2.5", 3" 4"	300	3/4	3/4	3/4	36	73.63	36.82	6.60	21.75	43.38	48	730
HSC-400	2", 2.5", 3" 4"	400	3/4	3/4	3/4	36	96.63	48.31	6.60	21.75	66.38	48	800

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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ASME Buffer Tanks for Hot Water Systems
Tank Sizing

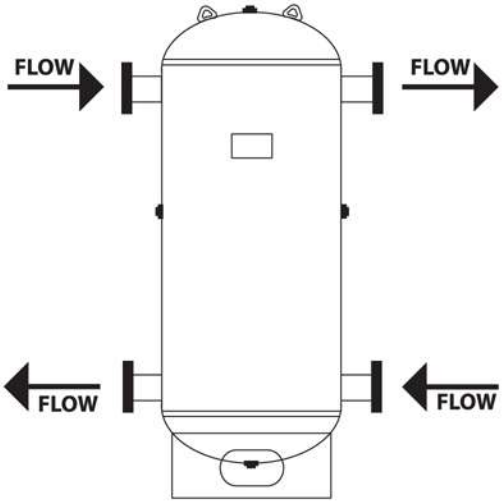
What is a hot water buffer tank?

The Wheatley hot water buffer tank (HS) is designed to be used with today's low mass, high efficiency boiler systems. The Wheatley HS series hot water buffer tank affords the needed volume and thermal mass to negate or minimize short cycling during no load or low load conditions.

How do I size a hot water buffer tank?

Once again quite simple.

MCT=Manufacturers recommended minimum boiler cycle time-minues*
MBO= Minimum boiler output-BTUH
MSO=Minimum System Load**
ΔT-Temperature differential in tank***
CBTR=Calculated Buffer tank size required-gallons



$$\frac{MCT\ (MBO-MSO)}{\Delta T \times 500} = CBTR$$

*Typically 1-5 minute
** Enter 0 if not specified
*** Typically 10-20

Example:
MCT - 3 minutes
MBO-900,0000 BTUH
MSO-Unknown, Enter 0
ΔT-20

$$\frac{3 \times (900{,}000-0)}{20 \times 500} = \frac{2{,}700{,}000}{10{,}000} = 270 \text{ Gallon CBTR Hot Water Buffer Tank Required}$$

Please see our website for further details.

JOB NAME _____
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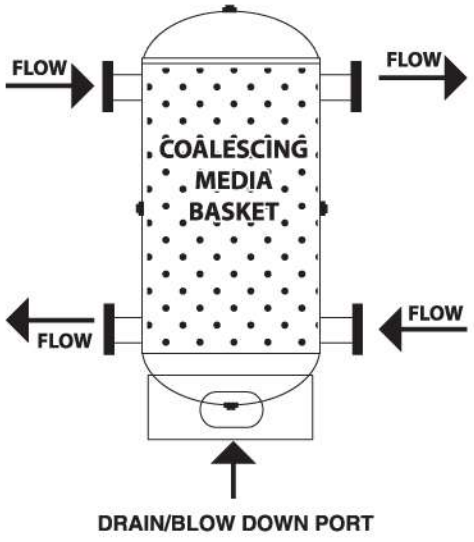
Hydraulic Separator-Coalescing Type Installation, Operation & Maintenance

- Wheatley Buffer Tanks are typically installed to ensure adequate water volume along with decoupling and mixing action necessary with today's primary secondary systems.
- All steel tanks manufactured by the American Wheatley HVAC Products are constructed in accordance with the best commercial practices.
- The ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 (an American National Standard published by the American Society of Mechanical Engineers) provides rules for the construction of pressure vessels. This includes requirements for materials, design, fabrication, examination, inspection, and marking. All steel tanks constructed in accordance with all of the applicable rules of the Code are identified with the official Code Symbol Stamp on the vessel nameplate.
- All steel tanks that include the Code U Stamp will also include a National Board Number and registration with the National Board of Boiler and Pressure Vessel Inspectors.
- **IMPORTANT:** The ASME Boiler and Pressure Vessel Code Section VIII, Div. 1 does not permit any field modification to the pressure vessel after the ASME Inspection process is completed. Welding to pressure retaining parts will void the ASME certification.



- All steel tanks are designed for specific design pressure. This design pressure is clearly marked on the nameplate as the MAWP (Maximum Allowable Working Pressure).

INSTALLATION/MAINTENANCE INSTRUCTIONS:

- Check the vessel for signs of damage during shipping and handling. Report any damage for concerns to the factory.
- Follow safe handling procedures when transporting the tank. Use lifting lugs whenever possible (see figure).
- Following locally accepted codes and practices for proper mounting and installation.
- When installing a pressure relief device, verify that the devise is set to operate at or below the MAWP of the vessel.
- **IMPORTANT:** Failure to properly align, support, and connect interconnected piping will result in leakage and potentially serious or fatal personal injury and property damage.
- Examine all connections for proper alignment. After start-up, use a leak detector solution to leak check all connections.
- **IMPORTANT:** Periodically check the interior and exterior of the tank of signs of leakage or corrosion. Blow down as necessary.
- **IMPORTANT:** Prior to servicing the vessel, insolate it from the system, verify that the system water is at ambient temperature, and release the system pressure.
- Inspect all gaskets and gasket surfaces. Replace gaskets that show signs of wear or damage.

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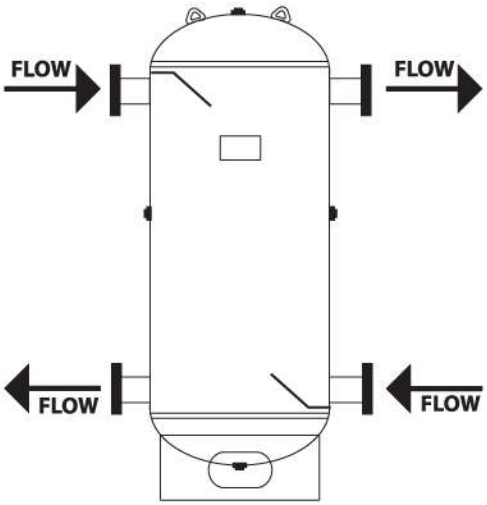
Hydraulic Hot Water Buffer Tank Installation, Operation & Maintenance



- Wheatley buffer tanks are typically installed to ensure adequate water volume along with decoupling and mixing action necessary with today's primary secondary systems.
- All steel tanks manufactured by the American Wheatley HVAC Products are constructed in accordance with the best commercial practices.
- The ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 (an American National Standard published by the American Society of Mechanical Engineers) provides rules for the construction of pressure vessels. This includes requirements for materials, design, fabrication, examination, inspection, and marking. All steel tanks constructed in accordance with all of the applicable rules of the Code are identified with the official Code Symbol Stamp on the vessel nameplate.
- All steel tanks that include the Code U stamp will also include a National Board Number and registration with the National Board of Boiler and Pressure Vessel Inspectors.
- **IMPORTANT:** The ASME Boiler and Pressure Vessel Code Section VIII, Div. 1 does not permit any field modification to the pressure vessel after the ASME inspection process is completed. Welding to pressure retaining parts will void the ASME certification.
- All steel tanks are designed for a specific design pressure. This design pressure is clearly marked on the nameplate as the MAWP (Maximum Allowable Working Pressure).
- **IMPORTANT:** It is the responsibility of the user to ensure that the required overpressure protection device is properly installed prior to initial operation.
- **IMPORTANT:** This product must be installed by a qualified professional. Failure to properly install and periodically inspection and service the vessel may result in serious or fatal personal inquiry and property damage.
- **IMPORTANT:** All steel tanks must be installed on level surfaces designed to support the total weight of the vessel filled to capacity. Certain states require a minimum clearance of 18" around the vessel (check local codes and requirements prior to installation).

INSTALLATION/MAINTENANCE INSTRUCTIONS:

- Check the vessel for signs of damage during shipping and handling. Report any damage for concerns to the factory.
- Follow safe handling procedures when transporting the tank. Use lifting lugs whenever possible (see figure).
- Following locally accepted codes and practices for proper mounting and installation.
- When installing a pressure relief device, verify that the device is set to operate at or below the MAWP of the vessel.
- **IMPORTANT:** Failure to properly align, support, and connect interconnected piping will result in leakage and potentially serious or fatal personal injury and property damage.
- Examine all connections for proper alignment. After start-up, use a leak detector solution to leak check all connections.
- **IMPORTANT:** Periodically check the interior and exterior of the tank for signs of leakage or corrosion.
- **IMPORTANT:** Prior to servicing the vessel, insolate it from the system, verify that the system water is at ambient temperature, and release the system pressure.
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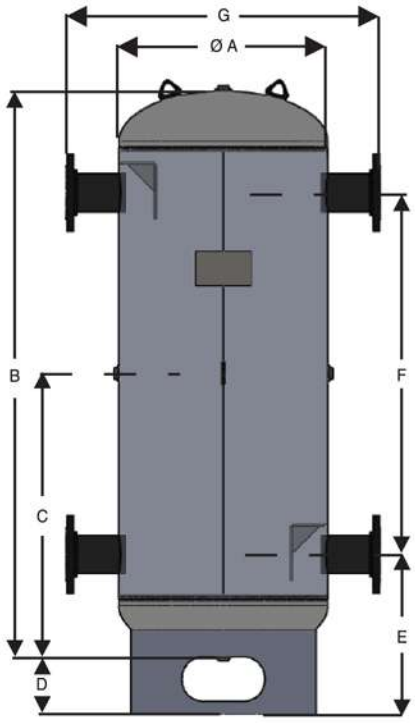
Series HS
Hot Water Hydraulic Separator/Buffer Tanks

American Wheatley HS Series Hot water buffer tanks are designed to operate with modern high efficiency low-mass modular boiler systems. The American Wheatley hot water buffer tank ensures minimal ΔT and provides the necessary thermal storage to prevent short cycling that could occur during low load conditions.



Scale 1:12

Features:

- Prevents flow in one circuit form interfering with flow from another circuit
- Eliminates the need for a primary loop circulating pump, air separator, and strainer, thereby reducing initial cost as well as operating cost
- Eliminates complicated piping, reduces labor and piping costs
- Sized for no more than 4 fps, low velocity in the vessel results in low pressure drops
- Correctly installed hydraulic separation allows the use of multiple circulators to operate independently without interfering with each other
- Ideal for multiple load systems
- Standard sizes 40 gallon through 400 gallon with connections, 2" through 16"
- Custom sizes and pressure ratings readily available

Typical Specifications:

Furnish and install an American Wheatley HS series, vertical hydraulic buffer tank as described on the drawings or schedule. Inlet and outlet connections shall be flanged unless otherwise noted. Unit shall be constructed of carbon steel and built in accordance with ASME Section VIII, Division 1, the nameplate manufacturer shall carry all applicable ASME certificates. Exterior shall be primer base coated.

MODEL NO.	SIZE	GALLON	AQ STAT	DRAIN	VENT	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	WT LBS.
HS-40	2", 2.5", 3" 4"	40	3/4	3/4	3/4	14	58.75	29.38	6.60	14.75	42.38	26	200
HS-120	2", 2.5", 3" 4"	120	3/4	3/4	3/4	24	65.25	32.63	6.60	18.53	41.38	36	440
HS-200	2", 2.5", 3" 4"	200	3/4	3/4	3/4	30	69.31	34.63	6.60	19.56	43.38	42	630
HS-300	2", 2.5", 3" 4"	300	3/4	3/4	3/4	36	73.63	36.82	6.60	21.75	43.38	48	730
HS-400	2", 2.5", 3" 4"	400	3/4	3/4	3/4	36	96.63	48.31	6.60	21.75	66.38	48	800

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
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ITEMS	QUANTITY

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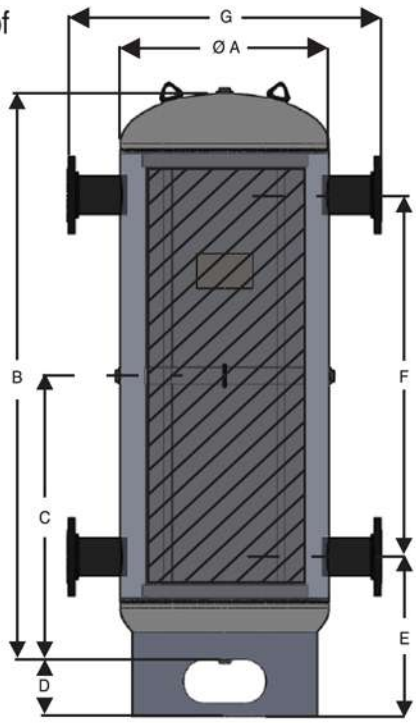
Series HSC Coalescing Type Hydraulic Separator

American Wheatley HSC Series Coalescing type Hydraulic Separators/Hot Water Buffer Tanks are designed to operate with modern high efficiency low-mass modular boiler systems. The American Wheatley HSC Series ensures minimal ΔT and provides the necessary thermal storage to prevent short cycling that could occur during low load conditions, along with the added benefit of a coalescing media for superior air and dirt separation.



Scale 1:12

Features:

- Prevents flow in one circuit form interfering with flow from another circuit
- Eliminates the need for a primary loop circulating pump, air separator, and strainer, thereby reducing initial cost as well as operating cost
- Eliminates complicated piping, reduces labor and piping costs
- High performance stainless steel ring type coalescing media
- Correctly installed hydraulic separation allows the use of multiple circulators to operate independently without interfering with each other
- Ideal for multiple load systems
- Standard sizes 40 gallon through 400 gallon with connections, 2" through 16"
- Custom sizes and pressure ratings readily available

Typical Specifications:

Furnish and install an American Wheatley HSC series, coalescing type vertical hydraulic separator as described on the drawings or schedule. Inlet and outlet connections shall be flanged unless otherwise noted. Unit shall be constructed of carbon steel and built in accordance with ASME Section VIII, Division 1, the nameplate manufacturer shall carry all applicable ASME certificates. Coalescing media must be stainless steel. Exterior shall be primer base coated.

MODEL NO.	SIZE	GALLON	AQ STAT	DRAIN	VENT	A IN.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	WT LBS.
HSC-40	2", 2.5", 3" 4"	40	3/4	3/4	3/4	14	58.75	29.38	6.60	14.75	42.38	26	200
HSC-120	2", 2.5", 3" 4"	120	3/4	3/4	3/4	24	65.25	32.63	6.60	18.53	41.38	36	440
HSC-200	2", 2.5", 3" 4"	200	3/4	3/4	3/4	30	69.31	34.63	6.60	19.56	43.38	42	630
HSC-300	2", 2.5", 3" 4"	300	3/4	3/4	3/4	36	73.63	36.82	6.60	21.75	43.38	48	730
HSC-400	2", 2.5", 3" 4"	400	3/4	3/4	3/4	36	96.63	48.31	6.60	21.75	66.38	48	800

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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American WHEATLEY HVAC PRODUCTS®

ASME Buffer Tanks for Hot Water Systems
Tank Sizing

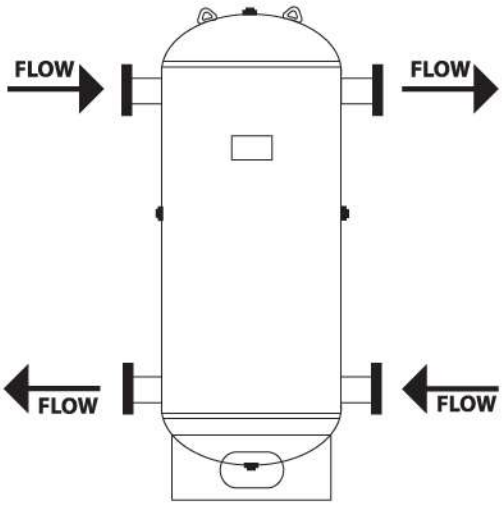
What is a hot water buffer tank?

The Wheatley hot water buffer tank (HS) is designed to be used with today's low mass, high efficiency boiler systems. The Wheatley HS series hot water buffer tank affords the needed volume and thermal mass to negate or minimize short cycling during no load or low load conditions.

How do I size a hot water buffer tank?

Once again quite simple.

MCT=Manufacturers recommended minimum boiler cycle time-minues*
MBO= Minimum boiler output-BTUH
MSO=Minimum System Load**
ΔT-Temperature differential in tank***
CBTR=Calculated Buffer tank size required-gallons



$$\frac{MCT\ (MBO-MSO)}{\Delta T \times 500} = CBTR$$

*Typically 1-5 minute
** Enter 0 if not specified
*** Typically 10-20

Example:
MCT - 3 minutes
MBO-900,0000 BTUH
MSO-Unknown, Enter 0
ΔT-20

$$\frac{3 \times (900{,}000-0)}{20 \times 500} = \frac{2{,}700{,}000}{10{,}000} = 270 \text{ Gallon CBTR Hot Water Buffer Tank Required}$$

Please see our website for further details.

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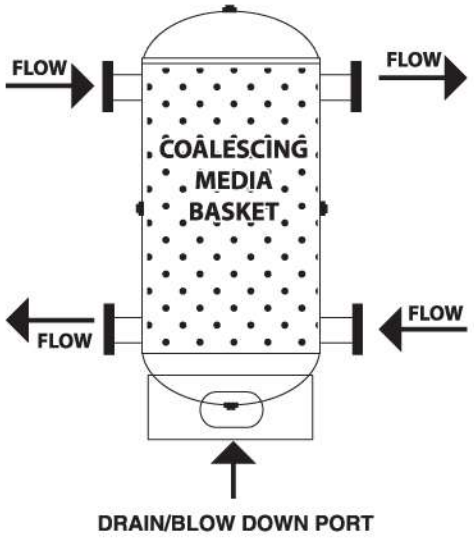
Hydraulic Separator-Coalescing Type Installation, Operation & Maintenance

- Wheatley Buffer Tanks are typically installed to ensure adequate water volume along with decoupling and mixing action necessary with today's primary secondary systems.
- All steel tanks manufactured by the American Wheatley HVAC Products are constructed in accordance with the best commercial practices.
- The ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 (an American National Standard published by the American Society of Mechanical Engineers) provides rules for the construction of pressure vessels. This includes requirements for materials, design, fabrication, examination, inspection, and marking. All steel tanks constructed in accordance with all of the applicable rules of the Code are identified with the official Code Symbol Stamp on the vessel nameplate.
- All steel tanks that include the Code U Stamp will also include a National Board Number and registration with the National Board of Boiler and Pressure Vessel Inspectors.
- **IMPORTANT:** The ASME Boiler and Pressure Vessel Code Section VIII, Div. 1 does not permit any field modification to the pressure vessel after the ASME Inspection process is completed. Welding to pressure retaining parts will void the ASME certification.



- All steel tanks are designed for specific design pressure. This design pressure is clearly marked on the nameplate as the MAWP (Maximum Allowable Working Pressure).

INSTALLATION/MAINTENANCE INSTRUCTIONS:

- Check the vessel for signs of damage during shipping and handling. Report any damage for concerns to the factory.
- Follow safe handling procedures when transporting the tank. Use lifting lugs whenever possible (see figure).
- Following locally accepted codes and practices for proper mounting and installation.
- When installing a pressure relief device, verify that the devise is set to operate at or below the MAWP of the vessel.
- **IMPORTANT:** Failure to properly align, support, and connect interconnected piping will result in leakage and potentially serious or fatal personal injury and property damage.
- Examine all connections for proper alignment. After start-up, use a leak detector solution to leak check all connections.
- **IMPORTANT:** Periodically check the interior and exterior of the tank of signs of leakage or corrosion. Blow down as necessary.
- **IMPORTANT:** Prior to servicing the vessel, insolate it from the system, verify that the system water is at ambient temperature, and release the system pressure.
- Inspect all gaskets and gasket surfaces. Replace gaskets that show signs of wear or damage.

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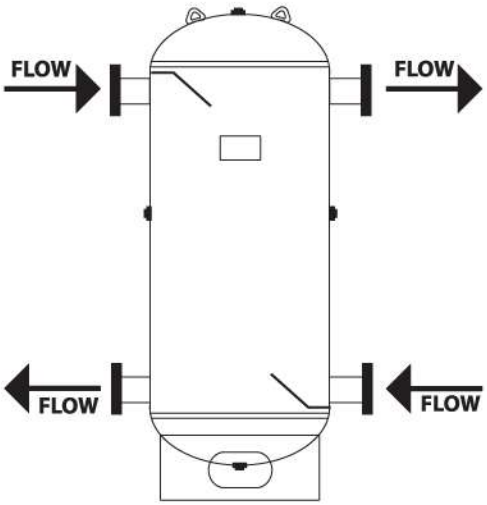
Hydraulic Hot Water Buffer Tank Installation, Operation & Maintenance



- Wheatley buffer tanks are typically installed to ensure adequate water volume along with decoupling and mixing action necessary with today's primary secondary systems.
- All steel tanks manufactured by the American Wheatley HVAC Products are constructed in accordance with the best commercial practices.
- The ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 (an American National Standard published by the American Society of Mechanical Engineers) provides rules for the construction of pressure vessels. This includes requirements for materials, design, fabrication, examination, inspection, and marking. All steel tanks constructed in accordance with all of the applicable rules of the Code are identified with the official Code Symbol Stamp on the vessel nameplate.
- All steel tanks that include the Code U stamp will also include a National Board Number and registration with the National Board of Boiler and Pressure Vessel Inspectors.
- **IMPORTANT:** The ASME Boiler and Pressure Vessel Code Section VIII, Div. 1 does not permit any field modification to the pressure vessel after the ASME inspection process is completed. Welding to pressure retaining parts will void the ASME certification.
- All steel tanks are designed for a specific design pressure. This design pressure is clearly marked on the nameplate as the MAWP (Maximum Allowable Working Pressure).
- **IMPORTANT:** It is the responsibility of the user to ensure that the required overpressure protection device is properly installed prior to initial operation.
- **IMPORTANT:** This product must be installed by a qualified professional. Failure to properly install and periodically inspection and service the vessel may result in serious or fatal personal inquiry and property damage.
- **IMPORTANT:** All steel tanks must be installed on level surfaces designed to support the total weight of the vessel filled to capacity. Certain states require a minimum clearance of 18" around the vessel (check local codes and requirements prior to installation).

INSTALLATION/MAINTENANCE INSTRUCTIONS:

- Check the vessel for signs of damage during shipping and handling. Report any damage for concerns to the factory.
- Follow safe handling procedures when transporting the tank. Use lifting lugs whenever possible (see figure).
- Following locally accepted codes and practices for proper mounting and installation.
- When installing a pressure relief device, verify that the device is set to operate at or below the MAWP of the vessel.
- **IMPORTANT:** Failure to properly align, support, and connect interconnected piping will result in leakage and potentially serious or fatal personal injury and property damage.
- Examine all connections for proper alignment. After start-up, use a leak detector solution to leak check all connections.
- **IMPORTANT:** Periodically check the interior and exterior of the tank for signs of leakage or corrosion.
- **IMPORTANT:** Prior to servicing the vessel, insolate it from the system, verify that the system water is at ambient temperature, and release the system pressure.
- Inspect all gaskets and gasket surfaces. Replace gaskets that show signs of wear or damage.

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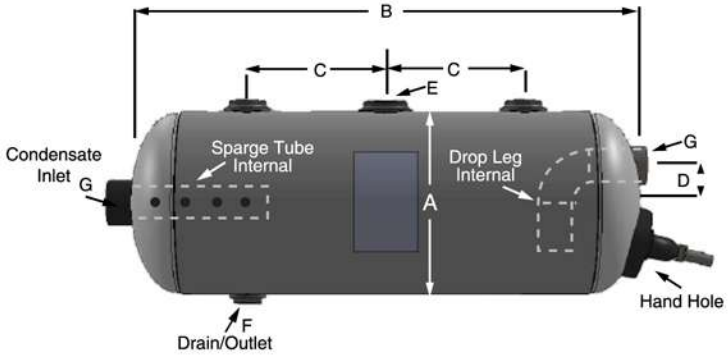
Horizontal Flash Tank

Designed for flashing of high pressure condensate into steam and low pressure heating supply mains. Orientation of horizontal design allows for surface flashing. These also reduce steam pressure prior to returning to either condensate tanks, boilers, or discharge into sewer mains.



Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction
- Working Pressure 150 PSI
- Maximum Temperature 450º F
- Drop Leg
- Sparge Tube
- Red Oxide Primer

Optional Features:

- Handhole on diameters 24" - 30"
- Exterior Coatings

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	TANK VOLUME (ACTUAL)	DIA A(IN.)	LENGTH B(IN.)	DIM. C(IN.)	DIM D(IN.)	NPT OPENINGS E(IN.)	F(IN.)	G (IN.)	WEIGHT	WORKING PRESSURE
FT-013-HRZ	13 GALLONS	10	39	13	2 1/2	2	1	1 1/2	65	150 PSI
FT-015-HRZ	15 GALLONS	12	33	9	2 1/2	2	1	1 1/2	70	150 PSI
FT-018-HRZ	18 GALLONS	12	39	12	3	2	1	1 1/2	75	150 PSI
FT-024-HRZ	24 GALLONS	14	39	12	3-1/2	2	1	1 1/2	80	150 PSI
FT-030-HRZ	30 GALLONS	16	38	11	4	2 1/2	1 1/2	1 1/2	85	150 PSI
FT-048-HRZ	48 GALLONS	18	48	15	4 1/2	2 1/2	1 1/2	1 1/2	115	150 PSI
FT-080-HRZ	80 GALLONS	24	48	14	6	3	2	2	150	150 PSI
FT-125-HRZ	125 GALLONS	30	48	12	7 1/2	3	2	2	255	150 PSI

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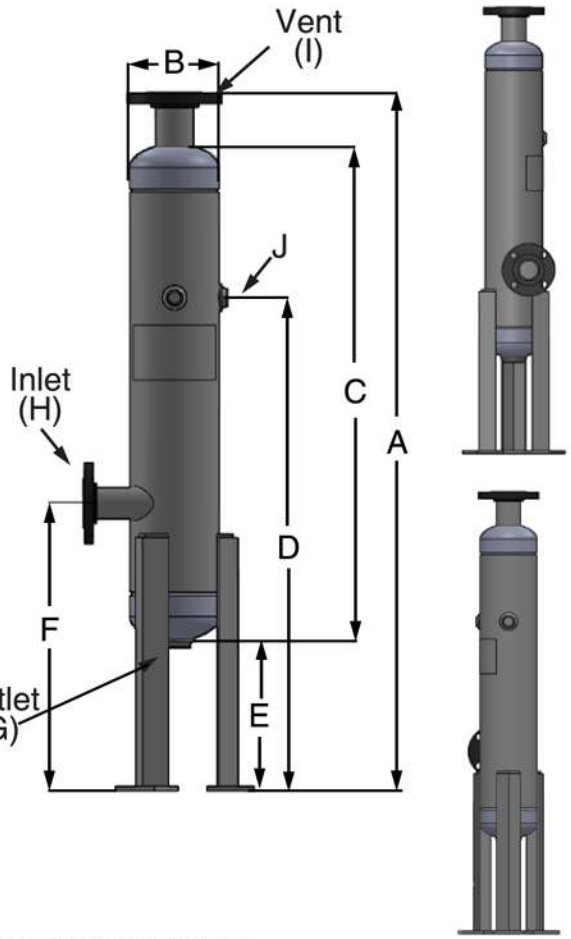
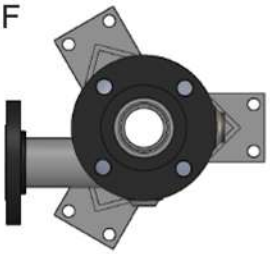
Vertical Flash Tank

Designed for flashing of high pressure condensate into steam and low pressure heating supply mains. Orientation of vertical design allows for a smaller footprint where needed. As the high pressure condensate moves from the top of the tank to the bottom, some of the flash steam is re-evaporated through the steam trap and released. The remaining condensate is separated from the remaining flash steam and is then drained through the steam trap at the bottom of the vessel. These reduce steam pressure prior to returning to either condensate tanks, boilers, or discharge into sewer mains.



Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction
- Working Pressure 150 PSI
- Maximum Temperature 450º F
- Red Oxide Primer



Optional Features:

- Exterior Coatings

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

PART NUMBER	HEIGHT A (IN.)	DIAMETER B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	NPT OPENINGS G (IN.)	H (IN.)	I (IN.)	J (IN.)	WEIGHT (LBS)
FT-006-VRT	51	6	36	36	9 1/2	21	1 1/2	2	2 1/2	3/4	78
FT-008-VRT	52	8	36	36	9 1/2	21	1 1/2	3	4	1	110
FT-012-VRT	55 3/8	12	40	40	9 1/2	23	2	4	6	1 1/2	167
FT-016-VRT	63 1/2	16	48	48	9 1/2	26	2	6	6	2	220

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Vertical Blowdown Tank

The Wheatley VBD Series vertical blowdown tank is designed to reduce the temperature and pressure of oiler blowdown water to a safe level where it can be expelled to a municipal sewer system drain. Equipped with a tangential inlet and a wear plate, as the boiler blowdown water enters the VBD it flashes to steam, condensate then flows into the VBD while the flash steam is vented through a top vent. As the condensate level rises, it reached the outlet port and flows to drain. In the case where the condensate is too hot* to safely be discharged to the municipal sewer system, American Wheatley can supply an optional Temperature Control Valve that can introduce city water into the tank to cool the condensate. When sizing a VBD blowdown vessel, the tank size should be equal to 2X a single blowdown cycle water volume of the boiler, whereas the boiler water level is reduced by not less than 4" minimum.

Example: One blowdown cycle expels 25 gallons of blowdown water 25 gallons x 2= 50 gallon VBD required.

*Check with your local municipality for acceptable temperature limit.

Features:

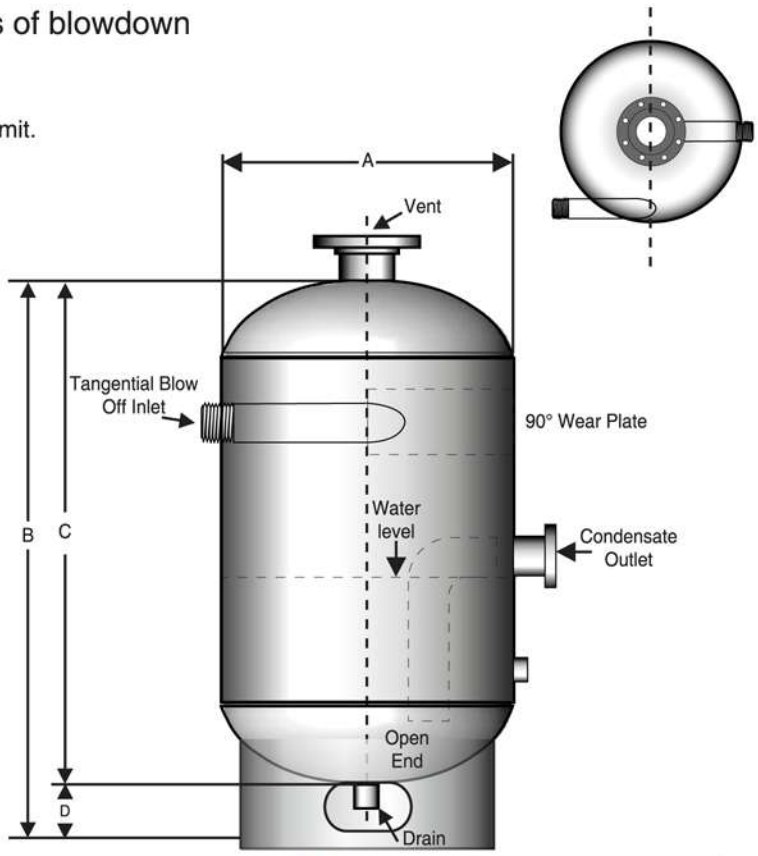
- ASME Section VIII, Division 1, Latest Edition construction, 125 psi
- Tangential inlet with wear plate

Optional Features:

- Higher working pressures available
- Temperature control valve to maintain proper blowdown temperature
- Gauge glass
- Man-way (standard on 42" diameter and larger)
- Painted Exterior, Epoxy Coatings

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.



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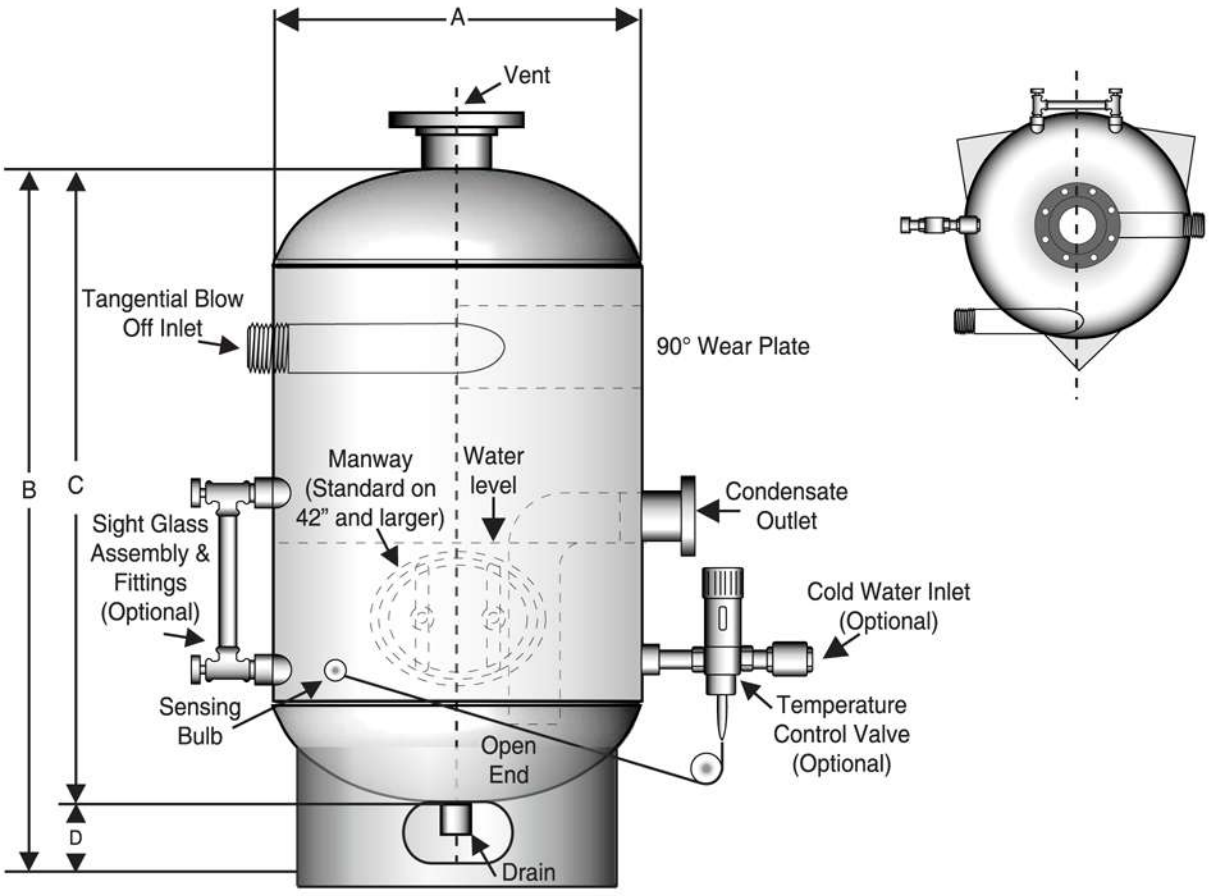
PART NUMBER	CAPACITY VOLUME GALLONS	DIA. A (IN.)	TOTAL HGT B (IN.)	TANK HGT C (IN.)	DRAIN TO FLOOR D (IN.)	VENT (IN.)	INLET (IN.)	OUTLET (IN.)	DRAIN (IN.)	COLD WATER (IN.)
VBD-030	30	16”	48”	36”	12”	2 1/2” NPT	3/4” NPT	2” NPT	1”	1/2” NPT
VBD-050	50	20”	54”	42”	12”	2 1/2” NPT	3/4” NPT	2” NPT	1”	1/2” NPT
VBD-087	87	24”	60”	48”	12”	3” NPT	1” NPT	2” NPT	1”	1/2” NPT
VBD-140	140	30”	60”	48”	12”	3” NPT	1 1/4” NPT	2” NPT	1”	3/4” NPT
VBD-215	215	36”	66”	54”	12”	5” FLG.	1 1/2” NPT	2 1/2” NPT	1 1/2”	3/4” NPT
VBD-320	320	42”	72”	60”	12”	5” FLG.	2”	3” NPT	1 1/2”	3/4” NPT
VBD-455	455	48”	78”	66”	12”	6” FLG.	2 1/2”	4“ FLG	1 1/2”	1” NPT
VBD-620	620	54”	84”	72”	12”	8” FLG.	3”	5“ FLG	1 1/2”	1” NPT
VBD-815	815	60”	90”	78”	12”	10” FLG.	4”	6” FLG	1 1/2”	1” NPT

Shown with optional features



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LINED TANKS (CEMENT, EPOXY) CUSTOM

EXTERIOR PAINT

Unless otherwise specified, all vessel exteriors are prime painted before shipment. Prior to being painted, the vessel is cleaned of loose mill scale and rust with power grinders and power wire brushes. The vessel is then painted with one coat of standard shop primer.

Sandblasting and most industrial and military specification exterior coatings are also available. Please consult the factory for this pricing.

HOT DIP GALVANIZING

For many years galvanizing has been popular for protecting steel water tanks. The zinc coating serves in twofold capacity. First, it protects the steel from corrosion as long as the zinc coating is unbroken. Second, due to the fact it is more electro-chemically active than steel, it sacrifices itself to protect the steel vessel even when moderate sized areas of bare metal have been exposed.

Tanks to be hot dip galvanized are thoroughly cleaned; first by dipping in a caustic bath removing grease, oil and dirt, then by being dipped in a 12% solution of sulfuric acid removing rust and mill scale. The vessel is then rinsed and submerged in a liquid flux pre-dip. Finally, the vessel is immersed into the molten zinc at approximately 8500 Fahrenheit to produce the finished product, which meets ASTM specifications.

To have a successful galvanizing job, additional openings may be required which we at the factory can determine. We do not recommend galvanizing for water service when temperatures exceed 1600 Fahrenheit. The largest diameter tank that can be galvanized is 72" OD.

"EPOXOLINE"

This superior tank lining has excellent resistance to corrosive hot water. It is a multifunctional epoxy phenolic resin reacted with a special aliphatic amine adduct. The polymer structure is odorless, tasteless, non-toxic, and has excellent resistance to thermal shock. This durable lining conforms to Title 21 CFR 175.300 US Food & Drug Administration and the USDA equirements for coatings in contact with food and drinking water. Prior to sandblasting, all interior welds are ground smooth to eliminate sharp edges and high spots. The vessel interior is then sandblasted to near-white metal per SSPC-SP-10 and lined with two separate coats of epoxy to produce 8-16 mils total dry film thickness. "Epoxoline" has service capabilities for potable water up to 180° F. dry and wet temperature. This lining will not crack or break during proper installation. For chemical applications, we suggest that you contact the factory for specific data and compatibility.

"CEMENTLINE"

Cement lining is another time tested lining for protection against corrosion in steel hot water tanks. Wendland's cement lining is specially formulated hydro-plastic cement for withstanding corrosive hot water to 212° Fahrenheit.

Prior to installation, the interior of the vessel is thoroughly cleaned of rust, mill scale and grease. The interior is then covered with a heavy-duty metal lath, which is secured to the vessel walls at 12" centers. The cement is then troweled throughout the vessel to a thickness of 5/8". This creates a superior and durable lining which can better withstand handling during shipments along with an outstanding lining for corrosive hot water.

JOB NAME _____
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Broken Arrow, OK 74012
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PH: 918-317-0401
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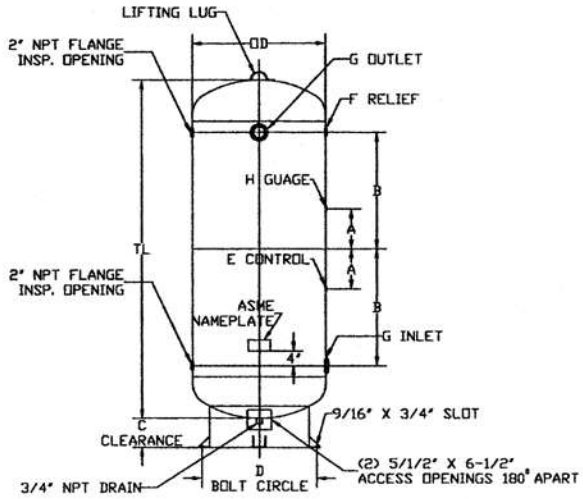
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

VERTICAL ASME AIR RECEIVER/ CHILL WATER STORAGE TANKS



PART NUMBER	ACTUAL VOLUME	CUBIC FEET	DIAMETER OD	LENGTH TL	HEIGHT HT	W.P.	WEIGHT
IAR-120	120 GAL	16.0	24	68	76-1/16	200	308
IAR-200	200 GAL	26.7	30	72	80	200	526
IAR-240	240 GAL	32.2	30	84	92	200	612
IAR-400	400 GAL	53.4	36	93	101	137	753
IAR-400-X	400 GAL	53.4	36	93	101	137	913

PART NUMBER	ACTUAL VOLUME	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)
IAR-120	120 GAL	7	22	8-1/16	21	1/2	1-1/2	2
IAR-200	200 GAL	8	23	8	28-3/4	1/2	1-1/2	3
IAR-240	240 GAL	10	29	8	28-3/4	1/2	1-1/2	3
IAR-400	400 GAL	11	32	8	31	1/2	1-1/2	3
IAR-400-X	400 GAL	11	32	8	31	1/2	1-1/2	3

Larger sizes can be fabricated to meet your needs. Options include Relief Valves, Pressure Gauges and manual or automatic underdrains. Please contact us for information.

USE: For Storage of Compressed Air/Chill Water Storage

SPECIFICATION:

Carbon Steel Construction

Maximum Temperature 650° F

Primed & Painted Exterior

See Column for Working Pressure of Tank (W.P.)

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____

LOCATION _____

_____

_____

CONTRACTOR _____

CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS® A GFP COMPANY

1005 E. Houston
Broken Arrow, OK 74012
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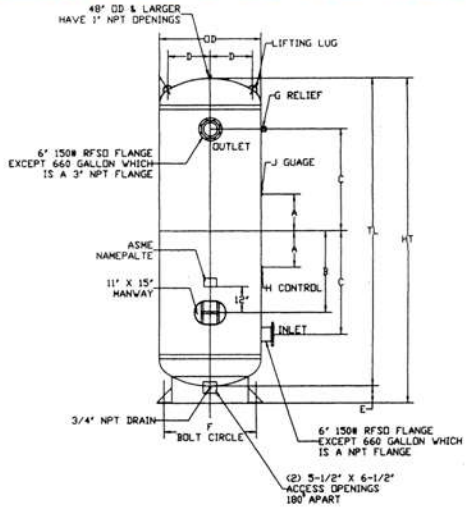
VERTICAL ASME AIR RECEIVER/ CHILL WATER STORAGE TANKS



PART NUMBER	ACTUAL VOLUME	CUBIC FEET	DIAMETER OD	LENGTH TL	HEIGHT HT	W.P.	WEIGHT
IAR-660	660 GAL	88.2	42	117	125	137	1180
IAR-660X	660 GAL	88.2	42	117	125	200	1570
IAR-1060	1060 GAL	141.7	48	144	152	137	1802
IAR-1060X	1060 GAL	141.7	48	144	152	200	2450

PART NUMBER	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)	H (IN.)	J (IN.)
IAR-660	13-1/2	24-1/2	41-1/2	17	8	39-1/2	2	1/2	1/4
IAR-660X	13-1/2	24-1/2	41-1/2	17	8	39-1/2	2	1/2	1/4
IAR-1060	16	38	48	20	8	39-1/2	2	1/2	1/4
IAR-1060X	17	38	48	20	8	39-1/2	2	1/2	1/4

Larger sizes can be fabricated to meet your needs. Options include Relief Valves, Pressure Gauges and manual or automatic underdrains. Please contact us for information.

USE: For Storage of Compressed Air/Chill Water Storage

SPECIFICATION:

Carbon Steel Construction
Primed & Painted Exterior
Maximum Temperature 650° F
See Column for Working Pressure of Tank (W.P.)

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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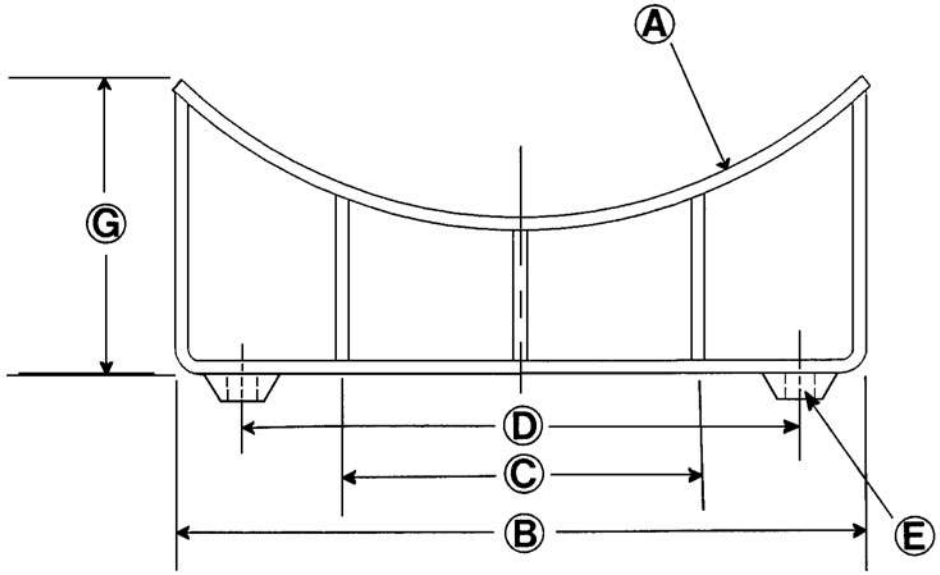
Expansion Tank Saddles



Dimensions (In Inches)

Tank Diameter	A	B	C	D	E	F	G
12"	6	10	N/A	7	1 ½ NPT	3	6 5/32
14"	7	12	N/A	9	1 ½ NPT	3	6 9/16
16"	8	14	N/A	11	1 ½ NPT	3	7 ¼
20"	10	16	8	12	2 NPT	4	7 ¼
24"	12	18	9	14	2 NPT	4	7 7/16
30"	15	22	11	17	2 ½ NPT	5	8 3/16
36"	18	28	13	22	2 ½ NPT	5	8 15/16

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Liquid Level Sight Glass Assmebly

Features:

- Rough brass water gauge
- 1/2” pipe size
- 5/8” O.D. glass
- 1/4” needle
- 1/4” needle drain valve in lower arm-standard
- Service rating of 125 psi at 350°F

Optional Features:

- 1/4” pet cock in lower arm available upon request
- 1/4” ball valve in lower arm available upon request

PART NUMBER	GLASS O.D. X LENGTH	WEIGHT (LBS.)
WSG-008	5/8” X 8”	1
WSG-010	5/8” X 10”	1
WSG-012	5/8” X 12”	1 1/2
WSG-016	5/8” X 16”	1 3/4
WSG-020	5/8” X 20”	2
WSG-022	5/8” X 22”	2
WSG-028	5/8” X 28”	2

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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2701 W. Concord Street
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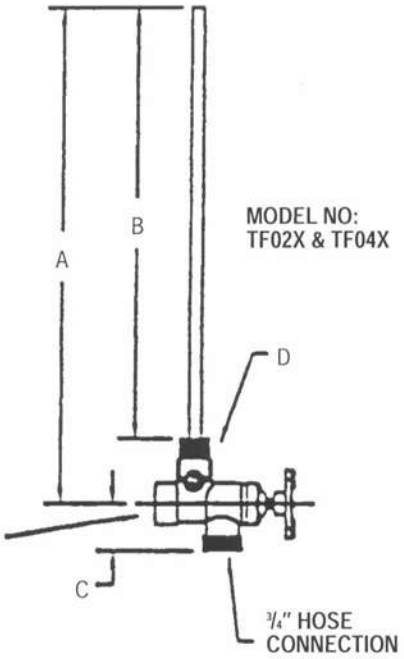
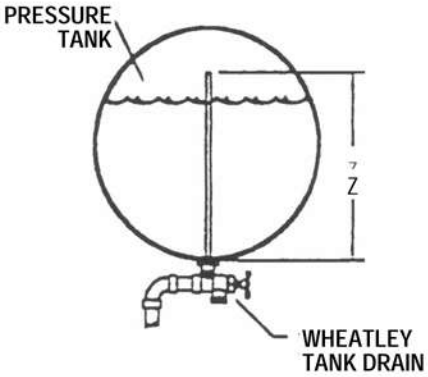
Tank Drain & Fill
Model TF02X & TF04X



Dimensions And Sizing

Part #	Model	Tank Dia.	A (in)	B (in)	C (in)	D (npt)
TF02X	2X	14" or less	12.69	11	1.19	½"
	-6	20"	18.19	16.50	1.19	½"
	-12	24"	24.44	22.75	1.19	½"
	-612	30"	29.94	28.25	1.19	½"
TF04X	4X	16"	14.69	12.19	1.50	¾"
	-6	20"	20.25	17.75	1.50	¾"
	-12	24"*	26.50	24	1.50	¾"
	-612	30" & up*	32.25	29.75	1.50	¾"

* 2" must be cut from extended tube on 4X tank fitting with 24" and 30" diameter tanks.
See Z dimensions below.



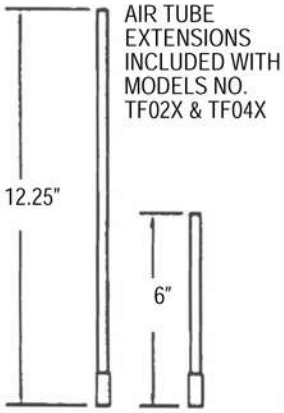
Materials of Construction

Body .....Cast Bronze

Vent Tubes .....Copper

Max Pressure .....125 PSIG

Max Temperature .....240°F



2 Dimensions for TF02X and TF04X with extensions

Model	Standard Lengths	6" Ext	12" Ext	6" & 12" Ext
TF02X	11.24	16.94	23.19	28.69
TF04X	12.19	18.31	24.31	30.06

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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American WHEATLEY HVAC PRODUCTS®

Glass Lined-Jacketed and Insulated
COMMERCIAL HOT WATER STORAGE TANKS

Designed for use with boilers, hot water circulation systems and large dump volume applications.

Features:

- Ultonium® Lining - protecting from the corrosive effects of hot water featuring an exclusive ceramic porcelain-like coating. The high silica lining provides a tough interior surface
- 2" Non-CF Foam Insulation covers the sides and top of tank, reducing the amount of heat loss. This results in less energy consumption, improved operation efficiencies and jacket rigidity
- True dielectric fittings, extending water heater life
- Hand hole clean out allows for removal of accumulated lime and sediment (optional on the JS-28-120)
- Two Protective Magnesium Anode Rods provide additional protection against corrosion for longer trouble-free service
- Heavy gauge steel automatically formed, rolled and welded
- T&P Relief Valve Opening (T&P not supplied) on side of all models
- 3/4" NPT Aquastat Fitting
- Brass Drain Valve

Optional Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition

JOB NAME _____
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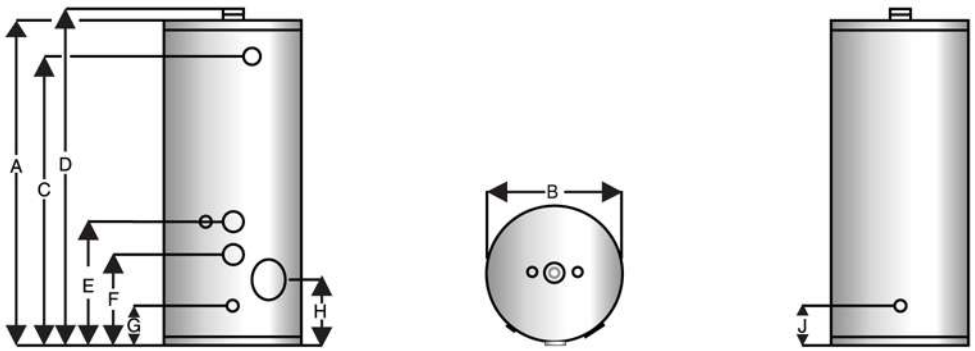

PART NUMBER	CAPACITY GALLONS	TOTAL HEIGHT A (In.)	JACKET DIAM. B. (In.)	FLOOR TO T&P CONN. C. (In.)	FLOOR TO HOT WATER CONN. D (In.)	FLOOR TO AQUASTAT TOP CIRC. CONN. E (In.)	FLOOR TO BOTTOM CIRC. CONN. F (In.)	FLOOR TO DRAIN G (In.)	FLOOR TO HAND HOLE CLEANOUT H (In.)	FLOOR TO REAR WATER CONN. J (In.)	WATER CONNECTION SIZE (In.) * **	APPROX. SHIPPING WEIGHT (Lbs.)
JS-24-80	80	58 3/4	24	52 1/2	59 3/4	14 1/4	9 1/4	4 3/4	7 1/4	-	2 (F)	192
JS-24-80A*	80	58 3/4	24	52 1/2	59 3/4	14 1/4	9 1/4	4 3/4	7 1/4	-	2 (F)	192
JS-28-120	119	62 1/2	28	55 3/4	63 1/2	14 1/2	9 1/2	5	-	5	2(F) 2(R)	312
JS-28-120A*	119	62 1/2	28	55 3/4	63 1/2	14 1/2	9 1/2	5	7 1/2	5	2 1/2(F) 2 (R)	366
JS-32-200*	200	77	32	66	78	16 1/4	11 1/4	6 3/4	9 1/4	-	2 1/2(F)	541

* Constructed in accordance with ASME Section VIII, Division I, Latest Edition.

** F = Front Water Connections, R = Rear Water Connections.

Features:

- T&P tapping 1" NPT
- Aquastat tapping 3/4"
- Certified at 300 psi test pressure and 150 psi working pressure

Sample Specification:

The hot water storage tank hall be a American Wheatley HVAC Tank model _____ with a storage capacity of not less than _____ gallons. The tank shall be lined with Ultonium™ vitreous enamel and shall have a bolted hand hold clean out. The tank shall have two extruded magnesium rods installed in separate head couplings. The storage tank shall be insulated with not less than 2' of Non-CFC foam. The entire installation shall be made in compliance with state and local codes and ordinances.

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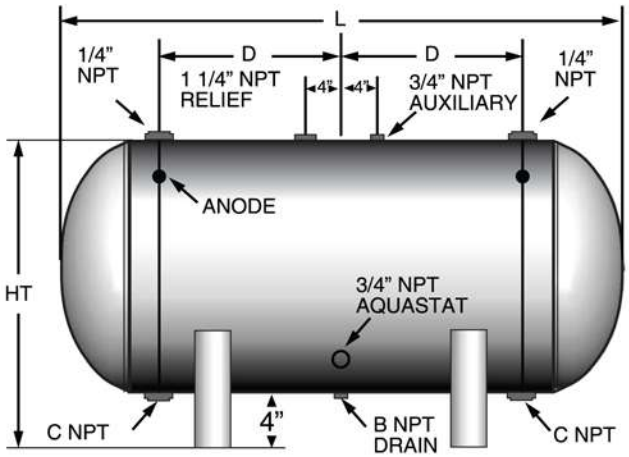
Glass Lined-Non Insulated Water Storage Vessels

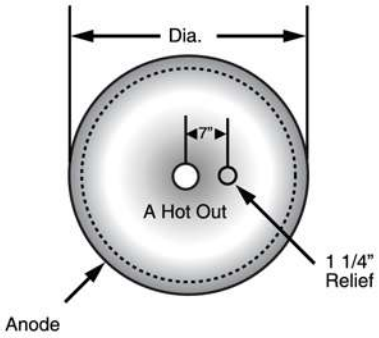
Features:

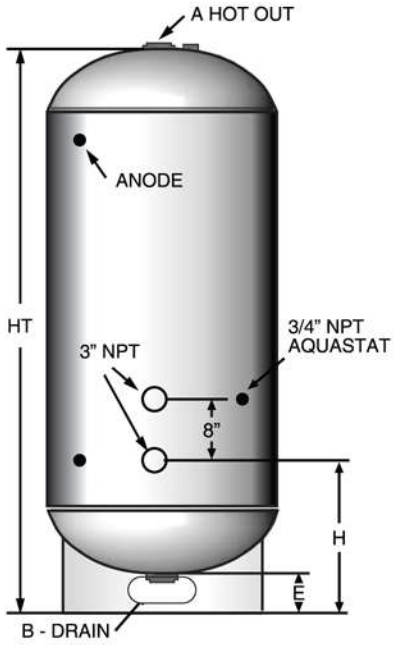
- Designed for storage of potable water up to 180° F (82° C)
- All tanks are constructed and certified in accordance with ASME IV, Part HLW for 125 PSI (862 kPa)
- Steel tanks
- Glass lining - provides a tough wear resistant lining which minimizes the effects of high temperature hot water
- Magnesium anode rod for protection and longer service life
- Two 3/4" Aquastat NPT Fittings located in the lower and upper part of the tank
- Lifting lugs
- Red Oxide Primed Exterior
- Five year limited warranty on the steel tank
- Ten year limited warranty on double glass lined steel tank. Double glass lining is not an inventory item, built upon request



Optional Features:

- Painted Exterior, Epoxy Coatings
- Epoxy lining
- Double glass coating
- Manway
- Hand hole
- Saddles





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American WHEATLEY HVAC PRODUCTS®

Dimensions

PART NUMBER	NOMINAL GALLON CAPACITY	ACTUAL GALLON CAPACITY	VERTICAL HEIGHT (IN)	HORIZONTAL HEIGHT (IN)	L (IN)	D (IN)	BASE CLR. E (IN)	H (IN)	DIA. (IN)	TAPPING A (IN)	TAPPING B (IN)	TAPPING C (IN)	WEIGHT @125#
S-30-063-[ ]	193	175	67	39	63	18	4	17.5	30	2.5	1	3	340
S-30-075-[ ]	229	210	79	39	75	24	4	17.5	30	2.5	1	3	387
S-30-085-[ ]	260	240	89	39	85	29	4	17.5	30	2.5	1	3	520
S-30-099-[ ]	303	280	103	39	99	36	4	17.5	30	2.5	1	3	483
S-30-111-[ ]	340	320	115	39	111	42	4	17.5	30	2.5	1	3	530
S-36-072-[ ]	318	285	76	45	72	21	4	19	36	2.5	1	3	550
S-36-078-[ ]	344	310	82	45	78	24	4	19	36	2.5	1	3	588
S-36-085-[ ]	375	340	89	45	85	27.5	4	19	36	2.5	1	3	633
S-36-090-[ ]	397	360	94	45	90	30	4	19	36	2.5	1	3	664
S-36-102-[ ]	449	415	106	45	102	36	4	19	36	2.5	1	3	742
S-36-114-[ ]	502	465	118	45	114	42	4	19	36	2.5	1	3	818
S-36-126-[ ]	555	515	130	45	126	48	4	19	36	2.5	1	3	894
S-42-081-[ ]	486	435	85	51	81	24	4	20.5	42	3	1	3	783
S-42-084-[ ]	504	453	88	51	84	25.5	4	20.5	42	3	1	3	805
S-42-093-[ ]	558	505	97	51	93	30	4	20.5	42	3	1	3	874
S-42-105-[ ]	630	575	109	51	105	36	4	20.5	42	3	1	3	963
S-42-117-[ ]	702	645	121	51	117	42	4	20.5	42	3	1	3	1,052
S-42-129-[ ]	774	720	133	51	129	48	4	20.5	42	3	1	3	1,140
S-42-139-[ ]	846	790	143	51	139	53	4	20.5	42	3	1	3	1,217
S-48-073-[ ]	572	500	77	57	73	18.5	4	22	48	3	1	3	1,038
S-48-084-[ ]	658	580	88	57	84	24	4	22	48	3	1	3	1,161
S-48-096-[ ]	752	675	100	57	96	30	4	22	48	3	1	3	1,298
S-48-108-[ ]	846	765	112	57	108	36	4	22	48	3	1	3	1,433
S-48-120-[ ]	940	840	124	57	120	42	4	22	48	3	1	3	1,567
S-48-141-[ ]	1,128	1,040	145	57	141	52.5	4	22	48	3	1	3	1,805
S-54-099-[ ]	961	875	105	63	99	37.5	6	25.5	54	3	1.5	3	1,596
S-54-123-[ ]	1,219	1,110	129	63	123	49.5	6	25.5	54	3	1.5	3	1,889
S-54-147-[ ]	1,457	1,340	153	63	147	61.5	6	25.5	54	3	1.5	3	2,182
S-54-183-[ ]	1,814	1,690	189	63	183	79.5	6	25.5	54	3	1.5	3	2,622
S-60-114-[ ]	1,395	1,245	120	69	114	45	6	27	60	3	1.5	3	2.299
S-60-138-[ ]	1,689	1,530	144	69	138	57	6	27	60	3	1.5	3	2,704
S-60-168-[ ]	1,983	1,820	168	69	168	69	6	27	60	3	1.5	3	3,110
S-60-186-[ ]	2,276	2,105	192	69	186	81	6	27	60	3	1.5	3	3.516
S-60-210-[ ]	2,570	2,395	216	69	210	93	6	27	60	3	1.5	3	3,922
S-72-120-[ ]	2,115	1,865	126	81	120	48	6	30	72	3	1.5	3	2,876
S-72-144-[ ]	2,538	2,285	150	81	144	60	6	30	72	3	1.5	3	3,363
S-72-168-[ ]	2,961	2,700	174	81	168	72	6	30	72	3	1.5	3	3,851
S-72-192-[ ]	3,384	3,115	198	81	192	84	6	30	72	3	1.5	3	4,338
S-72-216-[ ]	3,807	3,530	222	81	216	94.5	6	30	72	3	1.5	3	4,825
S-72-250-[ ]	4,406	4,120	256	81	250	113	6	30	72	3	1.5	3	5,516
S-84-138-[ ]	3,310	2,915	144	93	138	57	6	33	84	3	1.5	3	4,467
S-84-160-[ ]	3,886	3,480	168	93	162	69	6	33	84	3	1.5	3	5,328
S-84-186-[ ]	4,462	4,045	192	93	183	81	6	33	84	3	1.5	3	6,009
S-84-210-[ ]	5,038	4,610	216	93	210	93	6	33	84	3	1.5	3	6,689
S-84-256-[ ]	6,141	5,695	262	93	256	116	6	33	84	3	1.5	3	7,904

Add suffix on model number to indicate options:

Horizontal - H; Epoxy Lining-EX; Double glass coating-DG; Manway-MW; Hand hole-HH; Lifting Lugs - LL; Saddles-SD; Stainless Steel Construction-SS; 150 PSI-5.

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W-H0196 TEST = 7.0 - 8.0 MG/IN2:

The W-H-196 Test is required for water heaters sold to the U.S Government. The test consists of exposing the enamel to a boiling (212°F) 4/10% solution of Sodium Bicarbonate for eight (8), eighteen (18) hour cycles. Maximum weight loss after eight cycle is not to exceed 15 mg/in2.

PEI T-21 Spot Acid Test = Class A:

PEI T-21 Spot Acid Test is used to determine enamel resistance to acids. The test area is examined for visible effects on the enamel and is graded from Class AA (no sign of etching) to Class D (etched surface).

Impact resistance = Class 4 to 5

The Impact Resistance Test is used to determine the adhesive qualities of enamel to the substrate. The enamel is graded from Class 1 (worst) to Class 5 (best), fractured glass adhering solidly to the impact area. Class 3 is acceptable.

Hi-Pot Test Less than 20

The HYPO Test is a measurement of the continuity of the glass coating (Spark Test). Fifty (50) breakthroughs or fewer are the usual specification for HWT's.

*Normal gallon capacity is listed for comparison purposes. Nominal gallon capacity refers to a hypothetical measurement in a case where overall tank length remains the same but instead of an elliptical head and base, the gallons are calculated as if it was built with flat heads and base. - See diagram.

*Nominal capacity includes the white area in addition to actual tank capacity.

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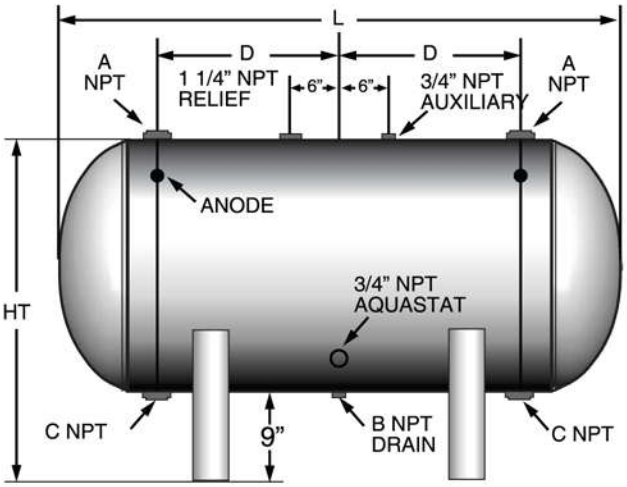
Glass Lined-Jacketed and Insulated Water Storage Vessels

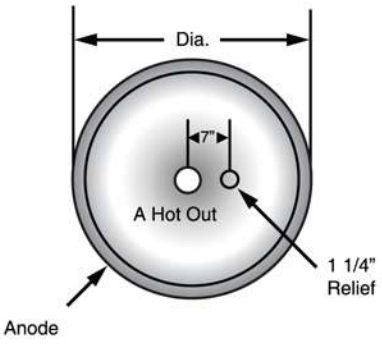
Features:

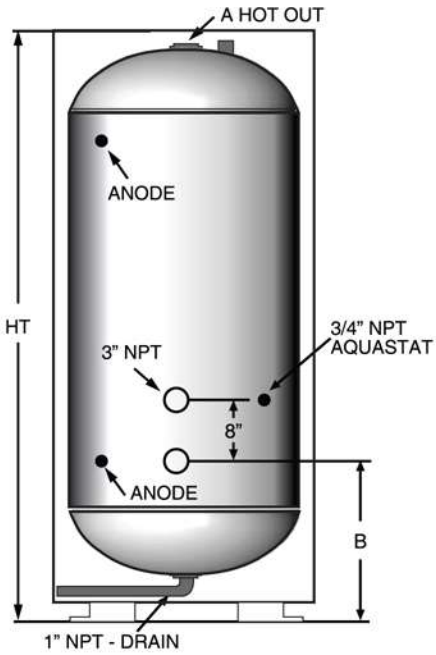
- Designed for storage of water up to 180° F (82° C)
- All tanks are constructed and certified in accordance with ASME IV, Part HLW for 125 PSI (862 kPa)
- Heavy gauge steel jacket
- Glass lining - provides a tough wear resistant lining which minimizes the effects of high temperature hot water
- Magnesium anode rod for protection and longer service life
- Two 3/4" Aquastat NPT Fittings located in the lower and upper part of the tank
- High density foam insulation - 2" reduces the heat loss - 12.5 R Value
- Five year limited warranty on the steel tank
- Ten year limited warranty on double glass lined steel tank. Double glass lining is not an inventory item, built upon request



Optional Features:

- Painted Exterior, Epoxy Coatings
- Epoxy lining
- Double glass coating
- Manway
- Hand hole
- Saddles





Dimensions are subject to change without notice, Please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
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CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
1005 E. Houston
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

Dimensions

PART NUMBER	NOMINAL GALLON CAPACITY	ACTUAL GALLON CAPACITY	VERTICAL HEIGHT (IN)	HORIZONTAL HEIGHT (IN)	L (IN)	D (IN)	BASE CLR. E (IN)	H (IN)	DIA. (IN)	TAPPING A (IN)	TAPPING B (IN)	TAPPING C (IN)	WEIGHT @125#
JS-30-063-[ ]	193	175	71	41	67	18	2	19.5	34	2.5	1	3	548
JS-30-075-[ ]	229	210	83	41	79	24	2	19.5	34	2.5	1	3	613
JS-30-085-[ ]	260	240	93	41	89	29	2	19.5	34	2.5	1	3	700
JS-30-099-[ ]	303	280	107	41	103	36	2	19.5	34	2.5	1	3	673
JS-30-111-[ ]	340	320	119	41	115	42	2	19.5	34	2.5	1	3	730
JS-36-072-[ ]	318	285	80	47	76	21	2	21	40	2.5	1	3	714
JS-36-078-[ ]	344	310	86	47	82	24	2	21	40	2.5	1	3	782
JS-36-085-[ ]	375	340	93	47	89	27.5	2	21	40	2.5	1	3	845
JS-36-090-[ ]	397	360	98	47	94	30	2	21	40	2.5	1	3	894
JS-36-102-[ ]	449	415	110	47	106	36	2	21	40	2.5	1	3	982
JS-36-114-[ ]	502	465	122	47	118	42	2	21	40	2.5	1	3	1,106
JS-36-126-[ ]	555	515	134	47	130	48	2	21	40	2.5	1	3	1,194
JS-42-081-[ ]	486	435	89	53	85	24	2	22.5	46	3	1	3	1,024
JS-42-084-[ ]	504	453	92	53	88	25.5	2	22.5	46	3	1	3	1,074
JS-42-093-[ ]	558	505	101	53	97	30	2	22.5	46	3	1	3	1,168
JS-42-105-[ ]	630	575	113	53	109	36	2	22.5	46	3	1	3	1,292
JS-42-117-[ ]	702	645	125	53	121	42	2	22.5	46	3	1	3	1,392
JS-42-129-[ ]	774	720	137	53	133	48	2	22.5	46	3	1	3	1,498
JS-42-139-[ ]	846	790	147	53	143	53	2	22.5	46	3	1	3	1,587
JS-48-073-[ ]	572	500	81	59	77	18.5	2	24	52	3	1	3	1,381
JS-48-084-[ ]	658	580	92	59	88	24	2	24	52	3	1	3	1,539
JS-48-096-[ ]	752	675	104	59	100	30	2	24	52	3	1	3	1,653
JS-48-108-[ ]	846	765	116	59	112	36	2	24	52	3	1	3	1,803
JS-48-120-[ ]	940	840	128	59	124	42	2	24	52	3	1	3	1,947
JS-48-141-[ ]	1,128	1,040	149	59	145	52.5	2	24	52	3	1	3	2,216

Add suffix on model number to indicate options:

Epoxy lining-EX; Double glass coating-DG (not available below 240 gallons); Manway-MW; Hand hole-HH; Lifting Lugs - LL; Saddles-SD; Stainless Steel Construction-SS; 150 PSI-5

W-H0196 TEST = 7.0 - 8.0 MG/IN2:

The W-H-196 Test is required for water heaters sold to the U.S Government. The test consists of exposing the enamel to a boiling (212°F) 4/10% solution of Sodium Bicarbonate for eight (8), eighteen (18) hour cycles. Maximum weight loss after eight cycle is not to exceed 15 mg/in2.

PEI T-21 Spot Acid Test = Class A:

PEI T-21 Spot Acid Test is used to determine enamel resistance to acids. The test area is examined for visible effects on the enamel and is graded from Class AA (no sign of etching) to Class D (etched surface).

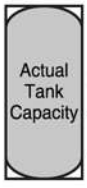
Impact resistance = Class 4 to 5

The Impact Resistance Test is used to determine the adhesive qualities of enamel to the substrate. The enamel is graded from Class 1 (worst) to Class 5 (best), fractured glass adhering solidly to the impact area. Class 3 is acceptable.

Hi-Pot Test Less than 20

The HYPO Test is a measurement of the continuity of the glass coating (Spark Test). Fifty (50) breakthroughs or fewer are the usual specification for HWT's.

*Normal gallon capacity is listed for comparison purposes. Nominal gallon capacity refers to a hypothetical measurement in a case where overall tank length remains the same but instead of an elliptical head and base, the gallons are calculated as if it was built with flat heads and base. - See diagram.



*Nominal capacity includes the white area in addition to actual tank capacity.

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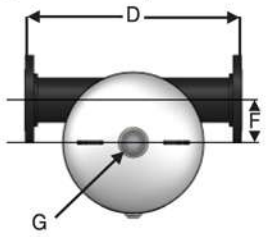
Air Separators

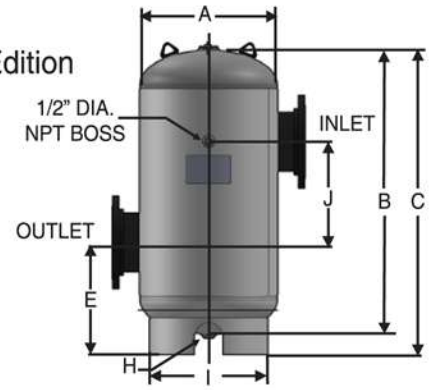
Air Separator (Tangential Design)

(less strainer)

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction
- Primed Exterior
- 12" and under 150 P.S.I. working pressure
- 14" and larger 125 P.S.I. working pressure
- MNPT inlet & outlet on 2" & 2 1/2"
- 3" and larger flanged inlet and outlet
- Grooved end connections available
- 32" and above units available upon request
- Standard units are skirt mounted for vertical floor installation



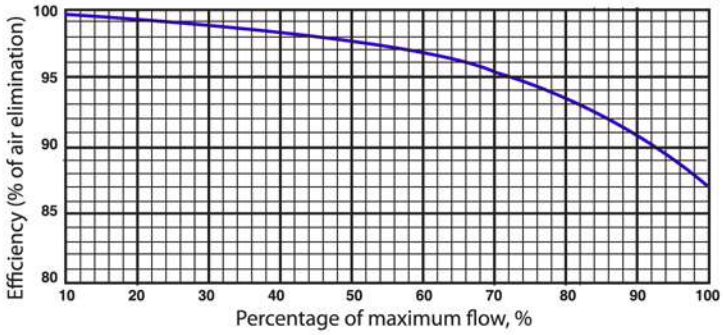


PART NUMBER	INLET & OUTLET	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)	H (IN.)	I (IN.)	J (IN)	OPTIMAL GPM	WEIGHT LBS
TAS002	2"	12	19 1/2	23 1/8	16 5/8	9 1/8	4 5/16	1	1	9 1/2	8 1/2	159	51
TAS025	2 1/2"	12	19 1/2	23 1/8	16 5/8	9 1/8	4 1/16	1	1	9 1/2	8 1/2	228	53
TAS003	3"	12	19 1/2	23 1/8	19 3/4	9 3/8	3 3/4	1	1	9 1/2	8	380	72
TAS004	4"	14	29	32 5/8	21 3/4	12 3/4	4 1/4	1 1/2	1	11 1/2	10 3/4	640	106
TAS005	5"	14	29	32 5/8	21 3/4	12 3/4	3 3/4	1 1/2	1	11 1/2	10 3/4	1,010	112
TAS006	6"	20	41	44 5/8	28	16 7/8	6 1/4	1 1/2	1	18	14 1/2	1,490	200
TAS008	8"	20	41	44 5/8	28	16 7/8	5 3/16	1 1/2	1	18	14 1/2	2,700	235
TAS010	10"	30	58	61 5/8	41	22 5/8	9 1/8	2	1	24	20	4,400	568
TAS012	12"	30	58	61 5/8	41	22 5/8	8 1/8	2	1	24	20	6,500	660
TAS140	14"	36	75 1/2	79 1/8	46 3/8	25 5/8	10 3/16	2	1	30	31 1/2	8,000	1,025
TAS160	16"	48	100	108 1/2	60	38	12 1/2	2	2	45	40	10,700	1,700
TAS180	18"	54	116	125 1/4	66	41	13 5/8	2	2 1/2	51 1/2	50	13,900	2,200
TAS200	20"	60	130	138	72	43 1/2	16	2	2 1/2	58 5/8	60	17,500	3,000
TAS240	24"	72	152	160	84	47 7/8	19	2	2 1/2	69 5/8	72	25,000	4,800
TAS300	30"	72	152	162	86	48	19 7/8	2	2 1/2	69 5/8	76	28,000	5,800

Options:

- Stainless Steel Construction
- Other Alloy Construction
- Higher pressures available
- Painted surface top coat / Epoxy coats
- Magnetic Insert
- Ceiling clips/seismic clips

For automatic air removal, we recommend adding our high capacity air vent part ARV.



NOTE: All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, Please confirm actual dimensions with factory at time of order.

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CONTRACTOR P.O. NO. _____

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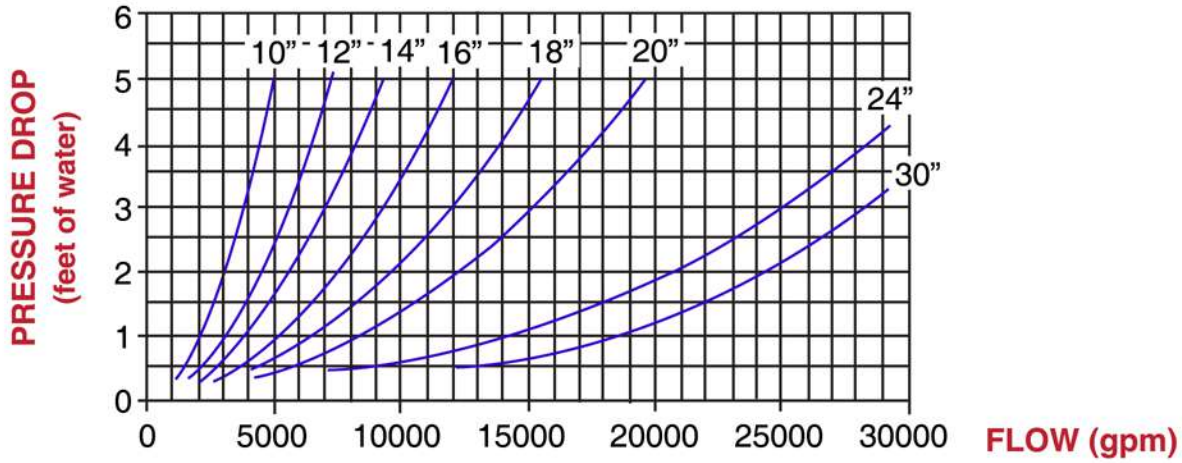
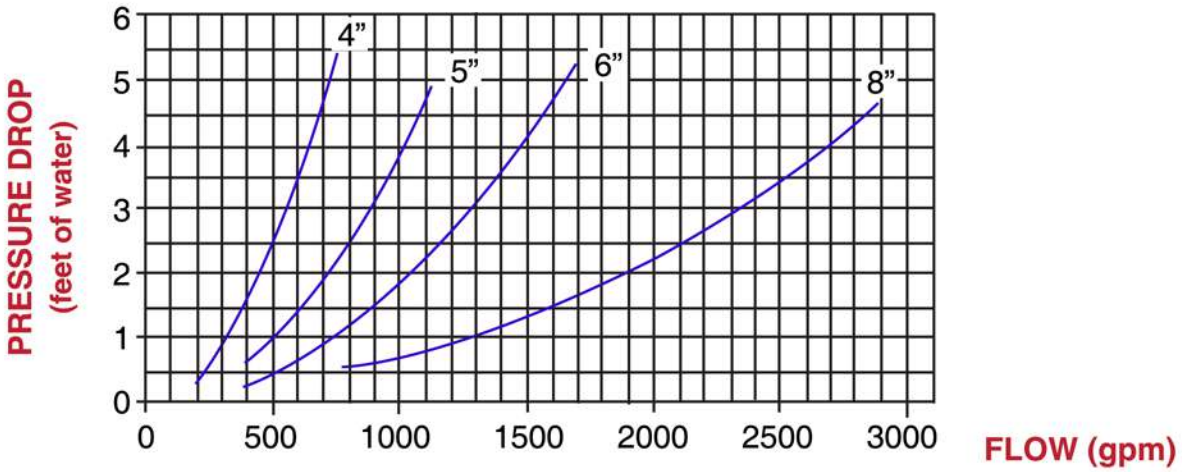
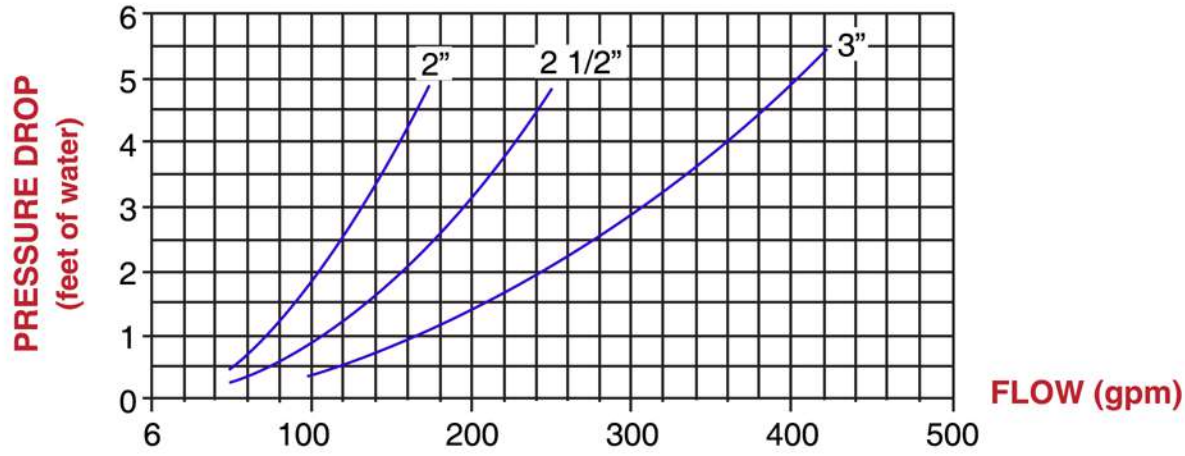
PRESSURE DROP CHART AIR SEPARATOR (less strainer)







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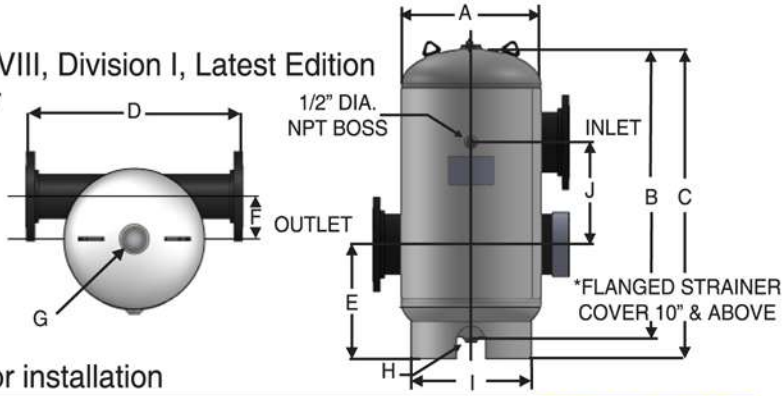
Air Separator (Tangential Design)
(with strainer)

Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction with 304 SS Strainer
- Primed Exterior
- 12" and under 150 P.S.I. working pressure
- 14" and larger 125 P.S.I. working pressure
- MNPT inlet & outlet on 2" & 2 1/2"
- 3" and larger flanged inlet and outlet
- Grooved end connections available
- 32" and above units available upon request
- Standard units are skirt mounted for vertical floor installation

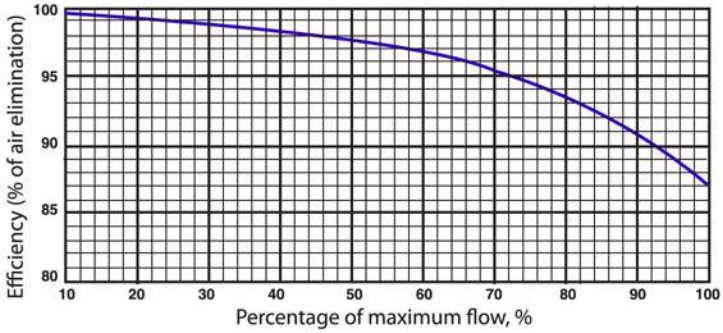


PART NUMBER	INLET & OUTLET	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)	H (IN.)	I (IN.)	J (IN)	OPTIMAL GPM	WEIGHT LBS
TASS002	2"	12	19 1/2	23 1/8	16 5/8	9 1/8	4 5/16	1	1	9 1/2	8 1/2	121	53
TASS025	2 1/2"	12	19 1/2	23 1/8	16 5/8	9 1/8	4 1/16	1	1	9 1/2	8 1/2	190	58
TASS003	3"	12	19 1/2	23 1/8	19 3/4	9 3/8	3 3/4	1	1	9 1/2	8	285	95
TASS004	4"	14	29	32 5/8	21 3/4	12 3/4	4 1/4	1 1/2	1	11 1/2	10 3/4	450	118
TASS005	5"	14	29	32 5/8	21 3/4	12 3/4	3 3/4	1 1/2	1	11 1/2	10 3/4	780	125
TASS006	6"	20	41	44 5/8	28	16 7/8	6 1/4	1 1/2	1	18	14 1/2	1,150	220
TASS008	8"	20	41	44 5/8	28	16 7/8	5 3/16	1 1/2	1	18	14 1/2	2,000	260
TASS010	10"	30	58	61 5/8	41	22 5/8	9 1/8	2	1	24	20	3,100	710
TASS012	12"	30	58	61 5/8	41	22 5/8	8 1/8	2	1	24	20	4,800	890
TASS140	14"	36	75 1/2	79 1/8	46 3/8	25 5/8	10 3/16	2	1	30	31 1/2	5,800	1,225
TASS160	16"	48	100	108 1/2	60	38	12 1/2	2	2	45	40	7,600	2,200
TASS180	18"	54	116	125 1/4	66	41	13 5/8	2	2 1/2	51 1/2	50	10,000	2,700
TASS200	20"	60	130	138	72	43 1/2	16	2	2 1/2	58 5/8	60	12,500	3,850
TASS240	24"	72	152	160	84	47 7/8	19	2	2 1/2	69 5/8	72	19,100	5,800
TASS300	30"	72	152	162	86	48	19 7/8	2	2 1/2	69 5/8	76	22,500	7,100

Options:

- Stainless Steel Construction
- Other Alloy Construction
- Higher pressures available
- Painted surface top coat / Epoxy coats
- Magnetic Insert
- Ceiling clips/seismic clips

For automatic air removal, we recommend adding our high capacity air vent part ARV.



NOTE: All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
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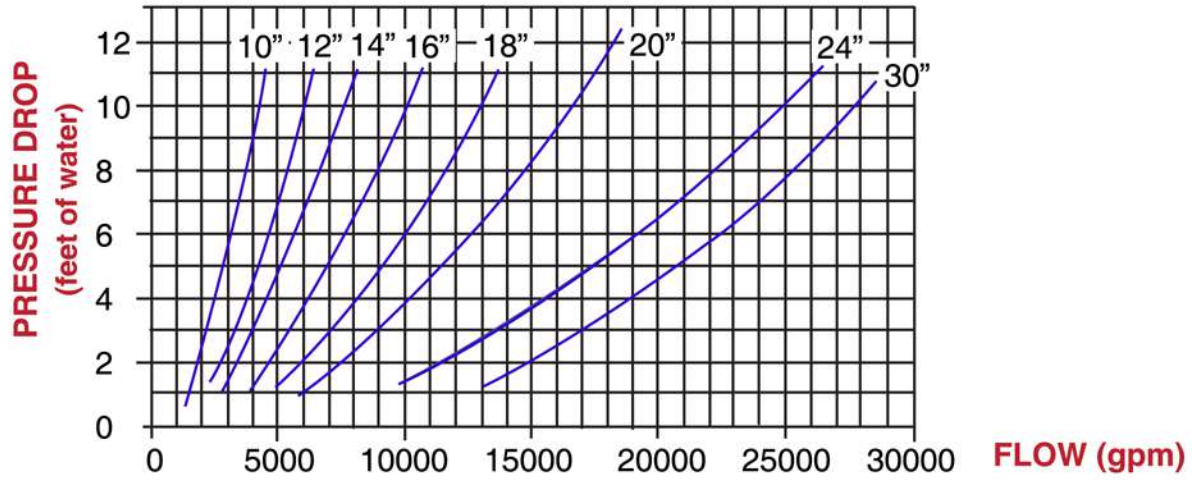
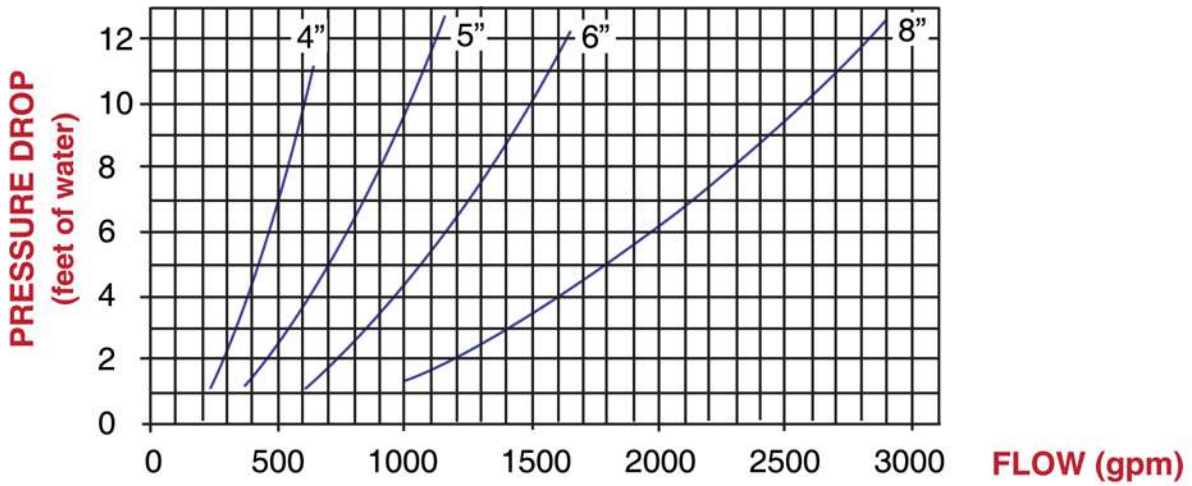
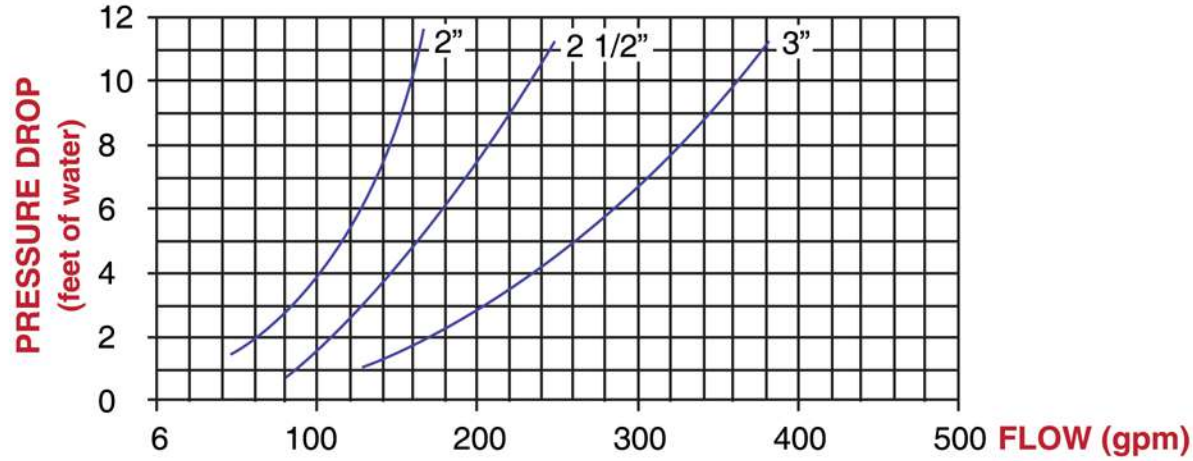
PRESSURE DROP CHART AIR SEPARATOR (with strainer)







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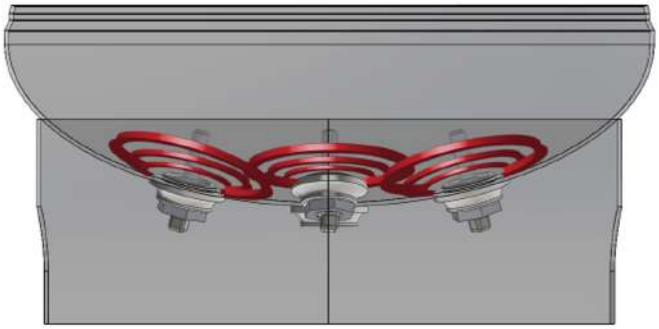
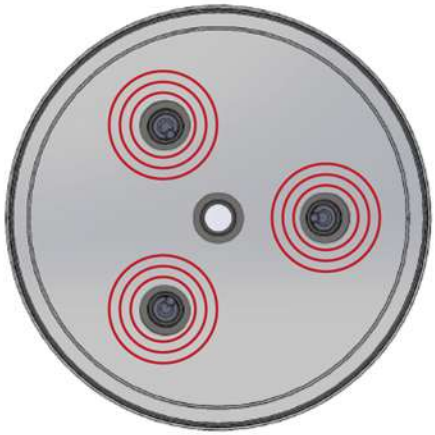
MG-Magnetic Option

American Wheatley magnetic option for air separation devices.

The MG option includes a minimum of three diametrically charged magnetic assemblies inserted into the lower section of the air separation device. These high-powered magnetic assemblies attract small ferrous particles and magnetite, preventing them from flowing into the pump and further into the system. The internal magnets can be easily removed, allowing the particles to be flushed from the system during periodic blowdown, without system disruption. The positioning of the MG option in the bottom head of the air separation device, whether it is tangential or in-line, is located in an area of low velocity further assisting separation. Simply add the suffix -MG (TAS-004-MG) to the standard part number.

The MG option is available on American Wheatley TAS, TASS, IAS, IASS, SRS, STAD, and HVAD air separation devices.





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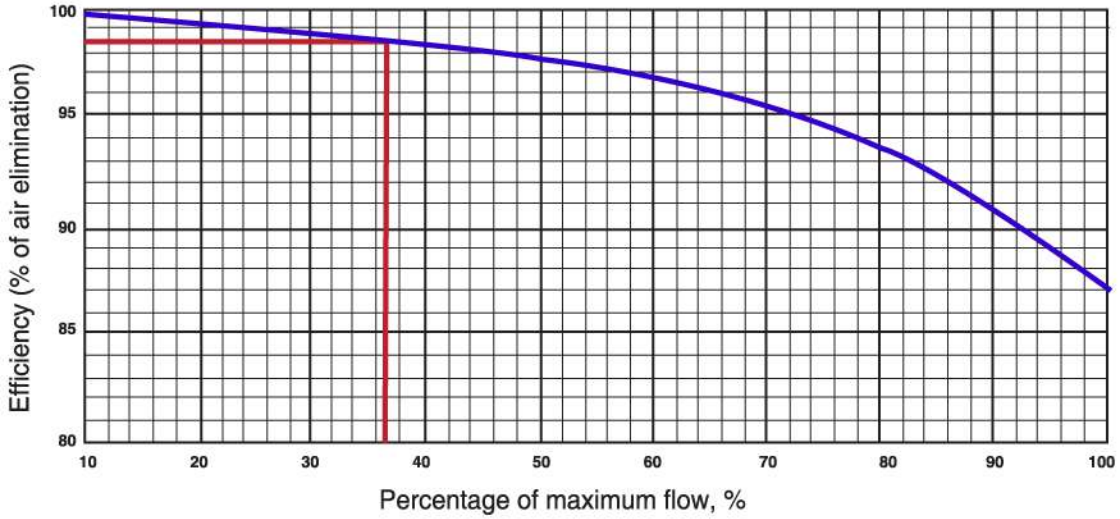
Tangential Air Separators
Determining Air Elimination Efficiency

1. Determine system flow rate in gallons per minute - GPM.
2. Determine the maximum GPM capacity of the air separator
3. Formula: $\frac{\text{Step 1}}{\text{Step 2}} \times 100 = \%$ of maximum flow
4. Draw a vertical line from the bottom x-axis on the Air Elimination Efficiency chart below to where it intersects the efficiency curve, follow to the left to determine the % of air Elimination per pass.



Example: System flow rate is 60 GMP
Wheatley TASS-002 has a maximum flow rate of 165 GPM.

$$\frac{60\ \text{GPM}}{165\ \text{GPM}} \times 100 = 36.3\ \%\ \text{of maximum flow} = 97\%\ \text{Air elimination per pass}$$

Applied to curve above determines that a TASS-002 at 60 GPM, or 36.3% of maximum flow, has an Air Elimination Efficiency of 97%, meaning that 97% of entrained air is removed per pass.

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Air Separator Instructions

- Remove all plastic covers & plastic plugs before installation
- Install Wheatley Air Separator in the system between the Wheatley Expansion Tank(s) and the pump(s)
- Install Expansion Tank(s) as close to the Air Separator as possible
- If a shut-off valve is installed in the line, it must be fully open when the system is in operation
- A connection for a Wheatley Air Release Valve is at the top of the Air Separator

Initial Start-up:

When the system is first filled, release air from heating units and high points if necessary for quick filling. Any entrained air is separated continuously thereafter, as water is pumped through the Air Separator.

Service:

When a strainer is specified, it is recommended that the installer remove and clean the stainer after 24 hours of operation and after 30 days of operation. Also, periodically open blowdown valve to purge Air Separator of foreign particles.

Typical Specification:

Furnish and install on plans a tangential air separator by American Wheatley.

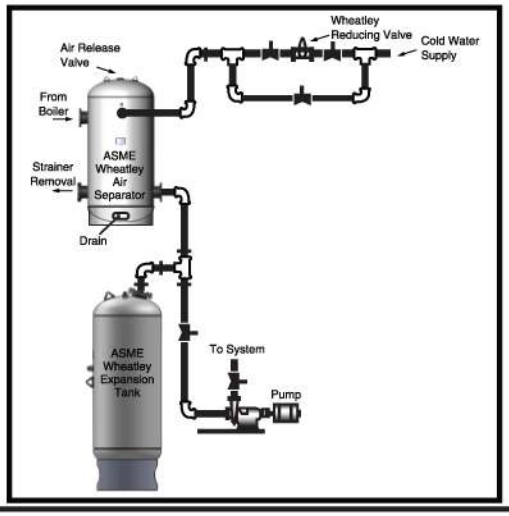
The air separator shall have ___" (NPT/Flanged) tangential inlet and outlet connections. The air separator can also be equipped with removable stainless steel strainer with 3/16" diameter perforations. When a strainer is specified, installer shall remove and clean the strainer after 24 hours operation and after 30 days operation. There shall be a bottom connection for routine blowdown cleaning of the unit.

The air separator must be constructed and stamped for 125 psig in accordance with the ASME Boiler and Pressure Vessel Code.

Each air separator shall be American Wheatley HVAC Products _____ or equal.

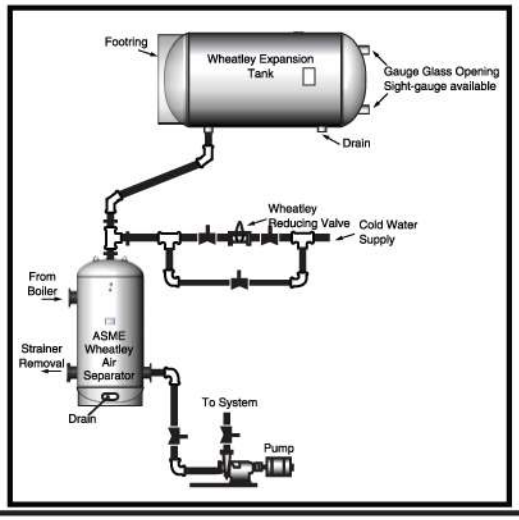
Typical Piping Details

With Bladder Type Tanks (WPA/WFA Series)



Typical Piping Details

With Plain Steel Tanks (WPS Series)



JOB NAME _____
LOCATION _____
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_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY

1005 E. Houston
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

Air Separators With Strainer

SIZE	WHEATLEY	B&G	TACO	AMTROL	WESSELS	WOOD
2"	TASS020	R2	ACT2F	2-AS	SPA2S	JASR-19-501
2 1/2"	TASS025	R2 1/2	ACT25F	2 1/2-AS	SPA2 1/2S	JASR-19-502
3"	TASS030	R3	ACT3F	3/AS	SPA3S	JASR-19-503
4"	TASS040	R4	ACT4F	4-AS	SPA4S	JASR-19-504
5"	TASS050	R5	ACT5F	5-AS	SPA5S	JASR-19-505
6"	TASS060	R6	ACT6F	6-AS	SPA6S	JASR-19-506
8"	TASS080	R8	ACT8F	8-AS	SPA8S	JASR-19-507
10"	TASS100	R10	ACT10F	10-AS	SPA10S	JASR-19-508
12"	TASS120	R12	ACT12F	12-AS	SPA12S	JASRR-19-509
14"	TASS140	R14	ACT14F	14-AS	SPA14S	JASR-19-510
16"	TASS160	R16	ACT16F	16-AS	SPA16S	JASR-19-511
18"	TASS180	R18	ACT18F	18-AS		JASR-19-512
20"	TASS200	R20	ACT20F	20-AS		JASR-19-513
22"	TASS220	R22		22-AS		
24"	TASS240	R24		24-AS		JASR-19-514

Air Separators Without Strainer

SIZE	WHEATLEY	B&G	TACO	AMTROL	WESSELS	WOOD
2"	TAS020	RL-2	ACT2	2-AS-L	SPA2	JASR-19-401
2 1/2"	TAS025	RL-2 1/2	ACT25	2 1/2-AS-L	SPA2 1/2	JASR-19-402
3"	TAS030	RL-3	ACT3	3/AS-L	SPA3	JASR-19-403
4"	TAS040	RL-4	ACT4	4-AS-L	SPA4	JASR-19-404
5"	TAS050	RL-5	ACT5	5-AS-L	SPA5	JASR-19-405
6"	TAS060	RL-6	ACT6	6-AS-L	SPA6	JASR-19-406
8"	TAS080	RL-8	ACT8	8-AS-L	SPA8	JASR-19-407
10"	TAS100	RL-10	ACT10	10-AS-L	SPA10	JASR-19-408
12"	TAS120	RL-12	ACT12	12-AS-L	SPA12	JASR-19-409
14"	TAS140	RL-14	ACT14	14-AS-L	SPA14	JASR-19-410
16"	TAS160	RL-16	ACT16	16-AS-L	SPA16	JASR-19-411
18"	TAS180	RL-18	ACT18	18-AS-L		JASR-19-412
20"	TAS200	RL-20	ACT20	20-AS-L		JASR-19-413
22"	TAS220	RL-22		22-AS-L		
24"	TAS240	RL24		24-AS-L		JASR-19-414

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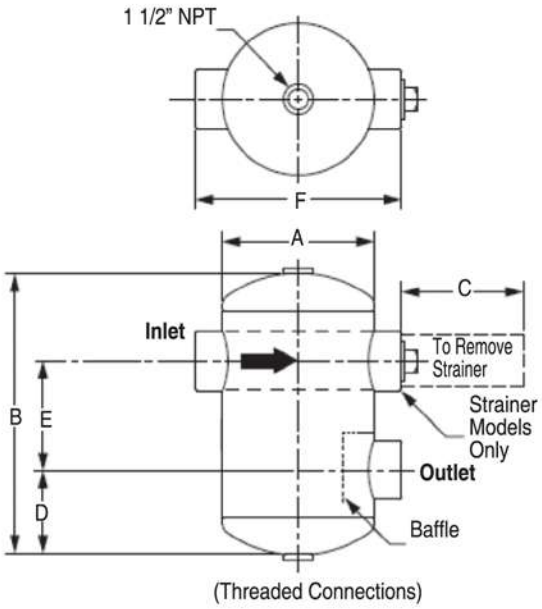
IAS/IASS Series In-Line Air Separators

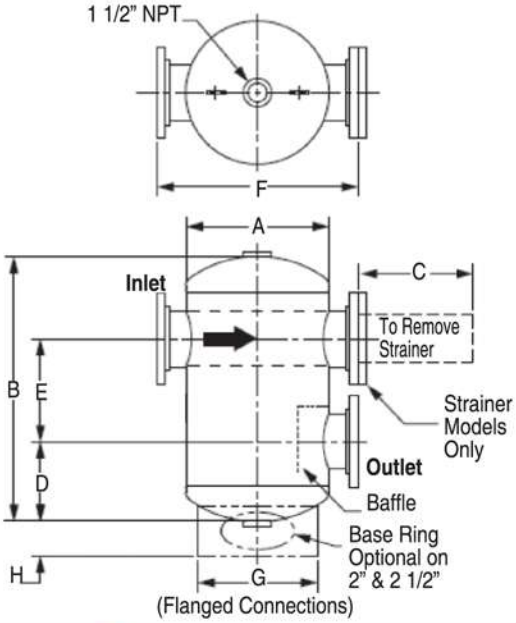
The American Wheatley IAS series offers a lower cost alternative for air separation in hydronic heating and cooling systems. The IAS / IASS series becomes a point of lower system velocity by changing the direction of flow through the device. This lower velocity, along with the change in direction allow air molecules to separate from the water, rise within the inline air separator and be discharged through the vent opening at top of vessel either to atmosphere or to an expansion tank.

Features:

- IAS - less strainer
- IASS - with integral 304 SS Strainer
- Available in 2" through 20", special sizes available up to 48"
- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel construction
- Furnished with or without an integral 304SS Strainer as indicated in specification or noted on drawing
- Standard working pressure 125 P.S.I., higher pressure ratings available upon request
- Maximum Temperature 450°F
- Red Oxide Primed Exterior



(Threaded Connections)



(Flanged Connections)

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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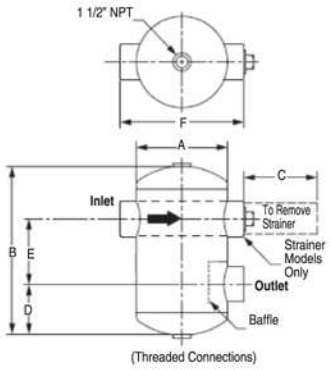
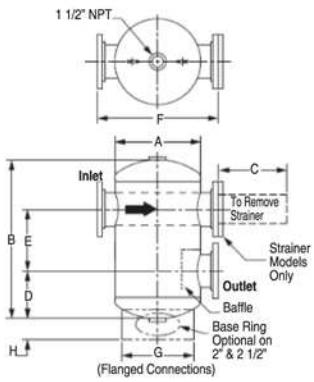


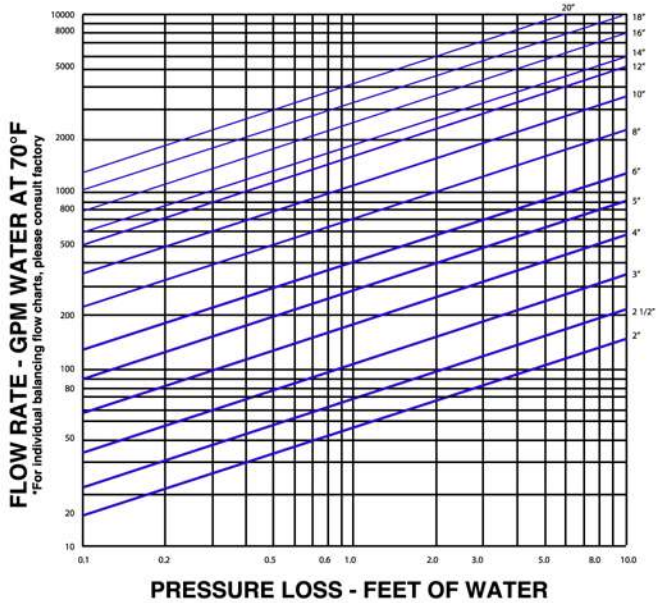
(Threaded Connections)



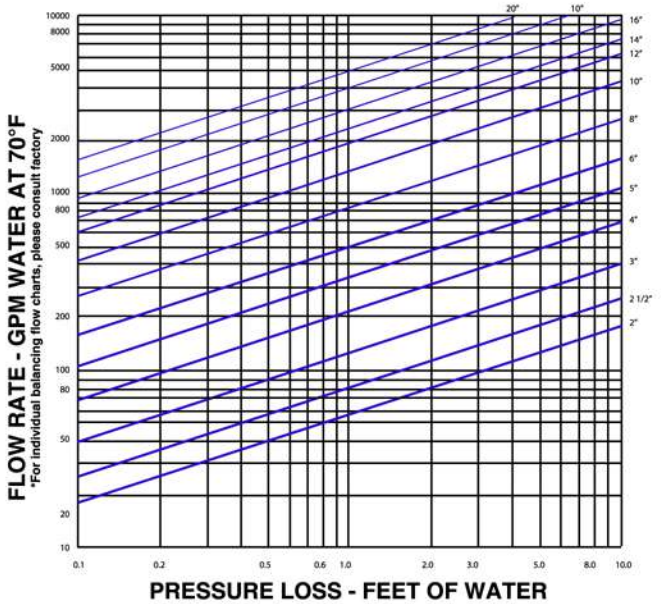
(Flanged Connections)

Pipe Size	Model Number		A Dia.	B Max.	C	D	E	F	G Dia.	H Inch	Max. Flow	Strainer Free Area	C_V Factor	Approx. Wt. (lbs.)	C_V Factor	Approx. Wt. (lbs.)
	Less Strainer	With Strainer							Base Ring				Less Strainer		With Strainer	
Inch			Inch	Inch	Inch	Inch	Inch	Inch			GPM	$Inch^2$				
2	IAS-002	IASS-002	12	22 1/8	13	7 9/16	7	14	-	-	80	31	86	40	72	45
2 1/2	IAS-025	IASS-025	12	22 1/8	13	7 9/16	7	14	-	-	130	38	122	40	102	45
3	IAS-003	IASS-003	14	27 1/4	22	8	11 1/4	24	12	6 1/2	190	51	190	90	162	110
4	IAS-004	IASS-004	16	31 3/8	24	9 5/16	12 3/4	26	12	7	330	80	325	115	272	145
5	IAS-005	IASS-005	16	32 1/2	24	9 3/8	13 3/4	26	12	7	550	112	510	130	422	165
6	IAS-006	IASS-006	20	36 7/8	27	11 1/16	14 3/4	30	16	6 3/4	900	180	750	170	618	215
8	IAS-008	IASS-008	20	45 1/2	27	14 1/16	17 3/8	30	16	6 3/4	1500	246	1260	270	1060	345
10	IAS-010	IASS-010	24	47 3/4	32	14 15/16	17 7/8	36	20	6 3/4	2600	392	2000	350	1670	465
12	IAS-012	IASS-012	30	59 3/4	37	17 5/8	24 1/2	42	24	7 3/4	3400	548	2900	600	2400	775
14	IAS-014	IASS-014	36	68 1/2	44	20 3/4	27	48	30	7 3/4	4700	732	3500	805	2850	1035
16	IAS-016	IASS-016	36	75 1/2	43	22 1/4	31	48	30	7 3/4	6000	845	4600	875	3800	1150
18	IAS-018	IASS-018	48	84 1/4	56	24 5/8	35	64	40	7 3/4	8000	1290	5900	1550	4900	1900
20	IAS-020	IASS-020	48	91	56	26	39	64	40	8 5/8	1000	1435	7400	1700	6200	2150

Air Separator Pressure Drop WITHOUT Strainer



Air Separator Pressure Drop WITH Strainer



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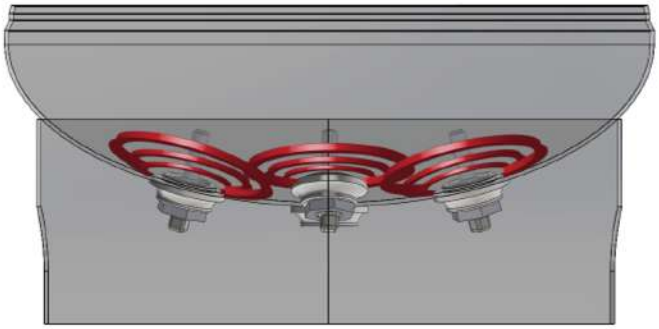
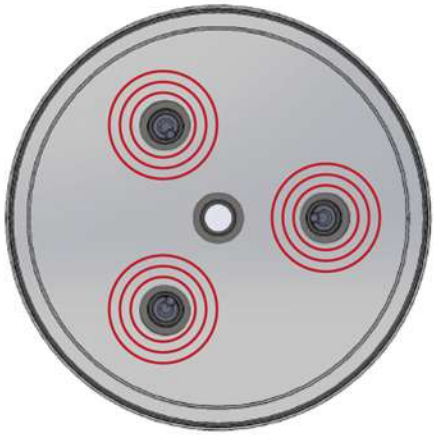
MG-Magnetic Option

American Wheatley magnetic option for air separation devices.

The MG option includes a minimum of three diametrically charged magnetic assemblies inserted into the lower section of the air separation device. These high-powered magnetic assemblies attract small ferrous particles and magnetite, preventing them from flowing into the pump and further into the system. The internal magnets can be easily removed, allowing the particles to be flushed from the system during periodic blowdown, without system disruption. The positioning of the MG option in the bottom head of the air separation device, whether it is tangential or in-line, is located in an area of low velocity further assisting separation. Simply add the suffix -MG (TAS-004-MG) to the standard part number.

The MG option is available on American Wheatley TAS, TASS, IAS, IASS, SRS, STAD, and HVAD air separation devices.





All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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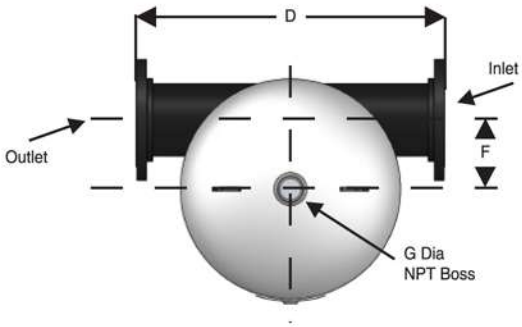
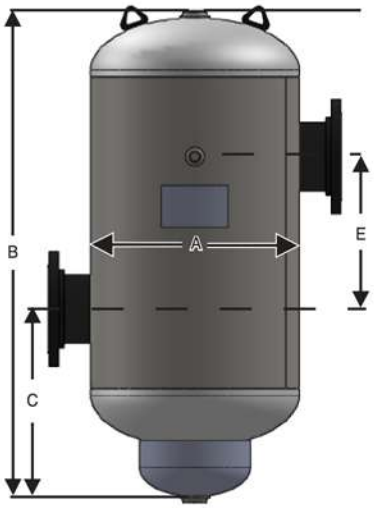
Sediment Removal Separator

The Sediment Removal Separator is designed to remove undissolved sediment and entrained air from cooling towers, along with hot and chilled hydronic installations. The Tangential design optimizes sediment removal with its vortex action that forces the sediment to the outside and into the bottom sump for removal. The air is released upward to the air release valve giving the dual capabilities of a dirt and air separator.



Features:

- Constructed in accordance with ASME Section VIII, Division I, Latest Edition
- Carbon Steel Construction
- Design Pressure: 125 PSI
- Max Design Temperature: 350º
- Removes Sediment and Entrained Air
- Tangential Design
- Higher Pressures Available thru 300 PSI
- Larger Sizes Available



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PART NUMBER	SIZE	DIAMETER A (IN.)	HEIGHT B (IN.)	FLANGE TO BASE C (IN.)	FLANGE TO FLANGE D (IN.)	FLANGE CTR TO TOP E (IN.)	FLANGE CTR TO CTR LINE F (IN.)	NPT CONNECTION
SRS-03	3"	12	22	8	19 3/4	8	3 3/4	1"
SRS-04	4"	14	32	12 1/8	21 3/4	10 3/4	4 1/4	1 1/2"
SRS-05	5'	14	32	12 1/8	21 3/4	10 3/4	3 3/4	1 1/2"
SRS-06	6:	20	45	17 3/4	28	14 1/2	6 1/4	1 1/2"
SRS-08	8"	20	45	17 3/4	28	14 1/2	5 3/16	1 1/2"
SRS-10	10"	30	63	22 3/4	41	20	9 1/8	2"
SRS-12	12"	30	63	22 3/4	41	20	8 1/8	2"

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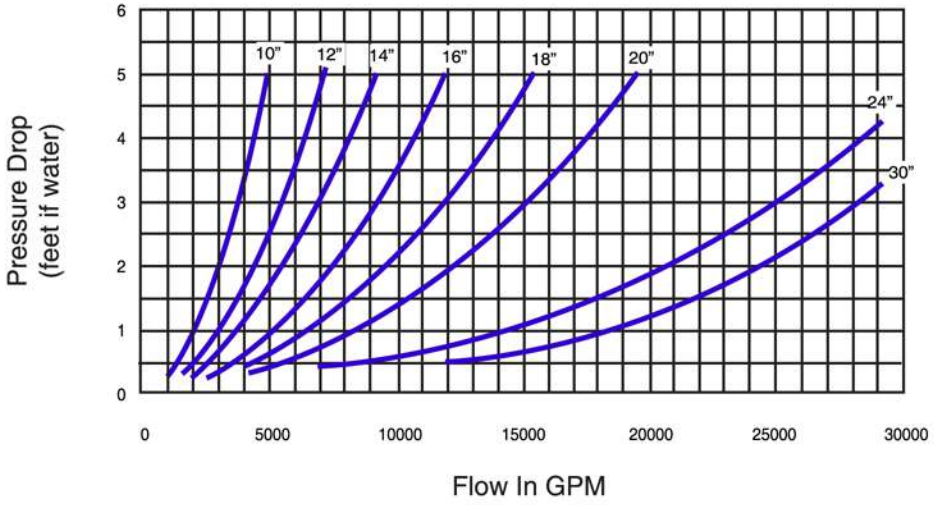

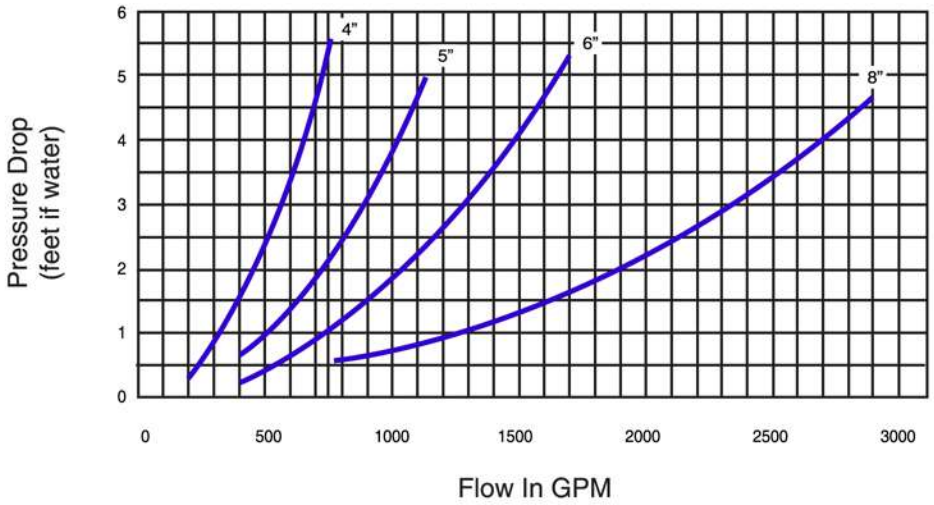

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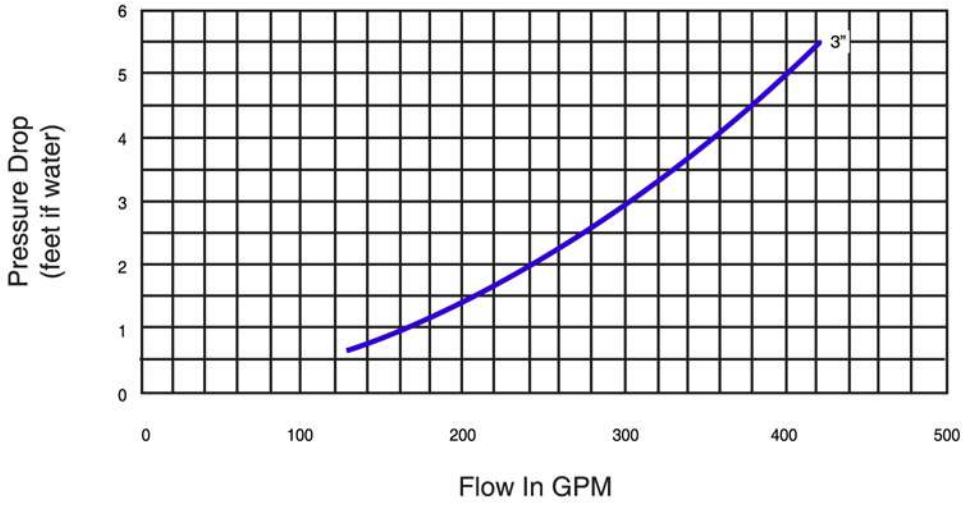

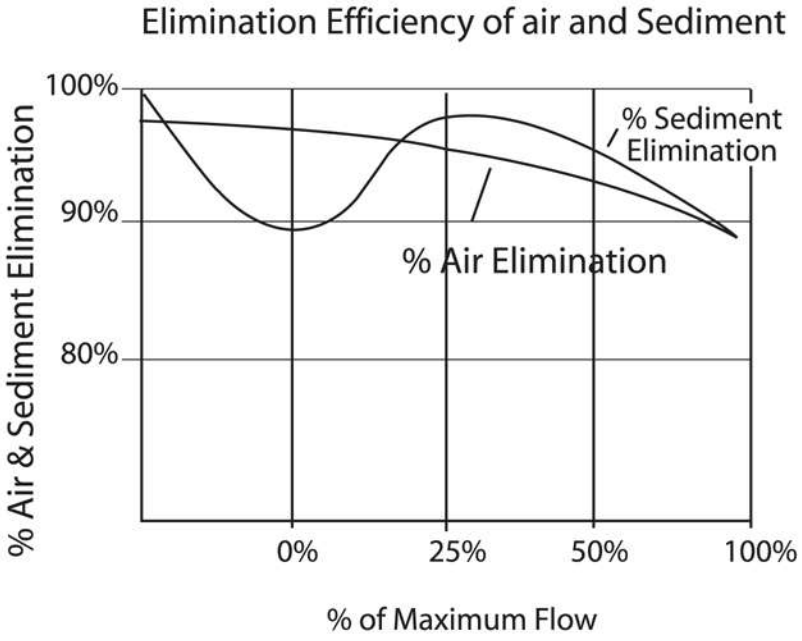

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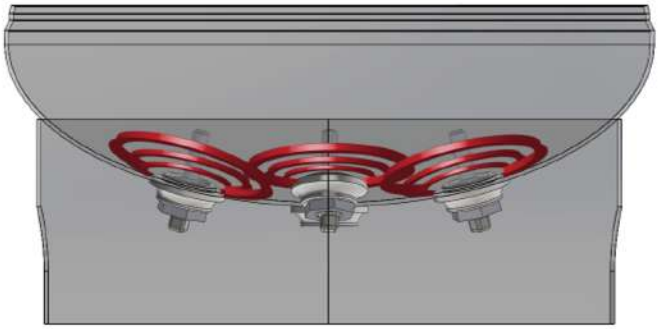

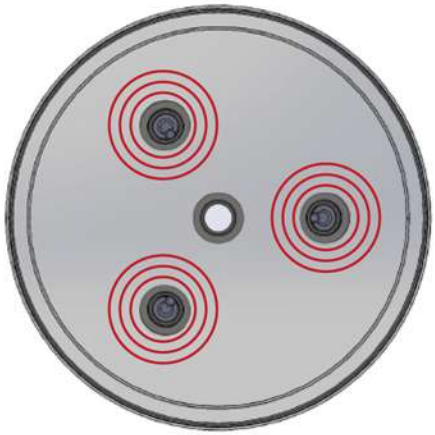

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MODEL SRS
Sediment Removal Separator

Operation, Maintenance and Installation Instructions

DESCRIPTION:

The Sediment Removal Separator is designed to achieve both air and sediment removal in hydronic systems. The units are designed and manufactured to the ASME Boiler & Pressure Vessel Code Section VIII-Division 1. The separator utilizes the tangential design to create a centrifugal action to remove the sediment from the system.

SERVICE INSTRUCTIONS:

1. There are no moving parts or strainers in the SRS that requires any service.
2. The blow down valve or any equipment associated with it, may require service or periodic inspection. Refer to their maintenance instructions for the required service details.
3. The SRS should be inspected regularly for signs of corrosion. Excessive corrosion will cause the unit to leak or rupture. Failure could cause property damage or even serious personal injury.

OPERATING INSTRUCTIONS:

1. The SRS separates sediment from the system by utilizing the centrifugal force created by the tangential design of the separator. Heavier than water sediment particles are thrown against the inner walls of the SRS and move down the walls to the sump, collecting in the bottom of the separator.

   Important: The SRS is designed only for the removal of undissolved, inorganic, heavier than water sediment or solids that enter the system. The SRS is not designed or intended to be used for removal of dissolved sediment or organic material, such as algae.

2. The sediment collected in the sump must be periodically blown down or removed from the NPT sump connection on the bottom of the SRS. If the sump is allowed to fill up with sediment without periodically being blown down, sediment will start to pass through the SRS and not be removed from the system. Purging of the sump can be accomplished manually by use of the blow down valve (supplied by others) on the bottom sump connection. An automatic valve with a adjustable timer can be used to blow down the system automatically.

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Standard & High Velocity Air & Dirt Separator

The American Wheatley HVAD high velocity and STAD standard velocity, coalescing type air & dirt separator is intended for use on commercial HVAC, Institutional, and industrial applications to remove entrained air and particulate from the system water. American Wheatley utilizes a coalescing media consisting of 304SS high performance saddle rings. All American Wheatley are designed and constructed to ASME Section VIII, Division 1 standard. The American Wheatley HVAD & STAD series coalescing type air & dirt separator is capable of removing 99.6% free air and 99% of the measurable entrained and dissolved air with continuous circulation. Solids to 20 microns can be eliminated within 100 passes continuous circulation.

Features:

- HVAD-High Velocity up to 6039 GPM
- STAD-Standard Velocity up to 2599 GPM
- Available with or without removable cover
- Stainless steel coalescing media
- Skim and drain valve connections standard
- Available 2" through 16", with larger sizes POA
- ASME rated 150PSI WP 2"-12", 125PSI WP14"-16" with higher pressures available
- Designed and built in accordance with ASME Section VIII, Division I, latest edition

NR-
Non Removable Cover

Options:

- Stainless Steel Construction
- Other Alloy Construction
- Higher pressures available
- Painted surface top coat / Epoxy coats
- Magnetic Insert
- Ceiling clips/seismic clips

RC-
Removable Cover

NOTE: All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
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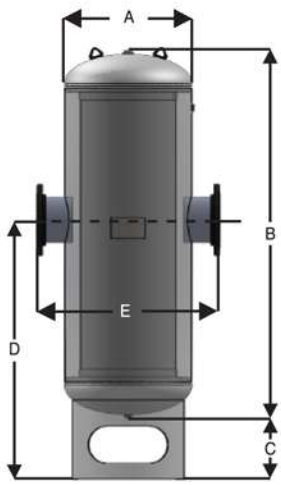
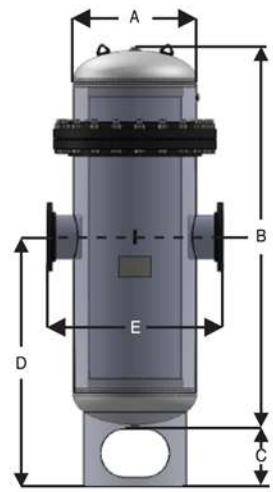
Standard Velocity with Non Removable Cover

MODEL NO.	PIPE SIZE	DIA. A (INCH)	TANK HEIGHT B (INCH)	SKIRT HEIGHT C (INCH)	FLANGE CRT TO FLOOR D (INCH)	FLANGE TO FLANGE E (INCH)	SURFACE AREA (SQ. FT.)	OPTIMAL FLOW (GPM)	WEIGHT (LBS)
STAD-2-NR	2	14	24 13/16	6	15	21 3/4	64	50	85
STAD-2.5-NR	2 1/2	14	24 13/16	6	15	21 3/8	39	75	90
STAD-3-NR	3	14	28 7/16	6	15	21 1/4	51	115	100
STAD-4-NR	4	14	28 7/16	6	15	24	51	190	110
STAD-5-NR	5	20	39 13/16	6 3/4	18 3/4	30	106	300	190
STAD-6-NR	6	20	39 13/16	6 3/4	18 3/4	30	106	440	205
STAD-8-NR	8	24	47 1/4	7 1/16	21 1/16	34 5/8	187	750	430
STAD-10-NR	10	30	59 7/16	7 13/16	25 13/16	41 1/4	300	1,200	600
STAD-12-NR	12	30	59 7/16	7 13/16	25 13/16	42 3/4	300	1,700	650
STAD-14-NR	14	36	77 13/16	8 1/2	34 1/2	49 5/8	600	2,040	870
STAD-16-NR	16	36	77 13/16	8 1/2	34 1/2	51	600	2,599	870
STAD-18-NR	18	36	91	13 1/2	55 3/4	48	571.4	3,673	1,665
STAD-20-NR	20	42	100	12 3/4	58 1/2	54	839.4	4,561	2,430
STAD-22-NR	22	48	109	12 5/8	64 5/16	60	1,215.5	5,300	3,205
STAD-24-NR	24	48	118	12 5/8	66 1/8	60	1,295.7	6,346	3,375
STAD-30-NR	30	60	145	14	76 1/2	74	2,336.5	10,262	7,075
STAD-36-NR	36	72	172	15 3/4	92 1/8	90	3,993.1	14,905	12,050



Standard Velocity with Removable Cover

MODEL NO.	PIPE SIZE	DIA. A (INCH)	TANK HEIGHT B (INCH)	SKIRT HEIGHT C (INCH)	FLANGE CRT TO FLOOR D (INCH)	FLANGE TO FLANGE E (INCH)	SURFACE AREA (SQ. FT.)	OPTIMAL FLOW (GPM)	WEIGHT (LBS)
STAD-2-RC	2	14	27 1/8	6	15	21 3/4	38	50	265
STAD-2.5-RC	2 1/2	14	27 1/8	6	15	21 3/8	38	75	270
STAD-3-RC	3	14	30 11/16	6	15	21 1/4	51	115	280
STAD-4-RC	4	14	30 11/16	6	15	24	51	190	290
STAD-5-RC	5	20	44 1/16	6 3/4	18 3/4	30	106	300	520
STAD-6-RC	6	20	44 1/16	6 3/4	18 3/4	30	106	440	535
STAD-8-RC	8	24	52 1/2	7 1/16	21 1/16	34 5/8	187	750	870
STAD-10-RC	10	30	64 9/16	7 13/16	25 13/16	41 1/4	300	1200	1,000
STAD-12-RC	12	30	64 9/16	7 13/16	25 13/16	42-3/4	300	1700	1,050
STAD-14-RC	14	36	82 15/16	8 1/2	34 1/2	49 5/8	600	2040	1,523
STAD-16-RC	16	36	82 15/16	8 1/2	34 1/2	51	600	2599	1,553



NOTE: All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, Please confirm actual dimensions with factory at time of order.

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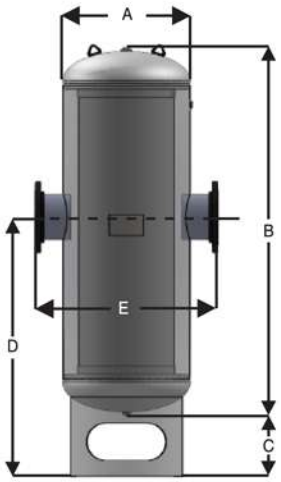
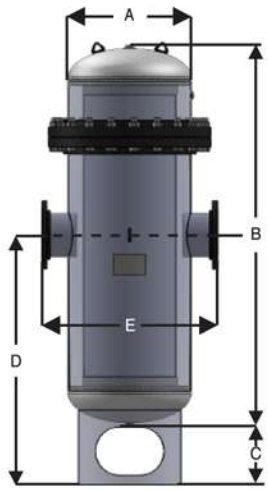
High Velocity with Non Removable Cover

MODEL NO.	PIPE SIZE	DIA. A (INCH)	TANK HEIGHT B (INCH)	SKIRT HEIGHT C (INCH)	FLANGE CRT TO FLOOR D (INCH)	FLANGE TO FLANGE E (INCH)	SURFACE AREA (SQ. FT.)	OPTIMAL FLOW (GPM)	WEIGHT (LBS)
HVAD-2-NR	2	14	31-11/16	10-15/16	27-15/16	21-3/4	65.1	108	99
HVAD-2.5-NR	2 1/2	14	31-11/16	10-15/16	27-15/16	21-3/8	65.1	163	103
HVAD-3-NR	3	14	39-1/8	10-15/16	31-3/4	21-1/4	80.6	249	119
HVAD-4-NR	4	14	39-1/8	10-15/16	31-3/4	24	80.6	432	128
HVAD-5-NR	5	20	56-1/2	11-15/16	41-11/16	30	162.2	685	253
HVAD-6-NR	6	20	56-1/2	11-15/16	41-11/16	30	162.2	988	270
HVAD-8-NR	8	24	68-1/16	12-1/8	48-7/8	34-5/8	287	1,714	519
HVAD-10-NR	10	30	84-13/16	12-3/4	58-3/16	41-1/4	455	2,698	736
HVAD-12-NR	12	30	84-13/16	12-3/4	58-3/16	42-3/4	455	3,831	783
HVAD-14-NR	14	36	101-15/16	12-5/8	66-7/8	49-5/8	798.1	4,623	1,101
HVAD-16-NR	16	36	101-15/16	12-5/8	66-7/8	51	798.1	6,039	1,124
HVAD-18-NR	18	42	121	12 3/4	74 1/2	57	1,109.5	8,246	2,945
HVAD-20-NR	20	48	132	12 5/8	80 3/16	62	1,585	10,238	3,715
HVAD-22-NR	22	54	143	13 1/8	88 7/8	67	2,113.4	11,874	5,368
HVAD-24-NR	24	54	148	13 1/8	85 7/8	67	2,430.4	14,245	5,905
HVAD-30-NR	30	66	186	14 13/16	110 1/8	82	4,226.8	23,037	10,650
HVAD-36-NR	36	84	219	15 3/8	129 1/4	104	7,925.2	33,457	21,475



High Velocity with Removable Cover

MODEL NO.	PIPE SIZE	DIA. A (INCH)	TANK HEIGHT B (INCH)	SKIRT HEIGHT C (INCH)	FLANGE CRT TO FLOOR D (INCH)	FLANGE TO FLANGE E (INCH)	SURFACE AREA (SQ. FT.)	OPTIMAL FLOW (GPM)	WEIGHT (LBS)
HVAD-2-RC	2	14	34-1/16	10-15/16	27-7/8	21-3/4	64.8	108	281
HVAD-2.5-RC	2 1/2	14	34 1/16	10 15/16	27 7/8	21 3/8	64.8	163	283
HVAD-3-RC	3	14	41 9/16	10 15/16	24 3/4	21 1/4	78.7	249	300
HVAD-4-RC	4	14	41 9/16	10 15/16	24 3/4	24	78.7	432	308
HVAD-5-RC	5	20	60 13/16	11 15/16	42 11/16	30	159	685	587
HVAD-6-RC	6	20	60 13/16	11 15/16	42 11/16	30	159	989	598
HVAD-8-RC	8	24	73 1/4	12 1/8	48 7/8	34 5/8	282.2	1,714	958
HVAD-10-RC	10	30	90 1/8	12 3/4	58 3/16	41 1/4	448.9	2,698	1,129
HVAD-12-RC	12	30	90 1/8	12 3/4	58 3/16	42 3/4	448.9	3,831	1,179
HVAD-14-RC	14	36	108 1/2	12 5/8	66 7/8	49 5/8	787.6	4,623	1,658
HVAD-16-RC	16	36	108 1/2	12 5/8	66 7/8	51	787.6	6,039	1,689



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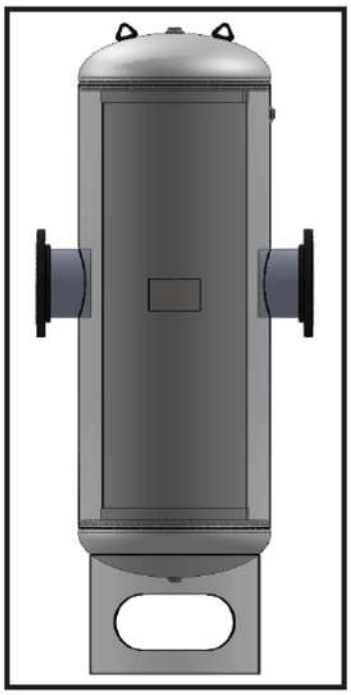
Air & Dirt Separator - Principles of Operation

The obvious function is to remove as much air and dirt from the system fluid so that it does not cause any adverse effects on system efficiency or its components, through continuous circulation. The Wheatley STAD and HVAD air & dirt separators utilize several physical actions to accomplish this. Micro- air bubbles pass through, over, around, above and below the many 304SS saddle rings contained in the coalescing basket. While trying to pass through the coalescing media, the micro-bubbles cling to the myriad of twists and turns required as they continue their journey through the coalescing basket. As these micro-bubbles collect, they join together and form larger air molecules which with then detach from the saddle rings and are expelled from the system through the automatic float type air vent located at the top of the air & dirt separator. As any system pollutants, or dirt, are circulated through the air & dirt separator coalescing basket, they too collide with the saddle rings and are separated from the water and subsequently expelled through periodic blow-down through the blow-down port on the bottom of the separator, or removal and cleaning of the coalescing basket if so equipped.

Separating impurities in the closed circuit hydronic system depends on a number of conditions.

- The capacity for separation increases as the size of the particulate increase
- The capacity for separation increases as the velocity decreases
- The capacity for separation increases with the number of passes through the separator with continuous circulation

Saddle Rings



STAD/HVAD
NR- Non Removable Cover

Coalescing Basket

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Air In Water Solubility

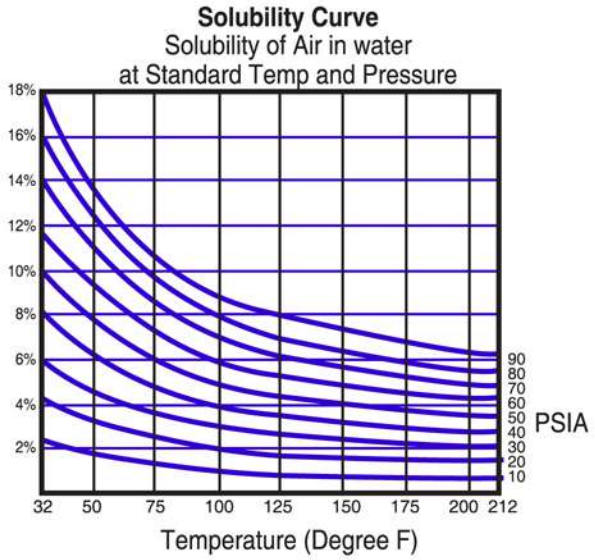
All water contains a certain amount of entrained air; this is commonly referred to as water solubility. As we all know, air is the single worst enemy to any hydronic heating system.

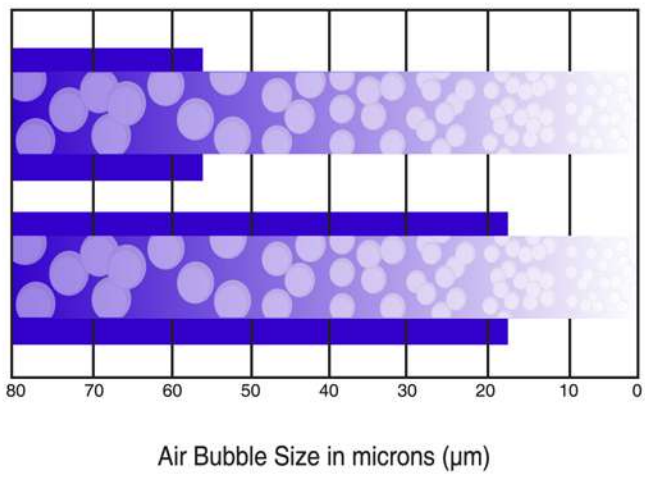
When the air is released from the solution, it can collect and create air pockets at the top of pipes and heating elements, also known “air locking” of a system. The air can also increase the corrosion rate of certain metals throughout the system.

To avoid these unwanted occurrences, air elimination devices are routinely used to remove most of the air trapped in the water molecules. The table shown below depicts the solubility curve for air contained in water.

As noted, increasing the temperature at a fixed or constant pressure reduces the amount of air that can be contained within the water molecule. In this example, at 50 PSIA and at a temperature of 50°F, the water can contain just below 8% air by volume.

Conversely then, at 200°F, the water molecule can contain approximately 3.5% air by volume. Therefore, as you can see, reducing the pressure while temperature remains constant reduces the amount of air that can be dissolved in solution. As indicated below, 125°F water at 80 PSIA would contain approximately 7% air by volume. For purposes of our example, that same 125°F water at 20 PSIA would contain less than 2% air by volume. Therefore, the conclusion must be made that the air contained within the water molecules is least soluble at the points of highest temperature and lowest pressure. The air separators should then be installed at this point in the system.





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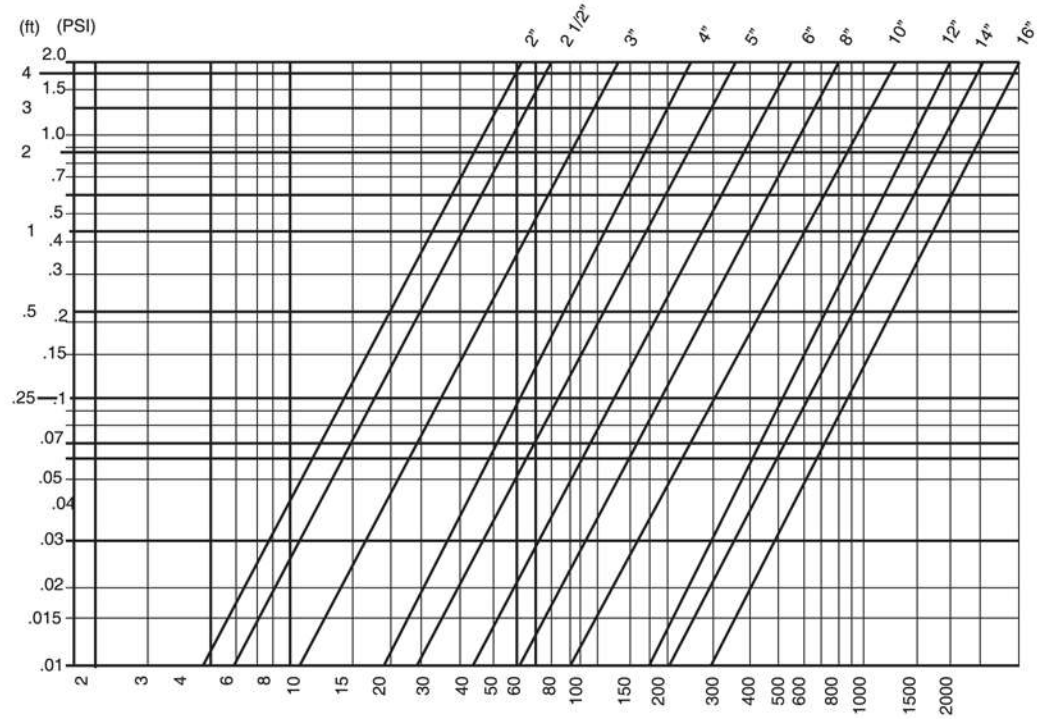
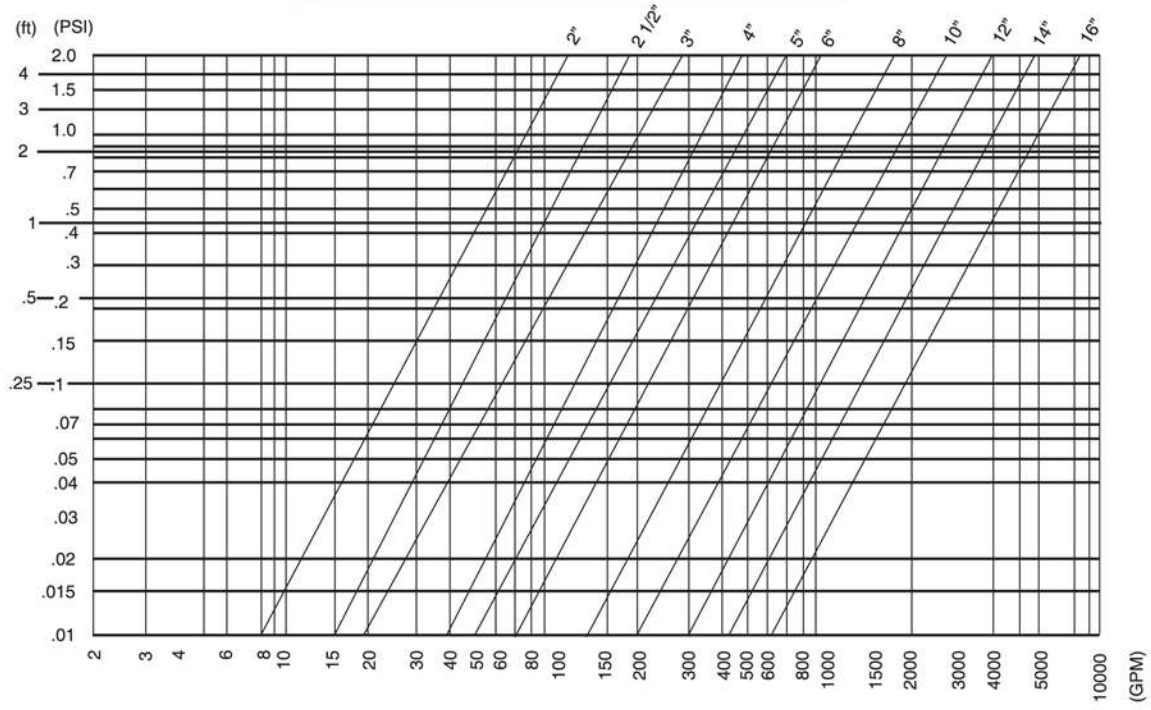
STAD PRESSURE DROP



HVAD PRESSURE DROP



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A GFP COMPANY

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Standard & High Velocity Air Dirt Separator

Installation, Operation and Maintenance

The American Wheatley HVAD and STAD air and dirt separators, available with or without removable covers, can reduce the amount of air and dirt trapped in your system. Extraneous air and dirt in the system can cause reduced efficiency, lead to pipe corrosion, cause unwanted system noise, and premature pump failure. The Wheatley Air & Dirt separator removes miniscule amounts of air and dirt saving money with improved efficiency, and protects equipment from the problems associated with air and debris in the system. The HVAD and STAD are constructed in accordance with ASME Section VIII, Division 1, Latest edition. The separator vessels are constructed of A516 Grade 70 carbon steel, with stainless steel internals to ensure a long and corrosion free life of the coalescing media.

The coalescing action is accomplished with the proven separation capabilities of 304SS High Performance saddle rings contained in a reinforced stainless steel basket, easily removable for scheduled maintenance. The application of saddle rings for separation has been widely accepted in the HVAC community for many years, and has proven to be an effective coalescing media in the HVAD and STAD.

Air separation is a common term when discussing HVAC equipment, and can be accomplished in a variety of ways. In this instance it is removed as it passes through the coalescing media, the micro-bubbles are separated and rise through the vessel where they are vented. As the dirt flows into the separator, it is ensnared by the coalescing saddle rings, where it eventually works through the coalescing media to the bottom of the separator where it can be blown down either through a manual or automated ball valve.

Also included is a skim port located in the upper section of the vessels which allows for a periodic skimming to remove impurities from the top of the solution, once again through a manual or automated ball valve.

American Wheatley HVAD and STAD air & dirt separators can be ordered with an optional removable cover. The cover is standard as top mounted, as we have determined it to be the safest orientation for removal of the coalescing basket, however it can be specified to be bottom mounted when requested.

The HVAD and STAD are capable of 99.6% of free air and 99% of measurable entrained and dissolved air with continuous circulation. Solids to 20 microns can be eliminated with continuous circulation.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
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Broken Arrow, OK 74012
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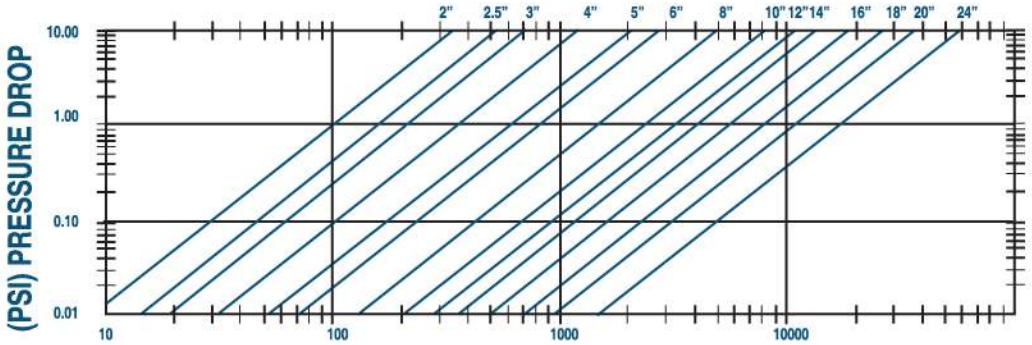
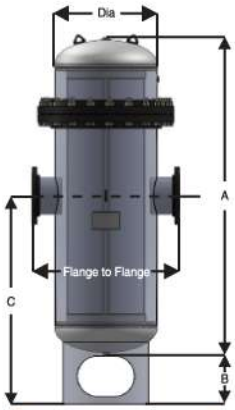
American WHEATLEY HVAC PRODUCTS®

STAD PRESSURE DROP



MAINTENANCE:

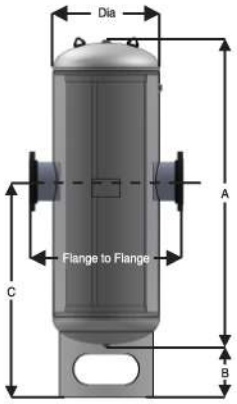
Regular visual inspection should be performed by competent personnel to guard against any leaks, over pressurization, or proper operation of the air vent valve. The unit should be blown down at a predetermined interval to ensure that the coalescing media is clear and able to perform the intended function. This interval is predicated by system conditions. The blow down maintenance should be carried out only by properly trained personnel. If necessary, make up water for additional blow down can be introduced through the skimmer valve opening located on the side of the unit. The unit should be completely isolated from the system during the blow down procedure. A ball valve should be piped to the skim port located on the body of the separator to remove contaminants during the blow down cycle. Isolate the separator, open the skim valve first to expel any contaminants, pen the drain valve to blow down the separator Close both valves after blow down is complete. Upon completion, the isolations valves should be opened slowly to prevent any shock to the unit or the system piping.



RC- Removable Cover

Units supplied with a removable cover may be opened by removing the bolts securing the cover in place; the coalescing media may then be viewed to determined necessity of cleaning or replacement.

CAUTION: EXTREME CARE SHOULD BE TAKEN DURING THE BLOW DOWN PROCEDURE. INTERNAL PRESSURES AND TEMPERATURES COULD BE SUFFICIENT TO CAUSE GREAT BODILY HARM. THE BLOW DOWN PROCEDURE SHOULD ONLY BE PERFORMED BY PROPERLY TRAINED PERSONNEL



NR- Non Removable Cover

WARRANTY:

American Wheatley warrants the product for a period of one year from date of installation, or 18 months from date of shipment due to any manufacturers defect.

A complete General Conditions and Warranty statement is available for view at www.wheatleyhvac.com

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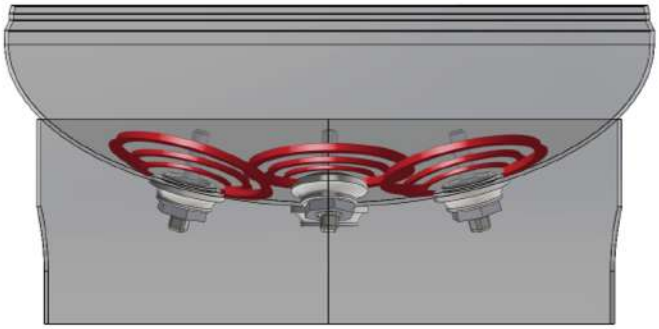
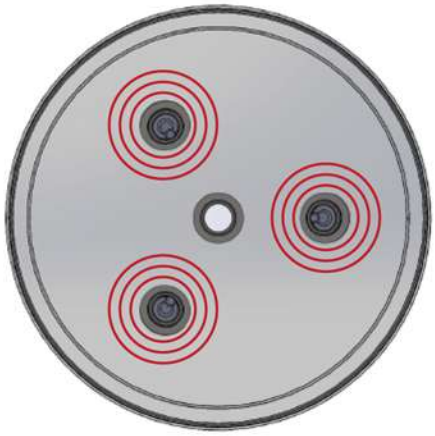
MO-Magnetic Option

American Wheatley magnetic option for air separation devices.

The MG option includes a minimum of three diametrically charged magnetic assemblies inserted into the lower section of the air separation device. These high-powered magnetic assemblies attract small ferrous particles and magnetite, preventing them from flowing into the pump and further into the system. The internal magnets can be easily removed, allowing the particles to be flushed from the system during periodic blowdown, without system disruption. The positioning of the MG option in the bottom head of the air separation device, whether it is tangential or in-line, is located in an area of low velocity further assisting separation. Simply add the suffix -MG (TAS-004-MG) to the standard part number.





The MG option is available on American Wheatley TAS, TASS, IAS, IASS, SRS, STAD, and HVAD air separation devices.

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All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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_____
_____
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ITEMS	QUANTITY

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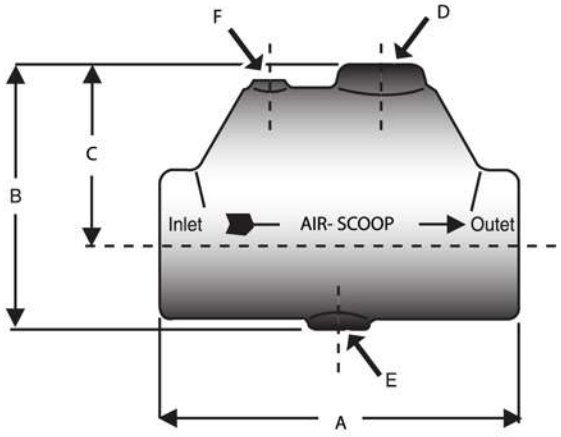
American WHEATLEY HVAC PRODUCTS®

Cast Iron Air Purger

Features:

- Available in heavy cast iron construction in sizes from 1" to 3"
- Taps are provided for expansion tank and air vent connection
- Maximum working pressure of 125 psig
- Maximum operating temperature of 275°F



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

MODEL	SIZE	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	WEIGHT (lbs.)
AS0010T	1"	6"	4"	2 1/2"	*	1/2" NPT	1/8" NPT	4
AS0125T	1 1/4"	6"	4"	2 1/2"	*	1/2" NPT	1/8" NPT	4
AS0150T	1 1/2"	8"	6"	4"	3/4" NPT	1/2" NPT	1/8" NPT	7
AS0200T	2"	8"	6"	4"	1" NPT	1/2" NPT	1/8" NPT	7
AS0250T	2 1/2"	10"	8"	5" 1/2"	1" NPT	1/2" NPT	1/8" NPT	15
AS0300T	3"	10"	8"	5 1/2"	1 1/4" NPT	1/2" NPT	1/8" NPT	14

JOB NAME _____
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Air Purger (Scoop)

For removal of entrained air in hydronic and pumping systems. Helps prolong life of heating or cooling systems. Provides protection against possible pipe damage and system noise.

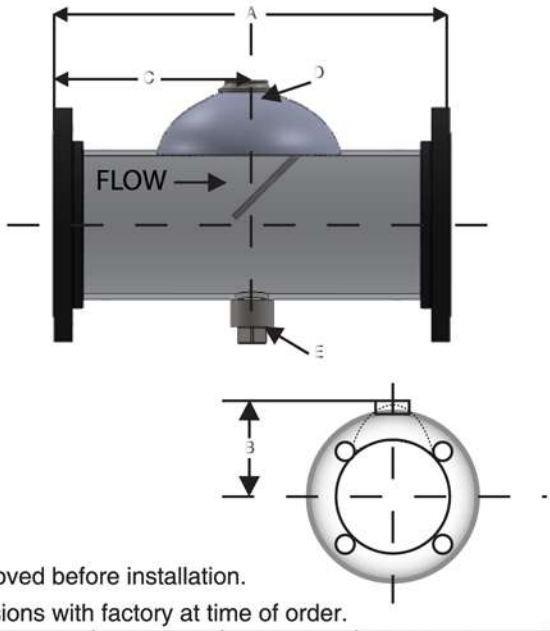
Features:

- Carbon Steel construction
- Available in sizes from 3" to 24"
- Maximum working pressure of 150 psig
- Maximum operating temperature of 345°F
- Non A.S.M.E.

Optional Features:

- Higher pressures available
- For 304 Stainless Steel add SS to part number

We recommended adding our High Capacity Air Vent Part #ARO-75 for automatic air removal.



All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

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PART NUMBER	SYSTEM CONNECT	LENGTH A (IN.)	HEIGHT B (IN.)	FLG TO CTR C (IN.)	NPT D (IN.)	NPT E (IN.)	WEIGHT LBS.
AP-003*	3"	12 1/4	5 3/8	6 1/8	3/4	1/2	42
AP-004	4"	14 1/4	6 5/8	7 1/8	3/4	1/2	51
AP-005	5"	15	5 3/8	7 1/2	1 1/2	1 1/2	65
AP-006	6"	18	6 1/2	9	1 1/2	1 1/2	86
AP-008	8"	24	9 1/2	12	1 1/2	1 1/2	138
AP-010	10"	30	11	15	1 1/2	1 1/2	240
AP-012	12"	36	13 1/4	18	1 1/2	1 1/2	352
AP-014*	14"	42	14 1/4	21	1 1/2	1 1/2	434
AP-016*	16"	48	15 5/8	24	1 1/2	1 1/2	532
AP-018*	18"	54	17 3/4	27	1 1/2	1 1/2	661
AP-020*	20"	60	20 3/8	30	1 1/2	1 1/2	828
AP-024*	24"	66	25 1/4	33	1 1/2	1 1/2	1028

* Non-stock items

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
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www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

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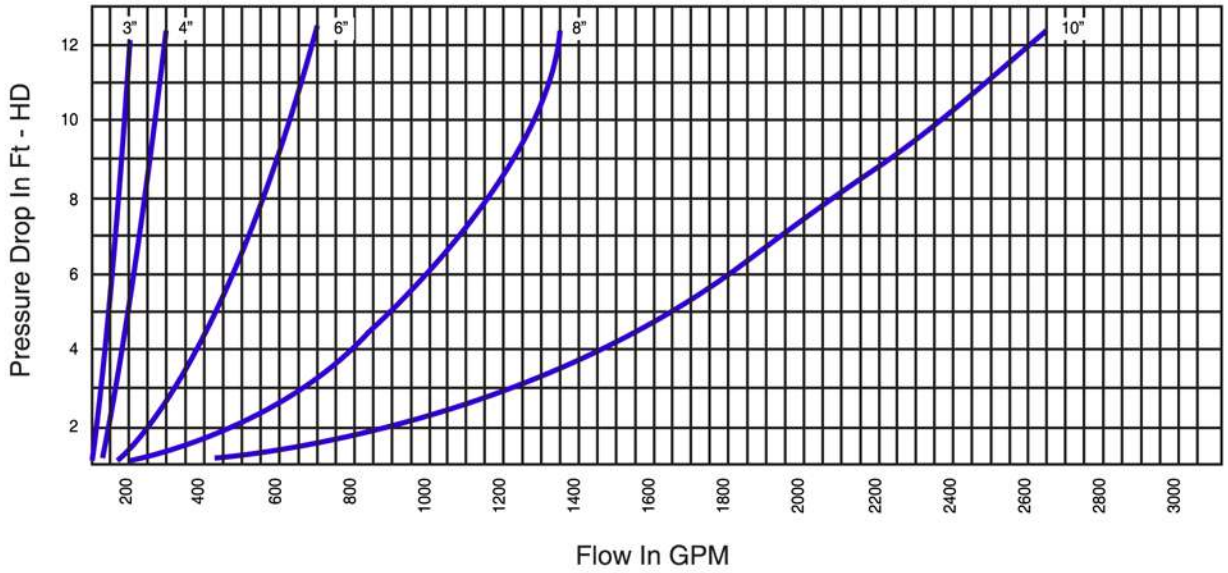
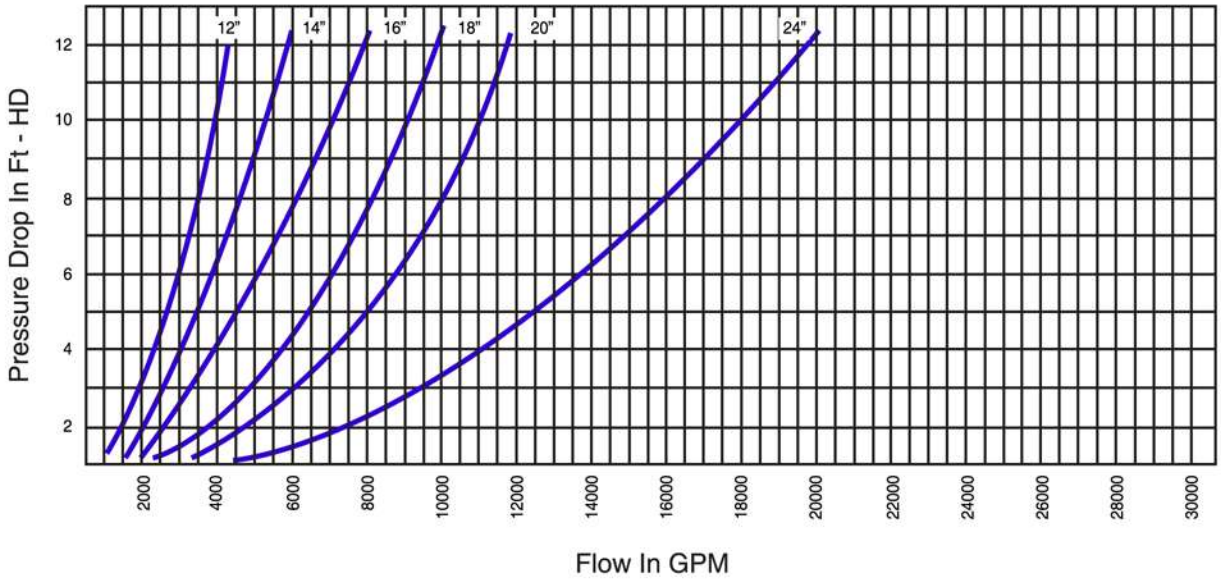
Pressure Drop Chart for In-Line Air Purgers





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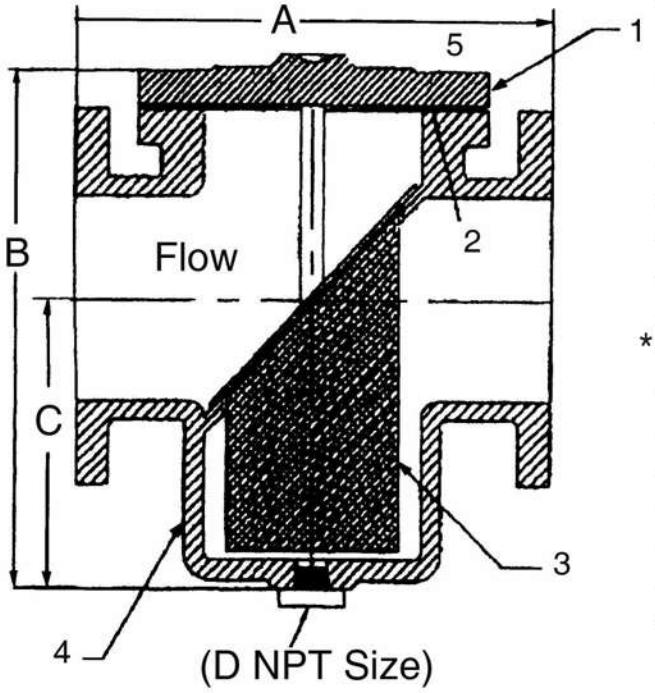
Strainers

American WHEATLEY HVAC PRODUCTS®

Basket Type Strainer



Dimensional Data (In Inches)

Model	Size	A	B	C	D	Weight (Lbs.)
BS0200	2	8 1/8	8 3/4	5	1/2	34
BS0250	2 1/2	8 1/4	9 7/8	6	3/4	43
BS0300	3	9 7/8	10 3/4	7 1/2	3/4	60
BS0400	4	11 1/2	13	8	1	120
BS0500	5	13 1/8	14 1/2	8 1/2	1	140
BS0600	6	14 7/8	16 1/8	9 1/2	1	164
* BS0800	8	18 3/4	20 7/8	12	1 1/2	330
BS1000	10	20 1/8	24 1/4	13 1/4	1 1/2	350
BS1200	12	26 3/4	30 1/4	16 3/8	2	716
BS1400	14	30 1/4	29 1/2	16 3/8	2	1010
BS1600	16	33 1/8	36 1/4	21	2	1320
BS1800	18	33 3/8	38	21	2	1916
BS2000	20	33 1/8	43 5/8	23 1/4	2	2240
BS2400	24	41 1/2	50 5/8	30	2	2460

*Drain NPT Connections: 8" and larger on side of strainer

Operating Pressure & Temperature:

FLG	SIZE	Saturated Steam	Water - Oil - Gas
125#	2 to 24"	125 PSI @ 350°F	150 PSI @ 150°F

Standard Baskets:

Size	Standard Mesh	Opening
2" to 3"	3/64 perf	.045"
4" to 24"	1/8 perf	.125"

Bill of Materials

Item	Part Name	Material
1	Cover	Cast Iron ASTM A126-B
2	Gasket	Fiber
3	Screen	Stainless Steel
4	Body	Cast Iron ASTM A126-B
5	Bolts	Carbon Steel

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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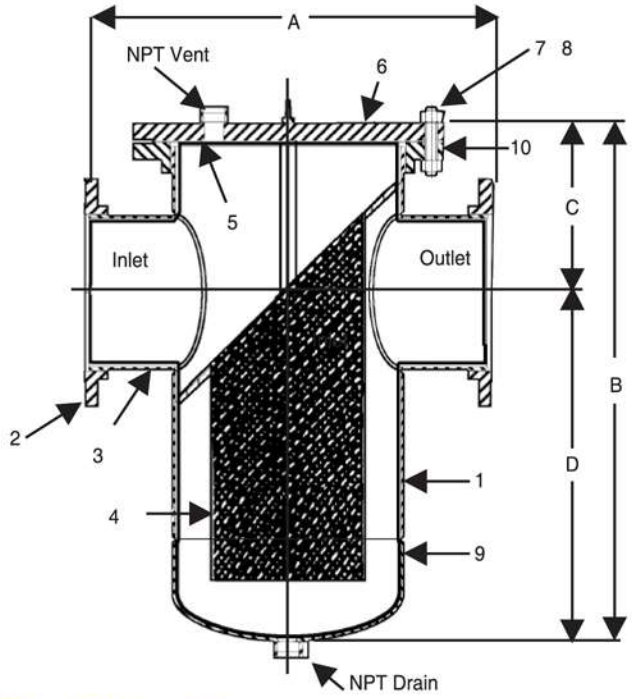
Model BSF
Fabricated Basket Type Strainer

Features:

- Carbon Steel Construction
- 304 Stainless Steel Basket Strainer
- Bolted Cover
- 285 PSI @100° F
- Standard Red Oxide Exterior Primer

Optional Features:

- Stainless Steel and other Alloys of Construction
- Davit Arm
- Quick Release Cover
- Pressures ANSI 300 to 2500
- Screen Materials available in various perforation sizes and materials of construction
- ASME Code Construction
- Internal/External Coatings



Model	Size	Width A (In.)	Height B (In.)	C (In.)	D (in.)	Body Diameter (In.)	Weight Total (lbs)
BS0100F	1	10	11 1/2	4 1/2	7	3	44
BS0150F	1 1/2	11	13 1/2	5 1/2	8	4	69
BS0200F	2	12	14 1/2	8 1/2	8	4	74
BS0250F	2 1/2	14	23	10	13	5	93
BS0300F	3	14	23	10	13	6	134
BS0400F	4	16	24 1/2	10 1/2	14	8	242
BS0500F	5	16	26	11	15	8	279
BS0600F	6	20	28	11	17	10	338
BS0800F	8	22	33	12	21	12	481
BS1000F	10	32	38	13	25	16	744
BS1200F	12	35	43	15	28	18	866
BS1400F	14	37	49 1/2	16 1/2	33	20	1098
BS1600F	16	42	53 1/2	17 1/2	36	24	1576
BS1800F	18	42	57 1/2	18 1/2	39	24	1609
BS2000F	20	43	64	20	44	30	2204
BS2400F	24	48	65	21	44	30	2235
BS3000F	30	60	85	31	54	36	3413

Bill of Materials

Item	Part Name	Material
1	Body	Carbon Steel Pipe/Plate
2*	150lb RFSO Flange	Carbon Steel (ASTM A 105) B16.5
3	Nozzle	Carbon Steel Pipe/Plate
4	Basket	Stainless Steel (304) 1/8" perf
5	Gasket	Fiber
6	150lb Blind Flange (Cover)	Carbon Steel(ASTM A 105) B16.5
7	Studs	Carbon Steel(ASTM A 193, Grade B7)
8	Nuts	Carbon Steel (ASTM A 194, Grade 2H)
9	Weld Cap/Head	Carbon Steel Pipe/Plate
10*	150lb RFSO Flange	Carbon Steel(ASTM A 105) B16.5

*30" & Larger Flanges are RFWN Series B

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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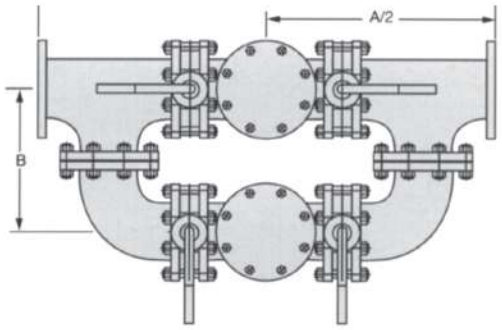
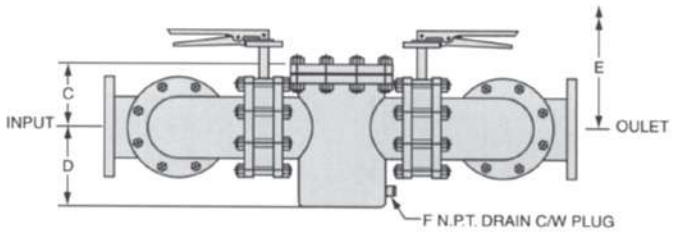
Duplex Fabricated Strainers





Note: Standard Covers on basket strainers are bolted.

SPECIFICATION:

The Duplex Strainer shall be designed and manufactured to meet ASME class 125 rated flanges. The duplex strainer shall have four butterfly isolation valves with stainless trim. The strainer body shall be cast iron material and shall be an angular basket design. The header shall be carbon steel material and shall have off-center inlet/outlet connections. The strainer shall be furnished with a bottom blowdown capability. The screen shall be size _____ perforated SS. The Duplex Strainer shall have an inlet size of _____ and Open Area Ratio of _____. The Duplex Strainer shall be American Wheatley Model DFS's _____

MATERIALS OF CONSTRUCTION

Basket Strainers:	Standard	Cast Iron 304 SS Basket
Headers:	Flanged Fittings	Ductile Iron or Carbon Steel
Shutoff Valves:	Standard	Butterfly Valves
		Ductile Iron Body (non wetted part)
		CF8M Disc EPDM seats
Hardware:	Stud	A193-B7
	Nut	A194-2H

Inlet/Outlet Connections*: 2"-16"
(RF or FF Flanged)
*Larger Sizes available upon request

SCREEN OPENINGS (Basket Strainers)		
2" - 3"	3/64" Perf.	304SS
4" - 16"	1/8" Perf.	304SS

Note: Other screen/mesh liners available upon request

PART NUMBER	DIAMETER A (IN.)	LENGTH B (IN.)	LENGTH C (IN.)	LENGTH D (IN.)	LENGTH E (IN.)	F NPT	WEIGHT lbs. COVER	WEIGHT lbs. UNIT
DFS-002	29 7/16"	9 1/8"	4 1/16"	5"	11 3/4"	1/2	5	174
DFS-003	35 7/16"	11 1/8"	5 1/16"	7 1/8"	15 3/8"	3/4	9	306
DFS-004	41 5/8"	13 1/8"	5 5/8"	8"	17 3/4"	1	13	499
DFS-005	51 5/8"	17 1/2"	5 "	8 3/8"	18 1/8"	1**	20	600
DFS-006	51 1/4"	16 1/8"	6 3/4"	9"	23"	1	26	735
DFS-008	59 1/2"	18 1/8"	7 15/16"	12"	30"	1 1/2	45	1216
DFS-010	69 5/16"	22 1/8"	12"	14"	35 1/2"	1 1/2	70	1958
DFS-012	80 3/4"	24 1/8"	13 1/8"	17"	42 1/2"	2	110	2919
DFS-014	92 1/4"	28 1/8"	15 1/2"	22"	53"	1 1/2	140	4182
DFS-016	99 15/16"	30 1/8"	16 5/8"	22 7/8"	55 5/8"	2	180	5566

*Weights and dimensions with Bolted Cover
**NPT with tap on bottom
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order

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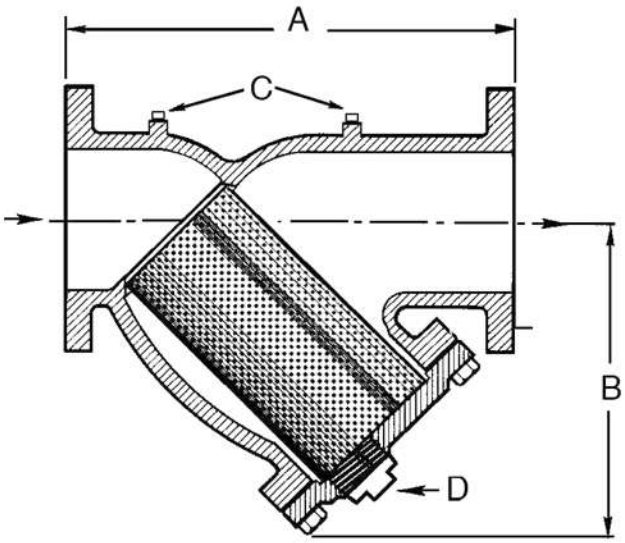
Y-Type Flanged Strainer Model YF



Dimensional Data (In Inches)

Model	Size	A	B	C NPT Pressure Gauge	D NPT Blowoff	Screen Removal	Weight (Lbs.)
YF0200	2	8 7/8	5 1/4	1/2	1	7	36
YF0250	2 1/2	10 3/4	5 3/4	1/2	1	9 3/4	48
YF0300	3	11 1/2	6 1/2	1/2	1	10	86
YF0400	4	13 5/8	8	1/2	1	12	106
YF0500	5	16 3/8	10 1/2	1/2	1 1/2	17	156
YF0600	6	18 1/2	12	1/2	1 1/2	20	201
YF0800	8	21 1/2	14 1/2	1/2	1 1/2	22 3/4	321
YF1000	10	26	18	1/2	2	28	370
YF1200	12	30	20 1/2	1/2	2	30	621
YF1400	14	37 3/8	27 1/8	1/2	2	36 1/2	992
YF1600	16	42 1/2	31 1/16	1/2	2	42	1367
YF 1800	18	45 1/4	32 3/4	1/2	2	43	1676
YF 2000	20	50 1/4	36 1/8	1/2	2	44	1764
YF2400	24	57 3/32	40 5/32	1/2	2	68	2535

Operating Pressure & Temperature

Steam	125 PSI @ 350°F
Liquid	200 PSI @ 150°F

Bill of Materials

Part Name	Material
Cover	Cast Iron ASTM A126 Class B*
Gasket	Graphite & Steel
Screen	Stainless Steel - Type 304*
Body	Cast iron ASTM A126 Class B
Bolts	Steel ASTM A307

Standard Screens

Service	Sizes	Screen Openings	Screen Material
Steam & Liquid	2"-3" 4"- 20"	.045 (3/64") .125 (1/8")	Stainless Steel-304

Screen Materials available in various perforation sizes and materials of construction.

All sizes come complete with flanged blow off cover, gasket and plug.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME_____
LOCATION_____
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ITEMS	QUANTITY

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www.wheatleyhvac.com
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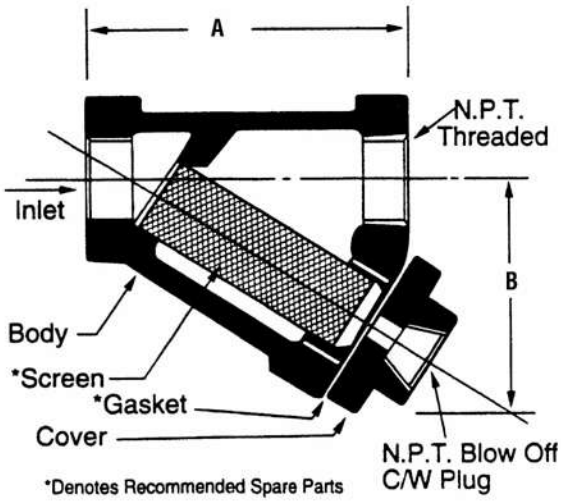
Y-Type Threaded Strainers-Cast Iron



*Denotes Recommended Spare Parts

Dimensional Data

Model No.	Size (In.)	A	B	Blowoff NPT	Weight (Lbs.)
CTY0050	1/2	3 1/14	2 1/4	1/4	2.5
CTY0075	3/4	3 3/4	2 5/8	1/2	3
CTY0100	1	4	2 3/4	1/2	5
CTY0125	1 1/4	5	3 3/4	3/4	9
CTY0150	1 1/2	5 13/16	4	3/4	10
CTY0200	2	7	5	1	16
CTY0250	2 1/2	9 5/16	6	1 1/2	29
CTY0300	3	10 1/8	7	1 1/2	38

Catalog weights & dimensions are approximate.

Apply for certified dimensions from the factory.

Operating Pressure & Temperature:

Steam	250 PSI @ 450°F
Liquid	400 PSI @ 150°F

Standard Screens:

Service	Sizes	Screen Openings	Screen Material
Steam & Liquid	1/2" thru 3"	20 Mesh .032 perf.	Stainless Steel*

Bill of MaterialsBill of Materials

Item	Part Name	Material
1	Screen	Stainless Steel
2	Body	Cast iron ASTM A126-B

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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_____
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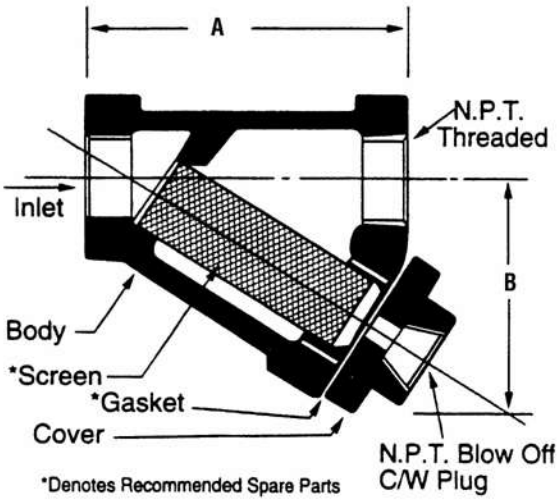
Y-Type Threaded Strainers - Bronze



Dimensional Data

Model No.	Size (In.)	A	B	Blowoff NPT	Screen Removal	Weight (Lbs.)
BTY0050	1/2	3 7/32	2 5/32	3/8	2 1/2	2.5
BTY0075	3/4	3 5/16	2 3/4	3/8	2 5/8	3
BTY0100	1	4 17/32	2 15/16	1/2	3 3/8	5
BTY0125	1 1/4	5 11/32	3 9/16	1/2	4 5/8	9
BTY1050	1 1/2	6 7/32	3 27/32	1/2	5	10
BTY0200	2	7 1/2	5 7/16	1/2	6 7/8	16
BTY0250	2 1/2	9 1/16	5 29/32	1/2	8 3/4	29
BTY0300	3	10 7/32	6 9/32	1/2	9 3/4	38

Catalog weights & dimensions are approximate.

Apply for certified dimensions from the factory.

Operating Pressure & Temperature:

Steam	150 PSI @ 400°F
Liquid	300 PSI @ 150°F

Standard Screens:

Service	Sizes	Screen Openings	Screen Material
Steam & Liquid	1/2" thru 3"	20 Mesh .032 perf.	Stainless Steel*

Bill of Materials

Item	Part Name	Material
1	Screen	Stainless Steel
2	Body	Bronze ASTM B-62

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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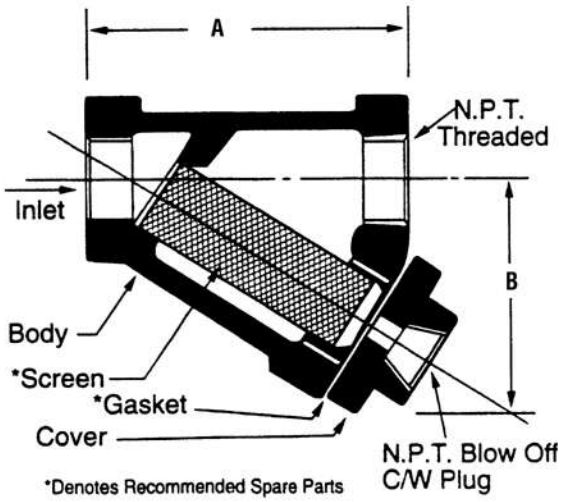
American WHEATLEY HVAC PRODUCTS®

Y-Type Threaded Strainers-Stainless



*Denotes Recommended Spare Parts

Dimensional Data

Model No.	Size (In.)	A	B	Blowoff NPT	Weight (Lbs.)
CTY0050-SS	1/2	3 1/4	2 1/4	1/4	4
CTY0075-SS	3/4	3 3/4	2 3/4	1/4	5
CTY0100-SS	1	4 1/4	3 3/16	1/2	6
CTY0125-SS	1 1/4	5 1/4	3 7/8	1/2	8
CTY1050-SS	1 1/2	6 1/4	4 3/4	1/2	10
CTY0200-SS	2	7 5/8	6	3/4	18
CTY0250-SS	2 1/2	8 3/8	7	1 1/4	25
CTY0300-SS	3	9 1/2	8 1/2	1 1/4	30

Catalog weights & dimensions are approximate.

Apply for certified dimensions from the factory.

Operating Pressure & Temperature:

Steam	600 PSI @ 486°F
Liquid	1440 PSI @ 100°F

Standard Screens:

Service	Sizes	Screen Openings	Screen Material
Steam & Liquid	1 1/4" thru 3"	20 Mesh .032 perf.	Stainless Steel*

Bill of MaterialsBill of Materials

Item	Part Name	Material
1	Screen	Stainless Steel
2	Body	ASTM SPEC A351 CF8M

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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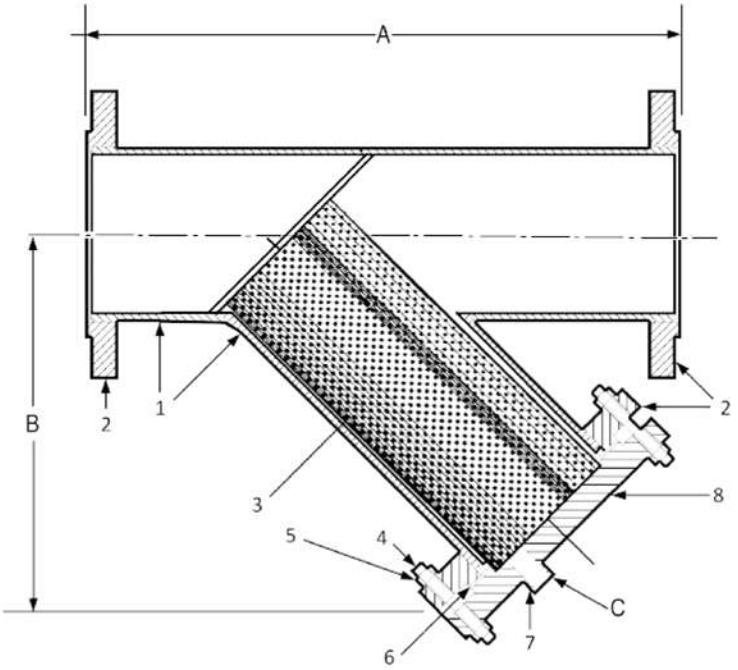
Fabricated Y-Type Flanged Strainer

Model YFF (150 lb)



Dimensional Data (In Inches)

Model	Size	A	B	C	Weight (lbs)
YF0400F	4	16	12	1	105
YF0500F	5	19	14	1	142
YF0600F	6	22	16	1	174
YF0800F	8	26	19	1 1/2	246
YF1000F	10	30	24	1 1/2	386
YF1200F	12	35	26	1 1/2	548
YF1400F	14	39	30	2	792
YF1600F	16	45	34	2	990
YF1800F	18	46	34	2	1125
YF2000F	20	52	38	2	1410
YF2400F	24	60	44	2	2025
YF3000F	30	72	50	2	2980

Operating Pressure & Temperature

Nom. Rating	4" to 30"
150#RFSO	285 PSI @100°F

Optional Features:

- Stainless Steel Construction
- Pressures ANSI 300 to 2500
- Screen Materials available in various perforation sizes and materials of construction
- ASME Code Construction

Bill of Materials

Item	Part Name	Material
1	Body	Carbon Steel Pipe/Plate
2	150lb RFSO Flange	Carbon Steel
3	Screen	304 Stainless Steel 1/8" perf
4	Studs	Carbon Steel ASTM
5	Nut	Carbon Steel ASTM
6	Gasket	Graphite
7	NPT Half Coupling	Carbon Steel
8	150lb Blind Flange	Carbon Steel

All sizes come complete with flanged blow off cover, gasket and plug.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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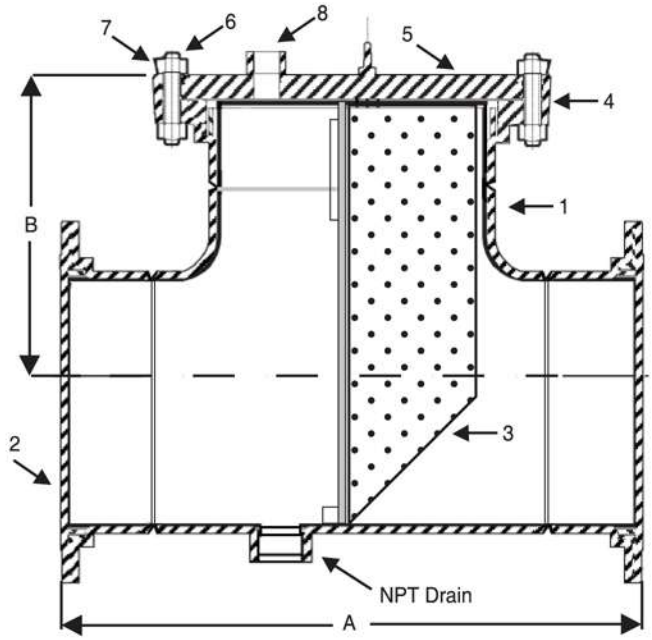
American WHEATLEY HVAC PRODUCTS®

Fabricated T-Type Strainer

Model TSF



Dimensional Data (In Inches)

Model	Size	A	B	VENT	DRAIN	Weight Total (lbs)
TS0400F	4"	14 1/4	8 1/8	1/2	3/4	94
TS0500F	5"	16 3/4	9 3/8	1/2	1	110
TS0600F	6"	18 1/4	10 1/8	1/2	2	140
TS0800F	8"	22	12 1/8	1/2	2	238
TS1000F	10"	25	13 3/4	1/2	2	401
TS1200F	12"	29	15 3/4	1/2	2	525
TS1400F	14"	32	17 3/8	1/2	2	731
TS1600F	16"	34	18 1/2	1/2	2	954
TS1800F	18"	38	20 5/8	1/2	2	1135
TS2200F	20"	41 3/8	22 3/8	1/2	2	1470
TS2240F	24"	46	24 7/8	1/2	2	2311
TS3000F	30"	52	27 7/8	1/2	2	1925

Operating Pressure & Temperature

Nom. Rating	4" to 30"
150#	285 PSI @100°F

Optional Features:

- Stainless Steel Construction
- Pressures ANSI 300 to 2500
- Screen Materials available in various perforation sizes and materials of construction and configurations
- Painted Exterior, Epoxy Coatings

Bill of Materials

Item	Part Name	Material
1	Body	Carbon Steel Pipe (ASTM A 234) Class WPB
2*	150lb RFWN Flange	Carbon Steel (ASTM A 105)
3	Basket	Stainless Steel (304) 1/8" perf
4	Gasket	Fiber
5	150lb Blind Flange (Cover)	Carbon Steel (ASTM A 105)
6	Studs	Carbon Steel (ASTM A 193, Grade B7)
7	Nuts	Carbon Steel (ASTM A 194, Grade 2H)
8	Coupling NPT (Vent)	Carbon Steel (ASTM A 105)

*30" & Larger Flanges are RFWN Series B

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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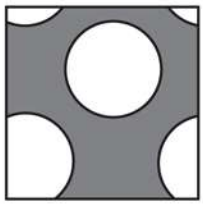
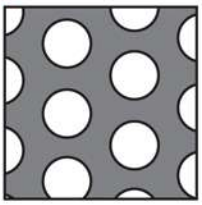
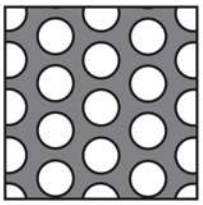
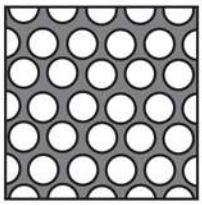
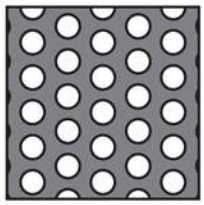
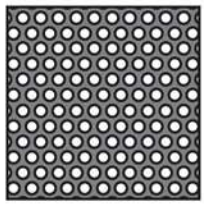
Strainer Material

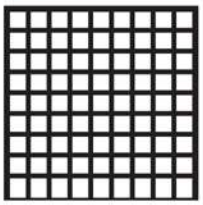
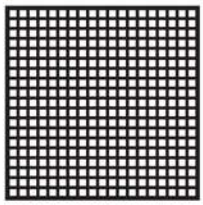
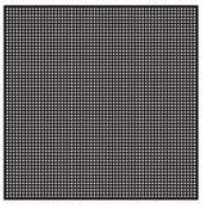
Stainless Steel Perforated Steel

304 Stainless steel has good corrosion and abrasion resistance as well as weldability and formability. It's often used in chemical and food-processing equipment

Stocked Gauges In Perforated Steel

					
1/2"	1/4"	3/16"	5/32"	1/8"	1/16"
48% Open Area	40% Open Area	50% Open Area	58% Open Area	40% Open Area	37% Open Area
11 Gauge 14 Gauge	18 Gauge	20 Gauge 22 Gauge	16 Gauge 18 Gauge 20 Gauge 22 Gauge 24 Gauge	11 Gauge 14 Gauge 16 Gauge 22 Gauge	16 Gauge 18 Gauge 20 Gauge 22 Gauge

Stocked Gauges In Mesh

		
10x10	20x20	60x60
56% Open Area	46% Open Area	31% Open Area
.025 Wire Diameter	.034 Wire Diameter	.0075 Wire Diameter

The relationship between wire diameter, wire spacing and opening size can be expressed mathematically as follows:

	where:
S = D + O	S = Wire Spacing
O = S - D	D = Wire Diameter
D = S - O	O = Opening between the wires (Opening Size)

To Compute Open Area of wire mesh: where:

$$A = \left(\frac{O}{O + D}\right)^2 X\ 100$$

A = % Open Area
O = Opening between the wires (Opening Size)
D = Wire Diameter

Other materials and configurations available. Please check with the factory for terms and conditions.

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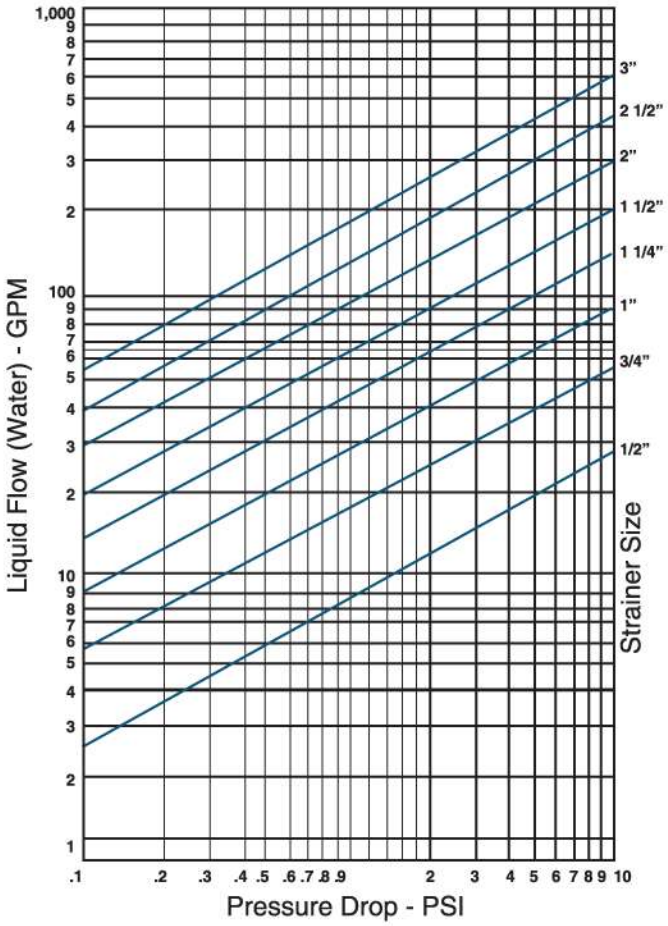
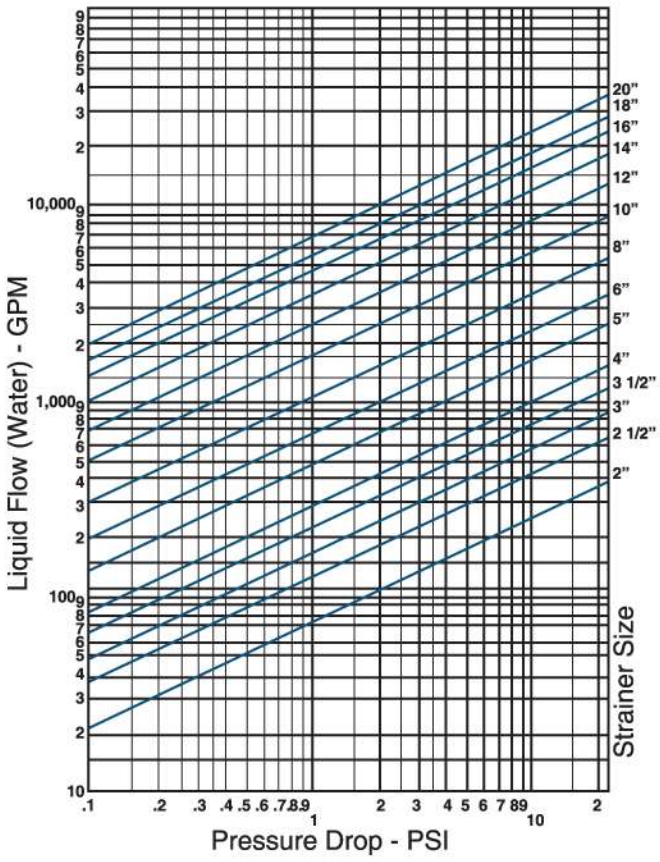
CAST IRON Y-Type Strainers
Pressure Drop Chart
Flanged and Threaded

Flow Rate vs Pressure Drop

Y-Type Strainers - Threaded



Y-Type Strainers - Flanged



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Fabricated Basket Strainer Pressure Drop Chart

Pressure Drop Chart is based on the flow of clean water through a simplex fabricated basket strainer with 1/8" screen perforations.

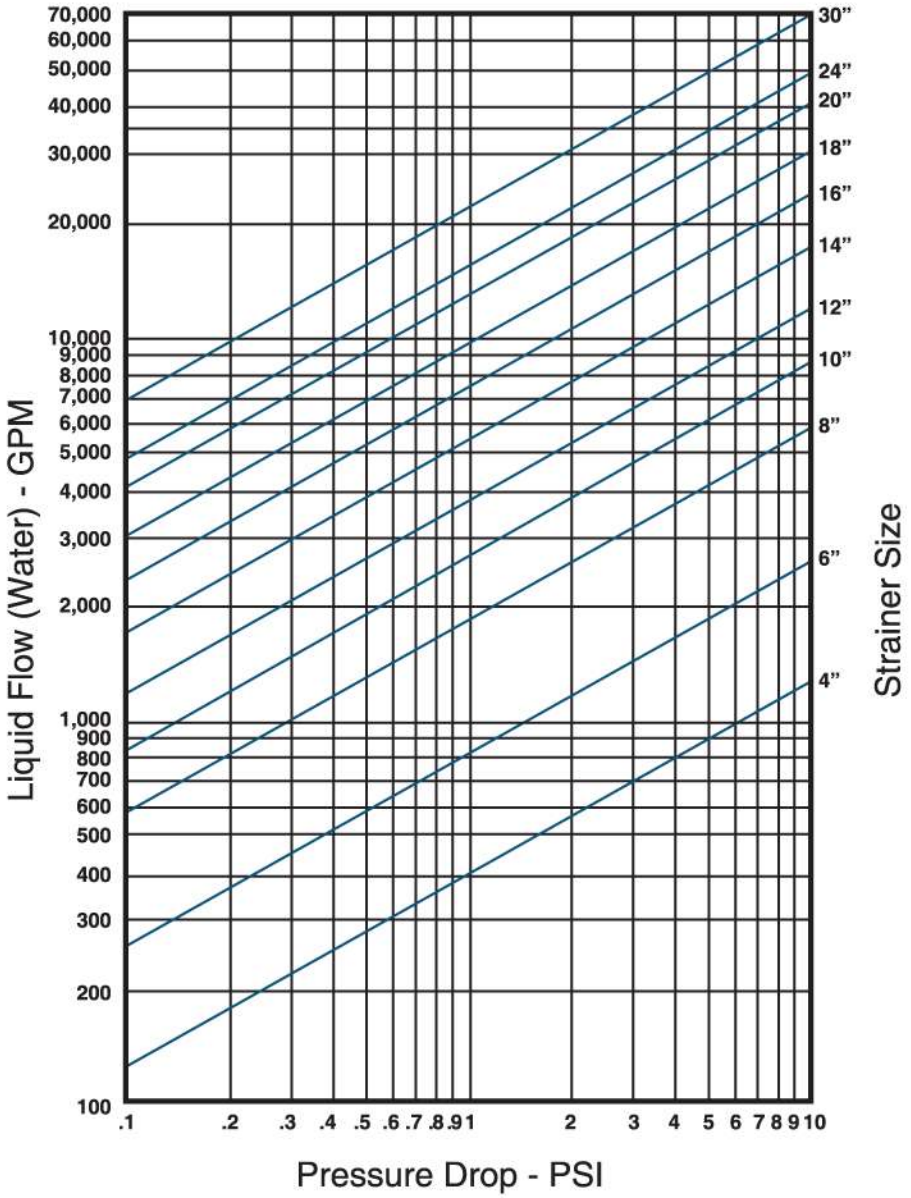
To determine the approximate pressure drop:

Select the desired GPM rate of flow horizontal line (on left hand side of chart). Where the GPM line intersects with the Strainer Pipe Size, the diagonal, blue line, follow the vertical line down to determine approximate pressure drop.

Correction Factors

If using a mesh screen, backed by a perforated sheet, multiply pressure drops by the following:

40 mesh	x 1.2
60 mesh	x 1.4
80 mesh	x 1.6
100 mesh	x 1.7



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Fabricated T-Type Strainer Pressure Drop Chart

Pressure Drop Chart is based on the flow of clean water through a T-Type fabricated basket strainer with 1/8" screen perforations.

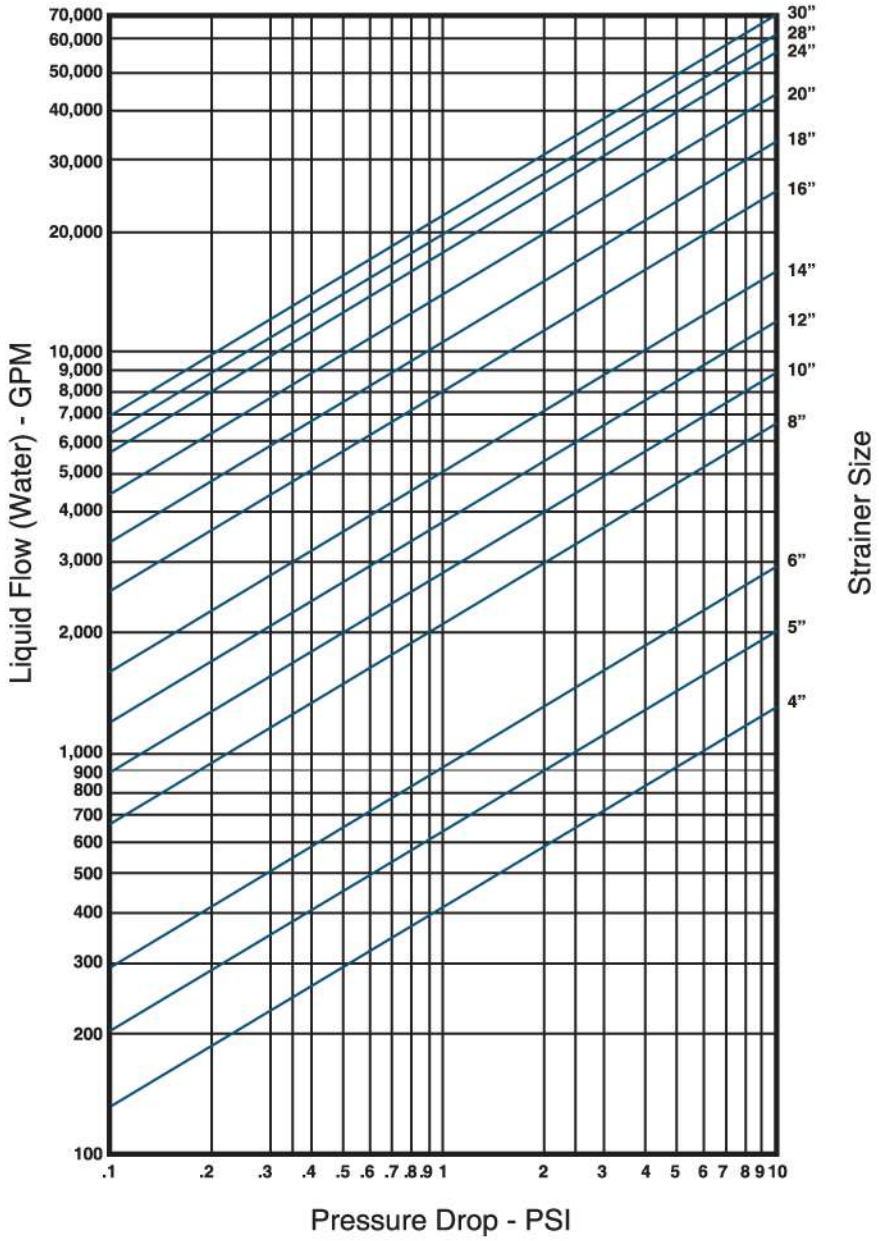
To determine the approximate pressure drop:

Select the desired GPM rate of flow horizontal line (on left hand side of chart). Where the GPM line intersects with the Strainer Pipe Size, the diagonal, blue line, follow the vertical line down to determine approximate pressure drop.

Correction Factors

If using a mesh screen, backed by a perforated sheet, multiply pressure drops by the following:

40 mesh	x 1.2
60 mesh	x 1.4
80 mesh	x 1.6
100 mesh	x 1.7



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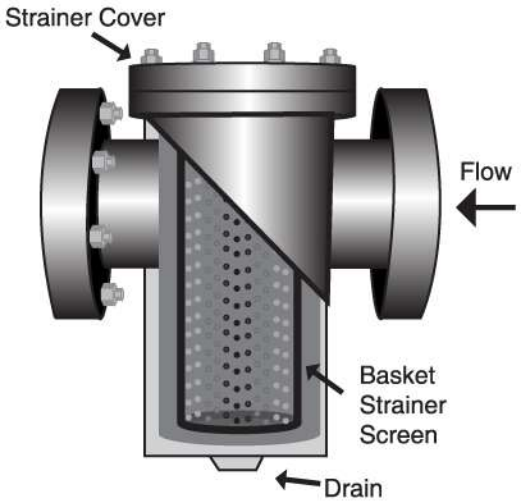
Basket Strainers
Installation, Operation and Maintenance

This manual contains information concerning the installation, operation, and maintenance of Basket Strainers. To ensure efficient and safe operation of Basket Strainers, the instructions in this manual should be thoroughly understood. These instructions are not meant to take the place of an on-site process engineer for installation. Please retain these instructions where they are readily available for reference.



Overview:

A basket strainer is installed into a pipeline system to remove unwanted debris from the pipeline flow. Basket Strainers are commonly used in pipelines where debris loading is found and the collection of solids is required. Basket Strainers can be installed in series to provide more effective filtration of unwanted debris.

Straining of the pipeline flow is accomplished via a perforated or mesh lined basket, internal to the strainer. In general, the size of the basket perforation should be slightly smaller than the smallest debris particle to be removed. If the basket perforation is undersized, the basket may require excessive cleaning. Conversely, if the basket perforation is oversized, unwanted debris may be permitted to flow through the pipeline, possibly damaging downstream equipment.

Prior to strainer selection the following factors must be determined:

- Material constructed requirements of the basket strainer
- Design and working pressure/temperature requirements
- Operating conditions (throttling, pressure drop, condensation, flow reversal, operation frequency, etc.)
- Service media type (liquid, gas, abrasive, corrosive, dirty, etc.).
- Pipeline media flow-rate and viscosity
- Debris size to be removed and debris loading of the pipeline
- Ability to interrupt flow for servicing and cleaning
- Clean Start-up pressure of the pipeline
- Space availability for installation

Please contact an American Wheatley HVAC representative prior to selection and purchase.

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Unpacking and Inspection:

Visually inspect the basket strainer for any signs of damage including scratches, loose parts, broken parts or any other physical damage that may have occurred during shipment. If damage is observed, immediately file a claim with the shipping carrier. Basket Strainers that are damaged during transportation are the responsibility of the customer. For information regarding our warranty policy, please visit our website.

If the Basket Strainer is not required to be installed immediately, it should be stored indoors in a clean, dry, consistent temperature environment. If long term storage is required, a desiccant may be necessary.

Installation:

Prior to Installation Checklist:

Step 1: Make sure that the construction material of the strainer is chemically compatible with the media flowing in the pipeline.

Step 2: For large or heavy Basket Strainers appropriate handling equipment must be utilized to ensure proper installation of the basket strainer and prevent injury.

Step 3: Inspect the Basket Strainer's flange end and the pipeline's mating flanges to ensure gasket surfaces are free of defects. The pipeline should also be checked for proper alignment. Existing piping system must align with inlet and outlet flanges of basket strainer.

Step 4: Ensure that the pipeline's mating flanges are the same type as the Basket Strainer being installed. Raised face flange ends cannot be mated to flat face flange ends.

Step 5: Ensure that the pipeline set-up allows a horizontal installation of the basket strainer.
If pipeline strain is a concern when installing larger Basket Strainers (6" or above), a concrete or steel pad should be used to provide additional support. Larger Basket Strainers can also be fitted with saddles or legs to reduce strain on the pipeline.

Step 6: If the Basket Strainer is to be located on the discharge side of a pump, then a safety release valve must be installed between the basket strainer and the pump.

Installation Procedure:

Step 1: Strainers must be positioned in the pipeline ahead of the equipment requiring protection. If the equipment requiring protection is a pump, the Basket Strainer must be placed on the suction side of the pump.

Step 2: To provide for easier maintenance, the Basket Strainer should be located where the drain can be accessed and where there is ample space for screen removal.

Step 3: Before placing the Basket Strainer into place, support the existing pipeline with pipe supports near the inlet and outlet connections of the basket strainer.

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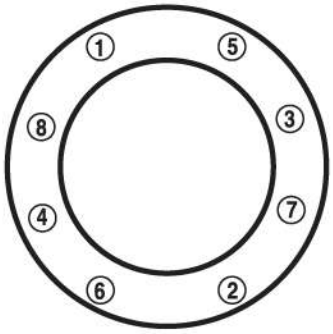
Step 4: Place the Basket Strainer into the pipeline, ensure that the Basket Strainer is properly aligned with the direction of the pipeline flow. For larger or heavy Basket Strainers, lift the Basket Strainer into place using slings positioned underneath the inlet and outlet connections and or lifting lugs supplied with the Basket Strainer. Install the required ANSI flange gasket between the Basket Strainer and pipeline flanges, on both sides.



Step 5: Install lubricated flange bolts and hand tighten. Flange bolts should then be tightened, using a star or crisscross pattern to evenly load the bolts, in accordance with established piping standards. This is illustrated as shown. Excessive bolt torque may damage flanges. Please refer to established flange bolt torques for guidelines.

Operation:

Once proper installation has been successfully completed, start the system gradually, at start up as well as after shut down. This eliminates sudden shock to the strainer and other equipment in the line.

Start-up Procedure:

Step 1: Remove air from the pipeline by opening the blow-down valve or other vent near the Basket Strainer.

Step 2: Start the piping system by opening the outlet valve nearest the Basket Strainer's outlet first. The gradually open the inlet valve nearest the Basket Strainer's inlet, approximately 25% of normal operational flow. It is important to start the system gradually to avoid displacing or damaging the Basket Strainer.

Step 3: Continue to open the inlet valve until the desired service flow has been reached.

Step 4: Close blow-down valve or other pipeline vent.

Caution: With piping systems that contain fluids other than water or when the working temperature is above 120° F, fluid must be drained to safe area, away from the operator. Operators should always be fitted with appropriate protective equipment when venting is performed.

Maintenance:

Once Basket Strainers are properly installed they require little maintenance. Periodically check the differential pressure across the basket to determine if the basket needs to be cleaned or replaced. If the screen becomes completely clogged, the screen will break and require replacement.

Regular maintenance involves, periodically checking for leaks and routine cleaning or replacement of screens.

During normal use, the basket will become clogged with foreign matter, causing the differential pressure to

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increase. Once the differential pressure has increased to an unacceptable value, typically by 5 psi to 10 psi, it is time to clean or replace the basket. It is not advisable to let the differential pressure increase by 20 psi. This may cause the screen to fail and possibly damage downstream equipment.

A convenient and safe way to determine when the basket needs to be replaced is to install pressure gauges on the inlet and outlet sides of the Basket Strainer. The maximum acceptable pressure drop across the Basket Strainer will indicate when the screen needs to be replaced. Basket size and construction determine the maximum pressure drop a Basket Strainer can withstand.

Important: Basket Strainer screens are not designed to withstand the same pressure ratings as the housings. If the basket becomes completely clogged, it will be exposed to the same pressure as the housing. In most cases, this will cause the basket to fail and potentially damage downstream equipment.

Strainer Element Cleaning:

Caution: Before removing the cover of the Basket strainer, the pressure inside the vessel must be reduced to atmospheric via suction or venting. Failure to do so may result in serious bodily injury. Before removing the Basket Strainer's cover, ensure that the media that is flowing in the pipeline is known and any special handling precautions are understood. Please review the Material Safety Data Sheet (MSDS) for that specific fluid.

Step 1: Isolate the Basket Strainer by closing the inlet and outlet valve connections on either side of the Basket strainer.

Step 2: Open vent or drain outlet to relieve pressure inside the Basket Strainer. Drain fluid up to screen seat level.

Step 3: Once pressure is relieved, remove the cover.

Step 4: Remove basket and clean. Avoid banging or hitting the screen to remove stubborn debris. It is recommended to use a high pressure water or air stream to clean screen.

Step 5: Inspect basket and cover gasket for damage. If either is damaged, replace. Always ensure there is a spare gasket and basket on hand prior to routine maintenance.

Step 6: Replace clean basket into its original position, ensuring it is squarely positioned on the screen seat.

Step 7: Replace cover gasket and replace and tighten flange cover. Torque bolts, to recommended standards. Follow the Start-up procedure outlined within the Installation Instructions.

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wYE Strainers
Installation, Operation and Maintenance

This manual contains information concerning the installation, operation, and maintenance of American Wheatley Flow Control American Wheatley wYE Type Strainers. To ensure efficient and safe operation of American Wheatley wYE Strainers, the instructions in this manual should be thoroughly read and understood. This manual is general in nature and is not meant to take the place of an on-site, process engineer or pipe fitter. As such, American Wheatley recommends that only experienced, skilled personnel be allowed to install and maintain American Wheatley wYE Strainers. Please retain this manual in a location where it is readily available for reference.

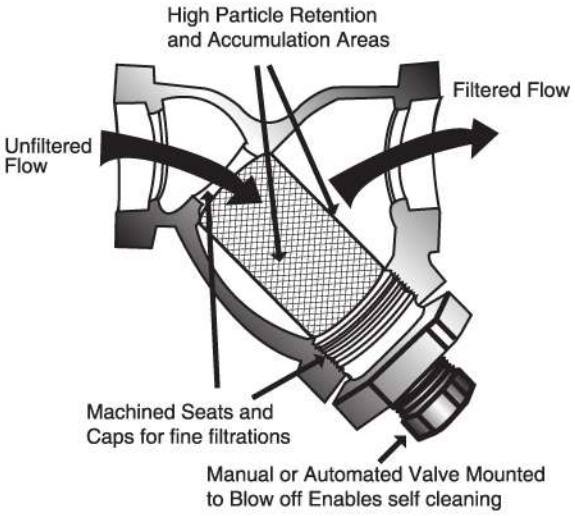

Figure 1

General Information:

A wYE Strainer is installed into a pipeline system to remove unwanted debris from the pipeline flow by utilizing a perforated or mesh lined straining element. This is illustrated in Figure 1. wYE Strainers remove only insoluble floating impurities with the most common range of particle retention ranging from 1 inch to 40 micron (.0015 inch).Straining of the pipeline flow is accomplished via a perforated or mesh lined screen, internal to the strainer. In general, the size of the screen perforation should be slightly smaller than the smallest debris particle to be removed. If the screen perforation is undersized, the screen may require excessive cleaning. Consequently, if the screen perforation is oversized, unwanted debris may be permitted to flow through the pipeline; possibly damaging downstream equipment.

Prior to selection of a American Wheatley wYE Strainer, the following factors must be determined:

- Material construction requirements of wYE Strainer
- Design and working pressure/temperature requirements
- Operating conditions (throttling, pressure drop, condensation, flow reversal, operation frequency, etc.)
- Pipeline service media type (liquid, gas, abrasive, corrosive, dirty, etc)
- The debris size to be removed
- The debris loading of the pipeline
- Pipeline media flow-rate and viscosity
- Clean start-up pressure of the pipeline
- Space availability for installation

Figure 2
Threaded Ends

Please contact a American Wheatley Design Engineer to assist in the determination of these requirements prior to selection

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Unpacking and Inspection:

Upon receipt of product, it is important to follow these unpacking and inspection procedures.

All American Wheatley wYE Strainers are shipped in specialized shipping containers designed to prevent damage during transportation. If external damage to the shipping container is evident upon receipt of product, please request that a representative of the shipping carrier be present before unpacking the product.

Carefully open the shipping container, following any instructions that may be marked on the container. Remove all packing material surrounding the Strainer and carefully lift it from the container. It is recommend to keep the shipping container and all packing material for reuse in storage or reshipment.

Figure 3
Flanged Ends

CAUTION:
For large or heavy Strainers, the appropriate material handling equipment must be used to prevent injury and possibly damage to the wYE Strainer.

Visually inspect the wYE Strainer for any signs of damage including scratches, loose parts, broken parts or any other physical damage that may have occurred during shipment. If damage is observed, immediately file a claim with the shipping carrier. wYE Strainers that are damaged during transportation are the responsibility of the customer. For information regarding American Wheatley warranty policy, please refer to the last page of this document.

Before installation, the wYE Strainer's cover should be removed and inspected internally for any loose or foreign materials that may have become trapped in the screen during transportation. After inspection, ensure sealing surfaces are clean and replace the gasket and cover. Make sure the gasket is seated correctly before tightening the cover bolts.

If the wYE Strainer is not required to be installed immediately, it should be stored indoors in a clean, dry, consistent temperature environment. It is also recommended to utilize the original shipping container and packing materials to properly store the wYE Strainer. If long term storage is required, a desiccant may be necessary. This would be based upon the local, environmental storage conditions. Please consult a American Wheatley Design Engineer to assist in this determination.

Pre-Installation Checklist

Ensure Working conditions (pressure/temperature) are within the specified capacity of the product being installed. Please refer to the certified drawings to assist in determining these values.

Make sure that the construction material of the Strainer is chemically compatible with the media flowing in the pipeline.

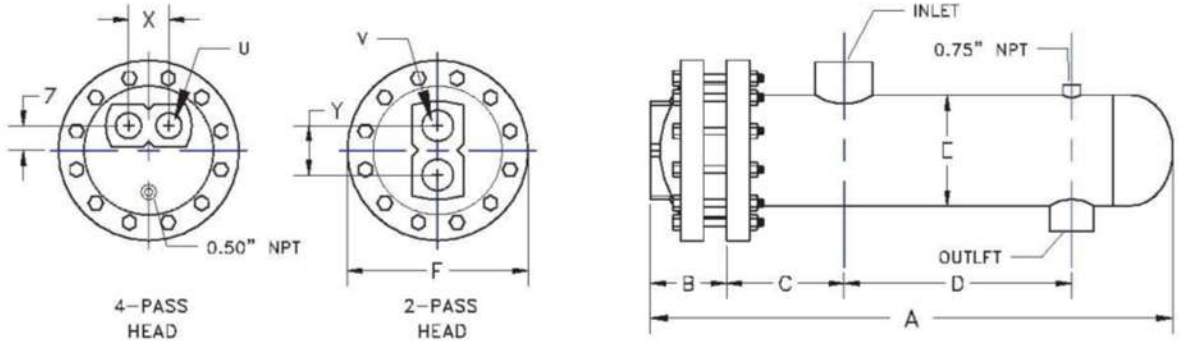
Inspect all sealing surfaces to ensure gasket surfaces are free of defects (no nicks or cuts). The pipeline should also be checked for proper alignment. American Wheatley wYE Strainers should never be utilized to realign an existing piping system.

Ensure that the pipeline's mating flanges are the same type as the wYE Strainer being installed. Raised face flange ends cannot be mated to flat face flange ends.

Heat Exchangers

American WHEATLEY HVAC PRODUCTS®

4 inch Steam / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S424(*)A	28.60	2.72	5.00	14.75	4.50	9	2" NPT	1" NPT	2.62	1.25" NPT	3.19	2	1	1" NPT	3.19
S436(*)A	40.60			26.75							4.79				4.79
S448(*)A	52.60			38.75							6.39				6.39
S460(*)A	64.60			50.75				1.25" NPT			7.98				7.98
S472(*)A	76.60			62.75							9.58				9.58
S484(*)A	88.60			74.75							11.18				11.18
S496(*)A	100.60			86.75							12.77				12.77
S4108(*)A	112.60			98.75							14.37				14.37
S4120(*)A	124.60			110.75							15.97				15.97

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	CAST BRONZE OR CAST S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

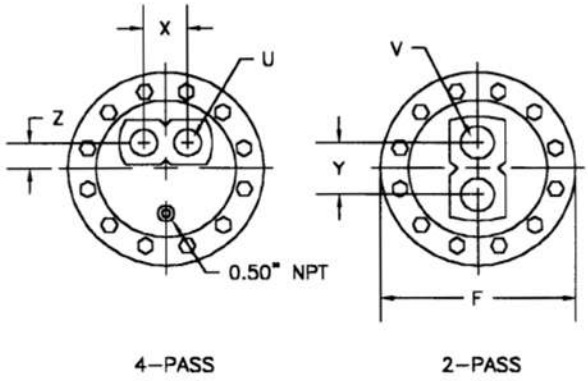
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

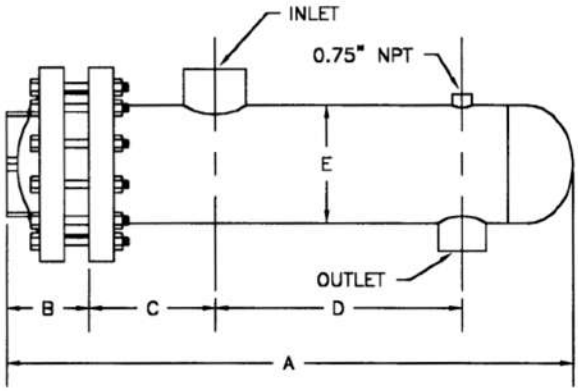
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

6 inch Steam / Liquid Heat Exchanger





MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S624(*)A	30.01	3.13	6.00	12.75	6.63	11.00	3" NPT	1.5" NPT	3.75	2" NPT	8.0	2.69	1.25	1.5" NPT	8.0
S636(*)A	42.01			24.75							12.8				12.8
S648(*)A	54.01			36.75							17.6				17.6
S660(*)A	66.01			48.75							22.4				22.4
S672(*)A	78.01			60.75							27.1				27.1
S684(*)A	90.01			72.75							31.9				31.9
S696(*)A	102.01			84.75							36.7				36.7
S6108(*)A	114.01			96.75							41.5				41.5
S6120(*)A	126.01			108.75							46.3				46.3

(*) INSERT NUMBER OF PASSES.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

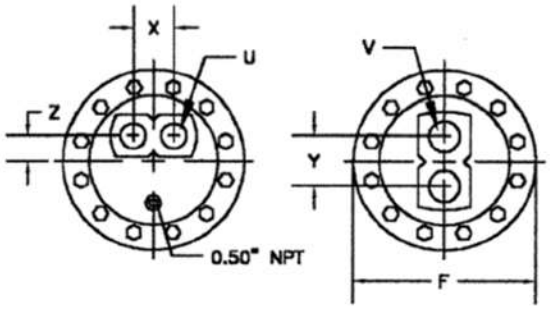
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

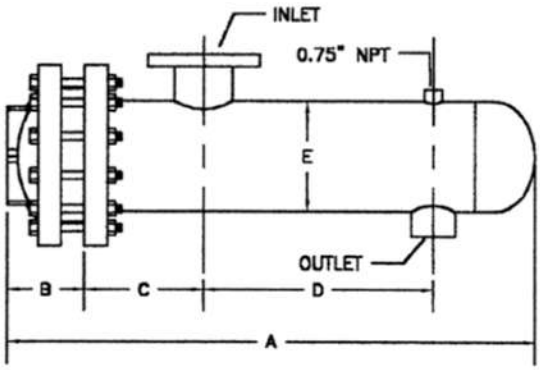
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

8 inch Steam / Liquid Heat Exchanger



4–PASS HEAD

2–PASS HEAD



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S824(*)A	30.81			9.75							15.2				15.2
S836(*)A	42.81			21.75			3" NPT				24.0				24.0
S848(*)A	54.81			33.75							32.7				32.7
S860(*)A	66.81			45.75							41.5				41.5
S872(*)A	78.81	3.43	9.00	57.75	8.63	13.50	4" FLG	1.5" NPT	4.75	3" NPT	50.3	3.50	1.75	2" NPT	50.3
S884(*)A	90.81			69.75							59.1				59.1
S896(*)A	102.81			81.75							67.9				67.9
S8108(*)A	114.81			93.75			6" FLG				76.6				76.6
S8120(*)A	126.81			105.75							85.4				85.4

(*) INSERT NUMBER OF PASSES.

***WITH 304SS TUBES

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	CAST BRONZE OR CAST S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS OR S.S.
TUBING	3/4" OD 20 ga Copper	18ga Copper, 304SS, 316SS, 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

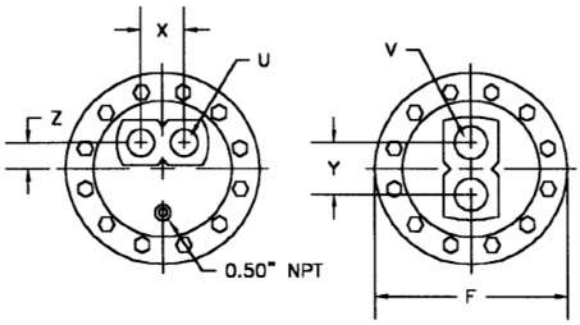
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

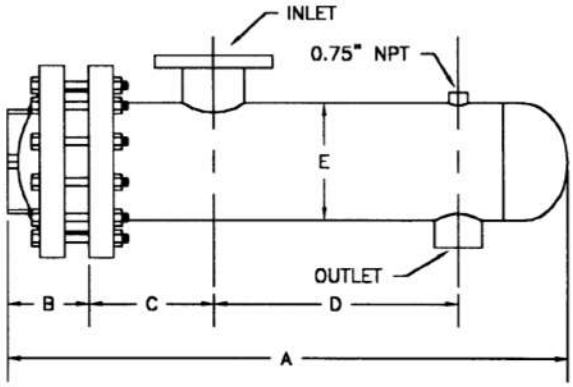
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

10 inch Steam / Liquid Heat Exchanger



4–PASS 2–PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S1024(*)A	32.38	4.00	10.00	8.75	10.75	16.00	4" FLG	1.5" NPT	5.88	4"** NPT	27.1	4.50	2.12	3" NPT	24.8
S1036(*)A	44.38			20.75							42.3				39.9
S1048(*)A	56.38			32.75							57.5				54.3
S1060(*)A	68.38			44.75			6" FLG	2" NPT			72.7				68.7
S1072(*)A	80.38			56.75							87.8				83.0
S1084(*)A	92.38			68.75							106.0				97.4
S1096(*)A	104.38			80.75							118.2				111.8
S10108(*)A	116.38			92.75							133.3				126.1
S10120(*)A	128.38			104.75							148.5				140.5

(*) INSERT NUMBER OF PASSES.

** 4" NPT @ 125 PSI TUBE SIDE WORKING PRESSURE STANDARD.
3" NPT @ 150 PSI TUBE SIDE WORKING PRESSURE OPTIONAL.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

	2–PASS 4" NPT	2–PASS 3" NPT	4–PASS 3" NPT
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI	225 PSI	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F	375°F	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

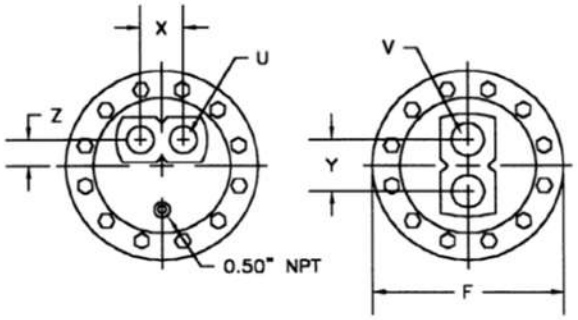
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

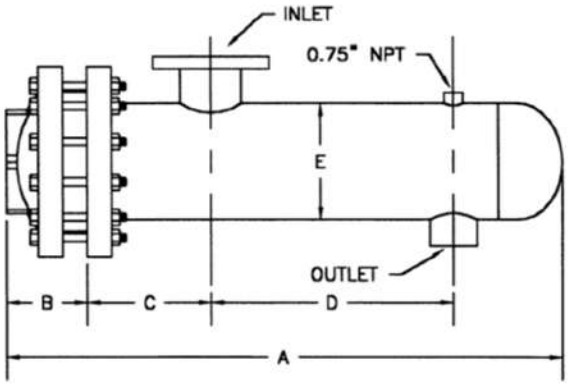
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

12 inch Steam / Liquid Heat Exchanger



4–PASS 2–PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S1224(*)A	33.69	4.31	10.00	8.75	12.75	19.00	6" FLG	2" NPT	6.38	4"** NPT	41	5.00	2.75	3" NPT	38
S1236(*)A	45.69			20.75							62				59
S1248(*)A	57.69			32.75							84				80
S1260(*)A	69.69			44.75							106				100
S1272(*)A	81.69			56.75							128				121
S1284(*)A	93.69			68.75			8" FLG	2.5" NPT			150				142
S1296(*)A	105.69			80.75							172				163
S12108(*)A	117.69			92.75							194				183
S12120(*)A	129.69			104.75							216				204

(*) INSERT NUMBER OF PASSES.

** 4" NPT @ 125 PSI TUBE SIDE WORKING PRESSURE STANDARD.
3" NPT @ 150 PSI TUBE SIDE WORKING PRESSURE OPTIONAL.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

	2–PASS 4" NPT	2–PASS 3" NPT	4–PASS 3" NPT
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI	225 PSI	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F	375°F	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

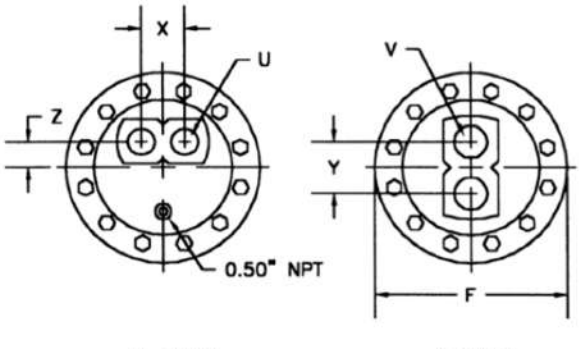
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

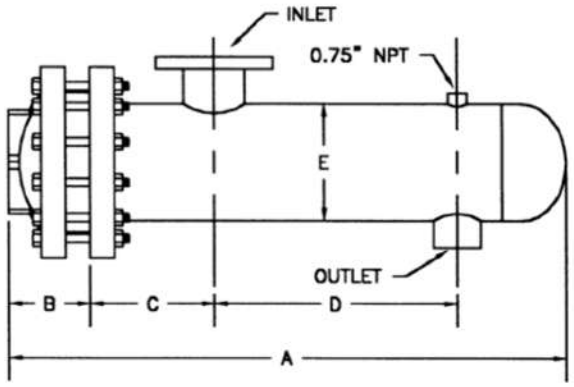
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

14 inch Steam / Liquid Heat Exchanger



4—PASS 2—PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S1436(*)A	51.89	5.51	11.00	24.50	14.00	21.00	6" FLG	2" NPT	8.00	6" NPT	87	5.88	3.31	4" NPT	83
S1448(*)A	63.89			36.50							117				112
S1460(*)A	75.89			48.50							147				141
S1472(*)A	87.89			60.50			8" FLG	2.5" NPT			177				169
S1484(*)A	99.89			72.50							207				198
S1496(*)A	111.89			84.50							237				227
S14108(*)A	123.89			96.50			10" FLG	2.5" NPT			266				256
S14120(*)A	135.89			108.50							296				284

(*) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	125 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

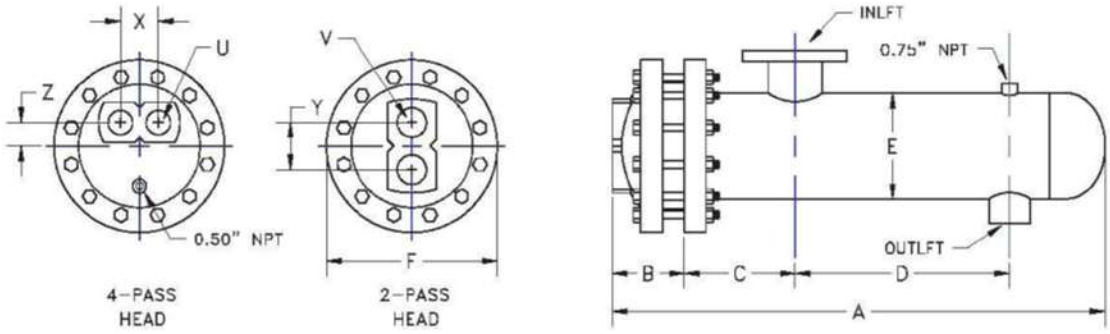
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

16 inch Steam / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S1636(*)A	52.87	5.75	11.00	24.00	16.00	23.50	6" FLG	2" NPT	9.00	6" NPT	115	8.00	4.00	4" NPT	111
S1648(*)A	64.87			36.00							155				148
S1660(*)A	76.87			48.00							194				186
S1672(*)A	88.87			60.00			8" FLG	2.5" NPT			233				223
S1684(*)A	100.87			72.00							272				261
S1696(*)A	112.87			84.00							311				298
S16108(*)A	124.87			96.00			10" FLG	2.5" NPT			352				336
S16120(*)A	136.87			108.00							389				373

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	** FAB C.S. OR S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

** NOT SHOWN ON THIS SHEET

MAXIMUM OPERATING CONDITIONS

	HEAD STYLE	
	CAST IRON	FABRICATED ** C.S. OR S.S.
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

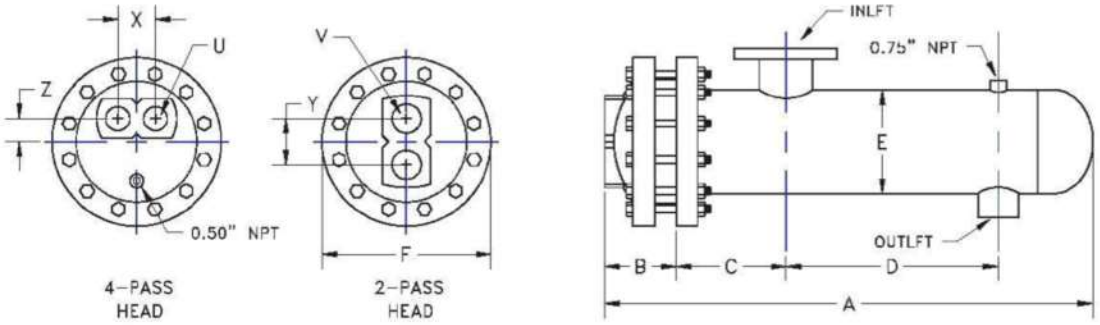
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

18 inch Steam / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S1836(*)A	54.02	5.58	11.00	24	18.00	25.00	10" FLG	3" NPT	10.50	6" NPT	137	8.00	3.88	5" NPT	132
S1848(*)A	66.02			36							184				178
S1860(*)A	78.02			48							232				224
S1872(*)A	90.02			60							280				271
S1884(*)A	102.02			72							328				317
S1896(*)A	114.02			84							376				363
S18108(*)A	126.02			96							424				410
S18120(*)A	138.02			108							472				456

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	** FAB C.S. OR S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

** NOT SHOWN ON THIS SHEET

MAXIMUM OPERATING CONDITIONS

	HEAD STYLE	
	CAST IRON	FABRICATED ** C.S. OR S.S.
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
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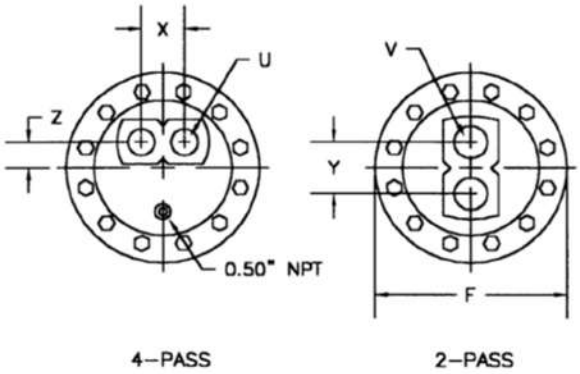
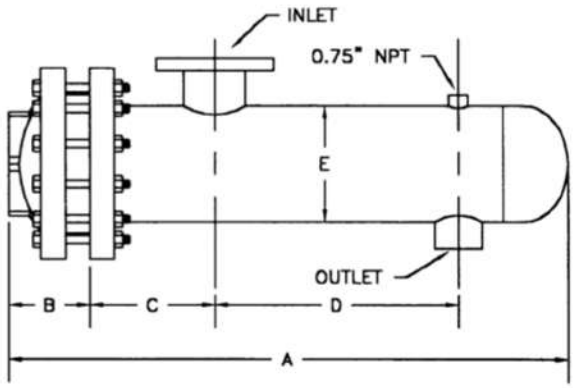
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

20 inch Steam / Liquid Heat Exchanger





MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
S2036(•)A	55.50	6.06	13.00	21.00	20.00	27.25	12" FLG	4" FLG	11.12	8" NPT	180	8.75	4.50	6" NPT	174
S2048(•)A	67.50			33.00							245				237
S2060(•)A	79.50			45.00							310				300
S2072(•)A	91.50			57.00							375				363
S2084(•)A	103.50			69.00							440				426
S2096(•)A	115.50			81.00							505				489
S20108(•)A	127.50			93.00							570				552
S20120(•)A	139.50			105.00							635				615

(•) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	125 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

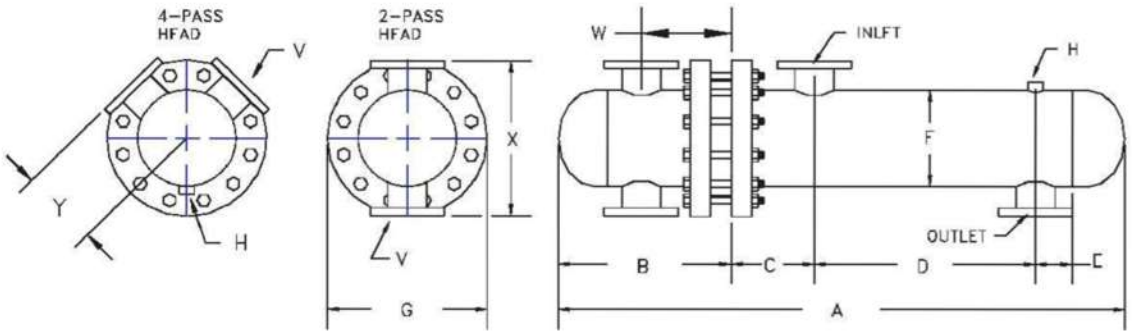
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

22 inch Steam / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER										2 PASS				4 PASS			
	A	B	C	D	E	F	G	H	INLET	OUTLET	W	V	X	SQ. FT.	W	V	Y	SQ. FT.
S2248(*)A	87.56	27.75	14.00	32.00	6.00	22.00	29.50	0.75" NPT	12" FLG	4" FLG	14.62	10" FLG	34.00	305	14.62	6" FLG	16.56	296
S2260(*)A	99.56			44.00										386				374
S2272(*)A	111.56			56.00										467				453
S2284(*)A	123.56			68.00										548				532
S2296(*)A	135.56			80.00					14" FLG					629				610
S22108(*)A	147.56			92.00										710				689
S22120(*)A	159.56			104.00										794				770

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	FAB STEEL	FAB S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	195 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

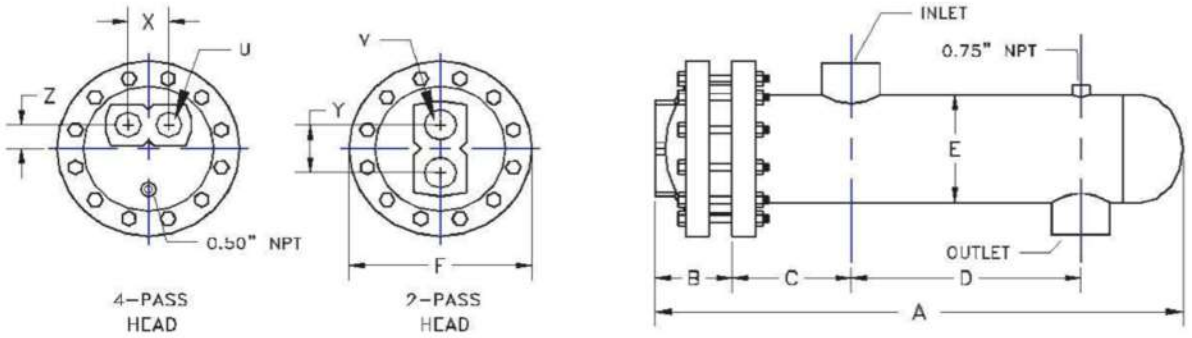
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

24 inch Steam / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W424(*)A	28.60	2.72	5.00	14.75	4.50	9.00	2" NPT	2" NPT	2.62	1.25" NPT	3.19	2.00	1.00	1" NPT	3.19
W436(*)A	40.60			26.75							4.79				4.79
W448(*)A	52.60			38.75							6.39				6.39
W460(*)A	64.60			50.75							7.98				7.98
W472(*)A	76.60			62.75							9.58				9.58
W484(*)A	88.60			74.75							11.18				11.18
W496(*)A	100.60			86.75							12.77				12.77
W4108(*)A	112.60			98.75							14.37				14.37
W4120(*)A	124.60			110.75							15.97				15.97

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	CAST BRONZE OR CAST S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

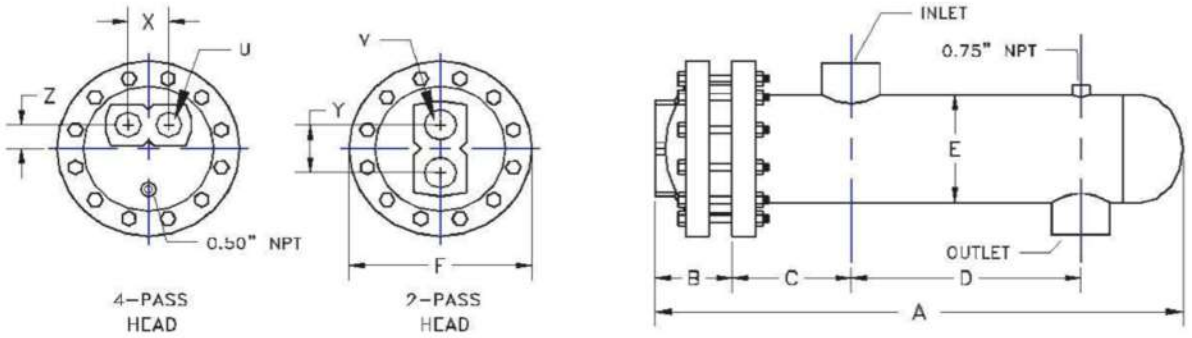
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

4 inch Liquid / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W424(*)A	28.60	2.72	5.00	14.75	4.50	9.00	2" NPT	2" NPT	2.62	1.25" NPT	3.19	2.00	1.00	1" NPT	3.19
W436(*)A	40.60			26.75							4.79				4.79
W448(*)A	52.60			38.75							6.39				6.39
W460(*)A	64.60			50.75							7.98				7.98
W472(*)A	76.60			62.75							9.58				9.58
W484(*)A	88.60			74.75							11.18				11.18
W496(*)A	100.60			86.75							12.77				12.77
W4108(*)A	112.60			98.75							14.37				14.37
W4120(*)A	124.60			110.75							15.97				15.97

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	CAST BRONZE OR CAST S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

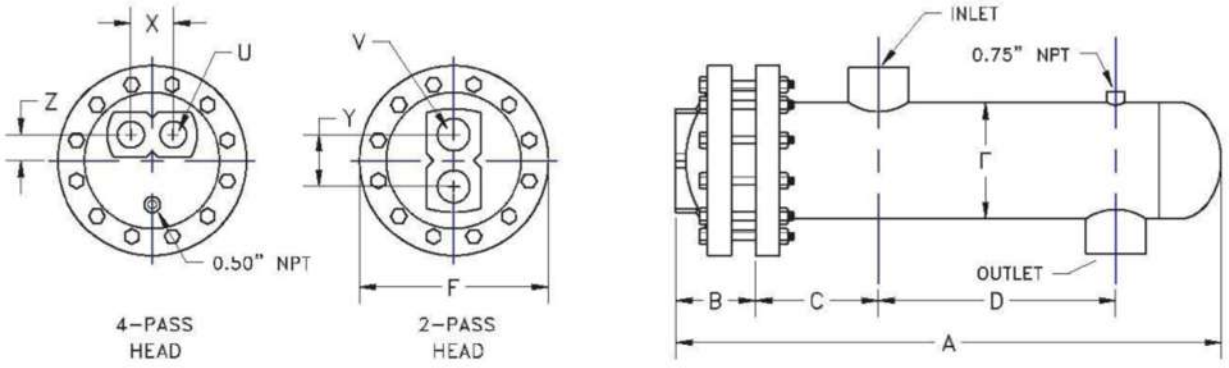
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

6 inch Liquid / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W624(*)A	30.01			12.75							8				8
W636(*)A	42.01			24.75							12.8				12.8
W648(*)A	54.01			36.75							17.6				17.6
W660(*)A	66.01			48.75							22.4				22.4
W672(*)A	78.01	3.13	6.00	60.75	6.63	11.00	3" NPT	3" NPT	3.75	2" NPT	27.1	2.69	1.25	1.5" NPT	27.1
W684(*)A	90.01			72.75							31.9				31.9
W696(*)A	102.01			84.75							36.7				36.7
W6108(*)A	114.01			96.75							41.5				41.5
W6120(*)A	126.01			108.75							46.3				46.3

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	CAST BRONZE OR CAST S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

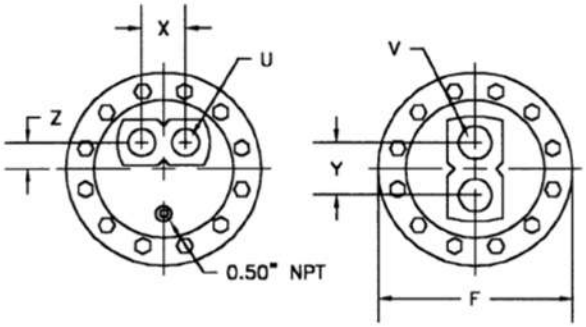
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

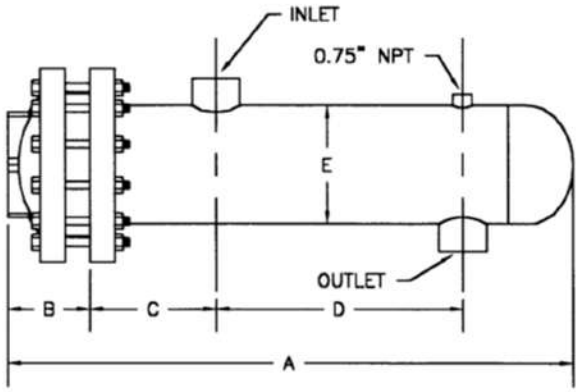
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

8 inch Liquid / Liquid Heat Exchanger



4–PASS 2–PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W824(*)A	30.81			9.75							15.2				15.2
W836(*)A	42.81			21.75							24.0				24.0
W848(*)A	54.81			33.75							32.7				32.7
W860(*)A	66.81			45.75							41.5				41.5
W872(*)A	78.81	3.43	9.00	57.75	8.63	13.50	3" NPT	3" NPT	4.75	3" NPT	50.3	3.50	1.75	2" NPT	50.3
W884(*)A	90.81			69.75							59.1				59.1
W896(*)A	102.81			81.75							67.9				67.9
W8108(*)A	114.81			93.75							76.6				76.6
W8120(*)A	126.81			105.75							85.4				85.4

(*) INSERT NUMBER OF PASSES.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

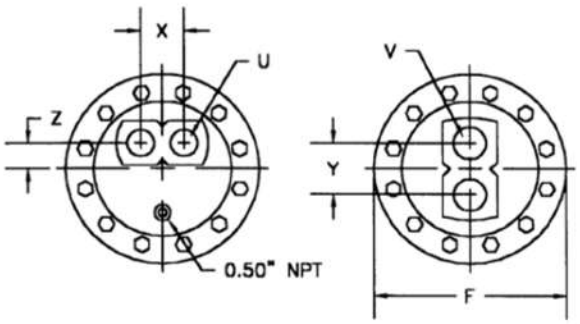
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

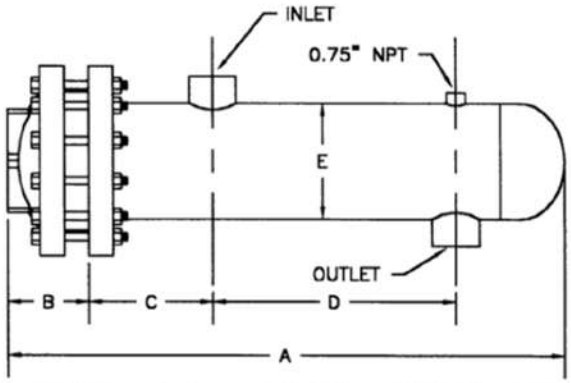
American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

10 inch Liquid / Liquid Heat Exchanger



4–PASS 2–PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W1024(*)A	32.38	4.00	10.00	8.75	10.75	16.00	3" NPT	3" NPT	5.88	4"** NPT	27.1	4.50	2.12	3" NPT	24.8
W1036(*)A	44.38			20.75							42.3				39.9
W1048(*)A	56.38			32.75							57.5				54.3
W1060(*)A	68.38			44.75							72.7				68.7
W1072(*)A	80.38			56.75							87.8				83.0
W1084(*)A	92.38			68.75							106.0				97.4
W1096(*)A	104.38			80.75							118.2				111.8
W10108(*)A	116.38			92.75							133.3				126.1
W10120(*)A	128.38			104.75							148.5				140.5

(*) INSERT NUMBER OF PASSES.

** 4" NPT @ 125 PSI TUBE SIDE WORKING PRESSURE STANDARD.
3" NPT @ 150 PSI TUBE SIDE WORKING PRESSURE OPTIONAL.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

	2–PASS 4" NPT	2–PASS 3" NPT	4–PASS 3" NPT
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI	225 PSI	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F	375°F	375°F

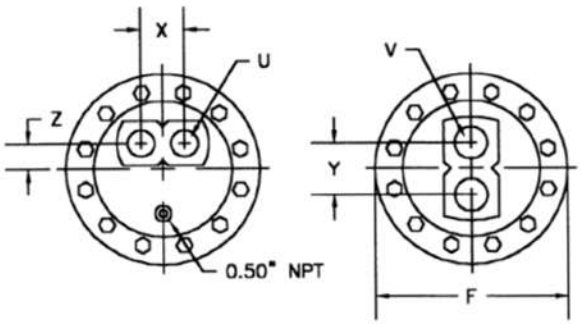
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

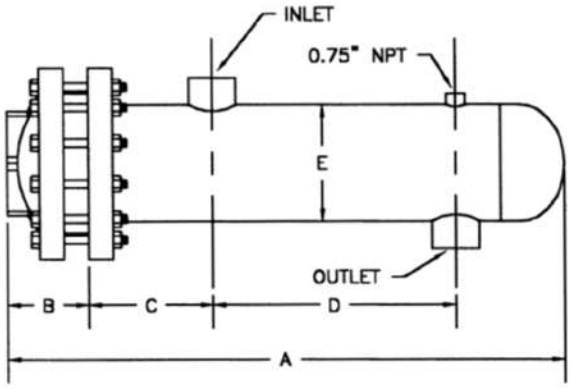
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

12 inch Liquid / Liquid Heat Exchanger





MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W1224(*)A	33.69			8.75							41				38
W1236(*)A	45.69			20.75							62				59
W1248(*)A	57.69			32.75							84				80
W1260(*)A	69.69			44.75							106				100
W1272(*)A	81.69	4.31	10.00	56.75	12.75	19.00	3" NPT	3" NPT	6.38	4"** NPT	128	5.00	2.75	3" NPT	121
W1284(*)A	93.69			68.75							150				142
W1296(*)A	105.69			80.75							172				163
W12108(*)A	117.69			92.75							194				183
W12120(*)A	129.69			104.75							216				204

(*) INSERT NUMBER OF PASSES.

** 4" NPT @ 125 PSI TUBE SIDE WORKING PRESSURE STANDARD.
3" NPT @ 150 PSI TUBE SIDE WORKING PRESSURE OPTIONAL.

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

MAXIMUM OPERATING CONDITIONS

	2–PASS 4" NPT	2–PASS 3" NPT	4–PASS 3" NPT
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI	225 PSI	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F	375°F	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

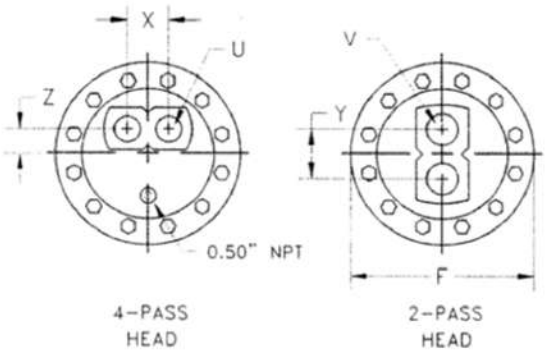
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

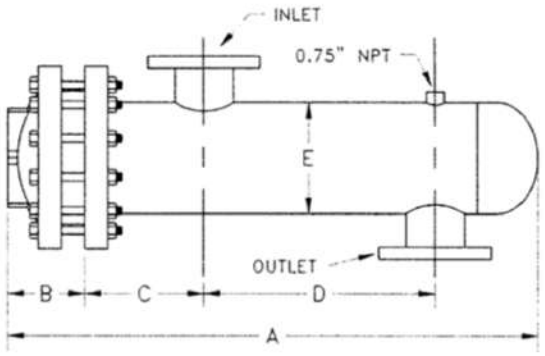
ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

14 inch Liquid / Liquid Heat Exchanger





Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W1424(*)A	39.89	5.51	11.00	12.50	14.00	21.00	4" FLG	4" FLG	8.00	6" NPT	57	5.88	3.31	4" NPT	54
W1436(*)A	51.89			24.50							87				83
W1448(*)A	63.89			36.50							117				112
W1460(*)A	75.89			48.50							147				141
W1472(*)A	87.89			60.50							177				169
W1484(*)A	99.89			72.50							207				198
W1496(*)A	111.89			84.50							237				227
W14108(*)A	123.89			96.50							266				256
W14120(*)A	135.89			108.50							296				284

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	**FAB. C.S. OR S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

** NOT SHOWN ON THIS SHEET

MAXIMUM OPERATING CONDITIONS

	HEAD STYLE	
	CAST IRON	FABRICATED C.S. OR S.S.
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

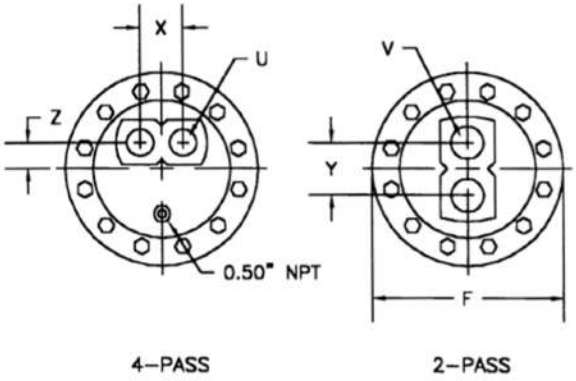
All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

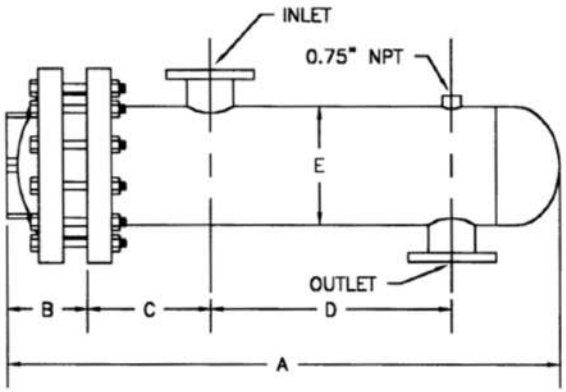
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS® A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

16 inch Liquid / Liquid Heat Exchanger





MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W1636(*)A	52.87	5.75	11.00	24.00	16.00	23.50	4" FLG	4" FLG	9.00	6" NPT	115	8.00	4.00	4" NPT	111
W1648(*)A	64.87			36.00							155				148
W1660(*)A	76.87			48.00							194				186
W1672(*)A	88.87			60.00							233				223
W1684(*)A	100.87			72.00							272				261
W1696(*)A	112.87			84.00							311				298
W16108(*)A	124.87			96.00							352				336
W16120(*)A	136.87			108.00							389				373

(*) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	125 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

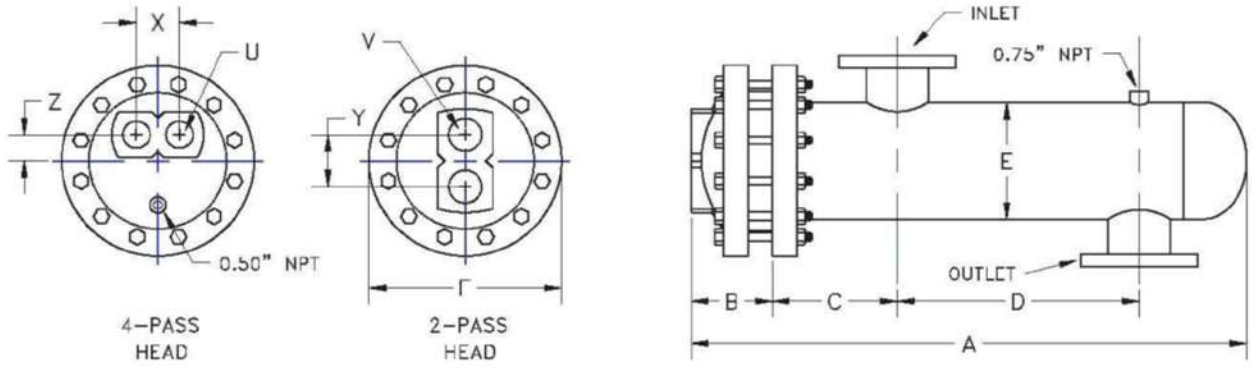
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

18 inch Liquid / Liquid Heat Exchanger



Model No.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W1836(*)A	54.02	5.58	11.00	24.00	18.00	25.00	4" FLG	4" FLG	10.50	6" NPT	137	8.00	3.88	5" NPT	132
W1848(*)A	66.02			36.00							184				178
W1860(*)A	78.02			48.00							232				224
W1872(*)A	90.02			60.00							280				271
W1884(*)A	102.02			72.00							328				317
W1896(*)A	114.02			84.00							376				363
W18108(*)A	126.02			96.00							424				410
W18120(*)A	138.02			108.00							472				456

(*) INSERT NUMBER OF PASSES

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MATERIALS OF CONSTRUCTION

PART	STANDARD	OPTIONAL
HEAD	CAST IRON	** FAB C.S. OR S.S.
SHELL	STEEL	S.S.
TUBE SHEET	STEEL	BRASS*** OR S.S.
TUBING	3/4" OD 20 ga Copper	18 ga. Copper, 304 S.S., 316 S.S. 90/10 CU/NI, OR 16 Ga. C.S.
CAGE MATERIAL	STEEL	BRASS OR S.S.
BAFFLES	STEEL	BRASS OR S.S.

** NOT SHOWN ON THIS SHEET

MAXIMUM OPERATING CONDITIONS

	HEAD STYLE	
	CAST IRON	FABRICATED ** C.S. OR S.S.
TUBE SIDE WORKING PRESSURE	125 PSI	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI	300 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	195 PSI	195 PSI
MAXIMUM TEMPERATURE TUBE SIDE***	375°F	375°F
MAXIMUM TEMPERATURE SHELL SIDE***	375°F	375°F

***DERATE TO 300°F WITH BRASS TUBESHEET

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

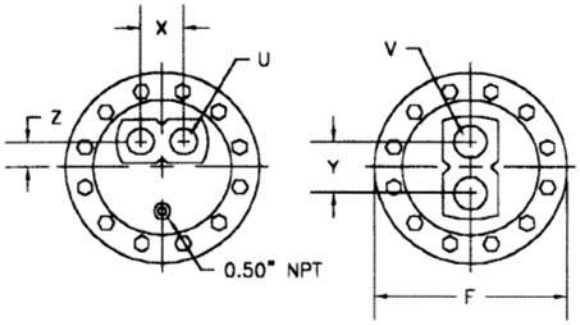
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

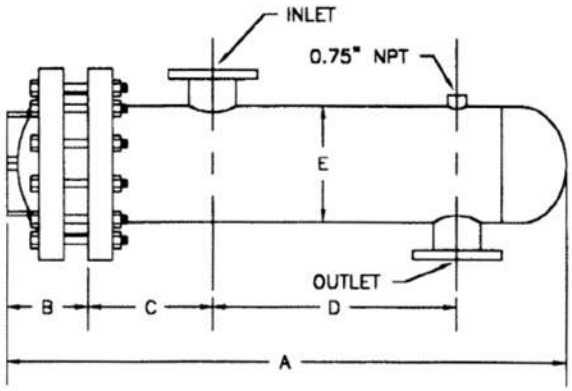
American WHEATLEY HVAC PRODUCTS® A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

20 inch Liquid / Liquid Heat Exchanger



4–PASS 2–PASS



MODEL NO.	HEAT EXCHANGER								2 PASS			4 PASS			
	A	B	C	D	E	F	INLET	OUTLET	Y	V	SQ. FT.	X	Z	U	SQ. FT.
W2036(*)A	55.50			21.00							180				174
W2048(*)A	67.50			33.00							245				237
W2060(*)A	79.50			45.00							310				300
W2072(*)A	91.50	6.06	13.00	57.00	20.00	27.25	6" FLG	6" FLG	11.12	8" NPT	375	8.75	4.50	6" NPT	363
W2084(*)A	103.50			69.00							440				426
W2096(*)A	115.50			81.00							505				489
W20108(*)A	127.50			93.00							570				552
W20120(*)A	139.50			105.00							635				615

(*) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	CAST IRON
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	125 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	250 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE TUBE SIDE	375°F
MAXIMUM TEMPERATURE SHELL SIDE	375°F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

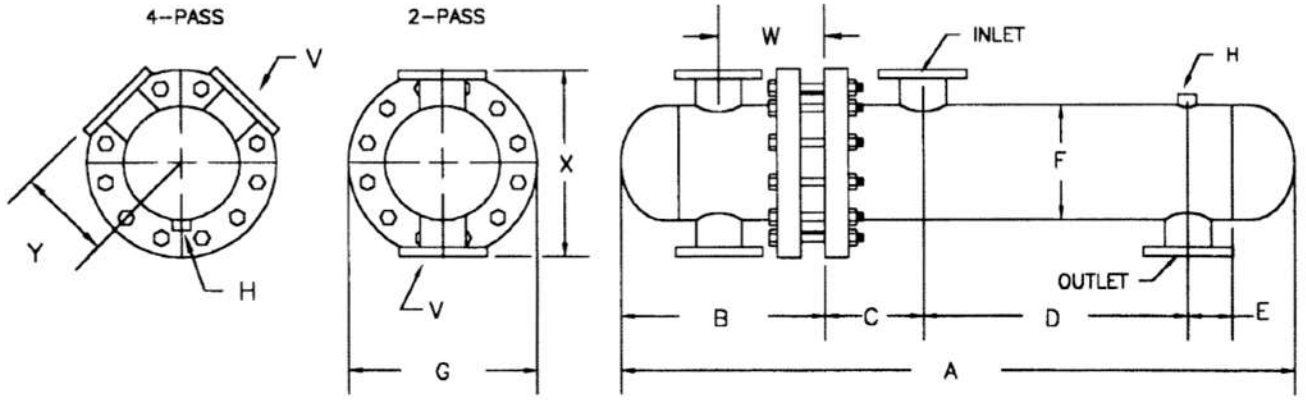
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

22 inch Liquid / Liquid Heat Exchanger



MODEL NO.	HEAT EXCHANGER										2 PASS				4 PASS			
	A	B	C	D	E	F	G	H	INLET	OUTLET	W	V	X	SQ. FT.	W	V	Y	SQ. FT.
W2248(*)A	87.56			30										305				296
W2260(*)A	99.56			42										386				374
W2272(*)A	111.56			54										467				453
W2284(*)A	123.56	27.75	14	66	8	22	29.50	0.75 NPT	10" FLG	10" FLG	14.62	10" FLG	34	548	14.62	6" FLG	16.56	532
W2296(*)A	135.56			78										629				610
W22108(*)A	147.56			90										710				689
W22120(*)A	159.56			102										794				770

(*) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	STEEL
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER 20 GA.
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	225 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE	375 DEG F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

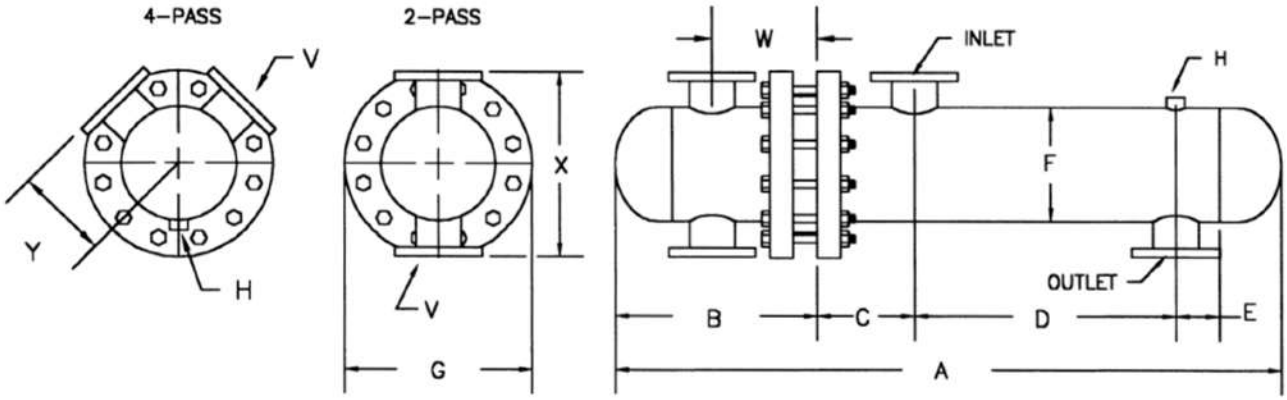
JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

24 inch Liquid / Liquid Heat Exchanger



MODEL NO.	HEAT EXCHANGER										2 PASS				4 PASS			
	A	B	C	D	E	F	G	H	INLET	OUTLET	W	V	X	SQ. FT.	W	V	Y	SQ. FT.
W2448(•)A	85.25			26										372				362
W2460(•)A	97.25			38										466				454
W2472(•)A	109.25			50										561				546
W2484(•)A	121.25	30.44	14	62	8	24	32	0.75 NPT	10" FLG	10" FLG	14.81	10" FLG	36	655	14.81	8" FLG	17.6	638
W2496(•)A	133.25			74										749				730
W24108(•)A	145.25			86										843				822
W24120(•)A	157.25			98										938				913

(•) INSERT NUMBER OF PASSES.

MATERIALS OF CONSTRUCTION

PART	MATERIAL
HEAD	STEEL
SHELL	STEEL
TUBE SHEET	STEEL
TUBING	3/4" O.D. COPPER 20 GA.
BAFFLES	STEEL
CAGE MATERIAL	STEEL

DESIGNED & CONSTRUCTED PER ASME SECT VIII DIV 1

MAXIMUM OPERATING CONDITIONS

TUBE SIDE WORKING PRESSURE	150 PSI
SHELL SIDE WORKING PRESSURE	150 PSI
HYDROSTATIC TEST PRESSURE TUBE SIDE	225 PSI
HYDROSTATIC TEST PRESSURE SHELL SIDE	225 PSI
MAXIMUM TEMPERATURE	375 DEG F

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
2701 W. Concord Street
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

Heat Exchanger
Instruction Sheet

Installation:

- Allow sufficient clearance at end of unit for removal or tube bundle.
- Install unit so that pipe connections can be made without forcing.
- Make sure unit is supported in order to prevent piping strains.
- Appropriate valves and by-passes should be installed to permit both the shell and tube bundle to be shut off for inspection, repairs, and cleaning.
- Tubing must be full of water before introducing steam or hot water into shell, otherwise flashing or noise may occur.

Operation:

Start-up:

- Prior to start-up, all nuts should be checked to prevent leaks and blown gaskets.
- Open cold side first, then gradually start hot side, bringing unit to operating condition.
- Caution: Start-up gradually to avoid temperature shock.

Shut Down:

- Shut hot side down first.
- In the event that the cold side must be stopped, always cut off flow of hot water first by closing valves or by-passing.

Cleaning:

- Periodically flush out the shell and tube bundle.
- Remove head and bundle to clean inside of shell and outside of tubes.
- Replace gaskets if necessary.

Hard Water Applications:

- Close water connections, plug bottom opening.
- Fill tubes with solution: 1 part muriatic acid, 10 parts water (let stand for 2 hours - Caution: A longer period may cause damage to the copper tubing.)
- Commercially available cleaners may also be used.
- Drain off and flush thoroughly with clean water.
- Re-assemble unit.

Replacement Parts:

To Order Replacement Parts, Please specify:

(1.) Complete Model Number

(2.) Date of Manufacture

(3.) Specific Materials if Required

Common replacement parts include:

(1.) Tube Bundles

(2.) Gasket Sets

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

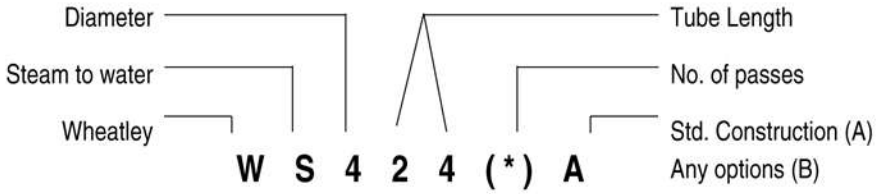
ITEMS	QUANTITY

A GFP COMPANY
1005 E. Houston
Broken Arrow, OK 74012
Toll Free: 866-204-5229
PH: 918-317-0401
FAX: 918-317-0407
www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

Heat Exchanger Interchangeability

Steam to Water *(Use as a guide only - Actual Selection may vary with conditions)*



Steam to Water			
WHEATLEY	**B&G**	**TACO**	**THRUSH**
WS424 (*) A	SU42 (*)	4 (*) 04S	S424 (*) A
WS436 (*) A	SU43 (*)	4 (*) 06S	S436 (*) A
WS448 (*) A	SU44 (*)	4 (*) 08S	S448 (*) A
WS460 (*) A	SU45 (*)	4 (*) 10S	S460 (*) A
WS472 (*) A	SU46 (*)	4 (*) 12S	S472 (*) A
WS484 (*) A	SU47 (*)	4 (*) 14S	S484 (*) A
WS624 (*) A	SU62 (*)	6 (*) 04S	S624 (*) A
WS636 (*) A	SU63 (*)	6 (*) 06S	S636 (*) A
WS648 (*) A	SU64 (*)	6 (*) 08S	S648 (*) A
WS660 (*) A	SU65 (*)	6 (*) 10S	S660 (*) A
WS672 (*) A	SU66 (*)	6 (*) 12S	S672 (*) A
WS684 (*) A	SU67 (*)	6 (*) 14S	S684 (*) A
WS824 (*) A	SU82 (*)	8 (*) 04S	S824 (*) A
WS836 (*) A	SU83 (*)	8 (*) 06S	S836 (*) A
WS848 (*) A	SU84 (*)	8 (*) 08S	S848 (*) A
WS860 (*) A	SU85 (*)	8 (*) 10S	S860 (*) A
WS872 (*) A	SU86 (*)	8 (*) 12S	S872 (*) A
WS884 (*) A	SU87 (*)	8 (*) 14S	S884 (*) A
WS896 (*) A	SU88 (*)	8 (*) 16S	S896 (*) A
WS1036 (*) A	SU103 (*)	10 (*) 06S	S1036 (*) A
WS1048 (*) A	SU104 (*)	10 (*) 08S	S1048 (*) A
WS1060 (*) A	SU105 (*)	10 (*) 10S	S1060 (*) A
WS1072 (*) A	SU106 (*)	10 (*) 12S	S1072 (*) A
WS1084 (*) A	SU107 (*)	10 (*) 14S	S1084 (*) A
WS1096 (*) A	SU108 (*)	10 (*) 16S	S1096 (*) A
WS10108 (*) A	SU109 (*)	10 (*) 18S	S10108 (*) A
WS10120 (*) A	SU1010 (*)	10 (*) 20S	S10120 (*) A

(*) Insert number of tube passes

American WHEATLEY HVAC PRODUCTS® A GFP COMPANY

1005 E. Houston, Broken Arrow, OK 74012
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Steam to Water			
WHEATLEY	**B&G**	**TACO**	**THRUSH**
WS1236 (*) A	SU123 (*)	12 (*) 06S	S1236 (*) A
WS1248 (*) A	SU124 (*)	12 (*) 08S	S1248 (*) A
WS1260 (*) A	SU125 (*)	12 (*) 10S	S1260 (*) A
WS1272 (*) A	SU126 (*)	12 (*) 12S	S1272 (*) A
WS1284 (*) A	SU127 (*)	12 (*) 14S	S1284 (*) A
WS1296 (*) A	SU128 (*)	12 (*) 16S	S1296 (*) A
WS12108 (*) A	SU129 (*)	12 (*) 18S	S12108 (*) A
WS12120 (*) A	SU1210 (*)	12 (*) 20S	S12120 (*) A
WS1436 (*) A	SU143 (*)	14 (*) 06S	S1436 (*) A
WS1448 (*) A	SU144 (*)	14 (*) 08S	S1448 (*) A
WS1460 (*) A	SU145 (*)	14 (*) 10S	S1460 (*) A
WS1472 (*) A	SU146 (*)	14 (*) 12S	S1472 (*) A
WS1484 (*) A	SU147 (*)	14 (*) 14S	S1484 (*) A
WS1496 (*) A	SU148 (*)	14 (*) 16S	S1496 (*) A
WS14108 (*) A	SU149 (*)	14 (*) 18S	S14108 (*) A
WS14120 (*) A	SU1410 (*)	14 (*) 20S	S14120 (*) A
WS1636 (*) A	SU163 (*)	16 (*) 06S	S1636 (*) A
WS1648 (*) A	SU164 (*)	16 (*) 08S	S1648 (*) A
WS1660 (*) A	SU165 (*)	16 (*) 10S	S1660 (*) A
WS1672 (*) A	SU166 (*)	16 (*) 12S	S1672 (*) A
WS1684 (*) A	SU167 (*)	16 (*) 14S	S1684 (*) A
WS1696 (*) A	SU168 (*)	16 (*) 16S	S1696 (*) A
WS16108 (*) A	SU169 (*)	16 (*) 18S	S16108 (*) A
WS16120 (*) A	SU1610 (*)	16 (*) 20S	S16120 (*) A
WS1836 (*) A	SU183 (*)	18 (*) 06S	S1836 (*) A
WS1848 (*) A	SU184 (*)	18 (*) 08S	S1848 (*) A
WS1860 (*) A	SU185 (*)	18(*) 10S	S1860 (*) A
WS1872 (*) A	SU186 (*)	18(*) 12S	S1872 (*) A
WS1884 (*) A	SU187 (*)	18(*) 14S	S1884 (*) A
WS1896 (*) A	SU188 (*)	18(*) 16S	S1896 (*) A
WS18108 (*) A	SU189 (*)	18(*) 18S	S18108 (*) A
WS18120 (*) A	SU1810 (*)	18(*) 20S	S18120 (*) A
WS2036 (*) A	SU203 (*)	20(*) 06S	S2036 (*) A
WS2048 (*) A	SU204 (*)	20(*) 08S	S2048 (*) A
WS2060 (*) A	SU205 (*)	20(*) 10S	S2060 (*) A
WS2072 (*) A	SU206 (*)	20(*) 12S	S2072 (*) A
WS2084 (*) A	SU207 (*)	20(*) 14S	S2084 (*) A
WS2096 (*) A	SU208(*)	20(*) 16S	S2096 (*) A
WS20108 (*) A	SU209 (*)	20(*) 18S	S20108 (*) A
WS20120 (*) A	SU2010 (*)	20(*) 20S	S20120 (*) A

(*) Insert Number of tube passes

American WHEATLEY HVAC PRODUCTS® A GFP COMPANY

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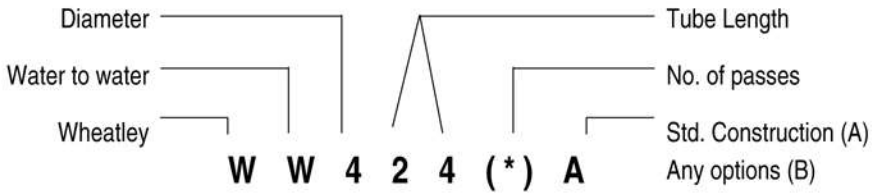
Heat Exchanger Interchangeability

Water to Water *(Use as a guide only - Actual Selection may vary with conditions)*



Water to Water			
WHEATLEY	**B&G**	**TACO**	**THRUSH**
WW424 (*) A	WU42 (*)	4 (*) 04L	W424 (*) A
WW436 (*) A	WU43 (*)	4 (*) 06L	W436 (*) A
WW448 (*) A	WU44 (*)	4 (*) 08L	W448 (*) A
WW460 (*) A	WU45 (*)	4 (*) 10L	W460 (*) A
WW472 (*) A	WU46 (*)	4 (*) 12L	W472 (*) A
WW484 (*) A	WU47 (*)	4 (*) 14L	W484 (*) A
WW624 (*) A	WU62 (*)	6 (*) 04L	W624 (*) A
WW636 (*) A	WU63 (*)	6 (*) 06L	W636 (*) A
WW648 (*) A	WU64 (*)	6 (*) 08L	W648 (*) A
WW660 (*) A	WU65 (*)	6 (*) 10L	W660 (*) A
WW672 (*) A	WU66 (*)	6 (*) 12L	W672 (*) A
WW684 (*) A	WU67 (*)	6 (*) 14L	W684 (*) A
WW824 (*) A	WU82 (*)	8 (*) 04L	W824 (*) A
WW836 (*) A	WU83 (*)	8 (*) 06L	W836 (*) A
WW848 (*) A	WU84 (*)	8 (*) 08L	W848 (*) A
WW860 (*) A	WU85 (*)	8 (*) 10L	W860 (*) A
WW872 (*) A	WU86 (*)	8 (*) 12L	W872 (*) A
WW884 (*) A	WU87 (*)	8 (*) 14L	W884 (*) A
WW896 (*) A	WU88 (*)	8 (*) 16L	W896 (*) A
WW1036 (*) A	WU103 (*)	10 (*) 06L	W1036 (*) A
WW1048 (*) A	WU104 (*)	10 (*) 08L	W1048 (*) A
WW1060 (*) A	WU105 (*)	10 (*) 10L	W1060 (*) A
WW1072 (*) A	WU106 (*)	10 (*) 12L	W1072 (*) A
WW1084 (*) A	WU107 (*)	10 (*) 14L	W1084 (*) A
WW1096 (*) A	WU108 (*)	10 (*) 16L	W1096 (*) A
WW10108 (*) A	WU109 (*)	10 (*) 18L	W10108 (*) A
WW10120 (*) A	WU1010 (*)	10 (*) 20L	W10120 (*) A

(*) Insert number of tube passes

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Water to Water			
WHEATLEY	**B&G**	**TACO**	**THRUSH**
WW1236 (*) A	WU123 (*)	12 (*) 06L	W1236 (*) A
WW1248 (*) A	WU124 (*)	12 (*) 08L	W1248 (*) A
WW1260 (*) A	WU125 (*)	12 (*) 10L	W1260 (*) A
WW1272 (*) A	WU126 (*)	12 (*) 12L	W1272 (*) A
WW1284 (*) A	WU127 (*)	12 (*) 14L	W1284 (*) A
WW1296 (*) A	WU128 (*)	12 (*) 16L	W1296 (*) A
WW12108 (*) A	WU129 (*)	12 (*) 18L	W12108 (*) A
WW12120 (*) A	WU1210 (*)	12 (*) 20L	W12120 (*) A
WW1436 (*) A	WU143 (*)	14 (*) 06L	W1436 (*) A
WW1448 (*) A	WU144 (*)	14 (*) 08L	W1448 (*) A
WW1460 (*) A	WU145 (*)	14 (*) 10L	W1460 (*) A
WW1472 (*) A	WU146 (*)	14 (*) 12L	W1472 (*) A
WW1484 (*) A	WU147 (*)	14 (*) 14L	W1484 (*) A
WW1496 (*) A	WU148 (*)	14 (*) 16L	W1496 (*) A
WW14108 (*) A	WU149 (*)	14 (*) 18L	W14108 (*) A
WW14120 (*) A	WU1410 (*)	14 (*) 20L	W14120 (*) A
WW1636 (*) A	WU163 (*)	16 (*) 06L	W1636 (*) A
WW1648 (*) A	WU164 (*)	16 (*) 08L	W1648 (*) A
WW1660 (*) A	WU165 (*)	16 (*) 10L	W1660 (*) A
WW1672 (*) A	WU166 (*)	16 (*) 12L	W1672 (*) A
WW1684 (*) A	WU167 (*)	16 (*) 14L	W1684 (*) A
WW1696 (*) A	WU168 (*)	16 (*) 16L	W1696 (*) A
WW16108 (*) A	WU169 (*)	16 (*) 18L	W16108 (*) A
WW16120 (*) A	WU1610 (*)	16 (*) 20L	W16120 (*) A
WW1836 (*) A	WU183 (*)	18 (*) 06L	W1836 (*) A
WW1848 (*) A	WU184 (*)	18 (*) 08L	W1848 (*) A
WW1860 (*) A	WU185 (*)	18(*) 10L	W1860 (*) A
WW1872 (*) A	WU186 (*)	18(*) 12L	W1872 (*) A
WW1884 (*) A	WU187 (*)	18(*) 14L	W1884 (*) A
WW1896 (*) A	WU188 (*)	18(*) 16L	W1896 (*) A
WW18108 (*) A	WU189 (*)	18(*) 18L	W18108 (*) A
WW18120 (*) A	WU1810 (*)	18(*) 20L	W18120 (*) A
WW2036 (*) A	WU203 (*)	20(*) 06L	W2036 (*) A
WW2048 (*) A	WU204 (*)	20(*) 08L	W2048 (*) A
WW2060 (*) A	WU205 (*)	20(*) 10L	W2060 (*) A
WW2072 (*) A	WU206 (*)	20(*) 12L	W2072 (*) A
WW2084 (*) A	WU207 (*)	20(*) 14L	W2084 (*) A
WW2096 (*) A	WU208(*)	20(*) 16L	W2096 (*) A
WW20108 (*) A	WU209 (*)	20(*) 18L	W20108 (*) A
WW20120 (*) A	WU2010 (*)	20(*) 20L	W20120 (*) A

(*) Insert Number of tube passes

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Valves

Pneumatic Automated Butterfly Valve

American Wheatley offers pneumatic actuated butterfly valves with many available options. Please consult factory for price and availability.

Features:

- Double Acting
- Spring Return/Fail Safe
- EPDM seats standard, Buna, PTFE and Viton available special request
- Powder coated aluminum body for severe duty applications
- Stainless steel fasteners
- ISO 5211 mounting standard
- All packages are supplied either direct mount or with a standard carbon steel bracket and coupler. Stainless steel bracket and coupler are available on request.

Double Acting:

Available 2" through 12"
Available either configured double acting, for on/off service or with 4-20mA control or 3-15psi for modulating service
Optional manual override available on most sizes

Spring Return:

Available 2" through 12"
Spring return actuators are fail-safe, ON/OFF, not available for control type applications.

Accessories:

SVB 4 or 4 way solenoid valves
PosiCon+ limit switch
4-20mA I/P or 3-15psi P/P positioned

PNEUMATIC DOUBLE ACTING BASED ON 80 PSI

Size	Lug Style	Wafer Style
2	BFL02DA15	BFW02DA15
2.5	BFL25DA20	BFW25DA20
3	BFL03DA20	BFW03DA20
4	BFL04SR25	BFW04SR25
5	BFL05SR25	BFW05SR25
6	BFL06SR30	BFW06SR30
8	BFL08SR30	BFW10SR35
10	BFL10SR35	BWL10SR35
12	BFL12SR40	BFW12SR40

PNEUMATIC SPRING ACTING BASED ON 80 PSI

Size	Lug Style	Wafer Style
2	BFL02SR15	BFW02SR15
2.5	BFL25SR20	BFW25SR20
3	BFL03SR20	BFW03SR20
4	BFL04DA25	BFW04DA25
5	BFL05DA25	BFW05DA25
6	BFL06DA30	BFW06DA30
8	BFL08DA30	BFW10DA35
10	BFL10DA35	BWL10DA35
12	BFL12DA40	BFW12DA40

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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A GFP COMPANY
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www.wheatleyhvac.com
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American WHEATLEY HVAC PRODUCTS®

Electric Automated Butterfly Valve

American Wheatley offers electric actuated butterfly valves with many available options.

Features:

- Available 2" through 12"
- EPDM seats standard, Buna, PTFE and Viton available special request
- Voltages available: 115/60/1, 230/60/3
- Double acting or spring return models available
- NEMA 4
- Powder coated aluminum body for severe duty applications
- Stainless steel fasteners
- ISO 5211 mounting standard
- If necessary, all packages are direct mount if possible, or supplied with carbon steel bracket and coupler.

Double Acting:

Available 2" through 12"
Cycle time 12-15 second
Available double acting, for on/off service
Option: 4-20mA control for modulating service
Spring return option available - call for pricing
Worm gear type, brake not required

SIZE	LUG STYLE	WAFER STYLE	VOLTAGE	ON/OFF
2	BFL02EW110	BFW02EW110	120/60/1	ON/OFF
2.5	BFL25EW110	BFW25EW110	120/60/1	ON/OFF
3	BFL03EW110	BFW03EW110	120/60/1	ON/OFF
4	BFL04EW110	BFW04EW110	120/60/1	ON/OFF
5	BFL05EW110	BFW05EW110	120/60/1	ON/OFF
6	BFL06EW110	BFW06EW110	120/60/1	ON/OFF
8	BFL08EW110	BFW08EW110	120/60/1	ON/OFF
10	BFL10EW110	BFW10EW110	120/60/1	ON/OFF
12	BFL12EW110	BFW12EW110	120/60/1	ON/OFF

Above with standard double acting actuators and butterfly valve with EPDM seats. Consult factory for other options, voltages, and spring return assemblies.

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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www.wheatleyhvac.com
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Electric Automated Ball Valve

American Wheatley offers pneumatic actuated butterfly valves with many available options. Please consult factory for price and availability.

Features:

- Available 1/2" through 2"
- Bronze body, PTFE seats. Stainless steel valves also available.
- Voltages available: 115/60/1, 230/60/3
- Double acting or optional spring return models available
- NEMA 4
- Powder coated aluminum body for severe duty applications
- Stainless steel fasteners
- ISO 5211 mounting standard
- If necessary, All packages are direct mount if possible, or supplied with carbon steel bracket and coupler.

Double Acting:

Available 1/2" through 2"
Cycle time: 12-15 second
Available double acting, for on/off service
Option: 4-20mA control for modulating service
Spring return option available- call for pricing
Worm gear type, brake not required

Bronze Ball Valve with 120VAC
ON/OFF, ELECTRIC ACTUATOR
22DEW-025
22DEW-375
22DEW-050
22DEW-075
22DEW-100
22DEW-125
22DEW-150
22DEW-200
OPTIONS
4-20mA modulation adder

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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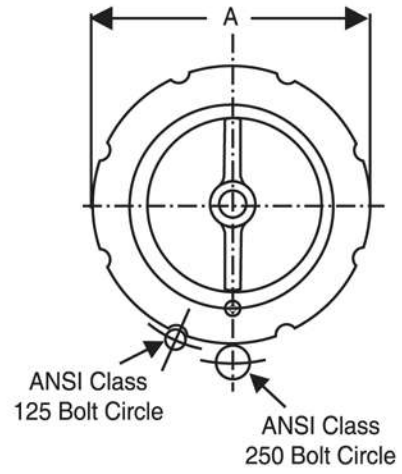
Wafer Style Non Slam Check Valve

Engineered for silent operation, low head loss - plus....

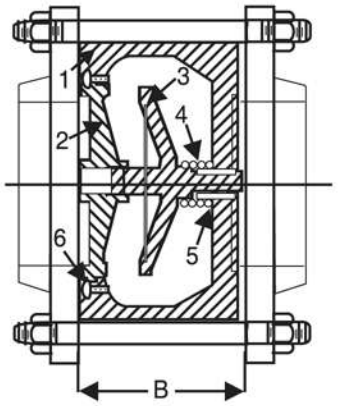
Features:

- Designed to eliminate water hammer
- Low Pressure loss
- Provides maximum efficiency
- Compact design flange
- Valve activated at low psi, 1/4 - 1/2
- Sizes 2" - 16"
- 2" - 6" Dual rated 125 & 250 PSI



Optional Features:

- Trim Material
- Additional materials and pressure classifications available
- Larger sizes POA



ANSI CLASS 125 & 250				
PART NUMBER	SIZE	A	B	WEIGHT (lbs.)
SWB020	2"	4 1/4"	2 5/8"	6
SWB025	2 1/2"	5"	2 7/8"	7
SWB030	3"	5 3/4"	3 1/8"	12
SWB040	4"	7"	4"	18
SWB050	5"	8 3/8"	4 3/4"	27
SWB060	6"	9 3/4"	5 1/2"	42
ANSI CLASS 125				
SWB080	8"	13 3/8"	6 1/2"	85
SWB100	10"	16"	8 1/4"	146
SWB120	12"	16 3/8"	11 1/4"	C/F
SWB140	14"	18 7/8"	13 3/4"	C/F

Bill of Materials

Part No.	Part Name	Material
1	Body	Cast Iron
2	Seat	Bronze
3	Plug	Bronze
4	Spring	Stainless Steel
5	Bushing	Bronze
6	Screw	Stainless Steel

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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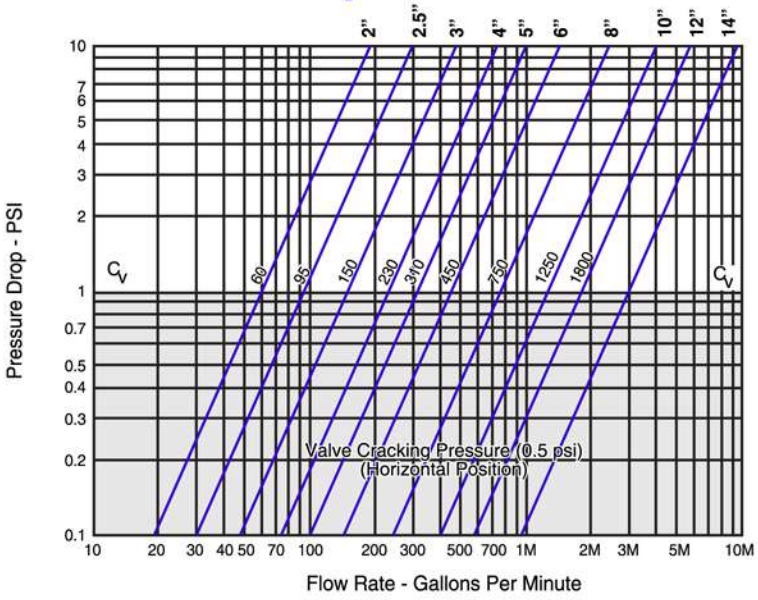
Pressure Temperature Ratings

Temperature Degrees F.	Maximum Non-shock Service Pressure ANSI B16.1 Flange Ratings	
	125 lb. Class 2" thru 14"	250 lb. Class 2" thru 6"
0-150	200	400
200	190	370
Test Pressure	300	600

Note: Stainless steel trim recommended for temperatures 180° - 200°F

Pressure Drop Chart



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American WHEATLEY HVAC PRODUCTS®

Flanged
Globe Style Non Slam Check Valve

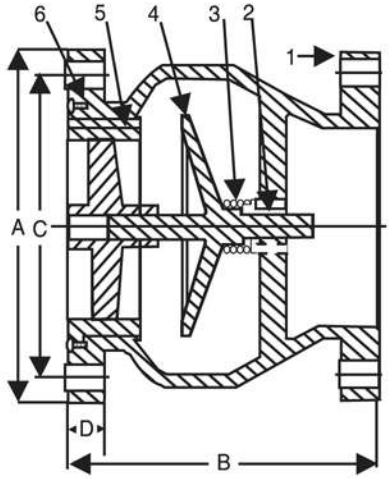
Engineered for silent operation, low head loss - plus....

Features:

- Designed to eliminate water hammer
- Low Pressure loss
- Provides maximum efficiency
- Compact design flange face to flange face
- Valve activated at low psi, 1/4 - 1/2
- Sizes 2" - 16"

Optional Features:

- Trim Material
- Additional materials and pressure classifications available
- Larger sizes POA



ANSI CLASS 125

PART NUMBER	SIZE	A	B	C	D	WEIGHT (lbs.)	BOLT SIZE	NO. OF BOLTS
SGB020	2"	6"	5 1/4"	4 3/4"	13/16"	17	5/8"	4
SGB025	2 1/2"	7"	5 1/2"	5 1/2"	11/16"	23	5/8"	4
SGB030	3"	7 1/2"	6"	6"	15/16"	30	5/8"	4
SGB040	4"	9"	7 1/4"	7 1/2"	15/16"	42	5/8"	8
SGB050	5"	10"	8 1/2"	8 1/2"	15/16"	53	3/4"	8
SGB060	6"	11"	9 3/4"	9 1/2"	1"	75	3/4"	8
SGB080	8"	13 1/2"	12 1/2"	11 3/4"	1 1/8"	134	3/4	8
SGB100	10"	16"	15 1/2"	14 1/4"	1 13/16"	177	7/8"	12
SGB120	12"	19"	14 1/4"	17"	1 1/4"	276	1"	12
SGB140	14"	21"	15 3/4"	18 3/4"	1 3/8"	407	1"	12
SGB160	16"	25 3/4"	17 5/8"	21 1/4"	1 7/16"	567	1"	16

ANSI CLASS 250

PART NUMBER	SIZE	A	B	C	D	WEIGHT (lbs.)	BOLT SIZE	NO. OF BOLTS
SGB020	2"	6 1/2"	5 1/4"	4 3/4"	5/8"	17	3/4"	8
SGB025	2 1/2"	7 1/2"	5 1/2"	5 7/8"	1"	23	3/4"	8
SGB030	3"	8 1/4"	6"	6 5/8"	1 1/8"	30	3/4"	8
SGB040	4"	10"	7 1/4"	7 7/8"	1 1/4"	41	3/4"	8
SGB050	5"	11"	8 1/2"	9 1/4"	1 3/8"	57	3/4"	8
SGB060	6"	12 1/2"	9 3/4"	10 5/8"	1 7/16"	76	3/4"	12
SGB080	8"	15"	12 1/2"	13"	1 5/8"	134	7/8"	12
SGB100	10"	17 1/2"	15 1/2"	15 1/4"	1 7/8"	177	1"	16
SGB120	12"	20 1/2"	14 1/4"	17 3/4"	2"	276	1 1/8"	16

Bill of Materials

Part No.	Part Name	Material
1	Body	Cast Iron
2	Seat	Bronze
3	Plug	Bronze
4	Spring	Stainless Steel
5	Bushing	Bronze
6	Screw	Stainless Steel

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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CONTRACTOR P.O. NO. _____

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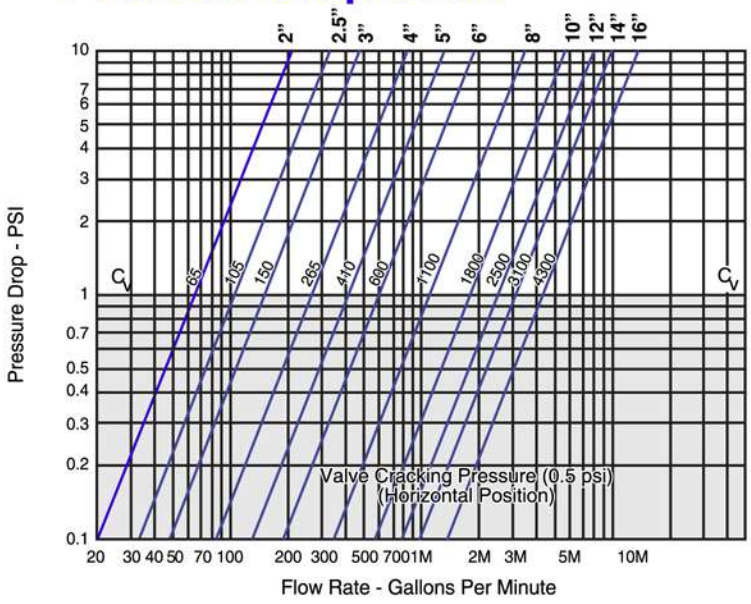
Recommended Maximum GPM per Valve Size/Flow Velocity of 10 F.P.S.

2”	100 GPM
2 1/2”	150 GPM
3”	225 GPM
4”	400 GPM
5	625 GPM
6	900 GPM
8”	1600 GPM
10”	2500 GPM
12”	3500 GPM
14”	4250 GPM
16”	5500 GPM

Pressure Drop Chart



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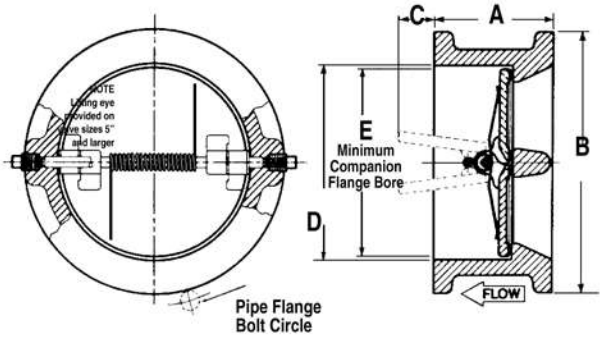
American WHEATLEY HVAC PRODUCTS®

Dual Disc Non Slam Check Valve



- Low head loss
- Compact wafer design
- Disc stabilization a 4 FPS
- Stabilized disc and stop pins
- Non-slam closing characteristics
- Lift and pivot disc action
- Drop tight seating at low and high pressures

ANSI Pressure—Temperature Rating	
Max. Non-shock Pressure—PSI	
	125 lb. Cast Iron 2" thru 16"
150°F	200
200°F	190
250°F	175
Test Pressure	350

Flow Coefficients

Valve Size	*Cv	Valve Size	*Cv
2 "	80	8"	1700
2 ½"	90	10"	3000
3 "	150	12"	4000
4 "	300	14"	5350
5 "	500	16"	7400
6 "	900		

*Cv = The number of U.S. Gallons/Minute of 60°F water that will flow thru the valve with a 1 PSI pressure drop across the valve.

Installation Dimensions

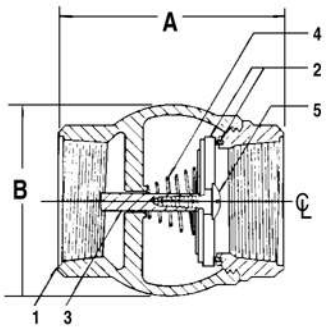
Valve Size	ANSI Class	A	B	C	D	E	Weight (lbs.)
2"	125/150	2 1/8"	4 1/8"	3/8"	2 3/8"	2 1/4"	4
2 ½"	125/150	2 1/8"	4 7/8"	3/8"	2 15/16"	2 3/4"	6
3"	125/150	2 1/4"	5 3/8"	3/8"	3 1/2"	3 1/4"	6
4"	125/150	2 1/2"	6 7/8"	1 "	4 1/2"	4 "	12
5"	125/150	2 3/4"	7 3/4"	1 3/4"	5 3/4"	4 3/4"	15
6"	125/150	3"	8 3/4"	1 7/8"	6 1/2"	5 3/4"	20
8"	125/150	3 3/4"	11 "	2 1/2"	8 7/8"	8 "	38
10"	125/150	4 1/4"	13 3/8"	3 3/8"	10 1/2"	9 3/4"	56
12"	125/150	5 5/8"	16 1/8"	4 "	12 1/2"	11 5/8"	98
14"	125/150	7 1/4"	17 3/4"	3 1/2"	14 1/2"	13 5/8"	145
16"	125/150	7 1/2"	20 1/4"	4 5/8"	16 1/2"	15 3/8"	186

Bill of Materials

Part Name	Material
Body	Ductile Iron
Disc	Stainless Steel
Seat Gasket	EPDM
Axle	Stainless Steel
Spring	Stainless Steel
Washer	TEFLON

Normal Pressure	CLASS 125	CLASS 250
Sealing Test Pressure	255 PSI	398 PSI
Strenght Test Pressure	348 PSI	543 PSI
Suitable Temperature C	NBR: 14° - +176°F	
	EPDM: 14° - + 248°F	
Medium	fresh water, sea water, waste water, food stuff	
	steam, oil, weak acid & alkaline liquid, etc.	

Silent Check Valve Threaded Style



Dimensions

IPS	A	B
1/2"	2 1/16"	1 3/8"
3/4"	2 1/4"	1 5/8"
1 "	2 5/8"	2 "
1 1/4"	2 15/16"	2 3/8"
1 1/2"	3 15/16"	2 3/4"
2 "	3 3/4"	3 3/4"

Design Data: Temp. 250°F — Pressure 200 P.S.I.

Bill of Materials

Part No.	Part Name	Standard Material
1	Body	Bronze
2	Disc & Seat Ring	Teflon
3	Stem	Brass
4	Spring	Beryllium Copper
5	Seat Screw	Stainless Steel

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

American WHEATLEY HVAC PRODUCTS® A GFP COMPANY

1005 E. Houston, Broken Arrow, OK 74012
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American Wheatley Globe Style Check Valve Installation, Operation & Maintenance

GENERAL INFORMATION: American Wheatley Globe Style Check Valves are designed to automatically prevent back-flow in systems where it is desirable to permit flow in one direction and prevent flow in the opposite direction. When the pump starts and the downstream flow creates the required pressure drop in the forward direction, the disc will automatically open. When the pump stops and the flow ceases, the force of the spring will automatically close the disc prior to flow reversal. This creates a positive shutoff against flow reversal and minimizes system surges and water hammer.

For additional information regarding American Wheatley's Globe Style Check Valves, please refer to published catalog information.

Prior to selection of a American Wheatley Globe Style Check Valve, the following factors must be determined:

- Material construction requirements of the Check Valve
- Design and working pressure/temperature requirements
- Operating conditions

UNPACKING AND INSPECTION: Visually inspect the Check Valve for any signs of damage including scratches, loose parts, broken parts or any other physical damage that may have occurred during shipment. If damage is observed, immediately file a claim with the shipping carrier. Check Valves that are damaged during transportation are the responsibility of the customer. For information regarding American Wheatley's warranty policy, please refer to published standard terms & conditions of sale (www.wheatleyhvac.com).

Before installation, the check valve should be inspected internally for any loose or foreign materials that may have become trapped inside the Check Valve during transportation.

If the Check Valve is not required to be installed immediately, it should be stored indoors in a clean and dry environment.

INSTALLATION:

Pre-Installation Checklist
Ensure Working conditions (pressure and temperature) are within the specified capacity of the product being installed. Please refer to published catalogue information.

Ensure that the service media is filtered to remove unwanted debris prior to installing the Check Valve. If the service media is not sufficiently clean, debris particles can prevent the Check Valve from sealing correctly and impair product performance.

Inspect sealing surfaces to insure they are clean and smooth. The pipeline should also be checked for proper alignment. American Wheatley Check Valves should never be utilized to realign an existing piping system.

JOB NAME_____
LOCATION_____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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For efficient function and improved service life, recognized piping standards stipulate placing Check Valves 5 to 10 pipe diameters from any turbulence producing devices (elbows, pumps, tees, expansions, reductions, and swages).

Step 1: Remove plastic flange protectors and other packaging materials from the Check Valve.

Step 2: Orientate the flow arrow (cast into the side of the valve body or printed on the nameplate) in the direction of the pipeline flow. In the correct position, the valve disc will move away from the valve seat, in the direction of the pipeline flow. American Wheatley Globe Style Check Valves can be installed in any position: horizontal, vertical (with upward flow) or any varying angle. For vertical installation with downward flow, please consult factory as a stronger spring may be required:

Step 3: While supporting the existing pipeline, lift the Check Valve into position. For large or heavy Check Valves, appropriate material handling equipment must be used in order to prevent injury and possible damage to the Check Valve.

Step 4: Install a standard, 1/8" thick flange gasket (in accordance with ANSI B16.5) between valve and mating flanges (on both sides). Ensure the flange gaskets are centered correctly to prevent leakage.

Step 5: Install lubricated flange bolts and hand tighten. Flange bolts should then be tightened using a star or crisscross pattern to evenly load the bolts.

OPERATION: Start-up Procedure: Once proper installation has been successfully completed, start the system gradually, at start up as well as after shut down. This eliminates sudden shock to the Check Valve and other equipment in the line.

MAINTENANCE: American Wheatley Check Valves are designed to provide trouble-free service and seldom require maintenance. If removal of Check Valve is required for inspection, please follow these steps.

VALVE REMOVAL:

Step 1: To remove the Check Valve from the pipeline, first isolate the Check Valve by shutting off the upstream pump and closing the downstream isolation valve. Drain the system as much as possible.

Step 2: Relieve pressure from both sides of the Check Valve by venting the line.

Step 3: Loosen the outlet side bolts, securing the valve to the pipeline, never loosen the inlet side. Once pressure has been relieved, the inlet bolts may be loosened & removed.

Step 4: Remove Check Valve from the pipeline and place the Check Valve with outlet side on the ground. Inspect internal components for wear or damage. If replacement parts are required, please contact American Wheatley for repair recommendations.

SPARE PARTS LIST: For the bill of materials and spare parts listing of each Globe Style Check Valve, please refer to published catalogue information.

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TROUBLE SHOOTING:

Leakage:	Periodic inspections for leakage should be performed. If leakage is present, check the flange gasket and flange bolt torque. In some situations, it may be necessary to isolate the Check Valve by shutting off upstream and downstream valves. Then remove the Check Valve and inspect the seating surfaces for damage.
Vibration:	Verify that flow rate is within published recommended range. Additionally, verify that the Check Valve is 5 to 10 pipe diameters from any turbulence producing devices (elbows, pumps, tees, expansions, reductions, and swages). Remove Check Valve from piping system and inspect the spring. Verify that the spring is providing the proper tension.
Restricted Flow:	If flow is halted at the Check Valve, verify that the flow direction arrow (casted into the side of the body or printed on the nameplate) is pointing in the direction of the flow. Remove Check Valve from piping system and inspect the spring. Verify that the spring is providing the proper tension

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American Wheatley
Dual Disc Check Valve
Installation, Operation & Maintenance

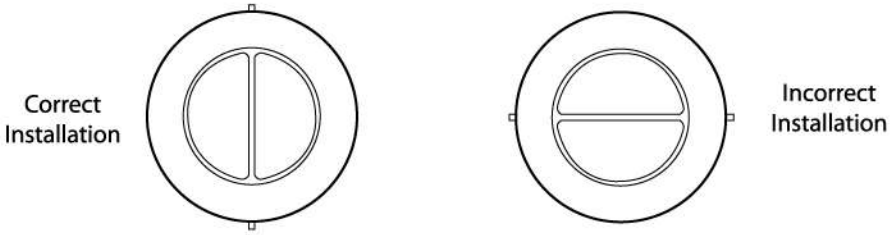
GENERAL INFORMATION: American Wheatley Dual Disc Check Valves are designed to automatically prevent back-flow in systems where it is desirable to permit flow in one direction and prevent flow in the opposite direction. When the pump starts and the downstream flow creates the required pressure drop in the forward direction, the disc will automatically open. When the pump stops and the flow ceases, the force of the spring will automatically close the disc prior to flow reversal. This creates a positive shutoff against flow reversal and minimizes system surges and water hammer.

For additional information regarding American Wheatley's Dual Disc Check Valves, please refer to published catalog information.

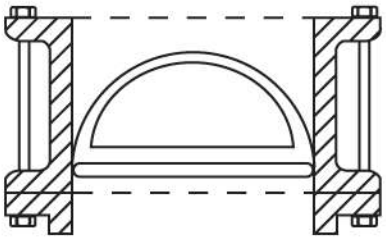
Prior to selection of a American Wheatley Dual Disc Check Valve, the following factors must be determined:

- Material construction requirements of the Check Valve
- Design and working pressure/temperature requirements
- Operating conditions

HORIZONTAL INSTALLATION: IMPORTANT: The valve must be installed perpendicular to the flow. To insure that it is accurately installed make sure the valve center guide is horizontal.



VERTICAL INSTALLATION: Orientation of the valve rib is necessary to a sure an equal loading on the Dual Plates. See illustration below. NOTE: the weight of the discs will cause additional pressure drop.



JOB NAME _____
LOCATION _____
_____
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CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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OPERATION: Start-up Procedure: Once proper installation has been successfully completed, start the system gradually, at start up as well as after shut down. This eliminates sudden shock to the Check Valve and other equipment in the line.

MAINTENANCE: American Wheatley Check Valves are designed to provide trouble-free service and seldom require maintenance. If removal of Check Valve is required for inspection, please follow these steps.

Valve Removal:

Step 1: To remove the Check Valve from the pipeline, first isolate the Check Valve by shutting off the upstream pump and closing the downstream isolation valve. Drain the system as much as possible.

Step 2: Relieve pressure from both sides of the Check Valve by venting the line.

Step 3: Loosen the outlet side bolts, securing the valve to the pipeline, never loosen the inlet side. Once pressure has been relieved, the inlet bolts may be loosened & removed.

Step 4: Remove Check Valve from the pipeline and place the Check Valve with outlet side on the ground. Inspect internal components for wear or damage. If replacement parts are required, please contact American Wheatley for repair recommendations.

SPARE PARTS LIST: For the bill of materials and spare parts listing of each Dual Disc Check Valve, please refer to published catalogue information.

TROUBLE SHOOTING:

Leakage:	Periodic inspections for leakage should be performed. If leakage is present, check the flange gasket and flange bolt torque. In some situations, it may be necessary to isolate the Check Valve by shutting off upstream and downstream valves. Then remove the Check Valve and inspect the seating surfaces for damage.
Vibration:	Verify that flow rate is within published recommended range. Additionally, verify that the Check Valve is 5 to 10 pipe diameters from any turbulence producing devices (elbows, pumps, tees, expansions, reductions, and swages). Remove Check Valve from piping system and inspect the spring. Verify that the spring is providing the proper tension.
Restricted Flow:	If flow is halted at the Check Valve, verify that the flow direction arrow (casted into the side of the body or printed on the nameplate) is pointing in the direction of the flow. Remove Check Valve from piping system and inspect the spring. Verify that the spring is providing the proper tension

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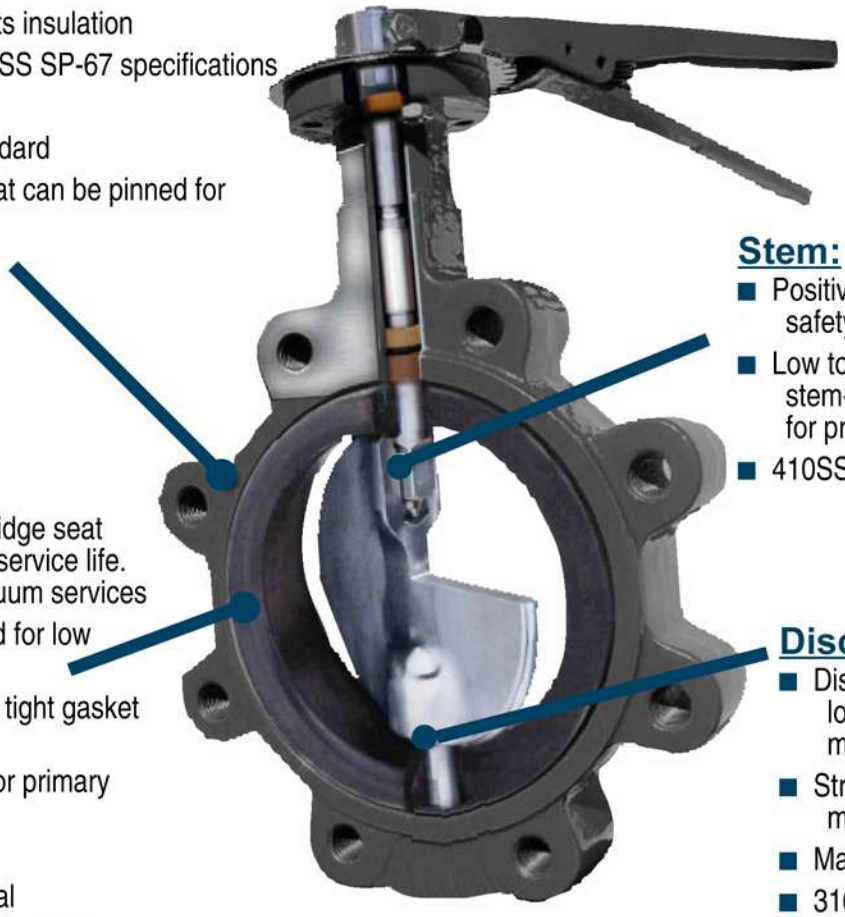
American WHEATLEY
HVAC PRODUCTS®

Butterfly Valve

Body:

- Extended neck accepts insulation
- Meets API-609 and MSS SP-67 specifications
- ISO Mounting Pad
- Ductile Iron body standard
- Optional: body and seat can be pinned for dead end service



Stem:

- Positive stem retention for safety.
- Low tolerance square drive stem-to-disc connection for precise disc control
- 410SS stem standard

Seat:

- Phenolic backed cartridge seat design for extended service life. Can be used for vacuum services
- Seating area designed for low friction, tight seal
- Molded-flange ribs for tight gasket sealing.
- Elastometer molded for primary stem sealing.
- EPDM standard
- PTFE & BUNA optional
- Seat & Disc designed for 100% bubble tight shutoff
- Valves are designed for bi-directional service

Disc:

- Disc edge machined for low friction, tight seal and minimal seat wear.
- Streamlined design for maximum flow
- Machined fit disc/stem
- 316 SS standard

Bearings & Seals:

- Low friction nylon stem bearing for side-load support
- Triple seal reduces external leakage
- Upper and lower stem seals

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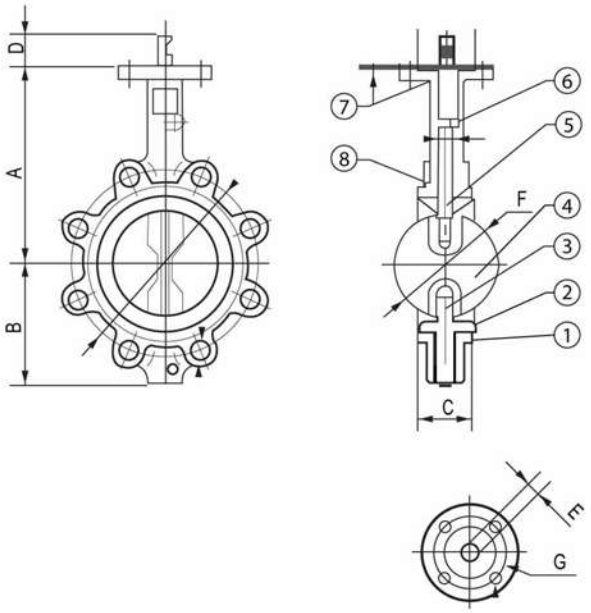
American WHEATLEY HVAC PRODUCTS®

Butterfly Valve (Lug Style)

Dimensional/Weight Data

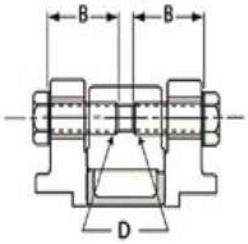


2"-12"

Size	A	B	C	D	E	F	G	Weight	CV
2"	6.34	3.15	1.65	1.20	.35	2.07	1.97	8.38	135
2.5"	6.89	3.50	1.76	1.20	.35	2.54	1.97	9.26	220
3"	7.13	3.74	1.78	1.20	.35	3.10	1.97	10.36	302
4"	7.87	4.49	2.05	1.20	.43	4.10	2.76	19.84	600
5"	8.39	5.00	2.14	1.20	.55	4.86	2.76	24.03	1022
6"	8.90	5.47	2.20	1.77	.55	6.13	2.76	31.31	1579
8"	10.24	6.89	2.39	1.77	.67	7.98	4.02	40.12	3136
10"	11.50	7.99	2.58	1.77	.87	9.87	4.02	59.08	5340
12"	13.27	9.53	3.03	1.77	.87	11.88	4.02	88.18	8250

*For drilled lugs, add ⅛"

These are approximate dimensions. Please contact factory for certified prints on exact dimensions.



DIM	2"	2.5"	3"	4"	5"	6"	8"	10"	12"
B	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4	2	2	2 1/4	2 1/4
D	5/8 -11UNC	5/8 -11UNC	5/8 -11UNC	5/8 -11UNC	3/4 -10UNC	3/4 -10UNC	3/4 -10UNC	7/8 -9UNC	7/8 -9UNC

Specifications:

American Wheatley Butterfly Valves are designed for commercial and industrial application up to 225 PSI.

- Standards with EPDM seats (PTFE and BUNA available special order)
- Meets MSS-SP-67 & API 609
- 200 WOG rated
- Maximum 220F operating temperature (225F intermittent)
- Seat to flange seal eliminates the need for flange gaskets
- Designed for direct actuator mounting with ISO 5211 mounting
- Available with 10 position lever handle or gear operator

Flow in Gpm @ 1PSI P @ Various Disc Angles

Size	10°	20°	30°	40°	50°	60°	70°	80°	Full 90° Open
2"	0.1	5	12	24	45	64	90	125	135
2.5"	0.2	8	20	37	.65	98	144	204	220
3"	0.3	12	22	39	70	116	183	275	302
4"	0.5	17	36	78	139	230	364	546	600
5"	0.8	29	61	133	237	392	620	930	1022
6"	2	45	95	205	366	605	958	1437	1579
8"	3	89	188	408	727	1202	1903	2854	3136
10"	4	151	320	694	1237	2047	3240	4859	5340
12"	5	234	495	1072	1911	3162	5005	7505	8250

Materials of Construction

Body	Ductile Iron
Stem	410 Stainless Steel
Discs	316 Stainless Steel
Seats	EPDM Standard Teflon*, Buna*, Viton*

*Optional materials available upon request

Part Name	Material	Temperature F	Temperature C
Seat (Soft Seal)	Buna-N (NBR)	+10 to 180	-12 to 82
	Buna-N, Food Grade	+10 to 180	-12 to 82
	EPDM	-30 to 250	-35 to 121
	EPDM, Food Grade	-30 to 225	-35 to 107
	EPDM, Heat-Resistant	+30 to 300	-2 to 150
	Viton	+10 to 275	-12 to 135
	Viton, High Temp	+10 to 400	-12 to 204
	Neoprene	+20 to 200	-7 to 93
	Hypalon	0 to 275	-18 to 135
	Silicon	-70 to 425	-57 to 218
	PTFE over EPDM	-20 to 250	-29 to 121
	PURE PTFE	-100 to 400	-74 to 204

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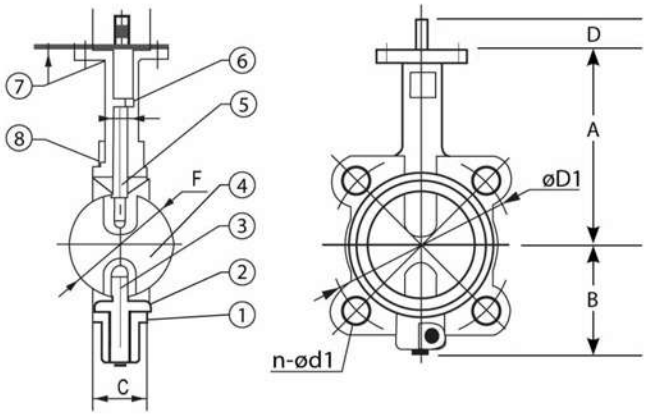
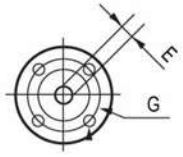
Butterfly Valve (Wafer Style)

Dimensional/Weight Data





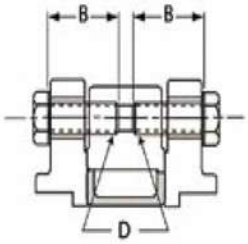
DIAGONAL SQUARE HEAD

2"-12"

Size	A	B	C	D	E	F	G	Weight	CV
2"	6.34	3.15	1.65	1.20	.35	2.07	1.97	8.38	135
2.5"	6.89	3.50	1.76	1.20	.35	2.54	1.97	9.26	220
3"	7.13	3.74	1.78	1.20	.35	3.10	1.97	10.36	302
4"	7.87	4.49	2.05	1.20	.43	4.10	2.76	19.84	600
5"	8.39	5.00	2.14	1.20	.55	4.86	2.76	24.03	1022
6"	8.90	5.47	2.20	1.77	.55	6.13	2.76	31.31	1579
8"	10.24	6.89	2.39	1.77	.67	7.98	4.02	40.12	3136
10"	11.50	7.99	2.58	1.77	.87	9.87	4.02	59.08	5340
12"	13.27	9.53	3.03	1.77	.87	11.88	4.02	88.18	8250

*For drilled lugs, add 1/8"

These are approximate dimensions. Please contact factory for certified prints on exact dimensions.



DIM	2"	2.5"	3"	4"	5"	6"	8"	10"	12"
B	1 1/2	1 1/2	1 1/2	1 3/4	1 3/4	2	2	2 1/4	2 1/4
D	5/8 -11UNC	5/8 -11UNC	5/8 -11UNC	5/8 -11UNC	3/4 -10UNC	3/4 -10UNC	3/4 -10UNC	7/8 -9UNC	7/8 -9UNC

Specifications:

American Wheatley Butterfly Valves are designed for commercial and industrial application up to 225 PSI.

- Standards with EPDM seats (PTFE and BUNA available special order)
- Meets MSS-SP-67 & API 609
- 200 WOG rated
- Maximum 220F operating temperature (225F intermittent)
- Seat to flange seal eliminates the need for flange gaskets
- Designed for direct actuator mounting with ISO 5211 mounting
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3"	0.3	12	22	39	70	116	183	275	302
4"	0.5	17	36	78	139	230	364	546	600
5"	0.8	29	61	133	237	392	620	930	1022
6"	2	45	95	205	366	605	958	1437	1579
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12"	5	234	495	1072	1911	3162	5005	7505	8250

Materials of Construction

Body	Ductile Iron
Stem	410 Stainless Steel
Discs	316 Stainless Steel
Seats	EPDM Standard Teflon*, Buna*, Viton*

*Optional materials available upon request

Part Name	Material	Temperature F	Temperature C
Seat (Soft Seal)	Buna-N (NBR)	+10 to 180	-12 to 82
	Buna-N, Food Grade	+10 to 180	-12 to 82
	EPDM	-30 to 250	-35 to 121
	EPDM, Food Grade	-30 to 225	-35 to 107
	EPDM, Heat-Resistant	+30 to 300	-2 to 150
	Viton	+10 to 275	-12 to 135
	Viton, High Temp	+10 to 400	-12 to 204
	Neoprene	+20 to 200	-7 to 93
	Hypalon	0 to 275	-18 to 135
	Silicon	-70 to 425	-57 to 218
	PTFE over EPDM	-20 to 250	-29 to 121
	PURE PTFE	-100 to 400	-74 to 204

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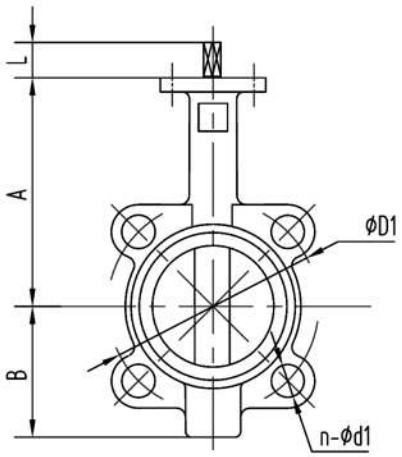
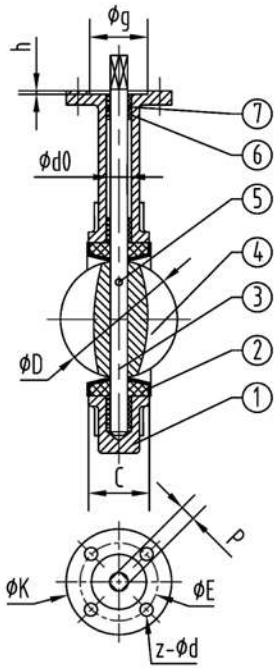
14”-24”
Butterfly Valve





Material Specifications:

No.	Part Name	Materials
1.	Body	Ductile Iron
2	Seat	EPDM Standard
3	Shaft	410 Stainless Steel
4	Disc	ENPDuctile Iron Standard / Stainless Steel Optional
5	Pin	316 Stainless Steel
6	Bushing	PTFE, Bronze
7	O-Ring	NBR, EPDM

Diagonal Square Head

Size									Upper Flange				ANSI 150					
in	DN	A	B	C	D	L	d0	P	ISO5211	K	E	z-d	g	h	D1	n-d1	Weight (LB)	Torque “/# @ 100PSI
14	350	14.5	10.5	3.0	13.1	1.8	1.2	0.87	F10	5.5	4.0	4 - 0.47	2.8	0.14	18.7	12 - 1.1	91.1	11,100
16	400	15.7	12.2	3.4	15.3	2.0	1.3	0.94	F14	7.8	5.5	4 - 0.71	3.9	0.16	21.3	16 - 1.1	134.5	15,099
18	450	16.6	12.9	4.2	17.3	2.0	1.5	1.1	F14	7.8	5.5	4 - 0.71	3.9	0.16	22.8	16 - 1.3	174.2	19,860
20	500	18.9	14.3	5.2	19.4	2.5	1.6	1.4	F14	7.8	5.5	4 - 0.71	3.9	0.16	25.0	20 - 1.3	282.2	26,108
24	600	22.1	17.9	7.6	23.3	2.8	2.0	1.4	F16	10.9	6.5	4 - 0.71	5.1	0.20	29.5	20 - 1.4	414.5	40,135

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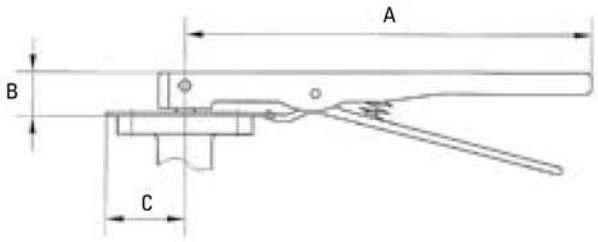
Lever Handle

Butterfly Operators

10-Position, Lockable Lever Handle Standard on all valves through 10”

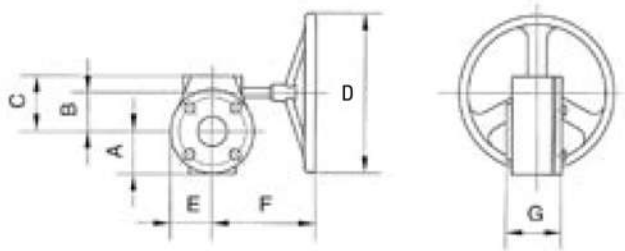
Lever Handles fit American Wheatley Butterfly valves. Available in sizes 2”-10”



2”-12”

Size	A	B	C	Weight
2”-3”	10.64	1.26	2.05	2.00
4”	10.64	1.26	2.05	2.00
5”-6”	10.64	1.26	2.05	2.00
8”	14.18	1.77	2.96	4.30

Gear Operator



Worm Gear Actuator

Worm gear actuators are designed to directly mount to American Wheatley Butterfly valves. Allows easy operation during high line pressures. Chain wheel assemblies optional.

2”-12”

Size	A	B	C	Weight
2”-3”	10.64	1.26	2.05	2.00
4”	10.64	1.26	2.05	2.00
5”-6”	10.64	1.26	2.05	2.00
8”	14.18	1.77	2.96	4.30
10”-12”	19.70	1.77	2.96	5.84

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OPERATING TORQUE (in-lbs) (EPDM/NBR)								
Size	50 PSI		100 PSI		150 PSI		200 PSI	
	Lubricating Service	Non-Lubricating Service	Lubricating Service	Non-Lubricating Service	Lubricating Service	Non-Lubricating Service	Lubricating Service	Non-Lubricating Service
2"	90/102	125/135	103/115	185/198	115/131	191/211	132/145	198/231
2.5"	121/138	185/208	175/186	238/252	185/195	251/275	191/215	287/318
3"	175/187	295/305	223/235	345/356	238/251	351/365	255/285	385/468
4"	243/262	498/518	265/295	525/538	288/305	615/638	353/380	530/695
5"	351/362	752/775	381/395	785/800	438/468	835/858	753/785	998/1015
6"	495/512	1188/1215	527/555	1210/1248	536/595	1215/1260	985/1025	1468/1325
8"	685/712	2010/2150	765/785	2210/2230	781/815	2350/2510	1580/1622	2470/2885
10"	1302/1335	3350/3460	1318/1385	3469/3489	1331/1525	3850/4315	2510/2565	3850/4905
12"	2021/2048	4350/4580	2135/2165	4580/4948	2315/2561	4830/5215	3090/2858	4800/5300
14"	3621/3648	5110/5280	3810/3891	5310/5830	3925/4132	6960/7520	6850/6691	8621/5932
16"	4661/4688	6275/6520	4690/4760	6685/6985	5250/5351	7880/8530	7820/7921	9998/10010
18"	6120/6258	8250/8920	6270/6310	9335/9510	6385/7125	10310/12300	9880/1020	13880/14500
20"	8270/8310	10350/10910	8330/8530	10950/11580	8531/9310	15850/16580	17080/17280	18350/18620
24"	13250/13291	18950/15510	15350/15510	19580/20500	18625/18810	20560/20800	20110/20220	25830/27870

Operating Torque Data Approximate Values (inch pounds)

These seating torque values are for sizing actuators only. Wet (normal) service is where valve seat is lubricated with a clean, non-abrasive line medium. Dry (Gas, Air, Abrasive) service is where valve seat operates under non-lubricated conditions.

Torque values are for ambient temperatures.

Torque values can vary depending upon temperature, pressure, line medium and resilient seat material.

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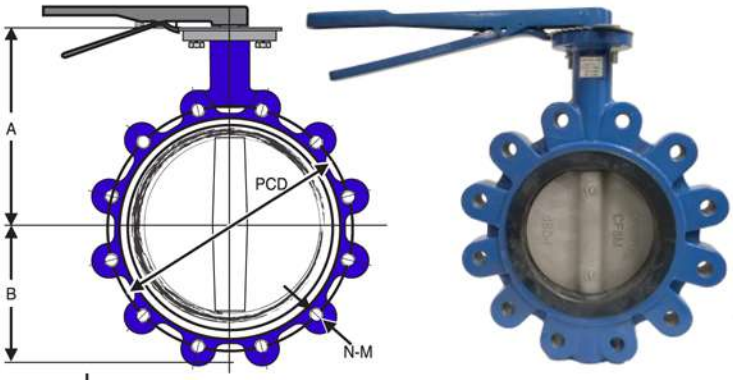
250lb Lug Style Butterfly Valve



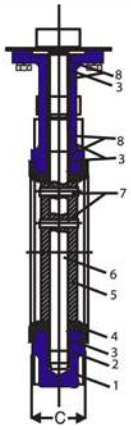
Features:

American Wheatley Butterfly Valves are designed for commercial and industrial applications up to 250 PSI.

- EPDM Seat
- Meets MSS-SP-67& API 609
- 250# WOG rated
- Maximum 225°F operating temperature (250°F intermittent)
- Seat to flange seal eliminates the need for flange gaskets
- Designed for direct actuator mounting with ISO 5211 mounting
- Available with 10 position lever handle or gear operator

Optional Features:

- PTFE, BUNA, and Viton seat



Materials of Construction

No.	Part Name	Materials
1	Body	Ductile Iron
2	Bushing	PTFE
3	O-Ring	EPDM
4	Seat	EPDM
5	Disc	316 Stainless Steel CF8M
6	Shaft	410 SS
7	Pin	SS316
8	Bushing	PTFE

PART NUMBER	SIZE	TOP TO CENTER LINE A (IN.)	CENTER LINE TO BASE B (IN.)	WIDTH C (IN.)	FLANGE BOLT TO BOLT CENTER DIA (IN.)	BOLT HOLE DIA (IN.)	WEIGHT LBS.
BFV-020L-250L	2"	6 1/3"	3 5/32"	1 5/8"	5"	8 5/8" - 11" UNC	17
BFV-025L-250L	2 1/2"	6 7/8"	3 1/2"	1 3/4"	5 7/8"	8 3/4" - 10" UNC	18
BFV-030L-250L	3"	7 1/8"	3 3/4"	1 3/4"	6 5/8"	8 3/4" - 10" UNC	20
BFV-040L-250L	4"	7 7/8"	4 1/2"	2"	7 7/8"	8 3/4" - 10" UNC	31
BFV-050L-250L	5"	8 1/8"	5"	2 5/32""	9 1/4"	8 3/4" - 10" UNC	35
BFV-060L-250L	6"	8 7/8"	5 1/2"	2 5/32"	10 5/8"	12 3/4" - 10" UNC	42
BFV-080L-250L	8"	10 1/4"	6 7/8"	2 1/3"	13"	12 7/8" - 10" UNC	66
BFV-100L-250L	10"	11 1/2"	8"	2 5/8"	15 1/4"	16" - 1" UNC	121
BFV-120L-250L	12"	13 1/4"	9 1/2"	3"	17 3/4"	16" - 1 1/8" UNC	138
BFV-080L-250G	8"	10 1/4"	6 7/8"	2 1/3"	13"	12 7/8" - 10" UNC	76
BFV-100L-250G	10"	11 1/2"	8"	2 5/8"	15 1/4"	16" - 1" UNC	129
BFV-120L-250G	12"	13 1/4"	9 1/2"	3"	17 3/4"	16" - 1 1/8" UNC	148

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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_____
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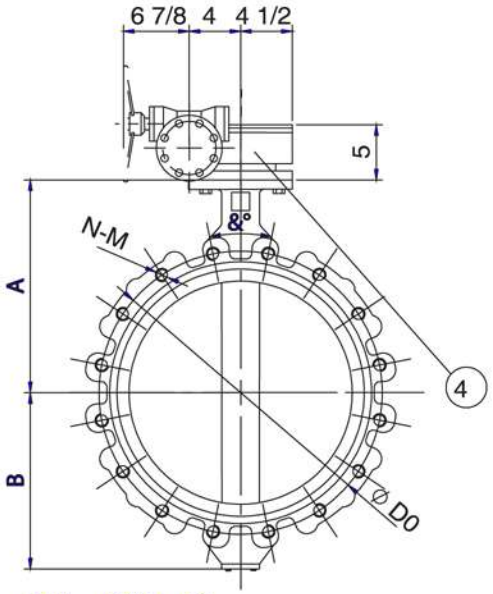
Lug Style
Butterfly Valve - Gear

American Wheatley Butterfly Valves are designed for commercial and industrial application up to 225 PSI.

Features:

American Wheatley Butterfly Valves are designed for commercial and industrial application up to 200 PSI.

- Standard EPDM seat
- Meets MSS-SP-67& API 609
- 250# WOG rated
- Maximum 200°F operating temperature (225°F intermittent)
- Seat to flange seal eliminates the need for flange gaskets
- Designed for direct actuator mounting with ISO 5211 mounting
- Available with 10 position lever handle or gear operator



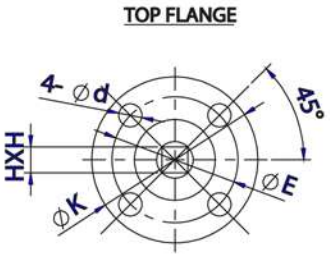
Optional Features:

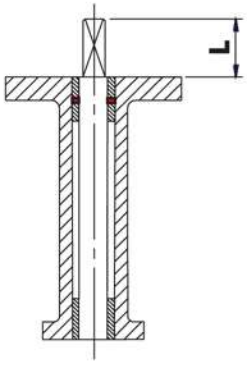
- PTFE and BUNA Viton seat available
- Dead end service

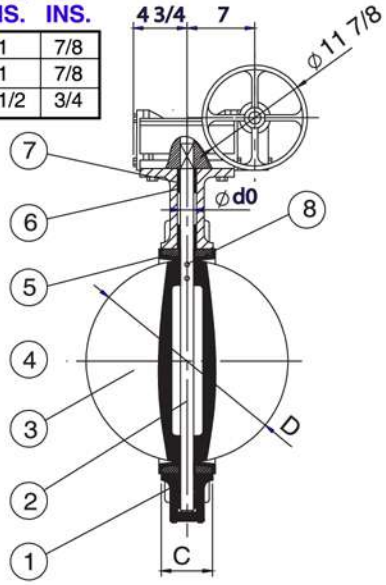
PART NUMB	SIZE	A INS	B INS.	C INS.	D INS.	d0 INS.	L INS.	K INS.	E INS.	IS05211 INS.	4-D INS.	D1 INS.	N-M UNC	HXH INS.	&° INS.
BFV-160G	16"	15 3/4	12 1/8	3 3/8	15 3/8	1 3/8	2	7 3/4	5 1/2	F14	4-18	21 1/4	16-1"	1	7/8
BFV-180G	18"	16 5/8	12 7/8	4	17 3/8	1 1/2	2	7 3/4	5 1/2	F14	4-18	22 3/4	16 1 1/8"	1	7/8
BFV-200G	20"	18 7/8	14 1/4	5	19 3/8	1 5/8	2 1/2	7 3/4	5 1/2	F14	4-18	25	20 1 1/8"	1 1/2	3/4

Materials of Construction

8	Pin	SS316
7	O-Ring	EPDM
6	Bushing	PTFE
5	Seat	EPDM
4	Gear	Cast Iron
3	Disc	CF8M
2	Stem	SS410
1	Body	GGG40







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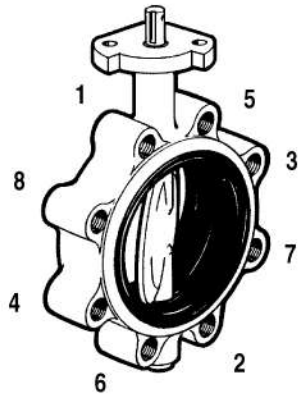
Butterfly Valve Installation and Maintenance Instructions

Safety

Personnel involved in the installation, maintenance or removal of butterfly valves from pipelines should be constantly alert to potential leakage or emission of process material and take appropriate precautions to insure safety. Valves that have been removed from service should be handled assuming the presence of process material within the valve. Personnel should be suitably protected.

Installation

Prior to installation, butterfly valves and mating flanges should be inspected to assure gasket surfaces are free of defects. Valves should not be mounted between flanges having defective gasket surfaces. Piping should be checked for proper alignment. Lugged butterfly valves should never be used to align improperly positioned piping. The distance between pipe flanges should be checked to assure sufficient clearance for valve installation. The valve should be in the closed position when being placed between flanges. For wafer valves, the valve must be visually centered with respect to the flange faces, while lugged valves may be centered with flange bolting. The valve should be operated to assure that no binding or interference is taking place. Flange boltings should be tightened gradually in a crisscross manner according to the illustration at right. The flange joint is complete after the valve body bottoms against the flange faces evenly such that no gaps exist. Bolting should then be tightened sufficiently to prevent loosening of the joint.



Maintenance

Butterfly valves are designed such that no periodic maintenance or lubrication is required throughout the life of the product. It is, however, recommended that the following practices be followed on at least a monthly basis:

(1) Operate the valve from full open to closed to assure operability.

(2) Check fasteners for evidence of loosening and correct as required.

(3) Inspect valve and surrounding area for previous or existing leakage at flange faces or stem connections.

(4) Check piping and/or wiring to actuators and related equipment for looseness, corrosion or defects and correct as required.

Removal of Valve from Pipeline

Prior to loosening the flange bolts (valve in open position):

(1) Drain piping run as much as possible.

(2) Vent line to relieve pressure.

Close valve, then:

(1) Disconnect air/electric lines from actuator and tag for reinstallation.

(2) Loosen flange bolts to decompress valve gasket seals.

(Caution: Be alert to emission of process material from pipeline.)

(3) Secure necessary lifting equipment to valve assembly.

(4) Remove flange bolting and carefully remove valve from between pipe flanges.

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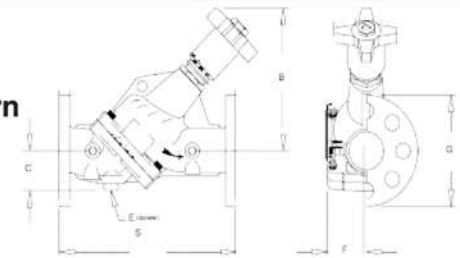
Flanged Globe Style Balancing Valves

Features:

- Globe Style design for precise balancing & low pressure drop
- Hidden memory stop protects precise balancing setting during on/off operation
- Pressure Drop Diagrams available for all sizes-consult factory
- Pre-balancing capability saves times
- Positive shut-off

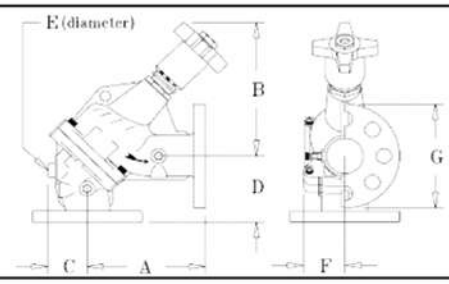
MATERIALS OF CONSTRUCTION	
Valve Body	Ductile Iron
Disc	Bronze
Seat	BUNA Gasket
Stem	Stainless Steel
Spring	Stainless Steel ASTM A313 Type 302
O-Rings	BUNA
Metering Ports (2)	Brass
Drain Tapping (2)	1/4" NPT

Straight Pattern



DESIGN DATA STRAIGHT AND ANGLE		
Connection Size	Stem: No. of 360º turns	Max. Press/Temp
2.5	5	225 PSI WP 240º F (116º C)
3	5	
4	6	
5	9	
6	10	
8	12	

Angle Pattern



MODEL	SIZE	A	B (fully open)	C	D	E	F	G	S	WEIGHT
GS 250	2.5"	7.38 (187)	9.62 (244)	2.75 (70)	4.63 (118)	1.00 (25)	2.56 (65)	7.00 (178)	12.00 (305)	33 (15)
GS 300	3"	8.19 (208)	10.50 (267)	2.44 (62)	3.88 (99)	1.00 (25)	3.00 (76)	7.50 (191)	12.00 (305)	39 (17.7)
GS 400	4"	9.63 (245)	10.56 (268)	3.00 (76)	4.38 (111)	1.25 (32)	3.44 (87)	9.00 (229)	14.00 (356)	59 (26.8)
GS 500	5"	12.00 (305)	13.06 (332)	3.62 (92)	5.50 (140)	1.25 (32)	4.94 (125)	10.00 (254)	17.50 (445)	108 (49)
GS 600	6"	14.13 (359)	13.75 (349)	4.44 (149)	6.63 (168)	2.00 (51)	5.88 (149)	11.00 (279)	20.69 (526)	167 (75.7)
GS 800	8"	19.00 (483)	24.62 (625)	5.69 (145)	9.19 (233)	2.25 (57)	7.88 (200)	13.50 (343)	28.00 (711)	344 (156)

INSTALLATION

Locate the balancing valve 5X pipe diameters downstream from a fitting-10X from a pump for balancing.

NOTE: All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, Please confirm actual dimensions with factory at time of order.

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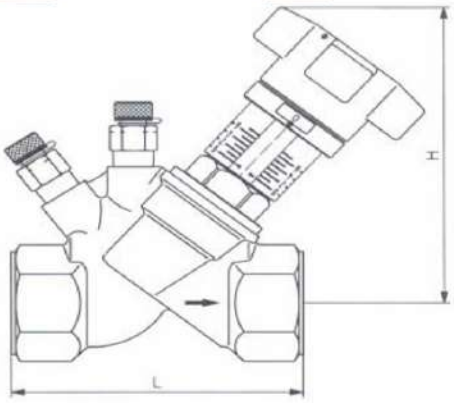
Threaded Balancing Valves

Features:

- Globe Style Manual Balancing Valve
- Threaded or Sweat Connections
- Memory Stop
- Easy to Read Balancing Levels
- 100 % positive shutoff

The Globe Style Balancing valve is rated to 300 PSI at 250 Degrees Fahrenheit. The dezincification resistant brass and bronze components are standard for each valve. Each valve comes with the built-in hidden memory stop to ensure return to the balanced position after shutoff.

Materials of construction include body, stem and disc made of bronze/dezincification resistant brass, double O-ring stem seal, disk with PTFE seal.



Threaded Connection

MODEL	SIZE	CONNECTION	L	H	WEIGHT
GS 050	1/2”	NPT or Sweat*	3 1/8”	4 1/2”	1.4 lbs
GS 075	3/4”	NPT or Sweat*	3 5/16”	4 9/16”	1.4 lbs
GS 100	1”	NPT or Sweat*	3 3/8”	4 11/16”	2.2 lbs
GS 125	1 1/4”	NPT	4 3/8”	5 3/8”	3.1 lbs
GS 150	1 1/2”	NPT	4 3/4”	5 7/16”	4 lbs
GS 200	2”	NPT	5 15/16”	5 13/16”	5.7 lbs

*Sweat connections show SW at the end of the part number.

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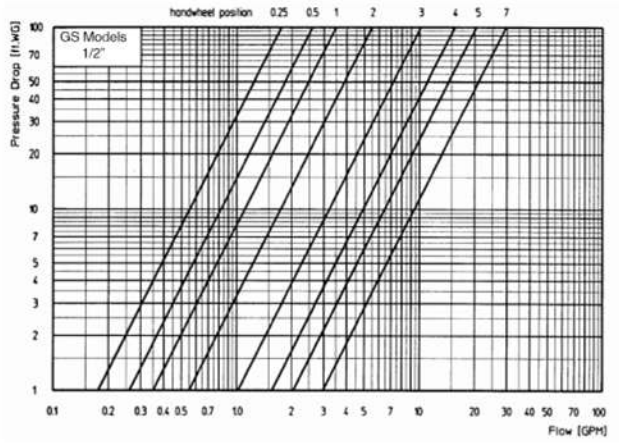
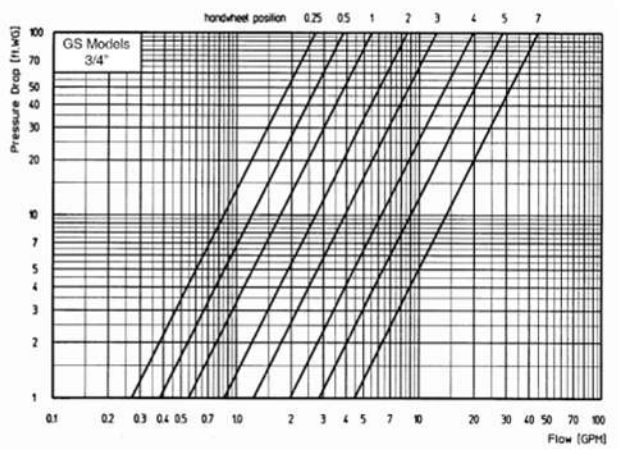
American WHEATLEY HVAC PRODUCTS®

Flow Charts

1/2”



3/4”



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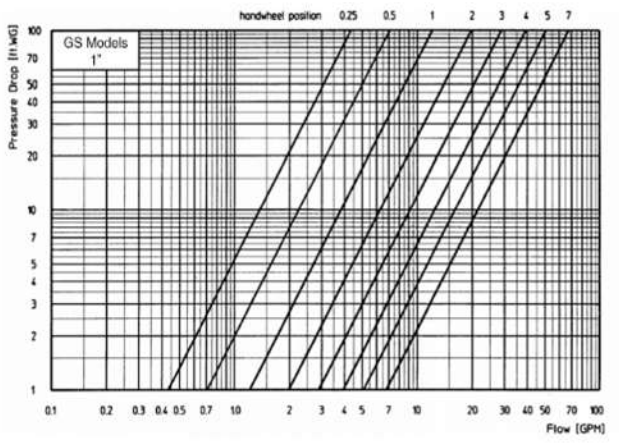
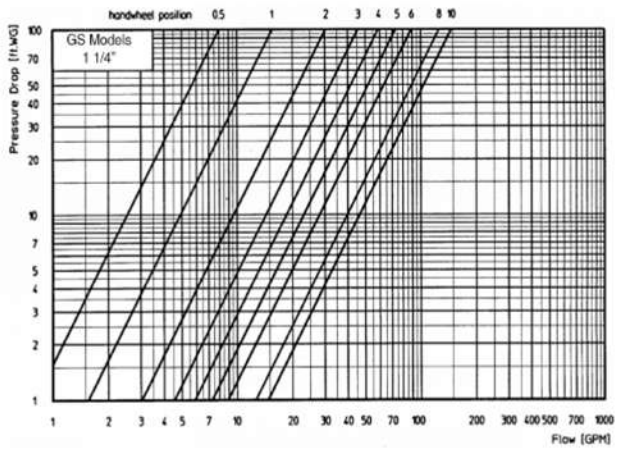
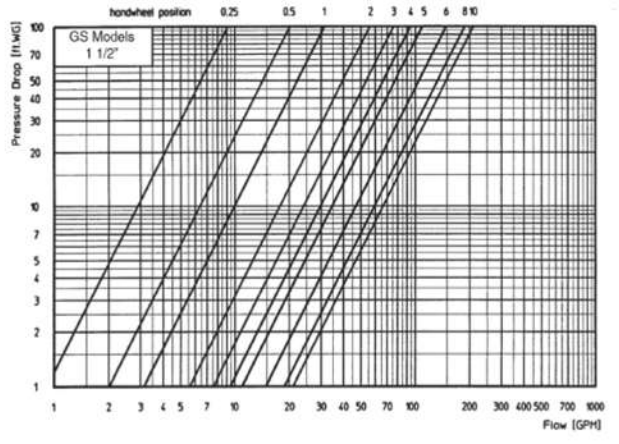


1 1/4”



1 1/2”



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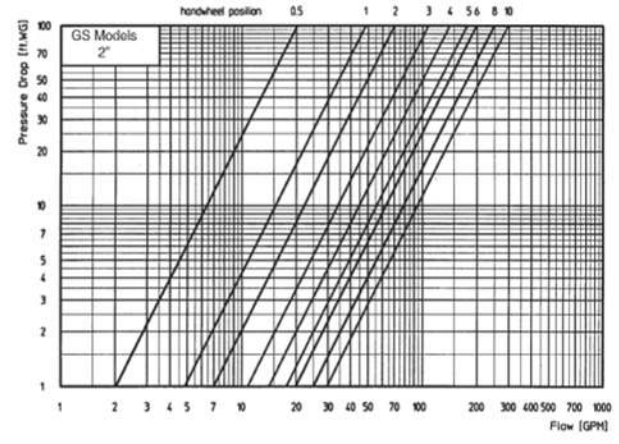

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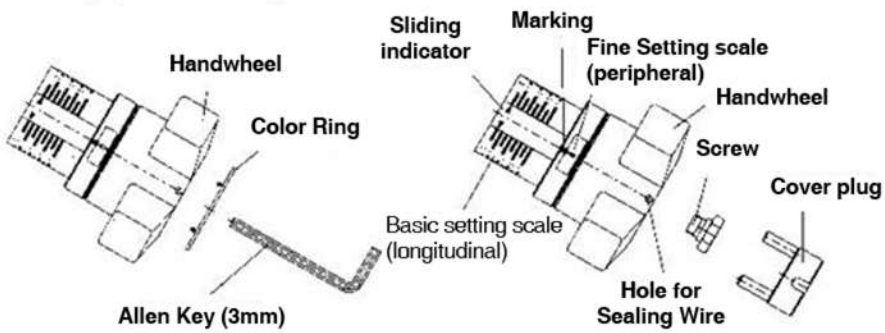
Setting Feature

American Wheatley Balancing Valves are designed for installation in hot water heating and chilled water air conditioning systems and serve to achieve a hydronic balance between the various circuits of the system.

It is important to note that the direction of flow must conform with the direction of the arrow on the valve body and that the valve must be installed with a minimum of 3 D (3 x nominal pipe diameter) of straight pipe in the upstream side.

The required preset value can be obtained by reference to the flow chart appropriate for the size of valve. Any intermediate preset value is available.

The selected preliminary setting can be made from the two-part scale - the basic scale and the fine adjustment scale. A display of the basic setting is available even with the valve fully closed.



Presetting:

1. The preset value of the valve is adjusted with the handwheel.
   a. The display of the basic setting is shown by the longitudinal scale together with the sliding indicator.
   Each turn of the hand wheel is represented by a line on the longitudinal scale.
   b. The display of the fine selling is shown by the peripheral scale on the hand wheel and indicates 1/10th of a turn of the hand wheel.
2. With the valve at the required preset value, turn the inner disc clockwise until it seats. This can be done by using the long end of a 3 mm allen key.

Visibility/Readability of setting scales:

Depending on the installation position of the valve, an improvement in the visibility/readability of the setting scales is possible by twisting the scales around. With the valve fully closed and the indicator on '0', carefully remove the cover plug in the center of the hand wheel by using a small screwdriver in the slot and gently prying it off.

Then remove the cover plug, undo the screw and with a light tug pull the hand wheel from the valve spindle.

Next without altering the presetting (still indicating '0') adjust the position of the hand wheel, so that the indicator window is clearly visible.

Finally refit the hand wheel to the valve stem, tighten the screw and replace the cover plug.

Colored marking of supply and return pipe:

Clips one of the color rings (red = supply, blue = return) fixed at the hand wheel onto the hand wheel.

Protecting the setting:

A sealing wire (not supplied with valve) may be threaded through the hole in the hand wheel and a lead seal fitted to prevent tampering of settings.

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2701 W. Concord Street, Broken Arrow, OK 74012
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Fax: 918-317-0407
www.wheatleyhvac.com e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

Plug Style Balancing Valve

Features:

- Compact design, quarter turn operation
- Easy to read flow indication plate
- Gear operator standard on 10" and larger models
- Maximum working pressure of 175 psi
- Ideal for HVAC hydronic balancing
- Adjustable memory stop standard on 2 1/2" through 8" - Balance to 24" Gear Operated
- Schrader style test port connections for balancing
- Maximum working temperature of 250°F

MODEL	SIZE	A	B	C	D	E	F*	WEIGHT
PSV025	2 1/2"	7"	6 3/16"	3 1/2"	11/16"	7 1/2"	-	30 lbs.
PSV030	3"	7 1/2"	6 3/16"	3 3/4"	3/4"	8"	-	40 lbs.
PSV040	4"	9"	7 1/4"	4 1/2"	15/16"	9"	-	70 lbs.
PSV050	5"	10"	8 3/8"	5 3/4"	15/16"	10"	-	105 lbs.
PSV060	6"	11"	8 3/8"	5 3/4"	1"	10 1/2"	-	115 lbs.
PSV080	8"	13 1/2"	10 11/16"	7 5/8"	1 1/8"	11 1/2"	-	190 lbs.
PSV080WG	8"	13 1/2"	10 11/16"	7 5/8"	1 1/8"	11 1/2"	12"	245 lbs.**
PSV100WG	10"	16"	11 1/8"	8 7/8"	1 3/16"	13"	12"	345 lbs.**
PSV120WG	12"	19"	12 13/16"	10"	1 1/4"	14"	12"	440 lbs.**
PSV140WG	14"	21"	14 9/16"	13"	1 3/8"	17"	18"	905 lbs.**
PSV160WG	16"	23 1/2"	15 13/16"	14"	1 7/16"	17 3/4"	18"	1,030 lbs.**
PSV180WG	18"	25"	16 23/64"	15"	1 9/16"	21 1/2"	18"	1,355 lbs.**
PSV200WG	20"	27 1/2"	17 5/8"	16"	1 1/16"	23 1/2"	18"	1,880 lbs.**
PSV240WG	24"	32"	25 1/8"	21 5/8"	1 7/8"	42"	24"	3,800 lbs.**

*10" and above come standard with gear.
**Weight includes gear

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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A GFP COMPANY
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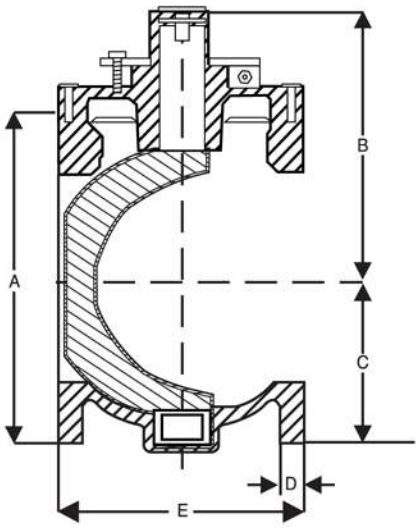
Bill of Materials

Part	Material
Body	65-45-12 Ductile Iron
Plug	DI-Vulcanized Rubber
Bearings	Stainless Steel
Packing	EPDM
Cap	Cast Iron A126
Torque Collar	Ductile Iron ASTM A536
Journal Bearing	Stainless Steel ANSI 316
PTFE Washer (Grit Seal)	PTFE
O Ring	Elas. as Specified
U Cup Seal	Elas. as Specified
Washer	Brass ASTM B-138-675
Internal Snap Ring	Spring Steel
Set Screw	Steel (Zinc Plated)
Stops	Steel (Zinc Plated)
Locking Washer	Steel
Nut	Steel (Zinc Plated)
Torque Bolt	Steel (Zinc Plated)
Travel Stop	Steel
Washer	Steel

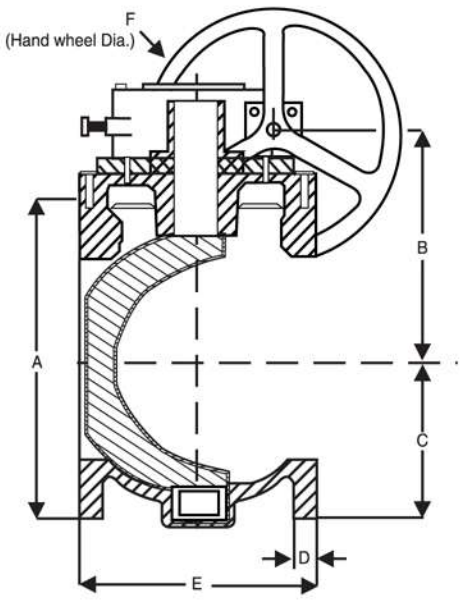
C_v Chart

Value Size	C Values - Wide Open (Flow in GPM of Water at 1 psi pressure drop)
2 1/2"	236
3"	330
4"	560
5"	1180
6"	1180
8"	2030
10"	3130
12"	4140

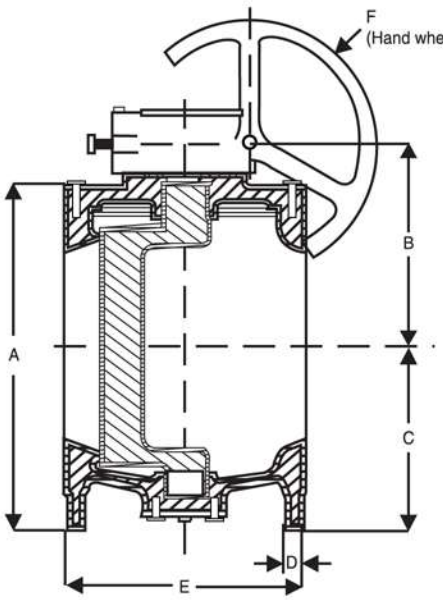
2 1/2" - 8"



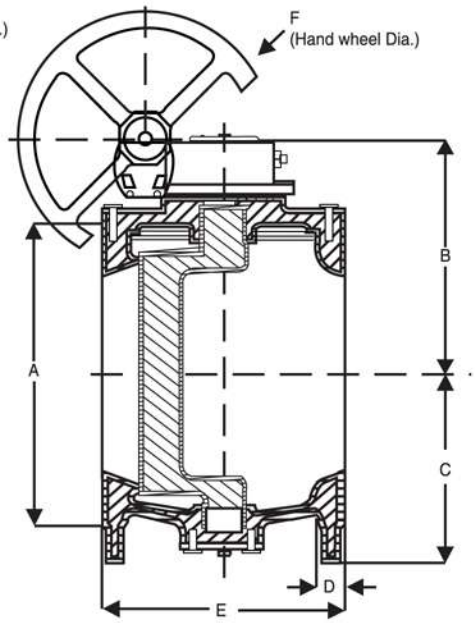
2 1/2 - 12"



14" - 20"



24"



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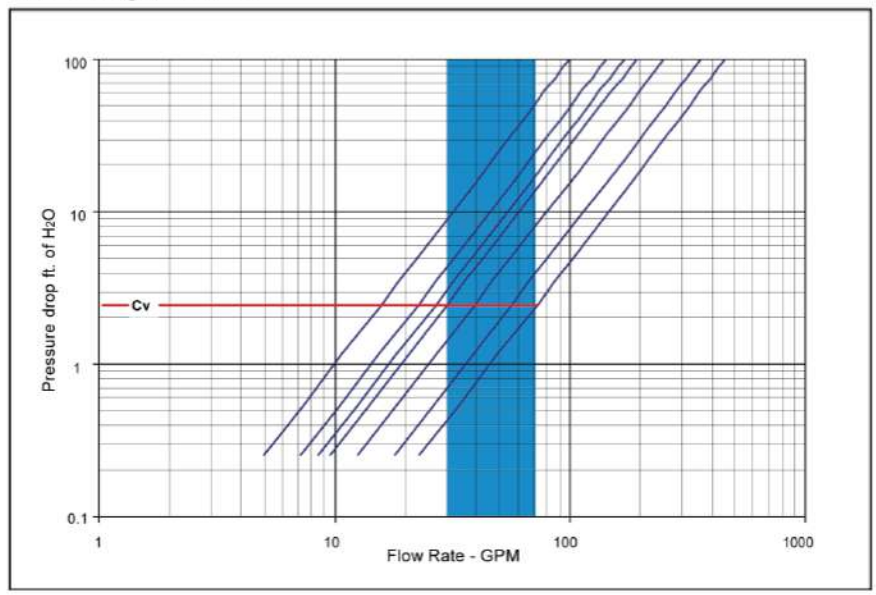
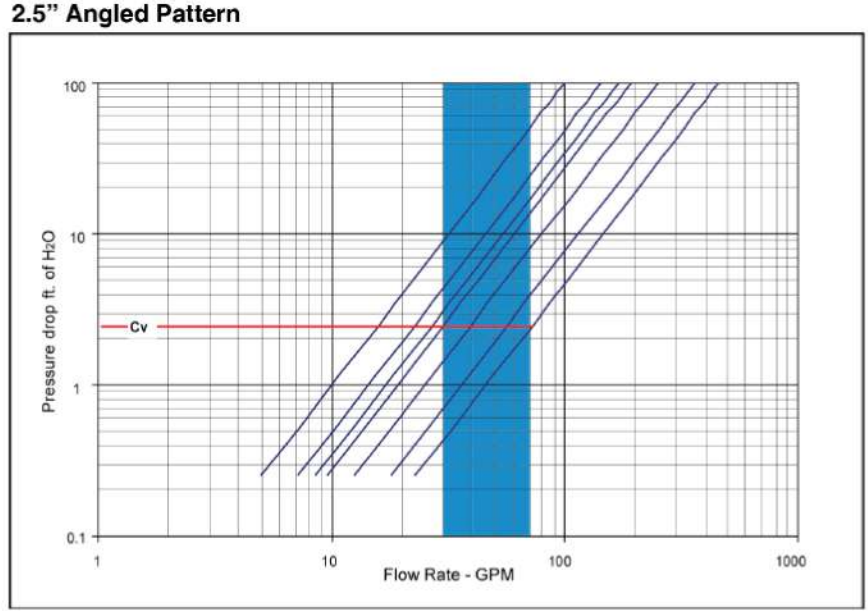
Globe Style Balancing Valve Balancing Charts

Graphs for determining flow vs pressure differential across balance valve. The shaded area indicates optimum performance with Pd between 1'-4'/100, selection above 4' can result in lower system efficiency, reduced air removal, and component failure. Use of the same pressure gauge for readings on both sides of valve is required for accurate Pd readings.

Globe Style Balancing Valve
2.5" Straight Pattern



2.5" Angled Pattern



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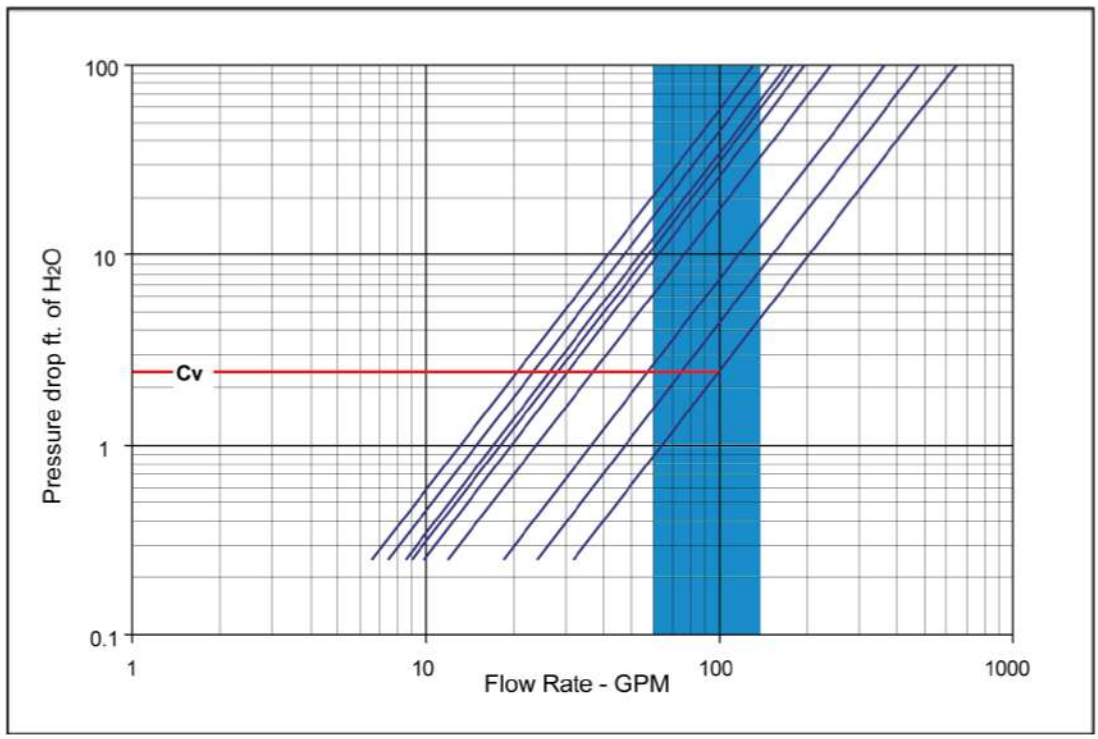
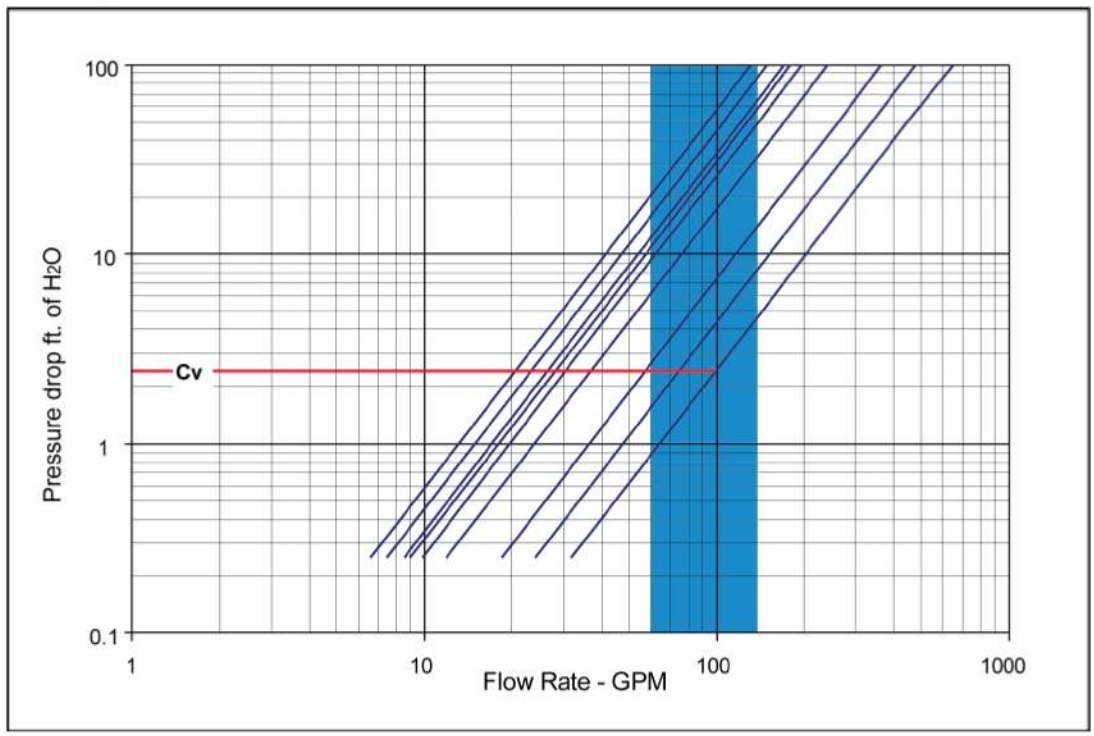
Globe Style Balancing Valve
3" Straight Pattern



3" Angled Pattern



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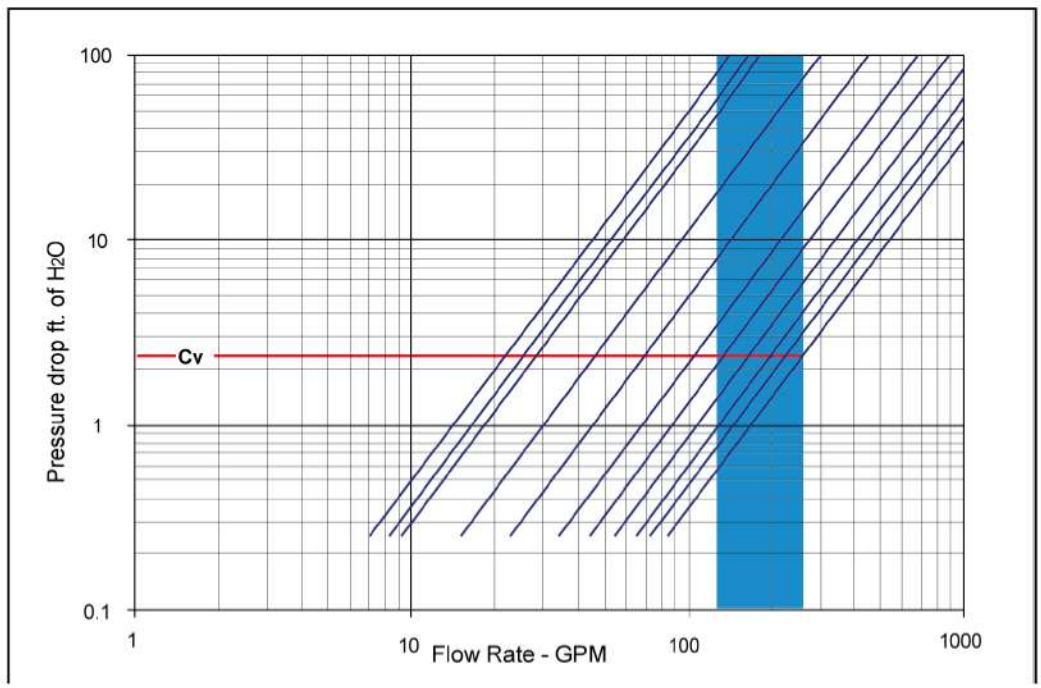
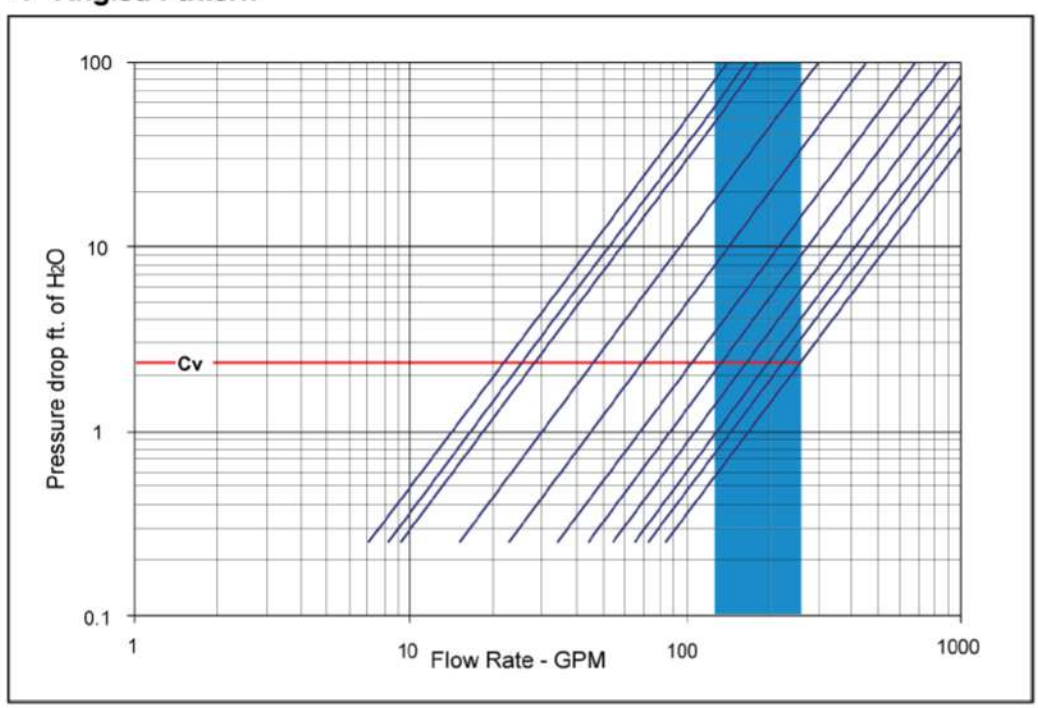
Globe Style Balancing Valve
4" Straight Pattern



4" Angled Pattern



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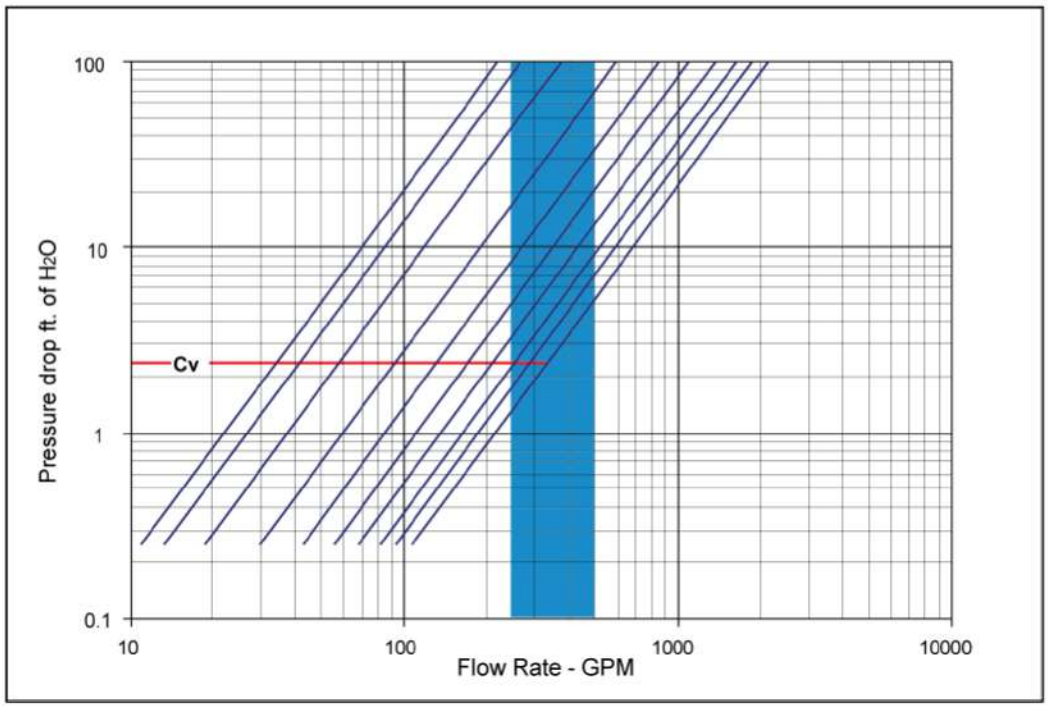
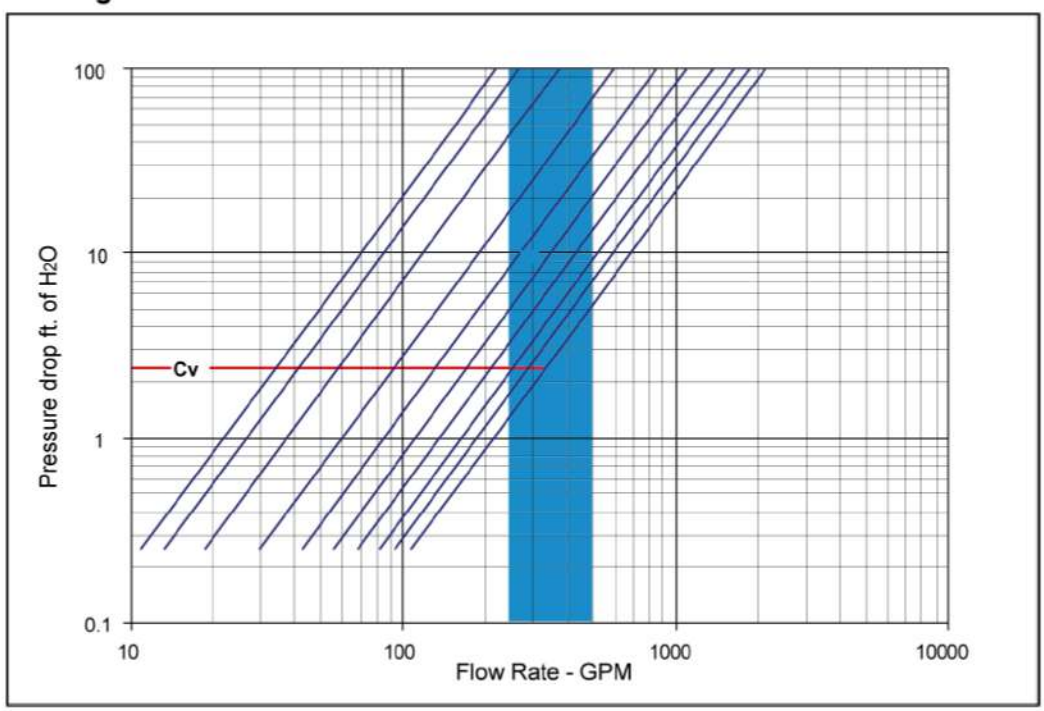
Globe Style Balancing Valve
5" Straight Pattern



5" Angled Pattern



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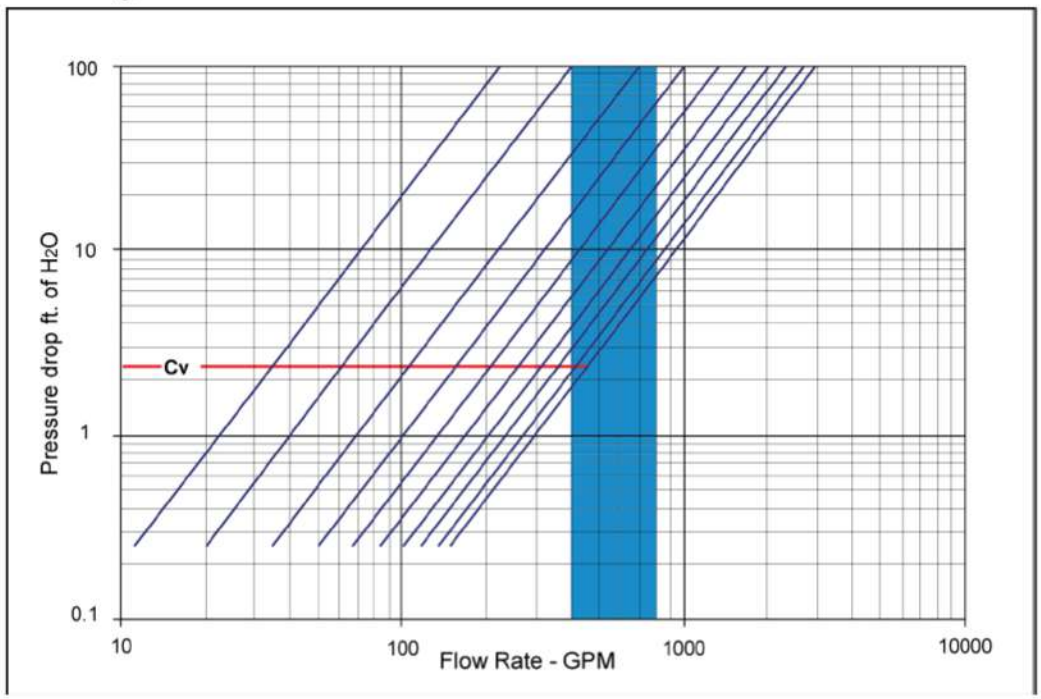
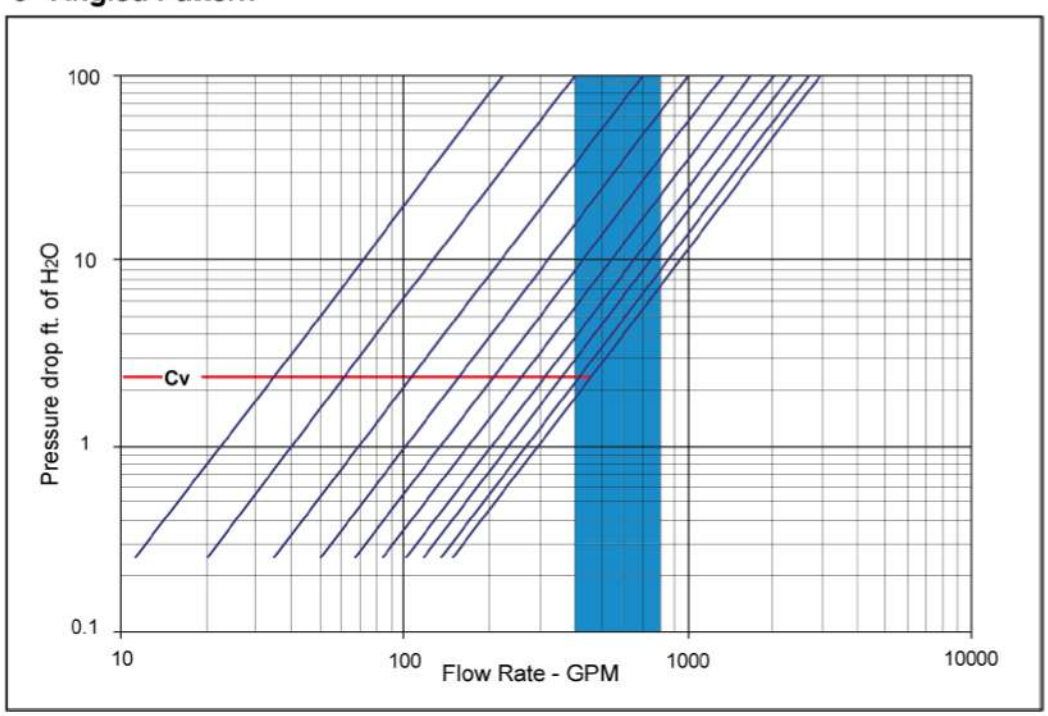
Globe Style Balancing Valve
6" Straight Pattern



6" Angled Pattern



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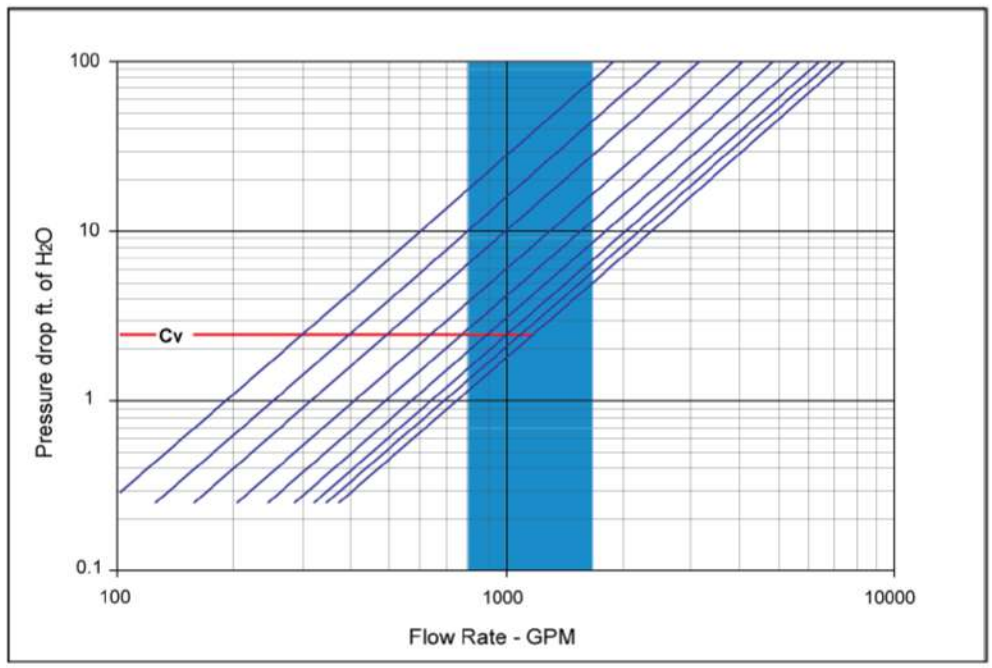
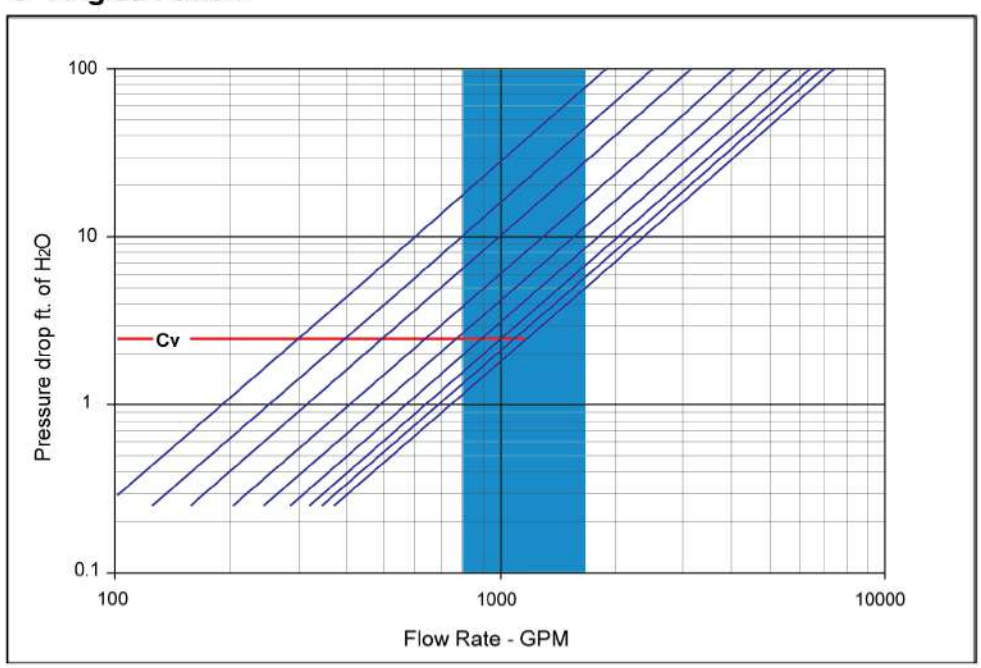
Globe Style Balancing Valve
8" Straight Pattern



8" Angled Pattern



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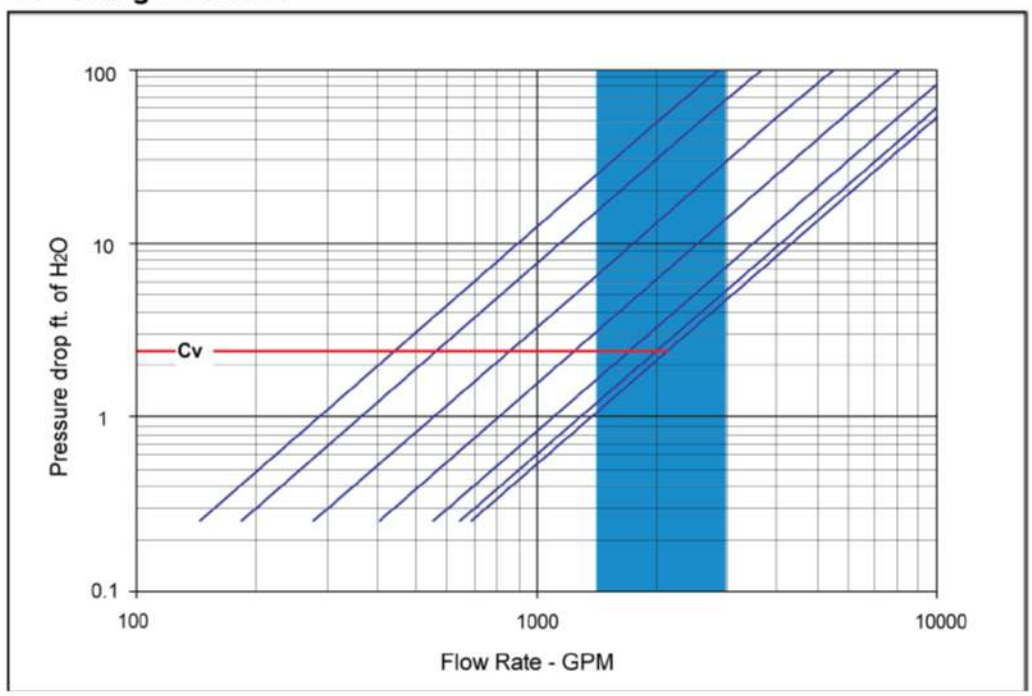
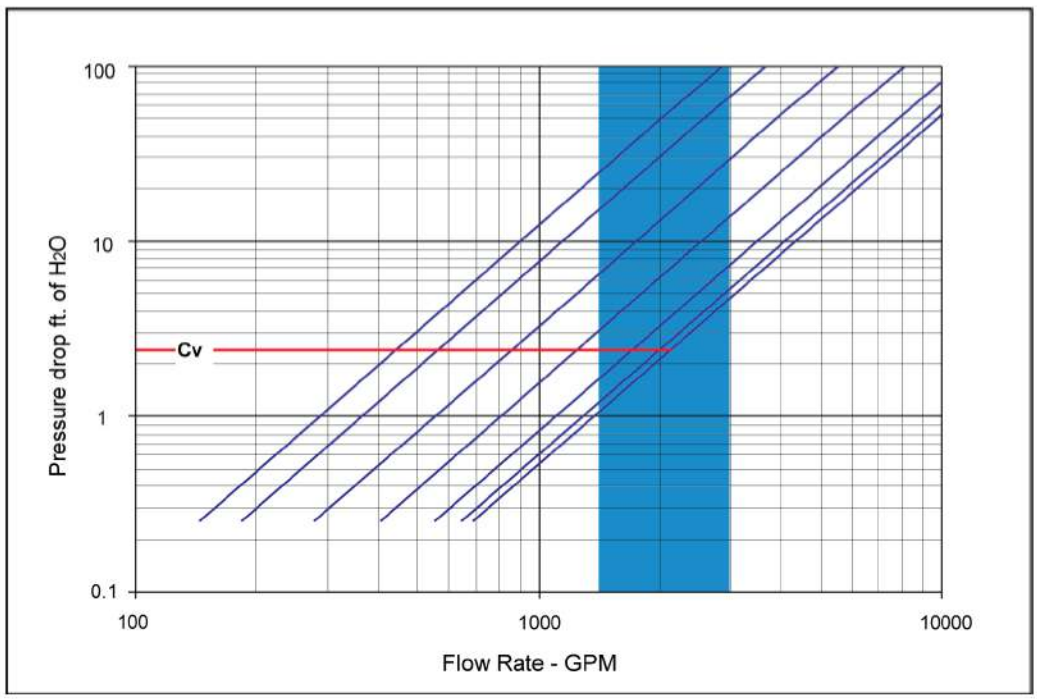
Globe Style Balancing Valve
10" Straight Pattern



10" Angled Pattern



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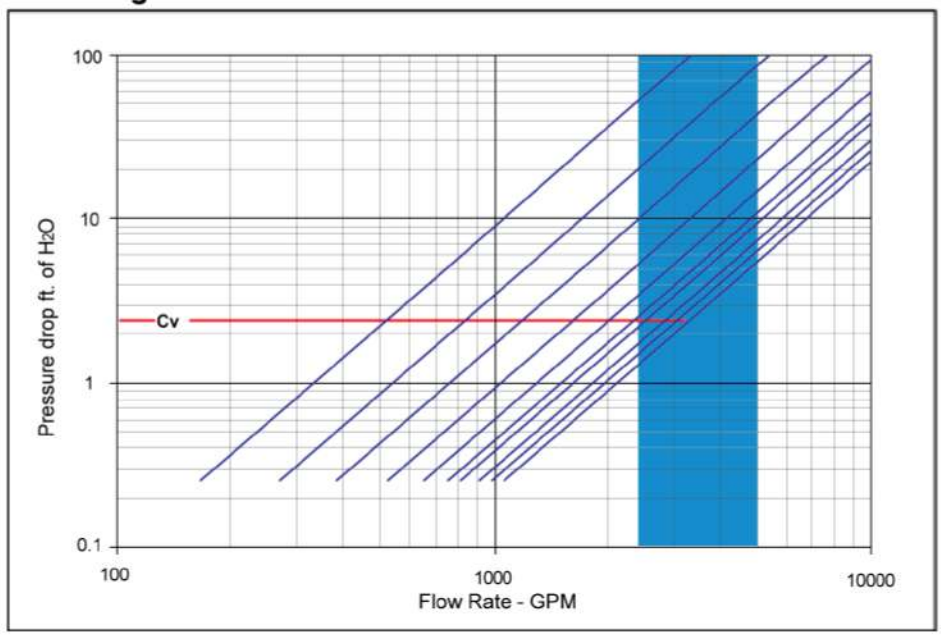
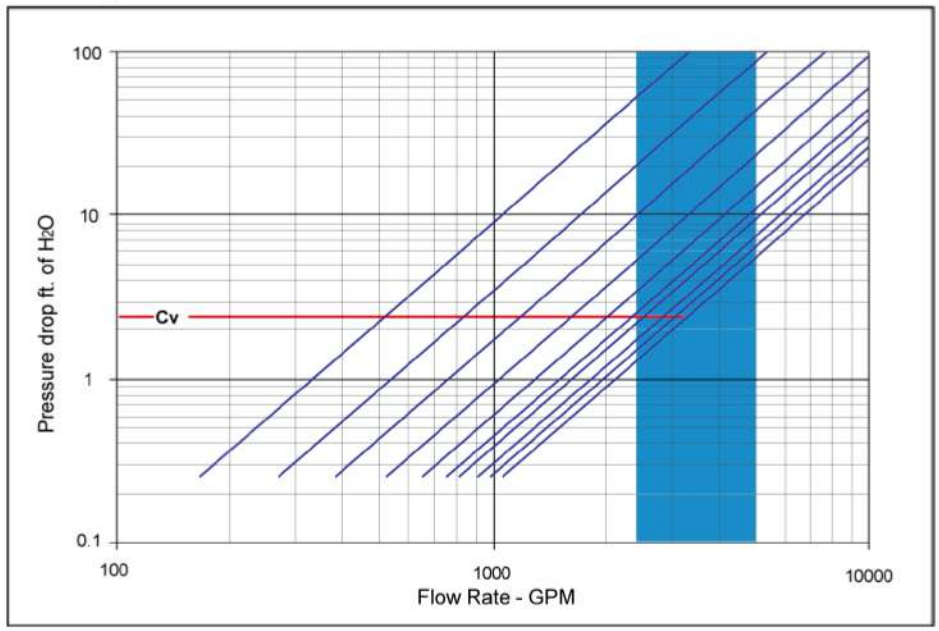
Globe Style Balancing Valve
12" Straight Pattern



12" Angled Pattern



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Balance Valve-Readout Procedure Installation & Operation Instructions

NOTE: BALANCE VALVES ARE NOT DESIGNED TO OPERATE IN A FULL OPEN POSITION Be sure that the balance valve is installed in an appropriate location per the following: For optimum operation as a balance device measuring differential pressure, it is required that a distance of 10 pipe diameters straight pipe be installed upstream of the BV and 5 times the pipe diameter downstream. The balance valve should be closed at least 10% for proper operation. The valve cannot be installed with the stem pointing downward. The stem must point upward to avoid premature failure.

1. Attached the hoses from the readout meter kit to the port on the inlet and outlet of the balance valve Be sure to vent any air from the hoses and meter kit
2. Close both valves on the meter kit, and close the balance valve to a desired starting point.
3. Open the valve attached to the hose on the inlet side of the balance valve. Note this gauge reading, this is the inlet reading before the valve.
4. Close inlet valve and Open the valve attached to the hose on the discharge side of the balance valve. Note this gauge reading, this is the outlet reading after pressure drop across the valve.
5. Deduct the reading in Step 4 from the reading in Step 3, this is your pressure differential across the valve Example:

Step 3 reading	=	25 psi
Step 4 reading	=	20 psi
Differential	=	5 psi

6. Identify the correct curve applying to the valve and valve size.
7. Read differential pressure on left side vertical axis of curve, follow this point across the chart until it intersects the point corresponding to the setting of the valve, draw a line to the bottom of the chart and read flow in GPM at this setting. See page 2 example: 5 psid (differential) at 3 full rotations= 30 gpm
8. Readjust balance valve setting and repeat above as necessary.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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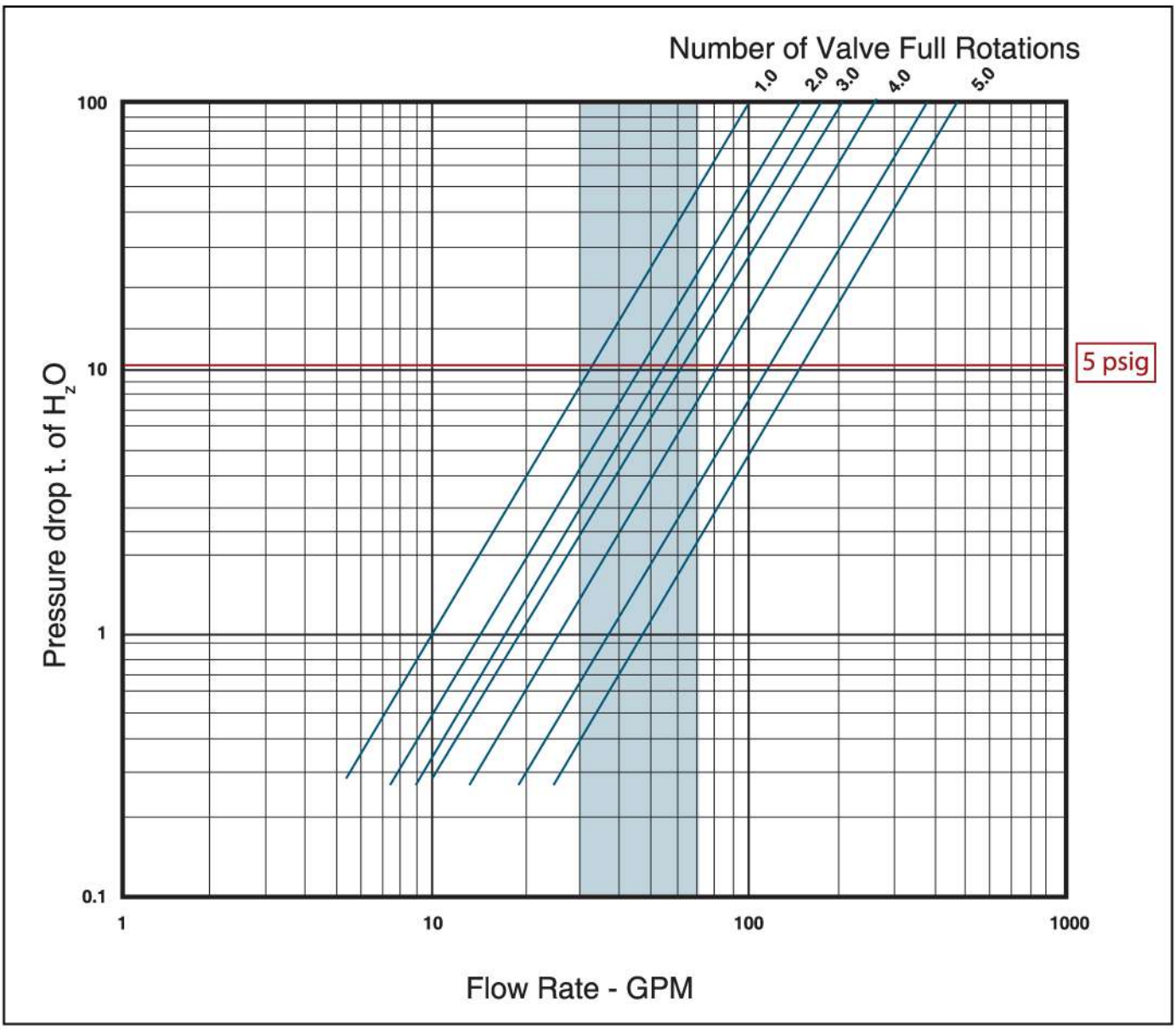

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American WHEATLEY HVAC PRODUCTS®

Flow Test Kit

Popular applications are balancing heating and cooling systems, flow measurements, calibrating flow meters, checking pump performance and checking equipment for pressure drop or leakage.

Model W820:

- Readout meter of 2 1/2' diameter
- Plastic carrying case
- Two 5-foot hoses
- ± 2% to 3% full scale accuracy
- Dial range of 0-60' water
- 12lb shipping weight

Model W842:

- Dual readout meter
- Two 2 1/2" dials
- ± 2% to 3% full scale accuracy
- Two 5-foot hoses
- 14 lb. shipping weight
- One gauge 0-135" and other 0-60"

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.
Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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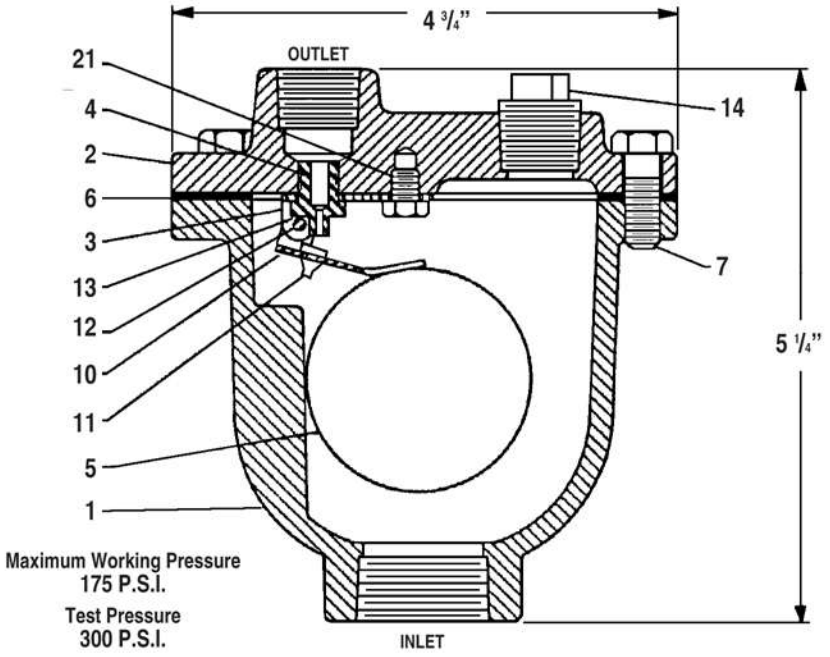
High Capacity Air Release Valve



Dimensions

Model No.	Valve Size	Inlet Size	Outlet Size	Orifice Size
ARV0050	1/2"	1/2" NPT	1/2" NPT	1/16"
ARV0075	3/4"	3/4" NPT	1/2" NPT	1/16"
ARV0100	1"	1" NPT	1/2" NPT	1/16"

Bill of Materials

Part No.	Part Name	Material
1	Body	Cast Iron ASTM A126, Class B
2	Cover	Cast Iron ASTM A126, Class B
3	Lever Frame	Stainless Steel T304, ASTM A240
4	Seat	Stainless Steel T303, ASTM A276
5	Float	Stainless Steel T304, ASTM A240
6	Gasket	Garlock #3000 (Non-asbestos)
7	Cover Bolt	Alloy Steel SAE Grade 5
10	Float Arm	Stainless Steel T304, ASTM A240
11	Orifice Button	Viton
12	Pivot Pin	Stainless Steel T303, ASTM A276
13	Pin Retainer	Stainless Steel PH 15-7 MO
14	Pipe Plug	Malleable Iron
21	Locator	Stainless Steel T18-8, ASTM A276

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
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American Wheatley
Air Release Valves
Installation, Operation & Maintenance

The Air Release Vales are fully automatic valves and require no regular maintenance.

The purpose of the "Air Release Valves" is to release air which accumulates in a pipeline during it's operation.

OPERATION

The valve, as shipped, is a normally open valve. As the system is being filled, air is vented through the small orifice. When the fluid enters the valve, the float raises and shuts off the orifice, preventing any leakage. As air accumulates and enters the valve, displacing fluid, the float drops, allowing the venting orifice to open. This cycle is repeated as often as necessary during the pumping cycle.

INSTALLATION

Air Release Valves must be installed in a vertical position at high points on a piping system. The valve's inlet must face downward. A shut-off valve should be installed below each valve in the event servicing is required. A drain line is recommended, as the valve may "split" a small amount of fluid during venting. To vent air quickly during initial start-up, remove the 1/2" pipe plug in the cap of the air vent.

CAUTION: If TFE tape is used to form the seal on the inlet piping, keep the excess tape from entering the valve. The excess tape could interfere with proper venting or sealing of the valve.

MAINTENANCE

No regular maintenance is necessary: however, periodic inspection for leakage and function can be performed. Close the inlet service valve and slowly remove the 1/2" pipe plug. The water level within the valve should be within 1" of the top of the opened drain plug. If not, the valve may not be functioning property and the valve should be removed and inspected for wear and/or possible damage from foreign matter.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
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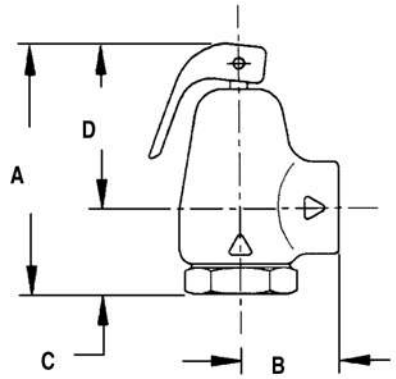
ASME Relief Valve



Features:

- Relieves pressure in hot water heating systems
- Eight available pressure settings as listed below. Please specify with order.
- Test lever standard on all models
- ASME listed, rated and stamped
- Bronze body, heat resistant silicone seat disc, stainless steel springs and NPT end connections

ASME Relief Capacities at Standard Settings–BTU/hr. Steam Relief

Setting	¾"	1"	1 ¼"	1 ½"	2"
30 PSI	717,400	1,025,000	1,704,000	2,085,000	3,902,000
35 PSI	800,100	1,143,000	1,900,000	2,325,000	4,352,000
45 PSI	965,600	1,380,000	2,293,000	2,806,000	5,252,000
50 PSI	1,048,300	1,498,000	2,490,000	3,047,000	5,701,000
75 PSI	1,461,900	2,090,000	3,472,000	4,249,000	7,951,000
100 PSI	1,875,500	2,680,000	4,454,000	5,451,000	10,200,000
125 PSI	2,289,100	3,271,000	5,437,000	6,653,000	12,450,000
150 PSI	2,702,700	3,862,000	6,419,000	7,855,000	14,700,000

Dimensional Data:

Model	Size	A	B	C	D	Weight (lbs.)
RV0075	¾"	5"	1 ½"	1 ¾"	3 ¼"	1.25
RV0100	1"	5 9/16"	1 5/8"	1 ⅛"	4 7/16"	2.25
RV0125	1 ¼"	7 ⅜"	2 1/16"	1 ½"	5 ⅞"	3.25
RV0150	1 ½"	7 ½"	2 15/32"	1 ⅝"	5 ⅞"	4.37
RV0200	2"	9 ⅞"	3"	2 ⅞"	7"	9.00

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

American WHEATLEY HVAC PRODUCTS®
A GFP COMPANY
1005 E. Houston
Broken Arrow, OK 74012
Toll Free: 866-204-5229
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www.wheatleyhvac.com
e-mail: sales@globalflowproducts.com

ASME Safety Relief Valve Instruction Sheet

- ASME relief valves are designed to protect fired and unfired hot water pressure vessels against overpressure conditions.
- The design allows a low differential between opening and closing pressures. This low differential prevents conditions under which system water might flash into steam and cause hammering.
- The heat resistant silicone disc also seals the spring chamber from discharge water and vapor, inhibiting corrosive action and build-up of deposits.
- Under normal operating conditions, thermal expansion opens the valve allowing water to discharge at a low rate of flow. Under emergency conditions, the valve will discharge its certified capacity.

Typical Specification

Wheatley ASME Safety Relief Valve, ASME rated and listed

at _____ BTU/hr.

at _____ psi relief setting.

Size: _____

JOB NAME _____

LOCATION _____

_____

_____

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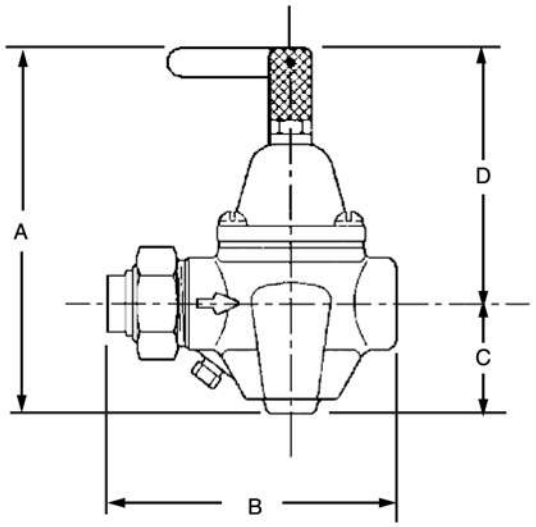
Water Pressure Reducing Valve

Features:

- Reduces city water pressure to desired system pressure
- Automatically feeds water when pressure in a system drops below the setting of the valve
- Bronze or brass construction
- Easily and quickly serviced without removing valve from line
- Integral strainer
- Adjustable pressure range of 10-70 psig; factory set at 45 psig
- Maximum working pressure of 400 psig
- Maximum Temperature 180º F



Optional Features:

- Larger sizes available

PART NUMBER	NPT SIZE	HEIGHT A(IN.)	WIDTH B(IN.)	CTR LINE 2 BTM C(IN.)	TOP LINE 2 CTR D(IN.)	WEIGHT
WPR-050	1/2"	5 2/5	4 5/16	1 3/64	4 11/32	2.5
WPR-075	3/4"	5 2/5	4 15/32	1 3/64	4 11/32	2.5
WPR-100	1"	5 2/5	5 11/64	1 3/64	4 11/32	2.5

All packaging materials, thread protectors, plastic plugs and caps must be removed before installation.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

JOB NAME _____
LOCATION _____
_____
_____
CONTRACTOR _____
CONTRACTOR P.O. NO. _____

ITEMS	QUANTITY

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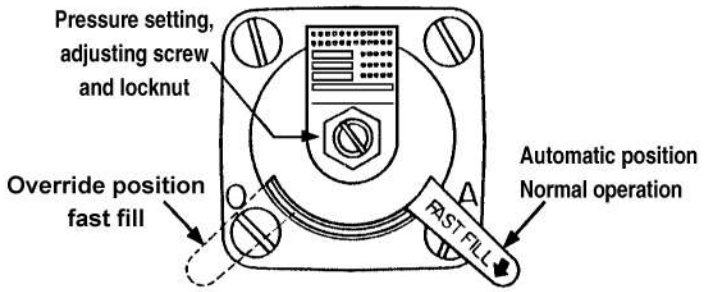
e-mail: sales@globalflowproducts.com

American WHEATLEY HVAC PRODUCTS®

Reducing Valve and Dual Control Valve Instruction Sheet



- The Reducing Valves automatically maintain system pressure. In addition, the Reducing Valves are equipped with a "fast fill" lever that can be used to override automatic closing during purging.
- The Dual Control Valve consists of a Reducing Valve with an in-line pressure relief valve connected at its outlet end.
-

(1.) Install the Reducing Valve or the Dual Control Valve in a horizontal position in the cold water supply pipe to the boiler.

(2.) Install a shut-off valve on the upstream side of the Reducing Valve. This shut-off valve, provided for isolation purposes during maintenance, must be open at all times during operation so that the Reducing Valve can maintain pressure automatically.

(3.) Flush out the supply pipe to clear it of scale, dirt, and other foreign particles before connecting it to the inlet of the Reducing Valve.

(4.) For the Dual Control Valve, connect a pipe from the "Drain" connection on the bottom of the Relief Valve. Direct this pipe to a convenient open drain, such as a floor drain or set tubs. Do not install a valve of any kind in this drain pipe. The pipe must always pitch down from the valve, with no part of it above the valve. the pipe must also be no smaller than the valve drain connection size.

Operation:

(1.) To fill the system, open the shut-off valve upstream of the Reducing valve. This shut-off valve must always be kept open when the system is in operation.

(2.) The "Fast Fill" lever must be pushed completely to the side of the cover slot (so that the lever is over the "A" on the cover flange). The "A" stands for "Automatic" operation, and the supply water will flow into the system until it's full and under pressure (see diagram).

(3.) The Wheatley Reducing Valves have such a high flow capacity that the "Fast Fill" feature is not usually needed during filling. Instead, the feature is supplied for use during purging of the system. By moving the lever to the side with the "O" on the cover flange ("Override" position), the valve will be held open. With the valve being held open, the closing action of pressure increases against its diaphragm is overcome.

(4.) After filling and purging, the "Fast Fill" lever must be placed at the "Automatic" of "A" position, and not moved during system operation. This position allows the valve to maintain normal pressure in the system automatically.

(5.) The Reducing Valve is factory set to deliver water to the boiler at 12-14 psi. The pressure is sufficient for a 3-story building. To determine the required pressure if the factory setting is not sufficient to lift the water to the highest radiation, calculate the number of feet from the regulator to the top of the highest radiation. Multiply this by .43 and add 3 psi. This is the pressure needed to raise the water to the highest radiation and keep it under sufficient pressure. To increase the valve setting, loosen the locking nut on the adjusting screw at the top of the valve. Turn the adjusting screw in (clockwise) slowly until the gauge indicates the pressure calculated. Then lock the adjusting screw with its locking nut.

(6.) The pressure relief valve of the Dual Control Valve is non-adjustable, and is set to relieve at 30 psi.

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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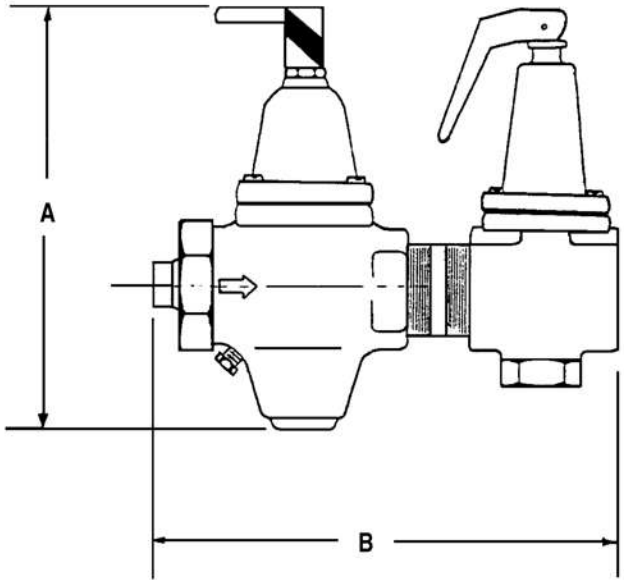
Dual Control Valve



Features:

- Combination relief and pressure reducing valve
- Adjustable pressure range 10-25 psig
- Preset pressure at 12 psig
- Maximum working temperature of 212°F
- Maximum operating pressure of 30 psig for relief valve and 100 psig for reducing valve

Dimensions: (For Models DC0050S and DC0050)

A	B	Weight (lbs.)
5 5/16"	6 13/16"	3.3

Bill of Materials

Model Number	Material Specification	Size and Type of Connections
DC0050S	Cast Iron	½" Sweat ½" NPT
DC0050	Cast Iron	½" NPT

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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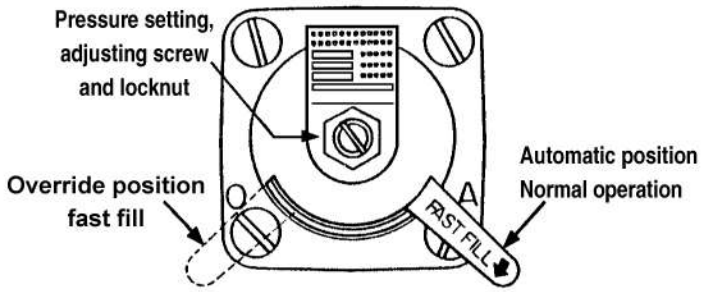
Reducing Valve and Dual Control Valve Instruction Sheet



- The Reducing Valves automatically maintain system pressure. In addition, the Reducing Valves are equipped with a "fast fill" lever that can be used to override automatic closing during purging.
- The Dual Control Valve consists of a Reducing Valve with an in-line pressure relief valve connected at its outlet end.
-

(1.) Install the Reducing Valve or the Dual Control Valve in a horizontal position in the cold water supply pipe to the boiler.

(2.) Install a shut-off valve on the upstream side of the Reducing Valve. This shut-off valve, provided for isolation purposes during maintenance, must be open at all times during operation so that the Reducing Valve can maintain pressure automatically.

(3.) Flush out the supply pipe to clear it of scale, dirt, and other foreign particles before connecting it to the inlet of the Reducing Valve.

(4.) For the Dual Control Valve, connect a pipe from the "Drain" connection on the bottom of the Relief Valve. Direct this pipe to a convenient open drain, such as a floor drain or set tubs. Do not install a valve of any kind in this drain pipe. The pipe must always pitch down from the valve, with no part of it above the valve. the pipe must also be no smaller than the valve drain connection size.

Operation:

(1.) To fill the system, open the shut-off valve upstream of the Reducing valve. This shut-off valve must always be kept open when the system is in operation.

(2.) The "Fast Fill" lever must be pushed completely to the side of the cover slot (so that the lever is over the "A" on the cover flange). The "A" stands for "Automatic" operation, and the supply water will flow into the system until it's full and under pressure (see diagram).

(3.) The Wheatley Reducing Valves have such a high flow capacity that the "Fast Fill" feature is not usually needed during filling. Instead, the feature is supplied for use during purging of the system. By moving the lever to the side with the "O" on the cover flange ("Override" position), the valve will be held open. With the valve being held open, the closing action of pressure increases against its diaphragm is overcome.

(4.) After filling and purging, the "Fast Fill" lever must be placed at the "Automatic" of "A" position, and not moved during system operation. This position allows the valve to maintain normal pressure in the system automatically.

(5.) The Reducing Valve is factory set to deliver water to the boiler at 12-14 psi. The pressure is sufficient for a 3-story building. To determine the required pressure if the factory setting is not sufficient to lift the water to the highest radiation, calculate the number of feet from the regulator to the top of the highest radiation. Multiply this by .43 and add 3 psi. This is the pressure needed to raise the water to the highest radiation and keep it under sufficient pressure. To increase the valve setting, loosen the locking nut on the adjusting screw at the top of the valve. Turn the adjusting screw in (clockwise) slowly until the gauge indicates the pressure calculated. Then lock the adjusting screw with its locking nut.

(6.) The pressure relief valve of the Dual Control Valve is non-adjustable, and is set to relieve at 30 psi.

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American WHEATLEY
HVAC PRODUCTS

T-SS-1001N-VB

316 Stainless Steel Full Port Ball Valve with Vented Ball

T-SS-1001N-VB

Description

1/4 turn, latch-lock, lever handle operated, CF8M stainless steel body with stainless steel vented ball and stem, 100% full port, blow-out proof stem, and 2-piece body design.

Features

- 100% full port
- Pressure rating: 1000 WOG /150 WSP
- PTFE seats and stem packing
- Stainless steel ball & stem
- Solid ball construction
- Latch lock handle may be locked in open or closed position
- Mounting pad for panel mount
- Two piece design
- NPT connections

Accessories

- Can be fitted with electric or pneumatic actuator

Warranty

The Company, for a period of one year from the date of shipment, warrants each product or system of its own manufacture to the original purchaser to be free from defects in material and workmanship under normal use, service and maintenance.

Architect/Engineer approval

Job Name _____ Date _____

Model Specified _____ Quantity _____

Variations Specified _____

Customer/Wholesaler _____

Contractor _____

Architect _____

Note: Information subject to change without notice.

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MECHANICAL ROOM SUPPLIES
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932 Brookwood Drive • Columbia, SC 29201
www.mechanicalroomsupplies.com

T-SS-1001N-VB

American WHEATLEY HVAC PRODUCTS

316 Stainless Steel Full Port Ball Valve with Vented Ball

Description

1/4 turn, latch-lock, lever handle operated, CF8M stainless steel body with stainless steel vented ball and stem, 100% full port, blow-out proof stem, and 2-piece body design.

Dimension In Inches

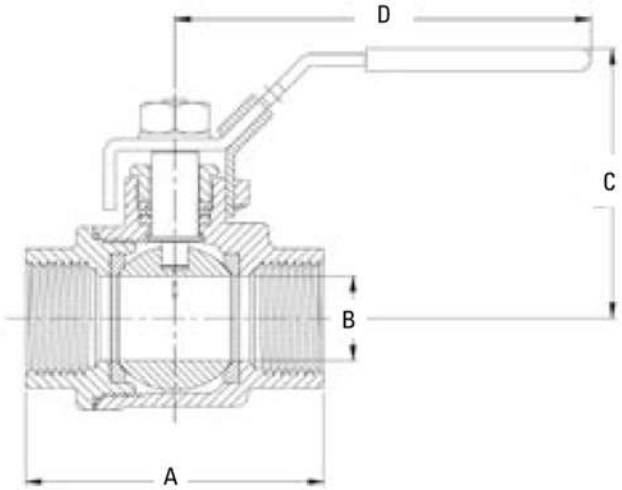
Computer No.	Size	A	B	C	D
100-961VB	1/4"	2.00	0.46	2.30	3.94
100-962VB	3/8"	2.00	0.49	2.30	3.94
100-963VB	1/2"	2.28	0.59	2.30	3.94
100-964VB	3/4"	2.58	0.79	2.50	4.92
100-965VB	1"	3.10	0.98	3.07	5.87
100-966VB	1-1/4"	3.54	1.26	3.27	5.87
100-967VB	1-1/2"	4.13	1.50	4.02	7.48
100-968VB	2"	4.88	1.97	4.25	7.48

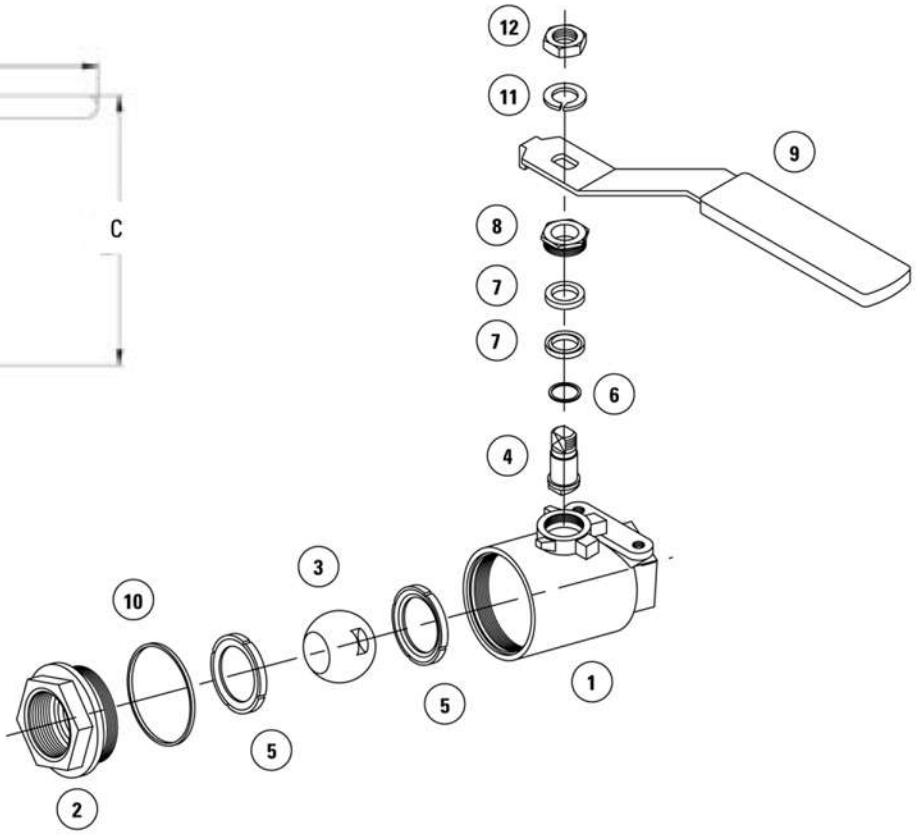
Material Specification

Item	Part Name	Material Specifications
1	Body	CF8M Stainless Steel
2	End Adapter	CF8M Stainless Steel
3	Vented Ball	CF8M Stainless Steel
4	Stem	316 Stainless Steel
5	Seat (2)	PTFE
6	Thrust Washer	PTFE
7	Stem Packing (2)	Hostaflon®-TFM 1600
8	Follower Gland	304 Stainless Steel
9	Lever Handle	304 Stainless Steel
10	Joint Gasket	PTFE
11	Lock Washer	304 Stainless Steel
12	Handle Nut	304 Stainless Steel

Pressure Rating

1000 WOG
150 WSP





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American WHEATLEY HVAC PRODUCTS®

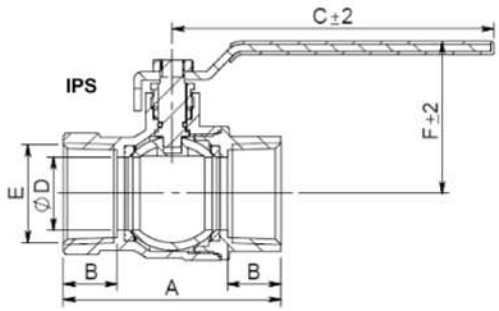
Brass Ball Valve

Features:

- Full Port
- Forged Brass
- Two Piece Body
- Blow-out Proof Stem
- Chrome Plated Solid Brass Ball
- Threaded Ends comply per ANSI B2.1
- Compliant to MSS-SP-110
- 1/4" - 4" Rated 600 psi non-stock CWP -150 psi SWP
- CSA Gas approved 2" (IPS only)
- Steam, water, oil, gas and air applications for commercial and light industrial application usage

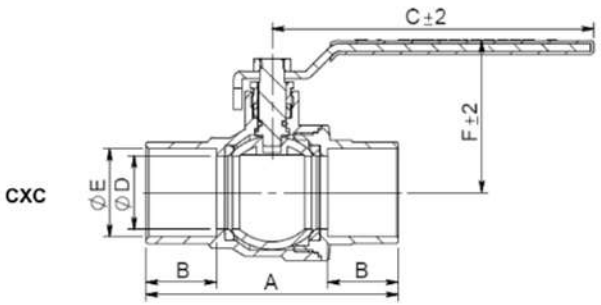
Sizes 1/4" - 1 1/2" - IPS Dimensions

MODEL	SIZE	A	B	C	D	E	F
759T001	1/4"	1.73	0.45	3.07	Ø 0.39	18 NPT	1.44
759T002	3/8"	1.73	0.45	3.07	Ø 0.39	18 NPT	1.44
759T003	1/2"	3.05	0.55	3.07	Ø 0.51	14 NPT	1.54
759T004	3/4"	2.30	0.57	4.14	Ø 0.71	14 NPT	1.78
759T005	1"	2.80	0.69	4.14	Ø 0.95	11.5 NPT	1.96
759T006	1 1/4"	3.15	0.69	4.93	Ø 1.20	11.5 NPT	2.49
7495007	1 1/2"	3.51	0.71	4.93	Ø 1.46	11.5NPT	2.67

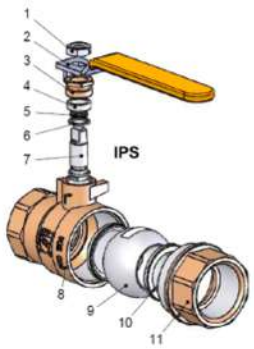


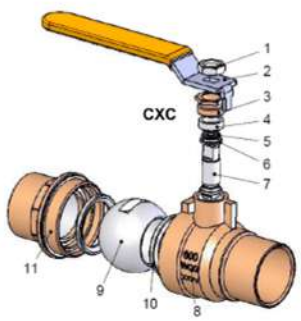
Sizes 1/4" - 1 1/2" - CXC Dimensions

MODEL	SIZE	A	B	C	D	E	F
759C003	1/2"	1.97	0.49	3.07	Ø 0.51	Ø 0.63	1.54
759C004	3/4"	2.71	0.75	4.14	Ø 0.71	Ø 0.88	1.78
759C005	1"	3.25	0.91	4.14	Ø 0.95	Ø1.13	1.96
759C006	1 1/4"	3.62	0.93	4.93	Ø 1.2	Ø 1.38	2.49
759C007	1 1/2"	4.29	1.10	4.93	Ø 1.46	Ø 1.63	2.67



MATERIALS OF CONSTRUCTION	
1 Hex Nut	Steel
2 Handle	Steel
3 Packing Nut	Brass
4 Pacing Gland	PTFE
5 O-Ring	EPDM
6 Washer	PTFE
7 Stem	Brass C36000
8 Bonnet	Brass C37700
9 Ball	Brass
10 Seat	PTFE
11 Body	Brass C37700





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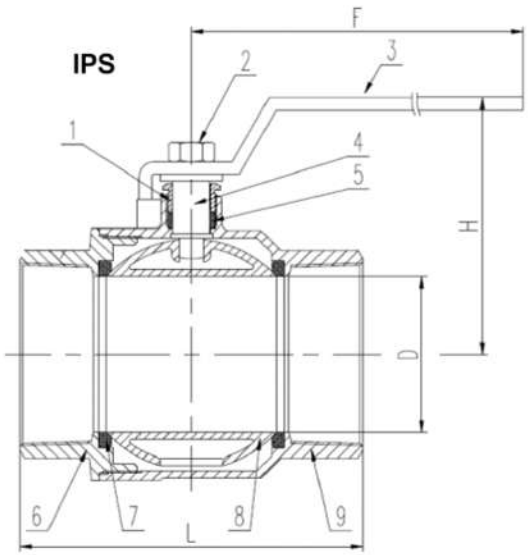
Sizes 2" - 4" - IPS Dimensions

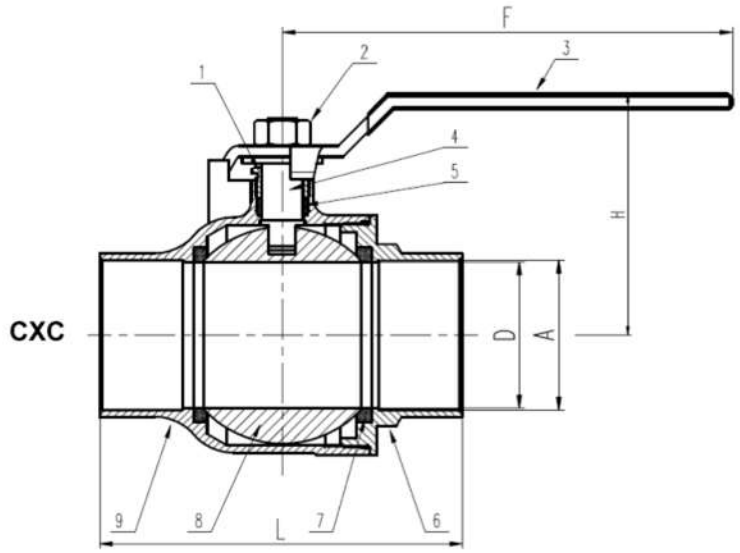
MODEL	SIZE	L	D	H	F
759T008	2"	4.41	Ø 1.97	3.27	5.52
759T009	2 1/2"	5.99	Ø 2.56	4.59	9.06
759T010	3"	6.50	Ø 2.96	4.87	9.06
759T011	4"	7.76	Ø 3.90	5.57	10.1



Sizes 2" - 4" - CXC Dimensions

MODEL	SIZE	L	D	A	H	F
759C08	2"	5.34	Ø 1.97	Ø 2.13	3.27	5.52
759C09	2 1/2"	6.38	Ø 2.56	Ø 2.63	4.24	7.92
759C10	3"	7.17	Ø 2.96	Ø 3.13	5.04	9.89
759C11	4"	9.22	Ø 3.90	Ø 4.13	5.71	9.89

MATERIALS OF CONSTRUCTION	
1 Gland Nut	Brass
2 Hex Nut	Steel
3 Handle	Steel
4 Stem	Brass
5 StemPacking	PTFE
6 End Cap	Brass
7 Seat	PTFE
8 Ball	C.P. Brass
9 Body	Brass



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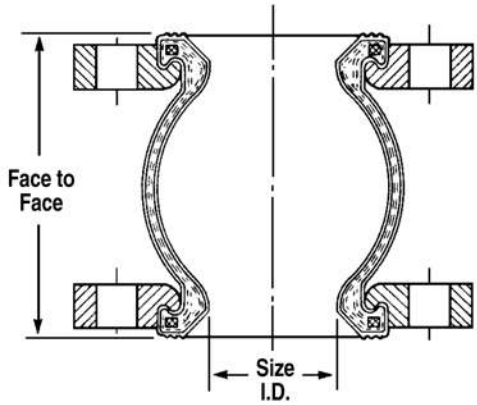
Flex Pump Connectors

American WHEATLEY HVAC PRODUCTS®

Single Sphere Elastomer Pump Connector



Features:

- Reduces vibration and noise in piping system
- Streamlined, flowing arches reduce turbulence, sediment build-up and the effects of thrust on the piping
- Controls thermal movement, pulsation, misalignment and electrolysis
- Under pressure, spherical shape is up to four times stronger than a cylindrical joint
- Spherical shape requires half the amount of space of cylindrical joint, and at the same time is about one-third of the weight of a cylindrical
- Standard construction of EPDM with a hard steel wire frame and nylon cord lining

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

Dimensions:

Model No.	Joint Size I.D.	Face to Face	Pressure/ Vacuum		Temperature (°F)		Movement Capability				
			(psig)	Bursting Pressure	Min.	Max.	Comp.	Elong.	Lateral (±in.)	Deflection	Wt. (lbs.)
SSP0150	1 ½"	6"	227	680	14	240	½"	⅜"	½	15°	7.0
SSP0200	2"	6"	227	680	14	240	½"	⅜"	½	15°	8.8
SSP0250	2 ½"	6"	227	680	14	240	½"	⅜"	½	15°	12.5
SSP0300	3"	6"	227	680	14	240	½"	⅜"	½	15°	14.0
SSP0400	4"	6"	227	680	14	240	⅝"	⅜"	½	15°	18.0
SSP0500	5"	6"	227	680	14	240	⅝"	⅜"	½	15°	22.5
SSP0600	6"	6"	227	680	14	240	⅝"	⅜"	½	15°	26.8
SSP0800	8"	6"	227	680	14	240	⅝"	⅜"	½	15°	37.8
SSP1000	10"	8"	227	680	14	240	¾"	½"	¾	15°	55.5
SSP1200	12"	8"	227	680	14	240	¾"	½"	¾	15°	83.0
SSP1400	14"	8"	227	680	14	240	¾"	½"	¾	15°	100.0
SSP1600	16"	8"	227	680	14	240	¾"	½"	¾	15°	120.0
SSP1800	18"	8"	227	680	14	240	¾"	½"	¾	15°	140.0
SSP2000	20"	8"	142	426	14	240	¾"	½"	¾	15°	170.0
SSP2400	24"	10"	142	426	14	240	¾"	½"	¾	15°	255.0

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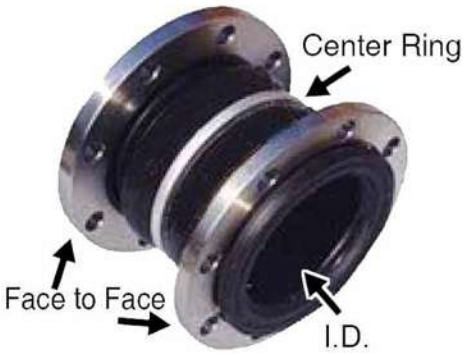
Double Sphere Elastomer Pump Connector



Features:

- Reduces vibration and noise in piping system
- Streamlined, flowing arches reduce turbulence, sediment build-up and the effects of thrust on the piping
- Controls thermal movement, pulsation, misalignment and electrolysis
- Under pressure, spherical shape is up to four times stronger than a cylindrical joint
- Spherical shape requires half the amount of space of cylindrical joint, and at the same time is about one-third of the weight of a cylindrical
- Standard construction of EPDM rubber. Other materials available upon request

Dimensions:

Model Number	Joint Size I.D.	Face to Face	Pressure/ Vacuum		Temperature (°F)		Movement Capability				
			(psig) *	(in. Hg.)	Min.	Max.	Comp.	Elong.	Lateral (±in.)	Deflection	Weight (lbs.)
DSP0150	1 ½"	7"	214	30	14	240	1"	¾"	1"	30°	7.0
DSP0200	2"	7"	214	30	14	240	1"	¾"	1"	30°	8.5
DSP0250	2 ½"	7"	214	30	14	240	1"	¾"	1"	30°	12.8
DSP0300	3"	7"	214	30	14	240	1"	¾"	1"	30°	14.3
DSP0400	4"	9"	214	30	14	240	1 ¼"	1"	1 ¼"	30°	20.0
DSP0500	5"	9"	214	30	14	240	1 ¼"	1"	1 ¼"	30°	25.8
DSP0600	6"	9"	214	30	14	240	1 ¼"	1"	1 ¼"	30°	29.0
DSP0800	8"	13"	214	30	14	240	1 ⅜"	1"	1 ⅜"	30°	45.0
DSP1000	10"	13"	214	30	14	240	1 ⅜"	1"	1 ⅜"	30°	62.5
DSP1200	12"	13"	214	30	14	240	1 ⅜"	1"	1 ⅜"	30°	95.0
DSP1400	14"	13 ⅛"	150	10	14	240	1 ⅜"	1 ⅝"	1 ⅜"	20°	105.0

*@178°F

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

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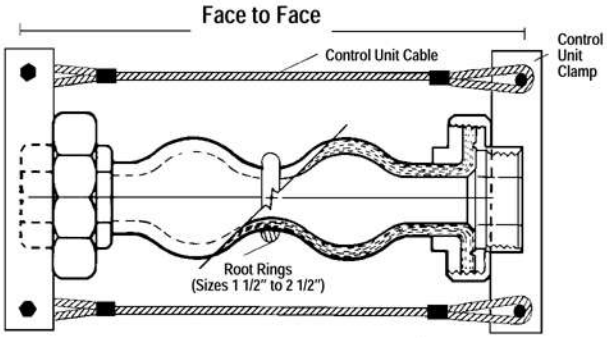
Double Union Elastomer Pump Connector



Features:

- Reduces vibration and noise in piping system
- Streamlined, flowing arches reduce turbulence, sediment build-up and the effects of thrust on the piping
- Controls thermal movement, pulsation, misalignment and electrolysis
- Under pressure, spherical shape is up to four times stronger than a cylindrical joint
- Spherical shape requires half the amount of space of cylindrical joint, and at the same time is about one-third of the weight of a cylindrical
- Root rings furnished on 1 ½"—2 ½"
- Standard construction of chemical resistant Neoprene. Other materials available upon request

Bill of Materials

Item	Part Name	Material
1	Female Union	Galvanized Steel
2	Reinforcing Cloth	Nylon Fabric
3	Elastomer	Neoprene

Dimensions:

Model Number	Joint Size I.D.	Face to Face	Pressure/ Vacuum		Temperature (°F)		Movement Capability				
			(psig)	(in. Hg.)	Min.	Max.	Comp.	Elong.	Lateral Deflection	Angular Deflection	Weight (lbs.)
DUT0075	¾"	6 ½"	150	10	14	220	1 ¼"	3/16"	1	50°	2
DUT0100	1"	6 ¾"	150	10	14	220	1 ¼"	3/16"	1	50°	3
DUT0125	1 ¼"	7"	150	10	14	220	1 ¼"	3/16"	1	50°	4
DUT0150	1 ½"	7 ¼"	150	10	14	220	1 ¼"	3/16"	1	50°	5
DUT0200	2"	8 ½"	150	10	14	220	1 ¼"	3/16"	1	50°	6
DUT0250	2 ½"	9"	150	10	14	220	1 ¼"	3/16"	1	50°	8

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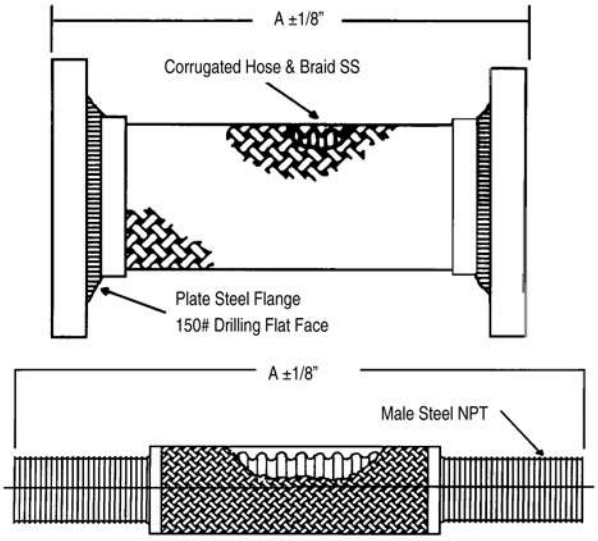
Stainless Steel Pump Connectors

Standard Features:

- Constructed of stainless steel annular corrugated metal surrounded with a woven wire braid of high tensile stainless steel
- High pressure and temperature capabilities
- Absorbs pump vibration and noise
- Reduces piping stress due to minor misalignment and pressure variations



**Ratings for constant pressures. Use 1/2 of ratings for pulsating pressures and 1/6 of ratings for surge pressures.*

For Temperatures Above 70°F

For safe working pressures above 70°F, multiply pressure shown at 70°F by correction factor of required temperature.

Correction Factors

Temperature °F	Factor
70	1.00
200	.94
300	.88
400	.83
500	.78
600	.74

Dimensions are subject to change without notice, please confirm actual dimensions with factory at time of order.

Dimensions

Model No.	Pipe Size x Length (A)	Pressure @ 70°F*
Mini Length: Flanged Ends		
SS0209	2 x 9	350
SS2509	2 ½ x 9	275
SS0309	3 x 9	275
SS0409	4 x 9	230
SS0511	5 x 11	265
SS0611	6 x 11	240
SS0812	8 x 12	185
SS1013	10 x 13	165
SS1214	12 x 14	155
SS1414	14 x 14	150
Long Length: Flanged Ends		
SM0210	2 x 10	350
SM2510	2 ½ x 10 ¼	275
SM0310	3 x 10 ⅝	275
SM0411	4 x 11 ¾	230
SM0513	5 x 13 ⅝	265
SM0614	6 x 14 ⅛	240
SM0815	8 x 15 ⅜	185
SM1017	10 x 17 ¾	165
SM1218	12 x 18 ⅜	155
SM1420	14 x 20	150
Extended Length: Flanged Ends		
SL0212	2 x 12	350
SL2512	2 ½ x 12	275
SL0314	3 x 14	275
SL0416	4 x 16	230
SL0518	5 x 18	265
SL0620	6 x 20	240
SL0822	8 x 22	185
SL1024	10 x 24	165
SL1226	12 x 26	155
SL1428	14 x 28	150
Standard Length: Threaded Ends		
ST0510	½ x 10	750
ST7510	¾ x 10	750
ST0110	1 x 10	650
ST1210	1 ¼ x 10	550
ST1510	1 ½ x 10	500
ST0214	2 x 14	475
ST2516	2 ½ x 16	375
ST0316	3 x 16	325

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Rubber Flexible Connectors Installation, Operation & Maintenance Instructions

PREPARATION:

Before installation, check the interior, exterior, and flange faces for any defects. Be sure that the connections are clean and free of any particles, debris, grease, or other contaminants.

INSTALLATION:

NOTE: UNDER NO CIRCUMSTANCES ARE FLANGE BOLTS TO BE USED TO STRETCH THE CONNECTOR INTO CONTACT WITH A MATING FLANGE

1. Install at face to face dimensions shown on the drawings. Installation at different lengths than published can lead to premature failure. Tolerance for overall length and misalignment is 1/8".
2. Do not use gaskets, they are not required.
3. If bolt threads are facing the connector, trim them so that not more than 1/8" protrudes so as not to make contact with the connector. Using plated steel washers between the nut and flange is recommended.
4. Torque bolt- The following bolt torque is recommended: 1"-2" = 45ftlb, 2-1/2"-8"= 60ftlb, 10"-24"= 80ftlb. It is necessary to retighten the bolts after 24 hours due to relaxing properties of the rubber.
5. Control rods- Control rods should be used if the connectors are not properly anchored on both sides. The control rods should be installed to allow movement that is less than or equal to the published maximum extension or elongation. If the connector is subject to compression, additional nuts may be required to ensure compression greater than published cannot happen. 6. DO NOT paint or insulate the connectors, except when using Hypalon as a UV protectant.

TESTING:

The connector can be tested once, to no more than 1.5 times standard pressure rating. Ensure that operating pressure and temperatures do not exceed what is allowable.

STORAGE:

The connectors must be stored in a clean dry space, free from debris and contaminants. Connector should be stored flange down, on a clean flat space.

MAINTENANCE :

While no physical maintenance is required, the connector should be visually inspected periodically for leaks or any damage by outside forces.

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Stainless Steel Braided Pump Connectors Installation, Operation & Maintenance Instructions

OPERATION:

1. Insert Bolts (elastomeric connectors only). Bolts should be inserted from the arch side (so that bolt heads are adjacent to arch) to ensure that bolts do not interfere with the arch during periods of compression.

2. Tighten Bolts (elastomeric connectors only). Tighten all bolts gradually and equally by alternating around the flange. The bolts are not considered tight and "locked on" until the edges of the flexible connector flanges bulge slightly. Check bolt tightness at least one week after going on line and periodically thereafter. As with any rubberlike material, after a period of compression, the bolts may loosen and result in a broken seal. It is particularly important to check bolts in a hot-and-cold water system before changing over from one medium to another.

Anchored Systems: Control rod assemblies are not required in piping systems that are anchored on both sides of the connector

Unanchored Systems: Control rod assemblies are always recommended in unanchored systems and when the maximum pressure and movement exceeds the rated limit.

Spring-Mounted Equipment: Control rod assemblies are always recommended for spring-mounted equipment when the maximum pressure and movement exceed the rated limit.

Control Rods. Install control units with a joint or spool-type rubber flexible connector if piping is not adequately anchored or if there is any question that movements may exceed the rated value of the joint. The rods are to be placed on the flanges and tightened to a snug fit, tighten bolt another 1/8th turn.

American Wheatley connectors absorb the continuing movement experienced in piping systems because of varying ambient temperatures, differences in temperature of materials being handled, and differences in composition. The danger of buckling or pulling apart and resulting maintenance costs are eliminated. Control rods shall be used with unanchored systems or with spring-mounted equipment where the pressures and movements exceed those the connectors are designed to withstand.

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American Wheatley Elastomeric Connectors Installation, Operation & Maintenance Instructions

OPERATION:

1. Insert Bolts (elastomeric connectors only). Bolts should be inserted from the arch side (so that bolt heads are adjacent to arch) to ensure that bolts do not interfere with the arch during periods of compression.

2. Tighten Bolts (elastomeric connectors only). Tighten all bolts gradually and equally by alternating around the flange. The bolts are not considered tight and "locked on" until the edges of the flexible connector flanges bulge slightly. Check bolt tightness at least one week after going on line and periodically thereafter. As with any rubberlike material, after a period of compression, the bolts may loosen and result in a broken seal. It is particularly important to check bolts in a hot-and-cold water system before changing over from one medium to another.

Anchored Systems:

Control rod assemblies are not required in piping systems that are anchored on both sides of the connector

Unanchored Systems:

Control rod assemblies are always recommended in unanchored systems and when the maximum pressure and movement exceeds the rated limit.

Spring-Mounted Equipment:

Control rod assemblies are always recommended for spring-mounted equipment when the maximum pressure and movement exceed the rated limit.

Control Rods. Install control units with a joint or spool-type rubber flexible connector if piping is not adequately anchored or if there is any question that movements may exceed the rated value of the joint. The rods are to be placed on the flanges and tightened to a snug fit, tighten bolt another 1/8th turn.

American Wheatley connectors absorb the continuing movement experienced in piping systems because of varying ambient temperatures, differences in temperature of materials being handled, and differences in composition. The danger of buckling or pulling apart and resulting maintenance costs are eliminated. Control rods shall be used with unanchored systems or with spring-mounted equipment where the pressures and movements exceed those the connectors are designed to withstand.

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