

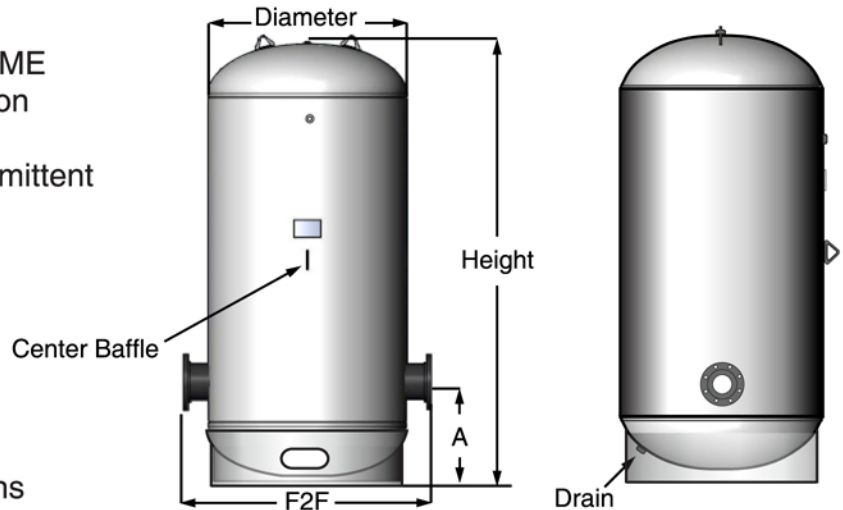
# Chilled Water Buffer Tank

## 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 incorporate 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.

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

ITEMS	QUANTITY
_____	_____
_____	_____
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_____	_____



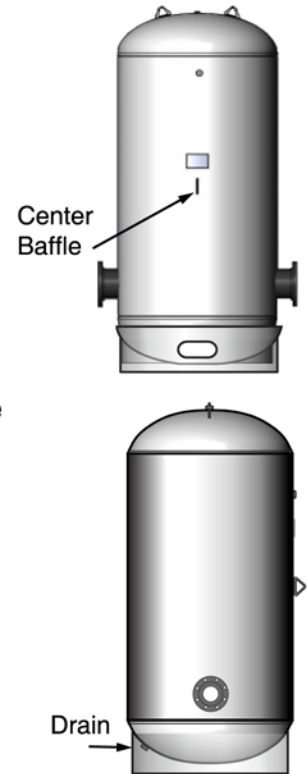
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e-mail: sales@globalflowproducts.com

# 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 or 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, insulate 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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ITEMS	QUANTITY
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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 required (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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