



DID YOU KNOW....?

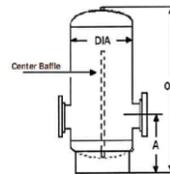
That American Wheatley offers a full line of chilled water (AWCBT) and hot water (HS) buffer tanks , both stock and custom sizes?

American Wheatley offers 7 stock size AWCBT series Chilled water buffer tanks, and have produced from 40 gallon to 7500 gallon custom sizes.

We also offer 5 stock sizes HS series Hot water buffer tanks, and have produced from 40 gallon to 4000 gallon custom sizes.

What is a chilled water buffer tank?

A chilled water buffer is required when system water volume is of insufficient volume in relation to chiller requirements. The Wheatley AWCBT series is utilized to increase the system volume that is required for proper operation of the chiller. The AWCBT chilled water buffer tanks minimizes the ΔT temperature change of the return water, which results in better temperature control and prevents short cycling.



How do I size a chilled water buffer tank?

It is really quite simple.

TOTAL CHILLER CAPACITY (TCC) X MANUFACTURER'S RECOMMENDED VOLUME PER TON (VPT) = SYSTEM VOLUME REQUIRED (SVR) GALLONS

SVR= TCC X VPT

SYSTEM VOLUME REQUIRED (SVR)- ACTUAL SYSTEM VOLUME (ASV)= CALCULATED BUFFER TANK SIZE REQUIRED (CBTR)

RSV -ASV= CBTR

See our website for detailed instructions

Most manufacturers recommend 3-6 gallons per ton for HVAC systems, and 6-10 gallons per ton for cooling systems where temperature control is critical.

EXAMPLE

TCC-300 TON CHILLER@ 3 GPM PER TON

VPT= 300 X 3 =SVR 900 GALLONS REQUIRED FOR PROPER CHILLER OPERATION

ASV- ACTUAL SYSTEM VOLUME 600 GALLONS

SVR-ASV= CBTR

900-600= 300 GALLON CHILLED WATER BUFFER TANK REQUIRED



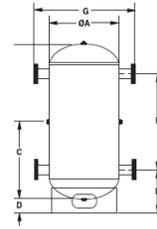
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What is a hot water buffer tank?

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-minutes*

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-900,000 BTUH

MSO- UNKNOWN, ENTER 0

ΔT- 20

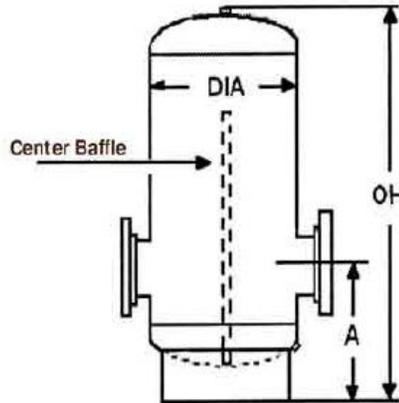
$$\frac{3 \times (900000-0)}{20 \times 500} = \frac{2,700,000}{10000} = 270 \text{ GALLON CBTR HOT WATER BUFFER TANK REQUIRED}$$

Please see our website for further details



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Chilled Water Buffer Tank



Construction	Performance Limitations
Carbon Steel	Max Design Temp: 450F
Exterior Primer Painted	Max Design Press: 125 PSI

MODEL	GAL	Center-line Height (A in inches) for various Connection									
		(IN.)	(IN.)	2"NPT	2 1/2"	3" FLG	4" FLG	6" FLG	8" FLG	10" FLG	12" FLG
AWCBT-120	120	24	60	12	12.25	12.50	13	14	15	16	17
AWCBT-200	200	30	72	14	14.25	14.50	15	16	17	18	19
AWCBT-300	300	36	72	15.75	15.75	16	16.50	17.50	18.5	19.5	20.50
AWCBT-400	400	36	99	24	24	24	25	26	27	28	29
AWCBT-500	500	42	90	17.50	17.75	18	18.5	19.50	20.5	21.5	22.50
AWCBT-850	850	54	96	21	21.25	21.50	22	23	24	25	26
AWCBT-1040	1040	60	96	22.75	23	23.25	23.75	24.75	25.75	26.75	27.75

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-_____. 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
_____	_____
_____	_____
_____	_____
_____	_____

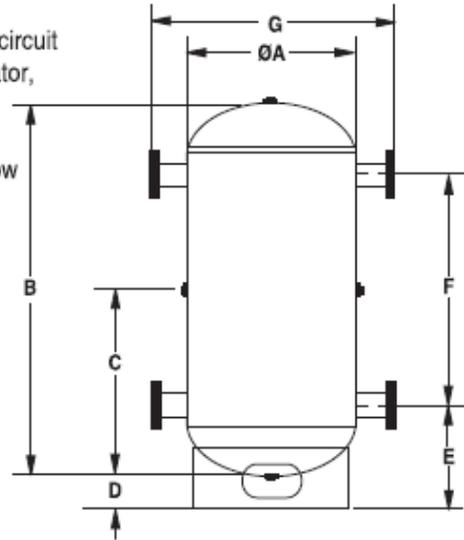


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Hot Water Buffer Tanks

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.

- Prevents flow in one circuit from 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
- American Wheatley manufactures ASME hydraulic separators in standard sizes 40 gallon through 400 gallon with connections, 2" through 16"
- Custom sizes readily available



MODEL NO.	SIZE	GALLON	AQ STAT	DRAIN	VENT	A	B	C	D	E	F	G	WT
HS-40	2", 2.5", 3", 4"	40	3/4	3/4	3/4	14	58.75	29.28	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

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.

JOB NAME _____ LOCATION _____ _____ CONTRACTOR _____ CONTRACTOR P.O. NO. _____	<table border="1"> <thead> <tr> <th>ITEMS</th> <th>QUANTITY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> </tbody> </table>	ITEMS	QUANTITY													 <p>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</p>
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