



**DID YOU KNOW....?**

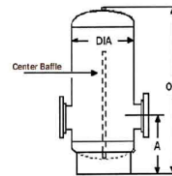
**That American Wheatley offers a full line of chilled water (AWCBT) and hot water (HS) buffer tanks , both stock and custom sizes?**

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**



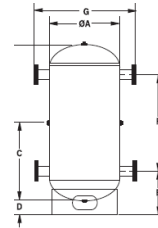
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**What is a hot water buffer tank?**

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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