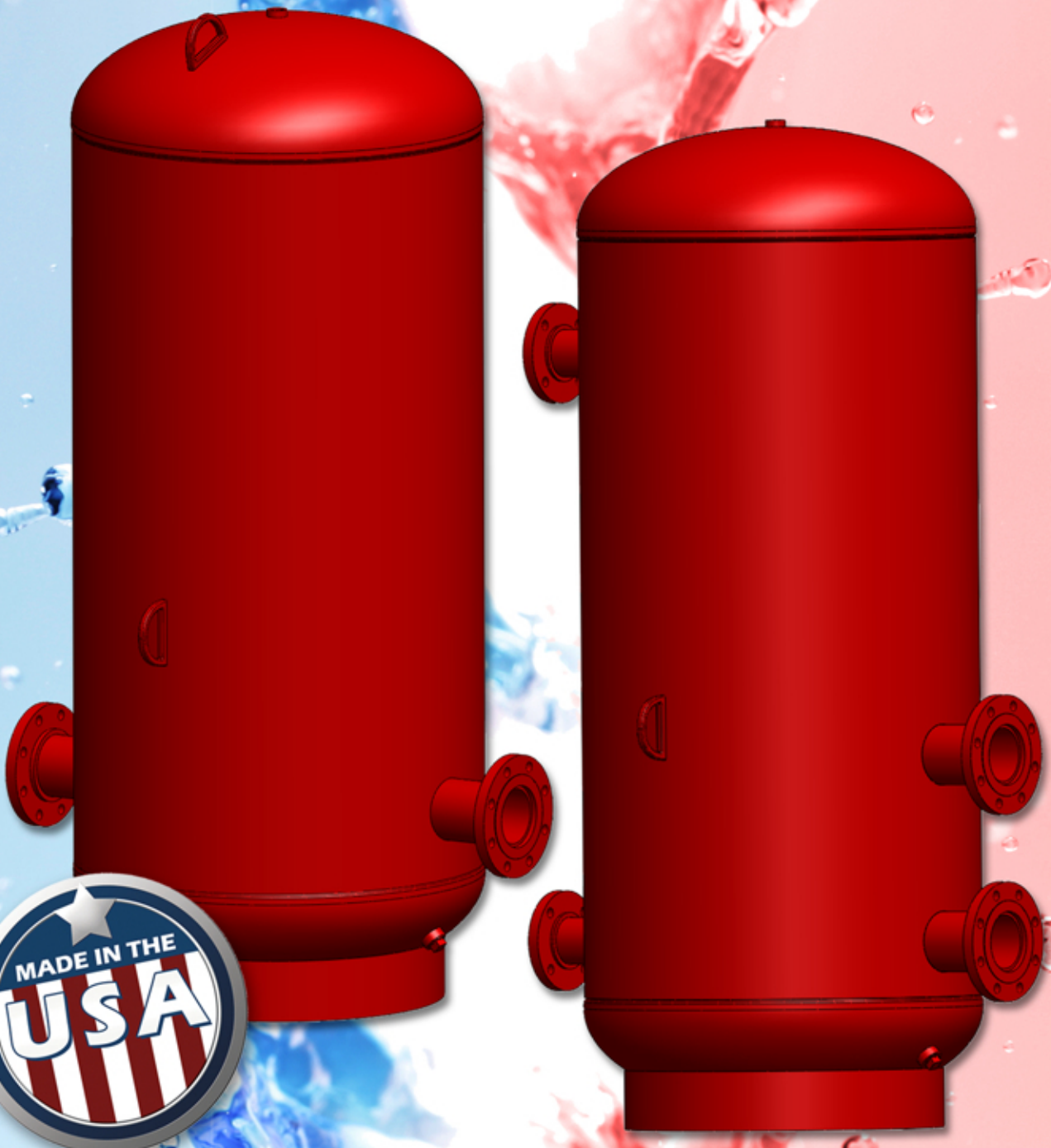
SINCE 1908

wessels company

BUFFER TANKS

For Chilled & Hot Water Applications



MADE IN THE USA

Models CBT & HBT

CBT
CHILLED WATER BUFFER TANK

Wessels ASME Chilled Water Buffer Tanks (CBT) are designed for use in chilled water systems with insufficient water volume capacity, in relation to the chiller capacity. CBT-Series buffer tanks effectively increase system volume and reduce the rate of temperature change (ΔT) in the return water, resulting in improved temperature control, consistent system operation, and controlled compressor cycling.

STANDARD FEATURES

- ASME Rated (125 PSI @ 450°F)
- Integral Ring Stand for Vertical Installation
- Top Air Vent Connection
- Internal Baffle

OPTIONAL FEATURES

- ½" Elastomeric Insulation
- Weather Resistant Coating

QUICK SIZING

To properly size a chilled water buffer tank, three critical pieces of information are required:

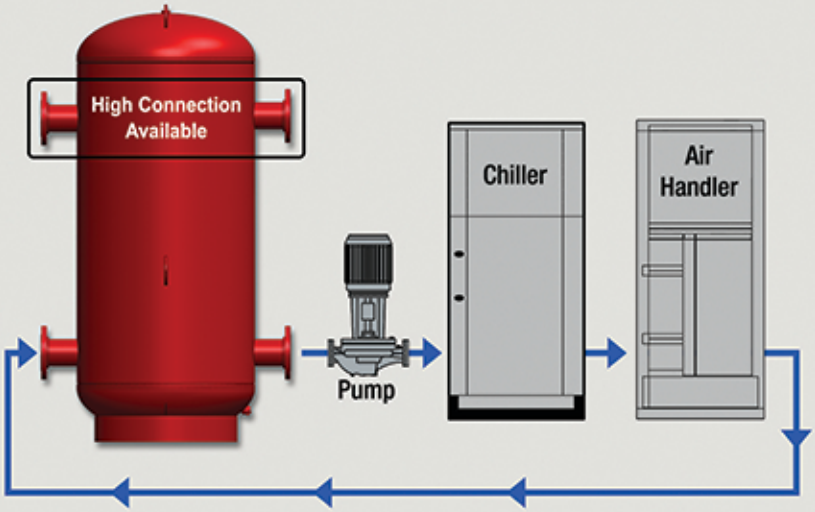
- **Total Chiller Capacity (Tons)**
- **Chiller Manufactuer's Recommended System Volume***
- **Actual System Volume (in gallons)**

Total Chiller Capacity		Manufacturer's recommended system volume per ton		Critical System Volume
	x		=	
Tons		Gal./Ton		Gallons

Critical System Volume		Actual System Volume		Total Buffer Tank Size
	-		=	
Gallons		Gallons		Gallons

**Chiller manufacturers recommend between 3 to 6 gallons per ton for typical HVAC and 6 to 10 gallons per ton for nominal cooling when temperature accuracy is critical.*

HOW IT FITS IN THE SYSTEM



Model	Gal.	Dia.	Ht.	Max Ship Wt.	Model	Gal.	Dia.	Ht.	Max Ship Wt.
CBT-50	50	16	60	203	CBT-500	500	42	90	1384
CBT-60	60	20	48	184	CBT-700	700	48	100	1500
CBT-75	75	20	60	264	CBT-850	850	54	96	2140
CBT-120	120	24	66	452	CBT-1040	1040	60	96	2437
CBT-200	200	30	72	609	CBT-1200	1200	60	110	2567
CBT-300	300	36	72	758	CBT-1500	1500	60	100	3078
CBT-400	400	36	98	1140	CBT-2000	2000	72	128	4941
					CBT-2500	2500	72	120	5755
					CBT-3000	3000	84	142	6030

Available with 1" to 2- 1/2" NPT Connections.
1" to 20" flange connections also available.
Materials: Carbon Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

HBT
HOT WATER BUFFER TANK

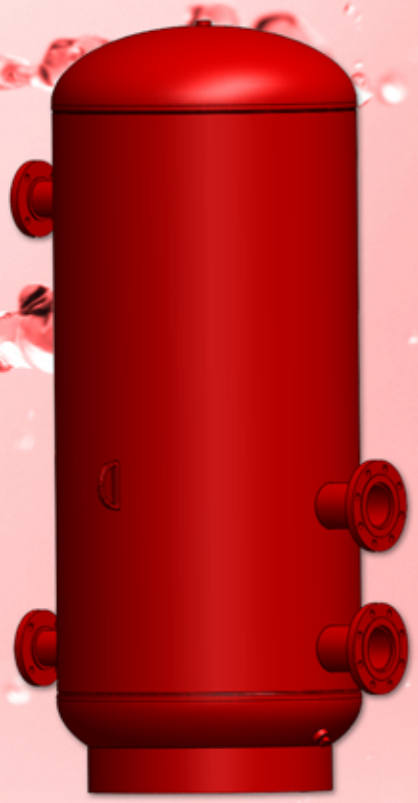
Wessels ASME Hot Water Buffer Tanks (HBT) are designed for use with today's high efficiency systems that incorporate small, modular low-mass boilers. A properly sized Wessels Hot Water Buffer Tank adds necessary thermal mass to the system to dampen fast transitions and minimize boiler cycling that occurs during zero or low domestic load conditions.

STANDARD FEATURES

- ASME Rated (125 PSI @ 450°F)
- Integral Ring Stand for Vertical Installation
- Top Air Vent Connection

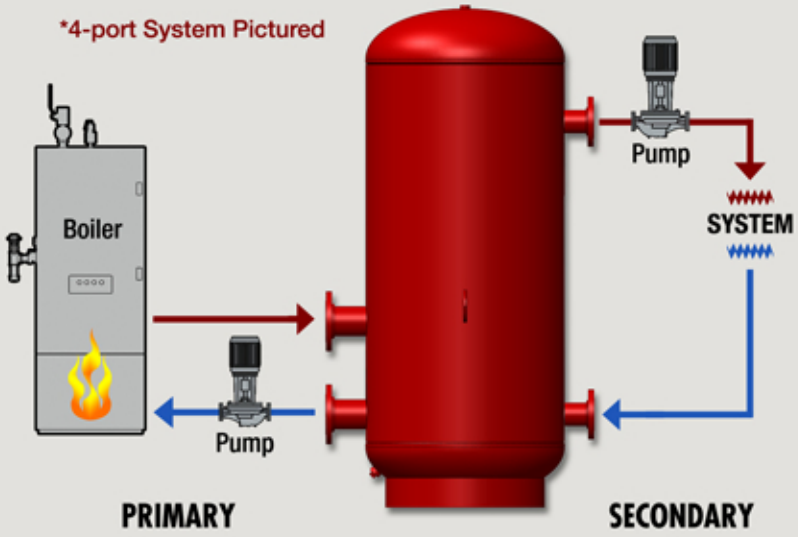
OPTIONAL FEATURES

- ½" Elastomeric Insulation
- Weather Resistant Coating



HOW IT FITS IN THE SYSTEM*

*4-port System Pictured



HOT WATER BUFFER TANKS – 2 PORTS

Model	Part No.	Gal.	Dia.	Ht.	Max. Ship Wt.
HBT-120	55621200	120	24	60	248
HBT-210	55622100	210	30	75	459
HBT-300	55623000	300	36	72	781

Available with 1" to 2- 1/2" NPT Connections.
1" to 20" flange connections also available.
Materials: Carbon Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

See back page for information about Wessels 4-Port Hot Water Buffer Tanks

QUICK SIZING

To properly size a hot water buffer tank, four critical pieces of information are required:

- Minimum Boiler Output (in BTU/hr)
- Minimum Rate of Heat Extraction from tank (LOAD in BTU/hr)
- Temperature Differential
- Boiler Cycle Time

Manufacturer's recommended minimum boiler cycle time* (Minutes) × (Minimum Boiler Output (BTU/Hr.) − Minimum System Load** (BTU/Hr.)) = Total Buffer Tank Size (Gallons)

÷ Temperature differential within tank*** (°F) × 500

Typically 1-5 Minute range
***Assume to be 0 if no system load or if rate is unknown*
****Temperature dfferential can range between 5 to 25°F, 10°F is typical*

HOT WATER BUFFER TANKS – 4 PORTS

MODEL	PART NO.	GAL.	DIA.	HT.	CONNECTION SIZES PRIMARY	CONNECTION SIZES SECONDARY	SHIP WT.
HBT-120-22	55641222	120	24	60			206
HBT-210-22	55642122	210	30	75	2" NPT	2" NPT	408
HBT-300-22	55643022	300	36	72			739
HBT-120-23	55641223	120	24	60			228
HBT-210-23	55642123	210	30	75	2" NPT	3" FLG	426
HBT-300-23	55643023	300	36	72			759
HBT-120-24	55641224	120	24	60			235
HBT-210-24	55642124	210	30	75	2" NPT	4" FLG	435
HBT-300-24	55643024	300	36	72			768
HBT-120-26	55641226	120	24	60			254
HBT-210-26	55642126	210	30	75	2" NPT	6" FLG	454
HBT-300-26	55643026	300	36	72			787
HBT-120-34	55641234	120	24	60			255
HBT-210-34	55642134	210	30	75	3" FLG	4" FLG	455
HBT-300-34	55643034	300	36	72			788
HBT-120-36	55641236	120	24	60			274
HBT-210-36	55642136	210	30	75	3" FLG	6" FLG	574
HBT-300-36	55643036	300	36	72			807
HBT-120-33	55641233	120	24	60			246
HBT-210-33	55642133	210	30	75	3" FLG	3" FLG	546
HBT-300-33	55643033	300	36	72			779
HBT-120-44	55641244	120	24	60			264
HBT-210-44	55642144	210	30	75	4" FLG	4" FLG	546
HBT-300-44	55643044	300	36	72			797
HBT-120-46	55641246	120	24	60			283
HBT-210-46	55642146	210	30	75	4" FLG	6" FLG	583
HBT-300-46	55643046	300	36	72			816

Available With 1" to 2-1/2" NPT System Connections.
1" to 20" flange connections also available.
Materials: Steel
Maximum Pressure: 125 PSIG; Maximum Temperature: 450°F
Finish: Red Oxide Primer
Auxiliary Connections: ¾" NPT Top Vent Connection; 1" NPT Bottom Drain
Consult factory for higher working pressures and larger system connections.

OTHER PRODUCTS BY wessels company SINCE 1908

Typhoon Solid from Liquid Cartridge Filter System

- Remove solids from liquids
- Revolutionary filter performance
- Stainless Steel

Centrifugal Solids Seperator

- In-line or slip-stream low flow filtration
- Achieves the removal of 50 micron
- Carbon Steel

Hydronic Expansion Vessels

- Fixed Diaphragm Tanks
- Replaceable Bladder Tanks
- Compression Tanks
- ASME and Non-ASME in stock

Wess-Vent Air & Dirt Separators

- Coalescing Media Separators
- Up to 36" available
- ASME standard in stock

WESSELS Company • 101 Tank Street, Greenwood, IN 46143 • **phone** 317 | 888.9800 **fax** 317 | 888.9988 • **www.westank.com**