

NILES STEEL TANK Buffer Tanks Series

Niles Steel Tanks's Buffer Tanks are designed for use with Commercial chiller water systems and hydronic heating systems which may have insufficient water volume to maintain optimum operating temperature control. Niles offers gallon capacities in 130 gal, 210 gal, 300 gal, 400 gal, 528 gal, and 1040 gal. Additional sizes are also available. Buffer tanks are constructed under the A.S.M.E., Section VIII., Division I code as such are not required to be equipped with a manway. Vertical tank designs are available with a center baffle plate with inlet and outlet on upper shell. The top of the tank has an FNPT port for the air vent; the bottom of the tank has an FNPT drain port. Closed loop systems do not require a manway, but they are available as an option, if desired. Standard product design offering as well as custom configurations with alternate system connections are available. Available connections are Female National Pipe Threads, ANSI Flanges, and Grooved Pipe End connections. R-16 closed cell spray foam insulation is also available. Linings include, Ultonium or Niles Defender Epoxy, if needed. Ultonium lined tanks do not have internal baffles.



SPECIFICATION:

Furnish and install as shown on plan, a Niles Steel Tank A.S.M.E. Buffer tank of _____ gallons, _____ diameter with an overall height of _____. The tank must be designed, constructed and stamped 125 psi @ -20F to 450F in accordance with section VIII, Division I of the A.S.M.E. Boiler and Pressure Vessel code and registered with the National Board of boiler and pressure vessel inspections. The buffer tank shall be painted with 1) coat of red oxide shop primer paint. A manufacturers data report for pressure vessels, Form U-1A as required by the provisions of the A.S.M.E. Boiler and Pressure Vessel code shall be furnished for each buffer tank upon request.

To properly size the buffer tank, calculate the systems total capacity including all piping and terminal equipment. Subtract that number from the chiller manufacturers recommended system capacity. If a 100 ton chiller requires 1000 gallons of system capacity for high accuracy control and the total piping system totals only 600 gallons, a 400 gallon buffer tank would be required. (As an example)

SIZING & SELECTION FOR NILES STEEL TANK CBT BUFFER TANKS:

1. Required Chiller Volume: _____ Gallons
Manufacturer of chiller unit's recommended 'gallons per ton' of cooling. Typical 3 - 6 gallons per ton. Critical accuracy: 6 - 10 gallons per ton.
 2. Actual Gallon Volume in the entire chiller system: _____ Gallons (including piping)
- (1) Chiller requirements gallons: _____ (-) minus (2) Actual gallons in system = _____ gallon size of buffer tank.

Niles Steel Tank manufactures a standard line of vertical and horizontal buffer tanks. Vertical tanks are equipped with an internal baffle and standard flanged connections on 210 gallon and above. Horizontal tanks typically do not have internal baffles, but can be added. Since Niles Steel Tank is a custom tank fabricator, we would be happy to add or change our current design to suit your specific requirements. Grooved pipe end fitting are available in place of flanged connections. Our 2-part, closed cell foam spray on insulation can be added to any size tank and is durable enough for outdoor applications.



NST

Niles Steel Tank Buffer Tanks

Buffer tanks are essential components in modern day chiller and heating systems. NST buffer tanks are designed to increase the systems capacity so water temperatures stabilize within the manufacturers recommendations. When the cooling system piping capacity is under sized, compressors will short cycle and temperature control is harder to maintain within the building. Chiller manufacturers recommend between 3 and 10 gallons per ton of nominal cooling capacity in the piping system, Depending on the level of accuracy of temperature control, higher volumes may be required.

Manways are optional on all closed loop systems

Inlets and outlets can be re-positioned in the shell of the tank if required

All tanks are constructed and certified in accordance with the ASME section VIII, Div. I code

Topcoat Spray foam insulation is available, R-16 value

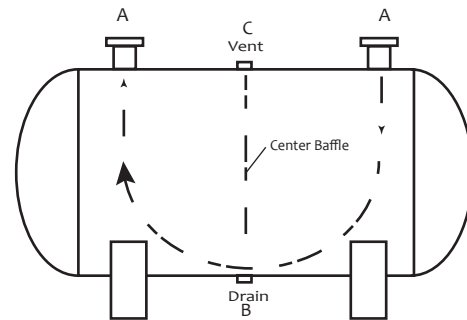
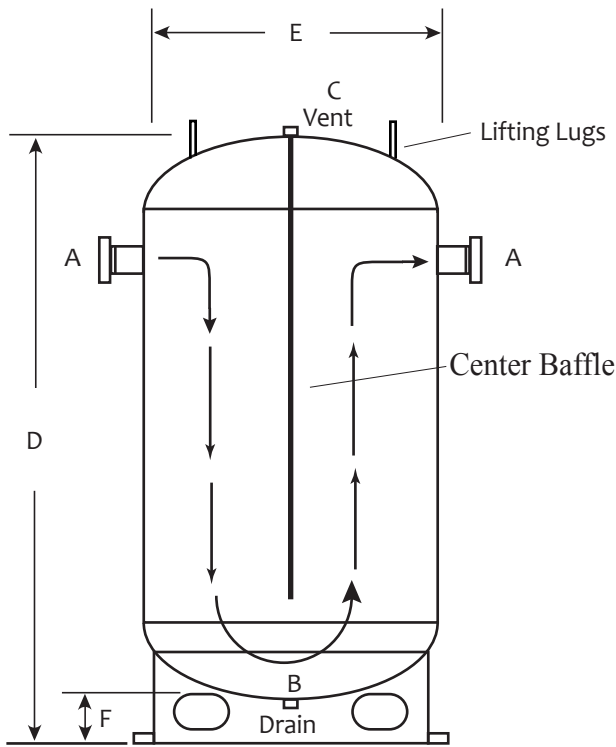
Red Oxide shop primer on bare tanks

Custom sizes are available

Grooved, Flanged and NPT connections available

Interior linings are available

304 and 316L Stainless Steel is available



Model	Gal.	A	B	C	D	E	F	Weight
CBT-24-072	130	2" NPT	1"	1"	76"	24"	4"	375
CBT-30-075	210	3" Flg	1"	1"	79"	30"	4"	425
CBT-36-072	300	4" Flg	1"	1"	76"	36"	4"	633
CBT-36-094	400	4" Flg	1"	1"	98"	36"	4"	715
CBT-42-084	460	4" Flg	1"	1"	88"	42"	4"	1250
CBT-48-077	528	6" Flg	1"	1"	81"	48"	4"	1150
CBT-48-090	600	6" Flg	1"	1"	94"	48"	4"	1765
CBT-48-099	700	6" Flg	1"	1"	103"	48"	4"	1885
CBT-48-141	1000	6" Flg	1"	1"	145"	48"	4"	1957
CBT-54-096	850	6" Flg	1"	1"	102"	54"	6"	1630
CBT-60-096	1040	8" Flg	1"	1"	102"	60"	6"	2280

Horizontal buffer tanks are built to order. Consult factory for sizes, dimensions and specifications.

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