



# Chilled Water Buffer Tanks

Niles Steel Tank's Buffer Tanks are designed for use with commercial chiller water 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, 850 gal, and 1040 gal. Tanks are constructed under the A.S.M.E., Section VIII, Division I code. Vertical and horizontal tank designs are available with center baffle plate with inlet and outlet on upper shell. Top of tank to have FNPT port for Air Vent; bottom of tank to have FNPT drain port. Standard product design offering as well as custom configurations with alternate system connections is available. Available connections are Female National Pipe Threads, ANSI Flanges, and Grooved Pipe End connections. Closed cell spray foam insulation is with an R16 insulation rating.

## SPECIFICATION:

Furnish and install as shown on plan, a Niles A.S.M.E. Buffer Tank of \_\_\_\_\_gallons, \_\_\_\_\_ diameter X \_\_\_\_\_ overall height. The tank must be designed, constructed and stamped 125 psi @ -20F to 650 F 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 one coat of 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. A 100 ton chiller requires 1000 gallons of system capacity for high accuracy control. If the total piping system totals only 600 gallons, a 400 gallon buffer tank would be required.

## SIZING & SELECTION FOR NILES BUFFER TANKS:

1. Required Chiller Volume: \_\_\_\_\_ Gallons  
Manufacturer of Chiller Unit's Recommended 'Gallons Per Ton' Cooling  
Typical 3-6 gallon per ton. Critical accuracy: 6-10 gallons per ton

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2. Actual Gallon Volume in entire chiller system: \_\_\_\_\_ Gallons  
(Including all piping)

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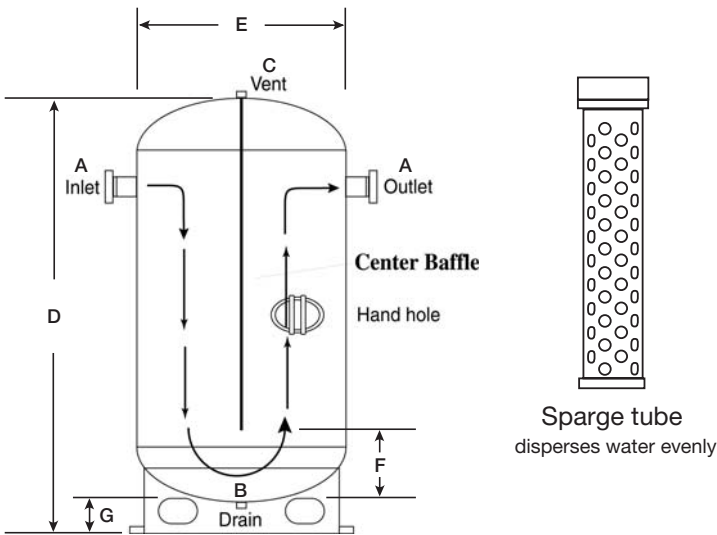
3. (1) Chiller Required Gallons \_\_\_\_\_  
- MINUS  
(2) Actual Gallons in System \_\_\_\_\_  
= Equals

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. Horizontal tanks are equipped with a sparging tube. Baffles can be added to horizontal tanks as well. Since NST is a custom tank manufacturer, we would be happy to add or change to our current design to suit your specific requirements. Manufactured under the ASME code stamp, all tanks 42" diameter and over require a 12" x 16" manway. Grooved pipe end fittings are available in place of flanged connections. Our 2-part, closed foam spray on insulation can be added to any size tank and is durable enough for outdoor applications.



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Chilled water buffer tanks are essential components in modern day chiller systems. NST buffer tanks are designed to increase the systems capacity so water temperatures stabilize within the chiller manufacturers recommendations. When the cooling systems piping capacity is under sized, compressors will short cycle and temperature control is harder to maintain within the building. Chiller manufacturers recommend between 3 to 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.



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

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

Spray foam insulation available, R-16 value

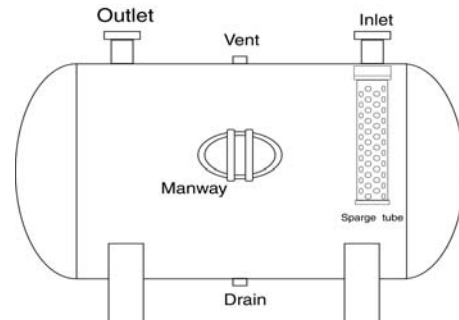
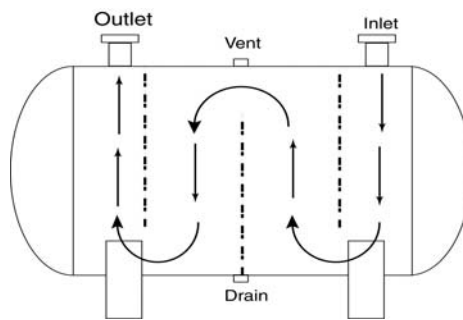
Red oxide shop primer exterior

Custom sizes available upon request

Grooved, Flanged and NPT connections available

Designed to ASME code

Sparge tube is shipped loose.



Model	Gal.	A	B	C	D	E	F	G	Weight
CBT-24-072	130	2 NPT	1"	1"	78"	24"	20"	6"	375
CBT-30-075	210	3 Flg	1"	1"	81"	30"	24"	6"	425
CBT-36-072	300	4 Flg	1"	1"	78"	36"	24"	6"	633
CBT-36-094	400	4 Flg	1"	1"	100"	36"	30"	6"	715
CBT-42-084	460	4 Flg	1"	1"	90"	42"	28"	6"	1250
CBT-48-077	528	6 Flg	1"	1"	83"	48"	31"	6"	1150
CBT-48-141	1000	6 Flg	1"	1"	147"	48"	47"	6"	1957
CBT-54-096	850	6 Flg	1"	1"	102"	54"	32"	6"	1630
CBT-60-096	1040	8 Flg	1"	1"	102"	60"	32"	6"	2280

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