



# Instruction Sheet CBX Expansion Tanks

402-020

SUPERSEDES: July 9, 2001

EFFECTIVE: January 28, 2013

DO NOT HANDLE WITHOUT FIRST READING ALL INSTRUCTIONS.

CONTENTS UNDER HIGH PRESSURE AND HIGH TEMPERATURE.

1. Note location on the tank of the system connection (13), charging valve (2) and the MANUFACTURING DRAIN PLUG. Refer to piping diagram "DRAIN". Note labels on the tank or refer to Diagram 1 for location of tank fittings.

2. Carefully remove the shipping plug (14) in the system connection coupling located at the bottom center of the tank. There should not be much, if any, air pressure under this plug. Tank is precharged to 12 psi.

**CAUTION: ITEM #4, ALWAYS ISOLATE THE TANK FROM THE SYSTEM WITH A SHUT-OFF VALVE. DO NOT REMOVE THE PIPE PLUG (4) LOCATED ON THE SIDE OF THE TANK. REMOVAL OF PLUG VOIDS WARRANTY. IF REMOVED, COULD CAUSE BLADDER/BAG TO BURST. THIS PLUG SHOULD NEVER BE REMOVED UNLESS NECESSARY AND THEN ONLY AFTER THE AIR PRESSURE IN THE TANK HAS BEEN BLEDED OFF TO ZERO GAUGE PRESSURE BEFORE BLEEDING OFF ANY OF THE AIR CHARGE.**

INSPECTION PLUG MAY BE FORCEFULLY PROPELLED AT INSPECTION WHEN REMOVING IT FROM A PRESSURIZED TANK.

DEPRESSURIZE AIR SIDE OF TANK BY OPENING CHARGING VALVE PRIOR TO REMOVING PLUG. TANK MUST BE REMOVED FROM THE PIPING SYSTEM.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY, DEATH OR PROPERTY DAMAGE.

3. Before making any connections to the tank, check the tank air charge. Use an accurate automotive or similar type gauge on the air valve located at tank top. **The air charge pressure must be equal to the pre-charge pressure specified for the system. Refer to the label on the tank for the factory provided pre-charge pressure. In most cases the specified tank pre-charge pressure is equal to the system fill pressure at the tank location.** Use Diagram 2 – Air Charge Check Chart to correct the value read on the pressure gauge for the ambient temperature at the tank location.

4. After making sure that the air charge is correct, the pipe connection to the system may now be made. The piping requirements for captive air tanks are different from those of plain steel expansion tanks. Note the Captive Air Tank Piping Diagrams. Piping and air elimination devices should be arranged so that air will not be trapped in the tank, above the tank or in the nozzle. Pitch the piping connection up away from the tank and use automatic air vents where necessary. Note the piping diagram, page 2.

5. Locate the CBX tank connection as close as possible to the suction side of the pump. This ensures that the pressures realized from the pump head will be additive in the system. A combination shut-off and drain valve should be located in the connection piping to provide for tank isolation during the initial hydrostatic test.

- NOT FOR USE WITH POTABLE WATER.
- VERTICAL INSTALLATION ONLY.

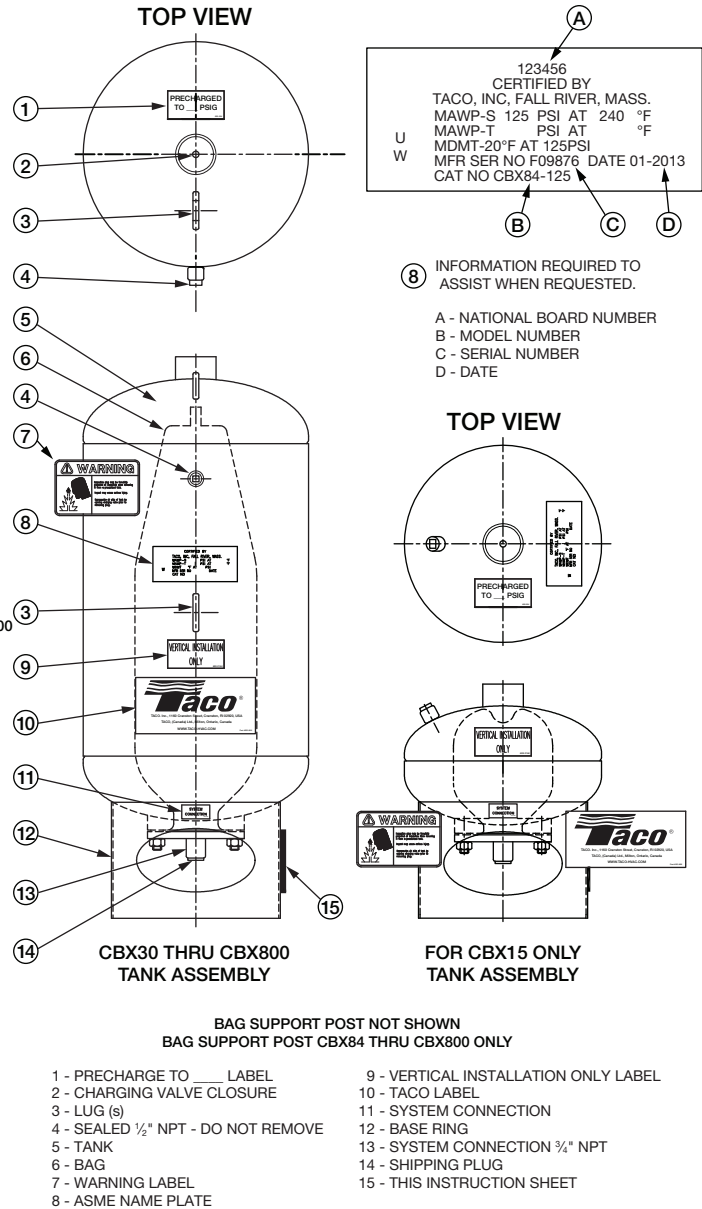


Diagram 1 – Location of Tank Fittings

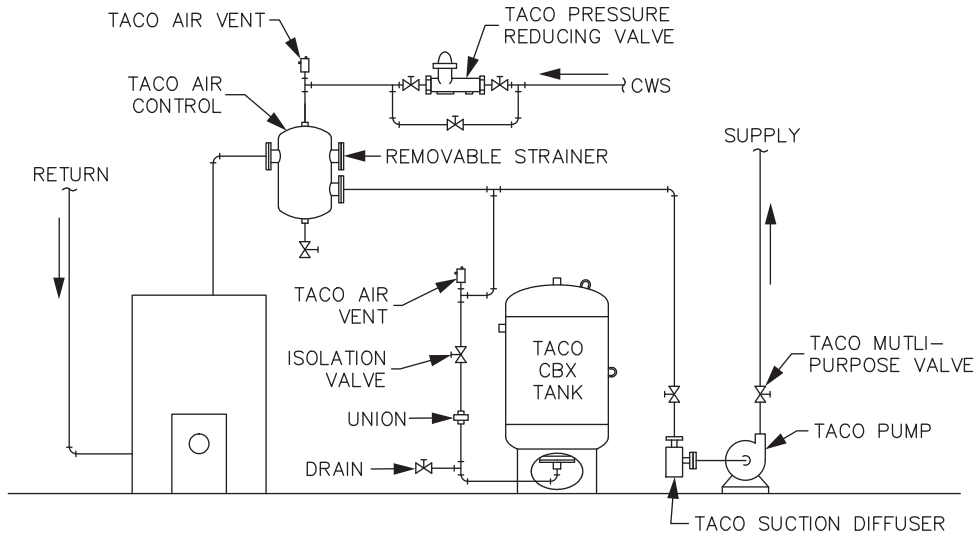
Diagram 2 – Air Charge Check Chart

Specified Pre Charge Pressure P.S.I. (at 68°F)	Ambient Temperature (°F)								
	36	44	52	60	68	76	84	92	100
12	10.4	10.8	11.2	11.6	12.0	12.4	12.8	13.2	13.6
20	17.9	18.4	18.9	19.5	20.0	20.5	21.1	21.6	22.1
30	27.3	28.0	28.6	29.3	30.0	30.7	31.4	32.0	32.7
40	36.7	37.5	38.2	39.2	40.0	40.8	41.6	42.5	43.3
50	46.1	47.1	48.0	49.0	50.0	51.0	52.0	52.9	53.9
60	55.5	56.6	57.7	58.9	60.0	61.1	62.3	63.4	64.5
70	64.9	66.1	67.4	68.7	70.0	71.3	72.6	73.9	75.1

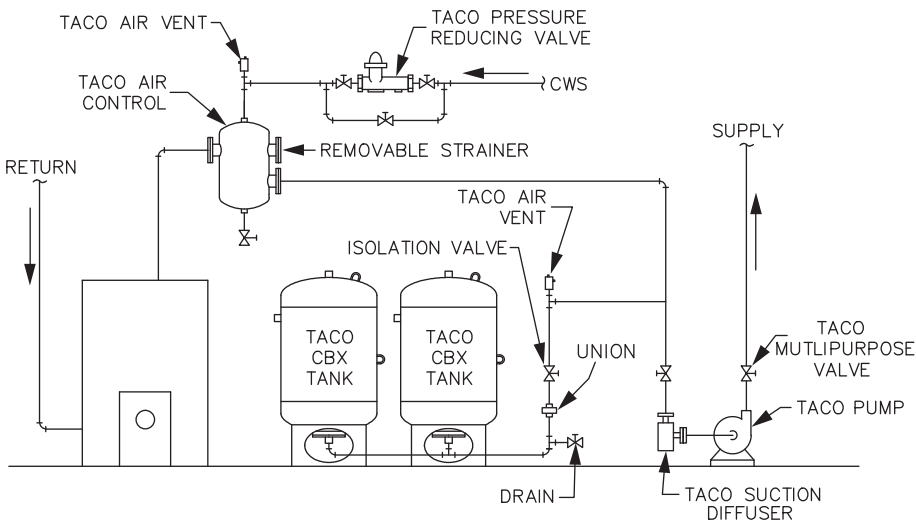
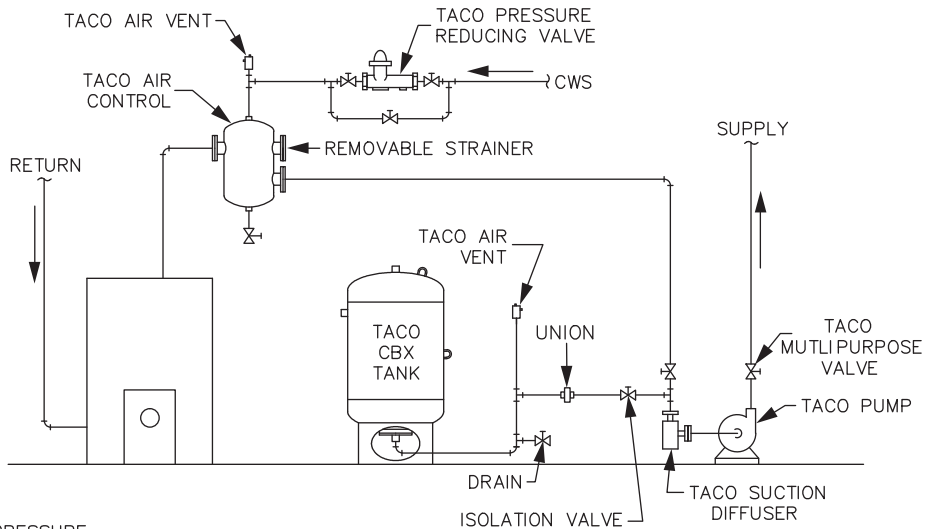
### How to Use the Chart

1. Determine ambient air temperature where the tank is being checked.
2. Locate the specified pre-charge pressure in the left-hand column.
3. Follow across horizontally to the number under the ambient air temperature.
4. The number found under Step No. 3 is the temperature corrected air charge pressure in p.s.i. and should agree with the gauge reading observed at the tank.
5. If the temperature corrected air charge pressure differs by more than 1 p.s.i. from the pre-charge pressure specified for the system, then correct it by bleeding pressure through the air charge valve or by adding pressure with an air compressor.

# CBX Tank Piping Diagrams – Recommended Location



# CBX Tank Piping Diagrams – Alternate Locations



**See Related Documents:**  
 400-2.6 Catalog  
 401-054 Submittal  
 402-020 This Instruction Sheet  
 402-090 Bag Replacement Instructions

