



# Submittal Data Information CBX Expansion Tanks

401-054

SUPERSEDES: November 15, 2013

EFFECTIVE: March 10, 2016

Job: \_\_\_\_\_

Quantity	Item No.	Model No.	Precharge*	Working Pressure
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\*Unless otherwise specified, standard precharge of 12 PSIG. (83 KPa)

### CONSTRUCTION

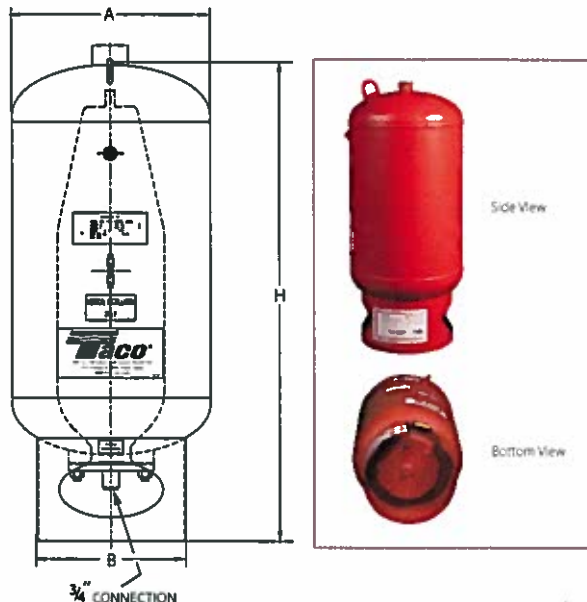
- Seamless bladder type for permanent separation of air and water.
- Water expands into bladder. Air precharge on shell side.

### SPECIFICATIONS

- Shell – Fabricated Steel designed and constructed per ASME Section VIII, Div. 1.
- Bladder – Heavy Duty Butyl removable for inspection.
- Working Pressure – 125 PSIG (862 KPa) (150 PSIG optional).
- Operating Temperature – 240°F (116°C) Max.
- Lifting rings not included on CBX 15, CBX 30 and CBX 42.
- Not for use with potable water.
- **VERTICAL INSTALLATION ONLY.**

### APPLICATIONS

- Hydronic Expansion Tank
- Non-Potable Hydropneumatic and Drawn Down Applications



### DIMENSIONS

All dimensions shown are subject to change and should not be used for pre-piping. Contact your local Taco representative should certified dimensional drawings be required.



MODEL NUMBER	TANK VOLUME		ACCEPT. VOLUME		H HEIGHT		A DIAMETER		B DIAMETER		APPROX. SHIPPING WEIGHT	
	GAL.	LIT.	GAL.	LIT.	INCH	MM	INCH	MM	INCH	MM	LBS.	Kg
CBX15-125	4	15	2.5	9.5	15	381	14	356	12	305	45	20
<b>CBX30-125</b>	<b>8</b>	<b>30</b>	<b>5</b>	<b>19</b>	<b>22 3/16</b>	<b>564</b>	<b>14</b>	<b>356</b>	<b>12</b>	<b>305</b>	<b>90</b>	<b>41</b>
CBX42-125	11	42	5	19	27 3/16	690	14	356	12	305	105	48
CBX84-125	22	84	12	45	38 9/16	980	16	406	12	305	150	68
CBX130-125	34	130	19	72	37 5/16	948	20	508	16	406	200	91
CBX170-125	45	170	24	91	43 5/8	1108	20	508	16	406	240	109
CBX254-125	67	254	34	129	48 13/16	1240	24	610	20	508	280	127
CBX300-125	79	300	43	163	55 5/16	1405	24	610	20	508	300	136
CBX350-125	92	350	43	163	62 5/16	1583	24	610	20	508	330	150
CBX425-125	112	425	61	231	69	1753	24	610	20	508	380	172
CBX500-125	132	500	61	231	79 7/16	2018	24	610	20	508	425	193
CBX600-125	160	600	61	231	68 1/8	1730	30	762	24	610	515	234
CBX800-125	212	800	61	231	86 1/8	2188	30	762	24	610	605	275

COMMENTS: \_\_\_\_\_



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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.

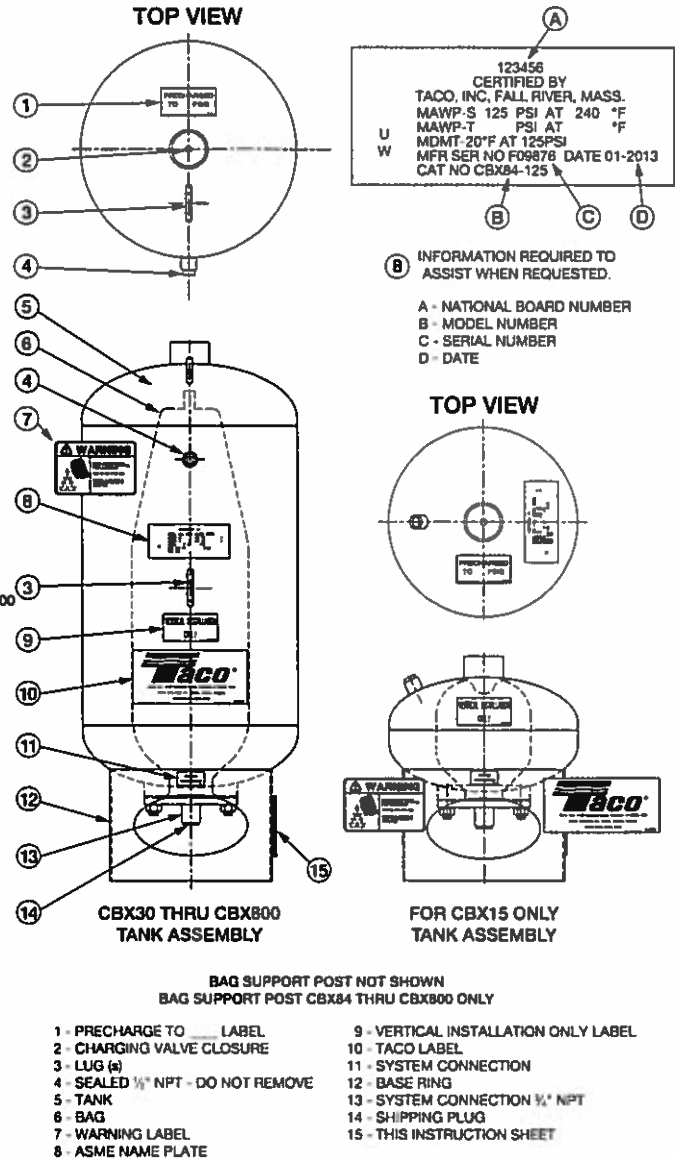


Diagram 1 – Location of Tank Fittings

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.



# Instruction Sheet

## CBX Expansion Tank Bag Replacement

402-090

SUPERSEDES: New

EFFECTIVE: July 1, 2004

Plant ID No. 001-3818

Before proceeding with the bag replacement, read instructions carefully and check that you have the required tools and supplies available.

Suggested tools: Source of compressed air, tire valve air chuck, extension cord, hand lamp, pressure gage with air chuck, valve core removal tool, wrenches or sockets- (CBX15-42) 1 1/16", (CBX84-130) 1 1/16" & 1 7/16", (CBX170-600) 7/8" & 1 7/16", pipe wrenches.

### To Remove Existing Bag

1. Isolate tank from system.
2. Disconnect or cut line to tank and allow water to drain from system connection (22). Check air charge at Schrader valve (13) to see if there is any air pressure in the tank. If the reading is 0 add air to collapse the bag to expel water from the bag.
3. When water stops flowing from the system connection, remove valve core to bleed air from tank.  
**CAUTION: AIR PRESSURE IN TANK COULD CAUSE VALVE CORE TO BE A PROJECTILE. WEAR SAFETY GLASSES. NO OTHER PLUGS ARE TO BE REMOVED FROM THE TANK. WARNING: FAILURE TO COMPLY WITH THESE INSTRUCTIONS REGARDING THE AIR CONNECTIONS CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH AND/OR PROPERTY DAMAGE.**
4. Lay tank on its side to make system connection/cover assembly accessible.
5. When tank is at 0 psi, remove the nuts (20) securing the cover assembly to the tank.
6. Separate the cover assembly away from the rubber flange several inches and separate rubber flange of the bag away from the tank flange.
7. Pull the cover/support post and bag from the tank.  
**Note: The smaller sizes do not have a support post. (CBX15-42)**
8. Remove the spacer rings (17) from the studs and put aside for reuse.  
**CAUTION: DO NOT DROP IN TANK**
9. Wipe out the inside of the tank, making sure it is dry and check all tank flange and interior surfaces for any sharp edges. Smooth any rough surfaces.
10. Remove 7/8" heavy hex nut (15B) from the end of the support post (15A). (Used with CBX84-600)
11. Remove the washer (15D).
12. The old bag can now be removed from the support post.
13. Clean the fixed sealing flange (15C) which is welded to the bag support post and the holes in the post.

### To Install New Bag

**Note: CBX15-42 Expansion Tanks do not use a support post so disregard steps 1-3.**

1. Install new bag over support post (CBX84-600 only) engaging the 7/8" screw with the hole in the end of the bag.
2. Install the washer over the 7/8" screw.
3. Run the 7/8" hex nut down and tighten to a positive stop.
4. Make sure the sealing surface of the tank flange, the cover plate sealing surface and both sides of the rubber flange of the bag are clean.
5. Install spacer rings over the studs.