

Instruction Sheet

CAF Expansion Tanks

402-109

SUPERSEDES: December 1, 2014

Effective: June 13, 2022

Plant ID No. 001-5042



WARNING: FAILURE TO COMPLY WITH THESE INSTRUCTIONS REGARDING THIS PRODUCT CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE.

- Note location of the system connection, charging valve, and the drain plug and labels on the tank. Refer to Diagram 1 for location of these tank fittings.
- Carefully remove the shipping plugs in the system connections located at the center of the cover flanges. Pause before completely removing to allow any trapped air to escape. There should not be much, if any, air pressure under the protective covers.

WARNING: DO NOT REMOVE THE PIPE PLUGS LOCATED ON THE SIDE AND BOTTOM OF THE TANK (TANK DRAINS). THESE PLUGS 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, ALWAYS REMOVE AND DISCONNECT THE TANK FROM THE SYSTEM.

- Prior to connecting this tank to the hydronic system the pre-charge pressure within the tank should be confirmed and if necessary adjusted to equal the minimum system pressure at the tank location. This measurement should be taken at the air valve located on the top of the tank. The tank was shipped from the factory with an initial pre-charge of 40 psi at 68 degrees. This may vary with changes in ambient temperature. Use Diagram 2 (below) - air charge check chart to correct the value read on the pressure gauge to adjust for changes in the ambient temperature. The fill pressure of the system should be indicated on the schedule file or within the job specifications. If not provided in either of these locations consult the design engineer for the proper fill pressure values prior to installation of this tank. Installation of the tank prior to adjusting the pre-charge can result in incorrect pre-charge readings.
- The pipe connection to the system may now be made. The piping requirements for flow through expansion tanks are different from those of single port expansion tanks. Note the Flow Through Expansion 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. Note that there are 2 recommended piping arrangements based on flow. If the system flow exceeds the flow rate shown in the chart below, refer to figure 1. A Valve is required in the system to ensure proper flow to the expansion tank. **It is important to ensure that the flow rate to the tank does not exceed the flow shown in the chart below. Taco is not responsible if the flow to the tank exceeds the max flow in tank as shown in the chart below.** If the system flow is within the flow rate shown in the chart below, refer to figure 2. A valve will not be required in this instance and the precision flow channeling head on the Flow Through Tank will ensure the proper amount of flow in the tank.

- Not all potable water systems will have pumps. A combination shut-off and drain valve should be located in the connection piping to provide for tank isolation during the initial hydrostatic test.
- STANDARD PRODUCT FEATURES WITH 304 SS COVER FOR USE WITH WITH POTABLE WATER.**
 - MUST BE INSTALLED IN VERTICAL ORIENTATION.**
 - Models certified to NSF/ANSI 61-G are required to be installed on the cold water side of the hot water heater.

MODEL NUMBER	MAX FLOW IN TANK RATE (GPM)	CONNECTION SIZE
CAF90 TO CAF215	55	1.5" NPT
CAF300 TO CAF800	80	2" NPT
CAF900 & CAF2500	200	3" NPT

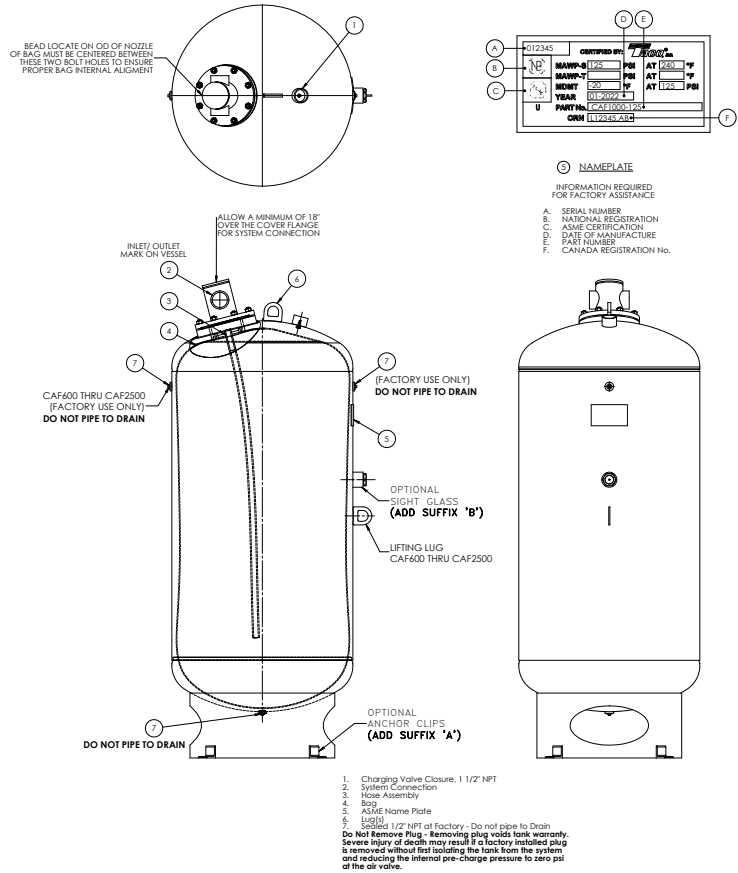


DIAGRAM 1 – LOCATION OF TANK FITTINGS



NSF/ANSI 61-G [P] OPTION, (EX. P/N CAF90-125P)
Models certified to NSF 61-G are required to be installed on the cold water side of the hot water heater.

Diagram 2 - Air Charge Check Chart

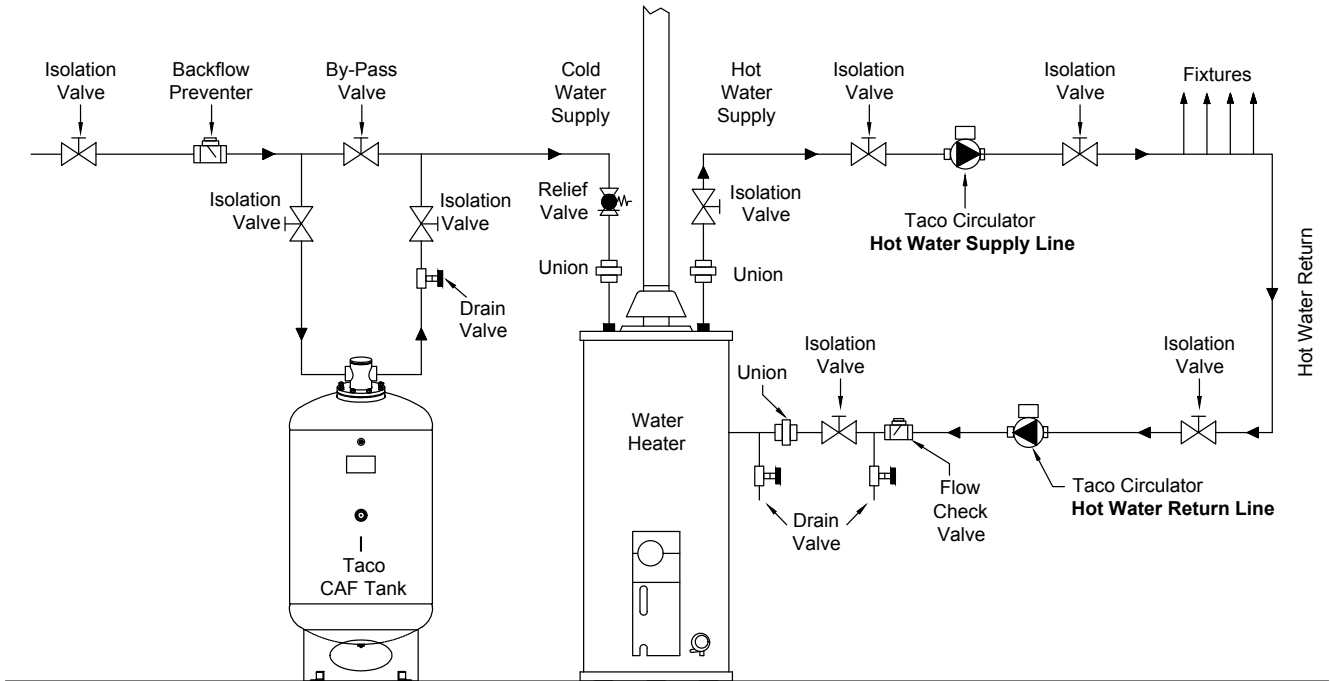
Specified Pre Charge Pressure PSI (at 68°F)	Ambient Temperature (°F)								
	36	44	52	60	68	76	84	92	100
12	10.4	10.8	11.2	11.6	12.0	12.4	12.8	13.2	13.6
20	17.9	18.4	18.9	19.5	20.0	20.5	21.1	21.6	22.1
30	27.3	28.0	28.6	29.3	30.0	30.7	31.4	32.0	32.7
40	36.7	37.5	38.2	39.2	40.0	40.8	41.6	42.5	43.3
50	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

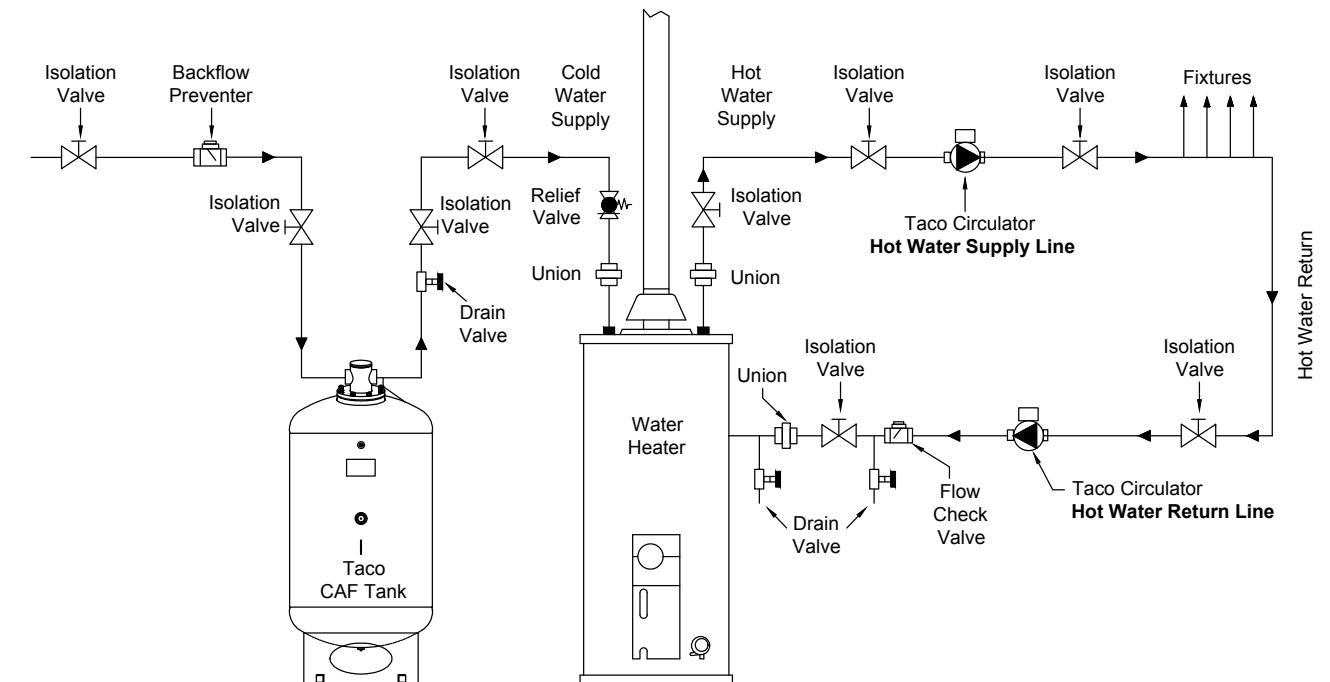
- Determine ambient air temperature where the tank is being checked.
- Locate the specified pre-charge pressure in the left-hand column.
- Follow across horizontally to the number under the ambient air temperature.
- The number found under step no. 3 is the temperature corrected air charge pressure in p.s.i. and should agree with the gauge reading observed at the tank.
- 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.

FLOW THROUGH EXPANSION TANK PIPING DIAGRAMS

**Typical Installation for Hot Water Recirculation System Where System Flow Exceeds
Max Flow in Tank from chart on page 1 Tank Flow - Figure 1**



**Typical Installation for Hot Water Recirculation System Where System Flow is equal to or less
than Max Flow in Tank from chart on page 1 Tank Flow - Figure 2**



LIMITED WARRANTY STATEMENT

Taco, Inc. will repair or replace without charge (at the company's option) any commercial pump product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local Taco stocking distributor or Taco in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local Taco stocking distributor or Taco. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subject to misuse, misapplication, the addition of petroleum based fluids or certain chemical additives to the systems, or other abuse, will not be covered by this warranty.

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Taco reserves the right to provide replacement products and parts which are substantially similar in design and functionally equivalent to the defec-

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