

FlexTank Series – Installation & Operating Manual

The Flamco Flex Series ASME expansion tanks offer a removable bladder and are pre-charged. The FlexTank is designed to absorb expansion volumes and control the pressure in heating and cooling systems. The system fluid is contained in a full acceptance heavy duty butyl bladder that helps to prevent corrosion as well as waterlogging issues.

General

- Maximum working temperature: 240°F
- Maximum working pressure: 150 PSI
- Suitable for Water/Glycol mixes up to 50%
- Pre-Charge Pressure: 40 PSI (To be verified during installation procedure)

Materials

- Shell: Carbon Steel
- Heads: Carbon Steel
- Interior: Heavy Duty Butyl Bladder

Safety

- The FlexTank is delivered pre-charged and damage to the structure of the tank can cause serious injury to nearby personnel.
- Prevent overpressure in the installation. Install a relief valve to protect system components
 - a) Set the overpressure in the installation to a value equal to or lower than the maximum working pressure shown on the tank label
- The inspection opening must not be removed/opened as removal may cause the internal bladder to burst. Inspection opening should only be removed as necessary and only after the pressure inside the tank has been released to zero-gauge pressure.

Handling and Storage

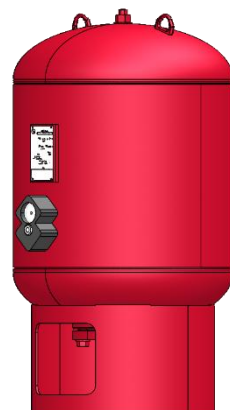
All tanks should be moved using the lift lugs welded to the unit (if equipped). Lifting the tank by clipping an eye hook into the lift lugs is the safest and most effective way to move the unit. Note that not all lift lugs are placed at the center of gravity, the unit may shift once lifted off the ground. Ensure that the weight of the unit does not exceed the rating of the rigging equipment.

Outdoor Storage:

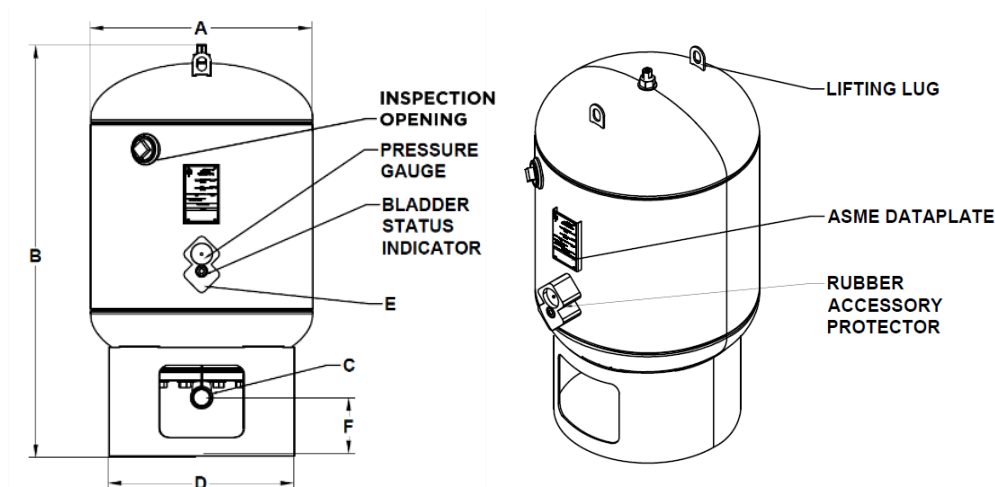
- Cover all units with a tarp to protect from the elements.
- Do not store in potential flood plain.
- Cover all openings on the units to prevent foreign matter from entering the unit.
- Place in a safe location, away from heavy traffic.
- Bladder tanks are under pressure during shipment. Damaging these tanks could be extremely dangerous.

Indoor Storage:

- Cover all openings on the units to prevent foreign matter from entering the unit.
- Unit should be stored in a dry environment, away from any potential sources of moisture.
- Place in a safe location, away from heavy traffic.
- Bladder tanks are under pressure during shipment. Damaging these tanks could be extremely dangerous.



Drawings & Dimensions



DIMENSIONS [inches]									
PART CODE	NOMINAL CAPACITY [Gallons]	ACTUAL CAPACITY [Gallons]	A	B	System Connection	D	Charging Valve	F	WEIGHT [lbs]
					C		E		
FEXP-010	10	10.8	16.0	25.0	1" NPT	12.0	0.302" - 32NC	6.0	76
FEXP-013	13	13.3	16.0	28.0	1" NPT	12.0		6.0	82
FEXP-023	23	26.5	18.0	38.5	1" NPT	14.0		5.6	125
FEXP-035	35	39.4	24.0	34.5	1" NPT	20.0		4.7	195
FEXP-053	53	54.3	24.0	44.0	1.5" NPT	20.0		6.0	262
FEXP-079	79	86.8	30.0	44.5	1.5" NPT	26.0		4.7	326
FEXP-106	106	107.7	30.0	51.3	1.5" NPT	26.0		4.7	361
FEXP-132	132	140.5	30.0	64.0	2" NPT	26.0		5.8	431
FEXP-158	158	158.4	30.0	70.0	2" NPT	26.0		5.8	468
FEXP-211	211	212.1	30.0	88.0	2" NPT	26.0		5.8	564
FEXP-264	264	264.1	36.0	78.4	2" NPT	32.0		4.7	772
FEXP-317	317	331.0	36.0	94.2	2" NPT	32.0		4.7	928
FEXP-370	370	392.5	42.0	84.4	2" NPT	36.0		4.5	987
FEXP-422	422	439.4	42.0	92.4	2" NPT	36.0		4.5	1066
FEXP-528	528	530.3	48.0	89.0	2" NPT	42.0		5.4	1457
FEXP-660	660	701.7	48.0	111.5	2" NPT	42.0		5.5	1810
FEXP-792	792	823.7	48.0	127.5	2" NPT	42.0		5.5	2028
FEXP-1056	1056	1059.8	54.0	131.9	2" NPT	48.0		6.3	2826
FEXP-1320	1320	1369.8	60.0	137.5	2" NPT	54.0		6.2	3286
FEXP-1980	1980	1986.2	72.0	141.9	2" NPT	66.0		7.6	5693
FEXP-2640	2640	2640.2	72.0	180.1	2" NPT	66.0		7.6	6929
FEXP-3963	3963	4027	84.0	200.7	3" NPT	76.0		7.6	8945

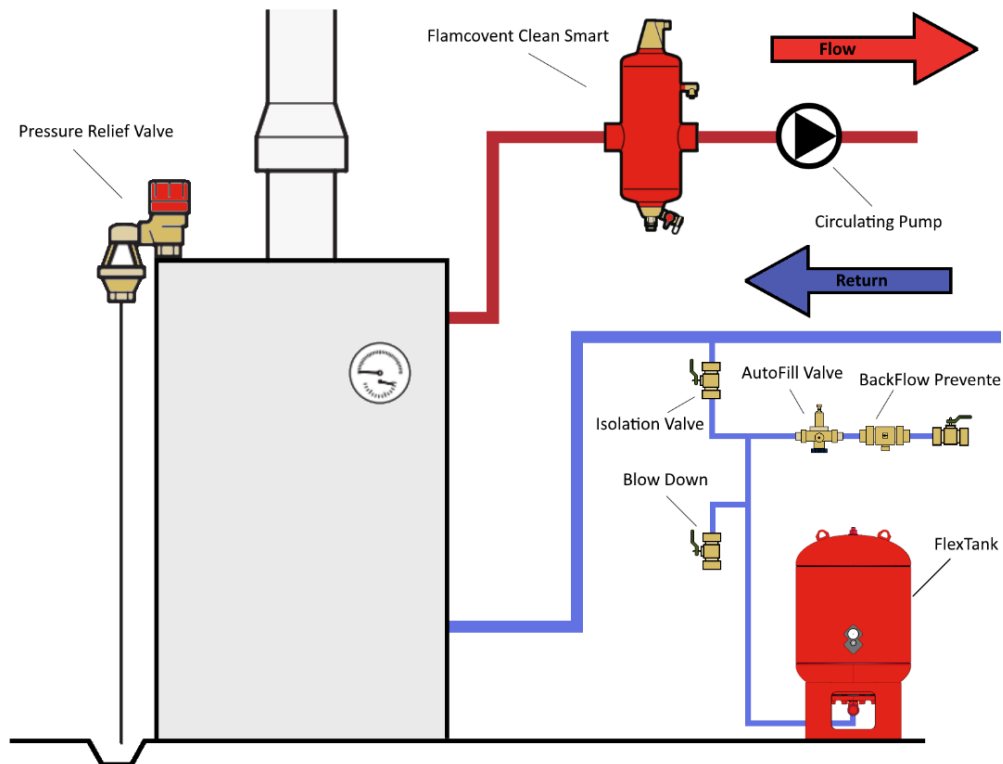
Aalberts hydronic flow control

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Installation

- Inspect the Expansion Tank for any visual damage that may have occurred during transit. If any damage is found DO NOT INSTALL THE TANK.
- a. Bladder tanks are shipped from our warehouse with an air pre-charge. Damaged tanks can be extremely dangerous.
- Before connecting the expansion tank to the system, check the air pre-charge pressure using the pressure gauge located on the front of the tank. Pressure adjustments can be made via the charging valve (labeled E)
- a. If the factory set pre-charge does not match the calculated pre-charge for the installation it must be adjusted. The water side of the tank should be empty during adjustment.
- Once satisfied with the Pre-Charge the expansion tank may now be connected to the system, the FlexTank has a single system connection located at the bottom of the tank labeled C (Fig 1,)
- The FlexTank should be installed in the return line, as close as possible to the boiler, on the intake side of the pump. Install the tank so that the water it contains cannot circulate.
- **Note:** It is recommended that an isolation valve and blow down is installed local the expansion tank such that it can be isolated from the hydronic system for routine servicing and during hydrostatic testing. **See below diagram for example of possible installation**



Maintenance

The FLEX Tank should be checked periodically (at least once per year) to ensure the pre-charge is properly maintained. Changes in pre-charge pressure can significantly alter the tanks performance and reduce the life expectancy of the bladder. If it appears that a bladder tank is not operating correctly, check the tank's air pre-charge:

- Isolate the tank from the piping system (close ball valve from tank to system).
- Drain the tank fluid (preferably with a drain located between ball valve and tank). Leave drain valve open.
- Check the tank's pressure by placing reading the pressure gauge on the front of the tank.
- If the pressure is less than the system fill pressure (or specified value), add air to the tank via the Schrader valve located on the front of the Tank. Express caution when using an air compressor or pump and follow compressor manufacturer's instructions/safety warnings. As air is added, note the discharge from the open drain.
 - a. If water, continue adding pressure as needed to evacuate the water from the tank. Re-check the pre-charge pressure and adjust as necessary to meet desired level.
 - b. If air comes through the drain, there is a tear or hole in the bladder. The bladder will need to be replaced (refer to bladder replacement instructions).
- Release air if the pressure is above the desired level. Check for leaks in the air charging system by dripping a soap solution on the air charging valve.
- Open valve to the system to place the tank into operation. If tank pressure drops abnormally, the bladder inside the tank may have a tear or hole in it. Repeat the operations above to verify a leak or no leak is seen.

Note:

There is a bladder status indicator located on the front of the expansion tank, if the float is raised the bladder may have a tear or hole and require replacement.