



## TANK INSTALLATION INSTRUCTIONS

For assistance email [pumps@backflow.com](mailto:pumps@backflow.com) or call 708-202-0033

Tanks should be sized and installed per NFPA 13D or the local AHJ.

**Note Min Max flow rates and PSI in charts**

We provide a fill valve with built in air gap on primary tanks.

Tanks provided by CBM are noted in useable water storage capacity.

Tanks should be placed on a flat solid surface that is capable of supporting the weight of the tank(s) when filled with water. Any piping should be properly supported to eliminate loads on the tank fittings.

Tanks should be installed in an area that will not be subject to freezing or in direct sunlight.

CBM provides two (2) styles of tanks in four (4) different sizes.

The styles are

1. A PRIMARY tank which includes an automatic fill valve
2. A SECONDARY tank which combines with the PRIMARY tank to increase total storage capacity when needed.

Tank combinations and General Instruction:

1. Pipe water supply to primary tanks 1" fill valve. When combining tanks, there should be at least 1 primary tank (with fill valve) and any secondary tank(s) used should be the same size (capacity, height and diameter) as the primary tank, and set on the same level so they fill at the same rate. Secondary tanks do not require a fill valve.
2. Tanks used in combination should have a common manifold. (1 ½" 90els, tees, nipples) There should not be any check valves or control valves installed in the common manifold piping prior to the pump.
3. Tank manifolds should be adequately supported so they do not put a load on the tank fitting(s)
4. The pump suction should be piped so that it is at least 10 pipe diameters away from the closest tank suction fitting.  
I.E. 1 ½" suction pipe = 17" minimum from closest tank suction fitting or 90el.

5. A 1 ½" tank emergency overflow outlet is provided. At least one of the overflow outlets should be piped to a drain or sump that is capable of handling any overflow. Smaller overflow piping than 1 ½" is at the sole discretion and responsibility of the installing contractor.

6. An automatic 1" refill valve is provided with each primary tank to refill the tank(s) as water is used. There are minimum and maximum GPM and/or PSI thresholds that are required for proper valve operation. The minimum flow must be met from the Well pump. If maximums are exceeded the valve may not shut off and the addition of a field installed restricted orifice or PRV may be required.

NFPA 13D allows the re-fill water to be used when determining the tanks size if also allowed by the local AHJ. Per NFPA-13D 6.1.4

- A. See NFPA 13D-6.1.1, 6.1.2 and 6.1.3 to determine if a 7 or 10 minute supply is required.
- B. Then refer to 6.1.4. Useable stored water + refill rate = water available to meet demand per 6.1.2 or 6.1.3

\$\$\$ The most economical approach to water storage is to have a tank in place prior to finish framing, so that a larger diameter tank (less cost per gallon) can be used.

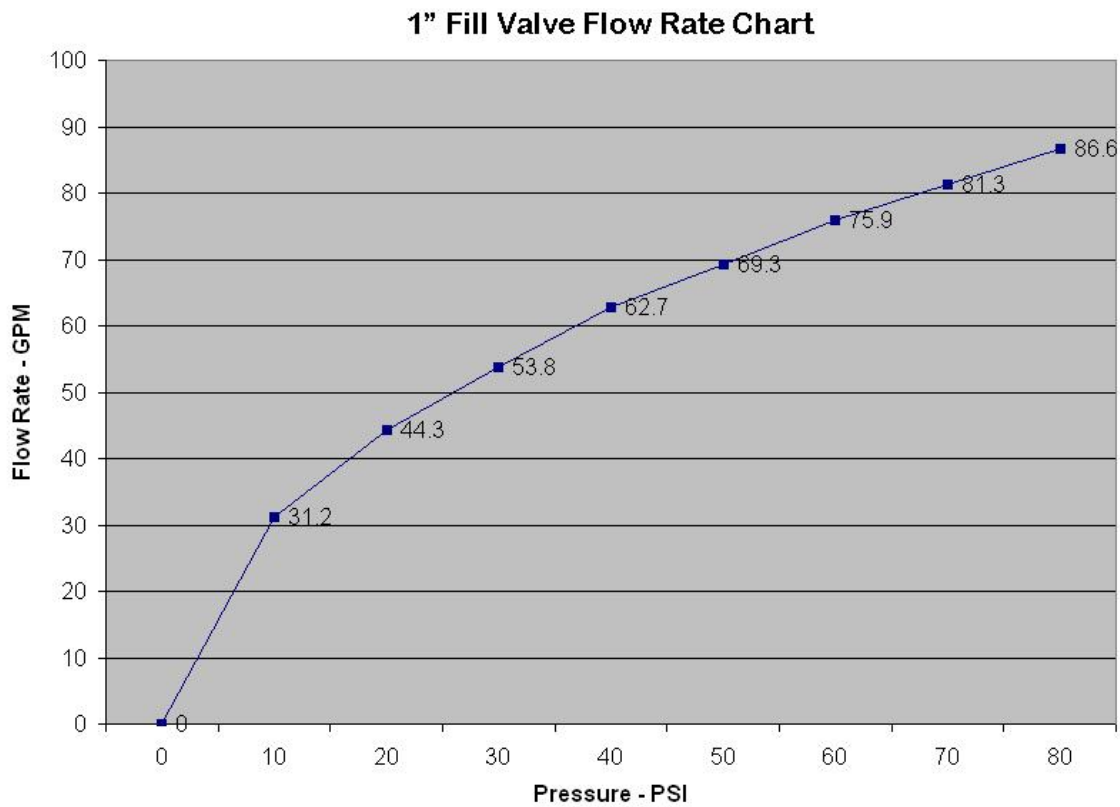
**Warning: Do not add any chemicals or additives to the tanks water, including, bromine, chlorine or other substances including cleaners. Non approved chemicals or additives that have not been specifically tested with the systems components may adversely react with or damage the sprinkler system or components, including possibly damaging the pump, tank, piping or sprinkler heads. We will not be responsible for any chemical reactions caused by any additives. We can only recommend that if the water aesthetics become objectionable the tank can be periodically emptied and refilled when conducting a monthly pump operation test or the water can be changed as deemed necessary per the aesthetic requirements of the owner.**

**See charts on next page**

## 1" RE -FILL VALVE

Internal Air Gap Design	*yes
Min-Max Flow @ PSI	*see chart
Operating Pressure	*10 PSI. To 80 PSI
Flow Rate Into Tank	*Approx. 80% of flow supplied to valve
Max Fluid Temp.	*150° F

\*If Maximum Flow @ PSI condition is exceeded the valve may not shut off and a PRV that restricts flow and or pressure may be required.



**Warning:** Installers should only use Teflon tape on the threaded fitting. Some pipe dopes are not compatible with plastic.

**Warning:** Do not put any type additives into the tank, including fungicides, bromine or chlorine, stop leak or any other substances as they could adversely react with or damage the sprinkler systems components, including possibly damaging the pump, tank, piping or sprinkler heads. We will not be responsible for any chemical reactions caused by any additives. We can only recommend that if the water aesthetics are objectionable the tank can be periodically emptied and refilled when conducting a monthly pump operation test or the water can be changed as deemed necessary per the aesthetic requirements of the owner.

**Warning:** This tank should NOT be installed in an area that exposes the tank to direct sunlight. Also, DO NOT allow the temperature surrounding the tank to drop below **40° F** which is a common NFPA safety practice for fire sprinkler systems to assure the water does not freeze.

**Warning:** Per NFPA 13D A.4.1.1 Items 3 and 4 tanks should be inspected monthly to make sure they are full. Monthly testing of the pumps should be conducted to make sure they operate properly and do not trip the circuit breakers.