

Accumatic

ACCUMATIC™ BRINE SYSTEM

The Accumatic™ brine system consists of a **brine tank** and an **internal or external brine ejector** (also called a throat and nozzle assembly) mounted inside the Task Master III™ or Task Master™ – 2 or 2-½ inch valve or mounted externally as part of a valve nest. Inside the brine tank is a **brine valve**, a protective housing called a **brine well**, and a **salt platform**.

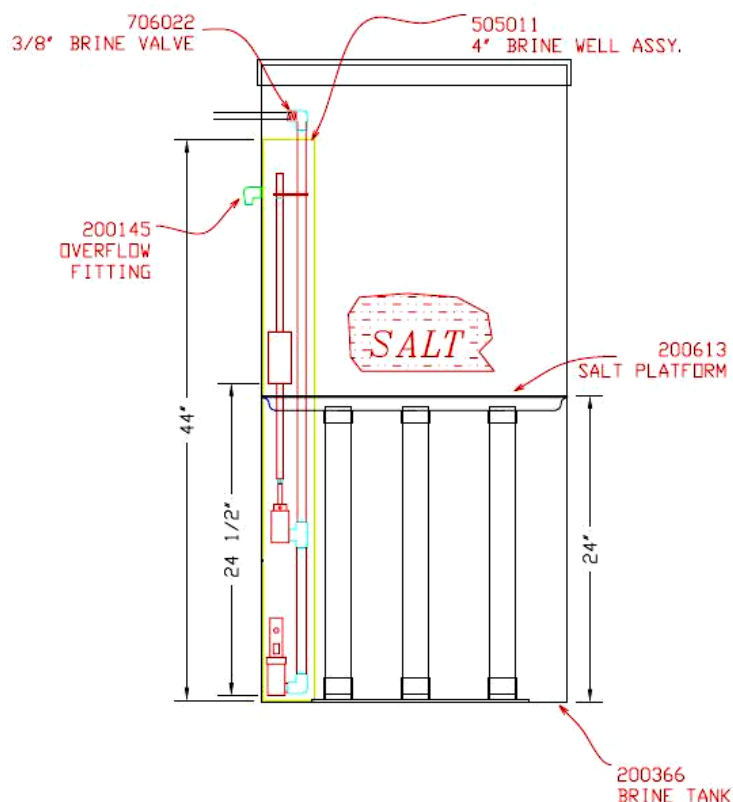
The brine system applies a salt solution to the softener to regenerate the cation exchange resin. Saturated brine (26% NaCl by weight) is drawn from the brine tank by the ejector. Each model of softener has a different injector to generate a different brine flow rate. The corrosion resistant injectors are sized to dilute the saturated brine to 10% NaCl by weight. This brine concentration minimizes salt use during regeneration.

To create the saturated brine, dry salt is added to the brine tank, where it is dissolved in water. Since there is always an excess of salt, the brine solution is saturated. In the high grid plate design, the dry salt is not allowed to fill the bottom of the brine tank.

The saturated brine is drawn from below the grid plate (and below the salt bed) eliminating salt bridging and mushing. The Accumatic™ system controls the amount of brine solution added during regeneration and automatically refills the brine tank with water after regeneration. Because of the high grid plate, brine volume is not dependent upon void space in the salt bed. **Brine drawn during regeneration is repeatable and accurate.**

Features

- **Made from Pipe.** The Accumatic™ brine valve is available in ⅜, ½, ¾", 1" and 1¼" sizes. All sizes are constructed of heavy duty Sch.80 PVC. The sizes are I.D. as in pipe size, not O.D. as in tubing size. Our ⅜" ID brine valve is the same size as other ½" O.D. valves. The Accumatic brine valve is made from pipe, not tubing.
- **Very precise measurement of brine.** The Accumatic™ valve provides accurate volumetric control of brine draw. The same amount is drawn every time. The voids of the salt do not affect the brine draw.
- **Brine check** in brine valve prevents air draw into mineral tank.
- **Positive pressure** is applied to seat the brine valve to prevent brine contamination during the service cycle.
- **Standard systems** have a fixed brine float which is factory preset at a brine draw which works for the system. Brine draw can be adjustable by adding the optional adjustable brine float.

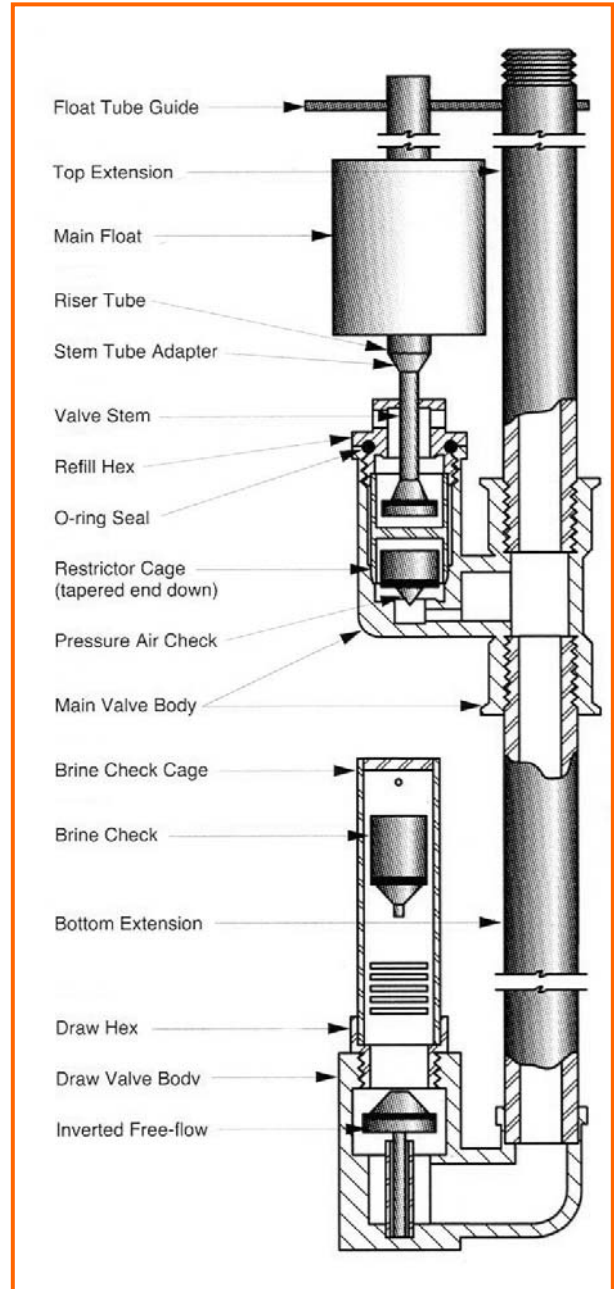


CAT610.2

Water King Model No.	Salt Draw (lbs)	Preset Capacity (Kgr)	Brine Tank Size (inches)	Grid Support Height (inches)	Brine Tank Part No.	Brine Line/ Brine Valve	Salt Storage (lbs)	Regens in Storage	Salt Dosage (lbs/ft ³ resin)
50	29	49	18x40	11	805061	1/2"/3/8"	320	11.0	19.3
70	29	69	18x40	11	805061	1/2"/3/8"	320	11.0	12.9
100	51	100	24x40	11	805075	1/2"/3/8"	570	11.2	15.7
120	51	120	24x40	11	805075	1/2"/3/8"	570	11.2	12.8
150	66	153	24x40	16	805076	1/2"/3/8"	500	7.6	13.2
180	66	196	24x40	16	805076	1/2"/3/8"	500	7.6	11.0
240	91	245	24x50	21	805077	1/2"/3/8"	640	7.4	11.4
300	91	293	24x50	21	805077	1/2"/3/8"	640	7.4	9.1
450	145	432	30x50	24	805177	1/2"/1/2"	900	6.2	9.7
600	244	594	39x60	24	805178	1/2"/1/2"	2,000	8.2	12.2
750	244	731	39x60	24	805178	1/2"/1/2"	2,000	8.2	9.8
900	274	837	42x60	24	805179	--/1"	2,400	8.8	11.0
1200	388	1,170	50x60	24	805169	--/1 1/4"	3,300	8.5	9.7
1650	559	1,609	60x60	24	805170	--/1 1/4"	4,800	8.6	10.2
2100	559	1,809	60x60	24	805170	--/1 1/4"	4,800	8.6	8.0
2550	805	2,486	72x60	24	805171	--/1 1/4"	7,000	8.7	9.5
3000	805	2,700	72x60	24	805171	--/1 1/4"	7,000	8.7	8.1

ACCUMATIC™ BRINE SYSTEM OPERATION

1. The Task Master III™ valve shifts to the brine position. Flow now passes through the brine injector mounted inside the valve body (internal injector). (See part #2 on the exploded view of the Task Master III™.) The injector draws a vacuum on the brine line.
2. This vacuum releases the brine valve seal (originally seated by incoming fill water pressure). The Free-flow valve drops open allowing brine to be drawn from the tank. As water is drawn from the tank, the main float will drop to allow re-fill. At the same time, the vacuum draws the air check valve closed to prevent the drawing of air through the re-fill valve.
3. The unit will continue to draw brine until the water level in the brine tank reaches the bottom of the brine riser tube. At this time the brine check will seat. This again prevents air from being drawn into the system. The Task Master III™ valve remains in brine position and water continues to pass through the injector even though it is not drawing brine. This cycle is called Slow Rinse. Slow rinse ends when the cycle timer advances the piston to the Fast Rinse position.
4. In the Fast Rinse position (and all other positions except Brine Draw) the brine line is under positive pressure. This positive pressure lifts the inverted free-flow valve, and the air check valve and allows water to begin refilling the brine tank.
5. Refilling continues until the water level in the brine tank reaches the preset level and the float causes the brine valve seat and seal. The continuing positive pressure on the brine line maintains this seal.



ACCUMATIC™ BRINE VALVES

Valve Size (inches)	Part No.
3/8"	706022
1/2"	706044
3/4"	706054
1"	706055
1 1/4"	706066

The fresh water, which entered the brine tank, is now in contact with solid salt. Over the next few hours, the water becomes saturated with salt creating saturated brine.

CAT610.4

ACCUMATIC™ BRINE SYSTEM SUB ASSEMBLY PART №

Brine Tank Assy Part №	Size	Brine Tank	Brine Well	Salt Platform	Grid Support	Brine Line/ Brine Valve	Brine Valve	Brine Line Assy	Brine Director Assy
805061	18x40	200010-1	505007	200190-1	200629-1	½" ⅜"	706022	200126-2	200442-2
805075	24x40	200375	505007	200612	200373	½" ⅜"	706022	200126-2	200442-2
805076	24x40	200375	505007	200612	200374	½" ⅜"	706022	200126-2	200442-2
805077	24x50	200376	505007	200612	200366	½" ⅜"	706022	200126-2	200442-2
805177	30x50	200561	505007	200531	200266	½" ½"	706044	200126-3	200442-3
805178	39x60	200589-RM	505014-1	200532	200273 (1)	½" ½"	706044	200126-3	200442-3
805179	42x60	200590-RM	505014-1	200533	SW4260-24	--1"	706055	806696	200442
805169	50x60	200592-RM	505014-1	200536	SW5060-24	--1¼"	706066	806690	200442
805170	60x60	200591-ZZ	505014-1	200537	SW6060-24	--1¼"	706066	806690	200442
805171	72x60	200593-ZZ	505014-1	200538	SW7260-24	--1¼"	706066	806690	200442

Brine Tank. HDPE or fiberglass tank with no accessories or perforations.

Brine Well. 505007 is 4" diameter and 505014 is 5" diameter.

Grid Plate. Masonite grid plate with nylon screen and appropriate cut out for brine well.

Grid Support. 18x40 Brine tank has plastic grid support with plastic legs at 11" height. Order 4 legs. 24x40 has a four piece Masonite grid support at 16". Order 4 pieces. 24x50 and 30x50 brine tanks have four piece Masonite grids support at 24". Order four pieces. SWxxxx are Super Web supports at 24" (note -24) height. Order one assembly.

Brine Line Assemblies. For simplex units the brine line assembly consists of six feet of polypropylene brine line and appropriate Fast & Tite tube x NPT fittings.

Brine Director Assemblies. For twin and twin alternating units a brine director is required. The brine director assembly consists of a ¾" brine director (Part № 200442), polypropylene brine line and appropriate Fast & Tite tube x NPT fittings.

The brine system for HF systems 900 and larger with brine tanks 42x60 and larger requires an external brine injector. The brine line assembly consists of a ductile iron diaphragm valve, a brass check valve, and a brass ball valve with appropriate galvanized NPT pipe fittings. The part numbers given are for the entire assembly. For HF 900 and larger systems, the interconnecting piping between the brine tank and the mineral tanks is not provided with the standard system and is installed by others. Systems with external brine injectors do not require brine directors.

Installation Notes: The brine tank is normally placed 6 to 18 inches from the mineral tank. It may be located up to 20 feet away. The floor should be smooth and level, if not, shim up a piece of ¾" marine plywood to provide a smooth level surface to protect the brine tank. On start up make certain the safety float does not hang against the side of the brine well. Make certain the water level in the brine tank is 2" above the grid plate. Use clean pellet or rock salt.