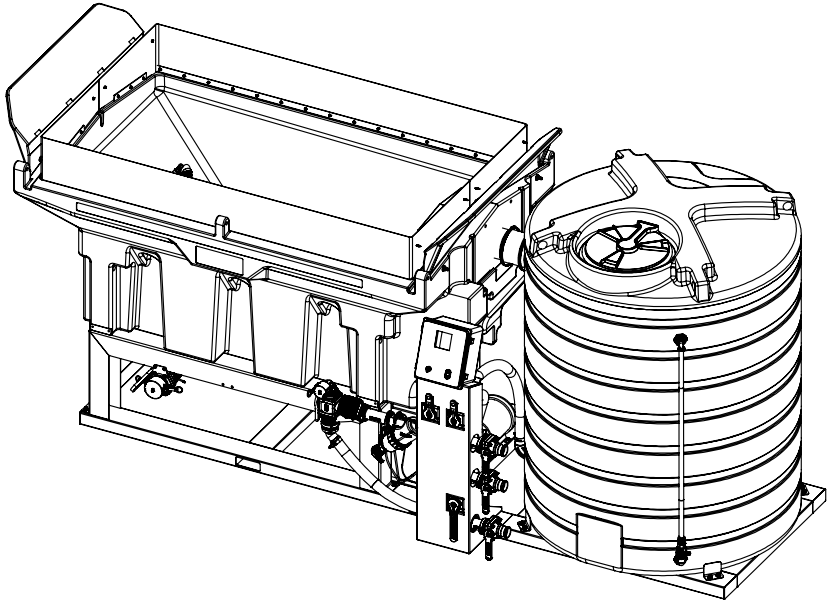


BRINE MASTER 3000®

OWNER'S MANUAL




Product Code:
IMSBM3000

Version 1.3

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INTRODUCTION

Congratulations! You now own a Camion™ Brine Master®. Durable design and construction assure you a lifetime of extreme performance.

Take a look through this owner's manual to learn how the pros use their Camion™ Brine Master®.



Watch Instruction Videos:

www.youtube.com

Discover More Helpful Tips:

www.icecontroltraining.com

WARNINGS

1. To ensure your own safety and that of others, you must comply with all relevant environmental, work place health, safety legislation and codes of practice.
2. Select and wear appropriate Personal Protection Equipment in accordance with the label of the product you intend to use.
3. Always dispose of debris and out of spec brine, generated from the brining operation, in compliance with current environmental, work place health and safety regulations.
4. Improper or careless use of this Brine Master® can cause serious injury. Minors should never be allowed to use this Brine Master®. This Brine Master® should not be used when bystanders or animals are in the area. This Brine Master® should never be used while children are in the area.
5. Never leave the Brine Master® unattended without turning off the pump and relieving any line pressure.
6. You must be in good mental health to operate this Brine Master® and not be under the influence of alcohol or any drugs that could impair your vision, physical strength, dexterity, judgment, or other mental capacity.
7. No modifications and/or alterations may be made to this Brine Master®. Any such modifications not only void the warranty but can make the unit dangerous to anyone operating it.
8. Always inspect hoses and piping to avoid burst injuries.

Discover More Helpful Tips:
www.IceControlTraining.com

GETTING STARTED

Electrical Requirements

This Brine Master 3000® requires a 230 volt, 30 amp circuit to operate. This product comes pre-wired and has a plug for easy setup. Follow all local code requirements. Use a certified electrician to install power supply.

Water Source

To achieve best cycle times and reduce waiting time, you need to have a good water source. Usually, a 1.5" or larger city water supply, or freshwater storage tanks with a minimum of 3000 gallons of fresh water is necessary to efficiently produce brine.

Salt Source

For best results and hassle-free operation during your brine making process, it is highly recommended to use a salt source that is over 98% pure (often referred to as Solar Salt). Impure salt will repeatedly cause debris to restrict flow in the filter and will likely leave sediment build up in the Brine Master® batch tank, and your onsite brine storage tanks.



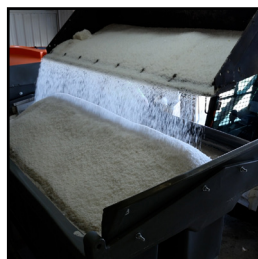
GETTING STARTED

Positioning & Leveling

It's important to make sure the Brine Master® is positioned to allow easy access to fresh water supply and storage tank hook ups at the control station and that it's level before use. If you are working with an uneven surface, place shimming material under each end and in the middle of the stainless-steel base frame on either side to level the machine.

Loading Equipment

It is best if the bucket used for loading the Brine Master® salt hopper is no more than 72" wide. This will keep your workspace as clean as possible. Using a wider bucket will cause spillover while loading the salt.



OPERATION

Startup

1) Connect fresh water supply hose to the “Fresh Water” port valve (#4), and the brine to storage tank hose to the “Discharge” port (#5) and plug the power cord into the power source.



2) Place discharge valve (#1) to “Discharge to Brining Hopper” position and place the suction valve (#2) to “Suction from Fresh Water” position.



3) Without powering on the pump, gravity fill the Brine Master® hopper by opening the “Fresh Water” port valve (#4). Once the water is covering the jet nozzles inside the brining hopper, close the valve (#4) to stop the fresh water filling process. If the pump is powered on during this initial start-up filling process, the high-pressure jets will cause water splash/spray from the hopper.



4) Load hopper with the first batch of salt. Always load the salt slowly to avoid water splashing. Load towards the opposite end of the hopper overflow, so that the salt does not obstruct the overflow screen. For best results, make sure the salt is heaped above the water. Once you start the pump, the water flow will distribute the salt down and to the sides of the hopper.



OPERATION

Initial Filling

5) Open the “Fresh Water” port valve (#4) and power on the pump, to continue filling the system with fresh water until the orange brine batch tank is filled to the 600 gallon mark. Reference the site gauge tube. Do not fill past 600 gallons to prevent overflow in the gray brining hopper.



Brining

6) Once the water reaches the 600 gallon marker on the brine batch tank, without stopping the pump, move the suction valve (#2) to “Suction from Brining Tank” position. The liquid is now recirculating from the brine batch tank through the salt in the hopper. Make sure your salinity reader is powered on. Monitor the % by weight value on the screen.



Important Tip:

Your first batch will always take the longest. Subsequent batches will take much less time to reach salinity.

OPERATION

Unloading

7) Once the salinity reader indicates the brine is at 23.0%, move the discharge valve (#1) to “Discharge to Storage” position. Make sure the valve to the left of the flow meter (#6) is in the down position.



Important Tip:

Perfect brine is 23.3%. As the brine is discharging, you will notice the % weight value on the screen rising. It's expected that the value could reach up to 24%. If you are consistently getting over 24% at the end of the unloading process, you will need to start the unload process earlier in the cycle. Ideally the salinity % should reach 23.6-23.8% at the end of an unloading process.

Important Tip:

The flow meter can be used to measure the gallons of brine unloaded from the machine. A batch total can be tracked along with a total of all batches. Refer to the manual for the Banjo flow meter for detailed operation instructions.

8) During the unload operation, reload the salt hopper as detailed in step 4. The unload operation takes about 5 mins. The process runs smoothest if you have a bucket full of salt ready to load immediately after the unload process is started.



OPERATION**Filling**

9) Once the brine batch tank is empty, move the suction valve (#2) to “Suction from Fresh Water” position. Continue filling the system with fresh water until the orange brine batch tank is filled to the 600 gallon mark. Reference the site gauge tube. Do not fill past 600 gallons to prevent overflow in the gray brining hopper. Go back to step 6 and repeat the process.

**Important Tip:**

END OF RUN PROCESS: If you are getting close to the finish of your run, don't reload the hopper with salt. Simply repeat steps 9-6-7 until most of the salt in the hopper is dissolved.

During this “end of run” process, each batch will take longer to reach salinity because new salt is not being added.



MAINTAINING

Always Clean unit with fresh water at the end of every season to clean out all brine left in brine maker to ensure proper operations for the following years. The unit requires proper care for longevity and proper operation. Follow all requirements for pump and motor by reviewing their manuals that are included.

DO NOT leave salt brine in your brine maker for extended periods of time when not in use. This can cause salt creep which can move into the motor and cause seizing issues and damage seals. The best practice is to clean the hopper after each use to prevent salt from hardening in the bottom of the unit. Run clean water through the brine maker and then drain the pump using the drain plug located at the bottom of the pump.

If you notice your flow rate has decreased to under 100 gpm on the flowmeter, this indicates that your filter is partially restricted by debris. SLOWLY crack open the shutoff valve to flush out debris buildup. To fully clean the filter, disassemble by shutting off unit and opening the drain valve on the bottom of the inline filter. Once the liquid has drained from the filter, unscrew housing, remove filter screen and clean it. Reassemble and continue use.

The salinity measuring instrument should be cleaned with fresh water at the beginning of each brining run.

Debris left in the hopper can be removed using the 3" cleanout valve/port at the bottom of the hopper. First, suck out the brine from your hopper and then remove debris using the cleanout valve.

MAINTAINING

<p>The information applies in normal operating conditions. The specific intervals must be shortened accordingly for longer daily working hours. If the machine is only used occasionally, the intervals can be extended accordingly.</p>		Instruction Ref.	Before starting work											
			At the end of work and/or daily			X								
			When no immediate scheduled use	X			X		X					
			If damaged											
			As required	X	X							X	X	
			Salinity Measuring Instrument	14.1	Dissassemble and clean lens.									
			In-Line Filter		Clean									
					Drain									
			Hoses and Fittings		Rinse with clean water									
					Drain	14.2								
Pump		Rinse with fresh water and remove drain plug to avoid salt creep.	14.3											
Power		Disconnect												
Salt Hopper		Drain and Clean	14.4											
Vertical Brine Batch Tank		Clean out sediment and debris.												

MAINTAINING

Instruction References

14.1 - To clean your refractometer, turn the 5/16" push to connect valves to the off position. Then pull the pin on the front and twist the body of the refractometer counter clockwise to remove it. Clean the lens and the inside body removing any debris. To reinstall, pull the pin and turn the body clockwise. Make certain the O-ring is seated correctly when reassembling. Lastly reopen your 5/16" push to connect valves.



14.2 - Turn valves to positions in the following image to drain the hoses and fittings.



14.3 - Remove drain plug from bottom of pump to allow liquid to drain.



14.4 - To drain the salt hopper, connect your suction hose onto the additive port and insert the suction end (with a foot strainer attached) into the salt hopper. Your discharge hose needs to be connected to an appropriate holding vessel that will contain the out of spec brine from the salt hopper. Once the hopper is mostly drained, the 3" discharge valve can be opened and remaining debris can be drained into a skid steer bucket.



TROUBLESHOOTING

CONDITION	REMEDY
Reduced flow rate	1) Check for a blockage in the filter screen.
Hopper is backing up or overflowing	1) Ensure there is no blockage on internal hopper screen. 2) Clean debris or salt away from the screen. 3) Make sure you are not filling your orange brining tank over 600 gallons.
Pump will not turn on	1) Check breakers and relays. Reset if needed. 2) Check adequate power supply. 3) Verify wiring is in good condition.
Bottom clean out on hopper drain will not flow	1) Place a large cleanout vessel (ie: skidsteer bucket) underneath the 3" clean out valve and remove compacted salt or debris by inserting a garden hose up into hopper cleanout valve.
Salinity measuring instrument is not reading or reading inaccurately	1) Ensure that the push to connect valves are in the open position to allow flow. 2) Check that the salinity measuring instrument is cleaned 3) Refer to salinity measuring instrument manual for further troubleshooting.

WARRANTY

1. Poly Tank Limited Warranty - Subject to other terms in this Limited Warranty, Manufacturer warrants to the original end user that this Tank will be free from material defects caused during the manufacturing process for a period of 5 years from the Purchase Date provided such warranty to the original end user shall be extended to 10 years from the Purchase Date if the original end user registers the Tank with Manufacturer within 30 days of the Purchase Date. To register the Limited Warranty, registration must be completed in accordance with the requirements set forth at enduraplaswarranty.com

Other Products and Parts Limited Warranty - Subject to other terms in this Limited Warranty, Manufacturer warrants to the original end user that products and parts manufactured by Manufacturer (other than tanks) will be free from material defects caused during the manufacturing process for a period of 1 year from the Purchase Date unless otherwise expressly stated in writing by Manufacturer that an extended warranty applies.

2. Other Warranties Disclaimed and Excluded

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE LIMITED WARRANTY HEREIN STATED, AND MANUFACTURER EXPLICITLY DISCLAIMS AND EXCLUDES ANY AND ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, CUSTOM OR USAGE OF TRADE, AND COURSE OF DEALING. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF MANUFACTURER HAS AUTHORITY TO BIND MANUFACTURER TO ANY REPRESENTATION OR WARRANTY EXCEPT AS STATED IN THIS LIMITED WARRANTY.

3. Limitation of Liability under the Limited Warranty - In addition to those warranties disclaimed and excluded in clause 2 above, Manufacturer expressly further limits its warranty and liability under the Limited Warranty as set forth below in this clause 3.
- 3.1. The liability of Manufacturer under this Limited Warranty is excluded to the extent that any defect has been caused or contributed to by:
- a) any accident, contamination, tampering, willful damage, abuse, modification, improper storage, improper use (including but without limitation the storage of material) or negligent act of, or omission by, any person other than Manufacturer;
 - b) the improper installation of the Goods, or deterioration of the base on which any of the Goods rest or are mounted to;
 - c) any damage to the Goods caused by storm, wash away, landslide, mudslide, lightning, or any other natural phenomenon, vermin or other pests, and any undermining of the base of the Tank through any cause whatsoever;
 - d) the repositioning of the Goods from their original installation;
 - e) weathering or degradation of the Goods due to extreme climatic conditions;
 - f) improper installation of extra fittings;
 - g) any staining or discoloration, including from trees or ash fall-out from fires or other causes;
 - h) a Tank not being placed on a base that is free of any protruding objects of any kind;
 - i) a Tank being used for any purpose other than the storage of suitable liquids at the ambient temperatures.

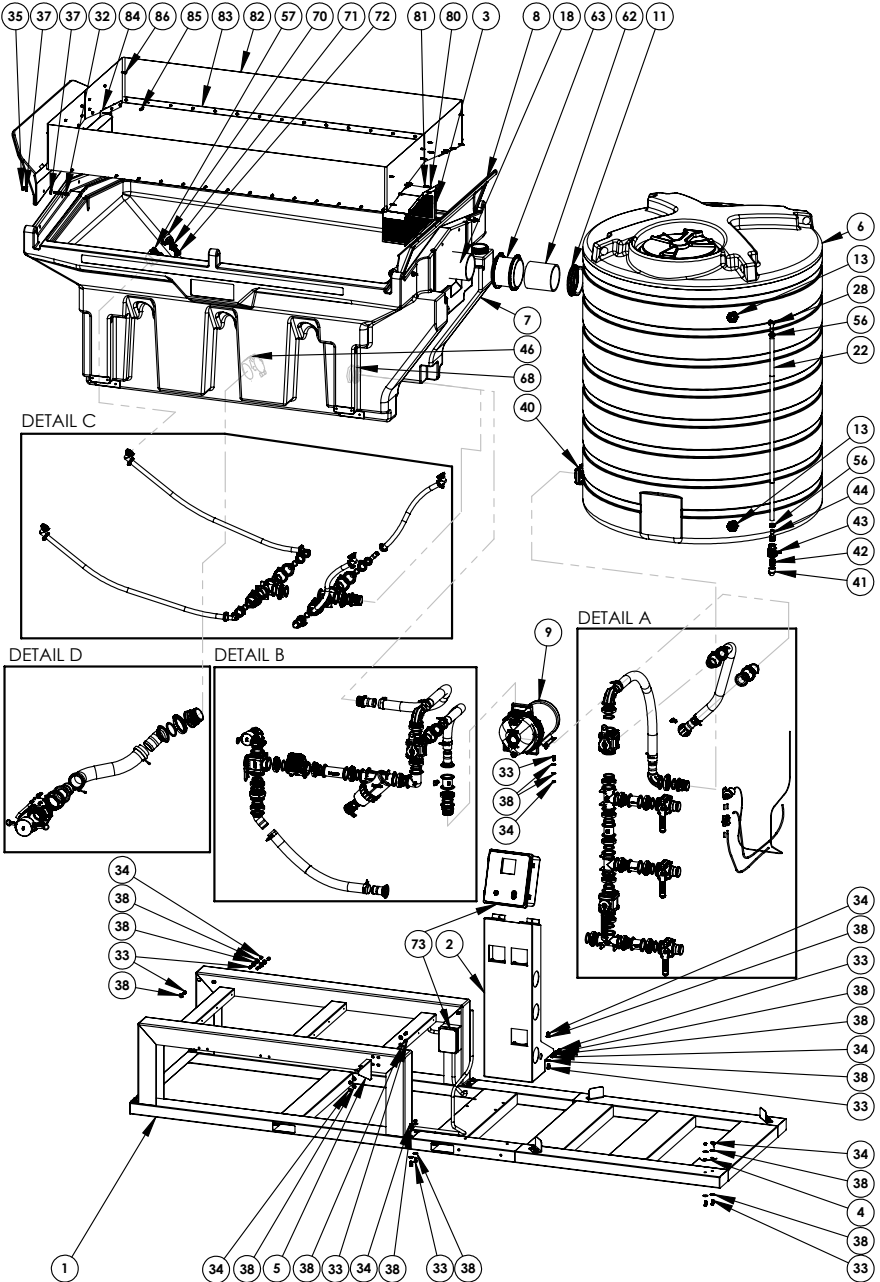
3.2. Without limiting the generality of clause 3.1:

- a) Manufacturer will not be liable for any personal injury, indirect or incidental damages, consequential losses, loss of liquids, loss of profit or any like claims whatsoever arising from any use of, or incidental to, or repairs to any of the Goods by a party other than Manufacturer;
- b) to the extent that any component or material (including, but without limitation the polyethylene) used in the manufacture of any of the Goods is supplied and/or manufactured by a third party, the liability of Manufacturer is limited to Manufacturer's right of redress (if any) against the third-party supplier/manufacturer;
- c) Tanks feature a vented lid at the time of manufacture. Any subsequent pressurization of the Tank by removing the vent, sealing the vent, or otherwise will cause this Limited Warranty as to such Tank to be null and void.
- d) The liability of Manufacturer under this Limited Warranty is limited to, at Manufacturer's discretion:
- e) providing a replacement Good (including shipping but excluding other replacement costs);
- f) refunding an amount equal to a sum equal to the current Retail price divided by the months in the warranty, multiplied by the months remaining in the warranty period;
- g) repairing the Good at no cost.

4. Proof of Purchase - The original invoice or other similar proof of purchase of the applicable must be provided by Purchaser to Manufacturer when making a claim under this Limited Warranty. Warranty claims must be received in writing by Manufacturer within the Limited Warranty period.

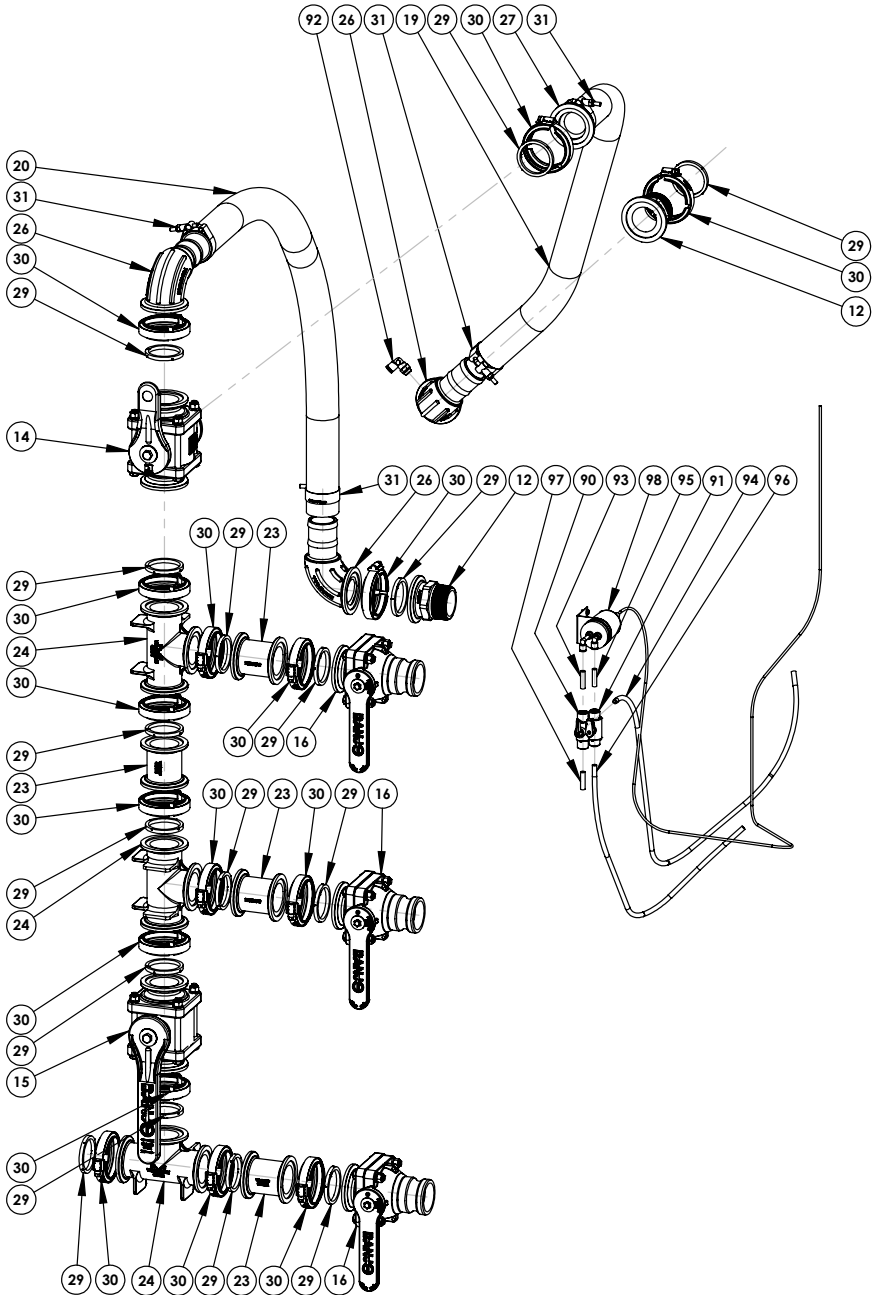
5. Claims and Questions - If you have questions about this Limited Warranty or to make a warranty claim, contact Manufacturer at: customercare@enduraplas.com
6. Definitions - For this Limited Warranty the following definitions apply:
 - a) Manufacturer means Enduraplas LLC.
 - b) Purchase Date means the date upon which the applicable goods were purchased by the original end user.
 - c) Purchase Price means the actual price paid for the Tank by the original Purchaser.
 - d) Tank means the storage Tank manufactured by Manufacturer and purchased by the original end user Purchaser being the subject matter of the Limited Warranty.
 - e) Good(s) mean Tanks and/or other products or parts manufactured by Enduraplas LLC.
 - f) Limited Warranty means this written Limited Warranty.
7. State Law - Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to certain parties. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to certain parties. This limited warranty gives specific legal rights and other rights, which vary from state to state, may also apply.
8. Governing Law - This Limited Warranty will be governed by the laws of the State of Minnesota, without giving effect to any choice of law rule that would cause the application of the laws of any other jurisdiction.

OVERVIEW



BRINE MASTER®

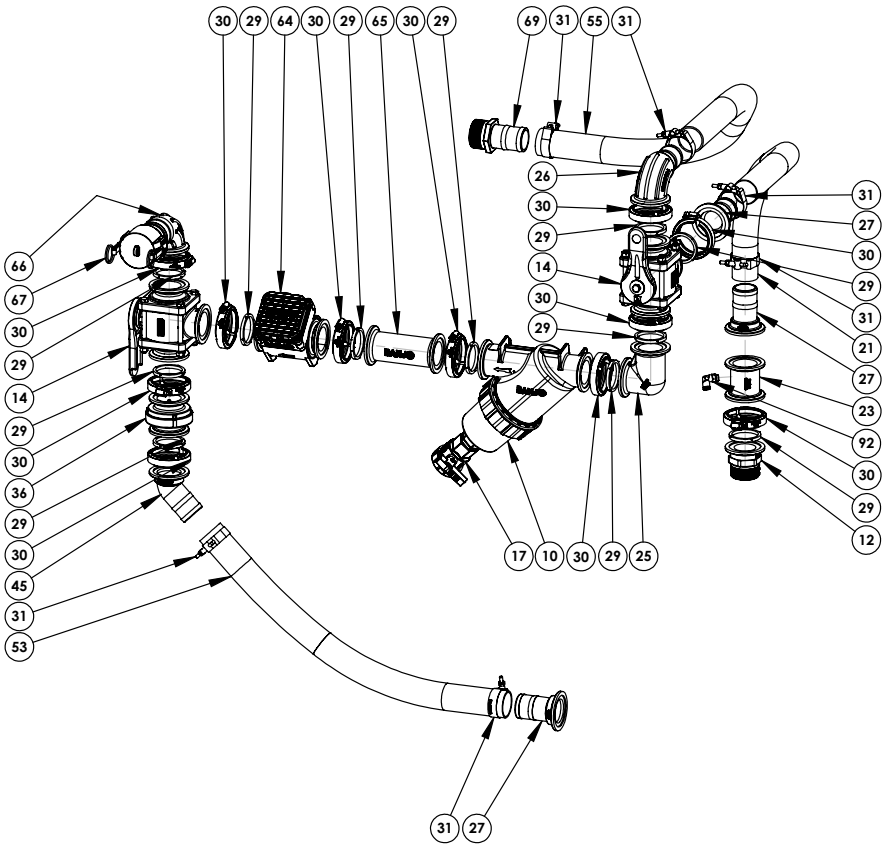
DETAIL VIEW A



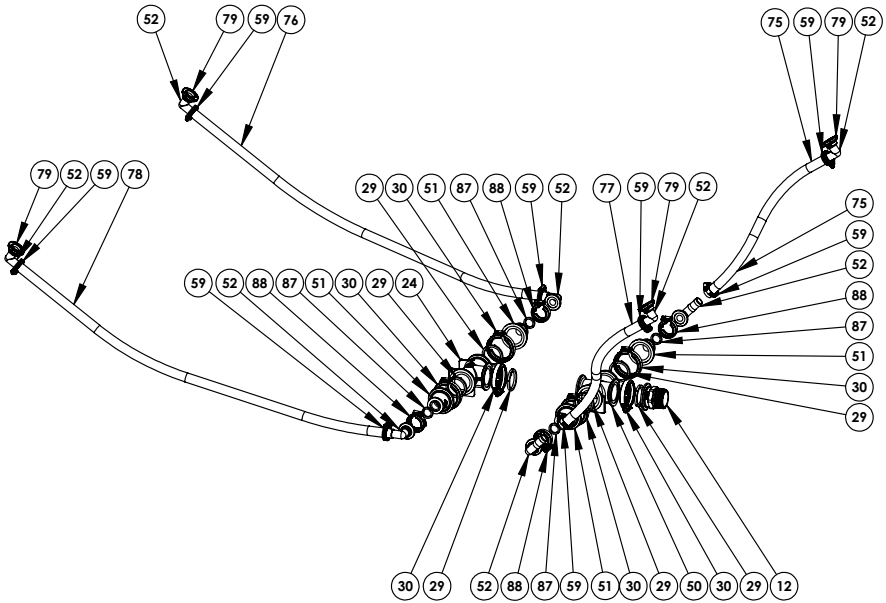
BRINE MASTER®

DETAIL VIEW B

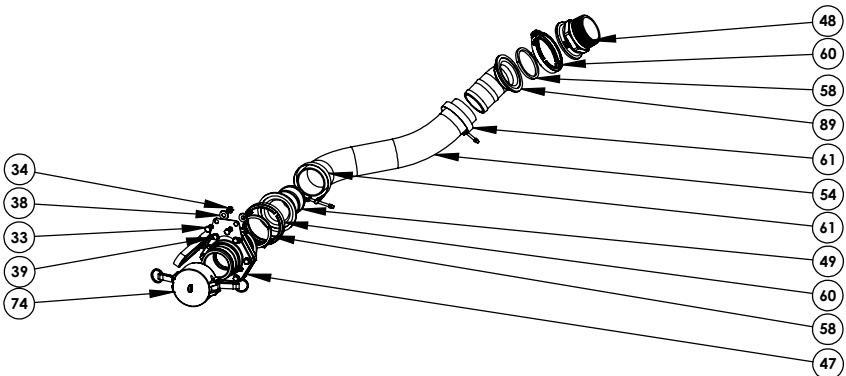
BRINE MASTER®



DETAIL VIEW C



DETAIL VIEW D



BRINE MASTER®

PARTS LIST

ITEM NO.	PART #	Description	QTY.
1	AZKI015,CSLC661,CSLC662,CSLC663,CSLC666	Skid for 3000 Gal Brine Master	1
2	CSLC674	Control Panel for 3000 Gal Brine Master	1
3	CSLC675	Screen for 3000 Gal Brine Master	1
4	CSLC673	SS Stopper for 3000 Gal Brine Master	4
5	CSLC672	Bracket for 3000 Gal Brine Master	1
6	IMS008700R-NF	870 Gal Flat Bottom Storage Tank	1
7	AMBM3000	Brine Master 3000 Hopper	1
8	AMBMSG3000	Brine Master 3000 Hopper Spill Guard	2
9	CB234PPE51	2" Poly Pump 5Hp Elec Motor Single Phase	1
10	CBMLS2216	MLS222 Y-Strainer 16 Mesh	1
11	CPFTGE6	6 INCH MULTI-TITE GASKET	2
12	CBM220MPT	2-in FP Manifold x 2-in Male Thread	4
13	CBTF075	3/4-in Poly Tank Fitting	2
14	CBMV220BLSH	2-in FP Bottom Load Manifold Valve w/ SH Handle	3
15	CBMV220CF	2-in Full Port Manifold Flange Ball Valve	1
16	CBMVSF220FP	2 IN FP Manifold x Male Adaptor	3
17	CVPBV2100	1-in FPT Union Valve	1
18	CFPS40PPVC6	6 IN PVC SCHED 40 Pipe 14 inches long	1
19	CLUEPEB10009	2-in Hose Control Valve to Pump Suction	1
20	CLUEPEB10009	2-in Hose (Tank to Control Valve)	1
21	CLUEPEB10009	2" Hose Pump Discharge to Control Valve	1
22	CLUVGC03504	.75-in Clear Vinyl Tubing	1
23	CBM220CPG	2 x 2 Full Port Flange	5
24	CBM220TEE	2 Manifold Tee - 220 Series	4
25	CBM220CPG90	2" FP x 2" FP Manifold Coupling 90°	1
26	CBM220BRBWP90	2" Full Port Flange x Hose Shank Sweep	4
27	CBM220BRB	2 Full Port Flange x 2 Hose Barb	4
28	CFPE04M04B	3/4 MNPT x 3/4 Hose Barb 90	1
29	CBM221G	2" FP Manifold Gasket with Rib	33
30	CBFC220	2 SS Flange Worm Screw Clamp	33
31	CBTC231	2" T-Bolt Hose Clamp 2.31 MIN	10
32	CHBS041523	7/16-14 X 5 STAINLESS HEX HEAD BOLT 18-8	8
33	CHBS030523	3-8" x 1" SS Hex Bolt	48
34	CHNSN0323	3/8" SS Nylock Nut	40
35	CHNS0423	7/16 Nylock Nut	8
36	CBMVCV220	2 inch Full Port Manifold Checkvalve Assembly	1
37	CHWZF045	7/16 flat washer	16
38	CHWSF033	3/8 SS Flat washer	88
39	CBV25270	Straight Mounting Bracket	1
40	CBBF220BD	2 Thread Full Port Flange	1
41	CBSL07590	3/4 Poly Street Elbow 90	1
42	CFPN04M04M	3/4 Short Nipple	1
43	CVPBV234	3/4 FPT Union Valve	1
44	CFPS04M04B	3/4 MNPT To 3/4 Hose Shank	1

PARTS LIST

ITEM NO.	PART #	Description	QTY.
45	CBM220BRB45	2 Full Port x 45 HB	1
46	CBBF335	3 Bolted Tank Flange 3 1/2" Thd Bolts	1
47	CBMVSF300	3 Stubby Valve QDC x Flange Long Handle	1
48	CBM300MPT	3 Manifold x 3 Male Thread	1
49	CBM300BRB	3 Flange x 3 Hose Barb	1
50	CBM220CR	2-in Full Port Flanged Cross	1
51	CBM220100CPG	2" Full Port Flange x 1" Reducer Flange	4
52	CBM100BRB90	1" Manifold x 90 Hose Barb	8
53	CLUEPEB10009	2-in Hose (Discharge to Storage)	1
54	CLUPEB08513	3-in Hose (Hopper Drain)	1
55	CLUEPEB10009	2-in Hose (Control Valve to Poly Hopper)	1
56	CFCW001	Clamp For 3/4" Hose	2
57	CBMBF100	1" Bolted Fitting with 1" Manifold Flange	4
58	CBM301G	3" Manifold Gasket with Rib	2
59	CFCW003	Clamp For 1" Hose	8
60	CBFC300	3-in Worm Screw Clamp	2
61	CBTC343	3" T-Bolt Hose Clamp 3.43 MIN	2
62	CFPS40PPVC6	6 IN PVC SCHED 40 Pipe 10 inches long	1
63	CEC052	6IN Flexible Ferno coupler	1
64	CBMFM220	2-in Full port manifold flowmeter	1
65	CBM220CPG6	2 x 2 Full Port Flange x 6"	1
66	CBM220ASWP90	2-in Full port flange x Male adapter swepted	1
67	CB200CAP	2-in Cap	1
68	CBTF200	2 Poly Tank Flange Assembly	1
69	CBHB200	2 Male Thread x 2 Hose Shank	1
70	CFSE05F05M	1-in MPT x 1-in FPT 304SS 90 Deg Elbow	4
71	CV3RB10034	Reducer Bushing 1" MPT X 3/4" FPT	4
72	CV3RB3414	3/4 x 1/4 Reducer Bushing	4
73	CEC018	Brine Master 3000 Electrical Assembly	1
74	CB300CAP	3-in Cap	1
75	CLUESB020005	1-in EPDM Hose (Discharge to Hopper)	1
76	CLUESB020005	1-in EPDM Hose (Discharge to Hopper)	1
77	CLUESB020005	1-in EPDM Hose (Discharge to Hopper)	1
78	CLUESB020005	1-in EPDM Hose (Discharge to Hopper)	1
79	CBM102G	1-in Manifold Gasket with Skirt	4
80	CHWSF013	1/4" SS Flat Washer	8
81	CHAS010223	.25 x .75 SS HWH Slotted Screw	6
82	CPG003	1/4" Rubber Strip	1
83	CSLC700	Hopper Rubber Flap Retainer (Large)	2
84	CSLC701	Hopper Rubber Flap Retainer (Small)	4
85	CHBS012823	1.5in SS Hexagonal Head Screw	54
86	CHBS012723	1-in SS Hexagonal Head Screw	8
87	CBM100G	1" Manifold Gasket	4
88	CBFC100	1" Worm Screw Flange Clamp	4

PARTS LIST

ITEM NO.	PART #	Description	QTY.
89	CBM300BRB45	3 Flange x 3 Hose Barb x 45	1
90	CVPBV516	5/16 inch Diverfing Valve	1
91	CVST516PTC516	5/16" PVC On/Off Valve Poly Valve Push to Connect	1
92	CFBE00M0000M	1/4 NPT 5/16 Brass Push-to-Connect Male Elbow	2
93	CLUVGC04503	3/16ID, 5/16 OD Polyethylene Tubing-1	1
94	CLUVGC04503	3/16ID, 5/16 OD Polyethylene Tubing-2	1
95	CLUVGC04503	3/16ID, 5/16 OD Polyethylene Tubing-3	1
96	CLUVGC04503	3/16ID, 5/16 OD Polyethylene Tubing-4	1
97	CLUVGC04503	3/16ID, 5/16 OD Polyethylene Tubing-5	1
98	CEC055	Salinity Measuring Instrument	1

BRINE MASTER®

ACTIVATE YOUR 10-YEAR TANK WARRANTY

How to Activate

To double your 5-year tank warranty,
visit www.camionsystems.com/warranty/
and register this product.



Watch Instruction Videos:
www.youtube.com

Discover More Helpful Tips:
www.iceControlTraining.com



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