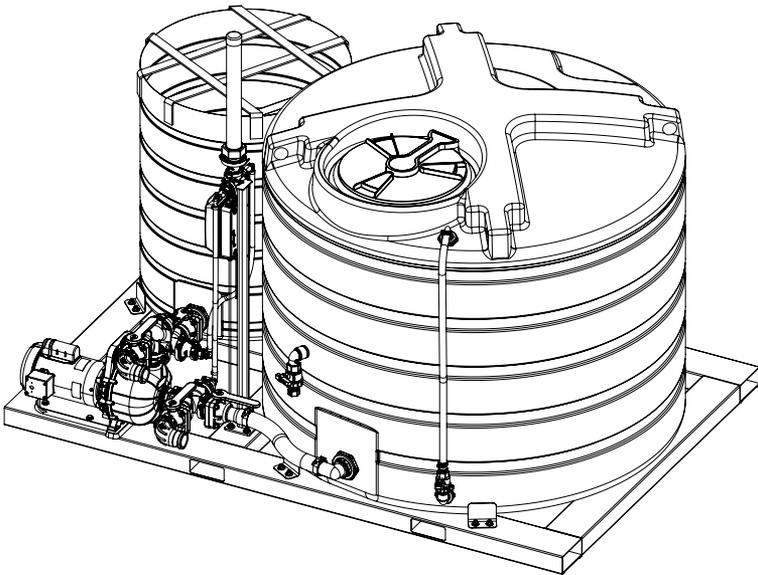


# **BRINE MASTER 1600<sup>®</sup>**

## OWNER'S MANUAL



**Product Code:**  
BM1600

Version 1.1

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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](http://www.youtube.com)

**Discover More Helpful Tips:**

[www.icecontroltraining.com](http://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.

**GETTING STARTED**

## Electrical Requirements

This Brine Master 1600® requires a 115 volt, 20 amp circuit to operate. It comes supplied with waterproof wiring and plug ready to hook up. You will need a 115 volt outlets with a 20 amp breaker in your box. If you do not have this set up, use a certified electrician to install your power supply and follow all local code requirements.

## Setting-up your Brine Master®

1) Ensure your Brine Master® is positioned so you have access to all port hook ups and the control panel.



2) Make sure your unit is level by using the base frame as your levelling point and adding shims underneath the frame accordingly.

3) Next, connect your fresh water supply hose to valve #3 and your discharge supply hose to valve #4.



## **GETTING STARTED**

### **Setting-up your Brine Master®**

**4)** To achieve best results with your brine maker, use a good quality salt. The quality of your salt aides in speeding up the brining process and will eliminate having to clean out screens as often.



**5)** It is recommended to first fill the unit with fresh water to ensure there are no leaks and your power supply is correct.

**OPERATION**

## First Batch of Brine

**1)** To start your first batch of brine, turn on your pump and open valves #1 and #3 to fill your hopper.



**2)** Fill your hopper to the bottom of the screen with fresh water.



**3)** You can begin filling your hopper with salt. Load your salt to the back of the hopper, away from the screen so as not to obstruct it.



**4)** Always load salt slowly to avoid spillage. Your first batch of brine will require more salt as you are starting with a hopper of fresh water. On consecutive batches, you will load less salt as you start with a hopper of mixed brine.

**5)** Continue to add salt to the hopper while your system is filling with fresh water.

## OPERATION

### First Batch of Brine

**6)** Reference the sight gauge tube on your holding tank. Once it reaches 400 gallons, stop adding fresh water. We recommend marking or putting a piece of tape to note this level.



**7)** Now you will start the brining process. See picture for valve positioning.



**8)** Continue to add salt to the hopper checking the salinity in the clear site tube. To do this, open the valve to the clear tube until your hydrometer is floating.



**9)** Then, close this valve. The level at which the hydrometer floats is your salinity reading.



**10)** Then, open the opposite valve to drain the clear tube.



**OPERATION**

## First Batch of Brine

**11)** Once your salinity reader reads at 23%, position the valves to discharge to your storage tank. See picture for valve positioning.



**12)** As you are discharging your finished batch to your storage tank, fill your hopper with salt for your next batch. This will force some of the brine into your holding tank, increasing your batch size.



**13)** Once all brine is discharged, rotate valves to load fresh water and repeat steps.



# **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.

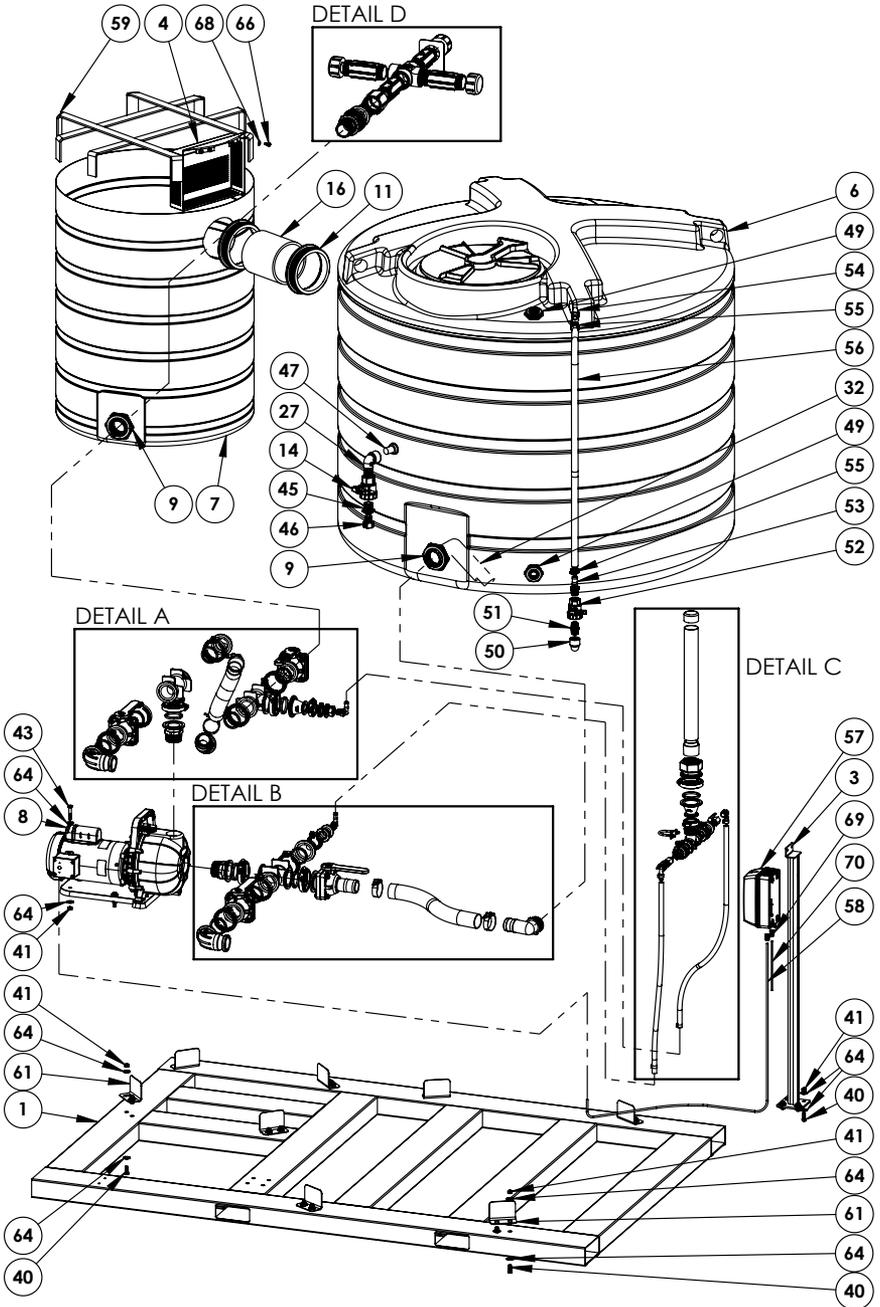
Debris left in the hopper can be removed using the 3" cleanout valve/port at the bottom of the hopper. First, suck out the brine from your hopper and then remove debris using the cleanout valve.

# **TROUBLESHOOTING**

<b>CONDITION</b>	<b>REMEDY</b>
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 400 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.
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.

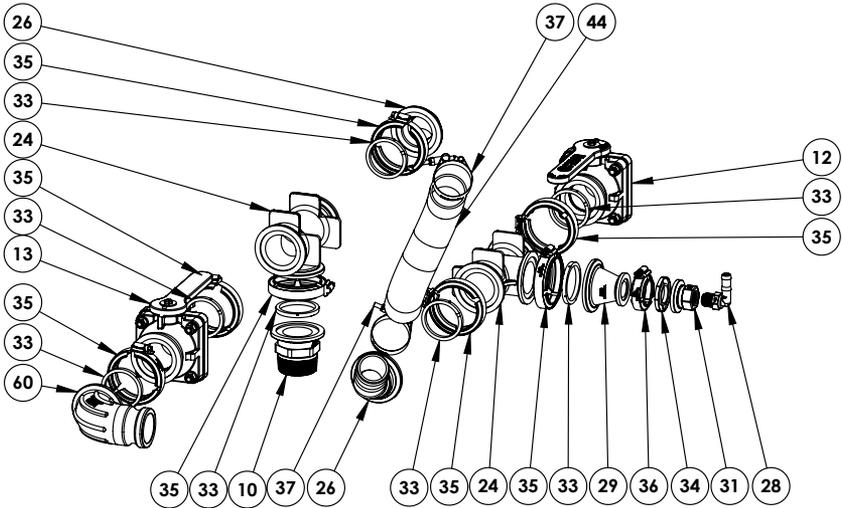
# OVERVIEW

BRINE MASTER®

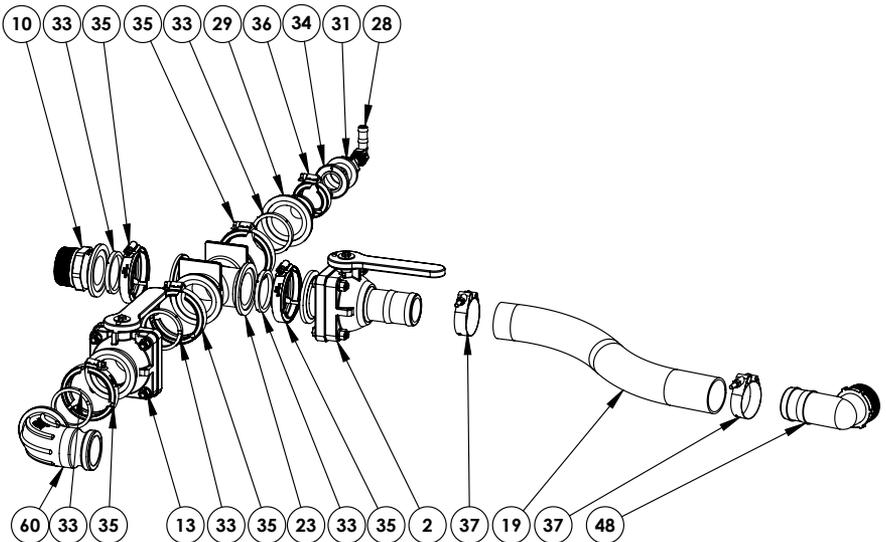


# DETAIL VIEW A AND B

## DETAIL A

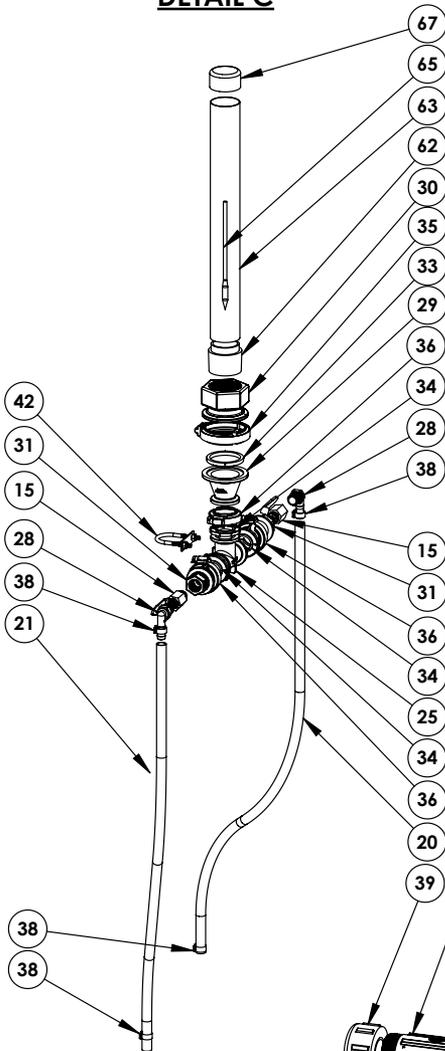


## DETAIL B

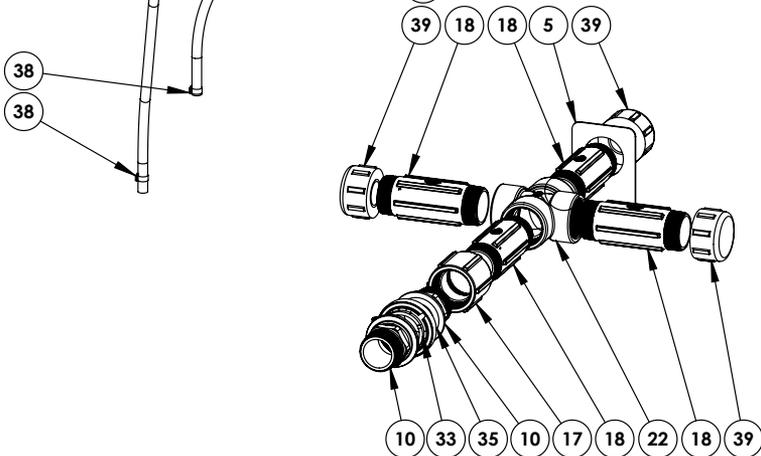


# DETAIL VIEW C AND D

**DETAIL C**



**DETAIL D**



**BRINE MASTER®**

# PARTS LIST

ITEM NO.	PART #	Description	QTY.
1	AZKI013	Skid for 1600 Gal Brine Master	1
2	CBMVSHB220FP	2 inch Barb x 2 inch Manifold Flange Full Port	1
3	AZKI014	Pole for 1600 Gal Brine Master	1
4	CSLC636	Screen for 1600 Gal. Brine Master	1
5	CSLC635	Bracket for 1600 Gal Brine Master	1
6	IMS00550OR-NF	550 Gal Flat Bottom Storage Tank	1
7	AMB1600	Brine Master 1600 Hopper	1
8	APAMT002	2-in Poly Pump	1
9	CBTF200	2 Poly Tank Flange Assembly	2
10	CBM220MPT	2-in FP Manifold x 2-in Male Thread	4
11	CPFTGE6	6 INCH MULTI-TITE GASKET	2
12	CBMVSM220FP	2-in FP Manifold Valve Flange x MPT	1
13	CBMVS220CF	2-in Full Port Stubby Manifold Valve	2
14	CBSUV100FP	1 inch Union Valve	1
15	CVS34DZO	.5 IN FPT x .5 IN MPT Ball Valve	2
16	CFPS40PPVC6	6 IN PVC SCHED 40 Pipe 10 inches long	1
17	CBCPLG200	2" Poly Pipe Coupling	1
18	CBNIP2006	2-in x 6-in Poly Nipple	4
19	CLUPEB10009	2-in hose pump discharge to tank	1
20	CLUESB020002	.5 hose pump discharge to clear tube	1
21	CLUESB020002	.5 hose pump suction to clear tube	1
22	CBCR200	2-in Poly Pipe Cross	1
23	CBM220CR	2-in Full Port Flanged Cross	1
24	CBM220TEE	2 Manifold Tee - 220 Series	2
25	CBM100TEE	1" Manifold Tee	1
26	CBM220BRB45	2 Full Port x 45 HB	2
27	CBSL10090	1 Poly Street Elbow 90	1
28	CBHB05090	1/2 MNPT x 1/2 Hose Shank 90	4
29	CBM220100CPG	2" Full Port Flange x 1" Reducer Flange	3
30	CBM220FPT	2 IN FP Manifold x 2 IN Female Thread	1
31	CBM100050FPT	1 IN Flange x .5 IN Female Thread	4
32	CBST200	2" Poly Siphon Tube	1
33	CBM221G	2" FP Manifold Gasket with Rib	14
34	CBM102G	1-in Manifold Gasket with Skirt	5
35	CBFC220	2 SS Flange Worm Screw Clamp	14
36	CBFC100	1" Worm Screw Flange Clamp	5
37	CBTC231	2" T-Bolt Hose Clamp 2.31 MIN	4
38	CFCC003	Clamp for 1/2" Hose	4
39	CBCAP200	2-in Poly Pipe Cap	3
40	CHBS030523	3-8" x 1" SS Hex Bolt	20
41	CHNSN0323	3/8" SS Nylock Nut	23
42	CHUS031234001	1-in U-Bolt	1
43	CHBS030923	.375 x 2 Stainless Steel bolt	3

# PARTS LIST

ITEM NO.	PART #	Description	QTY.
44	CLUPEB10009	2-in hose pump discharge to tank	1
45	CV3RB10034	Reducer Bushing 1" MPT X 3/4" FPT	1
46	CBGHFT075MPT	.75-in male NPT x .75-in female garden hose	1
47	AXFM01	1-in Jobe Megaflow Valve	1
48	CBHB20090	2" Male Thread x 2" Hose Shank 90	1
49	CBTF075	3/4-in Poly Tank Fitting	2
50	CBSL07590	3/4 Poly Street Elbow 90	1
51	CFPN04M04M	3/4 Short Nipple	1
52	CVPBV234	3/4 FPT Union Valve	1
53	CFPS04M04B	3/4 MNPT To 3/4 Hose Shank	1
54	CFPE04M04B	3/4 MNPT x 3/4 Hose Barb 90	1
55	CFCW001	Clamp For 3/4" Hose	2
56	CLUVGC03504	.75-in Clear Vinyl Tubing	1
57	CEC031	Motor Starter	1
58	CEC048	Bulk Wire Cord 3-Wire 30Amps 600V	1
59	AZK1012	Cover for 1600 Gal.3 Brine Master	1
60	CBM220ASWP90	2-in Full port flange x Male adapter sweeoped	2
61	CSLC673	SS Stopper for 3000 Gal Brine Master	8
62	CFPSCLMA	2" Clear PVC Male Adapter	1
63	CFPE240	2-in Schedule 40 Clear Pipe	1
64	CHWSF033	3/8 SS Flat washer	46
65	CLSR002	Sodium Chloride Salinity Hydrometer	1
66	CHS2016365	1/4-20 inch x 5/8 inch HHTCS Type F Zinc Plated	4
67	CFPSCLCAP	2" Clear PVC Cap	1
68	CHWSF013	1/4" SS Flat Washer	4
69	CEC050	.75in Nylon Cord Grip	2
70	CEC051	12 awg 3-conductor	1

**BRINE MASTER®**

# WARRANTY

## CAMION® LIMITED WARRANTY:

Camion®, a division of Enduraplas, LLC (“Camion”) agrees to provide this non-transferable, non-assignable limited warranty (“Limited Warranty”) to the original end-user purchaser (“Buyer”) only of registered Camion® products (“Camion® Products”) pursuant to the terms and conditions provided herein. By accepting delivery of Camion® Products the Buyer likewise agrees to the written terms and conditions of this Limited Warranty. This Limited Warranty gives the Buyer specific legal rights and the Buyer may have other rights that vary from state to state.

### A. LIMITED WARRANTY COVERAGE

Camion® Products Complete Product Limited Warranty – Subject to the terms and conditions of this Limited Warranty, Camion® warrants to the Buyer of Camion® Products that it will be free from defects in workmanship for a period of two (2) Winter Seasons after the date of original purchase. Winter Season means October 1 through March 31 of any given year. At its sole option, Camion® will repair or replace defective parts at no charge for parts and labor.

Camion® Products Proprietary Parts and Frames Limited Warranty – Notwithstanding the foregoing and subject to the terms and conditions of this Limited Warranty, Camion® warrants to the Buyer of Camion® Products that the parts and frames will be free from material defects in materials or workmanship for a period of one (1) Year after the date of original purchase. At its sole option, Camion® will repair or replace defective parts at no charge for parts, but labor shall be the responsibility of the Buyer.

Third Party Parts and Components – This Limited Warranty does not cover certain third party manufactured parts and components, as such parts and components are covered by separate limited warranties provided by such third party manufacturers. For information regarding said limited warranties, please see each individual third party limited warranty.

Camion® Products Polyethylene Tank Limited Warranty - This Limited Warranty does not cover Camion® Products Polyethylene Tank(s), as such materials are covered by a separate limited warranty provided by Enduraplas®, LLC. For information regarding said limited warranty, please see the Enduraplas® Limited Warranty.

### B. WHAT THIS LIMITED WARRANTY DOES NOT COVER

Camion® does not provide any warranty coverage, nor have any liability or responsibility for any defects, costs, expenses, or damages relating to any of the following:

- Expendable parts, such as nuts, bolts, etc. or any parts not furnished by Camion® or any damage caused by such parts.
- Airborne chemicals, road debris, salt, hail, floods, fire, windstorms, lightning or other acts of nature and other environmental conditions.
- Water contamination.
- Any part or product installed, repaired, or altered by anyone other than a Camion® Products authorized dealer or any damage caused by such parts or products.
- Normal wear and tear.
- Normal maintenance services.
- Incidental or consequential damages, including but not limited to inconvenience, transportation, personal injury, loss of property or loss of revenue.
- Parts or products that have been subject to abuse, negligence, accident, theft, tampering, misuse, neglect, corrosion, mishandling, improper installation, lack of or improper maintenance, care or storage.

# WARRANTY

Installation of Camion® Products to a vehicle, including modification of Camion® Products or any such vehicle, is entirely at the Buyer's risk and expense, and compliance with motor vehicle regulations is the responsibility of the Buyer. Camion® is not responsible for any damage whatsoever to vehicles caused by installation or use of Camion® Products equipment.

Camion® Products are not intended for personal, family or household use and, as such, this Limited Warranty does not cover such use.

## C. OTHER WARRANTIES DISCLAIMED AND EXCLUDED

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

## D. PROCEDURE FOR OBTAINING WARRANTY COVERAGE

To submit a Limited Warranty claim, the Buyer must notify Camion® of the claimed defect within ten (10) days that the defect becomes known, in writing, at: [cs@camionsystems.com](mailto:cs@camionsystems.com). The original invoice or other similar proof of purchase of the applicable product or part must be provided by the Buyer to Camion® when making a claim under this Limited Warranty. Warranty claims must be received in writing by Camion® within the Limited Warranty period. To obtain service pursuant to this Limited Warranty, the Buyer must return the defective product or part to any Camion® Products authorized dealer (preferably, the dealer from whom the product or part was purchased). The Buyer shall be responsible for all transportation expenses to and from said dealer and accepts all risk of any damage in transit. To locate the nearest Camion® Products authorized dealer, please see the dealer locator at [www.camionsystems.com](http://www.camionsystems.com).

The Limited Warranty is given solely to the Buyer and may not be transferred or assigned to any other person.

If you have questions about this Limited Warranty, contact Camion® at: [cs@camionsystems.com](mailto:cs@camionsystems.com).

## E. GOVERNING LAW

This Limited Warranty will be governed by the laws of the State of North Dakota, without giving effect to any choice of law rule that would cause the application of the laws of any other jurisdiction. Any disputes regarding matters relating to this Limited Warranty will be resolved exclusively in the State of North Dakota and all parties consent to such jurisdiction. RIGHTS TO A JURY TRIAL, CLASS ACTION AND CONSOLIDATED DISPUTE RESOLUTION PROCEEDINGS ARE HEREBY WAIVED TO THE FURTHEST EXTENT PERMITTED BY LAW.

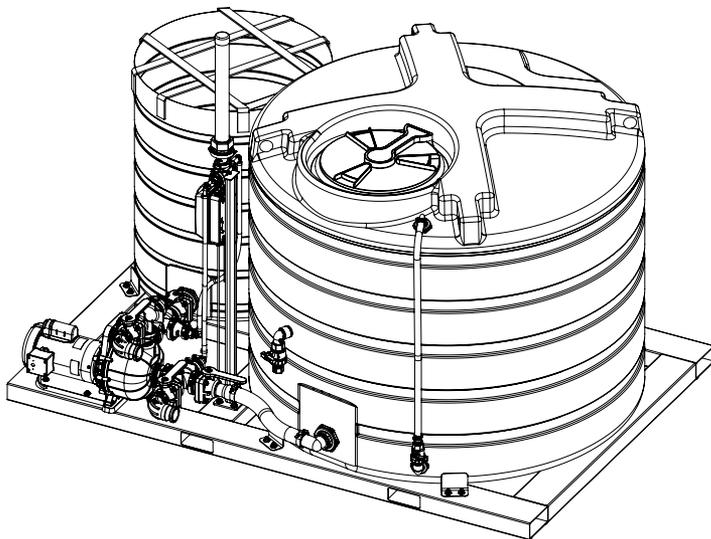
## F. DISCLAIMER OF EXPENSES AND DAMAGES

The performance of necessary repairs and replacements, as determined by Camion® in its discretion, is the sole and exclusive remedy under this Limited Warranty or any implied warranty. Camion® does not authorize any person, including Camion® Products authorized dealers, to create for it any other obligation or liability in connection with Camion® Products. Except to the extent prohibited by applicable law, Camion® shall not be liable for personal injury, property damage, loss of liquid, loss of profit, incidental, consequential, contingent or special damages, or any other damages resulting from the use of, or inability to use, Camion® Products whether based on breach of this written Limited Warranty or any implied warranty, breach of contract, negligence or strict liability.

# **ACTIVATE YOUR 10-YEAR TANK WARRANTY**

## **How to Activate**

To double your 5-year tank warranty,  
visit [www.camionsystems.com/warranty/](http://www.camionsystems.com/warranty/)  
and register this product.



**Watch Instruction Videos:**  
[www.youtube.com](http://www.youtube.com)

**Discover More Helpful Tips:**  
[www.IceControlTraining.com](http://www.IceControlTraining.com)



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