

STATE OF OKLAHOMA BID SOLICITATION

#SW 500 – BRINE MAKER

ADDENDUM

1.0 SCOPE Meets

2.0 DIMENSIONS -- Total footprint of machine will fit into an area of 10'6" x 8'6"

Salt hopper dimensions including legs and spill deflector are 46" W x 103"L x 79"T

Brine tank dimensions including all fittings and mount are 60"W x 113.5"L x 49.5"T

3.0 STORAGE HOLDING CAPACITY – Brine tank will have a minimum capacity of 840 gallons (US)

Salt hopper has a minimum holding capacity of 1.6 cubic yards with a weight capacity of 3000 lbs.

4.0 PRODUCTION RATE – 2400 gallons per hour. Make 800 gallons of 23.3% brine in 20 minutes.

5.0 MATERIALS – EXCEED – Entire salt hopper and brine tank made of one piece molded marine grade fiberglass with a nominal thickness of .75 inches. Both the hopper and brine tank will be coated with an inner UV resistant white gel coat and a highly visible yellow outer gel coat.

5.1 All fittings and valves shall be fiberglass reinforced molded polypropylene

5.2 The salt hopper shall have a 13 degree sloped bottom leading toward a 6" diameter discharge port fitted with a manually operated 6" dia. Butterfly valve consisting of cast iron body, EFDM seat, 316 SS disc and stem. Valve can be opened gradually or full open to accommodate flush out. The height of the bottom of the butterfly cleanout valve is 31" from ground level. This allows placing loader bucket under valve to catch sediment. Clean out valve is operated from the side of the hopper to allow easy, safe clean out.

5.3 The fill nozzles in the salt hopper are capable of providing fresh water or recirculated brine water to the system depending on the position of the valves in the system.

5.4 Salt hopper shall be fitted with a 304 SS spill deflector on one long side and two short sides to minimize the amount of spillage during the dumping process.

5.5 All clamps and other necessary hardware shall be Stainless Steel.

5.6 The brine tank shall be fitted with a motor mount that will house the motor, pump and valve stack.

5.7 The floor of the brine tank shall be sloped from fresh water inlet side toward the 2" discharge port side at 5 degrees.

5.8 The fresh water inlet shall be connected to a U-shaped schedule 80 PVC header fitted with threaded end-caps to allow cleanout if needed. The PVC shall also have multiple holes drilled along its length that will double as a fresh water inlet into the brine tank as a way to flush any insoluble residual buildup in the bottom of the tank.

5.9 The salt hopper will be permanently fitted with four 4" diameter circular fiberglass overflow tubes. Each tube will be fitted with a removable 304 SS screen to minimize the amount of salt or other debris being washed into the brine, insuring cleaner brine.

6.0 PLUMBING AND PLUMBING COMPONENTS – EXCEED

6.1 The motor, pump, conductivity analyzer sensor and one 3-way manual valve shall all be attached and mounted on a mounting plate connected to the motor. The motor shall be a 3hp, 240V, 3450 rpm; FLA 13; 1 PH TEFC.

6.2 The pump shall be rated at 100 gpm with a 2" inlet and outlet with a STAINLESS STEEL IMPELLER AND HOUSING.

6.3 There shall be a salinity probe mounted and housed on the discharge side of the pump. The probe will be wired to the salinity analyzer control box with 15 ft. of usable shielded cable.

6.4 There shall be a manual 3-way valve mounted on the downstream side of the conductivity probe housing. The valve will control whether the water/brine solution being discharged from the pump will be sent to the salt hopper (recirculation) or to a customer storage device or truck.

6.5 There shall be a 3" check valve mounted on the pump assembly to eliminate any backflow of water and salt from the salt hopper or from a storage tank/truck through the pump.

6.6 There shall be a 2" male quick disconnect fitting on the storage side of the 3-way valve that the customer can connect to in order to take the finished product from the Accubatch system to a storage device (customer supplied) or straight to truck.

6.7 The brine tank will be fitted with a fresh water inlet consisting of a 2" manually operated shut off valve with a male 2" quick disconnect fitting that can be rotated to either side of the tank to facilitate proper tank orientation based on the location of customer's fresh water source.

6.8 The brine tank outlet shall be fitted with a 2" port with a manually operated shut off valve. The valve has a 2" male QDC lever lock connection.

6.9 There shall be a quick disconnect fitting for the hose connecting the discharge side of the pump to the salt hopper.

6.10 There shall be a quick disconnect fitting for the hose connecting the side nozzle to the middle nozzle to allow for simple draining of the tank hoses.

7.0 ELECTRICAL –EXCEEDS

7.1 The control panel back plate shall be UL listed.

7.2 The control panel can be mounted outdoors as penetrations in the control panel will comply with IP-66, or greater.

7.3 The control panel shall be fitted with the following: Start, Stop, E-Stop, Resent push button, Hand-Off-Auto motor control, four LED voltage fault indicators, LED stack light.

7.4 The control panel for the conductivity analyzer shall consist of touch screen controls rated at IP-66 and will be mounted to the side of the main control panel.

7.5 The main power will be supplied to the control panel by a 15 ft. power cord with 240VAC, 30A, 1PH male cord cap.

7.6 The entire system shall have a power requirement of 240V, 30A 60hz, single phase AC.

7.7 The control panel enclosure shall be made of fiberglass reinforced polyester.

7.8 The total full load amperage shall be 18.4 Amperes.

7.9 The short circuit current rating shall be 5000 Amperes RMS

8.0 INSTALLATION – EXCEEDS --CARGILL WILL PROVIDE THE CUSTOMER A SITE PREPARATION CHECKLIST AS WELL AS A DETAILED MANUAL INSTRUCTING THE CUSTOMER OF SET UP OF THE MACHINE. IT IS A PLUG AND PLAY SYSTEM THAT ALLOWS THE CUSTOMER TO PLACE THE MACHINE IN PLACE, PLUG IN THE ELECTRICAL AND HOOK THE HOSES UP AND IS READY TO MAKE BRINE.

8.0 WARRANTY –MEETS

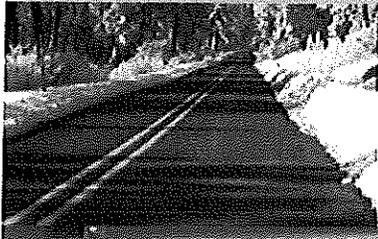
Cargill provides a 1 year warranty from date of purchase as well as a 2 year warranty on the salt hopper and brine tank.

The Accubatch meets and mostly exceeds all the criteria mentioned in this bid offering except for one factor and that is the amount of brine produced in one hour of production. In our research of entry level, batch style brine makers, we found that they rarely consistently produced brine at the levels that they claim in their literature. This is because of two reasons: 1. The customer has to constantly check the salinity levels to insure they are achieving correct levels. This is done manually and are only taking averages to adjust water and salt to meet their objectives. If the customer tries to be very accurate in their levels, it takes more time to accomplish their goal. The Accubatch automatically measures the salinity and will shut off the machine when the customer's desired level is reached, thus eliminating the

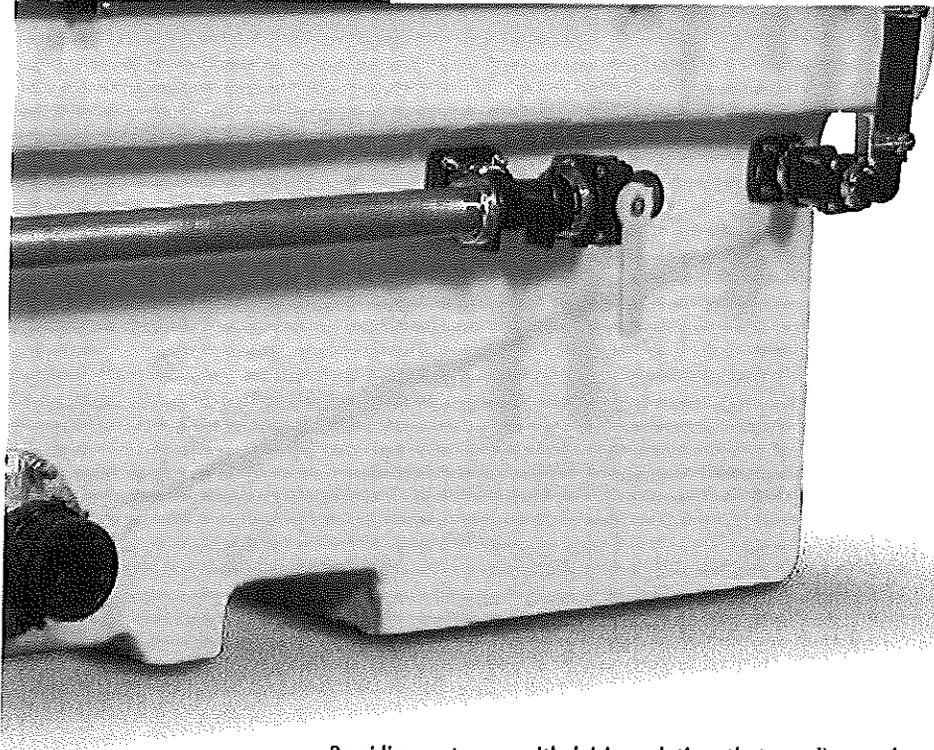
manhours and guess work of the manual machines. 2. Almost all brine making machines are very difficult to clean out. Because of this difficult, time consuming process, most operators do not clean out their machines when it needs it. When this happens, the machines ability to make brine is greatly reduced, and the brine that is made is usually very dirty which causes sediment in storage tanks to build up. The Accubatch virtually eliminates the clean out problem. With the 6" clean out valve at the bottom of the sloped salt hopper, clean out can be finished in as little as 15 minutes and it is not necessary to climb in and shovel out the sediment that is required in other brine makers. With the automatic salinity controls and ease of clean out, the Accubatch can consistently make 800 gallons of 23.3 % brine in as little as 20 minutes.

ACCUBRINE®
AUTOMATED BRINE MAKER

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**KEEP ROADS SAFER BY STAYING
AHEAD OF THE STORM.**



Cargill®

A Cargill Deicing Technology Product

Providing customers with deicing solutions that save lives, enhance commerce and reduce environmental impact.

BRINE PRODUCTION MADE SIMPLE, ON SPECIFICATION, AND ON BUDGET.

Brine, whether used to wet salt or as an anti-icer, is a highly effective and surprisingly economical solution for combating snow and ice issues on roadways. Now, Cargill Deicing Technology makes brine production more efficient and cost-effective than ever before with the ingenious AccuBrine® automated brine maker. Available in four configurations to suit your particular needs, the AccuBrine® automated brine maker gives you all the benefits of brine use — with none of the typical production and supply headaches.

- **Consistently achieve ideal brine concentration.**
- **Easily create “customized blends” using additives injected anywhere from 0% to 100%.**

A CAPITAL INVESTMENT WITH A PAYBACK.

The best investments are those that pay for themselves. The AccuBrine® automated brine maker does exactly that. Municipalities and DOTs have found that costs are quickly recouped through reduced operational costs. What's more, the AccuBrine® automated brine maker is built to endure. Its low maintenance fiberglass construction is both reliable and durable.

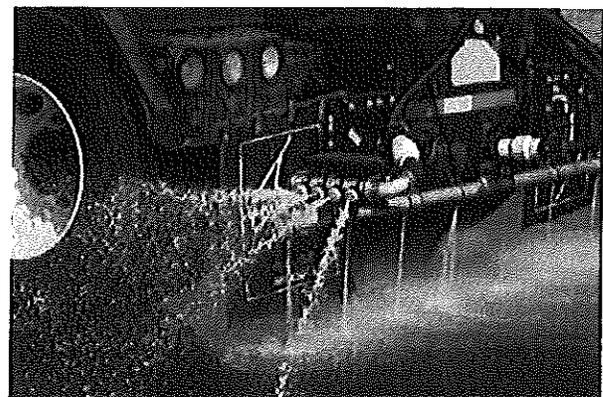
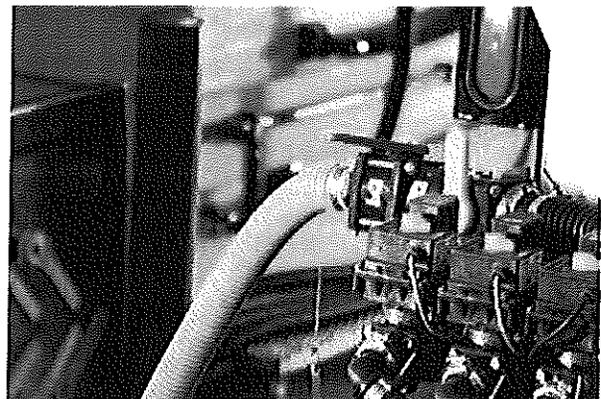
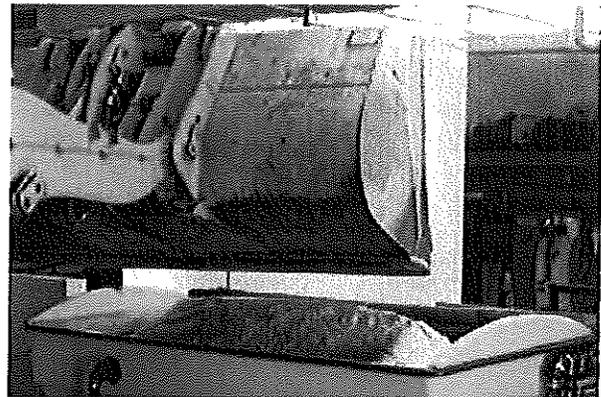
AccuBrine® automatic brine maker features:

- **Programmable Logic Controller:** The PLC initiates the production process while a patented sensing system monitors salinity levels. Product not at desired concentration will be sent back to the salt tank.
- **Accurate Data Tracking:** The PLC tracks daily and seasonal data including production volume, water, salt and additives usage, and operator hours.
- **Rapid Cleanout:** Simply open cleaning valves and start to flush sediment through the built-in sump.

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System Includes:

- Salt tank
- Control panel
- 1 Level Sensor: Measures volume in brine storage tank.
- LAN Access: Connects the AccuBrine® to a customer's local network and allows for remote access for monitoring and operation.
- Air Purge: Automatically purges plumbing lines to help avoid freezing.
- Warning Beacon: Informs operator of system faults.
- Roll Tarp: Prevents debris from contaminating the salt tank.
- Compact physical footprint
- Dimensions:
 - Salt tank: 65.5”H x 125.5”W x 62.25”D
 - Control panel: 71”H x 33.5”W x 20”D



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AUTOMATED URINE MAKER

RTF
REMOTE TRUCK FILL

AccuBrine® automated brine maker + the remote truck fill package

Turn your brine operation into a self-serve fill station. With the push of a single button, the remote truck fill option simplifies the process of loading finished brine into application vehicles. It eliminates the time-consuming manual labor of putting product in your truck tanks and gets you on the road applying quicker. What's more, the data-logging feature uses RFID technology to automatically track each unique truck's usage for easy inventory review — post-storm or post-season.

System includes:

- Remote truck fill package
- Data-logging system
- Dimensions:
 - Salt tank: 65.5"H x 125.5"W x 62.25"D
 - Control panel: 71"H x 117"W x 20"D

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ABS
ADDITIVE BLENDING SYSTEM

AccuBrine® RTF + additive blending system

Create your own custom blends of salt brine and various other liquids designed to augment the performance of your particular anti-icer. Whether it is a liquid additive used to lower the freeze point of the finished product, or a corrosion inhibitor to help extend the life of the application equipment, the AccuBrine® ABS automated brine maker does it at the touch of a button.

System includes:

- One additive injection system
- Recirculation feature
 - Automatically recirculates customers' finished inventory to help eliminate stratification and solids settling out of solutions.
- Dimensions:
 - Salt tank: 65.5"H x 125.5"W x 62.25"D
 - Control panel: 71"H x 117"W x 20"D

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AUTOMATED URINE MAKER

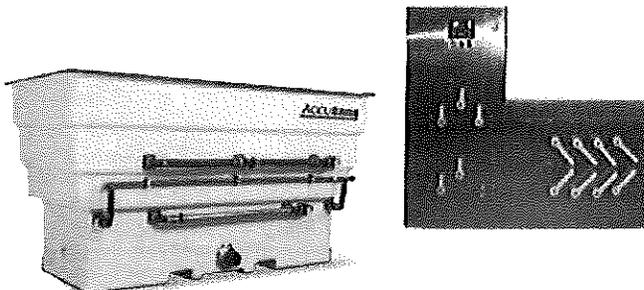
ABS²
ADDITIVE BLENDING SYSTEM

AccuBrine® ABS + 2 additive blending systems

Take your customized blends to the next level. The AccuBrine® ABS² automated brine maker allows for multiple additives to be blended into your finished product. This eliminates the headaches and manual labor involved in creating customized anti-icers. It also removes any guesswork and human error from manually measuring ingredients.

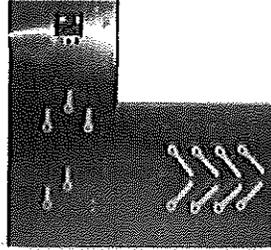
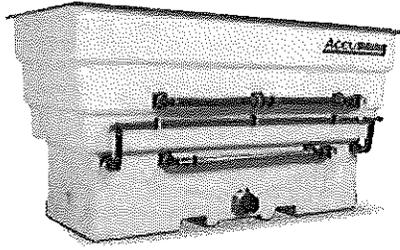
System Includes:

- Two additive injection system
- Dimensions:
 - Salt tank: 65.5"H x 125.5"W x 62.25"D
 - Control panel: 71"H x 117"W x 20"D



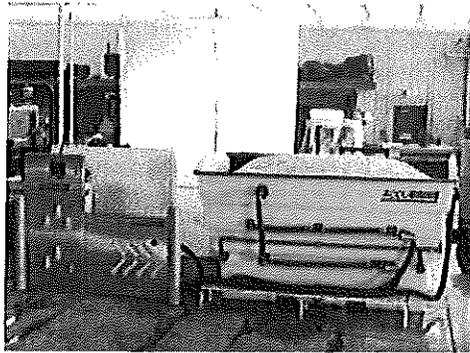
Cargill
A Cargill Deicing Technology Product

Providing customers with deicing solutions that save lives, enhance commerce and reduce environmental impact.



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AB55-1101 5/10/2011



**AccuBrine® automated brine maker
Site Preparation/Installation Checklist**

Thank you for the purchase of your AccuBrine® automated brine maker. Carefully read through the following list of requirements and indicate if each requirement is complete and/or available to ensure that the installation of your new equipment is as efficient as possible. Cargill Deicing Technology ("CDT") or your dealer representative will schedule your installation when all requirements are complete. Please call the AccuBrine® Support number at 1-866-900-7258, or your dealer representative with any questions.

Pre-installation Inspection and Storage

To prevent warranty nullification the AccuBrine® components must be damage free at the time of installation. It is the responsibility of the customer to:

1. Inspect the AccuBrine® components for damage. If damage has occurred contact your AccuBrine® representative immediately or call 866-900-7258.
2. To prevent damage to the Control Panel, the unit should be stored with the stretch wrap in tact and in clean, above freezing and dry environment. Failure to do so will nullify the warranty.

Customer is responsible for making sure the following items are in place prior to the commencement of an AccuBrine® installation:

	Ready - Yes or No
Water Supply – Must be located inside the AccuBrine® Building	
<ul style="list-style-type: none"> • 2" water supply line terminating within 10 Ft. of Main Control Panel. (Note: A lower GPH supply will work with the machine however, performance will decrease in GPH brine produced). The flow rate of the pump is 107 GPM @ 45 Ft. head pressure. 	_____
<ul style="list-style-type: none"> • Water pressure must be regulated between 40 - 60 PSI. If not, a pressure regulator must be added. 	_____
<ul style="list-style-type: none"> • Back flow prevention device are recommended (Note: When selecting a back flow prevention device, take into consideration that salt brine will be at an elevation above the water inlet) 	_____
<ul style="list-style-type: none"> • Shut off valve at water outlet. 	_____
<ul style="list-style-type: none"> • 2" Female Pipe thread fitting is required for connection of hose between brine maker control panel and water supply. 	_____
<ul style="list-style-type: none"> • If the customer is installing product fill hose/pipe that elevate over a wall, or the control panel is significantly higher than the salt brine production tank or the storage tanks, check valves in the suction lines may be warranted. The pump will not create suction that will pull the liquid from the storage tanks. 	

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- The customer may elect to use PVC instead hose. If the customer elects to do this:
 1. PVC piping installation will be at the expense of the customer and Cargill does not have the ability to install PVC.
 2. BM – 093 adaptors are required at each end of the pipe. This fitting is also supplied by Banjo
 3. When using PVC, the installer should use sweeping turns instead of using 90° "Right Angle" turns. 90° turns diminish the performance of AccuBrine.

Electrical Service - Must be located inside the AccuBrine® Building

- **Single phase option** - 230 Volt Single phase with neutral leg and grounding wire / 30 amp service with a **L14-30R receptacle** located within 5 ft. of control panel electrical enclosure.
- **3 phase option** – 30 Amp 3 Phase 208Volt/AC, 60 Hz with neutral and ground wire. Receptacle required L2130RW from Cooper Wiring Devices. Receptacle located within 5 ft. of control panel electrical enclosure.
- **Heater option** is to be installed, an additional 230 Volt Single phase with neutral leg and grounding wire / 50 amp service is required, and located within 5 ft. of the control panel. Heater elements will be wired to two 25 amp circuit breakers in the provided 50 amp service disconnect panel.
- **Recycled Water option** is to be installed, an additional 230 Volt Single phase with neutral leg and grounding wire / 30 amp service is required. This should be located within 5 ft. of the Recycled Water Pump. If the 3 phase motor option was selected, substitute the single phase service with the 3 phase service of 208 Volt Three phase with three leg wires, and neutral and grounding wires / 60 amp service.
- **300 GPM Pump option** is to be installed, an additional 208 Volt Three phase with three leg wires, neutral and grounding wires / 60 amp service is required. This should be located within 5 ft. of the 300 GPM pump control/disconnect enclosure.
- **Conduit Runs** are required to:
 - Within 2' of the yellow salt tank. This is for the pressure transducer on the yellow salt tank.
 - On RTF, ABS, and ABS2 models , a truck filling point must identified by the customer and conduit (3/4" conduit is typical) for 9 – 16 gauge wire, plus three wire shield cable must be ran for the RFID Truck fill panel. **Please note that 18 gauge wire is preferred for the terminal lugs inside the AccuBrine®. The truck fill station should be located at an area that fits well with the customer traffic pattern.**
 - Wire colors – 7 Blue, 1 Green, 1 Blue with white stripe, plus the shielded cable supplied with the machine.
 - AccuBrine ®requires Pressure Transducers to be installed in the storage tanks to monitor the liquid levels in the tank. Due to specific OSHA regulations, there are certain elevated tasks involved in the installation process. Cargill or its designated representatives will be unable perform without fall protection.
 - Conduit runs will have to be made to the tops of all storage tanks. 2-18 S/O cable is required to Pressure Transducers

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Air Supply Requirements

- To properly purge the fresh water supply hose a large volume of air is needed. A minimum of 15 gallon air compressor is required. With a 1/2 inch hose to supply from the air compressor to the air purge system.

Customer Supplied Storage Tanks

- **Must have two** 2" NPT tank flanges and 2" shut off valves on the tanks. Place one flange at the 12 o'clock position when using a top view of the tank. Place the second flange at the 3 o'clock or 9 o'clock position. Anything less will reduce AccuBrine's performance of the AccuBrine® brine making system. (include any other details regarding what valves they have and what they need to match up to our hoses – ie. hose barbs, etc)
- **Must have 3"** tank flange and valve if off loading additive trucks into them(required for models ABS, and ABS2)

Grade for Storage tanks and Brine Salt tank

- Storage tank load will be approx 4.8 lbs per square inch. Location should be level
- Salt tank load will be approx 3 lbs per square inch. Location should be level.
- Install tie down lugs to anchor storage tanks if required.

The dimensions of the salt tank: Base 42" X 98", Top 125" X 66", Height 64"

Locating Control Panels and through wall manifold

- The AccuBrine® control panel has fresh water flowing through it during brine production. To prevent damage to the control panel piping system and the touch screen on the AccuBrine®, the entire panel it must be housed in a clean, dry, and heated environment. This can be a fabricated building or it could be as simple a garden shed. It is very important that the structure be heated to prevent freezing.
- Allow at least 36" behind **BOTH** control panel and sub panel for access and maintenance.
- Control Panel and subpanels may be separated if necessary. This may require an additional up charge and should be decided and communicated prior to the installation.

Hose connections are made between Main panel, sub panels and through wall manifold to salt tank and storage tanks. The dimensions of the control panel are: 33.5" wide by 20" deep, by 71" high. The subpanel is 80.5" wide by 41" high. Overall length of control and subpanel is 114" for the RTF, ABS, and ABS2 models.

- Locate Optional through wall manifold as low to grade as possible. Manifold may be located vertically or horizontally. Cut out dimensions are 3-1/2 min to 4" maximum width and 2' 6-5/16" minimum to 2'-7 7/16 " maximum length. There will be a plate on the inside and outside of the wall to protect from the elements. Locate through wall manifold to the left and

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behind subpanel. Individual holes may be drilled through wall to accommodate hoses or piping. _____

Location of Truck Filling

- Locate the truck filling station in an area that works well with your traffic pattern.

Days of Installation

- A Cargill and or a dealer representative will be on site the day of installation. The customer to have at least one of its employees will be on hand to help perform the actual installation work. Cargill recommends that this person assisting with the installation be the person who would normally operate the AccuBrine. _____
- The site and worker(s) must be available on the days of installation from 7:00 AM to 5:00 PM. _____

Optional/Recommended Items

- Barricade posts with cross members located around perimeter of salt tank to provide accidental contact with loader. Note: If wrapping around the sides, the minimum height from the underside of cross member to the bottom of salt tank should be no less than 76". _____
- 4' X 10' Raised slab for salt tank. Raise + or - 24" for ease of capturing wash out debris from sump of salt tank. This enables loader bucket to be used to capture debris when flushing out. _____

Training on the AccuBrine® system will be provided to the customer and its representatives after installation is complete. CDT reserves the right to charge extra installation fees in the event CDT or its designated representatives are required to return at a later date to perform further installation or training if either activity is delayed as a result of incomplete preparation work by the customer. The rate is \$150 per day plus expenses.

Approximate times for Installation per Model

- Times listed below are typical times required per model for either a Cargill or Cargill authorized dealer to complete an install **IF** the customer has all site prep-work done prior to the arrival of the installer. Actual installation times may vary as conditions dictate.
 - AccuBrine® Automated Brine maker : 2 days
 - RTF – 2.5 days
 - ABS – 3.5 days
 - ABS2 – 4 days

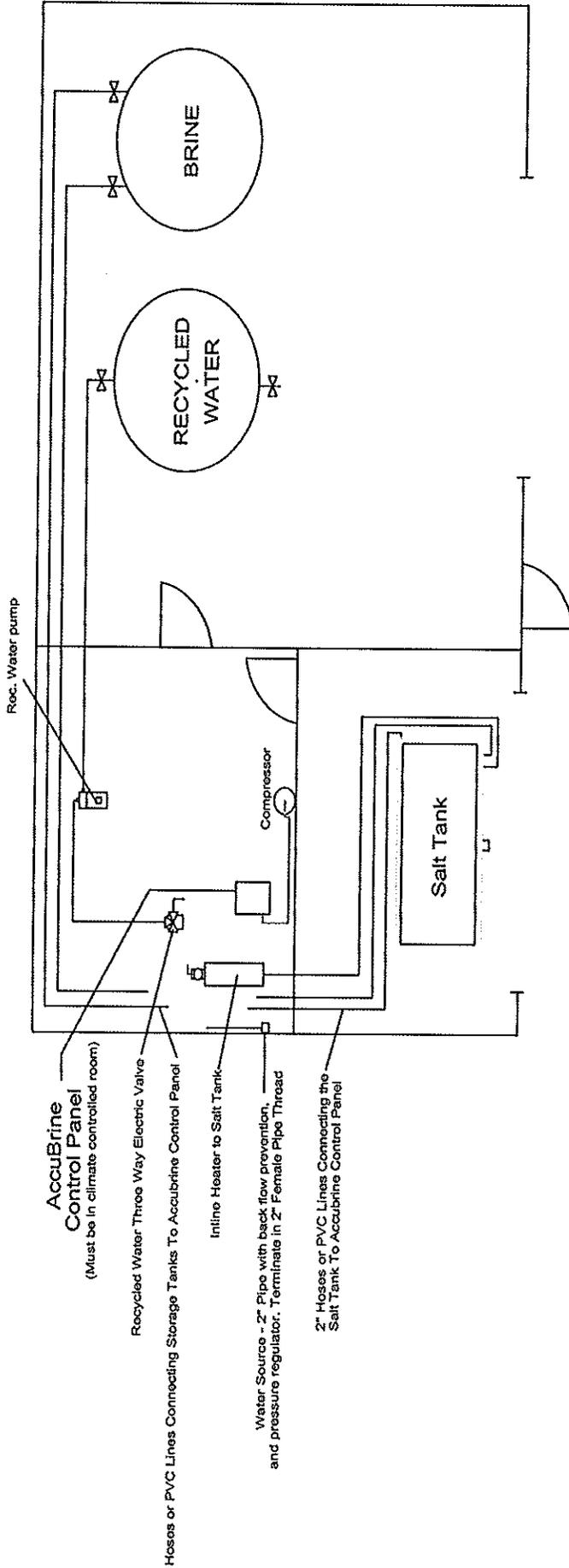
Please sign and return prior to the commencement of your AccuBrine® brine maker installation.

Organization: _____

Signed: _____

Name: _____ Date: _____

Generic Plumbing Layout - AccuBrine Model ABM



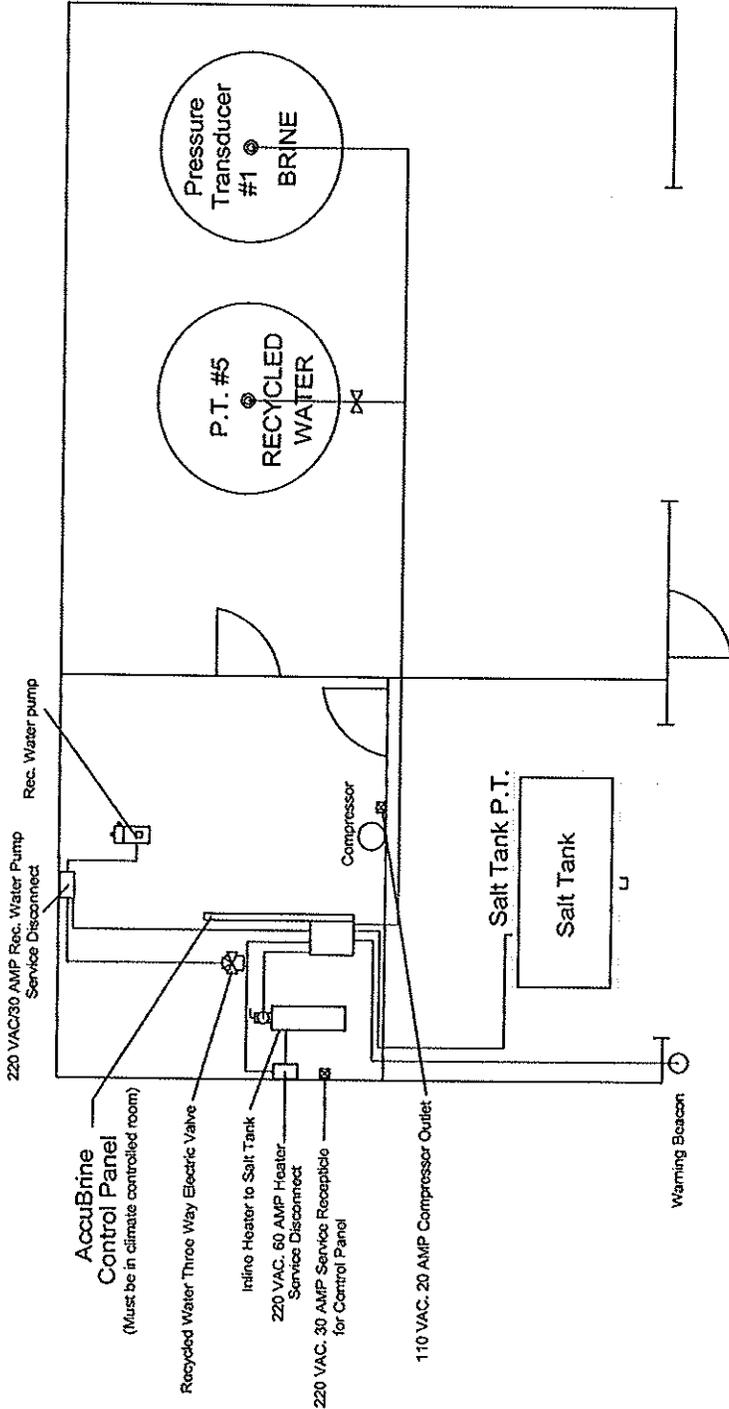
PLUMBING - EQUIPMENT NOTES:

- The locations of equipment, storage tanks and plumbing lines shown are for illustration only.
- The actual locations of equipment, storage tanks and plumbing lines will be determined by the specifications of the installation site.
- Salt Tank Dimensions: At Base - 100" L X 48"W, At Top - 125" X 73" X 64"H
- Control Panel Dimensions: Main Control Panel - 33"L X 20"W X 71"H
- Recommended minimum clearances for the main control panel are: 36" behind and on both sides of panel, and 48" in front of panel.
- These clearances will allow cleaning, maintenance and operation of the brinemaker.
- Recommended minimum clearances around the salt tank are: 36" on all sides to allow cleanup, access, and maintenance.
- Plumbing lines from storage tanks and salt tank to control panel should be 2" flex hose at control panel and tank valves using PVC X M220 adaptors.
- If PVC pipe is used, transition to 2" flex hose at control panel and tank valves should be 2" corrugated hose or 2" sched. 80 PVC
- Holes bored through building walls for plumbing lines should be as low as possible to concrete floor every 4' to secure PVC pipe.
- Air supply line connecting compressor or shop air to air purge valve on control panel.
- Two 2" manual valves on Brine, Additive, and Blended product tanks will allow recirculation of these tanks, as well as load out.

Optional features:

- Inline Heater for Salt Tank:**
 - The inline heater is connected to return line of the salt tank and to the main control panel.
 - The location of the heater should be in the climate controlled room near main control panel.
- Recycled Water Pump and 3 Way Electric Valve:**
 - The recycled water pump is connected between the recycled water storage tank and main control panel.
 - The location of the pump should be in the climate controlled room near main control panel.
 - The three way electric valve is connected to the recycled water pump line, the fresh water source line, and to the main control panel.
 - The location of the valve should be in the climate controlled room near main control panel.

Generic Wiring Layout - AccuBrine Model ABM



WIRING NOTES:

The locations of equipment, storage tanks and conduit runs shown are for illustration only. The actual locations of equipment, storage tanks and conduit runs will be determined by the specifications of the installation site.

Salt Tank Dimensions: At Base - 100" L X 48"W, At Top - 125" X 73" X 64"H

Control Panel Dimensions: Main Control Panel - 33"L X 20"W X 71"H

Recommended minimum clearances for the main control panel are: 36" behind and on both sides of panel, and 48" in front of panel. These clearances will allow cleaning, maintenance and operation of the brinemaker.

Recommended minimum clearances for the salt tank are: 36" on all sides to allow cleanup, access, and maintenance.

— Indicates electrical conduit from pressure transducers, pumps etc. to the control panel or disconnect boxes. These may be elevated, floor or wall level.

- Warning Beacon: Two 18Ga wires, +24 and -24 VDC, are required to connect beacon to main control panel. Beacon should be mounted where operator can clearly see it.

- Pressure Transducers - 24 VDC: All transducers on salt tank and storage tanks require two 18 Ga. wires (signal, 4-20 milliamps and power, +24 VDC) to connect to main control panel.

Optional features:

- Inline Heater for Salt Tank:

Four (4) wires (factory installed) from heating elements on heater connect to circuit breakers in heater disconnect box.

Three (3) wires are required (three conductor communication cable) from RTD (temp. probe on heater) to connect to terminals in main control panel.

Two (2) 16 Ga. (red & white) wires are required to supply 120 VAC from main control panel to heater disconnect box.

- Recycled Water Pump and 3 Way Electric Valve:

Three (3) 12 Ga. wires are required (w/ ground) to connect pump motor to circuit breakers in recycled water disconnect box.

Five (5) 18 Ga. wires are required to connect the three way electric valve (red, white, blue, black, and green) to recycled water disconnect box.

Three (3) 18 Ga. wires are required to control pump and valve and run from main control panel to recycled water disconnect box.



AccuBatch™ Site Preparation Checklist

✓ if Complete

Item Description

- _____ Level area at least 10'-6" x 8'6" for the AccuBatch™ system
- _____ The ELECTRICAL SERVICE shall not be located more than 25 feet from the motor/pump assembly that is mounted on the side of the AccuBatch™ brine tank
- _____ Path to fill salt hopper must be level and free from obstructions for the front end loader. A wheel stop barrier should be in place to keep equipment from hitting the salt hopper.
- _____ 2" Banjo female quick disconnect (camlock) fitting(Banjo part number 200C), or equal, to connect customer fresh water service to AccuBatch™ fresh water inlet at Valve #1
- _____ 2" Hose for connecting Valve #3 to customer storage device(tanker truck and/or storage tank) One end of the hose will need to be fitted with a 2" Banjo female quick disconnection fitting(Banjo part number 200C), or equal, to allow for easy connection to the AccuBatch™ system. The other end of the hose needs to be fitted to mate to customer storage device (tank truck and/or storage tank) or have separate hoses for each storage device.
- _____ Electrical Service required: 240V, 30A, single phase with Type L6-30 receptacle
- _____ Customer must supply a mount for the AccuBatch™ control panel. The mount must be no more than 10-15 feet from the AccuBatch™ motor mount. The mounting feet on the back of the panel are located 14.54" wide x 20.84" in height



_____ The AccuBatch™ Control panel comes with 15 feet long power cord with plug and must be close enough to electrical service for cord to reach. (Customer may supply a longer power cord if needed – Type CABLE / 10/3 SOOW)

_____ Customer shall supply a shutoff valve at storage tank(s) and/or tanker truck. This will keep the brine in the customer storage devices from flowing back through the AccuBatch™ system when the pump is Off. It is recommend that the valve be a manual 2" Banjo shutoff valve with male quick disconnect fitting(Banjo part number MVSF220FP), or equal, to allow for easy hose removal and connection to the AccuBatch™ system.



Technical Specifications - AccuBatch™ brine maker

1.0 Salt Hopper

- 1.1 The entire salt hopper and salt hopper structure shall be made of structurally sound fiberglass.
- 1.2 The salt hopper shall have a minimum capacity of 1.6 cubic yards
- 1.3 The salt hopper has a weight capacity of 3000 pounds
- 1.4 The salt hopper shall have the following inner dimensions: 26.5 inches wide and 94.5 inches long and 33.25 inches high.
- 1.5 The salt hopper shall have the following outer dimensions including legs and spill deflector: 46 inches wide and 103 inches long and 79 inches high.
- 1.6 The height of the bottom of the butterfly cleanout valve is 31 inches off of the ground.
- 1.7 The salt hopper shall be constructed of fiberglass and coated with an inner UV resistant white gel coat and a highly-visible yellow outer gel coat.
- 1.8 Overall nominal thickness of the salt hopper shall be .75 inches.
- 1.9 All fittings and valves shall be fiberglass reinforced molded polypropylene
- 1.10 The fill nozzles are capable of providing fresh water or recirculated brine water to the system depending on the position of the valves in the system.
- 1.11 The hopper shall have a 13 degree sloped bottom leading toward a circular 6" diameter discharge port fitted with a manually operated 6" diameter butterfly valve consisting of cast iron body, EPDM seat, 316 stainless steel disc and stem.
- 1.12 Salt hopper shall be fitted with a 304 SS spill deflector on one long side and two short sides to minimize the amount of spillage during the dumping process.
- 1.13 All clamps and other necessary hardware shall be stainless steel
- 1.14 There shall be a quick disconnect fitting for the hose connecting the discharge side of the pump to the salt hopper.
- 1.15 There shall be a quick disconnect fitting for the hose connecting the side nozzle to the middle nozzle to allow for simple draining of the tank hoses.
- 1.16 The salt hopper will be fitted with removable 304 stainless steel screens to minimize the amount of salt or other debris to be washed into the brine tank through the four overflow outlets.
- 1.17 The salt hopper will be permanently fitted with four 4" diameter circular fiberglass overflow tubes.



2. Brine Tank

- 2.1 The entire brine tank and brine tank structure shall be made of structurally sound fiberglass.
- 2.2 The brine tank shall have a minimum capacity of 840 gallons
- 2.3 The brine tank shall have the following inner dimensions: 46.5 inches wide by 94.5 inches long by 46.5 inches high.
- 2.4 Overall nominal thickness of the brine tank shall be .75 inches
- 2.5 All fittings and valves shall be fiberglass reinforced molded polypropylene The brine tank shall have the following outer dimensions, including all fittings and/or mounts: 60 inches wide by 113.5 inches long by 49.5 inches high
- 2.6 The Brine tank outlet shall be fitted with a 2" port with a manually operated shut off valve. The valve has a 2" male QDC lever lock connection.
- 2.7 The brine tank shall be constructed of fiberglass and coated with an inner UV resistant white gel coat and a highly-visible yellow outer gel coat.
- 2.8 The brine tank will be fitted with a fresh water inlet consisting of a 2" manually operated shut off valve with a male 2" quick disconnect fitting that can be rotated to either side of the tank to facilitate proper tank orientation based on the location of customer's fresh water source.
- 2.9 The fresh water inlet shall be connected to a u-shaped schedule 80 PVC header fitted with threaded end-caps to allow cleanout if needed. The PVC shall also have multiple holes drilled along its length that will double as a fresh water inlet into the brine tank as well as a way to flush any insoluble residual buildup in the bottom of the tank.
- 2.10 The brine tank shall be fitted with a motor mount that will house the motor, pump and valve stack.
- 2.11 The floor of the brine tank shall be sloped from fresh water inlet side toward the 2" discharge port side at 5 degrees.

3. Motor/pump/valve stack assembly

- 3.1 The motor, pump, conductivity analyzer sensor and one 3-way manual valve shall all be attached and mounted on a mounting plate connected to The motor shall be a , 3hp, 240V, 3450 rpm; FLA 13; 1 PH TEFC
- 3.2 The pump shall be rated at 100 gpm with a 2" inlet and outlet with stainless steel impeller and housing.
- 3.3 There shall be a salinity probe mounted and housed on the discharge side of the pump. The probe will be wired to the salinity analyzer control box with 15 ft of usable shielded cable.



- 3.4 There shall be a manual 3-way valve mounted on the downstream side of the conductivity probe housing. The valve will control whether the water/brine solution being discharged from the pump will be sent to the salt hopper (recirculation) or to a customer storage device.
- 3.5 There shall be a 3" check valve mounted on the pump assembly to eliminate any backflow of water and salt from the salt hopper or from a storage tank/truck through the pump.
- 3.6 There shall be a 2" male quick disconnect fitting on the "storage" side of the 3-way valve that the customer can connect to in order to take the finished product from the AccuBatch™ system to a storage device(customer supplied)

4. Control Panel

- 4.1 The control panel back plate shall be UL listed.
- 4.2 The control panel can be mounted outdoors as penetrations in the control panel will comply with IP-66, or greater.
- 4.3 The control panel shall be fitted with the following: Start, Stop, E-stop, Reset push button, Hand-Off-Auto motor control, four LED voltage fault indicators, LED stack light.
- 4.4 The control panel for the conductivity analyzer shall consist of touch screen controls rated at IP-66 and will be mounted to the side of the main control panel.
- 4.5 The main power will be supplied to the control panel by a 15 ft power cord with 240 VAC, 30A, 1PH male cord cap.
- 4.6 The entire system shall have a power requirement of 240V, 30A, 60hz, single phase AC.
- 4.7 The control panel enclosure shall be made of fiberglass reinforced polyester.
- 4.8 The total full load amperage shall be 18.4 Amperes.
- 4.9 The short circuit current rating shall be 5000 Amperes RMS.



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Supplement to the General Provisions - A5.1.3 of the City of Oklahoma Bid-
August 28, 2013

Cargill, Incorporated (“Cargill”) is an international provider of food, agricultural and risk management products and services. It is one of the largest private companies in the world with a net worth of nearly \$20 billion. Cargill’s Deicing Technology business unit (“CDT”) will be responsible for performing the proposed contract. This business unit is one of approximately 80 business units that Cargill operates worldwide. In the United States alone, Cargill business units operate in over 700 locations in nearly all states.

Cargill does not centrally track incidents that relate to disclosures, both due to the scope and size of its businesses and because such recordkeeping is not legally mandated. From time to time, CDT is served with various requests for information from government entities. CDT has made a good-faith attempt to investigate the issues raised on this Form. The responses contained in this supplement are made to the best of CDT’s knowledge. None of the matters listed below will affect CDT’s ability to perform under the proposed contract.

Details regarding section A.5.1.3:

A.5.1.3.: Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph A.5.1.2 of this certification;

- In January 2011, a putative class civil lawsuit was filed by Erie County, Ohio, against Cargill Deicing Technology (“CDT”) and Morton Salt, generally alleging claims for unfair competition, antitrust, and fraud. The claims relate to Ohio’s statutory domestic preference for salt manufactured within the state. CDT and Morton filed a motion to dismiss this lawsuit, which was granted by the court on September 19, 2011. Erie County appealed to the Sixth Circuit and the Sixth Circuit affirmed the dismissal of the case and entered judgment on December 18, 2012. CDT does not believe this matter will impact its ability to do business in the future.
- In April 2012, the Ohio Attorney General filed a lawsuit against Cargill and one of its competitors, Morton Salt, alleging antitrust violations. The lawsuit is pending and Cargill intends to defend the action vigorously. CDT does not believe this matter will impact its ability to perform its obligations under this bid.