1. IDENTIFICATION

The HP Briner Salt Dissolver as manufactured by Brine Systems, Inc., Union Dale, Pennsylvania 18470-0200. A completely automatic, self-contained salt storage and salt dissolving unit for producing fully saturated brine from rock, solar or evaporated salt products.

2. EQUIPMENT

FRP Vessel - The HP Briner is a flat bottom, closed-top design to be mounted on a flat concrete pad designed by Brine Systems, Inc. and furnished by the customer. The vessel as manufactured by Justin Tanks LLC or equal shall be a filament wound FRP tank with FDA grade Isophthalic / Vinyl ester resin corrosion barrier reinforced with (1) ply "C" glass surface veil and chopped glass backup; and with FDA grade Isophthalic / Vinyl ester resin in the structural laminated designed and fabricated in accordance with ASTM - D - 3299 (current addition). A four-layer construction consisting of 20 mil inner liner, 80 mil resin rich second layer, filament wound third layer, 20 mil fourth layer exterior resin rich with ultraviolet inhibitor, leaving the tank translucent. Tank suitable to withstand wind conditions up to 90 mph. The tank shall include the following:

   Integral Seamless Flat Bottom
   ASME Dish Top (designed for 250# on any 4"x 4" area)
   4 Galvanized Steel Lifting Lugs
   4 Galvanized Steel Hold Down Lugs
   24" Diameter x 42" High FRP Dust Collection Bag Housing
   24" Flanged Side Manway with Domed Cover
   External Liquid Level Mounting Bracket
   4" Top Mounted Pad Flange with Stainless Steel Inserts
   24" Top Manway & Safety Pressure Relief
   1" FRP Threaded Full Coupling, Water Inlet
   2" FRP Threaded Full Coupling, Brine Outlet
   2" FRP Threaded Full Coupling, Level Control Outlet
   3" Full Flat Faced Flanged Drain with (1) Plate Gusset
   FRP Ladder Clips as Required

Brine Collection System - including two (2) lateral brine headers, internal connecting assemblies and external pipe nipple and 2” Ball Valve. (Piping and supports from valve to use point to be provided by purchaser.)

4” Pneumatic Delivery Piping - including 180° stainless steel bend flanged one end, Straight aluminum pipe with flange and quick disconnect truck coupling, flanged connecting assembly, aluminum coupling and support clamps. (Support pipe for clamps by purchaser.)

Pneumatic Dust Suppression System - containing external FRP bag housing with removable cover, polyethylene vent bag, stainless steel bag strap, and stainless steel bag fasteners.

Water Distribution System - including a continuous inlet water header constructed of schedule 80 PVC piping and supported by fiberglass support brackets, inlet water assembly, external shut off ball valve, strainer, check valve, strainer, connecting nipples and 110-volt solenoid valve (All external piping and supports from tank by purchaser).
Liquid Level Control System - an automated level indicator which operates from conductivity including internal piping, shutoff ball valve, clear standpipe assembly, probe holder, probes, air vent assembly NEMA IV enclosure with control relay. Electrical components are 110 volt, 60 cycle, AC. (All external piping supports and electrical wiring by purchaser).

Access Ladder and Safety Cage - OSHA approved, constructed of aluminum and includes all required tank and concrete mounting brackets and clips.

Stainless Steel Hardware - Includes all stainless steel bolts, nuts and washers for assembly, along with the required gaskets for all pipe flanges and tank openings and blank flange for side bottom drain.

If an evaporated salt product such as Table Salt, Purified Salt or High Purity Evaporated salt as manufactured by Brine Systems, Inc. will be used in the HP Briner, than a Gravel Filter Bed will be require.

Gravel Filter Bed - A 12" washed and graded filter media consisting of three different layers of quartz rocks. (OPTIONAL, Required for all HP Briner's using an evaporated, purified or table salt product.)

Freeze Protection Package - An optional item consisting of two (2) Polyisocyanurate foam insulation layers applied in board stock 60" high on the vessel sidewall. The insulation is covered with a 120 - 150 mil hard fiberglass skin to assure a liquid tight enclosure, then coated with a light gray gel coat containing a U.V. inhibitor. Under the insulation will be two (2) 550 watt, 120 volt heat panels. A NEMA 4X fully electronic control box is supplied with both a control and high limit temperature thermostat. Both thermostats will be mounted and pre-wired so all the customer has to do is run the hot, neutral and ground to the system. Recommended for all outdoor systems installed in severe winter climates.

3. GENERAL

The HP Briner Salt Dissolver is designed and used to manufacture saturated sodium chloride brine in textile operations, food applications, water softening systems, or for aquatic industries.

All equipment shall be suitable for outdoor installation at the purchaser's plant. If the HP Briner Salt Dissolver is to be placed indoors, an optional dust collection system must be used. Brine Systems, Inc. offers a standard side mounted dust collector or a special wet scrubber style dust collector. Freeze protection should be considered when ambient air temperatures fall below freezing for an extended period of time. All equipment will be installed by purchaser's construction people; however, vendor is to minimize the number of required field connections. Equipment will be used for a 24 hour per day service and will be removed from service only for normal maintenance, cleaning and inspection. The unit is to be designed for use with rock, solar or evaporated salt. Based on size of the tank and type of salt, equipment package shall be capable of producing 20 to 35 gallons per minute of saturated brine flow under normal operating condition.