



M. S. Foster & Associates, Inc.

1866 N. Country Lane, Michigan City, IN 46360
Phone 219-380-3266 or 219-879-9225 • Toll Free 888-452-4053
Fax 219-879-9313 • email: sales@msfoster.com
www.msfooster.com

BT600ARPLC-Data STAINLESS STEEL AUTOMATIC BRINE MAKING PLANT COMPLETE WITH OVERFLOW PREVENTION, AUTOMATIC PUMP OUT TO STORAGE, AUTOMATIC RE-CIRCULATION, PUMP PROTECTION AND DATA LOGGING/REPORTING SAMPLE SPECIFICATION SHEET

Brine Making Plant shall meet the following minimum specifications:

1. The brine making process will be automatically controlled by a Programmable Logic Controller (PLC). The PLC will control the salinity content of the finished brine to within $\pm 0.2\%$, pump the finished brine to a customer supplied storage tank and in the event the brine is too lean, will automatically re-circulate the brine back through the dissolution tank until it is within the user selected salinity level. The operator will be able to pre-select the desired salinity level of the finished brine. In auto mode the PLC will shut down the machine in the event that the brine is too lean or when the storage tank is full. The brine maker will also include full manual override controls which enable brine production in a fully manual mode.

Comply: _____yes _____no

2. The dissolution tank, brine containment tank and spillway shall be welded stainless steel, one-piece construction.

Comply: _____yes _____no

3. The entire Brine Making Plant shall be constructed into a single frame to allow for easy loading, un-loading, and positioning using various fork lift trucks.

Comply: _____yes _____no

4. The dissolution tank, brine containment tank and spillway shall be constructed of 304 grade stainless steel. Plastic or fiberglass construction is not permitted.

Comply: _____yes _____no

5. The Brine Making Plant shall be delivered as a complete, one piece, and turnkey system with all plumbing, pump, etc. factory installed and affixed to the plant. No field

assembly, other than to connect the municipality's water supply and plug in the electrical control panel shall be necessary. The municipality will be responsible for connecting the discharge pump to its own storage facilities if required.

Comply: _____yes _____no

6. Overall dimensions shall not exceed:

Width: 150 inches

Comply: _____yes _____no

Depth: 62 inches

Comply: _____yes _____no

Height: 60 inches

Comply: _____yes _____no

7. System being supplied shall be designed and constructed so as to assure the dissolution tank can be filled using a standard 2 yd³ or 3 yd³ loader bucket.

Comply: _____yes _____no

8. System shall be an upward water flow type system. Water will move through the salt from the bottom to the top. The brine will exit the dissolution tank through a fixed, stainless steel spillway into the brine containment tank.

Comply: _____yes _____no

9. Dissolution Tank Opening:

Width: 116 inches minimum

State Width: _____

Depth: 36 inches

State Depth: _____

Capacity: 3.5 yd³

State Capacity: _____

10. Brine Containment Tank:

Capacity: approximately 2950 litres (780 USG)

State Capacity: _____

11. Pump/Motor shall be:

Close coupled only:

Comply: _____yes _____no

Rated for 120 USGPM flow rate

Comply: _____yes _____no

2 HP – 115/220 VAC Single Phase

Comply: _____yes _____no

Housing shall be glass reinforced polypropylene

Comply: _____yes _____no

Pump shaft shall be stainless steel

Comply: _____yes _____no

All other pump parts shall be corrosion resistant Comply: yes no

12. All valves and fittings that are exposed to salt or brine shall be corrosion resistant Banjo flange style polypropylene or approved equal.

Comply: yes no

13. All fresh water supply lines and dilution water supply lines that are affixed to the Brine Making Plant shall be Sch. 80 PVC pipe. Flexible hose is not permitted.

Comply: yes no

14. Flexible hose affixed to the Brine Making Plant used for recirculation purposes shall be "blue-helix" reinforced and rated for up to 100 PSI and have a service temperature rating of -40°C to 120°C.

Comply: yes no

15. Main water supply line shall be controlled using an electric solenoid valve that is activated/de-activated by the electrical panel.

Comply: yes no

16. The Brine Making Plant shall include water/brine high-level float switches on both the dissolution tank and the brine containment tank. The dissolution tank switch will close the main water supply valve automatically in order to prevent overfilling. The brine containment tank switch will control the pump out to storage function. The switches shall be c/w slosh guards as required.

Comply: yes no

17. The Brine Making Plant will include a low level safety switch that will automatically prevent the pump from running when there is no liquid in the brine containment tank. The switch shall be c/w slosh guard.

Comply: yes no

18. Electrical Panel:

Nema 4	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
10' electrical cord c/w "twist lock" plug	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Motor contactor c/w overload relay	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Emergency Stop button	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Float switch relays equipped with manual overrides	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Programmable Logic Controller – User Adjustable	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Manual Override Control Switch	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Pump Start/Stop Switch (for manual mode)	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Auto/Manual Switch	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
Remote High Level Float Switch (for storage tank)	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no
2 Remote Flow Meters (water in – brine out)	Comply: <input type="checkbox"/> yes <input type="checkbox"/> no

19. Spillway:

The spillway shall have a flow capacity of not less than 18,000 litres (4760 USG) per hour.

Comply: yes no

20. Clean-Out:

The dissolution tank shall include at least one 6" NPT stainless steel clean-out pipe c/w NPT plug located at the side. No elbows or other flow diversions are permitted on the clean-out pipe. The clean-out pipe shall be located approximately 1/4" to 1/2" from the floor of the dissolution tank.

Comply: yes no

The brine containment tank shall include a 4" clean-out c/w NPT Plug located on the side.

Comply: yes no

21. Data Logging/Reporting:

The brine making plant will have the ability to log total water usage, total brine output, salt usage, and will be time and date stamped. Access to the data is provided by licensed software interfaced with the PLC which can be connected via Ethernet or via a memory card.

Comply: yes no