

Cell Circulation System

PRODUCT DATA SHEET

As part of an Electrocoat paint system, a Cell Circulation System (CCS) monitors and maintains electrolyte (either anolyte or catholyte) flow and conductivity. Conductivity is maintained by adding DI or RO water, which dilutes the concentration of ionic contaminants. The major components of the CCS are: an Electrolyte storage tank, pump, flow meter, conductivity monitor/controller, strainer, pressure gauge, piping and wiring. Our Cell Circulation Systems are available with tank volumes of 114 liter (30 gal), 265 liter (70 gal), 380 liter (100 gal), and 570 liter (150 gal).

Conductivity Controller

- Conductivity sensor is located in the discharge piping.
- Conductivity range is 0 - 20,000 μ Siemens/cm, same as 0 – 20,000 μ Mho/cm.
- Digital meter display with internal single set point; 220/110 V AC 50/60 Hz; housed in NEMA type 12/13 gray enclosure.
- Electric valve for D.I. water is 110 V AC 50/60 Hz; 220 VAC 50/60 is optional.
- Low tank level alarm switch

Pump

- Seal-less, vertical design made of CPVC, with pump bypass and pressure gauge included.
- Pump suction has inlet strainer and foot valve.
- 3 phase, 460/230 V AC for 50/60 hertz.
- Note: Motor starter/disconnect is not included.

Product Features and Benefits

- 304 stainless steel tank is tough and corrosion resistant. All wetted seams are double-welded for long life.
- Pump is seal-less; therefore, it cannot leak.
- Pump has inlet strainer and foot valve to prolong its life.
- Conductivity controller has an uncomplicated digital display as well as an internal set point adjustment for added security.
- Electric valve can accept up to 2.5—4 bar (40—60 psi) input pressure.
- Tank can be filled by using a bat handle switch on the meter panel.

- Tank skimmer removes floating matter.
- Limited one-year warranty.

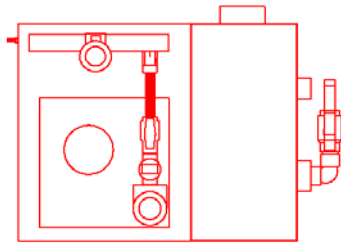
Design Criteria and Assistance

- Electrolyte flow should be 8 lpm for each 1m² (2 gpm for every 10ft²) of anode area.
 - Recommended Electrolyte pressure at the required flow rate is 1.52 bar (22 psi).
 - Tank volume should approximate total volume of Electrolyte in all the Cells or at least enough to provide a tank turnover of 3 times per minute.
 - Electrolyte Supply manifold should be 50 mm (2in) PVC Sch 80 pipe or larger. Size so that velocity does not exceed 1 – 1.5 m/sec (3 – 5 ft/sec).
 - Electrolyte Return manifold should be 75 mm (3in) or 100 mm (4in) PVC Sch 40 pipe. Return manifold should be sloped at least 20 mm per meter (1/4 in per foot), have minimal directional changes and never be more than 3/4 full.
 - Incoming D.I. water flow rate should be 40% - 60% of anolyte pump capacity.
 - CCS tank should be next to the E-coat tank and no more than 3 meters (10 feet) below rim of tank.
 - Siphon breaker is required on supply manifold. Vent is required on return manifold.
- ### CCS Accessories Available
- Supply manifold with siphon breaker kit.
 - Return manifold with vent kit.
 - 220 V AC solenoid valve

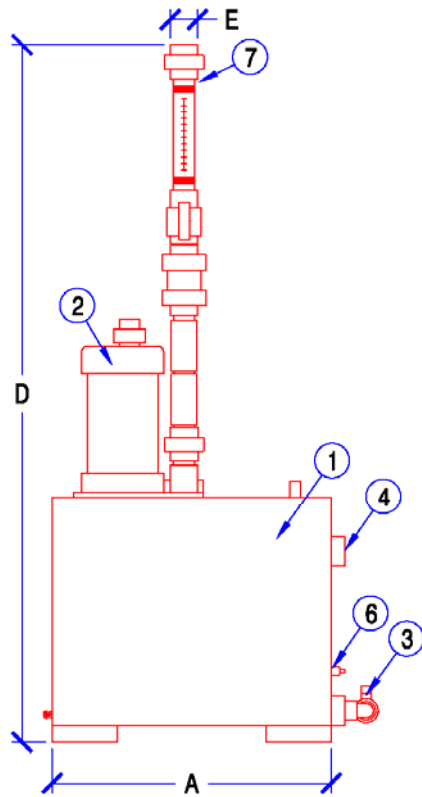
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UFS PN	Capacity		Dimension (inches)					Motor HP
	Gallons	Liters	A	B	C	D	E	
735001	30	114	24	20	22	65	1	1.5
735003	70	265	42	32	24	70	1	3
735008	100	380	42	24	24	67	2	3
735004	150	570	36	36	36	87	2	5

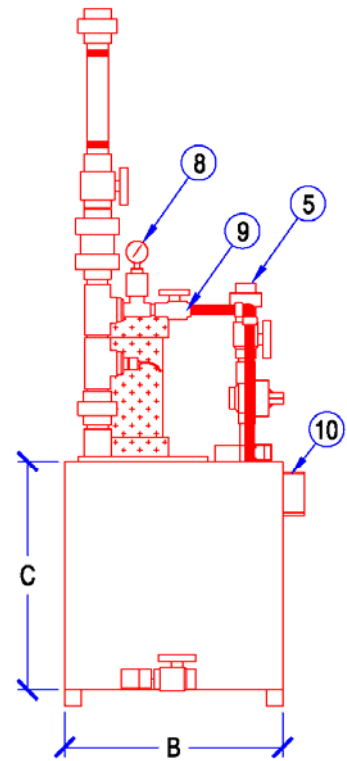
Items	
Item #	Description
1	Stainless Steel Tank
2	Pump
3	1" Drain
4	2" Overflow
5	1" DI Water Connection
6	Low Level Sensor
7	Discharge Assembly
8	Pressure Gauge
9	By-Pass Assembly
10	Anolyte Return Connection



Top View



Front View



Side View