

Electropure™ DC Power Supply Requirements

The SnowPure EDI power supply should be a regulated DC power supply with enough power to cover typical and extreme operating conditions. SnowPure's **ediPureSource™** is designed to do this.

SnowPure recommends setting the voltage (driving force) and allowing the current to float (follow the RO permeate conductivity as it changes). Voltage output should include the standard (and, if needed, regeneration) condition. The power supply should have current-limiting capability to protect itself and the EDI module(s). Each EDI module may be separately fused.

Current draw depends on the FCE (Feed Conductivity Equivalent, or ionic load) or the RO permeate and the EDI water recovery. There should be excess current capability designed in to cover higher currents in case module regeneration is needed, or if RO permeate conductivity increases with system age.

Important: For protection the system must have an automatic interlock to turn the power OFF in case of NO WATER FLOW. The interlock may be controllable from a remote source such as a PLC or an open/close switch (e.g., flow or pressure switch). The interlocks may be a combination of logic, flow, and pressure switches. The power supply may have internal diagnostics and an alarm relay output.

AC noise (ripple) can be up to 5%. AC low- and high-frequency ripple may affect the readings of local electronic instruments, such as conductivity or resistivity meters. SnowPure ediPureSource™ power supplies are designed with very low ripple.

Power supply should conform to electrical code requirements as local code requires. Local code may require features such as power factor correction (PFC) and EMI shielding. If NEMA rating is required, the NEMA enclosure must have enough heat removal to keep the power supply cool. Typical power supply efficiency is 85-90%, so AC input power will be about 10-15% higher than the rated power of the supply.

Electropure™ EDI Model	Recommended Operating Voltage (Range) DC	Typical Current with 3 ppm RO feed	Maximum Voltage	Maximum Current with 15 ppm RO feed	Maximum Power Rating
1 ZAP-10-M	24V*	0.10 A	N/A	0.75 A	18W
1 ZAP-20-M	48V*	0.10 A	N/A	0.60 A	30W
1 XL-060-RL	48 VDC	2 Amps	60 VDC	8 Amps	500W
1 XL-100 (all models)	48 VDC	2 Amps	60 VDC	8 Amps	1kW
1 XL-200 (all models)	100	2 Amps	120 V	8 Amps	1kW
1 XL-300 (all models)	150	2 Amps	180 V	8 Amps	2kW
1 XL-400 (all models)	200	2 Amps	240 V	8 Amps	2kW
1 XL-500 (all models)	300	2 Amps	360 V	8 Amps	3kW
1 EXL-510-HTS	300	3 Amps	380 V	8 Amps	3kW
1 EXL-610-HTS	400	3 Amps	500 V	8 Amps	5kW
1 EXL-650	300	3 Amps	380 V	8 Amps	3kW
1 EXL-710-HTS	500	3 Amps	600V	8 Amps	5kW
1 EXL-750	400	3 Amps	500 V	8 Amps	5kW
2 EXL-750	400	6 Amps	500V	16 Amps	10kW
3 EXL-750	400	9 Amps	500V	24 Amps	15kW
1 EXL-850	500	3 Amps	600V	8 Amps	5kW
2 EXL-850	500	6 Amps	600V	16 Amps	10kW
3 EXL-850	500	9 Amps	600V	24 Amps	15kW
4 EXL-850	500	12 Amps	600V	32 Amps	20kW
6 EXL-850	500	18 Amps	600V	40 Amps	25kW

Note: the power supply should be sized for the maximum requirements if possible.

* ZAP modules come with a dedicated universal DC power supply