



# TREATMENT PRODUCTS CORPORATION

Wastewater Treatment & Recovery Systems

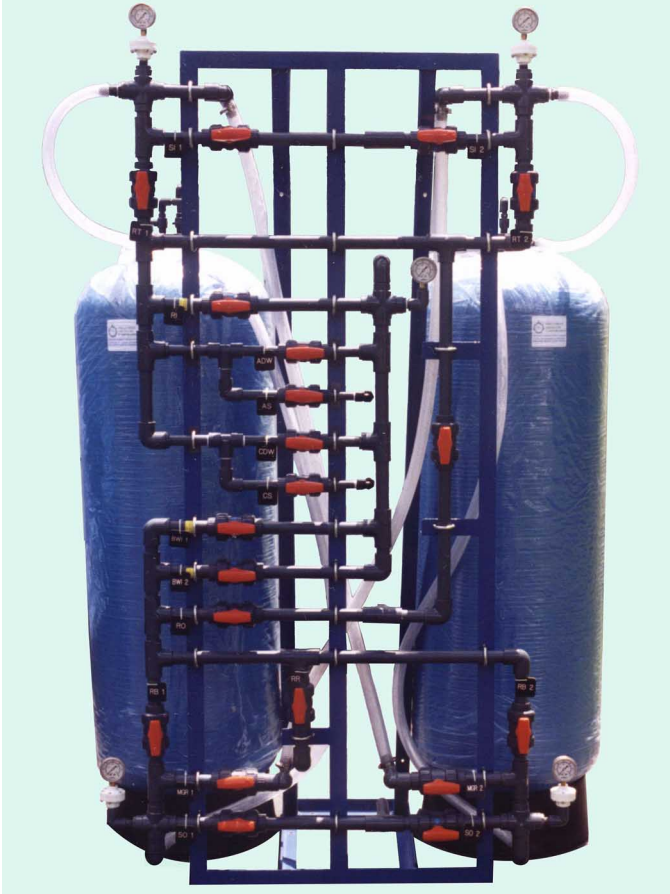
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# POLISHING METALS REMOVAL ION EXCHANGERS



Model MRIX-2162 Ion exchanger

## APPLICATION

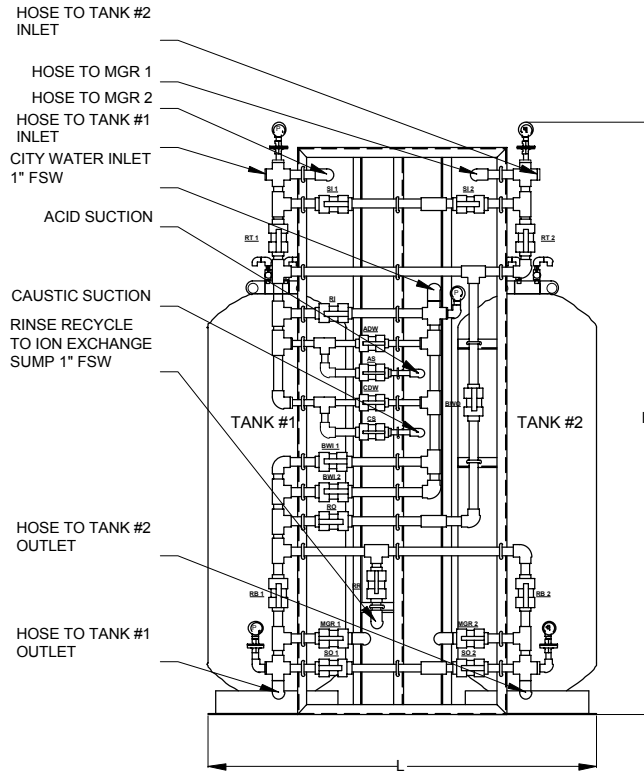
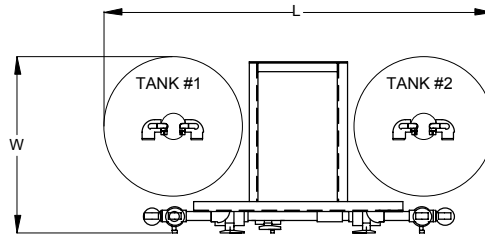
In metals removal waste treatment and recovery applications with low metals effluent limits conventional precipitation systems may be unable to continuously and consistently achieve compliance. In most cases the effluent from these systems contains only trace levels of metals usually averaging approximately 2 PPM, total metals but ranging from 1 to 5 PPM. This effluent can be further treated by ion exchange to consistently reduce the total metals to as low as 20 PPB with a properly selected ion exchange resin. With properly selected resin(s) even chelated or complexed metals can be removed. Typically the ion exchange resin is chosen based on its ability to selectively remove the divalent metals from the waste stream while allowing ions such as sodium, calcium and magnesium to pass through. To maximize resin loading and regeneration efficiency two tanks of resin are typically operated in a series alternating lead lag fashion. When the lead unit is exhausted it is taken off line and regenerated and after regeneration it is returned to service in the lag position. Typically the regenerant waste is returned to the precipitation system for treatment. Characteristically units are sized to require regeneration once every four to ten weeks. The infrequent need for regeneration often encourages manual units to be selected rather than more expensive semi-automatic systems.

## STANDARD FEATURES

- 1. Modular Design:** Pre-assembled valve rack and pre-assembled tanks with choice of either pipe and union, or hose connection between the tanks and the valve rack.
- 2. Tank Construction:** Corrosion resistant polyethylene inner shell with externally wound fiberglass roving for superior strength. Maximum operating pressure 150 psig at a maximum operating temperature of 120 °F. Lightweight design ensures much easier handling than steel tanks.
- 3. Tank Internals:** Underdrains are constructed of PVC and consists of a central hub with multiple slotted radials to ensure proper flow distribution. A slotted PVC inlet pipe prevents resin from being washed from the tank during backwash.
- 4. Valve Rack:** Constructed of welded steel angle with corrosion resistant coating. Piping is schedule 80 socket weld PVC. Valves are true union style PVC ball valves. PVC flow controllers are provided to automatically set the backwash, rinse, and chemical dilution flow rates. Customer connections include Inlet, Treated Water Outlet, Regenerant Waste Outlet, Rinse Recycle Return, and Regeneration Water Supply.
- 5. Regenerant Chemical Draw:** Regenerant Chemicals typically Hydrochloric Acid and/or Sodium Hydroxide are drawn directly from customer provided carboy(s) or tote(s) via PVC eductors to minimize handling of corrosive chemicals. PVC suction assembly and carboy vent valves are provided to eliminate chemical odors and maximize operator safety.
- 6. Pressure Gauges:** Liquid filled gauges with diaphragm type gauge protector are provided at the inlet and outlet to each tank. A liquid filled gauge is provided at the common Regeneration Water Supply Header.

## OPTIONS

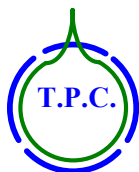
- 1. Skid Mounting:** Fully assembled units requiring only plumbing connection.
- 2. Regenerant Pumps:** When preferred or necessary chemical pumps can be provided in place of the standard chemical draw eductors.
- 3. Automatic Valves & Controls:** Units are available with a variety of automatic valve options. Control systems are available with either programmable logic controllers (PLC's), or hardwired relay and timer cascades. Controls are typically housed in a NEMA 4X Fiberglass corrosion resistant enclosures
- 4. Effluent Metals Monitoring and Recording:** Options are available for monitoring specific metals ions in the treated effluent stream. Strip chart recorders or data loggers are available to provide a permanent record of the monitoring results.. Certain monitors may also be used to initiate automatic rinsing or regeneration.



MODEL	TANK DIMENSIONS INCHES		MAX SERVICE FLOW GPM	SERVICE PIPE SIZE INCHES	MAX RESIN VOLUME Cu. Ft	DIMENSIONS INCHES		
	DIA.	HEIGHT				LENGTH	WIDTH	HEIGHT
MRIX-1060	10	60	3.1	1/2	1.6	37	16	90
MRIX-1354	13	54	4.7	1/2	2.4	43	19	90
MRIX-1465	14	65	6.6	3/4	3.3	45	20	90
MRIX-1865	18	65	10.9	3/4	5.5	53	24	90
MRIX-2162	21	62	14.2	1	7.1	59	27	90
MRIX-2472	24	72	21.5	1 1/2	10.8	68	33	96
MRIX-3072	30	72	33.7	1 1/2	16.8	80	39	96
MRIX-3672	36	72	48.5	2	24.2	92	45	102
MRIX-4872	48	72	86.2	3	43.1	119	60	108

For further information contact.

Represented By:



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