

FLUORIDE REMOVAL SYSTEMS (FRS)



Shown: FRS-NA-10-1-FB-M-IM-1-N4-DL
Laboratory 10 gallon single batch tank fluoride removal system without an equalization tank, with day tanks, and a 120 VAC PLC based system.

The Fluoride Removal System is designed for removing fluorides from process wastewater. The FRS automatically precipitates and filters dissolved fluorides before discharging the treated wastewater to the sewer. Discharged fluorides in solution will be below required discharge limits. Removed fluorides are filtered in a dry cake for disposal.

Wastewater sample required for lab testing to properly size system. Contact sales for each specific application.

Specifications:

- pH range 1 - 9
- Up to 30,000 ppm inlet concentrations can be treated
- 5 to 2,500 gallon batch models available
- Inlet temperatures up to 140°F
- Most of the equipment is skid mounted for ease of installation
- Factory programmed and tested before shipment
- Indoor or outdoor installation

Standard Features

- UL Listed control panel
- NEMA 4 powder coated steel control panel
- PLC-based control system with color touchscreen HMI
- Polypropylene or Polyethylene cone bottom tanks
- Chemical feed metering pumps
- Filter press for solids dewatering with air operated feed pump
- Alarm integration to Building Management System
- Seismic tie-down brackets

Optional Features

- Influent equalization tank with transfer pump skid
- Epoxy coated metal skids
- Heat exchanger systems available for concentrated wastes that generate excessive heat during treatment
- Extension legs and raised platforms for filter presses
- Double containment for skid (includes leak detection)
- Discharge flow meter with totalizer
- Digital data logger for effluent pH, fluorides and/or flow



Shown: FRS-6000-2500-3-6FP-T-AX-4-N4XS-FL
2500 gallon triple tank sequencing batch fluoride removal system with equalization tank (not shown) with chemical day tanks, and a 460 VAC PLC based system.

ORDERING INFORMATION

FRS	Fluoride Removal System									
	Holding Tank Volume (Choose One)									
	-NA	No holding tank								
	-20	20 Gallons (Lab model)								
	-150	150 Gallons								
	-500	500 Gallons								
	-750	750 Gallons								
	-1000	1000 Gallons								
	-3000	3000 Gallons								
	-6000	6000 Gallons								
		Reaction Tank Volume (Choose One)								
	-10	10 Gallons (Lab Model)								
	-75	75 Gallons								
	-250	250 Gallons								
	-350	350 Gallons								
	-500	500 Gallons								
	-1000	1000 Gallons								
	-1500	1500 Gallons								
	-2000	2000 Gallons								
	-2500	2500 Gallons								
		Number of Reaction Tanks (Choose One)								
	-1	Single tank batch system								
	-2	Double tank sequencing batch system								
	-3	Triple tank sequencing batch system								
		Filtration Options (Choose One or Sizing Will be Specified After Sample Analysis)								
	-FB	Filter Bags (Lab Models Only)								
	-3FP	Filter Press - 3 Cubic Foot								
	-6FP	Filter Press - 6 Cubic Foot								
	-10FP	Filter Press - 10 Cubic Foot								
		Chemical Storage (Choose One)								
	-T	Chemical Day Tank(s) 55 Gallon Capacity								
	-M	Metering Pump Shelf (Customer to Provide Drums or Totes)								
		Control Option (Choose One)								
	-IM	IDEC PLC with 7" Maple HMI								
	-AM	Allen-Bradley MicroLogix PLC with 7" Maple HMI								
	-AB	Allen-Bradley MicroLogix PLC with 10" PanelView Plus HMI								
	-AX	Allen-Bradley CompactLogix PLC with 10" PanelView Plus HMI								
		Power Requirements (Choose One)								
	-1	115 VAC / 1 / 60 Hz								
	-2A	208 VAC / 1 / 60 Hz								
	-2B	230 VAC / 1 / 60 Hz								
	-3A	208 VAC / 3 / 60 Hz								
	-3B	230 VAC / 3 / 60 Hz								
	-4	460 VAC / 3 / 60 Hz								
		Enclosure Rating (Choose One)								
	-N4	NEMA4 - Powder Coated Carbon Steel								
	-N4XS	NEMA4X - 304 Stainless Steel								
		Options (Choose Any)								
	-DC	Double Containment for Reaction Tanks; Includes Leak Switch and Drain Valve								
	-HX	Heat Exchanger For Concentrated Waste Treatment								
	-FL	Discharge Line Flow Meter								
	-DL	Data Logger (pH and F), Includes Flow W/ "FL" Option								
Example Part Number										
FRS	-NA	-75	-1	-3FP	-T	-IM	-1	-N4	-FL	FRS-NA-75-1-3FP-T-IM-1-N4-FL