

# AdEdge APUIX Packaged Treatment System For Nitrate Reduction System Scope of Supply and Features



Casa Grande - Copper Mnt Ranch Well

9/25/2015 revised

## APU-IX Nitrates Reduction System

APUIX-NO3-4872CS-2-AVH system rated for 120 gpm  
Pre-packaged, Skid mounted Treatment System  
100 psi rated vessels; non-ASME code vessels  
Two 48' diameter carbon steel, epoxy lined vessels in parallel  
12x16 manway for media loading  
100 cu ft of Selective ADIX IX Exchange Media total  
Quartz gravel underbedding  
Sch 80 PVC inlet distributor, hub/lateral internals

## Process Valves and Piping

SCH80 PVC Inlet, Treated Outlet and Backwash Outlet Headers with Flanged Tie Points  
SCH80 PVC Harness Piping on each vessel  
Butterfly valves with RCEL actuators on Harness piping, five(5) per vessel  
Butterfly valves with manual operator for vessel isolation, one (1) per vessel  
Manual Diaphragm Throttling valve on system treated outlet  
Manual Diaphragm Throttling valve on system backwash outlet  
Sch 80 PVC interconnecting piping, unions, flanged connections  
Sch 80 PVC face piping, headers and backwash connections (flanged)  
Separate Source header (if needed) for One Vessel online while other is in Regen

## Instrumentation & Controls

Automatic System Operation (service, backwash and rinse modes)  
Allen Bradley Micrologix 1400 PLC Installed Inside Control Panel for Automatic Operation  
Automation Direct C-More 10" Color Touch Screen HMI Mounted on Control Panel  
304SS NEMA 4X Skid-mounted Control Panel to House Electrical and System Controls, One (1) per system  
Terminal Locations on Control Panel for Ancillary Controls and Device Inputs/Outputs (factory installed and labeled)  
304SS Hydraulic Panel with System Inlet/Outlet Pressure Gauges and Sample Ports, One (1) per system  
Pressure Gauges and Sample Ports on Each Vessel's Inlet and Outlet  
Magnetic Flow Sensors on Each Vessel's Inlet, One (1) per vessel  
Pressure Sensors on System Inlet/Outlet for System DP measurement, One (1) Set per system  
Clear PVC Sight Windows on System Treated Outlet and on Each Vessel's Backwash Outlet

## 5-Ton Brine Silo / Maker for Regeneration

5 Ton Silo / Brine Maker  
5-ft diameter x 7-ft 4-inches Ht  
Gravel underbedding  
4-inch camlock delivery nozzle for truck connection / delivery of salt  
Stainless steel collection lateral  
4-20mA Liquid and Salt Level Indicator  
Salt Fill Line and Vent; bolted dust tight manway  
2-inch flanged bottom connection  
Level controls  
PLC Integration with Level Controls and Pump System

## Brine Pump skid

(1) simplex Finish Thompson brine pump skid  
HOA panel / controls for PLC integration  
1.0 Hp motor, 120 or 208-230V options  
PLC controls for integration with main treatment system regen functions



Example 3 vessel system



Brine Maker

## Low Waste Features / Recycle

(1) 2,000 gallon PE flat bottom tank for reclaim  
(1) 4-20 mA level controls with PLC integration  
(1) FT brine Reclaim pump skid with HOA panel, controls  
15-20 gpm@70 feet TDH; 1.5-inch connection  
1.0 Hp motor, 120 or 208-230V options  
Note: distance to waste tank is 150 feet  
(1) actuated control valve for diversion to waste tank  
(1) actuated control valve for diversion to reclaim tank  
Valves provided loose for installation by others  
Power and control wiring by others  
Salt for regeneration is by others  
Note: All offsite brine handling, disposal by others  
Note: Brine Waste Holding tank (if applicable) by others