

XPure Industrial Systems for Separation, Purification, and Recovery

XPure Continuous Ion Exchange/Chromatography Simulated Moving Bed Industrial Systems

- Preferred technology to perform a continuous separation, purification, and recovery with any feed solution
- Reliable, continuous systems due to the use of high-quality components and materials
- Feature easy, intuitively straight-forward controls, a dashboard showing actual status, and values and trends of (critical) parameters



XPure-S Configuration

The system comprises the following:

- ✓ Multi liquid fluid distributor valve matrix with flexible (custom made) number of valves per resin tank (columns)
- ✓ Valve skid mounted system at strategic position related to all columns
- ✓ With 4 up-to 16 columns
- ✓ Easy control system with intuitive operator interface, adaptive to client's standard DCS/SCADA system

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A ProPharma Group brand

System Specifications

Item/Material of Construction	Specifications
Valve modules AISI316L/EPDM/PTFE	Each resin tank is equipped with a fluid distribution module comprising 8-12 valves for all discrete in- and outlet fluids, and 1 or 2 serial valves for up- and downflow configuration. Valves are OEM components that are assembled in XPure's patented valve array blocks. Valve bore ½"-4" (DN10-DN100) and larger, adequate to handle the largest individual flow rates (up to 70 m³/h and larger)
Pumps Centrifugal pumps, possibly magnetically driven — Gear pumps — Positive displacement pumps	At least 4 pumps to handle every distinct inlet fluid: feed-wash/rinse-elution and equilibration buffer-regenerant. MoC suitable for most chemically aggressive fluids. Each pump will be assessed on flow rate, head, and chemical resistance.
Buffer/storage tanks PP, AISI316L (coated), PES	We can provide engineered storage tanks to support in- and outgoing flows to peripheral downstream processes.
Columns/resin tanks PP, PES, AISI316L with optional coating, CS-RL¹	4-16 columns carefully designed to accommodate resin inventory and resist all chemical fluids, equipped with bottom and top flow distributors that retain the resin particles. Size can be from 100 l up to 5 m³ (and larger), L/D typically 1-1.5. Depending on size, the columns will be skid mounted or autonomously installed on the floor.
Piping PP, AISI316L (coated), PES	Piping to (inter)connect all valve modules and all distinct in- and outlet flows. Piping & connections are process specific, e.g. of dairy/pharma quality.
Sensors	In- and online sensors can be (optionally) installed and integrated in the control system. pH - Conductivity - UV/VIS - Resin Tank Level Control (for Expanded Bed Adsorption) - (Optical) Refractive Index
Skid / installation AISI316L	Skid will be designed and construction to mount valve modules and related piping, and located at a central, strategic position at the resin tanks.
Control Cabinet Epoxy coated or stainless steel or other on request	Sizing dependent on magnitude of system and MCC Typically (WxHxD) 800x1200x400 mm Touch screen Operator Interface mounted in cabinet door and/or SCADA.
Control system	Dashboard for parameter values, trends, settings, simplified PFD with operating status equipment, process status/progress Recipe editor for process configuration Alarm history Mode for manual, semi-automatic and full automatic operation
Utilities	Instrument air for valve modules Electricity power 3x400/210 VAC

¹ CS-RL: Carbon Steel - Rubber Lined