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ADVANCED REVERSE OSMOSIS



DESCRIPTION

Exergy's Advanced Reverse Osmosis (ARO) achieves superior performance when compared to conventional Reversed Osmosis. ARO operates at 1,000 psi to produce higher concentrations in concentrates and better quality permeates. The ARO features recycle pump operation for the membrane housing, thus reducing the size of the pressure pump and the consumption of energy. ARO uses a proven membrane - including a patented membrane treatment process that allows the process to operate efficiently in a pH range from 0.5 to 13.

FEATURES

- Produces high-quality permeates and concentrates for recycling process fluids
- 0.5 – 13 pH range of operation
- Recycling pump reduces energy use

- Operator Interface Unit (OIU) allows auto (PLC) or manual control and provides status information
- Pre-assembled modular systems
- High-quality, heavy-duty components

APPLICATIONS

Exergy's ARO technology can reduce operating costs significantly by enhancing recovery and reuse of valuable waste by-products.

Applications include:

- Produce high-quality rinse water and recyclable concentrates from wastewater
- Closed-loop operation of chrome conversion coating processes
- Recovery of plating solutions and rinse water (copper, nickel, and noble metals)
- Industrials process wastewater recovery

SYSTEM COMPONENTS

The ARO system consists of four major component assemblies:

Membrane module – Skid-mounted stainless steel pressure vessel with application-specific membrane modules. Process equipment includes feed pump and flow control valve, cartridge prefilter, repressor pump, pressure regulating valve, and recycle pump.

Valve board – includes:

- Flow control meters and valves
- Temperature switch for concentrate
- Membrane and feed pressure switch and gauge
- Conductivity sensor
- Selection valves for permeate, concentrate, and bypass
- Pressure control valve

Control system – Includes one control cabinet containing PLC, operator interface unit, push button for main power, conductivity analyzer, solenoid valve for feed, motor starters, control transformer, fuses, terminal strips, and power disconnect switch.