Polaris VCD
Efficient and Effective WFI Solutions
Quantity and quality of water
- Standard units available between 50-15,000 l/hr
- High decontamination efficiency
- 3 stage NCG removal (feedwater, condenser & degassing tank)
- Low velocity solution for optimizing impurity separation
- Dry running FDA approved compressor seal

Opex - Cost of ownership
- Low steam consumption
- High efficiency, low power consumption, multi stage blowers
- High thermal efficiency
- NCG used for pre heating
- No cooling water system required

Service and Support
- Local support & service from our global offices
- Yearly service & protection plans

Flexibility & Choice
- Hot & cold water production (25-95°C)
- Low pressure steam supply (3barg)
- Integrated pre treatment, dosing & RO
- Steam production through integrated steam generator
- Siemens or Allen Bradley PLC, with large touch screen panel complete with SCADA option
- Pressurized water discharge
Your WFI Need...

The POLARIS Solution

COLD

STEAM TRAP

STEAM IN

PRESSURE SENSOR

PRESSURE SENSOR

PRESSURE SENSOR

TEMP

CONDUCTIVITY

FEEDWATER PUMP

FLOWMETER

VENT FILTER

HOT

CONDUCTIVITY

TEMP
Standard Features

Mechanical
- ASME BPE piping
- Sanitary WFI sample point
- Thermal insulation
- Stainless steel frame and control panel IP 54
- Surface finishing Ra<0.6 μm
- Non-condensable gas removal system
- Sight glass inspection point
- Drain cooling system

Functional
- Softened feed water
- Operation in stop/start or proportional control
- Automatic blow down
- WFI quality switchover system

Controls and Instrumentation
- PLC Control complete with 15" panel PC or HMI option
- Non compensated conductivity meter
- Automatic pressure, temperature and level controller

Validation and Documentation
- Operating manual in English, qualification documentation in English

Optional Features

Mechanical
- Electropolishing Ra<0.4 μm
- Industrial steam pressure reducing valve
- Electrical heating
- Combined electrical/steam heating

Functional
- Modulated production - 0% to 100%
- WFI temperature production to all temperature from 95 to 20°C
- Automatic steam sanitization

Controls and Instrumentation
- SCADA supervision system (2 month operating data recording) / HMI in 4 languages + printer (interface only required)

Validation and Documentation
- DQ, IQ, OQ, protocols
- Operating manual in 4 languages

POLARIS - Service & Support

All POLARIS solutions are designed in accordance with GAMP, cGMP, ISPE and FDA guidelines and will meet the product quality specifications of all of the world’s major pharmacopeia, including the USP and Ph Eur, giving you peace of mind and compliance assurance, wherever your facility is.

POLARIS systems are backed by a comprehensive range of service maintenance products.

Standardised Performance Qualification Maintenance Contracts (PQMC) are tailored to your system and ensure continuing compliance.

Scheduling service on a pre-planned basis coupled with time-based replacement of specific parts and consumables significantly reduces the risk of downtime. This approach enables us to guarantee the quality and value of your system for a lifetime.
**Polaris VCD capability** (according to industrial steam pressure)

**POLARIS VCD Treated Water Quality**

- Conductivity: < 1.3 μS/cm @ 25° C
- TOC: < 500 ppb
- Bacterial Endotoxins: < 0.25 EU
- Bacteria: < 10 CFU / 100 ml
- Nitrate: < 0.2 ppm
- Heavy Metals: < 0.1 ppm

**Feed Water Requirement (Minimum)**

- Potable Water: Chlorine Free
- Total Hardness: < 0.1° F (1 ppm as CaCO₃)

**Material Specification**

- Evaporating Columns: Inox 316L ASME BPE
- Heat Exchanger (Pre-heater): Inox 316L (EN 1.4435) ASME BPE
- Heat Exchanger (Condenser): Inox 316L ASME BPE
- Feed Pump: Inox 316
- Compressor Body and Impeller: Inox 304
- Compressor Seals: Inox 316L ASME BPE
- Compressor Impeller’s Shaft: Inox 304
- Support Frame: 316L/EPDM FDA approved
- Pipeline and Fittings: Inox 316L (EN 1.4435) ASME BPE
- Control Panel: Inox 304
- Valve: 316L/EPDM FDA approved
- Sealing and Gaskets: PTFE
- Pipe Welding: Orbital

**Services Required**

- Feed Water Temperature: 15-25° C
- Feed Water Pressure 1: 1 < P < 6 bar
- Power Supply: 380/480 V, 3 Phase; 50/60 Hz
- Compressed Air: 6-8 bar
- Water Drainage: By gravity
- Cooling Water: 15° C (if necessary)