

Membrane Filtration

Model R Membrane Filtration Pilot Plant

The Model R membrane filtration pilot plant is a flexible unit used to perform pilot studies on the full range of membrane filtration technologies (MF, UF, NF and RO) under a wide range of operating conditions.

The pilot plant's standard configuration allows for testing with either spiral, polymeric membranes, ceramic or stainless steel membranes. It can also be set up with other optional membrane configurations.

The pilot plant can be operated in batch mode, semi-batch mode, or feed and bleed mode. The pilot plant design has a single stage recirculation loop.

The Model R membrane filtration pilot plant is skid mounted and will be delivered with all the components required for quick installation and easy operation, including an operating manual with data sheet templates.



Standard Features

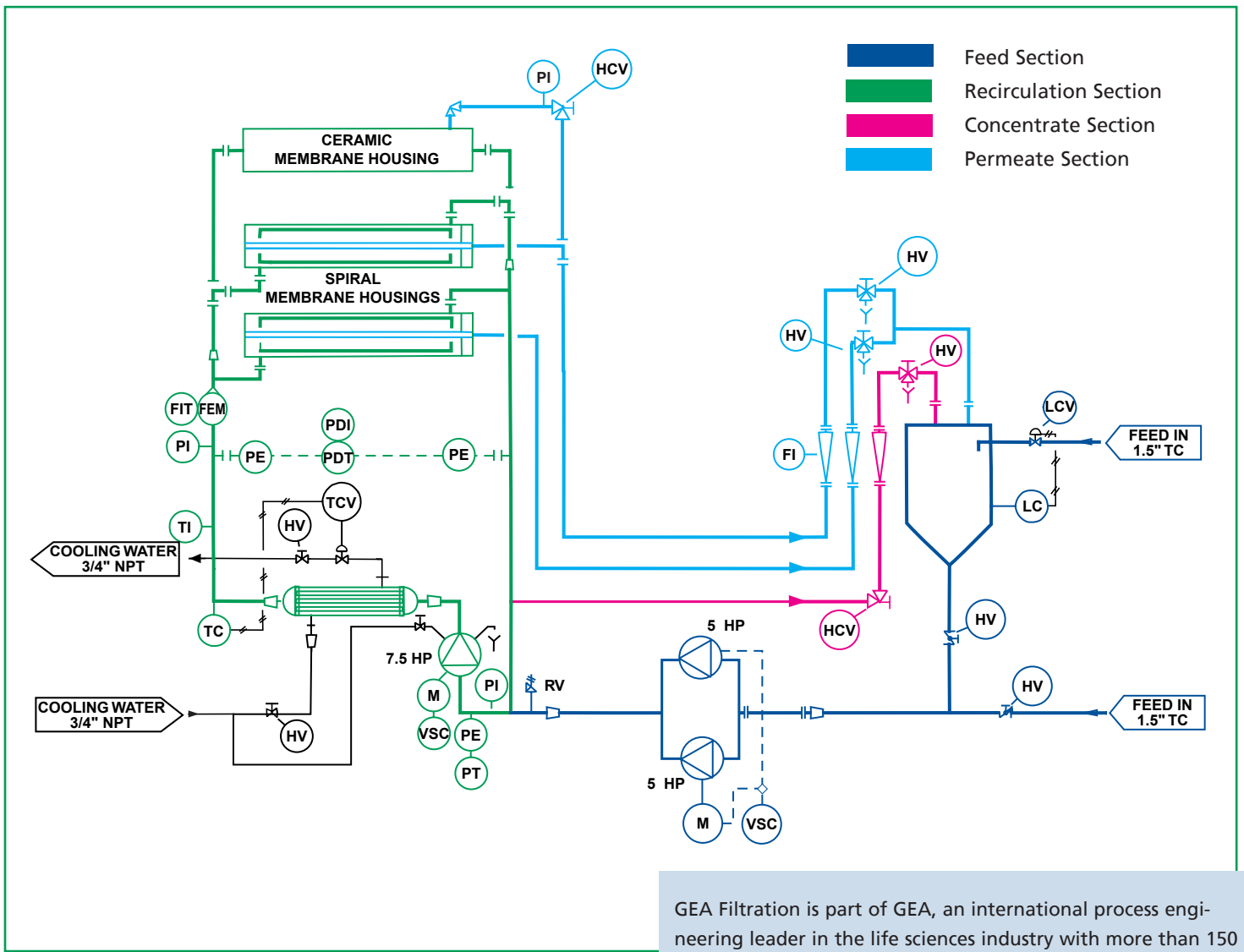
- Two, sanitary, spiral membrane housings
 - one membrane element per housing
 - 3.8" diameter, sanitary design elements
- One, single element, ceramic or stainless steel module
- 15 gallon tank
- Control loops
 - temperature
 - tank level
 - feed pump
 - recirculation pump
- Motor starters
 - variable speed drive for feed pump (5 Hp)
 - variable speed drive for recirculation pump (7.5 Hp)
- Flow indicators
 - two, permeate rotameters
 - one, concentrate rotameter
 - recirculation mag meter
- Pressure and temperature gauge
- Heat exchanger (1m²)
- High pressure shut down and pressure relief valve
- 316L stainless steel construction
- Skid mounted with wheels

Operating Conditions

- Membrane Area
 - Spiral 4 to 14 m²
 - Ceramic 0.2 to 0.36 m²
 - Stainless Steel 0.35 m²
- Permeate Capacity
 - Spiral 20 - 50 gallons/hour
 - Ceramic 5 - 50 gallons/hour
 - Stainless Steel 10 - 50 gallons/hour
- Pressure up to 600 psig
- Temperature up to 200° F

Optional Features

- 1,000 psig capability
- Industrial, spiral membrane housings
- Tubular polymeric membrane housings
- Other membrane configurations
- Pretreatment equipment
 - screens and depth filters
 - chemical feed systems
- Back-pulse device in permeate piping
- Back-flush system in permeate piping
- Hazardous area or explosion-proof construction



Utility Requirements

- Power 230/460 V, 3 phase, 60 Hz
- Electric Service 22 amps/460 V
- Plant Air 80 psig, oil-free
- Line Size 3/8"
- Cooling Water 10 gpm, 60° F
- CIP Water 15 gpm
- Seal Water 1 gpm

GEA Filtration is part of GEA, an international process engineering leader in the life sciences industry with more than 150 companies operating worldwide. As a team member with other technology leaders within the group, GEA Filtration is uniquely positioned to provide both customized membrane filtration plants as well as complete process lines specifically tailored to each customer's individual needs and requirements.

GEA Filtration is world renowned for its design of the most advanced cross-flow membrane filtration systems available, namely Reverse Osmosis (RO), Nanofiltration (NF), Ultrafiltration (UF) and Microfiltration (MF). We also offer a wide range of system configurations and membrane types to provide the customer with the most technically proficient and cost effective solution for each application.

For more information on the capabilities of our pilot plants, consult our website at www.geafiltration.com.

