

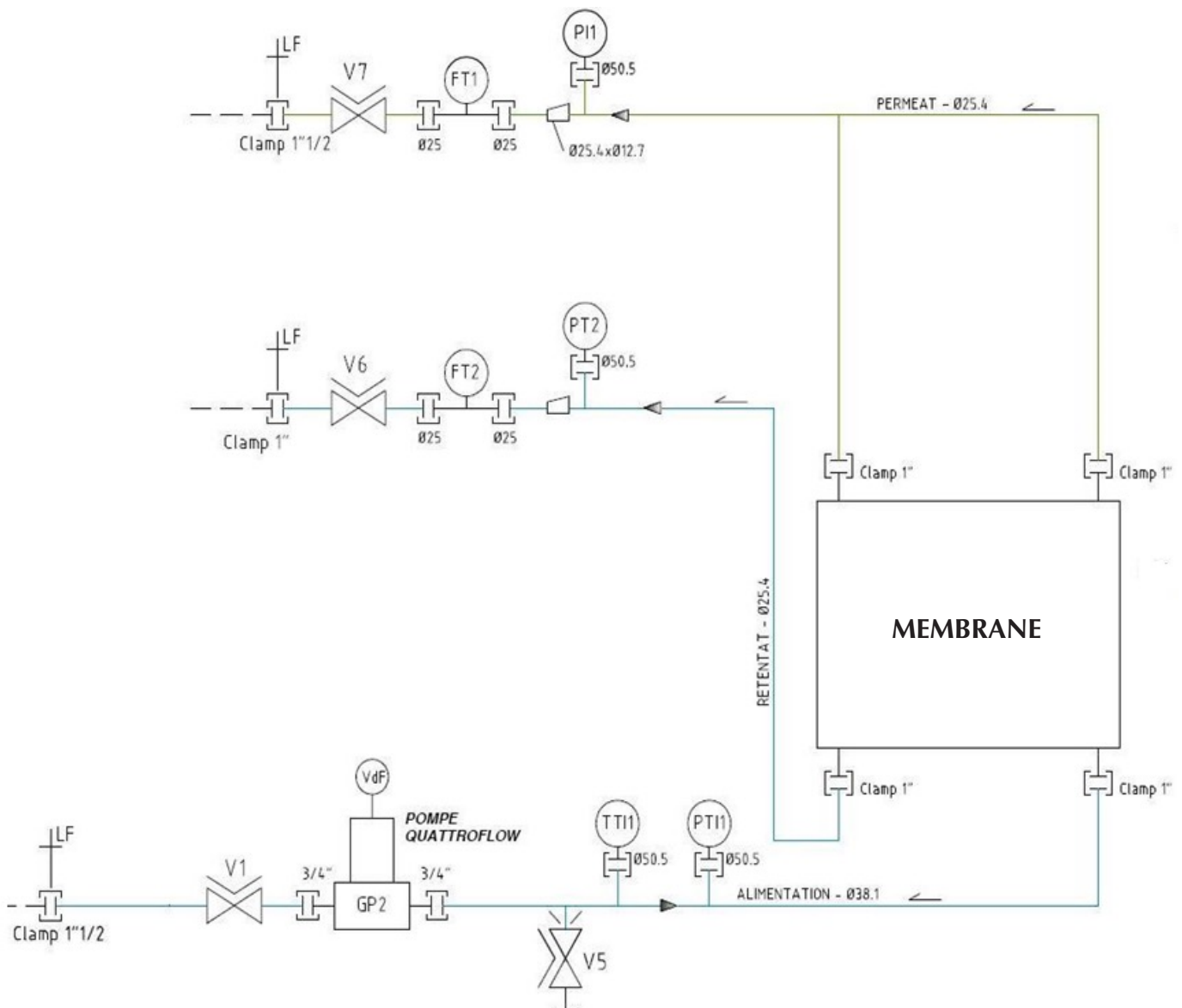
Centrassette Unit

The System is a crossflow filtration system for Pall cassettes or any other brand. It is used in pilot and small production facilities for batch sizes up to 1000l. The design and engineering is following cGMP requirements to secure easy startup and qualification of the system

DESCRIPTION

- The system is capable of installing 0.5 to 10 m² of membrane (not included).
- The system is suitable for membranes of all brands and all types of technology.
- The feed pump capacity is 10 to 50 L/min.
- Feed pressure, retentate pressure and permeate pressure are measured.
- Manual valves are installed for feed, retentate and permeate.
- Feed flow, retentate flow and permeate flow are measured.
- Feed pump pressure up to 3 barg.

PROCESS DIAGRAM EXAMPLE



AUTOMATION

Control HMI



Automation Cabinet

One cabinet (800x800x300 stainless steel) controller for the TFF including industrial PC" touch screen and controller with Siemens PLC with I/O boards. All electrical and pneumatic components are wired and tested.

C-BIO™ software according to GAMPV5 with TFF sequence has example pre-loaded.

PLC software according to ISA S88 are preloaded and tested.

POWER COMPONENTS

Power supplies for instrumentation, switchgear, circuit breakers, and overload protection, and frequency inverter for the pump.

INSTRUMENTATION

Optimized PID control loops and transmitters for the following measurements are included:

- **Temperature:** Measurement and recording.
- **Mass flow x 3:** Measurement and recording for feed, retentate and permeate.
- **Pressure x 3:** Measurement and recording for feed, retentate and permeate.
- **Pump speed measurement control** and recording utilizing frequency inverter.

C-BIO 1™ SOFTWARE

C-BIO 1™ CONTROL SYSTEM FEATURES

- Universal control system for all range of volumes and equipment.
- Ability to use a separate control system for each equipment, or one control system for several equipment.
- The system is based on SCADA controller, constructed in conformance with industrial automation standards.
- Simple and intuitive user interface that provides quick access to all controllers and data.
- “Sequences” program allows creating your own program of cultivation, which will allow better control of the process.
- All process data is gathered and saved in separate electronic records.

Four different levels of access are available to control the system.

