

MEMBRANE PILOT UNIT

LABBRAIN V3

The LabBrain pilot unit is designed for the CoMem membrane elements which includes OD25x305/1016/1178mm, Hexa 28/31x1020mm* and Hexa 43/38x1020mm*.

Technical Data	CFU-LABBRAIN-VER3
Test element <i>(not included)</i>	OD25x305mm (Standard configuration)
Feed pump capacity	1.5 m ³ /h / 6.6 gpm
Cross flow pump capacity	5 m ³ /h / 22 gpm
Valves	Bürkert
Pump	Grundfos
Piping	Stainless Steel AISI316L
Housing/ permeate tank	Stainless Steel AISI316L
PLC/transmitters	Siemens
Temperature tolerance	85°C / 185°F
BPH maximum air pressure	6 bar / 87 psi
Power connection	P+N+PE 230 V
Unit dimensions (LxWxH)	1500x932x945mm 4.9x3.0x3.1ft
Weight	125 kg / 275 lbs

**requires housing extension set*



FUNCTION AND DESIGN

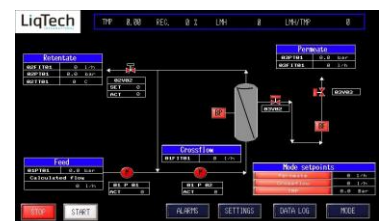
The LabBrain is a small and flexible unit design for pilot testing CoMem OD25mm elements and hexagonal CoMem Hexa elements. With a volume of no more than one and a half cubic meter it can easily be transported around and it is therefore ideal for on site testing.

The LabBrain pilot unit is equipped with a feed pump which pressurizes the system and a cross flow pump which generates the cross-flow over the membrane element. The membrane can be operated both cross flow and semi-dead end. In addition, the test unit is equipped with a Back Pulse Hammer (BPH). The BPH system is a pulse generator, which delivers high frequency “block” pulses, from the permeate side, back through the membrane in order to keep the membrane clean and free of foulants.

Transmitters and indicators makes it possible to measure and log the following data:

- *Pressure:* at feed, retentate and permeate side of the membrane
- *Temperature:* at retentate side of the membrane
- *Flow:* the incoming feed flow, cross flow velocity and permeate flow

All data from pressure transmitters, flow transmitters, temperature transmitter, pump settings and actual valve positions are stored in the internal memory of the unit. The data can be reached by an USB port in the unit. All features are displayed and be operated from the coloured touch pad. Historical data and graphs can be presented on the screen. The touch screen is connected to the skid by wire, which enables the operator to place the unit on the floor, while operating from a laboratory desk or table.



HMI colour touch screen

The PLC is preprogrammed with the following options: automatic backwash, automatic back pulse, automatic semi-dead end operation, chemical enhanced backwash (CEB), automatic constant recovery factor, constant permeate production etc.

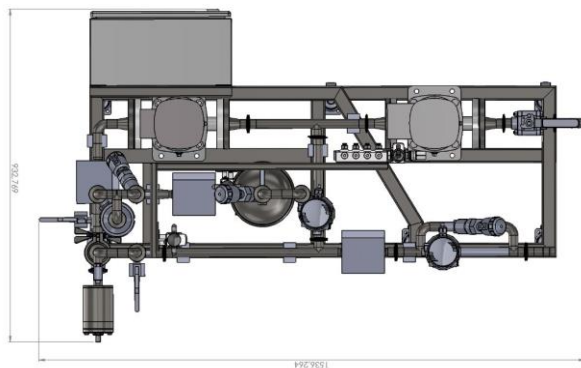
Key properties of the lab scale unit:

- Automated filtration modes (constant flow or constant pressure) – saves man hours to adjust valves and eliminates human errors
- Feed pump and cross flow pump for control of pressure and cross flow velocity independtly
- Automated back-flush and back pulse procedures
- Can run high recovery rate
- Data logging of all vital parameters
- Remote access (internet) to follow operation
- Automatic shutdown for safety reasons
- Small footprint/weight
- Can be used for testing in laboratories and on-site

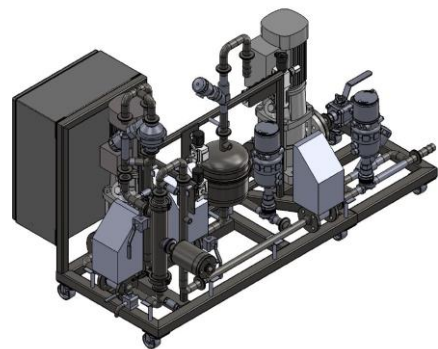
For operating manual please contact LiqTech

DIMENSIONS

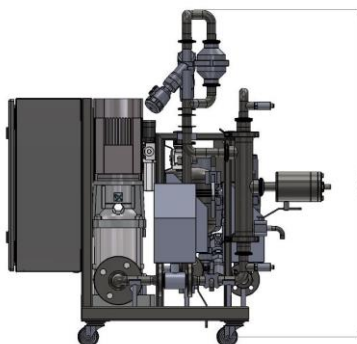
Top-view



3D-view



Side-view



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