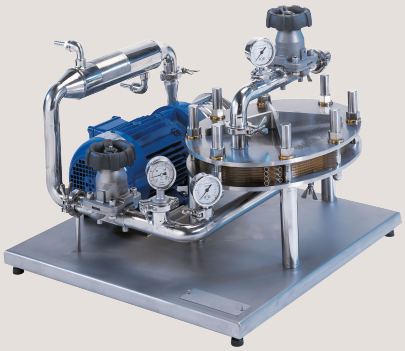
Alfa Laval LabUnit M37/38

LabUnits for membrane filtration



Introduction

The Alfa Laval LabUnit M37/38 is designed to provide quick and precise process evaluations in laboratories and other test facilities, while keeping equipment and set-up costs to a minimum.

It utilizes the same size support plates and membranes as those found in the full-scale plate-and-frame systems and can be equipped with the whole range of flat sheet membranes from Alfa Laval for ultrafiltration and microfiltration.

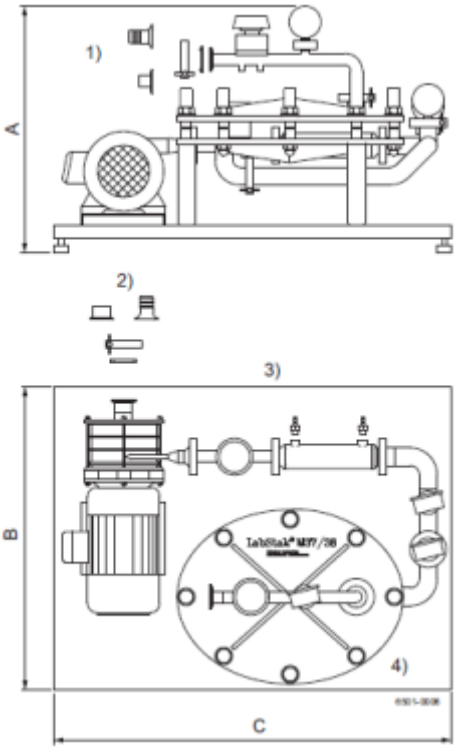
Applications

The Alfa Laval LabUnit M37/38 is a popular choice for use within a range of industries which includes biotech and pharmaceuticals, food, dairy and beverages as well as pulp and paper.

It is an ideal tool for process development, scale-up, membrane testing, quality assurance and small-scale production.

Benefits

- easy exchange of flat sheet membranes
- can be coupled to the by-pass stream of an industrial plant
- different channel height options to optimize flow and pressure
- simultaneous test of up to seven different membrane types
- high operating temperature (up to 80°C)
- low internal volume
- flexible system design
- flexible membrane area between 0.11 and 1.05 m²
- flow pattern similar to that of larger systems
- all components manufactured in compliance with FDA and EEC regulations



Scope of supply

The Alfa Laval LabUnit M37/38 consist of an Alfa Laval LabStak™ M37/38 module for cross-flow membrane filtration.

The LabUnit M37/38 can be equipped with alternative plate set configurations, according to use.

Plate set options	Applications	Code No.
M37	Ideal for highly viscous liquids	PL745
M38L (Low channel)	Ideal for low viscous liquids	PL741
M38H (High channel)	Ideal for medium viscous liquids	PL777

Technical Data

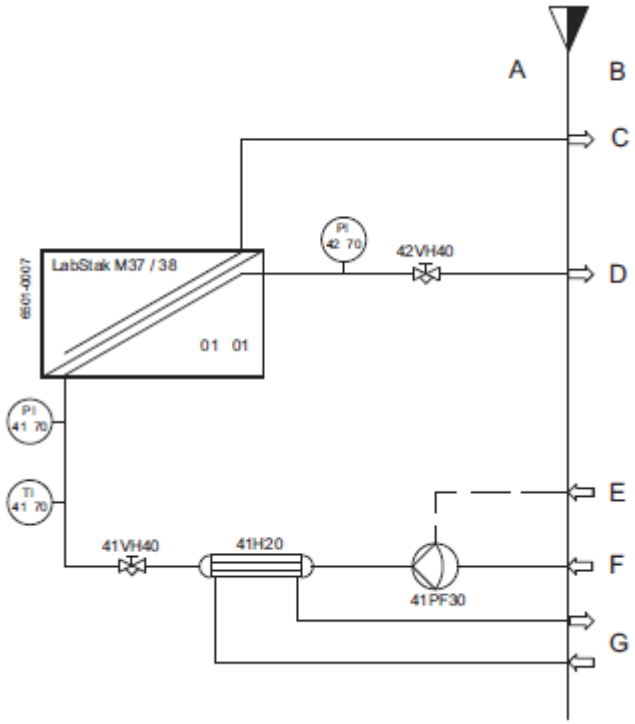
Model	Alfa Laval LabUnit M37	Alfa Laval LabUnit M38L	Alfa Laval LabUnit M38H
Code number[1],	518556	518556	518556
Code number[1], plate set	PL745	PL741	PL777
Module	LabStak™ M37/38 module	LabStak™ M37/38 module	LabStak™ M37/38 module
Membrane area, m²	0.11 — 0.77	0.15 — 1.05	0.15 — 1.05
Max. inlet pressure[2], bar	6 or 7	6 or 7	6 or 7
Operating pH range	1 — 14	1 — 14	1 — 14
Max. operating temperature[2], °C	80	80	80
Cross-flow range, l/min.	20 — 35 / support plate in one section	5 — 15 / support plate in one section	10 — 35 / support plate in one section
Liquid capacity, l	2.5	3.0	3.0
Number of support plates	1 — 7	1 — 7	1 — 7
Number of sections	1, 2 or 3 uniform sections in series	1, 2 or 3 uniform sections in series	1, 2 or 3 uniform sections in series
Number of section stop discs	2, or 1 less than number of sections	2, or 1 less than number of sections	2, or 1 less than number of sections
Number of end plates	2	2	2
Number of flat sheet membranes	2 per support plate	2 per support plate	2 per support plate
Length (C) x width (B) x height (A), mm[3]	670 x 690 x 530	670 x 690 x 530	670 x 690 x 530
Weight, kg	85	85	85

[1] Please specify code number when ordering

[2] depending on membrane type

[3] Please see drawing on page 1

Flow diagram



Components	
Support and spacer plates	Polysulphone (PSO)
Cross-flow pump[1]	Hilge, type Hygiana I/4, 200 l/min., 5 bar, 3 kW
Heat exchanger (H)	Alfa Laval, 0.25 m²
Valves	Gemü
Pressure gauges (PI)	2 x Tempress, 0 — 7 bar
Thermometer (TI)	Wika, 0 — 160°C
Permeate outlet hose	Silicone rubber (Si)
Gasket and o-ring	Nitrile rubber (NBR)
Internal, product wetted steel parts	Acid resistant, AISI 316L
External steel parts	Stainless AISI 304

[1] For highly viscous products another type of pump might be more suitable. Please contact Alfa Laval

Connections[1]	
Permeate outlet, hose, C / 4	ID 4.0, OD 7.4 mm
Retentate outlet, D / 1	DN38, ISO 2852 clamp
Electrical power, E	3 x 400 V + PE, 50/60 Hz
Feed/water inlet, F / 2	DN38, ISO 2852 clamp
Cooling/heating water in/out, G / 3	½" nipple BSP female
A = Inclusive / B = Exclusive	

[1] The letters refer to the flow diagram. The numbers refer to the drawing on page 1

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com