

Alfa Laval LabStak™ M10 module and LabUnit M10

LabStak™ modules and LabUnits for membrane filtration

Introduction

Alfa Laval offers a range of self-contained small-scale LabUnits based on the unique LabStak™ (plate-and-frame) modules.

The Alfa Laval LabStak™ M10 is the smallest and most compact cross-flow membrane filtration module available from Alfa Laval. It is available as a separate LabStak™ M10 module and as an integrated part of the complete Alfa Laval LabUnit M10 system.

Both models are simple to operate and provide reliable results. They can be equipped with the entire range of flat sheet membranes from Alfa Laval for ultrafiltration and microfiltration.

Applications

The Alfa Laval LabStak™ M10 module and the Alfa Laval LabUnit M10 system are ideal tools for quick and reliable research and development work, membrane testing, process optimization and up-scaling. They are also popular choices for quality assurance and educational work etc. while keeping equipment and set-up costs to a minimum.

Scope of supply

The Alfa Laval LabStak™ M10 module comprises spacer plates and support plates for a total of four flat sheet membranes.



The Alfa Laval LabUnit M10 comprises one Alfa Laval LabStak™ module as well as cross-flow pump, heat exchanger, valve and pressure gauges.

For detailed information please see section with Components.

Benefits

- membrane area of only 336 cm²
- easy exchange of flat sheet membranes
- transparent plate for observation of cross-flow
- simultaneous test of two different membrane types
- high operating temperature (up to 80°C)
- low internal volume in the LabStak™ module (57 ml)
- test volumes of 1 – 3 litres
- flow pattern similar to that of large modules
- all components manufactured in compliance with FDA and EU regulations

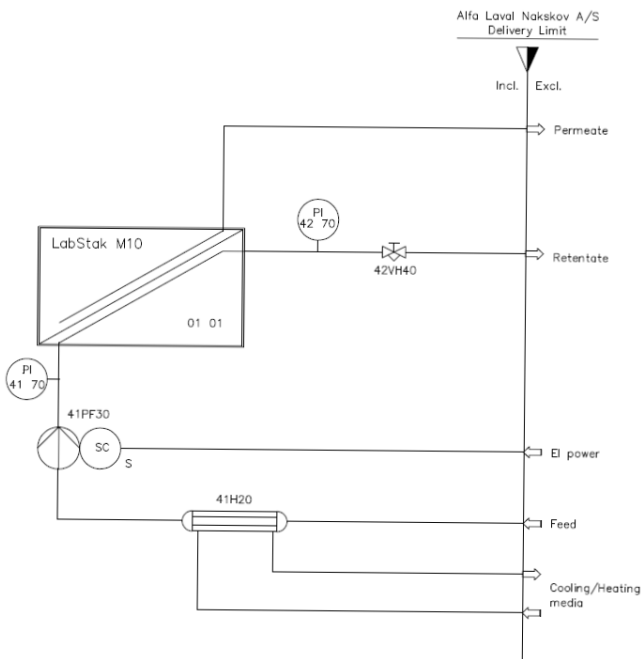
Technical data

Model	Alfa Laval LabStak™ M10 module	Alfa Laval LabUnit M10
Code number ¹	516652	517551
Membrane area, m ²	0.036	0.036
Max. inlet pressure, bar ²	7	7
Operating pH range ²	1 – 14	1 – 14
Max. operating temperature, °C ²	80	80
Cross-flow range, l/min.	3 – 10	3 – 10
Liquid capacity, ml	57	500
Number of support plates	4	4
Number of spacer plates	2 / 2	2 / 2
Number of flat sheet membranes	4	4
Number of permeate outlets	2	2
Length x width x height, mm	200 x 190 x 130	500 x 380 x 435
Weight, kg	3	30

¹ Please specify code number when ordering

² For detailed information about operating conditions, please see the specifications for the membrane type applied

Flow diagram



Components

Module	Alfa Laval LabStak™ M10
Support and spacer plates	Polysulphone (PSO)
Cross-flow pump	Eco 0.37 kW with rpm control
Heat exchanger	Alfa Laval, 0.079 m ²
Valve	Gemü
Pressure gauges	Tempress
Permeate outlet, hose	Silicone rubber
O-ring set	Viton
Internal, product wetted steel parts	AISI 316L
External steel parts	AISI 304

Connections

Feed inlet	1/4" / 1/2" hose connection
Retentate outlet	1/4" / 1/2" hose connection
Permeate outlet, hose	ID 4.0, OD 7.4 mm
Cooling/heating water in/out	ID 6 mm hose / 1/4" BSP female
Electrical power	1/N/PE, 180–264 VAC, 45–65 Hz

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