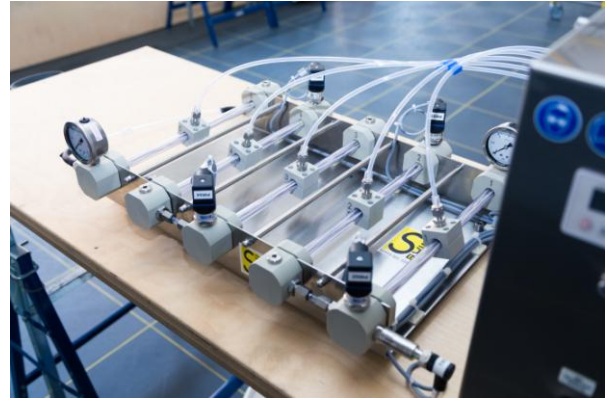


CUBE05-VA-Hollow Fibre



DIMENSIONS

Dimensions	40 x 40 x 55 cm (L x W x H)
Weight	approx. 25 kg
Material (wetted parts)	PVC / PP / PEEK / FEP / POM / EPDM und stainless steel (group 316)
IP protection class	IP 54

ELECTRICAL DATA

Connection for power supply	230V / 50 Hz / 16 A-CEE
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DATA

Storage tank	approx. 2,5 l / stainless steel
Pressure pipe	Hollow fibre membrane (expendable up to 5 pieces) Hollow fibre membranes potted into a PVC pipe (AD 20 mm or AD 25 mm)
Application range	MF/UF and NF/RO (low pressure range)
Temperature range	5 - 60 °C (at max. 5 bar)
Pressure range	0 - 5 bar
Flow rate	30 - 180 l/h (max. 5 bar) peripheral impeller pump

(The specified technical data are maximum values and do not coincide at the same time!)

SENSORS	MEASURING RANGE	QUANTITY
Pressure	0 – 6 bar	(2 pieces)
Flow rate (feed) (rotameter)	0,3 - 3 l/min	(1 piece)
Temperature (storage tank)	0 – 100 °C	(1 piece)

FIELD OF USE

Training and practical operation

Experiments with different membrane materials

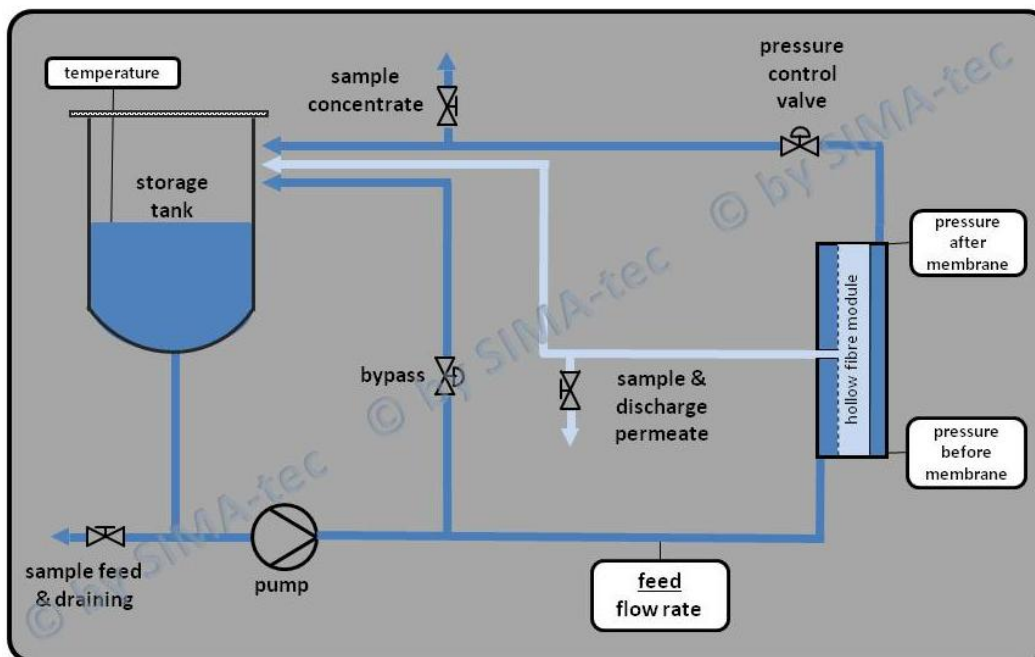
Concentration of test solutions

Processing of small quantities of raw material

Experiments on the cleanability of membranes

* optional available

Schematic view of the Cube05-VA-hollow fibre, without options



OPTIONS

Option 1: Volume flow measurement (permeate)	Rotameter 1 - 10 ml/min
Option 1a: Set for alternative measuring range (permeate)	Replacement glass tube with cone and inlet 4 - 60 ml/min or 30 - 280 ml/min
Option 2: Heat exchanger	Pressure resistant stainless steel cooler mounted in the feed line (Dead volume approx. 15 ml)
Option 2a: Cooling coil	Stainless steel cooling coil mounted on the tank lid of the storage tank (8 mm tube diameter)
Option 3: Temperature control unit (via solenoid valve with tap water)	Solenoid valve with downstream regulating valve Switchable socket with temperature display and external temperature sensor
Option 4: Storage tank refill system (via peristaltic pump and level switch)	Height adjustable level switch in the storage tank peristaltic pump for refilling (max. 20 l/h)
Option 5: Wetted seals in FPM (Viton®)*	Replacement of all media wetted EPDM sealing materials incl. Pump diaphragm by FPM
Option 6: Measuring box (measurement data collector with progress display)	Input: 8 sensor inputs Display: measurement data in colour display as online value and line recorder Data memory: internal or SD-card Interface: USB and Ethernet Electronic sensors supplied: <ul style="list-style-type: none"> • 2* pressure, 0-6 bar (feed/concentrate) • 1* pressure 0 – 2,5 bar (permeate/filtrate) • 1* temperature, 0-100 °C • 1* volume flow concentrate, 0 - 180 l/h, IDM magnetic inductive • 1* permeate mass flow, 0,1 - 20 kg, coriolis-mass meter
Option 6a: (Extension of the measuring box)	Extension of the sensor inputs from 8 to 12 (4 – 20 mA)
Option 6b: Conductivity sensor for connection to measuring box	Conductive conductivity sensor with temperature compensation and 4 pole measuring cell

	<p>Measuring range: 0,0 – 500 mS/cm and graduated in 5 measuring ranges Flow cell made of PVDF for installation in the concentrate or permeate line Cable wit pre-configured plug for direct connection to the measuring box</p>
<p>Option 6c: pH-sensor for connection to measuring box</p>	<p>pH transmitter with automatic or manual temperature compensation Standard pH electrode:</p> <ul style="list-style-type: none"> • Wetted parts: glass, plastic shaft, ceramic • 12 mm shaft <p>Electrode suitable for horizontal installation Measuring range: 1 -12 pH Flow cell made of PVDF for installation in the concentrate or permeate line Cable wit pre-configured plug for direct connection to the measuring box</p>
<p>Option 6d: Differential pressure measurement between membrane inlet and outlet</p>	<p>VA-differential pressure sensor:</p> <ul style="list-style-type: none"> • 0 – 400 mbar • Turn Down 1:50 • Basis accuracy 0,075 % <p>Cable wit pre-configured plug for direct connection to the measuring box</p>
<p>Option 6e: Pressure sensor permeate</p>	<p>Pressure sensor: 0 – 2,5 bar Cable wit pre-configured plug for direct connection to the measuring box</p>
<p>Option 7: Extension flat sheet membrane test cell</p>	<p>SIMA-tec stainless steel flat sheet membrane test cell.</p> <ul style="list-style-type: none"> • 85 cm² membrane surface • direct pressure measurement at the membrane inlet and outlet • direct temperature measurement at the membrane • spacer and PTFE-shim plates to vary the feed channel <p>The flow-calmed inlet and outlet prevent excessive mechanical stress.</p>
<p>Option 7a: Extension flat sheet membrane test cell - Plexiglas[®]</p>	<p>SIMA-tec flat sheet membrane test cell made of Plexiglas[®]. The transparent design allows a clear view of the medium and the flat membrane during operation</p>

- 85 cm² membrane surface
- direkte pressure measurement at the membrane inlet and outlet
- direkte temperature measurement at the membrane
- spacer and PTFE-shim plates to vary the feed channel

The flow-calmed inlet and outlet prevent excessive mechanical stress.

Option 7b:
Extension 1812er spiral-wound-module

Winding module housing made of stainless steel

Winding module type 1812 (approx. 0,3 m² membrane surface)

Pressure stage PN60, up to 60 °C

Option 7c:
Extension ceramic module

Mounted in the hollow fibre membrane mounting unit

Mounting of monochannel membranes, 3 mm ID / 6mm AD by Atech

Option 8:
Conditioning unit flat sheet membranes

Simple and chemical-saving conditioning and hydrophilising of dry flat sheet membranes

Schematic view of the Cube05-VA-hollow fibre membrane, with options

