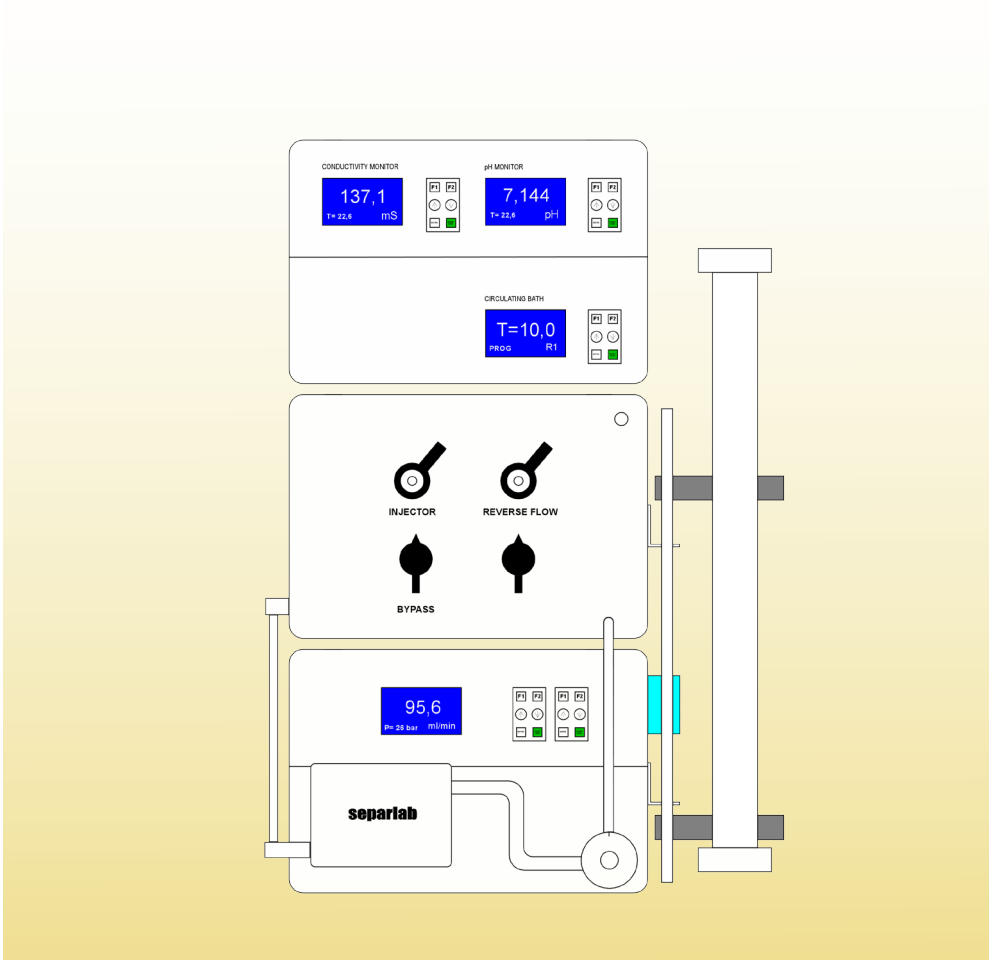
separpur PRO

PROTEIN PURIFERS

separpur PRO is an universal system for separation and purification of proteins and peptides by high performance & high pressure preparative liquid chromatography. System includes everything needed for the successful separation of proteins and peptides and their identification. It allows performing all known separation methods: absorption chromatography (mostly in reversed phase mode), affinity chromatography, size-exclusion chromatography and ion exchange chromatography.
separpur PRO allows performing separations at room and at elevated temperature but also at temperatures close to zero, which is needed when cleaning particularly sensitive substances. System is able to run high-performance chromatography column packed with microparticles (10 µm up to 15 µm) because of its high pump pressure (250 bar). System triplex pump PP03 is characterized by a compact stainless steel head with 3 pistons and pulse less flow. Thanks to the stepping motor it has a wide range of flow rates and allows the use wide range of column diameters starting with micropreparation columns (I.D. 10 mm) up to almost industrial scale ones with I.D. 150 mm.
On the pump head entry is installed a gradient mixing unit equipped with five-fast solenoid valves with PEEK made bodies. Three of them are used to produce gradient, remaining two can be programmed for on off function according a given time schedule.
separpur PRO exploits an excellent UV-VIS detector DAD 12, working parallel on four wavelengths and making fast spectral scan. The detector is compatible with 3D module of Clarity data station (part of supply) upholding the best possible overview of purity and uniformity of fraction. There are two next submodules for monitoring pH and conductivity of the mobile phase on column output. Monitors are characterized by high sensitivity and their data are automatically corrected on temperature dependence.
separpur PRO hardware is divided into three parts, which are placed in identical stainless steel made cabinets with rounded edges and sloping front panels (upper and bottom). In the bottom cabinet is located the pump; UV detector, gradient valves and a passive mixing cell are located in a middle one. On the slanted front panel of this module are mounted loop injection valve, a bypass valve and a valve for reversing the flow through the column. The panel allows easy installation of hydraulic connections among elements or install of new ones.
Chromatograph ***separpur*** PRO allows working with medium or low-pressure columns as well - which are typical for older methods of protein purification.
Nevertheless the use of high-efficiency microparticular sorbents increase purifying performance as high molecular weight of proteins are characterized by low diffusion rate into sorbent particles.
separpur PRO can be completed either by rotating fraction collectors ***separflow*** FFC 96. In the case of large range of separations ***separpur*** FC 5-5 or ***separpur*** FC 5 -10 are recommended.

Technical parameters:

Pump flow rate:	0,2 ml/min. - 400,0 ml/min.
Pump pressure:	maximum 250 bar
Gradient system:	3 phase gradient + 2 valves programmed in time
Sample injection:	by programmed valve or by installed manual loop injector
Column flow reversation:	by manual valve
UV-VIS detector:	DAD type 190 – 800 nm, 4 parallel wavelengths
pH monitor calibration:	range 0 – 14 pH, resolution 0,001 pH, multipoint calibration, temperature compensation
Conductivity monitor:	2 electrodes or 4 electrodes cell, ranges from 0,05 µS/cm, temperature compensation
Integral circulating bath:	flow rate 1 l/min., temperature range +2°C - +80°C
Monitoring and control:	ECOMAC software (pH, conductivity, pressure)
Chromatostation:	Clarity with PDA module (4 wavelengths of UV detector)
Dimension (d x w x h):	600 mm x 380 mm x 840 mm
Weight:	59 kg
Input:	230 V, 1200 W


CONDUCTIVITY MONITOR
137,1
T= 22,6 mS
pH MONITOR
7,144
T= 22,6 pH
CIRCULATING BATH
T=10,0
PROG R1
INJECTOR
REVERSE FLOW
BYPASS
95,6
P= 25 bar ml/min
separlab