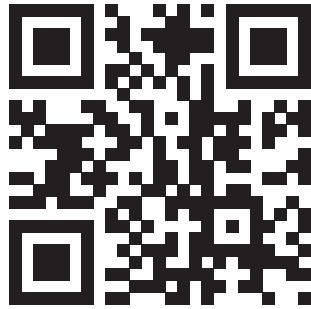


PRODUCT CATALOG

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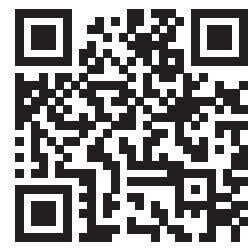
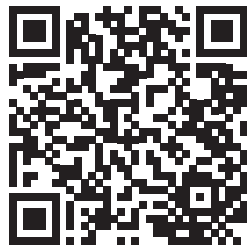


Table of content

ABOUT US	2
PUMPS	
P102	4
Streamline™ P1/P1s	5
DETECTORS	
Streamline™ UV1	6
Streamline™ PDA1	7
Streamline™ RI1	8
Streamline™ VD1	9
FRACTION COLLECTORS	
Streamline™ FC1	10
COLUMN OVENS	
Streamline™ CT1/CT1i	11
CTC-330 Column Oven	12
AUTOMATIC EXTRACTOR	
xTROVERT™ XT	13
OTHER INSTRUMENTS	
SPR-200™	14
UFO™	15
LSS-205	16
PCRS-300	17
Streamline™ OLE200	18
SCS 205	19
HPLC SYSTEMS	
Streamline™ Isocratic HPLC system	20
Streamline™ Binary gradient HPLC system	21
Streamline™ ICC/ICE Ion system	22
Streamline™ GPC system	23
HPLC COLUMNS	
Ion Chromatography	24
Reversed-phase chromatography	26
Carbohydrate analysis	27
Gel-permeation chromatography	28
SERVICE	29
LABORATORY	30

Watrex Praha is a leading Czech inventor, manufacturer, and distributor of liquid chromatography instruments and systems. The company was established in 1990 by Dr. Milan Minarik, who is regarded as one of the founding fathers of GPC and HPLC in the former Czechoslovakia. In the early years Watrex acted as a general distributor in Czech Republic and Slovakia for Waters, division of Millipore and, later, for Hewlett-Packard. In 1992 Watrex has assumed a distributorship for LDC Analytical (acquired by Thermo Separation Products (TSP)). At the same time, Watrex has also served as an exclusive distributor for a number of manufacturers of chromatography consumables and column technology.



Dr. Milan Minárik at the Czechoslovak Academy of Sciences (circa 1966).

A strong chromatography background of Watrex has been built on a team of HPLC specialists with expertise in method development and service for a wide range of HPLC instruments. During the 1990s and 2000s Watrex has transformed from sole distribution to manufacturing of own chromatography products including the DeltaChrom™ LC Pumps and detectors, fraction collectors, solvent savers etc. The manufacturing was complemented by a signature Polymer IEX™ ion exclusion chromatography and DeltaSil™ C18 phase columns and packings.



Dr. Milan Minárik (center) and Dr. Marek Minárik (right) with prof. Berry L. Karger (left) during the HPLC 2017 conference in Prague.

Also during the 2000s Watrex has moved into the field of laboratory automation systems. The Caddy™ robotic system dedicated to automation of MegaBACE™ DNA sequencer was developed in a close collaboration with Amersham Biosciences (later GE Biosciences).

Between 2001 and 2004 a total of 75 Caddy™ systems have been sold in Europe as well as other parts of the world (USA, Australia, Taiwan).

Since 2015, ownership of the company has gradually transitioned from father to son, Dr. Marek Minarik, who received his Ph.D. in Bioanalytical chemistry in Boston working with Barry L. Karger - one of the most notable figures in chromatography.

During the subsequent years Watrex has introduced a redesigned line of chromatography instrumentation to further serve analytical chemist's needs for top quality products at reasonable cost. The new instrument line named Streamline™ covers a full range of traditional HPLC modules from robust double piston pumps (in isocratic and binary gradient formats), detectors (including variable wavelength, photodiode array, refractive-index and conductivity), column thermostats and fraction collectors.



Watrex booth at the LABOREXPO.



Watrex headquarters in Prague.

The development of new products at Watrex relies upon scientific collaborations with leading academic centers. Over the past 10 years Watrex has taken part in over a dozen of research projects supported by the Technology Agency of the Czech Republic or the Czech Ministry of Industry and Trade. Watrex holds several patents and utility models and has been awarded several prizes at various tradeshow including Golden CHEMTEC award for Caddy™ automation system and LABOREXPO award for REPETTO™ recycling instrument.

In 2022, following up on previous success with robotic instrumentation, Watrex has introduced a new product, xTROVERT™ a compact laboratory automation pipettor has been developed with the support of the government Czech rise-up initiative during the COVID-19 pandemic.



Watrex P102 high performance liquid chromatography (HPLC) pump is designed to be a reliable component within a basic analytical or sophisticated research instruments. While ideal for HPLC applications, the Model P102 pump is also useful as a metering pump for general laboratory or industrial use. The pump features dual self flushing pump heads with overlapping cams for reduced pulsation.

FEATURES

- Dual inlet and outlet check valve assure reliability
- Autoflush piston wash
- Biocompatible design available
- Prime purge valve
- Low volume dampener

SPECIFICATIONS

Flow Rates:	0,01 ml/min – 9,99 ml/min with step 0.01 ml/min (analytical) 0,10 ml/min – 40,0 ml/min (preparative)
Pressure:	42 MPa/6000 psi (analytical, stainless steel) 35 Mpa/5000 psi (analytical, PEEK) 10 Mpa/1500 psi (preparative)
Flow precision:	± 0,2% RSD @ 1mL/min. and 1,000 psi (analytical)
Flow accuracy:	± 1% @ 1mL/min. and 1,000 psi (analytical)
Pressure accuracy:	± 2% of full-scale, with 80:20 H ₂ O/IPA @ 1000psi
Pulsation:	better than ± 0.5% @ 1mL/min. and 1,000 psi (analytical)
Remote control:	USB
Remote control:	Start, Stop, Status, Error

ORDERING INFO

Part no.	Description
D2K6091801	P102 Pump analytical, stainless steel
D2K6091805	P102 Pump analytical, PEEK

Streamline™ P1/P1s

HPLC pump



Streamline P1 pump, fully meets the demanding requirements for HPLC pumps and can be combined seamlessly with HPLC detectors and instruments from other manufacturers. In the analytical version of the pump, the flow rate range from 0.001 ml/min to 10 ml/min is adjustable in 1 ul increments with a maximum working pressure of 42 MPa (6,000 psi). Flow rate adjustment accuracy is $\pm 1\%$ and flow rate variation is better than $\pm 0.1\%$. The pump's extremely smooth flow profile is ensured by an efficient pulse damper and optimized cam shape. A unique feature is the active piston and seal rinse, which prevents crystallization of buffers. A touch screen display on the front panel allows intuitive control of the pump. The display shows the flow rate, the current pressure and the pump is equipped with pressure limits. A PRIME function is also directly available for flushing at increased flow rates.

SPECIFICATIONS

Flow Rates:	0.001 to 10.000 mL/min
Pressure:	0 to 6,000 psi (42 MPa)
Flow precision:	> 0.2% RSD
Flow accuracy:	$\pm 1\%$ @ 1mL/min and 7 MPa,
Pressure accuracy:	$\pm 2\%$ of full-scale, with 80:20 H ₂ O/IPA @ 7 MPa
Pulsation:	$\pm 0.5\%$ @ 1mL/min and 7 MPa
Remote inputs:	USB

ORDERING INFO

Part no.	Description
SP101-001	Streamline™ P1 Pump, Stainless Steel
SP101-002	Streamline™ P1 Pump, PEEK
SP101-003	Streamline™ P1s slave Pump, Stainless Steel
SP101-004	Streamline™ P1s slave Pump, PEEK
SP101-009	Streamline™ P1q Pump, Stainless Steel
SP101-010	Streamline™ P1q Pump, PEEK

Streamline™ UV1

UV/VIS detector



Streamline™ UV1 programmable UV/VIS detector exhibits excellent signal-to-noise ratio for even the most demanding applications. It is equipped with standard analytical cell. It has a 2-lamp source (deuterium + tungsten), variable wavelength detector configuration suitable for operation between 190 and 800 nm.

SPECIFICATIONS

Light Source:	Deuterium Lamp, Tungsten Lamp
Wavelength Range:	190 – 800 nm
Baseline Noise:	1×10^{-5} AU (@240 nm, 2 sec. risetime)
Baseline Drift:	less than 3×10^{-4} AU/h
Wavelength Reproducibility:	± 0.1 nm
Linearity:	better than 2.5 AU
Analog Output:	1x 1 V

ORDERING INFO

Part no.	Description
SUV101-001	Streamline™ UV1 detector, Stainless Steel
SUV101-002	Streamline™ UV1 detector, PEEK

Streamline™ PDA1

Photodiode array detector



Streamline™ PDA1 is a photo-diode-array (PDA) detector for routine analysis and sophisticated research. The dual lamp design offers a wavelength range of 190 – 720 nm (256 Diodes) with a low baseline noise. The front-accessible flow cell can easily be exchanged, as can be the lamps which are accessible through a side panel in the instrument housing. Streamline™ PDA1 features 4-Wavelength channels to measure chromatograms at 4 different wavelengths at the same time. With this feature the optimum wavelength can be selected for each analyzed substance.

SPECIFICATIONS

Wetted Materials:	Stainless Steel/ PEEK*, teflon, Glass
Light Source:	Deuterium Lamp, Tungsten Lamp
Wavelength Range:	190 – 720 nm
Number of Diodes:	256
Baseline Noise:	$\pm 1 \times 10^{-5}$ AU (@240 nm, 2 sec. risetime)
Baseline Drift:	less than 3×10^{-4} AU/h
Wavelength Accuracy:	0.5 nm
Mean Pixel Pitch:	2.2 nm
Resolution:	7 nm
Linearity:	higher than 2.0 AU
Data Rate:	1 Hz – 100 Hz

*depending on configuration

ORDERING INFO

Part no.	Description
SPDA101-001	Streamline™ PDA1 detector, 256 Diodes, Stainless Steel
SPDA101-002	Streamline™ PDA1 detector, 256 Diodes, PEEK

Streamline™ RI1

Refractive index detector



Streamline™ RI1 refractive index detector is suitable for detecting compounds with little or no UV activity such as alcohols, sugars, lipids or polymers. This instrument is designed for use in analytical HPLC (high performance liquid chromatography) as well as for GPC (gel permeation chromatography) applications.

FEATURES

- Advanced temperature control for high sensitivity and reproducibility
- Prime purge valve
- Long-life LED light source
- Pressure resistant flow cell

SPECIFICATIONS

Light Source:	Long-life LED
Refractive index Range:	1.00 - 1.75 RIU
Baseline Noise:	± 2.5 nRIU
Baseline Drift:	200 nRIU/h
Linearity:	> 1000 µRIU
Flow cell pressure resistance:	5 bar
Flow cell volume:	15 µl
Time constant:	0.00/0.01/0.02/0.05/0.1/0.2/0.5/1.0/2.0/5.0/10.0 s
Analog Output:	1x 0-2.5V
Outputs:	Event 1, Start (OUT), Error (OUT), + 5 V, 24 V Valve

ORDERING INFO

Part no.	Description
SRI101-001	Watrex Streamline™ RI refractive index detector

Streamline™ VD1

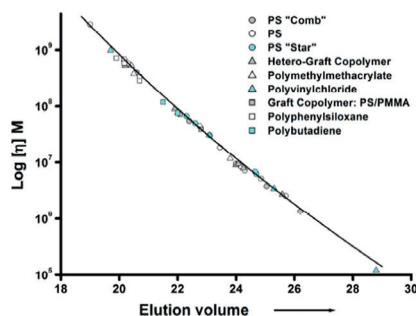
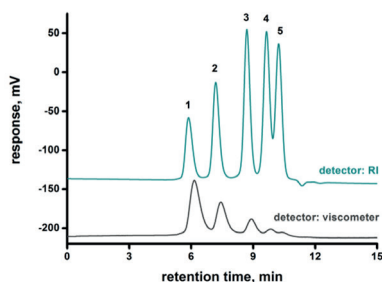
Viscosimetric detector



Streamline™ VD1 viscosimetric detector measures absolute intrinsic viscosity and is ideal as a detector for online monitoring in any GPC system. VD1 enables measurement of absolute molecular size using Wheatstone bridge operating principle.

FEATURES

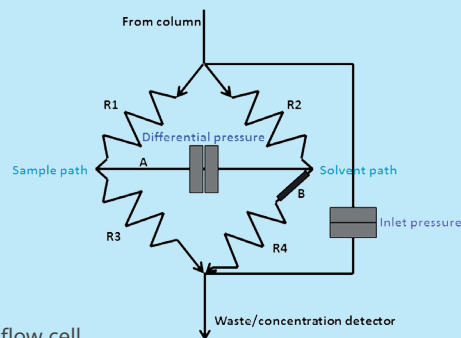
- High sensitivity and stability
- Low-noise
- Open protocol digital data format
- Direct dual analog output



Universal calibration from VD1 data

SPECIFICATIONS

Wavelength Range:	190 – 720 nm
Baseline Noise:	$\pm 1 \times 10^{-5}$ AU (@240 nm, 2 sec. risetime)
Baseline Drift:	$< 3 \times 10^{-4}$ AU/h
Wavelength Accuracy:	± 0.5 nm
Wavelength Reproducibility:	± 0.1 nm
Mean Pixel Pitch:	2.2 nm
Resolution (λ FWHM):	7 nm
Linearity:	> 2.5 AU
Wavelength Program:	Programmable, 10 steps
Analog Output (optional):	1x 1 V
Options:	Dual channel configuration, thermostated flow cell

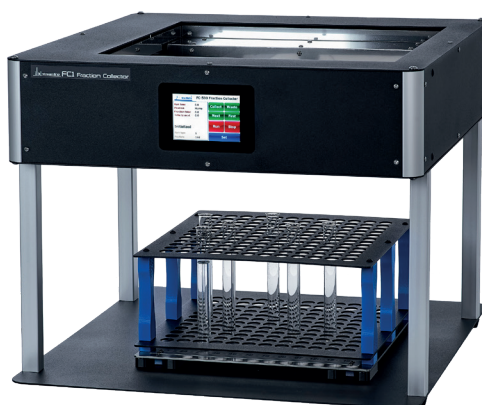


ORDERING INFO

Part no.	Description
SVD101-001	Watrex Streamline™ VD1 viscosimetric detector

Streamline™ FC1

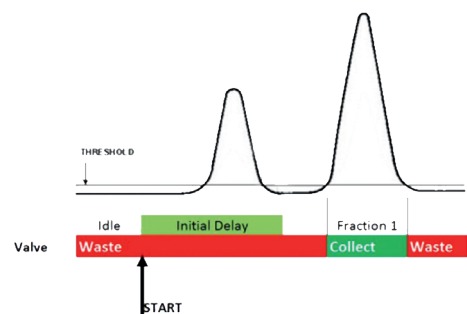
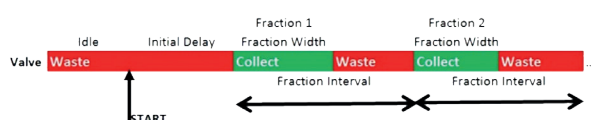
Fraction collector



The fully automated **fraction collector FC1** offers a universal solution for a number of applications requiring the collection of fractions, e.g. protein purification, preparative chromatography or other methods for obtaining samples by fractionation. The robust design of the FC1 ensures reliable X-Y displacement that carries the switching valve. Placing the fraction switch directly above the receiving vessel minimizes dead volume between fractions. Depending on the required volume of fractions, different types of test tube stands are offered with the device. Furthermore, it is also possible to use large-volume containers. The operator controls and programs the fraction collector from the touch screen on the front panel of the device using intuitively arranged screens with adjustable parameters for a given fraction collection series. For advanced programming and connection to chromatography software, the device is equipped with a USB interface. FC1 is supported by the Clarity data system.

FEATURES

- Simple operation
- Color touch panel control
- Optional analog input
- Selection of rack types
- Clarity CDS supported



SPECIFICATIONS

Max. flow:	50 ml/min
Wetted Materials:	PTFE, PEEK
User control:	Color touch panel
PC connection:	USB
External control:	TTL (contact closure) - RUN, STOP, NEXT, COLLECT
Power supply:	24V DC external power supply

ORDERING INFO

Part no.	Description
SFC101-001	Streamline™ FC1 Fraction Collector
SFC101-002	Cooling option for FC1 Fraction Collector
SFC101-003	Analog Signal Monitoring, Input for FC1 Fraction Collector

Streamline™ CT1/CT1i

Column thermostat



Streamline™ CT1i column thermostat is an ideal tool to grant stable separation temperature even if laboratory temperature fluctuates during the day. It is also essential instrument in sugar analysis and/or many applications requiring higher column temperature. An optional built-in manual syringe front loaded sample injector increases usage comfort.

FEATURES

- Excellent temperature stability
- Heating up to 100°C
- Thermal fuse against overheating
- Up to 3 columns with length of 250 mm can be placed in the thermostat
- Color touch panel control
- Possibility of installing manual injection valve

SPECIFICATIONS

Temperature range:	10 °C above ambient temperature to 100 °C
Temperature accuracy:	max. 0,5 % of actual temperature
Temperature stability:	RSD < 0,4 %
Settability:	0,1 °C
Internal dimensions:	320 x 50 x 30 mm (L x W x H)
Compartment material:	PTFE coated metal
Compartment connection:	USB
Control:	build-in color touch panel, datasystem

ORDERING INFO

Part no.	Description
ST101-001	Streamline CT1 Column Thermostat
ST101-002	Streamline CT1i Column Thermostat with manual injector

CTC-330 Column Oven

Column thermostat



Column thermostat CTC-330 for HPLC with a temperature range from 10°C above ambient temperature to 120°C. Internal dimensions: 490 x 60 x 40 mm (L x W x D). Temperature accuracy 0.5%, temperature stability 0.2 °C. Communication with a computer via the built-in USB interface. CDS Clarity driver is standard part of datasystem installation.

FEATURES

- Excellent temperature stability
- Heating up to 120°C
- Thermal fuse against overheating
- USB interface
- Color touch panel control

SPECIFICATIONS

Temperature range:	10 °C above ambient temperature up to 120 °C
Temperature accuracy:	max. 0,5% of actual temperature
Temperature stability:	< +/-0,1 °C over full operating range
Settability:	0,1 °C
Internal dimensions:	490 x 60 x 40 mm (L x W x H)
Compartment material:	black anodized aluminium
Computer connection:	µUSB
Control:	build-in color touch panel
Power requirements:	19-20V DC/3A

ORDERING INFO

Part no.	Description
CTC330-001	CTC-330 Column Oven

xTrovert™ XT

Automatic DNA/RNA extractor



AUTOMATIC EXTRACTOR

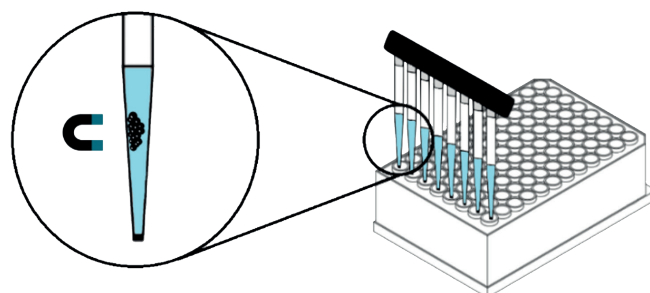
The xTrovert™ XT automatic extractor utilises a simple principle of two pipetting heads serving a 96-well plate. Thanks to easy replacement head options of pipetting with 300 µl tips or 1000 µl tips are available. Automatic optical sensor calibration enables the use of pipetting tips and 96-well plates from virtually any supplier. The device is equipped with two magnetic arms for protocols including paramagnetic SPR beads. It also allows for thermal incubation in the range of 25 to 85 °C. In addition to internal LED lighting, the station is equipped with an integrated UV-C sterilisation unit. Intuitive control from TFT touch panel user interface facilitates easy set-up. xTrovert™ XT is a fully programmable open system where user can create their own workflow scripts downloadable as text files from USB flas disk.

APPLICATIONS

- Sample prep for PCR testing
- NGS library prep
- Sanger DNA sequencing

CURRENT PROTOCOLS

- DNA/RNA extraction
- DNA purification
- PCR clean-up/desalting



Compatible with any magnetic bead based kit.

SPECIFICATIONS

Capacity:	16 or 32 samples/run
Volume range:	10 – 600 µl
Temperature:	25 – 85 °C
Sterilization:	UV-C
Display:	3,5" TFT touch display
Connectivity:	USB 1.0/2.0
Power source:	24 V adaptor
Dimensions in cm:	65(w) x 65(h) x 34(d)
Weight:	25 kg

ORDERING INFO

Part no.	Description
XTR000-001	xTrovert™ XT Universal robotic pipettor for DNA/RNA extraction & handling
XTR000-003	Replaceable 8-channel 1000uL pipetting head for xTrovert™ XT
XTR000-004	Replaceable 8-channel 300uL pipetting head for xTrovert™ XT
XTR000-100	Deepwell plates (empty) for xTrovert™ XT
XTR000-220	DNA/RNA extraction kit, mgn. beads, 16-rxns per plate

SPR-200™

Solvent saver



SPR-200™ Solvent Recycler saves up to 90% of mobile phase by redirection of the pure solvent to the solvent reservoir during the isocratic HPLC. The stand alone device is powered by 5 V DC from power adapter or from computer USB port. Working parameters (Threshold and Delay) are easily set on the display using a membrane keyboard. The SPR-220™ Solvent Recycler continuously monitors the output signal of the chromatography detector and displays its current value on the built-in display. A high-resolution analog-to-digital converter provides data for further evaluation in the built-in processor. If the input signal level exceeds a preset value (Threshold), the SPR-200 will redirect the flow to the waste. When the signal drops, the solvent recycler waits for the transport delay and then switches the mobile phase back to the reservoir. An autosampler injection marker connected to the SPR-200 ZERO input can be used to zero the input signal at the time of injection.

FEATURES

- Stand alone operation
- Detachable valve
- Possibility of manual Waste/Recycle switching



SPECIFICATIONS

Detector compatibility:	compatible with any HPLC detector
Connection:	1/16" O.D. tubing, 1/4"-28 flat bottom fittings
Maximum pressure:	30 p.s.i./0,2 MPa
Wetted material:	PEEK, PTFE
Input range:	+/- 1 V or +/- 100 mV, user selectable
Computer connection:	µUSB
TTL/contact closure input:	configurable (ZERO, start, valve position)
Power:	5V DC/<100 mA (power supply or computer USB port)
User interface:	large character LCD alphanumeric display + membrane keypad

ORDERING INFO

Part no.	Description
SPR200-001	SPR-200 Solvent Recycler, PEEK version
SPR200-002	SPR-200 Solvent Recycler, PTFE version

UFO™

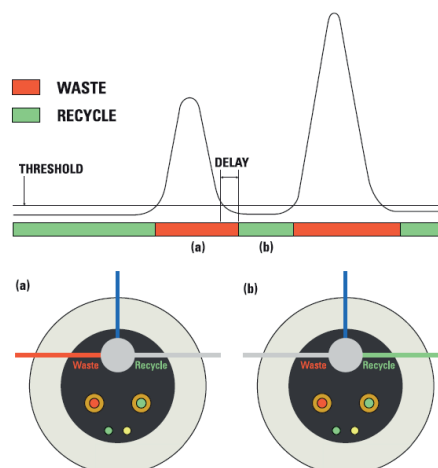
Solvent saver



UFO Solvent Recycler saves up to 90% of mobile phase by redirection of the pure solvent to the solvent reservoir during the isocratic HPLC. The device is powered by 5 V DC from computer USB port or power adapter. Working parameters (Threshold and Delay) are set using user friendly software. The UFO Solvent Recycler continuously monitors the output signal of the chromatography detector and displays its current value in the application on computer. A high-resolution analog-to-digital converter provides data for further evaluation in the built-in processor. If the input signal level exceeds a preset value (Threshold), the UFO recycler will redirect the flow to the waste. When the signal drops, the solvent recycler waits for the transport delay and then switches the mobile phase back to the reservoir. An autosampler injection marker connected to the UFO recycler START input can be used to zero the input signal at the time of injection.

FEATURES

- Very compact design
- Simple operation



SPECIFICATIONS

Detector compatibility:	compatible with any HPLC detector
Connection:	1/16" O.D. tubing, 1/4"-28 flat bottom fittings
Maximum pressure:	30 p.s.i./0,2 MPa
Wetted material:	PEEK, PTFE
Input range:	+/- 1 V or +/- 100 mV, user selectable
Computer connection:	USB-A
TTL/contact closure input:	configurable (ZERO, start, valve position)
Power:	5V DC/<100 mA (power supply or computer USB port)
User interface:	PC Windows based software

ORDERING INFO

Part no.	Description
UFO000-001	UFO™ Solvent Recycler , PEEK version
UFO000-002	UFO™ Solvent Recycler , PTFE version

LSS-205

Liquid sensing system



Liquid Sensing System LSS-205 is a universal sensing system for monitoring the level of your chromatographic system liquids. The daily task in the chromatographic laboratory is the manipulation of mobile phases. The operator must check the supply of solvents at the inlet of the device and regularly monitor the condition of the waste solvent container. The LSS-205 greatly simplifies these tasks. LSS-205 is a universal accessory for any (chromatographic) system. The level sensors used in the LSS-205 system are contactless, do not require immersion in liquid, and are installed on the outer shell of a non-metallic solvent container. The method of mounting the sensor allows placement on a container of virtually any shape and size. The LSS-205 central unit is ready to process the signal from up to five liquid sensors, which can be individually set to trigger an alarm in the event of a missing or present liquid. The error status of the individual sensors is indicated optically directly on the central unit and the alarm can be accompanied by an acoustic signal. An external loud siren suitable for a noisy environment is available as an option to the central unit.

SPECIFICATIONS

Power supply:	5V DC (wall mount power supply or USB port of PC)
Number of liquid sensors:	1-5
Alarm condition:	individually adjustable for each sensor (off, missing liquid, liquid present)
Internal alarm indication:	high intensity LED for each sensor
Internal acoustic alarm:	80dB, common for all sensors
External optical signaling:	connector on the central unit
External acoustic alarm:	optional 105 dB external horn
Alarm signal for external devices:	logic (open collector), relay switching contact
Computer connection:	micro USB connector, simple text communication protocol
Firmware update:	possible in field
Dimension:	130x80x30 mm
Weight:	250 g
Sensor dimensions:	50x30x15 mm
Sensor connection cable:	2 m length
Sensor mounting:	plastic holder with flexible silicon tube (length 700 mm, other lengths on request)

ORDERING INFO

Part no.	Description
40-0728	LSS-205 Starter Kit (incl. 1 sensor + light)
40-0738	LSS-205 Additional Sensor
40-0841	LSS-205 Additional 2 Sensors
40-0842	LSS-205 Additional 3 Sensors
40-0843	LSS-205 Additional 4 Sensors
40-0838	LSS-205 External Alarm Horn

PCRS-300

Post column derivatization



PCRS-300 is compact system for post-column derivatization consisting of low-pulse reagent pump with selector valve and tempered reaction chamber for reaction coil. A selector valve at the inlet of the pump allows choice between reagent and flushing solvent. The system is controlled through color touch panel placed on the front of main unit.

FEATURES

- Very low pulse reagent delivery
- Excellent temperature stability
- Heating up to 150°C
- Number of reagent coil options
- Thermal fuse against overheating
- Color touch panel control

SPECIFICATIONS

Wetted materials:	PEEK, PTFE, HDPE, ruby, sapphire
Flow rate range:	0,01 – 9,99 ml/min
Flow rate accuracy:	< 2%
Temperature range:	up to 150 °C
Temperature stability:	< +/- 0,1 °C
Liquid connections:	Inlet – 1/8", 1/4"-28 flat bottom Outlet – 1/16", UNF 10-32
Connections:	USB, TTL I/O control (ready out, shutdown in)
Control:	build-in color touch panel
Dimensions:	310 x 270 x 170 mm (WxDxH, main unit)
Power requirements:	19-20V DC/4,7A

ORDERING INFO

Part no.	Description
PCRS300-001	Post Column Reaction System
PCRS300-002	Reaction coil select from 250µl - 2000µl in Stainless Steel
PCRS300-003	Reaction coil select from 500µl - 1000µl in PEEK
PCRS300-004	Reaction coil select from 500µl - 1000µl in PTFE
PCRS300-999	Reaction coil , customized

Streamline™ OLE 200

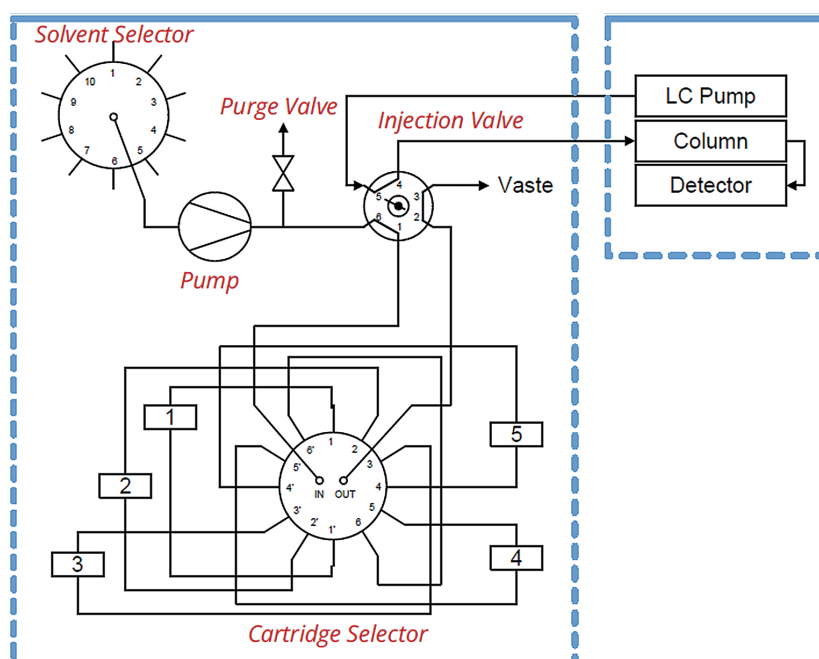
On-line SPE system



OLE 200 on-line SPE is an automatic on-line SPE/pre-concentration unit equipped with 10 port selection valve for samples and washing solvents, high pressure cartridge selector for 7 cartridges, high pressure pump, and injection valve connected to HPLC instrument. The pump sucks through 10 port selection valve up to 7 samples to 7 SPE cartridges. Then collected components are washed with one or two slushing eluents, and eluted via sample valve into a HPLC system.

SPECIFICATIONS

Cartridge selector:	twin 10-port high pressure selector, 40MPa
Cartridge dimensions:	10x4mm
Connection to HPLC instrument:	Rheodyne 6 port sample valve
Selector:	low-pressure 10-port selection valve IDEX
Sample load pump:	high-pressure single piston ss pump
Instrument control:	driver for all valves and pump controll included



Principle of online SPE by OLE 200.

ORDERING INFO

Part no.	Description
D2K2062401	Watrex OLE200

SCS 205

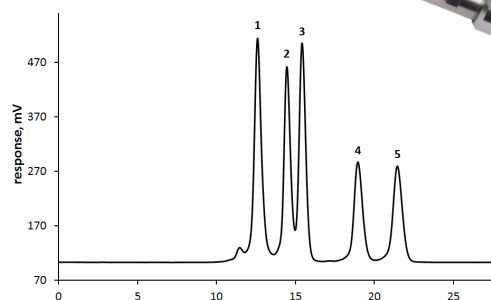
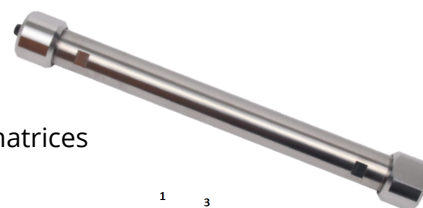
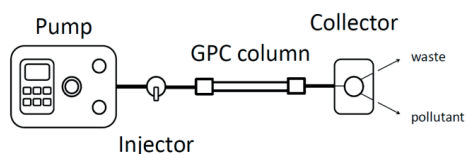
Sample cleanup system



Sample clean-up is an essential method for many routine chromatography applications. One of the most common cases is analysis of polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and pesticides in complex mixtures. The initial step is an isolation of hydrophobic (lipophilic) components from the rest of the sample mixture by gel-permeation chromatography (GPC). In such configuration, triglycerides (700-900Da) can be isolated from low molecular (200-300Da) PAHs, PCBs or pesticides using GPC steric exclusion. SCS 205 is a dedicated system for GPC sample pretreatment. SCS 205 includes an isocratic pump double piston pump, manual injector with preparative sample loop, PAH/PCB preparative column (200mg sample loading capacity), fraction collector and start-up kit. The entire system is controlled from a TFT touch display through intuitive screens. After injection and GPC separation, the purified sample (PAHs, PCBs etc.) is captured by an automated fraction collection using a 3-way motorized switching valve. The timing of the collection is predetermined from the elution profile of the pollutants.

FEATURES

- High performance pollutant isolation from complex matrices
- Eluent flexibility
- Easy programmable
- Easy installation & Simple operation



SPECIFICATIONS

Sampling System:	manual valve
Sample volume:	2 mL loop
Fraction collection:	50mL flask
Collection time programming:	alternating valve switching to waste/collect/waste
Display:	4-character

ORDERING INFO

Part no.	Description
SCS205-001	SCS 205 Sample Clean-up System
WI02077	WATREX 250x16 mm PAH Prep column, 10 μ m
DGD.3008	WATREX 300x8 mm DeltaGel Mixed-D column, 5 μ m
DGB.25020	WATREX 250x20 mm DeltaGel Mixed-B column, 5 μ m



Streamline™

Isocratic HPLC system

Streamline™ isocratic HPLC system consists of one P1 pump, CT1i column thermostat with manual injector and UV1 UV/Vis detector.

FEATURES

- Optimized pump mechanics with parallel piston design offers excellent flow rate accuracy and low pulsation
- Excellent signal-to-noise ratio of the UV1 detector
- Data acquisition, processing and instrument control is done by Clarity Chromatography Station

Modular concept offers easy and economical upgrades or configuration modifications such as additional detectors, autosampler or fraction collector.

COMPONENT SPECIFICATIONS

P1 HPLC pump: see page 5.

UV1 UV detector: see page 6.

CT1 Column thermostat: see page 11.

Clarity™ Chromatography Station: Advanced data acquisition and evaluation, enables routine separations with pre-set methods for experimental settings. PC Win 10 Professional with LCD monitor included.

ORDERING INFO

Part no.	Description
SSI101-001	Streamline™ isocratic system (Includes P1 pump, UV1 detector, CT1i column thermostat with manual injector, solvent rack, Clarity datastation)

Optional configurations:

Part no.	Description
SUV99-001	Remove UV1 detector from system
ST99-002	Remove CT1i column thermostat with manual injector from system
SPDA90-001	Add PDA1 265 photodiode detector to system
SRI90-001	Add RI1 Refractive index detector to system
SAS90-001	Add AS1 Autosampler to system
SFC90-001	Add FC1 Fraction collector to system

Streamline™

Binary gradient HPLC system



Streamline™ binary gradient HPLC system consists of two P1 pumps, static mixer, CT1 column thermostat, PDA1 diode-array detector, AS1 auto-sampler, and Clarity PDA datastation.

FEATURES

- Optimized pump mechanics with parallel piston design offers excellent flow rate accuracy and gradient composition at all solvents ratios
- Variable volume injection range 0.1 - 999.9 µl, high precision and reproducibility, and low carryover AS1 autosampler
- Excellent signal-to-noise ratio of the PDA2 detector
- Data acquisition, processing and instrument control is by Clarity Chromatography Station

COMPONENT SPECIFICATIONS

Gradient solvent delivery system consisting of two P1 HPLC pumps: see page 5.

PDA1 detector: see page 7.

CT1 Column thermostat: see page 11.

AS1 autosampler: X-Y-Z-Operation; motor driven syringe, **Capacity:** 60 vials, **Sample Loop:** standard, 20µl, **Reproducibility:** Fix Volume: < 0.5%, Variable Volume: <1.0%, **Carry-over:** <0.01% , Programmable wash.

Clarity™ Chromatography Station: PDA data acquisition and evaluation, gradient, and autosampler control with pre-set methods for experimental settings. PC Win 10 Professional with LCD monitor .

ORDERING INFO

Part no.	Description
SSG101-001	Streamline™ binary HPLC system (Includes P1m+P1s pumps, PDA1 detector, CT1 thermostat, AS1 autosampler, solvent rack, Clarity PC station)
Optional configurations:	
Part no.	Description
SPDA99-201	Remove PDA1 diode-array detector from system
ST99-001	Remove CT1 column thermostat from system
SAS99-001	Remove AS1 autosampler from system
SUV90-001	Add UV1 Variable UV/Vis detector to system
SFC90-001	Add FC1 Fraction collector to system
SCT90-002	Add CT1i column thermostat with manual injector from system



Streamline™ Ion chromatography system with chemically (ICC) or electrolytically (ICE) regenerated conductivity suppression is preferentially suited for analysis of anions. The system consists of isocratic or gradient solvent delivery system and either IC1c (chemically regenerated) or IC1e (electrolytically regenerated) ion module with cation conductivity suppression.

FEATURES

- Both, Isocratic with P1 pump, and/or High pressure gradient with P1s and P1m pumps and static gradient mixer, offer excellent flow rate accuracy and low pulsation, compatible with carbonate-, as well as hydroxide mobile phases
- CD1 conductivity detector with detection cell positioned inside the column oven compartment, provide high signal stability
- Chemically or electrolytically regenerated membrane suppressor extremely suppresses mobile phase conductivity, and raises anion conductivity during anion analysis
- Data acquisition, processing and instrument control is done by Clarity DataStation

COMPONENT SPECIFICATIONS

P1 HPLC pump: see page 5.

IC1c/IC1e module with built-in CT1i Column thermostat: **Conductivity range:** 20 nS/cm - 20,000 µS/cm, **Volume of flow cell:** 0.76 µl, **Temperature range:** 10 °C above ambient temperature to 120 °C, **Temperature accuracy:** better than +/- 0,5 °C, **Temperature stability:** RSD < 0,4%, **Setting and display resolution:** 0,1 °C, **T-compartment dimensions:** 320 x 50 x 30 mm (L x W x H), **Time to stabilization @ 80 °C:** 30 minutes maximum, 15 minutes typical, **Suppressor:** continually regenerated by external regenerant (H2SO4 or MSA), **Suppression level:** < 30 nS/cm, or electrolytically regenerated suppressor with constant current source, **Suppression level:** < 45 nS/cm.

Clarity™ Chromatography Station: Advanced chromatographic datastation for data acquisition and evaluation supported with modules for instruments controll. Enables routine separations with pre-set methods, containing all experimental and instruments settings. Computer /OS WIN 10 Professional 64 bit and LCD monitor included

ORDERING INFO

Part no.	Description
SIC101-001	Watrex Streamline™ ICC system with chemically regenerated suppressor (Includes P1 pump, IC1c module with CT1i Column thermostat and manual injector, solvent rack, Clarity PC station)
SIC101-002	Watrex Streamline™ ICE system with electrochemically regenerated suppressor (Includes P1 pump, IC1e module with CT1i Column thermostat and manual injector, solvent rack, Clarity PC station)

Optional configurations:

Part no.	Description
SMI99-001	Remove manual injector from system
SP99-001	Remove P1 pump from system
SAS90-001	Add AS1 Autosampler to system
SP90-005	Add Binary High Pressure Gradient to system

Streamline™

GPC system



Streamline™ GPC system is an isocratic HPLC system consisting of one P1 pump, CT1i column thermostat with manual injector and RI1 refractive index detector.

FEATURES

- Optimized pump mechanics of P1 pump with parallel piston design offers excellent flow rate accuracy and low RI signal pulsation
- The thermal isolated optic with a counter-current heat exchanger and programmable temperature control, results in an extremely stable baseline and an optimal Signal/Noise ratio of RI1
- The system can be upgraded with autosampler and fraction collector, or VD 400 Viscometer Detector
- Data acquisition, processing and instrument control is done by Clarity Chromatography Station with GPC option or Agilent TriSEC software

COMPONENT SPECIFICATIONS

P1 HPLC pump: Flow Rates : see page 5.

RI1 refractive index detector: see page 8.

CT1 Column thermostat: see page 11.

Clarity™ Chromatography Station: Advanced chromatographic data station for data acquisition and evaluation supported with GPC module for MWD, Mw, Mn, Mz calculation. Enables routine separations with pre-set methods, containing all experimental and conditions and data evaluation settings. PC Win 10 Professional with LCD monitor included.

ORDERING INFO

Part no.	Description
SGPC01-001	Streamline™ manual GPC system with Refractive index detector (Includes P1 pump, RI1 detector, CT1i column thermostat with manual injector, solvent rack, Clarity PC station)

Optional configurations:

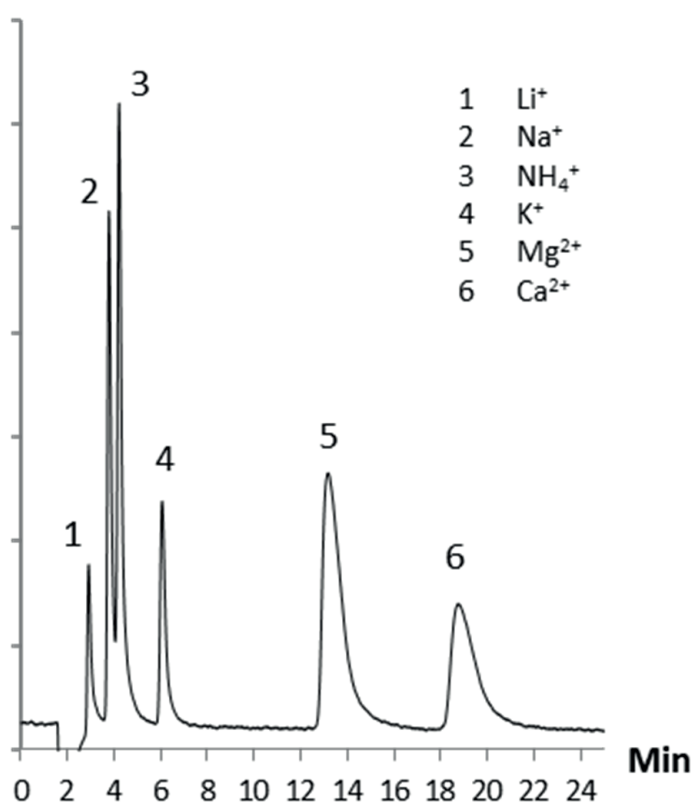
Part no.	Description
ST99-002	Remove CT1i column thermostat with manual injector from system
SAS90-001	Add AS1 Autosampler to system
SFC90-001	Add FC1 Fraction collector to system

Ion chromatography

Analysis of cations



Watrex IonPlus™ CS19 - Styrene-divinylbenzene, 55% cross-linking (7 μm particle i.d.)



Column: 200x4mm IonPlus™ CS19; Mobile phase: 4mM HNO₃;
Flowrate: 1.0 ml/min; Detection: Conductivity without suppression.

ORDERING INFO

Part no.

WCS1920040

CAT.12546

DescriptionWatrex IonPlus™ CS19 IC Column 200x4mm, 7 μm Watrex Universal Cat II 125x4.6mm, 7 μm

Ion chromatography

Analysis of anions

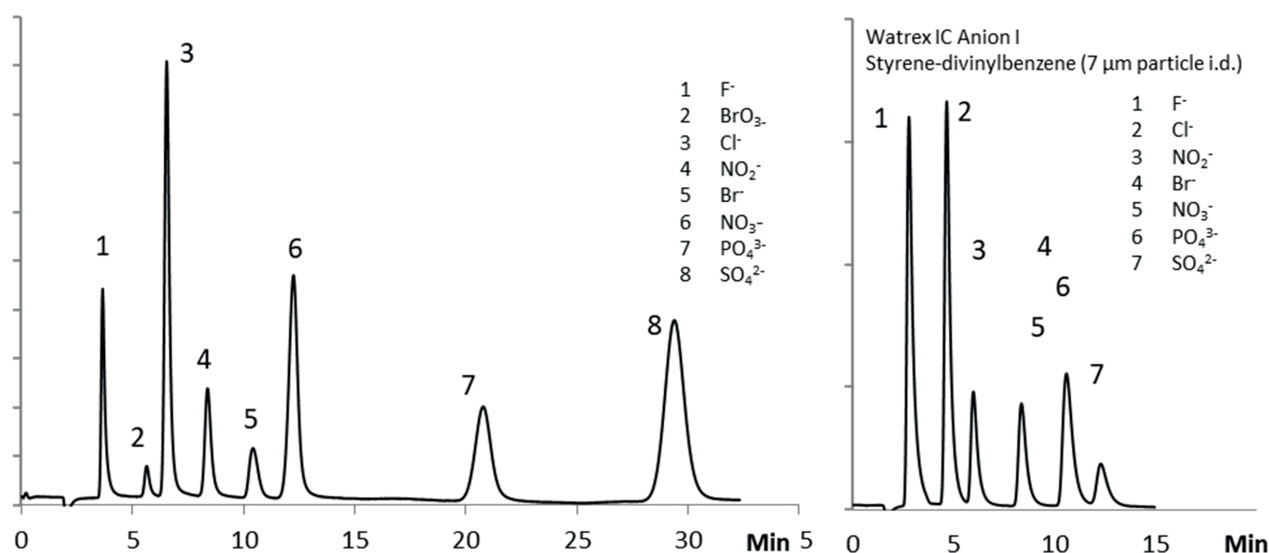


Watrex IonPlus™ AS19

Styrene-divinylbenzene, 55% cross-linking (12 µm particle i.d.)

Watrex IC Anion I

Styrene-divinylbenzene (7 µm particle i.d.)



Mobile phase: 4mM Na₂CO₃ + 1mM NaHCO₃ + 0.1mM NaSCN;
Flowrate: 1,2 ml/min; Pressure: 54 bar; Detection: Conductivity with suppression; Injection: 20 µl.

ORDERING INFO

Part no.

WI021540

WAS1925046

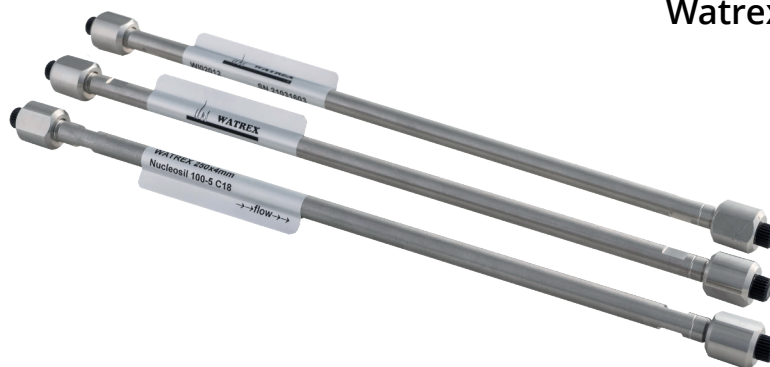
Description

Watrex IC Anion I 150x4mm, 7 µm

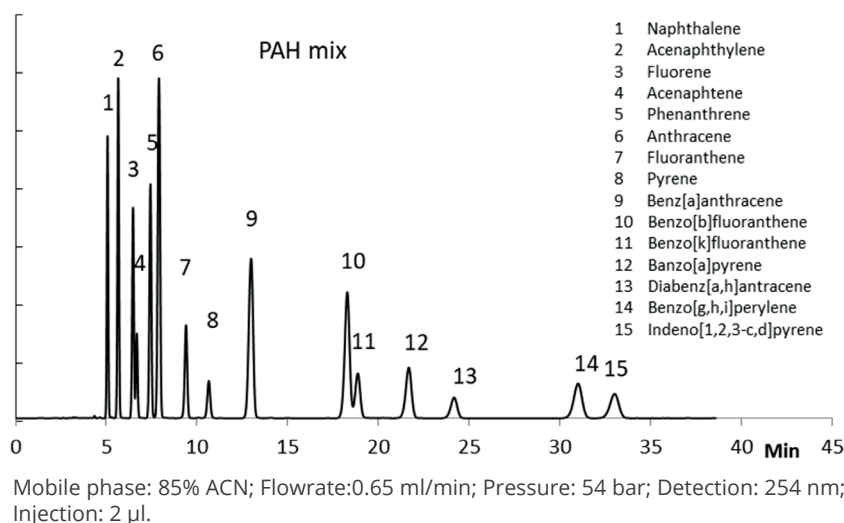
Watrex IonPlus™ AS19 IC Column 250x4.6mm, 12 µm

Reversed phase chromatography

Watrex DeltaSil™ 100 C18



Watrex DeltaSil™ 100 C18 column is a standard reversed phase for wide field of applications in analysis of drugs, organic compounds, peptides and others. Stationary phase is based on synthetic 5 µm silica-gel with 100 Å pores and 15% carbon content. The column has a good peak symmetry and efficiency. Theoretical plate count value for non-polar compounds, such as naphthalene, reaches up to 90.000 theoretical plates per meter.



ORDERING INFO

Part no.	Description
WI02DC181254	Watrex DeltaSil™ 100 C18, 5 µm column 125x4 mm
WI02DC1815046	Watrex DeltaSil™ 100 C18, 5 µm column, 150x4.6 mm
WI02DC182504	Watrex DeltaSil™ 100 C18, 5 µm column, 250x4 mm
WI02DC1825046	Watrex DeltaSil™ 100 C18, 5 µm column, 250x4.6 mm
WI02DC182508	Watrex DeltaSil™ 100 C18, 5 µm column, 250x8 mm
WI02241	Watrex DeltaSil™ 100 C18, 10 µm column, 250x20 mm
WI02242	Watrex DeltaSil™ 100 C18, 10 µm column 300x20 mm
WI02246	Watrex DeltaSil™ 100 C18, 10 µm column 250x30 mm
WI02243	Watrex DeltaSil™ 100 C18, 5 µm column 250x20 mm
WI02244	Watrex DeltaSil™ 100 C18, 5 µm column 300x20 mm
WI02245	Watrex DeltaSil™ 100 C18, 5 µm column 250x30 mm
WI02247	Watrex DeltaSil™ 300 C18, 5 µm column 250x20 mm
WI02248	Watrex DeltaSil™ 300 C18, 10 µm column 250x20 mm
WI02249	Watrex DeltaSil™ 300 C18, 10 µm column 250x30 mm
WI02153	Guard column insert 10x4.0 mm, Deltasil C18, 5 µm, 10 pcs

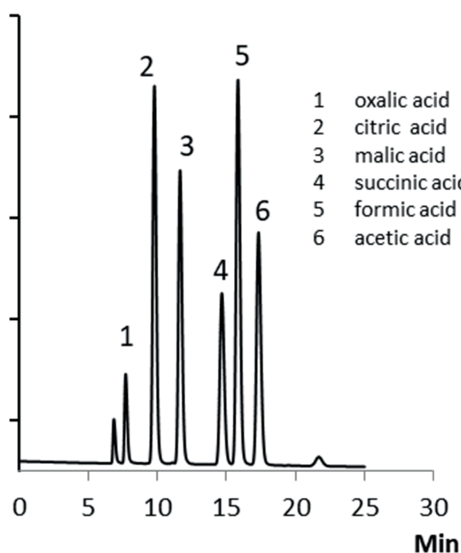
Carbohydrate analysis

Watrex Polymer IEX™



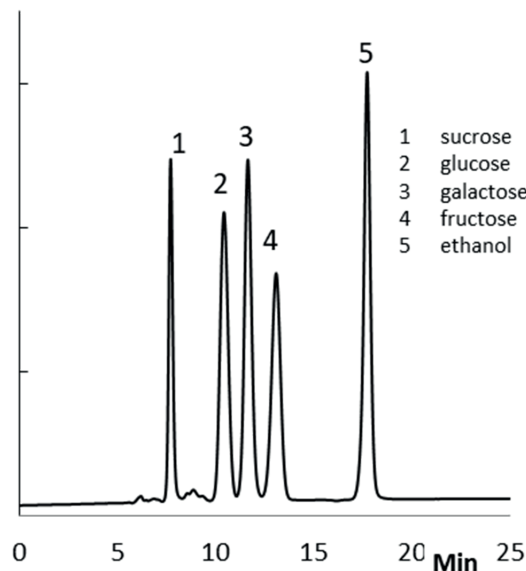
Watrex Polymer IEX™ is the Europe's leading sorbent for ion exclusion analysis of alcohols, carboxylic acids, sugars, and polysaccharides

- H⁺, Ca²⁺, Pb²⁺ and Na⁺ forms
- Unique monodispersed sorbent based on sulfonated polystyrene
- Bulk packing materials available



Column 250x8mm IEX H

Eluent: 9mM H₂SO₄; Flow-rate: 0.5 ml/min; Pressure: 45 bar; Inj. Volume: 20 µl; Concentration: 20 ppm; Temperature: ambient; Detection: UV 210 nm



Column 250x8mm IEX Ca

Eluent: H₂O; Flow-rate: 0.5 ml/min; Pressure: 26 bar; Inj. Volume: 20 µl; Concentration: 20 ppm; Temperature: 90 °C; Detection: RI

ORDERING INFO

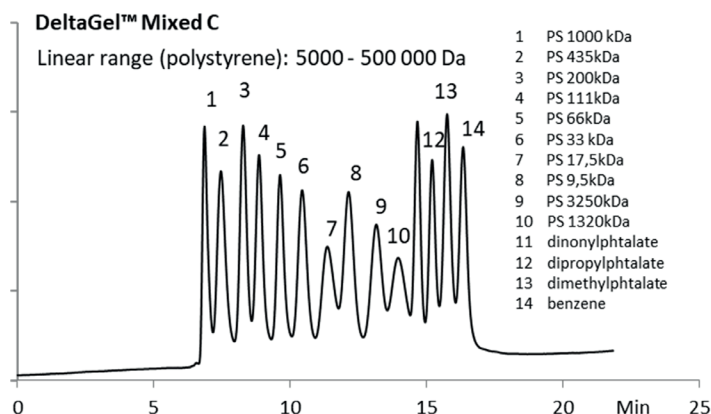
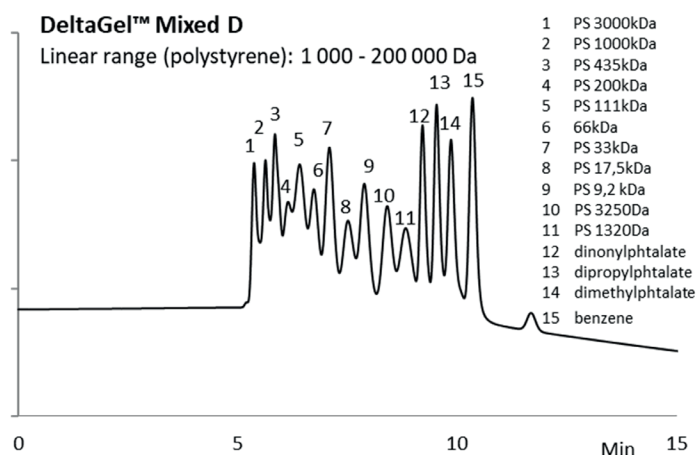
Part no.	Description
WI020223	WATREX 300x8 mm Polymer IEX H form, 8 µm
WI020213	WATREX 300x8 mm Polymer IEX Ca form, 8 µm
WI020253	WATREX 300x8 mm Polymer IEX Pb form, 8 µm
WI020222	WATREX 250x8 mm Polymer IEX H form, 8 µm
WI02021	WATREX 250x8 mm Polymer IEX Ca form, 8 µm
WI02025	WATREX 250x8 mm Polymer IEX Pb form, 8 µm
WI02122	Guard column insert 10x4.0 mm PEEK Polymer IEX H 8 µm, 10 pcs
WI02121	Guard column insert 10x4.0 mm PEEK Polymer IEX Ca 8 µm, 10 pcs
WI029012	Guard column holder (for 10x4,0 mm PEEK insert)

Gel-permeation chromatography

Watrex DeltaGel™



Mixed-bed GPC columns for SEC chromatography in organic solvents.



ORDERING INFO

Part no.

- DGB.3008
- DGC.3008
- DGD.3008
- DGE.3008
- DGB.25020
- DGC.25020
- DGD.25020
- DGE.25020
- DGB.25020G
- D2K4101927

Description

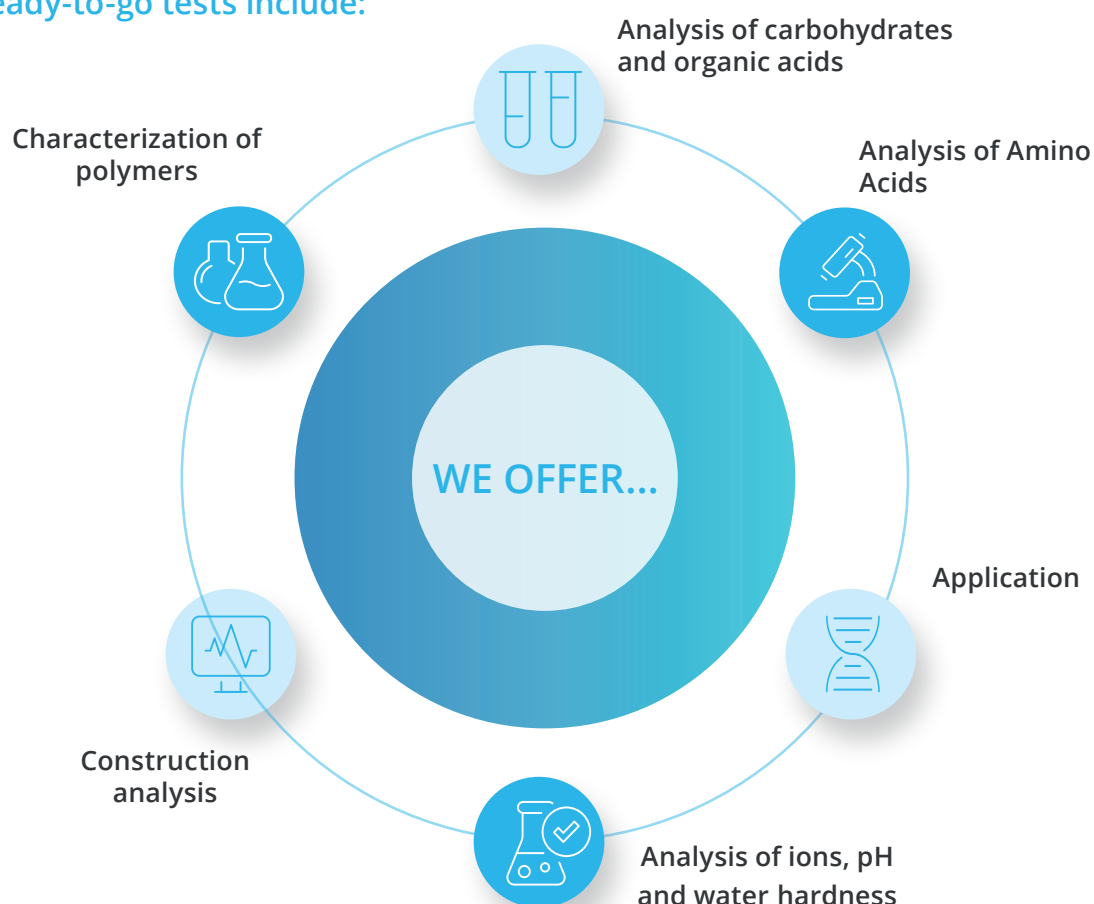
- WATREX 300x8 mm DeltaGel™ Mixed-B, 5 µm
- WATREX 300x8 mm DeltaGel™ Mixed-C, 5 µm
- WATREX 300x8 mm DeltaGel™ Mixed-D, 5 µm
- WATREX 300x8 mm DeltaGel™ Mixed-E, 5 µm
- WATREX 250x20 mm DeltaGel™ Mixed-B, 5 µm
- WATREX 250x20 mm DeltaGel™ Mixed-C, 5 µm
- WATREX 250x20 mm DeltaGel™ Mixed-D, 5 µm
- WATREX 250x20 mm DeltaGel™ Mixed-E, 5 µm
- WATREX 30x20 mm DeltaGel™ Mixed-B, 5µm, Guard Column
- Derivatizing agents AQC 5x3 mg



Watrex application and R&D laboratory is providing a range of analyses with special focus in the following fields:

- Chemical analysis for construction industry
- Environmental analysis
- Sample preparation including online solid-phase extraction protocols
- Development of methods for pharmaceutical analysis
- Characterization of synthetic polymers by GPC
- Column technology and methods for chiral separation
- Parameters evaluation and testing in ion chromatography applications

Our ready-to-go tests include:



Service and validation

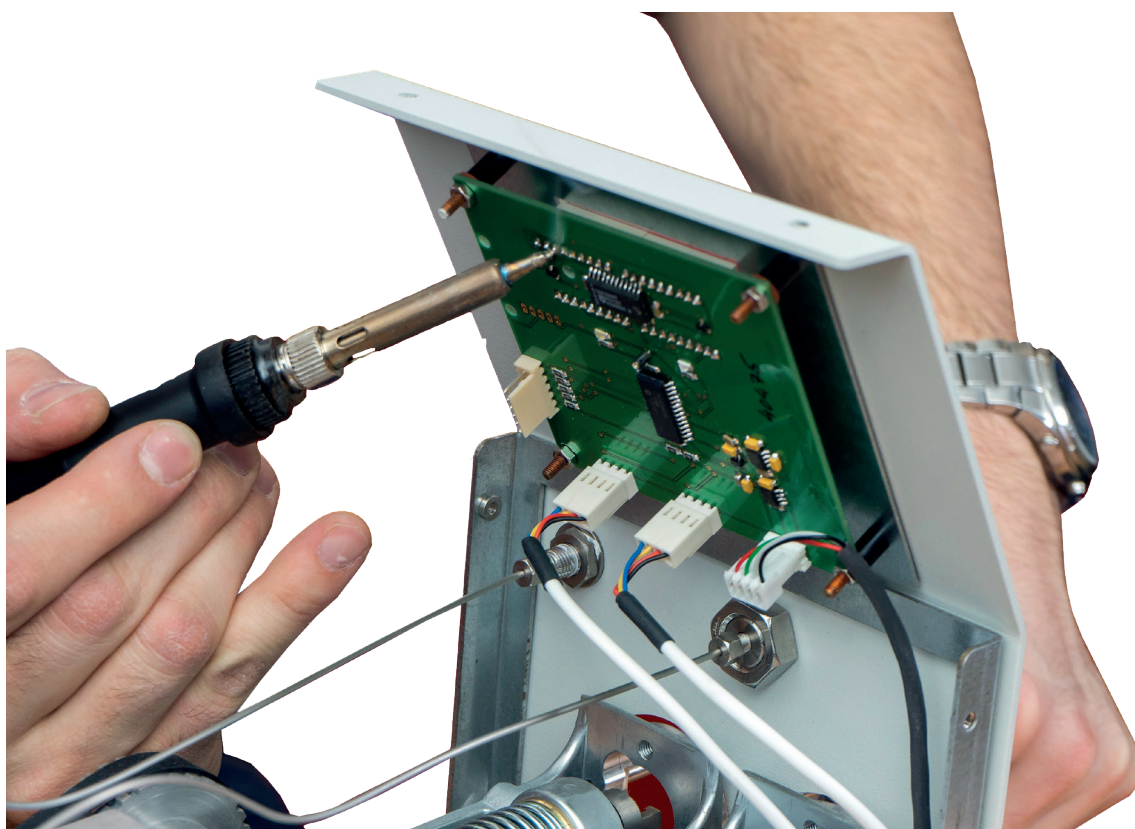


Watrex offers after warranty service and maintenance for most chromatography systems on the market:

- Full service including supply of original spare parts
- Extended preventive maintenance, including calibration and validation of instrument parameters as specified by the manufacturer
- Implementation of IQ/OQ and PQ qualifications, including delivery of validation documentation
- Service contracts for annual maintenance and validation of systems

Watrex offers service for laboratory water purification equipment and production water purification systems:

- Replacement of filter cartridges
- Disposal of used filter cartridges
- Troubleshooting of output water quality issues
- Customization and upgrading of older water purification systems
- Extended preventive maintenance and validation of instrument parameters as specified by the manufacturer





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