PCi® Analytics

ANALYTICAL EQUIPMENTS

- Ultrasonic Bath (Sonicator)
- Ultrasonic Performance Meter
- Ultrasonic Bath (Sonicator) with Chillers
- Advanced Sonicator with Chillers, HMI & Printer
- Ultrasonic Bath with Shaker
- Probe Sonicator
- HPLC Column Oven
- Digital Gas Flow Meter
- HPLC Liquid Flow Meter
- Universal Electronic Module
- Digital Liquid Flow Meter
- Preparative HPLC Pumps & Analytical Single Piston HPLC Pump
- HPLC Column Washing Pump, High Pressure Pump
- IR / FTIR Accessories - Hydraulic Press, KBr Die Set
- HPLC Column Storage Cabinet
- Nitrogen Concentrator / Nitrogen Evaporator
- Solid Phase Extraction - SPE
- Oil Free Vacuum Pump
- Pre Installation Requisite for HPLC
- Recirculating Water Chiller
- Ultrapure Water Purification System
- Advanced Dissolution Media Degasser
- Calibration & Validation Services

www.pcianalytics.in

ISO 9001:2015

ISO 45001:2018 CERTIFIED

ULTRASONIC BATH (SONICATORS)

PreCiSonic™
(PreCision Ultrasonic Bath,Probe Sonicators)

6.5 Liters
MODEL : USB 6.5 L

9 Liters
MODEL : USB 9L

20 Liters
MODEL : USB 20L

Principle of Ultrasonic Bath

High frequency electrical energy is converted into ultrasound waves by means of ultrasonic Tranducers, which are bonded on the base of SS water tank. These high frequency sound waves create countless, Microscopic vacuum bubbles, which rapidly expand and collapse. This phenomenon is called as CAVITATION. These bubbles act like miniature high speed brushes, driving the liquid into all openings and minutes recesses of the object immersed in the liquid. Intense scrubbing of Cavitation cleans away all the dirt and soil from the object immersed and the object is perfectly cleaned. Intricate objects can be cleaned with either complete or little dismantling.

Application

- Laboratory : For glassware, filters cleaning & HPLC mobile phase degassing
- Industrial : Semi-Conductors, Electronic components, Precious parts & Mechanisms.
- Medical : Dental & Surgical instruments.
- Opticals : Spectacles, Spectable frames, Lenses
- Jewellery : For all kinds of jewellery, Precious stones etc.
- To Remove : Dust, Oil, Greases, Polishing compounds, Waxes, Swarfs, Stains, Soils and any other contaminant.

Salient Features

- Easy to operate & made of one piece SS Tank.
- Indigenously manufactured with advanced MOSFET technology, with Auto-tuning facility.
- Digital tuning of transducers with generators to avoid any frequency shifted even during demanding applications.
- Compact, rugged and highly durable systems.
- Extensively protected electronic circuits means longer and safer operations.

Technical Specifications

- Operating frequency 33 ±3 KHz, for all general purpose cleaning is highly recommended. Frequency of 40 KHz is also available.
- Input voltage range of 200V AC - 230V AC, 50 Hz, single phase.
- Micro controller based timer range 0 to 15 minutes upto 3.5 ltrs. 30/99 min. timer are also available.
- Thermostatic heating
- Digital temperature controller, degassing, PSP (optional) if required.

Weight Rings

Weight rings for Volumetric Flask / Measuring Cylinder

Model	Inner Dia	Capacity of Flasks	Weight in kg/pc.
WR-20	20	5 ml to 50 ml	0.145
WR-30	30	100 ml to 500 ml	0.250
WR-50	50	1000 ml to 2000 ml	0.375

Special Customised Basket

Model	Capacity	Tank Size (LxBxH) mm	Overall Dim (LxBxH) mm	Wattage
USB-1.5 L	1.5 Ltr	240 x 135 x 65	265 x 160 x180	60 W
USB-3.5 L	3.5 Ltr	300 x 150 x 100	330 x 175 x 250	120 W
USB-6.5 L	6.5 Ltr	300 x 150 x 150	450 x 200 x 350	200 W
USB-9 L	9 Ltr	300 x 200 x 150	450 x 300 x 375	250 W

- Higher capacity other than mentioned are also available as per customer requirements.
- Different shape baskets available.
- Weight rings of different sizes available for different measuring cylinders.
- Available with Heater, DTC, PSP, Degassing as optional.

ULTRASONIC PERFORMANCE METER

MODEL : Hygea

Ultrasonic performance meter provides a fast, effective & simple to use method of measuring the ultrasonic activity generated in ultrasonic baths. It is used to give a comparative measurement of one a bath's performance over a period of time.

Specifications

- Probe Assembly in SS : 15 x 244 mm long
- Handle in ABS : Plastic 105 mm long
- Instrument case in ABS : Plastic 130 x 65 x 25 mm
- Weight (Probe & Cable) : 350 grams
- Weight (Incl. Battery) : 200 grams
- Indicator 1 Frequency : 5 - 50 KHz
- Indicator 2 Power : 10 - 100 %
- Battery : 9 V
- Cable Connector : BNC 2P
- Calibration Period : 12 months

ULTRASONIC BATH (SONICATORS) WITH CHILLERS

Ultrasonic Bath with cooling facility specially for Pharma Application

MODEL : USB-30 C

Salient Features

- Easy to operate & made of S.S tank.
- Indigenously manufactured with advanced MOSFET technology, with auto-tuning facility.
- Digital tuning of transducers with generators to avoid any frequency shifted even during demanding applications.
- Compact, Rugged & Highly durable systems.
- Extensively protected electronic circuits means longer & safer operations.

MODEL : USB-20 C

Application of Ultrasonic Bath in Laboratory

- Laboratory : For Glassware, Filters Cleaning & HPLC Mobile Phase Degassing and homogenization.
- Industrial : Semi-Conductors, Electronic Components, Precious Parts & Mechanism.
- Medical : Dental & Surgical Instruments.
- Opticals : Spectacles, Spectacle Frames, Lenses
- Jewellery : For all kinds of Jewellery, Precious stones etc.
- To remove : Dust, Oil, Greases, Compounds, Waxes, Swarf, Stains, Soils & any other contaminant.

Specification of Water Chiller

It consist of chiller unit connected to S.S Water Storage Tank of about 15 liters capacity to reduce the water temperature to about 10° C. It has an inbuilt pump & Re-Circular unit to circulate chilled water through the S.S cooling coils and bring back to chiller unit.

Technical Specification

- Electric Supply : 230V AC, 50 Hz 1 Phase
- Tank Material : S.S 304 Grade Inner & Outer
- Construction : Ultrasonic Generator & S.S Transducer. Tank is housed in one S.S 304 grade cabinet.
- Transducer : PZT sandwich type bonded on the base of S.S Tank. With transducer are protection for chilled water condensation.
- Cooling Coils : SS coil of 1/2" dia are fitted in the SS tank to cool the liquid inside the tank, through which chilled water is circulated. Water in & out connection are provided for the coils.
- Special tray to collect & drain water of condensation (chilled water)
- Capacity Available : 10 ltr, 20 ltr, 30 ltr & higher as requirement
- Digital Time : Two digit, 0-30 min. timer.

- Higher capacity other than mentioned are also available as per customer requirements.
- Different shape baskets available.
- Weight rings of different sizes available for different measuring cylinders.

Various Ultrasonic Bath Models

USB Volume	Model without Heater	Model with Heater	Model with DTC	Model with Chiller
USB-10 ltr.	USB-10L	USB-10 L/H	USB-10 L/DTC	USB-10 C
USB-20 ltr.	USB-20L	USB-20 L/H	USB-20 L/DTC	USB-20 C
USB-30 ltr.	USB-30L	USB-30 L/H	USB-30 L/DTC	USB-30 C
USB-40 ltr.	USB-40L	USB-40 L/H	USB-40 L/DTC	USB-40 C
USB-50 ltr.	USB-50L	USB-50 L/H	USB-50 L/DTC	USB-50 C

ADVANCED SONICATOR WITH CHILLERS, HMI & PRINTER

(Special Combined Model)

Print Slip

Technical Specifications

- Fully S.S. Body & S.S. Tank
- Digital, Micro controller based timer
- Operating frequency 33 +/-3 KHz
- Compact, rugged and highly durable systems
- With Standard supply of lid, basket etc.
- PSP mode-Pulse sweep power for uniform distribution of ultrasonic energy
- Transducers- PZT type bonded to the bottom of the tank (Imported make) with weld bond technique.
- Auto degassing present 5 minutes for ultrasonic tank
- Ultrasonic Generator power supply through advanced IGBT based SMPS.
- Temperature controller- Digital temperature controller with setting range 10° to room temperature max 35°
- Puff solution - Puff solution covered out side of the tank to safe guard the transducer,& maintain the water temperature,

Including chiller unit consist of :

- Digital temperature controller & PT 100 sensor
- Compressor power- 450/535W
- Compressor capacity- 926/1077 kcal/h
- Compressor type- Hermatically sealed gas compressor
- Data Ouput
- Printing Facility
- Alarm, Water level Sensor

Ultrasonic breakdown (main PCB board) indication on front panel

Capacity of Bath : Min. 10 ltr. & above

SONOSHAKER : ULTRASONIC BATH WITH SHAKER

MODEL
Sonoshaker USB 10L (H)

- Capacity of Bath : Min. 10 ltr. & above
- Chiller : With & Without
- Analog setting of shaking frequency with digital display.
- Reciprocating motion : Continuous motion with motor RPM 0-100
- Constant amplitude of 10 mm independent of loading

What is PCI Sonoshaker ?

It's the powerful combination of the Ultrasonic bath > 10 Liter above capacity combined with the electro-mechanical shaking device. With features including the analog setting of time (1-15 min. or continuous) and shaking frequency reciprocating motion of upto 100 rpm.

What are the benefits of the PCI Sonoshaker ?

Sonoshaker offers a wide range of possible applications for sample preparation in many areas of analysis for example, in pharmaceuticals, environmental & food stuff analytics. Benefits includes the setting of time & shaking frequency, reciprocating motion of upto 100 rpm.

PCI Ultrasonic Bath combined with shaking device, with / without chiller

PCI Analytics offers choice of Ultrasonic Bath in various capacities in Liters with / without Chiller & with / without mechanical shaker and combination of Sonicator + Shaker + Chiller as a unique product to suit variety of applications in the laboratory.

Features Shaking Frequencies

The samples can be sonicated either for a selected period or in continuous mode. Quick degassing using the Degassing function is also possible. With a setting of different shaking frequencies, the shaking device enables gentle to vigorous reciprocating motion upto a maximum of 20 mm and 100 rpm. Both procedures can be carried out simultaneously or seperately.

For example, a sample can be pre-homogenized at a specified shaking frequency and then final homogenization can be achieved in a very short time using ultrasound.

PROBE SONICATOR (ADVANCED)

PreCiSonic™
(PreCision Ultrasonic Bath,Probe Sonicators)

Titanium Tip / Rod

Model Features

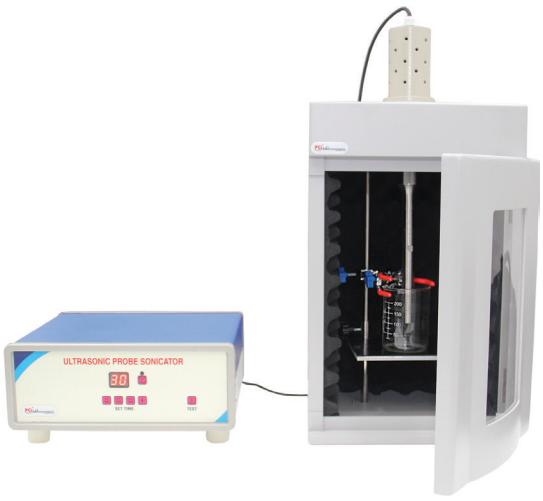
- Auto frequency chasing, avoiding adjustment liquid crystal display at peak value.
- Convenient operation.
- Display temperature control checking and set over-hot protection on the samples.
- Output amplitude 0-100% adjustment.
- Overlead protection, so that equipment can not be damaged.
- 10 operation programs for application or reserve after refreshing.

Specification

- Working Voltage : 220-240 VAC, 50-60 Hz
- Timing Mode Working Time Clocking : 0~59 mins. 59 seconds.
- Counting Mode Ultrasonic Working Times : 0~149 Times.
- Ultrasonic Time Scope : 0~10 seconds.
- Interval Time Scope : 0~10 seconds.
  : The interval time = 0s is for Ultrasonic Continuous Working
- Power Adjustment Scope : 0~99% of the rated power.
- Temperature Setting Scope : 0~59 °C
- Time Control Precision : 1S + 0.1%
- Temperature Control Precision : ±1°C
- Over temperature protection & alarming functions.
- Ultrasonic output intensity automatic restriction functions.

Model	PKS 250F	PKS 500F	PKS 750F	PKS 900F	PKS 1200F	PKS 1800F
Ultrasonic Wave Power (Watt)	250	500	750	900	1200	1800
Available Probe Tips Dia. in mm	3,6,8 10	3,6, 8,10	3,6,8, 10,15	3,6,8, 15,20	10,15, 20,25	15,20, 25
Pulverizing Volume (ml)	0.5-200	0.5-400	0.5-600	0.5-600	50-1000	550-1200

PROBE SONICATOR MODEL : PS-120 W



This Velocity Horn is used for THE PROCESSING APPLICATIONS. Ultrasonic processor (Probe sonicator is a tool specially designed for Pharmaceutical, Chemical Labs & various research institutes, colleges, universities.

Some of its applications are

- Tissue Processing (Plant & Animal Tissues)
- Emulsification of Immiscible Liquids.
- De-gassing & De-aerating of Liquids.
- Formulations.
- Particle Dispersion
- In small volume batches of upto 250 ml.

Advantages

- Homogenization, Micro Fined Emulsion.
- More stable compared to other processes.
- Very Flexible. It can easily be transferred from one batch to other without intermediatory operations like emptying, cleaning & refilling. Ultrasonic Processor can be transported to various locations of sample operations.

Ultrasonic Processor Consists of

(A) Ultrasonic Generator to produce high ultrasonic frequency of 20 KHz and an Ultrasonic Power 120 watts.
(B) Velocity Horn fitted with PZT Crystals (Transducer Elements). This Velocity Horn assembly converts the electrical energy fed from the Ultrasonic Generator to mechanical vibrations at the rate of applied electrical frequency. The amplitude of these mechanical vibrations are magnified by this Velocity Horn.

Principle of Ultrasonic Processor

High frequency vibrations are produced by the Titanium velocity Horn which is immersed into liquid to be processed. The vibrations give raise to millions of Intense Microscopic Vacuum Bubbles which form & implode at a very high rate. This phenomenon is known as 'CAVITATION'. Cavitation give rise to intense Local Pressure Waves & Micro Streaming of liquid round the points of collapse. This in turn produces High Shear gradients which are responsible for the above stated applications.

Model	Sample Capacity	Probe Size	Frequency	Wattage
PS120W	5 ml - 250 ml	6,12	20 khz	120 watts

HPLC COLUMN OVENS

MODEL : HCO-02

For Mounting 2 column of 300mm length with Complete Micro Controller / PID Controller with Special features, which can be adjusted by end user through front panel feather touch Keys

Technical Specification

- Temperature Range:- + 5° above ambient to 100°C
- Accuracy :- +/- 0.1°C
- Control Action :- Complete PID controller with low & high temp calibration facility, PID parameter & Temp Overshoot facility (Settable)
- Oven Heating type: Block Heater Type
- Stabilization time: 15 min.
- Sensor Fail/Break : No power to oven heater & 'SO' indication on front display
- Control Output : 3 Amp SSR Output, 230 V, resistive load
- Status Indication : By 2 LEDs (Heater ON, Alarm Buzzer ON)
- Key Board : Feather touch keys
- Programme memory : Non-Volatile memory for set temp. & other parameters
- Power Supply : 230 V AC +/- 10%, 50 Hz, 120VA
- Oven Accomodate : 30 cm long colum or small colums with guard column
- Oven Mounting : Vertical or Horizontal
- Size (for HCO-02) : 105 x 118 x 425 mm
- Weight : 8 kg (Approx)

MODEL : HCO-04

For Mounting 3 column of 300mm length with Complete Micro Controller / PID Controller with Special features, which can be adjusted by end user through front panel feather touch Keys

Technical Specification

- Temperature Range:- + 5° above ambient to 100°C
- Accuracy :- +/- 0.1°C
- Control Action :- Complete PID controller with low & high temp calibration facility, PID parameter & Temp Overshoot facility (Settable)
- Oven Heating type: forced air circulation
- Stabilization time: 15 min.
- Sensor Fail/Break : No power to oven heater & 'SO' indication on front display
- Control Output : 3 Amp SSR Output, 230 V, resistive load
- Status Indication : By 2 LEDs (Heater ON, Alarm Buzzer ON)
- Key Board : Feather touch keys
- Programme memory : Non-Volatile memory for set temp. & other parameters
- Power Supply : 230 V AC +/- 10%, 50 Hz, 120VA
- Oven Accomodate : 30 cm long column or small column with guard column
- Oven Mounting : Vertical or Horizontal
- Size (for HCO-04) : 165 x 310 x 508 mm
- Weight : 9 kg (Approx)

Salient Features

- Precise Temperature Control
- Digital display of set & actual temperature
- Insures reproducible analysis
- Accepts varieties of column sizes
- Assures safe, accurate control action

Model Selection

- HCO-02 : Inbuild temperature controller & oven
- HCO-04 : Force air circulation heating type oven

Consist of

- Micro controller based / PID temperature controller
- Oven module

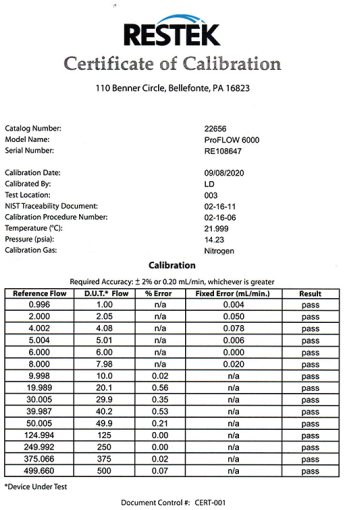
DIGITAL GAS FLOW METER DFM-08 (RESTEK PROFLOW-6000)

MODEL :
DFM-08 (Restek ProFLOW-6000)

Technical Specification

• Type of Measurement	: Volumetric Flow
• Accuracy of Measurements	: ± 2% of flow reading or ± 0.2 ml/min. whichever is greater
• Power Requirements	: 2 AA alkaline batteries 1.5 V DC each / 3 V DC 200 ma
• Operating Flow Range	: 1 to 500 ml/min.
• Operating Temperature Range	: 0° - 48° C
• Available Communication	: USB data port
• Warranty	: 1 Years
• Calibration	: NIST traceable. Yearly calibration is recommended
• Certification	: CE, Ex
• Compliance	: WEEE, RoHS

PC Control System : Gas Flow Management System (GFMS 5.0)



RESTEK

Certificate of Calibration

110 Benner Circle, Bellefonte, PA 16823

Catalog Number:	22656
Model Name:	ProFLOW 6000
Serial Number:	RE108647
Calibration Date:	09/08/2020
Calibrated By:	LD
Test Location:	003
NIST Traceability Document:	02-16-11
Calibration Procedure Number:	02-16-06
Temperature (°C):	21.999
Pressure (psia):	14.23
Calibration Gas:	Nitrogen

Calibration

Required Accuracy: ± 2% or 0.20 mL/min, whichever is greater

Reference Flow	D.U.T.* Flow	% Error	Fixed Error (mL/min.)	Result
0.996	1.00	n/a	0.004	pass
2.000	2.05	n/a	0.050	pass
4.002	4.08	n/a	0.078	pass
5.004	5.01	n/a	0.006	pass
6.000	6.00	n/a	0.000	pass
8.000	7.98	n/a	0.020	pass
9.998	10.0	0.02	n/a	pass
19.989	20.1	0.56	n/a	pass
30.005	29.9	0.35	n/a	pass
39.987	40.2	0.53	n/a	pass
50.005	49.9	0.21	n/a	pass
124.994	125	0.00	n/a	pass
249.992	250	0.00	n/a	pass
375.066	375	0.02	n/a	pass
499.660	500	0.07	n/a	pass

*Device Under Test

Document Control #: CERT-001

Salient Features

- Flow for gases across a range of 1-500 ml/min.
- Yearly Calibration
- Over-range warning indicator
- Auto shutoff feature
- Ergonomic design and side grips for comfort
- Use as a benchtop or handheld unit
- Measures most gas types
- Convenient carrying / storage case included
- Uses 2 AA batteries (included)
- Data output via USB port

PRECIMATE-200

Salient Features

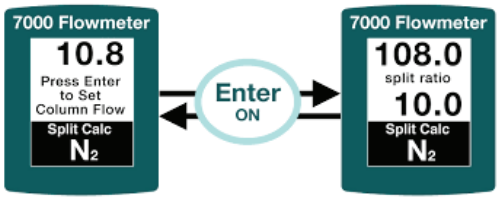
- USB port output from Gas Flow Meter is used to collect data.
- Run /Header button press on keypad, causes reading to
- smartcoming at 10 sec. interval after the 10th reading Footer is automatically printed.
- On LCD the Date & Time is displayed.
- Printer used is two inch thermal printer with only 32 characters in one line.
- Printer name with its MAC ID is displayed on LCD.
- System holds Date & Time using chip CMOS.
- 9V 2A adapter powers the system.

Specifications

- Input : 100V-240V AC
- Printer : Thermal Paper
- LCD : 16 x 2 LCD Panel
- Keypad : 4 X 4 Matrix Keypad
- Extra Serial Port is provided to connect plain paper printer.

DIGITAL GAS FLOW METER DFM-05 (ELLUTIA 7000 GC FLOWMETER)

MODEL : DFM-05 (Ellutia 7000 GC Flowmeter)



Salient Features

Accurate & repeatable gas flow measurements are a crucial part of obtaining good results from the gas chromatograph. The new DFM-05 flow meter makes gas flow measurement easier and more accurate, helping to eliminate user errors.

Linear Velocity

The user is able to select their column diameter in the options menu, the linear velocity can then be calculated and displayed. The user can easily switch between standard flow and linear velocity with a single button press.

Split Flow Calculation

Split flow mode allows the user to measure and store a column flow, the user can then measure the split flow and the DFM-05 flowmeter displays both the flow rate and the split ratio.

Specification

- Range : 5 to 500 ml/min. (1 to 275 ml/min. for Carbon Dioxide)
- Resolution : 0.1 ml/min
- Accuracy : ± 0.4 ml/min. or 2.5% of reading (whichever is greater)
- Gases : Air, Argon, Argon / 5% Methane, Carbon Dioxide, Helium, Hydrogen, Nitrogen, Oxygen
- Size : 68 x 130 x 30 mm
- Weight : 150 gm
- Calibration : Annually
- Traceability : Calibration traceable to UKAS standards

DIGITAL GAS FLOW METERS DFM-06

MODEL : DFM-06

Technical Specifications

• Flow Range	: DFM-06 : 10 ml/min. to 400 ml/min. with least count of 0.1 ml/min. (auto range)
• Accuracy	: ±2% of reading, ±1 digit
• Power Supply	: 230 V AC, 50 Hz, 10W
• Resolution	: 0.1 ml/min. & 1 ml/min.
• Dimensions	: DFM-06 : 20 cm (H) x 10 cm (W) x 4 cm (D)
• Optional Attachment	: Battery operated rechargeable system

Salient Features

- Direct Digital Readout
- Microcontroller Based
- Digital Display of LED/LCD
- Highly Accurate & Fast Readout
- Useful for measuring any gas flow rate specially for G.C. & Analytical instruments
- Easy to Operate
- Free of Operational & Human Errors
- DFM-06 - Portable (Direct Measurement) is direct flow measurement based & battery operated

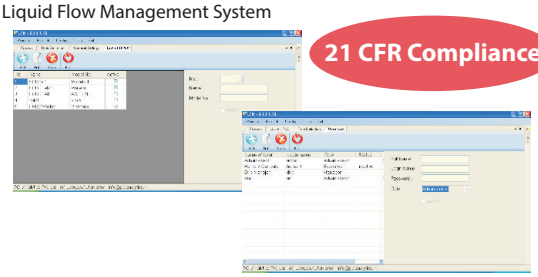
HPLC LIQUID FLOW METER

MODEL : LFM 02

- The ideal instrument for IQ / OQ / PQ and troubleshooting
- Accurate to 1% of reading with guaranteed linearity from 0.05 to 25.00 ml/min.
- Durable and easy to use with any HPLC pump
- Easy diagnosis of leaking piston seals or malfunctioning check valves
- Automatic data transfer
  - Dramatically simplify liquid flow rate data collection for HPLC / IQ / OQ / PQ
  - Collect flow rate data via RS232 or with a optional battery powered mini Printer, or with Software
- Specially designed software collects the data received into a database. Gives average reading, standard deviation & many more features

The handy carrying case allows for convenient transportation as well as added protection

Liquid Flow Management System



21 CFR Compliance

User Creation Screen

PCI is pleased to introduce the HPLC Liquid Flow Meter & Data Recorders

The digital liquid flow meter accurately & reliably determines liquid flow. It is designed primarily as a flow meter for HPLC systems. Our liquid flow meter has the following features:

- New PEEK valve which is fitted with a soft elastomer seal and teflon diaphragm.
- The newly designed sensor head is more stable.
- The inlet pipe - is made with a 1/16 " diameter PEEK tube.
- New modern looking and light weight brushed aluminium case. The total unit now is very light weight.

The instrument measures liquid flow over a wide range, from 50µl/min to 25 ml/min. You can see the working flow ranges & accuracy in the table below. Flow rate is measured by volume & is independent of the liquid type upto a viscosity of 10 centipoise.

The unit uses a single chip micro-controller. The flow rate (rounded to four digits) is displayed on a large four digit back-lit Liquid Crystal Display (LCD) & data can be conveniently output via the build-in RS232 interface to the full 6 digit reading. No user calibration is required; the unit is generally supplied gravimetrically calibrated at 1.0 (+10%) ml/min. Calibration at multiple points is available. All wetted parts are made of PTFE, PEEK, DAI-EL PERFLOUR or Pyrex glass. There are no wetted metallic parts.

All instruments are supplied with the following :

- Main 'wall block' power supply with a choice of 240V 3 pin UK, 230V 2 pin European or 100V 2 pin USA / Japan.
- RS232 input / output cable : 8 way mini-din plug to PC COM port 9 pin female.
- UKAS traceable flow calibration certificate is supplied. (UKAS is the UK equivalent of NIST)
- Universal mounting kit : allows free standing mount, wall mounting, 'stack system' mounting and bottle top mount.
- Black plastic carrying case with foam inserts. All parts of the mounting kit are packed within the carrying case.
- Cleaning kit now supplied with the flow meter.

Specification for HPLC Liquid Flow Meter

- Reading update time
  - 15 sec @ 2 ml/min.
  - 25 sec @ 1 ml/min.
  - 45 sec @ 0.5 ml/min.
- Range : 0.05 to 25 ml/min.
- Measuring volume - 140 µl
- Size : 138 mm x 76 mm x 45 mm
- Accuracy : better than 1% of reading
- Priming volume - 250 µl
- Weight - 320g, 12 oz
- LCD Display - (12.7 mm) - 4 digits and 3 status symbols
- RS232 output - (6 digits) XX.XXXX ml/min.
- UKAS traceable calibration certificate

UNIVERSAL ELECTRONIC MODULE

Model : EM UV-200

Printer

SPECIFICATION	
Microcontroller based Electronic Module	For any instruments with Serial / USB /
	COM ports to print Data to Serial printers.
Header generation	(a. 35 characters per line including blanks)
	(b. 2 lines programmable information)
	(c. 3 lines fixed information)
Display	2 Lines LCD display, 16 Characters per Line.
Keypad	Feather touch Keypad.
Modes of operation	Program, Set mode and Run mode.
Calendar & Real time clock	Internal Day, Date DD-MM-YYYY and Time HH:MM:SS
Communication protocol	Standard RS 232/485 serial Com port
Power supply	9V DC / 500 mA regulated supply.
Programming Interface	Standard Windows HyperTerminal or compatible program.
Data Count	Can set the readings from One to Max 10 readings .
Data process Memory	Rounding off of 4th digit to match display.

DIGITAL LIQUID FLOW METER

MODEL : LFM-11

The digital liquid flow meter accurately & reliably determines liquid flow. It is designed primarily as a flow meter for HPLC systems. Our liquid flow meter has the following features:

Specification

- HPLC Liquid Flow Meter (Model LFM-11)
- Range: 0.1 to 15ml/min calibrated 0.50, 1.0, 2.0 ml/min, (THREE POINT CALIBRATION) Supplied with Factory calibrated for H2O by gravimetric method using NABL certified Analytical Balance
- Sensor calibrated for H2O and IPA
- Resolution 0.001
- CMOS chip technology sensor
- Real time Flow reading
- Reading up to 3 place of decimal; 1.000ml/min
- Backlit LCD Display
- 12V DC operation
- Flexible to operate
- Single button operation
- Serial Printer Interface with report printout including date time stamp in the report

** Four / Five Point Calibration also available*

ECOM
HPLC FROM PRAGUE

ECP2050 / ECP2200 / ECP2300

PREPARATIVE HPLC PUMPS Is a series of three pumps with a flow-rate range up to 50, 250 and 300 ml/min. These pumps work as isocratic pump and together with Gradient Box also as gradient pump.

ECB2007, ECB2007PC (ECB2005, ECB2005PC) Gradient Box is equipped with four way gradient mixing valve and must be ordered together with the pump.

These pumps are suited for preparative applications in liquid chromatography. There are designed with main and auxiliary pump heads connected in parallel with a piston diameter of 3/8". New sophisticated unit allows achieving a precise low-pressure gradient, i.e. gradual changes of solvent composition by mixing up to four liquids at the pump's entry. It is also possible to predefine percentage of composition when using the pump in isocratic mode. The gradient profile can be defined from computer or manually using display and keypad. There are many improvements which make pumps more reliable include a new learning algorithm for pulsation suppression; leakage sensor etc.

When necessary, it is possible to use back washing of pistons (e.g. when using buffered mobile phase). Pump is supported by ECOMAC and Clarity software. All pumps are delivered with GFP (PTFE) seals a default, recommended optimal seals are UHMW-PE seals, ask for more information.

TECHNICAL PARAMETERS:	ECP2050	ECP2200	ECP2300
Part number	ACC0000X	ACHE000X	ACE0000X
Flow rate	0.1 – 50 ml/min	0.5 – 250 ml/min	0.6 – 300 ml/min
Maximum operating pressure	30 MPa (4351 psi)	30 MPa (4351 psi) up to 100 ml/min;15 MPa (2176 psi) at 250 ml/min	15 MPa (2176 psi)
Precision of pressure measurement	± 2%		
Flow rate setting	0.1 ml/min steps	0.1 ml/min steps	0.1 ml/min steps
Repeatability of flow rate adjusting*	0.5 %	± 1 %	± 0.5 %
Accuracy of flow rate setting*		± 2 %	
Upper pressure limit (MPa)	1– 30 (4351 psi)	1– 30 (4351 psi)	1– 15 (2176 psi)
Wetted materials	stainless steel, PEEK, TefzelTM, PE, ceramic, seals		
Control	RS232, Ethernet(LAN), USB		
Power supply	100-240V 50/60Hz 100VA	100-240V 50/60Hz 250VA	100-240V 50/60Hz 200VA
Supported Gradient Box	ECB2007, ECB2007PC	ECB2005, ECB2005PC	ECB2005, ECB2005PC
Dimensions (W x H x D)	280 x 135 x 498 mm (11.02 x 5.12 x 18.23 in)		
Weight	12 kg (26,5 lb)	13.5 kg (30 lb)	13 kg (28.7 lb)
Output capillary outer diameter	1/16"	1/8"	1/8"
Input tubing outer diameter	1/8"	3/16"	3/16"

**10 ml/min. 12 MPa H2O (ECP2050), 100 ml/min 15 MPa H2O (ECP2200), 150 ml/min. 7.5 MPa H2O (ECP2300)*

ECOM
HPLC FROM PRAGUE

ECP2011S / ECP2011SP

Single piston pump with flow rate of 0.02-10.00 ml/min and limit of pressure at 40 MPa is suited for columns washing and columns regeneration process in liquid chromatography. It is designed with piston diameter of 1/8".

This pump may be used in classical analytical applications where pulsation does not matter. Pulsation can be eliminated by pulse dampers. Completely new concept of electronic control and drive of pump allows using it as standalone unit, as well as in PC controlled systems.

OLED display allows to watch (also from a distance) actual pressure or flow rate settings. When working with buffered solvents, it is possible to use piston back washing.

Intuitive operating using simple keypad allows easy selection of functions for both pump version:
- Fow rate
- Maximal flow rate - PURGE (for priming and washing)
- Display brightness

For ECP2011SP only
- High pressure limit
- Setting pressure sensor zero
- Pressure unit change (MPa, PSI, bar)

SPECIFICATION

	ECP2011S (without pressure sensor)	**ECP2011SP** (with pressure sensor)
Part number	ACKS000X	ACLS000X
Flow rate	0.02 – 10.00 ml/min.	
Pumping system	One piston dia. 1/8"	
Maximum operating pressure	40 MPa (5800 PSI, 400 bar)	
Accuracy of flow-rate (1ml/min. 12MPa H2O)	± 2 %	
Repeatability of flow-rate (1ml/min. 12MPa H2O)	± 0.5 %	
Accuracy of pressure measurement	Not available	± 2 %
Adjustable upper pressure limit	Not available	1.0 – 40.0 MPa
Wetted materials	Stainless steel, ceramic, PEEK, seals*	
Communication	RS232	
Display, keypad	OLED 2.4" 128x64 pixels, 10 pushbuttons	
Power supply	100-240V 50/60Hz 60VA	
Dimensions (w x h x d)	200 x 136 x 230 mm (7.87 x 5.35 x 9.06 in)	
Weight	4.68 kg (10.32 lb)	

** Seals material: default is GFP (PTFE), recommended optimal seals material are UHMW-PE seals, ask for more information.*

HPLC COLUMN WASHING PUMP

LCP 100

The high performance liquid chromatography (HPLC) pump is designed to be a reliable component within a basic analytical or sophisticated research instuments. While ideal for HPLC applications the pump is also useful as a metering pump for general laboratory or industrial use.

The flow rate of the pump fitted with a standard 10 ml pump head can be set in 0.1 ml increments form 0.1 to 10.0 ml/min; size is available in type 316 stainless steel.

The low pulsation flow produced by the reciprocating, single piston pump is achieved by using an advanced rapid cam design, programmed stepper motor acceleration.

Specifications

- Flow Rate : 0.1 to 10.000 mL/min for 10 mL/min head
- Pressure : 0 to 6,000 psi
- Flow accuracy : ± 5% for a flow rate of 0.1 to 10.000 mL/min, with 100% water @ 1000 psi
- Dimensions : 5.5" high x 10.375" wide x 17.5" deep
- Weight : 24 lb
- Power : 100-120 VAC, 50-60 Hz; or 220-240 VAC, 50-60 Hz
- Features : 4 line LCD display, Splash proof keypad, Prime purge valve, Auto stop timer, Service mode
- Optional : Pulse damper
- Nos of column : Upto 4 column can be washed simultaneously
- Remote inputs : RS-232

** Dual piston pump is also available*

Solid Sampling

Hydraulic Press

Automatic Press
MODEL : HP-15TA

Manual Press
MODEL : HP-15TM

Mini-Pellet Press
MODEL : HP-Mini

Manual Press

- A Complete Laboratory hydraulic press producing a force about 15 tones use to make high quality 13 mm pallet used for IR / FTIR / XRF solid sampling.
- 15 ton laboratory hydraulic pallet press is a compact, elegant and robust machine, typically used by R&D & QC labs for various pelletizing applications for IR / XRF etc.
- The high pressure pumping unit supplies hydraulic fluid to the up-stroking ram of the cylinder. This causes the ram to rise steadily and positively in the upward direction. As a result, pressure is applied on any object placed between screw and piston top plate.

Mini-Pellet Press

- Full hydraulic operation and integrated pressure guage
- Simple operation requiring minimal training
- Small and light weight
- Low cost of ownership
- Ideal for FTIR / KBr pellet preparation

Automatic Press

- Compact design and easy to operate electrical controls with pressing and ejection cycle.
- Pressing cycle has both auto and manual modes whereas ejection cycle has only manual (inching) mode
- Settable Parameters : Pressure, hold time & ram retracting time.
- Safety mechanisms to avoid over pressure & excessing ram stroke.
- Transperent polycarbonate safety guard has been provided in the area of operation
- Emergency Stop button to cut-off electrical supply (if required)
- Reputed MCB, overload relay & relay contactors are included in the Control-panel for electrical safety.
- Press is enclosed in a powder coated metallic cover, which is easily removable for maintenance purpose.

KBr Die Set

Most commonly used Die for IR/FTIR for solid sampling of 13 mm pallet size consist on Anvil & Plunger, Top & Bottom Die Port, Extractor Ring, Oring.
Other sizes like 10 mm, 20 mm also available.

Pellet Holder

Agate Mortar Pestle

The pellet holder is use to hold pallet (13 mm) of KBr, suitable to any IR / FTIR
Agate, Motar pestle use to prepare sample.

Dry Box (Thermostatic / PID Controller)

KBr Powder & Nujol Mull

MODEL : DB-02

MODEL : DB-01

The ideal method of storage of FTIR/XRF accessories which are affected by moisture since highly Hygroscopic in nature, which are to be stored in dry box.

- Input Voltage : 230 V AC, 50 Hz
- Dimensions : 407 L x 229 W x 368 H for **DB-02**
  : 400 L x 210 W x 18 H for **DB-01**
- Temperature : Ambient +5°C to 70 °C-DB-02
  Ambient +5°C to 45 °C-DB-01

Liquid Sampling

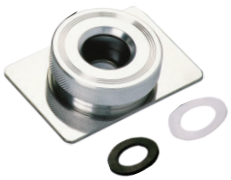
Nacl / KBr Windows

Universal Liquid Cell Holder (Demountable / Fixed Thickness)

Nacl / KBr windows is available in circular & Rectangular shape.
Standard sizes :
Circular : dia 25 x 4 mm thickness
Rectangular : 38 x 19 x 4 mm
Other windows like AgCL & CaF_2 & other dimensions also available.

Universal Liquid Cell Hoder
(Demountable / Fixed Thickness)

Universal Liquid Cell Holder



Mull Cell Holder

The cell holder is used to mount circular as well as rectangular windows & it can be used as Demountable Cell & Fixed Thickness Cell using different spacers supplied along with teflon washers of different sizes. Mull cell holder is used to mount circular window & for mull samples. Cell holder are supplied along with assorted spaces of size 0.1 mm, 0.2 mm, 0.5 mm & 1 mm.

PcolSafe®
(Column Safety Cabinets)

CSC 50MS

CSC 50SS

Specification

- **CSC 50**
  - Capacity : 50 HPLC column
  - Dimensions (WxHxD) : 295 x 380 x 410 mm
  - No. of Drawers : 5 drawers
- **CSC 100**
  - Capacity : 100 HPLC column
  - Dimensions (WxHxD) : 600 x 400 x 400 mm
  - No. of Drawers : 5 drawers
- **CSC 150**
  - Capacity : 150 HPLC column
  - Dimensions (WxHxD) : 600 x 500x 400 mm
  - No. of Drawers : 6 drawers
- **CSC 200**
  - Capacity : 200 HPLC column
  - Dimensions (WxHxD) : 600 x 600 x 400 mm
  - No. of Drawers : 8 drawers

Available in 4 Sizes (Standard)
- Column storage 50,100,150 & 200
- Also available 300, 400, 500 & 1000 columns

Stackable
Unique stacking kit allows increase the number of columns you can store at any time

100% Steel Cabinet
Quality, Solid Steel Construction with chrome plated O-Ring handles

Versatile
Store upto 12 x 12.5 cm columns in a single drawer, or a combination of short columns, guard columns & analytical columns. Holds all columns upto 30 cm long

Special size available as per requirement

Stainless Steel (SS) cabinet also available

Colour Options (Red / Blue / Gray / Off White)

CSC 50

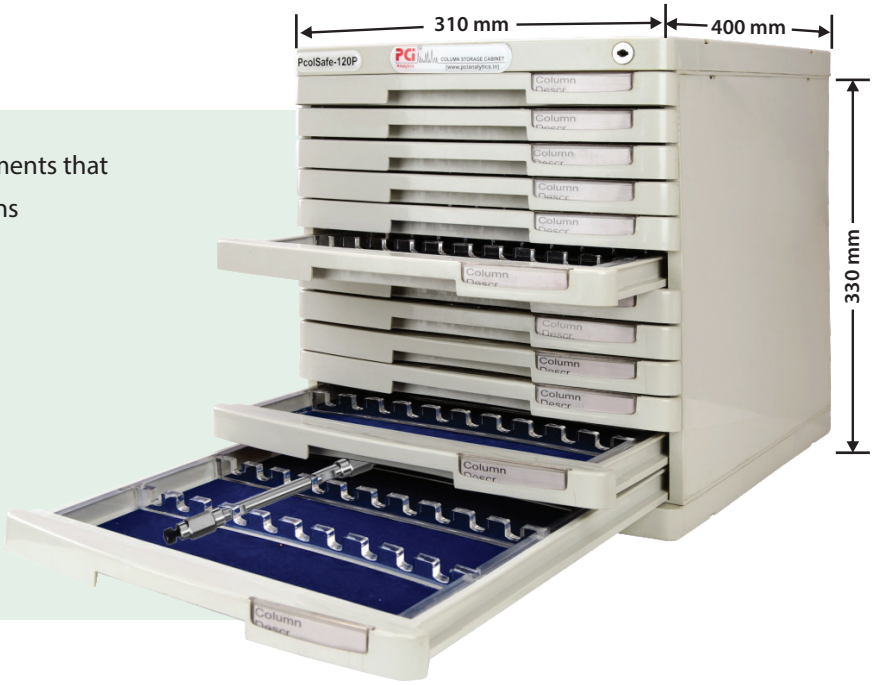
CSC 150

CSC 200 / CSC 250
CSC 500 / CSC 1000

HPLC COLUMN SAFETY CABINET

PcolSafe®-CSC120P

(Column Safety Cabinet)



- Cabinet has a total of 120 Adjustable Compartments that have dividers to fit most analytical HPLC columns
- Each tray comes with an acrylic column holder
- **Construction** : Easy to clean ABS (Plastic)
- **Dimension in mm** : 310 (W) x 330 (H) x 400 (D)
- **No. of drawers** : 12 drawers
- **Weight** : 10 kgs Approx
- **Capacity** : Adjustable upto 120 column space
- **Central Lock**
- **ID Label Space on each tray**

GC COLUMN SAFETY CABINETS

PcolSafe®-GC

(Column Safety Cabinet)

MODEL
CSC 5

- Safe column organizer cabinet for capillary columns
- 5 Drawers for each capillary column
- Each drawer provided with soft cushioning for safety of capillary columns from jerks & shocks
- **MOC** : MS Powder coated
- **Central Lock**

MODEL
CSC 10

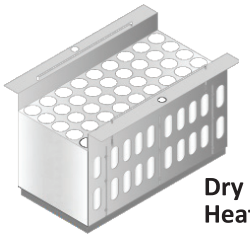
Specification

- **CSC 5**
  - Capacity : 5 GC column
  - Dimensions (WxHxD) : 295 x 590 x 410 mm
  - No. of Drawers : 5 drawers
- **CSC 10**
  - Capacity : 10 GC column
  - Dimensions (WxHxD) : 850 x 600 x 420 mm
  - No. of Drawers : 5 drawers (2 Capillary columns storage per drawer)

NITROGEN CONCENTRATOR / SAMPLE EVAPORATOR

PreCiVap™
(PreCision Nitrogen Evaporator / Concentrators)

MODEL : EV-PLUS-50



Dry Heating

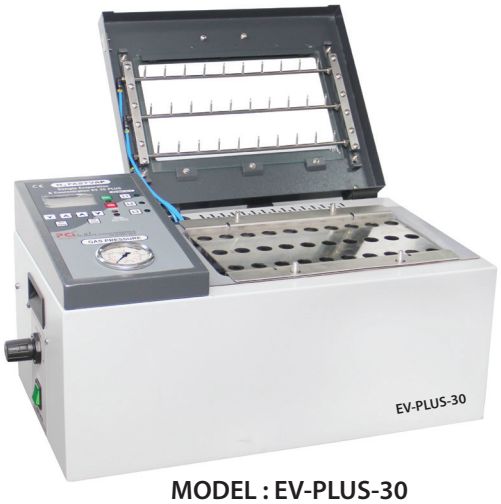
For Dry Model: EV-PLUS-DRY

Nitrogen Concentrator is a Precision Sample Concentrator by Nitrogen Purging. It is newly designed Sample Concentrator for multiple sample pre-concentration of samples in organic media. A tabletop model, the unit can be set to a constant flow and constant temperature to ensure good evaporation.

Technical Specifications

- Space Requirements : Table top or fume hood with minimum dimension L, W & H (cms) 70 x 50 x 65 and table weight capacity 35 kg.
- Work Area : Flat levelled and stable surface
- Power Supply : 230 AC / 5 Amp single phase stable and well grounded.
- Gas Supply : Laboratory grade nitrogen
- Inlet Pressure : 60 PSI minimum, 100 PSI maximum (And ON / OFF control valve)
- Exhaust : Exhaust duct outlet or fume hood - the exhaust duct must go outside the lab.
- Water Bath Capacity : 6.5 Ltr. distilled water (6.5 Ltr. do not over flow)

Note : Do not operate the instrument without the exhaust duct.



MODEL : EV-PLUS-30

Product Specifications for Model : EV-PLUS-50

- Time Range : 15 sec to 10 hours
- Time Set Up / Down arrow keys (15 sec increments)
- Temperature Range : Ambient to 90°C (thermal cutout for safety)
- Temperature Set Up / Down arrow keys (1°C increment)
- Start / Stop : Green LED indication when process is On
- Display : LCD (Digital)
- Gas Stations : 5 Nos. with LED indication (3 Gas stations for EV-PLUS-30)
- Pressure Regulator Range : 0 to 100 PSI (approximate)
- Pressure Gauge Range : 0 to 100 PSI
- Controlled : Fully Microprocessor Based
- Sample Capacity : 50 Nos.
- Gas Line : 5 Nos. (1-10 samples per line,nozzle caps provided)
- Water Tank Capacity : 6.5 Ltr, (Not over flow)
- Dimensions : 600 (L) x 520 (H) x 400 (W) mm
- Weight : 25 kgs. (Empty tank)
- Exhaust : Built-in exhaust, no fume hood required
- Power Supply : 230 V AC / 6 Amp
- Error Indication : LED indication with Buzzer

** Available models are : 30, 50, 100 & 144*

Rack Specifications for Model EV-Plus-50

Rack Type	Working Volumes
12 mm x 75 mm	4 ml
12 mm x 100 mm	5 ml
16 mm x 100 mm (Standard)	10 ml
15 mm x 125 mm	11 ml
15 mm x 150 mm	12 ml
17 mm x 125 mm	15 ml
18 mm x 150 mm	20 ml
20 mm x 150 mm	30 ml

MODEL : EV-PLUS-100

100 Samples Concentrator

- Work Area : Flat levelled and stable surface
- Gas Supply : Laboratory Grade Nitrogen
- Inlet Pressure : minimum 60 - maximum 100 PSI (And ON / OFF control valve)
- Exhaust : Built-in exhaust, no fume hood required
- Water Bath Capacity : 11 Ltr. distilled water
- Sample Capacity : 100 Nos.
- Gas Stations : 10 Nos. with LED indication

NITROGEN CONCENTRATOR / SAMPLE EVAPORATOR

Low Volume Concentrator 144 Samples Model : EV-Plus-144

- Timer Range : 15 sec to 10 hours
- Time set up/down arrow keys (15 sec increments)
- Temperature Range : Ambient to 90°
- Temperature set up/down keys (1° increment)
- Digital LCD display
- Gas Station : 12 Nos. with LED indication
- Gas regulator range : 0 to 100 psi (approx.
- Pressure gauge range : 0 to 100 psi
- Fully microproprocessor control
- Gas line : 12
- Water tanks capacity : 6.5 Ltr.
- S.S Rack 16mm x 100 mm Test Tube
- Standard fittings like Nuts, Ferrules,Union, Couplings, clamps, Hardware etc.

PreCiVap™
(PreCision Nitrogen Evaporator / Concentrators)

MODEL : EV-PLUS-144

HIGH VOLUME CONCENTRATOR

MODEL : EV-PLUS-08

High Volume Concentrator / N2 Evaporator Model : EV-PLUS-08
To accomodate 8 Nos. Beaker 200 ml capacity. Microprocessor based, water bath with adjustable temperature and timer for purging Nitrogen Gas with individually controlled sample concentration.

SS Rack accomodate Beakers as mentioned.

Rack Type	Working Volumes
50 x 70 mm - 100 ml Beaker	80 ml
60 x 80 mm - 150 ml Beaker	120 ml
70 x 95 mm - 250 ml Beaker	200 ml

WELL PLATE CONCENTRATOR

MODEL : 96 X 2 WP

Nitrogen Concentrator/Evaporator 96 x 2 WELL PLATE

- Model : EV-PLUS 96 X 2 WP
- Capacity : One Standard 96 x 2 well plates Max.
- Sample volume : 1 mL (as per WP specs)
- Well plate Bay : 2 included as per requirement
- Number of Samples : Single Well plate of 96 samples
- Heating : Block Heating
- Timer Range : 1 to 99 minutes/indefinite Gas Regulator and Gas Gauge
- Range : 0 to 20 psi
- Gas Supply Requirements : Min. inlet pressure 60 psi, Max. inlet pressure 100 psi
- Exhaust Port : In-built ,
- Duct hose provided Power Requirements : 230 VAC at 50 Hz Net
- Weight : 15 kg Approx
- Technology : Vortex technology
- Gas control : Single input

POSITIVE PRESSURE PROCESSOR FOR SOLID PHASE EXTRACTIONS

Solid Phase Extraction is today's chosen method of sample preparation across all Bio-Analytical and Bio-Equivalence studies Laboratories and even Food Assay Laboratories, Toxicological Testing Laboratories.

Several technique of speeding the sample preparation work have been designed and implemented, however the Positive Pressure Manifold for Solid Phase Extraction remain unmatched is speed, uniformity, ease of operation and convenience to the user.

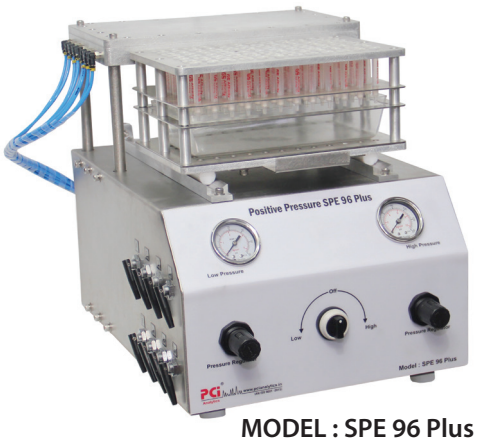
PCI Analytics positive pressure SPE sample processor is 100% indigenously developed and successfully tested.

Each of the 96 holes in the processor manifold are restricted in order to maintain constant pressure, even if all the tube positions are not filled. SPE Sample processing by positive pressure significantly improves the flow of viscous samples like plasma / serum through SPE packed bed by providing highly uniform flow from tube to tube which will ultimately improve the reproducibility of analytes SPE recoveries.

MODEL : SPE 48 Plus

Technical Specifications

- No of positions : 48 individually regulated
- No of Rows : 4
- No of positions in each row : 12
- Cartridge size : 1mL (Standard)
- Dual settings allow users to set different pressures for extraction and column drying
- 1 Collection Rack for specific test tubes size
- Includes waste reservoir with assembly to allow for waste
- Single switch raises and lowers the sample racks and creates an airtight seal



MODEL : SPE 96 Plus

Technical Specifications

- No of positions : 96 individually regulated
- No of Rows : 8
- No of positions in each row : 12
- Cartridge size : 1mL (Standard)
- Dual settings allow users to set different pressures for extraction and column drying
- 1 Collection Rack for specific test tubes size
- Includes waste reservoir with assembly to allow for waste
- Single switch raises and lowers the sample racks and creates an airtight seal

MODEL : SPE 144 Plus

Technical Specifications

- No of positions : 144 individually regulated
- No of Rows : 12
- No of positions in each row : 12
- Cartridge size : 1mL (Standard)
- Dual settings allow users to set different pressures for extraction and column drying
- 1 Collection Rack for specific test tubes size
- Includes waste reservoir with assembly to allow for waste
- Single switch raises and lowers the sample racks and creates an airtight seal

** Negative pressure SPE also available*

Benefits of PCI Analytics SPE Processor

- PCI Analytics Positive Pressure Manifold offers more sample control over traditional vaccum manifolds, providing tgreater confidence in the data generated.
- Easy to set-up and use : Only one gas source at all pressures. No training is required to operate.
- Reproducible Extractions : Positive pressure fine regulators improve flow control, and reproducibility.
- Inlet Gas Filter : Provides finely controlled Inlet Gas Flow without external contaminants.
- Compact Design : Occupies less table space due to small footprint.

OIL FREE DIAPHRAGM TYPE VACUUM PUMPS

PCI-15

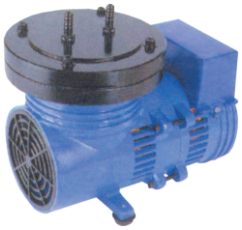
PCI-25-S

PCI-25-P

PCI-45

PCI-75-S

PCI-75-P



PCI-45-CRP

Salient Features

- No lubrication required
- Noiseless performance
- Absolutely portable
- Totally oil-free construction
- Practically maintenance-free
- All parts made from special graded aluminium die cast material for light weight and good strength
- Diaphragms are made of special 2-ply nylon reinforced neoprene rubber
- Special diaphragms available (TEFLON / VITON etc.)
- Valve made of SS 316 material
- Built-in-micro suction filter
- Pumps available with single phase motor
- Pumps available with flame proof motor
- Pumps available with vacuum guage and regulator
- Pumps available with chemical resistive parts (PP, TEFLON contact parts) (CRP suffixed models)
- Pumps available with SS 316 contact parts
- Pumps available in 220/110 V AC motors
- Pumps available for gas charging in A/Cs (Model PCI-25-AX)
- Ideally suited for original equipment manufacturers
- PCI-25-S & PCI-75-S are double stage vacuum pumps
  - Speed : 1440 rpm
  - Noise level : <76 dB

PCI-75-CRP

ROCKER-300

PV-300

MODEL	MAX. FLOW (ltrs/min)	MAX. VACUUM (inch/mm Hg)	MAX. PRESS. (PSIg)	APPROX. Weight (kg)	MOTOR HP	APPROX Dimensions (mm)
PCI-15	15	22" (554 mm)	25	3.0	1/20	175 x 110 x 150
PCI-25-S	15	27" (680 mm)	35	5.5	1/16	220 x 110 x 150
PCI-25-P	25	22" (554 mm)	25	5.5	1/16	220 x 110 x 150
PCI-45	45	22" (554 mm)	35	7.0	1/8	200 x 125 x 200
PCI-45-CRP	30	22" (554 mm)	10	7.0	1/8	220 x 150 x 220
PCI-75-S	45	27" (680 mm)	55	12.5	1/4	300 x 130 x 200
PCI-75-P	75	22" (554 mm)	40	12.5	1/4	300 x 130 x 200
PCI-75-CRP	38	22" (554 mm)	10	-	1/4	-
ROCKER-300	20	27" (670 mm)	12	-	1/8	268 x 135 x 204
PV-300	17	90 mbar	-	4.1	-	-
PCI-30	25	650 mm	43	5.5	-	240 x 100 x 140
PCI-60	50	700 mm	87	4	-	175 x 85 x 145

PCI-30

PCI-60

Application for use as Vacuum Pump

- Laboratories
- Pollution Control Equipments
- Labeling Machines
- Desoldering Station
- Glass Forming
- Medical Instruments
- Dentists
- Chemical Analysers
- Gas Charging in A/C
- Suction Machines
- Leak Test Apparatus

Application for use as Compressor

- Flame Photometer
- Atomic Absorption Spectrophotometer
- Agitation of Chemicals in Electro-Plating
- Agitation of Film in Drying Tank
- Wave Soldering Machines for Forming of Flux
- Oil-Free Spray Painting
- Artist Air Brush
- Operating Small Pneumatic Tools
- Nebuliser
- Plastic Welding

SOLVENT FILTRATION KIT

Solvent Filtrations Assembly Glass or SS (upper part)
with 1 ltr. Bottom Flask Glass Size 47 mm

MODEL : SFK-GC

MODEL : SFK-SS

Vacuum Pump Model PCI-15
Max. Flow - 15 LPM,
Vaccum - 22" Hg (554 mm)
Max. Pressure - 25 Psig, 1/20 HP

Solvent Filtrations in Mobile Phase Bottle

SAMPLE FILTRATION KIT & STERILITY TEST UNIT

Nylon 66 Membrane Filter
Size: Ø 13 x 0.2 µ (Porosity)
Other sizes & porosity also available

Ø 13mm S. S. Filter Holder /
Ø 13mm P. P. Filter Holder

5ml Glass Hypodermic Syringe (Indian) /
5ml Gas Tight Syringe (Indian)

Rheodyne Needle

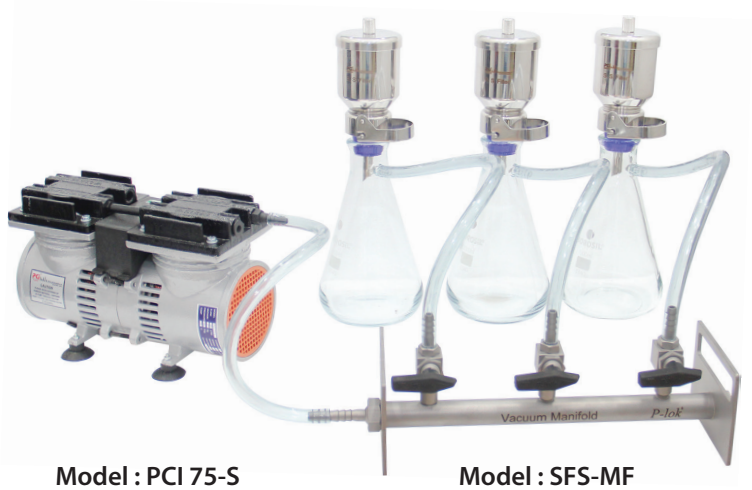
Sterility Test Unit

6 Branch
Model : STU-6B

Vacuum Pump Model : PCI-75-S
Max. Flow - 45 LPM,
Vaccum - 27" Hg (680 mm)
Max. Pressure - 55 Psig, 1/4 HP

3 Branch
Model : STU-3B

MULTI-FOLD SOLVENT FILTRATION SYSTEM



Model : PCI 75-S **Model : SFS-MF**

Salient Features

- Manifold with 3 ball valves (ON / OFF)
- Single Mobile Phase in triple quantity
- Three different mobile phases simultaneously (choice of 1, 2 or 3)
- Single Vacuum Pump PCI-75-S to operate 3 solvent filtration
- Ease of operation, maintenance free
- Improves efficiency in heavy load situations
- Innovative design by PCI Analytics only
- No liquid contact with Manifold & hence no contamination
- Vacuum Flask Capacity 1 Ltr. or 2 Ltr.

RECIRCULATING WATER CHILLERS

The recirculating chillers are designed to handle high cooling capacities. These chillers operate in the temperature range from +5°C to atmosphere and have built in high pressure pump. These chillers are useful to cool other instruments which generate heat. Viz. Lasers, Furnaces, XRD, etc., Graphite Furnace, Fermenters, Thermal Instruments, Rotary Evaporator.

Water Chiller Unit : It consists of chilled water storage tank of about 15-20 Ltrs. capacity along with Compressor, Condensing Coils, Cooling Fan, Temperature Controller Programable Type, Water Inlet & Outlet connection and chilled water circulation pump to circulate chilled water through S.S Cooling Coils and bring back to chiller tank.

- Control panel consists of temperature and ready status of Chiller ON / OFF Switch, with Red Coloured Indicator Green coloured indicator which indicates Initial Power ON.
- This has an inbuilt delay of about 1-2 minutes for the Compressor to be ON.
- Switch for Chilled Water circulation pump. This has no time delay.
- This is fitted in a Floor Mounting type with Castor Wheels (Optional).

MODEL
PCI-WC-01/02

Model	Bath Range	Temp. Capacity
PCI-WC-01	15 Ltrs.	5°C to atmosphere
PCI-WC-02	20 Ltrs.	-20°C to atmosphere

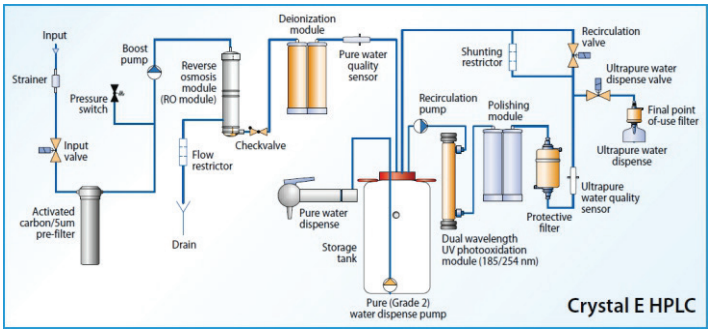
- Temperature upto 80°C with heater also available
- Higher capacity also available
- Outer chamber also available in SS on request

Specifications of Water Chiller Model PCI-WC-01 for AAS & ICP

- Inner Chamber : SS Duly Polished
- Outer Chamber : M.S Powder Coated / SS
- Insulation : Duly insulate by P.U.F
- Refrigerated system & cooling arrangement : Hermetically sealed compressor
- Flow capacity : 20 Ltrs. / min at height of 1 meter
- Outlet connection : 3/8" OD
- Temperature range : 5° to atmosphere
- Temperature control : Temperature controlled by digital temperature indicator cum controller
- Circulator : 0.25 Hp / 0.5 HP
- Condensor Fan Motor : 'EPMNADI' Brand
- Control pannel : Micro controller
- Power : 220 / 230 Volts, Single Phase, AC mains
- Outer dimensions : 14" W x 24"D x 24" H (360 W x 600 D x 600 H mm)
- Standard capacity of tank : 15-20 Ltrs.

Crystal EX Series

The Crystal EX Ultrapure systems are economy class, multi-purpose, water purification systems.
All Crystal EX Systems produce two types of water : Ultrapure (ISO 3696 Grade 1) and Pure (ISO 3696 Grade 2). Ultrapure water produced by the Crystal EX systems has resistivity 18.2 Mega Ohm*cm (conductivity 0.055 µS/cm). This exceeds requirements of all the relevent standards (ISO 3696 Grade 1, ASTM Type I, CLSI Type I). Purified water is collected in a storage tank. The recirculation system ensures a consistent quality of water, and a low level of organic carbon content (TOC). TOC is <2 ppb for "HPLC" and "Bio" configurations, and 5-10 ppb for the "Trace" configuration.
The dispensing rate of high quality Ultrapure water is 2 L/min.
Pure water produced by Crystal EX systems can be used for labware washing, wet chemistry methods, flame spectrophotometers, etc., Pure water is dispensed directly from the storage tank. The dispensing flow rate of pure water is 4 L/min.



Crystal EX Ultrapure water systems are available in the following configurations:

- **Crystal EX Trace System (P/N EX-1001-P)** produces water for inorganic trace analysis. This water is recommended for atomic absorption spectrometry (with graphite furnace atomizer), ICPOES analysis, ICP-MS and other inorganic analytical methods.
- **Crystal EX HPLC System (P/N EX-1101-P)** produces water with very low organic carbon content (TOC) to comply with the requirements of liquid chromotography methods. Crystal E HPLC water can also be used for some microbiological and molecular biology applications.
- **Crystal EX Bio System (P/N EX-1201-P)** produces water with very low organic and RNase / DNase content, intended for molecular biology, including RNase - sensitive applications.

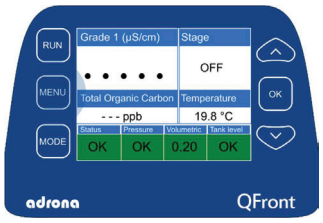
Description EX series

Application	EX-1001-P Trace	EX-1101-P HPLC	EX-1201-P Bio
Water Type	• Ultrapur water (Grade 1) • Pure water (Grade 2)	• Ultrapur water (Grade 1) • Pure water (Grade 2)	• Ultrapur water (Grade 1) • Pure water (Grade 2)
Application	• Automatic absorption spectometry • Plasma optical emission spectometry • Other inorganic trace analysis	• Chromotography • Mass spectometry • Microbiology • Molecular biology	• High sensitive biology applications
Display	Monochrome LCD display	Monochrome LCD display	Monochrome LCD display
Conductivity Sensor	•	•	•
TOC Monitor	-	-	-
Connection Possibility to Water Dispensing Unit	-	-	-
Storage Unit	Water storage tank 'Pro' 30 L w/o multipoint sensor included		
Installation	Installation on a laboratory bench		

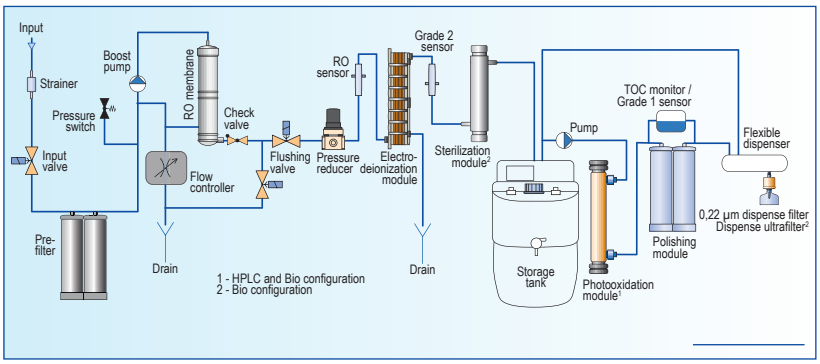
Specification

Purified Water Specifications	Crystal EX Trace	Crystal EX HPLC	Crystal EX BIO
Grade 1 water resistivity	18.2 MΩ x cm	18.2 MΩ x cm	18.2 MΩ x cm
Grade 1 water conductivity	0.055 µS / cm	0.055 µS / cm	0.055 µS / cm
Grade 2 water resistivity	>10 MΩ x cm	>10 MΩ x cm	>10 MΩ x cm
Grade 2 water conductivity	<0.1 µS / cm	<0.1 µS / cm	<0.1 µS / cm
Total organic carbon (TOC) level	<10 ppb	<5 ppb	<5 ppb
RNase	N/A	N/A	<0.01 pg/ml
DNase	N/A	N/A	<4 pg/ml
Bacteria	<0.01 CFU / ml	<0.01 CFU / ml	<0.01 CFU / ml
Endotoxins	<0.15 EU / ml	<0.15 EU / ml	<0.001 EU / ml
Particles > 0.22 µm	<1 per ml	<1 per ml	<1 per ml
Nominal flow, pure water (to storage tank)	10 L/h	10 L/h	10 L/h
Nomial dispense flow, pure water	2 L / min	2 L / min	2 L / min
Deionization module life (standard module)	1 m^3	1 m^3	1 m^3
Deionization module life (high capacity module)	3 m^3	3 m^3	3 m^3
Recovery	>30 %	>30 %	>30 %
Dimensions (W x D x H) cm	40 x 35 x 55	40 x 35 x 55	40 x 35 x 55
Feed water pressure	1-4 bar	1-4 bar	1-4 bar
Feed water conductivity	<1500 µS / cm	<1500 µS / cm	<1500 µS / cm

Q-Front Series Intelligent Water Purification System



Adrona's product Q-Front EDI is a tap water system for general laboratory applications and inorganic analytical methods. Q-Front EDI systems are intended for use in laboratories with high daily pure and ultrapure water consumption. Q-Front EDI systems include the flexible dispenser.



Description

Application	Q-Front EDI Trace	Q-Front EDI HPLC	Q-Front EDI Bio
Q-Front EDI Water Type	• ultrapure water (Grade 1) • pure water (Grade 2)	• Ultrapur water (Grade 1) • Pure water (Grade 2)	• Ultrapur water (Grade 1) • Pure water (Grade 2)
Application	• atomic absorption spectrometry • plasma optical emission spectrometry • other inorganic trace analysis	• Chromatography • Mass Spectrometry • Microbiology • Molecular Biology	• highly sensitive molecular biology • cell culture • other methods sensitive to RNase and endotoxins • biology applications
Display	Colour Graphic LCD Display	Colour Graphic LCD Display	Colour Graphic LCD Display
Water quality sensor	•	•	•
TOC Monitor	-	•	•
Volumetric Dispense	•	•	•
Dispenser	flexible dispenser attached	flexible dispenser attached	flexible dispenser attached
Connection to Flow point	•	•	•
Storage tank	storage tank required, but not included		
Installation	installable on a laboratory bench		

Specification

Purified water parameters	Q-Front System Configuration		
	Trace	HPLC	Bio
Grade 1 water resistivity at 25 °C	18.2 MΩ x cm	18.2 MΩ x cm	18.2 MΩ x cm
Grade 1 water conductivity at 25 °C	0.055 µS/cm	0.055 µS/cm	0.055 µS/cm
Grade 2 water conductivity at 25 °C	0.1 µS/cm	0.1 µS/cm	0.1 µS/cm
Total Organic Carbon (TOC) level	<10 ppb	<5 ppb	<5 ppb
RNase	-	-	<0.01 ng/mL
DNase	-	-	<4 pg/µL
Bacteria	<0.01 CFU/mL	<0.01 CFU/mL	< 0.01 CFU /mL
Endotoxins	<0.15 EU /mL	<0.15 EU /mL	< 0.001 EU /mL
Particles >0.22 µm	<1/mL	<1/mL	<0.05/ per mL
Feed water pressure	0.4 - 6 bar	0.4 - 6 bar	0.4 - 6 bar
Data interface	RS 232	RS 232	RS 232
Dimensions (WxDxH), cm	35x39x54	35 x 39 x 54	35 x 39 x54
System weight, kg	27	28	29
Operation weight, kg	31	32	33

LABORATORY ULTRAPURE WATER SYSTEM

Fully integrated pure and ultrapure intelligent water system. Superior quality of ultrapure and pure water is achieved directly from a tap water source. Available in 2 configurations – deionization or EDI.

Pre-Clean Pack

High efficiency removal of colloids, particles, free chlorine and minerals for improved system performance.

EDI Module Or DI Pack

Removes remaining ions for consistently superior quality pure water. EDI system requires no maintenance, ensuring low and predictable costs.

Advanced Reverse Onmosis (RO)

Removes 97-99% contaminants including ions, particles, bacteria and organic molecules, reduces feed water consumpt for 60%.

Prior to Water Production

Automatic rinsing of the RO membrane and the EDI module ensures that only the highest quality pure water enters the tank.

Attached G1 ultrapure water dispenser -– delivers consistently ion free and low TOC ultrapure water.
Attached G2 pure water dispenser – delivers guaranteed quality Grade II pure water.

Within the tank, pure water quality is preserved by two built in features:

- Vent filter - provides protection against airborn contaminants
- Automatic Sanitization Module – with an integrated UVC regularly irradiates stored water and tank walls, ptreventing bacterial growth and biofilm formation.

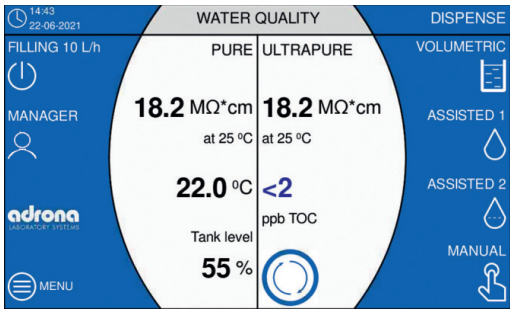
Automatic recirculation of stored water through bacteridical UV lamp preserves water quality in the tank and ensures that high quality Grade II water is always on hand ready to use.

Ultra Pack Polishing Cartridge – removes ions and organic contaminants down to trace level.

Oxidation UV lamp – emitting 185 nm, photo-oxidises organic contaminants.

Water Quality Specification Provided By GRADUS

	LT	Bio	LT EDI	Bio EDI
Grade I water resistivity at 25°C	18.2 MΩ x cm	18.2 MΩ x cm	18.2 MΩ x cm	18.2 MΩ x cm
Grade I water conductivity at 25°C	0.055 µS/ cm	0.055 µS/ cm	0.055 µS/ cm	0.055 µS/ cm
Grade II water conductivity at 25°C	≤ 0.1 µS/ cm			
Total Organic Carbon (TOC) level	< 3 ppb	< 3 ppb	< 3 ppb	< 3 ppb
RNase	-	< 0.01 ng/mL	-	< 0.01 ng/mL
DNase	-	< 4 pg/µL	-	< 4 pg/µL
Bacteria	< 0.01 CFI/mL	< 0.01 CFI/mL	< 0.01 CFI/mL	< 0.01 CFI/mL
Endotoxins	< 0.15 EU/mL	< 0.001 EU/mL	< 0.15 EU/mL	< 0.001 EU/mL
Particles >0.22 µm	< 1/mL	< 0.05/mL	< 1/mL	< 0.05/mL
Nominal flow, EDI water (to storage tank)	5/10 L/h	5/10 L/h	5/10 L/h	5/10 L/h
Dispense rate, ultrapure water	up to 2.0 L/min	up to 2.0 L/min	up to 2.0 L/min	up to 2.0 L/min



Large Touchscreen

- Simplified and detailed information in multiple languages
- Alerts and alarms are visible on the main screen with complete information on actions required
- Monitoring the operation of the system.

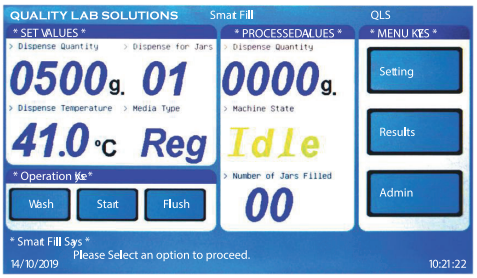
Convinient

- Installation process gives quick access to laboratory water
- Easy menu navigation in multiple languages
- Easy access to change consumables

ADVANCED DISSOLUTION MEDIA DEGASSER

The PreCiFill is Compact, Transportable and offers quick and easy preparation of up to 10 litres dissolution media in less than 15 minutes.

In a single pass the media for dissolution tests can be precisely heated, degassed and filled gravimetrically into vessels. Foaming media like SDS (Sodium Dodecyl Sulphate) can also be used.



Specifications	
Product	PreCiFill
Function	Healing and Vacuum Degassing
Pharmacopeia Conformance	USP,EP
Control	Smart Touch Panel 7"
Time Needed for Degassing	1000ml in less than 110 sec.
Dispensing Volume	200 ml to 1000 ml to 200g to 1000g.
Dispensing time	1000ml in less than 110 sec at 41°C in ambient temperature .
Dispensing Accuracy	±1% of set volume, but not less than ±5 ml
Heating Capacity	Up to +20°C deg. increase from Ambient Temperature to Max of up to 45°C
Degassing	Up to a maximum of 3.0 ppm, to a level of not less than 5.0 ppm
Input Filter	25 mm in-line filter holder
Temperature Control	Cartridge Heater
Temperature Accuracy	± 2°C
PC Interface	RS-232 (serial) & Thermal Printer
Unit Dimensions	Height 32.28" (82 cm)
Weight	37.0Kg
Electrical Power	220V ± 15V 50Hz 8Amps
	(Operating voltage pre-set at factory)

Parts & Accessories

- Replacement Tubing Kit. Includes 7.5 Feet of 1/4 Inch Polyethylene Tubing and 1.5 Feet of 1/4 Inch Viton Tubing
- Main Overlay
- Dispensing Tip
- 1/4 Inch NPT Thread Insert Connected to Dispensing Tip
- Wash Tubing Assembly
- Filter Holder
- DC Motor and Wiring Assembly
- FEP Encapsulated O-Ring for Piston
- Heater and Thermocouple Including Wiring Assembly
- Temperature Sensor Including Wiring Assembly
- Encoder and Limit Switch Including Wiring Assembly
- Upper and Lower Solenoid Valve
- Upper Solenoid Valve
- Drive Belt
- Remote Dispensing Nozzle. Includes Remote Dispensing Unit, Hose and Control Cable
- Mobile Cart (Trolley)

CALIBRATION & VALIDATION SERVICE

PreCiCal™
(A Division of PCi Analytics Pvt.Ltd.)

PCI provide Calibration & Validation service to customers in India under the name of PreCiCal.

The facility is located at Thane, Maharashtra Location.

For those in manufacturing, to those in research and development, and so many others, we strive to surpass our customers' expectations with every calibration service.

Key Function of Business:

- Customer Satisfaction
- Easy to deal with
- After Service & Support

QUALITY POLICY STATEMENT

PreCiCal is committed to provide timely and reliable testing, Calibration & Validation services to meet customer's requirements by following good Professional practices in line with ISO/IEC 17025:2017.

CALIBRATION SERVICES FOR A VARIETY OF APPLICATIONS :-

We want to ensure that we satisfy your business requirements when we provide you with calibration services. Therefore, we offer calibration services for the following:

- Temp. Mapping / Validation (Autoclaves, Oven, Refrigerator, Deep freezer etc.)
- Thermal Calibrations for controllers, ovens, thermocouples, digital thermo hygrometers, etc.
- Mechanical (Pressure & Vacuum) Calibration.
- Direct Flow Calibration for Gas Flow Meter & Volumetric calibration for Liquid Flow Meter.
- Additional capabilities to provide calibration service for specific manufacturing and test equipment including furnace, environmental chambers and more.

PROCESS INSTRUMENT CALIBRATION:

- Pressure Gauges
- Vacuum / Compound Gauges
- Pressure Transmitters
- Temperature Controllers & Indicators
- Temperature Transmitters
- Temperature Gauges
- RTD / TC Sensors
- Timers / Stop watches / Hour Meters

SEVERAL KEY BENEFITS OF WORKING WITH PreCiCal (A DIVISION OF PCI ANALYTICS PVT. LTD.)

- Internationally Traceable Calibration Certification Service.
- Consultative Selling Approach
- Onsite Calibration facility
- We offer automatic recall and scheduling system to customers
- Instruments Delivery as per commitment.

March 2024

PCi® Analytics

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