



# Flow Analysis System (Model ER282)



- Turns a PC into a FIA data workstation
- No programming required – just plug and play
- Collect signals from one or two detectors
- Independently selectable input gains  $\pm 2$  mV to  $\pm 10$  V
- Digital signal processing gives superior signal-to-noise ratio
- TTL or contact closure for triggering autosamplers etc.
- USB 2.0 and 1.1 compliant

## Description

The ER282 Flow Analysis System comprises a PowerChrom® 280 hardware unit and Chart™ software for Windows computers and is ideal for flow injection analysis (FIA) and similar experiments.

Signals can be recorded from one or two detectors with analog voltage 'recorder' or 'integrator' outputs. Many brands and models of detector are suitable.

## Computer Requirements

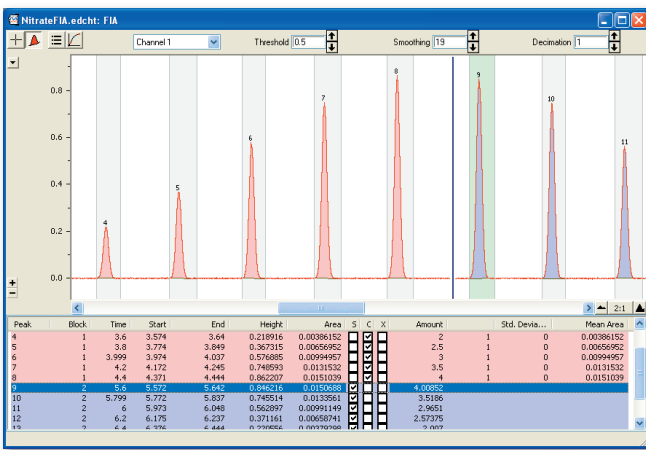
Windows 2000, XP or later. The computer should have a minimum of 128 MB RAM and a USB port.

## Software

Chart software, along with the FIA and Event Manager Chart extensions, are included with every ER282 Flow Analysis System. The FIA Chart extension adds FIA signal analysis functionality to Chart, whilst Event Manager is used to switch external equipment on and off via the PowerChrom's digital outputs.

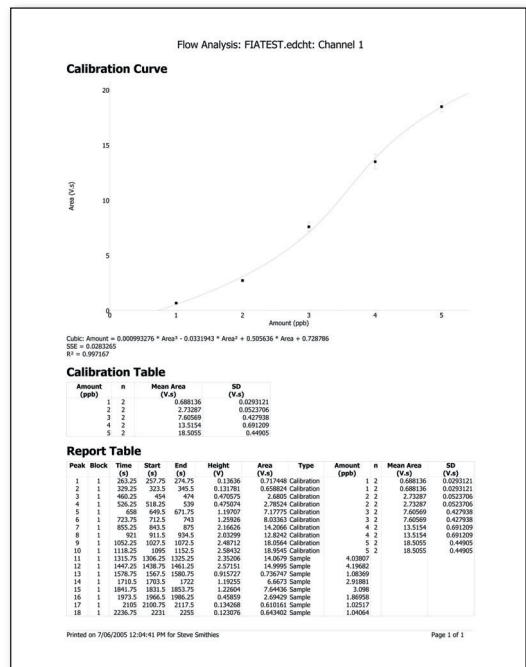
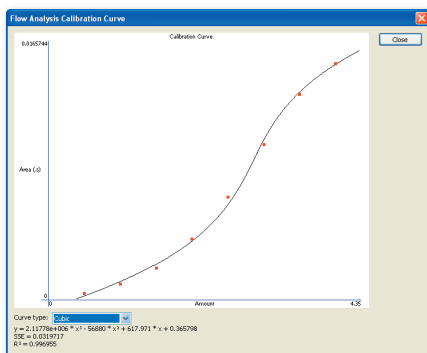
The FIA Chart extension automatically recognizes peaks and these can be assigned as 'Calibration', 'Sample' or 'Excluded'. Manual adjustment of the peak position and selection of new peaks is also possible.

The PowerChrom 280 hardware can also be used with optional ES280 PowerChrom software for collecting and analyzing chromatography data.



Peaks automatically detected and displayed in Flow Analysis window

Linear, Linear through origin, Quadratic, Cubic and Point to Point calibration curve fitting available

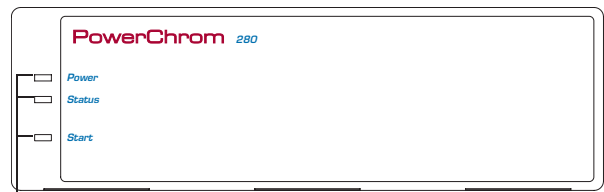


Easy to generate peak reports

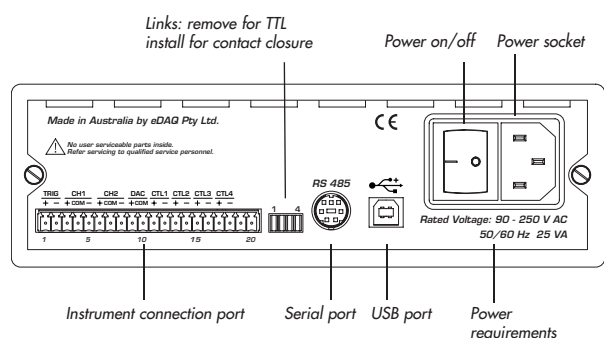
# Specifications

Analog Inputs			
Number of Input channels:	2		
Input configuration:	Single-ended or differential		
Amplification and Hardware Resolution:	Range	Resolution ( $\mu\text{V}$ )	Gain
	$\pm 10\text{ V}$	312.5	1
	$\pm 5\text{ V}$	156.25	2
	$\pm 2\text{ V}$	62.5	5
	$\pm 1\text{ V}$	31.25	10
	$\pm 0.5\text{ V}$	15.625	20
	$\pm 0.2\text{ V}$	6.25	50
	$\pm 0.1\text{ V}$	3.125	100
	$\pm 50\text{ mV}$	1.56	200
	$\pm 20\text{ mV}$	0.625	500
	$\pm 10\text{ mV}$	0.3125	1000
	$\pm 5\text{ mV}$	0.15625	2000
	$\pm 2\text{ mV}$	0.0625	5000
Maximum input voltage:	$\pm 30\text{ V}$		
Input impedance:	$\sim 1\text{ M}\Omega \parallel 47\text{ pF @ DC}$		
Permanent antialias filter:	900 Hz, 2nd order Bessel		
Low-pass filtering:	1, 2, 5, 10, 20, 50, 100, 200, 500 Hz		
DC drift:	Software corrected on startup 0.3 $\mu\text{V}/^\circ\text{C}$ RTI (typical)		
CMRR (differential):	$-105\text{ dB @ }100\text{ /s}$ (typical)		
Channel crosstalk:	$-140\text{ dB}$ (typical)		
Input noise (p-p):	Range	@1 /s	@10 /s
	$\pm 10\text{ V}$	20 $\mu\text{V}$	40 $\mu\text{V}$
	$\pm 1\text{ V}$	2.0 $\mu\text{V}$	4.0 $\mu\text{V}$
	$\pm 100\text{ mV}$	0.2 $\mu\text{V}$	0.4 $\mu\text{V}$
	$\pm 10\text{ mV}$	0.2 $\mu\text{V}$	0.4 $\mu\text{V}$
Sampling			
ADC resolution:	16 bit		
Sampling rates:	0.1 /min to 1000 /s		
Linearity error:	$\pm 2\text{ LSB}$ (0 – 70 $^\circ\text{C}$ )		
Output Amplifier			
Output configuration:	Single-ended		
Output resolution:	16 bits		
Maximum output current:	10 mA maximum		
Output impedance:	0.1 $\Omega$ typical		
Slew rate:	6 V/ $\mu\text{s}$		
Settling time:	2 $\mu\text{s}$ (to 0.01% of FSR for LSB change)		
Output range:	Range (V)	Resolution ( $\mu\text{V}$ )	
	$\pm 10$	312.5	
	$\pm 5$	156.5	
	$\pm 2$	62.5	
Linearity error	$\pm 1\text{ LSB}$ (from 0 $^\circ\text{C}$ to 70 $^\circ\text{C}$ )		

Instrument Connection Port	
Type:	20 pin male connector, 3.5 mm spacing. Terminal block adaptor supplied.
Digital Output Controls	
Outputs:	4 contact closure or TTL level. Set by rear panel links.
Contact closure outputs:	100 mA maximum. 250 V maximum. 'On' resistance 20 $\Omega$ maximum. Close time 2 ms; Open time 1 ms.
TTL level outputs:	15 mA maximum each.
Microprocessor and Data Communication	
CPU:	PPC403 GCX (30 MHz)
RAM:	4 MB DRAM
Data communication:	USB 2.0 or 1.1 compliant
Serial Port	
RS485	For factory diagnostic purposes only.
Physical Configuration	
Dimensions (w x h x d):	200 x 65 x 250 mm (7.9 x 2.6 x 9.8")
Weight:	1.75 kg (3 lb 14 oz)
Power Requirements:	90 – 260 V AC 50/60 Hz, 6 VA (25 mA @ 240 V or 52 mA @ 115 V)
Operating conditions:	0 to 35 $^\circ\text{C}$ 0 to 90% humidity (non-condensing)
eDAQ Pty Ltd reserves the right to alter these specifications at any time.	



Indicator lights



WARRANTY: eDAQ Hardware units are supported by a one year warranty