

The Next Generation in Infusion Pump Analyzers is here

Features - IPA-3400 Series

- ◆ Smaller in Size - Larger in Features
- ◆ Faster in Operation
- ◆ Easier To Use
- ◆ High Accuracy
- ◆ Large 7" Color Touch Screen
- ◆ 1,2,3 and 4 Channel Models Available (Field Upgradeable)
- ◆ User Swappable Fully Self Contained Flow Modules
- ◆ Calibration in Flow Modules
 No Need To be Down For Calibration or Service
- ◆ Smooth Dual Syringe System
 Eliminates Drain Cycle Inconsistencies
- ◆ Whisper Quiet Operation
- ◆ Auto Start
- ◆ Auto Test Sequences
- ◆ Built in Data Collection
- ◆ PDF Reports Available through BC Flow
- ◆ Industrial Grade SS Pressure Sensor
- ◆ Performs All IEC 60601-2-24 Required Tests
- ◆ 10 uL to 1600 mL/Hr
- ◆ 4 USB Ports, 4 AUX Ports
- ◆ Flash Drives, Barcode Scanners, Printers, Keyboard and Mouse Directly Supported
- ◆ PC Compatible
- ◆ Configurable Pressure (mmHg, PSI, Bar, kPa)
- ◆ Large 32GB Internal Memory

Functions-

- ◆ PCA/Bolus
- ◆ Back Pressure Simulation
- ◆ Occlusion Alarm
- ◆ Trumpet Curve Analysis (BC Flow)
- ◆ Data Download to PC or Flash Drive
- ◆ Customizable Test Templates (Built-In)
- ◆ Self-Cleaning Cycle

NEW**CE****IPA-3400****Patent Pending**

The IPA-3400 is the most compact, full featured four channel analyzer on the market.

It is a high accuracy, easy to use system that incorporates full touch screen control of all processes without the use of old fashioned buttons and knobs. This new cutting edge Patent Pending design uses a dual syringe stepper motor driven system that provides continuous monitoring of the fluid flow without the need to stop and perform intermittent drains like older technologies do. This provides a more realistic flow path for the Infusion Device under test and therefore more accurate readings. Also, independent stepper motor control of the custom designed ceramic valving allows the system to run not only more quietly and more smoothly, but it also allows for a powered fluid flow for use in the built-in cleaning cycle.

The IPA-3400 has built-in auto-sequence capabilities that allows the user to perform automatic test procedures. This allows specific test routines specified by various manufacturers to be run, which provides a significant time savings as well as reduces the risk of human error.



Easy access to modules for expansion and calibration.

SOFTWARE

BC Flow™ software is provided with the IPA-3400 to allow PC Control, Display, Storage and Recall of system data.

A BCeTEST™ software module is available to allow full integration of the IPA-3400 into the BCeTEST™ system.

All test results are stored internally in the large 32 GB memory. They can also be downloaded to a USB flash drive or directly to a PC.

There are specific requirements in IEC 60601-2-24 for not only flow readings but back pressure simulation, bolus (PCA) measurements and occlusion alarm monitoring. All of these features are specifically built into the IPA-3400 with simple to use on screen selections.

The IPA-3400 is designed to hold up to 4 IPA-3900-FM flow modules. These modules are individually serialized and calibrated so that they may be moved from channel to channel and even unit to unit. Once installed they are recognized by the IPA-3400 and their Serial Number and NIST Traceable Calibration information are presented on the display and utilized in all data reporting.

The interchangeable modules provide the user with unprecedented flexibility in their IPA Testing System. There is no need to be down when the unit is due for calibration. Only the modules need to be calibrated. This also allows the rotating of modules or the use of a spare module, thus providing flexibility not available in other systems. The same is true for service. If there is a problem on one channel, only the module needs to be serviced, eliminating downtime.

The IPA-3400 display may be raised to gain full access to the four user swappable flow modules. No wiring or plumbing is required for module installation. Simply lift the display, remove the cover plate, loosen the retainer screw and slide the module out. All plumbing and electronics are self-contained and all electrical connections are made via a slide-in mating connector on the end of the module. Then just reverse the process for installation.

The IPA-3400 allows for easy field expansion. You can buy a 1 channel unit and later purchase additional modules that can be added in the field. Just plug them in and the system will automatically recognize the additional module(s), reconfigure itself and you are ready to go.

Infusion Pump Analyzer

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SCREEN VIEWS

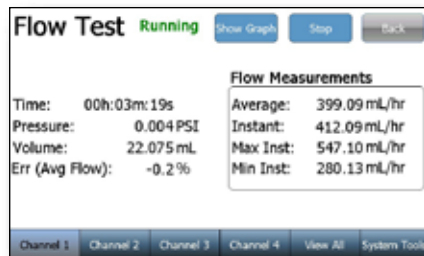
Main Screen



Flow Test Settings



Flow Test Data



Flow Graph



MODEL SUMMARY

BC Model	Description
IPA-3400-1	Infusion Pump Analyzer Bench Top - Multi Channel w/ 1 Flow Module (IPA-3900-FM)
IPA-3400-2	Infusion Pump Analyzer Bench Top - Multi Channel w/ 2 Flow Modules (IPA-3900-FM)
IPA-3400-3	Infusion Pump Analyzer Bench Top - Multi Channel w/ 3 Flow Modules (IPA-3900-FM)
IPA-3400-4	Infusion Pump Analyzer Bench Top - Multi Channel w/ 4 Flow Modules (IPA-3900-FM)

Individual Components (Included)	
IPA-3900-FM	Flow module for the IPA-3400 series
BC20-41360	Cable, Communication Null Modem for IPA-3400
BC20-00161	IPA-3400 Accessory Kit
Power Cord, North America, Schuko, Australia included by default. Additional country specific power cords are available:	
BC20-20500	North America
BC20-20501	Japan
BC20-20502	United Kingdom
BC20-20503	Schuko-Continental Europe
BC20-20509	India/South Africa
BC20-20510	Switzerland
BC20-20512	Italy
BC20-20516	Australia

View All Channels

Channel 1	Flow Test	Channel 2	Occlusion Test
Time: 00h:06m:46s	Volume: 41.836 mL	Current Pressure: -0.950	Current Time: 00h:00m:15s
Average Flow: 368.99 mL/hr	Instant Flow: 311.52 mL/hr	Peak Pressure: 1.476	Peak Time: 00h:00m:06s
		Solve Volume: 0.900	
Channel 3	PCA Test	Channel 4	Idle
Time: 00h:07m:04s	Inst. Flow: 32.06		
Bolus Count: 2	Bolus Flow (mL/hr): 84.25		
	Bolus Volume (mL): 0.773		
	Bolus Duration: 33		

IPA-3400 SPECIFICATIONS

Parameter		IPA-3400		
Flow Measurement	Display Range (ml/hr)	0.01 - 2600		
	Flow Rate (ml/hr)	0.10 - 1600		
	Flow Resolution (ml/hr)	0.010 (10 µL)		
	Accuracy	1% rdg + 0.005 mL/hr 1% rdg 2% rdg	0.1 to 9.9 mL/hr 10 to 700 mL/hr 700 to 1600 mL/hr	
	Min Volume (ml)	0.05 (50 µL)		
	Channels	1, 2, 3 or 4 (user-installable)		
Volume Measurement	Volume Range (mL)	0 to 9999		
	Volume Resolution (mL)	0.001 (1.0 µL)		
	Volume Accuracy	1% rdg after 100 µL		
PCA/Bolus Measurement	Display Range (mL)	0.1 to 100		
	Measurement Range (mL)	0.5 to 100		
	Accuracy	+/- 1%		
	Min Bolus Volume (mL)	0.01 (10 µL)		
Elapsed Time	Range	0 - 120 Hours		
	Resolution	1 Second		
	Accuracy	0.5 Second		
Occlusion (Pressure) Test	Range	-258.57 to 2585.75 mmHg (-5 to 50 PSI)		
	Resolution	0.05 mmHg (0.001 PSI)		
	Accuracy	0.1% FS		
Back-Pressure Control	Range	-200 to 600 mmHg (-3.867 to 11.602 PSI)		
	Resolution	0.05 mmHg (0.001 PSI)		
	Accuracy	0.1% FS		
Pressure Units	Selectable	mmHg, PSI, Bar, kPa		
Interface	Fluid Fittings	Inlet	Female Luer	
		Drain	Male Luer Lock	
	USB	Ports	4 x USB-A Host ports	
		Supported Devices	HID-compliant Keyboard, Mouse & Barcode Scanner Printers Flash Disks Bluetooth module	
		Ports	4 (1 per channel)	
	AUX	Supported Devices	Nurse Call PCA trigger output (optional accessory cable)	
		Display	7" Color Touch Screen (800 x 480)	
Power Supply	Voltage	Input - 90 to 264 VAC, 50/60 Hz, 90VA		
Weight		1 chan < 8 lbs 2 chan < 10 lbs 3 chan < 12 lbs 4 chan < 14 lbs		
Size (H x W x D)		7.8 (H) x 9.1 (W) x 10.2 (D)		
Storage Temperature		0 to 50 °C		
Operating Temperature		15 to 40 °C		
Data Storage		Internal 32 GB		

Features - IPA-1000 Series

- ◆ Easy to Use
- ◆ Easy to Clean
- ◆ Simultaneous Operation of Two Chambers
- ◆ Large Graphics Display with Cursor Selection of Options & Setup of Parameters
- ◆ Auto Chamber Recognition
- ◆ 2 Chamber Sizes (3.5 & 35 mL)
- ◆ Out of Sequence Sensing
- ◆ Battery Display (0 to 100%)
- ◆ Similar Function to Dynatech Nevada Model 404A
- ◆ Ranges 0 to 999.9 mL/hr & 0 to 9999 mL/hr
- ◆ $\pm 1\%$ of Reading Flow Accuracy
- ◆ Digital Calibration – No Pots to Turn
- ◆ Software Adjustable Contrast
- ◆ Replaceable Tubes
- ◆ Sealed Level Sensors
- ◆ Programmable End of Test Audio
- ◆ Programmable Auto or Manual Test Start

Optional

- ◆ Battery Eliminator



The IPA-1000 Infusion Pump Analyzer Family is designed to test the flow rates of intravenous infusion pumps to ensure their correct operation. It is able to test up to two pumps simultaneously by the volumetric method in milliliters per hour. All tests are controlled by a Microprocessor, which calculates and displays the results.

The fluid path is unobstructed, making them easy to clean. The tubes are plastic, not glass so they are rugged. The cables and chambers are interchangeable. The unit auto-identifies each chamber when it is plugged in. The chamber calibration is stored electronically in each chamber, so all units are interchangeable. This unit is designed to be tough, simple, portable and very user friendly.

MODEL SUMMARY

<u>BC Model</u>	<u>Description</u>
BC10-03103	IPA-1000, (1) 3.5 mL Chamber, (1) Interconnect cable
BC10-03104	IPA-1000, (1) 35 mL Chamber, (1) Interconnect cable
BC10-03105	IPA-1000, (2) 3.5 mL Chambers, (2) Interconnect cables
BC10-03106	IPA-1000, (2) 35 mL Chambers, (2) Interconnect cables
BC10-03107	IPA-1000, (1) 3.5 mL Chamber, (1) 35 mL Chamber, (2) Interconnect cables

Individual Components

IPA-1000	Infusion Pump Analyzer Base Unit
MC3.5-1000	3.5 mL Chamber
MC35-1000	35 mL Chamber

Optional Accessories

BC20-30109	Soft Carrying Case
BC20-40607	IPA-1000 Interconnect Cable
BC20-21110	Battery Eliminator (Universal)

Optional Soft Carrying Case
shown with chambers mounted in
shock-resistant inserts. Analyzer
and accessories may be stored in
upper compartment.



SPECIFICATIONS

Flow Rate Tests

- ◆ Performs two independent tests simultaneously
- ◆ Controls tests automatically, starting, stopping & resetting according to the position of fluid in chamber
- ◆ Ranges: Automatically selected when chamber is plugged in 0-999.9 mL/hr with 3.5 mL chamber
0-9999 mL/hr with 35 mL chamber
- ◆ Accuracy: Volumetric chamber: 3.5 or 35 mL(nominal)
Overall: $\pm 1\%$ of reading ± 1 digit

Display

- ◆ Graphic LCD, 128 X 64 pixel

Power Requirements

- ◆ 9V Alkaline
- ◆ Optional AC adapter