

## Infusion Pump Analyzer

### The Next Generation in Infusion Pump Analyzers is here

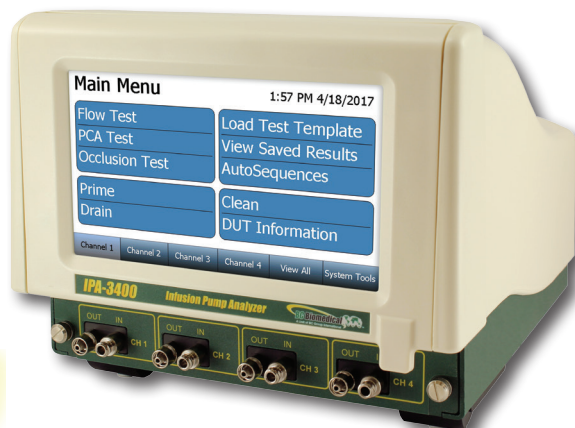
#### Features - IPA-3400 Series

- ◆ 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**



**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 bi-directional 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.

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## SCREEN VIEWS

**Main Screen**

**Main Menu** 1:57 PM 4/18/2017

Flow Test	Load Test Template
PCA Test	View Saved Results
Occlusion Test	AutoSequences
Prime	Clean
Drain	DUT Information

Channel 1 Channel 2 Channel 3 Channel 4 View All System Tools

**Flow Test Settings**

**Flow Test Setup** Save Setup Start Back

Flow Rate:	400.00 mL/hr
Volume TBI:	100.000 mL
Test Duration:	00h:15m:00s
Test Tolerance:	Avg. Flow +10 / -10 mL/hr
Back Pressure:	0.000 PSI
Start Condition:	Automatic
End Condition:	Duration

Channel 1 Channel 2 Channel 3 Channel 4 View All System Tools

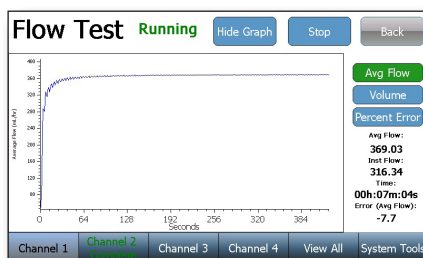
**Flow Test Data**

**Flow Test Running** Show Graph Stop Back

Time: 00h:03m:19s	<b>Flow Measurements</b>
Pressure: 0.004 PSI	Average: 399.09 mL/hr
Volume: 22.075 mL	Instant: 412.09 mL/hr
Err (Avg Flow): -0.2 %	Max Inst: 547.10 mL/hr
	Min Inst: 280.13 mL/hr

Channel 1 Channel 2 Channel 3 Channel 4 View All System Tools

**Flow Graph**



**View All Channels**

Channel 1 Flow Test		Channel 2 Occlusion Test	
Time:	00h:06m:48s	Current Pressure:	-0.050
Volume:	41.836 mL	Current Time:	00h:00m:15s
Average Flow:	368.99 mL/hr	Peak Pressure:	1.476
Instant Flow:	311.92 mL/hr	Peak Time:	00h:00m:06s
		Bolus Volume:	0.000
Channel 3 PCA Test		Channel 4 Idle	
Time:	00h:03m:29s	Inst. Flow:	32.08
Bolus Count:	2		
Bolus Flow (mL/hr):	84.25		
Bolus Volume (mL):	0.773		
Bolus Duration:	33		

Channel 1 Channel 2 Channel 3 Channel 4 View All System Tools

## 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

## **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
	AUX	Ports	4 (1 per channel)
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		