



# F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

## ECONOAIR PLUS SERIES



L-5P



L-12P



L-15P

# F&J ECONOAIR PLUS L-5P



The F&J Econoair Plus L-5P personal air sampler consists of a pump contained in a high impact steel fiber filled Lexan, antistatic and RFI/EMI-shielded case, exclusive electronic circuit board for constant flow control, an LCD display with 2 lines of 16 characters, a single diaphragm pump mechanism and a rechargeable NiMH battery pack.

The purpose of this pump is to draw air contaminants in through a sampling media such as 25, 37 and 47mm filter cassettes, bubble impingers, long-duration color detector tubes; to gauge personnel exposure to gases, vapors, particulates, aerosols, etc.

No tools are required to operate this pump and a password protected keypad locking system provides uninterrupted operation. The main display allows quick selection to RUN (for sampling) or MENU (to reset pumps data).

Other features include elapsed time, flow rate and accumulated volume. The built in timer counts down the sampling time up to 40 hours and automatically turns the pump off.

## Features:

- Runs 20 hours @ 2.0 LPM (37 mm 0.8 $\mu$  filter)\*
- Constant flow, high back pressure capability for 25 mm 0.45 $\mu$  asbestos filters
- Accuracy:  $\pm$  5% of compensation range
- Flows up to 5 LPM
- Flow compensation for filter plugging and battery voltage
- Dual flow range easily handles Impingers, cyclones and tubes
- "Auto-restart" within one minute of a flow fault
- Memory free rechargeable single pack battery and optional Extended run with use of triple packs
- Battery pack rechargeable while attached or separately
- Compact, rugged and quiet
- Stainless steel belt clip with built-in tripod connector
- Key pad lock system
- One year warranty



\* Actual flow rate achievable is dependent upon filter media flow resistance and diameter.

## Performance Profile: Model: L-5P

**Flow Range:** 0.8 – 5 LPM (800-5000 cc/min)  
5-799 cc/min with Universal Low Flow Holder

### Compensation Range:

5000 cc/min up to 10" water back pressure  
4000 cc/min up to 20" water back pressure  
3000 cc/min up to 40" water back pressure  
2000 cc/min up to 50" water back pressure  
1000 cc/min up to 30" water back pressure  
800 cc/min up to 15" water back pressure

**Accuracy:** ± 5% of Compensation Range

### Run Time:

Run Time (hrs) at different backpressure and flow rate (cc/min) Backpressure (inches of water)

Flow Rate	5"	10"	15"	20"	30"	40"	50"
1000	25hr	19hr	15hr	12hr	8hr		
2000	20hr	16hr	14hr	11hr	7hr	5hr	3hr
3000	15hr	12hr	9hr	7hr	5hr	3hr	
4000	13hr	9hr	7hr	6hr			
5000	9hr	6hr					

Low Flow using Universal Low Flow Holder: 5 – 799 cc/min 8 hours

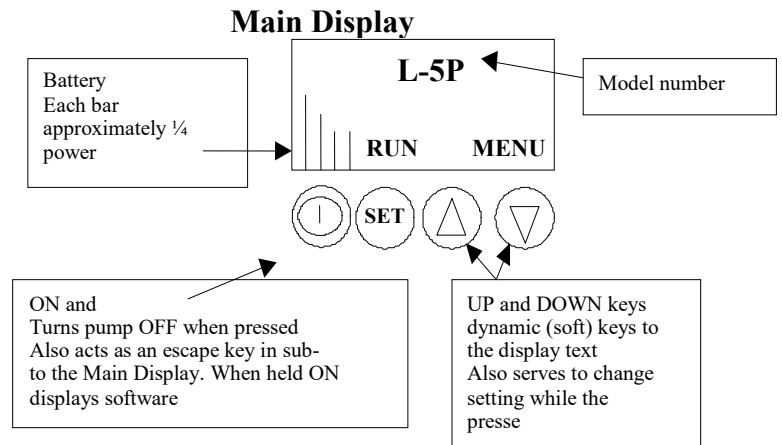
**Data Storage:** Last flow rate, elapsed clock time and accumulated volume is saved into memory until cleared for next sampling.

**Display:** Backlit LCD with 2 lines of 16 Characters

**Normal Operation:** Battery Level, Flow Rate, Elapsed Time, Volume Collected, Count down Timer

**Flow Fault Displays:** Flow Fault or Filter Off

## L-5P OPERATION DISPLAYS



## Specifications

**Power Supply:** Single Pack, NiMH Batteries: 4.8V, 2.15 Ah; Triple Pack, NiMH Batteries: 4.8V, 6.45 Ah

### Recharge Time:

Battery	Charger		
	QuickOne	QuickFive	Standard
Single Pack	2 Hr	2 Hr	10 Hr
Triple Pck	6 Hr	6 Hr	

**Quick-Chargers:** Input Voltage 100 to 240 VAC

**Standard-Chargers:** Input Voltage 120 VAC or 230 VAC

**Approvals:** CE EMC Directive (EMCD) 89/336/EEC UL and cUL (pending), ATEX (pending)

### Temperature:

Operating	32°F to 113°F	(0°C to 45°C)
Storage	32°F to 113°F	(0°C to 45°C)
Charging	41°F to 104°F	(5°C to 40°C)

**Case:** Polycarbonate steel fiber filled, RFI/EMI-shielded

**Size:** 4.5"H × 4"W × 2"D  
(11.4 cm H × 10.2 cm W × 5 cm D)

**Weight:** 19 oz (539 g)

PRODUCT	DESCRIPTION
906200	L-5P Pump Kit
946200	L-5P, 5-pack Pump Kit
109030	Adjustable Universal Low Flow Holder

\* Pump kit includes pump with a single pack NiMH battery, standard 120VAC battery charger, Luer hose adapter, shirt/hose clip, 3 feet of vinyl hose and operating manual. Kit does not include Universal Low Flow Holder for sorbent tubes.

\*\* Pump 5-pack kit includes 5 each: pumps with single pack NiMH batteries, Luer hose adapter, shirt/hose clip and 3 feet of vinyl hose. Also included is two operating manuals, One QuickFive charger 100-240VAC and a durable hard plastic 1500 Pelican case with lifetime warranty that accommodates additional accessories. Kit does not include Universal Low Flow Holder for sorbent tubes.

**Recommended Lapel Filter Holders:**  
LP-947, FJ832AB

# ECONOAIR Plus

## Model L-12P Personal Air Sampling Pump

### NOTABLE FEATURES:

- Flows up to 12 LPM\*
- Accuracy  $\pm 5\%$  of compensation range
- Displays: elapsed time, accumulated volume and flow rate
- High backpressure compensation up to 40" of water 4 LPM
- Flow Compensation for filter plugging and battery voltage
- "Auto-restart" within one minute of a flow fault
- Battery pack rechargeable while attached or separately
- Compact, rugged and quiet
- Stainless steel belt clip with built-in tripod connector
- Key pad lock system
- One year warranty

\* Actual flow rate achievable is dependent upon filter media air flow resistance and diameter.



### GENERAL DESCRIPTION:

The F&J Econoair Plus L-12P personal air sampler consists of a pump contained in a high impact steel fiber filled Lexan, antistatic and RFI/EMI-shielded case, exclusive electronic circuit board for constant flow control (patent pending), an LCD display with 2 lines of 16 characters, a single diaphragm pump mechanism and a rechargeable NiMH battery pack.

The purpose of this pump is to draw air contaminants in through a sampling media such as 25, 37, and 47mm filter cassettes, to gauge personnel exposure to particulates, aerosols and mold.

No tools are required to operate this pump and Keys lock to prevent it from being turned off. The main display allows quick selection to RUN (for sampling) or MENU (to reset pumps data).

Other features include elapsed time, flow rate and accumulated volume. The built in timer counts down the sampling time up to 40 hours and automatically turns the pump off. All data is saved, and cleared for next sample under the MENU "Clear All Data" option.

# ECONOAIR Plus Model L-12P Specifications

## Performance Profile: Model: L-12P

**Flow Range:** 3 – 12 LPM (3000-12000 cc/min)  
50-800 cc/min with Universal Low Flow Holder

### Compensation Range:

12.0 LPM from 3" up to 5" water back pressure  
10.0 LPM from 3" up to 12" water back pressure  
8.0 LPM from 3" up to 12" water back pressure  
6.0 LPM from 3" up to 30" water back pressure  
5.0 LPM from 3" up to 36" water back pressure  
4.0 LPM from 3" up to 40" water back pressure  
3.0 LPM from 3" up to 40" water back pressure

**Accuracy:** ± 5% of Compensation Range

### Run Time:

Run Time (hrs) at different Water Back pressure.

Flow Rate Water	Back Pressure							
LPM	5"	10"	15"	20"	25"	30"	35"	40"
3	50	36	26	20	17	15	12	10
4	41	29	23	17	13	11	9	8
5	31	23	18	14	11	9	8	
6	24	17	14	11	9	8		
8	14	11						
10	7	4						
12	4							

Pressure mode: 50 – 800 cc/min : 8 hours

**Data Storage:** Last flow rate, elapsed clock time and accumulated volume is saved into memory until cleared for next sampling.

**Display:** Backlit LCD with 2 lines of 16 Characters

**Normal Operation:** Battery Level, Flow Rate, Elapsed Time, Volume Collected, Count down Timer

**Flow Fault Displays:** Flow Fault or Filter Off

## Specifications

**Power Supply:** Triple Pack, NiMH Batteries: 4.8V, 6.45 Ah;

**Recharge Time:**

Battery	Charger		
Triple Pck	QuickOne	QuickFive	Standard
	6 Hr	6 Hr	12Hr

**Quick-Chargers:** Input Voltage 100 to 240 VAC

**Standard-Chargers:** Input Voltage 120 VAC or 230 VAC

**Approvals:** CE EMC Directive (EMCD) 89/336/EEC UL and cUL (pending), ATEX (pending)

**Temperature:**

Operating	32°F to 113°F	(0°C to 45°C)
Storage	32°F to 113°F	(0°C to 45°C)
Charging	41°F to 104°F	(5°C to 40°C)

**Case:** Polycarbonate steel fiber filled, RFI/EMI-shielded

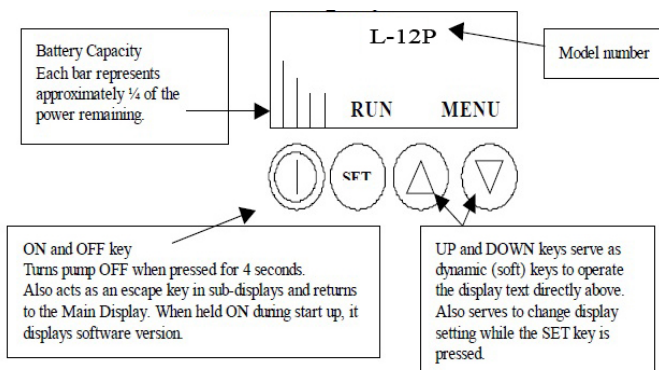
**Size:** 6.75"H × 4"W × 2"D  
(14.6 cm H × 10.2 cm W × 5 cm D)

**Weight:** 31 oz (879 g)

PRODUCT	DESCRIPTION
906250	*L-12P 120V Pump Kit
906260	*L-12P 230V Pump Kit
942512	**L-12P, 5-pack Pump Kit

## L-12P OPERATION DISPLAYS

### Main Display



\* Pump kit includes pump with NiMH triple pack battery, standard 120 or 240 VAC battery charger, Luer hose adapter, shirt/hose clip, 3 feet of vinyl hose and operating manual.  
Order QuickOne and QuickFive rapid charger and accessories separately

\*\* Pump 5-pack includes 5 each: pumps with NiMH triple pack battery, Luer hose adapter, shirt/hose clip, and 3 feet of vinyl hose. Also included: two operating manuals, one QuickFive rapid charger 100-240 VAC, and a durable hard plastic case with a lifetime warranty that accommodates additional accessories.

# ECONOAIR Plus

## Model L-15P Personal Air Sampling Pump

### NOTABLE FEATURES:

- Flows at 15 LPM for Air-O-Cell/Allergenco-D Cassettes sampling\*\*
- Accuracy  $\pm 5\%$  of display reading or pump Flow Faults
- Displays: elapsed time, accumulated volume and flow rate
- Flow Compensation for filter plugging and battery voltage
- “Auto-restart” within one minute of a flow fault
- Battery pack rechargeable while attached or separately
- Stainless steel belt clip with built-in tripod connector
- Key pad lock system
- One year warranty

\* .8 $\mu$  PCM, Max Flow with this filter 5.5 LPM.

\*\* Actual flow achievable is dependent upon filter media air flow resistance and diameter.



The F&J Econoair Plus L-15P personal air sampler consists of a pump contained in a high impact steel fiber filled Lexan, antistatic and RFI/EMI-shielded case, exclusive electronic circuit board for constant flow control (patent pending), an LCD display with 2 lines of 16 characters, a single diaphragm pump mechanism and a rechargeable NiMH battery pack.

The purpose of this pump is to draw air contaminants in through a sampling media such as 25\*, 37, and 47mm filter cassettes, to gauge personnel exposure to particulates, aerosols and mold.

No tools are required to operate this pump and Keys lock to prevent it from being turned off. The main display allows quick selection to RUN (for sampling) or MENU (to reset pumps data).

Other features include elapsed time, flow rate and accumulated volume. The built in timer counts down the sampling time up to 40 hours and automatically turns the pump off. All data is saved, and cleared for next sample under the MENU “Clear All Data” option.

# ECONOAIR Plus Model L-15P Specifications

## Performance Profile: Model: L-15P

Flow Range: 5.0 – 20.0 LPM

### Compensation Range:

20.0 LPM up to 5" water backpressure  
 15.0 LPM up to 10" water backpressure  
 10.0 LPM up to 15" water backpressure  
 9.0 LPM up to 17" water backpressure  
 7.0 LPM up to 18" water backpressure  
 5.0 LPM up to 25" water backpressure

**Accuracy:** ± 5% of Compensation Range

### Run Time:

Back Pressure	Flow Rate LPM					
Inches of water	5	7	10	12	15	18
5"	37Hr	29Hr	18Hr	14Hr	11Hr	9Hr
10"	26Hr	20Hr	13Hr	10Hr	8Hr	
15"	19Hr	15Hr	10Hr	8Hr		
20"	15Hr	12Hr	8Hr			
25"	12Hr	9Hr				

**Data Storage:** Last flow rate, elapsed clock time and accumulated volume is saved into memory until cleared for next sampling.

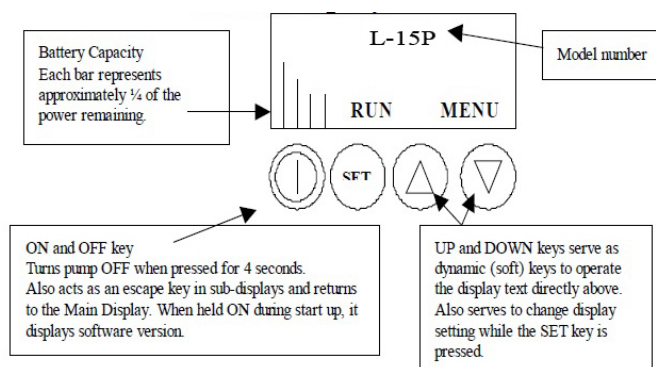
**Display:** Backlit LCD with 2 lines of 16 Characters

**Normal Operation:** Battery Level, Flow Rate, Elapsed Time, Volume Collected, Count down Timer

**Flow Fault Displays:** Flow Fault or Filter Off

## L-15P OPERATION DISPLAYS

### Main Display



## Specifications

**Power Supply:** Triple Pack, NiMH Batteries: 4.8V, 6.45 Ah;

**Recharge Time:**

Battery	Charger		
	QuickOne	QuickFive	Standard
Triple Pck	6 Hr	6 Hr	12Hr

**Quick-Chargers:** Input Voltage 100 to 240 VAC

**Approvals:** CE EMC Directive (EMCD) 89/336/EEC

**Temperature:**

Operating	32°F to 113°F	(0°C to 45°C)
Storage	32°F to 113°F	(0°C to 45°C)
Charging	41°F to 104°F	(5°C to 40°C)

**Case:** Polycarbonate steel fiber filled, RFI/EMI-shielded

**Size:** 6.75"H × 4"W × 2"D  
 (14.6 cm H × 10.2 cm W × 5 cm D)

**Weight:** 31 oz (879 g)

PRODUCT	DESCRIPTION
906250	*L-15P 120V Pump Kit
906260	*L-15P 230V Pump Kit
942512	**L-15P, 5-pack Pump Kit

\* Pump kit includes pump with NiMH triple pack battery, standard 120 or 240 VAC battery charger, Luer hose adapter, shirt/hose clip, 3 feet of vinyl hose and operating manual.  
 Order QuickOne charger and accessories separately

\*\* Pump 5-pack includes 5 each: pumps with NiMH triple pack battery, Luer hose adapter, shirt/hose clip, and 3 feet of vinyl hose. Also included: two operating manuals, one QuickFive rapid charger 100-240 VAC, and a durable hard plastic 1600 Pelican case with a lifetime warranty that accommodates additional accessories.

# FILTER PAPER MEDIA

F&J provides filter media of various characteristics in many different dimensions.

F&J provides its own proprietary filter grades, as well as those manufactured by Whatman, Ahlstrom and Millipore.

Filter Media Types:

Glass Fiber, Cellulose and Membrane

Typical Dimensions:

<u>Diameter (mm)</u>	<u>Diameter (Inches)</u>	<u>Sheets</u>
21, 25, 37, 47, 50 60, 70, 76 and 102	2, 2.25, 3.0 and 4.0	8"×10" (20,3 cm × 25,4 cm)





# LAPPEL FILTER HOLDERS for PERSONAL AIR SAMPLERS



Open face lapel filter holders for utilization with personal air samplers. Snap cap, screw on cap or cassette styles are available.

## MATERIALS

Plastic

Aluminum

Stainless Steel

-

## STYLES

- Open Face
- Cassette
- Particulate
- In-Line
- Combination (charcoal/particulate)

<b>P/N</b>	<b>Description</b>
LP-947	Lapel, Open-Face Filter Holder, 47 mm cassette style. Connector fitting for 3/16" ID tubing
LP-948	Lapel, In-Line Filter Holder, particulate, plastic. Connector fitting for 3/16" ID tubing
FJ-832	Lapel, Open-Face Filter Holder, 5/16" hose barb, screw on cap
FJ-832A	Lapel, Open-Face Filter Holder, 3/16" hose barb, screw on cap Utilize with 47mm filter paper only
FJ-832AB	Lapel, Open-Face Filter Holder, 3/16" hose barb, screw on cap Utilize with 47mm filter paper in combination with FJ433 charcoal cartridge
FJ-832B	Lapel, Open-Face Filter Holder, 5/16" hose barb, screw on cap Utilize with 47mm filter paper in combination with FJ433 charcoal cartridge

# F&J MINI-CALIBRATOR



## NOTABLE FEATURES:

- ❖ Various Flow Ranges Available
- ❖ Lightweight; 8 oz. (227 gms)
- ❖ Small Footprint
- ❖ Adjustable Height
- ❖ Corrects Flowrate to STP
- ❖ Displays Airflow Temperature
- ❖ Displays Barometric Pressure
- ❖ Bright LED with large characters
- ❖ English or Metric Engineering Units

(set at factory) Selection:

<u>Flow</u>	<u>Temperature</u>	<u>Barometric Pressure</u>
SCFM	°F	Inches Hg
sccm	°C	mmHg
SLPM		kPa
SCMH		

The F&J Mini-Calibrator is a small, lightweight microprocessor controlled instrument with sophisticated electronics.

The Mini-Calibrator, which is an exclusive F&J design, is a direct reading instrument utilizing a bright LED with large characters that are easily viewed by an operator. A NIST traceable calibration certificate is issued with each calibrator.

The Mini-Calibrator can be utilized as a handheld unit for field calibrations or temporarily mounted in a variety of methods without requiring a level position. The hose barb fittings permit easy connection to the air samplers utilizing flexible tubing.

# F&J's Mini Calibrator

## MODEL SELECTION

		Flow Range		
100V	230V	SCFM	SLPM	sccm
MC-300CC	MC-300ECC		0.075 – 0.3	75 – 300 cc/m
MC-500CC	MC-500ECC		0.2 – 0.5	200 – 500 cc/m
MC-1L	MC-1LE		0.2 – 1	
MC-3L	MC-3LE		0.5 – 3	
MC-5L	MC-5LE	0.02 – 0.18	1 – 5	
MC-15L	MC-15LE	0.07 – 0.53	3 – 15	
MC-25L	MC-25LE	0.14 – 0.88	4 – 25	
MC-30L	MC-30LE	0.11 – 1.06	6 – 30	
MC-50L	MC-50LE	0.18 – 1.8	10 – 50	
MC-60L	MC-60LE	0.2 – 2	12 – 60	
MC-75L	MC-75LE	0.26 – 2.6	15 – 75	
MC-115L	MC-115LE	0.5 – 4	15 – 115	
MC-175L	MC-175LE	0.63 – 6.2	30 – 175	
MC-250L	MC-250LE	1 – 9	50 – 250	

## GENERAL SPECIFICATIONS

Power Requirements	100 or 230 VAC; 47-63 Hz; 0.3 amps maximum
Operating Temperature	40 - 104° F (4 - 40° C)
Storage Temperature	22 - 158° F (-5 – 70° C)
Dimension (L×W×H)	3.25" × 2.50" × 2.00" (82,6 mm × 140 mm × 50,8 mm)
Weight	8 ounces (227 gs)

## MEASUREMENT ACCURACY

Air Flow	± 2% of full scale
Temperature (Typical)	± 2°F (1.1°C)
Barometric Pressure	± 2% over measurement range

## CALIBRATION

Factory calibration is recommended once per year.

## OPTIONS

- ❖ RS-232 interface, including cable.

All measured and calculated parameters are accessible through RS-232 port to a computer.

## DISPLAY PARAMETERS and RESOLUTIONS

Parameter	Engineering Unit	Resolution
CFM	Cubic feet per minute	0.01 CFM
LPM	Liter per minute	0.1 LPM
M <sup>3</sup> /hr	Cubic meter per hour	0.01 M <sup>3</sup> /hr.
F	Degree Fahrenheit	0.1° F
C	Degree Celsius	0.1° C
In-Hg	Inches of Mercury	0.01 In-Hg
mm-Hg	Millimeters of Mercury	1 mm-Hg

# PRODUCT PROFILE

## Air Sampling Systems

- High Volume Air Samplers
  - Portable Grab Samplers
  - Environmental Systems
  - Enzyme Dust Samplers
  - PM10 Systems
- Continuous Air Samplers
  - Environmental Systems
  - Portable
  - Fixed Station
- Personal Air Samplers
- Emergency Response DC Powered Air Sampling Systems

## Filter Paper

- Glass Fiber
- Cellulose
- Membrane
- Quartz

## Filter Holders

- Open face
- In-Line
- Lapel Monitors
- Materials
  - Plastic
  - Aluminum
  - Stainless Steel

## Radon Detection Devices

- 2-Day Passive Charcoal Canisters
- 7-Day Passive Charcoal Canisters
- Continuous Radon Monitors

## Tritium Detection Systems

- Portable and Fixed Station Collection Systems utilizing Silica Gel or Molecular Sieve Absorbents
- Continuous Tritium Monitors

## New Products

- Global Air Sampling Systems
- Digital Flowmeter Air Samplers
- C-14 Collection Systems
- ELITE DIGITAL LIGHT (EDL) Air Samplers
- Isokinetic Air Sampling Systems
- MEGA High Volume Air Samplers
- ULTRA High Volume (CTBTO) Air Samplers

## Radioiodine Collection Cartridges

- TEDA Impregnated Charcoal
- Silver Zeolite
- Custom Cartridges
- Bulk Silver Zeolite

## Air Flow Calibrators

- World Calibrator Series
- Compact Digital V.2 Series
- Bubble Calibrators for Personal Air Samplers

