

# FP Series

## FIXED & ADJUSTABLE FLAT PACK FORMING SYSTEMS

***Cut and Form Leads to Mil-Spec Quality  
Manual or Pneumatic Systems Fit Any Budget***

### FIXED DIES MANUFACTURED TO YOUR SPECS

- ***Ensure Maximum Accuracy and Repeatability***
- ***Single-Cycle, Simultaneous Cutting and Forming***
- ***Clamping of Leads Prevents Component Damage***

### ADJUSTABLE DIES FOR FLEXIBILITY/ECONOMY

- ***Form Flat Packs to a Variety of Reflow Shapes***
- ***Variable Bend Distance, Stand-Off & Cut Length***
- ***Micrometer Adjustment for Fast Form Conversion***
- ***Choice of Single-Sided or New Two-Sided Die***

Cut and form flat packs to exact specifications with Manix Manufacturing's **FP Series** lead forming systems.

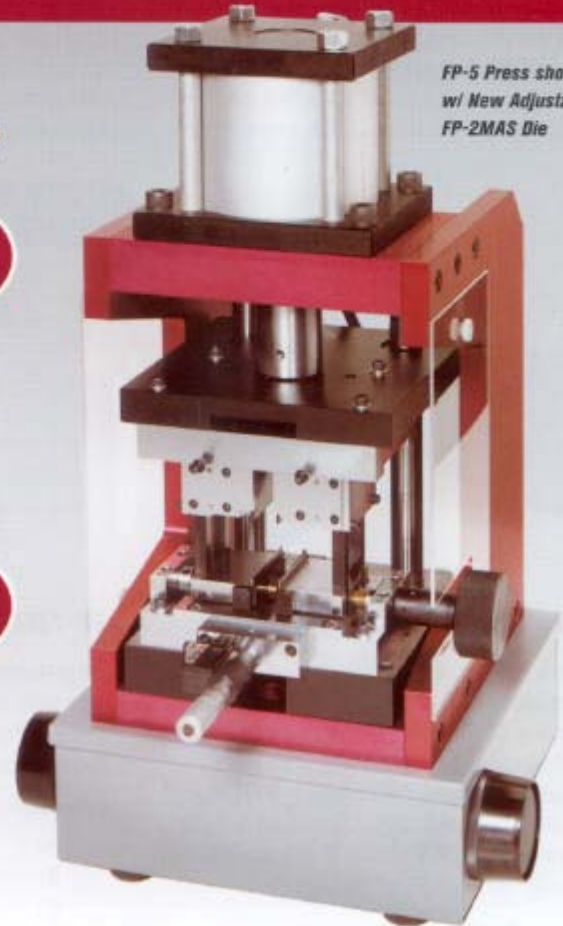
Circuit assemblers will enjoy the ease and precision in which FP systems prepare components for either through-hole or surface mount applications. Component manufacturers will also find FP dies and presses profitable tools for providing their customers the value-added convenience of ready-to-mount devices.

Interchangeable dies, mounted to your choice of a compact manual or pneumatic press, form leads with extreme accuracy and uniformity and provide burr-free cutting to precise, repeatable lead lengths.

The economical **FP-1** press is hand-lever operated, while the pneumatic **FP-5** press utilizes a heavy-duty, 3" stroke cylinder. Dual, right and left hand interlock switches ensure maximum operator safety.

Dies are available for any size SMD, IC or ASIC component. Fixed dies are customized to your precise specifications by our highly experienced design and manufacturing staff and offer maximum repeatability.

Two standard adjustable dies have also been developed to trim and form virtually any package to a reflow configuration. Body-to-bend distance, stand-off height and cut length can be changed in seconds.



*FP-5 Press shown  
w/ New Adjustable  
FP-2MAS Die*

# FP Series

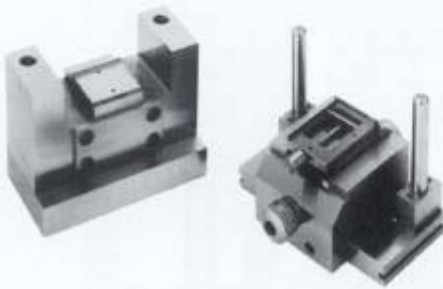
## PRINCIPLE OF OPERATION

The **FP Series Flat Pack Forming System** consists of either a manual or a pneumatic press and interchangeable lead forming dies. To begin production, the operator inserts an unformed component into the die and pulls the handle on the manual **FP-1** press or depresses dual, OSHA approved palm switches on the pneumatic **FP-5** press. The component

leads are first firmly clamped to prevent stress damage, then formed and trimmed all in a single step. Once the cycle is completed, the die opens and the operator removes the perfectly formed part. Each die is designed and manufactured to your exact forming specifications in our factory by our highly-experienced team of engineers and toolmakers. All

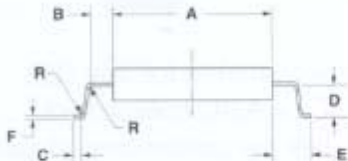
dies are made of tool steel with a 60-62 Rockwell hardness for extended life. Die changeover is performed in a matter of seconds through the use of two, unique holding clamps. Components can be simply punched from leadframe strips or formed to an almost limitless variety of forms.

## DIE SPECIFICATIONS



### Fixed Dies

Manix fixed dies are fabricated to your forming specifications. Trimming and forming of all leads occurs simultaneously in a single press actuation. Adjustable stand-off height is available on all fabricated dies. Stand-off height (dimension "D" below) is adjustable from 0" to 0.250".



### FP-1 Manual Press

Recommended for applications with low production requirements and simple trimming and forming.

**Activation:** Hand Lever  
**Rate:** Up to 500 parts per hour  
**Dimensions:** 15"H x 7"W x 8"D  
**Weight:** 7 lbs.  
**Stroke:** 1.5"

### FP-1MAS

Adjustable die trims and forms leads on one side of the component per each press actuation. A unique holding fixture ensures repeatability.

Dimension	Min.	Max.
A:	0.300"	2.400"
B:	0.030"	2.965"
C:	0.040"	specify
D:	0.000"	0.200"
E:	2R + B + C + F	
F:	0.005"	specify
R:	0.005"	specify

### FP-5 Pneumatic Press

Recommended for more complex forming requirements or higher volume production runs.

**Activation:** Dual Palm Switches  
**Rate:** Up to 1000 parts per hour  
**Dimensions:** 25"H x 16"W x 9"D  
**Weight:** 90 lbs.  
**Force:** 80 PSI  
**Stroke:** 3"

### FP-2MAS

Adjustable die trims and forms leads on two sides of the component per each press actuation. Micrometer adjustments permit quick form changes.

Dimension	Min.	Max.
A:	0.160"	2.125"
B:	0.030"	1.100"
C: (fixed)	0.040"	specify
D:	0.000"	0.125"
E:	2R + B + C + F	
F:	0.005"	specify
R:	0.005"	specify

## PRESS SPECIFICATIONS

### Die Construction

Licensed toolmakers fabricate all dies to exact specifications. Precise milling, EDM and grinding ensure superior accuracy and performance. **Call Manix for further details.**

**Material:** Tool Steel  
**Hardening:** 60-62 Rockwell  
**Plating:** Flash Chrome

**MANIX**  
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