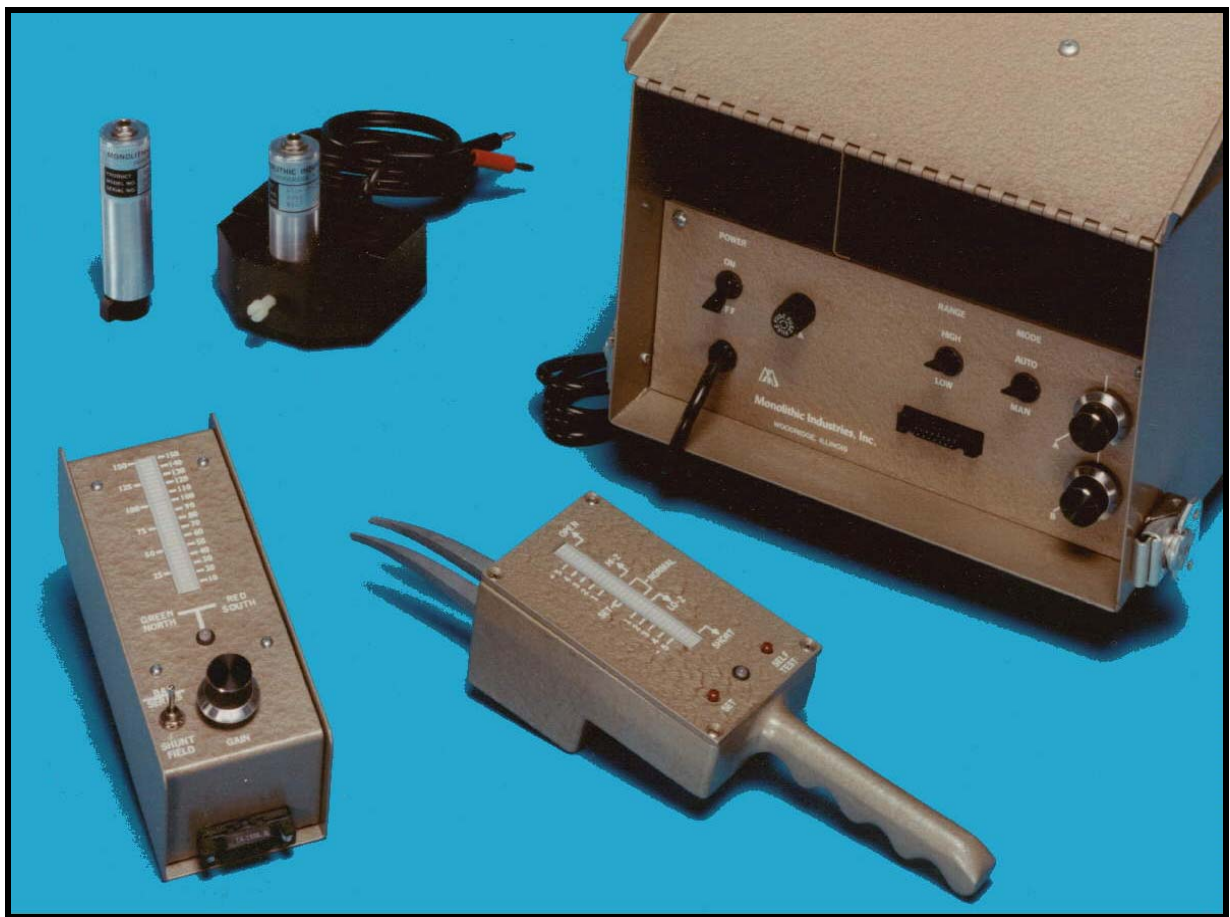


# **MOTOR ANALYSIS SYSTEM**

**An economical and versatile test instrument  
for rotating equipment**



**Monolithic Industries Inc.**

[www.monolithicind.com](http://www.monolithicind.com)

Woodridge, IL 60517

Ph 630-985-6009

Fax 630-985-4405

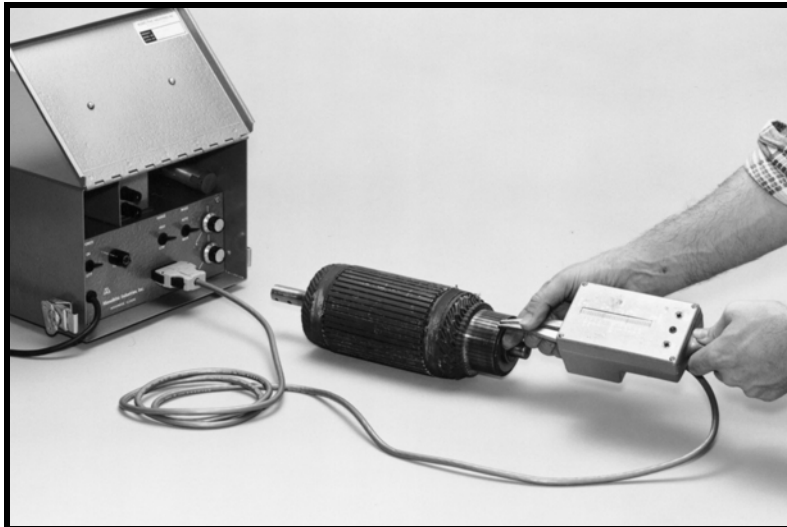
# Bar to Bar Tester

## M117 Mainframe

The M117 Mainframe is a self contained unit that forms the basic component of the Motor Analysis System. The Mainframe contains the necessary power supplies, amplifiers and logic necessary to drive the various heads and probes allowing numerous tests on a wide range of rotating equipment. Auxiliary heads may be added at any time and require no modification or alteration to the standard M117. The mainframe comes complete with a 7 foot cable that interfaces with the heads.

## M117 Specifications

Power req:	120vac standard or 220vac optional 220va maximum
Size:	10 ½" x 7 ½" x 15"
Weight:	26 lbs.
Construction:	16 Gauge welded steel case in brown hammertone



M117 & H12

## H12 Armature Head

The H12 Armature head performs a four point AC variable frequency impedance test on DC armatures. The H12 in concert with the M117 automatically selects one of four thousand different frequencies and power levels to match the armature being tested. The automatic feature makes the H12 fast to set up and easy to use. The H12 permits accurate and repeatable analysis of most common armature problems such as shorts, opens, crossed connections, partial opens or shorts and misconnects. Armatures with equalizers and uneven turns are also easily tested. These features make the M117 and H12 an affordable and practical bar to bar test instrument.

## H12 Specifications

Power req:	Supplied by M117 Mainframe
Test frequency:	100hz to 5khz
Max. Current Output:	2.5amps true rms
Self test Mode:	Provides functional test of the H12 & M117
Operation:	Switch selectable fully automatic or manual
Construction:	Cast aluminum housing with Al Mn Mg alloy probe fingers
Readout:	30 segment solid state bar graph

# Field Coil & Neutral Plane Test Head



HE7 & FPH2 flux probe

## Magnetic Head Model HE7

The HE7 allows testing of series fields, interpoles and shunt fields. When used with the FPH2 flux probe it is possible to test most coils in the machine without breaking the individual coil connections or isolating the coils from one another. The test quickly identifies coil polarity. The probe measures the impulse magnetic field flux generated by each coil allowing a relative comparison between coils. Shorted turns are indicated as a reduction in flux generated by a coil. The HE7 allows easy and precise setting of neutral plane.

Since the HE7 supplies all impulse power to the fields being tested, there is no need to connect the motor to a test panel or any other power source.

The HE7 comes with the FPH2 flux probe and all necessary cables.

## HE7 Specifications:

Power requirements:	Supplied by M117 Mainframe
Output:	Unipolar pulse
Output current:	40amps (short circuit)
Pulse width:	6ms and .5sec
Repetition rate:	10hz and 1.5hz switch selectable
Readout:	30 segment bar graph

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## Induction Rotor Head Model FPV2

The FPV2 consists of a flux probe and coil assembly that is used with the HE7 Magnetic Head. The FPV2 will test for open bars, voids, off center cages and open end rings. The coil assembly can be used on rotor diameters greater than 3" and up to about 100hp. The FPV2 allows a greater degree of accuracy over the conventional growler and feeler blade method.



FPV2 flux probe & coil assembly

## Test Chart

Item Tested	Tests Performed	Notes	H12 Armature Head	HE7 Magnetic Head	FPH2 Flux Probe	FPV2 Flux Probe
Dc Armature	Shorts, opens, crossed turns, misconnects etc	Used on Fractional Hp through large traction motors	<b>X</b>			
Series Fields & Interpoles	Magnetic field strength and polarity with coils in machine and armature removed	Coils can be connected and taped	<b>X</b> <small>Alternate Method</small>	<b>X</b>	<b>X</b>	
Shunt fields	Magnetic field strength and polarity with coils in machine and armature removed	Coils can be connected and taped		<b>X</b>	<b>X</b>	
Neutral Plane	Sensitive alignment of neutral plane	Power supplied by M117		<b>X</b>	<b>X</b>	
Induction Rotor	Voids, open bars, open end rings, off center cage etc	Approx. 100 Hp maximum capability		<b>X</b>		<b>X</b>

**Note: All heads require the M117 Mainframe**



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