

## Parker P2 and P2S Contour Probes – Specification Sheets

The model P2 and P2S Contour Probe is a rugged high performance instrument designed for Magnetic Particle inspections to accepted Non-Destructive testing standards of common practice. Certain operating procedures and safety precautions should be observed.

**ELECTRICAL: P2:** 115VAC, 4A, 60Hz, 1P. **P2S:** 230VAC, 1.5A, 50-60 Hz, 1P.

**Note:** The P2S is sold without an electrical power cord plug. Only locally approved plugs should be used and installed by certified personnel. Do not operate this instrument from a DC output.

**PHYSICAL:** Weight: **P2:** 4.6-lbs. (2.08 kg). **P2S:** 4.9-lbs. (2.22 kg) Leg Spacing: 0" to 12" (304.8mm)



**DUTY CYCLE:** The desired duty cycle should be Two minutes On, Two Minutes Off, Outward heating of the plastic case indicates excessive on time.

**OPERATING ENVIRONMENT:** Operating temperature: 32 Degrees to 104 Degrees F. Relative Humidity: 10% to 95%, non-condensing.

FIG. 1

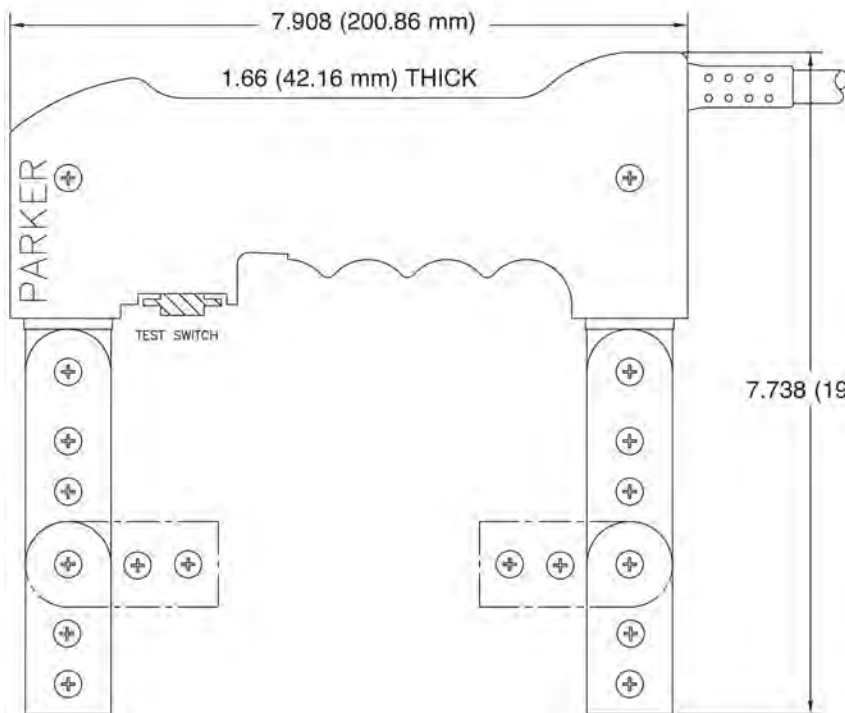
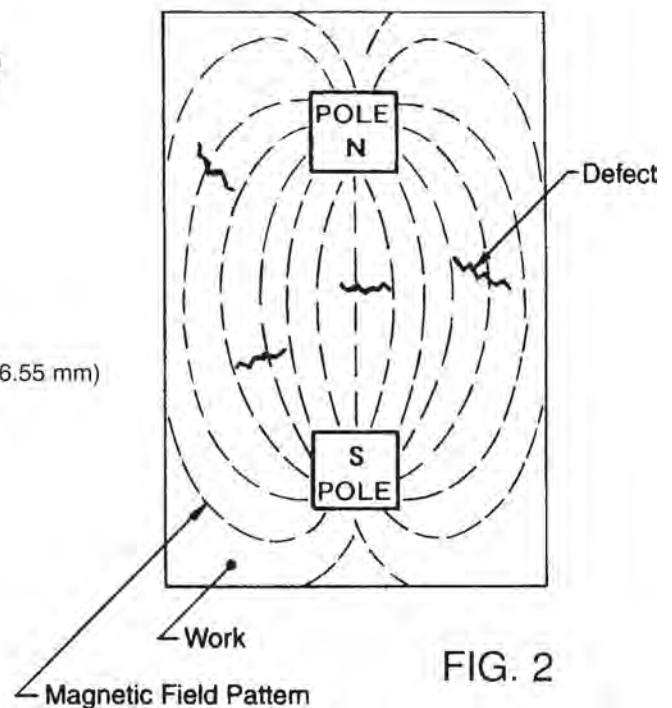


FIG. 2





**INSTRUMENT DESCRIPTION:** Basically, the P2 Contour Probe is an electro-magnet that produces a strong A.C. magnetic field. Placement of the two poles (legs) upon a ferrous metal test part merely provides a path for the intense magnetic field to pass from one pole to the other. The part completes the flux path and becomes highly magnetized in a longitudinal direction.

In overall design and performance, the P2 Contour Probe comprises a coil wound on a laminated steel leg assembly contained within the rugged molded housing. Flexibility of the laminated legs permits the magnetic field to be “focused” to the precise area of inspection.

**OPERATION:** Connect the instrument plug into a Grounded power outlet of proper voltage. Place the Contour Probe legs upon the work surface with the suspected defect at right angles to the legs (Good contact will produce the best results). Push the test switch to energize the instrument. Lightly dust or float dry magnetic inspection powder over the area being inspected. Defect indications will be revealed in a direction shown on figure 2. Turn the Probe 90 degrees from the first test and repeat the procedure. This may also be utilized when applying a wet medium. Check all procedures and standards for further details involving inspection.

**DEMAGNETIZATION:** Small pieces, which have become residually magnetized, may be easily demagnetized by the following procedure: Energize the Probe and pass small parts through the area between the leg ends “feet” and withdraw to a distance of approximately two feet. On large pieces, place the Probe in the same position as inspection, energize the Probe and lift from the work surface to a distance of approximately two feet. This procedure may need to be performed more than once to remove the residual field.

**A.C. MAGNETIZATION:** An A.C. magnetic field induced into a part is a “skin” or surface field and does not penetrate the cross section of the material. A bi-product of A.C. is in the form of eddy currents. These eddy currents tend to guide or direct the magnetic field in a narrow pattern between the poles. Another bi-product is a vibratory action, which adds mobility to the inspection particles to form a more highly defined powder build-up at the defect. For these reasons, an A.C. magnetic field is the most desirable for the detection of surface breaking defects.

**CAUTION:** Small parts may become magnetically saturated due to excessive field application. This may cause a masking effect to the point where it is impossible to define a defect.





**WARRANTY:** The Parker P2 and P2S are warranted against malfunction due to defective material and or workmanship. The defective unit will be repaired or replaced (less incoming freight charges) for a period of one year from the date of sale. This repair warranty does not apply to altered units. Repair or replacement of the defective unit will be made at the discretion of Parker Research Corporation. Repaired or replacement unit(s) will be returned to the original customer prepaid.

The obligation of Parker Research Corporation is limited to the repair or replacement of the defective unit. No other obligation is expressed or implied. Parker Research Corporation assumes no liability from any claim arising from the use of this equipment.

**CAUTION:** For the correct and safe use of this equipment, training of operating personnel is required. Use of proper inspection procedures, standards compliance and safety requirements is the obligation of the user. **ALWAYS WEAR SAFETY GLASSES WHEN USING THIS EQUIPMENT!**