

H A N D Y M A G N A
Model : HM-52L

Operational and Instructions manual



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1. Components

- (1) Main unit
- (2) Power cable - 5 meters length (3 - wired gum cap tier cable)
- (3) Steel keeping case

2. Specification

Input power supply	AC115 V 60 Hz
Rated current	About 0.9A
Magnetic flux	About 0.29mWb
Lifting power	Over 4.5 kg
Duty cycle	5 second ON and 2 second OFF
Magnetic pole size	15 x 15 mm
Magnetic pole pitch	L1=53, L2=68mm
Weight of the unit	About 1.0kg

3. Operational procedure

- (1) Connect the power cable to the AC 115 Volts 60 Hz power supply. To avoid the electrical shocking make sure that proper earth line connection is provided.
- (2) Keep the magnetic pole to make firm contact on the work piece, switch "ON" the current and apply the magnetic particle inspection medium(continuous method).
- (3) Before commencing the actual testing check and confirm the sensitivity level of the magnetic particle testing using the JIS A-1 type sensitivity shim. Also decide about the pitch length of the testing , using the sensitivity of the above test shim.
- (4) While doing the testing with this electromagnet, magnetize the component by pressing the hand button switch of the HANDY MAGNA and then apply the inspection medium. (i.e. the dry / wet magnetic particle)

Wait until the magnetic particle inspection suspension medium movement is stopped, switch off the magnetizing current and start doing the inspection.

4. Precautions

- (1) The magnetic field will be most effective in detecting the defects that are lying perpendicular the field. Hence the inspection need to be done in two mutually perpendicular directions.
- (2) Do not switch "ON" the unit unnecessarily before making firm & proper contact on the work piece or when the yoke is not on the job. If it is done so it may either spoil the switch or over heat the magnetizing unit.
- (3) Follow the inspection duty cycle strictly.
- (4) Make sure that proper earth contact is provided to avoid the electrical shocking.
- (5) The unit is built rugged but do not drop it on the ground nor damage the insulation of the cable.
- (6) Do not pull the cable loosely while disconnecting as there may be a chance of electrical shocking.
- (7) Never use the HANDY MAGNA inside water as it may lead to electrical shocking.
- (8) Although the switch is water proof some times it may have chance that may give electrical shock.

5. Periodic check

- (1) At least once a year check the earth line connection. If the value is less than 1 Mega Ohm then do not use the unit and scrap it.
- (2) While using the equipment with the ASME code please check and confirm the lifting power of the Handy Magna.
When measurement lifting power, please use attached yoke.
- (3) Before using the unit for the actual inspection purposes please check the sensitivity level of the magnetic testing using the JIS A-1 type sensitivity shim.
- (4) Check for any damage of the mould of the magnetizing unit as well as the cable insulation.