

5

Indent No.: 20175175 Specification No. : ISE & CPL/01/17-18	SPECIFICATION OF MAGNETIC PERMEABILITY TESTER	Date : 23.01.2018 Page 1 of 4
---	--	----------------------------------

1. Purpose :

The Magnetic permeability Tester will be used for measurement of magnetic permeability of various grades of steels in ready made components and fittings for Turbo-generators - like nipples, union nuts, sleeves and hoses where magnetic permeability of max. $\mu_r \leq 1.5$ is allowable.

It shall also be used to check magnetic permeability of non-magnetizing steel for components like Rotor Retaining Ring, Core Press Finger, Bolt of Bus Bar, Disc Spring etc.

The instrument should be lightweight, hand held, portable instrument for easy measurement of the relative magnetic permeability μ_r of feebly magnetic material and workpieces by touching the workpiece with a probe tip and reading the result from the display.

2. Specifications:

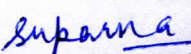
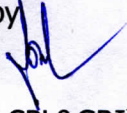
The detailed specifications are as given below:

- The Magnetic Permeability measurement should be compliant with ASTM A342, IEC 60404-15 & preferably MIL-I-17214 standard
- Capable of Easy operation
- Preferable Measurement range: $\mu_r = 1.000$ to 1.999
- Calibration standard sample should be provided for self calibration of the unit

Prepared by <u>Suparna</u> Suparna Majumdar DGM(ISE&CPL)	Checked & Approved by <u>[Signature]</u> Ram Sewak AGM(ISE,CPL&GRI)
--	---

Indent No.:20175175 Specification No. : ISE & CPL/01/17-18	SPECIFICATION OF MAGNETIC PERMEABILITY TESTER	Date : 23.01.2018 Page 2 of 4
--	--	----------------------------------

- e) Calibration standard samples should be calibrated to reference standards traceable to national/international standard
- f) Should have atleast 3.5 digits LC display for display of the results
- g) Should have Automatic Zeroing feature
- h) Preferably waterproof case
- i) Resolution of measurement should be preferably 0.001 or better
- j) Accuracy of calibration @ 20°C should be 5% of the measured value or better
- k) Operating temperature 0 to 50 °C preferably
- l) Preferably Battery operated. Mains operated with adaptor is also acceptable
- m) Length of Connection Cable – 1.5m or more
- n) Weight of the Instrument- 700 g or less including batteries

Prepared by  Suparna Majumdar DGM(ISE&CPL)	Checked & Approved by  Ram Sewak AGM(ISE,CPL&GRI)
---	--

Indent No.: 20175175 Specification No. : ISE & CPL/01/17-18	SPECIFICATION OF MAGNETIC PERMEABILITY TESTER	Date : 23.01.2018 Page 3 of 4
---	--	----------------------------------

2) Measurement Method:

By touching the workpiece with a probe tip and reading the result from the display/Fluxgates/Hall-sensors etc.

3) Applications :

- Measurement on Feeble/ Non- Magnetic material
- Non-destructive testing of materials and workpieces of irregular shape,sizes and on small steel components like nipples, union nuts, sleeves and hoses or direct measurement on machined or purchased components
- Detection of ferromagnetic inclusions in materials
- Detection of material defects induced by stress

4) Pre-Qualification Requirement(PQR)

a. Only those vendors (OEMs/ Authorised dealers) should quote , who had supplied at least one such instrument along with accessories like S/W, cables and other optional accessories in the past 3-years (on the date of opening of tender) and the supplied instrument, is presently working satisfactorily for more than one year (on the date of opening of tender).

b) The following information's are to be furnished by the vendor:

- i) Name of the customer/company with complete address, telephones, email etc. where the high precision Magnetic Permeability Tester is installed and working satisfactorily.

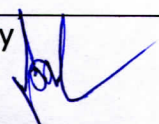
Prepared by <i>Suparna</i> Suparna Majumdar DGM(ISE&CPL)	Checked & Approved by <i>[Signature]</i> Ram Sewak AGM(ISE,CPL&GRI)
--	---

Indent No.: 20175175 Specification No. : ISE & CPL/01/17-18	SPECIFICATION OF MAGNETIC PERMEABILITY TESTER	Date : 23.01.2018 Page 4 of 4
---	--	----------------------------------

- ii) P.O.No., date, scope of supply and month & year of installation.
- iii) Name and designation, mob. no., email of the contact / concerned person of the customer/ party.
- iv) Performance certificate from the customer(s), clearly mentioning the break-downs if any, and corrective method applied.

5) General Requirements :

- a) The party should quote complete system including the accessories specific to their system.
- b) The party is to supply one set of original operational and service manuals (hard copy), detailed calibration certificate traceable to national/international standard.
- c) The party should provide guarantee/warranty minimum for one year from the date of commissioning.

Prepared by  Suparna Majumdar DGM(ISE&CPL)	Checked & Approved by  Ram Sewak AGM(ISE,CPL&GRI)
---	--