

- Variable field ± 3 T
- High uniformity over the whole excitation range
- Large 25 mm pole gap
- Compact
- Low fringe magnetic field
- Cryogen Free



APPLICATIONS

- Magnetic field probe calibration.
- Hall-effect studies
- NMR/NMRD
- ESR
- FMR
- Transport studies

PERFORMANCE

- 3 T variable field
- Better than 50 ppm field uniformity (10 mm DSV) across the excitation range
- Suitable for NMR tesla meter
- Large fixed pole gap (25 mm)
- Large sample access slot: 25 x 150 mm
- Optional high stability unipolar power supply
- Optional electric shims [Z, Y, Z, Z₂] to further increase uniformity (<1 ppm over 10 mm DSV)

EASY TO USE

- Cryogen-free operation: no handling of liquid helium or nitrogen
- Magnet safety monitoring electronics included
- Reliable mechanical cooling (<4 kW input power)
- Low water cooling requirements, optional chiller

EASY TO SITE

- Compact size
- Very low fringe field, may be reduced further with optional enclosure
- Compressor can be sited remotely (up to 10 mm)
- Vertical or horizontal access slot orientation

SYSTEM SPECIFICATIONS:

- 3 T full field at 180 A.
- Better than 50 ppm uniformity (10 mm DSV across the excitation range (<1 ppm with RT shims).
- System cool down (room temperature to operating temperature): <30h (60 Hz).
- Sample access: 25 x 150 mm.
- Fringe field: 5 gauss line at < 1.6 m (axial) and 1.3 m (radial) from magnet centre.
- Magnet mass: 200 kg.
- System mass with bipolar power supply, cryocooler and compressor: 450 kg.

STANDARD SYSTEM INCLUDES:

- Magnet sub-system with integrated cold-head.
- 19" rack-mounted compressor and power supply.
- Active magnet protection electronics linked to integrated temperature sensors and voltage taps.
- Magnet energy dump system.
- Bipolar power supply or optional high stability. (0.3 ppm/h) unipolar supply.
- 1 year warranty.

APPLICATION EXAMPLE:

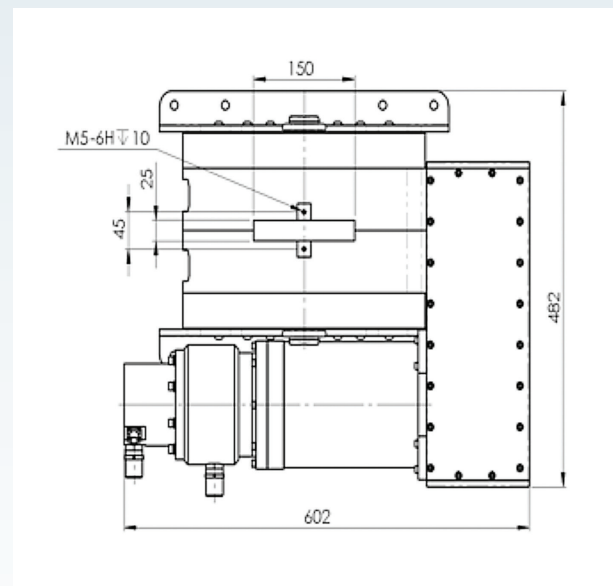
- Variable Field Relaxometry (NMRD Nuclear Magnetic Relaxation Dispersion)
- Developed in association with Stelar (Italy)
- Used for example in characterisation of new MRI contrast agents optimised for new higher-field MRI systems

SYSTEM OPTIONS:

- Field control system.
- Electrical shimming for improved field homogeneity (X, Y, Z, Z²).
- Low maintenance vacuum pump.
- Magnet enclosure for reduced fringe field.
- Water chiller.
- Extended warranty.
- RT shim set.

SITE REQUIREMENTS:

- <6 litres water per minute for compressor
- 50/60 Hz, ~4 kW.
- Scheduled maintenance on cold-head every 13,000 h, compressor 30,000 h.
- Vacuum pump for initial installation and maintenance; turbomolecular pump recommended with minimum pumping speed 30 l/s and ultimate pressure <1E - 7 mbar.



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