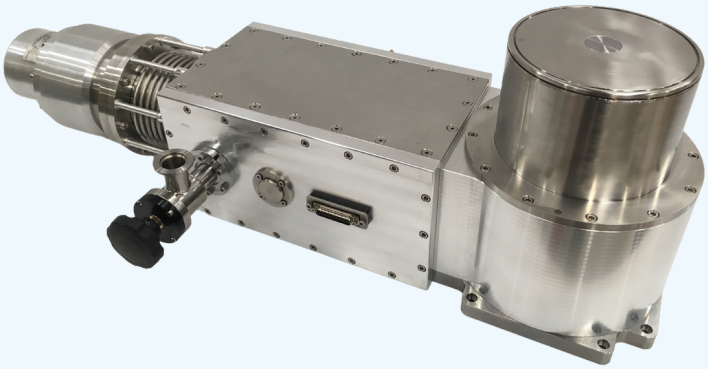
2 T PROJECTED-FIELD HTS MAGNET



- **Compact**
- **Cryogen-free**
- **Fast-ramping**
- **Excellent sample access**
- **Low vibration**
- **Sample can be isolated from magnet**

Applications

HTS-110's projected-field magnet is designed to meet a variety of applications:

- Magnetic probing systems
- Scanning Probe Microscope (SPM)
- Scanning Tunnelling Microscope (STM)
- Atomic Force Microscope (AFM)
- Magnetic Force Microscope (MFM)
- Magneto-optic measurement
- Hall effect measurement

Performance and versatility

- Fast cool-down
- Fast ramping
- Cold-head can be end- or side-mounted for maximum compatibility
- External pole to refocus magnetic field in sample environment

Benefits

- Complete hemispherical sample access
- > 2.5 T peak field above the pole tip
- Large uniform field area in the radial direction
- Low vibration
- Sample can be mounted independent of the magnet, ensuring no vibration coupling
- Compact field-coil volume aids experimental integration

Easy to use, easy to site

- Cryogen-free operation; no helium or nitrogen handling, storage, or level monitoring
- No specialist training required to operate
- Magnet power supply and compressor can be sited remotely, up to 10 m from magnet

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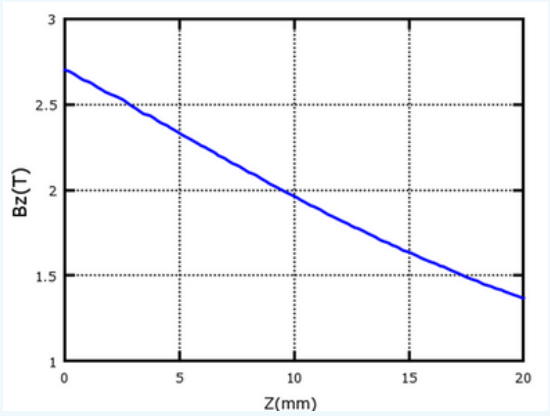
HTS-110

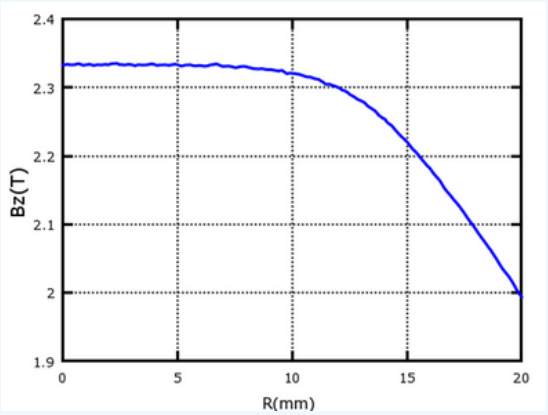
2 T PROJECTED-FIELD HTS MAGNET

Specifications

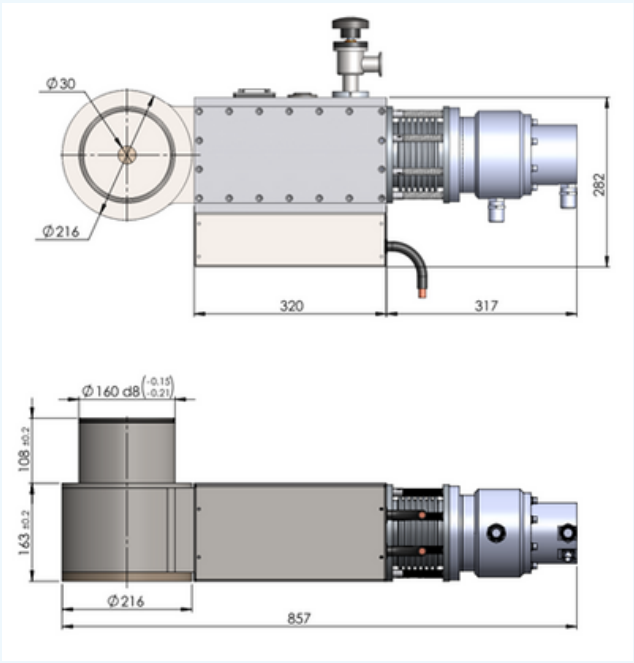
Peak field (at 1 mm above the top surface)	2.6 T
Peak field (at 5 mm above the top surface)	2.3 T
Field homogeneity at 5 mm above the top surface over Φ10 mm area	0.5 %
Maximum current	200 A
Ramping time	1 min
Cool-down time	20 h
Weight	55 kg



Field profile above the top surface in the axial direction



Field profile above the top surface in the radial direction



Standard system includes

- Magnet sub-system with integrated cryocooler
- Bipolar four-quadrant power supply
- Fast up/down field ramp
- Active magnet protection electronics and energy dump linked to integrated temperature sensors and voltage taps
- 1 year warranty

Site Requirements

- 4-9 litres/min water for the compressor (air-cooled option available)
- 50/60 Hz, 3P, 200 or 380-415/460-480 V
- Scheduled maintenance on the cryocooler every 13,000 hours
- Vacuum pump for initial installation and maintenance (turbomolecular pump can be supplied as option)

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