

Product Fact Sheet



TAPESTAR

- Fast reel-to-reel, high-resolution, critical current measurement of superconducting tape (1G or 2G HTS tape)
- Contactless technique at liquid nitrogen temperature
- Tabletop setup with integrated Dewar
- Tape heater to avoid moisture condensation
- Tape drive with tension and speed control
- Integrated DSP – based control unit
- User interface and data acquisition via optional notebook or PC
- Data transmission via serial port
- Stand-alone control and viewer software running on Windows OS
- User interface: keyboard and touch screen

Technical specifications

Tape drive

Transfer speed	0 – 55 m/h
Measurement speed	0 – 55 m/h
Tape tension	5 N
Tape guiding contact	on back side only
Min. bending diameter	100 mm

Storage coil dimensions and mounting

Max. coil outer diameter	200 mm
Min. coil inner diameter	20 mm
Max. tape weight	5 kg
Hub diameter (adaptable to customer's specs)	10 mm
Max. core width	20 mm

HTS tape specs

Max. thickness	200 µm
Max. width	12 + 0.4 mm
Critical current measurement range	50 – 400 A

Measurement specs

Number of sensors across 12mm	7
Axial resolution (@ 55 m/h)	0.5 mm
Lateral resolution	0.6 mm (@ 4 mm tape); 1.5 mm (@ 10 mm tape)
Magnetic field	0 – 40 mT
Measurement accuracy with respect to calibration sample	±3% of measuring range (min. 15 A)

General requirements

Electrical	230/115/110/100 V, 50/60 Hz; 250 W
Cryogenict	Liquid nitrogen @ 0.05 MPa (0.5 bar)
Ambient temperature	5 ... 35 °C
Permissible humidity	10 ... 90%, no condensation, Use only indoors
Installation location	<1000 m NN, vibration-free

Dimensions

Footprint (L x W)	750 mm x 710 mm
Height	860 mm
Weight	98 kg