



TAPESTAR™ XL

Fast reel-to-reel, high-resolution, critical current measurement of superconducting tape (1G or 2G HTS tape)

- Contactless technique at liquid nitrogen temperature
- Integrated Dewar in closed cabinet configuration
- Tape heater to avoid moisture condensation
- Industrial tape drive with tension and speed control
- PLC – based control electronics
- Integrated industrial PC
- User interface: keyboard and touch screen

Technical specifications

Tape drive	
Transfer speed	0 – 750 m/h
Measurement speed	0 – 200 m/h
Tape tension	5 – 30N (< 300mm dia), 5 – 11N (< 800mm dia)
Tape guiding	front side and back side
Min. bending diameter	100 mm
Storage coil dimensions and mounting	
Max. coil outer diameter	800 mm
Min. coil inner diameter	200 mm
Max. tape weight	50 kg
Hub diameter (adaptable to customer's specs)	76 mm
Max. core width	20 mm
HTS tape specs	
Max. thickness	200 µm
Max. width	12 mm
Critical current measurement range	50 – 1000 A
Other specifications upon request	
Measurement specs	
Number of sensors across 12 mm	21
Axial resolution (@ 200 m/h)	1 mm
Lateral resolution	0.6 mm
Magnetic field	0 – 120 mT
Measurement accuracy (to calibration sample)	±3% of measuring range (min. 15 A)
General requirements	
Electrical	Y 400 V 3ph, 50 Hz; 3 kW
Cryogenics	Liquid nitrogen @ 0.05 MPa (0.5 bar) overpressure above atm
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)	2630 mm x 880 mm
Height	1550 mm
Weight	475 kg
Emission sound pressure level (opened / closed)	65 dB(A) / 55 dB(A)