

Vapour-Cooled Current Leads

Scientific Magnetics has designed and manufactured a number of vapour-cooled current leads for CERN. The leads shown here were specially designed for retrofitting inside an existing test cryostat, and operate at a current of 1200 A. Both supply and return leads are mounted inside a common gas passage: this eliminates the possibility of instability due to preferential flow of vapour through one lead rather than the other, and also means that only one control valve is required for both leads.

Leads are available in currents up to 20 kA.



Specification

| | |
|---|----------|
| Maximum operating current I_{max} | 1200 A |
| Length 4.2 K to room temperature | 1040 mm |
| Maximum external diameter | 93 mm |
| Insulation to ground | > 1000 V |
| Lead to lead insulation | > 200 V |
| Leakage current to ground | < 15 nA |
| Maximum heat leak for $0 < I < I_{max}$ | < 2 W |