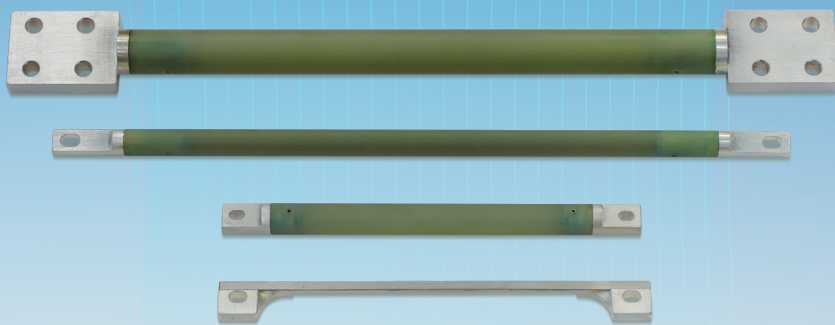


With over 15 years in this field, the CryoSaver™ HTS current leads have demonstrated consistent outstanding performance



HTS CURRENT LEADS

The CryoSaver™ family uses High Temperature Superconducting (HTS) tape to create a robust, reliable lead. CryoSaver™ leads outperform competing solutions with unsurpassed build quality, mechanical strength and performance. Second generation CryoSaver™ current leads, rated from 150A to more than 2000A, deliver significantly improved performance, with lower heat leak than vapor-cooled leads. They reduce heat-load, and losses for client's systems. Applications include MRI, NMR, and beam-line magnets as well as driven (non-persistent) superconducting magnets. Leads are available in a number of formats.

BENEFITS:

- **LOW HEAT LEAK**

The composite conductor consists of HTS filaments in a low thermal conductivity matrix, providing a very high current density and low heat leak through the small cross-section.

- **FIELD TOLERANT**

The anisotropic nature of the CryoSaver™ current leads allows the lead to be positioned in a cryostat such that applied fields are along a favorable axis, an advantage over isotropic bulk materials.

- **EASE OF INTEGRATION**

Electrical connection to the copper end caps is easily made, mechanically or by soldering, for low resistance and low Joule heating.

- **DURABLE AND STABLE**

The HTS conductor exhibits tolerance to strain and thermal cycling superior to other types of HTS leads. CryoSaver™ leads have superior ability to tolerate and recover from minor cooling system upsets without damage or burn-out, as the metal matrix in the conductor slows temperature rise after loss of cooling.

CRYOSAVER™ LEADS

Standard CryoSaver™ leads use a fibreglass composite body to encase the HTS wire for structural integrity. This allows the lead to tolerate a large number of thermal and electrical cycles. Copper end-caps are used for warm and cold end connections. Shorter versions of standard current leads are available for space- constrained applications.

CUSTOMISATION

Customised CryoSaver™ current leads can be provided with custom terminals, complex geometry, or alternative dimensions to meet your requirements.

HERMETIC LEADS

Designed for service in cryogenic liquid or vapour, CryoSaver™ hermetic leads incorporate a ceramic break and/or flange to allow passage of the current lead through an intermediate temperature heat shield or vacuum cryostat wall.

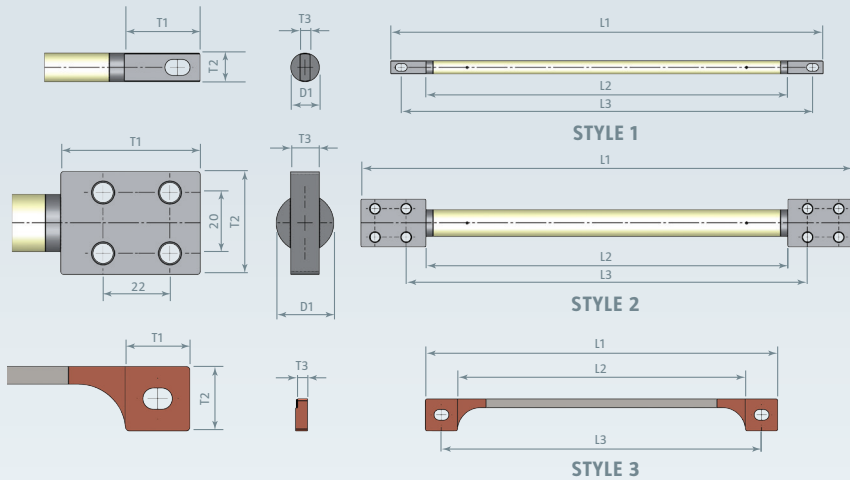
BALLASTED LEADS

These incorporate a current shunt in the lead body to protect inductive loads in case of lead quench. Ballasted leads have superior mechanical properties compared with conventional leads, and can tolerate minor misalignment of contact surfaces. Length, terminal design and current capacity can be customized at time of order.

SAPPHIRE HEAT SINK KITS

HTS-110 has developed Sapphire Heat Sink Kits for use on all standard leads to optimise the thermal contact between lead and heat sink. We recommend the use of these with all standard current leads. One kit is sufficient for a pair of current leads of less than 1000A. Four kits are required for each pair of current leads of 1000A plus.

STANDARD CRYOSAVER™ LEAD DIMENSIONS



Operating Current (at 64K)	Type	Body dia. (mm) D1	Overall length (mm) L1	Gap length (mm) L2	Fixing Centre Distance (mm) L3	Terminal					Calculated heat leak 64K-4.2K (pair)	Calculated mechanical limits		
						Style	Length (mm) T1	Width (mm) T2	Thickness (mm) T3	Hole/slot Size (mm)		Comp. (N)	Tension (N)	Torsion (Nm)
150 A	Standard	9.5	305	255	290	1	25	8.9	3.3	R2.6x3	32mW	200	1500	7
	Short	9.5	170	138	158	1	16	7.1	6.4	R1.6x2	56mW	-	-	-
	Ballasted	4.5x2.2	174	114	158	3	16	16	6	R2.6x2	43mW	-	-	-
250 A	Standard	11.1	305	255	290	1	25	9.4	6.4	R1.6x3	57mW	400	2000	11
	Short	12.7	170	138	158	1	16	11	6.4	R2.2x2	104mW	-	-	-
	Ballasted	4.5x2.4	174	114	158	3	16	16	6	R2.6x2	73mW	-	-	-
500 A	Standard	14.3	305	255	290	1	25	12.8	6.4	R2.6x3	130mW	1100	2500	18
1000 A	Standard	19.1	347	255	283	2	46	34	9.5	R3.3	212mW	3400	4000	38
2000 A	Standard	25.4	347	255	283	2	46	34	12.7	R3.3	338mW	8400	5000	60

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