

SUPERCONDUCTING MAGNETIC SHIELDS CST/CSV (tubes/vessels)

Superconducting BiPbSrCaCuO (Bi-2223 phase) ceramic tubes and vessels with hemispherical bottom are suitable for perfect shielding of AC/DC magnetic field, e.g. in devices equipped by SQUIDs used in medicine, biomagnetism, nondestructive testing, physics etc. The shields may be supplied in custom made shapes.



Characteristics

Shape:	Open tube - CST Tubular with one hemispherical bottom - CSV
Material:	$\text{Bi}_{1.8}\text{Pb}_{0.26}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_{10+x}$ (2223 phase)
Density:	~ 5.5 g/cm ³
Critical temperature:	110 K
Shielded magnetic flux density (77 K):	> 5 mT
Shielding factor (77 K, amplitude 2 mT, frequency 20 Hz - 10 kHz)	> 10 ⁶
Shielding effectiveness (77 K, amplitude 2 mT, frequency 20 Hz - 10 kHz)	> 120 dB
Field noise at 1 Hz (cooled at 77 K in zero field):	< 50 fT/sqrt(Hz)

	Type	Inner diameter	Length	Wall thickness
Tubes:	CST-10/80	10 mm	80 mm	approx. 1.5 mm
	CST-12/80	12 mm	80 mm	approx. 1.5 mm
	CST-15/80	15 mm	80 mm	approx. 1.5 mm
	CST-18/120	18 mm	120 mm	approx. 1.5 mm
	CST-21/120	21 mm	120 mm	approx. 1.5 mm
	CST-22/120	22 mm	120 mm	approx. 1.5 mm
	CST-24/120	24 mm	120 mm	approx. 1.5 mm
	CST-28/140	28 mm	140 mm	approx. 1.5 mm
Vessels:	CSV-12	12 mm	42 mm	approx. 1.5 mm
	CSV-16	16 mm	56 mm	approx. 1.5 mm
	CSV-20	20 mm	70 mm	approx. 1.5 mm
	CSV-24	24 mm	84 mm	approx. 1.5 mm
	CSV-28	28 mm	98 mm	approx. 1.5 mm
	CSV-32	32 mm	128 mm	approx. 1.5 mm
	CSV-40	40 mm	160 mm	approx. 1.5 mm
	CSV-50	50 mm	200 mm	approx. 1.5 mm
	CSV-66	66 mm	264 mm	approx. 2 mm
	CSV-100	100 mm	400 mm	approx. 2 mm

Remark: The shields are usually supplied with a natural (as pressed) outer surface. If requested, the outer surface can be machined, then the wall may be slightly thinner. Inner surface is always smooth.