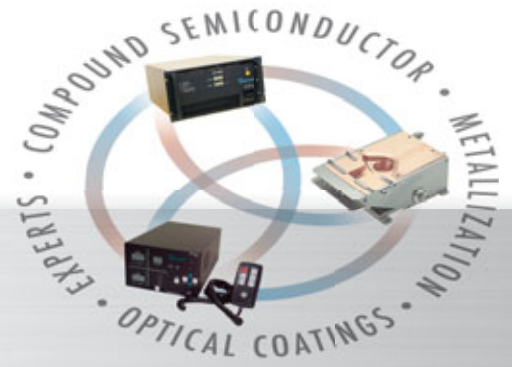


Temescal



TEMESCAL MODEL 2CK AND 3CK REMOVABLE COVER SUPERSOURCES

With their removable crucible covers, Temescal's Model 2CK and 3CK SuperSources offer enhanced versatility, convenience, and dependability in a wide variety of coating applications. The crucible cover exposes only the pocket in evaporation position, reducing the risk of cross-contamination. Crucible cover removal allows speedy source replenishment and makes it easy to clean the crucible and adjacent structures in situ, without risk of crosscontamination. Removing the cover requires only the removal of four screws; it is not necessary to blow the cooling water out of the source beforehand. In addition, once the water is blown out of the source, the crucible can easily be replaced, either with a clean crucible of the same pocket configuration or with a differently configured crucible.



FEATURES & BENEFITS

- Easily removable/replaceable top plate and crucible
- Side or bottom drive
- Multipocket crucibles are available in numerous configurations
- Continuous-trough carousels, crucibles with banana-shaped pockets, and 'skillet'-type evaporant holders are also available
- Power ratings: 1-10 kW (Model 2CK) and 1-12 kW (Model 3CK)
- Enhanced crucible cooling improves thermal stability during evaporation
- Ultra-stable magnetics eliminate the need to regauss magnetic parts following source disassembly
- Adjustable internal and external pole-piece extensions optimize beam spot control

FerroTec

TEMESCAL MODEL 2CK AND 3CK SUPERSOURCES

Design Enhancements

Model 2CK and the 3CK sources offer several design enhancements that yield superior performance and streamline major maintenance procedures. Extended cooling channels in the crucible direct cold water past the critical hot spot near the front edge of each pocket, improving thermal stability. In addition, internal and external pole piece extensions enable the user to optimize beam spot size and shape, regardless of the beam's position in the pocket. Model CK sources also provide superior magnetic stability, eliminating the need to regauss magnetic parts each time the source is disassembled..

Options and Accessories

Temescal offers numerous options for Model 2CK and 3CK sources, including side or bottom drive and a wide variety of crucible configurations. For a complete list of the available configurations, see the ordering charts on page 4. Custom crucibles are available upon request for either source.

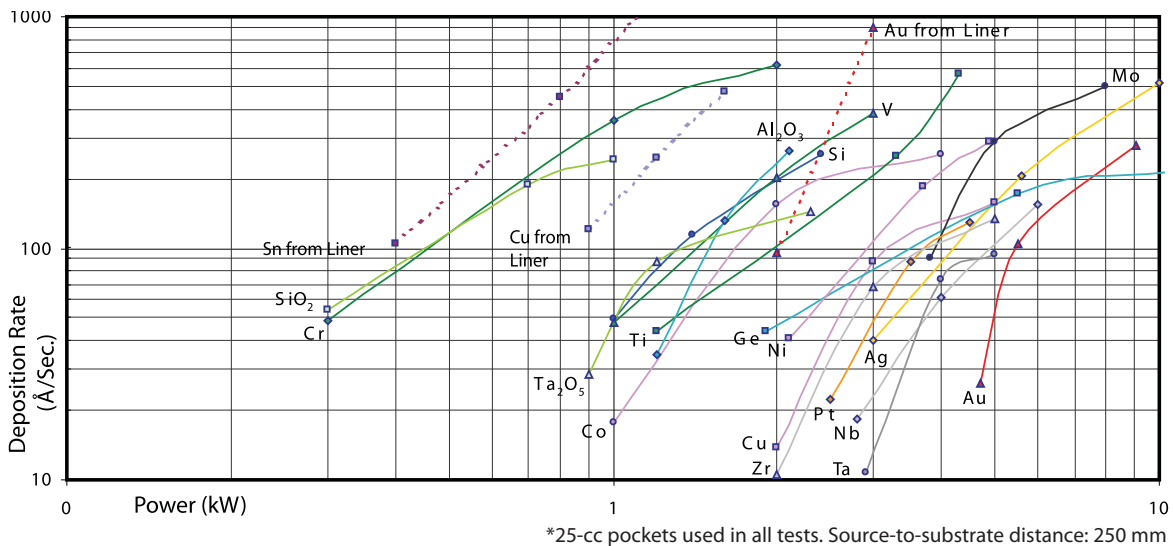
Optional accessories include Temescal's TRC-3460 turret indexer, a wide selection of crucible liners, and a feedthrough kit. The TRC-3460 can be configured for use with any crucible configuration available for 2CK and 3CK sources. The optional crucible liners reduce thermal conductivity between the evaporant pool and the crucible. They also allow particulate-free pocket replenishment and eliminate the risk of contamination when one material is replaced with another in a given pocket. Liners are available in molybdenum, ATJ graphite, Poco® graphite, and tungsten. The optional feedthrough kit contains all the feedthroughs required to install the source. All feedthroughs are of the standard one-inch bolt-hole, O-ring-sealed type.

*Poco is a registered trademark of Union oil.

Representative Deposition Rates

The chart below shows deposition rates obtained using Temescal sources such as the 2CK and the 3CK. Consult Temescal for detailed information on how deposition rate and uniformity are affected by source operating voltage, beam sweep and density, and other fundamental process variables.

Deposition Rates of Various Materials from Temescal Sources*



TEMESCAL MODEL 2CK AND 3CK SUPERSOURCES

SPECIFICATIONS

Dimensions	See illustration below
Weight	23.5 lbs. (10.7 kg)
Rotation torque	10 in. • lbs. (11.5 kg • cm)
Max. bakeout temp.	302° F (150° C)
Max. power	8 kW
Acceleration voltage	4–10 kV
Operating pressure	
Maximum	5×10^{-4} torr (6.7×10^{-4} mbar)
Minimum	1×10^{-8} torr (1.33×10^{-8} mbar)
Beam characteristics	
Deflection	270°
Spot size/shape	From tight oval to diffuse oblong
Evaporation rate	See chart on page 2

Sweep capability Longitudinal and lateral when operated with a beam sweep controller

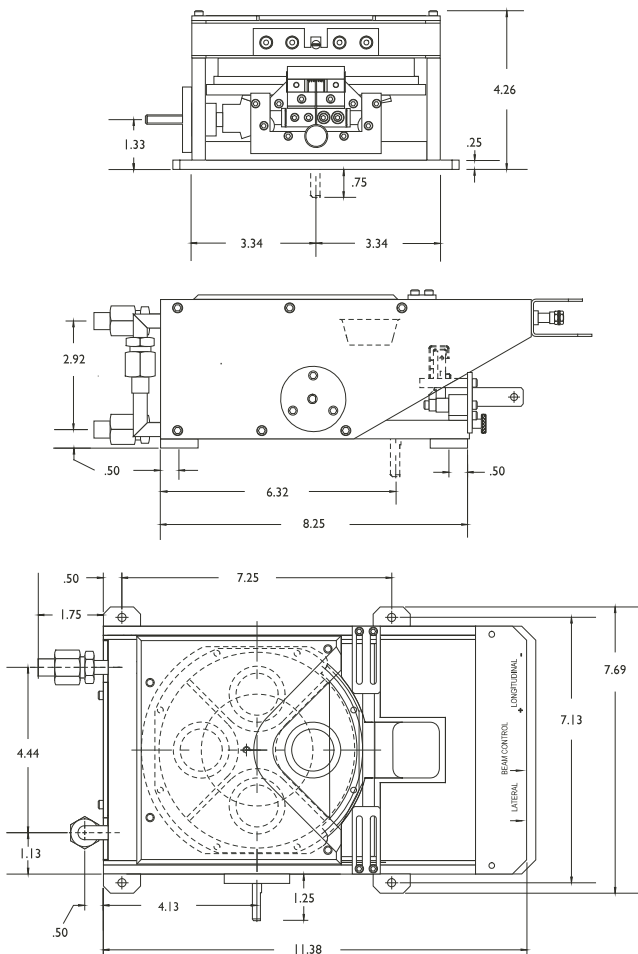
Installation Requirements

Input Power	
Filament current	70 A at 12 VAC
Emission current	0–1.5 A at 4–10 kVDC (10 kW max.)

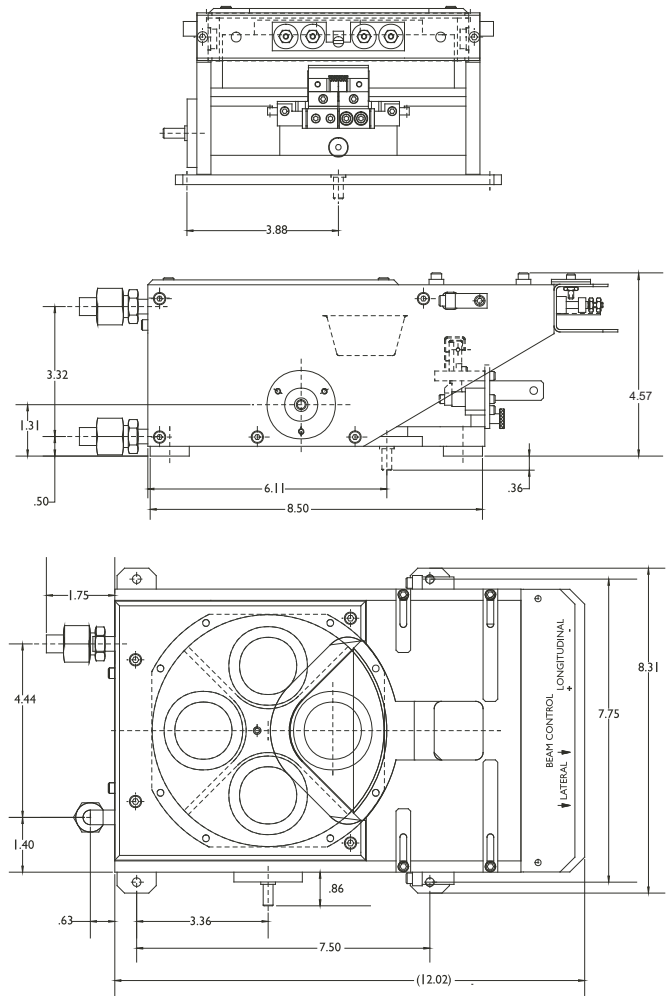
Cooling water

Max. temperature	68° F (20° C)
Flow rate	3.0 gpm (0.19 l/sec.)
Max. inlet pressure	100 psi (6.89 bar)
Min. delta pressure	50 psi (3.45 bar)

Dimensions: 2CK SuperSource



Dimensions: 3CK SuperSource



TEMESCAL MODEL 2CK AND 3CK SUPERSOURCES

ORDERING INFORMATION

For each source you wish to order, specify part numbers for a base unit, an emitter, and a spare parts kit. Also specify by part number which crucible(s) and crucible cover(s) you wish to order for each source.

2CK SuperSource

Base Unit* and Emitter	
DESCRIPTION	PART NUMBER
Side-drive base unit	0626-3814-0
Bottom-drive base unit	0626-3824-0
High-performance emitter	0916-8294-0
Spare parts kit	0916-8300-0

Crucible	
DESCRIPTION	PART NUMBER
4 x 15-cc pockets	0715-8444-0
4 x 25-cc pockets	0715-8454-0
2 x 7-cc + 2 x 15-cc pockets	0715-8464-0
3 x 15-cc + 1 x 25-cc pockets	0715-8484-0
1 x 15-cc + 3 x 25-cc pockets	0715-8244-0
2 x 15-cc + 2 x 25-cc pockets	0715-8494-0
1 x 7-cc + 1 x 15-cc, 2 x 25-cc pockets	0715-8474-0
6 x 7-cc pockets	0715-8514-0
6 x 15-cc pockets	0715-8504-0
3 x 7-cc + 3 x 15-cc pockets	0715-8524-0
8 x 7-cc pockets	0715-8194-0
2 x 15-cc pockets + 1 x 50-cc banana	0626-1824-0
2 x 25-cc pockets + 1 x 70-cc banana	0626-1814-0
139-cc continuous-trough carousel	0626-1704-0
177-cc continuous-trough carousel	0626-1694-0
180-cc 'skillet'	0627-3084-0

Crucible Cover	
DESCRIPTION	PART NUMBER
Cover for 4-pocket crucibles	0715-8143-0
Cover for 6-pocket crucibles	0715-8153-0
Cover for 8-pocket crucibles	0715-8163-0

3CK SuperSource

Base Unit* and Emitter	
DESCRIPTION	PART NUMBER
Side-drive base unit	0626-0994-0
Bottom-drive base unit	0626-1004-0
High-performance emitter	0916-8294-0
Spare parts kit	0916-8300-0

Crucible	
DESCRIPTION	PART NUMBER
4 x 40-cc pockets	0626-1204-0
4 x 60-cc pockets	0626-1214-0
6 x 20-cc pockets	0626-1244-0
6 x 25-cc pockets	0626-1224-0
4 x 25-cc + 2 x 15-cc pockets	0627-5644-0
5 x 25-cc + 1 x 15-cc pockets	0627-4764-0
325-cc 'skillet'	0627-0014-0

Crucible Cover	
DESCRIPTION	PART NUMBER
Cover for 4-pocket crucibles	0626-1173-0
Cover for 6-pocket crucibles	0626-1183-0

*Each base unit includes a spare parts kit for the source (but not for the emitter) and a manual.

Source Accessories

DESCRIPTION	PART NUMBER
Feedthrough kit	0503-0201-1
SS64 Programmable beam sweeper	0611-8570-0
TRC-3460 Turret source indexer	0040-9380-3

Model 2CK and 3CK sources are covered by one or more of the following U.S. patents: 3,177,535; 3,483,417; 3,710,072

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