

HydraVAP™

Water Cooled Low Temperature Evaporator

Unique design for the fabrication of OLEDs,
Photovoltaic Cells, Perovskites, and other devices



www.lesker.com

Kurt J. Lesker
Company

PROCESS EQUIPMENT™
DIVISION

Features

- 3.7 X faster cooling vs. standard KJLC Low Temperature Evaporator Source - from 420°C to 50°C in just 95 minutes*
- Source temperature stability is greater than $\pm 2\%$ on set temperatures
- Temperature Control to $\pm 0.1^\circ\text{C}$
- Multiple Sources may be arrayed in order to co-deposit dyed or doped films
- Efficient heater coil for optimum heating profile
- Upgrade solutions for KJLC systems and software

Source

- Designed for use with low temperature volatile material
- Thermocouple in contact with base of crucible to give accurate temperature readings
- PID control ($\pm 0.1^\circ\text{C}$) for low temperature operation 50°C-450°C
- Low cost compared with conventional Knudsen Cell
- Easily removable cap for crucible refilling and exchange
- Base mounted connections for power and thermocouple
- Alumina crucible evenly distributes temperature and reduces organic spitting
- Ability to grow $\pm 1\%$ uniformity films depending on substrate size and material type

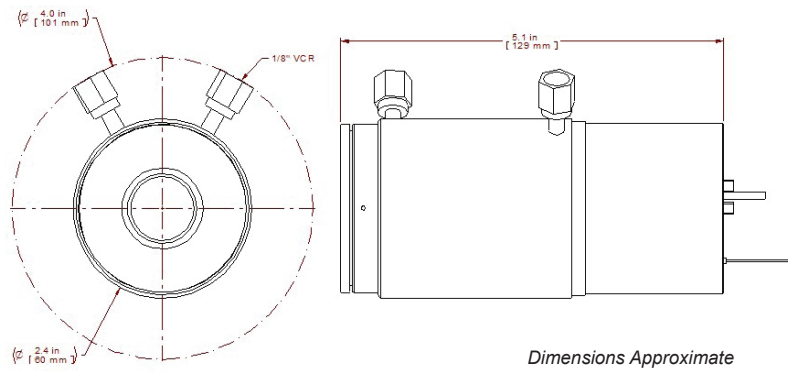
Flip Shutter

- Integral pneumatically actuated flip shutter
- Quick release shutter to easily remove and clean the assembly

Low Temperature Power Supply

- Single channel and sequential control options available
- Temperature control with Eurotherm 2408 PID Controller with control to $\pm 0.1^\circ\text{C}$
- Auto tuning modes
- Adjustable alarm conditions
- Rate control input compatible with commercially available deposition controls
- CE approved

* Depending on PSU



Dimensions Approximate

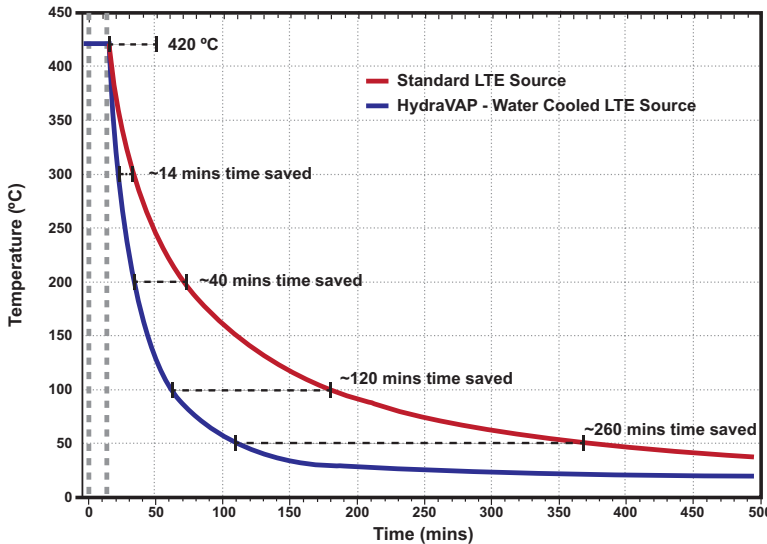
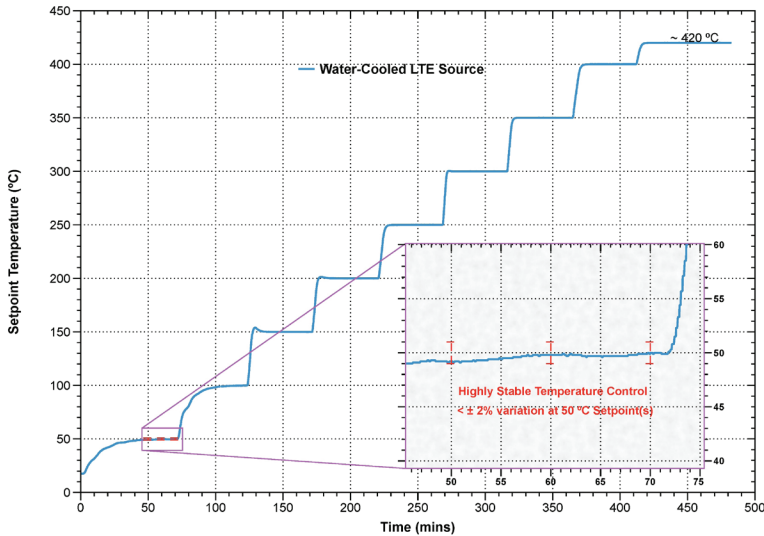
LTE 10 Specifications Table

Height	5.09"
Diameter	2.4" O.D.
Standard Crucible	15cc Alumina
Charge Capacity	10cc
Temperature Range	50°C to 450°C

Typical LTE Deposition Rates (at 300mm Throw Distance)

ALQ ₃	0.2 to 5.0 Å/sec
PTCDA	0.2 to 2.0 Å/sec
CuPc	0.2 to 2.0 Å/sec
C ₆₀	0.2 to 2.0 Å/sec
MAI	0.2 to 0.5 Å/sec

Performance Data



- * Water pressure of 60PSI and temperature of 16°C
- ** Max temperature of 420°C achieved with 10V, 12A power supply
- *** All data acquired in Kurt J. Lesker Company, SPECTROS™ system under vacuum $>5 \times 10^{-7}$ mbar

Source data verified by IMEC OPV Group.



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