

Nonlinear Crystal Oven with built-in Thermocontroller

TK8 SERIES



Oven TK8

FEATURES

- Internal thermocontroller
- Custom crystal apertures up to 60 x 60 mm or more
- High temperature (up to 80 °C)
- High accuracy (± 0.5 °C)
- Digital control (via CAN)

APPLICATIONS

- Frequency conversion of a laser beam for SHG, THG, OPO, SFG and DFG

TK8 crystal oven with an internal thermocontroller is an optimal device for precise nonlinear crystal temperature control from room temperature up to 80 °C. The TK8 crystal oven is designed for a wide range of nonlinear crystals: KTP, LBO, CLBO, BBO, KDP, DKDP, LiNbO₃. These nonlinear crystals are used for frequency conversion of a laser beam for SHD, THD, OPO, SFG and DFG

applications. TK8 crystal oven ensures efficient phase matching, mitigation of water absorption and prevention of absorption peaks in nonlinear crystals.

TK8 crystal oven, with an internal thermocontroller, can fit crystals with apertures up to 15×15 mm and lengths up to 20 mm. TK8L and TK8XL ovens are designed for crystals up to 30 mm and 50 mm long. Each oven is specifically designed for a given

crystal aperture size and cannot accommodate different-sized crystals. Temperature can be either preset at factory or customer can set it himself while using Ekspla's CAN-USB converter (sold separately) via Ekspla's software (included by default). TK8 crystal ovens can operate either in autonomous or present time modes. Upon request Ekspla can manufacture tailored ovens for crystals with an apertures up to 60 × 60 mm or more.

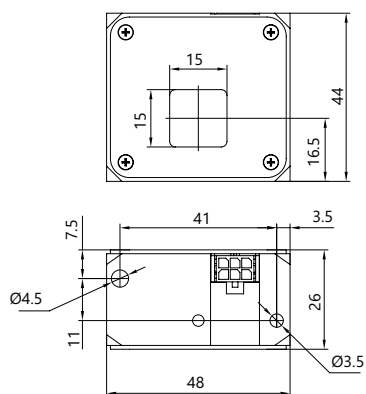
SPECIFICATIONS ¹⁾

Model	TK8	TK8L	TK8XL
Temperature range	From room temperature to 80 °C		
Maximum crystal dimensions ²⁾	15×15×20 mm	15×15×30 mm	15×15×50 mm
Temperature tuning step	0.01 °C		
Accuracy	± 0.5 °C		
Long-term stability	± 0.05 °C		
Control interfaces	CAN		
Supply voltage	12 – 24 V		
Power consumption	< 6 W	< 6 W	< 9 W
Oven dimensions, W×H×D	48×44×26 mm	48×44×36 mm	48×44×56 mm
Crystal center position above pad	16 mm		
Accessories	Wall plug power supply (included by default), Ekspla's CAN-USB adapter (included upon request), H1 mountig stage (included upon request)		

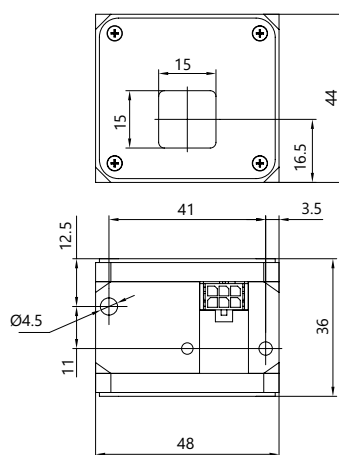
¹⁾ Due to continuous improvement, all specifications are subject to change without notice. Parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture.

²⁾ Crystal holder's aperture can be customized to fit crystals up to 60×60 mm or more.

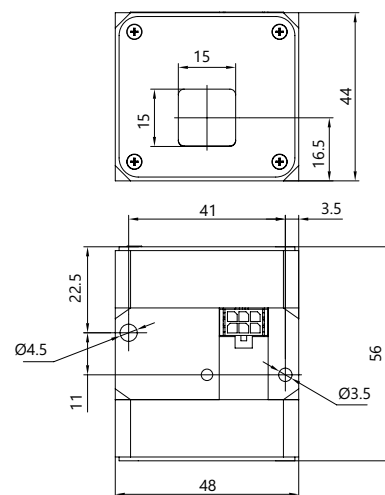
DRAWINGS



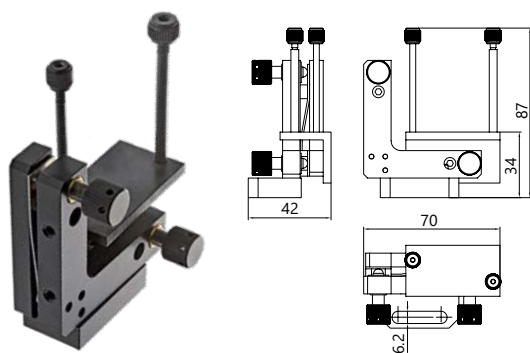
Outline drawings of TK8



Outline drawings of TK8L



Outline drawings of TK8XL



Mount H1 for fine tuning of TK8 crystal ovens angle.
The tuning range is $\pm 2.5^\circ$