

S-Type Optical

Product Overview



The S-Type Optical is a very compact cryostat designed for a broad range of low-temperature experiments and applications that require simple and fast access to the sample stage. The system offers a unique combination of sub-Kelvin temperatures, automatic operation, and free-beam optical access on a small footprint.

S-Type Optical

Compact. Robust. Simple.

Optics

Material Science



→ **Sub-Kelvin optical measurements**

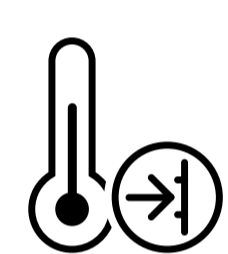
Single stage system with a base temperature < 800 mK and a one-shot operation time of more than 30 hours a 1 K

→ **Simple sample access**

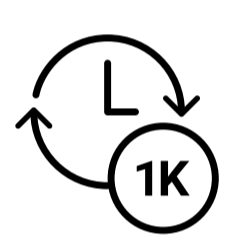
A coldfinger type sample stage allows to combine free-beam optical access and simple and fast sample changes

→ **Precise temperature control**

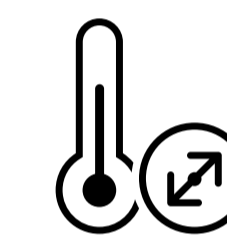
Direct magnetic temperature control provides a temperature stability of less than 0.05 % in the low-temperature regime.



Temperature Range
800 mK - 300 K



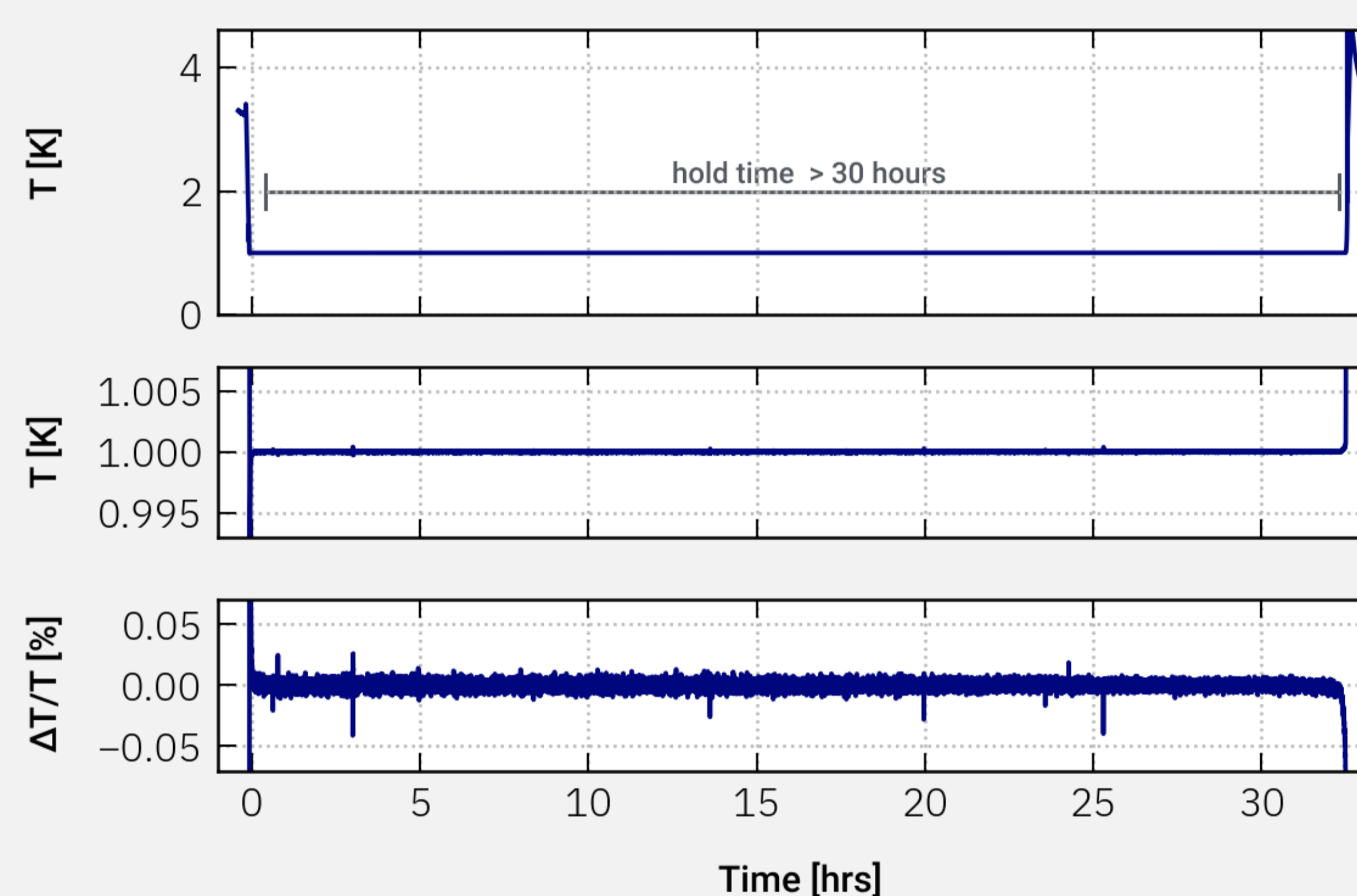
Operation Time at 1 K
> 30 hours



Temperature Stability
< 0.05 %

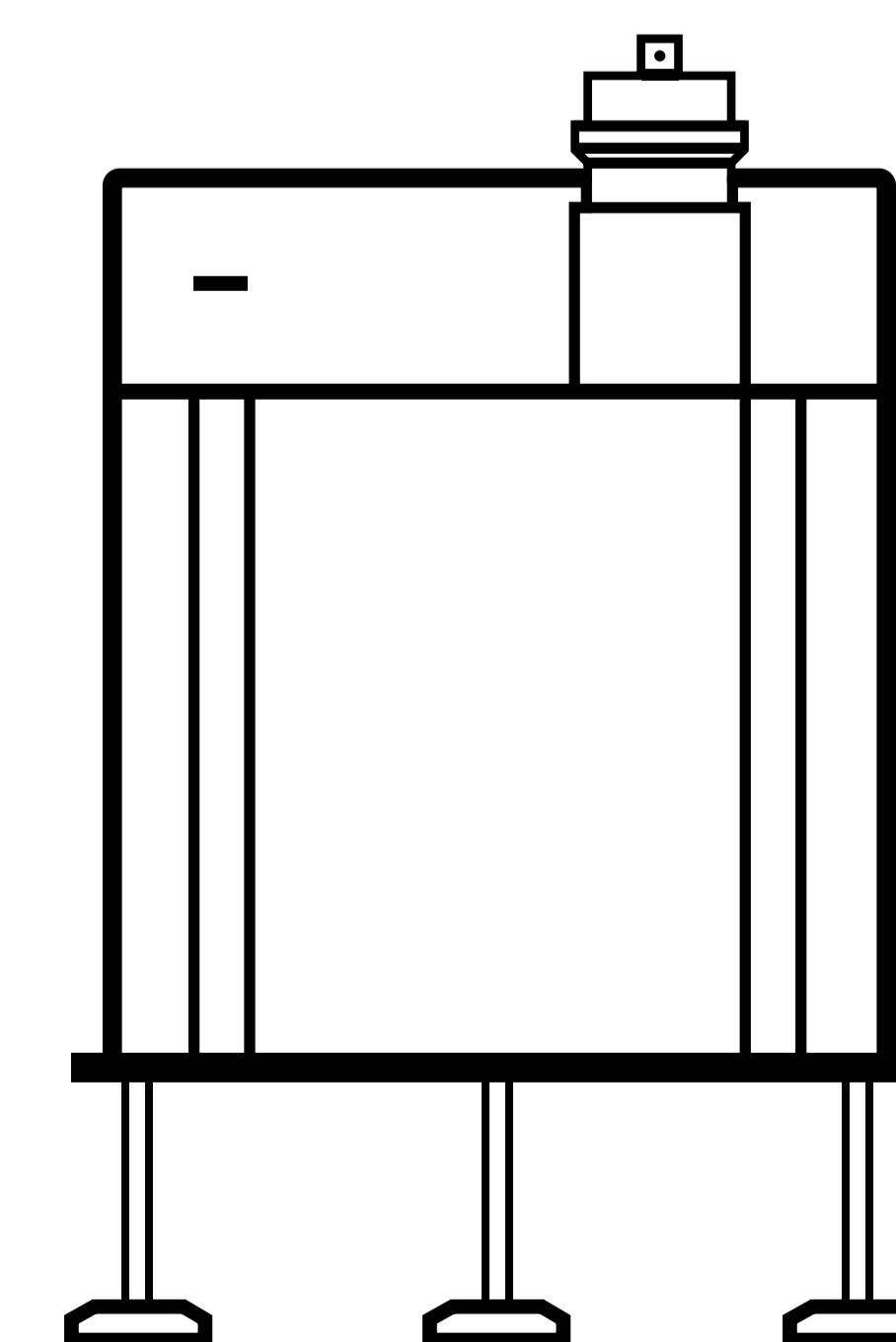
One-shot cooling with auto-regeneration

The figure shows the typical “one-shot” performance of the S-Type Optical with free-beam optical access, low resistance DC wiring, and 4 RF lines installed. Starting at the bath temperature of less than 4 K, the cryostat quickly reaches the setpoint temperature. The target temperature of 1 K can be stabilized with $\Delta T/T < 0.05\%$ for more than 30 hours. The automatic regeneration process of the ADR takes less than 1.5 hours resulting in a duty cycle >95 %.



Tech Specs

System size (cm) (w x l x h)	cryostat	93 x 71 x 86	Operation times	@ 1.5 K	50 hours
	rack	60 x 80 x 66		@ 1 K	30 hours
	compressor	54 x 45 x 50			
Temperature Range (K)	continuous	3.5 - 300	Cooldown time	cryostat	12 hours
	one-shot	< 0.8 - 300			
Size of sample platform (mm)	diameter (mm)	∅ 41	Vibrations (µm)		< 2 µm



Available Options

- Up to 4 RF lines
- Low resistance wiring
- 2 T Sample magnet