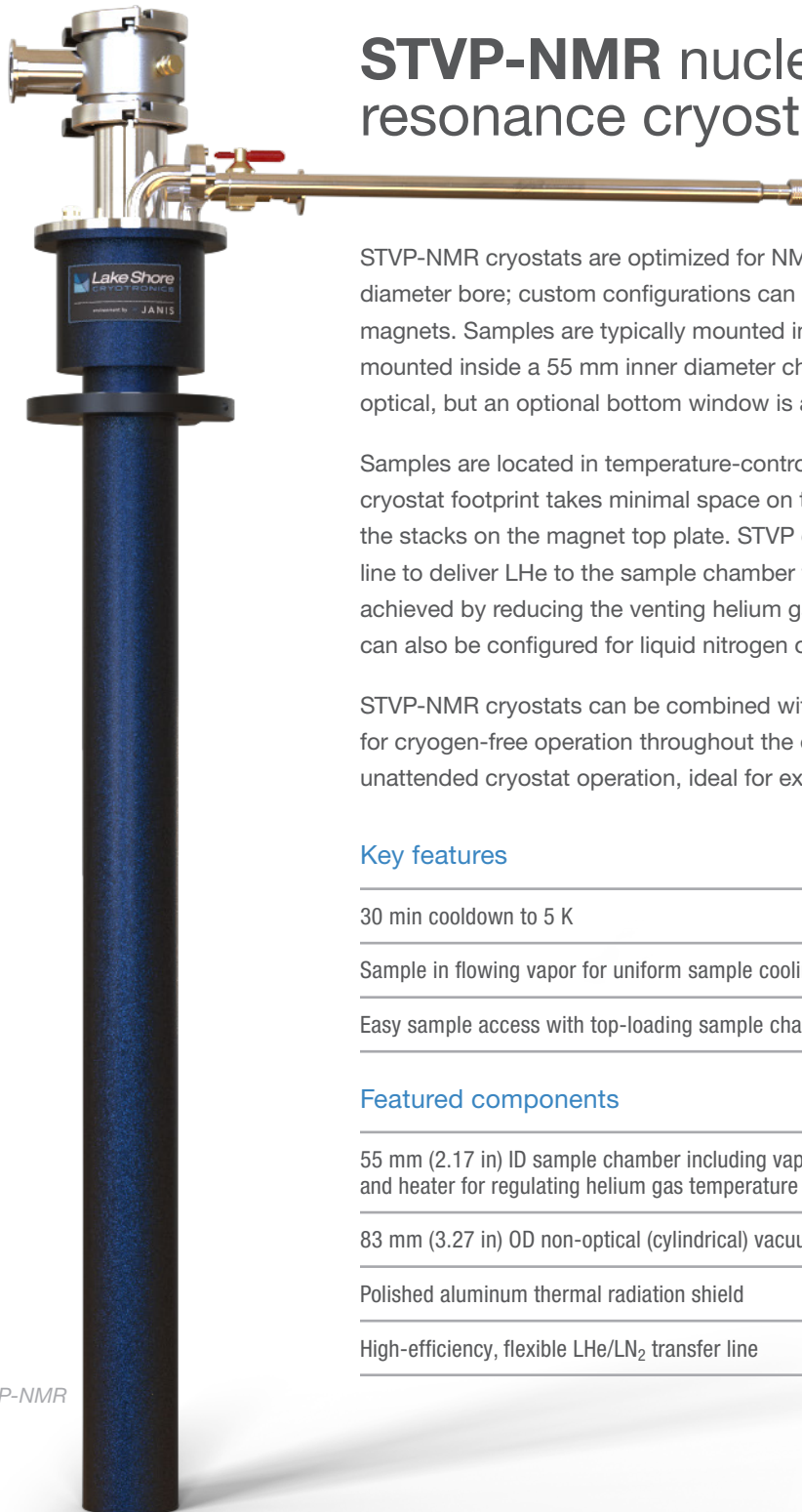


SuperTran-VP Cryostats

STVP-NMR nuclear magnetic resonance cryostats <2 K to 325 K



STVP-NMR cryostats are optimized for NMR magnets with an 89 mm (3.5 in) diameter bore; custom configurations can be fabricated for larger or smaller magnets. Samples are typically mounted in a user-supplied NMR insert, and mounted inside a 55 mm inner diameter chamber. These cryostats are typically non-optical, but an optional bottom window is available upon request.

Samples are located in temperature-controlled flowing helium vapor. The small cryostat footprint takes minimal space on the NMR magnet, easily fitting between the stacks on the magnet top plate. STVP cryostats use a high-efficiency transfer line to deliver LHe to the sample chamber for cooling. Temperatures below 4.2 K are achieved by reducing the venting helium gas pressure using a vacuum pump. They can also be configured for liquid nitrogen operation.

STVP-NMR cryostats can be combined with the RGC recirculating gas cooler for cryogen-free operation throughout the entire temperature range. This enables unattended cryostat operation, ideal for extended duration measurements.

Key features

30 min cooldown to 5 K

Sample in flowing vapor for uniform sample cooling

Easy sample access with top-loading sample chamber

Featured components

55 mm (2.17 in) ID sample chamber including vaporizer (heat exchanger) with control thermometer and heater for regulating helium gas temperature

83 mm (3.27 in) OD non-optical (cylindrical) vacuum shroud to fit within many NMR magnets

Polished aluminum thermal radiation shield

High-efficiency, flexible LHe/LN₂ transfer line

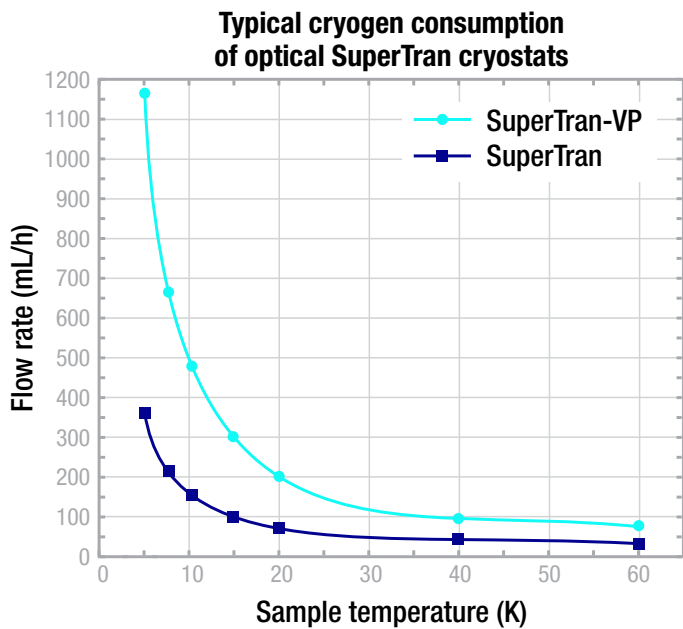
Specifications

STVP-NMR

Temperature range	<2 K (1.5 K in single-shot mode) to 325 K (420 K optional)
Typical temperature stability ¹	±50 mK
Orientation ²	Vertical for operation <4.5 K
Cooldown time (LHe to 5 K)	30 min
Cryogen consumption (LHe room temp to 4.2 K)	0.5 L
Cryogen consumption (LHe at 5 K)	1.4 L/h
Height (approximate)	Customer-specified to fit magnet
Inner space (at sample region)	55 mm (2.16 in)
Weight (excluding transfer line, approximate)	7 kg (15.4 lb)
Shipping weight (cryostat + line, approximate)	79 kg (174 lb)
Shipping dimensions (cryostat + line, approximate)	1905 × 990.6 × 431.8 mm (75 × 39 × 17 in)

¹ Measured with temperature controller

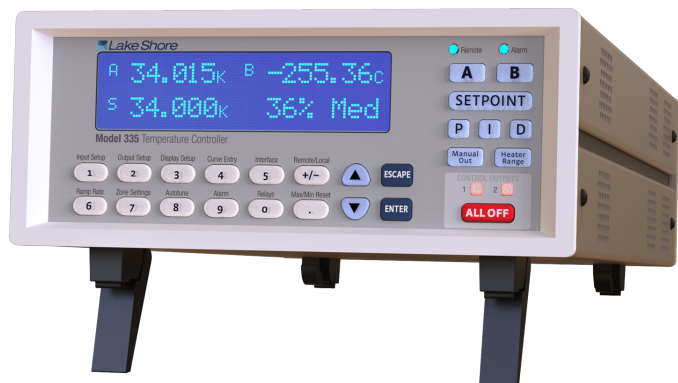
² Cryogen consumption may be higher during non-vertical operation



Complete your system

Temperature control

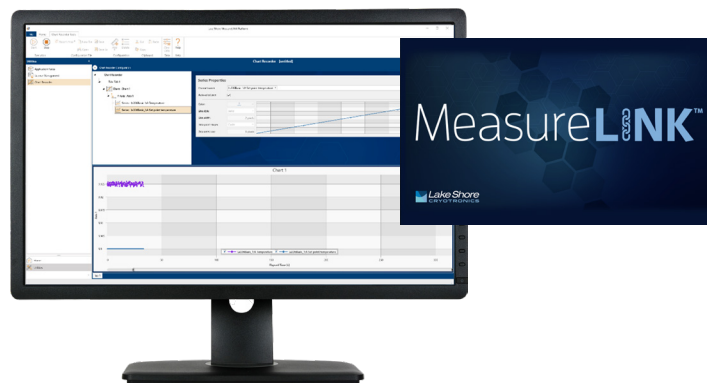
Included



Every cryostat includes a Lake Shore temperature controller and calibrated sensor.

MeasureLINK control software

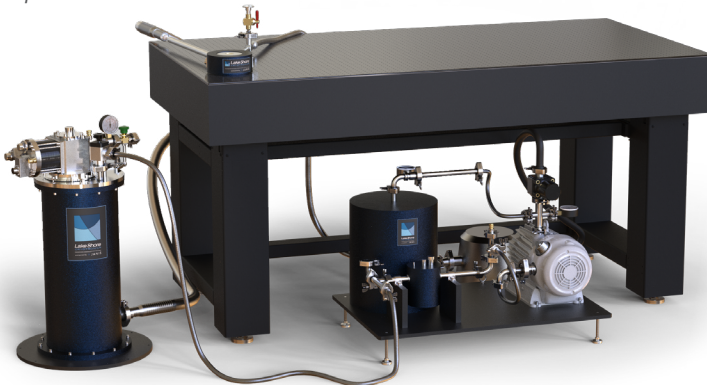
Optional add-on



MeasureLINK software enables a wide range of capabilities including charting and logging, system monitoring with a cryostat-specific process view, and controlling Lake Shore equipment as well as third-party instrumentation. No programming required—drag-and-drop to create temperature sweeps, access measurements, and see real-time internal cryostat temperatures in process view.

Cryogen-free operation

Optional add-on



Cryostats can be combined with the RGC recirculating gas cooler for fully cryogen-free operation throughout the entire temperature range. This enables unattended cryostat operation, ideal for extended duration measurements.

Configure your cryostat

1. Select cryostat variant

STVP-NMR	Optical, <2 K to 325 K, calibrated Cernox®
CUSTOM	Custom configurations are available to fit your experiment needs—contact Sales for details

2. Select cryostat configurations

Optional bottom window

See our cryostat window selection guide for additional information.

WR-STD-FS	Fused silica
WR-UV-FS	UV-grade fused silica
WR-STD-SAPH	Sapphire
WR-STD-ZNSE	ZnSe

3. Select pump (optional)

Each cryostat required a pump to operate. If you do not have an existing pump to use, select one of the pumps below.

10RVP	General-purpose mechanical pumping station
10DDP	General-purpose mechanical pumping station with LN ₂ cold trap and isolation valve
TS-85-D	Turbopumping station

4. Select cryostat wiring

We offer a variety of both unwired and wired feedthroughs to complete your measurement setup. Please refer to the cryostat feedthroughs and wiring guide for more information.

5. Select optional system configurations

Cryogen-free operation

RGC4-10	Recirculating cooler with base temperature <10 K
RGC4-12	Recirculating cooler with base temperature <9 K
RGC4-15	Recirculating cooler with base temperature <8 K
RGC4-20	Recirculating cooler with base temperature <7 K

Measurement instrumentation

Cryostats come standard with one temperature controller.

336	Model 336 temperature controller
335	Model 335 temperature controller
325	Model 325 temperature controller

6. Select optional control software

ML-MCS	MeasureLINK-MCS software with scripting development license; includes lifetime activation for version purchased and full MeasureLINK capability on up to 5 computers with Lake Shore instrument drivers, chart recorder functionality, and drag-and-drop measurement sequences; some application packs sold separately
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7. Select additional accessories

Cryostats come standard with one installed temperature sensor. Other sensors are available—contact us.

CX-1050-CU-HT-1.4M	Cernox® magnetic field independent, calibrated
CF-100	LHe storage Dewar
LN-50	LN ₂ storage Dewar configured for use with SuperTran cryostats

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