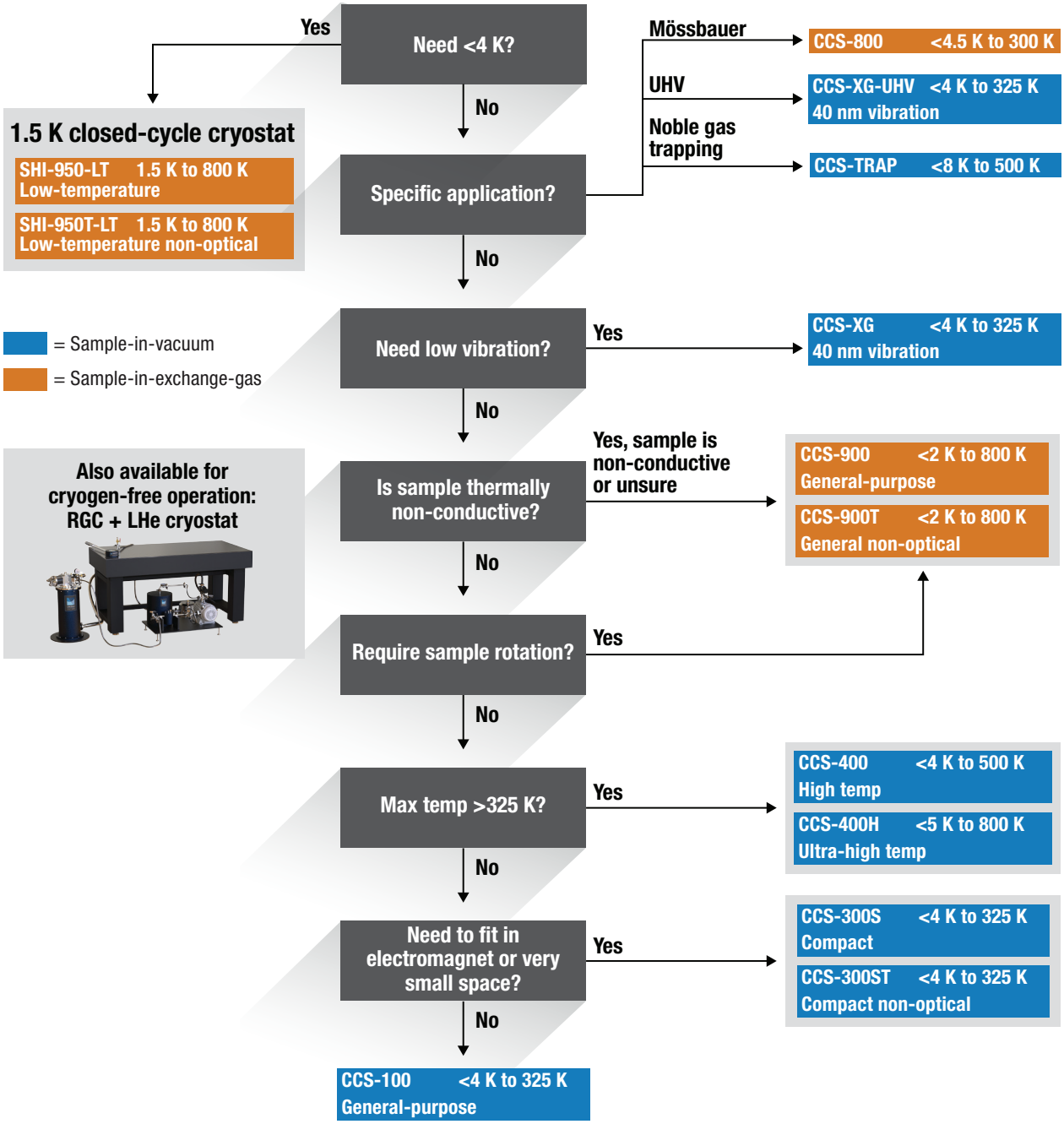
Lake Shore CRYOTRONICS

environment by JANIS

How to choose the right cryostat for you

Use these cryogen-free and LHe and LN_2 decision trees to help you choose the cryostat that fits your specific application and experimental needs.

Cryogen-free



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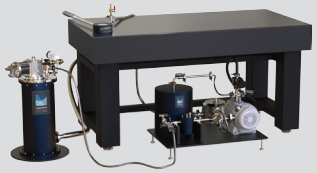
LHe and LN_2

Make any ST or STVP cryostat cryogen-free with the addition of an RGC



Application-specific?

- **Yes** → NMR / UHV / Microscopy/low-vibration / FTIR
- **No** → Is sample thermally non-conductive?

Is sample thermally non-conductive?

- **Yes, sample is non-conductive or unsure** → For optical applications / For high-temp (non-optical) applications
- **No, sample is conductive** → Is sample throughput critical?

Is sample throughput critical?

- **Yes, <10 min sample change** → For optical applications / For high-temp (non-optical) applications
- **No** → Require sample rotation?

Require sample rotation?

- **Yes** → For optical applications / For high-temp (non-optical) applications
- **No** → Need to fit in electromagnet or very small space?

Need to fit in electromagnet or very small space?

- **Yes**
  - ST-300, 2 K to 420 K, Magnetotransport
  - ST-300-C, 2 K to 420 K, Magnetotransport, Compact
- **No**
  - CryoComplete™ with VPF-100
    - VPF-100 65 K to 325 K
    - VPF-100-H 65 K to 800 K
    - ST-100 2 K to 500 K
    - ST-100-H 2 K to 800 K

NMR

STVP-NMR Non-optical	<2 K to 325 K

or

UHV

ST-400 High-temp	2 K to 500 K
ST-400-H Ultra-high temp	2 K to 800 K

or

Microscopy/low-vibration

ST-500 <15 nm vibration	3.5 K to 475 K
ST-500-C <15 nm vibration, compact	6 K to 475 K

or

FTIR

VPF-FTIR	65 K to 500 K
ST-FTIR	2.5 K to 500 K
STVP-FTIR	<2 K to 325 K

For optical applications

VNF-100	65 K to 325 K
STVP-100	<2 K to 325 K

For high-temp (non-optical) applications

VNF-100-TH	65 K to 500 K
STVP-100-TH	<2 K to 420 K

Best for non-conductive samples (works equally well with conductive samples). Best for temperature uniformity.

- = LHe/LN_2 sample-in-vacuum
- = LN_2 sample-in-vacuum
- = LHe/LN_2 sample-in-flowing-vapor
- = LN_2 sample-in-flowing-vapor