

Cryogen-free cryostat selection guide



environment by JANIS

	1.5 K CCR	4 K CCR	10 K CCR
Cooling type	Cryogen-free	Cryogen-free	Cryogen-free
Minimum temperature	1.5 K	4 K	7 K to 11 K
Maximum temperature	325 K; option for 800 K	325 K; options for 500 K or 800 K	325 K; options for 500 K or 800 K
Vibration	—	Options for low vibration	Options for low vibration
Cryocooler	Gifford-McMahon	Gifford-McMahon	Gifford-McMahon
Cryocooler power options	1 W at 4.2 K	0.2 W, 0.7 W, 1 W, 1.2 W, 1.5 W, 2.0 W at 4.2 K	2 W at 20 K, 3 W at 10 K, and 7 W at 20 K

1.5 K CCR part number	4 K CCR part number	10 K CCR part number	Optical	Size	Application-specific	UHV	Vibration	Optional max temperature	Cold head location	Sample environment	Cooldown time	Sample change
	SHI-4-Z	CCS-100-Z	✓					325 K	Any	Vacuum	60 to 90 min	
	SHI-4T-Z	CCS-200-Z						325 K	Any	Vacuum	60 to 90 min	
	SHI-4S-Z	CCS-300S-Z	✓	Sub-compact				325 K	Any	Vacuum	90 to 150 min	
	SHI-4ST-Z	CCS-300ST-Z		Sub-compact				325 K	Any	Vacuum	90 to 150 min	
	SHI-4R-Z	CCS-300R-Z	✓	Compact	Rotatable			325 K	Any	Vacuum	60 to 90 min	
	SHI-4H-Z	CCS-400-Z	✓					500 K	Any	Vacuum	90 to 150 min	
	SHI-4HH-Z	CCS-400H-Z	✓					800 K	Any	Vacuum	120 min	
		CCS-UHV-Z	N/A*	N/A*		✓		325 K	Any	Vacuum	60 to 90 min	
		CCS-500-Z	✓					325 K	Bottom	Exchange gas	90 min	<10 min
		CCS-500T-Z						325 K	Bottom	Exchange gas	90 min	<10 min
		CCS-700-Z		App-specific	VSM			325 K	Bottom	Exchange gas	90 min	
	SHI-850-Z	CCS-800-Z	✓	App-specific	Mössbauer			325 K	Bottom	Exchange gas	90 to 120 min	<10 min
	SHI-950-Z	CCS-900-Z	✓					325 K	Top	Exchange gas	>3.5 h	<10 min
	SHI-950T-Z	CCS-900T-Z						325 K	Top	Exchange gas	>3.5 h	<10 min
	SHI-4XG-Z	CCS-XG-Z	✓				40 nm	325 K	Top	Vacuum	>2 h	
	SHI-4XG-S-Z	CCS-300S-XG-Z	✓	Sub-compact			40 nm	325 K	Top	Vacuum	>2 h	
	SHI-4XG-ST-Z	CCS-300ST-XG-Z		Sub-compact			40 nm	325 K	Top	Vacuum	>2 h	
	SHI-4XG-M-Z	CCS-XG-M-Z	✓	App-specific	Microscopy		40 nm	325 K	Top	Vacuum	>2 h	
	SHI-4XG-UHV-Z	CCS-XG-UHV-Z	N/A*	N/A*		✓	40 nm	325 K	Top	Vacuum	>2 h	
SHI-950-LT			✓					800 K	Top	Exchange gas	>9 h	<10 min
SHI-950T-LT								800 K	Top	Exchange gas	>9 h	<10 min

-Z = cooling power/cold head used

*Only includes cold finger, no vacuum shroud

Liquid cryogen cryostat selection guide

	STVP	VNF	ST	VPF
Cooling type	LHe	LN ₂	LHe	LN ₂
Minimum temperature	1.5 K	65 K to 77 K	2 K	65 K to 77 K
Maximum temperature	325 K	325 K	500 K; option for 800 K	500 K; options for 700 K or 800 K
Vibration	—	—	Options for low vibration	—
Sample environment	Flowing vapor	Flowing vapor	Vacuum	Vacuum
Cooldown	30 min (to 5 K)	30 min (to 77 K)	15 min (to 5 K)	15 min (to 77 K)
Sample change	<10 min	<10 min	—	—

STVP part number	VNF part number	ST part number	VPF part number	Optical	Size	Application-specific	UHV	Vibration	Optional max temperature
STVP-100	VNF-100			✓					325 K
		ST-100-FTIR	VPF-100-FTIR	✓		FTIR			700 K
STVP-200	VNF-100T								325 K
STVP-300				✓	Compact				325 K
		ST-200							800 K
		ST-300		✓	Compact				700 K
		ST-300S		✓	Sub-compact				700 K
		ST-300T			Compact				700 K
		ST-300MS		✓		Microscopy			700 K
		ST-300MS UC		✓	Ultra-compact	Microscopy			700 K
		ST-400		N/A*	N/A*		✓		500 K
		ST-500		✓		Microscopy		15 nm	475 K
		ST-500-UC		✓	Ultra-compact	Microscopy		15 nm	475 K
		ST-500-UHV		✓		Microscopy	✓	15 nm	475 K
STVP-NMR						NMR			325 K
		ST-100	VPF-100	✓					500 K
			VPF-100S	✓	Sub-compact				500 K
			VPF-100ST		Sub-compact				500 K
			VPF-700S	✓	Sub-compact				700 K
			VPF-700ST		Sub-compact				700 K
		ST-100H	VPF-100H**	✓					800 K

*Only includes cold finger, no vacuum shroud

**Previously VPF-800