environment by JANIS

Lake Shore CRYOTRONICS
a DwyerOmega brand

Cryogen-free cryostat selection guide

	CCR
Cooling type	Cryogen-free
Minimum temperature	1.5 K to 12 K
Maximum temperature	325 K; options up to 800 K
Vibration	Low-vibration options
Cryocooler	Gifford-McMahon

CCR part number	Optical	Size	Application	Vibration	Cold head location	Sample environment	Cooldown time	Sample change	Rotatable sample	Maximum temperature	Minimum temperature options
CCS-100	✓				Any	Vacuum	1 h to 2 h			325 K	<4 K to 12 K, model-dependent
CCS-300S	✓	Compact	Magnetotransport		Any	Vacuum	1 h to 2.5 h			325 K	
CCS-300ST		Compact	Magnetotransport		Any	Vacuum	1 h to 2.5 h			325 K	
CCS-400	✓				Any	Vacuum	1.5 h to 3 h			500 K	
CCS-400H	✓				Any	Vacuum	2 h to 2.5 h			800 K	
CCS-CP	✓		Large sample size		Bottom	Vacuum	Varies by cold plate size			300 K	
CCS-XG	✓			40 nm	Top	Vacuum	2 h to 3 h			325 K	
CCS-XG-UHV	N/A*	N/A*	UHV	40 nm	Top	Vacuum	2 h to 3 h			325 K	
CCS-TRAP/-S			Noble gas trapping		Bottom	Exchange gas	1 h to 1.5 h			500 K	
CCS-TRAP-CORE			Ice core trapping		Bottom	Exchange gas	1 h to 1.5 h			300 K	
CCS-800	✓		Mössbauer		Bottom	Exchange gas	2 h to 2.5 h	<10 min	✓	300 K	
CCS-900	✓				Top	Exchange gas	3 h to 3.5 h	<10 min	✓	800 K	
CCS-900T					Top	Exchange gas	3 h to 4 h	<10 min	✓	800 K	
SHI-950-LT	✓				Top	Exchange gas	9 h	<10 min	✓	800 K	1.5 K
SHI-950T-LT					Top	Exchange gas	8 h to 9 h	<10 min	✓	800 K	

*Only includes cold finger, no vacuum shroud

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LHe and LN_2 cryostat selection guide

	STVP	VNF	ST	VPF
Cooling type	LHe, LN_2	LN_2	LHe, LN_2	LN_2
Minimum temperature	<2 K	65 K	2 K to 6 K	65 K
Maximum temperature	420 K	500 K	800 K	800 K
Vibration	—	—	Low-vibration options	—
Sample environment	Flowing vapor	Flowing vapor	Vacuum	Vacuum
Sample type	All	All	Conductive, solid	Conductive, solid
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	Vibration	Rotatable sample	Maximum temperature	Minimum temperature
		ST-100		✓					500 K	2 K
		ST-100-H		✓					800 K	2 K
			VPF-100	✓					500 K	65 K
			VPF-100-H	✓					800 K	65 K
STVP-100				✓				✓	325 K	<2 K
STVP-100-TH								✓	420 K	<2 K
	VNF-100			✓				✓	325 K	65 K
	VNF-100-TH							✓	500 K	65 K
		ST-300		✓		Magnetotransport			420 K	2 K
		ST-300-C		✓	Compact	Magnetotransport			420 K	2 K
		ST-400		N/A*		UHV			500 K	2 K
		ST-400-H		N/A*		UHV			800 K	2 K
		ST-500		✓		Microscopy	12 nm		475 K	3.5 K
		ST-500-C		✓	Compact	Microscopy	12 nm		475 K	6 K
STVP-NMR						NMR			325 K	<2 K
		ST-FTIR/-VAC		✓		FTIR			500 K	2.5 K
			VPF-FTIR	✓		FTIR			500 K	65 K
STVP-FTIR				✓		FTIR		✓	325 K	<2 K

*Only includes cold finger, no vacuum shroud