

Temperature Control Accessories

Extended Temperatures

Doty probes have variable temperature capabilities, and extended temperature options are also available.

Wide Temperature range:

- 80°C to +120°C for NB Std VT
- 140°C to +170°C for WB Std VT
- 150 to +150°C NB XVT (extended VT)
- 150 to +250°C WB XVT (extended VT)
- 170°C LXVT (NB and WB low extended VT)

(with a Doty temperature controller). To extend the temperature range, we add extra insulation and thermal baffles, utilize special materials, add additional room air, and in some cases, add extra dewars to the probe.

Probe Exhaust Dewar

A Probe Exhaust Dewar is **required for sample temperatures above 160°C or below -100°C** (except with cryogenic, high-temp, and a few other special probes) which have a different exhaust system. The exhaust dewar is included in extended VT options (described above) but may be ordered separately. Please supply the probe serial number when ordering to ensure that the proper dewar is supplied.

95980 Probe Exhaust Dewar \$ 850

50-Liter Liquid Nitrogen Dewar

This dewar is intended to be used with the Doty Cold-Gas System. (A Nitrogen Dewar already owned or purchased locally may be used if compatible with the cold-gas system, however specifications must match.)

86020 50-Liter Liquid Nitrogen Dewar \$1575

Cold-Gas Supply Systems

Doty cold gas supplies include a heat exchanger with one, two or three intertwined pre-cooling coils; appropriate cooling coil sets; and one, two or three transfer lines to carry the cooled gas to the probe.

(The pre-cooler counterflow heat exchanger in the neck of the storage dewar greatly improves cooling efficiency – an important consideration for extended runs.)

The heat exchanger connects to the Doty probe with flexible, foam-insulated transfer lines with fully dewared quick connects. This system provides efficient cold gas supply for temperatures down to -150°C. The cold gas supply shown below is connected to a probe at one end and connected to a flow meter and regulated gas supply on the other. This system is designed to be used with the **standard 50-liter nitrogen dewar and probe exhaust dewar**, (listed in the left column) both of which **must be ordered separately**. (A special Cold Gas system is supplied for LXVT.)

99860 Single-Supply Cold-Gas System ... \$3,400

This cold-gas supply is for, standard speed or wide-line probes and other single-supply applications. Also for OptiMAS™ cold zone cooling when VT gas is supplied by a separate system.

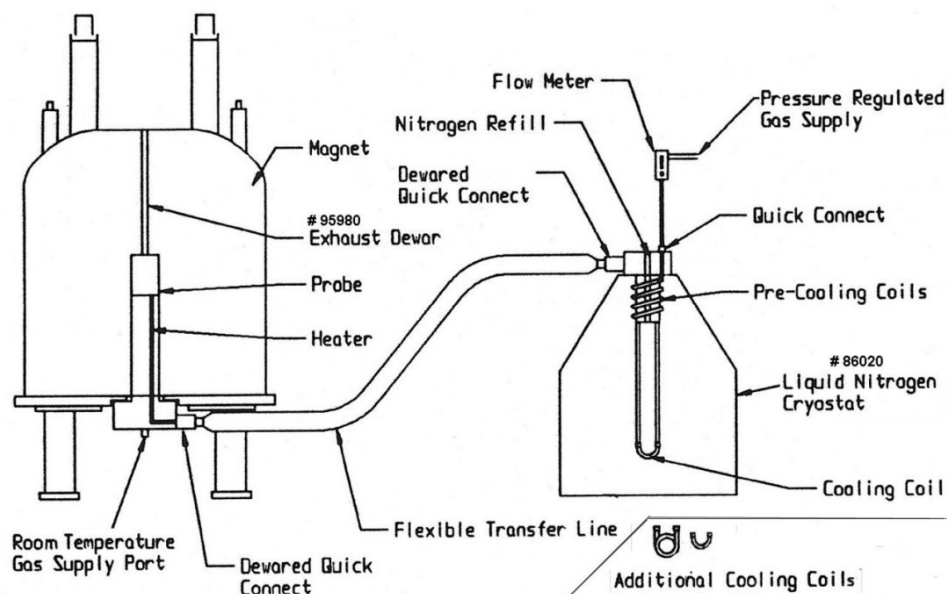
95970 Dual-Supply Cold-Gas System \$5,000

For spinning with separate bearing and drive or for other dual-supply applications. (Includes two intertwined pre-cooling coils, two cooling coil sets, and two transfer lines.)

95975 Triple-Supply Cold-Gas System \$6,650

For dual-supply spinning and OptiMAS “cold zone” cooling. (Includes three intertwined pre-cooling coils, three cooling coil sets, and three transfer lines.)

Doty Cold Gas Supply – Installation Diagram (Single Supply Shown)



Cold-Gas System



(US\$ –Foreign prices higher, plus taxes)

Accessories For OptiMAS™ Drop-in(DI) Spinners

- Thick wall rotors and Torlon caps are provided for **fastest spinning** and ease in packing. Thin wall rotors and caps are available for maximum signal to noise. The maximum speed of thin wall rotors is about 50% the maximum speed of thick wall rotors. Teflon spacers are provided for highest homogeneity and rf field strength.
- DI, XC, SuperSonic, High Speed, and Standard accessories are **not** interchangeable.

<p>3 mm DI3</p> <p>Rotor Length =20.80 mm</p> <p>Low density* Spinning max Thick Wall Rotor – Max. 30 kHz</p>	<p>Front DI Turbine</p> 	<p>Rear DI Tip Cap</p> 	<p>4 mm DI4</p> <p>Rotor Length =24.95 mm</p> <p>Low density* Spinning max Thick Wall rotor – Max. 18 kHz</p>
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Please note: Although the front turbine and rear tip cap are sold separately, a pair consisting of a front turbine and a rear tip cap are needed for spinning.

DI3 Part #	DI4 Part #	Price	Description	Maximum Spin Speed (kHz)		
Thick Wall Rotors and Caps				3 mm	4 mm	
46082	45127	\$800	DI thick wall rotor – Silicon Nitride	30	18	
46252	-----	70	DI front turbine cap for thick wall – Torlon (use with GFT Tip)	30	-----	
46083	45129	70	DI front turbine cap for thick wall – GFT (glass filled torlon)	27	18	
46084	46136	70	DI rear tip cap for thick wall – GFT (glass filled torlon)	30	18	
46077	46142	70	DI front turbine cap for thick wall – Aurum	18	15	
46076	46140	70	DI rear tip cap for thick wall – Aurum	18	15	
46075	45130	70	DI front turbine cap for thick wall – Kel-F	11	9	
46074	46137	70	DI rear tip cap for thick wall – Kel-F	11	9	
46179	45137	25	DI Teflon spacer for thick wall rotors	Restricts/centers the sample to within the coil region). Two are required.		
	46206	25	DI Kel-F spacer for thick wall rotors			
		DI4 #	Price	DI4 Thin Wall Rotors and Caps		Maximum Spin Speed (kHz)
						4mm
		03136	\$800	DI4 thin wall rotor – Silicon Nitride		12
		45128	555	DI4 thin wall rotor – Zirconia		10
		45131	70	DI4 front turbine cap for thin wall – GFT (glass filled torlon)		17
		46138	70	DI4 rear tip cap for thin wall – GFT (glass filled torlon)		17
		46141	70	DI4 front turbine cap for thin wall – Aurum		15
		46169	70	DI4 rear tip cap for thin wall – Aurum		15
		45132	70	DI4 front turbine cap for thin wall – Kel-F		9
		46139	70	DI4 rear tip cap for thin wall – Kel-F		9
		45138	25	DI Teflon spacer for thin wall rotors	Restricts/centers the sample to within the coil region). Two are required.	
		46027	25	DI Kel-F spacer for thin wall rotors		
DI3 #	DI4 #	Price	Cap Pullers and Accessories			
06027	-----	\$ 70	DI3 Turbine cap Puller and Spacer removal tool			
-----	01003	\$70	DI4 Spacer and sealing cell removal tool			
-----	96182	210	DI4 Turbine cap puller for turbine caps			
96195	96188	110	Rotor holder and plungers – tools for tip cap and rear spacer removal			
96501	99683	160	Sample packing set for thick wall DI rotors			
-----	99682	160	Sample packing set for thin wall DI4 rotors			

* Please refer to the APPENDIX for the **speeds/density spinning speed chart** and for material information.

(US\$ – Foreign prices higher, plus taxes.)