

## SPECIFICATIONS

Item No.	Unit	Item Description	Qty
1	lot	<b>DUAL CHANNEL AUTOMATED FLASH CHROMATOGRAPH WITH INTEGRATED TLC IMAGE READER</b>	1
		The system must have:	
		1. Solvent delivery pumps	
		Two pumps in one compact single system	
		Flow rate: maximum of around 80 mL/min	
		With automatic gradient mixer capable of selecting from 4 solvents or more	
		Pressure capability: up to 1 MPa	
		With capability to moderate the pressure when sudden surge occurs	
		Operation: independent or parallel in each channel by a single or group of person	
		2. UV-Vis Detector	
		Dual wavelength UV-Vis detector with deuterium and halogen lamp	
		Wavelength range of 200 to 800 nm	
		Wavelength can be programmed independently in each channel	
		Detector range: maximum of around 10 AUFS	
		3. Fraction collector	
		2 racks, X-Y driving mode	
		With the following collection modes: time mode, peak mode, and peak and slope mode	
		With two independent controlled flow path	
		Able to stop the collection if collection tray/rack is not correct or not in place	
		4. Column stand	
		5. System controller is built-in on the fraction collector	
		6. Software that:	
		Is capable of automatic transfer of TLC method to column chromatography	
		Supports green chemistry/chromatography such as sample run can be carried out with minimal use of solvent	
		Monitors the solvent level in all solvent inlet & waste bottles for physical solvent management	
		Provides maximum sample load information for a selected column size	
		Can automatically calculate and set optimal parameters for flow rate, run time, fraction volume, etc upon selection of column	
		Calculates and automatically develop optimum method to elute the target compound at around 4-column volume	
		Supports slow gradient from 1% to 7% of polar solvent	
		Supports 2-step gradient modes to separate multiple compounds effectively	

	Supports automatic method set-up for reverse phase chromatography		
	Can control the eluting position and resolution		
7. TLC Image Reader			
	Equipped with a built-in UV light source and a camera		
	Can automatically calculate Rf value and optimized chromatography method through the TLC image generated by the reader		
	Have LCD screen that displays the TLC plate during run		
	The photographic image of the TLC plate and the purification are saved as data file.		
	With software that could perform automatic maximum load determination for each column by selecting the target compound and the nearest impurity on the TLC plate		
8. Column air purge system			
	Can purge the solvent from the used columns after the run		
9. Collection trays/racks			
	2 racks of around 60 positions each rack for <b>standard</b> [around 24mL volume] capacity tubes (~18x~150mm) - with at least 120 pcs of these reuseable test tubes		
	2 racks of around 60 positions each rack for <b>small</b> [around 8mL] capacity tubes (~13x~100mm) - with at least 120 pcs of these reuseable test tubes		
	2 racks of around 30 positions each rack for <b>large</b> [around 46mL ] capacity tubes (~25x~150mm) - with at least 60 pcs reuseable test tubes		
10. Flash Chrom columns, etc.			
	<i>Silica Universal Flash Column</i>		
	5 packs M ~16 g (or equivalent) – pk of 10		
	5 packs L ~36 g (or equivalent) – pk of 10		
	2 packs 2L ~45g (or equivalent) – pk of 10		
	<i>Inject Columns for Silica</i>		
	5 packs for M size Silica – pack of 10		
	5 packs for L size Silica – pack of 10		
	2 packs for 2L size Silica – pack of 10		
	<i>C18 Universal Flash Column</i>		
	1 pack S ~6g (or equivalent) – pk of 10		
	1 pack 2L ~50 g (or equivalent) – pk of 10		
	<i>Inject Columns for C18</i>		
	4 packs for S size C18 – pack of 10		
	2 packs for 2L size C18 – pack of 10		
	1 pc Ultrapack C18 Columns - B size – 300x 21mm ID , 98g (or equivalent)		
	1 pc MM Empty glass column – 300 x 20mmID (or equivalent)		
11. Standard Accessories			
	Suction Tubing with Filter - 8 pcs		

	Tubing between pump and gradient mixers - 4 pcs		
	Tubing between column and Detector - 2 pcs		
	Tubing assembly to fraction collector - at least one per channel		
	Line filter assembly - 2pcs		
	Dummy column for system flushing - 2 pcs		
	Column setting kit - 2 sets		
	Column Mounting bracket - 2 sets		
	Column Adapters for S, M, L, 2L Size Columns - 2 sets		
	Inject Column Adapter for S,M,L, 2L Size Columns - 2 sets		
	<i>Others (features, inclusions, warranty, etc.)</i>		
	System that supports green chemistry/chromatography		
	Perform method development with the TLC and TLC results are automatically captured on the Flash system		
	Table for the monitor etc.		
	1 unit Automatic voltage regulator (AVR)		
	1 unit Uninterrupted power supply (UPS) that is compatible and sufficient with the unit's power requirements		
	Voltage: 220V		
	Warranty: 1 year warranty on parts and 2 years warranty on services		
	Free Preventive maintenance after Year1 and Year2		
	On-site training for the use and care of the unit by Application Chemist		
	Installation by Service Engineer		
	Service maintenance readily available in Davao City		
	Delivery period: 90 days or less after receipt of purchase order (PO)		
	Provide picture of equipment (preferably colored) in the bid docs		
	<b>RECIRCULATING CHILLER</b>		1
	Compressor is efficient and has reduced noise		
	Temperature control range 5 degC - 40 degC +/- 0.3degC		
	Unit volume: at least 8L and cooling capacity of at least 1.2 kW		
	Uses R134A as refrigerant		
	Adopts PID temperature controlling technology.		
	Uses EEV technology to stabilize cooling.		
	Has an over-temperature protection and auto-alarm function in refrigeration control system		
	Has an observation window for manual water level check and alarm for automatic low water level detection		
	Has a water current detection device		
	Circulating water pump is able to withstand continuous running and has good sealing to avoid leakage		
	Pump pressure: minimum of 0-1.5 bar but adjustable manually		
	Pump flow rate of at least 20 L/min		
	Pressure value can be displayed at the LCD screen		
	Has a colored LCD screen display		
	Voltage: 220V		

	Includes the following accessories but not limited to: Inlet & Outlet water pipe, Insulated pipe, Clips, Sealing ring, Power cord, Fuse/2A		
	Rubber tubing - one roll - for connecting unit to standard condensers, etc.		
	Must include automatic voltage regulator (AVR)		
	Warranty: 1 year warranty on parts and 2 years warranty on services		
	Free preventive maintenance for Year 1		
	On-site training for the use and care of the unit		
	Service maintenance readily available in Davao City		
	Delivery period: 90 days or less after receipt of purchase order (PO)		
	Provide picture of equipment (preferably colored) in the bid docs		

**NOTED:**

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