Request for Quotation (RFQ) for the Supply, installation and training of a Parallel Chemistry Synthesis work station (with fully integrated software) and Flash Chromatography system to the CSIR

Date of issue	Wednesday, 14 August 2019
Closing Date and Time	Thursday, 29 August 2019 at 16:30
RFQ Number	9179/29/08/2019
Contact details	For submission of quotations or any other enquiries: tender@csir.co.za (**Please use RFQ no. as subject reference**)

1 INVITATION FOR QUOTATION

Quotations are hereby invited for the supply, installation and training of a Parallel Chemistry Synthesis work station (with fully integrated software) and Flash Chromatography system to the CSIR

2 QUOTATION REQUIREMENTS

Required specifications for a parallel chemistry synthesis work station (with fully integrated software) and a flash chromatography system.

GENERAL REQUIREMENTS OF THE SYSTEM:

Specifications for a Parallel Chemistry Synthesis Work Station:

- Must be capable of performing, simultaneously, at least six heated and stirred reactions.
- Should fit on a standard magnetic stirring hotplate, utilizing existing and readily available technology.
- Heated directly by the magnetic stirring hotplate, providing an operating temperature range from ambient to +180 °C.

- Utilizes the single rotating magnetic field of the magnetic stirring hotplate to stir all the positions evenly and powerfully.
- Includes non-glass reflux system for cooling simultaneously all reactions or single reaction vessels if maximum reaction flasks not reached.
- A central inlet/outlet for vacuum and inert gas for radial distribution of inert gas for reactions under inert atmosphere.
- Capable of handling flasks of working volumes preferably between 5 to 250 ml.
- Optional: Compatible with cooling reservoir (for use down to -78 °C); attachment for overhead stirring for simultaneous all positions.
- Software capabilities – RS232 port for software control

Software specifications for the chemistry synthesis stations:

The software offered must be able to allow automated control of:

- Stirring hotplates
- Temperature sensors
- Overhead stirrers
- Circulators
- Peristaltic, syringe and vacuum pumps
- Balances
- pH sensors
- Gas flow controllers
- Pressure and conductivity sensors
- Gas flow meters

1. SCALE UP PROCESS REACTOR DUO:

• A single system that accepts two vessels (sizes from 0.1 to 5 litres.)
• Quick and simple apparatus set-up with self-aligning stirrer and drive coupling.
• V4 vessel bottom outlet tap is glass filled PTFE and 15 mm bore. Leak-free operation across temp range -70 °C to +230 °C.
• Uses flat glass flange with FEP O-ring seal.
• Tool free, light weight, chemically resistant quick-release hose connections.
• Includes two Overhead Stirrers with maximum torque of 400 (Ncm) each and maximum viscosity of 250,000 (mPa.s).

• RS232 port for software control option
• Extended PTFE stirrer guide ensures whip-free agitation and prevents shedding even at high speeds.

2. FLASH CHROMATOGRAPHY SYSTEM SPECIFICATIONS

Specification	Requirement
System Design	Needs to be an integrated system
User Interface	Must have integrated chromatography software with a sliding touchscreen
Remote Control / Data Backup	LAN based remote PC operation, automatic data backup & network printing
Remote Wireless Access	Ability to monitor system operation while away from the lab
Data Visualization	Real-time chromatogram display, zoom, and post-run fraction mapping. Real time and post run spectral display with or without baseline subtraction.
Run/Gradient Control	User Selectable four solvent binary Drag-And-Drop with user-selectable scale Gradients between any two of the four available solvents Third solvent proportioned at a fixed percentage during the run.
Gradient Formation	Low pressure gradient formation Accuracy <2% full scale Linear, step, isocratic mixing capability
Method Development	TLC Rf to Gradient wizard
Auto-Method (RFID)	RFID column detection -Reads max pressure of columns -Run parameters automatically loaded RFID Test Tube Rack identification
Data Handling	Auto save to network hard drive
Detection Options	UV-Vis 200-800 nm PDA 4 wavelengths + All wavelength standard 0.1 mm path length flow cell 4 AU full scale Internal ELSD optional, upgrade in the field External MS optional, upgrade in the field
Detection Algorithms	Slope and threshold peak detection Collect triggered by single, dual or All-Wavelengths
ELSD Detection	Evaporative Light Scattering Detector in parallel with PDA and MS Switchable gain optimizes detector response for heavy sample loads during normal phase operation and lighter loads associated with reverse phase

	Integrated into the module Field upgradable
Mass Spec Option	Must have mass spec as option
Pump	Dual, positive displacement piston pumps Self priming
Flow Rate (mL/min)	1-300 ml/min
Operating Pressure (Max)	300 psi (20 bar)
Fraction Collector	13 mm, 16 mm, 18 mm, 25 mm, 28 mm test tubes, Scintillation Vials (20 mL & 40 mL), Bottles (480 mL) with RFID Detection
Sample Introduction	Auto-inject self-cleaning valve Automatic solid sample load Liquid load
Scale (Loading)	4 – 330 g columns 750 and 1500 g compatible
Sample Security	Run auto-extension Hold at end of Run
User conveniences	Holds 4 solvent bottles on top Sample lighting Columns located on front of the unit Air pump optional for ELSD
Safety Features	Grounded solvent path Solvent & waste level-sensing Dual failure pressure sensors standard Integrated column air-purge Audible and visual error alarm Optional vapour sensor Optional vapour enclosure
Consumables	Start-up consumables to be provided including empty cartridges and silica
Training	At least three days of onsite training to be provided at installation
Local Application and service support	Local chromatography application support and service engineers must be available
References	At least two references to be provided on the system quoted

3 EVALUATION CRITERIA

3.1 Selection of suppliers will be based on the 80/20 preference point system.

3.2 Include a valid B-BBEE certificate with your quotation. No B-BBEE status will equal zero points.

3.3 Indicate CSD number (National Treasury Central Supplier Database) on quotation. If not registered yet on CSD, use www.csd.gov.za to register.

3.4 No order will be issued or no contract will be signed without a valid CSD number.

4 PRICING QUOTATION

4.1 Price needs to be provided in South African Rand (excl. VAT), with details on price elements that are subject to escalation and exchange rate fluctuations clearly indicated.

4.2 Price should include additional cost elements such as freight, insurance until acceptance, duty where applicable, etc.

4.3 Payment will be according to the CSIR Payment Terms and Conditions.

5 OTHER TERMS AND CONDITIONS

5.1 The supplier shall under no circumstances offer, promise or make any gift, payment, loan, reward, inducement, benefit or other advantage, which may be construed as being made to solicit any favour, to any CSIR employee or its representatives. Such an act shall constitute a material breach of the Agreement and the CSIR shall be entitled to terminate the Agreement forthwith, without prejudice to any of its rights.

5.2 A validity period of 90 days will apply to all quotations except where indicated differently on the quote.

6 No goods and/or services should be delivered to the CSIR without an official CSIR Purchase order. CSIR purchase order number must be quoted on the invoice. Invoices without CSIR purchase order numbers will be returned to supplier.

7 Note: This is not a Purchase Order.