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Tender

Tender for the Supply and Installation of a Cryomagnetic System for NMR Applications

THE UNIVERSITY OF BIRMINGHAM

F02: Contract notice
Notice identifier: 2024/S 000-035686
Procurement identifier (OCID): ocds-h6vhtk-04b3cc
Published 4 November 2024, 3:42pm

Section I: Contracting authority

I.1) Name and addresses

THE UNIVERSITY OF BIRMINGHAM

Edgbaston

BIRMINGHAM

B152TT

Contact

Teisha Ravenscroft

Email

T.Ravenscroft@bham.ac.uk

Country

United Kingdom

Region code

UKG31 - Birmingham

UK Register of Learning Providers (UKPRN number)

10006840

Internet address(es)

Main address

www.bham.ac.uk

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at

https://in-tendhost.co.uk/universityofbirmingham/aspx/Tenders/Current

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://in-tendhost.co.uk/universityofbirmingham/aspx/Tenders/Current

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Education

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Tender for the Supply and Installation of a Cryomagnetic System for NMR Applications

Reference number

SC13190-24

II.1.2) Main CPV code

- 38340000 - Instruments for measuring quantities

II.1.3) Type of contract

Supplies

II.1.4) Short description

The University of Birmingham invites tenders for supply and installation of a cryomagnetic system that is suitable for NMR experiments. The cryomagnetic system will form part of the Ultra-Low-Temperature NMR, i.e. facilities created with the support of an EPSRC Strategic Infrastructure award. It will be used to facilitate/support fundamental and applied science research using NMR by researchers from chemistry, physics and materials science across the UK. In this context, the system will be used to provide a wide range of sample environment including RF access to the samples at very low temperature as well as in a strong, homogenous and stable magnetic field. Therefore, it will be required as part of the project to supply modular probes that are readily modified to suit the purposes of different requirements for the sample environment. The broad user base and diverse range of materials to be characterised with the equipment means that the equipment interface should be user friendly and reliable.

The cryomagnetic system should provide a sample environment on a single platform, especially being capable of sweeping the magnetic field and temperature simultaneously and continuously. It should consist of a 'Superconducting Magnet' with a maximum field strength of 16 T or higher and two cryostats that collectively provide a sample temperature range between 20 mK and 300 K or wider. Each of the cryostats should operate in a different temperature range with some overlap, e.g., i) Variable Temperature Insert (VTI) operates at temperatures between 1.5 K and 300 K or wider and ii) Dilution Refrigerator (DR) operates for temperatures between 20 mK and 2 K or wider. Specifically, the parts of the

cryomagnetic system should further satisfy the following requirements:

• Spatial field homogeneity around the maximum field position better than 10 ppm over 1cm3 diameter sphere volume (DSV).

• Temporal field stability around the maximum field position better than 10 ppm / hour.

• Maximum field ramp rate should be 1 T/min or faster.

• Liquid helium consumption when fitted with VTI should be less than 400 cc / hour under static conditions with a magnet in a persistent mode.

• Accessible sample space when using VTI should be 30 mm in diameter or larger.

• The sample space for VTI should be filled with helium gas when in operation.

• Accessible sample space when using DR should be 30 mm in diameter or larger.

• The sample space for DR should be filled with liquid helium mixture when in operation.

The cryostat options as well as probe options should be easily exchangeable and integrated with the magnet, with the entire system having a single PC-based controller capable of executing automated system setting and data collection. The instrument should connect directly with the University of Birmingham's helium liquefier system. It should be delivered, installed, and tested on site with a maintenance and service package, with provision of on-site training.

II.1.5) Estimated total value

Value excluding VAT: £1,120,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 38300000 - Measuring instruments

II.2.3) Place of performance

NUTS codes

- UKG - West Midlands (England)

II.2.4) Description of the procurement

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• The sample space for VTI should be filled with helium gas when in operation.

• Accessible sample space when using DR should be 30 mm in diameter or larger.

• The sample space for DR should be filled with liquid helium mixture when in operation.

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II.2.5) Award criteria

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system

Start date

2 January 2025

End date

1 March 2026

This contract is subject to renewal

No

II.2.10) Information about variants

Variants will be accepted: No

II.2.11) Information about options

Options: No

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Open procedure

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

IV.2) Administrative information

IV.2.2) Time limit for receipt of tenders or requests to participate

Date

3 December 2025

IV.2.4) Languages in which tenders or requests to participate may be submitted

English

IV.2.7) Conditions for opening of tenders

Date

4 December 2025

Local time

3:00pm

Section VI. Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: No

VI.4) Procedures for review

VI.4.1) Review body

University of Birmingham

Edgbaston

B15 2TT

Country

United Kingdom