Tender

Tender for the Supply and Installation of a Sintering System for the Production of Ndfeb Magnets

UNIVERSITY OF BIRMINGHAM

F02: Contract notice
Notice identifier: 2022/S 000-008152
Procurement identifier (OCID): ocds-h6vhtk-032672
Published 25 March 2022, 1:53pm

Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF BIRMINGHAM

Chancellors Close

BIRMINGHAM

B152TT

Contact

Susanna Ting

Email

s.y.ting@bham.ac.uk

Country

United Kingdom

NUTS code

UKG31 - Birmingham

Internet address(es)

Main address

www.birmingham.ac.uk/index.aspx

I.3) Communication

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

www.in-tendhost.com/universityofbirmingham

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

www.in-tendhost.com/universityofbirmingham

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 Sintering System for the Production of Ndfeb Magnets

Reference number

SC10514/22

II.1.2) Main CPV code

- 42300000 - Industrial or laboratory furnaces, incinerators and ovens

II.1.3) Type of contract

Supplies

II.1.4) Short description

The University of Birmingham invites tenders for supply of a sintering system for the production of sintered NdFeB permanent magnets. The proposed unit will allow inert charging and sintering of a batch size of a minimum of 50 kg of NdFeB under vacuum or inert atmosphere.

Note, due to space requirements of the system, the proposed sintering system will be installed at Tyesley Energy Park in Birmingham.

This project is funded by the UK Research and Innovation (UKRI) Industrial Strategy Challenge Fund; Driving the Electric Revolution.

II.1.5) Estimated total value

Value excluding VAT: £317,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 24111000 - Hydrogen, argon, rare gases, nitrogen and oxygen
- 31630000 - Magnets

II.2.3) Place of performance

NUTS codes

- UKG31 - Birmingham

II.2.4) Description of the procurement

The University of Birmingham invites tenders for supply of a bespoke sintering system for the production of sintered NdFeB permanent magnets.

The equipment must comply with all the relevant UK law, regulations, and British Standards.

General characteristics

A sintering furnace for NdFeB with a minimum capacity of 50 kg per batch. The system must incorporate inert loading of pressed NdFeB compacts

Specification

i. Requirements

1) The complete system must be capable of the handling of batch sizes of a minimum of 50 kg, nominally for rectangular magnet blocks with dimensions up to 40mm x 40mm x 20mm.

2) The system should allow for inert loading of pressed compacts by use of a glove box system.

3) The system needs to be ergonomically designed for the efficient handling of the material, facilitating the inert handling and transfer of green compacts (maximum oxygen content 20 ppm) also allowing for the easy transfer in and out of sintering trays.

4) The sintering vessel should be capable of being pumped down to a vacuum level of 10-4 mBar, with appropriate filters / traps to avoid powder entering the vacuum pump.

5) The sintering furnace must be capable of consistently achieving temperatures up to a minimum of 1200°C under vacuum or inert gas with good thermal uniformity (in the order of +/-5°C) during the ramp and sintering stages.

6) During the sintering process hydrogen will be evolved from the compacts (up to 900°C). The pumping system must be capable of safely removing this hydrogen. The sintering system needs to have the ability to actively cool the material from the sintering temperature at a controlled rate. Appropriate control should be incorporated with the ability to log the process parameters. Temp, Vacuum, oxygen levels, moisture levels, flow rates, power consumption. Ability to set multiple programmes for gas control and temp profiles through PID control.

ii. Optional Component Technologies

7) The system could incorporate two solvent extraction chambers and pumping systems to remove solvents from the green compacts prior to the sintering process.

II.2.5) Award criteria

Quality criterion - Name: Compliance to Specification / Weighting: 55

Quality criterion - Name: After Sales and Technical back up / Weighting: 10

Quality criterion - Name: Delivery and Training / Weighting: 10

Quality criterion - Name: Sustainability and Environmental / Weighting: 5

Quality criterion - Name: Standard Supplier Questionnaire / Weighting: 10

Price - Weighting: 10

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

End date

31 March 2023

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

26 April 2022

Local time

11:59am

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

English

IV.2.7) Conditions for opening of tenders

Date

26 April 2022

Local time

12:00pm

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

Birmingham

B15 2TT

Email

s.y.ting@bham.ac.uk

Country

United Kingdom