

Finland-Mikkeli: Chemical industry machinery

OJ S 31/2020 13/02/2020

Contract notice

Supplies

Legal Basis:

Directive 2014/24/EU

Section I: Contracting authority

I.1. Name and addresses

Official name: South-Eastern Finland University of Applied Sciences

National registration number: 2472908-2

Postal address: Patteristonkatu 3 D

Town: Mikkeli

NUTS code: FI1 Manner-Suomi

Postal code: 50100

Country: Finland

Contact person: Nuutti Teräsalmi

E-mail: nuutti.terasalmi@xamk.fi

Telephone: +358 406373890

Internet address(es):

Main address: <http://www.xamk.fi>

I.3. Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at: <https://tarjouspalvelu.fi/xamk?id=282062&tpk=7f6c0338-01d5-4f4b-ba75-e4c19e5c52d9>

Additional information can be obtained from the abovementioned address

Tenders or requests to participate must be submitted electronically via: <https://tarjouspalvelu.fi/xamk?id=282062&tpk=7f6c0338-01d5-4f4b-ba75-e4c19e5c52d9>

I.4. Type of the contracting authority

Other type: Publicly owned company

I.5. Main activity

Education

Section II: Object

II.1. Scope of the procurement

II.1.1. Title

Pressurized High-Consistency Reactor

II.1.2. Main CPV code

42993000 Chemical industry machinery

II.1.3. Type of contract

Supplies

II.1.4. Short description

South-Eastern Finland University of Applied Sciences (Xamk) is purchasing a pilot scale pressurized high-consistency batch wise reactor according to this tender documentation.

Reactor will be located to Fiberlaboratory RDI-unit in Savonlinna.

Pricing must include shipping costs to Savonlinna Finland (Vipusenkatu 10, 57200 Savonlinna, FINLAND).

Installation is not needed.

II.1.5. Estimated total value

Value excluding VAT: 300 000,00 EUR

II.1.6. Information about lots

This contract is divided into lots: no

II.2. Description

II.2.3. Place of performance

NUTS code: FI1D1 Etelä-Savo

II.2.4. Description of the procurement

Primary use for the reactor is cellulose derivatization. The cellulose material to be mixed is mainly moist, sticky and fibrous, and the reactions will be done in high consistencies. 'High-consistency' refers to cellulose pulp, which contains even less than 70 % water. At this consistency, the pulp behaves almost like a solid and is challenging to mix. Thus special mixing elements such as shovels and chopper(s) are required. Mixing shovels are to enable complete mixing throughout the whole reactor volume, such as ploughshare shovels. Chopper is required to shred the cellulose material and ensure homogenous mixing conditions and that the mixed material is not only rotated around the reactor. The mixing elements should be able to disperse cellulose fibers but the mixing should not be so strong that it breaks the individual fibers. This is important when the desired product is surface-treated cellulose fibers, as opposed to 'bulk treated' cellulose, where the entire cellulose fiber structure is derivatized. Our goal is to be able to do both surface-treatments and bulk treatments.

Description of the process conditions:

- the cellulose pulp is mixed with additives, the reactor is heated to a desired temperature, derivatizing reagents are added, and the reaction is allowed to proceed,
- the main reaction solvent is tap water,
- heating is achieved by feeding steam into a jacket, which is around the reactor drum. In this document, the term 'reactor drum' refers to the part of the reactor where the mixing and reactions take place. For reactions that require higher pressures than what the solvent's vapor pressure naturally induces in a given temperature, pressurized air will be used to increase the pressure in the drum. In exothermic reactions, the temperature might need to be lowered by feeding cold water into the jacket,
- afterwards, heating and lowered pressure will be used to dry the material.

Technical details for the reactor:

- reactor volume minimum 100 liters,
- the operational gauge pressure range of the reactor at least 0-10 bar,
- the operational temperature range at least 0-180 oC,
- all rotating connections equipped with double mechanical seal,
- include minimum one chopper or similar homogenizing element(s),
- discharge valves must be operated by hydraulic, pneumatic, electric etc. non-manual means,
- dead volume of the discharge valve system should be minimized,

- feed and discharge valves must be equipped with safety device, which prevents opening while vessel is pressurized,
- for emptying and flushing purposes the main drive must be able to rotate while feed and discharge valves are open,
- The discharge valve must be located in the bottom of the reactor. Minimum distance between lowest point of discharge valve system and floor is 800 mm. This is not required if the reactor can be tilted to allow for draining of product efficiently,
- main drive and choppers motors controlled by frequency converter and adjustable via user interface,
- main drive power minimum 10 kW,
- main drive rotation speed minimum 150 rpm,
- chopper motor power minimum 5 kW,
- chopper rotation speed minimum 2 500 rpm,
- reactor drum, mixing element and heating jacket material AISI 316 L (1.4404),
- reactor is heated with steam and cooled with water. Steam generation unit is not included in the scope of supply. However, the heating/cooling jacket (all, if consists of multiple parts) must have connections at the lowest and highest point of the jacket,
- mixer is to include connection flanges that enable minimum five (5) connections for reagents and/or measurements.

Prize includes:

- described reactor system and supporting structure,
- control panel,
- shipping
- inspection for pressure vessel.

Additional information:

- equipment will be placed in non-ATEX area. Equipment does not need to be ATEX compatible,
- reactions will be done in mostly aqueous media,
- a used device is also acceptable if it fulfills the set criteria.

II.2.5. Award criteria

Criteria below

Price

II.2.6. Estimated value

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

Start: 01/04/2020

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

II.2.13. Information about European Union funds

The procurement is related to a project and/or programme financed by European Union funds:
no

II.2.14. Additional information

Section IV: Procedure

IV.1. Description

IV.1.1. Type of procedure

Open procedure

IV.1.3. Information about a framework agreement or a dynamic purchasing system

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

The procurement is covered by the Government Procurement Agreement: no

IV.2. Administrative information

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

Date: 15/03/2020 Local time: 16:00

IV.2.3. Estimated date of dispatch of invitations to tender or to participate to selected candidates

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

English, Finnish

IV.2.6. Minimum time frame during which the tenderer must maintain the tender

Tender must be valid until: 31/07/2020

IV.2.7. Conditions for opening of tenders

Date: 16/03/2020 Local time: 08:15

Place:

Mikkeli

Section VI: Complementary information

VI.1. Information about recurrence

This is a recurrent procurement: no

VI.2. Information about electronic workflows

Electronic invoicing will be accepted

VI.3. Additional information

VI.4. Procedures for review

VI.4.1. Review body

Official name: Markkinaoikeus

Postal address: Radanrakentajantie 5

Town: Helsinki

Postal code: 00520

Country: Finland

E-mail: markkinaoikeus@oikeus.fi

Telephone: +358 295643300

Internet address: <http://www.oikeus.fi/markkinaoikeus>

VI.5. Date of dispatch of this notice

10/02/2020

