

1590 - Framework for the Supply Delivery Installation & Commissioning of a Double Planetary Mixer

1 Introduction

This tender is to establish a Single Supplier Framework. This tender will cover all spare parts, consumables, servicing, and maintenance. Further purchases of equipment of a similar nature are covered under this framework should they be required by CPI during the framework duration.

2 Background Information

CPI require a double planetary mixer for efficient mixing of formulation components. The system should be capable of efficient mixing of formulations across a wide range of viscosities (10-2500 Pa.s, with option for highly viscous materials up to 10000 Pa.s). Interchangeable pots are required to facilitate projects across a variety of formulation types. A vacuum system is desirable to aid in de-gassing of mixtures.

3 Technical Scope

Key instrument features and operation

- Laboratory scale double planetary mixer system suitable for efficient mixing of viscous mixtures.
- Instrument capable of handling pigments and metallic particles
- Materials of construction and sealing ring systems suitable for working with solvents.
- Capability to heat reaction vessel. Please detail available temperature range.
- Ability to cool mixing vessels during operation to limit heat build up
- Inbuilt reaction temperature monitoring capability with temperature readout.

Safety of system

- Fitted with systems to safeguard operators eg covers, emergency stops.
- Please detail extraction requirements for use of system with volatile solvents.
- Please provide detail of additional costs required to provide ATEX rated system

Vacuum system

- System capable of operating under vacuum, with piping and seals capable of withstanding and maintaining vacuum.
- Vacuum pump for standard use included in the purchase.

Mixing vessels

- Interchangeable mixing vessels to allow for efficient workflows for multiple samples.
- Multiple vessels included in purchase to allow interchange between formulations

- Volume of mixing chamber less than or equal to 1 L. Please detail mixing chamber volume and minimum and maximum volumes that can be used.
- Ability to replace O-rings and sealing systems to use alternative solvents. Please provide details.

Mixing blade design

- Interchangeable blade design for different formulation requirement and ease of replacement. Please detail options and capabilities of different blade geometries.
- Blades able to operate at varying speeds up to 1000 rpm.
- Ability to mix formulations with viscosity ranging from 10 to 2500 Pa.s
- Ability to mix highly viscous formulations with viscosity up to 10000 Pa.s
- System equipped with scrapers to prevent accumulation of material on the sidewalls or bottom of the container.

Spares/Consumables etc

- Please provide pricing information for spare mixing blade systems.
- Please provide pricing details for further mixing vessels of each size.
- Please provide details of capability to use other size mixing vessels with this instrument, and any additional purchases required for this.

Additional capability

- Additional systems to aid in sample retrieval eg Platen to push samples out of the pot. Please provide details of price and any additional considerations required eg additional bench space.

Please also refer to the URS Document in the Tender pack

4 Additional Requirements (Equipment Only)

4.1 Height/Access Restrictions

The Tenderer is required to submit weights and footprint dimensions of all packaged equipment prior to shipment. Equipment will be required to fit into 1.5 x 1 m in size

4.2 Design Requirements

All equipment is to be designed and manufactured to current European and UK legislation and directives as applicable and comply with the applicable EC directives in accordance with The Supply Of Machinery (Safety) Regulations 1992 (As Amended), including the CE mark, together with the supply of the required Certificate of Conformity

Equipment must be CE marked including all control panels and systems

Design and manufacture of equipment not covered by any specific design code shall conform to 'good engineering practice', and be suitable for its intended life expectancy of 10 years.

The vendor shall ensure that all necessary safety precautions are taken for the safe operation of the equipment

Noise from the system and any individual part shall be neither a hazard nor a nuisance to plant operators or local residents. Noise shall be below 78 dBA when measured at 1m from its source.

All information necessary for a safe installation design and safe operation of the equipment must be provided in the scope of supply and all machine, control panel and operator-machine interfaces labelling provided must be in English language.

The vendor as part of this contract shall supply any special tools required for installing, commissioning or maintaining the supplied equipment

4.3 Utilities

The Tenderer shall submit detailed requirements for electrical power, air, water and drainage as part of their offer.

CPI will provide electrical power, air, water, drainage and other utilities identified by the Tenderer, and will provide resources to connect the equipment to these services.

4.4 Guarantees

All equipment supplied by the Tenderer shall include a minimum warranty period of 18 months, as detailed in CPIs Terms and Conditions for the supply of Goods and On-site Services attached to this document, from commissioning. Options to extend the warranty period to 3 years should be included in the response to tender.

Supply of labour and materials for any rectification work are at the Tenderer cost during the warranty period.

Schedule of Faults Reported During the Warranty Period

Event	Time	Response
E1		CPI will report the error by telephone, in person or by e-mail
E2	E1 + 48 Hours	Technical assistance will be provided by telephone, in person or via e-mail. If issue is not resolved within 48 hours, CPI will inform the tenderer if the issue is causing an operational issue or if the system is Hard Down. Operational issues will mean that the equipment is capable of being used by CPI or their customers although there may be some loss of capability. A Hard Down issue means that the machine (or a major functionality thereof) is not capable of being operated by CPI or its customers.
E3	E2 + 120 Hours	Hard down issues will be rectified within 120 hours of the issue been reported. The Tenderer will provide a resolution plan for operational issues within 120 hours of the issue being reported.

Issues not resolved within 168 hours:

A warranty extension of 1 week will be granted if the Hard down issue is not resolved with 168 hours of being reported (E1), with a further 1-month extension for every additional week down. Time will include normal CPI working week, although clock will stop for bank holidays or CPI shutdowns. Operational Issues will normally be expected to be resolved within two weeks of being reported. Failure to resolve an operation issue within 1 month will incur a 1-month warranty extension.

Accrued warranty extensions will be able to be reduced by enhanced reliability performance – reduction of warranty extension by 1 month for each month with no Hard Down issues logged and all operational issues resolved.

4.5 Documentation

Documentation to be provided with the equipment shall include a general arrangement of the whole package including service connections, as well as individual arrangements and parts drawings adequate to support installation and maintenance of the equipment.

4.6 Operating and Maintenance Manuals

Prior to delivery to site the Tenderer must submit 2 copies of the operation and maintenance manuals to CPI, one printed on paper. One copy is required on CD/USB. The manuals shall be in English language and include:

- Adequate information for the safe installation of the equipment.
- Adequate information for the safe operation of the equipment.
- Guidance for safe maintenance.
- Full Bill of materials
- A recommended parts list with costs and tenderers' details.
- Schematics (Where applicable)

4.7 Inspection and Testing

Following assembly of the equipment, a testing program shall be undertaken in the CPI's works, to ensure that the unit operates in accordance with the manufacturer's specifications. The CPI may, if appropriate, send a representative to observe this process.

4.8 Installation, Commissioning and Training

The Tenderer will be responsible for supply, delivery, installation, commissioning, and training of users.

Prior to the delivery to site, the tenderer will carry out a test programme at their facility to demonstrate major function operation, the Factory Acceptance Test, FAT, is to be defined in the tender offer and is to be carried out with the attendance of a nominated representative(s) of CPI, with analysis to be carried out on any samples made.

The Tenderer shall demonstrate to the satisfaction of the CPI's representative that the equipment is safe, fit for purpose, and meets any agreed performance parameters.

Performance of the machine would be expected to be demonstrated during FAT and Site Acceptance Test (SAT) before full acceptance. Following assembly of the equipment, a testing programme shall be undertaken in the CPI facility to ensure that the unit operates in accordance with the required specifications.

A suitably experienced and qualified engineer will be provided for the supervision of the installation, commissioning and training of users for this equipment.

Training on the equipment must be provided to users to ensure efficient and safe operation and routine maintenance can be carried out

A short induction and introduction to the CPI site may be required for any engineers or technicians attending before Lab access can be allowed. This will last for a maximum of half a day.

4.9 Maintenance

The tenderer shall supply details of an ongoing maintenance contract to cover an additional 2 years maintenance. Please provide a fixed fee for this. Optional extension for Year 4 and 5 coverage should be detailed within your response where available.

4.10 Delivery

The Tenderer shall deliver the equipment to the CPI National Formulation Centre, NETPark, Sedgefield, Co. Durham, UK. Any further equipment purchases may be made to any of the other CPI sites both existing and future.

Delivery period should be provided in the response to tender and provide expected timescales from receipt of order and the duration of the installation and commissioning activities.

All items are to be marked with CPI's Purchase Order number when delivered.

4.11 Milestones

The envisaged payment terms are set out below, which are subject to change. CPI reserves the right to change these upon placement order and are dependent on CPI's project requirements.

- 30% payment upon receipt of order confirmation
- 60% payment upon satisfactory delivery of all items detailed in the specification
- 10% payment upon satisfactory installation of all items detailed in the specification