BIL. SEBUTHARGA/QUOTATION REF.: UBD/Q/256/2021- [G]
(CAMES)

TITLES: SUPPLY, DESIGN, COMMISSIONING, AND TESTING OF ONE (1) UNIT LABORATORY BOROSILICATE GLASS SUBMERSION REACTOR FOR ACCELERATED CORROSION TESTS, UNIVERSITI BRUNEI DARUSSALAM

No.	Quantity	SPECIFICATION
1.	1 unit	**one (1) unit Laboratory Borosilicate Glass Submersion Reactor for Accelerated Corrosion Tests.** 1) SCOPE OF WORK: To design, supply, deliver, commission, and test one (1) unit Laboratory Borosilicate Glass Submersion Reactor for Accelerated Corrosion Tests comprising the following: Peristatic Pump, Controllable Non-conductive Heating Rod, Regulated Air Pump, Digital Temperature Sensor, Borosilicate Glass Jacket Condenser, and related control & drain valves. 2) SYSTEM OVERVIEW: The design and function of the submersion reactor is to test various material samples in an accelerated corrosive environment for immersed, semi-immersed, and suspended materials inside the reactor over a set time duration under a test cycle. The temperature, air flow, and liquid recirculation within the reactor are preset to accelerated environmental conditions required for testing various material samples. The liquid, residues, and material samples are collected after completing each test cycle for corrosion analysis. 3) SPECIFICATIONS: The design for this Submersion Reactor system shall include but not limited to the following components and their respective integration within the design parameters as outlined: a) the Borosilicate Glass Reactor shall have a capacity of 5 liters with ability to hold 3 suspended material samples (approximate size: 75 x 20 x 3 mm thick) and the related temperature sensor, air inlet, recirculation glass tube, non-conductive heating rod, jacketed condenser, and a spare port, b) the Controllable Heating Rod (about 200W) must generate a heating temperature from 0 to 60 degrees Celsius and fully insulated without exposing any conductive surfaces, c) the Digital Temperature Sensor must be fully insulated and free from any metallic exposures, d) the Recirculating Peristatic Pump shall have a capacity of 0.0061 – 75 ml /min flow rate where the flow setting and display screen are in digital mode, e) the Air Pump shall be capable of delivering a regulated flow of 0 – 23 l/hour of clean air into the reactor, f) the Jacket Condenser shall be made of borosilicate glass and located centrally on top of the reactor, g) the entire system shall be mounted securely on a common non-corrosive tubular frame with support for holding the submersion reactor, peristatic pump, air pump, heater controller, and all the related components as mentioned above, and h) the electrical supply system for all components shall be 240 volts, single phase at 50 cycles per second.

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No.	Quantity	SPECIFICATION
		Additional information for open quotation: • A list of recommended spares for 6 months shall be submitted together in the offer and shall not be included in the quoted price. • Layout drawings of the design system showing the components incorporated must be attached at the time of quotation submission. • Both operational and parts manuals must be provided in English upon delivery. • All import custom duties and other related costs shall be deemed as included in the price offered. • The warranty period shall be 12 months from date of successful commissioning and testing.