



SUPPLEMENTAL/BID BULLETIN

Addendum No. 12
Series of 2021

October 12, 2021

This Addendum No. 12 is issued to modify or amend items. This shall form as an integral part of the Bid Documents for **Project 2021-30: Purchase of Assorted Laboratory Equipment and Instruments.**

AMENDMENTS (Section VII. Technical Specifications)	FROM	TO
DISTILLING APPARATUS/ WATER PURIFIER	<ul style="list-style-type: none"> Flow rate 12L/Hr Reverse osmosis and deionization cartridge Optional UV Lamp Separate storage Control: microprocessor Mounting: Bench/ wall 	<ul style="list-style-type: none"> Flow rate 12L – 15 L /Hr Reverse osmosis and deionization cartridge Optional UV Lamp Separate storage Mounting: Bench/ wall
HYGROMETER	<ul style="list-style-type: none"> Temperature: -10°C to 50°C Humidity: 10%RH to 90%RH Clock: 12/24 hours, with alarm function Power: 1.5V AAA single Dimensions (WxLxT): 101x108x23 mm Weight: 130 g (with battery) 	<ul style="list-style-type: none"> Temperature: -10°C to 50°C Humidity: 10%RH to 90%RH Clock: 12/24 hours, with alarm function Power: 1.5V
MICROSCOPE	<ul style="list-style-type: none"> EyepiecesEyepiece (10x) Fiel Number (F.N.): 20 (anti-fungus) Theory: Biological Microscope Fine Adjustment RangeFine focus graduation: 2.5 l m Focal Distance Focusing: Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 A m Meter (m) Light Source: Halogen Focus Range: 48-75 Millimeter (mm) Dimensions: 154x238x391 (LxWxH) Millimeter (mm) Eyepiece Tube Observation Tube 30A inclined binocular tube Interpupillary distance adjustment range 48a 75 mm Drawtube Binocular View Head Seidentopf 	<ul style="list-style-type: none"> EyepiecesEyepiece (10x) Fiel Number (F.N.): 20 (anti-fungus) Theory: Biological Microscope Fine Adjustment RangeFine focus graduation: 2.5 l micrometer Focal Distance Focusing: Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 A m Meter (m) Light Source: Halogen Focus Range: 48-75 Millimeter (mm) Eyepiece Tube Observation Tube 30A inclined binocular tube Interpupillary distance adjustment range 48a 75 mm Drawtube Binocular View Head Seidentopf



	<p>observation head for individual choice of adjustment</p> <ul style="list-style-type: none"> • Objective Achromatic: 4x, 10x, 40x, 100x • Interpupillary Distance: 48-75 Millimeter (mm) Eyepieces • Eyepiece (10x) Field Number (F.N.): 20 (anti-fungus) • Focusing: Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 A m Meter (m) • Illumination System: Built-in transmitted illumination system 6 V 20 W halogen bulb 100-240 V 50/60 Hz universal voltage • Coarse Adjustment Range: Coarse movement stroke 20 mm • Image Format: Optional Accessories: Micro image projection system • Working Stage: Wire movement mechanical fixed stage: 120x132 mm Travelling Range: 76 mm (X) x 30 mm (Y) Single specimen holder Square Centimeter (cm²) <p>Condenser: Abbe type with aperture iris diaphragm N.A.: 1.25</p>	<p>observation head for individual choice of adjustment</p> <ul style="list-style-type: none"> • Objective Achromatic: 4x, 10x, 40x, 100x • Interpupillary Distance: 48-75 Millimeter (mm) Eyepieces • Eyepiece (10x) Field Number (F.N.): 20 (anti-fungus) • Focusing: Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 A m Meter (m) • Illumination System: Built-in transmitted illumination system 6 V 20 W halogen bulb 100-240 V 50/60 Hz universal voltage or 0.5 W LED • Coarse Adjustment Range: Coarse movement stroke 20 mm • Image Format: Optional Accessories: Micro image projection system • Working Stage: Wire movement mechanical fixed stage: 120x132 mm Travelling Range: 76 mm (X) x 30 mm (Y) Single specimen holder Square Centimeter (cm²) <p>Condenser: Abbe type with aperture iris diaphragm N.A.: 1.25</p>
<p>pH METER</p>	<ul style="list-style-type: none"> • Ph: -2.00 bis +20.00 Readability: 0.01 Accuracy: ± 0.01 mV - 1800.0 to 1800.0 • mV: Readability 0.1 mV Accuracy ± 0.2 mV (0.05% if + 400 mV) • Temperature Range -5.0 to +105.0°C Readability 0.1°C Accuracy ± 0.2°C • Calibration points Maximum 3 buffers • Automatic buffer recognition 16 buffers 2; 4; 7; 10; 12 1; 3; 6; 8; 10; 13 1.68; 4.0; 6.86; 9.18; 12.46 • Automatic temperature compensation 	<ul style="list-style-type: none"> • Ph: -2.00 bis +20.00 Readability: 0.01 Accuracy: ± 0.01 mV -1800.0 to 1800.0 • mV: Readability 0.1 mV Accuracy ± 0.2 mV (0.05% if + 400 mV) • Temperature Range -5.0 to +100.0°C to +105.0°C Readability 0.1°C Accuracy ± 0.2°C • Calibration points Maximum 3 buffers • Automatic buffer recognition 16 buffers 2; 4; 7; 10; 12 1; 3; 6; 8; 10; 13 1.68; 4.0; 6.86; 9.18; 12.46



	<ul style="list-style-type: none"> • Automatic electrode slope correction between 90-105% of the theoretical slope Bench type 	<ul style="list-style-type: none"> • Automatic temperature compensation • Automatic electrode slope correction between 90-105% of the theoretical slope Bench type
ULTRAVIOLET GERMICIDAL LAMPS	<ul style="list-style-type: none"> • 254 NM 	<ul style="list-style-type: none"> • 254 NM mounted
VORTEX MIXER	<ul style="list-style-type: none"> • Speed control: 20 – 3000rpm • Dimensions: 130 x 155 x 155 mm • Power: 220 VAC, 50/60 Hz • Weight: 3.1 kg 	<ul style="list-style-type: none"> • Speed control: 20 – 3000rpm • Dimensions: 130 x 155 x 155 mm ±30mm • Power: 220 VAC, 50/60 Hz

ANALYTICAL BALANCE	<ul style="list-style-type: none"> • Weighing capacity: 120 g • Readability: 0.1 mg • Tare range (subtractive): -120 g • Repeatability: < ±0.1 mg • Linearity: < ±0.2 mg • Response Time: < 0.2 s • Operating Temperature Range: ±10 °C to +30 °C • Allowable ambient operating temperature: ±5 °C to +40 °C • Pan Size (inner diameter): 80 mm • Weighing chamber height: 232 mm 	<ul style="list-style-type: none"> • Weighing capacity: 120 g • Readability: 0.1 mg • Tare range (subtractive): -120 g • Repeatability: < ±0.1 mg • Linearity: < ±0.2 mg • Response Time: < 0.2 s - 0.3 s • Operating Temperature Range: ±10 °C to +30 °C • Allowable ambient operating temperature: ±5 °C to +40 °C • Pan Size (inner diameter): 80 mm • Weighing chamber height: 232 mm – 330 mm
BIOLOGICAL SAFETY CABINET	<ul style="list-style-type: none"> • Class II A2 • Negative pressure plenum surrounds contaminated positive pressure plenum; no fabric bags are used. Dual, long-life ULPA filters for supply and exhaust (per IEST-RP-CC001.3) with 99.999% efficiency for particle size between 0.1 to 0.3 microns. • Angled supply filter matches cabinet profile to achieve best down flow uniformity. • Quick start mode, to turn the blower and lights on/off, by moving the sash window to correct position. 	<ul style="list-style-type: none"> • Class II A2 • Negative pressure plenum surrounds contaminated positive pressure plenum; no fabric bags are used. Dual, long-life ULPA / HEPA filters for supply and exhaust (per IEST-RP-CC001.3) with 99.999% efficiency for particle size between 0.1 to 0.3 microns. • Angled supply filter matches cabinet profile to achieve best down flow uniformity. • Quick start mode, to turn the blower and lights on/off, by moving the sash window to



	<ul style="list-style-type: none"> • Frameless sash that is easier to clean. • Ergonomically angled front • Actual work access height is 45 mm (1.8") higher than tested sash opening. • Raised airflow grille maintains safety by preventing blockage. • Enhanced side-capture zones optimize containment. • Work area is 0.9 meter (3") cabinet is equivalent to work area offered on larger 1.2 meter (4") conventional cabinet. 	<ul style="list-style-type: none"> • correct position. • Frameless sash that is easier to clean. • Ergonomically angled front • Actual work access height is approximately 45 mm (1.8") higher than tested sash opening. • Raised airflow grille maintains safety by preventing blockage. • Enhanced side-capture zones optimize containment. • Work area is 0.9 meter (3") cabinet is equivalent to work area offered on larger 1.2 meter (4") conventional cabinet.
DIGITAL TOP LOADING BALANCE	<ul style="list-style-type: none"> • Weighing Capacity: 6kg • Scale Type: Precision • Resolution: 0.1 g • Weigh pan Diameter: 150mm • Net Weight: 0.75kg • Maximum Operating Temperature: +35 °C • Minimum Operating Temperature: +5 °C 	<ul style="list-style-type: none"> • Weighing Capacity: 6kg • Scale Type: Precision • Resolution: 0.1 g • Maximum Operating Temperature: +35 °C • Minimum Operating Temperature: +5 °C
HOT AIR OVEN STERILIZER	<ul style="list-style-type: none"> • Capacity: 115L • Temperature Range: +5 to +300 °C • Controller with LCD Display • 645 mm x 834 mm x 702 mm • Electromechanical control of the exhaust air flap • 2 chrome-plated racks • Stackable • <i>Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm</i> • Ergonomic handle design • USB port for recording data 	<ul style="list-style-type: none"> • Capacity: 115L • Temperature Range: +5 to +300 °C • Controller with LCD Display • Electromechanical control of the exhaust air flap • 2 chrome-plated racks • Stackable • <i>Class 2 integrated independent adjustable temperature safety device (DIN 12880) with visual alarm</i> • Ergonomic handle design • USB / RS232 port for recording data
HOTPLATE WITH MAGNETIC STIRRER	<ul style="list-style-type: none"> • <i>Stirring Capacity: 2L</i> • Stirring Speed: 60-1500 RPM • Electronic Solid State Controller • Ceramic coated stainless steel top plate • Plate Dimension: 180 180 mm • Overall Dimension: 205 x 260 x 110 mm • Power consumption: Max 500 watt 3.0 amp • Electric Supply: 110V, 60 Hz or 220V, 50/60 Hz 	<ul style="list-style-type: none"> • <i>Stirring Capacity: 2L</i> • Stirring Speed: 60-1500 RPM • Electronic Solid State Controller • Ceramic coated stainless steel top plate • Power consumption: Max 500 watt 3.0 amp • Electric Supply: 110V, 60 Hz or 220V, 50/60 Hz



<p>INCUBATOR</p>	<ul style="list-style-type: none"> • Temperature range: +5 °C above ambient temperature to +100 °C • 240-260L Capacity • Natural convection • Controller with LCD Display • Electromechanical control of the exhaust air flap • Inner door made of tempered safety glass • 2 chrome-plated racks • Stackable • Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm • Ergonomic handle design • USB port for recording data 	<ul style="list-style-type: none"> • Temperature range: +5 °C above ambient temperature to +100 °C • 240-260L Capacity • Natural convection • Controller with LCD Display • Electromechanical control of the exhaust air flap • Inner door made of tempered safety glass • 2 chrome-plated racks / ABS-plated racks • Stackable • Class 3.1 integrated independent temperature safety device (DIN 12880) with visual alarm • Ergonomic handle design • USB / RS232 port for recording data
<p>WATER BATH</p>	<ul style="list-style-type: none"> • With stainless steel casing • Volume: 45L • Liquid Level Min. : 177 mm • Liquid Level Max. : 200 mm • Setting temperature range: +10 - 95°C and boiling range • With integrated digital timer • Interior Dimensions W x H x D in mm: w(A) x h(C) x d(B): 590 x 220 x 350 mm • Voltage 230 V, 50/60 Hz • Electrical Load approx. 2800 W *(during heating) • Temperature sensor: 1 Pt100 sensor class A in 4-wire-circuit • <i>Timer integrated digital timer from 1 min. to 99,59 hours for: ON continuous operation WAIT (delayed on for continuous and limited timed operation (HOLD))</i> • Heating Baths: corrosion-proof large-area heating on three sides • Ambient temperature +5 °C to + 40 °C • Humidity rh max. 80%, non-condensing 	<ul style="list-style-type: none"> • With stainless steel casing • Volume: 45L • Liquid Level Min. : approximately 177 mm • Liquid Level Max. : approximately 200 mm • Setting temperature range: +10 - 95°C and boiling range • With integrated digital timer • Voltage 230 V, 50/60 Hz • Electrical Load approx. 2800 W *(during heating) • Temperature sensor: 1 Pt100 sensor class A in 4-wire-circuit • <i>Timer integrated digital timer from 1 min. to 99,59 hours for: ON continuous operation WAIT (delayed on for continuous and limited timed operation (HOLD))</i> • Heating Baths: corrosion-proof large-area heating on three sides • Ambient temperature +5 °C to + 40 °C • Humidity rh max. 80%, non-condensing

For guidance and information of all concerned.


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Received by the Bidder:

Date: _____