`	Bids and Awards	Committee	
	University of the Phili	opines Baguio	
	Governor Pack Road, 20	500 Baguio City	
	MINUTES OF M	EETING	
	13 June 2019 9:13 AN	Л – 12:35 PM	
	Vice Chancellor's Conf	erence Room	
Presiding:	VCA Jessica K. Cariño, BAC	Chair	
Members:	Prof. Joel M. Addawe, Me	mber	Absent
	Prof. Jocelyn Rafanan, Me	mber	
	Prof. Arellano A. Colongor	, Jr, Member	
	Ms. Gloria Q. Rodriguera,	Member	Excused
	Ms. Cecile G. Dangawen, T	WG	
·	Mr. Rodolfo T. Suyat, TWG	i	Excused
	Ms. Irene J. Enriquez, Hea	d Secretariat	
	Mr. Mar P. Viernes, Secret	ariat	
	·		
		•	
Also present:	Prof. Roland Hipol, TWG		
•	= = =	d. Proiect Leader	
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Agenda: I. Pre-bid Co	nference for the Supply, Delive	ery, and Installation o	f Various Scientific
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The meeting was called to o	rder by Prof. Jessica K. Cariño a	nt 9:13 AM.	
I Pre-hid Confere	nce for the Sunnly Delivery a	nd Installation of Va	rious Scientific Fauinment
			Lqu.p
	• •		hid assissment
There are Three (3)	prospective bidders who were	present during the p	re-pia conterence:
Arjay Adamos		Rain Phil, Inc.	
Marife Antonio		Guill-Bern Corporation	1
Marianne Del Pina	do		
	Also present: Agenda: I. Pre-bid Co Equipment f II. Other Ma The meeting was called to or I. Pre-bid Confere for the DOST-PC There are Three (3) Arjay Adamos Mark Joseph Lolon Marife Antonio	University of the Philip Governor Pack Road, 26 MINUTES OF M 13 June 2019 9:13 AN Vice Chancellor's Conf Presiding: VCA Jessica K. Cariño, BAC Members: Prof. Joel M. Addawe, Men Prof. Jocelyn Rafanan, Men Prof. Arellano A. Colongon Ms. Gloria Q. Rodriguera, I Ms. Cecile G. Dangawen, T Mr. Rodolfo T. Suyat, TWG Ms. Irene J. Enriquez, Head Mr. Mar P. Viernes, Secret Ms. Segrid Yan A. Bucagan Also present: Prof. Roland Hipol, TWG Prof. Teodora D. Balangcon Ms. Maxinne Charisse R. G Agenda: I. Pre-bid Conference for the Supply, Deliver Equipment for the DOST-PCHRD Tuklas Lun II. Other Matters The meeting was called to order by Prof. Jessica K. Cariño a I. Pre-bid Conference for the Supply, Delivery, a for the DOST-PCHRD Tuklas Lunas Eskape prof. There are Three (3) prospective bidders who were Arjay Adamos Mark Joseph Lolong	Members: Prof. Joel M. Addawe, Member Prof. Jocelyn Rafanan, Member Prof. Arellano A. Colongon, Jr, Member Ms. Gloria Q. Rodriguera, Member Ms. Cecile G. Dangawen, TWG Mr. Rodolfo T. Suyat, TWG Ms. Irene J. Enriquez, Head Secretariat Mr. Mar P. Viernes, Secretariat Ms. Segrid Yan A. Bucagan, Secretariat Ms. Segrid Yan A. Bucagan, Secretariat Also present: Prof. Roland Hipol, TWG Prof. Teodora D. Balangcod, Project Leader Ms. Maxinne Charisse R. Guinto, State Auditor Agenda: I. Pre-bid Conference for the Supply, Delivery, and Installation of Equipment for the DOST-PCHRD Tuklas Lunas Eskape project II. Other Matters The meeting was called to order by Prof. Jessica K. Cariño at 9:13 AM. I. Pre-bid Conference for the Supply, Delivery, and Installation of Va for the DOST-PCHRD Tuklas Lunas Eskape project There are Three (3) prospective bidders who were present during the propertion of the Mark Joseph Lolong Marife Antonio Guill-Bern Corporation

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This is a pre-bid conference for Supply, Delivery, and Installation of Various Scientific Equipment for DOST-PCHRD-Tuklas Lunas Eskape Project. The following reminders were discussed during the pre-bid conference:

Fil-Anaserve

- 1. The total agency budget for the project is Php 3,774,000.00;
- 2. The Project has a reference number of UPB-BID-2019-020;

Edwin P. Villanueva

3. Bid Documents can be acquired at the cost of Php 4,000.00;

- Delivery period was changed from Thirty (30) calendar days to Thirty (30) to Ninety (90)
 Calendar days;
 - 5. The project is composed of One (1) lot with the following items:
 - a. Ultra-low Freezer with CO2 Back UP (-86C)
 - b. Multimode Microplate Reader
 - c. Refrigerated Incubator

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- d. Biosafety cabinet Class II- Type A2;
- 6. The documentary requirements which are the Eligibility, Technical, and Financial Documents to be submitted by the Bidders;
- 7. The Statement of all On-going Contracts should be properly filled out which includes the name of the contract, date of the contract, amount of the contract and value of outstanding contracts, and date of delivery or performance;
- 8. For the Single Largest Completed Contract (SLCC), the end-user's acceptance or official receipt should be attached as a proof and the SLCC should be related or similar to the project;
- 9. The Net Financial Contracting Capacity should be computed by the bidders to indicate that they are capable to bid for the project;
- 10. The Bid Security can be either Cash or Manager's Check which is 2% of the ABC, Surety Bond which is 5% of the ABC, and/or a notarized Bid Securing Declaration;
- 11. For the Cash or Manager's Check and Surety Bond, the amount of these will be depending to the items that the bidders will be bidding;
- 12. In the Conformity of Technical Specifications, bidders should indicate comply or not;
- 13. Bidders can offer products with equal or better specifications;
- 14. The Omnibus Sworn Statement should be notarized;
- 15. The soft copy of the bill of quantities contained in a flash drive or CD should be included in the original financial envelope;
- 16. Brochures and/or Manuals should be attached, if any;
- 17. The BAC will use a non-discretionary pass or fail criteria for Eligibility screening of documents submitted:
- 18. Bid Form and Schedule of Prices/ Bill of Quantities should be signed by duly authorized representative/s;
- Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s;
- 20. Each bidder should submit One (1) original and One (1) duplicate copy of the documents contained in Envelopes 1 and 2 of its bids;
- 21. Bid documents submitted should be arranged properly in accordance with the checklist with proper label or tag;
- 22. Submission of bids is until 9:00 AM of 25 June 2019, Tuesday, at the Office of the Vice Chancellor for Administration or Supply Property and Management Office;
- 23. Opening of bids at 9:30 AM of 25 June 2019, Tuesday, at the Chancellor's Board room;
- 24. Official Receipts of the Bidding Documents paid will be checked before accepting their bids;
- 25. Secretary's Certificate should be included in their bidding documents;
- 26. Accomplished UP Questionnaire should be notarized; and
- All bids that will be received will be stamped with date and time of receipt.
- Prof. Cariño informed the prospective bidders that an addendum will be issued for the changes of the technical specifications and other details for the project (Annex A).

83	И.	Other Matters	
84	1	PhilGEPS posting of all project to be bidded out will be given to the Technical Working Group	
85		(TWG) immediately after posting.	
86	2	2. For the Supply, Delivery, and Installation of Variou	s Scientific Equipment for Tuklas Lunas ETP
87		Project, Lot 1 will be awarded to Golden Bat (Far E	ast), Inc and Lot 2 will be awarded to
88		Instrumix Supplier, Inc.	
89	3	3. Purchase Request (PR) No. 10061 for the Teatro A	mianan will be bidded out. The following are
90		the details of the PR:	
91		 a. It consist of Nineteen (19) items; 	
92		 b. These items are IT Equipment and Periphe 	rals to be installed at the Teatro Amianan;
93		c. Total amount of the PR is Php 948,503.43;	and
94		 d. This will be bidded out in 1 lot. 	
9 5			
96	٦	The meeting was adjourned at 12:35 PM.	
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98	f	Prepared by:	Noted by:
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101	5	Segrid Yan A. Bucagan	Prof. Jessica K. Cariño
102	1	BAC Secretariat	BAC, Chairman

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QTY	ITEM	ORIGINAL	ADDENDUM
		DELIVERY PERIOD: 30 DAYS	DELIVERY PERIOD: 30-90 DAYS
1 LOT	ULTRA-	SPECIFICATIONS:	SPECIFICATIONS:
	LOW	Type: UPRIGHT	Type: UPRIGHT
i		Capacity: at least 422 L	Capacity: at least 422 L
	FREEZE	Electrical: 208-230V/ 60Hz	Electrical: 208-230V/ 60Hz
	R WITH	Max Shelf Weight: 57 kg	Max Shelf Weight: 57 kg
	CO ₂	Energy Consumption (kW-hr/day) Standard Mode: 9.4	Energy Consumption (kW-hr/day) Standard Mode: 9.4
		Peak Variation from -80°C setpoint (°C): +8.5 / -2.4	Peak Variation from -80°C setpoint (°C): +8.5 / -2.4
l l	BACK	Door Opening Recovery (minutes): not more than 13 minutes	Door Opening Recovery (minutes): not more than 13 minutes
	UP (-	Must be able to hold up to 300 2-inch boxes.	Must be able to hold up to 300 2-inch boxes.
	86C)	Display: Touch screen LCD	Display: Touch screen LCD
į	000,	Insulation: Water-blown foam (should be snap compliant)	Insulation: Water-blown foam (should be snap compliant)
		Door style: 1 outer and 4 inner	Door style: 1 outer and 4 inner
		Must have Low peak variation to help ensure sample protection throughout entire cabinet	Must have Low peak variation to help ensure sample protection
		At least 0.93°c steady-state temperature variation over time	throughout entire cabinet
		Warm-up time from -80°c to -50°c in 300 minutes	At least 0.93°c steady-state temperature variation over time
		Noise Level (dBA): maximum of 52 dBA	Warm-up time from -80°c to -50°c in 300 minutes Noise Level (dBA): maximum of 52 dBA
		Must have Stainless Steel Freezer Interior and locking mechanism	Must have Stainless Steel Freezer Interior and locking mechanism
		Alarm Delay Module: Should eliminate nuisance alarms due to intermittent	Alarm Delay Module: Should eliminate nuisance alarms due to
		or transitory conditions.	intermittent or transitory conditions.
1		Preferably with Access Key Option Card Access control that includes five	PREFERABLY with Access Key Option Card Access control that
		key cards. Must support ISO15693 and ISO14443 protocols.	includes five key cards. SupportS ISO15693 and ISO14443 protocols.
		Must have water-cooled condenser option to reduces heat output by almost	Must have water-cooled condenser option to reduces heat output by
		60%	almost 60%
		Should be/have:	Should be/have:
		- Touch-screen datalogging and temperature mapping	- Touch-screen datalogging and temperature mapping
		- Built-in USB port for exporting data	- Built-in USB port for exporting data
	1	- Advanced security features (e.g. alarm settings, password-protected	- Advanced security features (e.g. alarm settings, password-
		controller, padlock-compatible doors)	protected controller, padlock-compatible doors)
		WITH:	WITH:
		1. 1 unit AVR - 3KVA and compatible with the unit where it is to be	1. 1 unit AVR - MINIMUM 3KVA or COMPATIBLE with the unit
	}	used. Input voltage: 165 V to 280, Output voltage on	where it is to be used. Input voltage: 165 V to 280,
		Battery: 230 V, Frequency: 50/60 Hz auto-detection	Output voltage on Battery: 230 V, Frequency:
	ļ	Liquid CO2 Back up System x 1 unit	50/60 Hz auto-detection
	1	Cryovials/tube (2 inches length, polycarbonate) x 1 bag of 500	- Liquid CO2 Back up System x 1 unit
		pcs	- Cryovials/tube (2 inches length, polycarbonate) x 1 bag of

	Cryo-gloves x 3 pcs (medium)	500 pcs
	2 inch box racks x 1 pc	- Cryo-gloves x 3 pcs (medium)
	Cryo-boxes (2 inches, thermoplastic) x 10 pcs	- 2 inch box racks x 1 pc
		- Cryo-boxes (2 inches, thermoplastic) x 10 pcs
	2. At least 1 year warranty on parts and services	
	3. After sales support (training), quick response to requests especially	2. At least 1 year warranty on parts and services
	if the machine has problems	3. After sales support (training), quick response to requests especially if
		the machine has problems
 ASILI TIRE		
MULTIM	SPECIFICATIONS	SPECIFICATIONS
ODE	1. Top and bottom plate reading	1. Top and bottom plate reading
MICROP	2. Multi-color detection	2. Multi-color detection
	3. Well scanning	3. Well scanning
LATE	4. precise temperature control	4. precise temperature control
READER	5. multi-mode shaking capabilities	5. multi-mode shaking capabilities
	6. gas vent	6. gas vent
	7. Can read all plate formats from 6- to 1536-well in absorbance and up to	7. Can read all plate formats from 6- to 1536-well in absorbance and
	384-well in all other detection modes	up to 384-well in all other detection modes
thirt and the same of the same	Measurement Modes:	Measurement Modes:
	Top and bottom reading	Top and bottom reading
	Endpoint and Kinetic measurements	Endpoint and Kinetic measurements
	Sequential Multi Excitation measurements	Sequential Multi Excitation measurements
	Sequential Multi Emission measurements	
	Ratiometric measurements	Sequential Multi Emission measurements
	Nationietiic measurements	Ratiometric measurements
	Detection Modes: Fluorescence, Luminescence, UV-Vis Absorbance	Detection Modes: Fluorescence, Luminescence, UV-Vis Absorbance
	Upgrade Options:	Upgrade Options:
	Fluorescence Intensity - (must include FRET upgrade option)	Fluorescence Intensity - (must include FRET upgrade option)
	Luminescence (flash and glow) - (must include BRET upgrade option)	Luminescence (flash and glow) - (must include BRET upgrade option)
	Time-Resolved Fluorescence - (Must be DELFIA ready upgrade option,	Time-Resolved Fluorescence - ready upgrade option,
	AlphaScreen/AlphaLISA-ready upgrade option)	AlphaScreen/AlphaLISA-ready upgrade option)
	Microplate Formats: 6 to 1536-well plates, must be user-definable	Well Scanning:
	Microplate Carrier: Robot compatible	Microplate Formats: 6 to 1536-well plates, must be user-definable
	Light Sources: High energy xenon flash lamp	Microplate Carrier: Robot compatible
	Detectors: Side window photomultiplier tube	Light Sources: High energy xenon flash lamp
	Wavelength Selection: Optical Filters: Ex and Em wheels for 8 filters	Detectors: Side window photomultiplier tube OR ITS EQUIVALENT
	each ; UV/Vis Absorbance Spectrometer: Full spectra or 8 distinct	Wavelength Selection: Optical Filters: Ex and Em wheels for 8 filters
	wavelengths in < 1 sec / well	each; UV/Vis Absorbance Spectrometer: Full spectra or 8 distinct

Optical Filters: Excitation and emission filter wheels for 8 filters each

Optical Path Guides: Top: Liquid filled light guides

Bottom: Fiber optics

Well Scanning:

Microplate Formats: 6 to 1536-well plates, must be user-definable

Microplate Carrier: Robot compatible

Light Sources: High energy xenon flash lamp **Detectors:** Side window photomultiplier tube

Wavelength Selection: Optical Filters: Ex and Em wheels for 8 filters each; UV/Vis Absorbance Spectrometer: Full spectra or 8 distinct

wavelengths in < 1 sec / well

Optical Filters: Excitation and emission filter wheels for 8 filters each

Optical Path Guides: Top: Liquid filled light guides

Bottom: Fiber optics

Spectral Range:

Filters

240 - 750 nm or 240 - 900 nm for FI. FP. TRF

240 - 750 nm for LUM

Spectrometer

220 - 1000 nm for ABS

Sensitivity:

FI: < 0.2 fmol/well Sodium Fluorescein

TRF: < 30 amol/well Europium

High-End TRF for Omega < 3 amol/well Europium

LUM: 20 amol/well

ABS with Spectrometer: Full spectrum captured in < 1 s/well

Selectable spectral resolution: 1 - 10 nm

OD range: 0 to 4 OD Accuracy: < 1% at 2 OD

Precision: < 0.5% at 1 OD and < 0.8% at 2 OD Read Times: Flying mode: 9 s (96), 16 s (384)

Reagent Injection: Injection at measurement position (6 to 384-well)

Individual injection volumes for each well (3 to 500 µL)

Variable injection speed up to 420 µL/s Up to four injection events per well

wavelengths in < 1 sec / well

Optical Filters: Excitation and emission filter wheels for 8 filters each

Optical Path Guides:

Top: Liquid filled light guides

Bottom: Fiber optics

Spectral Range:

Filters

MUST HAVE 240 nm and maximum 750 nm or 240 - 900 nm for FI,

FP, TRF

240 - 750 nm for LUM

Spectrometer

220 - 1000 nm for ABS

Sensitivity:

FI: < 0.2 fmol/well Sodium Fluorescein

TRF: < 30 amol/well Europium

High-End TRF for Omega < 3 amol/well Europium OR EQUIVALENT

LUM: 20 amol/well

ABS with Spectrometer: Full spectrum captured in < 1 s/well

Selectable spectral resolution: 1 - 10 nm

OD range: 0 to 4 OD Accuracy: < 1% at 2 OD

Precision: < 0.5% at 1 OD and < 0.8% at 2 OD Read Times: Flying mode: 9 s (96), 16 s (384)

Reagent Injection: Injection at measurement position (6 to 384-well)

Individual injection volumes for each well (3 to 500 µL)

Variable injection speed up to 420 μL/s

Reagent back flushing

Power requirement: 60 W

Shaking: Linear, orbital, and double-orbital with user-definable time and

speed

Incubation: +5°C above ambient up to 45°C or 60°C

Dimensions: Width: 44 cm, depth: 48 cm, height: 30 cm; weight: 28 kg

WITH:

1. PRINTER, DESKTOP AND MONITOR FOR THE EQUIPMENT

With at least the following specifications:

Tower (Minimum requirement) CPU: Intel Core i5 – 6500 GPU: Intel HD Graphics 530

Ram: 4.00 GB Storage Drive: 1 TB

System Type: 64-Bit Operating System With Optical Drive

Operating System: Windows 10

Power Supply: 280W

Monitor

Display Size: 24 inches Resolution: 1980 X 1080 Aspect Ratio: 16:9

With Stand Tilt

Video Input: HDMI, VGA

LED-Backlit

2. Printer – minimum requirement

Printing Method: print head.

Nozzle Configuration. 180 Nozzles Black, 59 Nozzles per Color.

Minimum Droplet Size. 3 pl. Ink Technology. Dye Ink.

Printing Resolution. 720 x 720 DPI.

- 3. Software: Multi-user Reader Control and Data Analysis Software package should be included
- 4. UPS this would ensure that during power loss the samples would not be affected. Provides emergency power to a load when the input power source or mains power fails.) 3KVA, Input: 208-240 VAC,

Up to four injection events per well

Reagent back flushing

Power requirement: 60 W

Shaking: Linear, orbital, and double-orbital with user-definable time and

speed

Incubation: +5°C above ambient up to 45°C or 60°C

Dimensions: MUST BE COMPACT

WITH:

1. PRINTER, DESKTOP AND MONITOR FOR THE EQUIPMENT

With at least the following specifications:

Tower (Minimum requirement) CPU: Intel Core i5 – 6500 GPU: Intel HD Graphics 530

Ram: 4.00 GB Storage Drive: 1 TB

System Type: 64-Bit Operating System With Optical Drive

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Power Supply: 280W

Monitor

Display Size: 24 inches Resolution: 1980 X 1080

Aspect Ratio: 16:9
With Stand Tilt

Video Input: HDMI, VGA

LED-Backlit

2. Printer - minimum requirement

Printing Method: print head.

Nozzle Configuration. 180 Nozzles Black, 59 Nozzles per Color.

Minimum Droplet Size. 3 pl.

Ink Technology. Dye Ink.

Printing Resolution. 720 x 720 DPI.

- 3. **Software**: Multi-user Reader Control and Data Analysis Software package should be included
- 4. UPS this would ensure that during power loss the samples would not be affected. Provides emergency power to a load when the input power source or mains power fails.) 3KVA, Input: 208-

50/60 Hz, Output: 208-240 VA, capacity: 3KVA/2700 Watts

- 5. User-acceptance Training from Manufactured trained engineers/application specialist
- 6. After sales support Regular check-up and calibration of the machine., provides quick service/technical support when needed
- 7. Warranty: At least 1 year warranty on parts and service and 2 years additional warranty on services
- Consumables to enable the user to start immediately with their project
 200 pcs 96 Well Plates 100 PCS CLEAR and 100 PCS BLACK (for reading of samples -absorbance and fluorescence.

240 VAC, 50/60 Hz, Output: 208-240 VA, capacity: 3KVA/2700 Watts

- 5. User-acceptance Training from Manufactured trained engineers/application specialist
- After sales support Regular check-up and calibration of the machine., provides quick service/technical support when needed
- 7. Warranty: At least 1 year warranty on parts and service and 2 years additional warranty on services
- Consumables to enable the user to start immediately with their project
 200 pcs 96 Well Plates 100 PCS CLEAR and 100 PCS BLACK (for reading of samples -absorbance and fluorescence)

REFRIGE RATED INCUBAT OR

SPECIFICATIONS:

Volume: at least 99 liters

Shelf dimensions: with at leas three (3) shelves Unit weight: must not be more than 50 kilograms

Interior metal: Aluminum

Exterior metal: Painted cold roll steel
Operating temperature range: -15c to 40c
Temperature uniformity - midrange: 0.5 °c
Temperature stability - midrange: 0.1 °c

Controller type: Digital Display resolution: 0.1 °c

Power voltage, frequency and current: 220 vac, 50/60 hz, 4.0 amps

Max hvac load: At least 1023 btus/hr

Safety certifications: UI 61010-1, EN 61010-1, CSA 61010-1, CE

WITH:

- 1. **1 unit AVR** 3KVA and compatible with the unit where it is to be used. Input voltage: 165 V to 280, Output voltage on Battery: 230 V, Frequency: 50/60 Hz auto-detection
- 2. After sales support: training, quick response to requests especially if the machine has problems
- 3. Warranty: At least 1 year warranty on parts and service and At least 1 year warranty on services

SPECIFICATIONS:

Volume: at least 99 liters

Shelf dimensions: with at leas three (3) shelves Unit weight: must not be more than 50 kilograms

Interior metal: Aluminum

Exterior metal: Painted cold roll steel

Operating temperature range: 0c to 40c or higher

Temperature uniformity - midrange: 0.5 °c Temperature stability - midrange: 0.1 °c

Controller type: Digital Display resolution: 0.1 °c

Power voltage, frequency and current: 220 vac, 50/60 hz, 4.0 amps

Max hvac load: At least 1023 btus/hr

With Safety certifications for electrical Equipment for Laboratory use

WITH:

- 1. 1 unit AVR minimum 3KVA or compatible with the unit where it is to be used. Input voltage: 165 V to 280, Output voltage on Battery: 230 V, Frequency: 50/60 Hz auto-detection
- 2. After sales support: training, quick response to requests especially if the machine has problems
- 3. Warranty: At least 1 year warranty on parts and service and At least 1 year warranty on services

BIOSAFE	SPECIFICATIONS:	SPECIFICATIONS:
TY	Dimensions	work area of approximately four (4) feet and with adjustable stand
CABINET	External: 1300 x 2200 x 795 mm (51.2 x 86.6 x 31.3 in)	
	Internal: 1200 x 780 x 495 mm (47.2 x 30.7 x 19.5 in)	
CLASS II	Work surface with adjustable stand 750 to 960 mm (30 to 39 in)	
- TYPE	Interior work surface area: 0.56 m2 (930 sq. In)	
A2	Working height of front window: 200 mm (8 in) Maximum lifting height of front window: 535 mm (21 in)	
	Weight	Weight
	Net weight:240 kg (530 lbs)	**Cignt
	Maximum weight load of one-piece work tray: 50 kg (110 lbs)	Maximum weight load of one-piece work tray: 50 kg (110 lbs)
	Maximum weight load of divided work tray: 25 kg (55 lbs) (max of 50	
	kg)	kg)
	Ventilation system	Ventilation system
	Exhaust/ inflow air volume: 400 m2/h (230 cfm)	Exhaust/ inflow air volume: 400 m2/h (230 cfm)
	Heat emission at 25c ambient: -0.15kw	Heat emission at 25c ambient: -0.15kw
	Filter specification	Filter specification
	Supply/exhaust air filter: Hepa h 14 en 1822, 99.999% at 0.3 um	Supply/exhaust air filter: Hepa h 14 en 1822, 99.999% at 0.3 u
	particle size	particle size
	Additional exhaust filter option (aef): Hepa h 14 en 1822, 99.999% at	, , , , , , , , , , , , , , , , , , , ,
	0.3 um particle size Performance	0.3 um particle size Performance
	Certification: Must be En 12469; gs nord cert-tuv	With appropriate Safety Certifications
	Sound pressure level: <55 db (a)	Sound pressure level: <55 db (a)
	Lighting power: >1200 lx	Lighting power: >1200 lx
	Electrical data:	Electrical data:
	Voltage: 1/n/pe 230 v ac	Voltage: 1/n/pe 230 v ac
	Frequency: 50 hz	Frequency: 50 hz
	Power consumption: 0.4 kw	Power consumption: 0.4 kw
	Current consumption: 1.7 a	Current consumption: 1.7 a
	Protection class: I/ ip 20	Protection class: I/ ip 20
	Protective measure: Conductor connection	Protective measure: Conductor connection
	Should have:	Should have:
	Access port: 4 (2 on each side)	Access port: 4 (2 on each side)
	Service valves: Up to 4 (installed through access ports)	Service valves: Up to 4 (installed through access ports)
	Receptacles: One double, right side	Receptacles: One double, right side

Should INCLUDE:

- 1. 1 unit AVR
 - AVR 3KVA and compatible with the unit where it is to be used. Input voltage: 165 V to 280, Output voltage on Battery: 230 V, Frequency: 50/60 Hz auto-detection
- 2. After sales support (training from manufactured trained engineers/application specialist), quick response to requests especially if the machine has problems
- 3. Warranty: At least 1year warranty on parts and service and At least 1year warranty on service

Should INCLUDE:

- 1. 1 unit AVR
- AVR MINIMUM 3KVA or compatible with the unit where it is to be used. Input voltage: 165 V to 280, Output voltage on Battery: 230 V, Frequency: 50/60 Hz auto-detection
- 2. After sales support (training from manufactured trained engineers/application specialist), quick response to requests especially if the machine has problems
- 3. Warranty: At least 1 year warranty on parts and service and At least 1 year warranty on service
- 4. WITH THIRD PARTY VALIDATION OF CALIBRATION