



TECHNICAL SPECIFICATIONS
SOLICITATION Number RSU-07-18
ABC: Php18,352,000.00
QTY: 7

LOT-1: (a) CNC TOOL ROOM LATHE & (b) CNC TOOL ROOM WITH TOOL CHANGER (ABC: Php8,500,000.00, QTY: 2)

ITEM	SPECIFICATION	STATEMENT OF COMPLIANCE																																							
Unit	<p>CNC Toolroom Lathe; 16"x30"(406 x 762 mm) max capacity, chip enclosure, 20" (508 mm) swing, 10hp(7,5 kW) vector drive,1800 rpm, A2-5 spindle, Visual Programming System, coolant pump, 1 GB program memory, memory lock keyswitch, air blow gun, 15" color LCD monitor and USB port. With 10"(254 mm) Manual 3-Jaw Scroll Chuck that features removable hard top jaws, an A2-6mount,and a 3.0"(76 mm)through-bore. It accommodates both OD and ID clamping, and has a maximum speed rating of 2500 rpm. The chuck is self-centering, with an industry-standard tongue-and-groove design. The spindle adapter and chuck key are included. With gang-style tooling kit with 12 mm centers; includes 1 each single position 20 mm ID holders,2 each double-position 20 mm ID holders, 2 each turn/face holders for 12 mm square turning tools, 2 each axial turn/face holders for 12 mm square turning tools, 1 set of 3 reducer bushings: 20 mm to 16 mm, 12 mm, and 10 mm. With 1.0" ID Boring Bar Holder for tool turret. With Quick-Change Tool Post; 2 position, 4 each 3/4" turn/face, 1 each 1.0" boring bar holder and T-nut.</p> <table border="1"> <thead> <tr> <th>SWING DIAMETER</th> <th>S.A.E.</th> <th>METRIC</th> </tr> </thead> <tbody> <tr> <td>Over Front Apron</td> <td>20 "</td> <td>508 mm</td> </tr> <tr> <td>Over Cross Slide</td> <td>11 "</td> <td>279 mm</td> </tr> <tr> <th>CAPACITIES</th> <th>S.A.E.</th> <th>METRIC</th> </tr> <tr> <td>Chuck</td> <td>As specified above</td> <td>As specified above</td> </tr> <tr> <td>Max Cutting Diameter (varies with turret)</td> <td>16 "</td> <td>406 mm</td> </tr> <tr> <td>Max Cutting Length (without workholding)</td> <td>30 "</td> <td>762 mm</td> </tr> <tr> <td>Between Centers</td> <td>30 "</td> <td>762 mm</td> </tr> <tr> <th>TRAVELS & FEEDRATES</th> <th>S.A.E.</th> <th>METRIC</th> </tr> <tr> <td>X Axis</td> <td>8 "</td> <td>203 mm</td> </tr> <tr> <td>Z Axis</td> <td>30 "</td> <td>762 mm</td> </tr> <tr> <td>Rapids on X</td> <td>450 in/min</td> <td>11.4 m/min</td> </tr> <tr> <td>Rapids on Z</td> <td>450 in/min</td> <td>11.4 m/min</td> </tr> </tbody> </table>	SWING DIAMETER	S.A.E.	METRIC	Over Front Apron	20 "	508 mm	Over Cross Slide	11 "	279 mm	CAPACITIES	S.A.E.	METRIC	Chuck	As specified above	As specified above	Max Cutting Diameter (varies with turret)	16 "	406 mm	Max Cutting Length (without workholding)	30 "	762 mm	Between Centers	30 "	762 mm	TRAVELS & FEEDRATES	S.A.E.	METRIC	X Axis	8 "	203 mm	Z Axis	30 "	762 mm	Rapids on X	450 in/min	11.4 m/min	Rapids on Z	450 in/min	11.4 m/min	
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Max Thrust X	3894 lb	17 321 N
Max Thrust Z	1947 lb	8661 N
SPINDLE	S.A.E.	METRIC
Max Rating	10 hp	7.5 kW
Max Speed	1800 rpm	1800 rpm
Max Torque	108 ft-lb @ 355 rpm	146 Nm @ 355 rpm
Spindle Nose	A2-5	A2-5
Spindle Bore ø	2.3"	58 mm

Unit

CNC Toolroom Mill with Tool Changer; 30"x12"x16" (762 x 305 x 406 mm), 40 taper, 7.5 hp (5.6 kW) vector drive, 6000 rpm, full enclosure, 10-station automatic tool changer, Visual Programming System, power-failure detection module, 1 GB program memory, memory lock key switch, 15" color LCD monitor and USB port and 20-gallon (76 liter flood coolant system, with Haas Wireless Intuitive Probing System (WIPS). The system includes the Haas Visual Programming System, macros, spindle orientation, and coordinate rotation and scaling. With the Haas Automatic Air Gun (AAG) that supplies high-pressure / high-flow air directly to the cutting zone to clear chips safely and automatically during dry machining, or to blow chips and coolant out of deep pockets. With the Haas Minimum Quantity Lubrication (MQL) system that delivers a steady blast of compressed air and a small quantity of cutting oil directly to the cutting tool to provide lubrication, reduce heat, and remove chips. With the high-flow coolant pump kit for Haas Toolroom Mill. Programmable Coolant Nozzle, a multi-position nozzle that automatically directs coolant precisely at the cutting tool. The position of the nozzle is controlled via the program, and set specifically for each tool length - saving operator time by eliminating constant adjustments. Spindle Orientation controlled by industry-standard M-code, this option provides inexpensive, repeatable spindle



positioning accurate to 0.5 degree.

TRAVELS	S.A.E.	METRIC
X Axis	30 "	762 mm
Y Axis	12 "	305 mm
Z Axis	16 "	406 mm
Spindle Nose to Table (~ max)	20 "	508 mm

Spindle Nose to Table (~ min)	4 "	102 mm
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TABLE	S.A.E.	METRIC
Length	47.75 "	1213 mm
Width	10.5 "	267 mm
T-Slot Width	5/8 "	16 mm
T-Slot Center Distance	4.00 "	101.6 mm
Number of Std T-Slots	3	3
Max Weight on Table (evenly distributed)	1000 lb	454 kg

SPINDLE	S.A.E.	METRIC
Max Rating	7.5 hp	5.6 kW
Max Speed	6000 rpm	6000 rpm
Max Torque	33 ft-lb @ 1200 rpm	45 Nm @1200 rpm
Drive System	Direct Speed Belt Drive	Direct Speed Belt Drive



Taper	CT or BT 40	CT or BT 40
Bearing Lubrication	Grease packed	Grease packed
Cooling	Air Cooled	Air Cooled
FEEDRATES	S.A.E.	METRIC
Rapids on X	400 in/min	10.2 m/min
Rapids on Y	400 in/min	10.2 m/min
Rapids on Z	400 in/min	10.2 m/min
Max Cutting	400 in/min	10.2 m/min
AXIS MOTORS	S.A.E.	METRIC
Max Thrust X	2000 lb	8896 N
Max Thrust Y	2000 lb	8896 N
Max Thrust Z	2000 lb	8896 N
TOOL CHANGER	S.A.E.	METRIC
Type	Carousel	Carousel
Capacity	10	10
Max Tool Diameter (full)	3.5 "	89 mm
Max Tool Weight	12 lb	5.4 kg
GENERAL	S.A.E.	METRIC
Air Required	4 scfm, 100 psi	113 L/min, 6.9 bar

Note: Price is inclusive of delivery, installation, training and 1 year warranty



LOT-3: FEED PROCESSING MILL (ABC: Php1,252,000.00, QTY: 1)

ITEM	SPECIFICATION	STATEMENT OF COMPLIANCE
Unit	<p>Feed Processing Mill. Post grind, mix and bag. 1-ton/hr commercial finished feeds. 4D30 Mitsubishi Automotive Diesel Engine,</p> <ul style="list-style-type: none"> - One (1) unit loading elevator, 5" buckets, floor-level mounted, complete with level loading hopper with grates, transmission and drive. - One (1) unit hammer mill, input capacity of 1.5 to 2 tons per hour., (based on 3/16 screen perforation) complete with air relief system, side door screen access design, hardened tip hammers, loading hopper with controls, dust suction blower mounted on steel base frame. - One (1) unit Feed mixer elevators, 5 buckets, floor level mounted complete with level loading hopper with grates, transmission and drives. -One(1)unit feed mixer, capacity of 250kg/batch, ribbon type, center discharge, complete with loading hopper, discharge gate, speed reducer, sprocket ad chain drive, mounted steel base frame - One (1) set 4D30 Automotive Diesel Engine with Conversion. - One (1) lot labor and materials such as gravel, sand, cement, rebars, CHB, pipe lines for water cooling system, main drive belts, foundation bolts, form and lumber for installation purposes. <p>Note: Price is inclusive of delivery, installation, training and 1 year warranty</p>	



LOT-5: EXCAVATOR WITH BREAKER ATTACHMENT (FR150-7) (ABC: PhP6,000,000.00, QTY: 1)

ITEMS	SPECIFICATION	STATEMENT OF COMPLIANCE
Unit	EXCAVATOR WITH BREAKER ATTACHMENT (FR150-7)	
Engine	6-cylinder in-line, Water cooling, Four stroke, turbo charging, intercooling diesel engine WP12.380E32 Weichai power Deisel Engine w/EGR, EURO III	
Power	280kW/380Hp @2200rpm	
Displacement	11.596cc	
Torque	1500Nm@(1300-1400rpm)	
Transmission	12 forward shifts with hi and low splitter	
Front Axle	Double I-beam (secondary axle steering)	
Rear axle	Double reduction with interlock on wheels	
Intermediate axle	Double reduction air actuated double differential	
Clutch	Single disc, dry type, diaphragm spring	
Suspension (front)	Longitudinal leaf spring with dual acting telescopic shock absorbers and anti-roll	
Suspension (rear)	Inverted longitudinal leaf spring, balance shaft suspension and anti roll bar	
Brake (Service brake)	Dual circuits pneumatic brake	
Brake (Parking brake)	Energy-accumulating spring air-cutoff brake	
Brake (Auxiliary brake)	Engine exhaust brake	
Steering	Whole hydraulic power boosting steering gear	
Tires/Wheels	12+1 /12.00-R20	
Warranty: 2 years or 2,000hours, whichever comes first and will start on date of delivery Unit must be maintained under company maintenance only for the duration of warranty period. Consumable parts are not free (itemized in warranty policies) Terms of Payment: Government Services: Pre-delivery seminar and orientation, certificate is given after orientation. Training includes operation, maintenance schedule, and maintenance procedures An interval of every 250 hours after the first 250 hrs, engine PMS is compulsory under period of warranty Maintenance schedule sheet will be provided as reference Free labor on the first PMS service, at 250 hours of maintenance only On-site service repair and maintenance Service requests: 2-3 days before dispatch of technicians after approval/signing of conforme of service quotation 24/7 on-call and service assistance for rescue. Note: Price is inclusive of delivery, installation, training and 1 year warranty		



LOT-7 ELECTRICAL MACHINES (ABC: PhP1,800,000.00, QTY: 1)

ITEMS	SPECIFICATION	STATEMENT OF COMPLIANCE
Unit	<p><u>Electrical machines:</u> Dissectible Electrical Machine Manual Configurations Fully dissectable experimental rotating machinessystem Ac/dc power supply Loads and Rheostat Module Electrical Power Measurement Module Electrical and Speed Measurement Multimeter with virtual instrumentation Parallel Board Star/Delta Starter Starting and Synchronization Fault Simulators Pole Changing Unit B. Electromagnetic Brake Adapter Bracket Locking and Rotating Device C. Motor Driven AC/DC Power Supply Mechanical Power Measurement Module Load Cell 100 N Motor Driven Resistive Load Unit Motor Driven Power Supply for Brake Computerized Data Acquisition System Via USB Data Acquisition and Processing Software for Electric Machines</p>	1
	<p>Note: Price is inclusive of delivery, installation, training and 1 year warranty</p>	



LOT-11: RASPBERRY PI TRAINER (ABC: 800,000.00, QTY: 2)

ITEM	SPECIFICATION	STATEMENT OF COMPLIANCE
Unit	<p><u>Raspberry Pi Trainer:</u></p> <ol style="list-style-type: none"> 1. Hardware platform <ol style="list-style-type: none"> 1.1 Raspberry Pi3.Processor:Broadcom BCM2387 chipset, 1.2GHz Quadcore, ARM Cortex-A53; GPU: Dual core video core IVAE RAM:1GB LPDDR2 SDRAM; 802.11 b/g/n Wireless LAN Composite video / 1080p HDMI Bluetooth 4.1 10/100 Ethernet. 1.2 Arduino ADK: AT mega 2560 Up to 20MIPS throughput at 20MHz Boot loader (USB to Serial program), ISP program 256 Kbytes FLASH, 8Kbytes bootloader 8Kbytes internal SRAM, 4Kbytes EEPROM 15-channel PWM, 16-channel 10-bits ADC I2C, 4-UART, 54-DigitalI/O 2. Raspberry Pi3 adapter board. UART; GPIO 40-pin connector: for connection with raspberry Pi3; Power: +3.3V, 5V RS232C support, I2C support, UART support, J5 - J8 GPIO support. 3. LED Module. 8 Green LEDs, 8 Red LEDs 4. Buzzer module. DC SMD Piezzo 5. 7-Segment module. 6 digits 7-segment 6. Key PAD module. 16 push button switch. 7. 7-Sensor module. CDS sensor, Photo TR, Temperature and humidity sensor 8. DC fan module. 25mm small size, DC fan. 9. DC motor module. Forward/reverse rotation DC Motor 10. Photo interrupter sensor module. Operating voltage DC 5.0V Power supply needs. 5V interface type: Digital. 11. Vibration detection sensor module. Fast response and high sensitivity. Pin definition: S-signal V-VCC G-GND. Material: gold-plated. Super wide vibration detect range.No direction limit. 12. 3-axis compass sensor module. Built-in drive circuit I2C digital interface. 12-bit ADC and low interference AMR sensor. 13. PIR Motion sensor module. Block time: 2.5s (default). Delay time: 5s (default). Sentry angle: <110 degree. Sentry distance: 3m (default) - max 7m. 14. Pulse sensor module. 24 inch color-coded cable. 4 transparent stickers. 3 holes around the outside edge. An ear clip,perfectly sized to the sensor. 15. Ultrasonic sensor module.Power supply: 	



<p>5V DC. Quiescent current:, 2mA. Effectual angle:<15. Ranging distance: 2cm - 500cm.</p> <p>16. Smoke sensor module.Power supply needs: 5V. Interface type: Analog. Pin definition: S-signal V-VCC G-GND.Wide detecting scope.</p> <p>17. Soil moisture sensor module. Power supply: 3.3V or 5V. Output voltage signal: 0-4.2V. Current: 35mA. Pin definition: Analog output (yellow wire)</p> <p>18. Red LED module. Voltage: +3.3- 5V. Pin definition: 1 signal (yellow) 2 VCC (Red), 3 GND (black).</p> <p>19. Green LED module. Voltage: +3.3-5V. Pin definition: 1 signal (yellow) 2 VCC (red), 3 GND(black)</p> <p>20. Active buzzer module. Power supply needs: 5V. Interface type: Analog. Pin definition: S-signal V-VCC, G-GND</p> <p>21. Voice record module. Push button interface. Automatic power-down mode. On chip 8 speaker driver. Signal 3V. Power supply.</p> <p>1. Camera module. Interface: CSI (camera serial interface), FPC 15P Cable. Sensor: 5MPixel.</p> <p>23. Micro SD card. Frequency: 2.4GHz. 15G Micro SDHC. Size: 15mm x 11mm. Transmission grade: Class 4.</p>	
<p>Note: Price is inclusive of delivery, installation, training and 1 year warranty</p>	