

## TERMS OF REFERENCE

**PROCUREMENT, DELIVERY, DISMANTLING, HAULING, AND INSTALLATION OF FOURTEEN (14) AIR CONDITIONING UNITS FOR THE OFFICE OF THE SOLICITOR GENERAL, MAKATI CITY**

### APPROVED BUDGET FOR THE CONTRACT (ABC) ON OFFICE EQUIPMENT (AIR CONDITIONING UNITS)

One million Two Hundred Ninety-Nine Thousand Nine Hundred Thirty-One Pesos and Fifty Centavos  
(Php 1,299,931.50), inclusive of all applicable government taxes and charges.

#### I. TECHNICAL SPECIFICATIONS FOR OFFICE EQUIPMENT (AIR CONDITIONING UNITS)

##### A. TWO (2) 10 TR AIR CONDITIONER DUCTED SPLIT TYPE

SPECIFICATIONS		
Nominal Cooling Capacity	Btu/hr k J/h	120000 126,600
Refrigerant		HCFC-22
Power Supply	V / ph / Hz	230 / 3 / 60
<b>INDOOR UNITS</b>		
Air Flow	CFM CMH	4000 6800
Motor	HP	2
Dimension, H x W x D	mm	1669 x 1068 x 738
Weight	Kg	227
Refrigerant Metering Device		TXV
Location		Indoor Unit
Air Filter (Standard)		Washable, Anti-Mold Filter
External Finish		Painted Steel
<b>OUTDOOR UNITS AIR COOLED</b>		
Voltage, Frequency, Phase		230 / 60 / 3
System Power Input	Kw	11.57
Motor	HP	½ x 2
Compressor Type		Scroll
Dimension, H x W x D	mm	1090 x 2010 x 918
Operating Weight	Kg	294
<b>PIPING</b>		
Refrigerant Piping Connection		Welded
Pipe Size Liquid/Gas	mm	2x16 / 2x22
Max. Pipe Length Horizontal	m	20
Max. Vertical Separation	m	10

**B. ONE (1) 5.0 TR AIR CONDITIONER CEILING MOUNTED INVERTER SPLIT TYPE**

<b>SPECIFICATIONS</b>		
Nominal Cooling Capacity	Btu/h-W kJ/h	60000 63300
Refrigerant		R410A
Power Supply	V / Phase / Hz	230 - 3 - 60
<b>INDOOR UNIT</b>		
Air Flow Volume	m3/h	2423
Noise Level (Lo)	dBA	49.3
Dimension, W x D x H	mm	1725 x 755 x 313
Weight	Kg	39.2 / 45.7
Refrigerant Metering Device		Actuator
Location		Indoor Unit
Air Filter (Standard)		Washable, Anti-Mold Filter
External Finish		Painted Steel, Plastic
<b>OUTDOOR UNIT AIR COOLED</b>		
Voltage, Frequency, Phase		230 / 60 / 3
System Power Input	Watts	5370
Rated Current	Amps	12
Compressor Type		Scroll
Dimension, W x D x H	mm	1095 x 495 x 1,480
Weight	Kg	104 / 116
<b>PIPING</b>		
Refrigerant Piping Connection		Flare
Pipe Size Liquid/Gas	mm	19 / 9.52
Max. Pipe Length Horizontal	m	20
Max. Vertical Separation	m	10

**C. ONE (1) 3.0 TR AIR CONDITIONER CEILING MOUNTED INVERTER SPLIT TYPE**

<b>SPECIFICATIONS</b>		
Nominal Cooling Capacity	Btu/hr kJ/h	38000 40090
Refrigerant		R410A
Power Supply	V / ph / Hz	230 / 1 / 60
<b>INDOOR UNITS</b>		
Air Flow Volume (Hi)	m3/h	1900
Dimension W x D x H	mm	1650 x 675 x 235
Weight	Kg	30 / 35
Location		Indoor Unit
Air Filter (Standard)		Washable, Anti-Mold Filter
External Finish		Painted Steel, Plastic

**OUTDOOR UNITS AIR COOLED**

Voltage, Frequency, Phase		230 / 60 / 3
System Power Input	Watts	3100
System Current	Amps	16
Compressor Type		Rotary
Dimension, W x D x H	mm	1090 x 500 x 875
Weight	Kg	69 / 75

**PIPING**

Refrigerant Piping Connection		Flare
Piping Size Gas/Liquid	mm	9.5 / 15.9
Max. Pipe Length Horizontal	m	30
Max. Vertical Separation	m	5

**D. ONE (1) 5 TR FREE BLOW / FLOOR MOUNTED SPLIT TYPE AIR CONDITIONING UNIT  
NON-INVERTER**

<b>SPECIFICATIONS</b>		
Nominal Cooling Capacity	Btu/hr Kj/hr	60000 63300
Refrigerant		HCFC-22
Power Supply	V / ph / Hz	208-230 / 3 / 60

**INDOOR UNITS**

Air Flow	CMH/CFM	2700 / 1589
Dimension W x D x H	mm	610 x 385 x 1877
Weight	Kg	65
Location		Indoor Unit
Air Filter (Standard)		Washable, Anti-Mold Filter
External Finish		Painted Steel

**OUTDOOR UNITS AIR COOLED**

Power Consumption	Watts	5500
Running Current	A	17.5
Dimension W x D x H		1016 x 355 x 1268
Weight	Kg	115

**PIPING**

Refrigerant Piping Connection		Flare
Operating Temperature	C	17-30
Max. Pipe Length Horizontal	m	30
Max. Difference in Level	m	8



**E. EIGHT (8) 1.0 HP AIR CONDITIONER WINDOW TYPE NON-INVERTER**

<b>SPECIFICATIONS</b>		
Cooling Capacity	Btu / h Kj / hr	9573 10100
Rated Current	A	4.1
Max. Input Consumption	W	1200
Energy Efficiency Ratio (EER)	Kj / h-W	10.5
Power Supply	-----	220-230V / 60Hz / 1Ph
Unit Dimension W x H x D	mm	456 x 557 x 345
Product Weight	Kg	32
Refrigerant		R410A

**F. ONE (1) 1.5 HP AIR CONDITIONER WALL MOUNTED INVERTER SPLIT TYPE**

<b>SPECIFICATIONS</b>		
Nominal Cooling Capacity	Btu/hr Kj/hr	13000 13715
Refrigerant		R32
Power Supply	V / ph / Hz	230 / 1 / 60
<b>INDOOR UNITS</b>		
Air Flow, L / M / H	m3/h	550 / 480 / 400
Dimension W x D x H	mm	837 x 205 x 296
Weight	Kg	10 / 12
Location		Indoor Unit
Air Filter (Standard)		Washable, Anti-Mold Filter
<b>OUTDOOR UNITS AIR COOLED</b>		
Power Consumption	Watts	1170
Running Current	A	5.2
Dimension W x D x H		730 x 285 x 545
Weight	Kg	23/27
<b>PIPING</b>		
Liquid Pipe Size		1/4"
Gas Pipe Size		3/8"
Max. Refrigerant Pipe Length	m	15
Max. Difference in Level	m	10

**II. QUALIFICATION OF THE SUPPLIER**

1. Must be legally registered with SEC, DTI or Cooperative Development Authority (CDA) whichever is applicable.
2. Must have been in the business of supplying, delivering, installing air conditioning units and providing its repair and preventive maintenance for at least five (5) years.
3. Must present a Client Satisfaction Rating from at least three (3) government agencies or private corporations, with whom the Supplier has a past or ongoing contract similar to this budget.

## II. SUPPLY, DELIVERY, DISMANTLING, HAULING AND INSTALLATION SCHEDULE

Agrees to supply, deliver, dismantle and install fourteen (14) air conditioning units at the OSG Building and extension offices within a period of Sixty (60) calendar days from receipt of Notice to Proceed (NTP), which period shall already include the time required to dismantle and haul the existing air conditioning units to be replaced, and the delivery and installation of the new air conditioning units.

## III. SCOPE OF SERVICES

### A. DOCUMENTATION

1. Agrees to process and submit to the concerned government agencies the required documents needed, if any, in the dismantling, hauling, delivery, installation and operation of the air conditioning units and pay the necessary fees on its own account.
2. Agrees to issue a one (1) year Certificate of Comprehensive Warranty on technical support, provision of services parts replacement/repair and preventive maintenance check-up.
3. Agrees to provide Operation and Maintenance Manual, Control Diagrams, Manufacturer's Printed Data including associated diagrams in clear concise English, drawings, technical data for the efficient operation and maintenance of the air conditioning units.
4. Other documents as may be required by pertinent COA rules and regulations (e.g. tax receipts from the BIR indicating the exact specifications and/or serial number of the air conditioning units supplied to the OSG).

### B. DISMANTLING, HAULING AND INSTALLATION WORK

1. Agrees to dismantle the existing air conditioning units, evaporator assembly, condenser assembly, feeder line, accessories and all other components, according to a pre-approved work plan.
2. Agrees to haul all dismantled parts/components, which includes but is not limited to the old air conditioning units, to the area designated by the Section Head of the Security Ground and Building Maintenance Section.
3. Agrees to deliver and install fourteen (14) brand new air conditioning units, according to a pre-approved work plan.
4. Agrees to provide wiring and conduit works for main-feeder lines and sub-feeders from main circuit breaker to the equipment.
5. Agrees to render necessary masonry, repair/polishing work, grouting and cementing of concrete walls.
6. Agrees to supply and fix all support necessary for the installation of the air conditioning units, whether indoor or outdoor.
7. Agrees to provide safety barricades, enclosures, shielding, coverings, warning device, etc. upon the start of the project to ensure protection of the general public and damage to properties due to falling debris.
8. Agrees to clean up the whole area daily of accumulated refuse of debris caused by the work and upon completion of the project, the entire installation to the satisfaction of the OSG.

## IV. POST - INSTALLATION WORK

### A. ORIENTATION / FAMILIARIZATION

Agrees to conduct a one-time in-house familiarization/orientation for the personnel of the Security Ground and Building Maintenance Section of the OSG and end users on the operation of the air conditioning units immediately after their installation.

### B. POST-INSTALLATION SERVICE WARRANTY