

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
<b>III</b>	<b>MECHANICAL WORKS</b>	
<b>1</b>	<b>PLUMBING WORK</b>	
1,1	WATER SUPPLY SYSTEM	
1.2.	DRAINAGE SYSTEM	
1.2.a	<b>Rain water at Unloading area</b>	
1.2.b	<b>Sewer water system</b>	
1,3	SANITARY SYSTEM	
1,4	LPG PIPING FOR KITCHEN	
1,5	KITCHEN EQUIPMENT	
1,6	FIRE HYDRANT SYSTEM	
1,7	FIRE EXTINGUISHER	
1,8	WASTE WATER TREATMENT	
	<b>SUB-TOTAL (1)</b>	
<b>2</b>	<b>A/C AND VENTILATION WORK</b>	
2,1	VENTILATION SYSTEM	
2,2	AIR CONDITIONING SYSTEM	
	<b>SUB-TOTAL (2)</b>	
<b>3</b>	<b>UTILITY WORK</b>	
3,1	WATER SUPPLY SYSTEM	
3,2	COMPRESSED AIR SYSTEM	
3,3	STEAM SUPPLY SYSTEM	
3,4	LPG SYSTEM	
3,5	SPOT VENTILATION SYSTEM	
	<b>SUB-TOTAL (3)</b>	
	<b>SUB-TOTAL (III)</b>	
<b>1</b>	<b>PLUMBING WORK</b>	
1,1	WATER SUPPLY SYSTEM	
	Booster water pump	(2units/1set)
	Water cap.;350L/min at 0.34Mpa	
	Power supply: 3phs/380V/50Hz/4.0Kw	
	Common steel base and accessories	
	Control panel w/o inverter type	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Alternative and Parralel Operation	
	Lever rod	
	RC base for booster pump	
	Received water tank+FF tank, V=280m3	
	Priming water tank V=100L	
	<b>GIP BSM CLASS</b>	
	GIP 15Ax2.60t	
	GIP 20Ax2.60t	
	GIP 25Ax3.20t	
	GIP 32Ax3.20t	
	GIP 40Ax3.20t	
	GIP 50Ax3.60t	
	GIP 65Ax3.60t	
	GIP 80Ax4.00t	
	Fittings for above	
	Support for above	
	<b>HDPE PIPE FOR WATER SUPPLY-PE 80</b>	
	HDPE Pipe 20A	
	HDPE Pipe 25A	
	HDPE Pipe 63A	
	HDPE Pipe 90A	
	Fittings for above	
	Support for above	
	<b>STAINLESS STEEL PIPE (SUS 304)</b>	
	Stainless Steel Pipe 50Ax2.77t	
	Fittings for above	
	Support for above	
	<b>GATE VALVE 10K CAST IRON FLANGE END</b>	
	GV (Flange End) 65A	
	GV (Flange End) 80A	
	<b>GATE VALVE 10K BRASS SCREW END</b>	
	GV (Screw End) 20A	
	GV (Screw End) 25A	
	GV (Screw End) 32A	
	GV (Screw End) 40A	
	<b>CHECK VALVE 10K BRASS SCREW END</b>	
	CV (Screw End) 20A	
	CV (Screw End) 40A	
	CV (Flange End) 65A	
	<b>BALL VALVE 10K BRASS SCREW END</b>	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	BV (Screw End) 20A	
	FOOT VALVE	
	Foot Valve 50A	
	Float Valve 20A	
	AIR RELEASE VALVE (Arita)	
	Air Release Valve 20A	
	Y-STRAINER 10K CAST IRON FLANGE END	
	Y-Strainer (Screw End) 50A	
	Y-Strainer (Flange End) 80A	
	FLEXIBLE JOINT (RUBBER TYPE - TWIN SPHERE-FLANGED ENDS)	
	F.J. (Rubber Type) 40A	
	F.J. (Rubber Type) 50A	
	FLEXIBLE JOINT (S.U.S., FLANGE TYPE)	
	F.J. (SUS Type) 32A	
	Pressure Gauge F 50	
	Float Valve 80A- FM type	
	Suction hood	
	Concrete for protection	
	200x200	
	Valve box	(For garden faucet)
	Garden Faucet	
	Painting for above	
	Consumable materials	
	Excavation and backfill	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,1)</b>	
1.2.a	Rain water at Unloading area	
<b>a</b>	<b>Rain water at Unloading area</b>	
	Pump it for Drain water	
	Volume 8.0 m3	
	Dimension: 2500Lx2500Wx1600D	
	Submersible pump vortex type	

	DETAIL ESTIMATION	
No.	DESCRIPTION	
	Cap: 480L/min at 8mhd	
	Power supply: 3phs/380V/50Hz/0.75Kw	
	Submersible pump vortex type	
	Cap: 1000L/min at 8mhd	
	Power supply: 3phs/380V/50Hz/3.7Kw	
	Submersible pump vortex type	
	Cap: 3000L/min at 20mhd	
	Power supply: 3phs/380V/50Hz/15Kw	
	Floating switch	
	Control panel	
	Alternative and parallel operation	
	Handle rail	
	Auto coupling	
	PVC Pipe 80Ax3.5t	
	PVC Pipe 100Ax4.2t	
	PVC Pipe 125Ax5.4t	
	PVC Pipe 200Ax8.6t	
	Fitting for above	
	Support for above	
	Butterfly Valve 80A (Flange End)	
	Butterfly Valve 125A (Flange End)	
	Butterfly Valve 200A (Flange End)	
	CV (Flange End) 80A	
	CV (Flange End) 125A	
	CV (Flange End) 200A	
	Excavation and backfill	
	Consumable materials	
	Testing Fee	
	MATERIAL TOTAL	
	LABOUR COST TOTAL	
	SUB-TOTAL (a)	
<b>b</b>	<b>Sewer water system</b>	
	Septic tank	V=46m3
	Dimension: 8000Lx4000Wx1950D	
	Septic tank	V=1.5m3
	Dimension: 1500Lx1000Wx1200D	

	DETAIL ESTIMATION	
No.	DESCRIPTION	
	Drain gutter for kitchen with grating cover	
	Grease trap	V=4.4 m3
	Dimension: 3000Lx1500Wx1400D	
	Basket and SUS partition	
	Oil trap	
	Dimension: 1000Lx800Wx1000D	
	Pump pit for sewer water	
	Volume 1.5 m3	
	Dimension: 1500Lx1500Wx1600D	
	Submersible pump with cutter type	
	Cap:200L/min at 8mhd	
	Power supply: 3phs/380V/50Hz/1.5Kw	
	Submersible pump	
	Cap:600L/min at 10mhd	
	Power supply: 3phs/380V/50Hz/3.7Kw	
	Floating switch	
	Control panel	
	Alternative and parallel operation	
	Handle rail	
	Auto coupling	
	Butterfly Valve 50A (Flange End)	
	CV (Screw End) 50A	
	PVC PIPE FOR DRAIN-Class 3	
	PVC Pipe 40Ax2.9t	
	PVC Pipe 50Ax2.9t	
	PVC Pipe 65Ax3.6t	
	PVC Pipe 80Ax3.5t	
	PVC Pipe 100Ax4.2t	
	PVC Pipe 125Ax5.4t	
	Fittings for above	
	Support for above	
	Manhole 450sq x 400D~500D	
	Manhole 600sq x 600D~1000D	
	Manhole 600sq x 1100D~1400D	
	Manhole Cover F 400	
	Manhole Cover F 600	
	FD 50A	Cast iron
	COA 50A	Cast iron
	COA 100A	Cast iron
	Vent Cap 100 F	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Concrete for protection	
	400x400	
	Painting for above	
	Excavation and backfill	
	Consummable materials	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (1.2.a)</b>	
1,3	<b>SANITARY SYSTEM</b>	
	WATER CLOSET c/w accessories	
	CST 660D1 (2 part)(TS116R+T53P100V+TX437SV1W)	
	URINAL(TOTO VN) c/w accessories	
	Medium size UT57(Manual flush valve TS402P)	
	LAVATORY(TOTO VN) c/w accessories	
	Wall hang LT 236C(TS105B13+TS119AS5+TX709AV1N)	
	U/d Counter type LT 546(TS105B13+TS119AS5+TX709AV1N)	
	Service sink SS558S (Ceasar)	
	Single Faucet for Sink TS124B13	
	Pantry Sink with cabinet	L=1200L
	Mixxing Faucet for Sink TX604KDN	
	SUS Sink for café counter	
	Single Faucet for Sink TS124B13	
	Elec. water heater 30 Liter Titec pro(Ariston)	
	Hose	
	Chippings for above	
	Consummable materials	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Transportation Fee	
	<b>SUB-TOTAL (1,3)</b>	
1,4	LPG PIPING FOR KITCHEN	
	LPG yard	(for 12pcs of Gas cylinder)
	C/w: Roof, floor, fence, door	
	Dimension: 5200Lx 1200Dx 2000H	
	Gas cylinders 24 bottles	(12 bottles * 2 units)
	Gas header	
	High pressure hose to cylinder	30K
	Seamless Steel Pipe 15Ax2.77t	
	Seamless Steel Pipe 20Ax2.87t	
	Seamless Steel Pipe 25Ax3.38t	
	Seamless Steel Pipe 40Ax3.68t	
	Fittings for above	
	Support for above	
	BV (Screw End) 15A	30K
	BV (Screw End) 40A	30K
	Regulator 120kg/hr	
	BV (Screw End) 15A	10K
	BV (Screw End) 20A	10K
	BV (Screw End) 25A	10K
	BV (Screw End) 40A	10K
	Pressure Gauge F 50	
	Painting for above	
	Consummable materials	
	Safety licence	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,4)</b>	
1,5	KITCHEN EQUIPMENT	(600 Meals x 3 shifts)
a	<b>Kitchen equipments</b>	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	<b>Storage</b>	
S01	S/s 4-level platted shelf	1 500 x 500 x 1 520mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With s/s 4-level platted shelf	
S02	Loading trolley	600 x 900 x 190/900
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
S03	Rice and flour bin cart	500 x 700 x 750mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	<b>Preparation Area</b>	
P01	Up right Chiller 4 Doors	1,340x840x2,110mm
	Made of stainless steel AISI- 304	
	capacity : 1 200 litres	
	Operating temperature: -0 oC~ +10oC	
P02	Up right freezer 4 doors	1,340x840x2,110mm
	Made of stainless steel AISI- 304	
	capacity : 1 200 litres	
	Operating temperature: -10 oC~ -20 oC	
P03	S/s soiled dish table with 01 hole for garbage(left)	
	1300 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one hole for garbage	
P04	Mobile garbage bin cart	D450 x 600 mm
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With drainage hole in the bottom.	
P04*	Wall mounted shelf	1 300 x 350 x 250mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one-level platted shelf	
P05	S/s single big sink table	1 200 x 750 x 850/950mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Sink dim: 800 x 450 x 300mm	
	C/w faucet, overflow pipe, drainage	
P06	S/s worktop table withundershelf	
	1 500 x 750 x 850/950mm.	



	DETAIL ESTIMATION	
No.	DESCRIPTION	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
P07	Wall mounted shelf	1 500 x 500 x 250mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one-level platted shelf	
P08	S/s double big sink table	1 800 x 750 x 850/950mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Sink dim: 800 x 450 x 300mm	
	C/w faucet, overflow pipe, drainage	
P09	Wall mounted shelf	1 800 x 500 x 250mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one-level platted shelf	
P10	S/s worktop table withundershelf w/Plastic chop block	
	1 800 x 1900 x 850	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Ở 02 phía có 01 phần thớt thái mặt nhựa.	
P11	Chopping block	
	440 x 440 x 750mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
	<b>Cooking area</b>	
C01	Double gas kwalie range	1 500x900 x 800/1150
	ISO 9001- 2000 certified	
	Body made of stainless steel	
	Gas consumption: 2 x 24 000 kcal/h	
	Gas pressure: 500 mbar	
	With water and drainage piping system and top water feed.	
C02	Neutral unit to form asia	500 x 900 x850/1150mm
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Front shape as kitchen Asia kitchen equipment shape	
C03	Exhaust hood w/greasefilter	
	3 650 x 12000 x 600mm.	
	ISO 9001 - 2000 Certified	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Made of stainless steel	
C05	Gas stock pot stove double burner	
	1400 x 700 x 450/1150	
	ISO 9001- 2000 certified	
	Body made of stainless steel	
	Gas consumption: 2x23 000 kcal/h	
C06	Gas cooker	
	Capacity: 7 Kg	
	Gas consumption: 7000kcal/h	
	Ignition by battery	
C07	S/s worktop table withundershelf	
	1 800 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
C08	S/s worktop table withundershelf	
	1 500 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
C09	Exhaust hood w/greasefilter	
	2 300 x 12000 x 600mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	<b>Distribution area</b>	
D01	S/s worktop table withundershelf	
	1 500 x 750 x 850mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
D02	S/s 4-level slatted shelf	1 200 x 500 x 1 520mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With s/s 4 -level slatted shelf	
D03	S/s worktop table withundershelf	
	1 800 x 750 x 850mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
D04	Neutral unit	820 x 750 x 220mm

	DETAIL ESTIMATION	
No.	DESCRIPTION	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Front shape as kitchen Western kitchen equipment shape	
	<b>Dishwashing Area</b>	
W01	S/s 4-level slatted shelf	1 500 x 500 x 1 520mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With s/s 4 -level slatted shelf	
W03	S/s single big sink table	1 500 x 750 x 850/950mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Sink dim: 650 x 450 x 300mm	
	C/w faucet, overflow pipe, drainage	
W04	Wall mounted shelf	1 500 x 500 x 250mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one-level platted shelf	
W05	S/s double sink table	1 800 x 750 x 850/950mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Sink dim: 650 x 450 x 300mm	
	C/w faucet, overflow pipe, drainage	
W06	Wall mounted shelf	1 800 x 350 x 250mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one-level platted shelf	
W07	S/s soiled dish table with 02 holes for garbage	
	1750 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one hole for garbage	
W08	Mobile garbage bin cart	D450 x 600 mm
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With drainage hole in the bottom.	
W09	Neutral unit	1130 x 750 x 220mm
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Front shape as kitchen Western kitchen equipment shape	
W10	S/s soiled dish table with 02 holes for garbage	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	2200 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With one hole for garbage	
W11	S/s single big sink table	1 500 x 750 x 850/950mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	Sink dim: 650 x 450 x 300mm	
	C/w faucet, overflow pipe, drainage	
W12	S/s worktop table withundershelf	
	1 500 x 750 x 850/950mm.	
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
	With 01 undershelf	
W13	SS Tank cart	700 x 600 x 700mm.
	ISO 9001 - 2000 Certified	
	Made of stainless steel	
<b>b</b>	<b>Piping connection</b>	
	PVC Pipe 20Ax3.0t	
	Fittings for above	
	Support for above	
	PVC Pipe 50Ax2.9t	
	Fittings for above	
	Support for above	
	GV (Screw End) 20A	
	Regulator for rice cooker	
	Hose connection	
	Consummable materials	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commisioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,5)</b>	
1,6	<b>FIRE HYDRANT SYSTEM</b>	

	DETAIL ESTIMATION	
No.	DESCRIPTION	
	Received water tank+FF tank, V=280m <sup>3</sup>	
	Eletrical fire fighting pump	
	Water cap.:1200L/min at 60mhd	
	Engine fire fighting pump	
	Water cap.:1200L/min at 60mhd	
	Priming water tank V=100L	
	Control panel for FF pump	
	GIP 50Ax3.60t	
	GIP 65Ax3.60t	
	GIP 100Ax4.50t	
	Fittings for above	
	Support for above	
	GV (Flange End) 65A	
	GV (Flange End) 100A	
	GV (Screw End) 20A	
	GV (Screw End) 25A	
	GV (Screw End) 32A	
	GV (Screw End) 40A	
	CV (Screw End) 20A	
	CV (Flange End) 65A	
	CV (Flange End) 100A	
	BV (Screw End) 20A	
	Float Valve 20A	
	Foot Valve 100A	
	Air Release Valve 20A	
	Y-Strainer (Flange End) 100A	
	F.J. (SUS Type) 100A	
	Pressure Gauge F 100	
	Suction hood	
	Concrete for protection	
	200x200	
	Indoor Hydrant Box 700x900x220	
	Hose F 50 x 20m(Germany-Sakura)	
	Outdoor Hydrant Box 700x900x220	
	Noozle F16	
	Hose F 65 x 20m(Germany-Sakura)	
	Noozle F13	
	Noozle F16	
	Instruction Plate	
	Receiving Port(With CV)	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Angle valve 50A(Copper-TQ)	
	Painting for above	
	Consummable materials	
	Licence fee	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,6)</b>	
1,7	<b>FIRE EXTINGUISHER</b>	
	ABC Dry Extinguisher 4Kg(V-Senji TQ)	
	ABC Dry Extinguisher 8Kg(V-Senji TQ)	
	ABC Dry Extinguisher 35Kg /w Wheels(V-Senji TQ)	
	CO2 Extinguisher 3Kg(V-Senji TQ)	
	CO2 Extinguisher 5Kg(V-Senji TQ)	
	Hanger and support	
	Licence fee	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,7)</b>	
1,8	<b>WASTE WATER TREATMENT</b>	
	Waste water treatment	
	Raw water is domestic waste water	
	Total person calculation: 2400 persons	
	Dischager water is Class A	
	Transportation and installation	
	Designed fee	
	<b>Materials total</b>	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Labor cost	
	Testing and commisioning	
	Transportation Fee	
	<b>SUB-TOTAL (1,8)</b>	
<b>2</b>	<b>A/C AND VENTILATION WORK</b>	
2,1	VENTILATION SYSTEM	
	<i>Wall mouted exhaust fan</i>	
	Air cap.:546m3/hr	
	Air cap.:840m3/hr	
	Air cap.:990m3/hr	
	Support for above	
	<i>Ceiling fan</i>	
	Air cap.:80m3/hr-40Pa	
	Support for above	
	<i>Inline-fan</i>	
	Air cap.:240m3/hr-150Pa	
	Air cap.:1300m3/hr-150Pa	
	Air cap.:3650m3/hr-150Pa	
	Air cap.:3900m3/hr-150Pa	
	Support for above	
	<i>Axial fan wall mounted type</i>	
	Air cap.:800m3/hr-50Pa	
	Air cap.:1500m3/hr-50Pa	
	Air cap.:3000m3/hr-50Pa	
	Air cap.:3600m3/hr-50Pa	
	Air cap.:4500m3/hr-50Pa	
	Air cap.:5000m3/hr-50Pa	
	Air cap.:6000m3/hr-50Pa	
	Support for above	
	<i>Centrifugal fan</i>	
	Air cap.:8000m3/hr-400Pa	
	Support for above	
	Galvanized Steel Duct 0.6t	
	Fittings for above	
	Support for above	
	Spiral Duct 150 F	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Fittings for above	
	Vent Cap 150 F	
	BY GI SHEET FINISHED BY POWDER COATING	
	Weather Cover 300x300	
	Weather Cover 350x350	
	Weather Cover 400x400	
	Weather Cover 450x450	
	Weather Cover 500x500	
	Weather Cover 600x600	
	Weather Cover 800x500	
	VCD (VOLUME CONTROL DAMPER)	
	VCD f150	
	VCD 250x250	
	VCD 400x400	
	EA Grill (Double Layer) 600x600	
	EA Grill (Single Layer) 600x600	
	Box for Difuser 600x600x600	
	G.W. Sheet /w Al. foil 32Kg/m <sup>3</sup> x 25t	
	Flexible Duct /w Insulation 150 F	
	Flexible Duct 250 F	
	Canvas	
	Painting for above	
	Consummable materials	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (2,1)</b>	
2,2	<b>AIR CONDITIONING SYSTEM</b>	
a	<b>Air conditioner for Office and others</b>	
	<i>Wall mounted, Cooling only Air conditioner</i>	
	Cooling load: 2250 Kcla/hr	
	Cooling load: 4500 Kcla/hr	
	Cooling load: 6000 Kcla/hr	



	DETAIL ESTIMATION	
No.	DESCRIPTION	
	<b><i>Ceiling cassette Cooling only Air conditioner</i></b>	
	Cooling load: 6000 Kcla/hr	
	Cooling load: 11200 Kcla/hr	
	<b><i>Ceiling cassette heatpump Air conditioner</i></b>	
	Cooling load: 4500 Kcla/hr	
	Cooling load: 6000 Kcla/hr	
	Cooling load: 9000 Kcla/hr	
	Cooling load: 11200 Kcla/hr	
	<b><i>Ceiling suspended Cooling only Air conditioner</i></b>	
	Cooling load: 9000 Kcla/hr	
	Cooling load: 11200 Kcla/hr	
	<b><i>Ceiling conceal Cooling only Air conditioner</i></b>	
	Cooling load: 30100 Kcla/hr	
	<b><i>Floor mounted Cooling only Air conditioner</i></b>	
	Cooling load: 97500 Kcla/hr	
	Copper pipe F6.35x0.81t	
	Copper pipe F9.52x0.81t	
	Copper pipe F12.70x0.81t	
	Copper pipe F15.88x0.81t	
	Copper pipe F19.05x0.81t	
	Copper pipe F22.22x0.81t	
	Copper pipe F34.93x0.81t	
	Copper pipe F41.28x1.00t	
	Fittings for above	
	Support for above	
	PVC Pipe 20Ax3.0t	
	PVC Pipe 32Ax2.5t	
	PVC Pipe 40Ax2.9t	
	Fittings for above	
	Support for above	
	Insulation for Copper Pipe F6.35x19.0t	
	Insulation for Copper Pipe F9.52x19.0t	
	Insulation for Copper Pipe F12.70x19.0t	
	Insulation for Copper Pipe F15.88x19.0t	
	Insulation for Copper Pipe F19.05x19.0t	
	Insulation for Copper Pipe F22.22x19.0t	
	Insulation for Copper Pipe F34.93x19.0t	
	Insulation for Copper Pipe F41.28x19.0t	
	Insulation for Copper Pipe F28.58x10.0t	
	Insulation for Copper Pipe F34.93x10.0t	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	Insulation for Copper Pipe F50.80x10.0t	
	Trunking	
	500Wx150H	
	150Wx120H	
	Electrical Control Cable 1.5mm <sup>2</sup> x2c	
	Electrical Cable 3x2.5mm <sup>2</sup> +1.5mm <sup>2</sup> E	
	Electrical Cable 3x6.0mm <sup>2</sup> +4.0mm <sup>2</sup> E	
	Gas R22 charging	
	Foundation for out door and indoor unit	
	Dimension: 900L*600W*200H	
	Dimension: 1200L*1200W*200H	
	Dimension: 2800Lx2450Wx200H	
	Dimension: 2000Lx1250Wx200H	
	Galvanized Steel Duct 0.6t	
	Galvanized Steel Duct 0.8t	
	Galvanized Steel Duct 1.0t	
	Fittings for above	
	Support for above	
	G.W. Sheet /w Al. foil 32Kg/m <sup>3</sup> x 50t	
	Chamber box 1900Lx1200Wx650H	
	VCD 800x650	
	VCD 800x300	
	SA Grill (Double Layer) 800x300	
	RA Grill (Double Layer) 1350x900	
	VCD 400x400	
	Weather Cover 450x450	
	OA Filter box 450x450	
34	Consumable Material	
30	Painting Work	
37	Safety licence	
34	Others	
	<b>Materials total</b>	
39	Labor cost	
35	Testing and commissioning	
36	Transportation Fee	
	<b>SUB-TOTAL (2,2)</b>	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
<b>3</b>	<b>UTILITY WORK</b>	
3,1	WATER SUPPLY SYSTEM	
	WATER SUPPLY SYSTEM	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commisioning	
	Transportation Fee	
	<b>SUB-TOTAL (3,1)</b>	
3,2	COMPRESSED AIR SYSTEM	
	Oil flooded screw Air compressor	
	Capacity: 37kw	
	Air cap.: 6.1m <sup>3</sup> /min	
	Pressure:7.0kgf/cm <sup>2</sup>	
	Air dryer	
	Air cap.: 7.6m <sup>3</sup> /min	
	Pre-filter	
	After filter	
	Air tank 2000L	
	Header D150-L1200	
	Auto drain 20A	
	Foundation for Compressor	
	Dimension: 1900L*1100W*200H	
	Foundation for Air dryer	
	Dimension: 1100L*400W*200H	
	Foundation for air tank	
	Dimension: 1300L*1300W*200H	
	GIP 100Ax4.50t	
	GIP 50Ax3.60t	
	GIP 40Ax3.20t	
	GIP 25Ax3.20t	
	Fittings for above	
	Support for above	
	Coupler	40SM
	BV (Flange End) 100A	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	BV (Screw End) 50A	
	BV (Screw End) 25A	
	GV (Screw End) 20A	
	GV (Screw End) 15A	
	Pressure Gauge F 100	
	Drain trap	
	Galvanized Steel Duct 0.8t	
	<b>WEATHER COVER</b>	
	<b>BY GI SHEET FINISHED BY POWDER COATING</b>	
	Weather Cover 650x650	
	Painting for above	
	Consummable materials	
	Painting for above	
	Safety licence	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (3,2)</b>	
3,3	<b>STEAM SUPPLY SYSTEM</b>	
	<b>STEAM SUPPLY SYSTEM</b>	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commissioning	
	Transportation Fee	
	<b>SUB-TOTAL (3,3)</b>	
3,4	<b>LPG SYSTEM</b>	
	<b>LPG SYSTEM</b>	
	Others	

	<b>DETAIL ESTIMATION</b>	
No.	DESCRIPTION	
	<b>Materials total</b>	
	Labor cost	
	Testing and commisioning	
	Transportation Fee	
	<b>SUB-TOTAL (3,4)</b>	
3,5	SPOT VENTILATION SYSTEM	
	SPOT VENTILATION SYSTEM	
	Others	
	<b>Materials total</b>	
	Labor cost	
	Testing and commisioning	
	Transportation Fee	
	<b>SUB-TOTAL (3,5)</b>	