



Region : Brazil Published on May. 27, 2024

MFL67986347

Single Outdoor Unit General Information

Model Line Up

1. Model Line Up

Product	Phase	Chassis	Capacity Index	Model Name	Combination
			kW		Indoor Unit
		U18A	5.3	ATUW18GPLP1	ATNW18GPLP1
		UI8A	5.3	ATUW18GTLP1	ATNW18GTLP1
		U24A 7.0	7.0	ATUW24GPLP1	ATNW24GPLP1
			7.0	ATUW24GTLP1	ATNW24GTLP1
		U36A	10.6	ATUW36GNLP1	ATNW36GNLP1
Standard	1			AVUW36GM1P1	AVNW36GM1P1
Standard				ATUW36GYLP1	ATNW36GYLP1
			14.1	ATUW48GMLP1	ATNW48GMLP1
				AVUW48GM2P1	AVNW48GM2P1
		U60A		ATUW60GMLP1	ATNW60GMLP1
			17.6	AVUW60GM2P1	AVNW60GM2P1
				ATUW60GYLP1	ATNW60GYLP1

* The capacity index may differ from actual capacity values.

Product Data

Standard

Standard

- 1. Specifications
- 2. List of Functions
- 3. Accessory Compatibility List
- 4. Dimensions
- 5. Piping Diagrams
- 6. Wiring Diagrams
- 7. Capacity Tables
- 8. Capacity Correction Factor
- 9. Operation Limits
- 10. Sound Levels

1.1 Product

ATUW18GPLP1 + ATNW18GPLP1

	Category	Unit	Specification
Major	Minor	Unit	
Classification	Chassis	-	U18A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Davida Ormalia	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
	Detect	kW	5.28
	Rated	Btu/h	18,000
		kW	2.10~5.85
Cooling Capacity	Min ~ Max	Btu/h	7,200~20,000
		kW	4.96
	Sensible	Btu/h	16,920
		kW	5.28
	Rated	Btu/h	18,000
Heating Capacity		kW	2.10~6.15
	Min ~ Max	Btu/h	7,200~21,000
	Rated	kW	1.54
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	1.35
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.43
Efficiency	COP	W/W	3.91
,	SEER	Wh/Wh	6.63
	Rated	A	7.00
Running Current(Cooling)	Min/Max	A	- / -
	Rated	A	6.10
Running Current(Heating)	Min/Max	A	- / -
Running Current	Max	A	11.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре	_	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	28 x 1
	Max. External Static Pressure	Pa	_
	Туре	-	BLDC
Outdoor Fan Motor	Drive		
	Output	W x No.	43 x 1
	Туре	-	Twin Rotary
	Model x No.		GAT156MAD x 1
	Motor Type		BLDC
Compressor	Motor Output	W x No.	1,500 x 1
	Oil Type	-	POE or PVE
	Oil Charging amount	cc x No.	400 x 1
	Rows x Columns x FPI	-	2 x 24 x 14
	No.		1
	Fin Type	-	Wide Louver Plus
Heat Exchanger	Corrosion Protection (Coating)		-
	Material (Tube / Fin)		-
	Face Area	- m²	-
	Net(W x H x D)	mm	- 770 x 545 x 288
Dimensions	Shipping(W x H x D)	mm	920 x 585 x 388
			920 X 303 X 300

Standard

1. Specifications

Category		Unit	Creation
Major	Minor		Specification
	Net	kg	32.7
Weight	Shipping	kg	34.9
	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	1.300
	Additional Charging amount	g/m	20
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	2.714
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф6.35 (1/4)
Connecting Pipe	Gas	mm(inch)	Ф12.7 (1/2)
	Liquid	mm(inch)	Ф6.35 (1/4)
	Gas	mm(inch)	Ф12.7 (1/2)
Pipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 30 / 5
Maximum Height Difference	IDU - ODU(Max)	m	20
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	49.0 / 52.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	13.4
Flastrias Characteristic	Maximum Fuse Amperes (MFA)	A	15
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	10.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.25

Note

Due to our policy of innovation some specifications may be changed without notification.

• Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

Power factor could vary less than ±1% according to the operating conditions.

Sound level values are depend on the ambient conditions and values are normally higher in actual operation.

This product contains Fluorinated greenhouse gases.

- Voltage supplied to the unit terminals should be within the minimum and maximum range.
- Maximum allowable voltage unbalance between phase is 2%.
- MSC means the Max. current during the starting of compressor.
- MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.

Select the wire size based on MCA.

• MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

Performances are based on the following conditions :

- Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB

- Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB

- Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

1. Specifications

ATUW18GTLP1 + ATNW18GTLP1

	Category	Unit	Specification
Major	Minor	om	
Classification	Chassis	-	U18A
Chabonioution	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Power Supply	Case 2	-	-
	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	4.69
	Rated	Btu/h	16,000
		kW	1.80~5.60
Cooling Capacity	Min ~ Max	Btu/h	6,100~19,000
		kW	3.75
	Sensible	Btu/h	12,800
		kW	5.28
	Rated	Btu/h	18,000
Heating Capacity		kW	1.90~5.80
	Min ~ Max	Btu/h	6,500~19,800
	Rated	kW	1.52
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	1.55
Power Input(Heating)	Min ~ Max	kW	_~_
	EER	W/W	3.08
Efficiency	СОР		3.40
Enciency	SEER	Wh/Wh	5.77
	Rated	A	6.90
Running Current(Cooling)	Min/Max	A	-/-
Running Current(Heating)	Rated	A	7.00
Dumain a Quiment	Min/Max	A	-/-
Running Current	Max	A	11.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
A 41 - F	Туре	-	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	28 x 1
	Max. External Static Pressure	Pa	-
	Туре		BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	43 x 1
	Туре	-	Twin Rotary
	Model x No.	-	GAT156MAD x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	1,500 x 1
	Oil Туре	-	POE or PVE
	Oil Charging amount	cc x No.	400 x 1
	Rows x Columns x FPI	-	2 x 24 x 14
	No.	-	1
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	770 x 545 x 288
	Shipping(W x H x D)	mm	920 x 585 x 388
Maint	Net	kg	32.7
Weight	Shipping	kg	34.9

Category		Unit	Specification
Major	Minor		Specification
Exterior	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	1.300
	Additional Charging amount	g/m	20
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	2.714
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф6.35 (1/4)
Connecting Pipe	Gas	mm(inch)	Ф12.7 (1/2)
	Liquid	mm(inch)	Ф6.35 (1/4)
Dine Connecting Secket	Gas	mm(inch)	Φ12.7 (1/2)
Pipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5/ 30 /5
Maximum Height Difference	IDU - ODU(Max)	m	20
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	49.0 / 52.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	13.4
Flastrical Characteristic	Maximum Fuse Amperes (MFA)	A	15
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	10.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.25

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Power factor could vary less than ±1% according to the operating conditions.
Sound level values are depend on the ambient conditions and values are normally higher in actual operation.

- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

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 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

1. Specifications

ATUW24GPLP1 + ATNW24GPLP1

	Category	Unit	Specification
Major	Minor	Unit	opecification
Classification	Chassis	-	U24A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	7.03
	Rated	Btu/h	24,000
		kW	2.80~8.20
Cooling Capacity	Min ~ Max	Btu/h	9,600~28,000
		kW	5.98
	Sensible	Btu/h	20,400
		kW	7.62
	Rated	Btu/h	26,000
Heating Capacity		kW	2.80~8.60
	Min ~ Max	Btu/h	9,600~28,000
	Rated	kW	2.17
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	2.24
Power Input(Heating)	Min ~ Max	kW	
	EER		3.24
Efficiency	СОР	W/W	3.41
Enlochey	SEER	Wh/Wh	6.70
	Rated	A	9.90
Running Current(Cooling)	Min/Max	A	-/-
	Rated	A	10.20
Running Current(Heating)	Min/Max	A	-/-
Running Current	Max	A	19.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре		Propeller
Outdoor Fan			50 x 1
	Air Flow Rate(Max) Max. External Static Pressure	m³/min x No.	50 % 1
		Pa	-
Outdoor For Mator	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	85 x 1
	Туре	-	Twin Rotary
	Model x No.	-	GKT208MAB x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	1,500 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	670 x 1
	Rows x Columns x FPI	-	2 x 28 x 14
	No.	-	1
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	870 x 650 x 330
	Shipping(W x H x D)	mm	1,026 x 693 x 446
Weight	Net	kg	44.7
-	Shipping	kg	48.3

Category		Unit	On a stiff a stiff and
Major	Minor	Unit	Specification
	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	1.600
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	3.340
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
Connecting Dine	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф15.88 (5/8)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф15.88 (5/8)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	52.0 / 52.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	22.4
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	25
	Comp_Rated Load Amperes (Max)	A	12.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.33

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- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

1. Specifications

ATUW24GTLP1 + ATNW24GTLP1

	Category	Unit	Specification
Major	Minor		
Classification	Chassis	-	U24A
	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Power Supply	Case 2	-	-
r ower ouppry	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
	Rated	kW	6.16
	Kaleu	Btu/h	21,000
Cooling Conscitu	Min ~ Max	kW	1.98~7.60
Cooling Capacity	Wint ~ Max	Btu/h	6,750~25,930
	Consible	kW	4.37
	Sensible	Btu/h	14,910
		kW	6.74
	Rated	Btu/h	23,000
Heating Capacity		kW	2.43~7.30
	Min ~ Max	Btu/h	8,300~25,000
	Rated	kW	2.04
Power Input(Cooling)	Min ~ Max	kW	_~-
	Rated	kW	2.28
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.02
Efficiency	СОР	W/W	2.96
·	SEER	Wh/Wh	5.75
	Rated	A	9.30
Running Current(Cooling)	Min/Max	A	-/-
	Rated	A	10.40
Running Current(Heating)	Min/Max	A	- / -
Running Current	Max	Α	19.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
(* 5, 5)	Туре	-	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	50 x 1
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive		-
	Output	W x No.	85 x 1
	Туре	-	Twin Rotary
	Model x No.		GKT208MAB x 1
	Motor Type		BLDC
Compressor	Motor Output	W x No.	1,500 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	670 x 1
	Rows x Columns x FPI	-	2 x 28 x 14
	No.		1
	Fin Type	-	Wide Louver Plus
Heat Exchanger	Corrosion Protection (Coating)	-	
	Material (Tube / Fin)		-
		- 	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	870 x 650 x 330
	Shipping(W x H x D)	mm	1,026 x 693 x 446
Weight	Net	kg	44.7
	Shipping	kg	48.3

Category		Unit	On a stiff a stiff and
Major	Minor		Specification
Exterior	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	1.600
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	3.340
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
Connecting Dine	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф15.88 (5/8)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф15.88 (5/8)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	50.0 / 52.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	22.4
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	25
	Comp_Rated Load Amperes (Max)	A	12.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.33

Note

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- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

1. Specifications

ATUW36GNLP1 + ATNW36GNLP1

	Category	11mi4	Creation
Major	Minor	Unit	Specification
Classification	Chassis	-	U36A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	9.09
	Rated	Btu/h	31,000
		kW	4.68~11.10
Cooling Capacity	Min ~ Max	Btu/h	16,030~38,000
		kW	7.72
	Sensible	Btu/h	26,350
		kW	10.55
	Rated	Btu/h	36,000
Heating Capacity		kW	3.99~10.80
	Min ~ Max	Btu/h	13,640~37,000
	Rated	kW	2.88
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	3.08
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.15
Efficiency	СОР		3.43
Enlochey	SEER	Wh/Wh	6.05
	Rated	A	13.10
Running Current(Cooling)	Min/Max	A	-/-
	Rated	A	14.00
Running Current(Heating)	Min/Max	A	-/-
Running Current	Max	A	19.00
Power Factor(Cooling/Heating)	Rated		0.99 / 0.99
Fower Factor(Cooling/Heating)			
Outdoor Fan	Type Air Flow Rate(Max)		Propeller 60 x 1
	Max. External Static Pressure	m³/min x No.	00 X 1
		Pa	-
Outdoor For Motor	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 1
	Туре	-	
	Model x No.	-	GJT240MAA x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	2,137 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	900 x 1
	Rows x Columns x FPI	-	2 x 38 x 14
	No.		1
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)		-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	950 x 834 x 330
	Shipping(W x H x D)	mm	1,140 x 918 x 461
Weight	Net	kg	58.5
	Shipping	kg	65.6

Category		Unit	Creatification
Major	Minor	Unit	Specification
Federalez	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	2.200
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	4.593
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
Connecting Dine	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф15.88 (5/8)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф15.88 (5/8)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	51.0 / 53.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	23.2
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	25
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	17.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.58

Note

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• Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

AVUW36GM1P1 + AVNW36GM1P1

	Category	Unit	Specification
Major	Minor	Unit	Specification
Classification	Chassis	-	U36A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Davies Oversky	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
	5.4.4	kW	8.79
	Rated	Btu/h	30,000
		kW	4.00~10.30
Cooling Capacity	Min ~ Max	Btu/h	13,600~35,000
		kW	7.03
	Sensible	Btu/h	24,000
		kW	9.97
	Rated	Btu/h	34,000
Heating Capacity		kW	4.30~11.70
	Min ~ Max	Btu/h	14,700~39,900
	Rated	kW	2.79
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	3.05
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.15
Efficiency	СОР	W/W	3.27
Emolority	SEER	Wh/Wh	5.90
	Rated	A	12.70
Running Current(Cooling)	Min/Max	A	-/-
	Rated	A .	13.90
Running Current(Heating)	Min/Max	A	-/-
Running Current	Max	A .	19.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
Tower Tactor (Oconing/Ticating)	Туре		Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	60 x 1
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive		-
	Output	W x No.	- 124.2 x 1
	Туре	-	Twin Rotary
	Model x No.		GJT240MAA x 1
	Motor Type		BLDC
Compressor	Motor Output		2,137 x 1
	Oil Type		PVE
	Oil Charging amount Rows x Columns x FPI	cc x No.	900 x 1
		-	2 x 38 x 14
	No.	-	1 Mide Lewisz Dive
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	950 x 834 x 330
	Shipping(W x H x D)	mm	1,140 x 918 x 461
Weight	Net	kg	58.5
	Shipping	kg	65.5

Category		l lmit	0
Major	Minor	Unit	Specification
Federalez	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	2.200
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	4.593
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф15.88 (5/8)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф15.88 (5/8)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	51.0 / 53.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	2.5 x 3C
	Minimum Circuit Amperes (MCA)	A	23.2
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	25
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	17.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.58

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 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

ATUW36GYLP1 + ATNW36GYLP1

Category		Unit	Specification
Major	Minor	Unit	Specification
Classification	Chassis	-	U36A
Classification	Cooling / Heating	-	H/P
	Case 1	V, Phase, Hz	220, 1, 60
Davies Oversky	Case 2	V, Phase, Hz	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	9.97
	Rated	Btu/h	34,000
		kW	3.40~10.80
Cooling Capacity	Min ~ Max	Btu/h	11,600~36,850
		kW	7.72
	Sensible	Btu/h	26,350
		kW	10.84
	Rated	Btu/h	37,000
Heating Capacity		kW	4.20~13.00
	Min ~ Max	Btu/h	14,330~44,350
	Rated	kW	3.30
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	3.05
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.02
Efficiency	COP		3.55
Efficiency	SEER	Wh/Wh	5.54
	Rated		
Running Current(Cooling)		A	15.20
	Min/Max	A	-/-
Running Current(Heating)	Rated	A	14.00
	Min/Max	A	-/-
Running Current	Max	A	19.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре	-	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min	60 x 1
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 1
	Туре	-	Twin Rotary
	Model x No.	-	GJT240MAA x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	2,137 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	900 x 1
	Rows x Columns x FPI	-	2 x 38 x 14
	No.	-	1
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensione	Net(W x H x D)	mm	950 x 834 x 330
Dimensions	Shipping(W x H x D)	mm	1,140 x 918 x 461
		ka	58.5
Weight	Net	kg	50.5

Category		Unit	0
Major	Minor	Unit	Specification
Federalez	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	2.200
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO₂ eq.	-	4.593
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф15.88 (5/8)
	Liquid	mm(inch)	Ф9.52 (3/8)
Dine Compositing Socket	Gas	mm(inch)	Ф15.88 (5/8)
Pipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	51.0 / 53.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F, included earth)	mm² × cores	2.5 x 3C
	Minimium Circuit Amperes (MCA)	A	23.2
Flastrias Characteristic	Maximum Fuse Amperes (MFA)	A	25
Electrical Characteristic	Comp_Rated Load Amperes (Max)	А	17.0
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	0.58

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- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.
- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

ATUW48GMLP1 + ATNW48GMLP1

	Category	Unit	Specification
Major	Minor	Unit	Specification
Classification	Chassis	-	U60
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Davies Oversky	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198 ~ 242
	Limit Range of Voltage(Case 2)	V	-
		kW	13.78
	Rated	Btu/h	47,000
		kW	5.37~15.50
Cooling Capacity	Min ~ Max	Btu/h	18,400~53,000
		kW	10.60
	Sensible	Btu/h	36,200
		kW	15.30
	Rated	Btu/h	53,000
Heating Capacity		kW	5.61~15.80
	Min ~ Max	Btu/h	19,200~54,000
	Rated	kW	4.25
Power Input(Cooling)	Min ~ Max	kW	_~
	Rated	kW	4.35
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.28
Efficiency	COP		3.20
Efficiency	SEER	Wh/Wh	6.39
	Rated		
Running Current(Cooling)		A	19.10
	Min/Max	A	-/-
Running Current(Heating)	Rated	A	19.80
	Min/Max	A	-/-
Running Current	Max	Α	27.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре	-	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	60 x 2
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 2
	Туре	-	Twin Rotary
	Model x No.	-	GPT442MAB x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	4,000 x 1
	Oil Туре	-	PVE
	Oil Charging amount	cc x No.	1,300 x 1
	Rows x Columns x FPI	-	2 x 32 x 14
	No.	-	2
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimonsions	Net(W x H x D)	mm	950 x 1,380 x 330
Dimensions	Shipping(W x H x D)	mm	1,140 x 1,462 x 461
	Net	kg	91.3
Weight	Net	ĸg	01.0

Category		Unit	0
Major	Minor	Unit	Specification
Federalez	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	3.400
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO₂ eq.	-	7.098
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф19.05 (3/4)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф19.05 (3/4)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	55.0 / 57.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm² × cores	6.0 x 3C
	Minimum Circuit Amperes (MCA)	A	34.3
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	40
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	25.6
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	1.02

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- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

AVUW48GM2P1 + AVNW48GM2P1

	Category	Unit	Specification
Major	Minor	Unit	Specification
Classification	Chassis	-	U60A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
Davies Oversky	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198 ~ 242
	Limit Range of Voltage(Case 2)	V	-
	5.4.4	kW	13.78
	Rated	Btu/h	47,000
		kW	5.60~14.70
Cooling Capacity	Min ~ Max	Btu/h	19,100~50,000
		kW	10.30
	Sensible	Btu/h	35,250
		kW	15.53
	Rated	Btu/h	53,000
Heating Capacity		kW	6.10~16.50
	Min ~ Max	Btu/h	20,800~56,300
	Rated	kW	4.20
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	4.60
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.28
Efficiency	COP	W/W	3.38
	SEER	Wh/Wh	6.39
	Rated	A	19.10
Running Current(Cooling)	Min/Max	A	-/-
	Rated	A	20.90
Running Current(Heating)	Min/Max	A	-/-
Running Current	Max	A	27.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
Tower Tactor (Oconing/Ticating)	Туре		Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	60 x 2
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive		-
	Output	W x No.	- 124.2 x 2
	Туре	-	Twin Rotary
	Model x No.		GPT442MAB x 1
	Motor Type		BLDC
Compressor	Motor Output	- W x No.	4,000 x 1
	Oil Type		PVE
	Oil Charging amount Rows x Columns x FPI	cc x No.	1,300 x 1
		-	2 x 32 x 14 2
	No.		
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimensions	Net(W x H x D)	mm	950 x 1,380 x 330
	Shipping(W x H x D)	mm	1,140 x 1,462 x 461
Weight	Net	kg	91.3
	Shipping	kg	101.3

Category		1114	
Major	Minor	Unit	Specification
	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	3.400
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	7.098
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф19.05 (3/4)
	Liquid	mm(inch)	Ф9.52 (3/8)
Pipe Connecting Socket	Gas	mm(inch)	Ф19.05 (3/4)
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	55.0 / 57.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	6.0 x 3C
	Minimum Circuit Amperes (MCA)	A	34.3
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	40
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	25.6
	Outdoor Fan Motor_Full Load Amperes (FLA)	А	1.02

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- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

ATUW60GMLP1 + ATNW60GMLP1

	Category	Unit	Creation
Major	Minor	Unit	Specification
Classification	Chassis	-	U60A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	14.65
	Rated	Btu/h	50,000
		kW	6.00~15.80
Cooling Capacity	Min ~ Max	Btu/h	20,500~54,000
		kW	10.99
	Sensible	Btu/h	37,500
		kW	17.00
	Rated	Btu/h	58,000
Heating Capacity		kW	6.80~18.20
	Min ~ Max	Btu/h	23,200~62,100
	Rated	kW	4.75
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	5.25
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.08
	COP		
Efficiency			3.24
	SEER	Wh/Wh	6.16
Running Current(Cooling)	Rated	A	21.60
	Min/Max	A	-/-
Running Current(Heating)	Rated	A	23.90
	Min/Max	A	-/-
Running Current	Max	A	27.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре		Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	60 x 2
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 2
	Туре	-	Twin Rotary
	Model x No.	-	GPT442MAB x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	4,000 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	1,300 x 1
	Rows x Columns x FPI	-	2 x 32 x 14
	No.	-	2
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimonsions	Net(W x H x D)	mm	950 x 1,380 x 330
Dimensions	Shipping(W x H x D)	mm	1,140 x 1,462 x 461
Weight	Net	kg	91.3

Category		Unit	On a stift a stift an
Major	Minor	Unit	Specification
	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	3.400
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	7.098
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф19.05 (3/4)
	Liquid	mm(inch)	Φ9.52 (3/8)
Dine Connecting Secket	Gas	mm(inch)	Ф19.05 (3/4)
Pipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 /5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	55.0 / 57.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	6.0 × 3C
	Minimum Circuit Amperes (MCA)	A	34.3
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	40
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	25.6
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	1.02

Note

Due to our policy of innovation some specifications may be changed without notification.

• Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

AVUW60GM2P1 + AVNW60GM2P1

	Category	11=14	Creation
Major	Minor	Unit	Specification
Classification	Chassis	-	U60A
Classification	Cooling / Heating	-	H/P
	Case 1	-	220, 1, 60
	Case 2	-	-
Power Supply	Limit Range of Voltage(Case 1)	V	187-276
	Limit Range of Voltage(Case 2)	V	-
		kW	15.24
	Rated	Btu/h	52,000
		kW	6.00~16.70
Cooling Capacity	Min ~ Max	Btu/h	20,500~57,000
		kW	11.05
	Sensible	Btu/h	37,700
		kW	17.00
	Rated	Btu/h	58,000
Heating Capacity		kW	6.80~18.20
	Min ~ Max	Btu/h	23,200~62,100
	Rated	kW	4.95
Power Input(Cooling)	Min ~ Max	kW	-~-
	Rated	kW	5.60
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.08
Efficiency	COP	W/W	3.08
Efficiency			
	SEER	Wh/Wh	6.12
Running Current(Cooling)	Rated	A	22.50
	Min/Max	A	-/-
Running Current(Heating)	Rated	A	25.50
	Min/Max	A .	-/-
Running Current	Max	A	27.00
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре		Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min x No.	60 x 2
	Max. External Static Pressure	Pa	-
	Туре	-	BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 2
	Туре	-	Twin Rotary
	Model x No.	-	GPT442MAB X 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	4000 X 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	1300 X 1
	Rows x Columns x FPI	-	2 x 32 x 14
	No.	-	2
Heat Exchanger	Fin Type	-	Wide Louver Plus
noat Exchangel	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimonoiono	Net(W x H x D)	mm	950 x 1,380 x 330
Dimensions	Shipping(W x H x D)	mm	1,140 x 1,462 x 461
Weight	Net	kg	91.3

Category		Unit	On a life action
Major	Minor	Unit	Specification
	Color	-	Warm Gray
Exterior	RAL (Classic)	-	RAL 7044
	High Pressure Prevention	-	-
Protection Device	Frost Prevention	-	-
Protection Device	Discharge Tempreature Control	-	-
	Inverter Protection	-	-
	Туре	-	R410A
	Precharged Amount	kg	3.400
	Additional Charging amount	g/m	40
Refrigerant	GWP(Global Warming Potential)	-	2,087.5
	t-CO ₂ eq.	-	7.098
	Chargeless-Pipe Length	m	7.5
	Control Type	-	EEV
	Liquid	mm(inch)	Ф9.52 (3/8)
Connecting Pipe	Gas	mm(inch)	Ф19.05 (3/4)
	Liquid	mm(inch)	Ф9.52 (3/8)
Ding Connecting Socket	Gas	mm(inch)	Ф19.05 (3/4)
Pipe Connecting Socket	Connection Type(Liquid)	-	Flare
	Connection Type(Gas)	-	Flare
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 / 5
Maximum Height Difference	IDU - ODU(Max)	m	30
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	55.0 / 57.0
Measurement Standard (Pressure Leve I)	-	-	ISO 3745
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-
Measurement Standard (Power Level)	-	-	-
Connecting Cable	Power Supply Cable(H07RN-F)	mm ² × cores	6.0 × 3C
	Minimum Circuit Amperes (MCA)	A	34.3
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	40
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	25.6
	Outdoor Fan Motor_Full Load Amperes (FLA)	A	1.02

Note

Due to our policy of innovation some specifications may be changed without notification.

• Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

- Power factor could vary less than ±1% according to the operating conditions.
 Sound level values are depend on the ambient conditions and values are normally higher in actual operation.
- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

ATUW60GYLP1 + ATNW60GYLP1

	Category	Ilmit	Specification
Major	Minor	Unit	Specification
Classification	Chassis	-	U60A
Classification	Cooling / Heating	-	H/P
	Case 1	V, Phase, Hz	220, 1, 60
Davida Originalia	Case 2	V, Phase, Hz	-
Power Supply	Limit Range of Voltage(Case 1)	V	198~242
	Limit Range of Voltage(Case 2)	V	-
		kW	14.07
	Rated	Btu/h	48,000
		kW	4.20~17.40
Cooling Capacity	Min ~ Max	Btu/h	14,330~59,370
		kW	10.99
	Sensible	Btu/h	37,500
		kW	16.70
	Rated	Btu/h	57,000
Heating Capacity		kW	6.10~19.20
	Min ~ Max	Btu/h	20,810~65,510
	Rated	kW	4.65
Power Input(Cooling)	Min ~ Max	kW	
	Rated	kW	5.30
Power Input(Heating)	Min ~ Max	kW	-~-
	EER	W/W	3.03
Efficiency	COP		3.15
Efficiency	SEER	Wh/Wh	5.66
	Rated		21.40
Running Current(Cooling)		A	-/-
	Min/Max	A	
Running Current(Heating)	Rated	A	24.30
	Min/Max	A	- / -
Running Current	Max	A	-
Power Factor(Cooling/Heating)	Rated	-	0.99 / 0.99
	Туре	-	Propeller
Outdoor Fan	Air Flow Rate(Max)	m³/min	60 x 2
	Max. External Static Pressure	Pa	-
	Туре		BLDC
Outdoor Fan Motor	Drive	-	-
	Output	W x No.	124.2 x 2
	Туре	-	Twin Rotary
	Model x No.	-	GPT442MAB x 1
Compressor	Motor Type	-	BLDC
	Motor Output	W x No.	4,000 x 1
	Oil Type	-	PVE
	Oil Charging amount	cc x No.	1,300 x 1
	Rows x Columns x FPI	-	2 x 32 x 14
	No.	-	2
Heat Exchanger	Fin Type	-	Wide Louver Plus
	Corrosion Protection (Coating)	-	-
	Material (Tube / Fin)	-	-
	Face Area	m²	-
Dimonoiono	Net(W x H x D)	mm	950 x 1,380 x 330
Dimensions	Shipping(W x H x D)	mm	1,140 x 1,462 x 461
\A/_:_L4	Net	kg	91.3
Weight			

	Category	Unit	Crocification	
Major	Minor	Unit	Specification	
	Color	-	Warm Gray	
Exterior	RAL (Classic)	-	RAL 7044	
	High Pressure Prevention	-	-	
Protection Device	Frost Prevention	-	-	
	Discharge Tempreature Control	-	-	
	Inverter Protection	-	-	
	Туре	-	R410A	
	Precharged Amount	kg	3.400	
	Additional Charging amount	g/m	40	
Refrigerant	GWP(Global Warming Potential)	-	2,087.5	
	t-CO ₂ eq.	-	7.098	
	Chargeless-Pipe Length	m	7.5	
	Control Type	-	EEV	
	Liquid	mm(inch)	Ф9.52 (3/8)	
Connecting Pipe	Gas	mm(inch)	Ф19.05 (3/4)	
	Liquid	mm(inch)	Φ9.52 (3/8)	
Pipe Connecting Socket	Gas	mm(inch)	Ф19.05 (3/4)	
Fipe Connecting Socket	Connection Type(Liquid)	-	Flare	
	Connection Type(Gas)	-	Flare	
Piping Length Limit	IDU - ODU(Rated / Max / Min)	m	5 / 50 /5	
Maximum Height Difference	IDU - ODU(Max)	m	30	
Sound Pressure Level (Outdoor Unit)	Cooling / Heating (@ 1.5m height)	dB(A)	55.0 / 57.0	
Measurement Standard (Pressure Leve I)	-	-	ISO 3745	
Sound Power Level (Outdoor Unit)	Cooling / Heating	dB(A)	-	
Measurement Standard (Power Level) -		-	-	
Connecting Cable	Power Supply Cable(H07RN-F, included earth)	mm² × cores	6.0 × 3C	
	Minimium Circuit Amperes (MCA)	A	34.3	
Electrical Characteristic	Maximum Fuse Amperes (MFA)	A	40	
Electrical Characteristic	Comp_Rated Load Amperes (Max)	A	25.6	
	Outdoor Fan Motor_Full Load Amperes (FLA)	А	1.02	

Note

Due to our policy of innovation some specifications may be changed without notification.

• Wiring cable size must comply with the applicable local and national codes. And "Electric characteristics" should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

Power factor could vary less than ±1% according to the operating conditions.
Sound level values are depend on the ambient conditions and values are normally higher in actual operation.

- This product contains Fluorinated greenhouse gases.
 Voltage supplied to the unit terminals should be within the minimum and maximum range.

- Maximum allowable voltage unbalance between phase is 2%.
 MSC means the Max. current during the starting of compressor.
 MSC and RLA are measured as the compressor only test condition.
- OFM and IFM are measured as the outdoor unit test condition.
- Select the wire size based on MCA.
- MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

- Cooling: Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 Interconnected Pipe Length is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. List of Functions

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1

Category	Functions	Availability
	Defrost / Deicing	0
	High Pressure Switch	X
Boliobility	Phase Protection	X
Reliability	Restart Delay (3-minutes)	0
	Self Diagnosis	0
	Soft Start	0
Convenience	Low Noise Operation	-
	Peak Control	X
	Mode Lock	X
	Forced Cooling Operation (Outdoor Unit)	X
	SLC (Smart Load Control)	X
Installation	Test Function -	
Special Functions	ODU Dry Contact Function	X

Note

O : Applied, X : Not applied
 Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
 Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. List of Functions

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1, ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1

Category	Functions	Availability
	Defrost / Deicing	0
	High Pressure Switch	X
Reliability	Phase Protection	X
Reliability	Restart Delay (3-minutes)	0
	Self Diagnosis	0
	Soft Start	0
	Low Noise Operation	-
	Peak Control	0
Convenience	Mode Lock	0
	Forced Cooling Operation (Outdoor Unit)	X
	SLC (Smart Load Control)	X
Installation	Test Function	-
Special Functions	ODU Dry Contact Function	X

Note

■ O : Applied, X : Not applied

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
 Accessory line-ups varies by region, so check your local catalogue or local sales material.

3. Accessory Compatibility List

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1

Category	Accessory Name	Model Name	Description	Compatibility
	AC EZ	PQCSZ250S0	-	0
	AC EZ touch	PACEZA000	Touch type	0
	AC Smart IV	PACS4B000	Touch type	0
Central Controller	AC Smart 5	PACS5A000	Touch type	0
Central Controller	ACP IV	PACP4B000	-	0
	ACP 5	PACP5A000	-	0
	AC Manager IV	PACM4B000	For Integrated Control	0
	AC Manager 5	PACM5A000	For Integrated Control	0
	ODU PI485	PMNFP14A1	For 16-room	0
Cataway	ACP BACnet	PQNFB17C0	-	0
Gateway	ACP Lonwork	PLNWKB000	-	0
	Cloud Gateway	PWFMDB200	-	0
	AHU comm. kit	PAHCMR000	For AHU Control (Multi V / Single ODU Communication)	0
		PAHCMS000	For AHU Control (Multi V / Single ODU Communication)	Х
Integration Device	AHU Controller Module	PAHCMC000	For AHU Control (Communication Module)	Х
		PAHCMM000	For AHU Control (Main Module)	Х
	PDI Standard	PPWRDB000	Power distributor 2port	Х
	PDI Premium	PQNUD1S40	Power distributor 8port	Х

Note
O: Possible, X: Impossible, - : Unconfirmed or irrelevant
AC Manager requires ACP or AC Smart.
Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.
If you need more detail, please refer to the Control(BECON) PDB or the manual of product. (http://partner.ige.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).
Accessory line-ups varies by region, so check your local catalogue or local sales material.

3. Accessory Compatibility List

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1, ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1

Category	Accessory Name	Model Name	Description	Compatibility
	AC EZ	PQCSZ250S0	-	0
	AC EZ touch	PACEZA000	Touch type	0
	AC Smart IV	PACS4B000	Touch type	0
Central Controller	AC Smart 5	PACS5A000	Touch type	0
Central Controller	ACP IV	PACP4B000	-	0
	ACP 5	PACP5A000	-	0
	AC Manager IV	PACM4B000	For Integrated Control	0
	AC Manager 5	PACM5A000	For Integrated Control	0
	ODU PI485	PMNFP14A1	For 16-room	0
Ostana	ACP BACnet	PQNFB17C0	-	0
Gateway	ACP Lonwork	PLNWKB000	-	0
	Cloud Gateway	PWFMDB200	-	0
	AHU comm. kit	PAHCMR000	For AHU Control (Multi V / Single ODU Communication)	0
Integration Device		PAHCMS000	For AHU Control (Multi V / Single ODU Communication)	Х
	AHU Controller Module	PAHCMC000	For AHU Control (Communication Module)	Х
		PAHCMM000	For AHU Control (Main Module)	Х
	PDI Standard	PPWRDB000	Power distributor 2port	Х
	PDI Premium	PQNUD1S40	Power distributor 8port	Х

Note

O: Possible, X: Impossible, - : Unconfirmed or irrelevant

■ AC Manager requires ACP or AC Smart.

• Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.

■ If you need more detail, please refer to the Control(BECON) PDB or the manual of product.

(http://partner.lge.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).

Accessory line-ups varies by region, so check your local catalogue or local sales material.

3. Accessory Compatibility List

ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1

Category	Accessory Name	Model Name	Description	Compatibility
	AC EZ	PQCSZ250S0	-	0
	AC EZ touch	PACEZA000	Touch type	0
	AC Smart IV	PACS4B000	Touch type	0
Central Controller	AC Smart 5	PACS5A000	Touch type	0
Central Controller	ACP IV	PACP4B000	-	0
	ACP 5	PACP5A000	-	0
	AC Manager IV	PACM4B000	For Integrated Control	0
	AC Manager 5	PACM5A000	For Integrated Control	0
	ODU PI485	PMNFP14A1	For 16-room	0
Cataway	ACP BACnet	PQNFB17C0	-	0
Gateway	ACP Lonwork	PLNWKB000	-	0
	Cloud Gateway	PWFMDB200	-	0
	AHU comm. kit	PAHCMR000	For AHU Control (Multi V / Single ODU Communication)	0
		PAHCMS000	For AHU Control (Multi V / Single ODU Communication)	Х
Integration Device	AHU Controller Module	PAHCMC000	For AHU Control (Communication Module)	Х
		PAHCMM000	For AHU Control (Main Module)	Х
	PDI Standard	PPWRDB000	Power distributor 2port	Х
	PDI Premium	PQNUD1S40	Power distributor 8port	Х

Note

O: Possible, X: Impossible, - : Unconfirmed or irrelevant

■ AC Manager requires ACP or AC Smart.

• Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.

■ If you need more detail, please refer to the Control(BECON) PDB or the manual of product.

(http://partner.lge.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).

Accessory line-ups varies by region, so check your local catalogue or local sales material.

4. Dimensions

4.1 Dimensional Drawing

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1



Product Data

4. Dimensions

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1


ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1





4.2 Installation Space

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1, ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1, ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1

For Side Discharge (capacity < 28.0 kW)



Note

- If there is a concern about product performance degradation due to group installation or interference with obstacles, secure an additional separation distance.
 Secure enough space for smooth service and maintenance.
 According to product type, model line up, sales region..etc, applicability of each chassis could be different.

5. Piping Diagrams

5.1 Normal

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1, ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1



Standard

5. Piping Diagrams

ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1



6. Wiring Diagrams

6.1 Product

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1



Product Data

6. Wiring Diagrams

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1



6. Wiring Diagrams

ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1



6. Wiring Diagrams

ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1



7.1 Cooling Operation

ATUW18GPLP1 + ATNW18GPLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	3.10	3.08	0.63	4.03	3.99	0.79	4.74	4.64	0.91	5.28	4.96	1.00	5.46	4.93	1.01	5.82	4.87	1.03	6.23	4.80	1.04
25	3.10	3.08	0.74	4.03	3.99	0.93	4.74	4.64	1.08	5.28	4.96	1.18	5.46	4.93	1.19	5.82	4.87	1.22	6.23	4.80	1.22
32	3.10	3.08	0.90	4.03	3.99	1.13	4.74	4.64	1.31	5.28	4.96	1.43	5.46	4.93	1.45	5.82	4.87	1.48	6.23	4.80	1.48
35	3.10	3.08	0.97	4.03	3.99	1.21	4.74	4.64	1.40	5.28	4.96	1.54	5.46	4.93	1.56	5.82	4.87	1.59	6.23	4.80	1.60
40	3.10	3.08	1.21	4.03	3.99	1.51	4.74	4.64	1.75	5.28	4.96	1.93	5.46	4.93	1.95	5.82	4.87	1.98	6.23	4.80	1.99
43	3.10	3.08	1.35	4.03	3.99	1.70	4.74	4.64	1.97	5.28	4.96	2.16	5.46	4.93	2.18	5.82	4.87	2.22	6.23	4.80	2.23
46	3.10	3.08	1.51	4.03	3.99	1.90	4.74	4.64	2.03	4.96	4.71	2.07	5.13	4.68	2.09	5.47	4.61	2.13	5.85	4.54	2.14
48	3.10	3.08	1.70	4.03	3.99	1.90	4.74	4.64	1.93	4.78	4.57	1.97	4.91	4.51	1.99	5.18	4.39	2.03	5.49	4.28	2.04
50	3.10	3.08	1.77	4.03	3.99	1.81	4.50	4.44	1.84	4.59	4.43	1.88	4.69	4.34	1.90	4.89	4.17	1.94	5.12	4.01	1.95
52	3.10	3.08	1.68	4.03	3.99	1.72	4.32	4.25	1.75	4.41	4.28	1.79	4.47	4.17	1.81	4.60	3.94	1.84	4.76	3.74	1.85
54	3.10	3.08	1.59	4.03	3.99	1.63	4.14	4.08	1.66	4.22	4.13	1.69	4.25	3.99	1.71	4.31	3.72	1.75	4.39	3.47	1.76

Note

Note
DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C)
TC : Total Capacity(kW), SHC : Sensible Heat Capacity(kW)
PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.
Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
In accordance with the test standard(or nations), the rating will vary slightly.

ATUW18GTLP1 + ATNW18GTLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	2.75	2.53	0.62	3.58	3.02	0.78	4.21	3.51	0.90	4.69	3.75	0.99	4.85	3.73	1.00	5.17	3.68	1.02	5.53	3.63	1.02
25	2.75	2.53	0.73	3.58	3.02	0.92	4.21	3.51	1.06	4.69	3.75	1.16	4.85	3.73	1.17	5.17	3.68	1.20	5.53	3.63	1.21
32	2.75	2.53	0.89	3.58	3.02	1.11	4.21	3.51	1.29	4.69	3.75	1.41	4.85	3.73	1.43	5.17	3.68	1.46	5.53	3.63	1.46
35	2.75	2.53	0.95	3.58	3.02	1.20	4.21	3.51	1.39	4.69	3.75	1.52	4.85	3.73	1.54	5.17	3.68	1.57	5.53	3.63	1.57
40	2.75	2.53	1.19	3.58	3.02	1.50	4.21	3.51	1.73	4.69	3.75	1.90	4.85	3.73	1.92	5.17	3.68	1.96	5.53	3.63	1.97
43	2.75	2.53	1.33	3.58	3.02	1.67	4.21	3.51	1.94	4.69	3.75	2.13	4.85	3.73	2.15	5.17	3.68	2.19	5.53	3.63	2.20
46	2.75	2.53	1.49	3.58	3.02	1.88	4.21	3.51	2.00	4.42	3.57	2.04	4.57	3.54	2.06	4.87	3.49	2.10	5.21	3.44	2.11
48	2.75	2.53	1.67	3.58	3.02	1.87	4.21	3.51	1.91	4.25	3.46	1.95	4.37	3.42	1.97	4.61	3.33	2.01	4.88	3.24	2.02
50	2.75	2.53	1.75	3.58	3.02	1.78	4.00	3.36	1.82	4.08	3.35	1.86	4.17	3.29	1.88	4.35	3.16	1.91	4.56	3.04	1.92
52	2.75	2.53	1.66	3.58	3.02	1.69	3.84	3.22	1.73	3.92	3.24	1.76	3.98	3.15	1.78	4.09	2.98	1.82	4.23	2.83	1.83
54	2.75	2.53	1.57	3.58	3.02	1.61	3.68	3.08	1.64	3.75	3.13	1.67	3.78	3.02	1.69	3.83	2.81	1.72	3.90	2.63	1.73

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW24GPLP1 + ATNW24GPLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	4.13	4.03	0.88	5.37	4.81	1.11	6.31	5.59	1.28	7.03	5.98	1.41	7.27	5.94	1.42	7.75	5.87	1.45	8.29	5.79	1.46
25	4.13	4.03	1.04	5.37	4.81	1.31	6.31	5.59	1.52	7.03	5.98	1.66	7.27	5.94	1.68	7.75	5.87	1.71	8.29	5.79	1.72
32	4.13	4.03	1.26	5.37	4.81	1.59	6.31	5.59	1.84	7.03	5.98	2.02	7.27	5.94	2.04	7.75	5.87	2.08	8.29	5.79	2.09
35	4.13	4.03	1.36	5.37	4.81	1.71	6.31	5.59	1.98	7.03	5.98	2.17	7.27	5.94	2.19	7.75	5.87	2.24	8.29	5.79	2.25
40	4.13	4.03	1.62	5.37	4.81	2.04	6.31	5.59	2.36	7.03	5.98	2.59	7.27	5.94	2.62	7.75	5.87	2.67	8.29	5.79	2.69
43	4.13	4.03	1.78	5.37	4.81	2.24	6.31	5.59	2.59	7.03	5.98	2.85	7.27	5.94	2.88	7.75	5.87	2.93	8.29	5.79	2.95
46	4.13	4.03	1.96	5.37	4.81	2.46	6.31	5.59	2.71	6.40	5.50	2.77	6.62	5.46	2.80	7.05	5.39	2.85	7.55	5.31	2.87
48	4.13	4.03	2.15	5.37	4.81	2.51	5.91	5.28	2.56	6.03	5.23	2.61	6.20	5.16	2.64	6.55	5.03	2.69	6.94	4.90	2.71
50	4.13	4.03	2.31	5.37	4.81	2.36	5.55	4.95	2.41	5.66	4.94	2.46	5.79	4.85	2.48	6.04	4.66	2.53	6.34	4.49	2.55
52	4.13	4.03	2.17	5.08	4.60	2.21	5.19	4.67	2.26	5.29	4.65	2.30	5.37	4.53	2.32	5.53	4.29	2.37	5.73	4.08	2.39
54	4.13	4.03	2.02	4.73	4.33	2.06	4.82	4.40	2.11	4.92	4.36	2.15	4.95	4.21	2.17	5.02	3.92	2.21	5.12	3.66	2.23

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW24GTLP1 + ATNW24GTLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	.0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	3.61	2.95	0.83	4.70	3.52	1.04	5.53	4.09	1.21	6.16	4.37	1.32	6.37	4.34	1.33	6.78	4.29	1.36	7.26	4.23	1.37
25	3.61	2.95	0.98	4.70	3.52	1.23	5.53	4.09	1.43	6.16	4.37	1.56	6.37	4.34	1.58	6.78	4.29	1.61	7.26	4.23	1.62
32	3.61	2.95	1.19	4.70	3.52	1.49	5.53	4.09	1.73	6.16	4.37	1.90	6.37	4.34	1.92	6.78	4.29	1.95	7.26	4.23	1.97
35	3.61	2.95	1.28	4.70	3.52	1.61	5.53	4.09	1.86	6.16	4.37	2.04	6.37	4.34	2.06	6.78	4.29	2.10	7.26	4.23	2.11
40	3.61	2.95	1.53	4.70	3.52	1.92	5.53	4.09	2.22	6.16	4.37	2.44	6.37	4.34	2.46	6.78	4.29	2.51	7.26	4.23	2.52
43	3.61	2.95	1.68	4.70	3.52	2.10	5.53	4.09	2.44	6.16	4.37	2.67	6.37	4.34	2.70	6.78	4.29	2.76	7.26	4.23	2.77
46	3.61	2.95	1.84	4.70	3.52	2.31	5.53	4.09	2.54	5.60	4.02	2.60	5.79	3.99	2.62	6.17	3.93	2.67	6.61	3.88	2.69
48	3.61	2.95	2.02	4.70	3.52	2.35	5.17	3.86	2.40	5.28	3.82	2.45	5.43	3.77	2.48	5.73	3.67	2.53	6.08	3.58	2.54
50	3.61	2.95	2.17	4.70	3.52	2.22	4.86	3.61	2.26	4.95	3.61	2.31	5.06	3.54	2.33	5.28	3.41	2.38	5.55	3.28	2.39
52	3.61	2.95	2.04	4.45	3.36	2.08	4.54	3.42	2.12	4.63	3.40	2.16	4.70	3.31	2.18	4.84	3.14	2.23	5.01	2.98	2.24
54	3.61	2.95	1.90	4.14	3.16	1.94	4.22	3.21	1.98	4.31	3.19	2.02	4.34	3.08	2.04	4.39	2.86	2.08	4.48	2.68	2.09

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW36GNLP1 + ATNW36GNLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	.0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	5.34	5.20	1.17	6.94	6.21	1.47	8.16	7.22	1.71	9.09	7.72	1.87	9.40	7.67	1.89	10.02	7.58	1.93	10.72	7.48	1.94
25	5.34	5.20	1.38	6.94	6.21	1.74	8.16	7.22	2.01	9.09	7.72	2.21	9.40	7.67	2.23	10.02	7.58	2.27	10.72	7.48	2.29
32	5.34	5.20	1.68	6.94	6.21	2.11	8.16	7.22	2.44	9.09	7.72	2.68	9.40	7.67	2.71	10.02	7.58	2.76	10.72	7.48	2.77
35	5.34	5.20	1.81	6.94	6.21	2.27	8.16	7.22	2.63	9.09	7.72	2.88	9.40	7.67	2.91	10.02	7.58	2.97	10.72	7.48	2.98
40	5.34	5.20	2.14	6.94	6.21	2.69	8.16	7.22	3.12	9.09	7.72	3.42	9.40	7.67	3.45	10.02	7.58	3.52	10.72	7.48	3.54
43	5.34	5.20	2.35	6.94	6.21	2.95	8.16	7.22	3.41	9.09	7.72	3.74	9.40	7.67	3.78	10.02	7.58	3.86	10.72	7.48	3.88
46	5.34	5.20	2.57	6.94	6.21	3.23	7.76	6.91	3.52	7.92	6.80	3.59	8.19	6.75	3.63	8.73	6.66	3.70	9.35	6.56	3.72
48	5.34	5.20	2.81	6.94	6.21	3.31	7.38	6.57	3.38	7.53	6.52	3.45	7.74	6.43	3.49	8.17	6.26	3.56	8.66	6.11	3.58
50	5.34	5.20	3.08	6.94	6.21	3.18	7.00	6.23	3.24	7.14	6.23	3.31	7.30	6.11	3.34	7.61	5.87	3.41	7.98	5.65	3.43
52	5.34	5.20	2.98	6.49	5.87	3.04	6.62	5.96	3.10	6.75	5.93	3.17	6.85	5.78	3.20	7.05	5.47	3.26	7.30	5.19	3.28
54	5.34	5.20	2.85	6.11	5.59	2.90	6.24	5.67	2.96	6.36	5.63	3.02	6.40	5.44	3.05	6.49	5.06	3.12	6.62	4.73	3.13

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

AVUW36GM1P1 + AVNW36GM1P1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	.0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	5.16	4.74	1.14	6.71	5.65	1.43	7.89	6.57	1.65	8.79	7.03	1.81	9.09	6.99	1.83	9.69	6.90	1.87	10.37	6.81	1.88
25	5.16	4.74	1.34	6.71	5.65	1.68	7.89	6.57	1.95	8.79	7.03	2.14	9.09	6.99	2.16	9.69	6.90	2.20	10.37	6.81	2.22
32	5.16	4.74	1.63	6.71	5.65	2.04	7.89	6.57	2.37	8.79	7.03	2.59	9.09	6.99	2.62	9.69	6.90	2.67	10.37	6.81	2.69
35	5.16	4.74	1.75	6.71	5.65	2.20	7.89	6.57	2.54	8.79	7.03	2.79	9.09	6.99	2.82	9.69	6.90	2.87	10.37	6.81	2.89
40	5.16	4.74	2.13	6.71	5.65	2.68	7.89	6.57	3.10	8.79	7.03	3.40	9.09	6.99	3.43	9.69	6.90	3.50	10.37	6.81	3.52
43	5.16	4.74	2.36	6.71	5.65	2.96	7.89	6.57	3.43	8.79	7.03	3.77	9.09	6.99	3.81	9.69	6.90	3.88	10.37	6.81	3.90
46	5.16	4.74	2.62	6.71	5.65	3.28	7.51	6.30	3.52	7.67	6.20	3.59	7.93	6.16	3.63	8.45	6.07	3.70	9.05	5.98	3.72
48	5.16	4.74	2.90	6.71	5.65	3.29	7.14	5.99	3.36	7.29	5.94	3.42	7.50	5.86	3.46	7.91	5.71	3.53	8.38	5.57	3.55
50	5.16	4.74	3.07	6.71	5.65	3.13	6.77	5.68	3.19	6.91	5.67	3.26	7.06	5.56	3.29	7.36	5.35	3.36	7.72	5.15	3.38
52	5.16	4.74	2.91	6.27	5.34	2.97	6.40	5.43	3.03	6.53	5.40	3.09	6.63	5.26	3.12	6.82	4.98	3.19	7.06	4.73	3.21
54	5.16	4.74	2.76	5.91	5.09	2.81	6.03	5.17	2.87	6.15	5.13	2.93	6.19	4.96	2.96	6.28	4.61	3.02	6.40	4.31	3.04

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW36GYLP1 + ATNW36GYLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	25.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	.0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	5.85	5.20	1.34	7.61	6.21	1.69	8.95	7.21	1.95	9.97	7.72	2.14	10.31	7.67	2.16	10.99	7.57	2.21	11.76	7.48	2.22
25	5.85	5.20	1.59	7.61	6.21	1.99	8.95	7.21	2.31	9.97	7.72	2.53	10.31	7.67	2.56	10.99	7.57	2.61	11.76	7.48	2.62
32	5.85	5.20	1.92	7.61	6.21	2.41	8.95	7.21	2.80	9.97	7.72	3.07	10.31	7.67	3.10	10.99	7.57	3.16	11.76	7.48	3.18
35	5.85	5.20	2.07	7.61	6.21	2.60	8.95	7.21	3.01	9.97	7.72	3.30	10.31	7.67	3.33	10.99	7.57	3.40	11.76	7.48	3.42
40	5.85	5.20	2.46	7.61	6.21	3.08	8.95	7.21	3.57	9.97	7.72	3.92	10.31	7.67	3.96	10.99	7.57	4.04	11.76	7.48	4.06
43	5.85	5.20	2.69	7.61	6.21	3.38	8.95	7.21	3.91	9.97	7.72	4.29	10.31	7.67	4.33	10.99	7.57	4.42	11.76	7.48	4.44
46	5.85	5.20	2.94	7.61	6.21	3.70	8.52	6.91	3.88	8.69	6.80	3.96	8.99	6.75	4.00	9.58	6.66	4.08	10.26	6.56	4.10
48	5.85	5.20	3.22	7.61	6.21	3.68	8.10	6.57	3.76	8.27	6.52	3.84	8.50	6.43	3.88	8.97	6.26	3.95	9.51	6.11	3.97
50	5.85	5.20	3.49	7.61	6.21	3.57	7.68	6.23	3.64	7.84	6.23	3.71	8.01	6.11	3.75	8.35	5.87	3.82	8.76	5.65	3.85
52	5.85	5.20	3.38	7.11	5.86	3.45	7.26	5.95	3.52	7.41	5.93	3.59	7.52	5.78	3.63	7.73	5.47	3.70	8.01	5.19	3.72
54	5.85	5.20	3.26	6.70	5.59	3.33	6.84	5.67	3.40	6.98	5.63	3.47	7.03	5.44	3.50	7.12	5.06	3.57	7.26	4.73	3.59

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW48GMLP1 + ATNW48GMLP1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	8.09	7.14	1.73	10.52	8.53	2.17	12.37	9.91	2.52	13.78	10.60	2.76	14.25	10.53	2.79	15.19	10.40	2.84	16.26	10.27	2.86
25	8.09	7.14	2.04	10.52	8.53	2.56	12.37	9.91	2.97	13.78	10.60	3.26	14.25	10.53	3.29	15.19	10.40	3.36	16.26	10.27	3.37
32	8.09	7.14	2.48	10.52	8.53	3.11	12.37	9.91	3.60	13.78	10.60	3.95	14.25	10.53	3.99	15.19	10.40	4.07	16.26	10.27	4.09
35	8.09	7.14	2.66	10.52	8.53	3.34	12.37	9.91	3.87	13.78	10.60	4.25	14.25	10.53	4.29	15.19	10.40	4.38	16.26	10.27	4.40
40	8.09	7.14	2.86	10.52	8.53	3.60	12.37	9.91	4.17	13.78	10.60	4.57	14.25	10.53	4.62	15.19	10.40	4.71	16.26	10.27	4.73
43	8.09	7.14	2.98	10.52	8.53	3.75	12.37	9.91	4.34	13.78	10.60	4.76	14.25	10.53	4.81	15.19	10.40	4.90	16.26	10.27	4.93
46	8.09	7.14	3.11	10.52	8.53	3.90	11.22	9.05	4.40	11.45	8.90	4.49	11.84	8.84	4.54	12.62	8.71	4.63	13.51	8.59	4.65
48	8.09	7.14	3.24	10.52	8.53	4.07	10.78	8.69	4.29	11.00	8.62	4.38	11.31	8.51	4.42	11.92	8.28	4.51	12.64	8.07	4.53
50	8.09	7.14	3.37	10.13	8.30	4.09	10.34	8.43	4.18	10.55	8.33	4.26	10.78	8.17	4.30	11.23	7.84	4.39	11.77	7.55	4.42
52	8.09	7.14	3.52	9.70	8.03	3.99	9.90	8.16	4.07	10.10	8.03	4.15	10.24	7.82	4.19	10.53	7.40	4.28	10.90	7.03	4.30
54	8.09	7.14	3.66	9.26	7.76	3.88	9.45	7.88	3.96	9.65	7.73	4.04	9.71	7.47	4.08	9.84	6.95	4.16	10.04	6.49	4.18

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

AVUW48GM2P1 + AVNW48GM2P1

Outdoor									Ind	oor Air	Temp. ('	°C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	8.09	6.94	1.71	10.52	8.29	2.15	12.37	9.63	2.49	13.78	10.30	2.73	14.25	10.24	2.76	15.19	10.11	2.81	16.26	9.98	2.83
25	8.09	6.94	2.02	10.52	8.29	2.53	12.37	9.63	2.93	13.78	10.30	3.22	14.25	10.24	3.25	15.19	10.11	3.32	16.26	9.98	3.33
32	8.09	6.94	2.45	10.52	8.29	3.07	12.37	9.63	3.56	13.78	10.30	3.91	14.25	10.24	3.95	15.19	10.11	4.02	16.26	9.98	4.05
35	8.09	6.94	2.63	10.52	8.29	3.30	12.37	9.63	3.83	13.78	10.30	4.20	14.25	10.24	4.24	15.19	10.11	4.33	16.26	9.98	4.35
40	8.09	6.94	2.83	10.52	8.29	3.55	12.37	9.63	4.12	13.78	10.30	4.52	14.25	10.24	4.56	15.19	10.11	4.65	16.26	9.98	4.68
43	8.09	6.94	2.95	10.52	8.29	3.70	12.37	9.63	4.29	13.78	10.30	4.70	14.25	10.24	4.75	15.19	10.11	4.85	16.26	9.98	4.87
46	8.09	6.94	3.07	10.52	8.29	3.86	11.22	8.79	4.40	11.45	8.65	4.49	11.84	8.59	4.54	12.62	8.46	4.63	13.50	8.34	4.65
48	8.09	6.94	3.20	10.52	8.29	4.02	10.78	8.44	4.28	11.00	8.37	4.37	11.31	8.26	4.41	11.92	8.04	4.50	12.64	7.84	4.52
50	8.09	6.94	3.33	10.13	8.06	4.07	10.34	8.19	4.16	10.55	8.09	4.24	10.78	7.93	4.28	11.23	7.62	4.37	11.77	7.34	4.39
52	8.09	6.94	3.47	9.70	7.80	3.95	9.89	7.92	4.03	10.10	7.80	4.12	10.24	7.60	4.16	10.53	7.19	4.24	10.90	6.83	4.26
54	8.09	6.94	3.62	9.26	7.54	3.83	9.45	7.66	3.91	9.65	7.51	3.99	9.71	7.26	4.03	9.84	6.75	4.11	10.04	6.31	4.13

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW60GMLP1 + ATNW60GMLP1

Outdoor									Ind	loor Air	Temp. ('	C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	8.60	7.41	1.93	11.19	8.84	2.43	13.15	10.27	2.81	14.65	10.99	3.09	15.15	10.92	3.12	16.15	10.78	3.18	17.28	10.65	3.20
25	8.60	7.41	2.28	11.19	8.84	2.86	13.15	10.27	3.32	14.65	10.99	3.64	15.15	10.92	3.68	16.15	10.78	3.75	17.28	10.65	3.77
32	8.60	7.41	2.77	11.19	8.84	3.48	13.15	10.27	4.03	14.65	10.99	4.42	15.15	10.92	4.46	16.15	10.78	4.55	17.28	10.65	4.58
35	8.60	7.41	2.98	11.19	8.84	3.74	13.15	10.27	4.33	14.65	10.99	4.75	15.15	10.92	4.80	16.15	10.78	4.89	17.28	10.65	4.92
40	8.60	7.41	3.20	11.19	8.84	4.02	13.15	10.27	4.66	14.65	10.99	5.11	15.15	10.92	5.16	16.15	10.78	5.26	17.28	10.65	5.29
43	8.60	7.41	3.33	11.19	8.84	4.19	13.15	10.27	4.85	14.65	10.99	5.32	15.15	10.92	5.37	16.15	10.78	5.48	17.28	10.65	5.51
46	8.60	7.41	3.47	11.19	8.84	4.36	11.93	9.38	4.98	12.17	9.23	5.08	12.59	9.17	5.13	13.42	9.04	5.23	14.36	8.90	5.26
48	8.60	7.41	3.62	11.19	8.84	4.54	11.46	9.01	4.84	11.69	8.94	4.94	12.02	8.82	4.99	12.68	8.59	5.09	13.44	8.37	5.11
50	8.60	7.41	3.77	10.77	8.61	4.61	10.99	8.74	4.70	11.21	8.63	4.80	11.45	8.46	4.85	11.94	8.13	4.94	12.52	7.83	4.97
52	8.60	7.41	3.93	10.31	8.33	4.47	10.52	8.46	4.56	10.73	8.33	4.65	10.89	8.11	4.70	11.20	7.67	4.79	11.59	7.28	4.82
54	8.60	7.41	4.09	9.85	8.04	4.33	10.05	8.17	4.42	10.26	8.02	4.51	10.33	7.75	4.56	10.46	7.21	4.65	10.67	6.73	4.68

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

AVUW60GM2P1 + AVNW60GM2P1

Outdoor									Ind	oor Air	Temp. ('	C, DB/V	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	8.95	7.45	2.02	11.64	8.89	2.53	13.68	10.33	2.93	15.24	11.05	3.21	15.76	10.98	3.24	16.80	10.84	3.31	17.98	10.70	3.33
25	8.95	7.45	2.38	11.64	8.89	2.98	13.68	10.33	3.46	15.24	11.05	3.79	15.76	10.98	3.83	16.80	10.84	3.91	17.98	10.70	3.93
32	8.95	7.45	2.89	11.64	8.89	3.62	13.68	10.33	4.20	15.24	11.05	4.60	15.76	10.98	4.65	16.80	10.84	4.74	17.98	10.70	4.77
35	8.95	7.45	3.10	11.64	8.89	3.90	13.68	10.33	4.51	15.24	11.05	4.95	15.76	10.98	5.00	16.80	10.84	5.10	17.98	10.70	5.13
40	8.95	7.45	3.34	11.64	8.89	4.19	13.68	10.33	4.85	15.24	11.05	5.32	15.76	10.98	5.37	16.80	10.84	5.48	17.98	10.70	5.51
43	8.95	7.45	3.48	11.64	8.89	4.36	13.68	10.33	5.05	15.24	11.05	5.54	15.76	10.98	5.60	16.80	10.84	5.71	17.98	10.70	5.74
46	8.95	7.45	3.62	11.64	8.89	4.55	12.41	9.43	5.19	12.66	9.28	5.29	13.09	9.21	5.34	13.96	9.08	5.45	14.94	8.95	5.48
48	8.95	7.45	3.77	11.64	8.89	4.74	11.92	9.06	5.04	12.17	8.98	5.14	12.51	8.86	5.19	13.19	8.63	5.30	13.98	8.41	5.33
50	8.95	7.45	3.93	11.20	8.65	4.80	11.43	8.78	4.90	11.67	8.68	5.00	11.92	8.51	5.05	12.42	8.18	5.15	13.02	7.87	5.18
52	8.95	7.45	4.09	10.72	8.37	4.66	10.94	8.50	4.75	11.17	8.37	4.85	11.33	8.15	4.90	11.65	7.71	5.00	12.06	7.32	5.02
54	8.95	7.45	4.27	10.25	8.09	4.52	10.45	8.21	4.61	10.67	8.06	4.70	10.74	7.79	4.75	10.88	7.24	4.84	11.10	6.77	4.87

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

ATUW60GYLP1 + ATNW60GYLP1

Outdoor									Ind	loor Air	Temp. ('	°C, DB/\	VB)								
Air Temp.	2	0.0 / 14.	0	2	2.0 / 16.	0	2	5.0 / 18.	.0	2	7.0 / 19.	0	2	8.0 / 20.	0	3	0.0 / 22.	0	3	2.0 / 24.	0
(°C,DB)	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI	тс	SHC	PI
20	8.26	7.41	1.89	10.74	8.84	2.38	12.63	10.27	2.75	14.07	10.99	3.02	14.55	10.92	3.05	15.51	10.78	3.11	16.60	10.64	3.13
25	8.26	7.41	2.23	10.74	8.84	2.80	12.63	10.27	3.25	14.07	10.99	3.56	14.55	10.92	3.60	15.51	10.78	3.67	16.60	10.64	3.69
32	8.26	7.41	2.71	10.74	8.84	3.40	12.63	10.27	3.94	14.07	10.99	4.32	14.55	10.92	4.36	15.51	10.78	4.45	16.60	10.64	4.48
35	8.26	7.41	2.91	10.74	8.84	3.66	12.63	10.27	4.24	14.07	10.99	4.65	14.55	10.92	4.70	15.51	10.78	4.79	16.60	10.64	4.82
40	8.26	7.41	3.13	10.74	8.84	3.93	12.63	10.27	4.56	14.07	10.99	5.00	14.55	10.92	5.05	15.51	10.78	5.15	16.60	10.64	5.18
43	8.26	7.41	3.26	10.74	8.84	4.10	12.63	10.27	4.75	14.07	10.99	5.21	14.55	10.92	5.26	15.51	10.78	5.36	16.60	10.64	5.40
46	8.26	7.41	3.40	10.74	8.84	4.27	11.46	9.38	4.87	11.69	9.23	4.97	12.09	9.16	5.02	12.89	9.03	5.12	13.79	8.90	5.15
48	8.26	7.41	3.54	10.74	8.84	4.45	11.01	9.01	4.74	11.23	8.94	4.83	11.55	8.82	4.88	12.18	8.58	4.98	12.91	8.37	5.01
50	8.26	7.41	3.69	10.34	8.60	4.51	10.56	8.74	4.60	10.77	8.63	4.69	11.00	8.46	4.74	11.47	8.13	4.84	12.02	7.83	4.86
52	8.26	7.41	3.85	9.90	8.33	4.38	10.10	8.46	4.46	10.31	8.33	4.56	10.46	8.11	4.60	10.76	7.67	4.69	11.13	7.28	4.72
54	8.26	7.41	4.01	9.46	8.04	4.24	9.65	8.17	4.33	9.85	8.01	4.42	9.92	7.74	4.46	10.05	7.20	4.55	10.25	6.73	4.58

Note

DB: Dry bulb temperature(°C), WB: Wet bulb temperature(°C)
TC: Total Capacity(kW), SHC: Sensible Heat Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. A deduction of capacity due to operating heat of indoor unit motor is reflected.
Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

7.2 Heating Operation

ATUW18GPLP1 + ATNW18GPLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	16.0 18.0 20.0).0	22.0		24.0			
WB)	TC	PI	TC	PI	тс	PI	TC	PI	тс	PI
-5.0	4.81	1.17	4.78	1.28	4.75	1.40	4.73	1.51	4.70	1.62
0.0	5.33	1.40	5.31	1.51	5.28	1.62	5.07	1.53	4.86	1.44
6.0	5.85	1.49	5.56	1.42	5.28	1.35	5.07	1.28	4.86	1.22
10.0	5.85	1.40	5.56	1.28	5.28	1.17	5.07	1.12	4.86	1.07
15.0	5.85	1.17	5.56	1.06	5.28	0.95	5.07	0.91	4.86	0.88
18.0	5.85	1.04	5.56	0.92	5.28	0.81	5.07	0.79	4.86	0.77

Note

■ DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C)

TC: Total Capacity(kW)
PI: Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW18GTLP1 + ATNW18GTLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	TC	PI	тс	PI	тс	PI	тс	PI
-5.0	4.81	1.34	4.78	1.47	4.75	1.60	4.73	1.73	4.70	1.86
0.0	5.33	1.60	5.31	1.73	5.28	1.86	5.07	1.75	4.86	1.65
6.0	5.85	1.71	5.56	1.63	5.28	1.55	5.07	1.47	4.86	1.40
10.0	5.85	1.60	5.56	1.47	5.28	1.34	5.07	1.28	4.86	1.23
15.0	5.85	1.34	5.56	1.21	5.28	1.09	5.07	1.05	4.86	1.01
18.0	5.85	1.19	5.56	1.06	5.28	0.93	5.07	0.91	4.86	0.89

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW24GPLP1 + ATNW24GPLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18.0		20.0		22.0		24.0	
WB)	TC	PI	TC	PI	тс	PI	тс	PI	тс	PI
-5.0	6.93	1.94	6.90	2.13	6.86	2.31	6.82	2.50	6.79	2.69
0.0	7.70	2.31	7.66	2.50	7.62	2.69	7.32	2.54	7.01	2.38
6.0	8.44	2.46	8.03	2.35	7.62	2.24	7.32	2.13	7.01	2.02
10.0	8.44	2.31	8.03	2.13	7.62	1.94	7.32	1.86	7.01	1.77
15.0	8.44	1.94	8.03	1.75	7.62	1.57	7.32	1.52	7.01	1.47
18.0	8.44	1.72	8.03	1.53	7.62	1.34	7.32	1.31	7.01	1.28

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW24GTLP1 + ATNW24GTLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	TC	PI	тс	PI	TC	PI	тс	PI
-5.0	6.13	1.98	6.10	2.17	6.07	2.36	6.04	2.55	6.01	2.74
0.0	6.81	2.36	6.77	2.55	6.74	2.74	6.47	2.58	6.20	2.43
6.0	7.46	2.51	7.10	2.39	6.74	2.28	6.47	2.17	6.20	2.05
10.0	7.46	2.36	7.10	2.17	6.74	1.98	6.47	1.89	6.20	1.80
15.0	7.46	1.98	7.10	1.79	6.74	1.60	6.47	1.54	6.20	1.49
18.0	7.46	1.75	7.10	1.56	6.74	1.37	6.47	1.34	6.20	1.31

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW36GNLP1 + ATNW36GNLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	TC	PI	тс	PI	TC	PI	тс	PI
-5.0	9.60	2.67	9.55	2.93	9.50	3.18	9.45	3.44	9.40	3.70
0.0	10.66	3.18	10.60	3.44	10.55	3.70	10.13	3.49	9.71	3.28
6.0	11.68	3.39	11.11	3.23	10.55	3.08	10.13	2.93	9.71	2.77
10.0	11.68	3.18	11.11	2.93	10.55	2.67	10.13	2.55	9.71	2.44
15.0	11.68	2.67	11.11	2.41	10.55	2.16	10.13	2.09	9.71	2.02
18.0	11.68	2.36	11.11	2.10	10.55	1.85	10.13	1.81	9.71	1.77

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

AVUW36GM1P1 + AVNW36GM1P1

Outdoor					Indoor Air Te	emp. (°C, DB)						
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0			
WB)	TC	PI	TC	PI	тс	PI	TC	PI	тс	PI		
-5.0	9.07	2.64	9.02	2.90	8.97	3.15	8.93	3.41	8.88	3.66		
0.0	10.07	3.15	10.02	3.41	9.97	3.66	9.57	3.45	9.17	3.24		
6.0	11.04	3.36	10.50	3.20	9.97	3.05	9.57	2.90	9.17	2.75		
10.0	11.04	3.15	10.50	2.90	9.97	2.64	9.57	2.53	9.17	2.41		
15.0	11.04	2.64	10.50	2.39	9.97	2.14	9.57	2.07	9.17	2.00		
18.0	11.04	2.34	10.50	2.08	9.97	1.83	9.57	1.79	9.17	1.75		

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW36GYLP1 + ATNW36GYLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	тс	PI	TC	PI	тс	PI	тс	PI
-5.0	10.95	3.34	10.90	3.46	10.84	3.58	10.41	3.45	9.97	3.32
0.0	12.00	3.58	11.42	3.46	10.84	3.34	10.41	3.20	9.97	3.06
6.0	12.00	3.36	11.42	3.20	10.84	3.05	10.41	2.90	9.97	2.75
10.0	12.00	3.10	11.42	2.98	10.84	2.86	10.41	2.70	9.97	2.54
15.0	12.00	2.86	11.42	2.73	10.84	2.61	10.41	2.44	9.97	2.27
18.0	12.00	2.71	11.42	2.59	10.84	2.47	10.41	2.29	9.97	2.12

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW48GMLP1 + ATNW48GMLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	тс	PI	тс	PI	TC	PI	тс	PI
-5.0	13.92	3.77	13.85	4.13	13.77	4.50	13.70	4.86	13.63	5.22
0.0	15.45	4.50	15.38	4.86	15.30	5.22	14.69	4.92	14.08	4.63
6.0	16.94	4.79	16.12	4.57	15.30	4.35	14.69	4.13	14.08	3.92
10.0	16.94	4.50	16.12	4.13	15.30	3.77	14.69	3.61	14.08	3.44
15.0	16.94	3.77	16.12	3.41	15.30	3.05	14.69	2.95	14.08	2.85
18.0	16.94	3.34	16.12	2.97	15.30	2.61	14.69	2.55	14.08	2.49

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

AVUW48GM2P1 + AVNW48GM2P1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	тс	PI	тс	PI	тс	PI	тс	PI
-5.0	14.13	3.99	14.06	4.37	13.98	4.75	13.91	5.14	13.84	5.52
0.0	15.69	4.75	15.61	5.14	15.53	5.52	14.91	5.21	14.29	4.89
6.0	17.19	5.06	16.36	4.83	15.53	4.60	14.91	4.37	14.29	4.14
10.0	17.19	4.75	16.36	4.37	15.53	3.99	14.91	3.81	14.29	3.64
15.0	17.19	3.99	16.36	3.60	15.53	3.22	14.91	3.12	14.29	3.01
18.0	17.19	3.53	16.36	3.14	15.53	2.76	14.91	2.70	14.29	2.64

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW60GMLP1 + ATNW60GMLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	6.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	TC	PI	тс	PI	TC	PI	тс	PI
-5.0	15.47	4.55	15.39	4.99	15.30	5.43	15.22	5.86	15.15	6.30
0.0	17.17	5.43	17.09	5.86	17.00	6.30	16.32	5.94	15.64	5.58
6.0	18.82	5.78	17.91	5.51	17.00	5.25	16.32	4.99	15.64	4.73
10.0	18.82	5.43	17.91	4.99	17.00	4.55	16.32	4.35	15.64	4.15
15.0	18.82	4.55	17.91	4.11	17.00	3.68	16.32	3.56	15.64	3.44
18.0	18.82	4.03	17.91	3.59	17.00	3.15	16.32	3.08	15.64	3.01

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

AVUW60GM2P1 + AVNW60GM2P1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	(°C, 16.0		18.0		20.0		22.0		24.0	
WB)	тс	PI	тс	PI	тс	PI	тс	PI	тс	PI
-5.0	15.47	4.85	15.39	5.32	15.30	5.79	15.22	6.25	15.15	6.72
0.0	17.17	5.79	17.09	6.25	17.00	6.72	16.32	6.34	15.64	5.96
6.0	18.82	6.16	17.91	5.88	17.00	5.60	16.32	5.32	15.64	5.04
10.0	18.82	5.79	17.91	5.32	17.00	4.85	16.32	4.64	15.64	4.43
15.0	18.82	4.85	17.91	4.39	17.00	3.92	16.32	3.79	15.64	3.67
18.0	18.82	4.29	17.91	3.83	17.00	3.36	16.32	3.28	15.64	3.21

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

ATUW60GYLP1 + ATNW60GYLP1

Outdoor					Indoor Air Te	emp. (°C, DB)				
Air Temp. (°C,	16	5.0	18	3.0	20.0		22.0		24.0	
WB)	TC	PI	тс	PI	тс	PI	TC	PI	тс	PI
-5.0	16.87	5.81	16.79	6.02	16.70	6.23	16.03	6.00	15.36	5.77
0.0	18.49	6.23	17.59	6.02	16.70	5.81	16.03	5.56	15.36	5.32
6.0	18.49	5.83	17.59	5.57	16.70	5.30	16.03	5.04	15.36	4.77
10.0	18.49	5.38	17.59	5.17	16.70	4.96	16.03	4.68	15.36	4.41
15.0	18.49	4.96	17.59	4.75	16.70	4.54	16.03	4.25	15.36	3.95
18.0	18.49	4.71	17.59	4.50	16.70	4.29	16.03	3.98	15.36	3.68

Note

 \blacksquare DB : Dry bulb temperature(°C), WB : Wet bulb temperature(°C) \blacksquare TC : Total Capacity(kW)

PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)

All capacities are net. An addition of capacity due to operating heat of indoor unit motor is reflected.

Direct interpolation is permissible. Do not extrapolate.

Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table.

Except for rated value, the performance is not guaranteed.

8. Capacity Correction Factor

8.1 Cooling Operation

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1

Operation	Capacity correction factor (%) by Equivalent pipe length (m)										
	5	7.5	10	15	20	25	30	35	40	45	50
Cooling	100.0	99.9	99.8	99.3	98.8	98.3	97.8	-	-	-	-

Note

Note
In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected.
Reflect the capacity correction factor effect of piping installation as below.
Qodu [from specification table] : Outdoor unit standard capacity.
Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.
F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
Fipiping for piping length [from capacity correction factor table] : Piping correction factor
Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping

8. Capacity Correction Factor

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1

Operation	Capacity correction factor (%) by Equivalent pipe length (m)										
	5	7.5	10	15	20	25	30	35	40	45	50
Cooling	100.0	99.9	99.8	99.3	98.8	98.3	97.8	94.4	91.1	89.7	88.4

Note

Note
In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected.
Reflect the capacity correction factor effect of piping installation as below.
Qodu [from specification table] : Outdoor unit standard capacity.
Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.
F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
Fpiping for piping length [from capacity correction factor table] : Piping correction factor
Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping
ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1

Operation		Capacity correction factor (%) by Equivalent pipe length (m)									
Operation	5	7.5	10	15	20	25	30	35	40	45	50
Cooling	100.0	99.6	99.3	97.9	96.6	95.1	93.8	92.4	91.1	89.7	88.4

Note

In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected. Reflect the capacity correction factor effect of piping installation as below.

Qodu [from specification table] : Outdoor unit standard capacity.
 Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.

F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
 F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor table] : Piping correction factor
 Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping

8.2 Heating Operation

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1

Operation		Capacity correction factor (%) by Equivalent pipe length (m)									
5 Speration	5	7.5	10	15	20	25	30	35	40	45	50
Heating	100.0	99.9	99.8	99.4	99.0	98.6	98.3	-	-	-	-

Note

Note
In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected.
Reflect the capacity correction factor effect of piping installation as below.
Qodu [from specification table] : Outdoor unit standard capacity.
Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.
F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
Fipiping for piping length [from capacity correction factor table] : Piping correction factor
Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping

ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1

Operation		Capacity correction factor (%) by Equivalent pipe length (m)									
5 Speration	5	7.5	10	15	20	25	30	35	40	45	50
Heating	100.0	99.9	99.8	99.4	99.0	98.6	98.3	97.4	96.6	96.1	95.6

Note

Note
In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected.
Reflect the capacity correction factor effect of piping installation as below.
Qodu [from specification table] : Outdoor unit standard capacity.
Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.
F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
Fpiping for piping length [from capacity correction factor table] : Piping correction factor
Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping

ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1

Operation		Capacity correction factor (%) by Equivalent pipe length (m)									
Operation 5	5	7.5	10	15	20	25	30	35	40	45	50
Heating	100.0	99.8	99.7	99.2	98.7	98.2	97.7	97.1	96.6	96.1	95.6

Note

In Order to estimate the actual system capacity, the influence of various installation conditions should be reflected. Reflect the capacity correction factor effect of piping installation as below.

Qodu [from specification table] : Outdoor unit standard capacity.
 Q(Ti, To) [from capacity table] : Outdoor unit capacity at Ti, To temperature.

F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor
 F(Ti, To) = Q(Ti, To) / Qodu. : Outdoor unit capacity correction factor table] : Piping correction factor
 Indoor unit actual capacity : Qactual = Qodu x F(Ti, To) x Fpiping

9. Operation Limits

9.1 Cooling Operation

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1, ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1, ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1



9. Operation Limits

9.2 Heating Operation

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1, ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1, ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1, ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1



Note

Warming up operation and operative mean that the outdoor unit operates to reach the range of continuous operating, however it may not operate continuously due to safety or protection logic.

10.1 Pressure Levels

ATUW18GPLP1 + ATNW18GPLP1, ATUW18GTLP1 + ATNW18GTLP1



Sound level [dB(A), @ Standard condition]						
Cooling / Heating (@ 1.5m height)	49.0 / 52.0					

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition. Refer to the model specifications for nominal coditions.(Power source and Ambient temperature, etc)
 Reference accoustic pressure 0dB = 20μPa.
- Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
 Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment
- in installed
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 Standard. Therefore, these values can be increased owing to ambient conditions during operation.



ATUW24GPLP1 + ATNW24GPLP1, ATUW24GTLP1 + ATNW24GTLP1



Sound level [dB(A), @ Standard condition]						
Cooling / Heating (@ 1.5m height)	50.0 / 52.0					

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition. Refer to the model specifications for nominal coditions.(Power source and Ambient temperature, etc)
 Reference accoustic pressure 0dB = 20µPa.
- Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 Standard. Therefore, these values can be increased owing to ambient conditions during operation.



ATUW36GNLP1 + ATNW36GNLP1, AVUW36GM1P1 + AVNW36GM1P1, ATUW36GYLP1 + ATNW36GYLP1



Sound level [dB(A), @ Standard condition]						
Cooling / Heating (@ 1.5m height)	51.0 / 53.0					

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition. Refer to the model specifications for nominal coditions. (Power source and Ambient temperature, etc)
- Reference accoustic pressure $0dB = 20\mu Pa$.
- Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 Standard. Therefore, these values can be increased owing to ambient conditions during operation.



ATUW48GMLP1 + ATNW48GMLP1, AVUW48GM2P1 + AVNW48GM2P1, ATUW60GMLP1 + ATNW60GMLP1, AVUW60GM2P1 + AVNW60GM2P1, ATUW60GYLP1 + ATNW60GYLP1



Sound level [dB(A), @ Standard condition]						
Cooling / Heating (@ 1.5m height)	55.0 / 57.0					

- Data is valid at diffuse field condition.
- Data is valid at nominal operating condition.
- Reference accoustic pressure 0dB = 20µPa.
- Refer to the model specifications for nominal conditions. (Power source and Ambient temperature, etc)
- Sound levels can be increased in accordance with installation and operating conditions.
- (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
- Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Therefore, these values can be increased owing to ambient conditions during operation.



Installation

Installation of Outdoor Unit

1. Information for Refrigerant

1.1 Alternative Refrigerant

The type of refrigerant applied depends on the outdoor unit cycle configuration. Ensure the refrigerant type in the specification of the indoor unit and outdoor unit to be installed.

Alternative Refrigerant _ R410A

- The refrigerant R410A has the property of higher operating pressure in comparison with R22.
- Therefore, all materials have the characteristics of higher resisting pressure than ones of R22 and this characteristic should also be considered during the installation.
- The wall thickness of the piping should comply with the relevant local and national regulations for the designed pressure. (R410A 3.8MPa)
- For high-pressure refrigerant, any unapproved pipe must not be used.
- Do not heat pipes more than necessary to prevent them from softening.
- Do not place the refrigerant container under the direct rays of the sun to prevent it from exploding.
- R410A is an azeotrope of R32 and R125 mixed at 50:50, so the ozone depletion potential(ODP) of R410A is 0.
- Since R410A is a mixed refrigerant, the required additional refrigerant must be charged in its liquid state. If the refrigerant is charged in its gaseous state, its composition changes and the system will not work properly.
- Be careful not to install wrongly to minimize economic loss because it is expensive in comparison with R22.

1. Information for Refrigerant

1.2 Caution For Refrigerant Leaks

< Needs to Calculation of Refrigeran concentration >





In the case of opening without door, or openings both above and below door which is more than 0.15 % to floor space)

< Countermeasure when concentration is exceed >



The installer and system specialist shall secure safety against leakage according to local regulations or standards. The following standards may be applicable if local regulations are not available.

■ Concentration limit : 0.44 kg/m³ (for R410A)

Concentration limit (Freon gas weight per unit air volume, kg/m³) is the limit of Freon gas concentration where immediate measures can be taken without hurting human body when refrigerant leaks in the air.

Calculate refrigerant concentration

Check concentration limit along following steps and take appropriate measure depending on the situation.

(1) Calculate total amount of refrigerant per each system (A, kg)

Total amount of refrigerant in the system (A, kg)

= Amount of pre-charged refrigerant per single system(B, kg) + Amount of additional replenished refrigerant(C, kg) (B : Amount of replenished refrigerant at factory shipment)

(C : Amount of additionally replenished refrigerant depending on piping length or piping diameter by customer)

1. Information for Refrigerant

※ In case one refrigerant facility is divided into 2 or more refrigerant systems and each system is independent, amount of replenished refrigerant of each system shall be adopted.

(2) Calculate the volume of the room where indoor unit is installed as single room or the smallest room. (D, m³)

In case of room with partition and without opening which serve as passage of air to adjoining room, calculate the room space only.

- In case of room with partition but opened which serve passage of air to adjoining room, calculate the room space include space of adjoining room. (In the case of opening without door, or openings both above and below door which is more than space 0.15 % to floor space)

(3) Calculate refrigerant concentration.

Refrigerant concentration

= Total amount of refrigerant system (A, kg) \div Volume of smallest room where indoor unit is installed (D, m³) [Refrigerant concentration \leq Maximum concentration (kg/m³, R410A is 0.44)]

In case the result of calculation exceeds the concentration limit, perform the same calculations by shifting to the second smallest, and the third smallest rooms until at last the result is below the concentration limit.

In case the concentration exceeds the limit

When the concentration exceeds the limit, change original plan or take one of the counter measure shown below:

- Counter measure 1
- Provide opening 0.15% or more size of opening to floor space both above and below door for ventilation,
- or provide opening without door.
- Counter measure 2
- Provide gas leak alarm linked with mechanical ventilator.
- Counter measure 3

Reducing the system's refrigerant quantity by deviding into smaller separate system.

< ! > CAUTIONS

Pay a special attention to the place, such as a basement, etc. where refrigerant can stay, since refrigerant is heavier than air.

2. Selection of the best Location

2.1 Best Location

Select space for installing outdoor unit, which will meet the following conditions:

- No direct thermal radiation from other heat sources.
- No possibility of annoying neighbors due to noise of unit.
- No exposition to strong wind.
- Place with strength which bears weight of unit.
- Note that drain flows out of unit when heating mode operation (except for Cooling only model).
- Because of the possibility of fire, do not install unit to the space where generation, inflow, stagnation, and leakage of combustible gas is expected.
- Avoid unit installation in a place where acidic solution and spray (sulfur) are often used.
- Do not use unit under any special environment where oil, steam and sulfuric gas exist.
- It is recommended to fence round the outdoor unit in order to prevent any person or animal from accessing the outdoor unit.
- If installation site is area of heavy snowfall, then the following directions should be observed.
- Make the foundation as high as possible / Fit a snow protection hood.
- Select installation location considering following conditions to avoid bad condition when performing defrost operation.
- Install the unit at a place well ventilated and having a lot of sunshine in case of installing the product at a place with a high humidity in winter (near beach, coast, lake, etc).
 - (Ex) Rooftop where sunshine always shines.
- Performance of heating will be reduced and pre-heat time of the indoor unit may be lengthened in case of installing the outdoor unit in winter at following location:
 - ▷ Shade position with a narrow space.
 - \triangleright Location with much moisture in neighboring floor.
 - ▷ Location with much humidity around.
 - It is recommended to install the outdoor unit at a place with a lot of sunshine as possible as.
 - > Location where liquid gathers since the floor is not even.
 - ▷ When installing the outdoor unit in a place that is constantly exposed to a strong wind like a coast or on a high story of a building, secure a normal fan operation by using a duct or a wind shield.

Cautions corresponding to strong/seasonal wind

- When the "Outdoor unit of Side Discharge Type" is installed in a place that is constantly exposed to a strong wind like a coast or on a high story of a building, secure a normal fan operation by using a duct or a wind shield.
- Don't install the suction hole and discharge hole of the Outdoor unit facing the seasonal wind.
- Install the unit so that its discharge port faces to the wall of the building. Keep a distance 500mm or more between the unit and the wall surface.
- Supposing the wind direction during the operation season of the air conditioner, install the unit so that the discharge port is set at right angle to the wind direction.

Cautions in winter

- Sufficient measures are required in a snow area or severe cold area in winter so that product can be operated well.
- Get ready for seasonal wind or snow in winter even in other areas.
- Install a suction and discharge duct not to let in snow or rain.
- Install the outdoor unit not to come in contact with snow directly. If snow piles up and freezes on the air suction hole, the system may malfunction. If it is installed at snowy area, attach the hood to the system.
- Where snow accumulated on the upper part of the Outdoor Unit, always remove snow for operation.
- If width of the frame is wider than that of the product, snow may accumulate. So, its width shall not exceed the width of the product.

2. Selection of the best Location

2.2 Special guide for installation at the Seaside



* This figure is representative. Actual appearance of outdoor unit may be different by product type.

< ! > CAUTIONS

- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
- Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunctionor inefficient performance.
- If outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise itneeds additional anticorrosion treatment on the heat exchanger.

Selecting the location of Outdoor Units

- If the outdoor unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided.
- Install the outdoor unit on the opposite side of the sea wind direction.
- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be kept more than 70 cm of space between outdoor unit and the windbreak for easy air flow.
- In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.
- Select a well-drained place.
- Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water.

3. Foundation for Installation



- Install where it can sufficiently support the weight of the outdoor unit.
- If the support strength is not enough, the outdoor unit may drop and hurt people.
- Install where the outdoor unit may not fall in strong wind or earthquake.
- If there is a fault in the supporting conditions, the outdoor unit may fall and hurt people.
- Please take extra cautions on the supporting strength of the ground, water outlet treatment (treatment of the water flowing out of the outdoor unit in operation), and the passages of the pipe and wiring, when making the ground support.
- Do not use tube or pipe for water outlet in the Base pan. Use drainage instead for water outlet. The tube or pipe may freeze and the water may not be drained.
- Install at places where it can endure the weight and vibration/noise of the outdoor unit.
- The outdoor unit supports at the bottom shall have width of at least 100mm under the unit's legs before being fixed.
- The outdoor unit supports should have minimum height of 200mm.
- Anchor bolts must be inserted at least 75mm.
- Fix the unit tightly with bolts as shown so that unit will not fall down due to earthquake or gust.
 - a. The corner part must be fixed firmly. Otherwise, the support for the installation may be bent.
 - b. Get and use M10 Anchor bolt.
 - c. Noise and vibration may occur from the floor or wall since vibration is transferred through the installation part depending on installation status. Thus, use anti-vibration materials (cushion pad) fully.
 - (The base pad shall be more than 200mm)
 - d. Space for pipes and wiring (Pipes and wiring for bottom side)
 - e. Use the H-beam support as a base support
 - f. Concrete support
- Be sure to remove the Pallet (Wood Support) of the bottom of the outdoor unit before fixing the bolt or welding.

It may cause the unstable state of the outdoor settlement, and may cause freezing of the heat exchanger resulting in abnormal operations, hazard of fire during welding.

4. Refrigerant Piping System



Refrigerant additional charge calculation method

• Additional Refrigerant = (L - A) x a

- L (m) : Installed Piping Length (Outdoor Unit ~ Indoor Unit)
- A (m) : Charge-less piping length
- a (g/m) : Additional charging volume

* Refer to the specifications for detail information of A, a.

* If total additional charge value after calculation comes out to be negative, then do not consider additional charge.

< ! > CAUTIONS

- Please check the product type. Piping installation and refrigerant charge varies depending on the type of product. For more information, please refer to the installation manual.
- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.

Installation of Outdoor Unit

5. Electrical Wiring



- Follow ordinance of local regulation for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.
- Be sure to provide designated grounding work to installed unit.
- Give some allowance to wiring for electrical part box of units, because the box is sometimes removed at the time of service work.
- Only the communication line specified should be connected to the terminal block for unit communication.

< ! > WARNING

- Be sure to have authorized electrical engineers do the electric work using special circuits in accordance with regulations and installation manual. If power supply circuit has a lack of capacity or electric work deficiency, it may cause an electric shock or fire.
- Be sure to connect the installed unit to earth. Do not connect earth line to any gas pipe, liquid pipe, lightening rod or telephone earth line. If earth is incomplete, it may cause an electric shock.

< ! > CAUTIONS

- Product which use 3-phase power source have reversed phase protection detector that only works when the power is turned on. If there exists black out or the power goes on and off which the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.
- Install the communication line away from the power source wiring so that it is not affected by electric noise from the power source. (Do not run it through the same conduit.) Never use them together with power cables.
- Never use multi-core cable.

If communication lines of different systems are wired with the same multiplecore cable, the resultant poor transmitting and receiving will cause erroneous operations.

5. Electrical Wiring

- The conductive shielding layer of cable should be grounded to the metal part of both units.
- As this unit is equipped with an inverter, to install a phase leading capacitor not only will deteriorate power factor improvement effect, but also may cause capacitor abnormal heating. Therefore, never install a phase leading capacitor.
- Make sure that the power unbalance ratio is not greater than 2%. If it is greater, the unit's lifespan will be reduced.
- Never connect the main power source to terminal block of communication line.
- If connected, electrical parts will be burnt out.
- Introducing with a missing "N" phase or with a mistaken "N" phase will break the equipment.
- When the power supply is applied to "N" phase by mistake, replace inverter PCB and transformer in control box.

Communication and Power Lines

- Communication cable
 - Types : shielded cables
 - Use wires of size : over 1.0 ~ 1.5 $\rm mm^2$
 - Maximum allowable temperature of cable : over 60°C (140°F)
- Maximum allowable line length: under 1,000m
- Remote control cable
- Types : 3-core cable
- Central control cable
 - Please check the model function table for compatibility with central controller.

Product Type	Wire Type	Diameter
ACP & AC Manager	2-core cables (Shielded)	1.0~1.5mm ²
AC Smart	2-core cables (Shielded)	1.0~1.5mm ²
Simple central controller	4-core cables (Shielded)	1.0~1.5mm ²
AC Ez	4-core cables (Shielded)	1.0~1.5mm ²

Separation of communication and power lines

- If communication and power lines are installed alongside each other then there is a strong likelihood of operational faults developing due to interference in the signal wiring caused by electrostatic and electromagnetic coupling.

The tables below indicates our recommendation as to appropriate spacing of communication and power lines where these are to be run side by side.

Current capac	Current capacity of power line			
	10 A	300 mm		
100V or more	50 A	500 mm		
	100 A	1,000 mm		
	Exceed 100 A	1,500 mm		

- -The figures are based on assumed length of parallel cabling up to 100m. For length in excess of 100m the figures will have to be recalculated in direct proportion to the additional length of line involved.
- If the power supply waveform continues to exhibit some distortion the recommended spacing in the table should be increased.
- ▷ If the lines are laid inside conduits then the following point must also be taken into account when grouping various lines together for introduction into the conduits
- > Power lines(including power supply to air conditioner) and signal lines must not be laid inside the same
- > In the same way, when grouping the lines power and signal lines should not be bunched together.

< ! > CAUTIONS

• If apparatus is not properly earthed then there is always a risk of electric shock, the grounding of the apparatus must be carried out by a qualified person.

6. Field Wiring



Wiring of Main Power Supply

- Bear in mind ambient conditions (ambient temperature, direct sunlight, rain liquid, etc.) when proceeding with the wiring and connections
- The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker taking into account the line voltage drops. Make sure the power-supply voltage does not drop more than 10%.
- Specific wiring requirements should adhere to the wiring regulations of the region.
- Power supply cords of parts of appliances for outdoor use should not be lighter than polychloroprene sheathed flexible cord (design 60245 IEC57).
- Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.

< ! > WARNING

- Make sure to use specified wires for connections so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.
- Make sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.
- All Installation site must require attachment of an earth leakage breaker.
- If no earth leakage breaker is installed, it may cause an electric shock.
- Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.



Air Solution LG Electronics Inc, 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea (07336) http://partner.lge.com http://sedc.lge.com

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