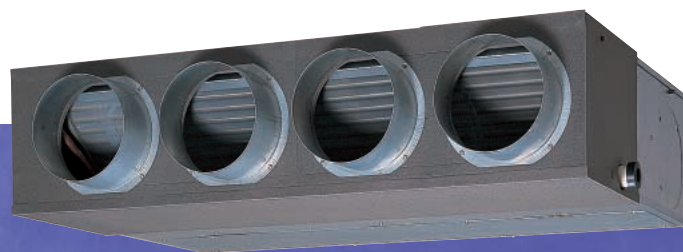




DUCT SPLIT TYPE AIR CONDITIONER

TECHNICAL MANUAL



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PRODUCT LINEUP

50Hz Models	
INDOOR UNIT	OUTDOOR UNIT
ARG45A	AOG45AC
ARG45R	AOG45RC
ARG36A	AOG36AC
ARG36R	AOG36RC
ARG30A	AOG30AB
ARG30R	AOG30RB
ARG25A	AOG25AZ
ARG25R	AOG25RZ

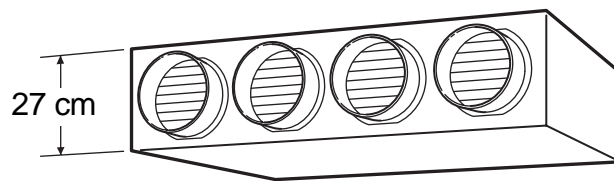
FEATURES

■ DUCT SPLIT TYPE FEATURES

- Installed behind the ceiling (or with a double ceiling for existing rooms) this design offers space savings and low noise.
- One external unit is capable of conditioning the air of multiple rooms.
- With a beautiful finish, the outlet grille does not stick out into the room.

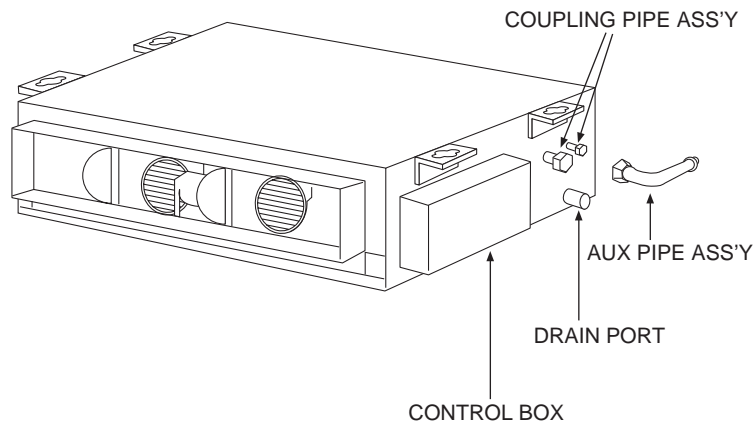
■ PRODUCT FEATURES

- Ultra thin models for very low ceilings



25,000/30,000/36,000/45,000BTU/h Types

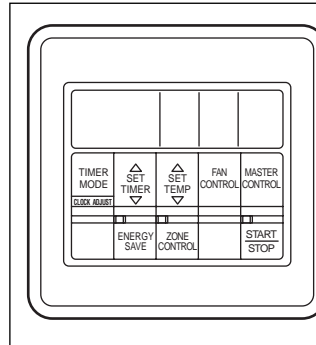
- Piping can be laid in almost any directions



25,000/30,000/36,000/45,000BTU/h Types

● **Highly functional LCD wired remote controller**

- Two remote controls for operation in different rooms.
- Auto restart function in case of power outage.
- Repeat timer can turn the unit on/off every day at the same time.



● **FUNCTIONS**

- (1) Twin Remote
- (2) Zone Control
- (3) Auto Restart
- (4) PROGRAM Timer / REPEAT Timer
- (5) Simultaneous 16 Air Conditioners Control
- (6) Energy Save Operation

● **Zone control**

Capable of simultaneously controlling only designated air conditioners to stop.

● **Control several units with just one remote controller**

One remote controller can control up to 16 air conditioners. All the air conditioners can be operated with the same setting.

● **Energy save operation**

The energy conservation mode (ENERGY SAVE) raises the set temperature slightly in the cooling mode and lowers the set temperature in the heating mode, using a computer program to economically control the operation of the unit. If you press the ENERGY SAVE button while the air conditioner is on, it will change to the conservation mode. If you press the ENERGY SAVE button while the unit is in the timer mode (ON timer, PROGRAM timer, or REPEAT timer), the unit will go into the conservation mode when the unit starts with the timer.

● **Easy maintenance**

- Easy maintenance with ability to replace all electrical components from the panel.
- Safe design incorporating an anti-drop construction in all main components.

● **Cooling operation possible at outdoor temperatures ranging from 0 to 52°C.
(For all models)**

● **Heating operation possible at low outdoor temperatures as low as -5°C.
(For AOG30R/36R/45R Types)**

● **Capable of fresh air intake**

- Can intake fresh air with the installation of flexible ducts.

● **High static pressure type (ARG45/36 Type)**

- High static Pressure type capable of withstanding a standard external static pressure of 98Pa.

● **Pipe length up to 50m with height differential of up to 30m (ARG45/36 Type)**

● **Equipped with automatic heat expansion valve (ARG45/36 Heat Pump Models)**

- Capable of constantly operating at optimum conditions even given load fluctuations.

EXTERNAL VIEW OF PRODUCT



Outdoor unit
(For ARG25 type)



Outdoor unit
(For ARG30 type)



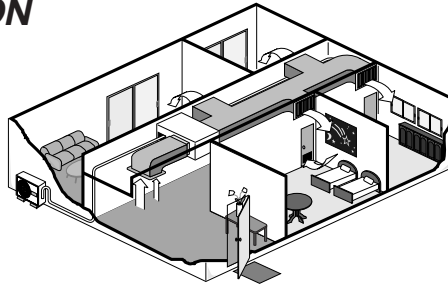
Outdoor unit
(For ARG45/36 type)



Remote controller

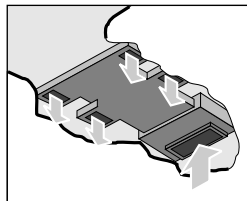
SAMPLE INSTALLATION/INSTALLATION STYLES

■ SAMPLE INSTALLATION

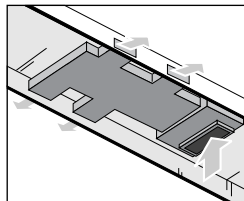


■ INSTALLATION STYLES

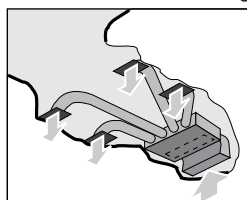
• Embedded in Ceiling



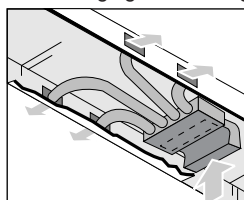
• Hanging from Ceiling



• Embedded in Ceiling



• Hanging from Ceiling



SPECIFICATIONS

Model	Indoor Unit		ARG45ALB3	ARG45RLB3	ARG36ALB3	ARG36RLB3	ARG30ALA	ARG30RLA	ARG25ALA	ARG25RLA	
	Outdoor Unit		AOG45ACA3L	AOG45RCD3L	AOG36ACA3L	AOG36RCD3L	AOG30ABJL	AOG30RBJL	AOG25AZAL	AOG25RZAL	
Power Source	φ - Hz		3 - 50	3 - 50	3 - 50	3 - 50	1 - 50	1 - 50	1 - 50	1 - 50	
	V		380 - 415	380 - 415	380 - 415	380 - 415	220 - 240	220 - 240	220 - 240	220 - 240	
Capacity	Cooling	kW	12.4 - 12.7	12.4 - 12.7	10.3 - 10.5	10.3 - 10.5	8.6 - 8.8	8.6 - 8.8	7.00 - 7.10	6.95 - 7.05	
		BTU/h	42,400 - 43,400	42,400 - 43,400	35,200 - 35,800	35,200 - 35,800	29,400 - 30,000	29,400 - 30,000	23,900 - 24,200	23,700 - 24,100	
	Heating	kW	—	13.4 - 13.7	—	10.5 - 10.7	—	8.8 - 9.1	—	7.60 - 7.85	
		BTU/h	—	45,800 - 46,800	—	35,800 - 36,500	—	30,000 - 31,100	—	25,900 - 26,800	
Total Input	Cooling	kW	4.45 - 4.57	4.45 - 4.57	3.73 - 3.45	3.88 - 3.95	3.30 - 3.40	3.35 - 3.45	2.64 - 2.77	2.70 - 2.80	
	Heating		—	4.23 - 4.35	—	3.18 - 3.25	—	2.90 - 3.00	—	2.50 - 2.60	
Total Ampacity	Cooling	A	7.5 - 7.5	7.5 - 7.5	6.4 - 6.4	6.6 - 6.6	15.8 - 16.3	16.0 - 16.5	12.8 - 13.2	12.7 - 13.0	
	Heating		—	7.4 - 7.4	—	6.1 - 5.8	—	14.1 - 14.6	—	12.0 - 12.3	
E.E.R.	Cooling	kW/kW	2.79 - 2.78	2.79 - 2.78	2.76 - 2.76	2.65 - 2.66	2.61 - 2.59	2.57 - 2.55	2.65 - 2.56	2.57 - 2.52	
	Heating		—	3.17 - 3.15	—	3.30 - 3.29	—	3.03 - 3.03	—	3.04 - 3.02	
Starting Current		A	55	55	42	42	80	80	61	61	
Indoor Unit	Fan Speed	High	r.p.m.	1,340	1,340	1,250	1,250	1,240	1,240	890	890
		Med		1,270	1,270	1,150	1,150	1,140	1,140	820	820
		Low		1,170	1,170	1,050	1,050	1,040	1,040	745	745
	Air Circulation	High	m³/h	2,200	2,200	2,000	2,000	1,650	1,650	1,100	1,100
		Med		2,000	2,000	1,800	1,800	1,550	1,550	1,000	1,000
		Low		1,800	1,800	1,600	1,600	1,350	1,350	900	900
	Noise (SPL)	High	dB	49.0	49.0	47.0	47.0	47.0	47.0	44.0	44.0
		Med		47.0	47.0	45.0	45.0	45.0	45.0	42.0	42.0
		Low		45.0	45.0	43.0	43.0	43.0	43.0	40.0	40.0
	Fan Type x Q'ty		Sirocco x 2		Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2
	Fan Motor Output		W	275 x 1	275 x 1	275 x 1	275 x 1	275 x 1	275 x 1	70 x 1	70 x 1
	Dimensions		mm	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700	270 x 1,210 x 700
	Weights Net/Gross		kg	45/60	45/60	45/60	45/60	43/58	43/58	43/58	43/58
Outdoor Unit	Fan Speed		r.p.m.	790	790	790	790	760	760	735	735
	Air Circulation		m³/h	5,500	5,500	5,900	5,900	3,450	3,450	2,590	2,590
	Noise(SPL)		dB	59.0	59.0	57.5	59.0	55.0	55.0	56.0	56.0
	Fan Type x Q'ty		Propeller x 2		Propeller x 2	Propeller x 2	Propeller x 2	Propeller x 1	Propeller x 1	Propeller x 1	Propeller x 1
	Fan Motor Output		W	63 x 2	63 x 2	63 x 2	63 x 2	63 x 1	63 x 1	60 x 1	60 x 1
	Compressor Type		Recipro		Recipro	Recipro	Recipro	Recipro	Recipro	Recipro	Recipro
	Motor Output		kW	3.7	3.7	3.0	3.0	2.85	2.85	1.875	1.875
	Protection		Internal Overload Relay		Internal Overload Relay	Internal Overload Relay	Internal Overload Relay	Internal Overload Relay	Internal Overload Relay	Internal Overload Relay	Internal Overload Relay
	Dimensions		mm	1,152 x 940 x 370	1,152 x 940 x 370	1,152 x 940 x 370	1,152 x 940 x 370	900 x 900 x 350	900 x 900 x 350	643 x 840 x 336	643 x 840 x 336
	Weights Net/Gross		kg	102/116	108/122	94/108	96/110	85/97	85/97	67/75	68/76
Refrigerant Charge		kg	3.40	3.15	2.80	2.15	2.85	2.15	2.07	2.65	
Pipe Size		mm	φ 9.53, φ 19.05	φ 9.53, φ 19.05	φ 9.53, φ 19.05	φ 9.53, φ 19.05	φ 9.53, φ 15.88	φ 9.53, φ 15.88	φ 9.53, φ 15.88	φ 9.53, φ 15.88	
Connection Method		Flare		Flare	Flare	Flare	Flare	Flare	Flare	Flare	
Pipe Length/Height		m	50/30	50/30	50/30	50/30	25/15	25/15	25/15	25/15	
Operation Temperature	Cooling	°C	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	In 18-30, Out 0-52	
	Heating		—	In 16-30, Out 5-21	—	In 16-30, Out 5-21	—	In 16-30, Out 5-21	—	In 16-30, Out 0-21	
Remote Controller (Cable Length)		LCD(10m)		LCD(10m)	LCD(10m)	LCD(10m)	LCD(10m)	LCD(10m)	LCD(10m)	LCD(10m)	
Static Pressure		Pa	98(Max.176)	98(Max.176)	98(Max.176)	98(Max.176)	118(Max.176)	118(Max.176)	98(Max.157)	98(Max.157)	
Rated Condition(JIS B8616-)	Cooling In/Out	27/19, 35/24		27/19, 35/24	27/19, 35/24	27/19, 35/24	27/19, 35/24	27/19, 35/24	27/19, 35/24	27/19, 35/24	
	Heating In/Out	—		20/15.5, 7/6	—	20/15.5, 7/6	—	20/15.5, 7/6	—	20/15.5, 7/6	

• Specifications and design are subject to change without notice for further improvement. Please check with your dealer.

• Cooling/heating capacities are based on the following conditions.
 Cooling Indoor temp. : 27°C DB/19°C WB Outdoor temp. : 35°C DB/24°C WB
 Heating Indoor temp. : 20°C DB/15.5°C WB Outdoor temp. : 7°C DB/6°C WB

PERFORMANCE DATA

■ PERFORMANCE RATE (ARG45A/45R/36A/36R/30A/30R)

● Cooling Capacity (%)

		OUTDOOR TEMP. (°C)					
		25	30	35	40	46	50
INDOOR TEMP. (°C)	21	93	90	87	81	75	69
	24	93	96	93	88	81	75
	27	105	103	100%	95	88	80
	30	113	111	103	102	96	89

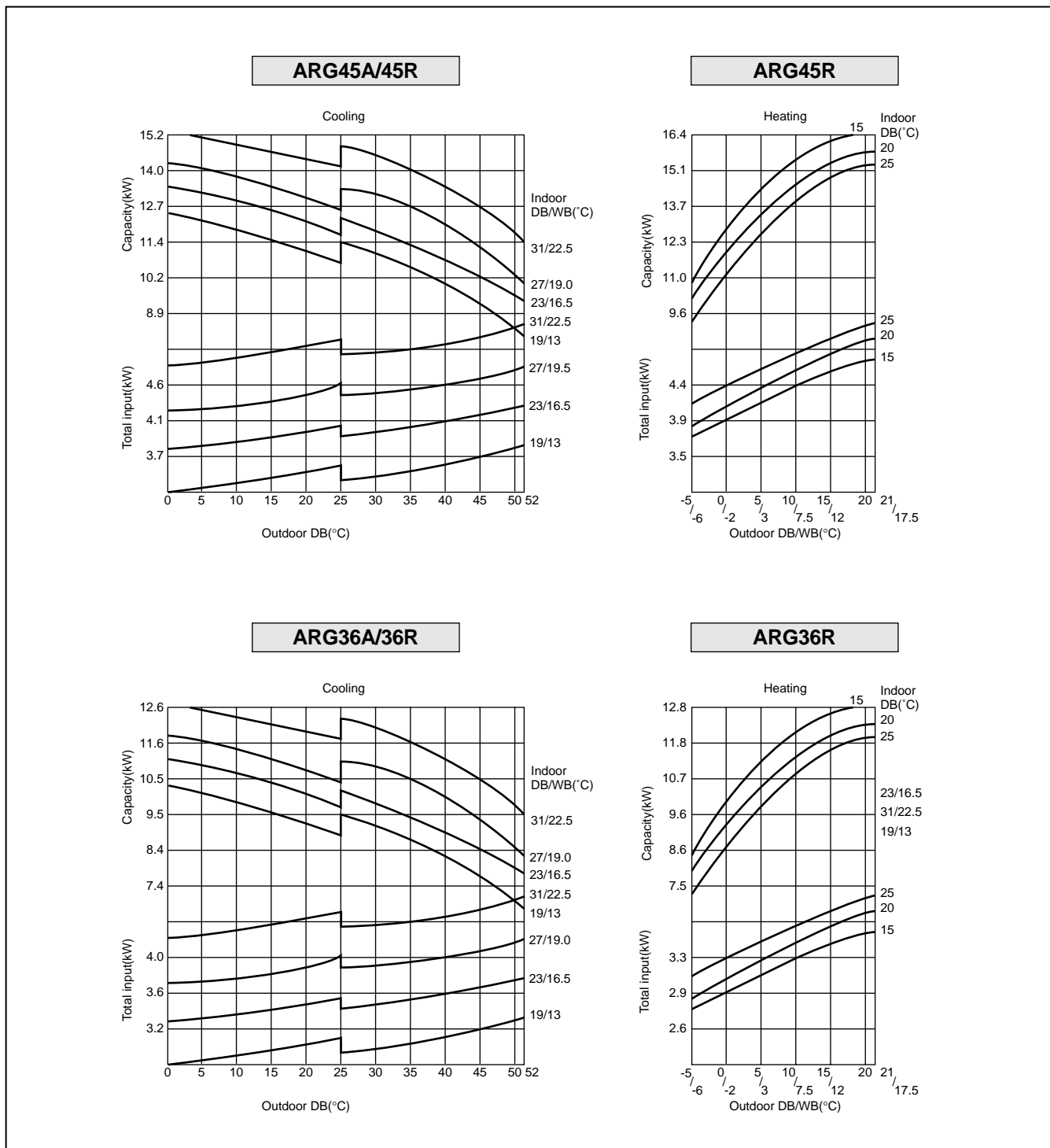
- Performance values are cited taking 10.5kW (35,800BTU/h) as 100% for the 36 Model, 12.5kW (43,300BTU/h) as 100% for the 45 Model, and 8.8kW (30,000BTU/h) as 100% for the 30 Model.
- Indoor temperature of 27/19°C and outdoor temperature of 35/24°C represent JIS-SL conditions for cooling.

● Heating Capacity (%)

		OUTDOOR TEMP. (°C)						
		-5	0	5	7	10	15	20
INDOOR TEMP. (°C)	15	78	91	102	105	110	115	119
	20	73	86	97	100%	106	111	115
	25	66	80	91	95	100	108	111

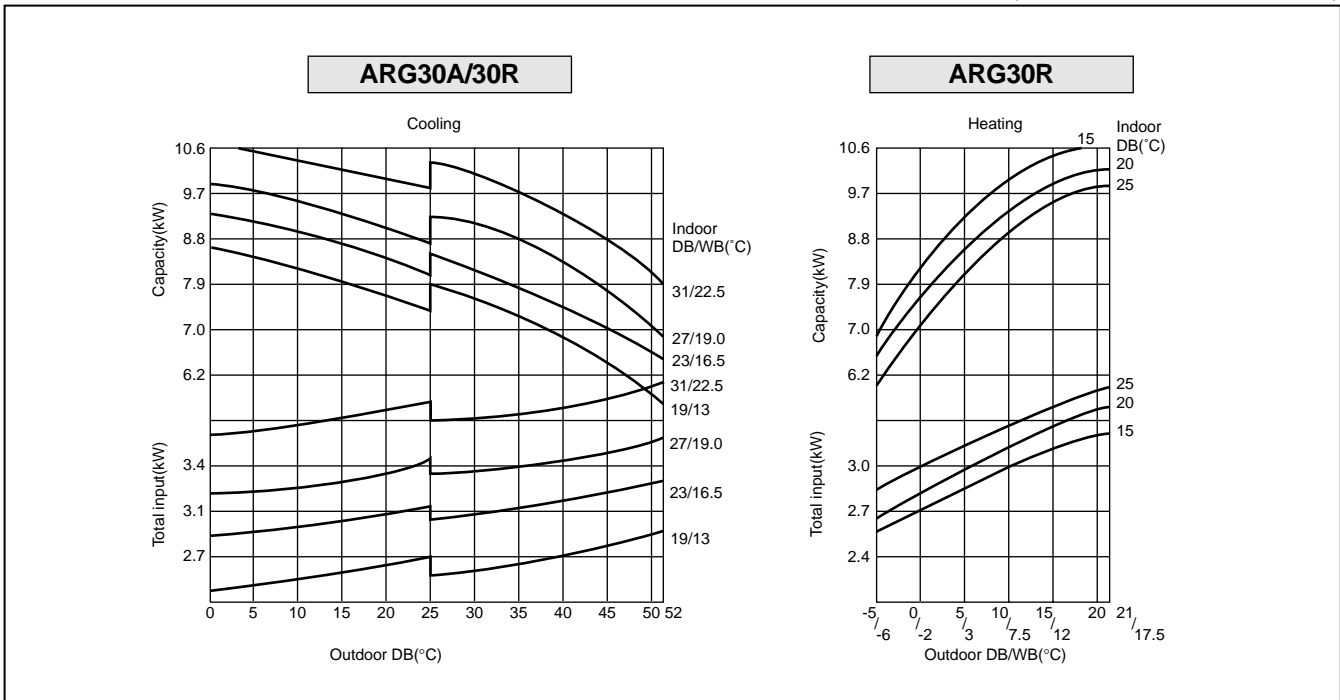
- Performance values are cited taking 10.7kW (36,500BTU/h) as 100% for the 36 Model, 13.7kW (46,700BTU/h) as 100% for the 45 Model, and 9.1kW (30,000BTU/h) as 100% for the 30 Model.
- Indoor temperature of 20°C and outdoor temperature of 7/6° represent JIS-SL conditions for heating.

(at External Static Pressure 98 Pa)



PERFORMANCE DATA

(at External Static Pressure 118 Pa)



■ ADDITIONAL REFRIGERANT CHARGE

PIPE LENGTH		5m	10m	15m	20m	25m	30m	40m	50m	Additional Refrigerant g/m (oz/ft)
		(16ft)	(33ft)	(49ft)	(66ft)	(82ft)	(99ft)	(132ft)	(165ft)	
FULL CHARGE AMOUNT	ARG45A	3,150g (111.1oz)				3,550g (125.2oz)	3,950g (139.3oz)	4,350g (153.4oz)	40 (1.41)	
	ARG45R	3,400g (119.9oz)				3,800g (134.0oz)	4,200g (148.2oz)	4,600g (162.3oz)	40 (1.41)	
	ARG36A	2,150g (75.8oz)	2,285g (80.6oz)	2,420g (85.4oz)	2,555g (90.1oz)	2,825g (99.6oz)	3,095g (109.2oz)	3,365g (118.7oz)	27 (0.95)	
	ARG36R	2,800g (98.8oz)				3,200g (112.9oz)	3,600g (127.0oz)	4,000g (141.1oz)	40 (1.41)	
	ARG30A	2,650g (93.5oz)	2,735g (96.5oz)	2,820g (99.5oz)	2,905g (102.5oz)	2,990g (105.5oz)	3,075g (108.5oz)	—	17 (0.60)	
	ARG30R	2,850g (100.5oz)	3,100g (109.3oz)	3,350g (118.2oz)	3,600g (127.0oz)	3,850g (135.8oz)	—	—	50 (1.76)	

■ PERFORMANCE RATE (ARG25A/25R)

● Cooling Capacity (%)

		OUTDOOR TEMP. (°C)					
		25	30	35	40	46	50
INDOOR TEMP. (°C)	19	91	87	84	79	72	—
	23	94	96	93	90	84	79
	27	109	104	100%	99	94	91
	31	114	112	109	107	103	100

- Performance values are cited taking 7.05kW (24,100BTU/h) as 100% for the 25 Model.
- Indoor temperature of 27/19°C and outdoor temperature of 35/24°C represent JIS-SL conditions for cooling.

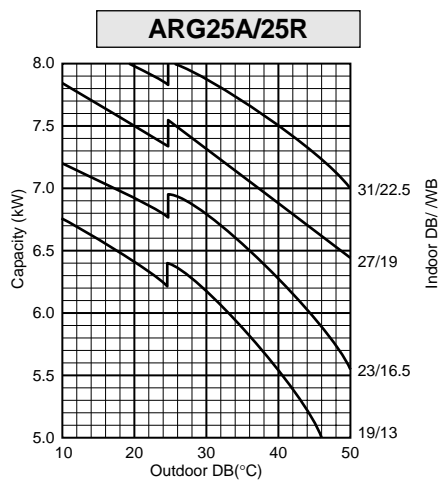
● Heating Capacity (%)

		OUTDOOR TEMP. (°C)					
		0	5	7	10	15	20
INDOOR TEMP. (°C)	15	88	101	106	110	117	120
	20	83	98	100%	105	112	114
	25	76	93	96	101	106	110

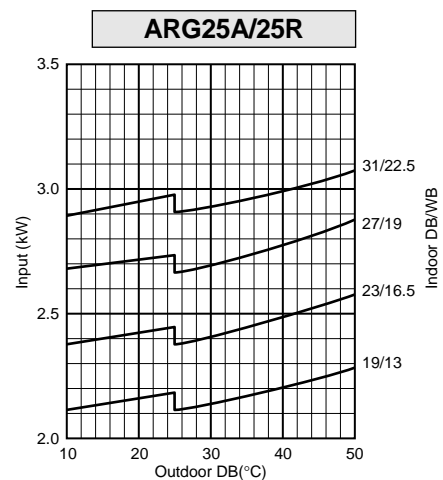
- Performance values are cited taking 7.85kW (26,800BTU/h) as 100% for the 25 Model.
- Indoor temperature of 20°C and outdoor temperature of 7/6° represent JIS-SL conditions for heating.

(at External Static Pressure 98 Pa)

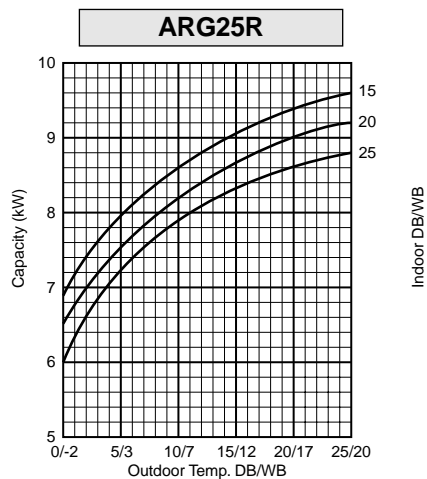
● Cooling Capacity



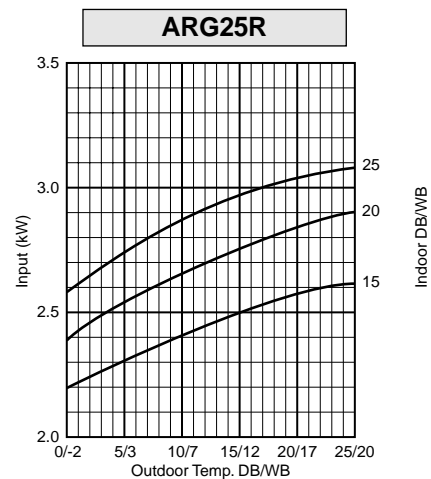
● Cooling Input



● Heating Capacity



● Heating Input

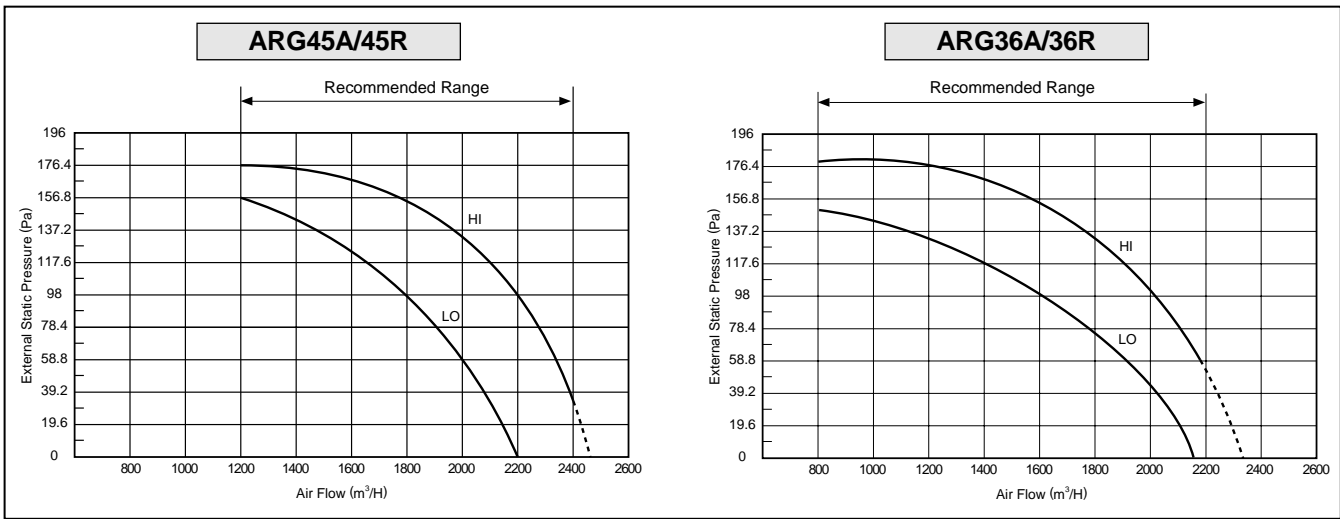


■ ADDITIONAL REFRIGERANT CHARGE

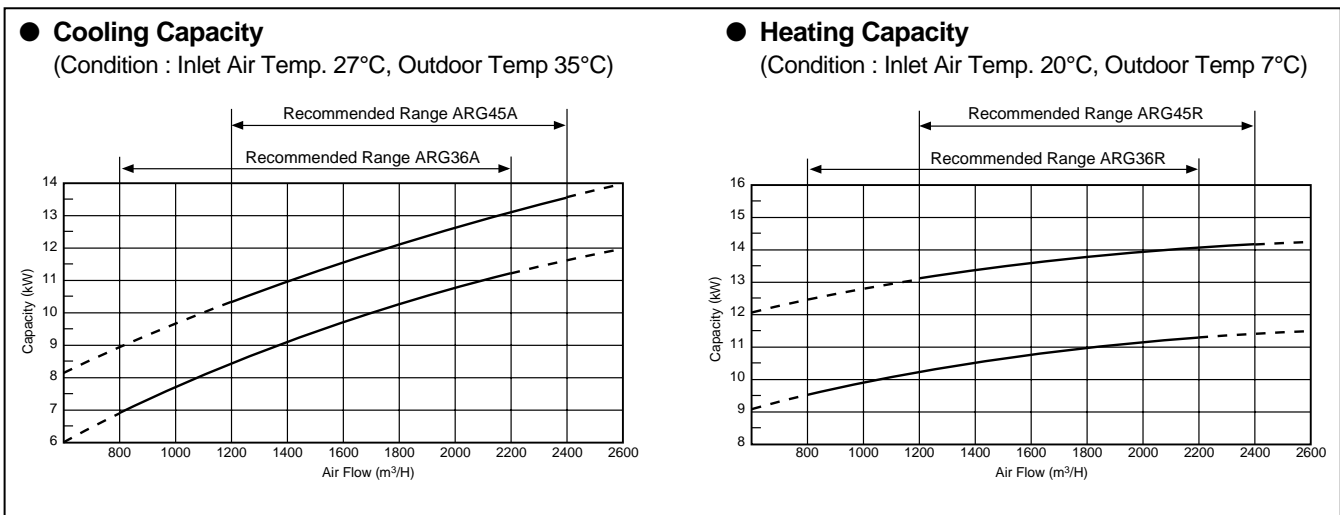
MODEL		PIPE LENGTH					Additional Refrigerant g/m (oz/ft)
		5m (16ft)	10m (33ft)	15m (49ft)	20m (66ft)	25m (82ft)	
FULL CHARGE AMOUNT	ARG25A	1,950 g (68.8 oz)	2,010 g (70.9 oz)	2,070 g (73.0 oz)	2,130 g (75.1 oz)	2,190 g (77.3 oz)	12 (0.42)
	ARG25R	2,070 g (73.0 oz)	2,240 g (79.0 oz)	2,410 g (85.0 oz)	2,580 g (91.0 oz)	2,750 g (97.0 oz)	34 (1.20)

FAN PERFORMANCE AND AIR FLOW

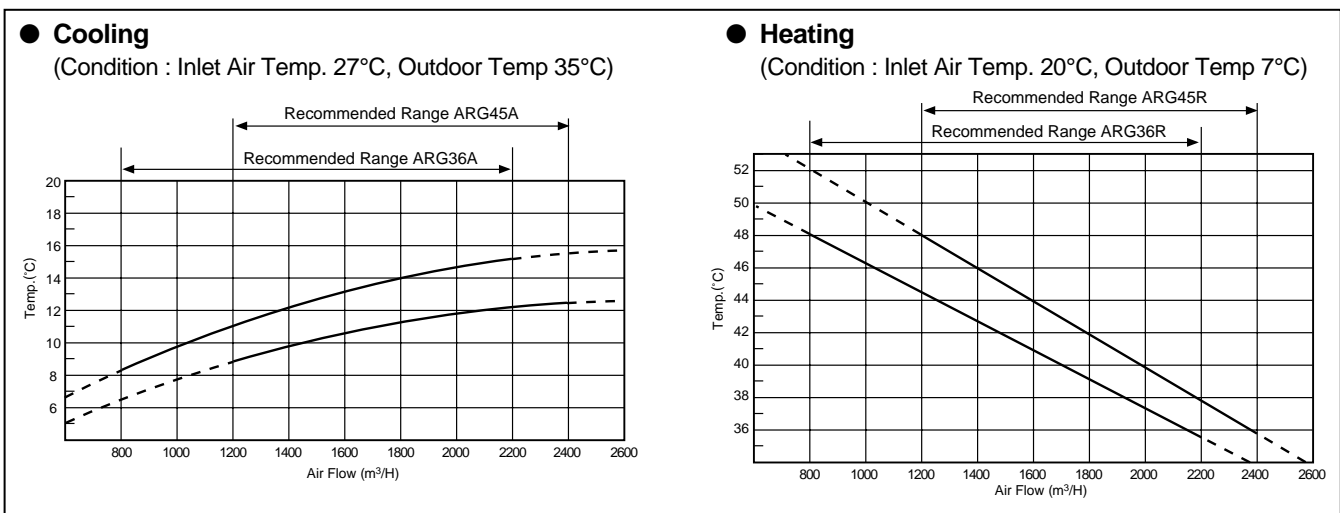
EXTERNAL STATIC PRESSURE (at 415 V)



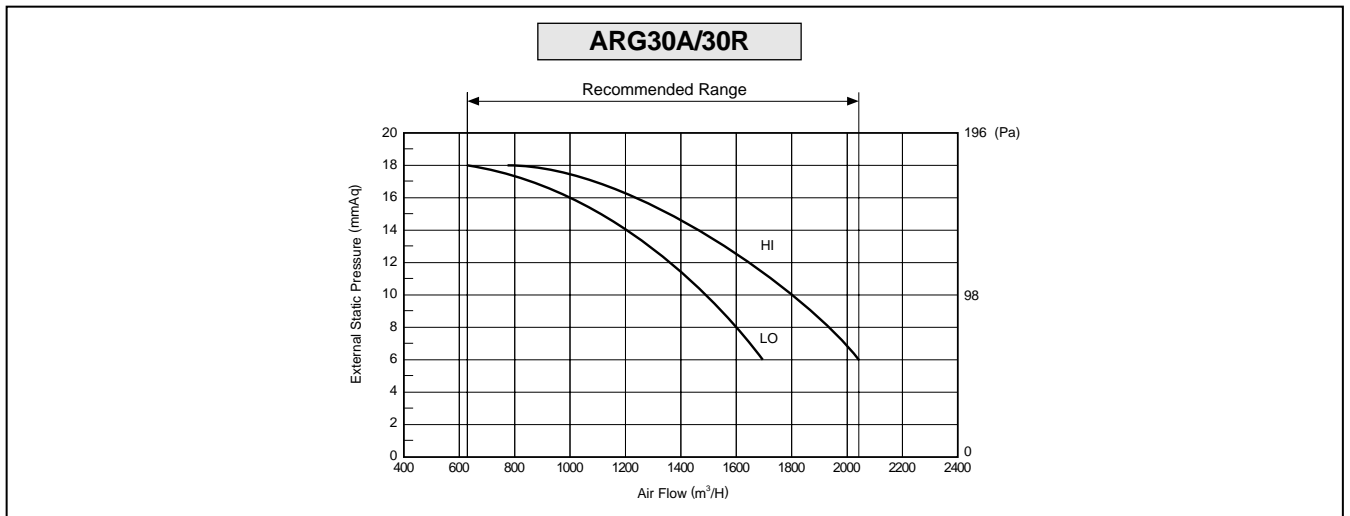
COOLING / HEATING CAPACITY



OUTLET AIR TEMPERATURE



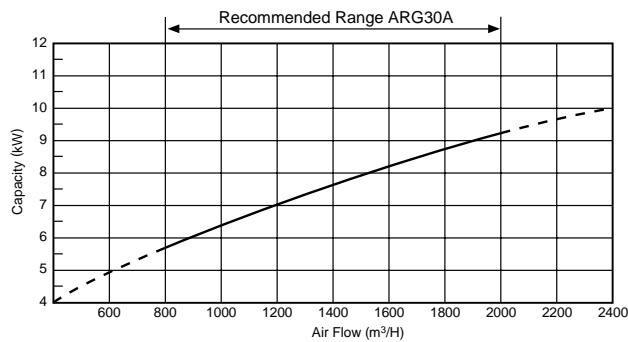
EXTERNAL STATIC PRESSURE (at 415 V)



COOLING / HEATING CAPACITY

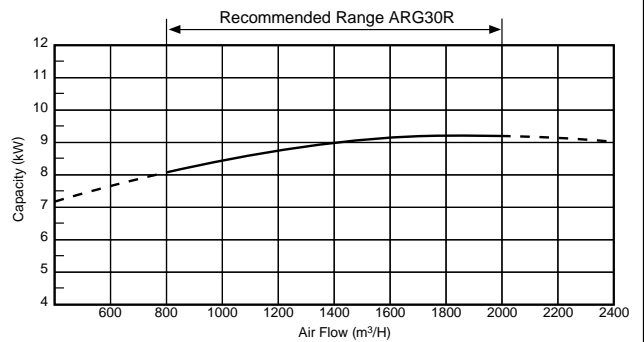
● Cooling Capacity

(Condition : Inlet Air Temp. 27°C, Outdoor Temp 35°C)



● Heating Capacity

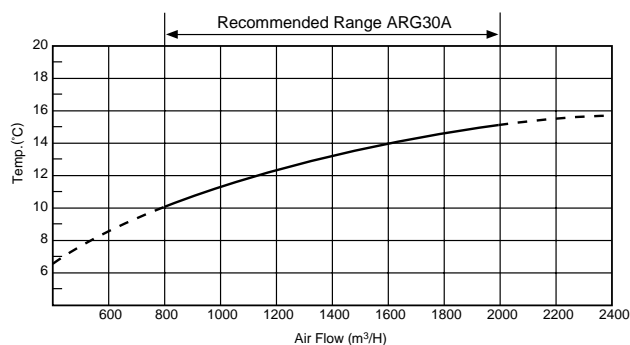
(Condition : Inlet Air Temp. 20°C, Outdoor Temp 7°C)



OUTLET AIR TEMPERATURE

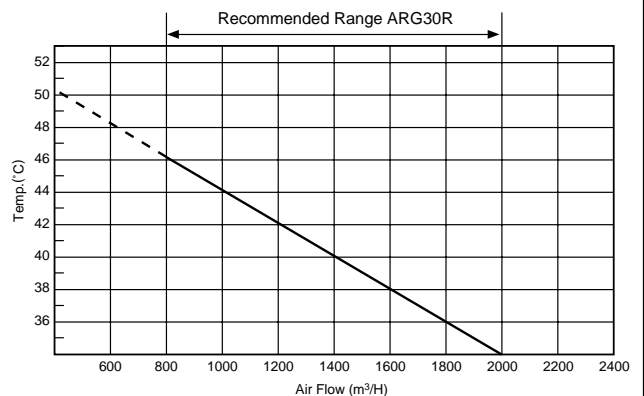
● Cooling

(Condition : Inlet Air Temp. 27°C, Outdoor Temp 35°C)



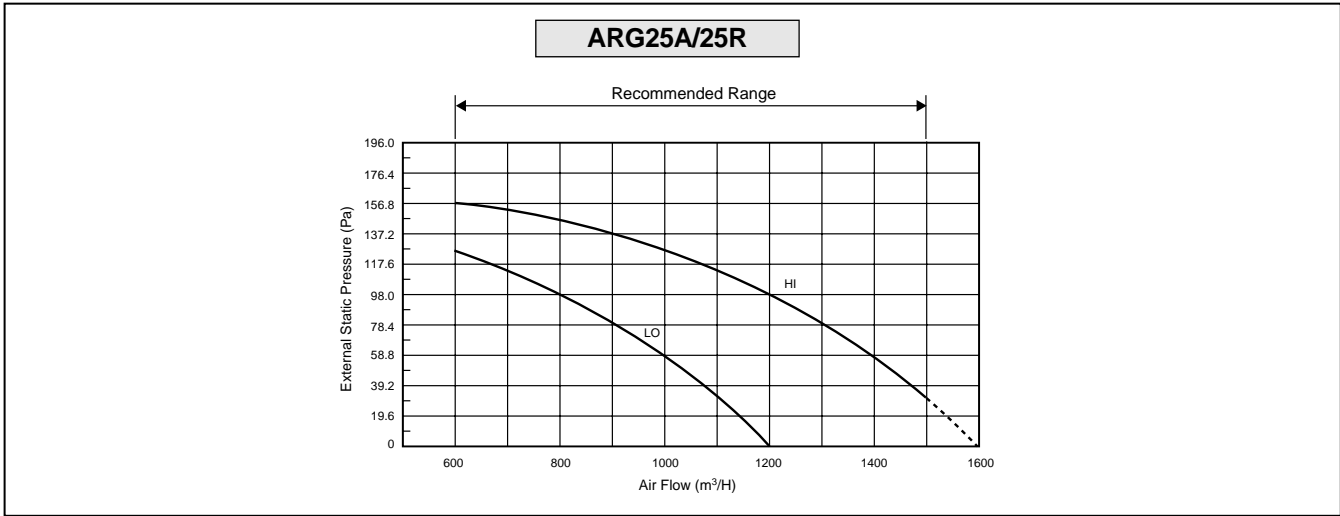
● Heating

(Condition : Inlet Air Temp. 20°C, Outdoor Temp 7°C)



FAN PERFORMANCE AND AIR FLOW

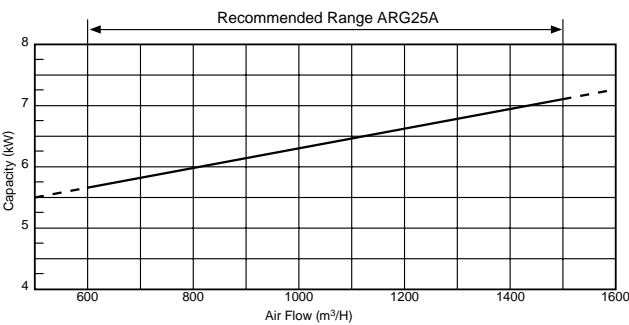
EXTERNAL STATIC PRESSURE (at 240 V)



COOLING / HEATING CAPACITY

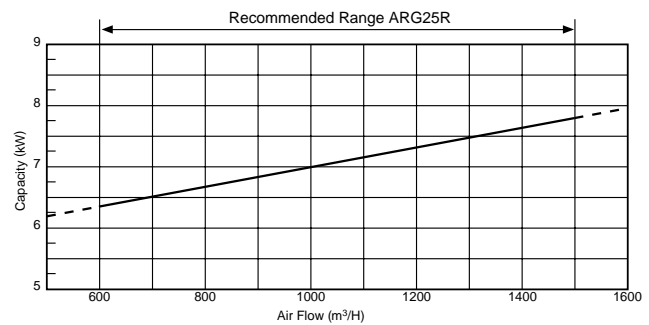
Cooling Capacity

(Condition : Inlet Air Temp. 27°C, Outdoor Temp 35°C)



Heating Capacity

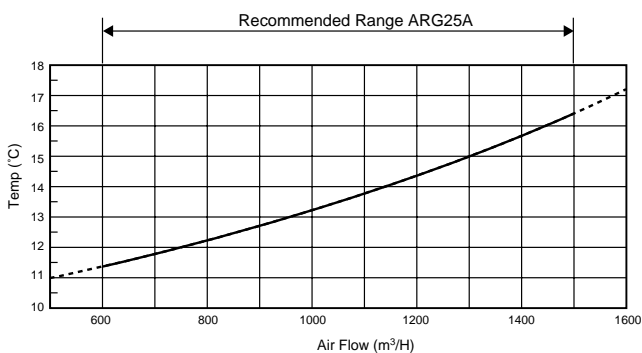
(Condition : Inlet Air Temp. 20°C, Outdoor Temp 7°C)



OUTLET AIR TEMPERATURE

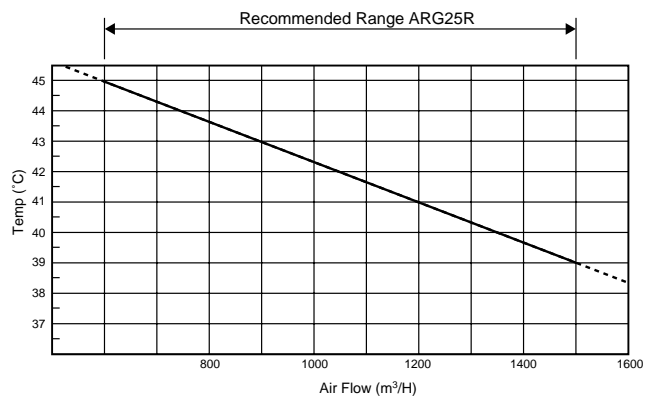
Cooling

(Condition : Inlet Air Temp. 27°C, Outdoor Temp 35°C)



Heating

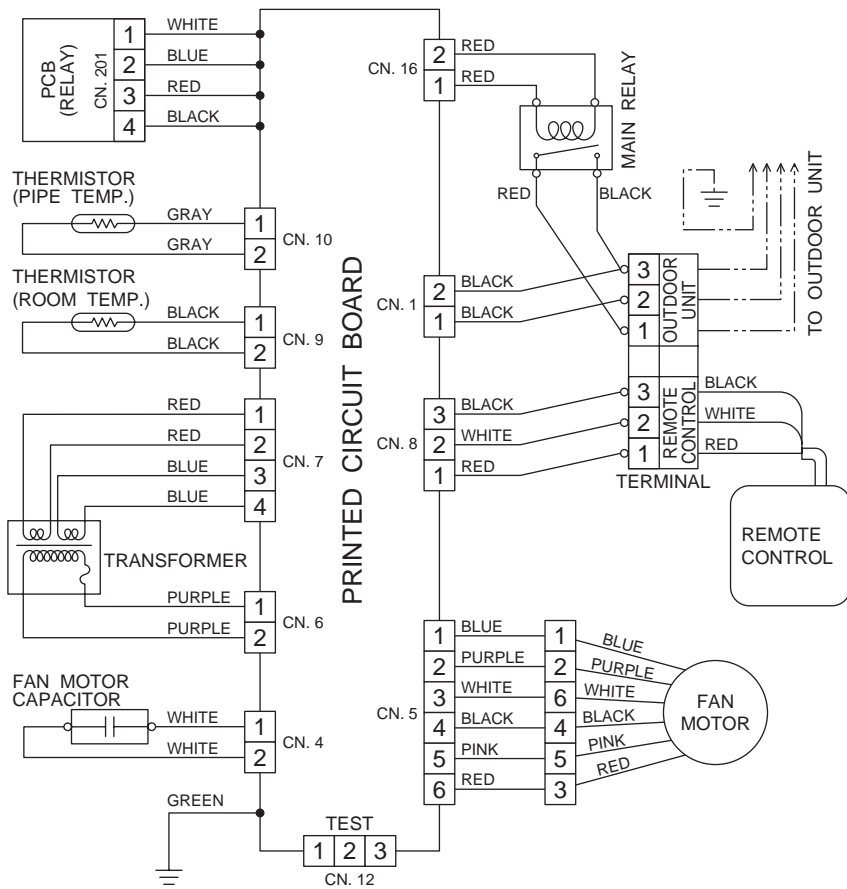
(Condition : Inlet Air Temp. 20°C, Outdoor Temp 7°C)



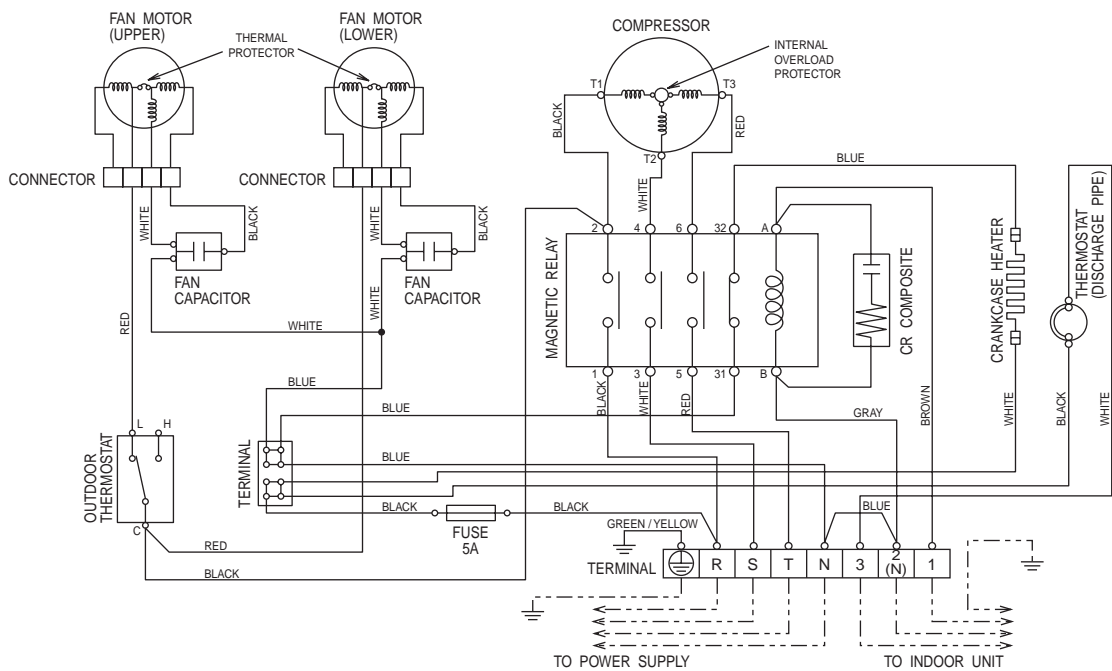
WIRING DIAGRAM

■ ARG45A / 36A

● INDOOR UNIT



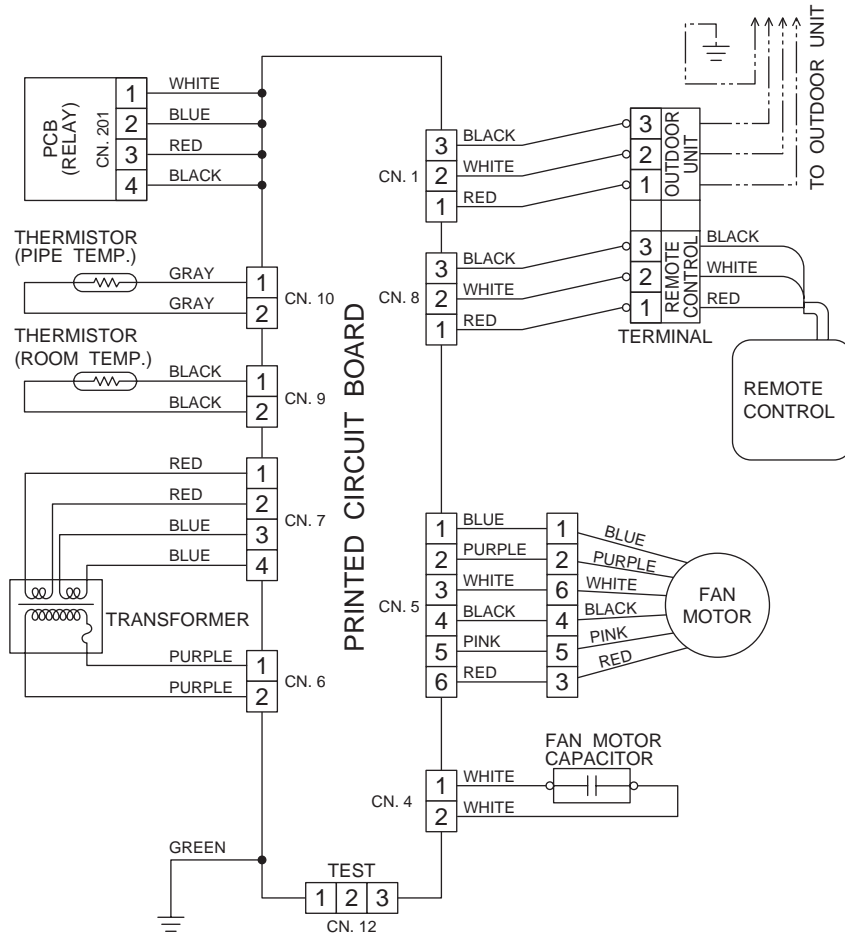
● OUTDOOR UNIT



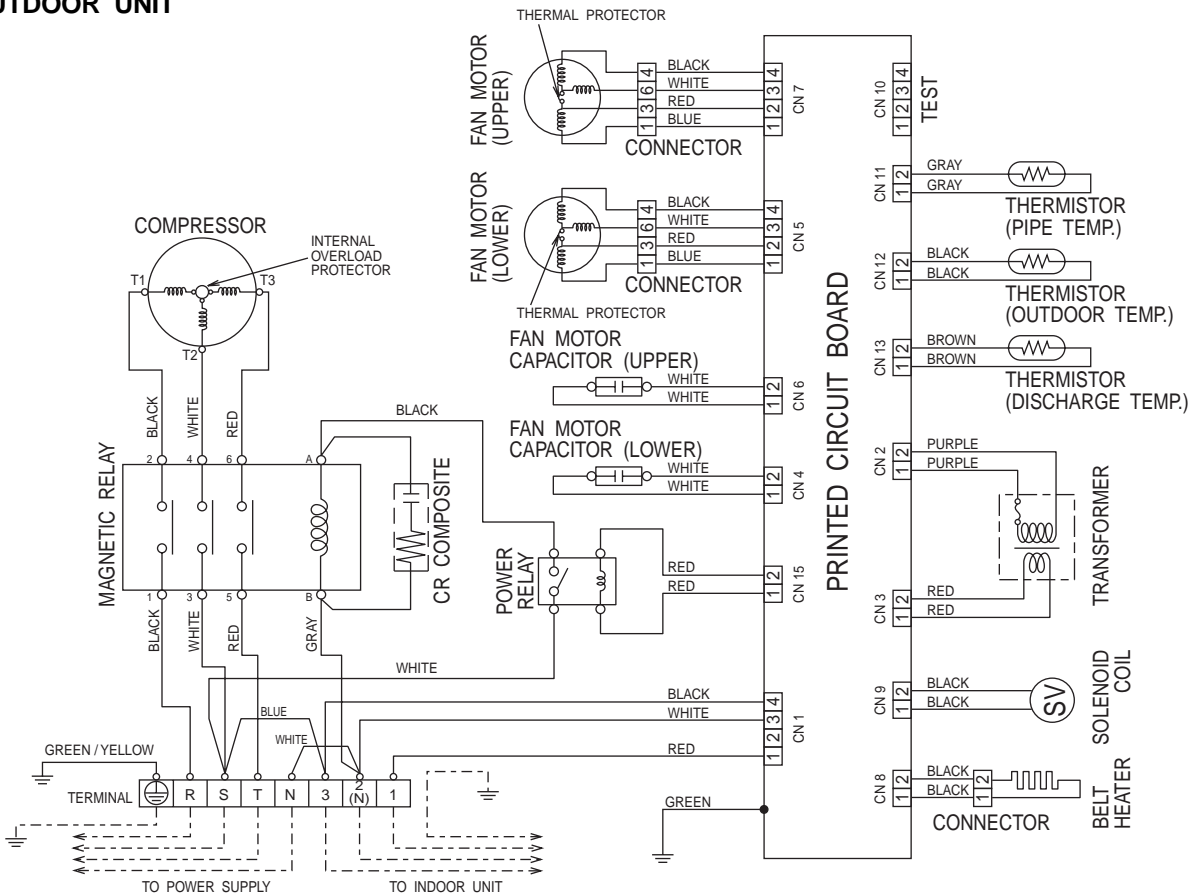
WIRING DIAGRAM

■ ARG45R / 36R

● INDOOR UNIT

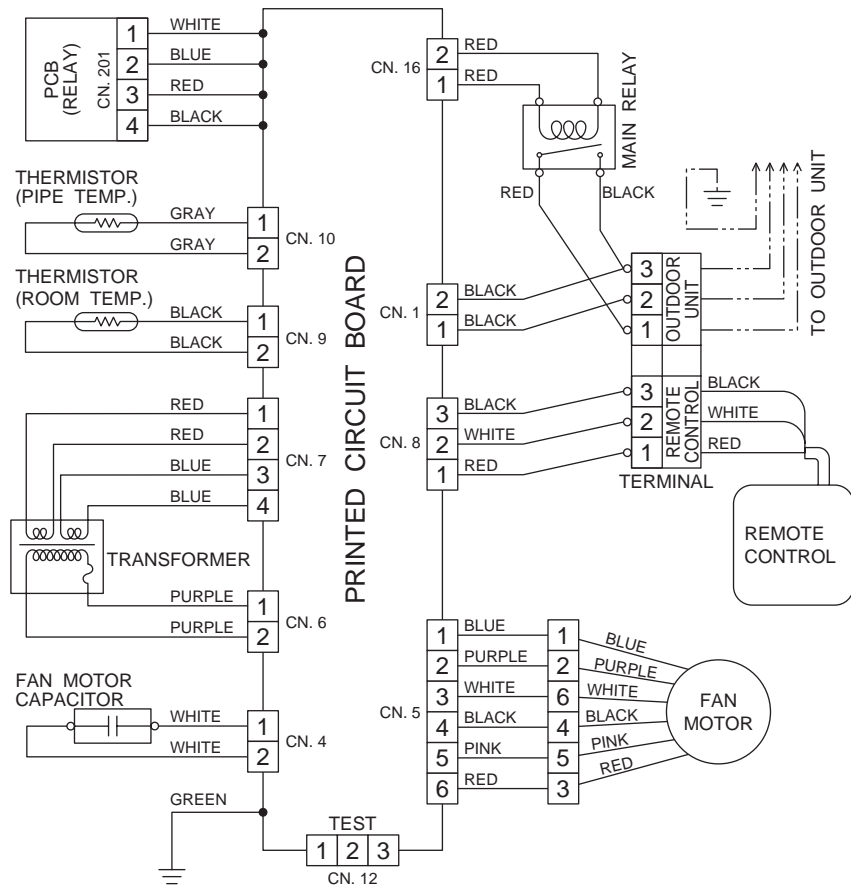


● OUTDOOR UNIT

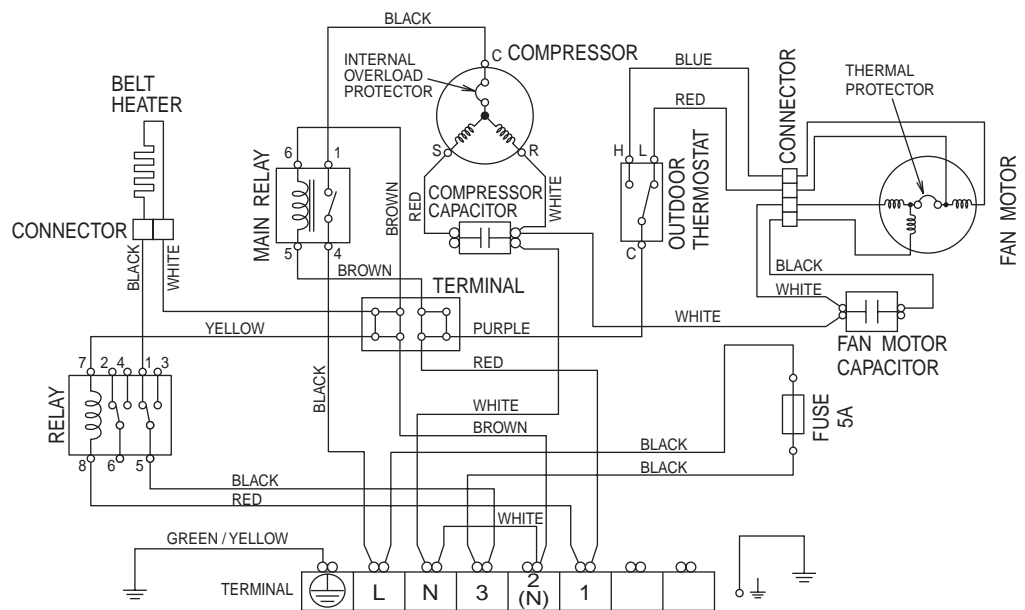


■ ARG30A

● INDOOR UNIT



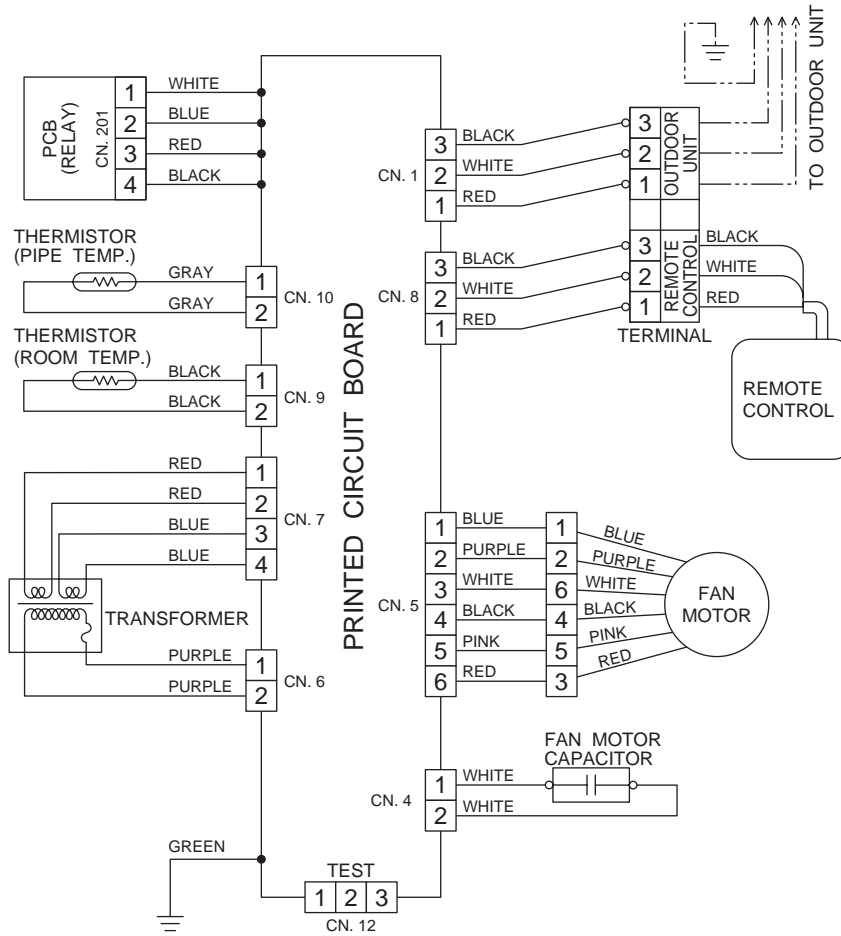
● OUTDOOR UNIT



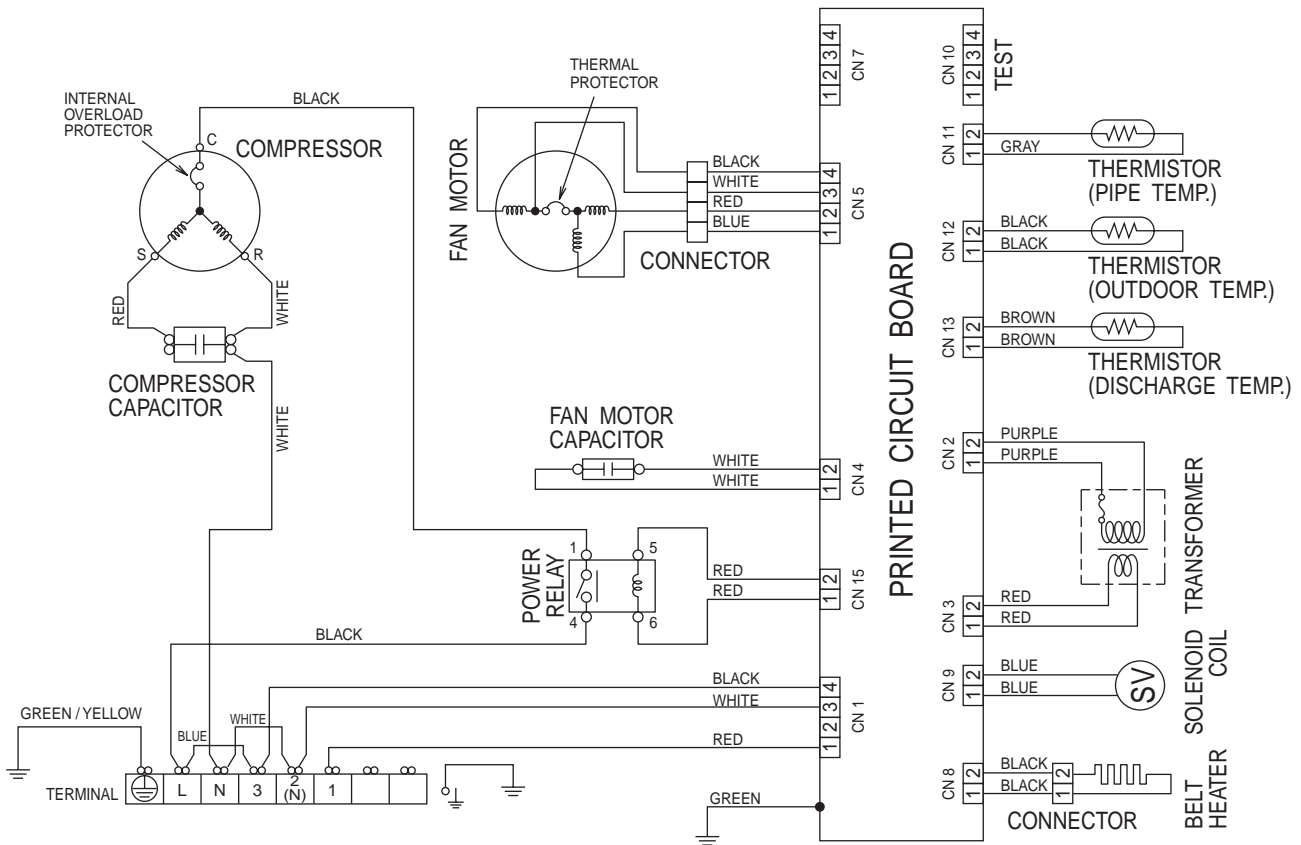
WIRING DIAGRAM

■ ARG30R

● INDOOR UNIT

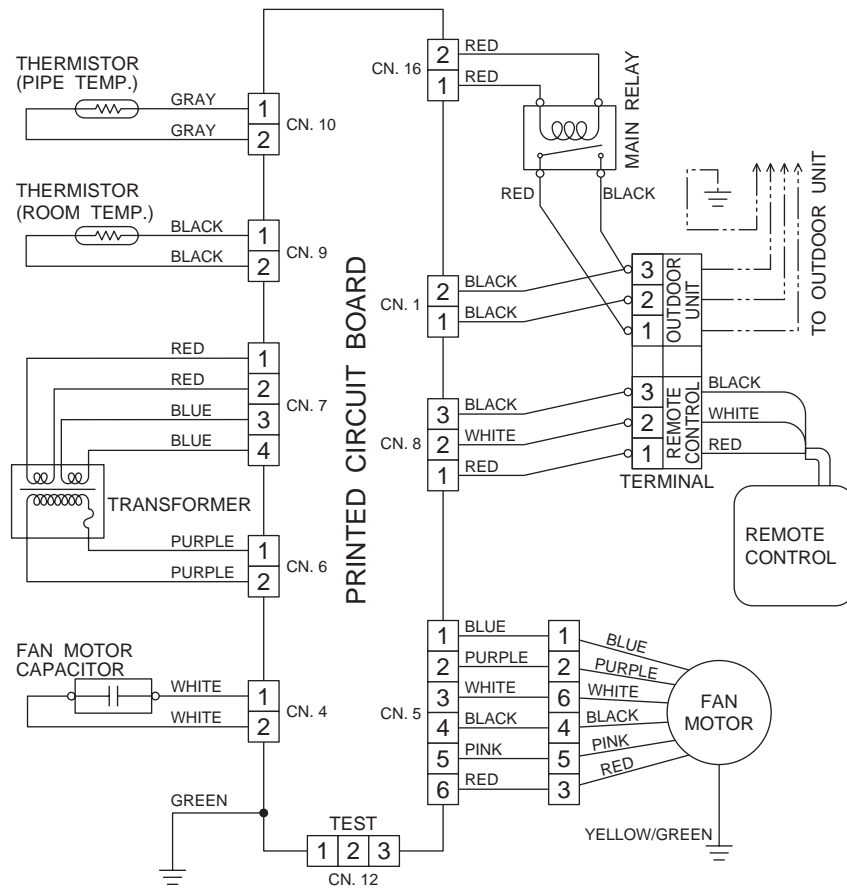


● OUTDOOR UNIT

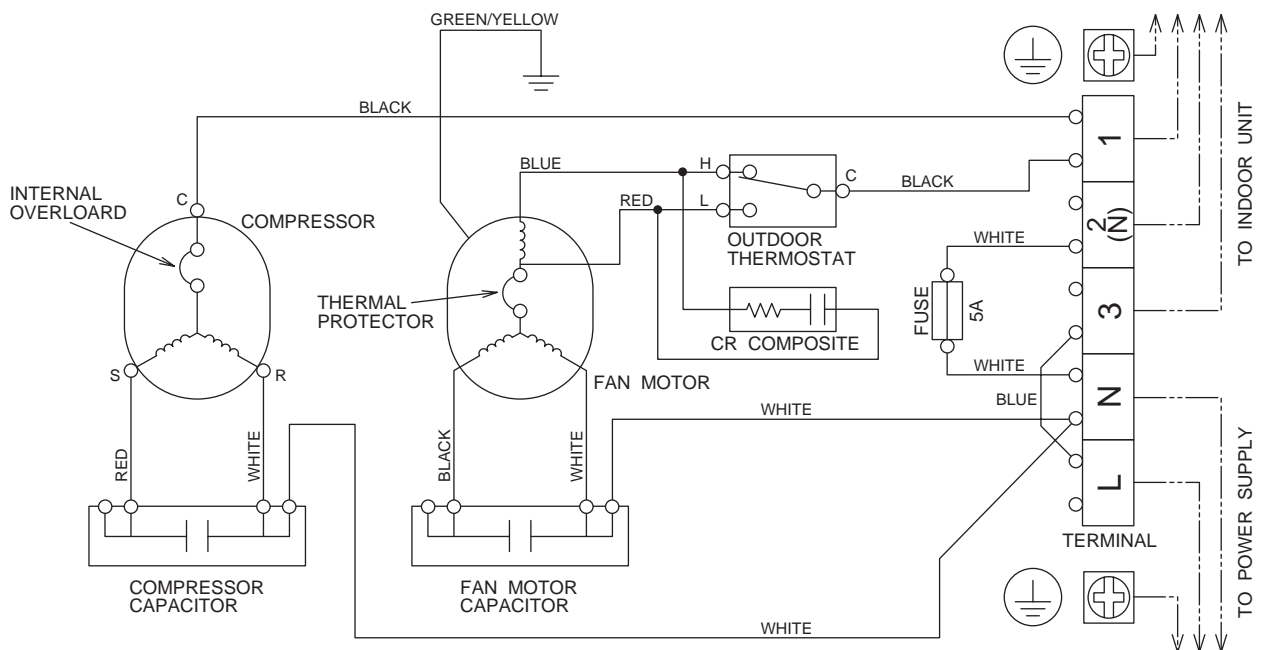


ARG25A

INDOOR UNIT



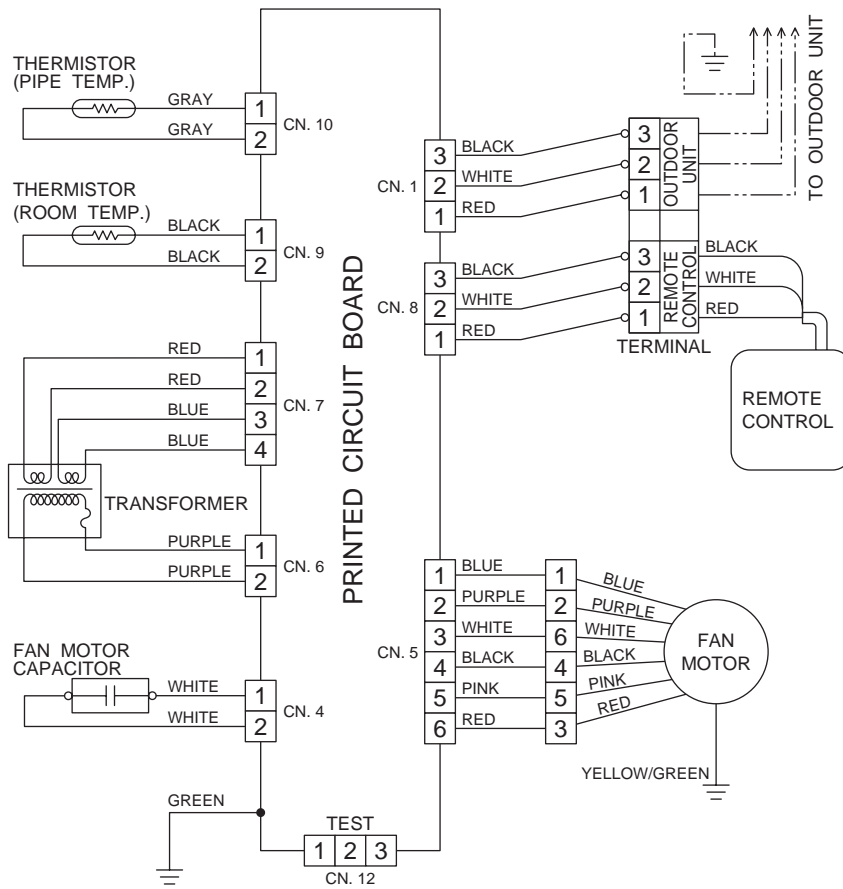
OUTDOOR UNIT



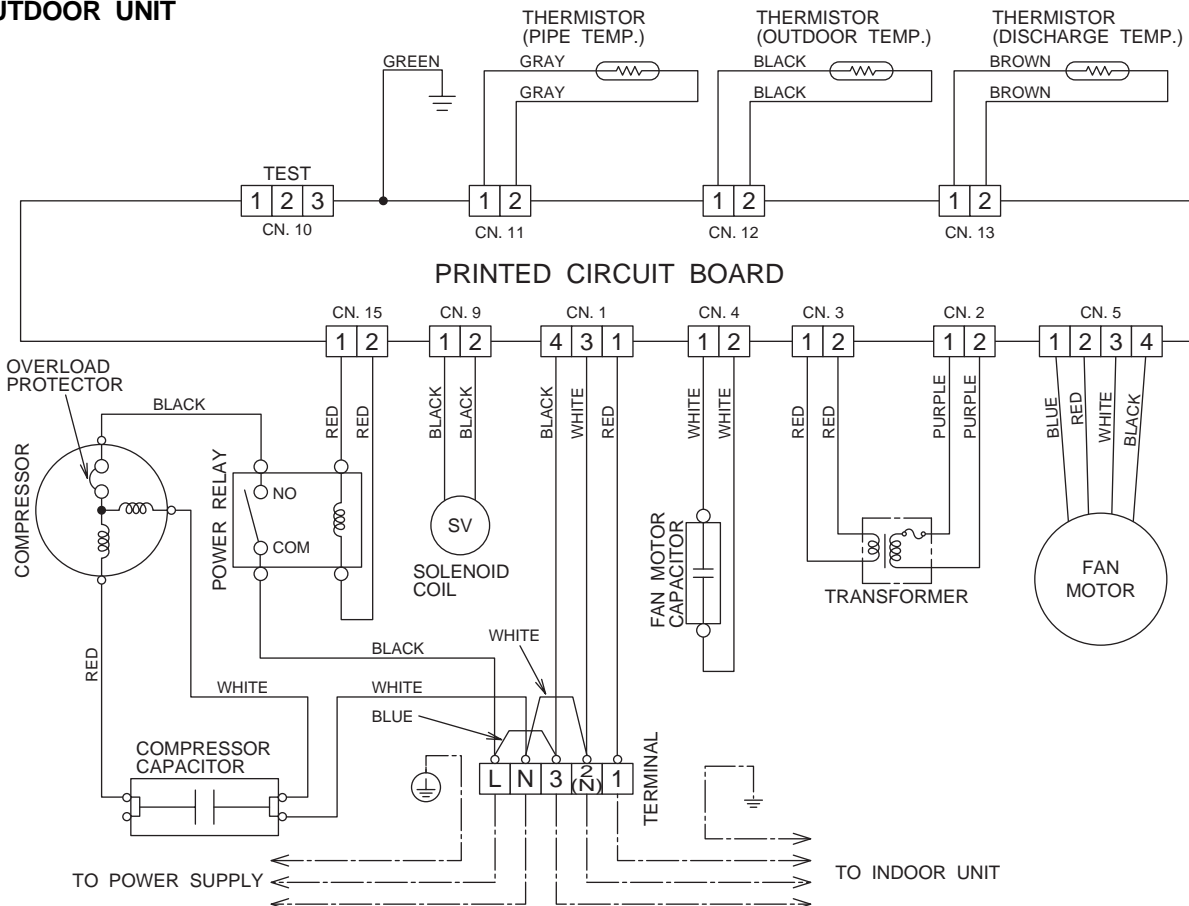
WIRING DIAGRAM

■ ARG25R

● INDOOR UNIT



● OUTDOOR UNIT

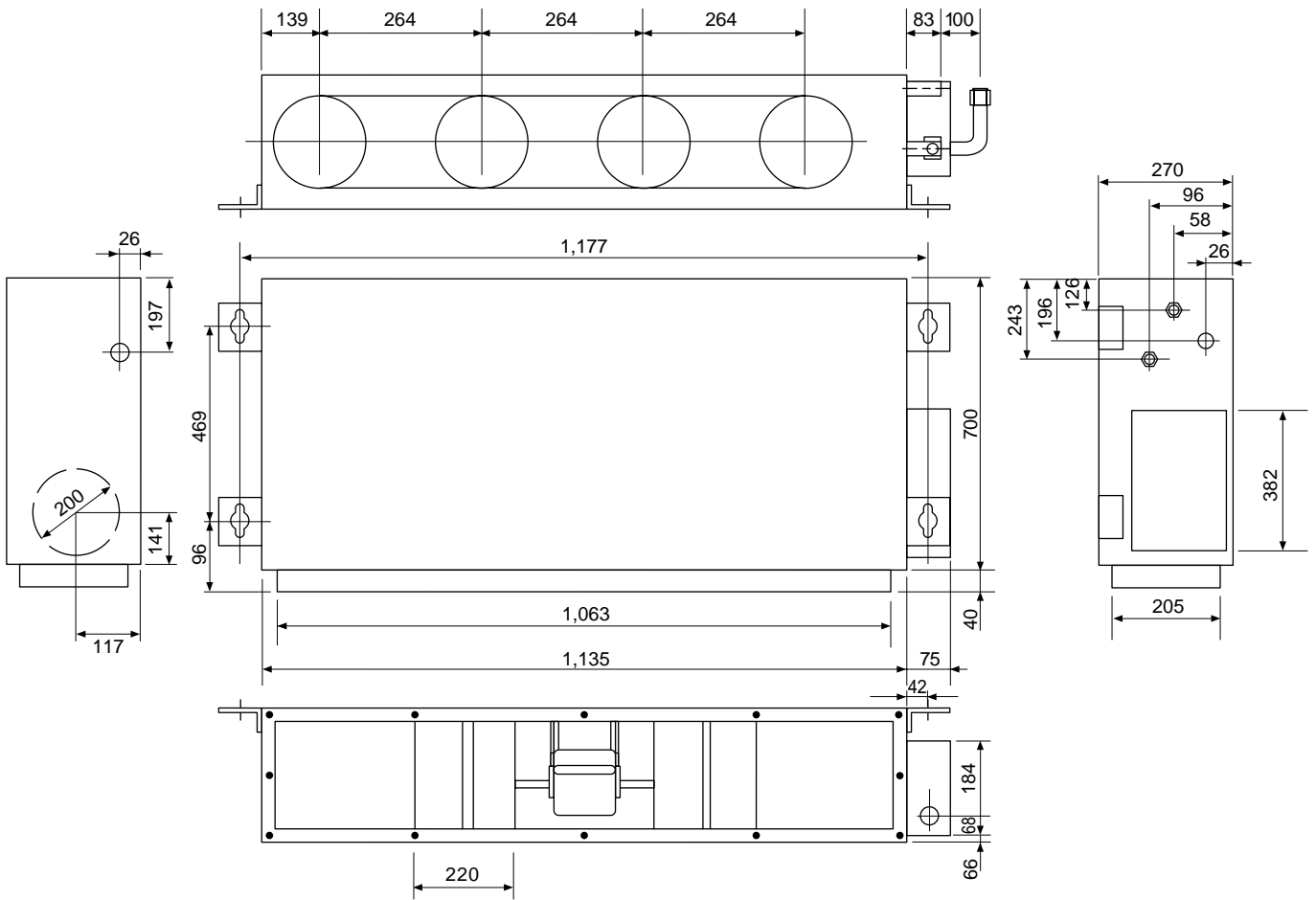
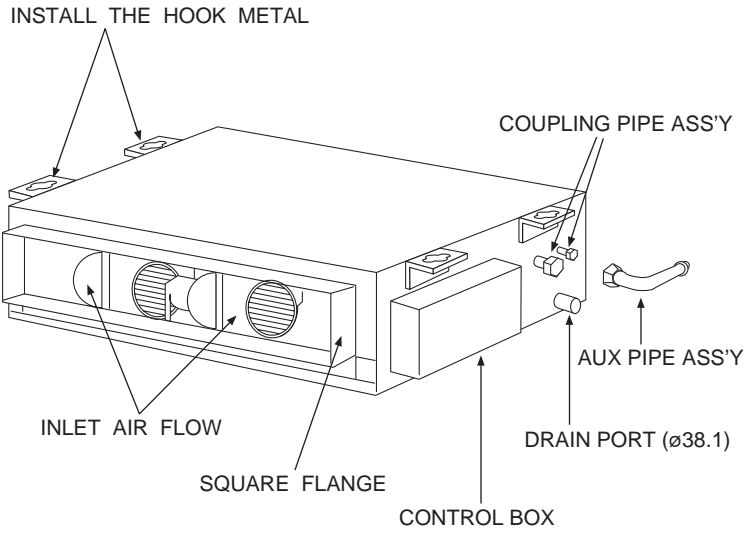


DIMENSIONS

■ ARG45 / 36 / 30 / 25

● INDOOR UNIT

Unit : (mm)

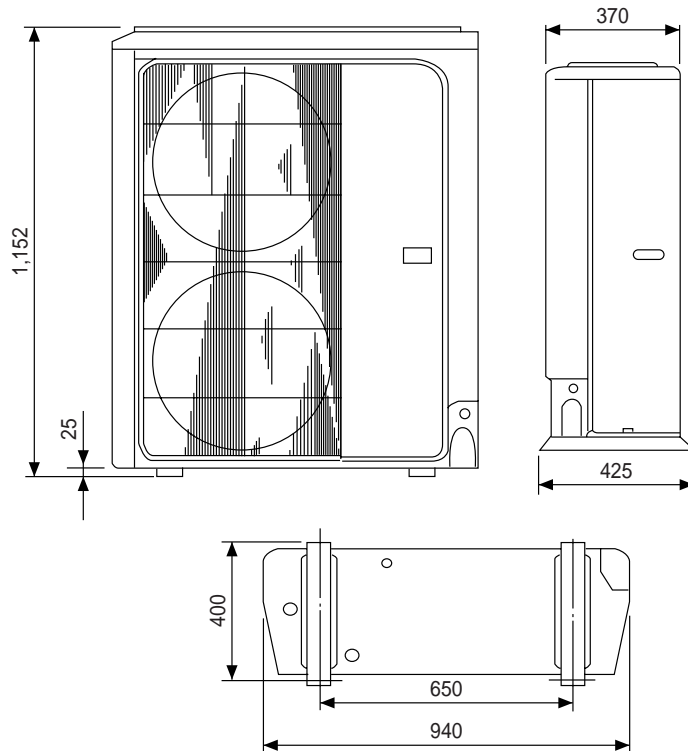


DIMENSIONS

■ ARG45 / 36

● OUTDOOR UNIT

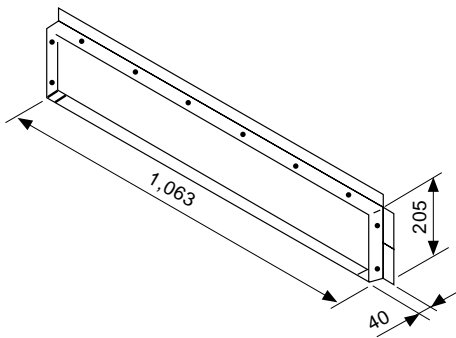
Unit : (mm)



● OPTIONAL PARTS

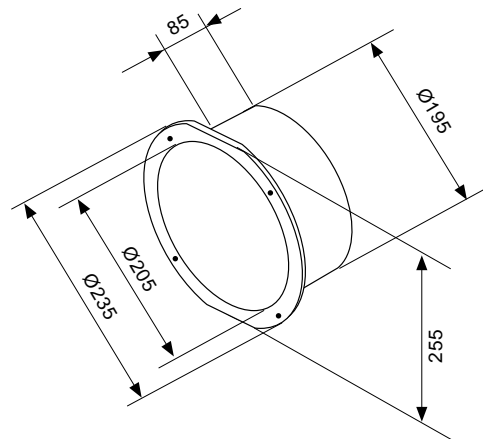
SQUARE FLANGE BASE

Model : UTD-SF045



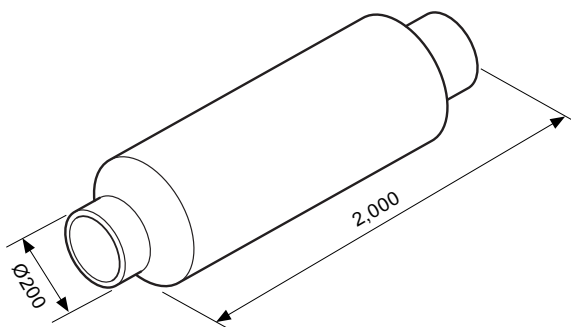
ROUND FLANGE (OUTLET)

Model : UTD-RF204



FLEXIBLE ROUND DUCT

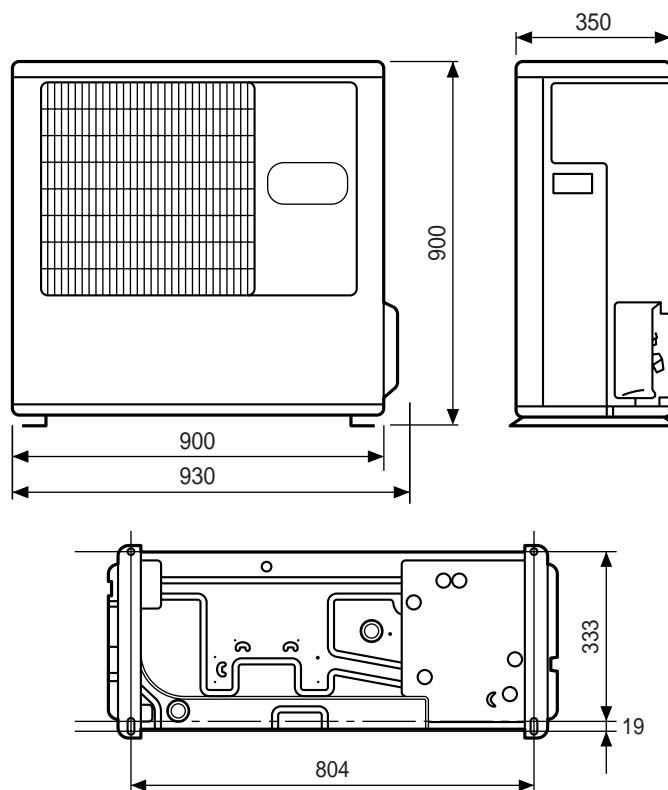
Model : UTD-RD202



■ ARG30

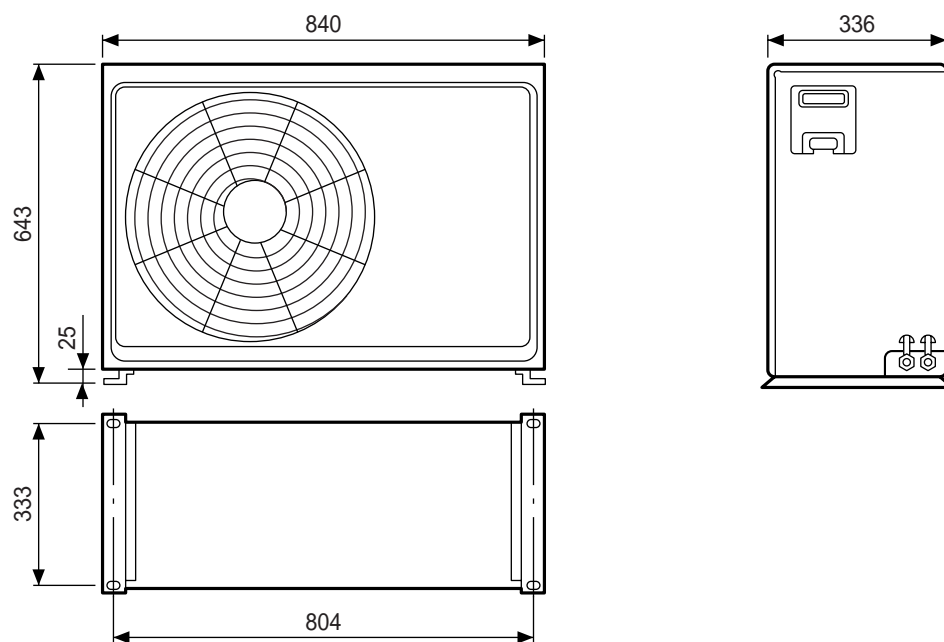
● OUTDOOR UNIT

Unit : (mm)



■ ARG25

● OUTDOOR UNIT



MEMO

A series of horizontal dashed lines for writing.



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