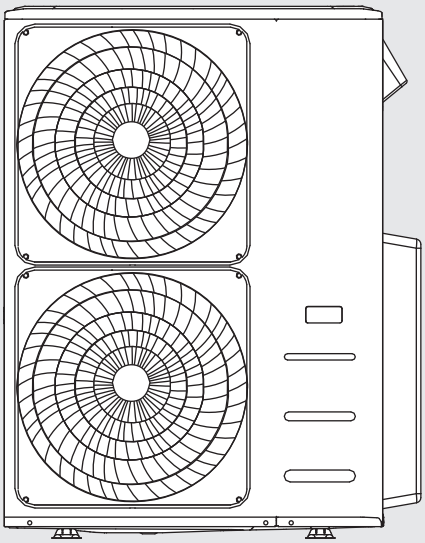
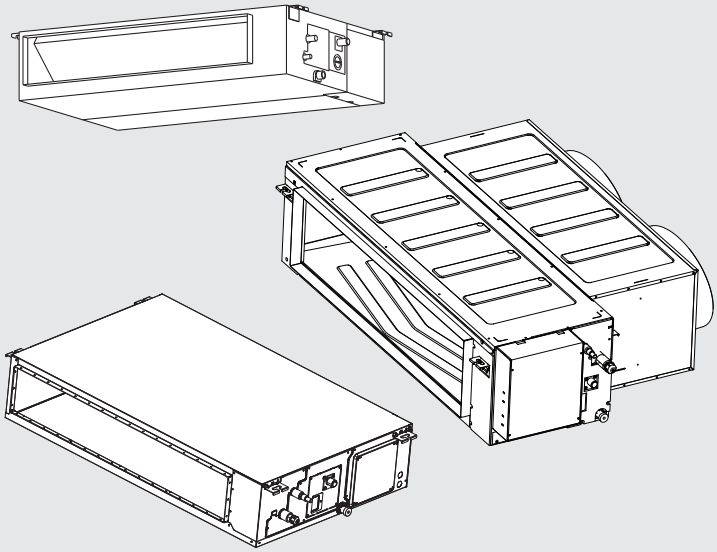
MODELS

System	Outdoor	Indoor
7	DONSR07B1LA	DINLR07B1A
9	DONSR09B1LA	DINLR09B1A
11	DONSR11B1LA	DINLR11B1A
13	DONSR13B1LA	DINLR13B1A
15	DONSR15B1LA	DINLR15B1SA
	DONSR15B1TA	DINLR15B1SA
18	DONSR18B1TA	DINLR18B1SA

REFRIGERANT
R32





Ducted Reverse Cycle Inverter

Installation Manual

Rinnai

IMPORTANT

Read this manual and SAFETY MANUAL (if any) carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

Please check the applicable models, technical data and manufacturer information from the "Operation Manual" in the packaging of the outdoor unit.

This appliance must be installed in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS 3000, AS/NZS 5149, AS/NZS 5141
- Local Regulations including local OH&S requirements, and Municipal Building Codes, including the National Construction Code (NCC).

This appliance must be installed, maintained and removed only by an Authorised Person. Rinnai recommends that this appliance be serviced once a year.

For continued safety of this appliance it must be installed and maintained in accordance with the manufacturer's instructions.

The design and specifications are subject to change without prior notice for product improvement. Consult with the Dealer or manufacturer for details.

IMPORTANT

PLEASE REFER TO ANY OPERATING MANUALS AND USER OPERATING GUIDES ACCOMPANYING ANCILLARY EQUIPMENT (WHERE FITTED)

TABLE OF CONTENTS

WARNINGS AND IMPORTANT INFORMATION

IMPORTANT

READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE

Always comply with the following precautions to avoid dangerous situations and to ensure optimum performance.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

WARNINGS: WHEN IGNORED, CAN RESULT IN SERIOUS INJURY OR DEATH.

CAUTIONS: WHEN IGNORED, CAN RESULT IN MINOR INJURY OR PRODUCT DAMAGE.

WARNING

REGULATORY / INSTALLATION

This appliance shall be installed in accordance with:

- **Manufacturer's Installation Instructions.**
- **Current AS/NZS 3000, AS/NZS 5141, AS/NZS 5149, AS/NZS 3500 National Plumbing & Drainage, HB276 - A Guide to good practice for energy efficient installation.**
- **Local regulations, including local OH&S requirements, and Municipal Building Codes, including the National Construction Code (NCC).**
- **This appliance must be installed, maintained and removed by an Authorised Person.**

For continued safety of this appliance it must be installed and maintained in accordance with the manufacturers instructions.

This appliance uses R32 refrigerant.

This appliance is heavy, use 2 people or mechanical lifting device. Improper lifting may result in serious injury.

Take care when opening or unpacking this appliance. Failure to do so may result in serious injury or product failure.

DO NOT modify the electrical wiring of this appliance. If the control power wiring is damaged or deteriorated then it must be replaced by an authorised person. Failure to do so may result in electric shock, fire, serious injury or product failure.

DO NOT install the air conditioner on an unstable or non level surface or where there may be a danger of it falling. It may result in death, serious injury, or product failure.

DO NOT install the outdoor unit where noise may cause nuisance.

DO NOT install the outdoor unit where it will be exposed to sea wind (salt spray) as this will reduce durability.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. Refer to AS/NZS Standards and regulations.

This appliance is not intended for use by persons(including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

IMPORTANT

MANDATORY INSPECTION PRIOR TO INSTALLATION

Immediately report any damage or discrepancies to the Supplier of the appliance. This appliance was inspected and tested at the time of manufacture and packaging, and released for transportation without known damage. Upon receipt, inspect the exterior for evidence of rough handling in shipment. Ensure that the appliance is labelled correctly for the gas and electrical supply, and/or other services it is intended to be connected to.

For safety and warranty purposes, appliances that may be damaged or incorrect MUST NOT be installed or operated under any circumstances. Installation of damaged or incorrect appliances may contravene local government regulations. Rinnai disclaims any liability or responsibility whatsoever in relation to the installation or operation of damaged or incorrect appliances.

WARNINGS FOR PRODUCT USE

WARNING

- **If an abnormal situation arises (like a burning smell), immediately turn off the unit and disconnect the power. Call your dealer for instructions to avoid electric shock, fire or injury.**
- **DO NOT insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.**
- **DO NOT use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.**
- **DO NOT operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.**
- **DO NOT operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.**
- **DO NOT expose your body directly to cool air for a prolonged period of time.**
- **DO NOT allow children to play with the air conditioner. Children must be supervised around the unit at all times.**
- **If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.**
- **In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.**

ELECTRICAL WARNINGS

WARNING

- **If any electrical cables are damaged, they MUST be replaced by a suitably qualified and trained service person in order to avoid any potential hazards.**
- **The product MUST be properly earthed at the time of installation, or electrical shock may occur.**
- **For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.**
- **Appropriately specified and sized cables MUST be used, ensure all connections are tight. Clamp all cables sufficiently so that they cannot be pulled loose or disconnected.**
- **All wiring MUST be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.**
- **A correctly specified and sized circuit breaker MUST be installed in accordance with all local and national wiring standards. A dedicated, independent electrical circuit is required for the system.**

FUSE SPECIFICATIONS

NOTE

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse are printed on the circuit board, such as:

- **T5A/250VAC, T10A/250VAC, etc.**
- **T20A/250VAC(<=7kW units), T30A/250VAC(>7kW units)**

NOTE: For the units with R32 or R290 refrigerant, only the blast-proof ceramic fuse can be used.

SAFETY PRECAUTIONS

PRODUCT INSTALLATION WARNINGS

WARNING

- **Installation must be performed by an authorised dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.**
- **Installation must be performed according to the installation instructions and installed by an Authorised Person only. Improper installation can cause water leakage, electrical shock, or fire.**
- **Contact an authorised service technician for repair or maintenance of this unit. This appliance shall be installed in accordance with current wiring regulations.**
- **Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.**
- **Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.**
- **Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.**
- **For units that have an auxiliary electric heater, do not install the unit within 1 metre (3 feet) of any combustible materials.**
- **DO NOT install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.**
- **DO NOT install the indoor unit under a floor or beneath a deck, to be installed in a roof space only.**
- **DO NOT turn on the power until all work has been completed.**
- **When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.**
- **How to install the appliance to its support, please read the information for details in "indoor unit installation" and "outdoor unit installation" sections.**

FLUORINATED GASES

NOTE

- **This air-conditioning unit contains fluorinated greenhouse gases. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself or the "Owner's Manual" in the packaging of the outdoor unit.**
- **Installation, service, maintenance and repair of this unit must be performed by a certified technician.**
- **Product uninstallation and recycling must be performed by a certified technician.**
- **For equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO_2 equivalent or more, but less than 50 tonnes of CO_2 equivalent, if the system has a leak- detection system installed, it must be checked for leaks at least every 24 months.**
- **When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended**

WARNING

Certain types of refrigerant (Including R32) require minimum room sizes. Please ensure that these minimum room sizes are adhered to for standard installations (up to pre-charged pipe lengths).

If larger refrigerant charges than standard are used, then consult AS/NZS 60335.2.40 to determine the safe minimum floor area for the installation.

A NOTE ON ILLUSTRATIONS

NOTE

The illustrations used in this manual are for explanatory purposes only and the shape of your indoor unit may vary slightly from that which is shown in this manual.

NOTE

USING R32 REFRIGERANT

When flammable refrigerant are employed, appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.

WARNING

REFRIGERANT

This appliance uses R32 (difluoromethane) refrigerant, which is a flammable gas class A2L according to AS 5149.1 and must be handled by a refrigeration mechanic with an appropriate Australian refrigerant handling licence.

WARNING Risk of fire / flammable material. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.

Read the OPERATING INSTRUCTIONS carefully before operation.

Service personnel are required to carefully read the OPERATING INSTRUCTIONS and INSTALLATION MANUAL before operation.

Further information is available in the OPERATING INSTRUCTIONS, INSTALLATION MANUAL, and the like.

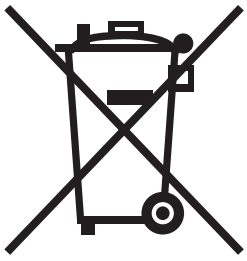
Certain levels of refrigerant require minimum room sizes. Please ensure that these minimum room sizes are adhered to for standard installations (up to 15m pipe length). If larger refrigerant charges than standard are used then please consult AS/NZS 60335.2.40 to determine the safe minimum floor area for the installation.

Make sure that the area has been made safe by having suitable ventilation and is free from ignition sources before charging or releasing the charge of R32.

Model	DONSR07B1LA	DONSR09B1LA	DONSR11B1LA	DONSR13B1LA	DONSR15B1LA	DONSR15B1TA	DONSR18B1TA
Standard Charge (g)	**1500**	**2600**	**2600**	**3500**	**3500**	**3600**	**3800**
Minimum Floor Area (m^2)	**1.42**	**4.28**	**4.28**	**7.75**	**7.75**	**8.20**	**9.14**

- All minimum room sizes in the above table are calculated on the base charge provided with the outdoor unit.
- Mechanical connectors used indoors shall comply with ISO 14903.
- This appliance shall be installed in accordance with AS/NZS 5149.
- When mechanical connectors are reused, sealing parts shall be renewed.
- When flared joints are reused, the flare part shall be re-fabricated.

DISPOSAL GUIDELINES



This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. **DO NOT** dispose of this product as household waste or unsorted municipal waste.

IMPORTANT

Special notice – Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.

SPECIFICATIONS

Rinnai - System Model No.			07L	09L	11L	13L
Nominal Capacity		**kW**	**7**	**9**	**11**	**13**
Power Supply (To Outdoor Unit)		V-Ph-Hz	220 - 240 - 1 - 50			
Maximum Input Power		W	3400	4600	4600	7000
Maximum Input Current		A	16	21	21	31
Recommended Circuit Breaker Size			20	25	25	32
Cooling	Rated Capacity	kW	7.3	9.0	10.5	12.6
	Capacity Range	kW	0.85 - 9.09	2.30 ~ 11.61	2.61 - 11.99	3.15 - 15.8
	Rated Input Power	W	2139	2610	3145	3765
	Rated Input Current	A	9.3	11.9	14.1	16.6
	AEER	W/W	3.39	3.4	3.3	3.32
	TCSPF (hot/average/cold)	W/W	6.080 / 5.510 / 5.848	5.817 / 5.114 / 5.316	5.935 / 5.241 / 5.501	5.813 / 5.240 / 5.503
Heating	Rated Capacity	kW	7.5	10.5	12.5	14.5
	Capacity Range	kW	2.33 - 10.26	2.70 - 12.9	2.61 - 12.9	3.22 - 18.7
	Rated Input Power	W	1842	2400	2980	3550
	Rated Input Current	A	8.2	10.6	13.5	15.4
	ACOP	W/W	4.04	4.3	4.14	4.05
	HSPF (hot/average/cold)	W/W	5.158 / 4.501 / 4.045	5.18 / 4.627 / 4.081	5.221 / 4.500 / 3.842	5.11 / 4.515 / 4.022
Indoor Unit			**DINLR07B1A**	**DINLR09B1A**	**DINLR11B1A**	**DINLR13B1A**
Rated Input Power		W	256	350	364	665
Rated Current		A	1.53	2.01	2.12	3.79
Maximum Current		A	16	21	21	31
Wiring Indoor - Outdoor		Qty x mm² (min)	4 x 1.0	4 x 1.0	4 x 1.0	4 x 1.5
Air Flow (With Filter)	Turbo Speed	L/s (ESP)	488 (100 Pa)	638 (100 Pa)	727 (100 Pa)	920 (150 Pa)
Maximum External Static Pressure (ESP)		Pa	160	160	200	200
Noise Level	Sound Pressure @1.5m (Turbo/Hi/Med/Lo/Silence)	dB(A)	41 / 38 / 36 / 33 / 28	46 / 40 / 38 / 36 / 28	45 / 39 / 37.5 / 36 / 30	52 / 46 / 44 / 42 / 34
	Sound Power Level		59.9	58.3	57.7	62
Dimensions	Net (W x D x H)	mm	1000 x 750 x 245	1200 x 750 x 245	1200 x 750 x 300	1200 x 750 x 300
	Packaging (W x D x H)		1225 x 860 x 304	1425 x 860 x 304	1425 x 860 x 359	1425 x 860 x 359
	Net / Gross Weight	kg	31.5 / 37.7	40.5 / 47.3	42.9 / 49.8	45 / 51.9
Duct Connections	Supply Air (W x H)	mm	827 x 178	1027 x 178	1027 x 233	1027 x 233
	Return Air (W x H)		892 x 212	1092 x 212	1092 x 267	1092 x 267
Condensate Drain Pipe Outer Diameter	Gravity		25			
	Pump					
Refrigerant Piping	Liquid / Gas Connections		9.5 / 15.9	9.5 / 15.9	9.5 / 15.9	9.5 / 15.9
Moisture Removal		L/h	2.95	2.675	1.922	3.559
Controller		Type	Wired Programmable Controller with Wi-Fi Control			
Operating Range		°C	Cooling: 16 ~ 32, Heating: 0 ~ 30			
Outdoor Unit			**DONSR07B1LA**	**DONSR09B1LA**	**DONSR11B1LA**	**DONSR13B1LA**
Power Supply		V-Ph-Hz	220 - 240 - 1 - 50			
Compressor		Type	Twin Rotary			
Sound Pressure Level @ 1m		dB(A)	61	62	62	64
Sound Power Level			66.3	68.1	68.1	70.7
Dimensions	Net (W x D x H)	mm	890 x 342 x 673	946 x 410 x 810	946 x 410 x 810	980 x 415 x 975
	Packaging (W x D x H)		1030 x 438 x 815	1090 x 500 x 965	1090 x 500 x 965	1145 x 500 x 1120
	Net / Gross Weight	kg	44 / 57.5	75.2 / 91.4	75.2 / 91.4	89 / 103.2
Refrigerant Piping	Type		R32			
	Charged Volume	kg	1.5	2.6	2.6	3.5
	Design Pressure,	MPa	4.3 / 1.7	4.3 / 1.7	4.3 / 1.7	4.3 / 1.7
	Pre-Charged Length	mm	20m			
	Change Adjustment (If >20m)	g/m	24			
	Liquid / Gas Connections	mm	9.5 / 15.9	9.5 / 15.9	9.5 / 15.9	9.5 / 15.9
	Liquid / Gas Pipe Run ø	mm	9.5 / 15.9	9.5 / 15.9	9.5 / 15.9	9.5 / 15.9
	Maximum Pipe Length	mm	50	75	75	75
	Minimum Pipe Length		3	3	3	3
	Maximum Vertical Separation		25	30	30	30
Ambient Temperature Limits		°C	Cooling -15 - 50, Heating -20 - 24			

Note: For pipe runs less than 20m one way no refrigerant needs to be removed, if greater than 20m refrigerant will need to be added at 24 g/m.

Rinnai - System Model No.			15L	15T	18T
Nominal Capacity		**kW**	**15**	**15**	**18**
Power Supply (To Outdoor Unit)		V-Ph-Hz	220 - 240 - 1 - 50		
Maximum Input Power		W	7000	7000	7000
Maximum Input Current		A	31	31	31
Recommended Circuit Breaker Size			32	32	32
Cooling	Rated Capacity	kW	14	14	17
	Capacity Range	kW	3.99 - 16.5	4.19 - 18.87	3.6 - 19.34
	Rated Input Power	W	4180	3900	5100
	Rated Input Current	A	18.4	17	22
	AEER	W/W	3.32	3.56	3.31
	TCSPF (hot/average/cold)	W/W	5.598 / 5.066 / 5.298	6.002 / 5.425 / 5.676	5.550 / 5.085 / 5.341
Heating	Rated Capacity	kW	16.8	17	18
	Capacity Range	kW	3.6 - 18.3	3.6 - 19.6	3.9 - 19.6
	Rated Input Power	W	4300	4180	4560
	Rated Input Current	A	18.9	18.5	20
	ACOP	W/W	3.87	4.04	3.92
	HSPF (hot/average/cold)	W/W	5.000 / 4.316 / 3.738	5.178 / 4.501 / 3.920	5.005 / 4.317 / 3.720
Indoor Unit			**DINLR15B1SA**	**DINLR15B1SA**	**DINLR18B1SA**
Rated Input		W	631	631	642
Rated Current		A	3.38	3.38	3.44
Maximum Current		A	31	31	31
Wiring Indoor - Outdoor		Qty x mm² (min)	4 x 1.5	4 x 1.5	4 x 1.5
Air Flow (With Filter)	High Speed	L/s (ESP)	922 (150 Pa)	922 (150 Pa)	925 (150 Pa)
Maximum External Static Pressure (ESP)		Pa	200	200	200
Noise Level	Sound Pressure @1.5m (Turbo/Hi/Med/Lo/Silence)	dB(A)	50 / 46.5 / 44 / 42 / 36	50 / 46.5 / 44 / 42 / 36	51 / 49 / 47 / 43 / 36
	Sound Power Level		63	62.2	61.9
Dimensions	Net (W x D x H)	mm	1400 x 870 x 380	1400 x 870 x 380	1400 x 870 x 380
	Packaging (W x D x H)		1650 x 1065 x 477	1650 x 1065 x 477	1650 x 1065 x 477
	Net / Gross Weight	kg	65 / 80.9	65 / 80.9	67 / 81.9
Cabinet	Splittable	YES / NO	YES	YES	YES
Duct Connections	Supply Air (W x H)	mm	1152 x 295	1152 x 295	1152 x 295
	Return Air (W x H)		2 x 400 (Oval)	2 x 400 (Oval)	2 x 400 (Oval)
Condensate Drain Pipe Outer Diameter	Gravity		25		
	Pump				
Refrigerant Piping	Liquid / Gas Connections		9.52 / 15.9	9.52 / 15.9	9.52 / 19.1
Moisture Removal		L/h	4.42	4.452	4.355
Controller		Type	Wired Programmable Controller with Wi-Fi Control		
Operating Range		°C	Cooling: 16 ~ 32, Heating: 0 ~ 30		
Outdoor Unit			**DONSR15B1LA**	**DONSR15B1TA**	**DONSR18B1TA**
Power Supply		V-Ph-Hz	220 - 240 - 1 - 50		
Compressor		Type	Twin Rotary		
Sound Pressure Level @ 1m		dB(A)	63	65	63
Sound Power Level			71.2	70	72
Dimensions	Net (W x D x H)	mm	980 x 415 x 975	952 x 415x 1333	952 x 415 x 1333
	Packaging (W x D x H)		1145 x 500 x 1120	1095 x 495 x 1500	1095 x 495 x 1500
	Net / Gross Weight	kg	89 / 103.2	93 / 109.6	94 / 110.1
Refrigerant Piping	Type		R32		
	Charged Volume	kg	3.5	3.6	3.8
	Design Pressure,	MPa	4.3 / 1.7	4.3 / 1.7	4.3 / 1.7
	Pre-Charged Length	mm	20m		
	Change Adjustment (If >20m)	g/m	24		
	Liquid / Gas Connections	mm	9.5 / 15.9	9.5 / 15.9	9.5 / 19.0
	Liquid / Gas Pipe Run ø	mm	9.5 / 15.9	9.5 / 15.9	9.5 / 19.0
	Maximum Pipe Length	mm	75	75	75
	Minimum Pipe Length		3	3	3
	Maximum Vertical Separation		30	30	30
Ambient Temperature Limits		°C	Cooling -15 - 50, Heating -20 - 24		

Note: For pipe runs less than 20m one way no refrigerant needs to be removed, if greater than 20m refrigerant will need to be added at 24 g/m.

UNPACKING

INSTRUCTIONS FOR UNPACKING THE UNIT

UNPACKING

Indoor unit:

1. Cut the packing belt.
2. Unpack the package.
3. Take out the packing cushion and packing support.
4. Remove the packing film.
5. Take out the accessories.
6. Lift the machine out and lay it flat.

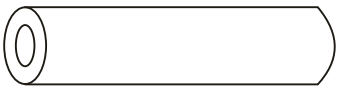
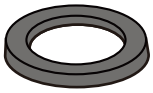
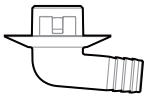
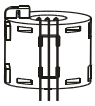
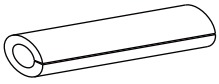
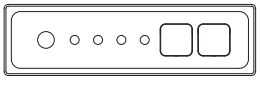
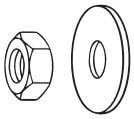
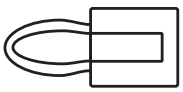
Outdoor Unit

1. Cut the packing belt.
2. Take the unit out of the package.
3. Remove the foam from the unit.
4. Remove the packing film from the unit.

Please be conscious of the environment when discarding packaging materials.

ACCESSORIES

The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items which are not included with the air conditioner must be purchased separately.

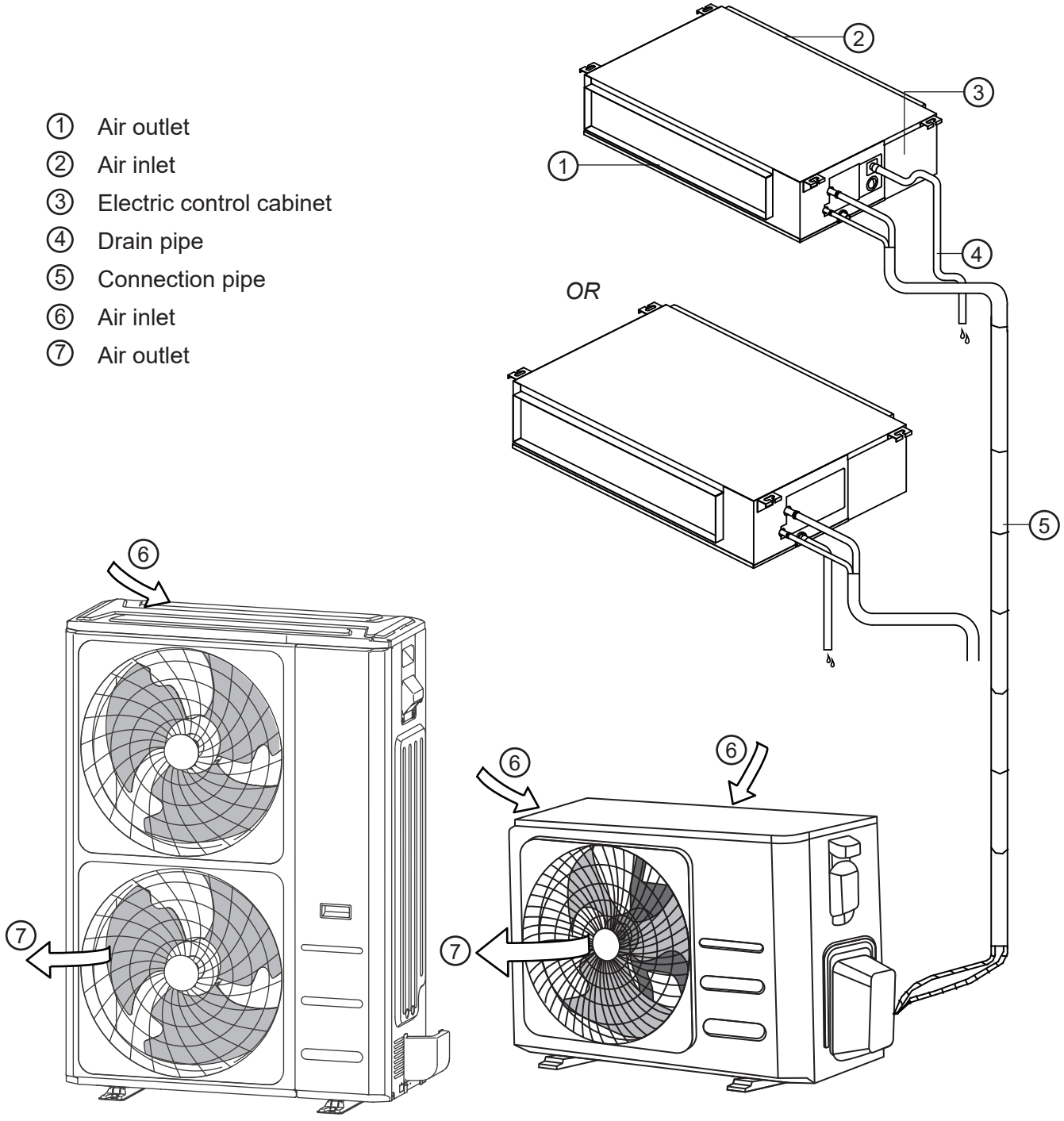
Name	Shape	Quantity
Manuals		2~4
Refrigerant in/out pipe protection cover		2
Copper nut		2
Wired remote controller		1
Outlet pipe sheath (some models)		1
Outlet pipe clasp		1-2 (depending on models)
Seal ring (some models)		1
Drain joint (some models)		1
Connecting wire for display (2m) (some models)		1
Magnetic ring (4-core between indoor & outdoor)		1
Cord protection rubber ring (some models)		1
Display panel		1
FCU hang M10 nuts & Washer		8 (each)
CN5 Connector		1

UNIT PARTS

NOTE **The installation must be performed in accordance with the requirement of local and national standards. The installation may be slightly different in different areas.**

7 - 9 kW – Medium Pressure Models

① Air outlet
② Air inlet
③ Electric control cabinet
④ Drain pipe
⑤ Connection pipe
⑥ Air inlet
⑦ Air outlet



Outdoor unit A

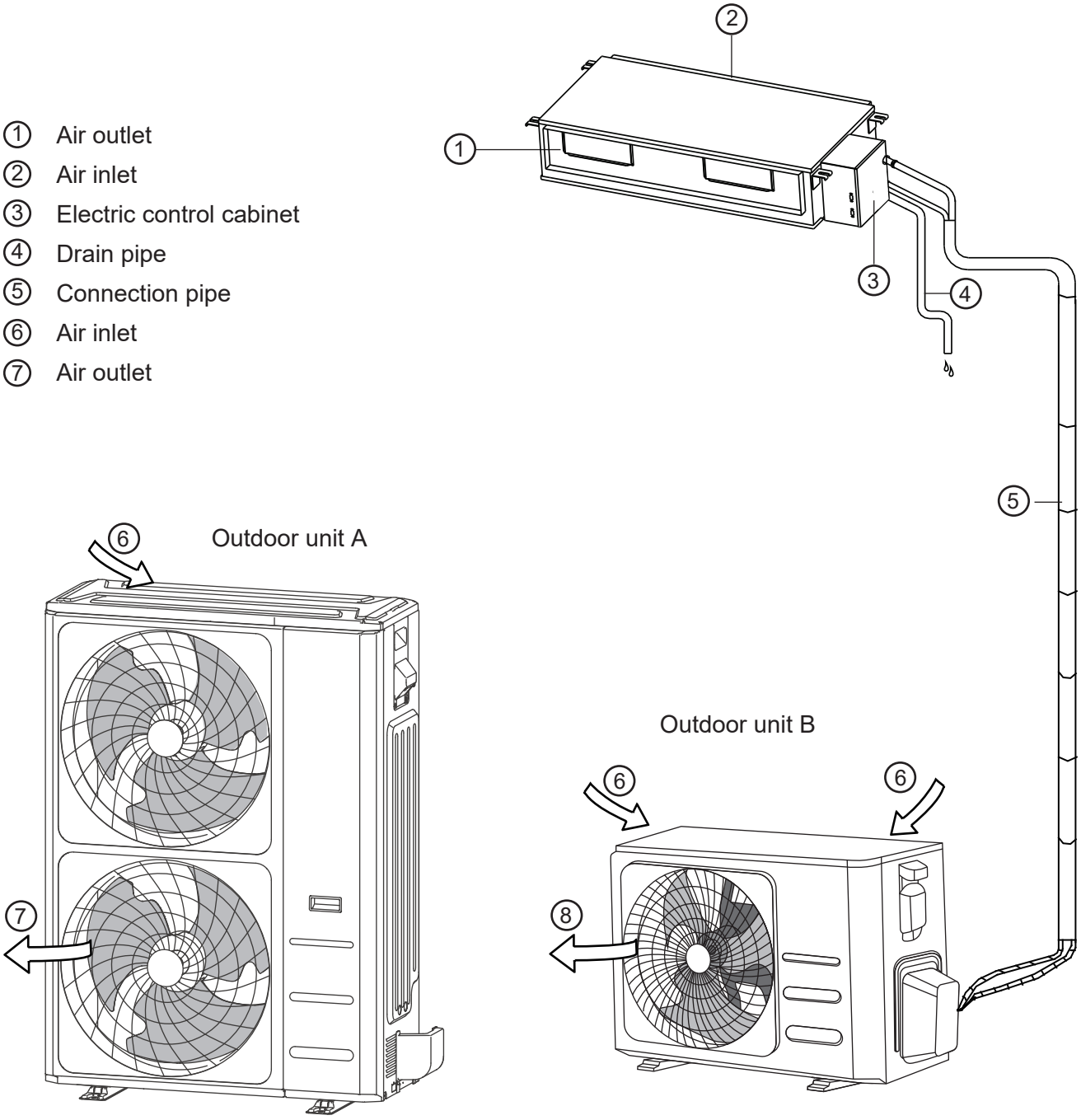
Outdoor unit B

NOTE **Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.**

The installation must be performed in accordance with the requirement of local and national standards. The installation may be slightly different in different areas.

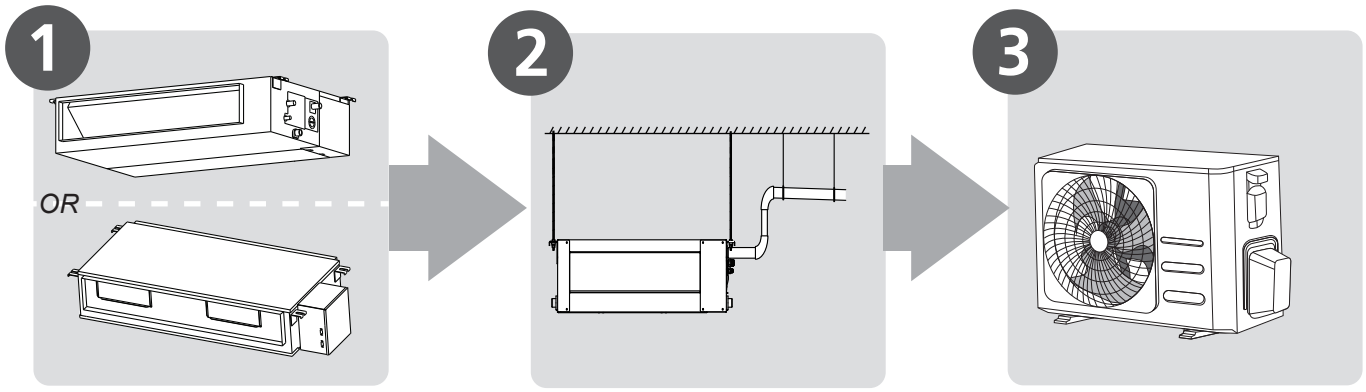
11-18 kw – High Pressure Models

① Air outlet
② Air inlet
③ Electric control cabinet
④ Drain pipe
⑤ Connection pipe
⑥ Air inlet
⑦ Air outlet

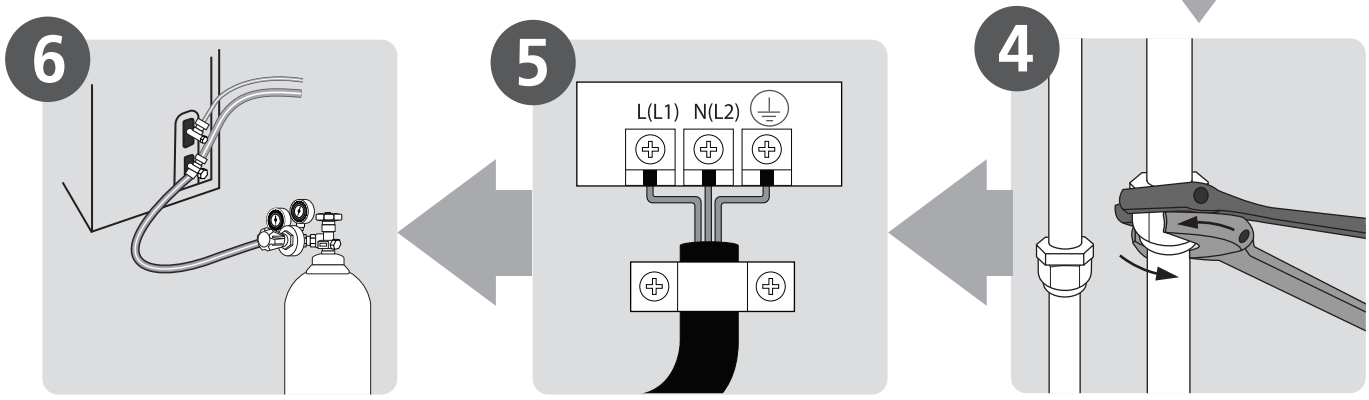


Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

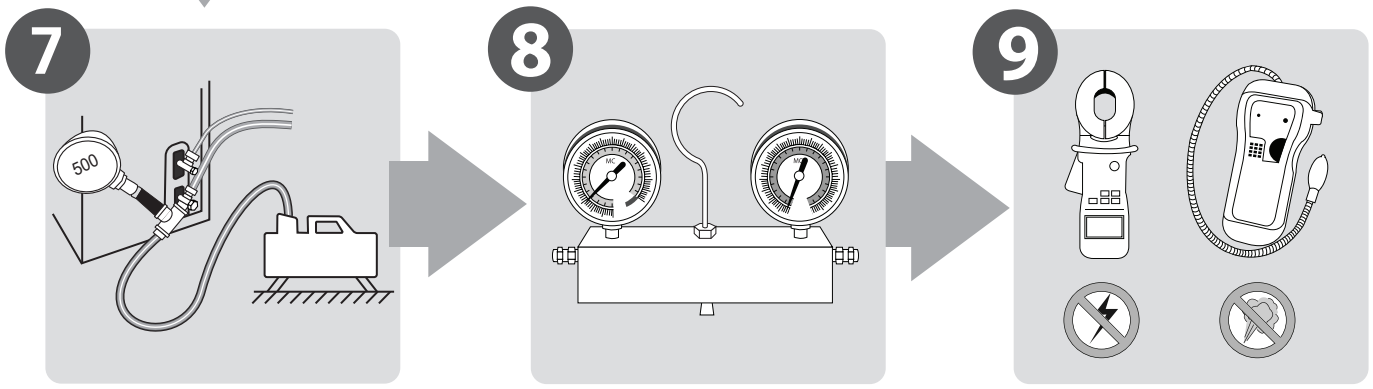
INSTALLATION SUMMARY



Install the indoor unit | **Install the drainpipe** | **Install the outdoor unit**



Connect the refrigerant pipes | **Connect the wires** | **Pressure test & leak test**



Perform a test run | **Charge the system** | **Evacuate the system**

INDOOR UNIT INSTALLATION

INSTALLATION POSITION

Panel installation should be performed after piping and wiring have been completed.

Step 1. Select installation location

Before installing the indoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:

- Enough room exists for installation and maintenance.
- Enough room exists for the connecting the pipe and drainpipe.
- The ceiling is horizontal and its structure can sustain the weight of the indoor unit.
- The air inlet and outlet are not blocked.
- The airflow can fill the entire room.
- There is no direct radiation from heaters.

DO NOT install unit in the following locations:

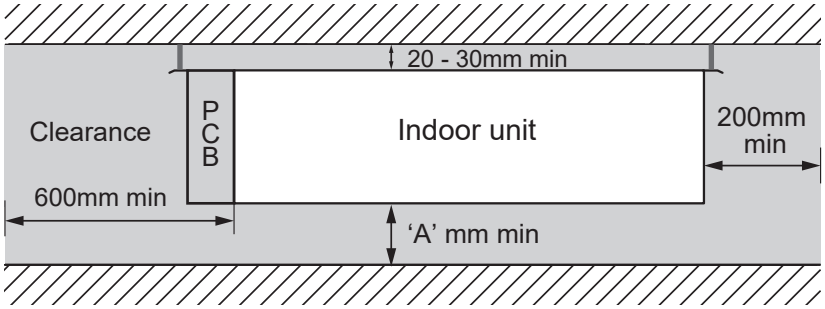
- Under a floor or beneath a deck, to be installed in a roof space only.
- Areas with oil drilling or fracking
- Coastal areas with high salt content in the air
- Areas with caustic gases in the air, such as hot springs
- Areas that experience power fluctuations, such as factories
- Enclosed spaces, such as cabinets
- Kitchens that use natural gas
- Areas with strong electromagnetic waves
- Areas that store flammable materials or gas
- Rooms with high humidity, such as bathrooms or laundry rooms.

SERVICE ACCESS

Service space - all models

The below minimum Clearance requirements must be achieved for service access.

OPTION 1



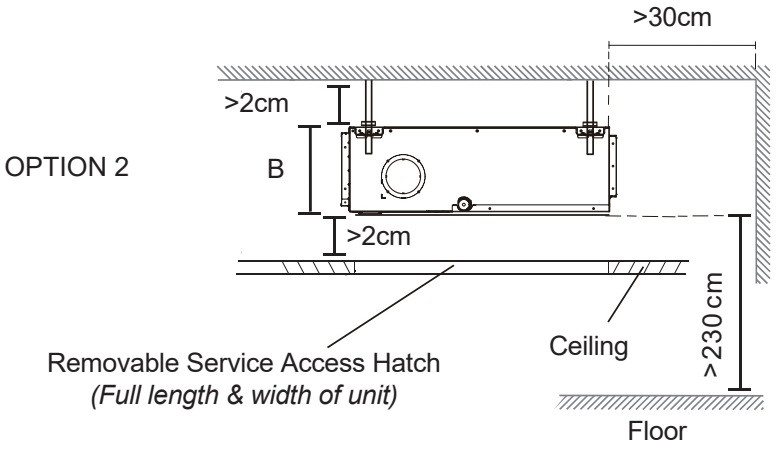
'A' = Minimum requirement

Model Name	Size A (mm)
DINLR07B1A	400
DINLR09B1A	
DINLR11B1A	
DINLR13B1A	
DINLR15B1SA	
DINLR18B1SA	

If safety tray is installed, it must enable easy disconnection from the PVC safety drain and mounting points.

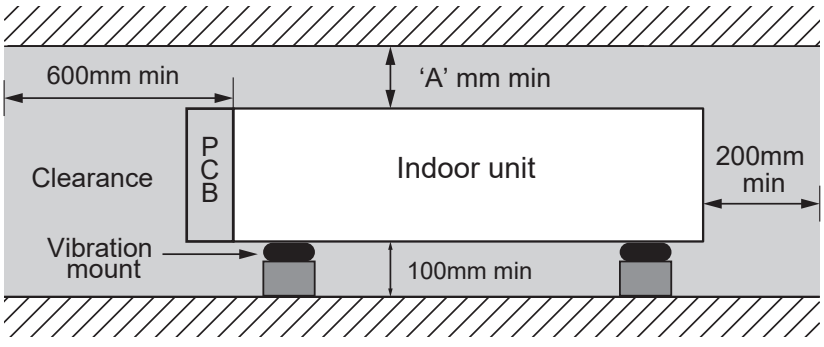
2cm clearance with access plate

OPTION 2



All fasteners, washers, brackets, support members and vibration mounts required to hang the FCU are field supplied.

OPTION 3



'A' = Minimum requirement

Model Name	Size A (mm)
DINLR07B1A	400
DINLR09B1A	
DINLR11B1A	
DINLR13B1A	
DINLR15B1SA	
DINLR18B1SA	

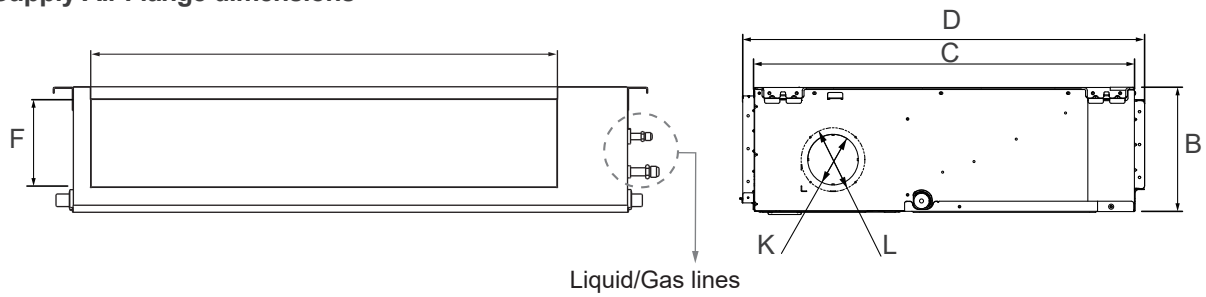
If safety tray is installed, it must enable easy disconnection from the PVC safety drain and mounting points.

Step 2. Hang indoor unit

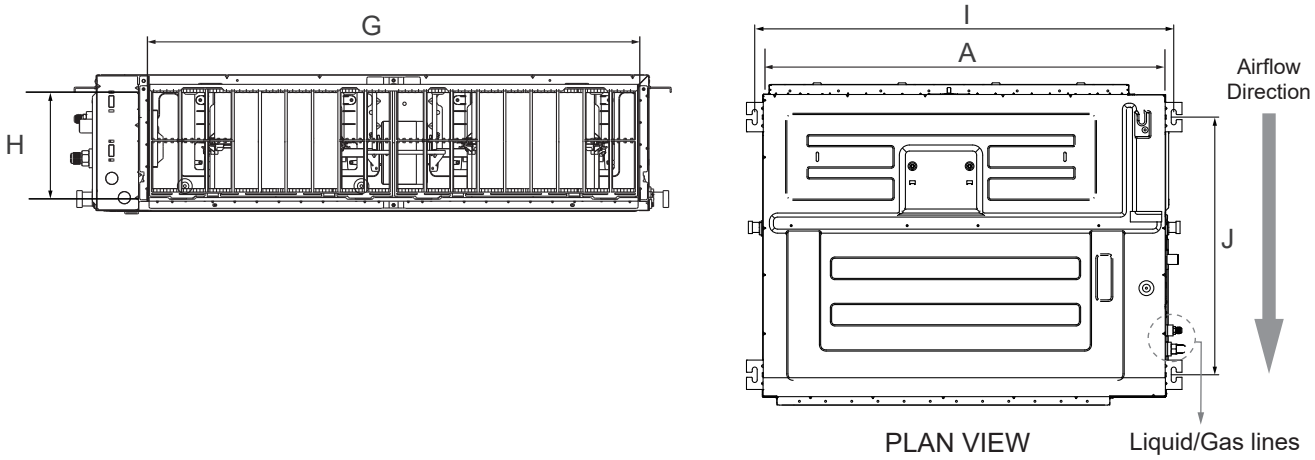
7-13kW models

Please refer to the following diagrams to locate the four positioning screw bolt holes on the ceiling. Be sure to mark the paces where you will drill ceiling hook holes.

Supply Air Flange dimensions



Return Air Flange dimensions

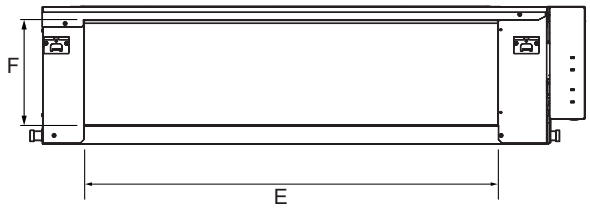


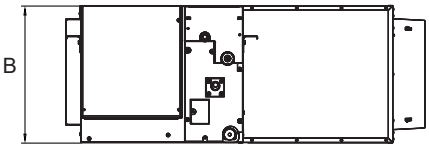
Model (kW)	Outline Dimension (mm)				Air Outlet Opening Size (mm)		Air Return Opening Size (mm)		Dim. of Mounted Lug (mm)		Fresh Air Intake Opening Size (mm)	
	A	B	C	D	E	F	G	H	I	J	K	L
7	1000	245	750	795	827	178	892	212	1040	640	100	126
9	1200	245	750	795	1027	178	1092	212	1240	640	100	126
11 / 13	1200	300	750	795	1027	233	1092	267	1240	640	125	160

15-18kW models

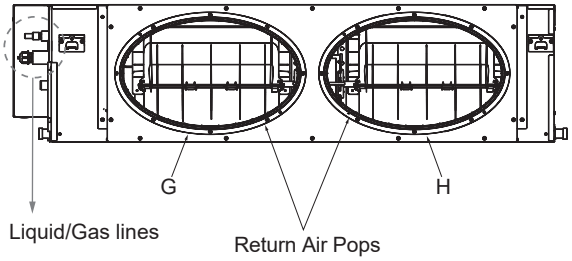
Please refer to the following diagrams to locate the four positioning screw bolt holes on the ceiling. Be sure to mark the paces where you will drill ceiling hook holes.

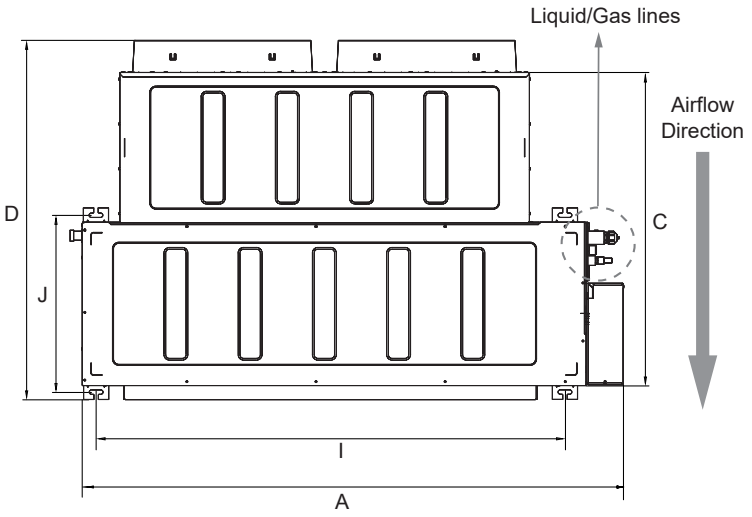
Supply Air Flange dimensions





Return Air Pop dimensions





All dimensions in mm unless otherwise specified

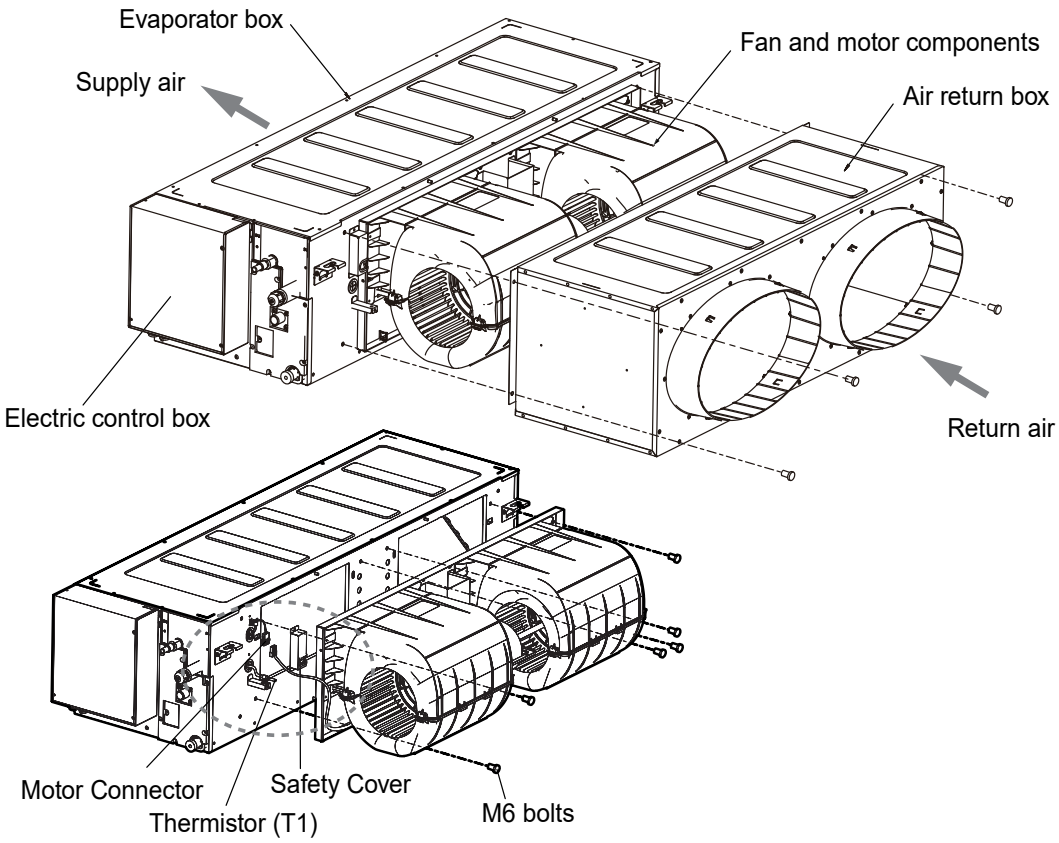
Model (kW)	Outline Dimension (mm)				Air Outlet Opening Size (mm)		Air Return Opening Size (mm)		Dim. of Mounted Lug (mm)	
	A	B	C	D	E	F	G	H	I	J
15 / 18	1508	380	870	1000	1152	295	Ø400	Ø400	1307	493

NOTE **Return air pop connections supplied with unit do not determine return air duct size.**

SPLITTING THE 15/18KW INDOOR UNIT

Separating & Reassembly

WARNING **If the system is already installed and the unit needs to be separated, the power must be disconnected.**



IMPORTANT **Please separate the indoor unit only when necessary. Please disassemble and reassemble on a flat surface.**

Separate the indoor unit in the following order.

1. Carefully remove the air return box by removing the 4 M6 bolts.
2. Carefully remove the safety cover by removing the 2 screws.
3. Carefully disconnect the fan motor wiring.
4. Remove 6 M6 bolts securing the fan and motor assembly on the Evaporator box.
5. Carefully separate the fan and motor assembly from the Evaporator box, taking care not to damage the fan motor wiring.

Reassemble the indoor unit in the following order.

6. Carefully connect the fan and motor assembly to the Evaporator box with 6 M6 bolts.
7. Reconnect the fan motor connector back to the connector of Evaporator Box.
8. Carefully fix the safety cover with 2 screws, taking care not to damage the connector and wiring.
9. Carefully fix the Return Air Box to the Evaporator Box with 4 M6 bolts.

CAUTION **It is necessary to check the Fan Motor Connector is connected properly before use.**

INSTALLING THE INDOOR UNIT

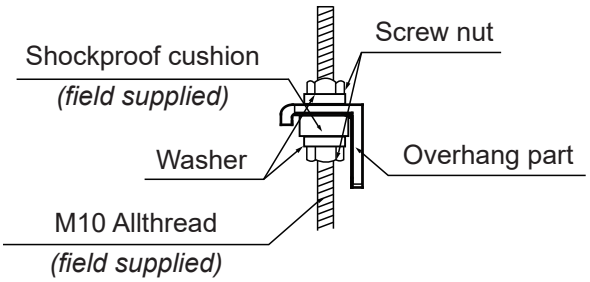
Installing Ø10 hanging bolts. (4 bolts)

- For hang mount centres refer to dimensional drawings on previous pages.
- Hang the unit with M10 Allthread (field supplied). M10 nuts and washers are supplied with the indoor unit.
- If the ceiling configuration differs from the detail noted in this manual please ensure that the installation is suitable for the specific site.
  - ♦ Check the type of the ceiling being used, and isolate the roof mountings from possible vibration.
- When choosing where to site the unit, be careful to determine the position and direction of the refrigerant pipe and the drains. Make sure that the refrigerant pipe, drain pipes, indoor and outdoor wiring can be routed and positioned adequately before hanging the unit. Once the unit is successfully installed, fit off the refrigerant and connections.
- Installation of the hanging screw bolts
  - ♦ Mount off the roof beam.
  - ♦ Strengthen roof beams as required to support full operating weight of the machine.
- Securely mount the hanging screw bolts, and inspect for tightness. It is recommended that the indoor unit be installed with an incline towards the condensate drain of at least 10 - 20mm to assist proper drainage.

NOTE **Confirm the minimum drain fall is at least 1:50.**

Hanging the Indoor Unit

- Hang the indoor unit on the M10 Allthread as shown on the right.



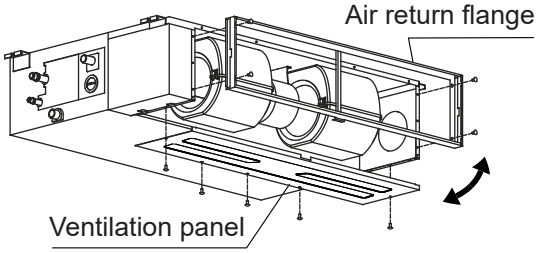
NOTE
- **Do not place the connecting duct weight on the indoor unit.**
- **Use compliant R Rated duct for the area of installation.**
- **When connecting duct, install to allow for removal and maintenance.**
- **Change the fan motor static pressure corresponding to external duct static pressure.**

RETURN AIR PANEL POSITION

Adjust the air inlet direction (From rear side to under-side)

7-13kW models only

1. Take off the ventilation panel and air return flange (see below).
2. Fit return air flange to the unit's base.
3. Fit ventilation panel to the unit's rear.



NOTE **All the figures in this manual are for demonstration purposes only. The air conditioner you have purchased may be slightly different in design, though similar in shape.**

DRAINPIPE INSTALLATION

CAUTION

- **Insulate all piping to prevent condensation, which could lead to water damage.**
- **If the drainpipe is bent or installed incorrectly, water may leak and cause a water-level switch malfunction.**
- **In *HEAT* mode, the outdoor unit will discharge water. Ensure that the drain hose is placed in an appropriate area to avoid water damage and slippage.**
- **DO NOT pull the drainpipe forcefully. This could disconnect it.**

NOTE

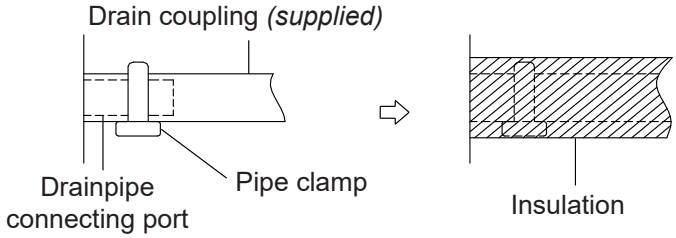
- **When using an extended drainpipe, tighten the indoor connection with an additional protection tube. This prevents it from pulling loose.**
- **The drainpipe should slope downward at a gradient of at least 1/50 to prevent water from flowing back into the air conditioner.**
- **To prevent the pipe from sagging, place supports every 1-1.5m.**
- **If the outlet of the drainpipe is higher than the body's pump joint, use a lift pipe for the indoor unit's exhaust outlet. The lift pipe must be installed no higher than 55cm from the ceiling board. The distance between the unit and the lift pipe must be less than 20cm. Incorrect installation could cause water to flow back into the unit and flood.**
- **To prevent air bubbles, keep the drain hose level or slightly tiled up (<75mm).**

Indoor Drainpipe Installation

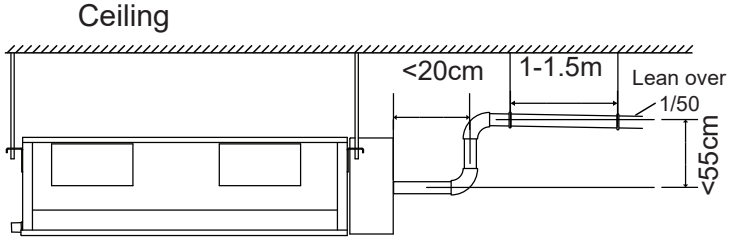
IMPORTANT **The primary condensate drain from all indoor models is supplied configured for pump operation.**

Install the drainpipe as illustrated in the figure below.

1. Cover the drainpipe with heat insulation to prevent condensation and leakage.
2. Attach the mouth of the drain hose to the unit's outlet pipe. Sheath the mouth of the hose and clip it firmly with a pipe clasp.



Pumped Condensate Drain

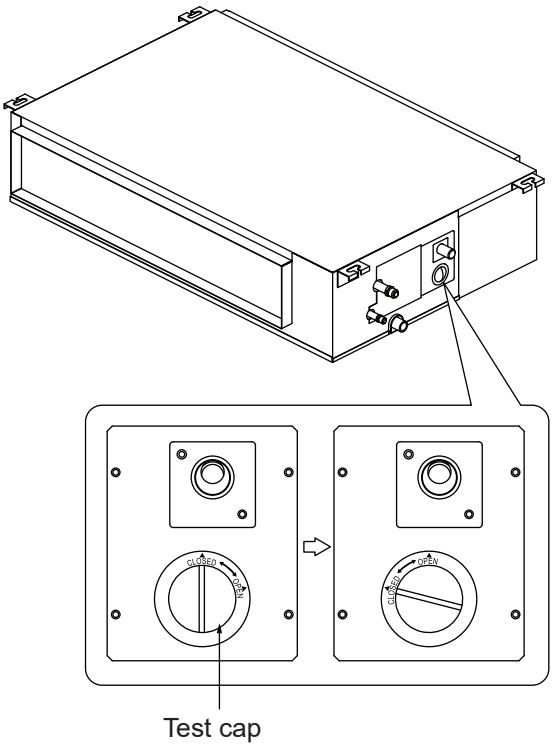


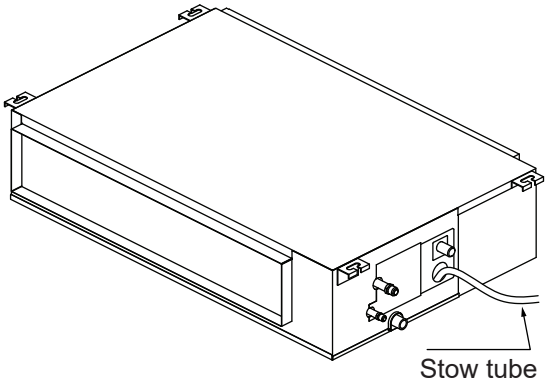
NOTE **The condensate drain terminal point must comply with Local Regulations and Municipal Building codes or refer to AS/NZS 3500 Plumbing and Drainage.**

Units with pump configured (all models)

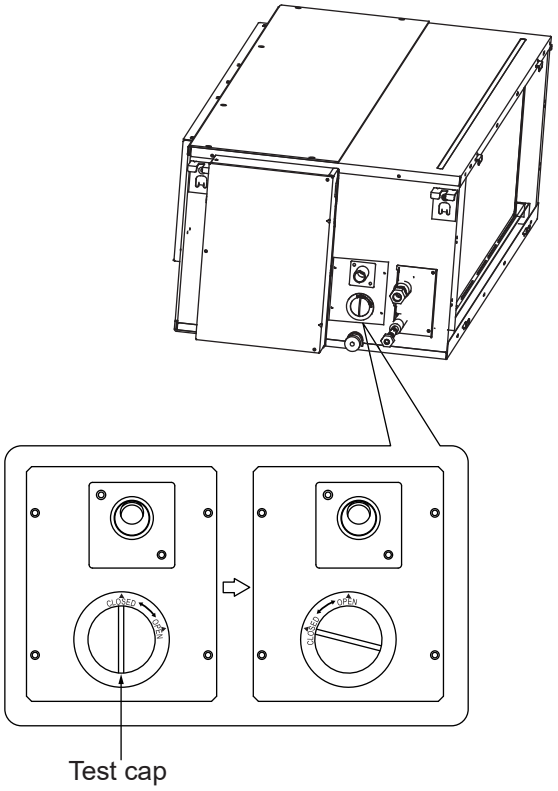
1. Remove the test cover, then fill the water pan with 2 litres of water.

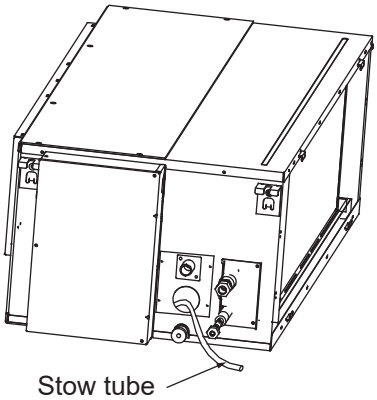
7 - 13kW models





15 - 18kW models



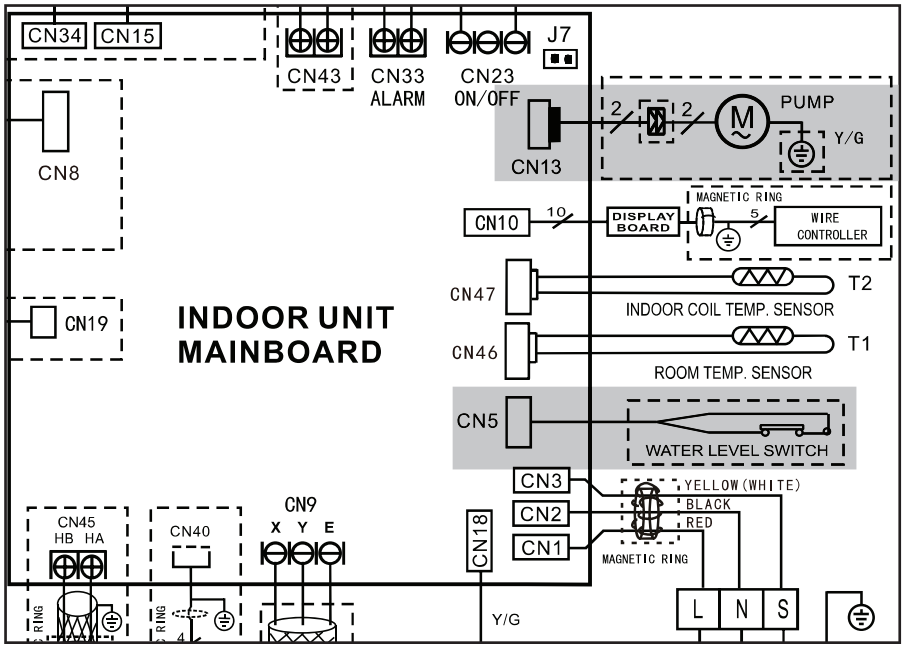


2. During the commissioning or test run stage turn on the unit in *COOLING* mode, you will hear the drain pump start. Check whether the water is discharging properly (a 1-minute lag is possible, depending on the length of the drain pipe). Check for water leaks from all joints. To force the system into COOLING mode refer to section "Forced Cooling" on page 50
3. Turn off the air conditioner and put the cap back on.

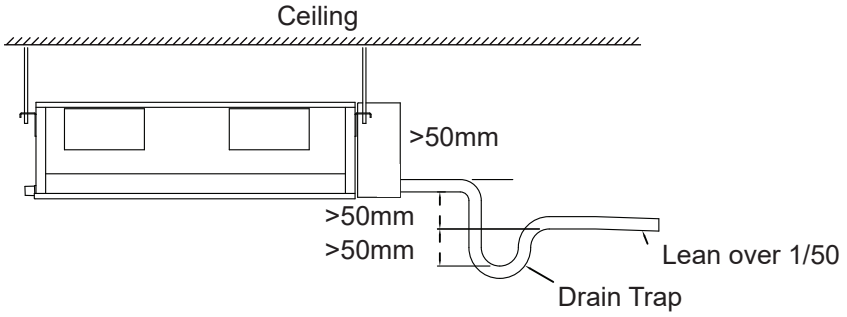
Gravity Condensate Drain

To configure the primary condensate drain for gravity feed do the following:

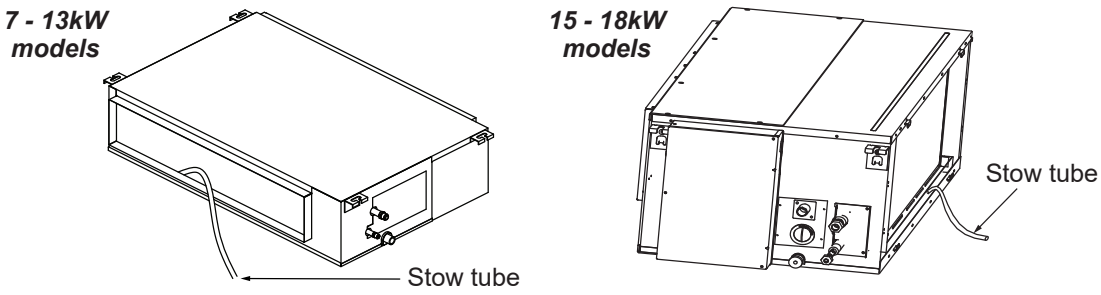
- Isolate power to the indoor unit
- Remove bung from gravity drain spigot and insert into the pump drain spigot
- Access the indoor unit PCB by removing the cover and disconnect CN13
- Disconnect the Water Level sensor at CN5
- With loom supplied in the accessory pack connect to CN5 to create a short circuit
- Replace indoor unit PCB cover and return power to the indoor unit



The trap needs to be installed as close to the unit as possible. Make sure the top of the trap is below the connection to the drain pan to allow complete drainage of the pan.



Before installing ductwork, check whether the drainpipe is unhindered. This test should be performed on newly built houses before the ceiling is installed.



Fill the water pan with 2 litres of water. Check that the drainpipe is unhindered.

OUTDOOR UNIT INSTALLATION

Install the unit by following your Local Regulations and Municipal Building Codes. They may be differ slightly between states.

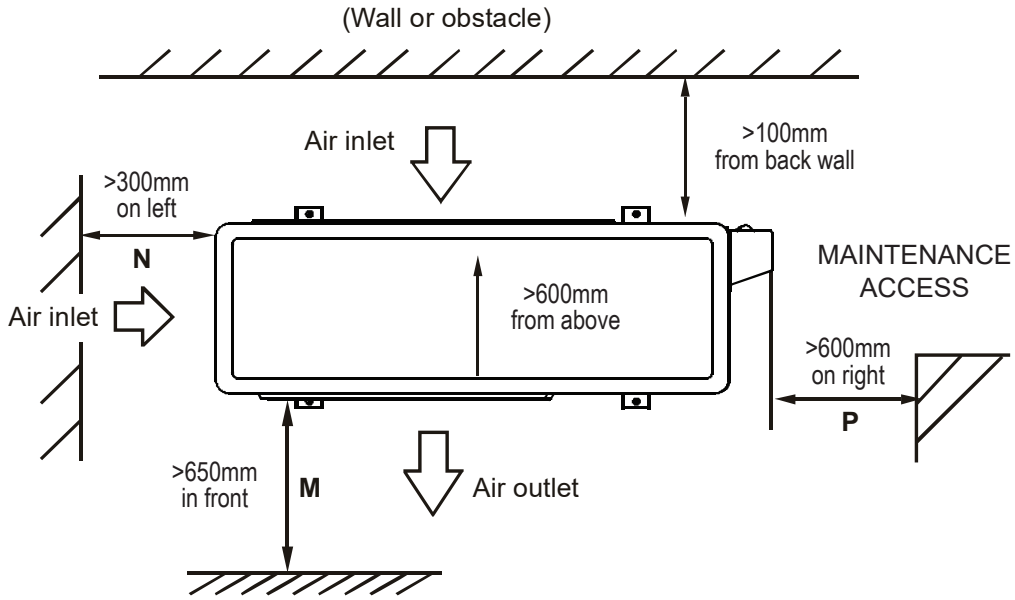


Figure 1.

INSTALLATION INSTRUCTIONS – OUTDOOR UNIT

Step 1. Installation position

The outdoor unit shall be installed in a location that satisfies the following requirements:

- There is sufficient room for installation and maintenance.
- The condenser air path is not blocked or impeded, and cannot be adversely affected by strong prevailing winds.
- It must be in a dry and well ventilated place.
- The supporting structure is flat, horizontal and can withstand the full operating weight of the outdoor unit. The base must be free of vibration.
- Positioned so as to prevent operating noise interference to others.
- Easy installation of interconnecting refrigerant pipes and wiring.
- Arrange condenser air discharge to be free, unimpeded, and not blocked or obstructed.
- Away from any potential fire risks, or flammable materials.
- The refrigerant pipe length or height difference between outdoor and indoor does not exceed the maximum allowable limits.
- For installations prone or exposed to strong prevailing winds or breezes such as coastal areas, please ensure that the unit is sited appropriately, by placing it lengthwise along the wall to reduce any negative impact on the condenser fans. Refer to "Figure 2." on page 25.
- If possible, do not install the unit where it is exposed to direct sunlight, this will negatively impact cooling performance.
- In heating mode, the outdoor unit will produce condensate water. This condensate needs to be properly drained to waste in accordance with all applicable local and national plumbing regulations.
- Select unit location where it will not be subject to the accumulation of snow, leaves or other seasonal debris. This may negatively impact the performance and longevity of the units.
- Locate the outdoor unit as close as possible to the indoor unit to reduce performance losses.
- If possible, please remove and obstacles nearby to prevent the system performance being negatively impacted by compromised condenser air circulation.
- The minimum distance between the outdoor unit and walls/obstacles described in the installation chart does not correlate directly to installations in enclosed spaces. In these cases at least two of the three sides should remain open (M, N, P). Refer to "Figure 1." on page 24

DO NOT install unit in the following locations:

- Near an obstacle that will block air inlets and outlets
- Near a public street, crowded areas, or where noise from the unit will disturb others
- Near animals or plants that will be harmed by hot air discharge
- Near any source of combustible gas
- In a location that is exposed to large amounts of dust
- In a location exposed to a excessive amounts of salty air

SPECIAL CONSIDERATIONS FOR EXTREME WEATHER

If the unit is exposed to heavy wind

Install unit so that air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier in front of the unit to protect it from extremely heavy winds. Refer to Figure 2 below.

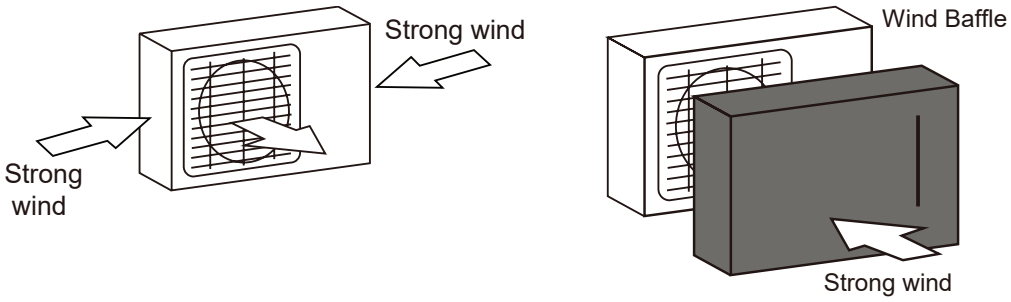


Figure 2.

Step 2. Install drain joint

Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit. Note that there are two different types of drain joints depending on the type of outdoor unit.

The drain joint comes with a rubber seal (see Figure 3), do the following:

- Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
- Insert the drain joint into the hole in the base pan of the unit.
- Rotate the drain joint 90° until it clicks in place facing the front of the unit.
- Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

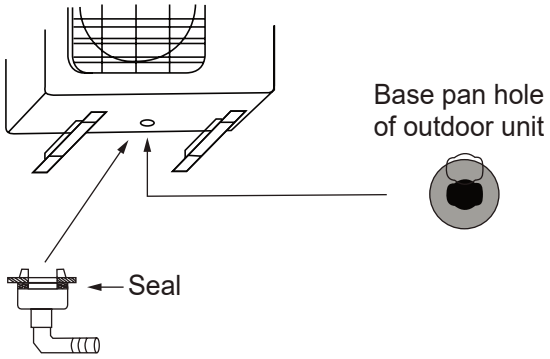


Figure 3.

The condensate drain terminal point must comply with National Construction Code (NCC), Australian Standards, Local Regulations and Municipal Building codes.

CAUTION

IN COLD CLIMATES

Always turn off the power to your air conditioner system and isolate its power supply before you perform any cleaning or maintenance; otherwise it may cause electric shock.

In cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit. Insulating the drain hose in cold climates is recommended.

Step 3. Anchor outdoor unit

The outdoor unit can be anchored to the ground or to a wall-mounted bracket with bolt (M10), or equivalent anchor.. Prepare the installation base of the unit according to the dimensions on the following page.

IMPORTANT

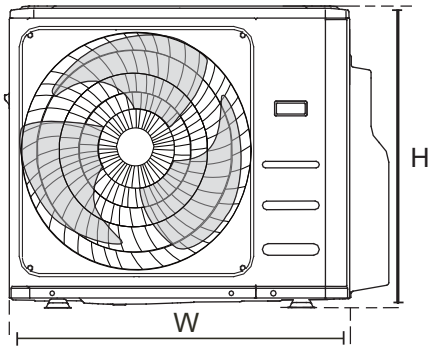
To reduce the transmission of vibration and noise, waffle pad shall be installed beneath the unit at each anchor point.

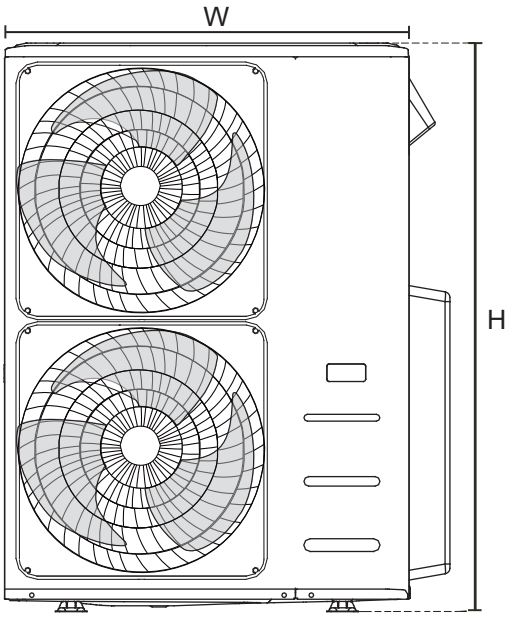
UNIT MOUNTING DIMENSIONS

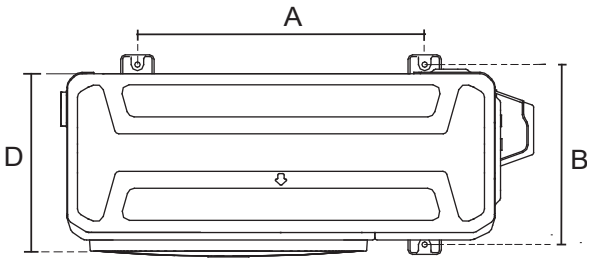
The following is a list of different outdoor unit sizes and the distance between their mounting feet. Prepare the installation base of the unit according to the dimensions below.

Size	Outdoor Unit Dimensions (mm)	Mounting Dimensions (mm)	
kW	W x D x H	Distance A	Distance B
7L	890 x 342 x 673	663	354
9L /11L	946 x 410 x 810	673	403
13L / 15L	980 x 415 x 975	616	397
15T /18T	952 x 415 x 1333	634	404

Split Type Outdoor Unit Types & Specifications





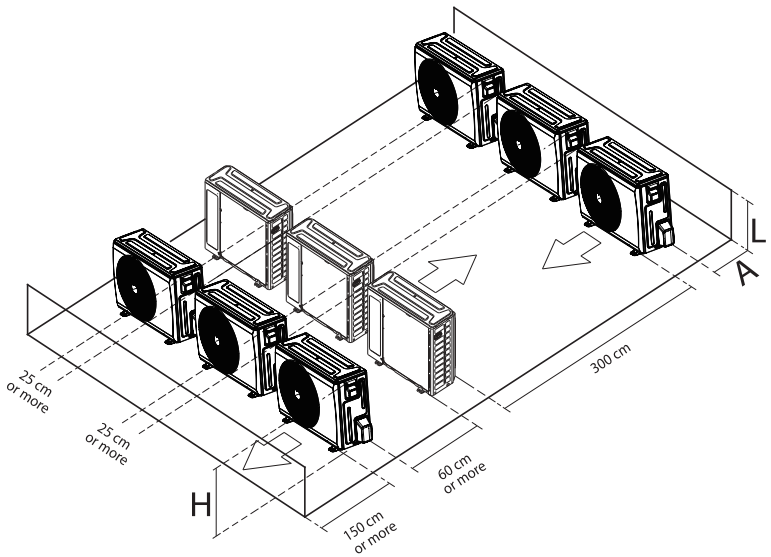


(Unit: mm)

ROWS OF SERIES INSTALLATION

The relations between H, A and L are as follows:

	L	A
L ≤ H	L ≤ 1/2H	25 cm or more
L ≤ H H	1/2H < L ≤ H	30 cm or more
L > L	Can not be installed	



REFRIGERANT PIPING CONNECTION

When connecting refrigerant piping, do not let substances or gases other than the specified refrigerant enter the unit. The presence of other gases or substances will lower the unit's capacity, and can cause abnormally high pressure in the refrigeration cycle. This can cause explosion and injury.

PIPE LENGTH

Ensure that the length of the refrigerant pipe, the number of bends, and the drop height between the indoor and outdoor units meets the requirements shown in the following table:

The Maximum Length And Drop Height Based on Models. (Unit: m)

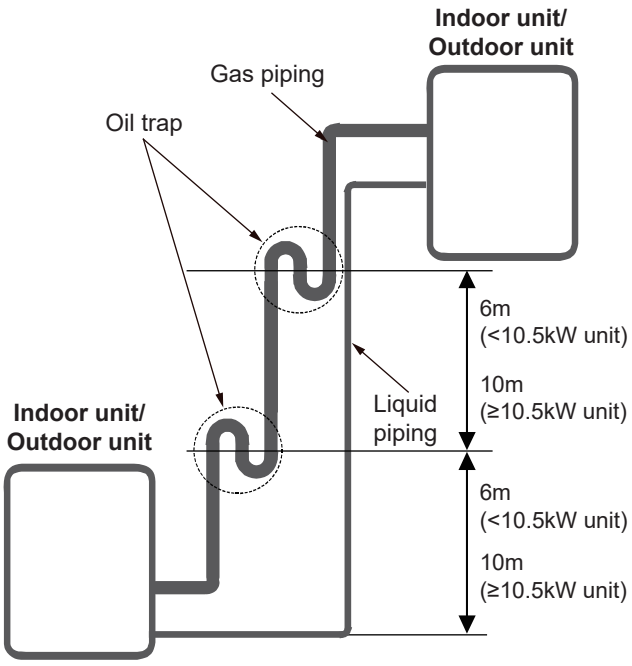
Capacity (kW)	Maximum equivalent pipe length	Maximum vertical separation
7	50	25
9 / 11 / 13	75	30
15 / 18		

CAUTION

OIL TRAPS

If oil flows back into the outdoor unit's compressor, this might cause liquid compression or deterioration of oil return. Oil traps in the rising gas piping can prevent this. An oil trap should be installed every 6m of vertical suction line riser (<10.5kW).

An oil trap should be installed every 10m of vertical suction line riser (≥10.5kW unit).



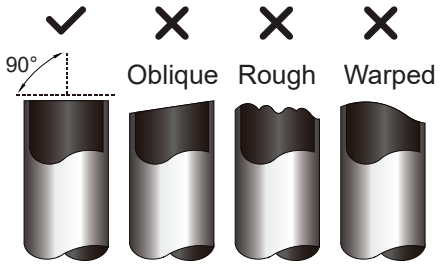
CAUTION

The branching pipe must be installed horizontally. An angle of more than 10° may cause malfunction.

DO NOT install the connecting pipe until both indoor and outdoor units have been installed.

Insulate both the gas and liquid piping to prevent condensing.

Step 1. Cut pipes



When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimise the need for future maintenance.

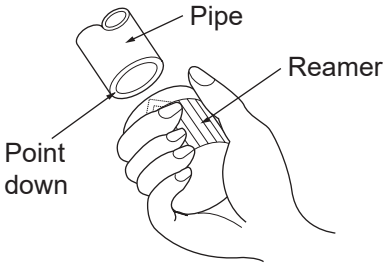
- Measure the distance between the indoor and outdoor units.
- Using a pipe cutter, cut the pipe a little longer than the measured distance.
- Make sure that the pipe is cut perfectly at a 90°angle.

CAUTION

DO NOT DEFORM PIPE WHILE CUTTING.

Be extra careful not to damage, dent, or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

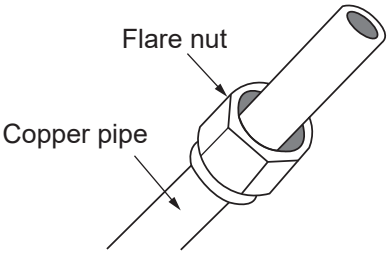
Step 2. Remove burrs



Burrs can affect the air-tight seal of refrigerant piping connection. They must be completely removed.

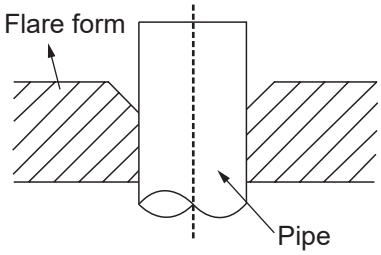
- Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
- Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.

Step 3. Flare pipe ends



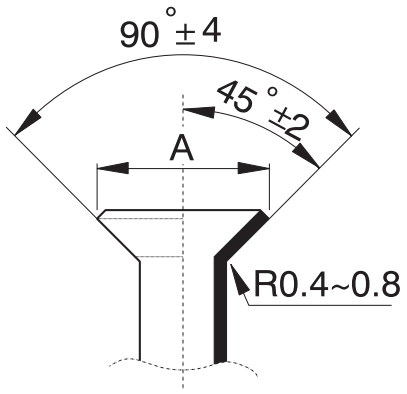
Proper flaring is essential to achieve an airtight seal.

- After removing burrs from cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
- Sheath the pipe with insulating material.
- Place flare nuts on both ends of pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring.
- Remove PVC tape from ends of pipe when ready to perform flaring work.
- Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the flare form.



- Place flaring tool onto the form.
- Turn the handle of the flaring tool clockwise until the pipe is fully flared. Flare the pipe in accordance with the dimensions.

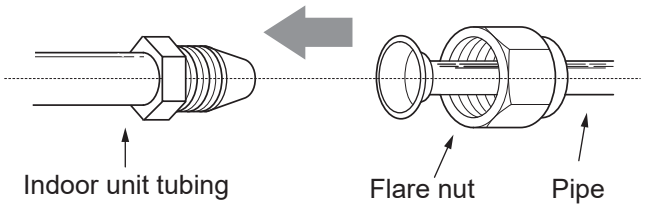
Piping Extension Beyond Flare Form

Pipe gauge	Tightening Torque	Flare dimensions (A) mm		Flare shape
		Min.	Max.	
Ø 9.52 (Ø 3/8")	33 - 42 N.m	13.2	13.5	
Ø 12.7 (Ø 1/2")	50 - 62 N.m	16.2	16.5	
Ø 16 (Ø 5/8")	63 - 77 N.m	19.2	19.7	
Ø 19 (Ø 3/4")	90 - 110 N.m	23.2	23.7	

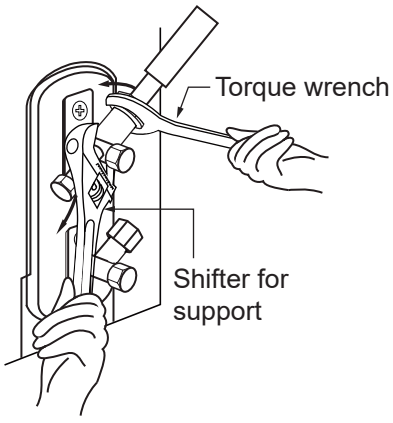
- Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring

Step 4. Connect pipes

- Connect the copper pipes to the indoor unit first, then connect it to the outdoor unit. You should first connect the low-pressure pipe, then the high-pressure pipe.
- When connecting the flare nuts, apply a thin coat of compatible refrigeration oil to the flared ends of the pipes.
- Align the centre of the two pipes that you will connect.



- Tighten the flare nut as tightly as possible by hand.
- Using a spanner, grip the nut, use a torque wrench to tighten the flare nut according to the torque values in the table above.



NOTE **Use both a spanner and a torque wrench when connecting or disconnecting pipes to or from the unit.**

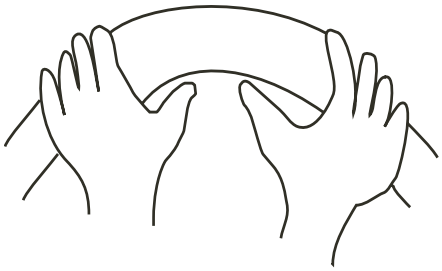
CAUTION **Ensure to wrap insulation around the piping. Direct contact with the bare piping may result in burns or frostbite.**

Make sure the pipe is connected correctly. Over tightening may damage the bell mouth and under tightening may lead to leakage.

MINIMUM BEND RADIUS

Carefully bend the tubing in the middle according to the diagram below. DO NOT bend the tubing more than 90° or more than 3 times.

Bend the pipe



Minimum radius 10cm

Hands shown are for representation purpose only.

After connecting the copper pipes to the indoor unit, wrap the power cable, signal cable and the piping together with the binding signal tape.

DO NOT intertwine or cross the signal cable with other wires, while bundling these items together.

- Pipe run must be supported every 2m
- R32 flammable refrigerant labels must be placed on the pipe run every 2m
- Thread this pipeline through the wall and connect it to the outdoor unit.
- Insulate all the piping, including the valves of the outdoor unit.

WIRING & CONTROLLERS

CAUTION

BEFORE PERFORMING ANY ELECTRICAL WORK, READ THESE REGULATIONS

- **All wiring MUST comply with local and national electrical codes, regulations and MUST be installed by a licensed electrician.**
- **All electrical connections MUST be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.**
- **If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.**
- **Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.**
- **If connecting power to fixed wiring, a surge protector and main power switch should be installed.**
- **If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1 /Bin (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.**
- **Only connect the unit to an individual branch circuit outlet. DO NOT connect another appliance to that outlet.**
- **Make sure to correctly earth the air conditioner.**
- **Every wire MUST be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.**
- **DO NOT let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.**
- **If the unit has an auxiliary electric heater, it MUST be installed at least 1 metre (40in) away from any combustible materials.**
- **To avoid getting an electric shock, NEVER touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.**
- **Make sure that you DO NOT cross your electrical wiring with your signal wiring. This may cause distortion and interference.**
- **The unit MUST be connected to the main outlet. Normally, the power supply must have a impedance of 32 ohms.**
- **No other equipment should be connected to the same power circuit.**
- **Connect the outdoor wires before connecting the indoor wires.**

WARNING

BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.

NOTE

The diagrams are for explanation purpose only. Your machine may be slightly different. The actual shape shall prevail.

CONTROLLERS

The below controllers may be configured to all models detailed in this installation manual.

For more information on the controllers below, please refer to the installation and operation manual supplied with the controller.

Part No: CNTRLDRCINW2

LOOMS

The following loom may be used to connect all of the above controllers to a FCU detailed in this manual.

Rinnai Part No: CNTRLLOOM2W18M - ACC DRC R32 INV LOOM 2WIRE 18M

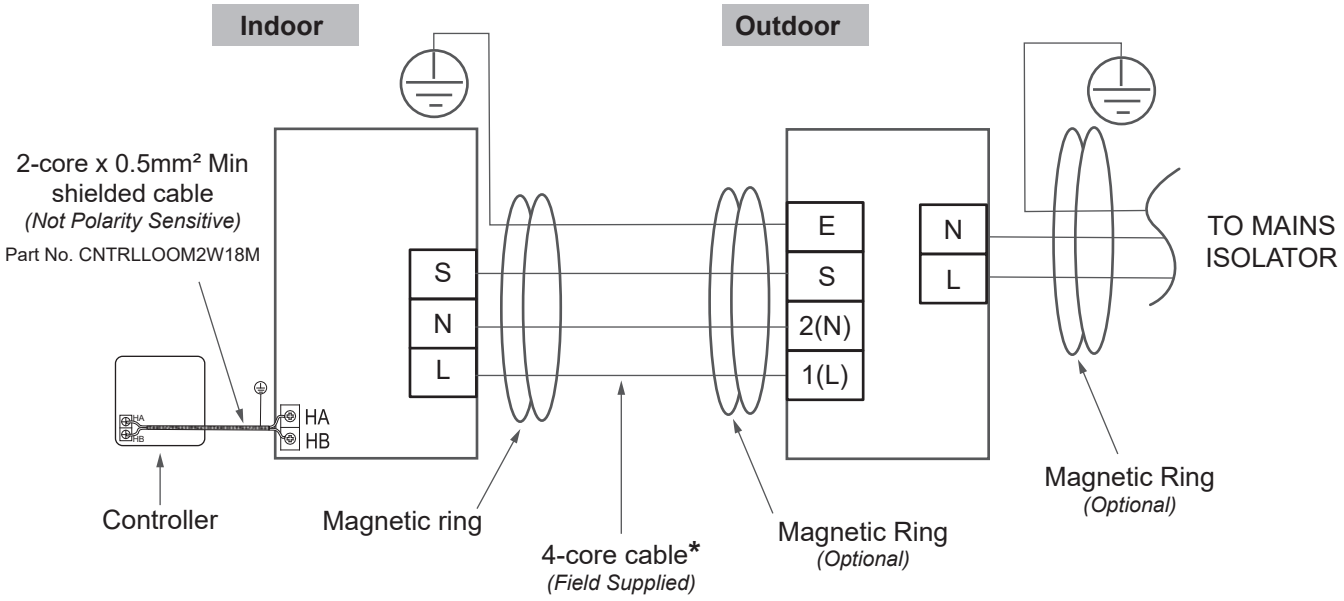
Specification: 2-Core shielded cable 0.5mm.sq x 18m long

NOTE

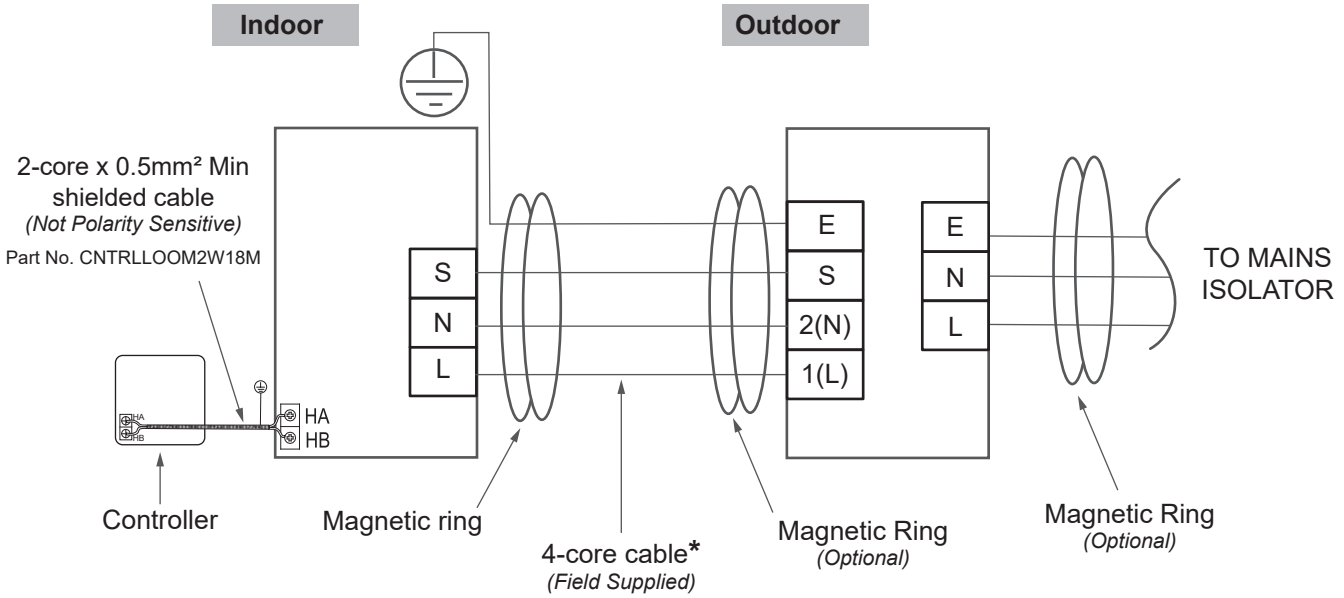
Alternatively the interconnecting loom for the controller may be field supplied to the above specification. The length of the controller loom may be up to a maximum of 40m.

Power and Communication Connections

7 - 11 kW



13 - 18 kW



4-Core cable minimum requirements

System (kW)	7	9	11	13	15	18
Cable mm²	4 x 1.0	4 x 1.0	4 x 1.0	4 x 1.5	4 x 1.5	4 x 1.5

NOTE **For the communication wire 'S', a single sheathed wire of 0.75mm² may be used, field supplied.**

OUTDOOR UNIT WIRING

1. Prepare the cable for connection following current electrical standards AS/NZS 3000.

Choose the right cable size

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit. Refer to this nameplate to choose the right cable, fuse, or switch.

(b) Using wire strippers, strip the rubber jacket from both ends of the signal cable to reveal approximately 15cm of wire.

(c) Strip the insulation from the ends.

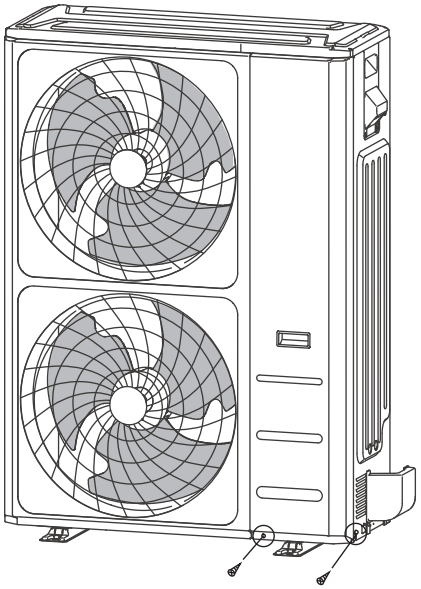
(d) Using a wire crimper, crimp u-lugs on the ends.

NOTE **When connecting the wires, strictly follow the wiring diagram found inside the electrical box cover.**

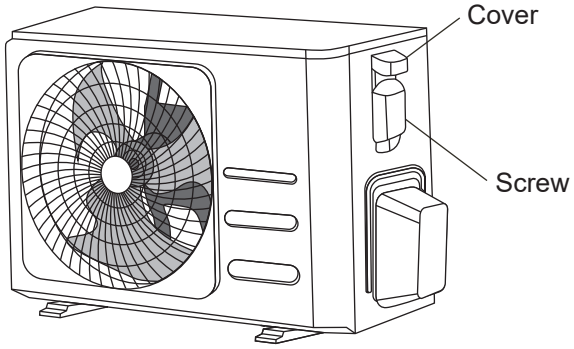
2. Remove the 2 screws fixed on the front panel and side panel, then take it down to perform wire connection (see figure below of outdoor unit A).

   Unscrew the electrical wiring cover and remove it (see figure below of outdoor unit B).

Outdoor Unit A



Outdoor Unit B

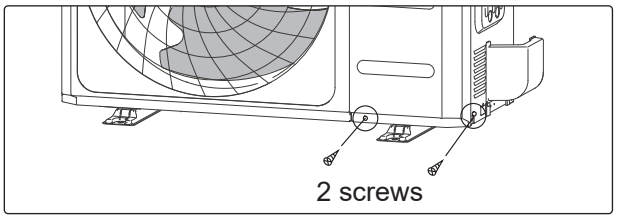


3. Connect the u-lugs to the terminals. Match the wire colours/labels with the labels on the terminal block. Firmly screw the u-lug of each wire to its corresponding terminal.
4. Clamp down the cable with the cable clamp.
5. Insulate unused wires with electrical tape. Keep them away from any electrical or metal parts.
6. Reinstall the cover of the electric control box.

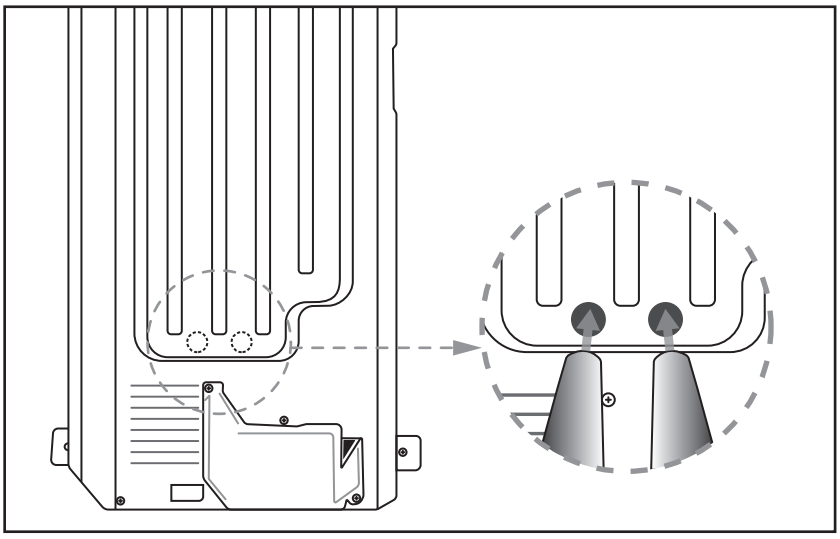
POWER AND COMMUNICATION ACCESS TO OUTDOOR UNIT

To access the unit for Power and Communication connection do the following.

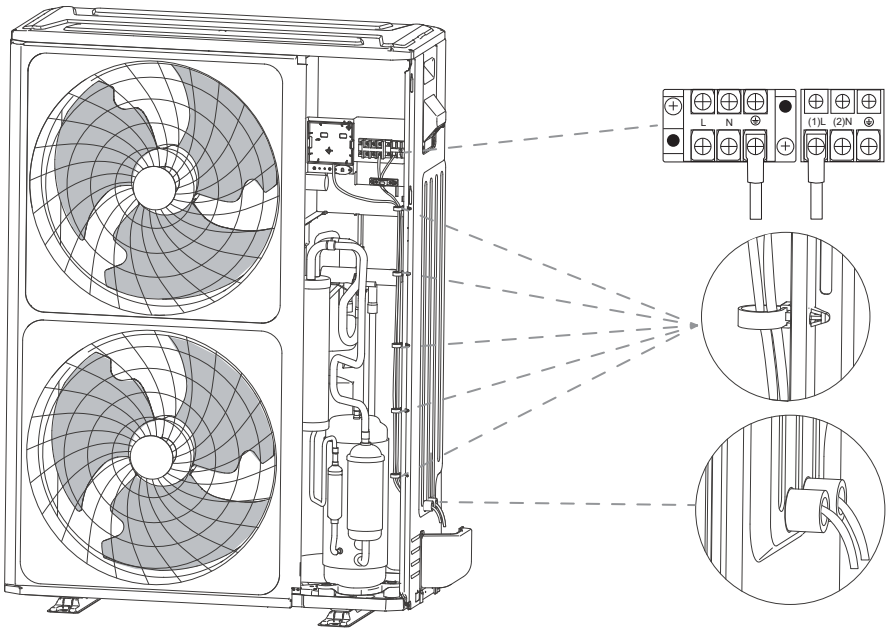
1. Remove the two fixing screws as shown below and remove the front panel.



2. Remove the power and communication knock-outs with an appropriate tool.

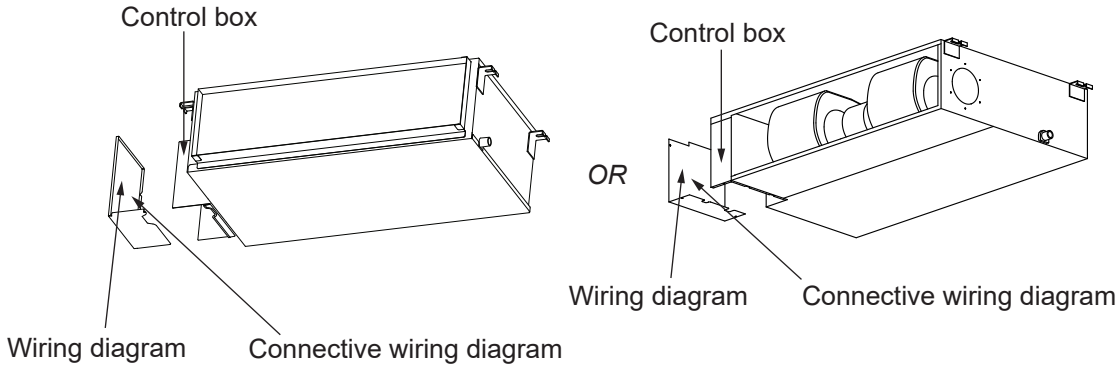


3. Feed power and communication conduits separately through the knock-outs and secure cables inside of the cabinet.
4. Power and communications looms must remain secured separately inside of the cabinet unless supplied in a 4-core configuration.

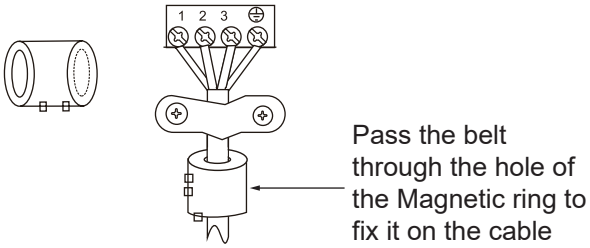


INDOOR UNIT WIRING

1. Prepare the cable for connection.
   (a) Using wire strippers, strip the rubber jacket from both ends of the signal cable to reveal about 15cm of the wire.
   (b) Strip the insulation from the ends of the wires.
   (c) Using a wire crimper, crimp the u-lugs to the ends of the wires.
2. Remove the cover of the electric control box on your indoor unit.
3. Connect the u-lugs to the terminals. Match the wire colours/labels with the labels on the terminal block. Firmly screw the u-lug of each wire to its corresponding terminal. Refer to the Serial Number and Wiring Diagram located on the cover of the electric control box.



Magnetic ring (if supplied and packed with the accessories)



NOTE

While connecting the wires, please strictly follow the wiring diagram.

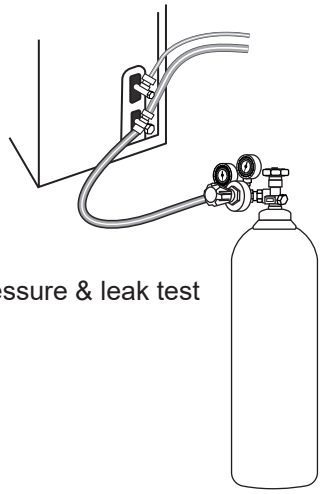
The refrigerant circuit can become very hot. Keep the interconnection cable away from the copper tube.

4. Clamp down the cable with the cable clamp. The cable must not be loose or pull on the u-lugs.
5. Reattach the electric box cover.

PRESSURE & LEAK TEST

DRY NITROGEN PRESSURE TEST

- Using dry nitrogen, pressure test interconnecting pipework from outdoor unit inclusive of fan coil unit, to the 'Maximum Allowable Pressure' as indicated on the product label of the outdoor unit. For more information, refer to AS/NZS 5149.2.



Pressure & leak test

CAUTION **Air, Oxygen, Acetylene or refrigerants shall not be used for pressure testing purposes.**

LEAK TESTING INSTRUCTIONS

1. Outdoor unit service ports shall be closed or front seated before commencing.
2. Connect Dry Nitrogen bottle with gauge set to the suction line access point and ensure all fittings are tight.
3. Open the Dry Nitrogen bottle valves and set test pressure to 'Maximum Allowable Pressure' as indicated on the outdoor specification label, **do not exceed**.
4. Use an approved 'Bubble Leak Detector' to assess all joints for leaks, from the outdoor service valves to the connections at the indoor unit.
5. If no leaks are detected close the Dry Nitrogen valves.
6. With care, safely and slowly commence removal of the pressure supply line from the Dry Nitrogen bottle using the bleed to release technique.
7. Once the system pressure has been removed safely you may remove the connecting line from service valve on the appliance..

CAUTION **DO NOT exceed the 'Maximum Allowable Pressure' as this may damage system components which is not covered under warranty.**

CAUTION **Wear the correct PPE at all times when working with refrigerants and conducting high pressure tests.**

EVACUATION

PREPARATIONS AND PRECAUTIONS

Air and foreign matter in the refrigerant circuit can cause abnormal rises in pressure, which can damage the air conditioner, reduce its efficiency, and cause injury. Use a vacuum pump and Vacuum Stat to evacuate the refrigerant circuit, removing any non-condensable gas and moisture from the system.

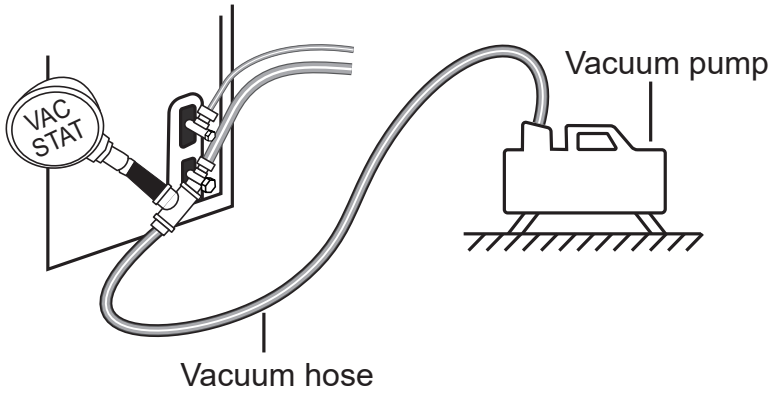
Evacuation **MUST** be performed after completion of the Dry Nitrogen pressure test.

Before Performing Evacuation

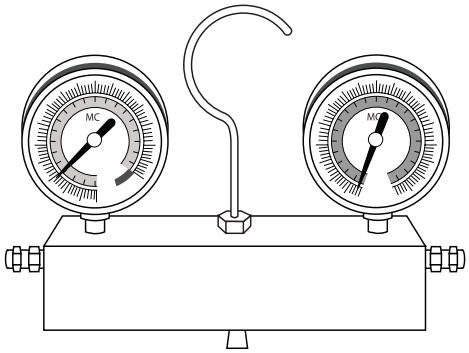
- Check to make sure the connective pipes between the indoor and outdoor units are connected correctly.
- Check to make sure all wiring is connected correctly.

EVACUATION INSTRUCTIONS

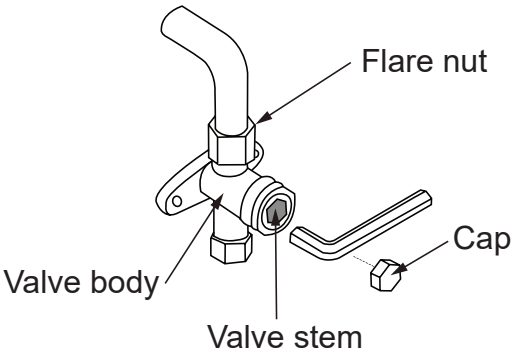
1. Vacuum the indoor interconnecting pipework to a minimum of 500 microns of Hg.
2. Isolate the vacuum pump from the system and let the vacuum stand for one hour to ensure vacuum is maintained at or below 600 microns of Hg. For more information, refer to the 'Refrigerant Handling Code of Practice 2007'.
3. If the system vacuum pressure decreases to a value greater than 600 micron after one hour of standing (e.g. 655 micron), the "Pressure & Leak Test" shall be reconducted to evaluate leak location.
4. If the system vacuum pressure remains below 600 micron after one hour of standing (e.g. 520 micron), you may proceed to charging the system. Schrader core insertion must only be conducted when the system is under positive pressure.



CHARGING THE SYSTEM



1. Unscrew the cap from the packed valve (high pressure valve).
2. Insert hexagonal wrench into the packed valve (high pressure valve) and open the valve by turning the wrench anti-clockwise. Continue to turn until valve is fully back seated and listen for the refrigerant entering the circuit.
3. Tighten valve caps on the two valves by hand. You may tighten it further using a torque wrench if needed.



CAUTION

OPEN VALVE STEMS GENTLY

When opening valve stems, turn the hexagonal wrench anti-clockwise until it hits against the back stop. Do not try to force the valve to open further.

CAUTION

Check to make sure there is no refrigerant leak after completing the installation work. If there is a refrigerant leak, ventilate the area immediately and evacuate the system.

ADDING REFRIGERANT

Some systems require additional charge depending on pipe lengths.

The standard Pre-Charged pipe length for all models is 20m. For pipe lengths greater than 20m, add 24g/m. For less than 20m there is no requirement to remove charge.

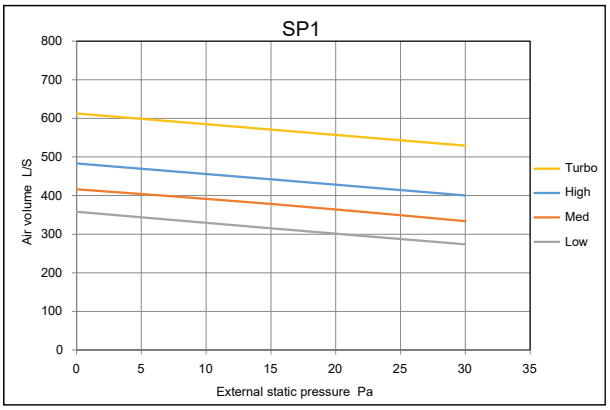
The refrigerant must be charged from the service port on the outdoor unit's low pressure valve. Refer to the technical data sheet for additional refrigerant requirements.

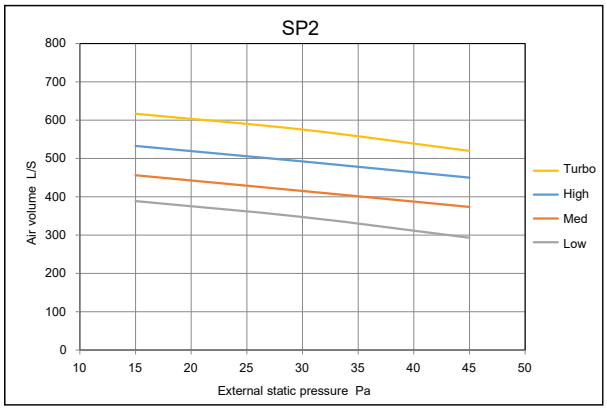
CAUTION

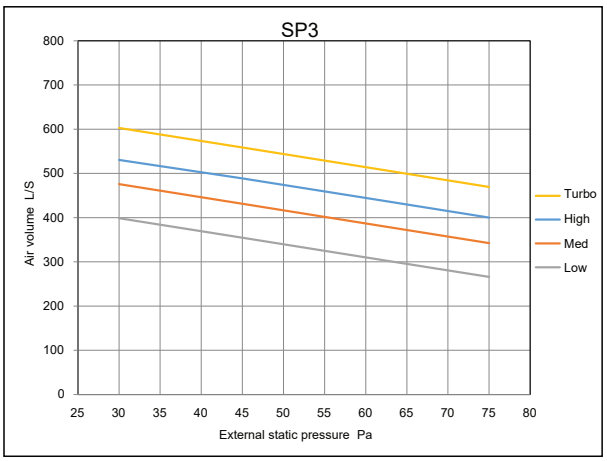
DO NOT mix refrigerant types.

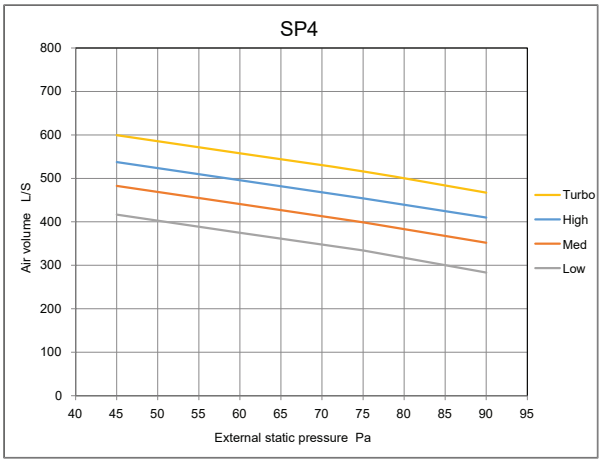
FAN PERFORMANCE CHARTS

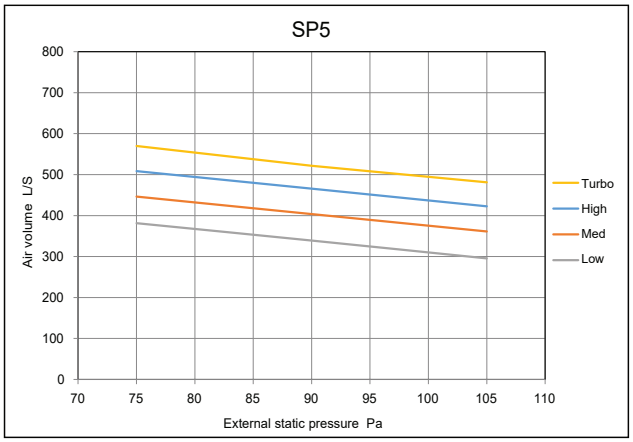
7.0kW FAN CURVE

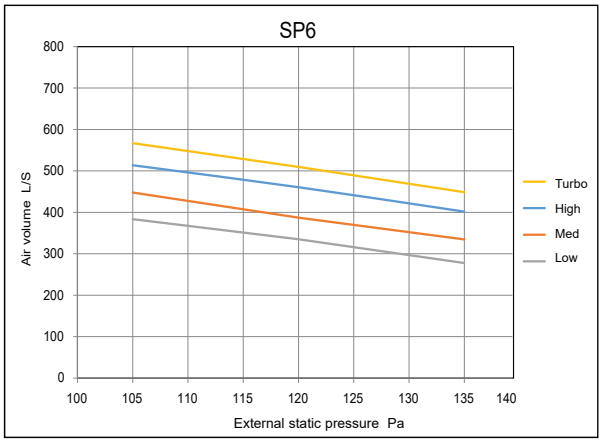


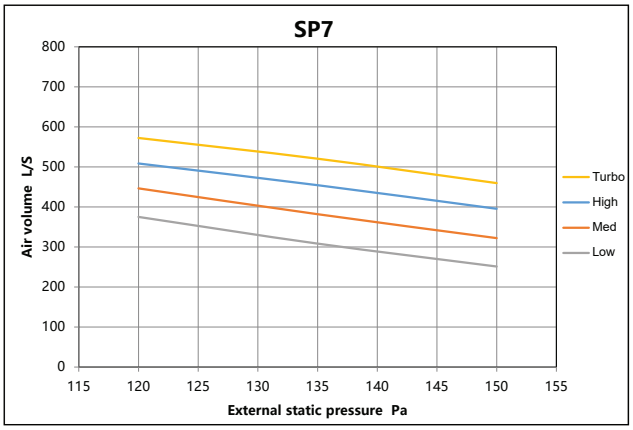


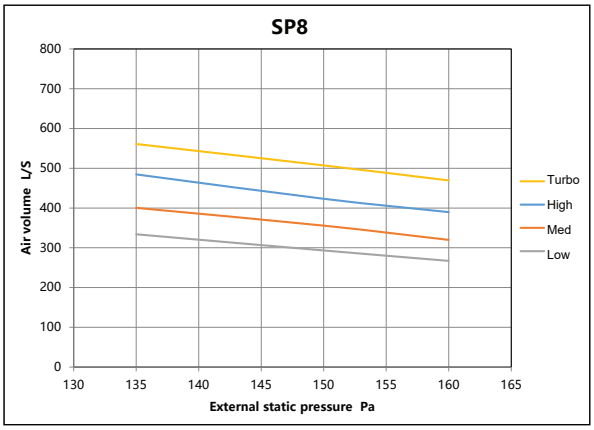




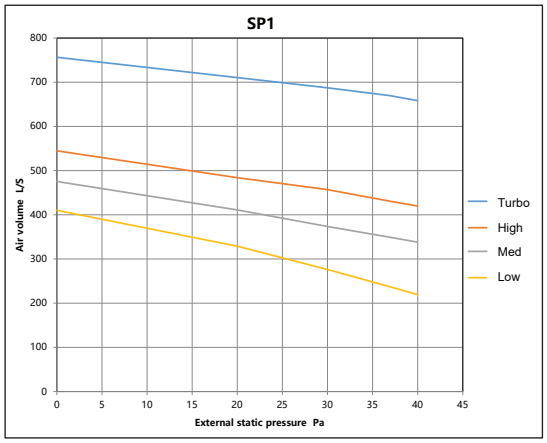


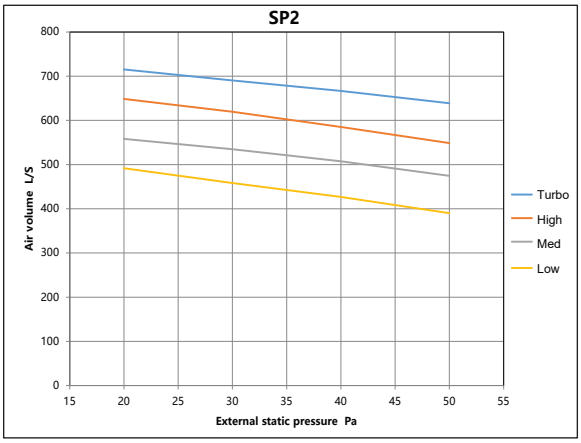


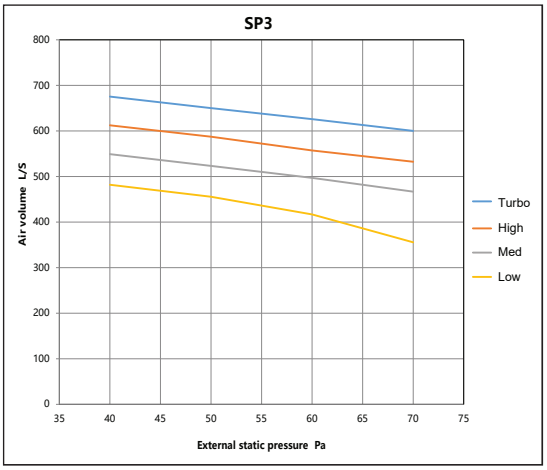


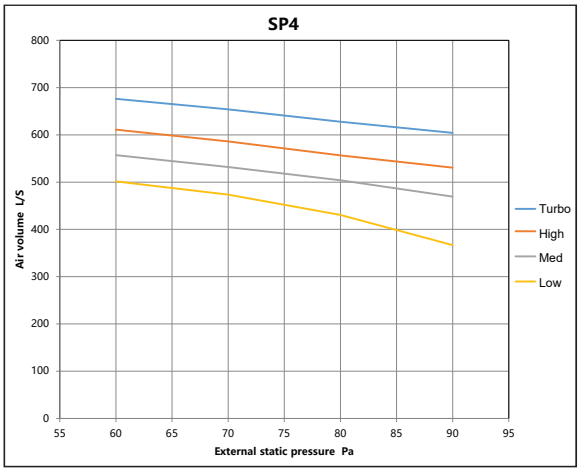


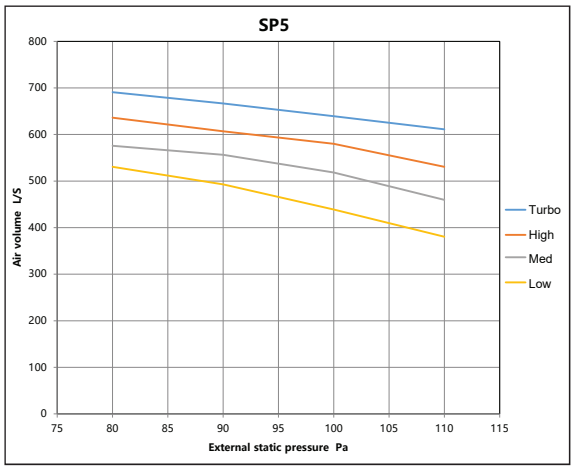
9.0kW FAN CURVE

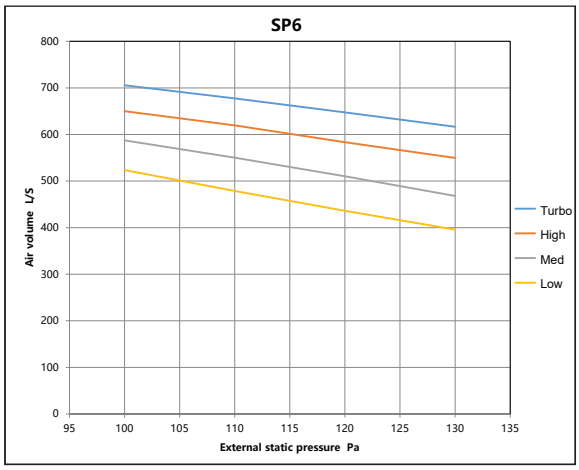


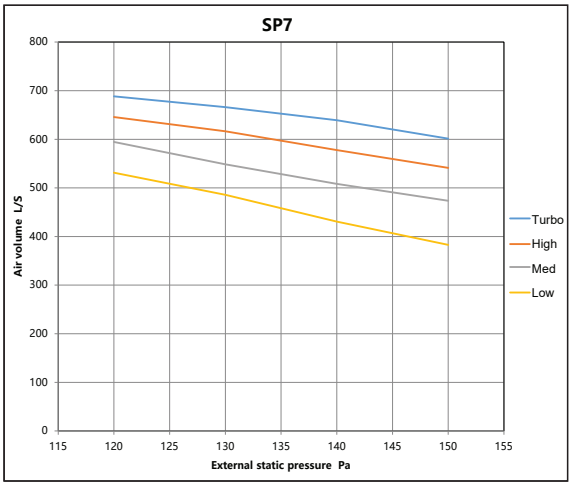


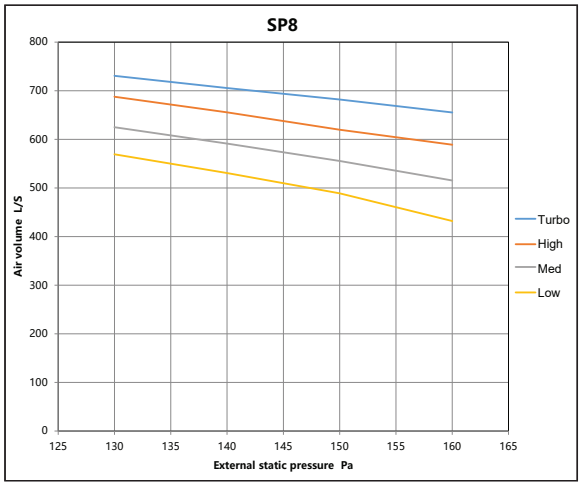




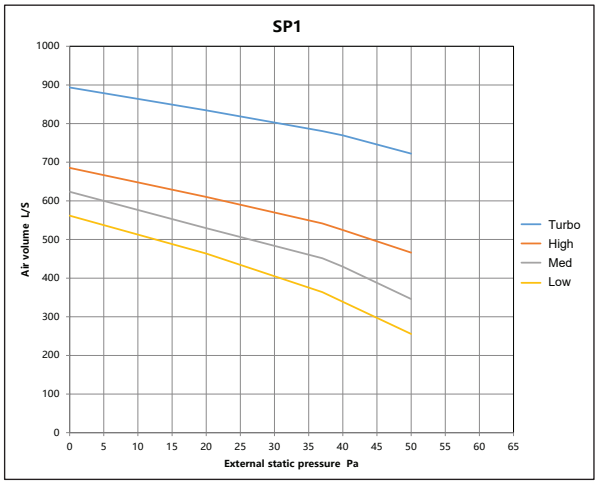


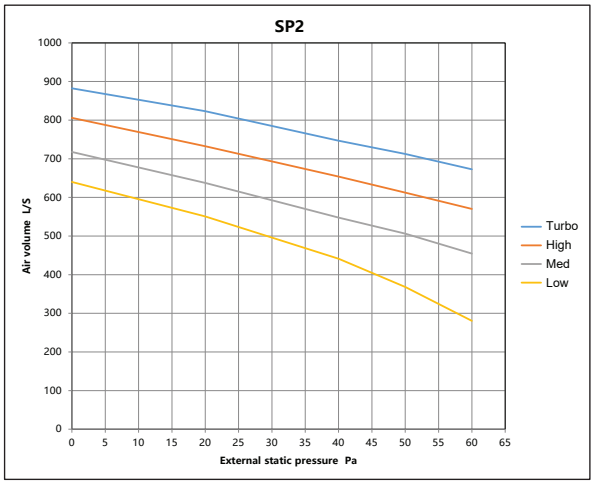


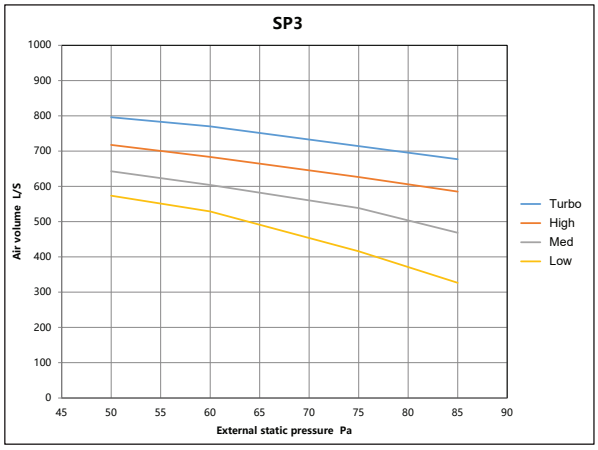


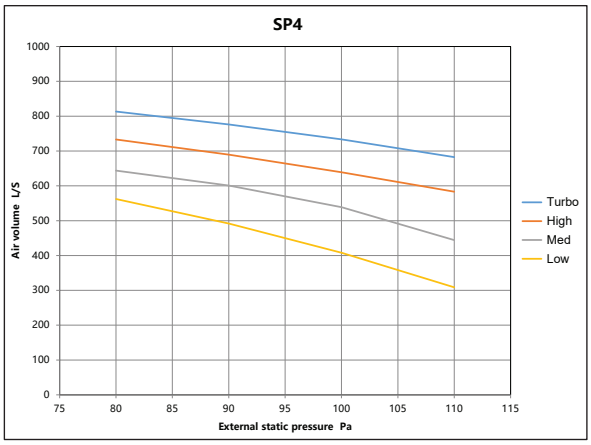


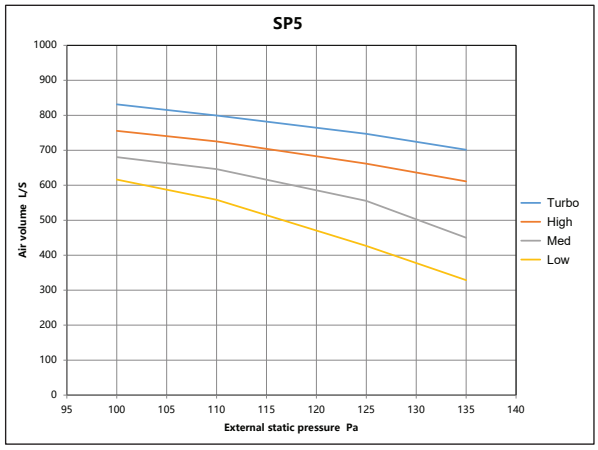
11.0kW FAN CURVE

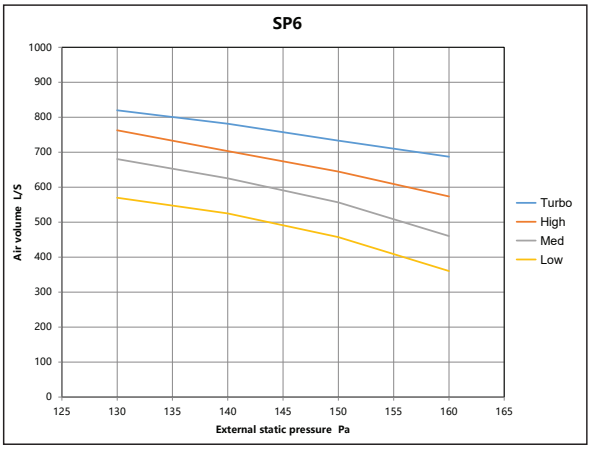


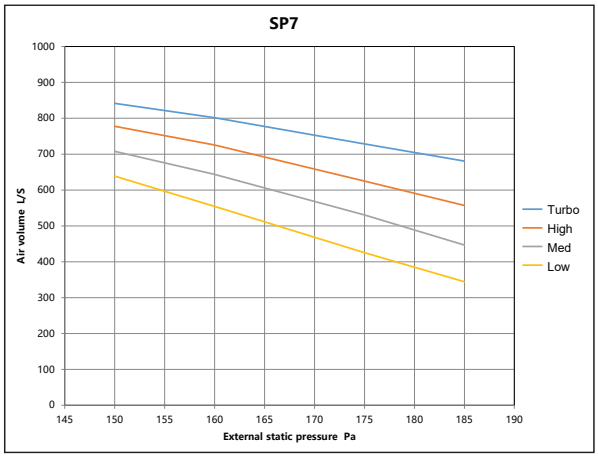


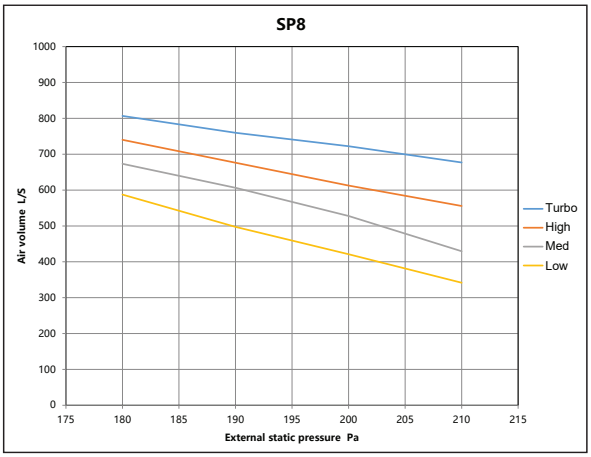




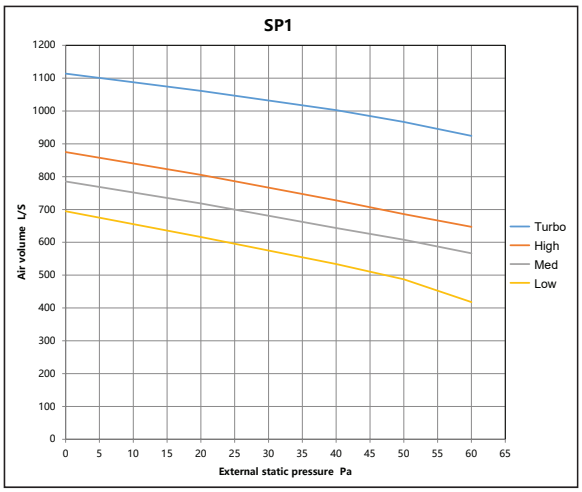


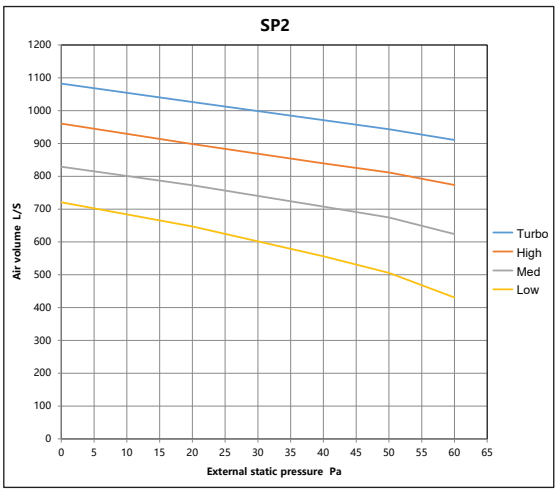


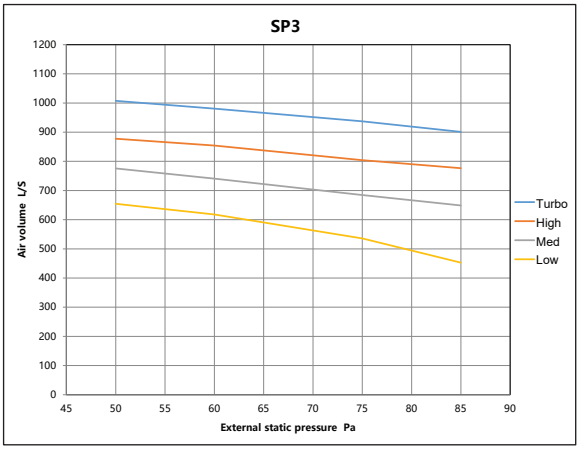


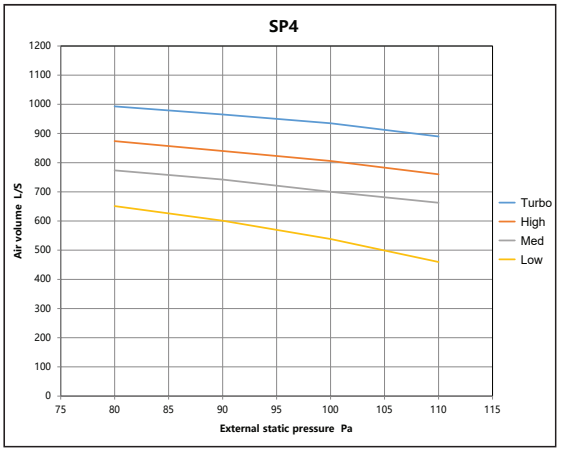


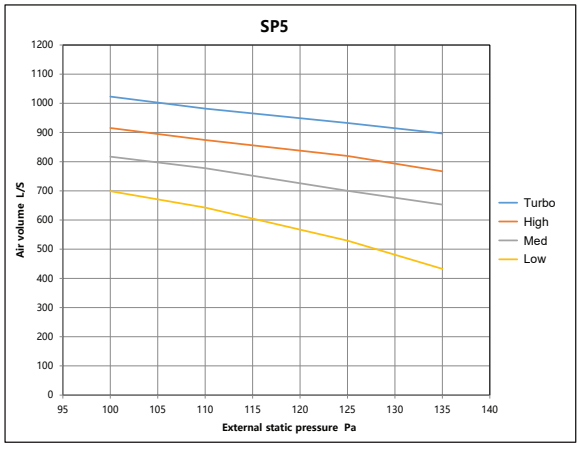
13.0kW FAN CURVE

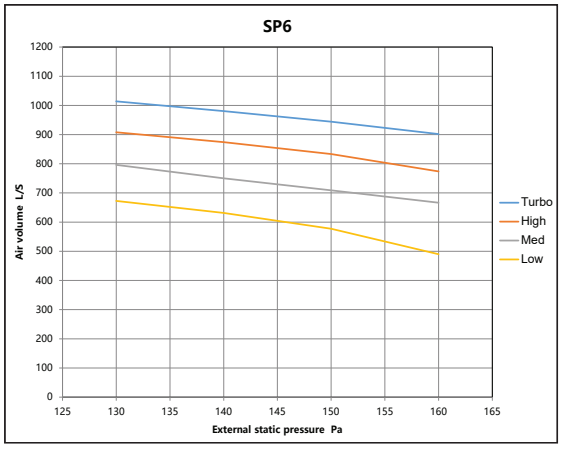


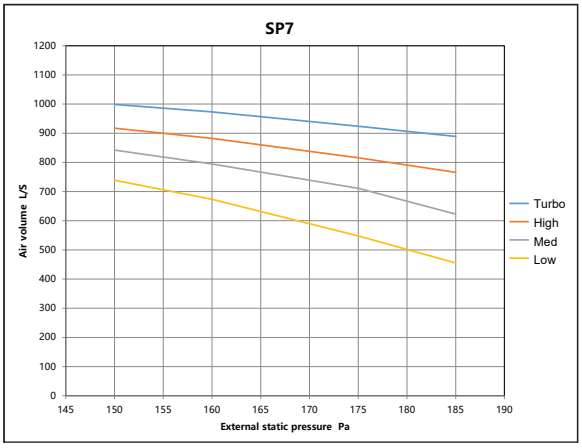


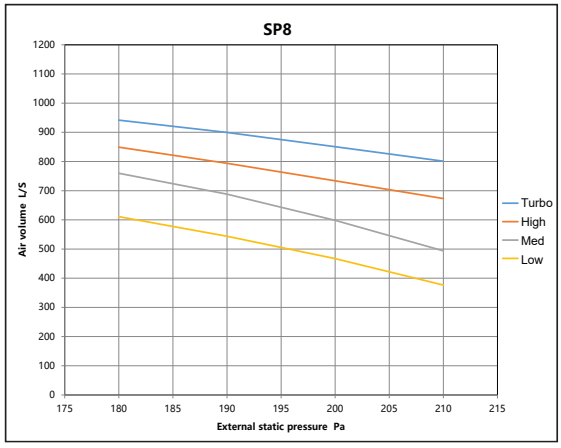




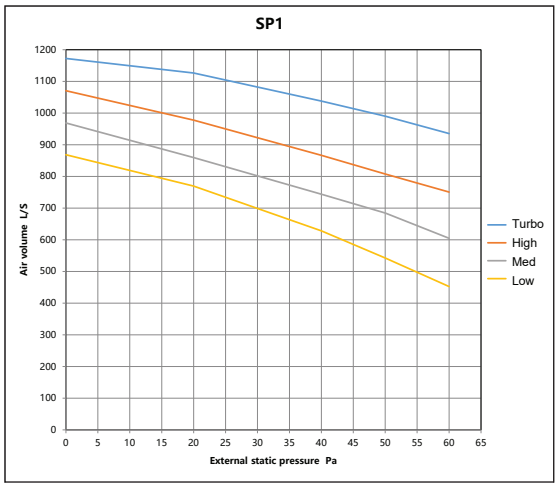


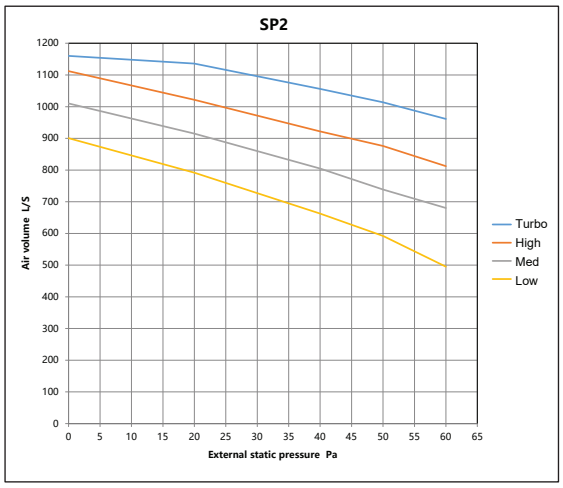


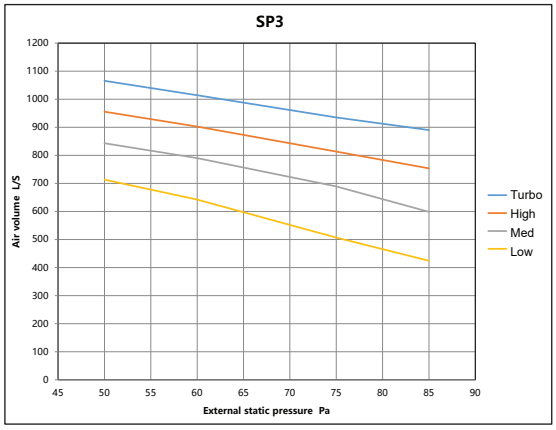


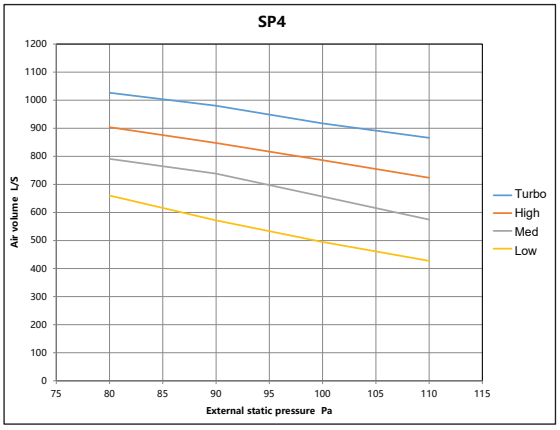


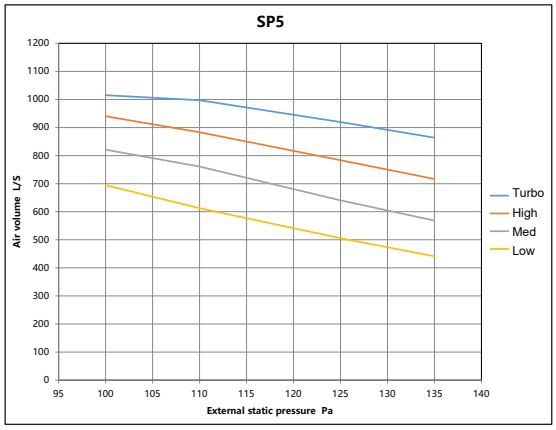
15.0kW FAN CURVE

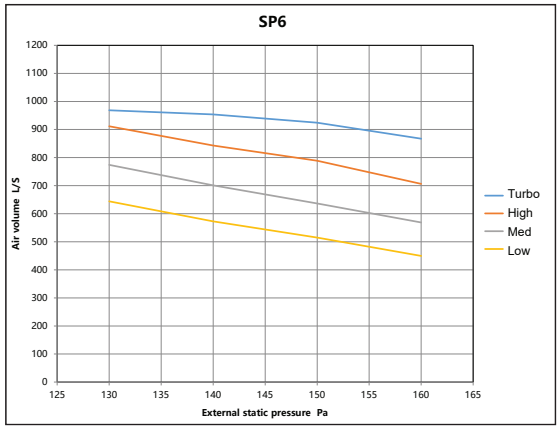


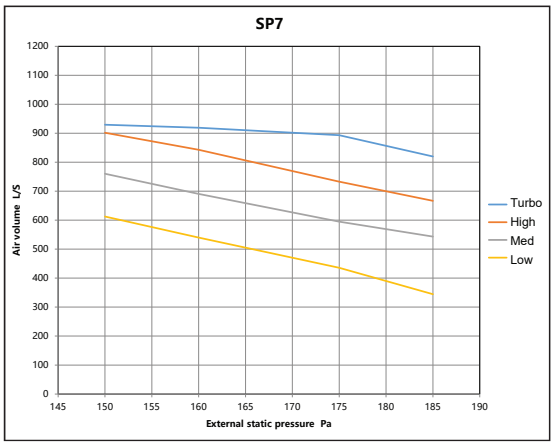


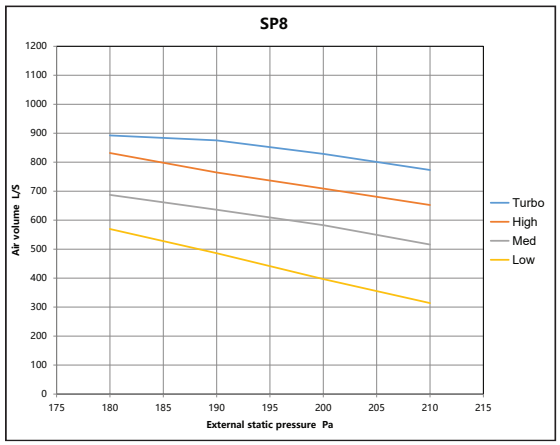




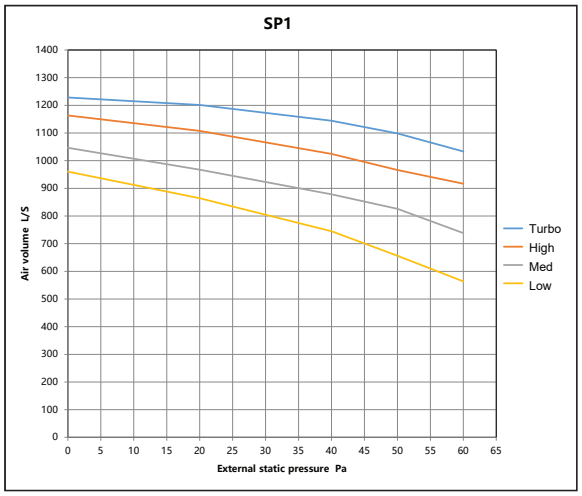


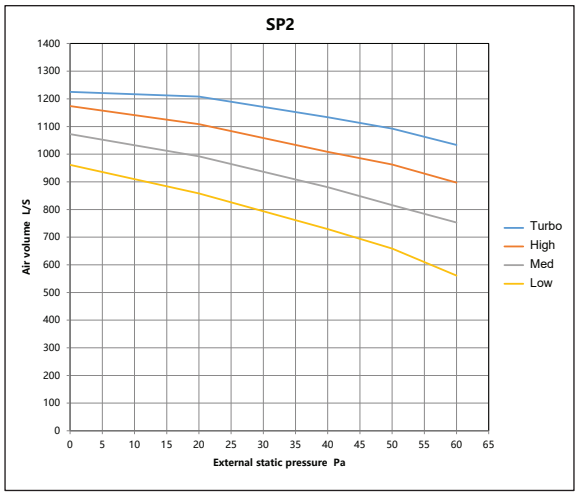


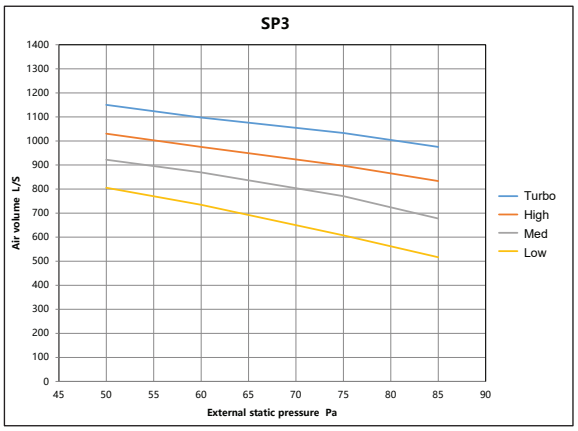


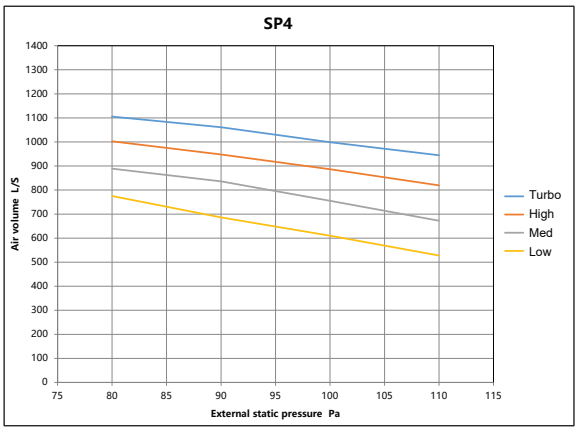


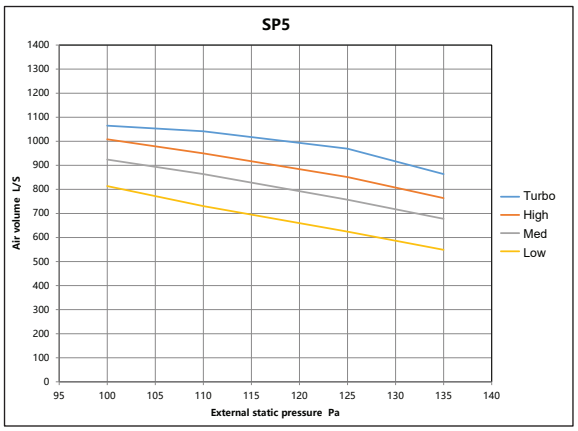
18.0kW FAN CURVE

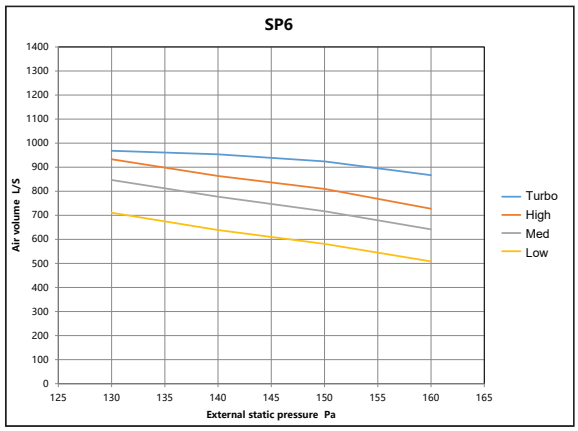


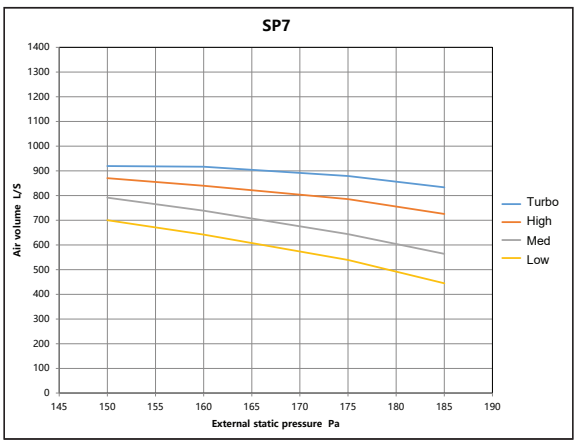


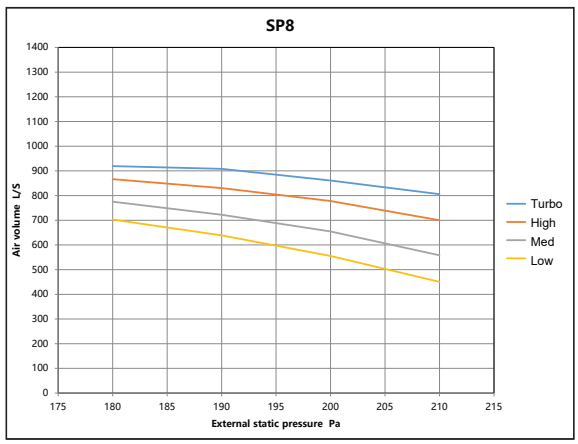












SETTING SYSTEM STATIC PRESSURE – 120N CONTROLLER

All FCU models are set and supplied to a specified Static Pressure (SP) setting:

7-13kW SP = 1

15-18kW SP = 6

Below is a table detailing Static Pressure settings for all indoor models.

Model	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8
DINLR07B1A	0-25	20-40	40-60	60-80	80-100	100-120	120-140	140-160
DINLR09B1A	0-37	20-40	40-60	60-80	80-100	100-120	120-140	140-160
DINLR11B1A	0-37	37-50	50-75	75-100	100-125	125-150	150-175	175-200
DINLR13B1A **DINLR15B1SA** **DINLR18B1SA**	0-50	0-50	50-75	75-100	100-125	125-150	150-175	175-200

To change the system's SP setting or select Auto Fan (AF) operation through the 120N controller, do the following:

1. Turn the system OFF at the controller by pressing ⏻
2. Press the button ⊞ for 3 seconds. Then press the enter button ⊘ to confirm.
3. Press the up button ∧ or down button ∨ to select SP:

   E1-E2-E2B-E3-E4-**SP**-AF-CF

4. Select the enter button ⊘ to confirm.
5. Press the up button ∧ or down button ∨ to select SP setting. The numbers will be shown on the display in sequence 0 - 1- 2 - 3 - 4 -5 - 6 - 7 - 8. Please select one of these numbers.
6. Press the enter button ⊘ to confirm.

DRED

DEMAND RESPONSE ENABLING DEVICE

DR CONTROL BOX Operation & Installation Instructions

BEFORE YOU START

WARNING

Read and understand this manual before operating this equipment. The manual should be kept for future reference with the product supplied. Improper installation or handling will cause leakage, electric shock, or fire.

DR control box is only to be installed by a qualified person who is familiar with the installation, construction, operation or maintenance of the equipment and the hazards involved. In addition this person is competent, trained and authorised to undertake the work involved in accordance with established safety and working procedures.

DO NOT turn on the power before all work has been completed. Otherwise it may cause serious accidents such as electric shock or fire.

FEATURE

This product is designed to be compatible with air conditioning demand response program. The DR control box connected with your air conditioner and Demand Control Signal Receiver (DCSR) (field supply) needs to be installed in your air conditioning system, and you need a separate arrangement.

The power consumption of the compressor will be reduced after receiving of the signal from the energy provide.

Demand Response Flow:

During the operation of the unit, if DR control box receives the signals via the mains input from the DCSR, it will send signals of DR1,DR2 or DR3 to the indoor unit. Then the indoor unit display area will display d1, d2 or d3. The DR information (including DR malfunction) can not be displayed when the unit is off or under abnormal condition, self clean operation, or LED display feature is activated.

For the models that meet AS/NZS 4755.3.1:2012

DR mode	Description of operation in this mode
DR mode 1	Compressor off.
DR mode 2	The air conditioner continues to cool or heat during the Demand Response event, but the electrical energy consumed by the air conditioner in a half hour period is not more than 50% of the total electrical energy that would be consumed if operating at the rated capacity in a half hour period.
DR mode 3	The air conditioner continues to cool or heat during the Demand Response event, but the electrical energy consumed by the air conditioner in a half hour period is not more than 75% of the total electrical energy that would be consumed if operating at the rated capacity in a half hour period.

For the models that meet AS/NZS 4755.3.1:2014

DR mode	Description of operation in this mode
DR mode 1	Compressor off.
DR mode 2	The air conditioner continues to cool or heat during the demand response event, but the total electrical energy (kWh) consumed by the air conditioner in a half hour period is not more than 50% of the total electrical energy that would be consumed in a half hour period during normal operation under the same temperature and humidity conditions, and the same user settings.
DR mode 3	The air conditioner continues to cool or heat during the demand response event, but the total electrical energy (kWh) consumed by the air conditioner in a half hour period is not more than 75% of the total electrical energy that would be consumed in a half hour period during normal operation under the same temperature and humidity conditions, and the same user settings.

If the display of the units shows “dE”, it means the DR control box can not respond to the DR signal, please check the wiring and DR control box.

Either initiating forced cool operation under DR mode, or going into DR mode under forced cool operation is valid. Under DR mode, after the unit operates on forced cool mode for half an hour, the unit will go into Auto mode with the setting temperature of 24°C.

The DR mode is also valid under Self Clean operation. When the unit receive both of DR mode signal and Self Clean signal, the power consumption will be determined by DR mode and the running status will be determined by Self Clean control logic.

When the unit goes into a DR mode, it performs moderate operation though the cooling or heating effect may be reduced.

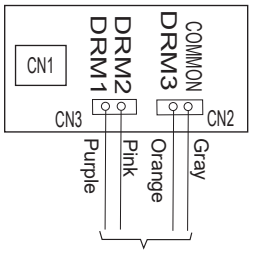
WIRE CONNECTION TO DR BOARD

WARNING

Before performing any electrical work, unplug the unit and turn off the main power to the system.

During connection, no wire should be allowed to touch refrigerant tubing, the compressor or any high voltage parts. All wiring MUST conform strictly in accordance with the local electrical regulations and the wiring diagram located at the outdoor unit.

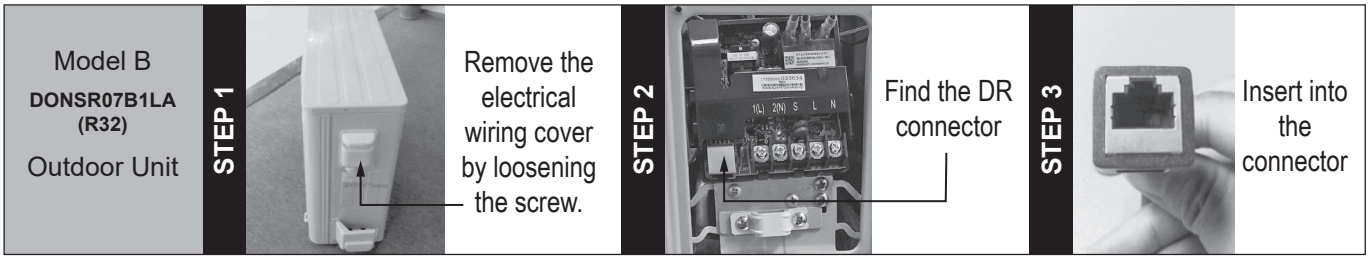
1. For some units, unscrew the electrical wiring cover and remove it from the outdoor unit, then connect the DR board to the Demand Control Signal Receiver (DCSR) (field supplied), DR connector can be found on the terminal block (see Models A/B/D/E). For some units, remove the front side panel, then connect the DR board to the Demand Control Signal Receiver (DCSR) (field supply), DR connector can be found on the terminal block (see Model C)
2. Please see the following diagrams and figures. For more details, refer to the Installation Manual of Demand Control Signal Receiver supplied by the Energy Provider.

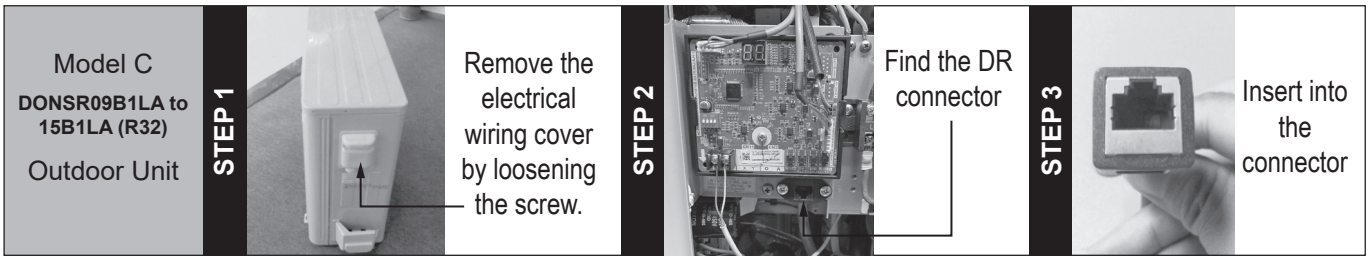


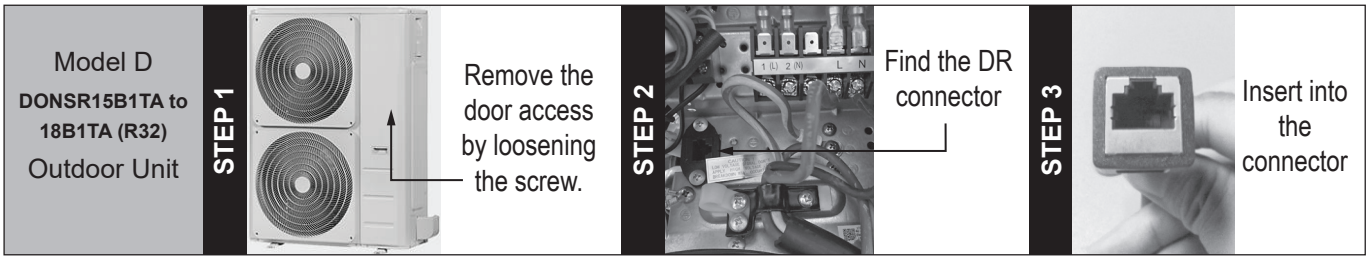
Government A/C Controller (DCSR)

NOTE

The actual shape of the outdoor unit you purchased may be slightly different. See the following image for example. The DR connector provided with the machine differ from appliance to appliance.







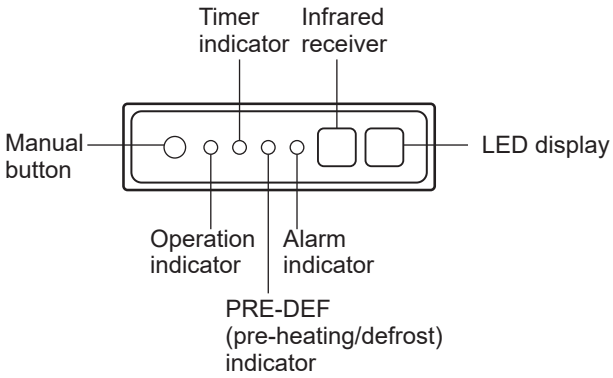
TEST RUN

BEFORE TEST RUN

A test run must be performed after the entire system has been completely installed. Confirm the following points before performing the test:

a) Indoor and outdoor units are properly installed.
b) Piping and wiring are properly connected.
c) No obstacles near the inlet and outlet of the unit that might cause poor performance or product malfunction.
d) Refrigeration system does not leak.
e) Drainage system is unimpeded and draining to a safe location.
f) Heating insulation is properly installed.
g) Earthing wires are properly connected.
h) Length of the piping and additional refrigerant stow capacity have been recorded.
i) Power voltage is the correct voltage for the air conditioner.

CAUTION **Failure to perform the test run may result in unit damage, property damage, or personal injury.**



FORCED COOLING

To force the system into Forced Cooling (FC) mode, do the following:

1 At the indoor unit remove the controls access panel to access the control board detailed above.
2 Press the MANUAL button twice or until 'FC' appears in the LED display, the system will now run in the below sequence:

- Compressor and outdoor fan run continuously while the indoor fan runs at low to medium speed. After thirty minutes of running the system will switch to Auto Mode with 24°C temperature setting.
- When the system receives a signal from the primary wall control, such as switch on, switch off, timer on, timer off, mode setting, fan speed setting, sleep mode setting or follow me setting, all forced operation sequences will cease, and control will revert to the wall control.

TEST RUN INSTRUCTIONS

1 Set the air conditioner to COOL mode.
2 For the Indoor Unit
a) Ensure the controller buttons work properly.
b) Double check to see if the room temperature is being registered correctly.
c) Ensure the indicators on the controller work properly.
d) Ensure the manual buttons on the indoor unit works properly.
e) Check to see that the drainage system is unimpeded and draining smoothly.
f) Ensure there is no vibration or abnormal noise during operation.

1. **For the Outdoor Unit**
   a) Check to see if the refrigeration system is leaking.
   b) Make sure there is no vibration or abnormal noise during operation.
   c) Ensure the wind, noise, and water generated by the unit do not disturb your neighbours or pose a safety hazard.
2. **Drainage Test**
   a) Ensure the drainpipe flows smoothly. New buildings should perform this test before finishing the ceiling.
   b) Remove the test cover. Add 2,000ml of water to the tank through the attached tube.
   c) Turn on the main power switch and run the air conditioner in COOL mode.
   d) Listen to the sound of the drain pump to see if it makes any unusual noises.
   e) Check to see that the water is discharged. It may take up to one minute before the unit begins to drain depending on the drainpipe.
   f) Make sure that there are no leaks in any of the piping.
   g) Stop the air conditioner. Turn off the main power switch and reinstall the test cover.

If the unit malfunctions or does not operate according to your expectations, please refer to the Troubleshooting section of the Owner's Manual before calling customer service.

Rinnai Australia Pty Ltd

ABN 74 005 138 769 | AU45204

82-88 Mills Road, Braeside, Victoria, 3195
P.O. Box 460, Braeside, Victoria 3195
Tel: (03) 9271 6625

Customer Support
Tel: 1300 555 545*
Monday to Friday, 8.00 am to 5.00 pm EST.

**Cost of a local call may be higher from a mobile phone. (National calls from public phones in Australia are free.)*

For further information visit **www.rinnai.com.au** or email **enquiry@rinnai.com.au**

Rinnai has a Service and Spare Parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call Customer Support. Rinnai recommends that this appliance be serviced once a year.

With our policy of continuous improvement, we reserve the right to change, or discontinue at any time, specifications or designs without notice.