

# ecolution

High Performance Air Conditioning



**FDU/M**  
series

---

Inverter Ducted Air Conditioners



**mitsubishi**  
HEAVY INDUSTRIES, LTD.



## ■ Mitsubishi Heavy Industries Technology

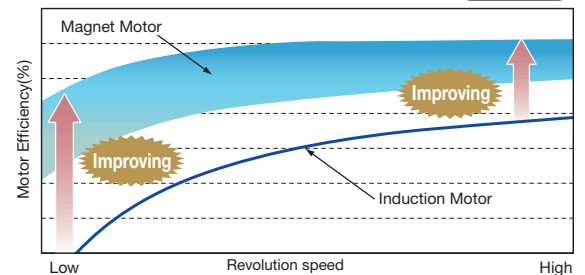


### Quick Control & High Efficiency

#### DC PAM inverter

An inverter system has a number of advantages over a constant speed system. It's variable speed compressor outputs can ensure quick cooling or heating after start up and attains a set temperature more quickly. The air conditioner can slow down the compressor speed to save energy whilst keeping comfortable conditions. The compressor is DC motor driven so it provides higher performance.

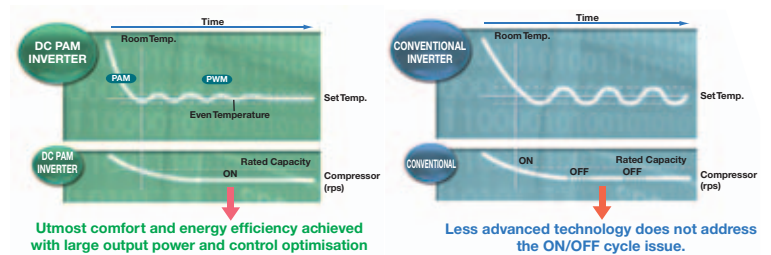
#### DC compressor motor



#### New Inverter Control (Vector control)

New Inverter Control has been applied. The new technology of Vector control enables:-

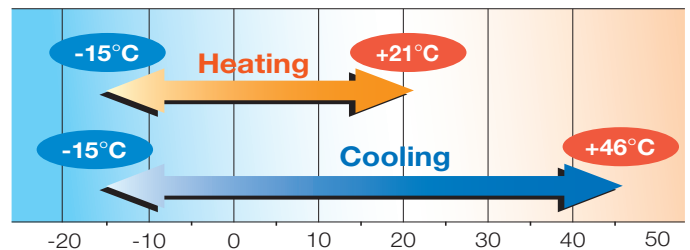
- Smooth operation from low to high speed
- Smooth Sine Voltage Wave form is achieved
- Energy efficiency has improved in low speed range



#### Wide Operation Range

**Heating and cooling operations are possible at an outdoor temperature as low as -15°C.**

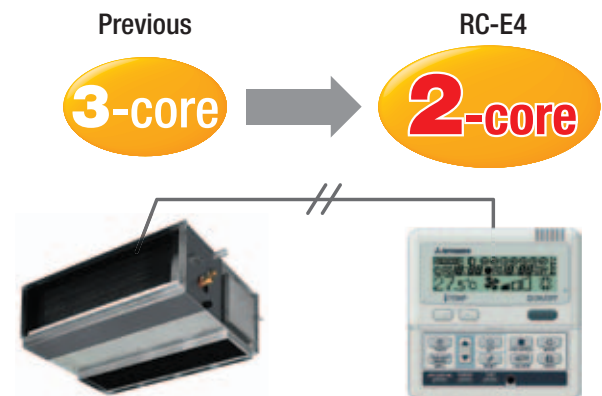
Our new advanced technology has improved the heating and cooling operation range. Units can be installed when heating or cooling operation is required at low ambient conditions down to -15°C.



#### New remote control RC-E4

**New remote control for all indoor units**

Non-polar 2 core wiring now used. Installation is easier.



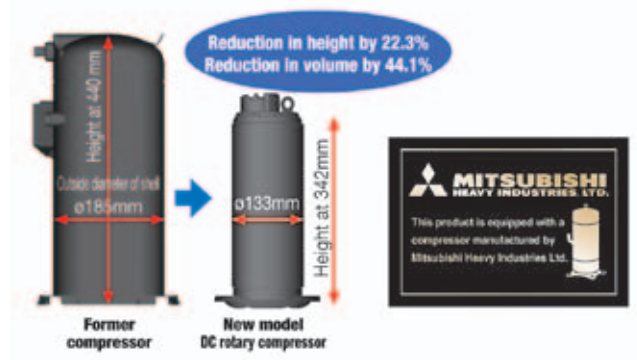


**High performance and energy efficiency are achieved at the same time by an increase in the heat exchanger capacity and by using DC fan motors.**

### Compact design

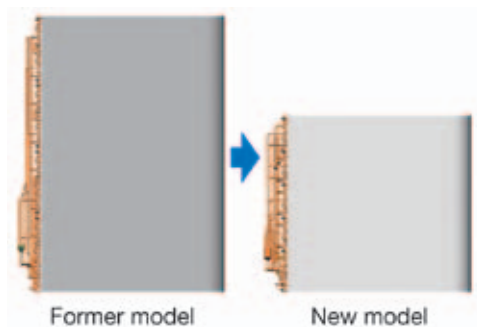
#### Size reduction and high efficiency performance of the DC twin rotary compressor

The DC twin rotary compressor can operate at speeds as high as 120 rps to achieve the required capacity. Vector control has provided the optimum compressor control. Starting current has improved significantly and vibration has been reduced.



### Improved efficiency of heat exchanger

Re-designing the fins to a straight shape has reduced the pressure loss of the air flow in the heat exchanger. A new surface treatment on the fins has enhanced the frost resistance capacity compared to former models. A high speed fan motor has increased the airflow which allows cooling capacity to be maintained even at high outdoor air temperatures.

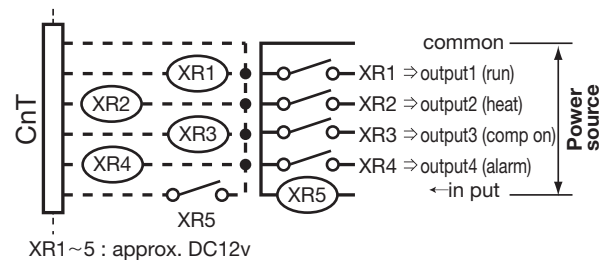


### DC fan motor

The outdoor fan motor has improved efficiency by 60% compared to former models.

### CnT terminal

A dry contact is fitted to each indoor unit which is used when a signal output is required. The CNT simplifies connection to home automation systems.



### New outdoor units SRC50/60ZIX-S

SRC50/60ZIX-S is common for both outdoor units of SRK50/60ZIX-S wall split systems, and 5.0 & 5.6kW of Inverter Packaged Air-Conditioners. The installation procedure is the same.





## FDU Series



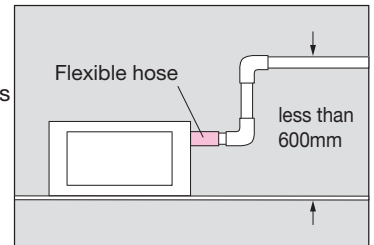
### Point 1 Quiet, Lightweight & Compact

The FDU71 noise level is only 37dB on low fan. Weight is only 40kg and height 297mm. The indoor unit is concealed in the ceiling making it the ideal choice for homes and commercial premises.



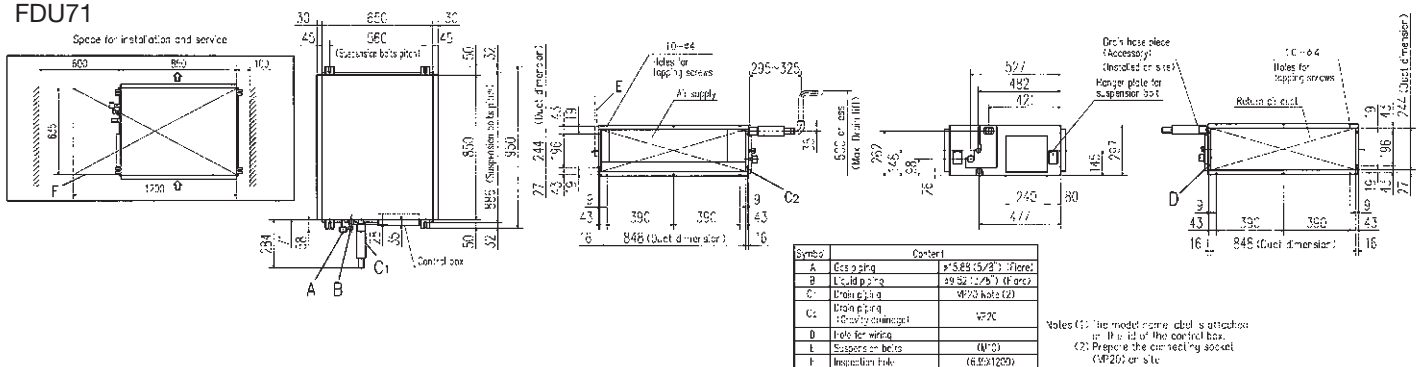
### Point 2 600mm Drain Pump

Drain can be discharged upwards by 600mm from the ceiling surface. It allows a piping layout with a high degree of freedom depending on the installation location.

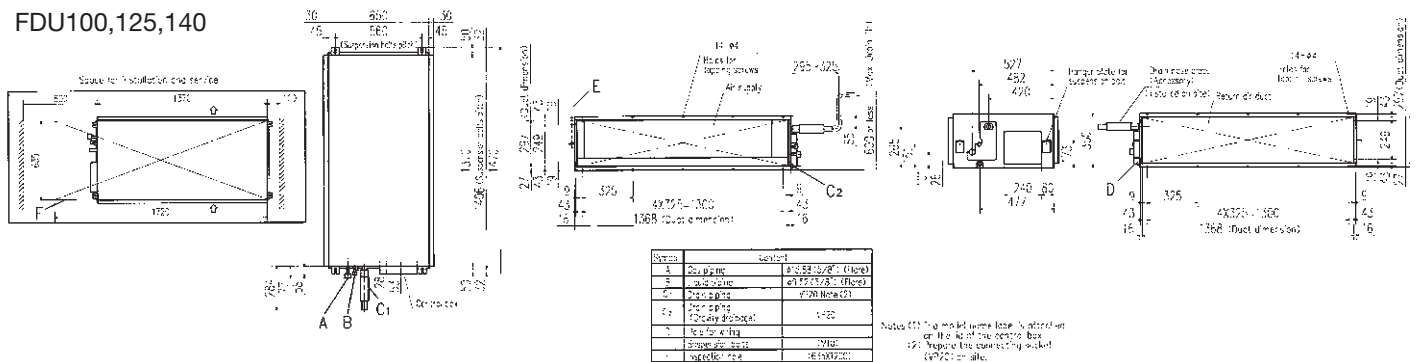


## Outline drawing (Unit:mm)

FDU71



FDU100,125,140



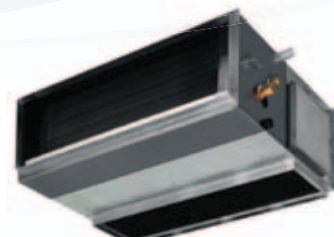


**RCH-E3**  
(Option)



**RC-E4**  
(Option)

**RCN-KIT3-E**



**FDU Series**

			FDU71VNVD	FDU100VNVD	FDU125VNVD	FDU140VNV
			FDU71VD	FDU100VD	FDU125VD	FDU140V
			FDC71VN	FDC100VN	FDC125VN	FDC140VN
Power Supply	Outdoor Unit		1Phase 230V 50Hz			
Capacity	Cooling T1	kW	7.1 (3.2~8.0)	10.0 (4.0~11.2)	12.5 (5.0~14.0)	14.0 (5.0~14.5)
	Heating H1		8.0 (3.6~9.0)	11.2 (4.0~12.5)	14.0 (4.0~16.0)	16.0 (4.0~16.5)
Input	Cooling T1	kW	2.08	2.88	4.04	4.95
	Heating H1		2.21	2.99	3.79	4.43
EER	Cooling T1		3.41	3.47	3.09	2.82( 3.62*)
COP	Heating H1		3.61	3.74	3.69	3.61
Current	Cooling T1	Amp	9.2	12.7	17.8	21.7
	Heating H1		10.2	13.1	16.6	19.5
Recommended Circuit Breaker			20	32		
Sound pressure level (JIS C9612)	Indoor	dB	Hi : 41 Lo : 37	Hi : 42 Lo : 37	Hi : 43 Lo : 38	Hi : 43 Lo : 38
	Outdoor		48	49	51	
Airflow		L/s	Hi : 333 Lo : 283	Hi : 566 Lo : 450	Hi : 700 Lo : 558	
External Static Pressure		Pa	60/130 @ 333 L/S	60/130 @ 566 L/S	60/130 @ 700 L/S	
Dimensions (HXWXD)	Indoor	mm	297 × 850 × 650	350 × 1,370 × 650		
	Outdoor		750 × 968 × 340	845 × 970 × 370		
Net Weight	Indoor	kg	40	63		
	Outdoor		60	81		
Refrigerant Piping	Liquid Line	mm(in)	9.52 (3/8")			
	Gas Line		15.88 (5/8")			
	Connection Method		Flare			
Refrigerant R410A	Pre-charged Amount	kg	2.95	3.8		
		m	30			
Maximum Piping Length			50			
Controller			RC-E4			
Dimensions (HXW) Return & Supply Air		mm	244 x 848	297 x 1368		

For additional information reference 10.PAC.DB.142A

\*The EER is for rated conditions, compliance with MEPS is achieved under part load conditions.

The FDU125VNVD is not compliant for sale in QLD and SA. The FDU140VNV is not compliant for sale in SA.

Sound data in the cooling mode and in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.



## FDUM Series

### Point 1 Adaptable

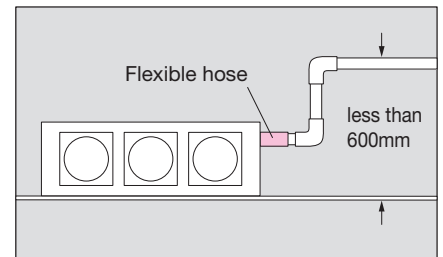
Selectable static pressure and Flexible duct design with selectable air suction (direct suction /duct suction) can meet a wide range of installations.

Static pressure Pa

model	Standard	Max
FDUM50&60V/VD	50	85

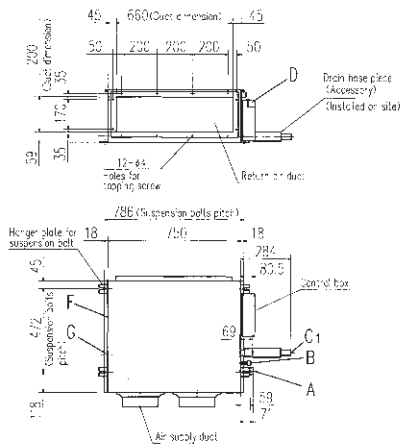
### Point 2 600mm Drain Pump

Drain can be discharged upwards by 600mm from the ceiling surface. It allows a piping layout with a high degree of freedom depending on the installation location.

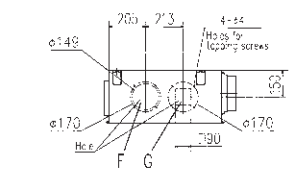
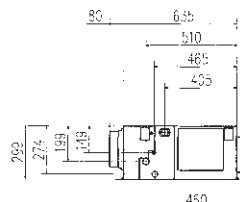
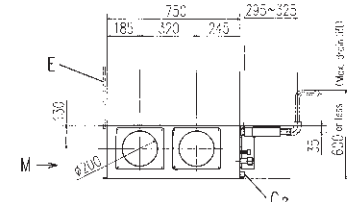
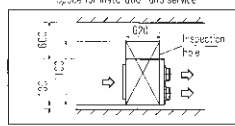


## Outline drawing(Unit:mm)

### Model FDUM50

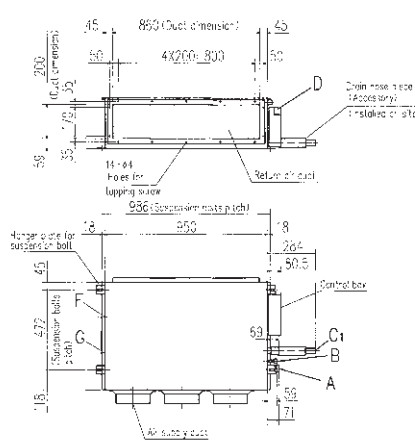


Symbol	Content
A	Gas piping φ2.7 (1/2") (Flare)
B	Sub piping φ6.35 (1/4") (Flare)
C1	Drain piping φ20 (3/4") (Flare)
C2	Drain piping φ20 (3/4") (Flare)
D	Hole for wiring Suspension bolts (φ4)
E	Outlet air opening for ducting (φ150) (Knock out)
F	Air outlet opening for ducting (φ125) (Knock out)

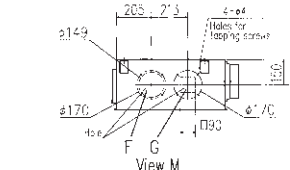
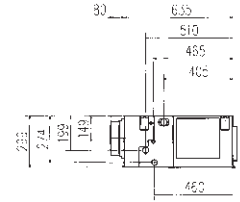
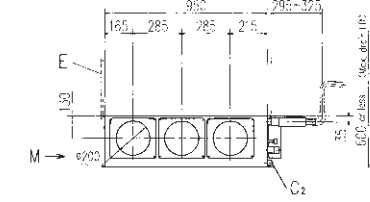
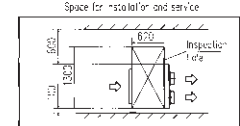


Notes (1) The model name label is attached on the top of the control box.  
(2) Prepare the connecting socket (VP20) on site.

### Models FDUM60



Symbol	Model	Content
A	FDUM50V	φ2.7 (1/2") (Flare)
B	FDUM50V	φ6.35 (1/4") (Flare)
C1	FDUM50V	φ20 (3/4") (Flare)
C2	FDUM50V	φ20 (3/4") (Flare)
D	VP20 (D.20, O.D.24) Note (2)	
E	VP20 (D.20, O.D.24) Note (2)	
F	VP20 (D.20, O.D.24) Note (2)	
G	VP20 (D.20, O.D.24) Note (2)	



Notes (1) The model name label is attached on the top of the control box.  
(2) Prepare the connecting socket (VP20) on site.



**RCH-E3**  
(Option)



**RC-E4**  
(Option)

**RCN-KIT3-E**



## FDUM Series

FDUM Series			FDUM50ZIXVD	FDUM60ZIXVD
			FDUM50VD	FDUM60VD
			SRC50ZIX-S	SRC60ZIX-S
Power Supply	Outdoor Unit		1Phase 230V 50Hz	
Capacity	Cooling T1	kW	5.0 (2.2~5.6)	5.6 (2.8~6.3)
	Heating H1		5.4 (2.5~6.3)	6.7 (3.1~7.1)
Input	Cooling T1	kW	1.52	1.86
	Heating H1		1.41	1.96
EER	Cooling T1		3.28	3.01
COP	Heating H1		3.82	3.41
Current	Cooling T1	Amp	6.7	8.2
	Heating H1		6.3	9
Recommended Circuit Breaker			16	
Sound Pressure Level (JIS C9612)	Indoor	dB	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	
	Outdoor		47	48
Airflow		L/s	P-Hi :233 Hi :216 Me :200 Lo :183	
External Static Pressure		Pa	85 @ 233 L/s	
Dimensions (HXWXD)	Indoor	mm	299 × 750 × 635	
	Outdoor		640 × 800 × 290	
Net Weight	Indoor	kg	34	40
	Outdoor		43	
Refrigerant Piping	Liquid Line	mm(in)	6.35 (1/4")	
	Gas Line		12.7 (1/2")	
	Connection Method		Flare	
Refrigerant R410A	Pre-charged Amount	kg	1.4	
		m	15	
Controller			RC-E4	
Dimensions (HXW) Return Air		mm	200 x 660	200 x 860
Dimensions Supply Air Spiggot		mm ø	2 x 200	3 x 200

For additional information reference 10.PAC.DB.142A

Sound data in the cooling mode and in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.

## Before starting use

### Heating performance

The heating performance values (kW) described in catalog are the values obtained by operating at an outdoor temperature of 7C and indoor temperature of 20C as set forth in the ISO Standards. As the heating performance decreases as the outdoor temperature drops, if the outdoor temperature is too low and the heating performance is insufficient, use other heating appliances as well.

### Indication of sound values

The sound values are the values (A scale) measured in a chamber such as an anechoic chamber following the ISO Standards. In the actual installation state, the value is normally larger than the values given in the catalog due to the effect of surrounding noise and echo. Take this into consideration when installing.

### Use in oil atmosphere

Avoid installing this unit in as atmosphere where oil scatters or builds up, such as in a kitchen or machine factory. If the oil adheres to the heat exchanger, the heat exchanging performance will drop, mist may be generated, and the synthetic resin parts may deform and break.

### Use in acidic or alkaline atmosphere

If this unit is used in acidic atmosphere such as hot spring areas having high level of sulfuric gases or in alkaline atmosphere including ammonia or calcium chloride, places where the exhaust of the heat exchanger is sucked in, or at coastal areas where the unit is subject to salt breezes, the outer plate or heat exchanger, etc., will corrode. Please ask a dealer or specialist when you use an air conditioner in places differing from a general atmosphere.

### Use in places with high ceilings

If the ceiling is high, install a circulator to improve the heat and air flow distribution when heating.

### Refrigerant leakage

The refrigerant (R410A) used for Air conditioner is non-toxic and nonflammable in its original state. However, in consideration of a state where the refrigerant leaks into the room, measures against refrigerant leaks must be taken in small rooms where the tolerable level could be exceeded. Take measures by installing ventilation devices, etc.

### Use in snowy areas

Take the following measures when installing the outdoor unit in snowy areas.

### Snow prevention

Install a snow-prevention hood so that the snow does not obstruct the air intake port or enter and freeze in the outdoor unit.

### Snow piling

In areas with heavy snow fall, the piled snow could block the air intake port. In this case, a frame that is 50cm or higher than the estimated snow fall must be installed underneath the outdoor unit.

### Automatic defrosting device

If the temperature is low, and the humidity is high, frost will stick to the heat exchanger of the outdoor unit. If use is continued, the heating performance will drop.

The "Automatic defrosting device" will function to remove this frost.

After heating for approx, three to ten minutes, it will stop, and the frost will be removed. After defrosting, hot air will be blown again.

### Servicing the air-conditioner

After the air-conditioner is used for several seasons, dirt will build up in the air-conditioner causing the performance to drop. In addition to regular servicing, we recommend the maintenance contract (charged for) by a specialist.

## ⚠ Safety Precautions

### Air-conditioner usage target

The air-conditioner described in this catalog is a dedicated cooling/heating device for human use.

Do not use it for special applications such as the storage of foodstuffs, animals or plants, computer server rooms, precision devices or valuable art, etc.

This could cause the quality of the items to drop, etc.

Do not use this for cooling vehicles or ships. Water leakage or current leaks could occur.

### Before use

Always read the "User's Manual" thoroughly before starting use.

### Installation

Always commission the installation to a dealer or specialist. Improper installation will lead to water leakage, electric shocks and fires.

Make sure that the outdoor unit is stable in installation. Fix the unit to stable base.

### Usage place

Do not install in places where combustible gas could leak or where there are sparks.

Installation in a place where combustible gas could be generated, flow or accumulate, or places containing carbon fibers could lead to fires.

Only persons that are qualified and licensed are permitted to install and service products that contain refrigerants in Australia, go to [www.arctick.org](http://www.arctick.org). Suitable access for service must be provided in compliance with industry standards and local regulations.



**MITSUBISHI HEAVY INDUSTRIES**  
**AIR-CONDITIONERS AUSTRALIA, PTY. LTD.** ABN 92 133 980 275

### National Contact Information:

Phone: 1300 138 007

Fax: 1800 644 329

[www.mhiala.com.au](http://www.mhiala.com.au)

#### New South Wales & Head Office

9C Commercial Road  
Kingsgrove NSW 2208  
PO Box 318 Kingsgrove NSW 1480

#### Victoria

10 Derby Street  
Collingwood VIC 3066

#### Queensland

2/27 Kingtell Place  
Geebung QLD 4034  
PO Box 124, Virginia QLD 4014

#### Western Australia

1 Frederick Street  
Belmont WA 6104  
PO Box 667 Belmont WA 6104

### MRE SPARE PARTS

[www.mrespareparts.com.au](http://www.mrespareparts.com.au)

Tel: +61 (0) 2 9600 7444

Fax: +61 (0) 2 9600 8044

#### ISO9001

Our Air Conditioning & Refrigeration Systems Headquarters is an ISO9001 approved factory for residential air conditioners and commercial-use air conditioners (including heat pumps).



BIWAJIMA PLANT  
Mitsubishi Heavy Industries, Ltd.  
Air-conditioning & Refrigeration Systems Headquarters  
Certified ISO 9001  
Certificate number : JQA-0709



MITSUBISHI HEAVY INDUSTRIES-  
MAHAJAK AIR CONDITIONERS CO., LTD.  
Certified ISO 9001  
Certificate Number : 04100-1998-0813

#### ISO14001

Our Air Conditioning & Refrigeration Systems Headquarters has been assessed and found to comply with the requirements of ISO14001.



BIWAJIMA PLANT  
Mitsubishi Heavy Industries, Ltd.  
Air-conditioning & Refrigeration Systems Headquarters  
Certified ISO 14001  
Certificate number : JQA-030256



MITSUBISHI HEAVY INDUSTRIES-  
MAHAJAK AIR CONDITIONERS CO., LTD.  
Certified ISO 14001  
Certificate Number : 04104-1998-0813 ES

