



# FDUA/M Series

Inverter Ducted Air Conditioners




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Monika's Doggie Rescue



## FD Series.

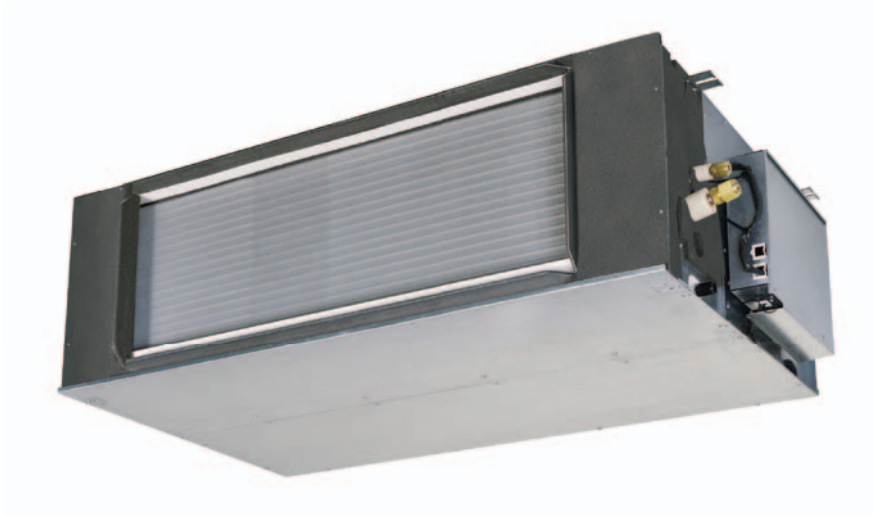
Inverter Ducted Air Conditioners.



A Mitsubishi Heavy Industries ducted system lets you and your family enjoy the comfort of powerful air conditioning in every part of your home all year round. Quiet, efficient and reliable our ducted systems have a 5 year warranty so you can be sure you'll get quality air conditioning for years to come.

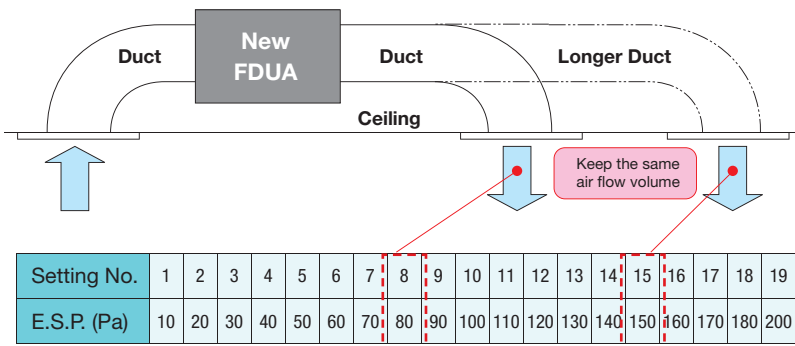
# FDDA Indoor Unit.

Duct Connected - High Static Pressure.



## Automatic external static pressure (E.S.P.) control

By using a DC motor, the optimum air flow volume can be achieved by this automatic control. The indoor unit will recognize external static pressure automatically and keep rated air flow volume.

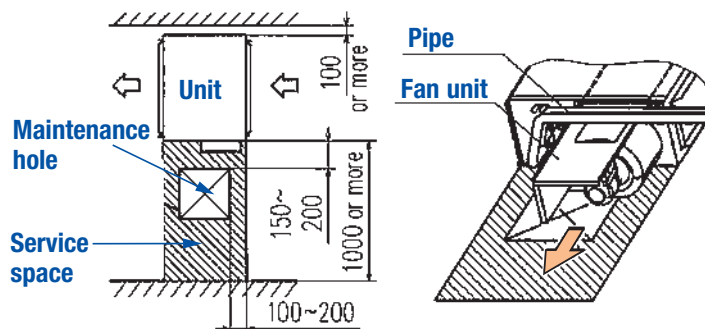


**E.S.P. button**

External static pressure can be set by E.S.P. button.

## Improved servicing

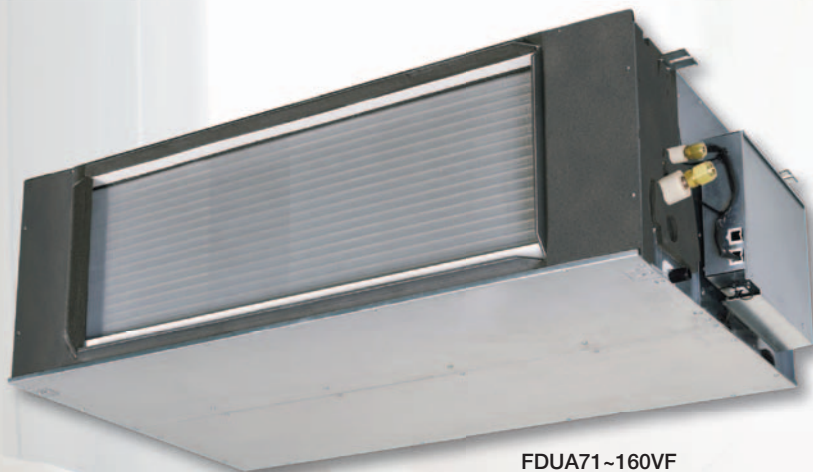
Fan unit (impeller and motor) can be pulled out from the right side of the unit. Maintenance is available from the right side or from beneath.





# FDA Indoor Unit.

Duct Connected - High Static Pressure.



FDA71~160VF

### Wireless Remote Control



RCN-KIT3-E

### Wired Remote Control



RC-EX1A

RC-E5

RCH-E3

## Dimension

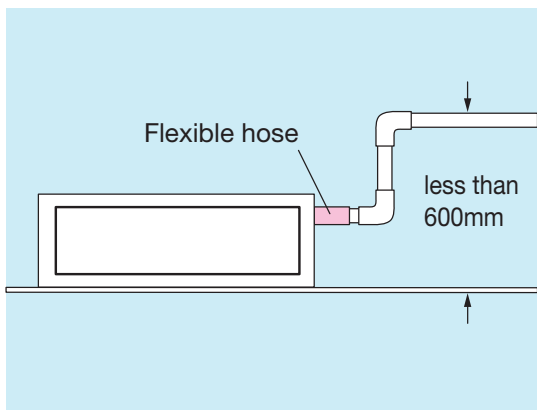


FDA100/125/140/160VF

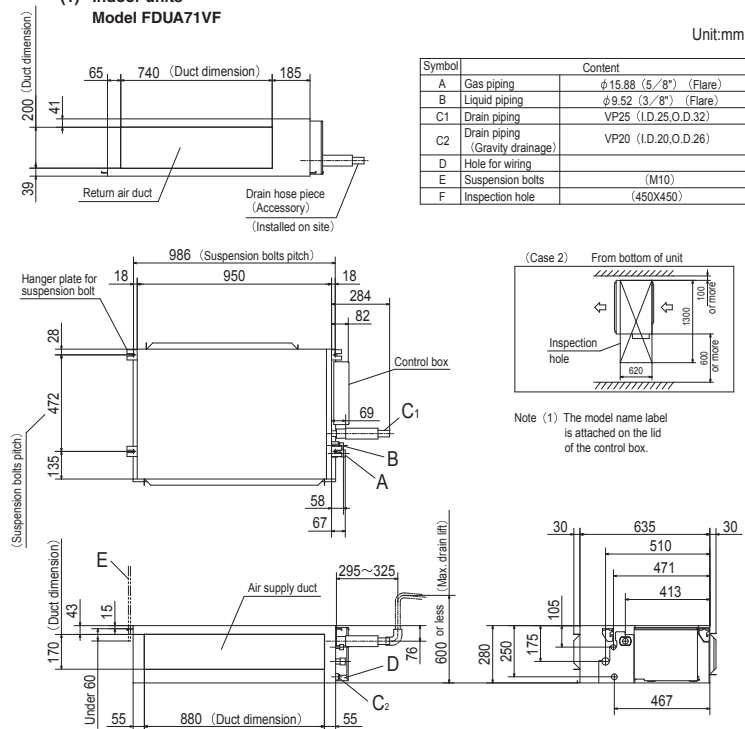
FDA71VF

## 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.



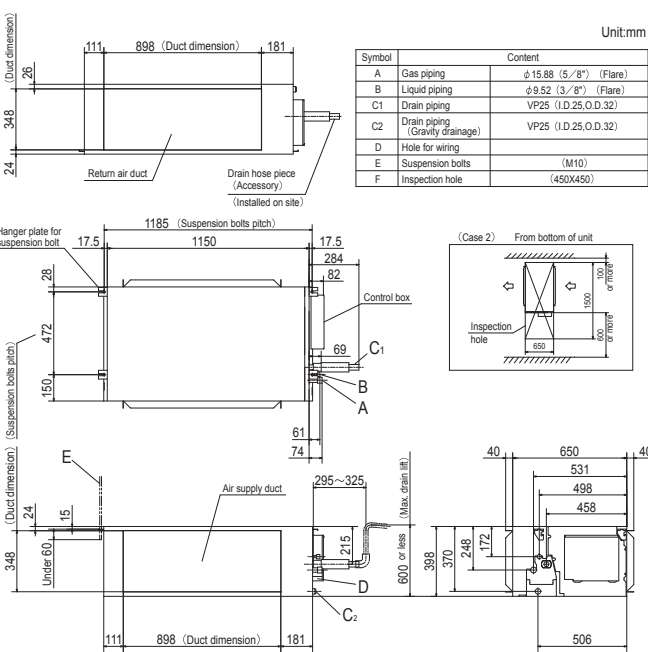
### (1) Indoor units Model FDA71VF



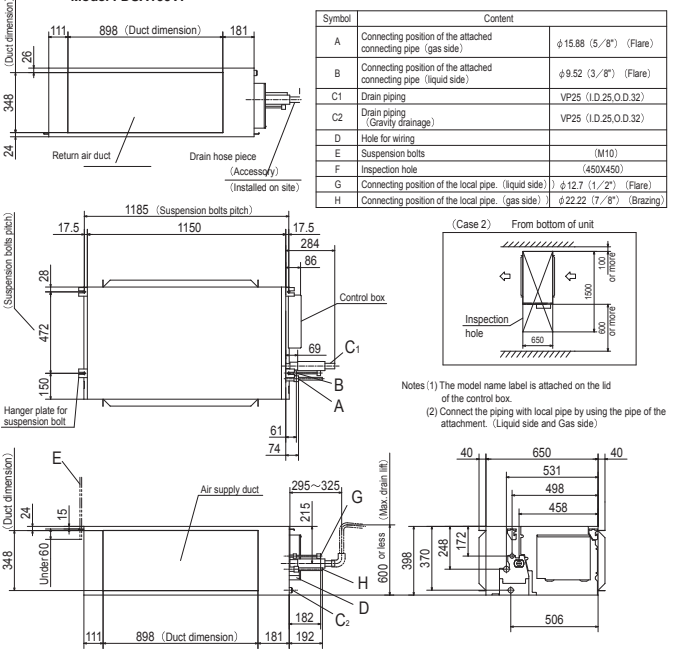
# FDUA

			FDUA71VNXVF	FDUA100VNVF	FDUA100VNXVF	FDUA125VNXVF	FDUA140VNXVF	FDUA160VSVF	
Indoor			FDUA71VF	FDUA100VF	FDUA100VF	FDUA125VF	FDUA140VF	FDUA160VF	
Outdoor			FDC71VNX	FDC100VN	FDC100VNX	FDC125VNX	FDC140VNX	FDC160VS	
Power supply	Outdoor Unit		1 Phase 230V 50Hz					3 Phase 415V 58Hz	
Capacity	Cooling T1	kW	7.1 (3.2-8.0)	10 (4.0-11.2)	10 (4.0-11.2)	12.5 (5.0-14.0)	14.0 (5.0-14.5)	16.0 (7.0-20.0)	
	Heating H1		8.0 (3.6-9.0)	11.2 (4.0-12.5)	11.2 (4.0-12.5)	14.0 (4.0-17.0)	16.0 (4.0-18.0)	18.0 (7.6-22.4)	
	Heating H2		5.9	10.0	13.5	14.0	15.0	15.0	
Input	Cooling T1	kW	2.22	3.05	2.85	3.83	4.44	5.02	
	Heating H1		2.22	2.87	2.74	3.68	4.41	4.96	
EER	Cooling T1		3.20	3.28	3.51	3.26	3.15	3.19	
COP	Heating H1		3.60	3.90	4.09	3.80	3.63	3.63	
Sound pressure level (JIS C9612)	Indoor	dB(A)	P-Hi:38 Hi:33 Me:29 Lo:25	P-Hi:43 Hi:42 Me:40 Lo:37	P-Hi:43 Hi:42 Me:40 Lo:37	P-Hi:45 Hi:43 Me:41 Lo:37	P-Hi:47 Hi:40 Me:43 Lo:40	P-Hi:49 Hi:48 Me:45 Lo:42	
	Outdoor		51	49	48	48	49	57	
Sound power level (JIS C9612)	Outdoor	dB(A)	66	70	70	70	72	74	
Airflow	Indoor	l/s	P-Hi: 400 Hi: 317 Me: 250 Lo: 167	P-Hi:650 Hi:600 Me:550 Lo:483	P-Hi:650 Hi:600 Me:550 Lo:483	P-Hi:717 Hi:650 Me:600 Lo:500	P-Hi:850 Hi:800 Me:700 Lo:600	P-Hi:850 Hi:800 Me:700 Lo:600	
External Static Pressure		Pa	200						
External dimensions (HXWXD)	Indoor	mm	280 x 950 x 635	398 x 1150 x 650	398 x 1150 x 650	398 x 1150 x 650	398 x 1150 x 650	398 x 1150 x 650	
	Outdoor		750 x 880(+88) x 340	845 x 970 x 370	1300 x 970 x 370	1300 x 970 x 370	1300 x 970 x 370	1505 x 970 x 370	
Net weight	Indoor	kg	34	52	52	52	52	52	
	Outdoor		60	81	105	105	105	140	
Refrigerant piping	Liquid line	mm	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø9.52	Ø12.7	
	Gas line		Ø15.88	Ø15.88	Ø15.88	Ø15.88	Ø15.88	Ø22.22	
	Connection method		Flare Connection						Brazed
Refrigerant R410A	Quantity	kg	2.95	3.8	4.5	4.5	4.5	7.2	
	Pre charged to pipe length	m	30	30	30	30	30	30	
Maxium Pipe Length		m	50	50	100	100	100	70	
Supply Air Connection		mm	170 x 880	348 x 898					
Return Air Connection		mm	200 x 740	348 x 898					
Controller			RC-E5, RC-EX1 or RCN-KIT3-E						
Safety Pan			UA-SP1-E (Optional)	UA-SP2-E (Optional)					

**Models FDUA100VF, 125VF, 140VF**



**Model FDUA160VF**



**Outline drawing (Unit:mm)**



With flexible set up options, you can tailor a Mitsubishi Heavy Industries ducted system to suit the needs of your family and home. Talk to one of our dealers today to discuss how to design a ducted system that's right for you.

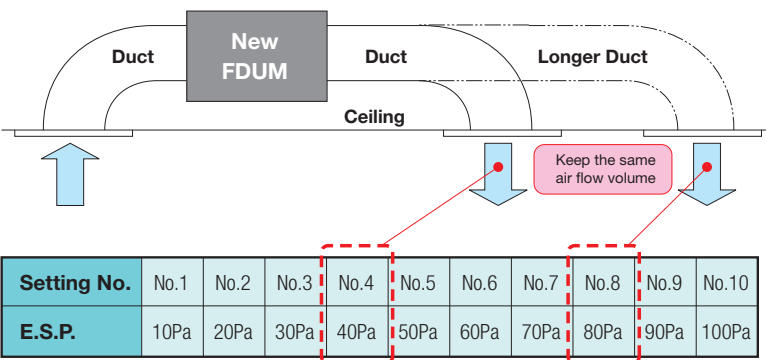
# FDUM Indoor Unit.

## Duct Connected - Medium Static Pressure.



### Automatic external static pressure (E.S.P.) control

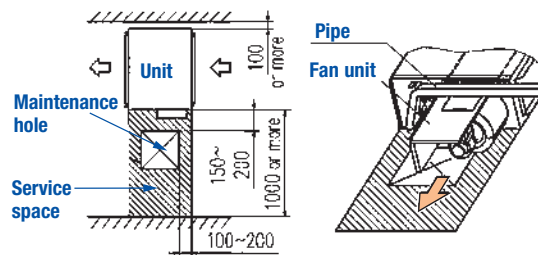
By using a DC motor, the optimum air flow volume can be achieved by this automatic control. The indoor unit will recognize external static pressure automatically and keep rated air flow volume.



**E.S.P. button**  
External static pressure can be set by E.S.P. button.

### Improved servicing

Fan unit (impeller and motor) can be pulled out from the right side of the unit. Maintenance is available from the right side or from beneath.



### Reduced noise level dB(A)

Air flow sound has been reduced by a new fan and casing design. Refrigerant flow sound was decreased by advanced refrigerant distributor design.

Indoor model name	FDUM50VF	FDUM60VF	FDUM71VF	FDUM100VF	FDUM125VF	FDUM140VF
Nominal cooling capacity	5.0kW	6.0kW	7.1kW	10.0kW	12.5kW	14.0kW
<b>NEW FDUM</b>	<b>26</b>	<b>25</b>	<b>25</b>	<b>30</b>	<b>30</b>	<b>30</b>
<b>Current FDUM</b>	<b>28</b>	<b>28</b>	<b>29</b>	<b>32</b>	<b>33</b>	<b>33</b>
<b>Improvement</b>	<b>-2</b>	<b>-3</b>	<b>-4</b>	<b>-2</b>	<b>-3</b>	<b>-3</b>



# FDUM Indoor Unit.

## Duct Connected - Medium Static Pressure.



### Wireless Remote Control



RCN-KIT3-E

### Wired Remote Control



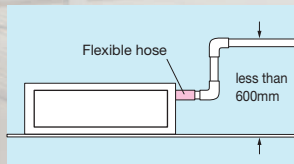
RC-EX1A

RC-E5

RCH-E3

### 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.



### Thin design

The height of all FDUM models is only 280mm.

70mm less

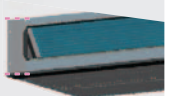
H 350  
H 280



FDUM100/125/140VF

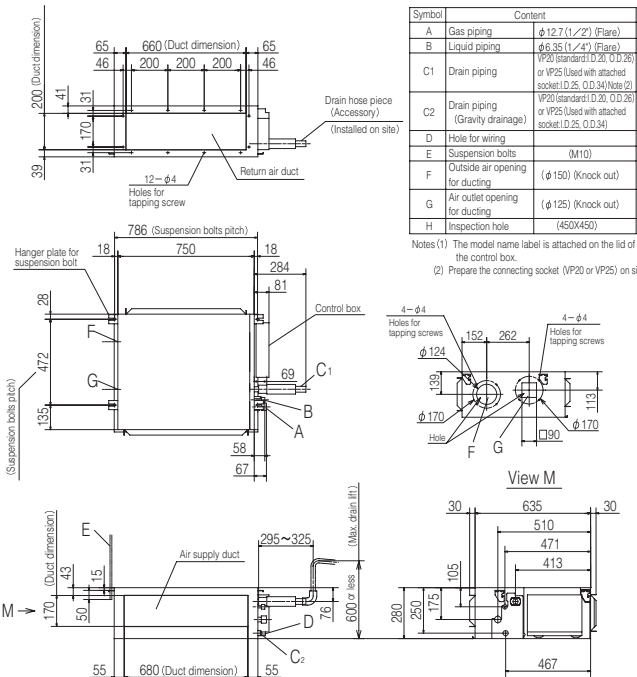
19mm less

H 299  
H 280

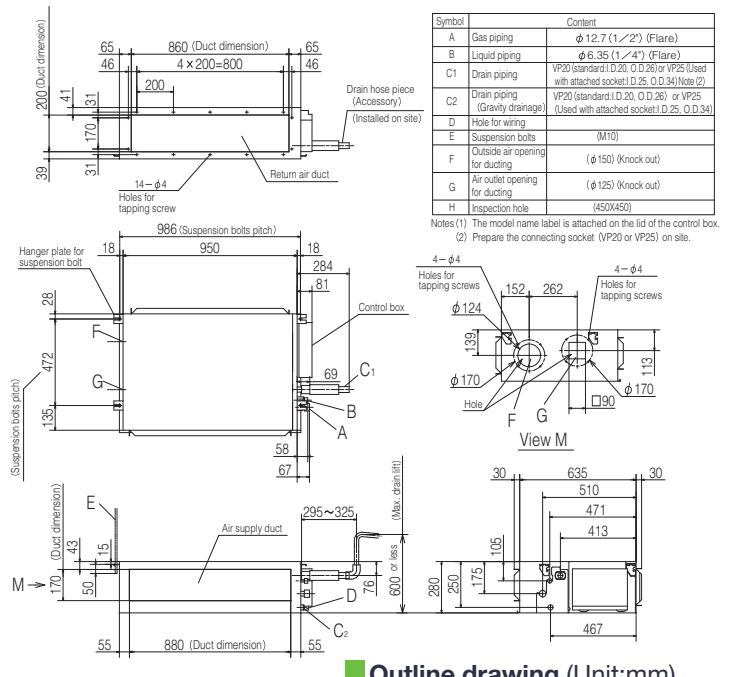


FDUM50/60/71VF

### FDUM50VF



### FDUM60VF



Outline drawing (Unit:mm)

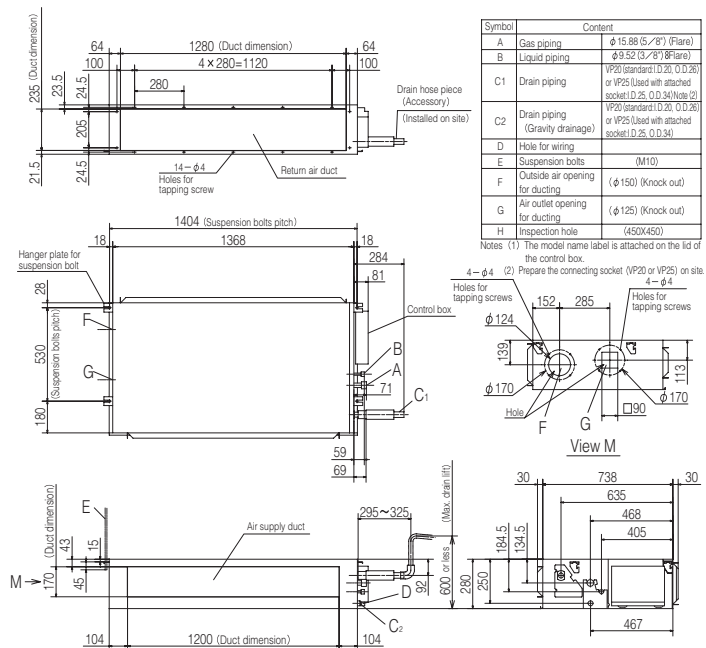
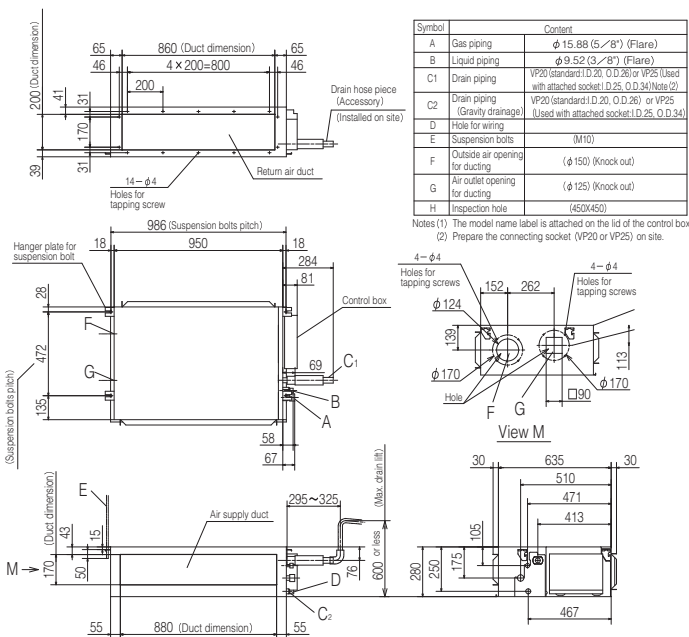


# FDUM

			FDUM50ZJXVF	FDUM60ZJXVF	FDUM71VNXVF	FDUM100VNVF	FDUM125VNXVF	FDUM140VNXVF
Indoor			FDUM50VF	FDUM60VF	FDUM71VF	FDUM100VF	FDUM125VF	FDUM140VF
Outdoor			SRC50ZJX-S	SRC60ZJX-S	FDC71VNX	FDC100VN	FDC125VNX	FDC140VNX
Power supply	Outdoor Unit		1 Phase 230V 50Hz					
Capacity	Cooling T1	kW	5.0 (2.2-5.6)	5.6 (2.8-6.3)	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		5.4 (0.6-6.3)	6.7 (0.6-7.1)	8.0 (3.6-9.0)	11.2 (4.0-12.5)	14.0 (4.0-17.0)	16.0 (4.0-18.0)
	Heating H2		4.3	4.9	7.0	11.4	13.7	14.3
Input	Cooling T1	kW	1.56	1.75	2.20	2.92	3.60	4.40
	Heating H1		1.70	2.00	2.20	3.20	3.90	4.54
EER	Cooling T1		3.21	3.20	3.23	3.42	3.47	3.18
COP	Heating H1		3.18	3.35	3.64	3.50	3.59	3.52
Sound pressure level (JIS C9612)	Indoor	dB (A)	P-Hi:37 Hi:32 Me:29 Lo:26	P-Hi:36 Hi:31 Me:28 Lo:25	P-Hi:38 Hi:33 Me:29 Lo:25	P-Hi:44 Hi:38 Me:36 Lo:30	P-Hi:45 Hi:40 Me:34 Lo:29	P-Hi:47 Hi:40 Me:35 Lo:30
	Outdoor		50	54	60	49	50	49
Sound power level (JIS C9612)	Outdoor	dB(A)	63	64	66	70	70	72
Airflow	Indoor	l/s	P-Hi: 217 Hi: 167 Me: 150 Lo: 133	P-Hi:333 Hi:250 Me:217 Lo:167	P-Hi: 400 Hi: 316 Me: 250 Lo: 166	P-Hi:600 Hi:467 Me:417 Lo:317	P-Hi:650 Hi:533 Me:433 Lo:333	P-Hi:800 Hi:583 Me:467 Lo:367
External Static Pressure		Pa	100@217 l/s	100@333 l/s	100@400 l/s	100@600 l/s	100@650 l/s	100@800 l/s
External dimensions (H×W×D)	Indoor	mm	280 x 750 x 635	280 x 950 x 635	280 x 950 x 635	280 x 1370 x 740	280 x 1370 x 740	280 x 1370 x 740
	Outdoor		640 x 800 (+71) x 290	640 x 800 (+71) x 290	750 x 880 (+88) x 340	840 x 970 x 370	1300 x 970 x 370	1300 x 970 x 370
Net weight	Indoor	kg	29	34	34	54	54	54
	Outdoor		45	45	60	81	105	105
Refrigerant piping	Liquid line	mm	Ø6.35	Ø6.35	Ø9.52	Ø9.52	Ø9.52	Ø9.52
	Gas line		Ø12.7	Ø12.7	Ø15.88	Ø15.88	Ø15.88	Ø15.88
	Connection method		Flare Connection					
Refrigerant R410A	Quantity	kg	1.5	1.5	2.95	3.8	4.5	4.5
	Pre charged to pipe length	m	15	15	30	30	30	30
Maxium Pipe Length		m	30	30	50	50	100	100
Supply Air Connection		mm	170 x 680	170 x 880	170 x 880	170 x 1200	170 x 1200	170 x 1200
Return Air Connection		mm	200 x 660	200 x 860	200 x 860	235 x 1280	235 x 1280	235 x 1280
Controller			RC-E5, RC-EX1 or RCN-KIT3-E					

## FDUM71VF

## FDUM100VF, 125VF, 140VF



# eco touch REMOTE



Simple setting by **tapping button** only

## Run / Stop

### High power operation

- Maximum capacity operation (Max 15 minutes)
- Increased compressor speed
  - Increased air flow

### Energy-saving operation

- Changes set temperature at 28°C in cooling mode and 22°C in heating mode, 25°C in auto mode.
- Operation correction by outdoor temperature

## Main functions

### Energy management

- Peak cut timer • Automatic temperature set back • Weekly timer • Set ON/OFF timer by hour  
• Set ON/OFF timer by clock • Fan only operation • Sleep timer

### Comfort

- Individual flap control • High power operation • External ventilation ON/OFF • Warm up operation  
Automatic fan speed • Temperature increment setting by 0.5°C



# CONTROL

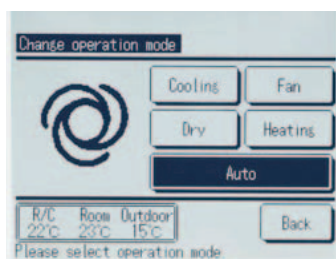
Advanced touch screen panel with full dot **Liquid Crystal Display**

## Easy operation

All settings done by **tapping touch screen panel**



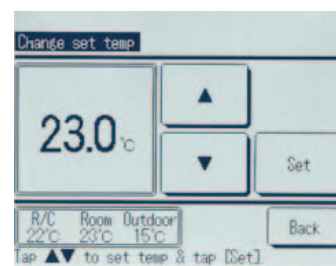
### Operation mode setting screen



The operation mode can be selected by simply tapping this button.



### Setting temperature screen



You can select the desired temperature by tapping the ▲▼ button.

### Operation mode



## Convenience

- LCD contrast setting • Back light setting • Filter clean sign • Control sound • Outdoor silent mode
- Summer time setting • Home leave mode • Indoor & outdoor temperature display
- Heating standby display • Defrosting operation display • Auto cooling/heating display
- °C/°F display • Administrator settings • Room name setting

## Service

- Error code display • Operation data display • Next service data display • Contact company display
- USB connection (mini-B)

# Advanced Technology.

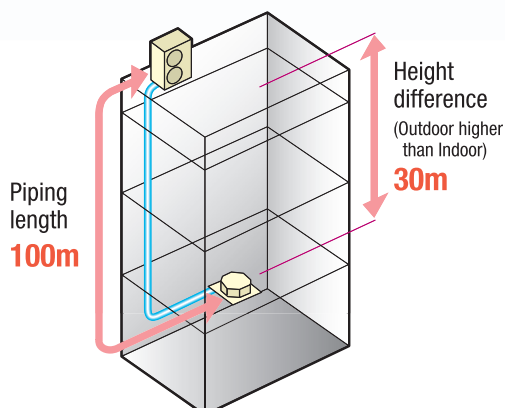
## Hyper Inverter

Our advanced technology has allowed us to achieve high efficiency, powerful heating and long distance refrigerant piping specifications.

This feature permits installation of the units when a heating operation under temperature conditions down to  $-20^{\circ}\text{C}$  is required. Design flexibility has been improved by an extension of the refrigerant piping length to 100m (12.5 & 14.0kW).

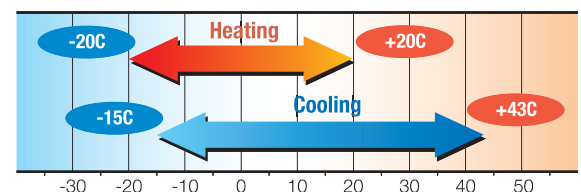


### Long piping (in case of 12.5 & 14.0kW)



### Strong heating (in case of 7.1~14.0kW)

- 20C** : Heating operation down to  $-20^{\circ}\text{C}$
- 15C** : Nominal heating capacity maintained at  $-15^{\circ}\text{C}$



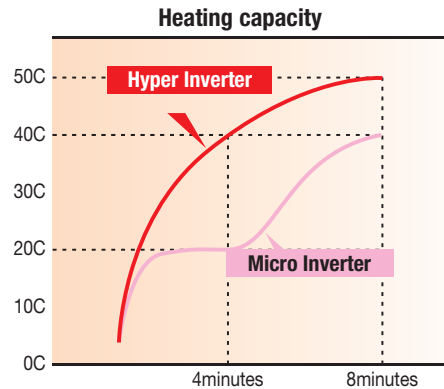
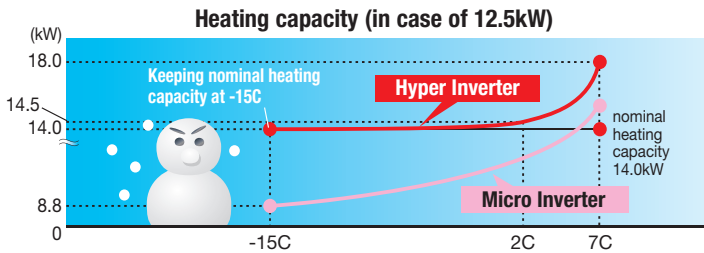


## Powerful heating capacity

Maximum heating capacity has been increased by optimising refrigeration control, the use of electronic expansion valves and our twin rotary compressors.

The Hyper Inverter series can reach the set temperature very quickly. Normal heating capacity can be maintained when the outdoor temperature is -15°C. It is very effective for use in cold areas.

Temperature of supply air can reach 40°C in 4 minutes after start up under low temperature operation conditions (at both indoor and outdoor temperature of 2°C) and can reach 50°C in 8 minutes after that.



# Micro Inverter

## Compact design of outdoor units

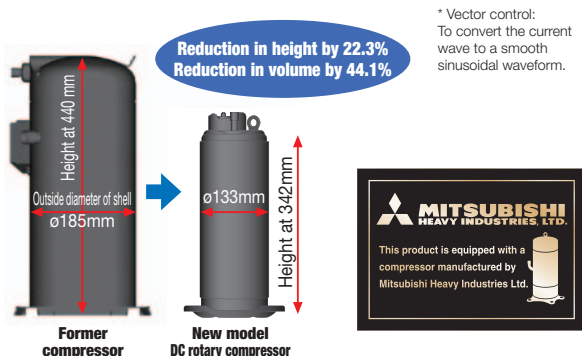
### FDC100VN 10.0kW

Our single fan micro 10.0kW condenser is one of the most compact in the industry being only 845(h)x970(w)x370(d)



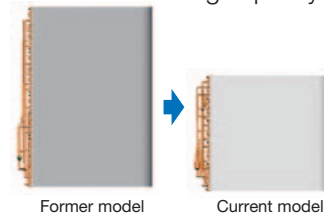
## Size reduction and high efficiency performance of the DC twin rotary compressor

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



## Improved efficiency of the 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.



## Protection

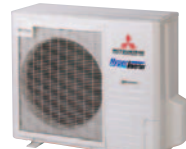
Improved operation of the electronic expansion valve allows for more reliable oil return and this assists to protect the compressor.

# Hyper Inverter Outdoor Unit.

5.0~16.0kW.



SRC50ZJX-S  
SRC60ZJX-S

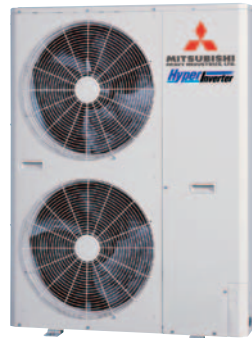


FDC71VNX

## Micro



FDC100VN



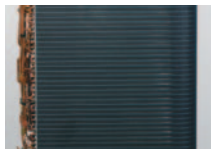
FDC125VNX  
FDC140VNX



FDC160VSX

### Blue Fin 7.1-14.0kW

Due to application of blue coated fins (KS101) for the heat exchanger of the new outdoor unit, corrosion resistance has been improved compared to previous models.



### Base heater kit (option)

This kit is recommended to be used in an area where the temperature drops below 0°C.

CW-H-E  
applied for FDC100VN  
FDC125~140VNX

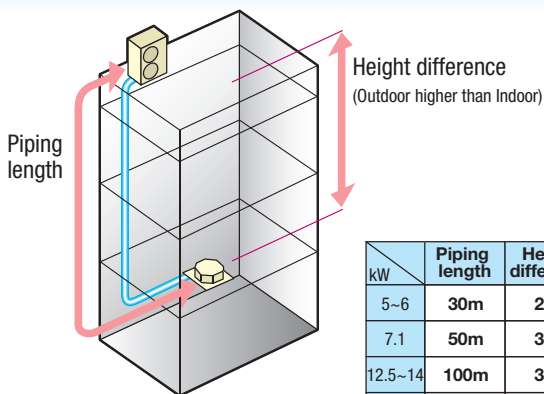


### Installation workability

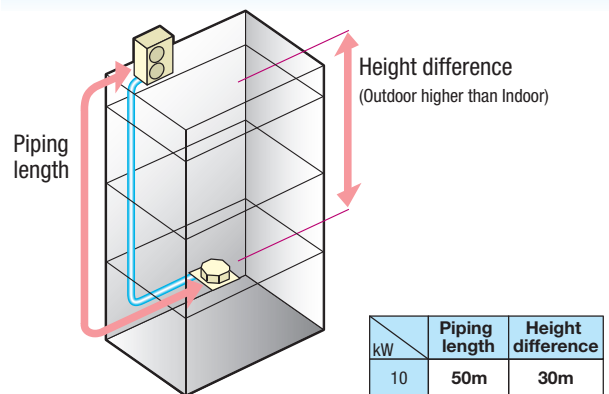
Enhanced installation workability thanks to the extended pipe length – one of the longest levels in the industry. Units are pre-charged with refrigerant.

### Piping length–100m (Hyper Inverter 12.5~14.0kW)

#### Hyper Inverter



#### Micro Inverter



### Refrigerant precharged piping length extending to 30m

Refrigerant precharged piping length extends up to 30m. (5.0 & 6.0kW up to 15m)  
This eliminates the need to add refrigerant on site, which sets it free from the trouble of excessive or insufficient charging of refrigerant and allows carrying out the installation smoothly.



## High efficiency

### Reduction of air flow pressure loss

Pressure caused by air flow in the indoor unit is reduced by making the air outlet larger. The reduction of pressure reduces the load on the fan motor so efficiency increases.

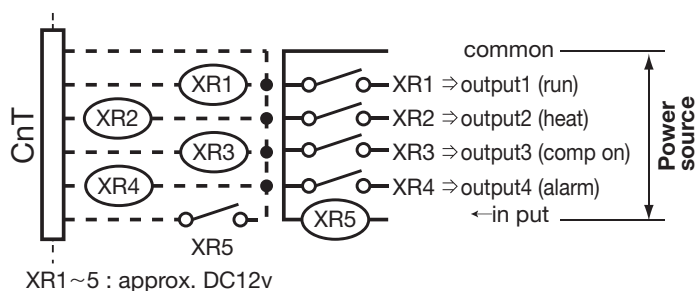
### Increase of heat transfer efficiency

Heat transfer efficiency has improved by using high efficiency piping and by the redesign of the heat exchanger from 2 to 1 piece.

## Convenience

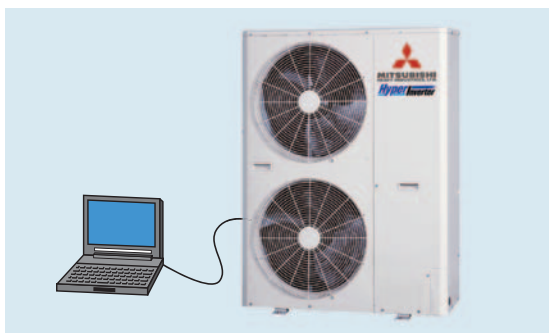
### CnT terminal

A dry contact is fitted to each indoor unit which is used when a signal output is required.



### Monitoring Function

Condensers are fitted with RS232C so you can connect directly to your PC for monitoring. MHI service software, Mente PC makes service tasks simple.



### Remote control RC-E5

The new remote control for all indoor units. Non-polar 2 core wiring is used. Installation is easier.



## All models employ R410A with RoHS\* directive

### Employment of lead free solder

#### Adapt to RoHS

In order to comply with RoHS standard, the new inverter series use lead free solder.

\*\*RoHS" is the abbreviation of the new European standard, which means Restriction of Hazardous Substances.

### Employment of **R410A** refrigerant

All models of the FD inverter series use refrigerant R410A characterized by the ozone depletion coefficient being 0.

## 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.



MHIAA is proudly sponsoring  
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### 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



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MAHAJAK AIR CONDITIONERS CO., LTD.  
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Certificate Number : 04100 1998 0813

### ISO14001

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



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