

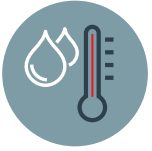
MOVE THE WORLD FORWARD  MITSUBISHI  
HEAVY  
INDUSTRIES  
GROUP

# HYDROLUTION





HEATING



HOT SANITARY



COOLING

# WHY A MHI HEAT PUMP?

Mitsubishi Heavy Industries air to water heat pump is a complete modern system for heating, cooling and producing hot sanitary water for houses. Offering effective energy saving and reducing carbon dioxide emission.





## WHY A MHI HEAT PUMP?



1

### **Our recognised contribution to global environment.**

Our contributions to a low-carbon society encompass the entire product life cycle from efficient production, effective use of energy, effectual utilization of inexhaustible clean energy and recycling. This is a part of our accomplishments through unique technological features.

2

### **Our assured integration of high technology is the mainstay of a low carbon society.**

We have assured integration of high technology in a variety of areas including new clear power generation, transportation systems, desalination plants, and wind turbine generators. Our product portfolio covering entire social infrastructure is supported by our proven high technology. We integrate proprietary technologies which have already demonstrated their own significant capabilities in their fields to enhance the effect in our total solutions. Our air to water heat pump is an innovative system developed by using integration of high technology.

3

### **Heat pump technology for a low-carbon society**

Air to water heat pumps are a revolutionary energy recycling system which reduces environmental load by reusing heat energy produced in daily life. This first-rate energy saving system has been developed by our exceptional technology.

4

### **Saving running costs with use of heat pump technology**

Typically less than 1kW of output heat energy can be produced by conventional oil or gas boilers. Heat pump technology is capable of producing up to 5.32kW of heat energy from 1kW of energy input making the system 5.32 times more efficient than traditional means.

**Mitsubishi Heavy Industries utilises its high technology in a variety of areas and provides comprehensive solutions for realization of a low-carbon society.**

Air to Water heat pump is one of our products supported by our unrivalled technology to realise utmost energy savings, safety and assurance.



# BENEFITS OF HYDROLUTION

**Our heat pump is a complete modern system for heating and cooling room air and producing sanitary hot water.** It absorbs 'free' heat from outdoor air and amplifies it to generate ideal temperatures and hot water swiftly and efficiently.

## ENERGY SAVING

Optimum annual operation costs are achieved thanks to the inverter driven compressor. The speed of the compressor is controlled according to the demand resulting in the highest COP levels of 4.09~5.42\* in heating operation and is in accordance with Lot 1 energy class.

\*Condition 2 on page 16

## HIGH EFFICIENCY

The compressor is designed to be efficient even at low ambient temperatures (down to -20°C) in order to be able to withstand the toughest winter climates.

## INTEGRATED DESIGN

MHI developed compact solutions: all-in-one (HMA-W series) and hydrobox (HMS-W/-S) series. With the all in one, hot water, heating and cooling has been integrated and with the hydrobox, heating and cooling has been integrated and for hot water production a separate tank will be required. From factory the hydrobox includes a three way diverting valve for hot water production. For both solutions, electric and piping work is simple due to their integrated design.

## 65°C HOT WATER

Maximum flow line temperature is 65°C with the use of an auxiliary electric heater used for hot water back-up and to cope with irregular and excessive hot water demand. The heat pump can keep producing the temperature of 58°C (60°C with FDCW71VNX-W) hot water without an auxiliary electric heater and can still produce this even at ambient temperatures between -20-43°C.

## SILENT MODE

Silent mode function can reduce the sound level from the outdoor unit during heating mode by reducing the compressor and fan speed. The ON/OFF timer operation can be set with the remote controller.

## INTERNET CONNECTION

Customers can get a brief overview and the status of the MHI heat pump and the heating system remotely. It allows customers to control heating and hot water production.

## MYUPLINK APP



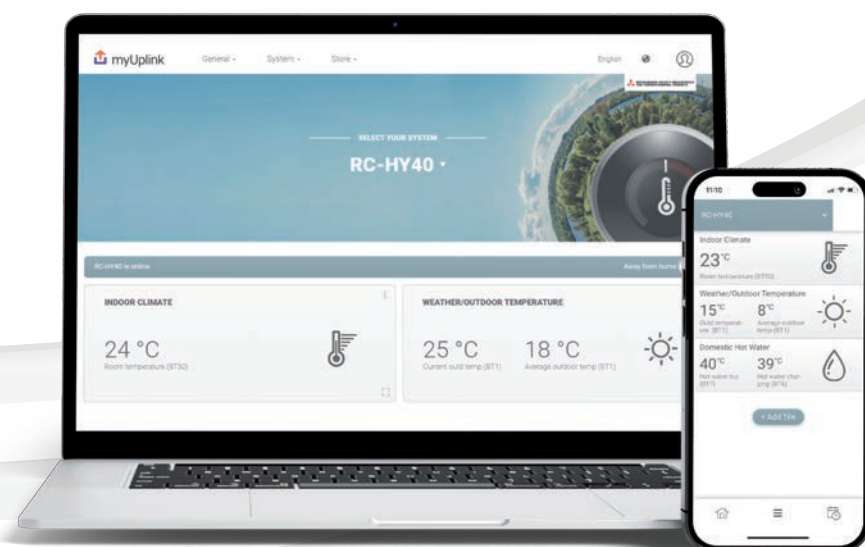
# STAY IN CONTROL WITH MYUPLINK

### THE ULTIMATE APP FOR REMOTE MONITORING

The Hydrolution air to water unit is connectable to its independent remote monitoring system via myUplink platform which is a dedicated app for the end user.

#### myUplink Key Benefits

- Real time monitoring and control of heating, hot water, pool, solar and heat pump operation
- Real time alarm information
- Cloud based software update



# NEXT GENERATION REFRIGERANT R32

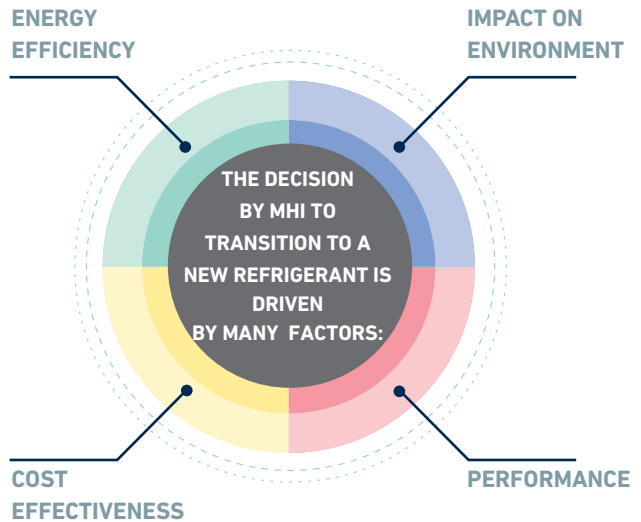


## R32 REFRIGERANT

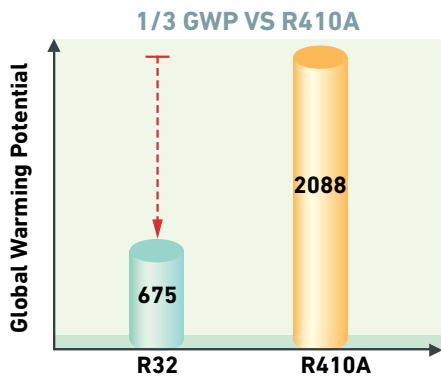
This next generation refrigerant boasts nearly 70% lower Global Warming Potential rate than R410A. Due to its superior qualities, R32 offers amazing energy efficiency benefits. It has a potential refrigerating effect that is 1.5 times that of R410A, meaning that it needs less energy to achieve the desired temperatures and requires less refrigerant volumes to operate.

## BENEFITS OF R32

- 1 Low Global Warming potential and Superior Energy Efficiency
- 2 Zero Ozone Depletion
- 3 Easy to recycle
- 4 It complies with F-Gas
- 5 Single component, easy to handle refrigerant
- 6 Already used in air conditioning systems and heat pumps worldwide
- 7 It requires up to 13% less charge compared to R410A

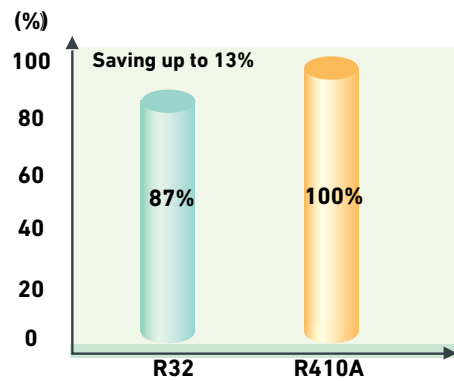


### LOW GLOBAL WARMING



GWP values based on IPCC 4th Assessment report

### REDUCED REFRIGERANT CHARGE





# SPECIFICATIONS

Mitsubishi Heavy Industries air to water heat pumps are a complete modern system for heating, cooling and producing hot sanitary water for living, offering effective energy saving.

NEW  
PRODUCT



NEW  
REFRIGERANT



## Indoor Unit (HMS)

- Hydrobox indoor module for heating, cooling and hot water production (accessory required)
- Integrated expansion vessel
- Integrated electrical heater for backup operation
- Integrated 3-way diverting valve for hot water operation
- Integrated controller (advanced version)
- Compatible with all outdoor units.

## Indoor Unit (HMA)

- Flexible all in one indoor module for heating, cooling and hot water
- Upgrading existing heating systems or new builds with requirements for high hot water performance
- Equipped with a capacity of 180 litres of heated domestic water heater
- Integrated expansion vessel (10L)
- Has a built in condenser, as well two diverting valves (one of heating and cooling, the other for heating and hot water)
- Integrated electrical heater for backup
- Extra additional heat connection (eg: gas boiler, oil boiler).
- Integrated controller (advanced version)
- Compatible with R410A and R32 outdoor units (up to 11 kW).

## Outdoor Unit

- FDCW60/71VNX-W
  - MHI high quality outdoor unit using low GWP refrigerant - R32
  - Available in 6 and 8 kW, compatible with all indoor units
  - Silent mode range expanded assuring sound pressure level of 35 db(A) at 5 meters
  - Improved piping height:
    - FDCW60VNX-W: from 7 to 20 meter
    - FDCW71VNX-W: From 7 to 15 meter when the outdoor unit is below the indoor unit and 7 to 30 meter when the outdoor unit is above the indoor unit
  - Very energy efficient with a wide operation range
  - Latest inverter & DC twin rotary compressor technology
  - Compact design for easy installation
  - Built in drain pan heater to improve defrost
  - Blue coated fin for heat exchanger to prevent corrosion.

# SPECIFICATIONS

Mitsubishi Heavy Industries air to water heat pumps are a complete modern system for heating, cooling and producing hot sanitary water for living, offering effective energy saving.



## Advanced Controllers

### RC-HY20-W, RC-HY40-W

Easy Operation: Advanced user friendly controller, which have large multicolor displays. It shows information about the status of the units.

RC-HY20-W: Base version without extension module.

RC-HY40-W: Advanced version with extension module. Room sensor and current sensor with cascade heat pump control function



## Tank Unit

- Storage tank with coil designed to store hot sanitary water.
- Temperature indicator allows user to read and control water temperature in the tank
- Large heating surface of the coil provides high hot utility water efficiency
- Manages water pressure up to 10 bar



## Split Box

- Built in condenser
- Easy installation by use of wall bracket
- Good for flexible applications
- Compatible with R410A and R32 units



**Our domestic air-to-water heat pump range offers a complete modern system for heating, cooling and producing hot sanitary water for houses.**

Thanks to the integration of a hot water heater, immersion heater, circulating pump and climate system within the indoor unit, the Hydrolution range is one of the safest, most economical and environmentally friendly options available today.

# HYDROLUTION



# SPECIFICATIONS



## All-in-one combination

Indoor Model			HMA60-W	HMA100-W	HMA100-W
Outdoor Model			FDCW60VNX-A	FDCW71VNX-A	FDCW100VNX-A
Power source			400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1	kW	2.28 (0.50 - 8.00)	8.0 (3.0 - 8.0)	9.0 (3.5 - 11.0)
	condition 2	kW	2.67 (0.50 - 7.40)	8.3 (2.0 - 8.3)	9.2 (3.5 - 10.0)
COP	condition 1		3.62	3.33	3.44
	condition 2		5.32	4.09	4.28
Cooling Nominal capacity	condition 1	kW	4.86 (0.80 - 6.00)	7.1 (2.0 - 7.1)	8.0 (3.0 - 9.0)
	condition 2	kW	7.03 (1.20 - 7.80)	10.7 (2.7 - 10.7)	11.0 (3.3 - 12.0)
EER	condition 1		2.64	2.68	2.81
	condition 2		3.52	3.35	3.62
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)			A++/A+++	A+/A+	A++/A++
Water Heating Energy Efficiency Class *1			A	A	A
Seasonal Space Heating Energy Efficiency (W55/W35) *1			% 138/188	% 119/149	% 126/165
Water Heating Energy Efficiency *1			% 89	% 99	% 98
Seasonal Space Heating Energy *1 *2 Efficiency Class of package (W55/W35)			A++/A+++	A+/A++	A++/A++
Seasonal Space Heating Energy *1 *2 Efficiency of package (W55/W35)			142/192	123/153	130/169
Operation range (Ambient temperature)		heating	-20° - 43°C		
		cooling	15° - 43°C		
Operation range (Water temperature)		heating	25°C - 58°C (65°C, with immersion heater)		
		cooling	7-25°C		
Max refrigerant pipe length		m	30		
Max height difference between IU and OU		m	7		
Height x Width x Depth		mm	1715(+ 40 max) x 600 x 610		
Weight (without water in the system)		kg	155	165	
Tank Surface			Enamel Coated		
Tank Volume total		liter	180		
Volume of coil		liter	4.8		
Volume expansion vessel		liter	10		
Dimensions, climate system pipe		mm	22		
Water pipe connections			Compression fittings		
Immersion Heater		KW	9 (6 for single-phase) (3 Step)		
Max current		A	20 (40 for 230V Single-phase)	23 (40 for 230V Single-phase)	

\*1 European Average climate conditions

\*2 In case of a room temperature sensor connected

# SPECIFICATIONS



## Flexible combination

Split box			HSB60-W	HSB100-W	HSB100-W	HSB140	
Outdoor Model			FDCW60VNX-A	FDCW71VNX-A	FDCW100VNX-A	FDCW140VNX-A	
Power source			1 phase 230V 50Hz				
Heating Nominal capacity	condition 1	kW	2.28 (0.50 - 8.00)	8.0 (3.0 - 8.0)	9.0 (3.5 - 11.0)	16.0 (5.8-16.0)	
	condition 2	kW	2.67 (0.50 - 7.40)	8.3 (2.0 - 8.3)	9.2 (3.5 - 10.0)	16.0 (4.2-16.0)	
COP	condition 1		3.62	3.33	3.44	3.31	
	condition 2		5.32	4.09	4.28	4.2	
Cooling Nominal capacity	condition 1	kW	4.86 (0.80 - 6.00)	7.1 (2.0 - 7.1)	8.0 (3.0 - 9.0)	11.8 (3.1-11.8)	
	condition 2	kW	7.03 (1.20 - 7.80)	10.7 (2.7 - 10.7)	11.0 (3.3 - 12.0)	16.5 (5.2-16.5)	
EER	condition 1		2.64	2.68	2.81	2.65	
	condition 2		3.52	3.35	3.62	3.78	
Seasonal Space Heating Energy Efficiency Class (W55/W35)			A++/A+++	A+/A+	A++/A++	A++/A++	
Seasonal Space Heating Energy Efficiency (W55/W35)			%	138/188	119/149	126/165	133/166
Seasonal Space Heating Energy *2 Efficiency Class of package (W55/W35)			A++/A+++	A+/A++	A++/A++	A++/A++	
Seasonal Space Heating Energy *2 Efficiency of package (W55/W35)			%	142/192	123/153	130/169	137/170
Operation range (Ambient temperature)			heating	-20°C - 43°C			
			cooling	15°C - 43°C			
Operation range (Water temperature)			heating	25°C - 58°C (65°C, with immersion heater)			
			cooling	7-25°C			
Refrigerant type			R410A				
Max refrigerant pipe length			m			30	
Max height difference between IU and OU			m			7	
Height x Width x Depth			mm			400 x 460 x 250	
Weight			kg	16	18	18	23
Dimensions, climate system pipe			mm	22			28
Max Current	Indoor	A	6	6	6	6	
	Outdoor	A	15	16	23	25	

# SPECIFICATIONS



## Hydrobox combination

Split box			HMS60-W	HMS100-W		HMS140-S
Outdoor Model			FDCW60VNX-A	FDCW71VNX-A	FDCW100VNX-A	FDCW140VNX-A
Power source			400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1	kW	2.28 (0.50 - 8.00)	8.0 (3.0 - 8.0)	9.0 (3.5 - 11.0)	16.0 (5.8 - 16.0)
	condition 2	kW	2.67 (0.50 - 7.40)	8.3 (2.0 - 8.3)	9.2 (3.5 - 10.0)	16.0 (4.2 - 16.0)
COP	condition 1		3.62	3.33	3.44	3.31
	condition 2		5.32	4.09	4.28	4.2
Cooling Nominal capacity	condition 1	kW	4.86 (0.80 - 6.00)	7.1 (2.0 - 7.1)	8.0 (3.0 - 9.0)	11.8 (3.1 - 11.8)
	condition 2	kW	7.03 (1.20 - 7.80)	10.7 (2.7 - 10.7)	11.0 (3.3 - 12.0)	16.5 (5.2 - 16.5)
EER	condition 1		2.64	2.68	2.81	2.65
	condition 2		3.52	3.35	3.62	3.78
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)			A++/A+++	A+/A+	A++/A++	A++/A++
Seasonal Space Heating Energy Efficiency (W55/W35) *1		%	138/188	119/149	126/165	133/166
Seasonal Space Heating Energy *2 Efficiency Class of package (W55/W35)			A++/A+++	A+/A++	A++/A++	A++/A++
Seasonal Space Heating Energy *2 Efficiency of package (W55/ W35)		%	142/192	123/153	130/169	137/170
Operation range (Ambient temper- ature)		heating	-20°C -43°C			
		cooling	15°C - 43°C			
Operation range (Water temper- ature)		heating	25°C - 58°C (65°C, with immersion heater)			
		cooling	7-25°C			
Max refrigerant pipe length		m	30			
Max height difference between I.U and O.U		m	7			
Height x Width x Depth		mm	850 x 515 x 350			
Weight (without water in the system)		kg	50	56	58	
Volume expansion vessel		L	12			
Dimensions, climate system pipe		mm	22			28
Water pipe connections			Compression fitting			
Immersion heater		kW	9 kW (three phase) 6 kW (single phase)			9 kW (three phase) 4.5 kW (single phase)
Max Current		A	20 (three phase)	20 (three phase)	20 (three phase)	25 (three phase)
			29 (single phase)	36 (single phase)	36 (single phase)	45 (single phase)



# ALL IN ONE COMBINATION



## All-in-one combination

Indoor model			HMA60-W	HMA100-W
Outdoor Model			FDCW60VNX-W	FDCW71VNX-W
Power source			400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1	kW	2.70 (2.70 - 8.00)	8.00 (3.00 - 10.00)
	condition 2	High capacity	5.08 (0.90 - 7.60)	8.30 (2.20 - 9.50)
		Low capacity	2.64	-
COP	condition 1		3.06	3.40
	condition 2	High capacity	5.16	4.30
		Low capacity	5.42	-
Cooling Nominal capacity	condition 1	kW	5.31(0.60 - 6.30)	7.10 (2.00 - 7.10)
	condition 2	kW	7.54 (1.20 - 7.80)	9.00 (2.70 - 10.7)
EER	condition 1		2.73	2.70
	condition 2		3.57	3.62
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)			A++/A+++	A++/A+++
Water Heating Energy Efficiency Class *1			A	A
Seasonal Space Heating Energy Efficiency (W55/W35) *1			137/190	131/180
Water Heating Energy Efficiency *1			100	107
Seasonal Space Heating Energy *2 Efficiency Class of package (W55/W35)			A++/A+++	A++/A+++
Seasonal Space Heating Energy *2 Efficiency of package (W55/ W35)			141/194	135/184
Operation range (Ambient temperature)		heating	-20°C -43°C	
		cooling	15°C - 43°C	
Operation range (Water temperature)		heating	25°C - 58°C (65°C, with immersion heater)	25°C - 60°C (65°C, with immersion heater)
		cooling	7-25°C	
Refrigerant type			R32	
Max refrigerant pipe length			30	50
Max height difference between IU and OU			20	30 (0.U above I.U) 15 (0.U below I.U)
Height x Width x Depth			1715(+20 - 40 max) x 600 x 610	
Weight (without water in the system)			155	165
Tank surface			Enamel coated	
Tank volume total			180	
Volume expansion vessel			10	
Dimensions, climate system pipe			22	
Water pipe connections			Compression fittings	
Immersion heater			9 (three phase) 6 (single phase)	
Max current			20 (three phase) 29 (single phase)	20 (three phase) 36 (single phase)

# SPECIFICATIONS



## Flexible combination

Split box				HSB60-W		HSB100-W	
Outdoor Model				FDCW60VNX-W		FDCW71VNX-W	
Power source				1 phase 230V 50Hz		1 phase 230V 50Hz	
Heating Nominal capacity	condition 1		kW	2.70 (2.70 - 8.00)		8.00 (3.00 - 10.00)	
	condition 2	High capacity	kW	5.08 (0.90 - 7.60)		8.30 (2.20 - 9.50)	
		Low capacity	kW	2.64		-	
COP	condition 1			3.06		3.40	
	condition 2	High capacity		5.16		4.30	
		Low capacity		5.42		-	
Cooling Nominal capacity	condition 1		kW	5.31(0.60 - 6.30)		7.10 (2.00 - 7.10)	
	condition 2		kW	7.54 (1.20 - 7.80)		9.00 (2.70 - 10.7)	
EER	condition 1			2.73		2.70	
	condition 2			3.57		3.62	
Seasonal Space Heating Energy Efficiency Class (W55/W35 ) <sup>*1</sup>				A++/A+++		A++/A+++	
Seasonal Space Heating Energy Efficiency (W55/W35 ) <sup>*1</sup>				137/190		131/180	
Seasonal Space Heating Energy <sup>*2</sup> Efficiency Class of package (W55/W35)				A++/A+++		A++/A+++	
Seasonal Space Heating Energy <sup>*2</sup> Efficiency of package (W55/W35)				141/194		135/184	
Operation range (Ambient temperature)			heating	-20°C -43°C			
			cooling	15°C - 43°C			
Operation range (Water temperature)			heating	25°C - 58°C (65°C, with immersion heater)		25°C - 60°C (65°C, with immersion heater)	
			cooling	7-25°C			
Refrigerant type				R32			
Max refrigerant pipe length			m	30		50	
Max height difference between IU and OU			m	20		30 (O.U above I.U) 15 (O.U below I.U)	
Height x Width x Depth			mm	400 x 460 x 250			
Weight			kg	16		18	
Dimensions, climate system pipe			mm	22		28	
Max Current	Indoor		A	6		6	
	Outdoor		A	15		18	

<sup>\*1</sup> European Average climate conditions  
<sup>\*2</sup> In case of a room temperature sensor connected





# SPECIFICATIONS

## Hydrobox combination

Split box			HMS60-W	HMS100-W
Outdoor Model			FDCW60VNX-W	FDCW71VNX-W
Power source			400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1	kW	2.70 (2.70 - 8.00)	8.00 (3.0 - 10.00)
	condition 2	High capacity	5.08 (0.90 - 7.60)	8.30 (2.20 - 9.50)
		Low capacity	2.64	-
COP	condition 1	kW	3.06	3.40
	condition 2	High capacity	5.16	4.30
		Low capacity	5.42	-
Cooling Nominal capacity	condition 1	kW	5.31 (0.60 - 6.30)	7.10 (2.00 - 7.10)
	condition 2	kW	7.54 (1.20 - 7.80)	9.00 (2.70 - 10.7)
EER	condition 1		2.73	2.70
	condition 2		3.57	3.62
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)			A++/A+++	A++/A+++
Seasonal Space Heating Energy Efficiency (W55/W35) *1			137/190	131/180
Seasonal Space Heating Energy *2 Efficiency Class of package (W55/W35)			A++/A+++	A++/A+++
Seasonal Space Heating Energy *2 Efficiency of package (W55/W35)			141/194	135/184
Operation range (Ambient temperature)	heating		-20°C -43°C	
	cooling		15°C - 43°C	
Operation range (Water temperature)	heating		25°C - 58°C (65°C, with immersion heater)	25°C - 60°C (65°C, with immersion heater)
	cooling		7-25°C	
Refrigerant type			R32	
Max refrigerant pipe length			30	50
Max height difference between IU and OU			20	30 (O.U above I.U) 15 (O.U below I.U)
Height x Width x Depth			850 x 515 x 350	
Weight (without water in the system)			50	56
Volume expansion vessel			12	
Dimensions, climate system pipe			22	
Water pipe connections			Compression fitting	
Immersion heater			9 kW (three phase) 6 kW (single phase)	
Max Current		A	20 (three phase) 29 (single phase)	20 (three phase) 36 (single phase)



# SPECIFICATIONS

## Outdoor unit

R410A

Model		FDCW60VNX-A	FDCW71VNX-A	FDCW100VNX-A	FDCW140VNX-A
Power source		1 phase 230V 50Hz			
Height x Width x Depth	mm	640 x 800 x 290	750 x 880 x 340	845 x 970 x 370	1300 x 970 x 370
Weight	kg	46	60	81	105
Sound Power level (A7/W35)	dB(A)	53	64	64.5	71
Sound Pressure level*1 (A7/W35)	dB(A)	45	48	50	54
Airflow	m3/min	41.5	50	73	100
Refrigerant type		R410A			
Refrigerant volume(pipe length without additional charge)	kg (m)	1.5 (15)	2.55 (15)	2.9 (15)	4.0 (15)
Dimensions, refrigerant pipe	mm(inch)	Gas pipe: OD 12.7(1/2"), Liquid pipe: OD 6.35(1/4")	Gas pipe: OD 15.88 (5/8"), Liquid pipe: OD 9.52 (3/8")		
Ref pipe connections		Flare Connection			
Max current	A	15	16	23	25

## Outdoor unit

R32

Model		FDCW60VNX-W	FDCW71VNX-W
Power source		1 phase 230V 50Hz	
Height x Width x Depth	mm	640 x 800 x 290	750 x 880 x 340
Weight	kg	46	62
Sound Power level (A7/W35)	dB(A)	52	64
Sound Pressure level*1 (A7/W35)	dB(A)	44	49
Airflow	m3/min	41.5	41.5
Refrigerant type		R32	
Refrigerant volume (pipe length without additional charge)	kg (m)	1.3 (15)	1.84 (15)
Dimensions, refrigerant pipe	mm(inch)	Gas pipe: OD 12.7(1/2"), Liquid pipe: OD 6.35 (1/4")	Gas pipe: OD 15.88 (5/8"), Liquid pipe: OD 6.35 (1/4")
Ref pipe connections		Flare Connection	
Max current	A	15	18

\*1 Sound pressure level is 1m away in front of the unit at the weight of 1 meter

## Test conditions

		Water Temperature	Ambient Temperature
Heating	condition 1	45°C out / 40°C in	7°C DB / 6°C WB
	condition 2	35°C out / 30°C in	
Cooling	condition 1	7°C out / 12°C in	35°C DB
	condition 2	18°C out / 23°C in	



HEATING



HOT SANITARY



COOLING





## Tank unit

Model		PT300	PT500
Power source		-	-
Volume	liter	279	476
Volume of coil	liter	9.4	13
Immersion heater	kW	Not included	Not included
Height x Width x Depth	mm	1634 x 673 x 743	1835 x 832 x 897
Weight	kg	115	156
Dimensions, climate system pipe	inch	1" Male	1" Male
Dimensions, hot water pipe	inch	1" Male	1" Male
Inner Surface		Enamel	
Design Pressure Tank	Bar	10	
Design Pressure Coil	Bar	16	
Energy Class		C	C

## Remote controller

Model		RC-HY20-W	RC-HY40-W
Power source		1 phase 230V 50Hz	
Height x Width x Depth	mm	400 x 354 x 123	
Weight	kg	4.3	4.4
Area of operation		- 25 – 70 °C	
Ambient temperature		5 – 35 °C	
<b>Optional connections</b>			
Max. number of air/water heat pumps		1	8
Max. number of sensors		8	8
Max. number of charge pumps with internal accessory cards		1	4
Max number of charge pumps with external accessory cards		-	8
Max. number of outputs for additional heat step		3	3
Internet connection function		Included (myUplink)	
Language		English, Swedish, German, French, Spanish, Finnish, Lithuanian, Czech, Polish, Dutch, Norwegian, Danish, Estonian, Latvian, Russian, Italian, Hungarian, Slovenian, Turkish, Croatian, Romanian, Icelandic, Portuguese	



# SYSTEM COMBINATIONS

Mitsubishi Heavy Industries extensive product range offers the right heat pump to suit every demand. Our product is a suitable comprehensive solution for existing buildings and houses as well as new builds.

## ALL-IN-ONE COMBINATION (Outdoor Unit + HMA system)

ALL-IN-ONE COMBINATION provides the comprehensive solution for all your heating, cooling and domestic hot water needs.

Each ALL-IN-ONE COMBINATION includes the set of an outdoor unit and HMA system, providing an all-inclusive indoor unit integrating hot water heater, immersion heater, circulating pump and climate system within one unit.

- **Heating, Cooling and Hot water**
- **Easy installation and operation**  
A single neatly packaged all-in-one indoor unit and a well designed outdoor make the installation as smooth and straight forward as possible.
- Ideal for residential use from apartments to small houses
- **Available from 6 and 8 kW (R32/ R410A) to 11 kW (R410A)**



## SYSTEM COMBINATIONS



### HYDROBOX COMBINATION

#### (HMS system)

Hydrobox combination offers space heating and cooling with the option to add sanitary hot water to the system.

Each Hydrobox combination includes a set of an outdoor unit and an indoor unit (HMS) where the indoor includes all the necessary accessories to make a complete installation (remote controller, circulation pump, 3 way diverting valve for hot water, immersion heater for back-up operation).

The indoor unit is a compact unit with a gas boiler design (H850x W515x D350) making it applicable in any space due to its reduce size.

- **Heating and cooling only option**

Mitsubishi Heavy industries air to water heat pumps captures fresh air to heat or cool the property and ensure maximum comfort throughout the year. Heating and cooling only option is available and no additional accessories are required for such installation.

- **Hot water option**

Hot water system option can be available by additionally connecting a hot water tank. The indoor unit already includes a 3 way diverting valve for hot water mode and an immersion heater.

- **Available from 6 and 8 kW (R32/R410A) to 16kW (R410A)**





### FLEXIBLE COMBINATION

#### (HSB system)

FLEXIBLE COMBINATION offers space heating and cooling with the option to add sanitary hot water to the system.

FLEXIBLE COMBINATION consists of an outdoor unit and HSB system (Split box) and by combining the separate accessories, FLEXIBLE COMBINATION makes installation even more complete for your climate needs.

- **Heating and cooling only option**  
Mitsubishi Heavy industries air to water heat pumps captures fresh air to heat or cool the property and ensure maximum comfort throughout the year. Heating and cooling only option is available by additionally connecting any FLEXIBLE COMBINATION with a charging pump and an immersion heater.
- **Hot water option**  
Hot water system option can be available by additionally connecting any FLEXIBLE COMBINATION with a charging pump, an immersion heater, a tank and shuttle valve.
- **Flexible installation of units**  
You can combine the variety of accessories to suit your demand.
- **Available from 6 and 8 kW (R32/R410A) to 16kW (R410A)**





## SYSTEM COMBINATIONS



		Controller	Outdoor	Indoor Unit	Tank	Immersion heater (tank)	Immersion Heater	Charging Pump	Shuttle Valve
All-in-one	Combination 1		FDCW60VNX-A/-W	HMA60-W	-	-	-	-	-
	Combination 2		FDCW71VNX-A/-W	HMA100-W					
	Combination 3		FDCW100VNX-A						
Flexible (heating/cooling and hot water production)	Combination 4	RC-HY20-W RC-HY40-W	FDCW60VNX-A/W	HSB60-W	PT300 PT500	ME1030M + HR10M (Optional)	ELK9M1 (Optional)	CPD11-25M/65 CPD11-25M/75	VST05M VST11M VST20M
	Combination 5		FDCW71VNX-A/-W	HSB100-W					
	Combination 6		FDCW100VNX-A						
	Combination 7		FDCW140VNX-A	HSB140	PT500				
Flexible (heating and cooling only)	Combination 8	RC-HY20-W RC-HY40-W	FDCW60VNX-A/W	HSB60-W	-	-	-	-	-
	Combination 9		FDCW71VNX-A/-W	HSB100-W					
	Combination 10		FDCW100VNX-A						
	Combination 11		FDCW140VNX-A	HSB140					
Hydrobox (heating, cooling and hot water)	Combination 12		FDCW60VNX-A/-W	HMS60-W	-	-	-	-	-
	Combination 13		FDCW71VNX-A/-W	HMS100-W					
	Combination 14		FDCW100VNX-A	HMS100-W					
	Combination 15		FDCW140VNX-A	HMS140-S					
Hydrobox (heating and cooling only)	Combination 16		FDCW60VNX-A/-W	HMS60-W	PT300 PT500	-	-	-	-
	Combination 17		FDCW71VNX-A/-W	HMS100-W					
	Combination 18		FDCW100VNX-A	HMS100-W					
	Combination 19		FDCW140VNX-A	HMS140-S	PT500				

# SYSTEM COMBINATIONS

The following combination of the products is recommended.



## All-in-one 6

- Building heating load up to 8kW
- Heating, hot water, cooling
- Cooling down to 7°C



## All-In-One 8

- Building heating load up to 8kW
- Heating, hot water, cooling
- Cooling down to 7°C



## All-In-One 12

- Building heating load up to 11kW
- Heating, hot water, cooling
- Cooling down to 7°C



## Flexible 6

- Split-box system for heating, hot water as required & cooling
- Building heating load up to 8kW
- Cooling down to 7°C



## Flexible 8

- Split-box system for heating, hot water as required & cooling
- Building heating load up to 8kW
- Cooling down to 7°C



## Flexible 12

- Split-box system for heating, hot water as required & cooling
- Building heating load up to 11kW
- Cooling down to 7°C



## Flexible 16

- Split-box system for heating, hot water as required & cooling
- Building heating load up to 16kW
- Cooling down to 7°C



## Heating & Cooling 6

- Split-box system for heating & cooling
- Building heating load up to 8kW
- Cooling down to 7°C



## Heating & Cooling 8

- Split-box system for heating & cooling
- Building heating load up to 8kW
- Cooling down to 7°C



## Heating & Cooling 12

- Split-box system for heating & cooling
- Building heating load up to 11kW
- Cooling down to 7°C



## Heating & Cooling 16

- Split-box system for heating & cooling
- Building heating load up to 16 kW
- Cooling down to 7°C

The following combination of the products is recommended.



**Hydrobox heating/cooling 6**

- Hydrobox system for heating and cooling
- Building heating load up to 8kW
- Cooling down to 7°C



**Hydrobox heating/cooling 8**

- Hydrobox system for heating and cooling
- Building heating load up to 8kW
- Cooling down to 7°C



**Hydrobox heating/cooling 12**

- Hydrobox system for heating and cooling
- Building heating load up to 11kW
- Cooling down to 7°C



**Hydrobox heating/cooling 16**

- Hydrobox system for heating and cooling
- Building heating load up to 16kW
- Cooling down to 7°C



**Hydrobox heating/cooling and hot water 6**

- Hydrobox system for heating, cooling and hot water
- Building heating load up to 8kW
- Cooling down to 7°C



**Hydrobox heating/cooling and hot water 8**

- Hydrobox system for heating, cooling and hot water
- Building heating load up to 8kW
- Cooling down to 7°C



**Hydrobox heating/cooling and hot water 12**

- Hydrobox system for heating, cooling and hot water
- Building heating load up to 11kW
- Cooling down to 7°C



**Hydrobox heating/cooling and hot water 16**

- Hydrobox system for heating, cooling and hot water
- Building heating load up to 16kW
- Cooling down to 7°C



50°C at -20°C



Heating



Cooling



Domestic hot water



35 dB(A)\*

Silent mode



myUplink



Improved energy efficiency



Energy saving



R32



R410A

\*FDCW60VNX-W

# ACCESSORIES



## ECS40M/ECS41M

Extra mixing valve set, including a room sensor, for adjusting temperature in several climate systems. (e.g. A radiator system and an underfloor heating)

### Contents

- |                            |                        |
|----------------------------|------------------------|
| 4 x Cable ties             | 2 x Aluminium tape     |
| 1 x Circulation pump       | 1 x Insulation tape    |
| 1 x Shunt motor            | 2 x Replacement gasket |
| 1 x 3-way valve            | 2 x Temperature sensor |
| 1 x Kit for accessory card | 1 x Room sensor        |
| 2 x Heating pipe paste     |                        |

ECS40M for maximum 80m<sup>2</sup> floor heating

ECS41M for 80-250 m<sup>2</sup> floor heating

RC-HY40-W

HMA

HMS



## RTS40M

Room sensor

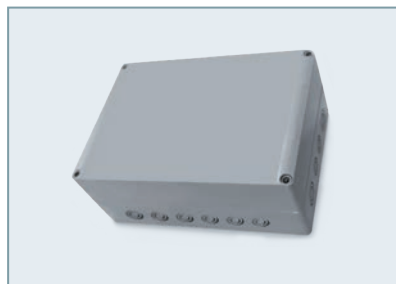
RC-HY40 and HMA include one sensor

RC-HY20-W

RC-HY40-W

HMA

HMS



## AXC30M

Accessory card

RC-HY40-W

HMA

HMS



## RMU40M

Room sensor/controller with multicolour display

RC-HY40-W

HMA

HMS



## VST05M / VST11M / VST20M

Reversing valve for using hot water accessories and prioritising hot water demand.

VST05M (Ø 22mm, Max.electric charge output: 11kW)

VST11M (Ø 28mm, Max.electric charge output: 17kW)

VST20M (DN32, (1¼"), Max.electric charge output: 40kW)

RC-HY20-W

RC-HY40-W



## ACCESSORIES



### POOL40M

Enables pool heating with the heat pump.

Max. output - 17 kW

RC-HY40-W

HMA

HMS



### EME20M

Enables communication and control between the inverter for solar cells and heat pump/indoor module/control module.

RC-HY20-W

RC-HY40-W

HMA

HMS



### SOLAR42M

Enables solar heating with the heat pump.

RC-HY40-W

HMA

HMS



### VCC05M / VCC11M

Reversing valve for changing operation of cooling and heating.

VCC05M (Ø 22mm)

VCC11M (Ø 28mm)

RC-HY20-W

RC-HY40-W

HMS



### MODBUS40M

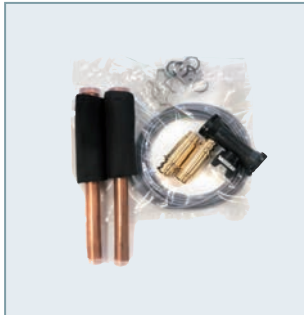
Control and monitor the heat pump system by external Modbus-equipped equipment.

RC-HY40-W

HMA

HMS

# ACCESSORIES



## EMK300M / EMK500M

Energy measurement kit for measuring the flow and temperature differences in the charge circuit. Information can be shown on RC-HY40's display.

EMK300M (Measurement range 5.0-85 l/min)

EMK500M (Measurement range 9.0-150 l/min)

RC-HY40-W

HMA

HMS



## Anode M300 /Anode M500

Magnesium anode chain

Anode M300 for PT300  
(Ø26 x 8 pieces (G1"))

Anode M500 for PT500  
(Ø33 x 5 pieces (G1¼"))

PT300

PT500



## Anode T300/Anode T500

Anode titanium complete

Anode T300 for PT300  
(Length: 200mm, G¾", 230V)

Anode T500 for PT500  
(Length: 400mm, G¾"230V)

PT300

PT500



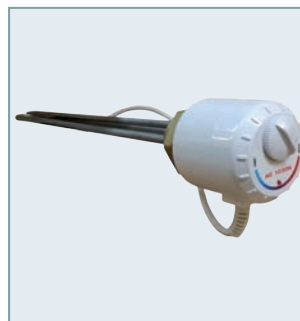
## HR10M

Relay for ME1030M

Used to control external 1 to 3 phase loads such as oil burners, immersion heaters and pumps.

PT300

PT500



## ME1030M

Immersion heater designed to heat up domestic hot water installations.

(3kW, G1 1/2', 230V)

PT300

PT500



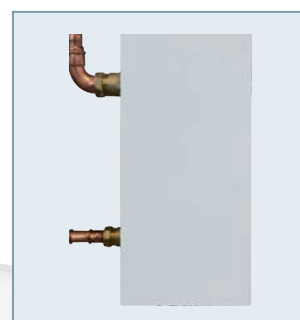
## CPD11-25M/65 / CPD11-25M/75

DC Motor controlled water pump.

HSB60/100-W -->

CPD11-25M/65

HSB140 --> CPD11-25M/75



## ELK9M1

Immersion heater that can be used to supplement the heating capacity of heat pumps.

Power source: 1~230V 50Hz or 3~400V 50Hz

Output: 4.5 or 9 kW



### Before use

In order to get the greatest benefit from our Air to Water Heat Pump, read thoroughly the User's Manual .

### Places

Do not install in places where combustible gas could leak or where there are sparks. Keep away from places where combustible gas could be generated, flow or accumulate, or locations containing carbon fibres, otherwise there is a danger of fire.

### Installation

Installation must be carried out in accordance with current norms and directives.

Current regulations require the inspection of installation before commissioning and the inspection must be carried out by a suitable qualified personnel and should be documented. Improper installation will lead to water leakage, electric shocks, fires and other serious problems.

Make sure that the indoor unit and the outdoor unit are stable in installation and fixed on stable base.

Mitsubishi Heavy Industries Air Conditioning Europe Ltd  
5 The Square, Stockley Park, Uxbridge, UB11 1ET  
<http://www.mhiae.com>

#### ISO9001

Our Air-Conditioning & Refrigeration Division 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 Division  
Certified ISO 9001  
Certificate number : JQA-0709



MITSUBISHI HEAVY INDUSTRIES-  
MAHAJAK AIR CONDITIONERS CO., LTD.  
Certified ISO 9001  
Certificate Number: 44 100 980813

#### ISO14001

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



Certificate Number: YKA4005636



MITSUBISHI HEAVY INDUSTRIES-  
MAHAJAK AIR CONDITIONERS CO., LTD.  
Certificate Number: 04 104 880813

