MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

HYDROLUTION

MITSUBISHI HEAVY INDUSTRIES
AIR CONDITIONING EUROPE

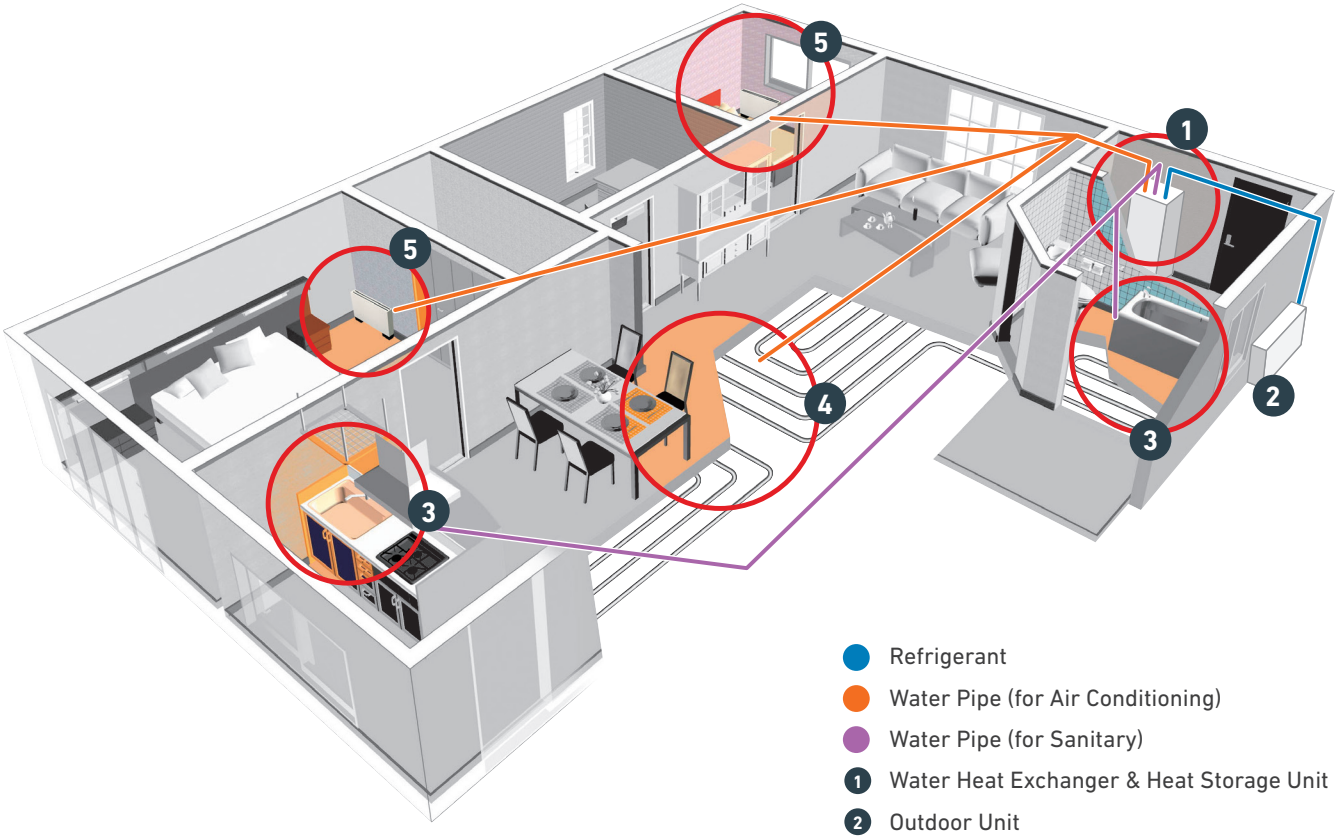
HEATING

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.



- Refrigerant
- Water Pipe (for Air Conditioning)
- Water Pipe (for Sanitary)
- 1 Water Heat Exchanger & Heat Storage Unit
- 2 Outdoor Unit
- 3 Sanitary
- 4 Floor Heating
- 5 Radiator or Fan Coil

WHY A MHI HEAT PUMP?

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.

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.

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 achived 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

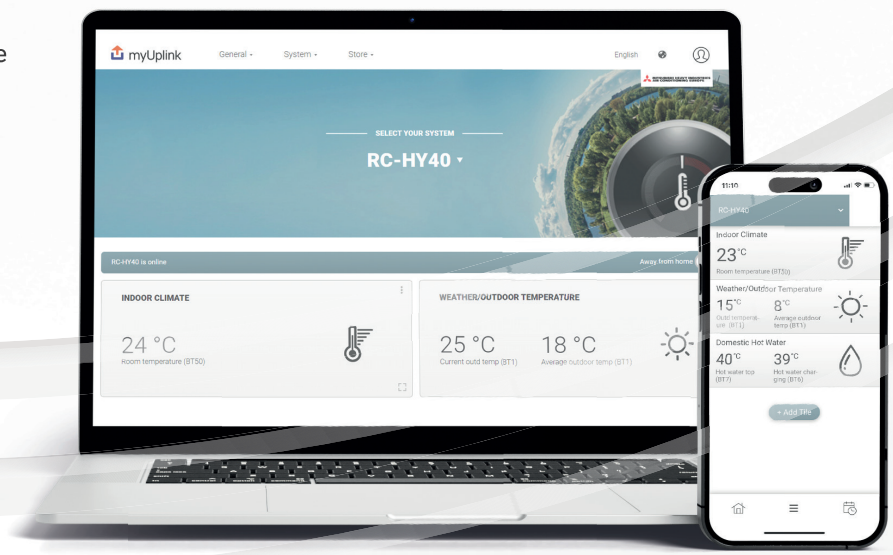
THE ULTIMATE APP FOR REMOTE MONITORING

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

myUplink



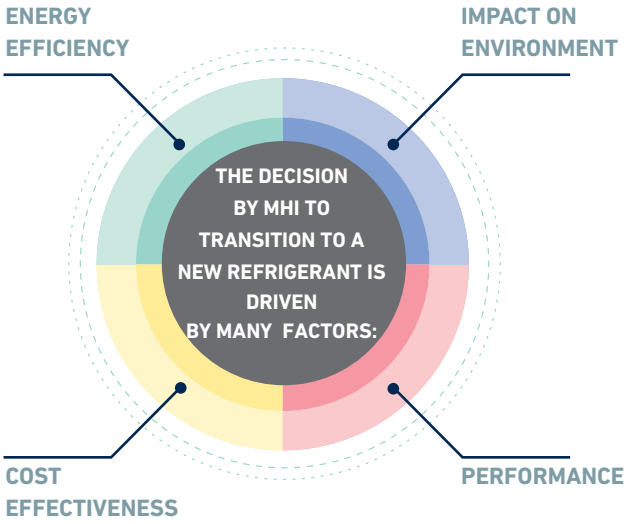
NEXT GENERATION REFRIGERANT R32

R32 REFRIGERANT

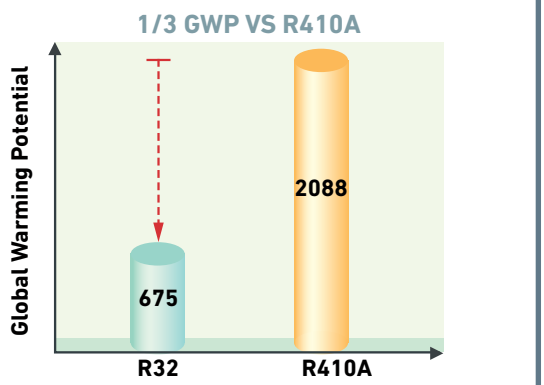
This next generation refrigerant boasts nearly 70% lower Global Warming Potential rate than R410A. Due to its superior qualities, R32 offers amazing energy efficiency benefits. It has a potential refrigerating effect that is 1.5 times that of R410A, meaning that it needs less energy to achieve the desired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

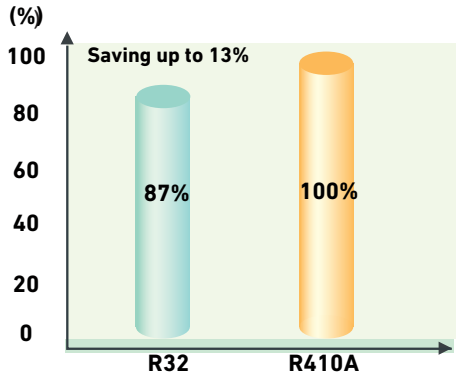


LOW GLOBAL WARMING



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 deverting 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

HYDROLUTION

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.

SPECIFICATIONS

R410A

All-in-one combination

Indoor Model			HMA100-W
Outdoor Model			FDCW100VNX-A
Power source			400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1	kW	9.0 (3.5 - 11.0)
	condition 2	kW	9.2 (3.5 - 10.0)
COP	condition 1		3.44
	condition 2		4.28
Cooling Nominal capacity	condition 1	kW	8.0 (3.0 - 9.0)
	condition 2	kW	11.0 (3.3 - 12.0)
EER	condition 1		2.81
	condition 2		3.62
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)			A++/A++
Water Heating Energy Efficiency Class *1			A
Seasonal Space Heating Energy Efficiency (W55/W35) *1		%	126/165
Water Heating Energy Efficiency *1		%	98
Seasonal Space Heating Energy *1 *2 Efficiency Class of package (W55/W35)			A++/A++
Seasonal Space Heating Energy *1 *2 Efficiency of package (W55/W35)			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	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	23 (40 for 230V Single-phase)

*1 European Average climate conditions

*2 In case of a room temperature sensor connected

SPECIFICATIONS

R410A

Flexible combination

Split box				HSB100-W	HSB140
Outdoor Model				FDCW100VNX-A	FDCW140VNX-A
Power source				1 phase 230V 50Hz	1 phase 230V 50Hz
Heating Nominal capacity	condition 1		kW	9.0 (3.5 - 11.0)	16.0 (5.8-16.0)
	condition 2		kW	9.2 (3.5 - 10.0)	16.0 (4.2-16.0)
COP	condition 1			3.44	3.31
	condition 2			4.28	4.2
Cooling Nominal capacity	condition 1		kW	8.0 (3.0 - 9.0)	11.8 (3.1-11.8)
	condition 2		kW	11.0 (3.3 - 12.0)	16.5 (5.2-16.5)
EER	condition 1			2.81	2.65
	condition 2			3.62	3.78
Seasonal Space Heating Energy Efficiency Class (W55/W35)				A++/A++	A++/A++
Seasonal Space Heating Energy Efficiency (W55/W35)			%	126/165	133/166
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)			%	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	18	23
Dimensions, climate system pipe			mm	22	28
Max Current	Indoor		A	6	6
	Outdoor		A	23	25

SPECIFICATIONS

R410A

Hydrobox combination

Split box				HMS100-W	HMS140-S
Outdoor Model				FDCW100VNX-A	FDCW140VNX-A
Power source				400V 3N AC (230V single-phase) 50Hz	400V 3N AC (230V single-phase) 50Hz
Heating Nominal capacity	condition 1		kW	9.0 (3.5 - 11.0)	16.0 (5.8 - 16.0)
	condition 2		kW	9.2 (3.5 - 10.0)	16.0 (4.2 - 16.0)
COP	condition 1			3.44	3.31
	condition 2			4.28	4.2
Cooling Nominal capacity	condition 1		kW	8.0 (3.0 - 9.0)	11.8 (3.1 - 11.8)
	condition 2		kW	11.0 (3.3 - 12.0)	16.5 (5.2 - 16.5)
EER	condition 1			2.81	2.65
	condition 2			3.62	3.78
Seasonal Space Heating *1 Energy Efficiency Class (W55/W35)				A++/A++	A++/A++
Seasonal Space Heating Energy Efficiency (W55/W35) *1			%	126/165	133/166
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)			%	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	
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	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) 36 (single phase)	25 (three phase) 45 (single phase)

ALL IN ONE COMBINATION

R32

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	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 *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			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	1715(+20 - 40 max) x 600 x 610	
Weight (without water in the system)			kg	155	165
Tank surface				Enamel coated	
Tank volume total			L	180	
Volume expansion vessel			L	10	
Dimensions, climate system pipe			mm	22	
Water pipe connections				Compression fittings	
Immersion heater			kW	9 (three phase) 6 (single phase)	
Max current			A	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)*1				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			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

*1 European Average climate conditions
*2 In case of a room temperature sensor connected

SPECIFICATIONS

R32

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	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	kW	5.16	4.30
		Low capacity	kW	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			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	850 x 515 x 350	
Weight (without water in the system)			kg	50	56
Volume expansion vessel			L	12	
Dimensions, climate system pipe			mm	22	
Water pipe connections				Compression fitting	
Immersion heater			KW	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

Model		FDCW100VNX-A	FDCW140VNX-A
Power source		1 phase 230V 50Hz	
Height x Width x Depth	mm	845 x 970 x 370	1300 x 970 x 370
Weight	kg	81	105
Sound Power level (A7/W35)	dB(A)	64.5	71
Sound Pressure level*1 (A7/W35)	dB(A)	50	54
Airflow	m3/min	73	100
Refrigerant type		R410A	
Refrigerant volume(pipe length without additional charge)	kg (m)	3.08 (18)	4.0 (15)
Dimensions, refrigerant pipe	mm(inch)	Gas pipe: OD 15.88 (5/8"), Liquid pipe: OD 9.52 (3/8")	
Ref pipe connections		Flare Connection	
Max current	A	23	25

Outdoor unit

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	PT300-V2	PT500
Power source		-	-	-
Volume	liter	279	285	476
Volume of coil	liter	9.4	16	13
Immersion heater	kW	Not included	Not included	Not included
Height x Width x Depth	mm	1634 x 673 x 743	1705 x 673 x 785	1835 x 832 x 897
Weight	kg	115	133	156
Dimensions, climate system pipe	inch	1" Male		
Dimensions, hot water pipe	inch	1" Male		
Inner Surface		Enamel		
Design Pressure Tank	Bar	10		
Design Pressure Coil	Bar	16		
Energy Class		C	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	
Optional connections			
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.

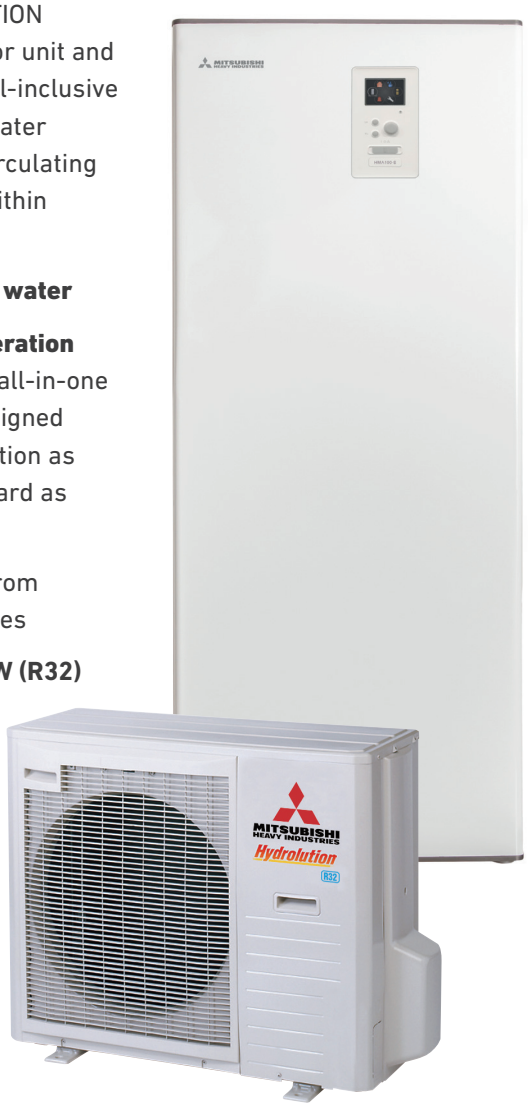
ALL-IN-ONE COMBINATION

(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) to 11 kW (R410A)**



SYSTEM COMBINATIONS

R32 R410A

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) to 16kW (R410A)**

SYSTEM COMBINATIONS

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) to 16kW (R410A)**

SYSTEM COMBINATIONS

		Controller	Outdoor Unit	Indoor Unit	Tank	Immersion heater (tank)	Immersion Heater	Charging Pump	Shuttle Valve
All-in-one	Combination 1		FDCW60VNX-W	HMA60-W	-	-	-	-	-
	Combination 2		FDCW71VNX-W	HMA100-W					
	Combination 3		FDCW100VNX-A						
Flexible (heating/ cooling and hot water production)	Combination 4	RC-HY20-W RC-HY40-W	FDCW60VNX-W	HSB60-W	PT300 PT300-V2 PT500	ME1030M + HR10M (Optional)	ELK9M1 (Optional)	CPD11-25M/65 CPD11-25M/75	VST05M VST11M VST20M
	Combination 5		FDCW71VNX-W	HSB100-W					
	Combination 6		FDCW100VNX-A						
	Combination 7		FDCW140VNX-A	HSB140	PT300-V2 PT500				
Flexible (heating and cooling only)	Combination 8		FDCW60VNX-W	HSB60-W	-	-			-
	Combination 9		FDCW71VNX-W	HSB100-W					
	Combination 10		FDCW100VNX-A						
	Combination 11		FDCW140VNX-A	HSB140					
Hydrobox (heating and cooling only)	Combination 12	-	FDCW60VNX-W	HMS60-W	-	-	-	-	-
	Combination 13		FDCW71VNX-W	HMS100-W					
	Combination 14		FDCW100VNX-A	HMS100-W					
	Combination 15		FDCW140VNX-A	HMS140-S					
Hydrobox (heating, cooling and hot water)	Combination 16		FDCW60VNX-W	HMS60-W	PT300 PT300-V2 PT500	-	-	-	-
	Combination 17		FDCW71VNX-W	HMS100-W					
	Combination 18		FDCW100VNX-A	HMS100-W					
	Combination 19		FDCW140VNX-A	HMS140-S	PT300-V2 PT500				

SYSTEM COMBINATIONS

The following combination of the products is recommended.

1

All-in-one 6

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

2

All-In-One 8

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

3

All-In-One 12

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

4

Flexible 6

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

5

Flexible 8

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

6

Flexible 12

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

7

Flexible 16

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

8

Heating & Cooling 6

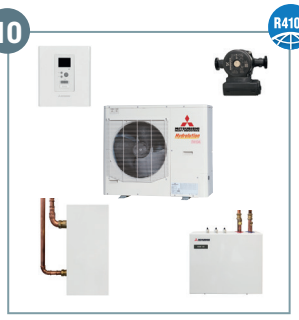
- Split-box system for heating & cooling
- Building heating load up to 8kW
- Cooling down to 7 °C

9

Heating & Cooling 8

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

10



Heating & Cooling 12

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

11

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.

12

Hydrobox heating/cooling 6

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

13

Hydrobox heating/cooling 8

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

14

Hydrobox heating/cooling 12

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

15

Hydrobox heating/cooling 16

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

16

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

17

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

18

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

19

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

58°C at -20°C · Heating · Cooling · Domestic hot water · Silent mode · 35 dB(A)* · 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
1 x Circulation pump
1 x Shunt motor
1 x 3-way valve
1 x Kit for accessory card
2 x Heating pipe paste
2 x Aluminium tape
1 x Insulation tape
2 x Replacement gasket
2 x Temperature sensor
1 x Room sensor

ECS40M for maximum 80m² floor heating
ECS41M for 80-250 m² floor heating

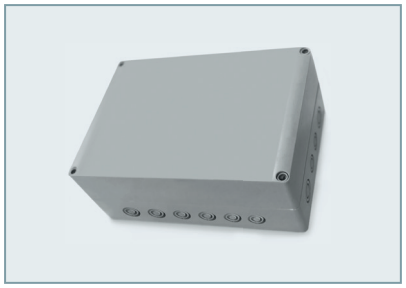
RC-HY40-W HMA HMS

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

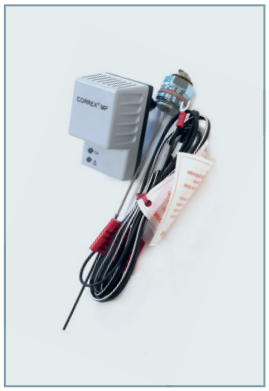
Anode M300 /Anode M500

Magnesium anode chain

Anode M300 for PT300 & PT300-V2 (Ø26 x 8 pieces (G1"))

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

PT300 | PT300-V2 | PT500



Anode T300/Anode T500

Anode titanium complete

Anode T300 for PT300 & PT300-V2 (Length: 200mm, G¾", 230V)

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

PT300 | PT300-V2 | PT500

HR10M

Relay for ME1030M

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

PT300 | PT300-V2 | PT500

ME1030M

Immersion heater designed to heat up domestic hot water installations. (3kW, G11/2', 230V)

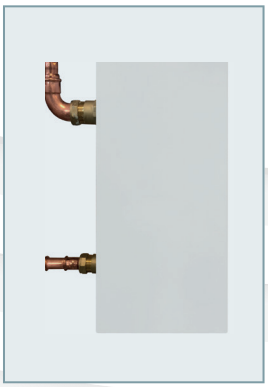
PT300 | PT300-V2 | PT500

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 980813

Because of our policy of continuous improvement, we reserve right to make changes in all specifications without notice.

Edited in England : 12-2024