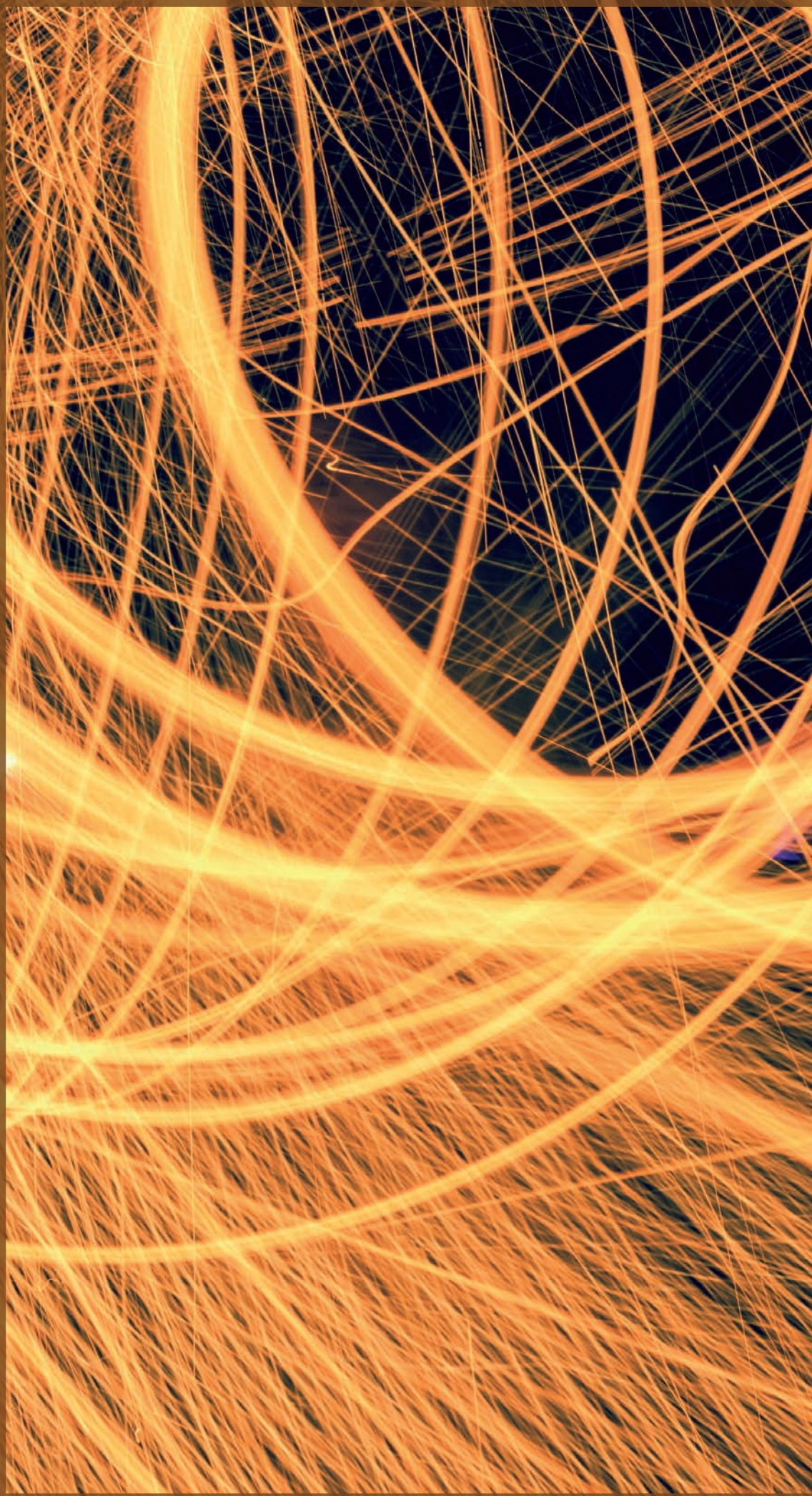
HEATING



THE RANGE THAT MEETS ALL NEEDS

The careful process of selecting system requirements and design is expanding in Italy. Thanks to continuous technological research for this purpose, an exclusive hydronic pump range has found its place on the market.

HEATING therefore incorporates a selection of excellent products for **heating**, **air conditioning** and **DHW production** for the residential and commercial sectors.

HEATING

HOKKAIDO

AIR-WATER CHILLER

MONOBLOC UNIT

Single phase 5~7 kW
HCWNMS 501-701 X

Single phase 10~12 kW
HCWNMS 1001-1201 X

Three-phase 12~16 kW
HCWSMS 1201-1401-1601 X

Mini Chiller
monobloc with integrated hydronic module
FULL DC Inverter

The Hokkaido Mini Chiller lets you cool and heat rooms by means of water terminals such as fan coils or radiant floors. High efficiency radiators can also be powered in heating.

The ultra compact design and the double control panel (on-board the unit or remote) make the Mini Chiller units systems that are easy to install and extremely functional.

Full DC Inverter compressor control and individual component optimisation guarantee the highest efficiency and energy savings.

DC Inverter Twin Rotary compressor

Air side heat exchanger

EXV electronic expansion valve

Fan

High efficiency water side heat exchanger

Main features

Efficient

Low consumption and energy savings thanks to its integrated Full DC Inverter technology.

Ultra compact

The monobloc unit has a compact structure thanks to optimisation of the internal components, also containing the integrated hydronic group with the minimum dimensions.

Environmentally friendly

Mini Chiller uses the environmentally friendly R410A refrigerant, which does not damage the ozone.

Maximum comfort

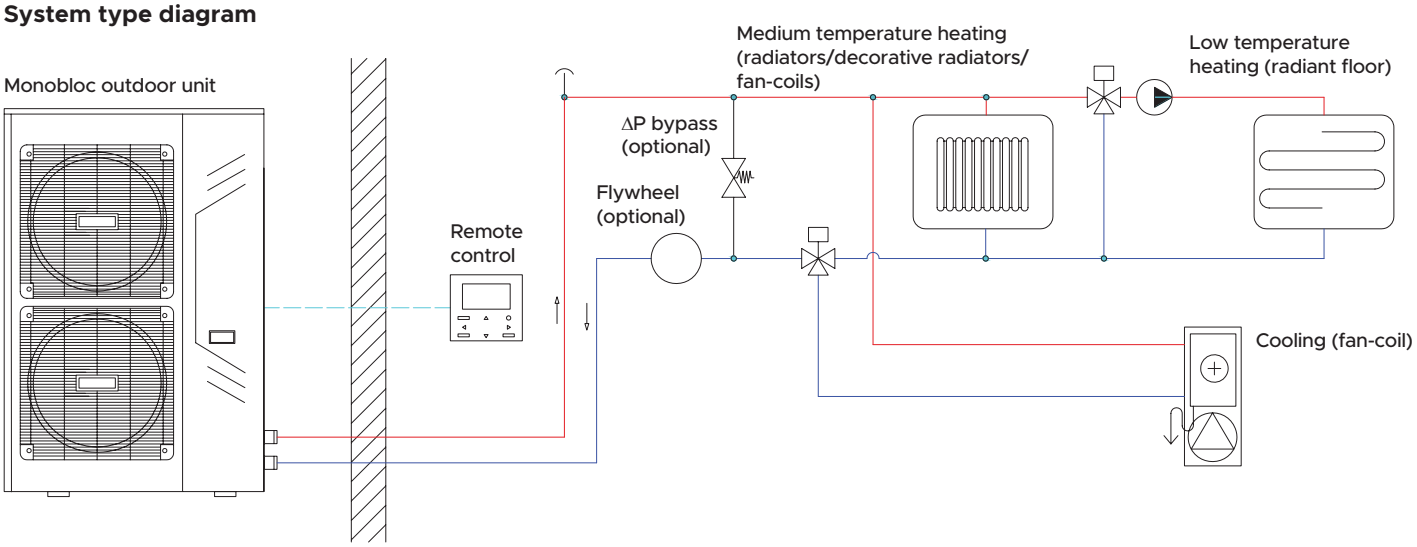
The Inverter control allows units to rapidly reach the desired temperature, remaining constant and without annoying oscillations.

“Plug & play” solution

Installation is simple thanks to the integrated hydronic module, which includes electronic circulator, expansion tank, automatic vent valve and safety devices.

AIR-WATER CHILLER

System type diagram



Model				HCWNMS 501 X	HCWNMS 701 X	HCWNMS 1001 X	HCWNMS 1201 X	HCWSMS 1201 X	HCWSMS 1401 X	HCWSMS 1601 X
Cooling performance (Air temp. 35°C - Water temp. in/out 12°C/7°C)										
Refrigerant power			kW	5.00 (1.90~5.80)	7.00 (2.10~7.80)	10.00 (2.90~10.50)	11.20 (3.10~12.00)	11.20 (3.10~12.00)	12.50 (3.30~14.00)	14.50 (3.50~15.50)
Power absorption			kW	1.55	2.25	2.95	3.50	3.38	3.90	4.68
EER				3.23	3.11	3.39	3.20	3.31	3.20	3.10
Cooling performance (Air temp. 35°C - Water temp. in/out 23°C/18°C)										
Refrigerant power			kW	5.60	8.00	10.60	12.20	12.20	14.20	15.60
Power absorption			kW	1.15	1.85	2.50	2.65	2.60	3.10	3.60
EER				4.87	4.32	4.24	4.60	4.70	4.58	4.33
SEER				5.83	6.27	5.71	6.37	6.18	6.69	6.78
Heating performance (Air temp. 7° C DB/6° C WB - In/out water temp. 40° C/45° C)										
Heating capacity			kW	6.20 (2.10~7.00)	8.00 (2.30~9.00)	11.00 (3.20~12.00)	12.30 (3.30~13.20)	12.30 (3.30~13.20)	13.80 (3.50~15.40)	16.00 (3.70~17.00)
Power absorption			kW	1.90	2.50	3.14	3.78	3.72	4.25	4.85
COP				3.26	3.20	3.50	3.25	3.31	3.25	3.30
Heating performance (Air temp. 7° C DB/6° C WB - In/out water temp. 30° C/35° C)										
Heating capacity			kW	6.20	8.60	11.50	13.00	13.00	15.10	16.50
Power absorption			kW	1.35	2.10	2.65	2.92	2.85	3.35	3.92
COP				4.60	4.10	4.34	4.45	4.56	4.51	4.21
SCOP				3.55	3.46	3.34	3.46	3.66	3.78	3.39
Seasonal heating efficiency (ηs)			%	138.9	135.3	130.7	135.4	143.5	148.3	132.6
Seasonal energy efficiency class				A+						
Operating limits	Outside air temperature	Cooling	°C	-5~46						
		Heating	°C	-15~27						
	Water temperature	Cooling	°C	4~20						
		Heating	°C	30~55						
Compressor	Type			Twin Rotary DC Inverter						
Refrigerant	Type			R410A						
	Load		kg	2.5	2.5	2.8	2.8	2.8	2.9	3.2
Expansion valve	Type			Electronic						
Air side heat exchanger	Type			Finned coil with coppper pipes and hydrophilic aluminium louvres						
Fan	Type			DC Brushless						
	Number			1	1	2	2	2	2	2
	Air flow		m³/h	5,100	5,100	7,000	7,000	7,000	7,000	7,000
Water side heat exchanger	Type			With brazed stainless steel plates						
	Volume		l	0.53	0.53	0.70	0.78	0.78	0.78	1.06
	Water flow		m³/h	0.86	1.20	1.72	1.92	1.92	2.15	2.49
	Load loss		kPa	15	15	18	18	18	18	19
Circulator	Type			Electronic						
	Water flow		l/h	240	240	240	240	240	240	240
	Pressure head		m	5.5	5.5	7.5	7.5	7.5	7.5	7.5
Expansion tank	Volume		l	2	2	3	3	3	3	3
	Pre-load		bar	1						
Maximum/minimum water pressure			bar	5/1.5						
Hydraulic connections	Water inlet/outlet		inches	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"
Electrical data	Power		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
	Maximum absorption		A	11.4	13.7	25.00	19.10	8.90	9.60	10.10
	Absorbed		no. x mm²	3x2.50	3x2.50	3x4.00	3x4.00	5x3.00	5x3.00	5x3.00
	Signal (shielded)		no. x mm²	3x0.75	3x0.75	3x0.75	3x0.75	3x0.75	3x0.75	3x0.75
Sound pressure level (*)			dB(A)	58	58	59	59	62	62	62
Sound power level			dB(A)	63	66	68	68	68	70	72
Dimensions	(LxDxH)	External	mm	990x354x966	990x354x966	970x400x1327	970x400x1327	970x400x1327	970x400x1327	970x400x1327
		Packaging	mm	1120x435x1100	1120x435x1100	1082x435x1456	1082x435x1456	1082x435x1456	1,082x435x1,456	1082x435x1456
Net		Net	kg	81	81	110	110	110	111	111
		Gross	kg	91	91	121	121	121	122	122

(*) Sound pressure at 1 m distance in an open field.
The data contained above refers to the following standards: EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU)No:811:2013; (EU)No:813:2013; OJ 2014/C 207/02:2014.

FAN COIL - EXPOSED AND RECESSED HYDRONIC TERMINALS

EXPOSED UNIT

HFLMM 200-900 W-SN

RECESSED UNIT

HFYMM 200-550 W-SN

ONLY 12 W
OF POWER CONSUMPTION
[mod. 200]

ONLY 19 DB(A)
[mod. 200]

Main features

5 power sizes for the exposed model and 3 power sizes for the recessed model.

Floor/ceiling model in the double exposed and recessed version.

Extremely quiet: only 19 dB(A) for size 200.

DC Brushless fan motor.

Useful for ceiling and floor installations.

Compact, elegant model with decorative feet (optional).

The grey louvres are manually adjustable on the exposed model, ensuring even diffusion of air inside the environment for optimal comfort.

Thermal comfort for all seasons in a single device.

Hokkaido FAN COIL terminals are cutting-edge products in terms of design, performance, quiet, consumption and functionality. They are ideal for all environments that need to be air-conditioned, heating or cooling 365 days a year at all times. Their versatility and ability to maintain indoor comfort make them products that can be installed both in homes and in other spaces such as offices, hotels, hospitals, airports, libraries, museums, archives, religious places of worship, warehouses and basements.

Flexible installation and simple maintenance

Both Hokkaido FAN COIL versions, recessed and exposed, can be installed both on the floor and on the ceiling thanks to the special shape of the condensate drain tray and the possibility of interacting via the remote control panel. Coil connections are on the left and can be switched to the right.

The FAN COILS can also be easily inspected, making routine and special maintenance easy and fast.

The DC Brushless fan motor is the technological heart of the Hokkaido FAN COIL range

- High energy efficiency.
- Economic savings.
- Significant reduction in energy consumption compared to tradition fan coil with AC motor.
- Reduced CO2 emissions.

In heating mode

Ventilation starts only if the water inlet temperature is > di 30° C: this prevents the circulation of cold air in the room.

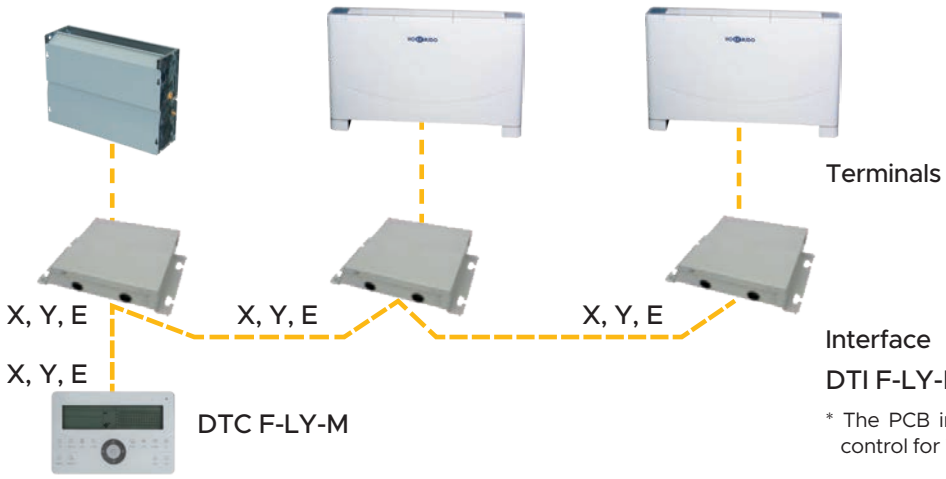
Temperature

The room temperature range that can be set on the Hokkaido fan coil thermostat is 17~30° C (both in cold and heat).

FAN COIL - EXPOSED AND RECESSED HYDRONIC TERMINALS

Centralized management

Allows up to 64 units to be controlled completely and independently.



* The PCB interface kit is already equipped with a wired control for individual control of the unit.

Centralised control

- LCD display
- Soft touch buttons.
- Operating mode and temperature control.
- Speed control (high/medium/low).
- Daily on-off timer.

PCB interface kit

(to be combined with the centralized control)

An interface must be installed for each connected terminal.

Exposed unit			HFLMM 200 W-SN	HFLMM 350 W-SN	HFLMM 550 W-SN	HFLMM 700 W-SN	HFLMM 900 W-SN
Recessed unit			HFYMM 200 W-SN	HFYMM 350 W-SN	HFYMM 550 W-SN		
Power		V/Ph/Hz	220-240/1/50				
Air flow (H/M/L) [1]		m3/h	255 / 215 / 190	510 / 430 / 380	765 / 650 / 570	1020 / 870 / 765	1530 / 1300 / 1150
Cooling [2]	Power (H/M/L)	kW	1.74 / 1.31 / 1.05	2.84 / 2.21 / 1.63	4.43 / 3.21 / 2.52	5.51 / 3.92 / 2.99	6.87 / 5.32 / 4.31
	Water flow	l/h	299	488	762	948	1182
	Water load loss	kPa	8.5	16.3	30.1	16.6	31.4
Water heat. 45°C [3]	Power (H/M/L)	kW	1.67 / 1.16 / 1.03	3.02 / 2.27 / 1.63	4.53 / 3.23 / 2.44	5.74 / 4.19 / 3.17	7.58 / 5.65 / 4.52
	Water flow	l/h	245	400	625	777	969
	Water load loss	kPa	5.6	10.2	17.7	10.2	17.9
Water heat. 55°C [4]	Power (H/M/L)	kW	2.41 / 1.68 / 1.48	4.34 / 3.27 / 2.35	6.51 / 4.65 / 3.52	8.26 / 6.03 / 4.55	10.9 / 8.13 / 6.5
	Water flow	l/h	353	576	899	1,119	1,395
	Water load loss	kPa	10.4	18.9	32.9	18.9	33.3
Water heat. 70° C [5]	Power (H/M/L)	kW	2.76 / 1.92 / 1.69	4.98 / 3.75 / 2.69	7.47 / 5.33 / 4.03	9.47 / 6.91 / 5.22	12.5 / 9.32 / 7.46
	Water flow	l/h	201	328	512	637	795
	Water load loss	kPa	3.8	6.8	11.9	6.8	12.0
Power consumption (H)		W	12	26	26	36	101
Sound pressure (H/M/L) [6]		dB(A)	29/25/19	32/28/22	36/32/26	40/34/28	43/37/31
Fan motor	Type		DC Brushless				
	Quantity		1				
Fan	Type		Centrifugal with forward curved blades				
	Quantity		1	2	2	3	3
Coil	Rows		3	2	3	2	2
	Maximum pressure	Pa	1.6				
	Diameter	mm	09.52				
Exposed version	Net dimensions	mm	800x592x220	1000x592x220	1200x592x220	1500x592x220	1500x592x220
	Packaging dimensions	mm	889x683x312	1089x683x312	1289x683x312	1589x683x312	1589x683x312
	Net weight	kg	24.4	28.2	34.2	40.0	40.0
	Gross weight	kg	28.4	33.2	39.7	45.5	45.5
Recessed version	Net dimensions	mm	550x545x212	750x545x212	950x545x212	1250x545x212	1250x545x212
	Packaging dimensions	mm	639x639x305	839x639x305	1039x639x305	1339x639x305	1339x639x305
	Net weight	kg	17.0	20.0	25.0	32.0	32.0
	Gross weight	kg	19.0	23.5	29.0	36.0	36.0
Hydraulic connections		"	G3/4				
Drain		mm	OD016				

NOTES (1) H: High speed; M: Medium speed; L: Low speed - Useful pressure head recessed version: 12 Pa. (2) Cooling conditions: water in 7° C/ΔT 5° C; air in 27° C DB/19° C WB. (3) Heating conditions: water in 45° C, ΔT 5° C; air in 20° C DB. (4) Heating conditions: water in 55° C, ΔT 5° C; air in 20° C DB. (5) Heating conditions: water in 70° C, ΔT 10° C; air in 20° C DB. (6) Noise level tested in a semi-anechoic chamber, distance 1 m.

HP SPLIT FULL DC INVERTER

OUTDOOR UNITS

Single phase 6.10 kW
HCEMS 602 X

Single phase 8 kW
HCEMS 802 X

Single phase
10~12.10 kW
HCEMS 1002 - 1202 X

Three-phase 14~15.50 kW
HCVMS 1402 - 1602 X

INDOOR UNIT

Single phase
HHNMS 4-82 X
HHNMS 10-162 X

Three-phase
HHSMS 12-162 X

TANK

ACS UP TO 55° C WITHOUT ELECTRICAL INTEGRATION

Main features

6 power sizes: 6.10~8 kW and 10~12.10 kW (single phase); 14~15.50 kW (three-phase).

COP 4,73 (mod. 6.10 kW).

Class energy rating A++.

Heating operation up to -20° C and +46° C in cooling.

Why choose the HP SPLIT system

Energy saving

- Full DC Inverter technology.
- Energy Class A ++ in heating.
- Possible integration with solar thermal.

Easy installation

- Hydraulics integrated in the hydronic module.
- Split up to 50 m with 25 m difference in height between I.U. and O.U.
- Extremely compact outdoor unit.

Benefits and tax deductions

Solution suitable both for new constructions, as it is in a heat pump, and for renovations: it can be integrated with new or pre-existing boilers. Thermal Account 2.0; Tax deductions 65% (for the Italian market only)

Air-water heat pump for cooling, heating, domestic hot water

The new HP Split Hokkaido models guarantee maximum precision in temperature regulation, very high performance, in terms of energy efficiency.

The HP Split solution avoids the freezing risk of outdoor pipes in areas with cold temperatures.

It can also be connected to manage the control of additional heat generators such as: solar systems, gas or pellet boilers and supply tanks for DHW production.

Outdoor units

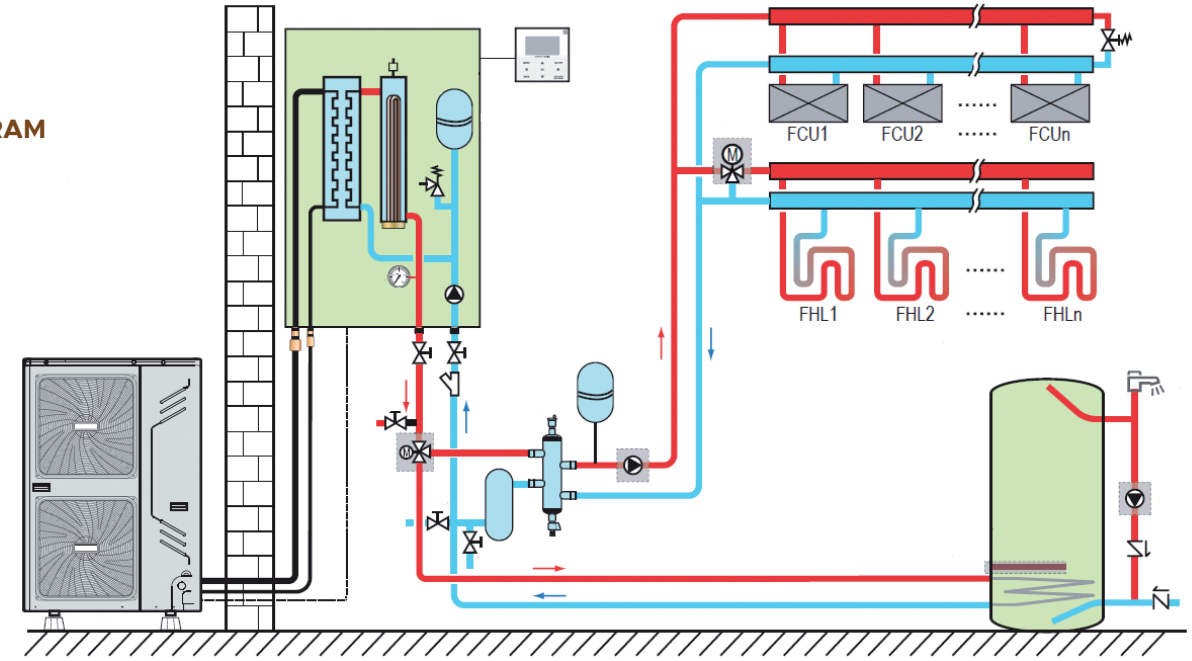
- Twin-Rotary DC Inverter compressor optimized for heating operation.
- The axial fans with DC Inverter motor allow better control of the treated air flow, lower consumption and reduced noise emissions.
- Electronic expansion valve for optimal regulation of the refrigerant flow in the circuit.
- Air side heat exchanger with internally corrugated copper pipes and aluminium louvres with increased surface area.

Indoor units

- Electronic circulator.
- Expansion tank
- Vent valve, safety valve, flow switch and water pressure gauge.
- Supplementary electrical resistance.
- High efficiency water side heat exchanger, with stainless steel brazed plates.

HP SPLIT FULL DC INVERTER

SYSTEM DIAGRAM



Size				6	8	10	12	14	16
Unit				Outdoor					
Models				HCEMS 602 X	HCEMS 802 X	HCEMS 1002 X	HCEMS 1202 X	HCVMS 1402 X	HCVMS 1602 X
Heating A7/W35[1]	Supplied power		kW	6.10	8.00	10.00	12.10	14.00	15.50
	Power absorption		kW	1.29	1.73	2.17	2.74	3.26	3.79
	COP			4.73	4.62	4.61	4.42	4.29	4.09
Heating A7/W45[2]	Supplied power		kW	5.96	7.34	10.12	11.85	13.93	15.48
	Power absorption		kW	1.68	2.13	2.93	3.48	4.21	4.87
	COP			3.55	3.45	3.45	3.41	3.31	3.18
Cooling A35/W18[3]	Supplied power		kW	6.00	8.00	10.00	11.80	13.00	14.00
	Power absorption		kW	1.29	1.78	2.07	2.65	3.21	3.68
	EER			4.66	4.49	4.83	4.45	4.05	3.80
Cooling A35/W7[4]	Supplied power		kW	6.15	6.44	9.39	11.02	12.53	12.91
	Power absorption		kW	2.08	2.24	3.26	4.17	5.21	5.52
	EER			2.96	2.88	2.88	2.64	2.40	2.34
Seasonal energy efficiency class in heating				A++	A++	A++	A++	A++	A++
Outside temperature operating interval	Heating		℃	-20~35					
	DHW			-20~43					
	Cooling			-5~46					
Power				1-220~240V-50HZ				3-380~415V-50HZ	
Protection switch flow			A	32	32	40	40	32	32
Sound power level			dB(A)	66	68	67	68	72	72
Compressor				Twin Rotary DC Inverter					
Refrigerant	Type/quantity		kg	R410A/2,5	R410A/2,8	R410A/3,9	R410A/3,9	R410A/4,2	R410A/4,2
Diameter of refrigerant piping on liquid/gas side			mm (in)	ø 9.52 (3/8") - ø 15.88 (5/8")					
Maximum splitting O.U. - I.U.			m	20	30	50	50	50	50
Maximum height difference O.U. - I.U./I.U. - O.U.			m	10/8	20/15	30/25	30/25	30/25	30/25
Dimensions	L - D - H		mm	960 - 380 - 860	1075 - 395 - 965	900 - 400 - 1327	900 - 400 - 1327	900 - 400 - 1327	900 - 400 - 1327
Net weight			kg	60	76	99	99	115	115
Isolation			-	IP24					

Unit				Indoor		
Models				HHNMS 4-82 X	HHNMS 10-162 X	HHSMS 12-162 X
Delivery water temperature interval	Domestic Water		℃	40~55		
	Heating			25~55		
	Cooling			7~25		
Power				1-220~240V-50HZ		3-380~415V-50HZ
Protection switch flow			A	32		
Integrative heating elements			kW	1.5 + 1.5	1.5 + 1.5	1.5 + 1.5 + 1.5
Sound power level			dB(A)	43	45	45
Expansion tank	Volume		L	3		
	Pre-load		bar	1.5		
Circulation pump	Type		-	DC Inverter centrifuge		
	Minimum water flow		L/h	660	960	
	Max pressure head		m	6	7.5	7.5
Water/freon exchanger			-	Heat plate exchanger		
Minimum/maximum operating pressure			bar	0.3/3.0		
Hydraulic connection diameter			inches	ø1" (DN25)		
Dimensions	L - D - H		mm	400 - 427 - 865	400 - 427 - 865	400 - 427 - 865
Net weight			kg	51	54	53
Isolation			-	IPX1		

Notes: 1. Measurement conditions A7/W35: outdoor air temperature 7° C DB/6° C WB, delivery water temperature 35° C, return water temperature 30° C. 2. Measurement conditions A7/W45: outdoor air temperature 7° C DB/6° C WB, delivery water temperature 45° C, return water temperature 40° C. 3. Measurement conditions A35/W18: outdoor air temperature 35° C DB/24° C WB, delivery water temperature 18° C, return water temperature 23° C. 4. Measurement conditions A35/W7: outdoor air temperature 35° C DB/24° C WB, delivery water temperature 7° C, return water temperature 12° C.

HOT WATER

Water heater with heat pump

150 litre "In Room" monobloc series

GAS R134A

EN 16147 certification from an Intertek accredited.

Intertek

>60°C with a single compressor

Stainless steel tank.

Anti-legionella cycle

ErP Ready

HWMGS 1150 A

Main features

Water heater with heat pump, monobloc on base.

Refrigerant gas R134A.

150 litrer stainless steel tank.

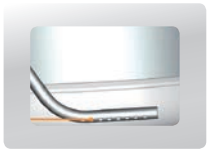
Hot water up to 60° C with the COP 3.52* compressor only.

Anti-legionella cycle.

Multi-function control panel:

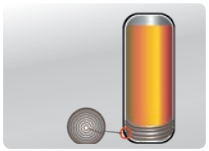
- clock, timer, night programming, absence and holiday programmes;
- operating modes: standard, energy savings, fast operation, e-heater

* In accordance with EN 16147.



Cold water inlet diffuser (with micro-holes to limit turbulence and water mixing)

Flat microchannel aluminium heat exchanger (greater contact surface with the tank and better heat exchange)



Further tube winding on the bottom of the "nest effect" tank (higher useful DHW volume)

Energy class

HWMGS 1150 A

L A

High efficiency: efficiency class A+ according to the new ErP 2017 limits (effective from 26/09/2017)

65%

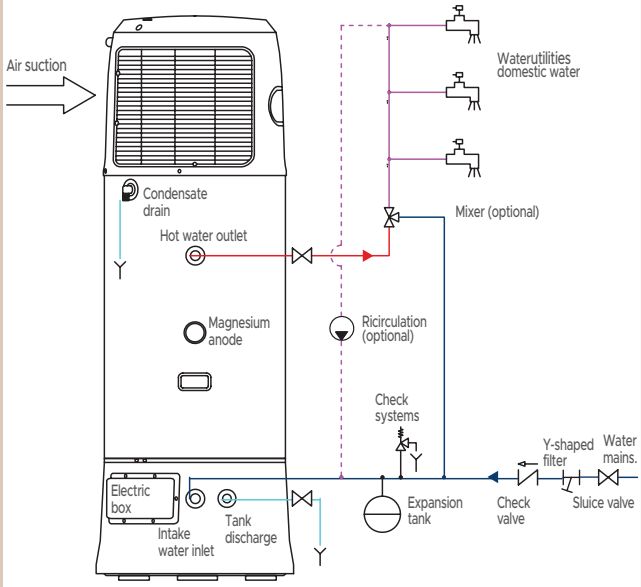
Tax deductions

Energy redevelopment

THERMAL ACCOUNT 2.0

Model			HWMGS 1150 A
Tank volume		L	150
Rated thermal power[1]		W	1500
Rated power consumption[1]		W	429
Rated hot water production capacity[1]		L/h	32
COP (rated)[1]		W/W	3.50
COPDHW[2]		W/W	3.52
Test cycle profile[2]		-	L
Volume of hot water at 40°C[2]		L	161
Energy Efficiency Class[3]		-	A*
IP Degree of protection		-	IPX4
Hot water T. adjustment interval		°C	35~70 (55 default)
Electrical data	Power	-	220-240 Vac / 50 Hz
	Integrative heating element	W	1500
	Maximum absorption (including heating element)	W	2500
	Isolation level	-	I
Refrigerant	Type	-	R134a
	Quantity	kg	0.8
Compressor		-	Rotary ON/OFF
Dimensions	Unit Ø x H	mm	591 x 1685
	Packaging L x D x H	mm	703 x 703 x 1765
Net weight/Gross weight		kg	74/88
Sound power level		dB(A)	60
Sound pressure level at 1 m		dB(A)	50
Tank	Tank material	-	Stainless steel
	DHW hydraulic connections	(" - DN)	G1/2 - DN15
	Magnesium anode	-	G3/4" - Ø21 x 400
	Maximum operating pressure	bar	7
Suctioned air	Operating range	°C	0~45
	Rated flow (not ducted)	m3/h	369
	Air flow (ducted)	m3/h	Not permitted
	Air duct - Diameter	mm	-
	Air duct - Length	m	-

Hydraulic connections diagram



1. Conditions: suctioned air 20° C DB (15° C WB), inlet water 15° C / outlet water 55° C. 2.Test according to EN16147; air 20° C.
3. Directive 2009/125/EC - ERP EU no. 814/2013 (TUV Sud certification). *Efficiency class A+ in accordance with the new 2017 ErP limits (effective from 26/09/2017).

HOT WATER

Water heater with heat pump

300/500 litre "Ducted" monobloc series

Possibility of integration with solar thermal

GAS R134A

Certification EN 16147 from a third-party accredited laboratory BUREAU VERITAS.

up to 500Lt of capacity

Stainless steel tank.

Anti-legionella cycle

ErP Ready

HWMAS 3200 HEA-2
HWMAS 5400 HEA-2

Main features

Water heater with heat pump, monobloc on base with the possibility of integration with solar thermal

Refrigerant gas R134A.

300 or 500 litre stainless steel tank.

Hot water up to 60° C with the compressor only.

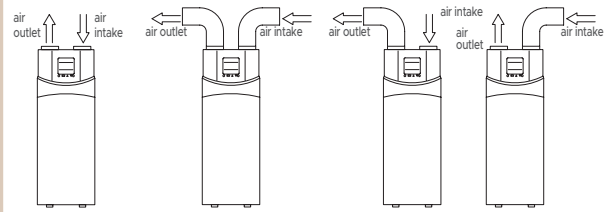
COP 2.74* for the 300 litre model and COP 2.69* for the 500 litre model.

Anti-legionella cycle that can be customized for different needs or can be excluded.

Innovative soft touch control panel to facilitate commissioning, use and maintenance.

* In accordance with EN 16147.

4 installation modes



Energy class

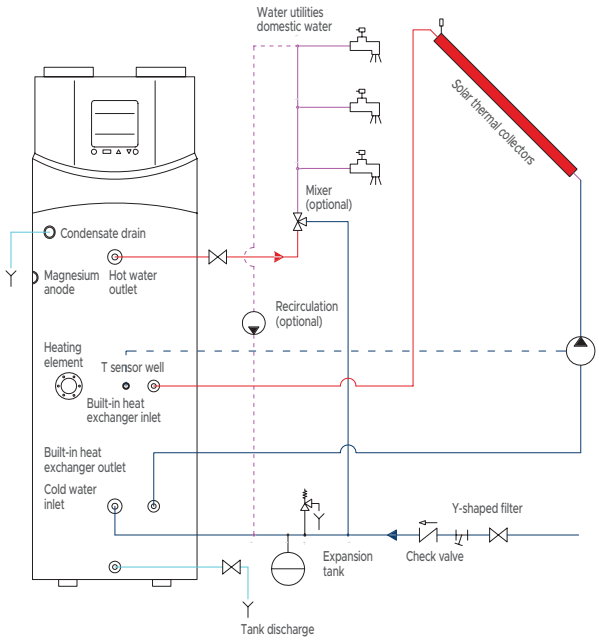
65%
Tax deductions
Energy redevelopment

THERMAL ACCOUNT 2.0

Model			HWMAS 3200 HEA-2	HWMAS 5400 HEA-2
Tank volume		L	300	500
Solar integration coil (stainless steel)		m2	1.0	1.0
Rated thermal power[1]		W	1840	3700
Rated power consumption[1]		W	533	1093
Rated hot water production capacity[1]		L/h	45	85
COP (rated)[1]		W/W	3.45	3.39
COPDHW[2]		W/W	2.74	2.69
Test cycle profile[2]		-	XL	XXL
Volume of hot water at 40°C[2]		L	351	501
Energy Efficiency Class[3]		-	A	A
IP Degree of protection			IPX1	IPX1
Hot water T. adjustment interval		°C	10~70 (50 default)	10~70 (50 default)
Maximum DHW temperature only compressor		°C	60	60
Electrical data	Power	-	220-240 Vac / 50 Hz	220-240 Vac / 50 Hz
	Integrative heating element	W	1600	1600
	Maximum current (including heating element)	A	10.0	13.0
Refrigerant	Type	-	R134a	R134a
	Quantity	kg	0.80	1.45
Compressor		-	Rotary (ON/OFF)	Rotary (ON/OFF)
Dimensions	Unit Ø x H	mm	640 x 1845	700 x 2230
	Packaging L x D x H	mm	695 x 695 x 1965	755 x 755 x 2368
Net weight/Gross weight		kg	104/108	122 /135
Sound power level		dB(A)	59	60
Sound pressure level at 2 m		dB(A)	46	45
Tank	Tank material	-	Stainless steel	Stainless steel
	DHW hydraulic connections	(Inches - DN)	1" - DN25	1" - DN25
	Hydraulic solar coil connections	(Inches - DN)	3/4" - DN20	3/4" - DN20
	Magnesium anode	-	G3/4" - Ø 21x300	G3/4" - Ø 21x300
	Maximum operating pressure	bar	10	10
	Insulation thickness	mm	45	50
	Insulation material	-	polyurethane	polyurethane
Suctioned air	Operating range	°C	-5~+43	-5~+43
	Rated flow (not ducted)	m3/h	450(@0Pa)	400(@0Pa)
	Air flow (ducted)	m3/h	400(@60Pa)	350(@60Pa)
	Air duct - Diameter	mm	177	177
	Air duct - Length	m	6	6

Notes: 1. Conditions: suctioned air 20° C DB (15° C WB), inlet water 15° C / outlet water 55° C. 2.Test according to EN16147; air 20° C. Test according to EN16147; air 7° C. 3. Directive 2009/125/EC - ERP EU no. 814/2013 (WBREAU VERITAS certification).

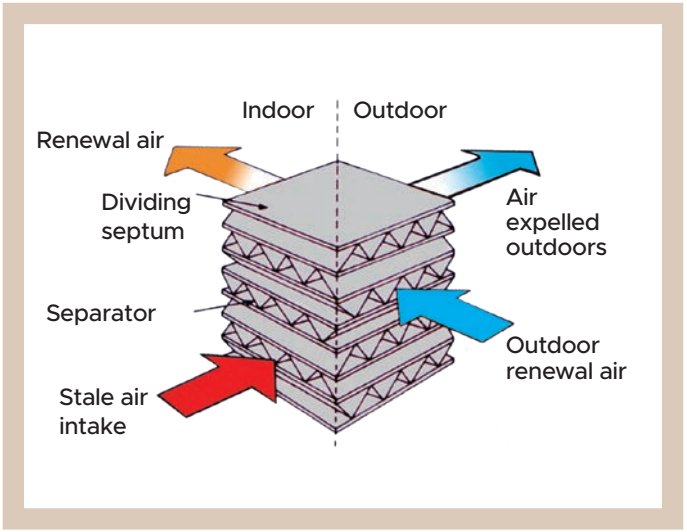
Hydraulic connections diagram



TOTAL HEAT EXCHANGER

EHIN 203~1003

EHIN 1503~2003



Enthalpy heat recovery unit. Energy regenerator during heat exchanges in rooms

The ventilation units with heat recovery are suited for use in bars, restaurants, offices, gyms, changing rooms and all rooms where it is necessary to exchange air during hours of operation.

The units consist of two centrifugal fans: one introduces clean air filtered from outside and the other one expels the stale air from the inside. The two air flows go through one blade heat exchanger in which part of the heat is recovered.

Depending on the season, the indoor air heats or cools the outdoor air that is introduced without coming into contact with it.

Integration and control with Hokkaido XRV units through the use of centralized controls DTC-IHXR / DTCWT-IHR

- 8 power sizes: 200~2000 m3/h.
- DC Inverter fan.

Model		EHIN 203	EHIN 303	EHIN 403	EHIN 503	EHIN 803	EHIN 1003	EHIN 1503	EHIN 2003
Power	Ph-V-Hz	1~220~240~50							
Enthalpy exchange efficiency	%	77.5	72.1	73.5	74.0	72.3	76.0	69.4	74.7
Heat exchange efficiency	%	81.1	75.5	77.7	80.6	78.7	82.8	75.5	77.2
Absorption	W	70	100	110	150	320	380	680	950
Rated absorbed current	A	0.64	0.84	0.97	1.2	2.4	2.9	3.8	5.7
Treated air	m3/h	200	300	400	500	800	1000	1500	2000
Available pressure head (high speed)	Pa	100	90	100	90	140	160	180	200
Ducting flange	Ø mm	144	144	198	244	244	244	346x326	346x326
External dimensions (DxLxH)	mm	1195x801x272	1195x914x272	1276x1204x272	1311x1106x390	1311x1286x390	1311x1526x390	1740x1375x615	1811x1575x685
Net weight	Kg	46.5	56.5	71.5	76	80	90	181.5	208.5
Max sound power level	dB(A)	45	48	48	50	55	54	69	70
Field of application	°C	-7~43 DB (max UR 80%)							
Degree of protection		IPX2							
Serial control	type	none (the control must be purchased as an accessory)							
Accessories									
Wired remote control		DHW EH							

EU Ecodesign Directive 1253/2014 for non-residential ventilation units (NRVU) and residential ventilation (RVU).
EU Energy Labelling 1254/2014 Residential Ventilation Unit (RVU).