Haier

COMMERCIAL & APPLIED HVAC SOLUTIONS CATALOGUE 2020

Range 8

MRV S 13
Outdoor Units - Front Air Discharge 18

EASY MRV 21
Supermatch Indoor Units

MRV 5 27
Full DC Inverter Outdoor Units

MRV 5-RC 41
3-Pipe Heat Recovery Outdoor Units

MRV W 55
Water Cooled Heat Pumps Outdoor units

MRV Indoor Units 67
Smart Flow All-Way Cassette 68
4-Way Standard Cassette 70
Wall Mounted Units 73
1-Way Cassette 77
2-Way Cassette 78
Ceiling / Floor Convertible 79
Slim Duct - Low Pressure 81
Ducted - Medium Pressure 82
Ducted - High Pressure 83
Ducted - Constant Air Flow 84
Floor Console - Built-in 86
Floor Console - Exposed type 87
Floor Console - Exposed type – 2-Way Air Flow 88

MRV Indoor Units for Air Treatment 89
Ducted - High Pressure 90
Cross-Flow Heat Recovery Units 91
Cross-Flow Heat Recovery Unit with Direct-Expansion Coil 92
Thermodynamic Heat Recovery Unit 102
AHU Connection Kit for Air Treatment Units 106
Direct Expansion Air Treatment Units 110

Industrial Mobile Air Conditioning 115
Control, Management systems & Accessories 121

Chiller 155
Modular CA Series 159
Chiller H4M Series 183
Chiller HZN & HZN PLUS Series 195
Chiller VHP Series 211
Hydronic Terminals 223

EUROVENT

Haier has been awarded the prestigious Eurovent certification for its MRV outdoor units, and the entire production facility. This recognition further underlines Haier's desire to create high-quality, high-performance and environmentally friendly products and services.

Eurovent Certita Certification

CERTIFICATE N° 18.06.003

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Variable Refrigerant Flow / *Débit de réfrigérant variable*

Granted on June 12, 2018 – *Date 1ère admission 12 juin 2018*

This document is valid at the date of issue – Check the current validity on:
Document valable à la date d'émission – Vérifier la validité en cours sur :
www.eurovent-certification.com

Participant/Titulaire

Haier Overseas Electric Appliances Corp. Ltd
South room #401, Brand Center Building – Haier High-Tech Industrial Park, Lao Shan District,
266101 Qingdao (Shandong Province), China

This certificate is issued by Eurovent Certita Certification according to the certification rules:

ECP VRF - « Variable Refrigerant Flow » in force at established date.

Pursuant to the decision notified by Eurovent Certita Certification, the right to use the mark ECP shall be granted to the beneficiary company for all products inside the defined scope according to "certify-all" principle and in the conditions defined by the certification program mentioned.

Unless withdrawn or suspended, this certificate remains valid as long as the requirements for the certification program framework are met. The validity of the certificate is to be verified on www.eurovent-certification.com

THIS CERTIFICATE HAS BEEN ISSUED ON 06/11/2019
THIS CERTIFICATE IS VALID UNTIL 30/09/2020

Ce certificat est délivré par Eurovent Certita Certification dans les conditions fixées par le référentiel :

ECP VRF - « Débit de réfrigérant variable » en vigueur à date d'édition.

En vertu de la décision notifiée par Eurovent Certita Certification, le droit d'usage de la marque ECP, est accordé à la société qui en est bénéficiaire pour les tous les produits entrant dans le champ d'application défini selon le principe "certify-all" et dans les conditions définies par le programme de certification mentionné.

Sauf retrait ou suspension, ce certificat demeure valide tant que les conditions du référentiel du programme de certification sont respectées. La validité du certificat est à vérifier sur le site internet www.eurovent-certification.com

CE CERTIFICAT A ÉTÉ EMIS LE 06/11/2019
CE CERTIFICAT EST VALIDE JUSQU'AU 30/09/2020

Paris, 6 novembre 2019

MANAGING BOARD MEMBER / MEMBRE DIRECTOIRE

cofrac
CERTIFICATION DE PRODUITS ET SERVICES

Organisme accrédité n° 5-0517 Certification Produits et Services selon la norme NF EN ISO/CEI 17065:2012
Portée disponible sur www.cofrac.fr

Accreditation #5-0517 Products and Services Certification according to NF EN ISO/CEI 17065:2012 -
Scope available on www.cofrac.fr

COFRAC est signataire des accords MLA d'EA et MLA d'IAF,
COFRAC is signatory of EA MLA and IAF MLA,
list of EA members is available on

BRAND STORY

Today, in the diverse and unconventional age of the Internet, "one size fits all" products and solutions are not enough to satisfy the customer. Customers want to be treated as autonomous individuals and respected for who they are. Everyone wants their unique lifestyle acknowledged.

That is why we listen carefully to our customers in order to gain a genuine understanding of their lifestyle and requirements.

Each of us deserves to live an extraordinary smart home experience, which can be simple, sophisticated, organised and enjoyable.

As a global leader, Haier, in addition to innovating its products and solutions, transforms its organisation into a connected platform. In doing so, internal and external resources are connected quickly
and easily. We believe only by doing so, we can best meet our customers' expectations in this rapidly evolving world. Join the Haier network. Create new possibilities.

HAIER GLOBAL NETWORK

Haier has built its infrastructure in various parts of the world to quickly meet the demands of its customers including R&D centres, production facilities, commercial companies and sales points.
Through the five R&D centres around the world, Haier has forged strategic alliances with first-class providers, research institutes and prestigious universities to create an innovative ecosystem of scholars and engineers connected by a single virtual and physical network.

Worldwide Network	Overseas	Global
Trading Company	24	66
R&D Centre	8	10
Production Facility	54	108
Industry Park	12	24
Sales Network	37683	143330

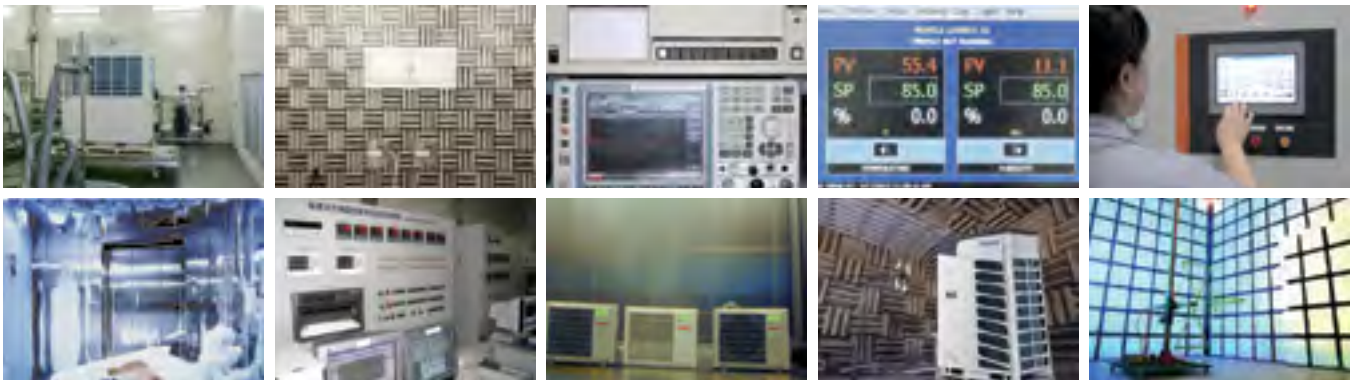
Haier

Leader 统帅 · Hoover · Casarte · Candy · Rosières · Fisher & Paykel · GE Appliances

The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

RESEARCH AND DEVELOPMENT LABORATORY

Haier has set a new standard for HVAC laboratories, giving life to what today represents 'The state of the art' and one of its kind. Operating since March 2014, it is now the world's reference point.



Inside the "Haier Park" industrial complex in Qingdao China, there is the world's most advanced laboratory for testing, research and development of products for the HVAC (heating, ventilation, cooling) sector.
The 'Haier Park' has a large exhibition space with the most significant Haier innovations. You can also view the powerful Haier centrifugal chiller with magnetic suspension compressor used for comfort cooling in large commercial buildings.

Developed on 10 floors, each with different themes, you can learn about over 1,000 different technological experiences.

The building has an impressive 150 laboratories where it is possible to test all products according to all national and international regulations specific to the HVAC sector. From calorimeters, to anechoic halls, to atmospheric simulators, electromagnetic tests and more.

Haier employs specialised engineers from all over the world and initiate several collaborations with many renowned manufacturers worldwide.

The 'Haier Tower' is a proud landmark for Haier. It is located next to the main set of laboratories at the 'Haier Park'. With a height of 106 m, the highest in the world, the 'Haier Tower' encompasses 5 laboratories where our MRV systems and beyond are tested, predicting and controlling all the variables that can occur in the phases of installation and real operation.

With the creation of this futuristic laboratory, Haier wanted to reaffirm its intention to becoming a world-leading manufacturer in the HVAC sector.

COLLABORATIONS

Collaborations with the world's leading manufacturers, inside the haier centre in qingdao

The Haier laboratory is Shared with 'HIGHLY', a Hitachi group company, manufacturing compressors for the development and testing of refrigerating circuits and compressors.

Haier laboratory shared with 'MITSUBISHI ELECTRIC', for the study and discovery of innovative technologies.

Haier laboratory shared with the Chinese national agency, for the study and research for human comfort.

PRODUCTION FACILITIES

Haier AC has 8 production facilities in China, another 8 located between South Asia and North Africa.
Haier has a total production capacity of 20.1 million units per year.

YAMAHA MOTOR RACING

Haier HVAC is a provider of solutions and systems for air conditioning of Yamaha Motor Racing's fixed and mobile structures.

YAMAHA OFFICIAL PARTNER 2020

Range

MRV S Outdoor Units

SERIES	3 HP	4 HP	5 HP	6 HP	7 HP	8 HP	10 HP	12 HP
MRV S								
Model	AU032FHERA	AU042FPERA AU04IFPERA	AU052FPERA AU05IFPERA	AU062FPERA AU06IFPERA	AU07NFIERA(G)	AV08NMSETA	AV10NMSETA	AV12NMSETA

MRV 5 Full DC Inverter 2-pipe Heat Pump

SERIES	8 HP	10 HP	12 HP	14 HP	16 HP	18 HP	20 HP	22 HP	24 HP	26 HP	28 HP	30 HP	32 HP	34 HP
MRV 5														
Model	AV08	AV10	AV12	AV14	AV16	AV18	AV20	AV22	AV24	AV26	AV28	AV30	AV32	AV34IMVEVA
	IMVEVA					IMVEVA					IMVEVA			

SERIES	36 HP	38 HP	40 HP	42 HP	44 HP	46 HP	48 HP	50 HP	52 HP	54 HP	56 HP	58 HP	60 HP	62 HP	64 HP	66 HP	68 HP	70 HP	72 HP	74 HP	76 HP	78 HP
MRV 5																						
Model	AV36	AV38	AV40	AV42	AV44	AV46	AV48	AV50	AV52	AV54	AV56	AV58	AV60	AV62	AV64	AV66	AV68	AV70	AV72	AV74	AV76	AV78
	IMVEVA									IMVEVA												

SERIES	80 HP	82 HP	84 HP	86 HP	88 HP	90 HP	92 HP	94 HP	96 HP	98 HP	100 HP	102 HP	104 HP
MRV 5													
Model	AV80	AV82	AV84	AV86	AV88	AV90	AV92	AV94	AV96	AV98	AV100	AV102	AV104
	IMVEVA												

Range

MRV 5-RC Full DC Inverter 3-Pipe Heat Recovery

SERIES	8 HP	10 HP	12 HP	14 HP	16 HP	18 HP	20 HP	22 HP	24 HP	26 HP	28 HP	30 HP
MRV 5-RC												
Model	AV08	AV10	AV12	AV14	AV16	AV18	AV20	AV22	AV24	AV26	AV28	AV30IMVURA
	IMVURA				IMVURA				IMVURA			

SERIES	32 HP	34 HP	36 HP	38 HP	40 HP	42 HP	44 HP	46 HP	48 HP	50 HP	52 HP	54 HP	56 HP	58 HP	60 HP	62 HP	64 HP	66 HP
MRV 5-RC																		
Model	AV32	AV34	AV36	AV38	AV40	AV42	AV44	AV46IMVURA	AV48	AV50	AV52	AV54	AV56	AV58	AV60	AV62	AV64	AV66
	IMVURA								IMVURA									

SERIES	68 HP	70 HP	72 HP	74 HP	76 HP	78 HP	80 HP	82 HP	84 HP	86 HP	88 HP
MRV 5-RC											
Model	AV68	AV70	AV72	AV74	AV76	AV78	AV80	AV82	AV84	AV86	AV88
	IMVURA										

MRV W Water Cooled Heat Pumps Outdoor Units

SERIES	8 HP	10 HP	12 HP	16 HP	18 HP	20 HP	22 HP	24 HP	28 HP	30 HP	32 HP	34 HP	36 HP
MRV-W													
Model	AV08	AV10	AV12	AV16	AV18	AV20	AV22	AV24	AV28	AV30	AV32	AV34	AV36
	IMWEWA			IMWEWA					IMWEWA				

EASY MRV MS Valves for Residential and Commercial Units

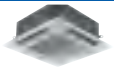
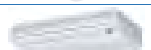
SERIES	11.2 kW	11.2 to 18 kW	Max 33.6 kW (max 11.2 kW per single output)
EASY MRV			
Model	MS1-036A	MS1-060A	MS3-036A
Combination with Number of IU	1:1	1:1	1:3
MRV Compatibility	"S" series with front air discharge and "5" series		

EASY MRV Residential and Commercial Supermatch Indoor Units - Connectable to MRV Systems with MS Valves

SERIES	Kbtu/h	7	9	12	15	18	24	28	30	38	48	60
	kW	2.0	2.8	3.6	4.4	5.6	7.1	8	9	11.2	14	16
DAWN		✓	✓	✓	✓							
FLEXIS (MW)		✓	✓	✓		✓	✓					
FLEXIS (MB)		✓	✓	✓		✓	✓					
FLAIR		✓	✓	✓		✓	✓					
FLOOR CONSOLE, EXPOSED TYPE, 2 WAY AIR FLOW			✓	✓		✓						
CASSETTE			✓	✓		✓	✓	✓				
CEILING FLOOR CONVERTIBLE				✓		✓	✓	✓				
SLIM DUCT LOW PRESSURE			✓	✓		✓	✓					
DUCTED MEDIUM PRESSURE				✓		✓	✓	✓				
TOWER											✓	✓

Range

MRV Indoor Units

SERIES	Kbtu/h	5	7	9	12	16	18	24	28	30	38	48	60	72	96
	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14	16	22.6	28
WALL		✓	✓	✓	✓	✓	✓	✓	✓	✓					
CONSOLE		✓	✓	✓	✓	✓	✓								
CASSETTE 1 WAY		✓	✓	✓	✓										
CASSETTE 2 WAY			✓	✓	✓	✓	✓								
CASSETTE 4 WAY 90x90 AC							✓	✓	✓	✓	✓	✓			
CASSETTE 4 WAY 60x60 AC		✓	✓	✓	✓	✓	✓								
CASSETTE SMART FLOW 4 WAY DC			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
CASSETTE 4 WAY 60x60 DC		✓	✓	✓	✓	✓	✓								
CEILING / FLOOR CONVERTIBLE				✓	✓	✓	✓	✓	✓	✓	✓	✓			
SLIM DUCT LOW PRESSURE DC		✓	✓	✓	✓	✓	✓	✓							
DUCTED MEDIUM PRESSURE		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
DUCTED HIGH PRESSURE							✓	✓	✓	✓	✓	✓		✓	✓
DUCTED- CONSTANT AIR FLOW			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
FLOOR CONSOLE, BUILT-IN			✓	✓	✓	✓	✓	✓							
FLOOR CONSOLE, EXPOSED			✓	✓	✓	✓	✓	✓							
DUCTED FRESH AIR ALL OUTDOOR AIR												✓		✓	✓

HEAT RECOVERY UNIT		from 170 m³/h to 260 m³/h		from 152 m³/h to 600 m³/h		from 400 m³/h to 4700 m³/h
		from 250 m³/h to 1300 m³/h		with DX coil from 500 m³/h to 1300 m³/h		from 1500 m³/h to 4700 m³/h
THERMODYNAMIC HEAT RECOVERY UNIT With built in compressor		from 350 m³/h to 4500 m³/h				
DIRECT EXPANSION AIR TREATMENT UNITS		from 1500 m³/h to 4700 m³/h		from 5000 m³/h to 17000 m³/h		

MOBILE AIR CONDITIONING UNITS		35Kw

AHU kit to create direct-expansion air treatment units

SERIES	3,5 ≤ X ≤ 7KW	7 ≤ X ≤ 14KW	14 ≤ X ≤ 28KW	28 ≤ X ≤ 56KW	56 ≤ X ≤ 73KW
AHU KIT					
Model	AH1-070B	AH1-140B	AH1-280B	AH1-560B	AH1-730B
MRV Compatibility	"S" series with front air discharge and "5" series				

The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

HAIER PROJECT EXPRESS SOFTWARE

The Project Express Software for equipment selection is a proprietary software to predefine cooling schemes, electrical schemes, plant yield, settings and functional parameters of MRV systems.

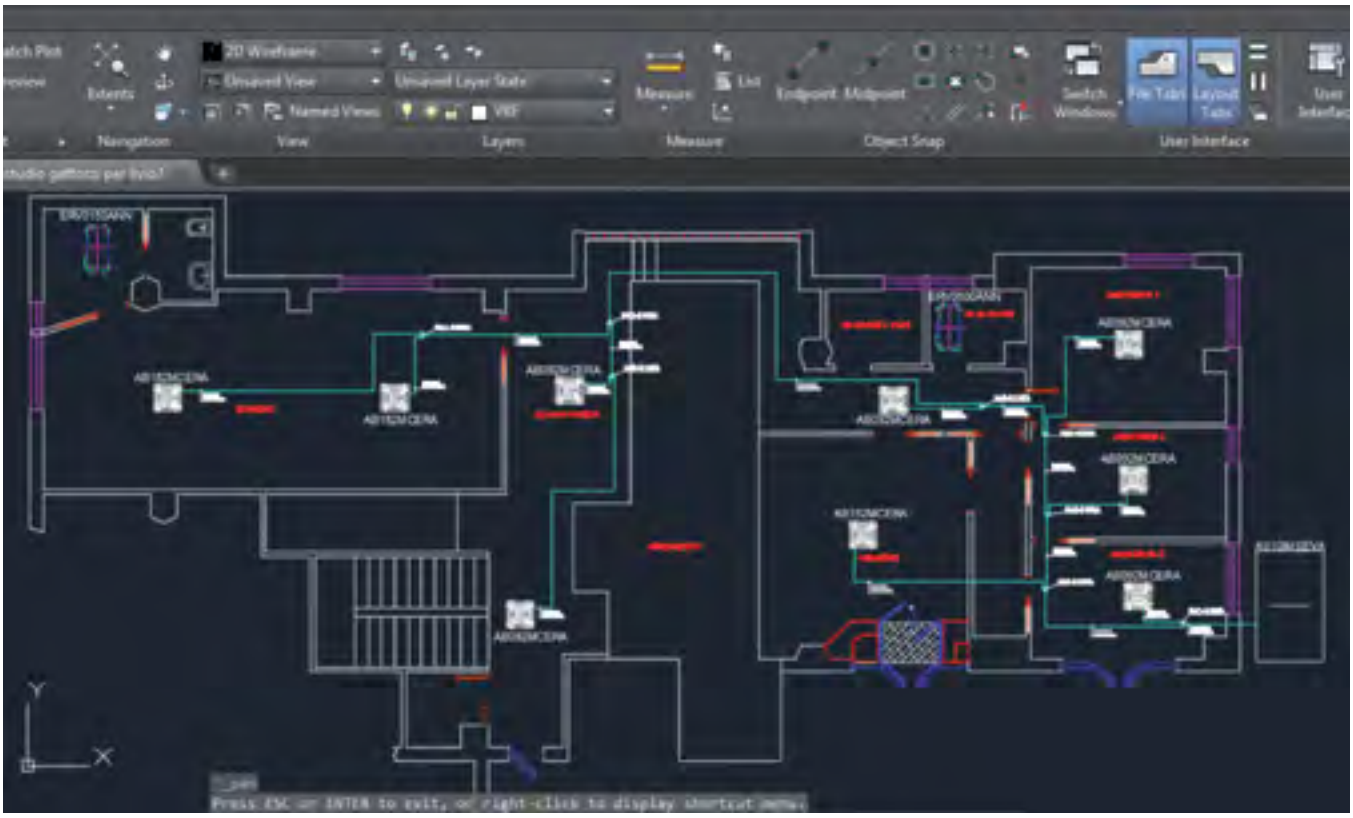
3.1.4 Wiring

Haier Project Express

3.1.3 Piping

HAIER INTERNAL PRE-SALE SUPPORT

A professional MRV pre-sales division is available to support you in all design phases with documents, manuals, directions and plant schemes.



MRV S

DC Inverter Unit with Front Discharge

Twin Rotary DC Inverter Compressor
Compression chambers with 180° phase shift enables low noise and vibration.

"Double pressure sensor"
"For a more accurate control of the refrigerant circuit"

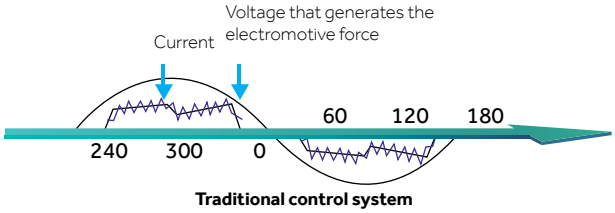
Vector-controlled inverters
New 64-bit system for 180° sine control for more precise power management

DC Fan
DC Inverter fan motor
Front discharge structure

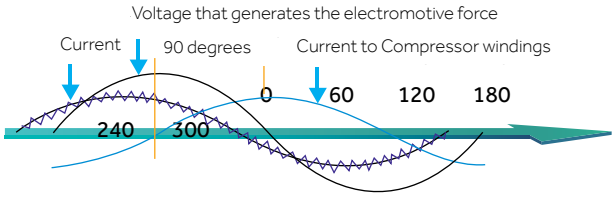
High-efficiency exchanger
Corrugated aluminium exchanger fins with blue-fin treatment to protect against atmospheric corrosion

180 DEGREES VECTOR INVERTER CONTROL

Haier uses technology that recognises the position of the compressor rotors to optimise the phase shift of the nominal current and the real current applied to the compressor windings.
This allows for an efficiency increase of 17% more than traditional inverter systems.



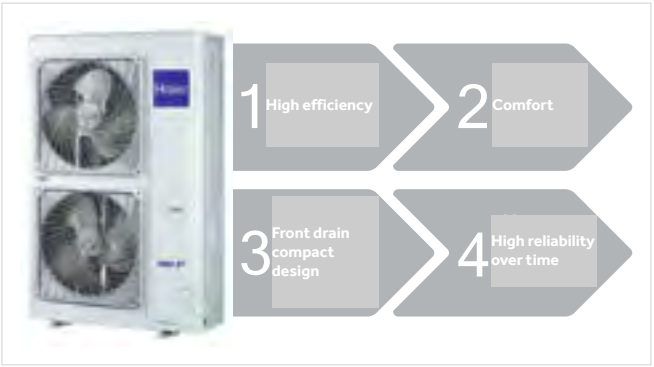
Traditional control system



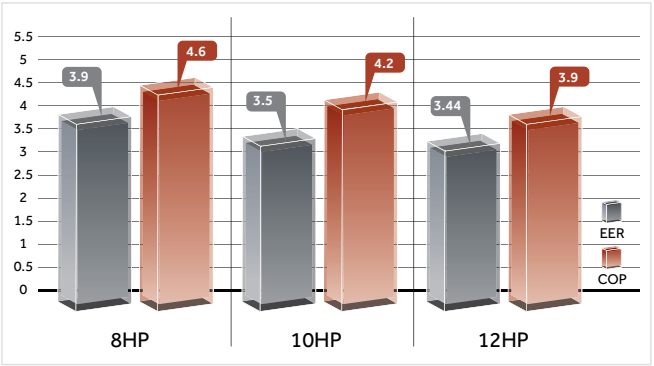
180° control system

DC INVERTER TWIN ROTARY COMPRESSOR

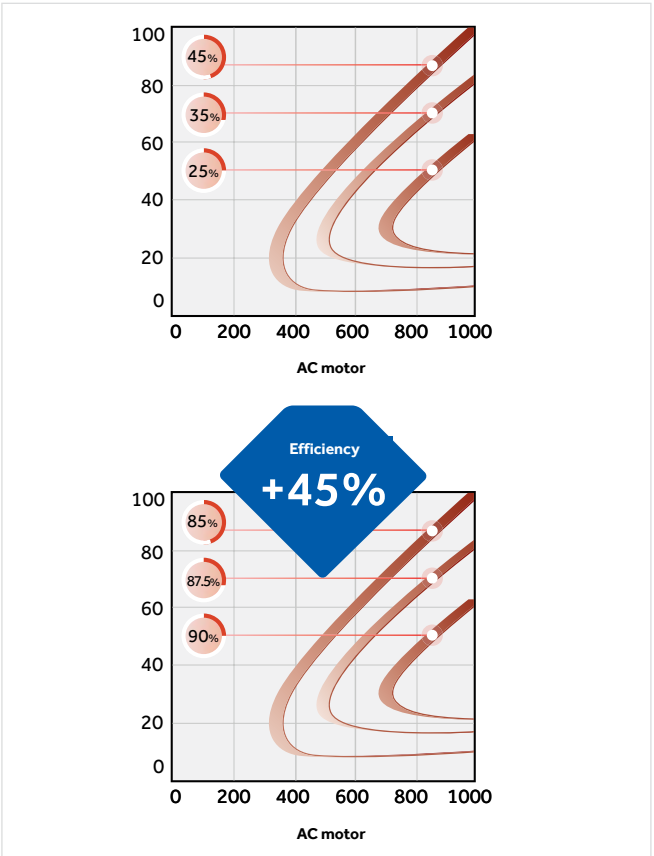
Twin Rotary compressors are selected for their low vibrations and high efficiency.
This is achieved thanks to the 180° phase shift between the two compression chambers (Twin).
At the time of compression, one chamber cancels the imbalance of the other because they are diametrically opposed to each other.



HIGH EFFICIENCY EER - COP



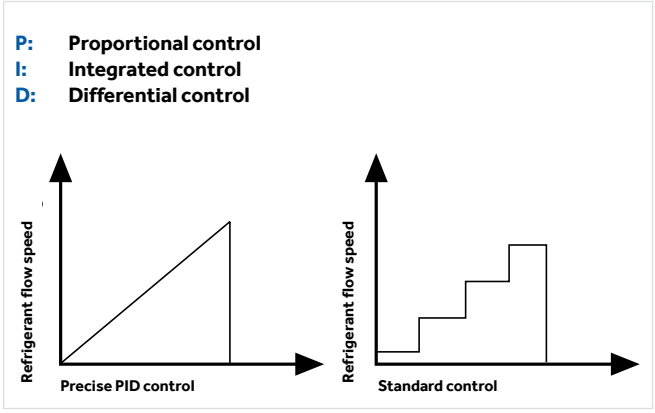
DC INVERTER FAN MOTOR

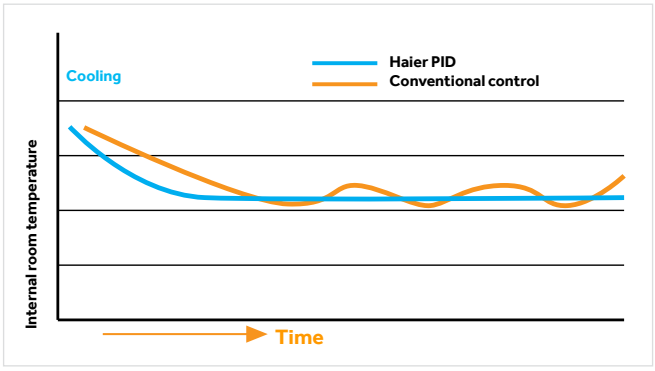


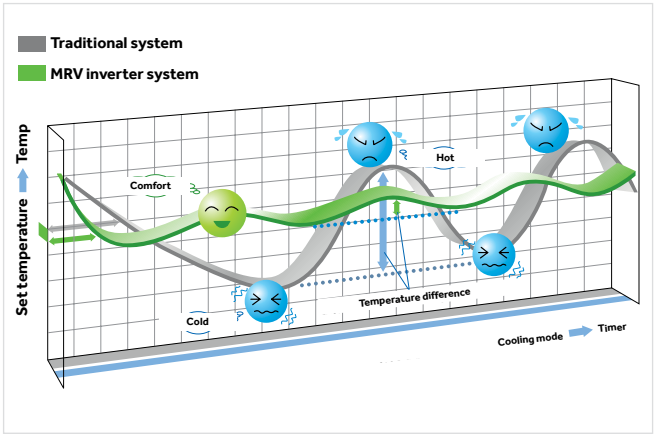
- High efficiency at partial regimes
- 16 modulation steps
- 45% higher efficiency than AC motors

PRECISE POWER CONTROL

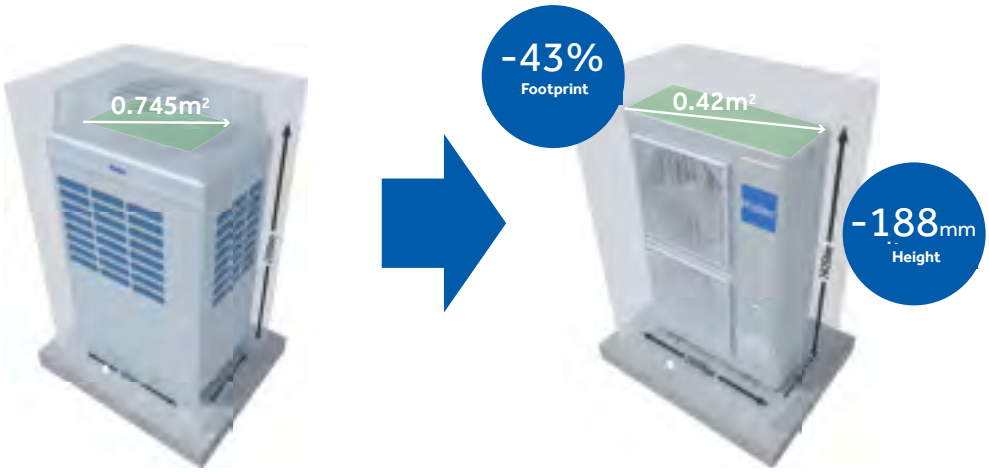
Haier PID technology (proportional, integral, differential) that simultaneously controls the compressor and the opening of the EEV valve, generates a balanced refrigerant flow and a linear power output that keeps the temperature stable in the internal areas.





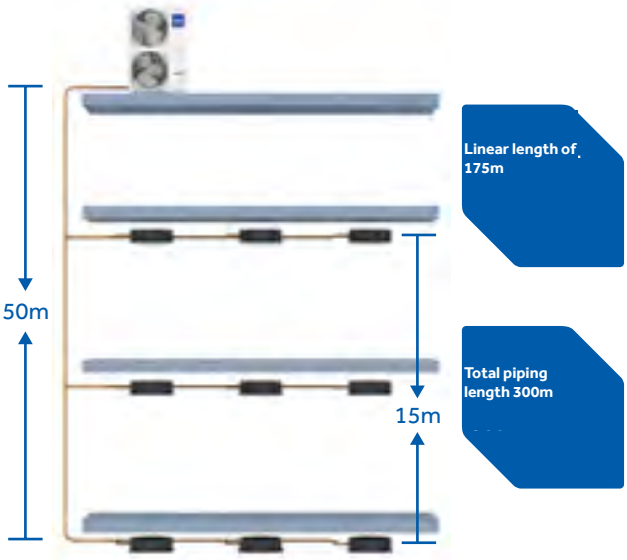


SMALL SIZES (8Hp - 10Hp - 12Hp)



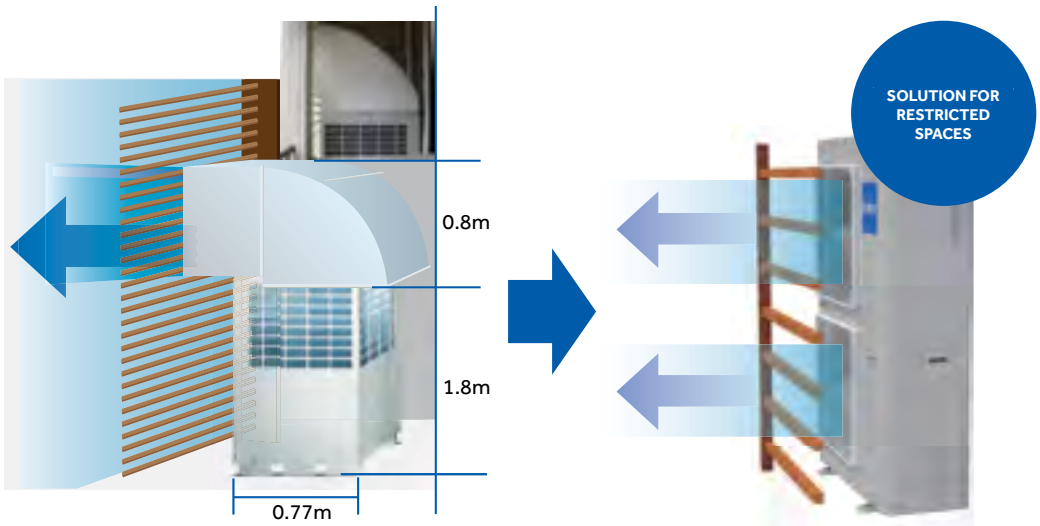
FLEXIBLE INSTALLATION - WIDE PIPING LENGTH

- Total piping length 300m
- Maximum linear piping length 175m
- Maximum piping length after first branch 50m
- Maximum height difference between indoor units 15m
- Maximum height difference between indoor and outdoor units 50m (with OU above)
- Maximum height difference between outdoor and indoor units 40m (with OU below)

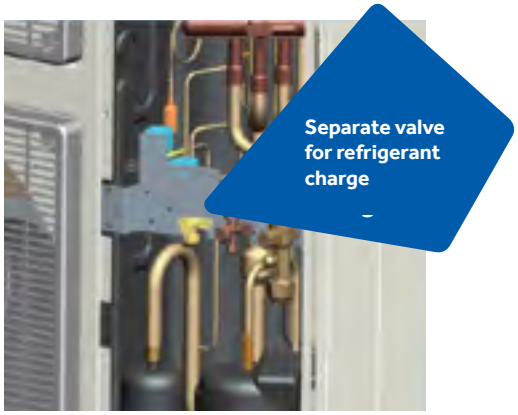


FLEXIBILITY IN PIPING INSTALLATION (8Hp - 10Hp - 12Hp)

CONVEYED OUTPUT

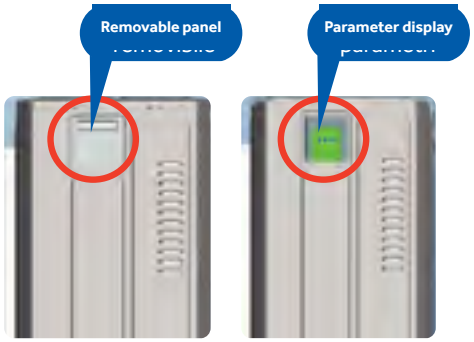


SEPARATE REFRIGERANT CHARGE VALVE



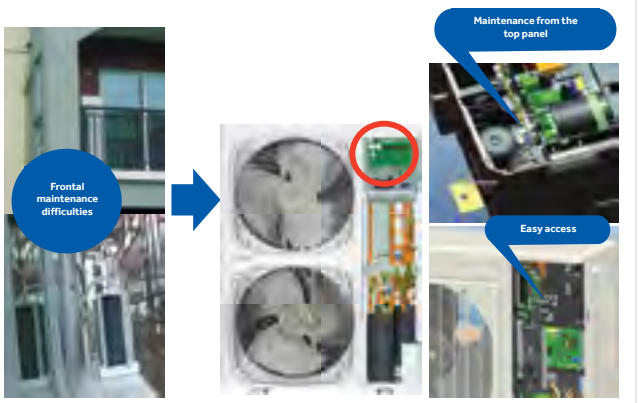
SIMPLIFIED MONITORING

Removing the outer panel displays the operating parameters on the display.



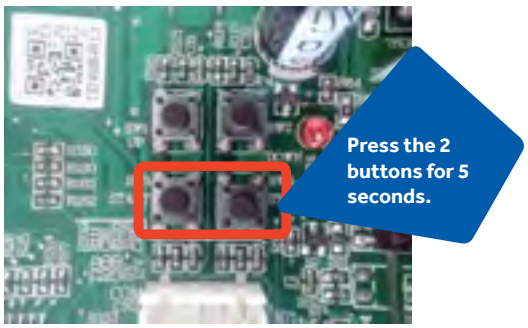
SIMPLIFIED MAINTENANCE

The control board can be accessed from the front and top panel.



RELIABILITY

Automatic refrigerant recovery system. Recovery of the refrigerant present in the indoor units and pipes is possible by operating the switches located on the outdoor unit board. This saves time, resources and maintenance costs.



MRV S Outdoor Units with Frontal Discharge

3HP
AU032FHERA

4HP
AU042FPERA
AU04IFPERA

5HP
AU052FPERA
AU05IFPERA

6HP
AU062FPERA
AU06IFPERA

Model		AU032FHERA	AU042FPERA	AU04IFPERA	AU052FPERA	AU05IFPERA	AU062FPERA	AU06IFPERA
Commercial code		25020008J	2502000AJ	2502003AJ	2502000DJ	2502003DJ	2502000GJ	2502003GJ
Capacity								
Power Class	HP	3	4	4	5	5	6	6
Cooling	kW	8	12.6	12.6	14	14	15.5	15.5
Heating	kW	9.5	14.2	14.2	16	16	18	18
Electrical Parameters								
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	1/220-230/50/60	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	1/220-230/50/60	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	2.08	3.11	3.11	3.51	3.51	4.31	4.31
Max absorbed power - Cooling	kW	4.0	7.2	7.2	7.5	7.5	7.8	7.8
Max absorbed current - Cooling	A	19.2	34.1	11.4	35.5	11.9	36.9	12.3
Absorbed power – Heating	kW	2.10	3.18	3.18	3.72	3.72	4.39	4.39
Max absorbed power – Heating	kW	3.84	6.9	6.9	7.2	7.2	7.5	7.5
Max absorbed current – Heating	A	18.5	32.7	10.9	34.1	11.4	35.5	11.9
EER energy class	W/W	3.84	4.05	4.05	3.99	3.99	3.60	3.60
COP energy class	W/W	4.52	4.47	4.47	4.30	4.30	4.10	4.10
SEER energy class	W/W	4.79	6.82	6.82	6.92	6.92	6.45	6.45
SCOP energy class	W/W	3.31	3.92	3.92	4.17	4.17	3.80	3.80
Ventilation								
Air flow (High)	m^3/h	3500	7200	7200	7200	7200	7200	7200
Sound pressure level (High)	dB(A)	54	50	50	51	51	53	53
Sound power level (High)	dB(A)	65	66	66	67	67	69	69
Installation - Dimensions - Components								
Unit Dimensions WxDxH	mm	960x340x830	950x370x1340	950x370x1340	950x370x1340	950x370x1340	950x370x1340	950x370x1340
Packaged unit dimensions WxDxH	mm	1095x410x945	1023x/471x1420	1023x/471x1420	1023x/471x1420	1023x/471x1420	1023x/471x1420	1023x/471x1420
Net weight / Gross weight	Kg	70/76	115/123	115/123	115/123	115/123	115/123	115/123
Compressor type		Rotary	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary
Quantity and type of the compressor	No.	1 INV	1 INV	1 INV	1 INV	1 INV	1 INV	1 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	2.4	4	4	4	4	4	4
Ø Liquid side refrigerant pipe	mm	9.52	9.52	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	15.88	15.88	15.88	15.88	15.88	15.88	15.88
Max piping length	m	100	300	300	300	300	300	300
Max linear piping length	m	50	150	150	150	150	150	150
Max difference between IU and OU	m	30	50	50	50	50	50	50
Connectable Indoor Capacity Ratio								
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	5	8	8	10	10	13	13
External Temperature Operating Limits (*)								
Cooling	°C	-10 - 48	15 – 48	15 – 48	15 – 48	15 – 48	15 – 48	15 – 48
Heating	°C	15 – 21	20 – 27	20 – 27	20 – 27	20 – 27	20 – 27	20 – 27

(*) The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

MRV S Outdoor Units with Frontal Discharge

7HP
AU07NFIERA(G)

8HP
AV08NMSETA

10HP
AV10NMSETA

12HP
AV12NMSETA

Model		AU07NFIERA(G)	AV08NMSETA	AV10NMSETA	AV12NMSETA
Commercial code		25002003IJ	25020112J	25020122J	25020133J
Capacity					
Power Class	HP	7	8	10	12
Cooling	kW	18	22.6	28	33.5
Heating	kW	20	25	31.5	37.5
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	5.19	5.79	8	9.75
Max absorbed power - Cooling	kW	7.3	10.4	14.4	15.4
Max absorbed current - Cooling	A	11.6	17.2	23.8	26.0
Absorbed power – Heating	kW	5.13	5.43	7.5	9.62
Max absorbed power – Heating	kW	7.1	9.8	12.4	15.0
Max absorbed current – Heating	A	11.2	16.2	22.3	25.3
EER energy class	W/W	3.47	3.9	3.5	3.44
COP energy class	W/W	3.90	4.6	4.2	3.9
SEER energy class	W/W	4.14	5.1	4.8	4.6
SCOP energy class	W/W	3.06	3.45	3.43	3.4
Ventilation					
Air flow (High)	m^3/h	6500	10000	10000	10000
Sound pressure level (High)	dB(A)	59	55	58	60
Sound power level (High)	dB(A)	70	66	69	71
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	960x340x1250	1050x400x1636	1050x400x1636	1050x400x1636
Packaged unit dimensions WxDxH	mm	1095x410x1400	1150x510x1795	1150x510x1795	1150x510x1795
Net weight / Gross weight	Kg	99/107	168/183	168/183	168/183
Compressor type		Rotary	Twin Rotary	Twin Rotary	Twin Rotary
Quantity and type of the compressor	No.	1 INV	1 INV	1 INV	1 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	3.8	6.1	6.1	6.1
Ø Liquid side refrigerant pipe	mm	9.52	12.7 (b)	12.7	12.7
Ø Gas side refrigerant pipe	mm	19.05	19.05	22.22 (a)	25.4
Max piping length	m	150	300	300	300
Max linear piping length	m	70	150	150	150
Max difference between IU and OU	m	30	50	50	50
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	9	13	16	16
External Temperature Operating Limits (*)					
Cooling	°C	5 - 43	5 - 43	5 - 43	5 - 43
Heating	°C	15 – 21	15 – 21	15 – 21	15 – 21

(*) The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU
(a) With solder reduced from 22.22 to 19.05 for connecting the pipe to the unit valve accessory accompanying the product.
(b) The unit also works regularly with 9.52 diameter pipe. Requires 9.52>12.7 adapter to connect to the machine (not provided by Haier).

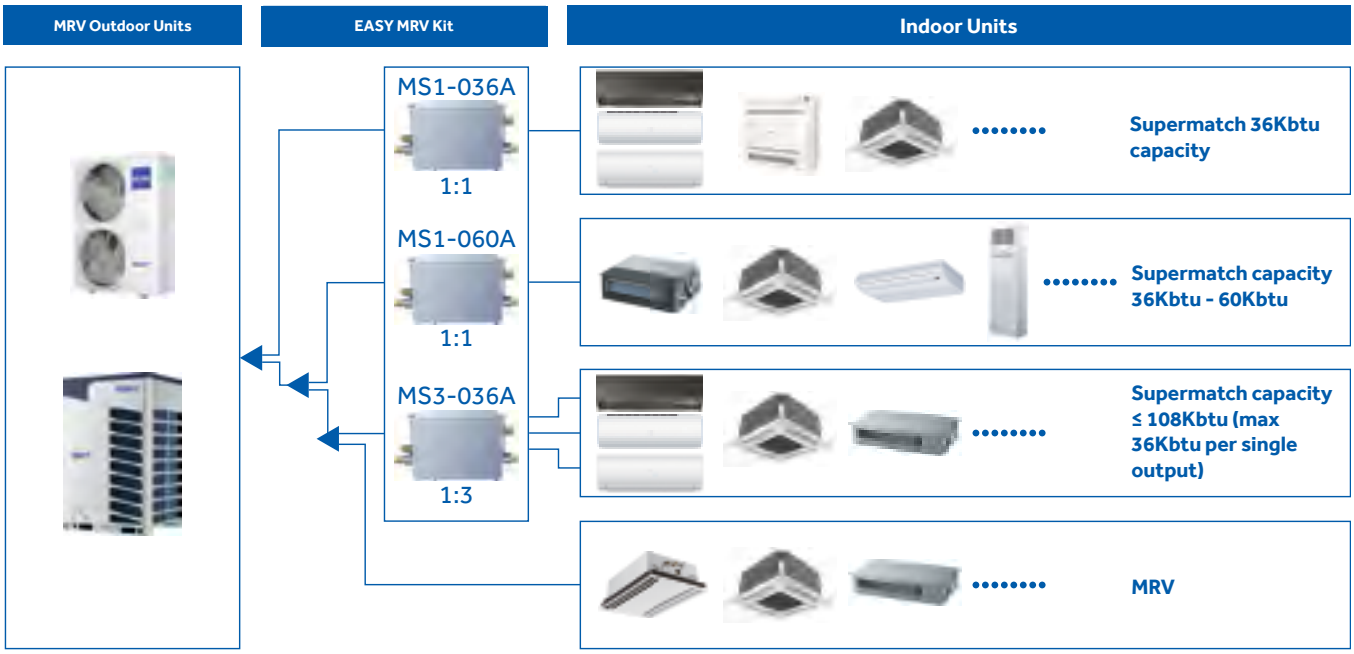
EASY MRV

Flexible, high-efficiency MRV systems

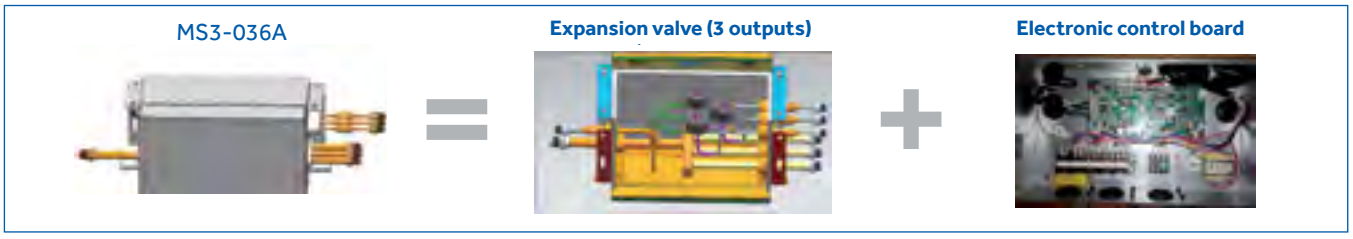
The ideal solution to minimise noise inside the premises

EASY MRV SYSTEMS

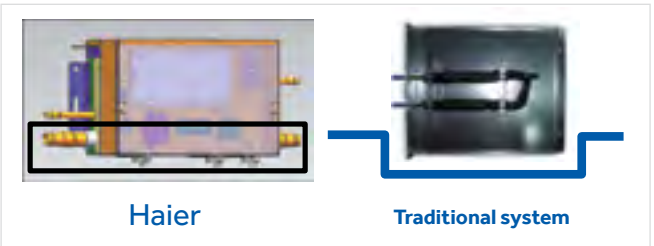
Haier's "Easy MRV" system is the ideal solution for environments where an exceptionally very low sound level is required by the indoor air conditioning unit.
Thanks to the external remote thermal expansion valves (MS valve box) it is possible to connect to our Supermatch indoor residential units. Which as standard are not equipped with a valve and ensure very low operating sound levels, to the MRV outdoor units (with some types of indoor units, you can reach 16 dBA). In addition, if you are looking for internal wall units with a modern and different design, with high class functionality and features, our DAWN, FLEXIS and FLAIR series connected to an "Easy MRV" system will meet your requirements.



CONNECTIONS



Haier's valve boxes have built-in gas pipes to facilitate installation without requiring welds due to utilising a flare connection.



INTEGRATED SOLUTIONS FOR ALL UNITS

MRV Indoor Units

MRV Outdoor Units

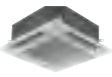
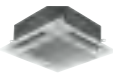
MS valve

Supermatch residential and commercial line indoor units

(*)
(*)
(*)
(**)
(**)

For more details on our Supermatch range which can be connected through the "MS" valve boxes, see our "Residential & Commercial" line catalogue.

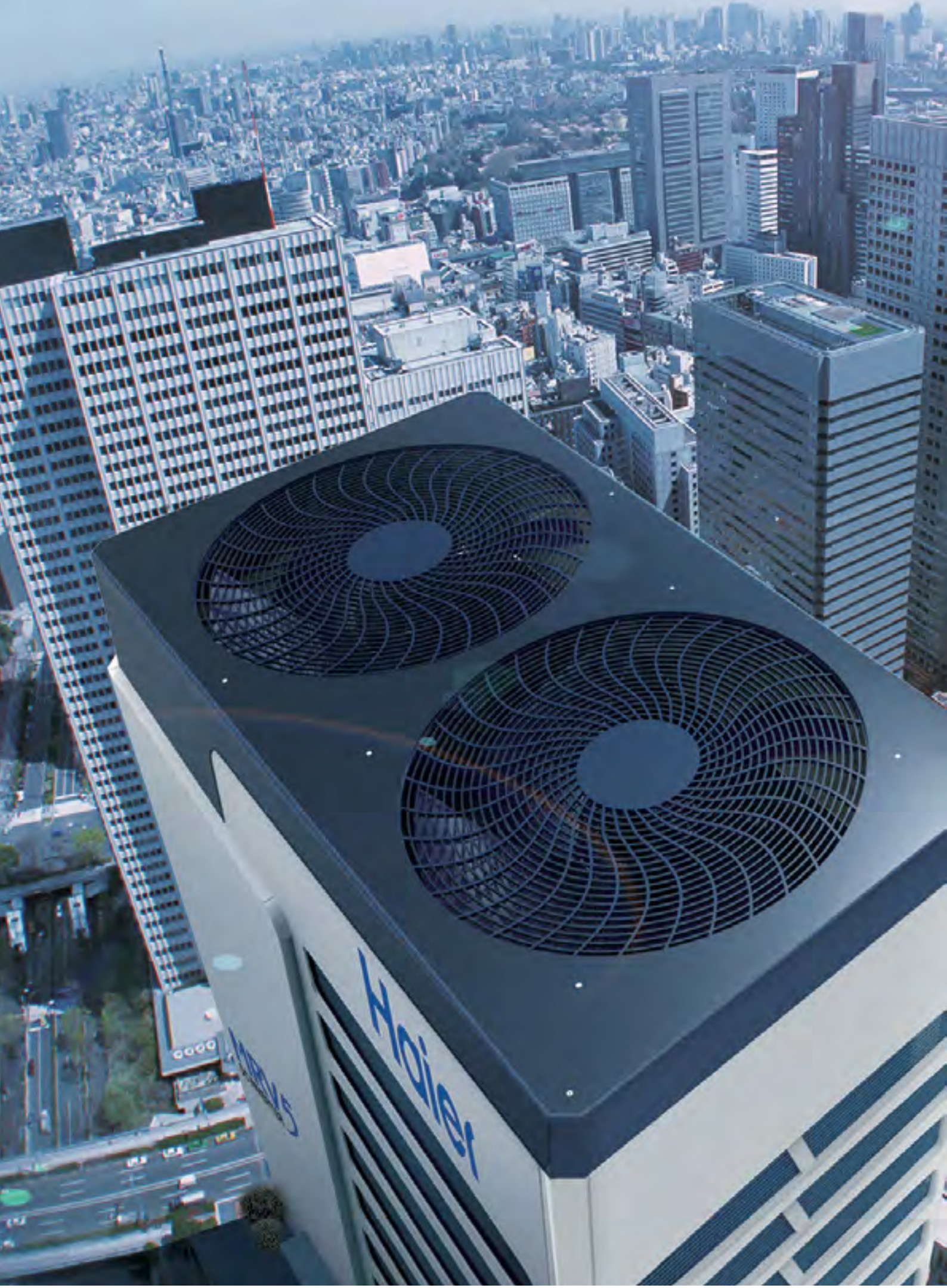
(*) WK-B adapter is required to connect the wired controller to the Supermatch series of wall units
(**) available only with remote control

SERIES	Kbtu/h	7	9	12	15	18	24	28	48	60
	kW	2.0	2.8	3.6	4.4	5.6	7.1	8	14	16
FLEXIS-MB WK-B adapter is required to connect the wired controller										
		AS20S2SF1FA-MB	AS25S2SF1FA-MB	AS35S2SF1FA-MB		AS50S2SF1FA-MB	AS71S2SF1FA-MB			
FLEXIS-MW WK-B adapter is required to connect the wired controller										
		AS20S2SF1FA-MW	AS25S2SF1FA-MW	AS35S2SF1FA-MW		AS50S2SF1FA-MW	AS71S2SF1FA-MW			
DAWN WK-B adapter is required to connect the wired controller										
		AS20S2SD1FA	AS25S2SD1FA	AS35S2SD1FA	AS42S2SD1FA					
FLAIR WK-B adapter is required to connect the wired controller										
		AS20S2SF2FA	AS25S2SF2FA	AS35S2SF2FA		AS50S2SF2FA	AS71S2SF2FA			
CONSOLE only available with remote control										
			AF25S2SD1FA	AF35S2SD1FA						
CASSETTE										
			AB09CS1ERA(S)	AB12CS1ERA(S)		AB18CS1ERA(S)	AB24ES1ERA(S)	AB28ES1ERA(S)		
CEILING / FLOOR CONVERTIBLE										
				AC35S2SG1FA		AC50S2SG1FA	AC71S2SG1FA			
SLIM DUCT LOW PRESSURE										
			AD09SS1ERA(N)	AD12SS1ERA(N)		AD18SS1ERA(N)	AD24SS1ERA(N)			
DUCTED MEDIUM PRESSURE										
				AD12MS1ERA		AD18MS1ERA	AD24MS1ERA	AD28MS1ERA		
TOWER standard remote control + keyboard on the unit										
									AP48KS1ERA(S)	AP60KS1ERA(S)
										
									AP48DS1ERA(S)	

MS1-036A
MS1-060A

MS3-036A

Model		MS1-036A	MS1-060A	MS3-036A
Commercial code		25030270J	25030275J	25030280J
Max number of indoor units	No.	1	1	3
Maximum connectable indoor unit capacity	Btu/h	≤ 36Kbtu	36Kbtu - 60Kbtu	≤ 36Kbtu per single output (Tot. max 108Kbtu)
	kW	11.2	11.2 to 18 kW	Max 33.6 kW (max 11.2 kW per single output)
Power supply	V-Ph-Hz	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60
Dimensions WxDxH	mm	310x217x155	310x217x155	394x227x253
Net weight	Kg	5	5	9
Material		Galvanised steel	Galvanised steel	Galvanised steel
Colour		Grey	Grey	Grey
Liquid pipe Ø	mm	9.52 (male) / 6.35	9.52 (male) / 12.7	6.35 (male) /9.52 - 9.52 (male) / 12.7
Gas pipe Ø	mm	15.88 (male) / 12.7 / 9.52	19.05 (male) /15.88	19.05 (male) /15.88 - 15.88 (male) /12.7 / 9.52
Connection type		Flare connection	Flare connection	Flare connection
Maximum piping length (BOX - IU)	m	15	15	15
Maximum height difference of pipes (BOX - IU)	m	15	15	15



MRV 5 DC INVERTER

Full DC inverter "Step Less" Heat Pump Systems

WIDE RANGE OF POWER

Up to 26 HP with single module and up to 104 HP by combining up to 4 modules. Modules 8 to 16 HP are equipped with single fan, for maximum installation flexibility and a small footprint on the surface.

8-16HP single module single flow

18-26HP single module double flow

104HP by combining 4 modules

NEW FULL DC "STEP LESS" TECHNOLOGY

The new compressors and fan motors use a new stepless inverter control.
The control is linear from 0 to 91 Hz for a more accurate response to changes in demand, further increasing efficiency and rotation of the motors compared to a classic step vector control.

NEW 4-SIDED CONTINUOUS HEAT EXCHANGER COIL

Thanks to this new development of continuous bending, the exchanger offers a higher exchange area than other configurations, increasing the overall efficiency of the unit. Increased efficiency by 30% compared to other configurations, thanks to the absence of interruptions between the various sides of the exchanger and the systems to connect these sides together.

NEW AUTO-ADDRESSING SYSTEM

New automatic system for digital addressing indoor units reduces system commissioning time

AUTOMATIC OIL BALANCING

When pairing multiple modules with each other, it is not necessary to provide the oil equalisation pipe, as the lubrication system inside each module is self-controlled.

REFRIGERANT MANAGEMENT SYSTEM

Advanced technology allows the system to manage the volume of refrigerant in the indoor units, piping and outdoor units, this allows the reduction of refrigerant in the entire system and increases efficiency.

NEW CERTIFIED AND REGISTERED DESIGN

The unit is equipped with a hinged technical door that allows access to the electronic parts in a simple and secure way. The electronic part in turn is mounted on a mobile base that can also be opened for access to the refrigeration part of the unit.
This line of products includes new and generous fans with an aerodynamic profile tested in the wind tunnel, with a diameter of 700 mm to move large air flows in maximum tranquillity and quietness.

SMARTLINK - WIRELESS WI-FI COMMUNICATION

Wi-Fi "Smartlink", the new and exclusive wireless communication system between outdoor and indoor units (optional)

"SMARTLINK" WI-FI FEATURES

- As an alternative to the classic digital communication cable, which is required to make all indoor units talk to their outdoor units, you can install these wireless radio accessories with ZigBee technology on each indoor and outdoor unit.
- At the time of activation, the indoor units begin to dialog with each other creating a stable network of coded signals that bounce between the various internal units until they reach the outdoor unit and vice versa.
  Each indoor unit works as a signal repeater. With this system, communication is guaranteed even to the most distant indoor unit, and in the presence of walls or other obstacles.
- When an indoor unit is in maintenance, the signal of the unit is lost, this does not affect the normal functioning of the other units.
- The system is set up by the Haier service centres in the start-up phase through a special application (APP) that can be installed on smartphones or tablets (it does not require access to the Internet, as it works on a local WIFI network)

The use of the 'Smartlink' system is useful where it is impossible to reach all the units with a cable. It is expensive in economic terms and takes time to roll out a cable, intervening on an existing redevelopment plant where the existing layout of the wired communication is not known and where there was a problem on the existing cable (damage etc.) and it is not possible to detect the problem.

Radio adapter for the indoor unit to be connected to the respective electronic board.

8-16HP

AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

Model		AV08IMVEVA	AV10IMVEVA	AV12IMVEVA	AV14IMVEVA	AV16IMVEVA
Commercial code						
Capacity						
Power Class	HP	8	10	12	14	16
Cooling	kW	25.2	28.0	33.5	40.0	45.0
Heating	kW	27.0	31.5	37.5	45.0	50.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	5.60	6.80	8.40	10.90	11.80
Max absorbed power - Cooling	kW	12.00	12.90	13.80	16.40	19.20
Absorbed current in cooling.	A	9.45	11.48	14.18	18.40	19.92
Max absorbed current - Cooling	A	20.26	21.78	23.30	27.69	32.41
Absorbed power – Heating	kW	5.20	6.30	8.00	10.30	11.20
Max absorbed power – Heating	kW	10.90	12.20	12.5	15.10	18.40
Absorbed current in heating	A	8.78	10.64	13.51	17.39	18.91
Max absorbed current – Heating	A	18.40	20.60	21.10	25.49	31.06
EER energy class	W/W	4.50	4.12	3.99	3.67	3.81
COP energy class	W/W	5.19	5.00	4.69	4.37	4.46
SEER energy class	W/W	7.50	7.33	7.20	6.85	6.40
SCOP energy class	W/W	5.50	5.45	5.30	5.12	4.55
Ventilation						
Air flow (High)	m^3/h	11000	11000	12000	13500	13500
Sound pressure level (High)	dB(A)	56	56	59	59	60
Sound power level (High)	dB(A)	67	67	70	70	71
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	980x750x1690	980x750x1690	980x750x1690	980x750x1690	980x750x1690
Packaged unit dimensions WxDxH	mm	1070x850x1838	1070x850x1838	1070x850x1838	1070x850x1838	1070x850x1838
Net weight / Gross weight	Kg	224/250	224/250	224/250	244/270	244/270
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	1 INV	1 INV	1 INV	1 INV	1 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	8.5	8.5	8.5	10	10
Ø Liquid side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7
Ø Gas side refrigerant pipe	mm	19.05	22.22	25.4	25.4	28.58
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	13	16	20	24	27
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

18-26HP

AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV18IMVEVA	AV20IMVEVA	AV22IMVEVA	AV24IMVEVA	AV26IMVEVA
Commercial code						
Capacity						
Power Class	HP	18	20	22	24	26
Cooling	kW	50.4	56.0	61.5	68.0	73.5
Heating	kW	56.5	61.5	69.0	73.0	82.5
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	14.30	15.10	16.50	17.60	18.80
Max absorbed power - Cooling	kW	21.40	25.10	28.50	29.10	33.00
Absorbed current in cooling.	A	24.14	25.49	27.86	29.71	31.74
Max absorbed current - Cooling	A	36.13	42.37	48.11	49.13	55.80
Absorbed power – Heating	kW	13.40	14.60	15.40	16.80	17.70
Max absorbed power – Heating	kW	17.70	22.70	25.50	26.50	30.40
Absorbed current in heating	A	22.62	24.65	26.00	28.36	29.88
Max absorbed current – Heating	A	29.88	38.32	43.05	44.74	51.32
EER energy class	W/W	3.52	3.71	3.73	3.86	3.91
COP energy class	W/W	4.22	4.21	4.48	4.35	4.66
SEER energy class	W/W	6.50	6.35	6.20	6.03	5.86
SCOP energy class	W/W	4.65	4.55	4.40	4.26	4.15
Ventilation						
Air flow (High)	m^3/h	17000	17000	18000	18000	19000
Sound pressure level (High)	dB(A)	61	61	61	62	62
Sound power level (High)	dB(A)	72	72	72	73	73
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690	1410x750x1690	1410x750x1690	1410x750x1690	1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838	1515x850x1838	1515x850x1838	1515x850x1838	1515x850x1838
Net weight / Gross weight	Kg	287/317	370/400	370/400	370/400	370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	1 INV	2 INV	2 INV	2 INV	2 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	10	10	10	10	10
Ø Liquid side refrigerant pipe	mm	15.88	15.88	15.88	15.88	15.88
Ø Gas side refrigerant pipe	mm	28.58	28.58	28.58	28.58	28.58
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	30	33	36	40	43
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV28IMVEVA AV14IMVEVA AV14IMVEVA	AV30IMVEVA AV14IMVEVA AV16IMVEVA	AV32IMVEVA AV16IMVEVA AV16IMVEVA	AV34IMVEVA AV16IMVEVA AV18IMVEVA
Commercial code					
Capacity					
Power Class	HP	28	30	32	34
Cooling	kW	80.0	85.0	90.0	95.4
Heating	kW	90.0	95.0	100.0	106.5
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	21.80	22.70	23.60	26.10
Max absorbed power - Cooling	kW	32.80	35.60	38.40	40.60
Absorbed current in cooling.	A	36.80	38.32	39.84	44.06
Max absorbed current - Cooling	A	55.37	60.10	64.83	68.54
Absorbed power – Heating	kW	20.60	21.50	22.40	24.60
Max absorbed power – Heating	kW	30.20	33.50	36.80	36.10
Absorbed current in heating	A	34.78	36.30	37.82	41.53
Max absorbed current – Heating	A	50.98	56.55	62.13	60.94
EER energy class	W/W	3.67	3.74	3.81	3.66
COP energy class	W/W	4.37	4.42	4.46	4.33
SEER energy class	W/W	6.97	6.71	6.50	6.56
SCOP energy class	W/W	5.15	4.81	4.55	4.60
Ventilation					
Air flow (High)	m^3/h	27000	27000	27000	30500
Sound pressure level (High)	dB(A)	62	62.5	63	63.5
Sound power level (High)	dB(A)	73	73.5	74	74.5
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	980x750x1690 + 980x750x1690	980x750x1690 + 980x750x1690	980x750x1690 + 980x750x1690	980x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	244/270 + 244/270	244/270 + 244/270	244/270 + 244/270	244/270 + 287/317
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	2 INV	2 INV	2 INV	2 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	20	20
Ø Liquid side refrigerant pipe	mm	15.88	19.05	19.05	19.05
Ø Gas side refrigerant pipe	mm	28.58	31.8	31.8	31.8
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	47	50	53	56
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		**AV36IMVEVA** AV18IMVEVA AV18IMVEVA	**AV38IMVEVA** AV18IMVEVA AV20IMVEVA	**AV40IMVEVA** AV20IMVEVA AV20IMVEVA	**AV42IMVEVA** AV20IMVEVA AV22IMVEVA	**AV44IMVEVA** AV22IMVEVA AV22IMVEVA
Commercial code						
Capacity						
Power Class	HP	36	38	40	42	44
Cooling	kW	100.8	106.4	112.0	117.5	123.0
Heating	kW	113.0	118.0	123.0	130.5	138.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	28.60	29.40	30.20	31.60	33.00
Max absorbed power - Cooling	kW	42.80	46.50	50.20	53.60	57.00
Absorbed current in cooling.	A	48.28	49.63	50.98	53.35	55.71
Max absorbed current - Cooling	A	72.26	78.50	84.75	90.49	96.23
Absorbed power – Heating	kW	26.80	28.00	29.20	30.00	30.80
Max absorbed power – Heating	kW	35.40	40.40	45.40	48.20	51.00
Absorbed current in heating	A	45.24	47.27	49.30	50.65	52.00
Max absorbed current – Heating	A	59.76	68.20	76.64	81.37	86.10
EER energy class	W/W	3.52	3.62	3.71	3.72	3.73
COP energy class	W/W	4.22	4.21	4.21	4.35	4.48
SEER energy class	W/W	6.60	6.51	6.43	6.34	6.26
SCOP energy class	W/W	4.65	4.61	4.58	4.49	4.42
Ventilation						
Air flow (High)	m^3/h	34000	34000	34000	35000	36000
Sound pressure level (High)	dB(A)	64	64	64	64	64
Sound power level (High)	dB(A)	75	75	75	75	75
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	287/317 + 287/317	287/317 + 370/400	370/400 + 370/400	370/400 + 370/400	370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	2 INV	3 INV	4 INV	4 INV	4 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	20	20	20
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas side refrigerant pipe	mm	38.1	38.1	38.1	38.1	38.1
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	59	63	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		**AV46IMVEVA** AV22IMVEVA AV24IMVEVA	**AV48IMVEVA** AV24IMVEVA AV24IMVEVA	**AV50IMVEVA** AV24IMVEVA AV26IMVEVA	**AV52IMVEVA** AV26IMVEVA AV26IMVEVA	**AV54IMVEVA** AV18IMVEVA AV18IMVEVA AV18IMVEVA
Commercial code						
Capacity						
Power Class	HP	46	48	50	52	54
Cooling	kW	129.5	136.0	141.5	147.0	151.2
Heating	kW	142.0	146.0	155.5	165.0	169.5
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	34.10	35.20	36.40	37.60	42.90
Max absorbed power - Cooling	kW	57.60	58.20	62.10	66.00	64.20
Absorbed current in cooling.	A	57.57	59.42	61.45	63.48	72.42
Max absorbed current - Cooling	A	97.24	98.25	104.93	111.60	108.38
Absorbed power – Heating	kW	32.20	33.60	34.50	35.40	40.20
Max absorbed power – Heating	kW	52.00	53.00	56.90	60.80	53.10
Absorbed current in heating	A	54.36	56.72	58.24	59.76	67.87
Max absorbed current – Heating	A	87.79	89.48	96.06	102.64	89.64
EER energy class	W/W	3.80	3.86	3.89	3.91	3.52
COP energy class	W/W	4.41	4.35	4.51	4.66	4.22
SEER energy class	W/W	6.17	6.09	5.99	5.91	6.63
SCOP energy class	W/W	4.34	4.27	4.21	4.16	4.65
Ventilation						
Air flow (High)	m^3/h	36000	36000	37000	38000	51000
Sound pressure level (High)	dB(A)	64.5	65	65	65	65.8
Sound power level (High)	dB(A)	75.5	76	76	76	76.5
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	370/400 + 370/400	370/400 + 370/400	370/400 + 370/400	370/400 + 370/400	287/317 + 287/317 + 287/317
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	4 INV	4 INV	4 INV	4 INV	3 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	20	20	30
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas side refrigerant pipe	mm	38.1	38.1	38.1	38.1	38.1
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV56IMVEVA AV18IMVEVA AV18IMVEVA AV20IMVEVA	AV58IMVEVA AV18IMVEVA AV20IMVEVA AV20IMVEVA	AV60IMVEVA AV20IMVEVA AV20IMVEVA AV20IMVEVA	AV62IMVEVA AV22IMVEVA AV20IMVEVA AV20IMVEVA	AV64IMVEVA AV22IMVEVA AV22IMVEVA AV20IMVEVA
Commercial code						
Capacity						
Power Class	HP	56	58	60	62	64
Cooling	kW	156.8	162.4	168.0	173.5	179.0
Heating	kW	174.5	179.5	184.5	192.0	199.5
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	43.70	44.50	45.30	46.70	48.10
Max absorbed power - Cooling	kW	67.90	71.60	75.30	78.70	82.10
Absorbed current in cooling.	A	73.77	75.13	76.48	78.84	81.20
Max absorbed current - Cooling	A	114.63	120.88	127.12	132.86	138.60
Absorbed power – Heating	kW	41.40	42.60	43.80	44.60	45.40
Max absorbed power – Heating	kW	58.10	63.10	68.10	70.90	73.70
Absorbed current in heating	A	69.89	71.92	73.94	75.29	76.64
Max absorbed current – Heating	A	98.08	106.53	114.97	119.69	124.42
EER energy class	W/W	3.59	3.65	3.71	3.72	3.72
COP energy class	W/W	4.21	4.21	4.21	4.30	4.39
SEER energy class	W/W	6.56	6.50	6.45	6.39	6.33
SCOP energy class	W/W	4.63	4.60	4.58	4.52	4.47
Ventilation						
Air flow (High)	m^3/h	51000	51000	51000	52000	53000
Sound pressure level (High)	dB(A)	65.8	65.8	65.8	65.8	65.8
Sound power level (High)	dB(A)	76.5	76.5	76.5	76.5	76.5
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	287/317 + 287/317 + 370/400	287/317 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	4 INV	5 INV	6 INV	6 INV	6 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	30	30	30	30	30
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas side refrigerant pipe	mm	38.1	41.3	41.3	41.3	41.3
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV66IMVEVA AV22IMVEVA AV22IMVEVA AV22IMVEVA	AV68IMVEVA AV22IMVEVA AV22IMVEVA AV24IMVEVA	AV70IMVEVA AV22IMVEVA AV24IMVEVA AV24IMVEVA	AV72IMVEVA AV24IMVEVA AV24IMVEVA AV24IMVEVA	AV74IMVEVA AV26IMVEVA AV24IMVEVA AV24IMVEVA
Commercial code						
Capacity						
Power Class	HP	66	68	70	72	74
Cooling	kW	184.5	191.0	197.5	204.0	209.5
Heating	kW	207.0	211.0	215.0	219.0	228.5
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	49.50	50.60	51.70	52.80	54.00
Max absorbed power - Cooling	kW	85.50	86.10	86.70	87.30	91.20
Absorbed current in cooling.	A	83.57	85.42	87.28	89.14	91.16
Max absorbed current - Cooling	A	144.34	145.35	146.37	147.38	154.05
Absorbed power – Heating	kW	46.20	47.60	49.00	50.40	51.30
Max absorbed power – Heating	kW	76.50	77.50	78.50	79.50	83.40
Absorbed current in heating	A	78.00	80.36	82.72	85.09	86.61
Max absorbed current – Heating	A	129.15	130.84	132.52	134.21	140.80
EER energy class	W/W	3.73	3.77	3.82	3.86	3.88
COP energy class	W/W	4.48	4.43	4.39	4.35	4.45
SEER energy class	W/W	6.28	6.22	6.16	6.10	6.04
SCOP energy class	W/W	4.42	4.37	4.32	4.27	4.23
Ventilation						
Air flow (High)	m^3/h	54000	54000	54000	54000	55000
Sound pressure level (High)	dB(A)	65.8	66	66.5	66.8	66.8
Sound power level (High)	dB(A)	76.5	77	77.5	77.8	77.8
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	6 INV	6 INV	6 INV	6 INV	6 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	30	30	30	30	30
Ø Liquid side refrigerant pipe	mm	19.05	22.2	22.2	22.2	22.2
Ø Gas side refrigerant pipe	mm	41.3	44.5	44.5	44.5	44.5
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV76IMVEVA AV26IMVEVA AV26IMVEVA AV24IMVEVA	AV78IMVEVA AV26IMVEVA AV26IMVEVA AV26IMVEVA	AV80IMVEVA AV20IMVEVA AV20IMVEVA AV20IMVEVA AV20IMVEVA	AV82IMVEVA AV20IMVEVA AV20IMVEVA AV20IMVEVA AV22IMVEVA	AV84IMVEVA AV20IMVEVA AV20IMVEVA AV22IMVEVA AV22IMVEVA
Commercial code						
Capacity						
Power Class	HP	76	78	80	82	84
Cooling	kW	215.0	220.5	224.0	229.5	235.0
Heating	kW	238.0	247.5	246.0	253.5	261.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	55.20	56.40	60.40	61.80	63.20
Max absorbed power - Cooling	kW	95.10	99.00	100.40	103.80	107.20
Absorbed current in cooling.	A	93.19	95.21	101.97	104.33	106.69
Max absorbed current - Cooling	A	160.73	167.40	169.50	175.24	180.98
Absorbed power – Heating	kW	52.20	53.10	58.40	59.20	60.00
Max absorbed power – Heating	kW	87.30	91.20	90.80	93.60	96.40
Absorbed current in heating	A	88.12	89.64	98.59	99.94	101.29
Max absorbed current – Heating	A	147.38	153.96	153.29	158.02	162.74
EER energy class	W/W	3.89	3.91	3.71	3.71	3.72
COP energy class	W/W	4.56	4.66	4.21	4.28	4.35
SEER energy class	W/W	5.98	5.92	6.46	6.41	6.37
SCOP energy class	W/W	4.20	4.16	4.58	4.53	4.49
Ventilation						
Air flow (High)	m^3/h	56000	57000	68000	69000	70000
Sound pressure level (High)	dB(A)	66.8	66.8	67	67	67
Sound power level (High)	dB(A)	77.8	77.7	78	78	78
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	6 INV	6 INV	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	30	30	40	40	40
Ø Liquid side refrigerant pipe	mm	22.2	22.2	22.2	22.2	22.2
Ø Gas side refrigerant pipe	mm	44.5	44.5	44.5	44.5	44.5
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

Model		AV86IMVEVA AV20IMVEVA AV22IMVEVA AV22IMVEVA AV22IMVEVA	AV88IMVEVA AV22IMVEVA AV22IMVEVA AV22IMVEVA AV22IMVEVA	AV90IMVEVA AV24IMVEVA AV22IMVEVA AV22IMVEVA AV22IMVEVA	AV92IMVEVA AV24IMVEVA AV24IMVEVA AV22IMVEVA AV22IMVEVA	AV94IMVEVA AV24IMVEVA AV24IMVEVA AV24IMVEVA AV22IMVEVA
Commercial code						
Capacity						
Power Class	HP	86	88	90	92	94
Cooling	kW	240.5	246.0	252.5	259.0	265.5
Heating	kW	268.5	276.0	280.0	284.0	288.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	64.60	66.00	67.10	68.20	69.30
Max absorbed power - Cooling	kW	110.60	114.00	114.60	115.20	115.80
Absorbed current in cooling.	A	109.06	111.42	113.28	115.14	116.99
Max absorbed current - Cooling	A	186.72	192.46	193.47	194.48	195.49
Absorbed power – Heating	kW	60.80	61.60	63.00	64.40	65.80
Max absorbed power – Heating	kW	99.20	102.00	103.00	104.00	105.00
Absorbed current in heating	A	102.64	103.99	106.36	108.72	111.08
Max absorbed current – Heating	A	167.47	172.20	173.89	175.57	177.26
EER energy class	W/W	3.72	3.73	3.76	3.80	3.83
COP energy class	W/W	4.42	4.48	4.44	4.41	4.38
SEER energy class	W/W	6.33	6.29	6.24	6.19	6.15
SCOP energy class	W/W	4.46	4.43	4.38	4.35	4.31
Ventilation						
Air flow (High)	m^3/h	71000	72000	72000	72000	72000
Sound pressure level (High)	dB(A)	67	67	67.5	67.5	68
Sound power level (High)	dB(A)	78	78	78.5	78.5	78.8
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	8 INV	8 INV	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	40	40	40	40	40
Ø Liquid side refrigerant pipe	mm	25.4	25.4	25.4	25.4	25.4
Ø Gas side refrigerant pipe	mm	50.8	50.8	50.8	50.8	50.8
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-16HP
AV08IMVEVA
AV10IMVEVA
AV12IMVEVA
AV14IMVEVA
AV16IMVEVA

18-26HP
AV18IMVEVA
AV20IMVEVA
AV22IMVEVA
AV24IMVEVA
AV26IMVEVA

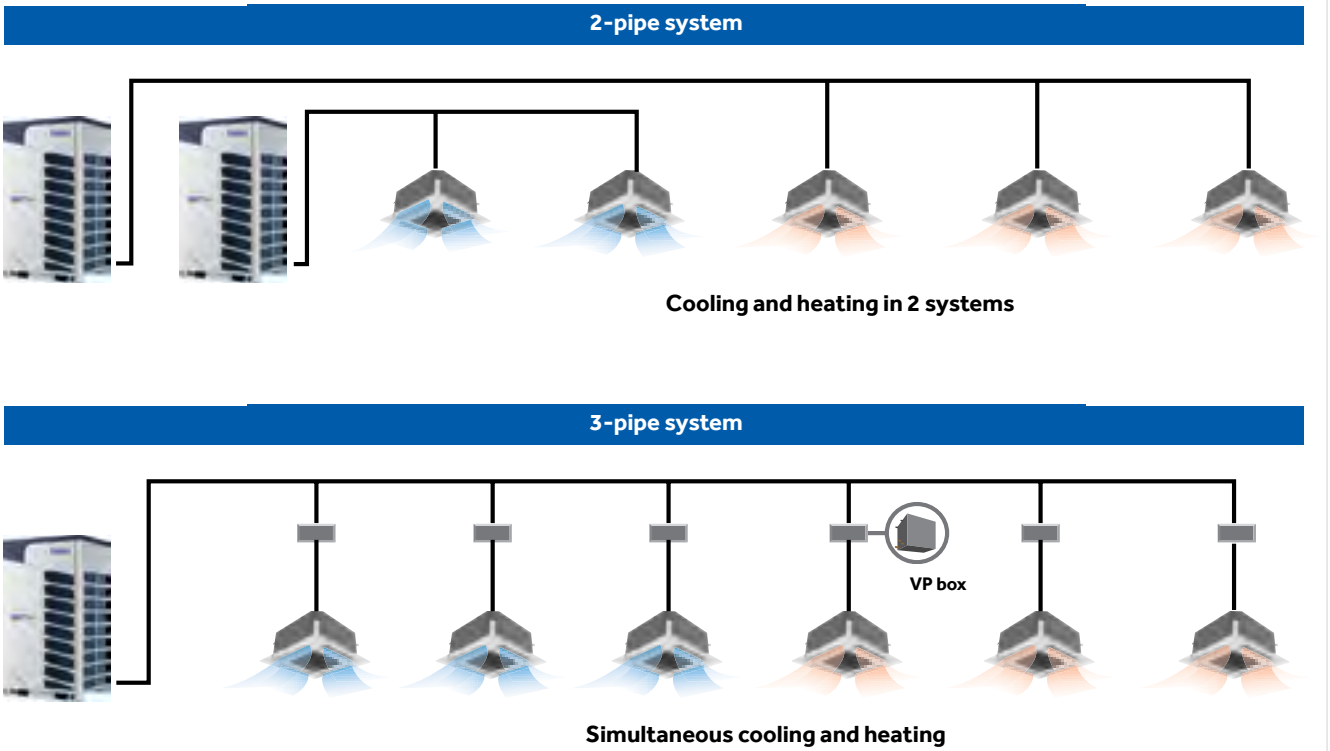
Model		AV96IMVEVA AV24IMVEVA AV24IMVEVA AV24IMVEVA AV24IMVEVA	AV98IMVEVA AV26IMVEVA AV24IMVEVA AV24IMVEVA AV24IMVEVA	AV100IMVEVA AV26IMVEVA AV26IMVEVA AV24IMVEVA AV24IMVEVA	AV102IMVEVA AV26IMVEVA AV26IMVEVA AV26IMVEVA AV24IMVEVA	AV104IMVEVA AV26IMVEVA AV26IMVEVA AV26IMVEVA AV26IMVEVA
Commercial code						
Capacity						
Power Class	HP	96	98	100	102	104
Cooling	kW	272.0	277.5	283.0	288.5	294.0
Heating	kW	292.0	301.5	311.0	320.5	330.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	70.40	71.60	72.80	74.00	75.20
Max absorbed power - Cooling	kW	116.40	120.30	124.20	128.10	132.00
Absorbed current in cooling.	A	118.85	120.88	122.90	124.93	126.95
Max absorbed current - Cooling	A	196.51	203.18	209.85	216.53	223.20
Absorbed power – Heating	kW	67.20	68.10	69.00	69.90	70.80
Max absorbed power – Heating	kW	106.00	109.90	113.80	117.70	121.60
Absorbed current in heating	A	113.45	114.97	116.49	118.01	119.53
Max absorbed current – Heating	A	178.95	185.53	192.12	198.70	205.29
EER energy class	W/W	3.86	3.88	3.89	3.90	3.91
COP energy class	W/W	4.35	4.43	4.51	4.59	4.66
SEER energy class	W/W	6.11	6.06	6.01	5.97	5.93
SCOP energy class	W/W	4.27	4.24	4.21	4.19	4.16
Ventilation						
Air flow (High)	m^3/h	72000	73000	74000	75000	76000
Sound pressure level (High)	dB(A)	68	68	68	68	68
Sound power level (High)	dB(A)	79	79	79	79	79
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400	370/400 + 370/400 + 370/400 + 370/400
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	8 INV	8 INV	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	40	40	40	40	40
Ø Liquid side refrigerant pipe	mm	25.4	25.4	25.4	25.4	25.4
Ø Gas side refrigerant pipe	mm	50.8	54.1	54.1	54.1	54.1
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

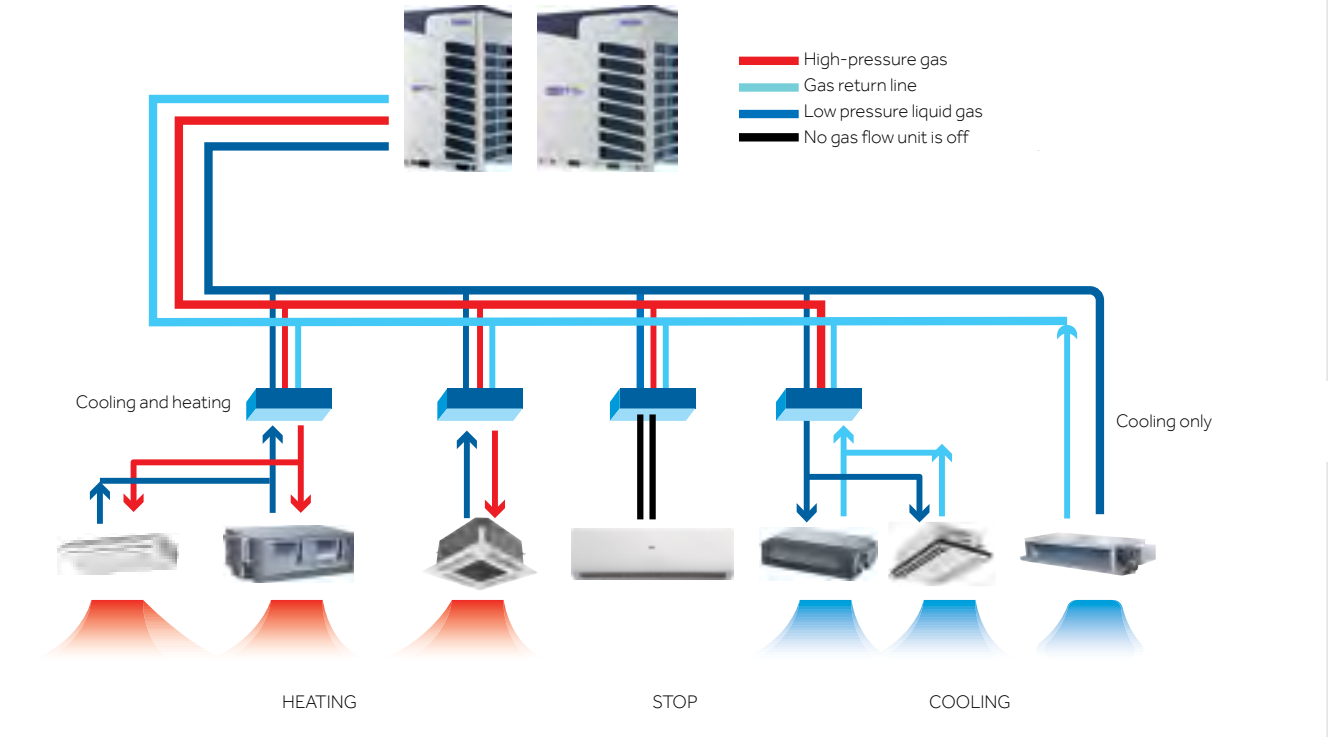
MRV5-RC DC INVERTER

Full DC Inverter 3-Pipe Heat Recovery Systems

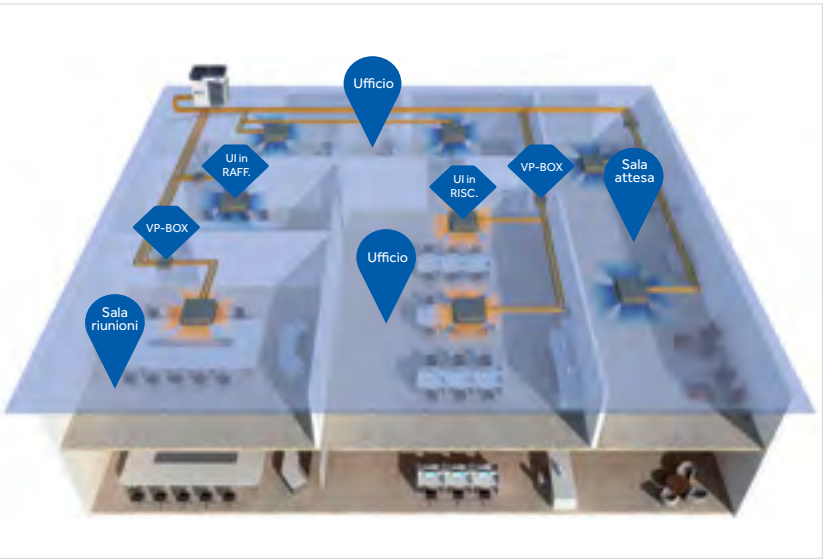
Simultaneous heating and cooling available with a 3-pipe heat recovery outdoor unit



Various modes of simultaneous operation



EXAMPLE OF A 3-PIPE MRV 5-RC SYSTEM



NEW SELECTION VALVES

- Reduced clutter
- Electronic valves for each flow line

Model	Maximum connectable capacity (kW)	Power supply	Maximum number of connectable indoor units, same mode of operation	Dimensions (mm)
VP1-112B	x ≤ 11.2	220-240V single-phase - 50/60Hz	5	388x200x277
VP1-180B	11.2 < x ≤ 18	220-240V single-phase - 50/60Hz	8	388x200x277
VP1-280B	18 < x ≤ 28	220-240V single-phase - 50/60Hz	8	388x200x277
VP4-450B	4 ways - max 11.2kW for single output.	220-240V single-phase - 50/60Hz	20	405x300x421

The 4-way box has standard closed output connections. To be opened in case of multiple installations, so that the output of the box becomes the input of the next box. You can connect multiple 4-way boxes in sequence. The input power limit of a series is maximum 80 kW.

Flexible installation - ability to reverse the orientation of the series in order to have the connections of the indoor units on the right or left or alternating with respect to the main line.

* (limit determined by the diameters of the input pipes of the valve boxes)
Contact headquarters before selecting this configuration.

8-14HP

AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

Model		AV08IMVURA	AV10IMVURA	AV12IMVURA	AV14IMVURA
Commercial code					
Capacity					
Power Class	HP	8	10	12	14
Cooling	kW	22.4	28	33.5	40
Heating	kW	25	31.5	37.5	45
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	5.09	6.95	8.63	11.17
Max absorbed power - Cooling	kW	12.80	13.80	18.20	19.20
Absorbed current in cooling.	A	8.41	11.47	14.26	18.45
Max absorbed current - Cooling	A	21.14	22.79	30.06	31.71
Absorbed power – Heating	kW	5.08	6.73	8.54	10.71
Max absorbed power – Heating	kW	11.50	12.5	17.40	18.40
Absorbed current in heating	A	8.39	11.12	14.11	17.69
Max absorbed current – Heating	A	18.99	20.64	28.74	30.39
EER energy class	W/W	4.40	4.03	3.88	3.58
COP energy class	W/W	4.92	4.68	4.39	4.20
SEER energy class	W/W	6.23	6.32	6.17	6.12
SCOP energy class	W/W	4.12	4.03	3.93	3.72
Ventilation					
Air flow (High)	m^3/h	12000	12000	13500	13500
Sound pressure level (High)	dB(A)	57	58	60	61
Sound power level (High)	dB(A)	78	79	82	82
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	980x750x1690	980x750x1690	980x750x1690	980x750x1690
Packaged unit dimensions WxDxH	mm	1070x850x1838	1070x850x1838	1070x850x1838	1070x850x1838
Net weight / Gross weight	Kg	246/271	246/271	257/282	257/282
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	1 INV	1 INV	1 INV	1 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	10	10	10	10
Ø Liquid side refrigerant pipe	mm	9.52	9.52	12.7	12.7
Ø Gas recovery side refrigerant pipe	mm	19.05	22.22	25.4	25.4
Ø High-pressure refrigerant gas pipe	mm	19.05	19.05	22.22	22.22
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	13	16	20	24
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV16IMVURA	AV18IMVURA	AV20IMVURA	AV22IMVURA
Commercial code					
Capacity					
Power Class	HP	16	18	20	22
Cooling	kW	45	50	56	63
Heating	kW	50	56	63	69
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	12.68	14.75	16.92	19.57
Max absorbed power - Cooling	kW	25.10	28.50	32.00	33.00
Absorbed current in cooling.	A	20.93	24.36	27.94	32.31
Max absorbed current - Cooling	A	41.45	47.07	52.85	54.50
Absorbed power – Heating	kW	12.02	14.25	16.36	18.70
Max absorbed power – Heating	kW	22.70	25.50	29.40	30.40
Absorbed current in heating	A	19.85	23.53	27.02	30.88
Max absorbed current – Heating	A	37.49	42.11	48.55	50.21
EER energy class	W/W	3.55	3.39	3.31	3.22
COP energy class	W/W	4.16	3.93	3.85	3.69
SEER energy class	W/W	6.02	5.92	5.71	5.63
SCOP energy class	W/W	3.67	3.62	3.57	3.48
Ventilation					
Air flow (High)	m^3/h	17000	17000	19000	19000
Sound pressure level (High)	dB(A)	62	63	63	64
Sound power level (High)	dB(A)	83	84	84	85
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	1410x750x1690	1410x750x1690	1410x750x1690	1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838	1515x850x1838	1515x850x1838	1515x850x1838
Net weight / Gross weight	Kg	366/395	366/395	375/404	375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	2 INV	2 INV	2 INV	2 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	10	10	10	10
Ø Liquid side refrigerant pipe	mm	12.7	15.88	15.88	15.88
Ø Gas recovery side refrigerant pipe	mm	28.58	28.58	28.58	28.58
Ø High-pressure refrigerant gas pipe	mm	25.4	25.4	25.4	25.4
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	27	30	33	36
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV24IMVURA AV12IMVURA AV12IMVURA	AV26IMVURA AV12IMVURA AV14IMVURA	AV28IMVURA AV14IMVURA AV14IMVURA	AV30IMVURA AV14IMVURA AV16IMVURA
Commercial code					
Capacity					
Power Class	HP	24	26	28	30
Cooling	kW	67.0	73.5	80.0	85.0
Heating	kW	75.0	82.5	90.0	95.0
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	17.27	19.81	22.35	23.85
Max absorbed power - Cooling	kW	36.400	37.40	38.40	44.30
Absorbed current in cooling.	A	28.52	32.71	36.91	39.39
Max absorbed current - Cooling	A	60.115	61.77	63.42	73.16
Absorbed power – Heating	kW	17.08	19.26	21.43	22.73
Max absorbed power – Heating	kW	34.800	35.80	36.80	41.10
Absorbed current in heating	A	28.21	31.80	35.39	37.54
Max absorbed current – Heating	A	57.472	59.12	60.78	67.88
EER energy class	W/W	3.88	3.71	3.58	3.56
COP energy class	W/W	4.39	4.28	4.20	4.18
SEER energy class	W/W	6.14	6.12	6.10	6.04
SCOP energy class	W/W	3.93	3.82	3.72	3.69
Ventilation					
Air flow (High)	m^3/h	27000	27000	27000	30500
Sound pressure level (High)	dB(A)	63	63.5	64	64.5
Sound power level (High)	dB(A)	85	85	85	85.5
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	980x750x1690 + 980x750x1690	980x750x1690 + 980x750x1690	980x750x1690 + 980x750x1690	980x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1070x850x1838	1070x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	257/282 + 257/282	257/282 + 257/282	257/282 + 257/282	257/282 + 366/395
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	2 INV	2 INV	2 INV	3 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	20	20
Ø Liquid side refrigerant pipe	mm	15.88	15.88	15.88	19.05
Ø Gas recovery side refrigerant pipe	mm	28.58	28.58	28.58	31.8
Ø High-pressure refrigerant gas pipe	mm	25.4	25.4	25.4	28.58
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	40	43	47	50
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV32IMVURA AV16IMVURA AV16IMVURA	AV34IMVURA AV16IMVURA AV18IMVURA	AV36IMVURA AV18IMVURA AV18IMVURA	AV38IMVURA AV18IMVURA AV20IMVURA	AV40IMVURA AV20IMVURA AV20IMVURA
Commercial code						
Capacity						
Power Class	HP	32	34	36	38	40
Cooling	kW	90.0	95.0	100.0	106.0	112.0
Heating	kW	100.0	106.0	112.0	119.0	126.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	25.35	27.43	29.50	31.67	33.84
Max absorbed power - Cooling	kW	50.20	53.60	57.00	60.50	64.00
Absorbed current in cooling.	A	41.87	45.29	48.72	52.30	55.88
Max absorbed current - Cooling	A	82.91	88.52	94.14	99.92	105.70
Absorbed power – Heating	kW	24.04	26.27	28.50	30.61	32.73
Max absorbed power – Heating	kW	45.40	48.20	51.00	54.90	58.80
Absorbed current in heating	A	39.70	43.38	47.07	50.56	54.05
Max absorbed current – Heating	A	74.98	79.60	84.23	90.67	97.11
EER energy class	W/W	3.55	3.46	3.39	3.35	3.31
COP energy class	W/W	4.16	4.04	3.93	3.89	3.85
SEER energy class	W/W	6.00	5.95	5.91	5.80	5.71
SCOP energy class	W/W	3.67	3.64	3.62	3.59	3.57
Ventilation						
Air flow (High)	m^3/h	34000	34000	34000	36000	38000
Sound pressure level (High)	dB(A)	65	65.5	66	66	66
Sound power level (High)	dB(A)	86	86.5	87	87	87
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	366/395 + 366/395	366/395 + 366/395	366/395 + 366/395	366/395 + 375/404	375/404 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	4 INV	4 INV	4 INV	4 INV	4 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	20	20	20
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas recovery side refrigerant pipe	mm	31.8	31.8	38.1	38.1	38.1
Ø High-pressure refrigerant gas pipe	mm	28.58	28.58	34.9	34.9	34.9
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	53	56	59	63	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV42IMVURA AV20IMVURA AV22IMVURA	AV44IMVURA AV22IMVURA AV22IMVURA	AV46IMVURA AV14IMVURA AV16IMVURA AV16IMVURA
Commercial code				
Capacity				
Power Class	HP	42	44	46
Cooling	kW	119.0	126.0	130.0
Heating	kW	132.0	138.0	145.0
Electrical Parameters				
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	36.48	39.13	36.53
Max absorbed power - Cooling	kW	65.00	66.00	69.40
Absorbed current in cooling.	A	60.25	64.62	60.32
Max absorbed current - Cooling	A	107.35	109.00	114.61
Absorbed power – Heating	kW	35.06	37.40	34.75
Max absorbed power – Heating	kW	59.80	60.80	63.80
Absorbed current in heating	A	57.91	61.76	57.39
Max absorbed current – Heating	A	98.76	100.41	105.37
EER energy class	W/W	3.26	3.22	3.56
COP energy class	W/W	3.76	3.69	4.17
SEER energy class	W/W	5.67	5.63	6.03
SCOP energy class	W/W	3.52	3.48	3.68
Ventilation				
Air flow (High)	m^3/h	38000	38000	47500
Sound pressure level (High)	dB(A)	66.5	67	66.5
Sound power level (High)	dB(A)	87.5	88	87.5
Installation - Dimensions - Components				
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690	980x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838	1070x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	375/404 + 375/404	375/404 + 375/404	257/282 + 366/395 + 366/395
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	4 INV	4 INV	5 INV
Refrigerant type		R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	20	20	30
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05
Ø Gas recovery side refrigerant pipe	mm	38.1	38.1	38.1
Ø High-pressure refrigerant gas pipe	mm	34.9	34.9	34.9
Maximum piping length	m	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18
Static Pressure Fans	Pa	110	110	110
Connectable Indoor Capacity Ratio				
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64
External Temperature Operating Limits				
Cooling	°C	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV48IMVURA AV16IMVURA AV16IMVURA AV16IMVURA	AV50IMVURA AV16IMVURA AV16IMVURA AV18IMVURA	AV52IMVURA AV16IMVURA AV18IMVURA AV18IMVURA	AV54IMVURA AV18IMVURA AV18IMVURA AV18IMVURA	AV56IMVURA AV18IMVURA AV18IMVURA AV20IMVURA
Commercial code						
Capacity						
Power Class	HP	48	50	52	54	56
Cooling	kW	135.0	140.0	145.0	150.0	156.0
Heating	kW	150.0	156.0	162.0	168.0	175.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	38.03	40.10	42.17	44.25	46.42
Max absorbed power - Cooling	kW	75.30	78.70	82.10	85.50	89.00
Absorbed current in cooling.	A	62.80	66.23	69.65	73.08	76.66
Max absorbed current - Cooling	A	124.36	129.97	135.59	141.20	146.98
Absorbed power – Heating	kW	36.06	38.29	40.52	42.75	44.86
Max absorbed power – Heating	kW	68.10	70.90	73.70	76.50	80.40
Absorbed current in heating	A	59.55	63.23	66.92	70.60	74.09
Max absorbed current – Heating	A	112.47	117.09	121.72	126.34	132.78
EER energy class	W/W	3.55	3.49	3.44	3.39	3.36
COP energy class	W/W	4.16	4.07	4.00	3.93	3.90
SEER energy class	W/W	6.00	5.96	5.93	5.91	5.83
SCOP energy class	W/W	3.67	3.65	3.64	3.62	3.60
Ventilation						
Air flow (High)	m^3/h	51000	51000	51000	51000	53000
Sound pressure level (High)	dB(A)	67	67	67.5	68	68
Sound power level (High)	dB(A)	88	88	88.5	89	89
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395	366/395 + 366/395 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	6 INV	6 INV	6 INV	6 INV	6 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	30	30	30	30	30
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas recovery side refrigerant pipe	mm	38.1	38.1	38.1	38.1	38.1
Ø High-pressure refrigerant gas pipe	mm	34.9	34.9	34.9	34.9	34.9
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV58IMVURA AV18IMVURA AV20IMVURA AV20IMVURA	AV60IMVURA AV20IMVURA AV20IMVURA AV20IMVURA	AV62IMVURA AV20IMVURA AV20IMVURA AV22IMVURA	AV64IMVURA AV20IMVURA AV22IMVURA AV22IMVURA	AV66IMVURA AV22IMVURA AV22IMVURA AV22IMVURA
Commercial code						
Capacity						
Power Class	HP	58	60	62	64	66
Cooling	kW	162.0	168.0	175.0	182.0	189.0
Heating	kW	182.0	189.0	195.0	201.0	207.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	48.59	50.76	53.40	56.05	58.70
Max absorbed power - Cooling	kW	92.50	96.00	97.00	98.00	99.00
Absorbed current in cooling.	A	80.24	83.82	88.19	92.57	96.94
Max absorbed current - Cooling	A	152.76	158.54	160.20	161.85	163.50
Absorbed power – Heating	kW	46.98	49.09	51.43	53.76	56.10
Max absorbed power – Heating	kW	84.30	88.20	89.20	90.20	91.20
Absorbed current in heating	A	77.58	81.07	84.93	88.79	92.65
Max absorbed current – Heating	A	139.22	145.66	147.31	148.97	150.62
EER energy class	W/W	3.33	3.31	3.28	3.25	3.22
COP energy class	W/W	3.87	3.85	3.79	3.74	3.69
SEER energy class	W/W	5.77	5.71	5.68	5.66	5.63
SCOP energy class	W/W	3.58	3.57	3.53	3.51	3.48
Ventilation						
Air flow (High)	m^3/h	55000	57000	57000	57000	57000
Sound pressure level (High)	dB(A)	68	68	68	68.5	69
Sound power level (High)	dB(A)	89	89	89	89.5	90
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	366/395 + 375/404 + 375/404	375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	6 INV	6 INV	6 INV	6 INV	6 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	30	30	30	30	30
Ø Liquid side refrigerant pipe	mm	19.05	19.05	19.05	19.05	19.05
Ø Gas recovery side refrigerant pipe	mm	41.3	41.3	41.3	41.3	41.3
Ø High-pressure refrigerant gas pipe	mm	38.1	38.1	38.1	38.1	38.1
Maximum piping length	m	500	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110	110
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64	64
External Temperature Operating Limits						
Cooling	°C	-5~50	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV68IMVURA AV16IMVURA AV16IMVURA AV18IMVURA AV18IMVURA	AV70IMVURA AV16IMVURA AV18IMVURA AV18IMVURA AV18IMVURA	AV72IMVURA AV18IMVURA AV18IMVURA AV18IMVURA AV18IMVURA	AV74IMVURA AV18IMVURA AV18IMVURA AV18IMVURA AV20IMVURA
Commercial code					
Capacity					
Power Class	HP	68	70	72	74
Cooling	kW	190.0	195.0	200.0	206.0
Heating	kW	212.0	218.0	224.0	231.0
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	54.85	56.92	59.00	61.17
Max absorbed power - Cooling	kW	107.20	110.60	114.00	117.50
Absorbed current in cooling.	A	90.59	94.01	97.43	101.02
Max absorbed current - Cooling	A	177.04	182.66	188.27	194.05
Absorbed power – Heating	kW	52.54	54.77	57.00	59.11
Max absorbed power – Heating	kW	96.40	99.20	102.00	105.90
Absorbed current in heating	A	86.77	90.45	94.13	97.62
Max absorbed current – Heating	A	159.21	163.83	168.45	174.89
EER energy class	W/W	3.46	3.43	3.39	3.37
COP energy class	W/W	4.04	3.98	3.93	3.91
SEER energy class	W/W	5.95	5.93	5.91	5.85
SCOP energy class	W/W	3.64	3.63	3.62	3.61
Ventilation					
Air flow (High)	m^3/h	68000	68000	68000	70000
Sound pressure level (High)	dB(A)	69	69	69	69
Sound power level (High)	dB(A)	90	90	90	90
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	366/395 + 366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395 + 366/395	366/395 + 366/395 + 366/395 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	8 INV	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	40	40	40	40
Ø Liquid side refrigerant pipe	mm	22.2	22.2	22.2	22.2
Ø Gas recovery side refrigerant pipe	mm	44.5	44.5	44.5	44.5
Ø High-pressure refrigerant gas pipe	mm	41.3	41.3	41.3	41.3
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV76IMVURA AV18IMVURA AV18IMVURA AV20IMVURA AV20IMVURA	AV78IMVURA AV18IMVURA AV20IMVURA AV20IMVURA AV20IMVURA	AV80IMVURA AV20IMVURA AV20IMVURA AV20IMVURA AV20IMVURA	AV82IMVURA AV20IMVURA AV20IMVURA AV20IMVURA AV22IMVURA
Commercial code					
Capacity					
Power Class	HP	76	78	80	82
Cooling	kW	212.0	218.0	224.0	231.0
Heating	kW	238.0	245.0	252.0	258.0
Electrical Parameters					
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	63.34	65.50	67.67	70.32
Max absorbed power - Cooling	kW	121.00	124.50	128.00	129.00
Absorbed current in cooling.	A	104.60	108.18	111.76	116.13
Max absorbed current - Cooling	A	199.83	205.61	211.39	213.04
Absorbed power – Heating	kW	61.23	63.34	65.45	67.79
Max absorbed power – Heating	kW	109.80	113.70	117.60	118.60
Absorbed current in heating	A	101.12	104.61	108.10	111.96
Max absorbed current – Heating	A	181.34	187.78	194.22	195.87
EER energy class	W/W	3.35	3.33	3.31	3.28
COP energy class	W/W	3.89	3.87	3.85	3.81
SEER energy class	W/W	5.80	5.75	5.71	5.69
SCOP energy class	W/W	3.59	3.58	3.57	3.54
Ventilation					
Air flow (High)	m^3/h	72000	74000	76000	76000
Sound pressure level (High)	dB(A)	69	69	69	69
Sound power level (High)	dB(A)	90	90	90	90
Installation - Dimensions - Components					
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	366/395 + 366/395 + 375/404 + 375/404	366/395 + 375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	8 INV	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	40	40	40	40
Ø Liquid side refrigerant pipe	mm	22.2	22.2	22.2	22.2
Ø Gas recovery side refrigerant pipe	mm	44.5	44.5	44.5	44.5
Ø High-pressure refrigerant gas pipe	mm	41.3	41.3	41.3	41.3
Maximum piping length	m	500	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18	18
Static Pressure Fans	Pa	110	110	110	110
Connectable Indoor Capacity Ratio					
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64	64
External Temperature Operating Limits					
Cooling	°C	-5~50	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21	-23~21

The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-14HP
AV08IMVURA
AV10IMVURA
AV12IMVURA
AV14IMVURA

16-22HP
AV16IMVURA
AV18IMVURA
AV20IMVURA
AV22IMVURA

Model		AV84IMVURA AV20IMVURA AV20IMVURA AV22IMVURA AV22IMVURA	AV86IMVURA AV20IMVURA AV22IMVURA AV22IMVURA AV22IMVURA	AV88IMVURA AV22IMVURA AV22IMVURA AV22IMVURA AV22IMVURA
Commercial code				
Capacity				
Power Class	HP	84	86	88
Cooling	kW	238.0	245.0	252.0
Heating	kW	264.0	270.0	276.0
Electrical Parameters				
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	72.97	75.61	78.26
Max absorbed power - Cooling	kW	130.00	131.00	132.00
Absorbed current in cooling.	A	120.51	124.88	129.25
Max absorbed current - Cooling	A	214.70	216.35	218.00
Absorbed power – Heating	kW	70.13	72.46	74.80
Max absorbed power – Heating	kW	119.60	120.60	121.60
Absorbed current in heating	A	115.81	119.67	123.53
Max absorbed current – Heating	A	197.52	199.17	200.82
EER energy class	W/W	3.26	3.24	3.22
COP energy class	W/W	3.76	3.73	3.69
SEER energy class	W/W	5.67	5.65	5.63
SCOP energy class	W/W	3.52	3.50	3.48
Ventilation				
Air flow (High)	m^3/h	76000	76000	76000
Sound pressure level (High)	dB(A)	69.5	70	70
Sound power level (High)	dB(A)	90.5	91	91
Installation - Dimensions - Components				
Unit Dimensions WxDxH	mm	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690	1410x750x1690 + 1410x750x1690 + 1410x750x1690 + 1410x750x1690
Packaged unit dimensions WxDxH	mm	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838	1515x850x1838 + 1515x850x1838 + 1515x850x1838 + 1515x850x1838
Net weight / Gross weight	Kg	375/404 + 375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404 + 375/404	375/404 + 375/404 + 375/404 + 375/404
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	8 INV	8 INV	8 INV
Refrigerant type		R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	40	40	40
Ø Liquid side refrigerant pipe	mm	22.2	25.4	25.4
Ø Gas recovery side refrigerant pipe	mm	44.5	50.8	50.8
Ø High-pressure refrigerant gas pipe	mm	41.3	44.5	44.5
Maximum piping length	m	500	500	500
Max linear piping length (Equivalent/Real)	m	260/220	260/220	260/220
Standard height difference between IU and OU	m	50/40	50/40	50/40
Standard height difference between IU and IU	m	18	18	18
Static Pressure Fans	Pa	110	110	110
Connectable Indoor Capacity Ratio				
Indoor / Outdoor Capacity Ratio	%	50 – 130	50 – 130	50 – 130
Maximum number of connectable IUs	No.	64	64	64
External Temperature Operating Limits				
Cooling	°C	-5~50	-5~50	-5~50
Heating	°C	-23~21	-23~21	-23~21

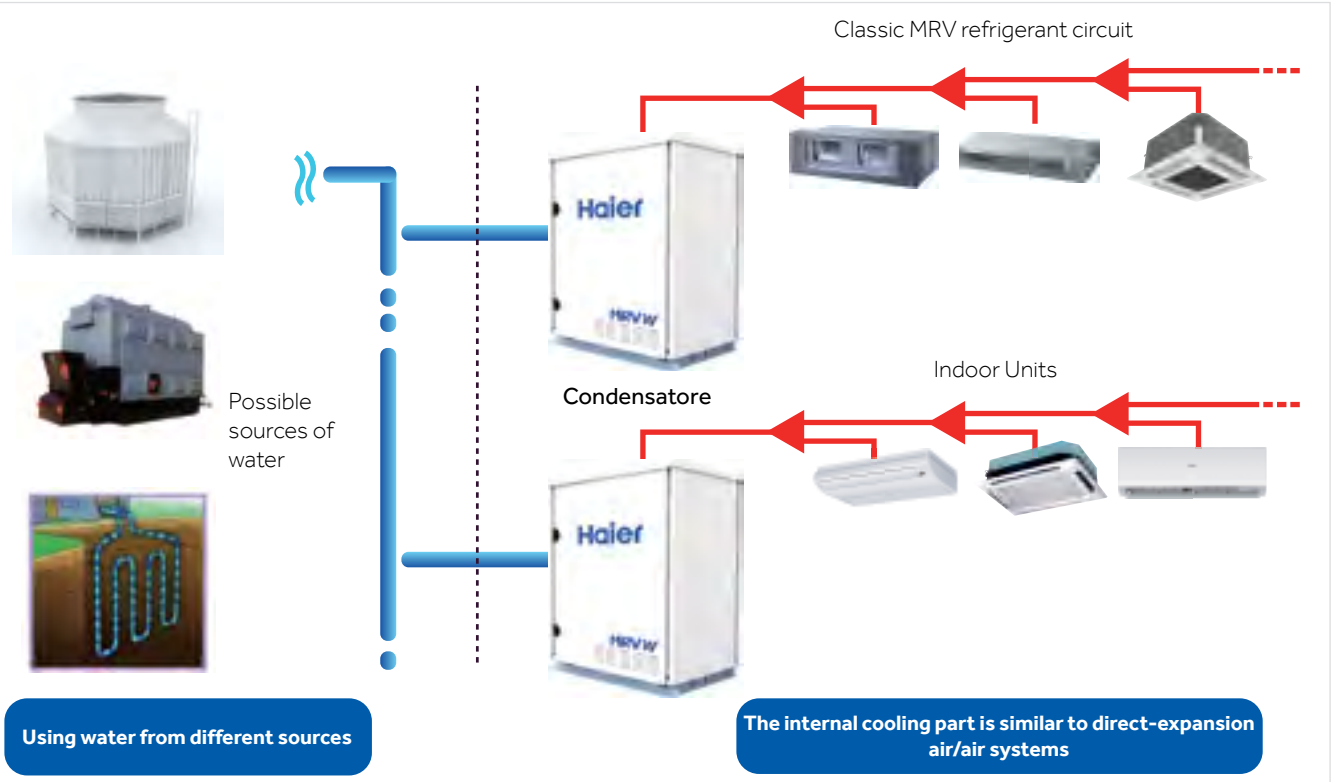
The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

MRV W

Heat Pump System Full DC Inverter Water Cooled

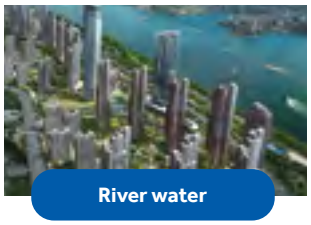
OPERATING PRINCIPLE

MRV-W are MRV/VRF systems with direct refrigerant expansion and inverter compressors that use the same indoor units as the classic MRV systems, controls and joints. The design and implementation of the internal circuit follows the same rules as a normal MRV/VRF system, the only difference is that they use water and not air to condense or evaporate on the outdoor unit. MRV-W therefore does not have fans and large air/refrigerant exchangers but uses special water/refrigerant exchangers. This allows to significantly reduce the size of the product compared to a classic MRV of equal cooling capacity. Thanks to its small footprint, of only L 775 x P 545 x A 995, the installation of the MRV-W takes place inside technical rooms, basements, garages and corridors as it does not need to exchange energy with the outdoor air.
The water needed for operation reaches the units through small diameter pipes. Water can have different origins such as ground water, lake, sea, river, end industrial processes, accumulation of non-drinking water.

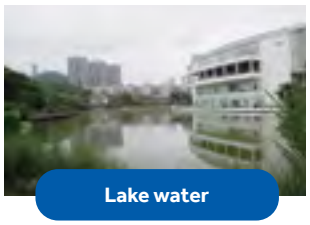


Using water from different sources

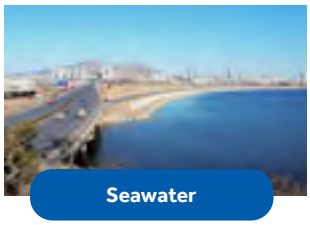
The internal cooling part is similar to direct-expansion air/air systems



River water



Lake water



Seawater

Ground water and geothermal

Accumulations on the ground

Solar energy

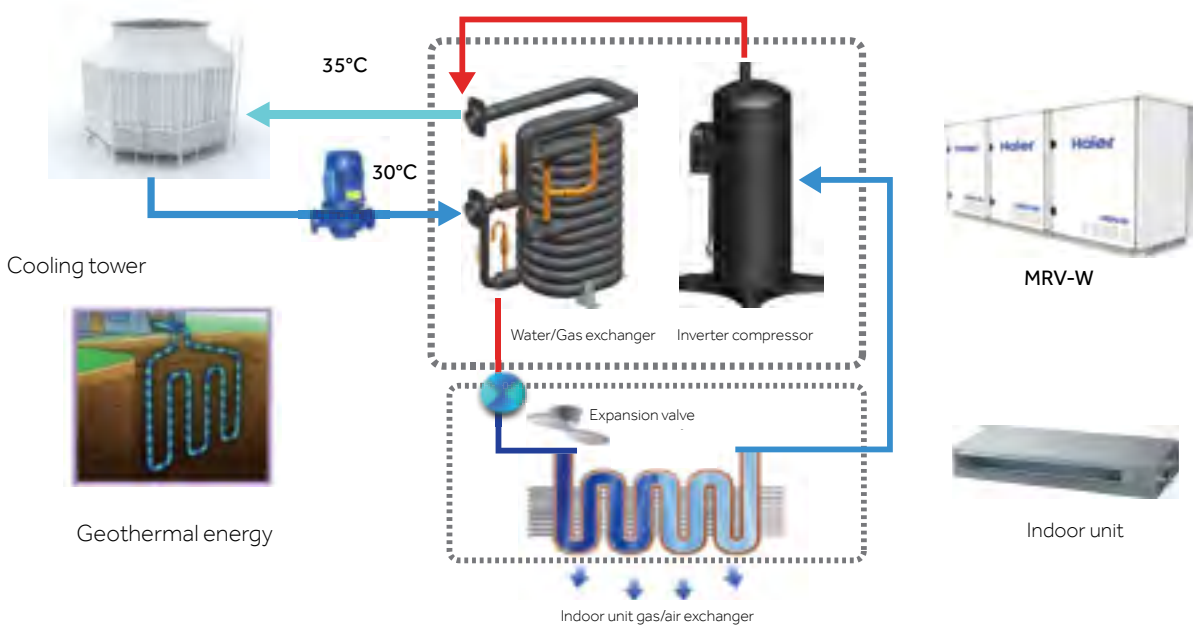
Purifiers

End-of-process water

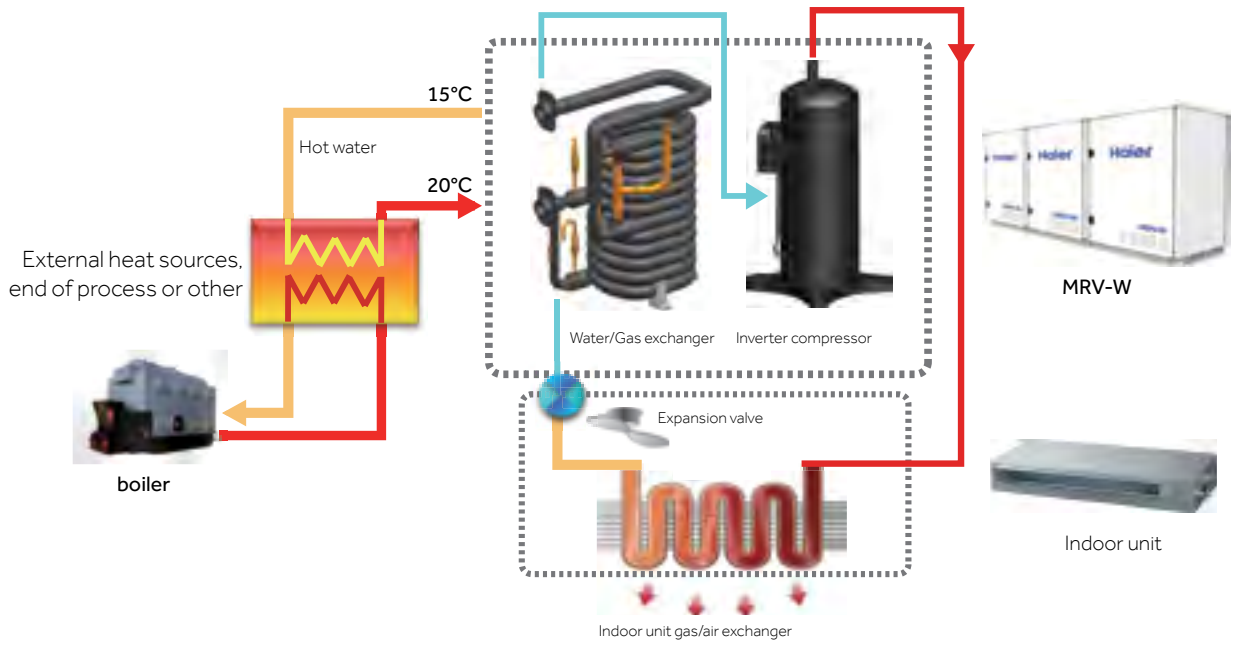
CONFIGURATION

MRW-W is a direct expansion system that combines the efficiency of the VRF technology with the use of water from a variety of sources.

EXAMPLE OF COOLING OPERATION

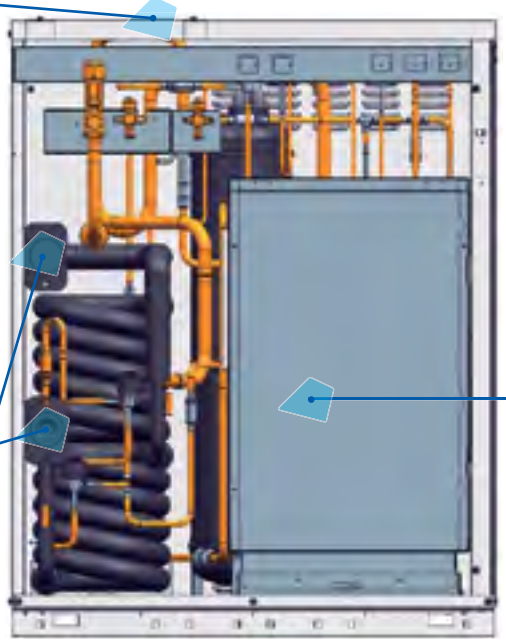


EXAMPLE OF HEATING OPERATION



MRV-W INTERNAL STRUCTURE

Refrigerant connections to indoor units



Water entry and exit to the gas/ water exchanger

Electrical, compact and easily removable panel to access the compressor

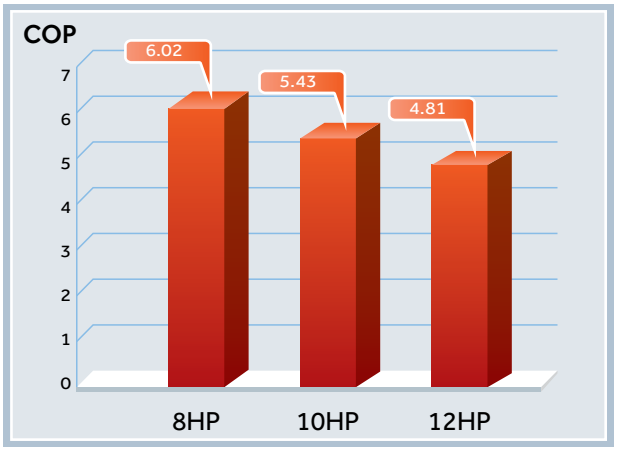
Generous gas separator and liquid refrigerant side.

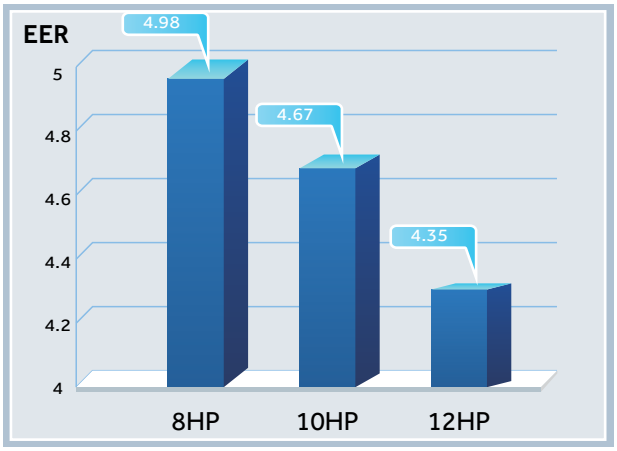
Double-wrapped "pipe in pipe" gas water exchanger in counter flow, great efficiency and uniformity of exchange.

DC Inverter Compressor

HIGH EFFICIENCY

Using a constant source, the COP can also reach values of 6.02, much higher than an air/air system. As a result, EER values are also increased in equal proportion.





HIGH-EFFICIENCY COMPRESSOR

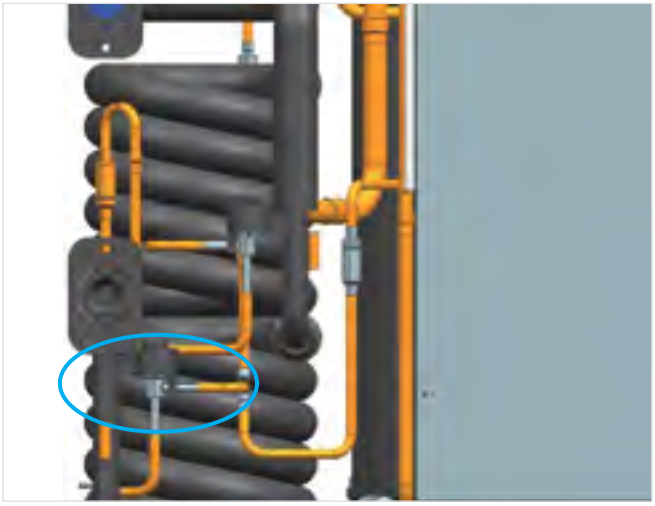
DC Inverter Scroll

COUNTER CURRENT "PIPE IN PIPE" EXCHANGER

Water circulates inside and refrigerant circulates outside. The internal star-section and spiral tube offers a greater exchange surface than a classic circular section, for the benefit of efficiency.

DUAL ELECTRONIC EXPANSION VALVE

To modulate the surface of the active exchanger according to the thermal demand.

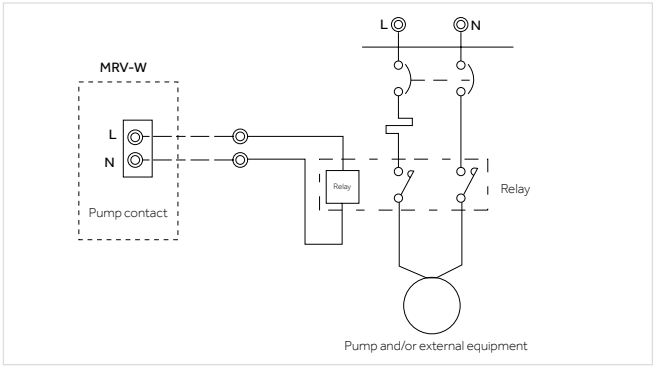


2-SIDED SUB-COOLING SYSTEM

- The first stage acts on the condenser
- The second stage acts independently
- The independent or joint activity of the two stages allows to increase the exchange of refrigerant by 46% and to reduce the loss of load through the pipes by 55%, leading to an increase in overall efficiency of 9% compared to single circuits "Under cooling"

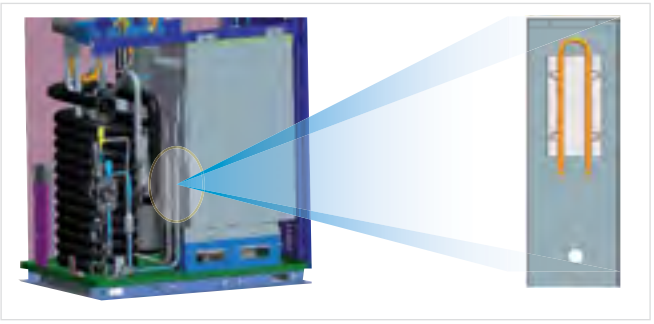
RELIABILITY

The management of the external pump or electro-valves to power the flow of water to the MRV-W systems, is controlled by the unit itself according to the activity of the compressor and the real need for water. Avoiding unnecessary waste of energy.



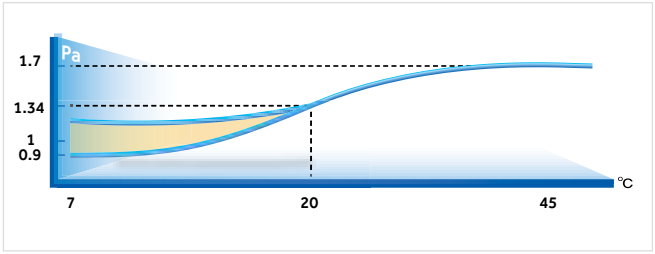
COOLING ELECTRONIC CIRCUITS

The circuits are cooled by special static exchangers where the refrigerant gas circulates inside. This allows you to cool and keep the temperature of the electric panel and power modules constant, avoiding cumbersome sinks and especially the use of noisy electric fans.

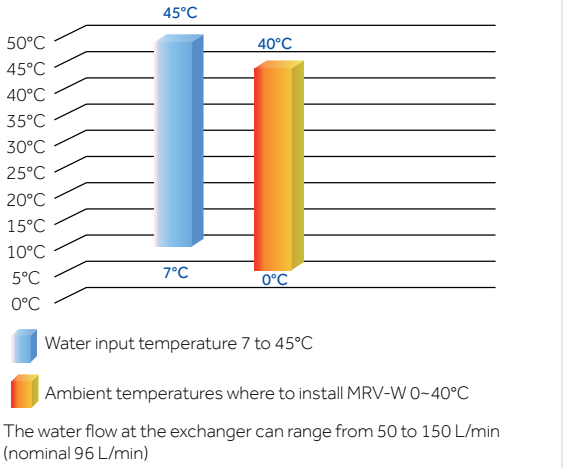


CONSTANT PRESSURE

Accurate system to maintain the pressure adequate to the compressor according to the operating temperature of the refrigerant in order to maintain a more stable output capacity and for the reliability over time of the component itself.



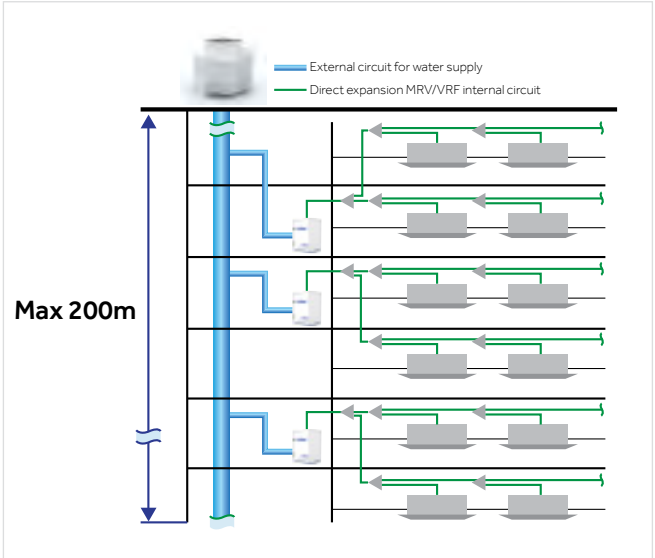
TEMPERATURE RANGE



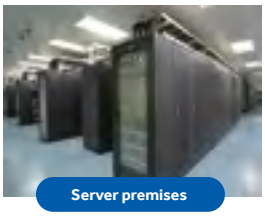
The water flow at the exchanger can range from 50 to 150 L/min (nominal 96 L/min)

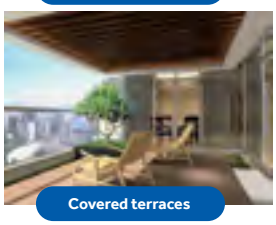
FLEXIBLE INSTALLATION

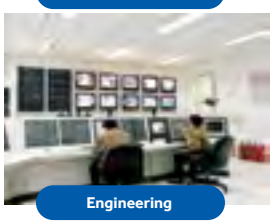
Using water as a condenser, you can air-condition very tall buildings, where you can reach up to 200 meters in height with a pressure of 1.6 MPa.

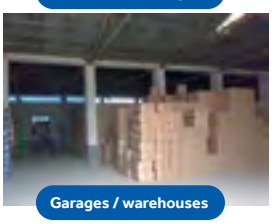


POSSIBLE ENVIRONMENTS WHERE MRV-W CAN BE INSTALLED INTERNALLY



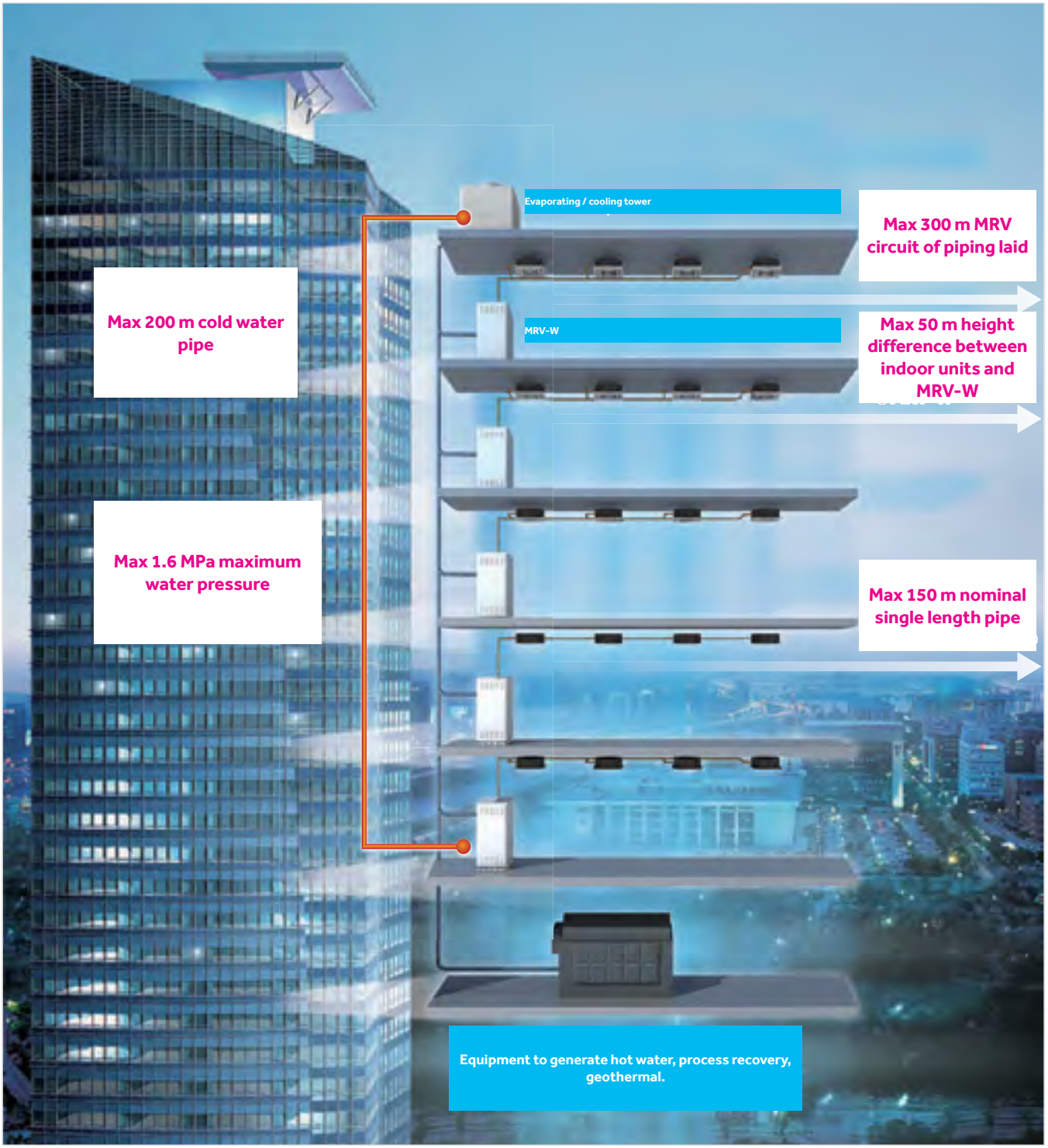






EXAMPLES OF PIPING LENGTHS

Ability to achieve large elevations and lengths within each floor served by an MRV-W.



8-12HP
AV08IMWEWA
AV10IMWEWA
AV12IMWEWA

Model		AV08IMWEWA	AV10IMWEWA	AV12IMWEWA
Commercial code				
Capacity				
Power Class	HP	8	10	12
Cooling	kW	22.4	28	33.5
Heating	kW	25	31.5	37.5
Electrical Parameters				
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	4.50	6.00	7.70
Max absorbed power - Cooling	kW	13.00	15.00	17.00
Absorbed current in cooling.	A	7.20	9.60	12.32
Max absorbed current - Cooling	A	20.79	23.99	27.19
Absorbed power – Heating	kW	4.15	5.80	7.80
Max absorbed power – Heating	kW	13.00	15.00	17.00
Absorbed current in heating	A	6.64	9.28	12.47
Max absorbed current – Heating	A	20.79	23.99	27.19
EER energy class	W/W	4.98	4.67	4.35
COP energy class	W/W	6.02	5.43	4.81
SEER energy class	W/W	5.87	5.76	5.69
SCOP energy class	W/W	6.13	6.01	5.96
Performance				
Water flow (High)	m^3/h	4.8	6	7.2
Sound pressure level (High)	dB(A)	50	51	53
Sound power level (High)	dB(A)	61	62	64
Installation - Dimensions - Components				
Unit Dimensions WxDxH	mm	775x545x995	775x545x995	775x545x995
Packaged unit dimensions WxDxH	mm	840x625x1150	840x625x1150	840x625x1150
Net weight / Gross weight	Kg	172/183	172/183	172/183
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	1 INV	1 INV	1 INV
Refrigerant type		R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	2	2	2
Ø Liquid side refrigerant pipe	mm	9.52	9.52	12.7
Ø Gas side refrigerant pipe	mm	19.05	22.2	25.4
Ø OU Oil Equalisation Pipe	mm	9.52	9.52	9.52
Maximum piping length	m	300	300	300
Max linear piping length (Equivalent/Real)	m	150/120	150/120	150/120
Max height difference between IU and OU (*)	m	50/40	50/40	50/40
Water/gas exchanger				
Type		Double - tube in tube	Double - tube in tube	Double - tube in tube
Material		Copper/steel	Copper/steel	Copper/steel
Water input connection		DN32	DN32	DN32
Water output connection		DN32	DN32	DN32
Exchanger pressure drop	Kpa	35	50	70
Connection type		Internal thread	Internal thread	Internal thread
Max water input pressure	Mpa	1.6	1.6	1.6
Water input temperature range (Cooling/ Heating)	°C	7~45	7~45	7~45
Connectable Indoor Capacity Ratio				
Indoor / Outdoor Capacity Ratio	%	50-130	50-130	50-130
Maximum number of connectable IUs	No.	13	16	19

(*1) 50 m when the outdoor unit is above the indoor unit / 40 m when it is below
The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-12HP
AV08IMWEWA
AV10IMWEWA
AV12IMWEWA

Model		**AV16IMWEWA** AV08IMWEWA AV08IMWEWA	**AV18IMWEWA** AV08IMWEWA AV10IMWEWA	**AV20IMWEWA** AV10IMWEWA AV10IMWEWA	**AV22IMWEWA** AV10IMWEWA AV12IMWEWA	**AV24IMWEWA** AV12IMWEWA AV12IMWEWA
Commercial code						
Capacity						
Power Class	HP	16	18	20	22	24
Cooling	kW	44.8	50.4	56	61.5	67.0
Heating	kW	50.0	56.5	63	69.0	75.0
Electrical Parameters						
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	9.00	10.50	12.00	13.70	15.40
Max absorbed power - Cooling	kW	26.00	28.00	30.00	32.00	34.00
Absorbed current in cooling.	A	14.39	16.79	19.19	21.91	24.63
Max absorbed current - Cooling	A	41.58	44.78	47.98	51.18	54.38
Absorbed power – Heating	kW	8.30	9.95	11.60	13.60	15.60
Max absorbed power – Heating	kW	26.00	28.00	30.00	32.00	34.00
Absorbed current in heating	A	13.27	15.91	18.55	21.75	24.95
Max absorbed current – Heating	A	41.58	44.78	47.98	51.18	54.38
EER energy class	W/W	4.98	4.8	4.67	4.49	4.35
COP energy class	W/W	6.02	5.68	5.43	5.07	4.81
SEER energy class	W/W	5.87	5.82	5.76	5.73	5.69
SCOP energy class	W/W	6.13	6.10	6.01	5.98	5.96
Performance						
Water flow (High)	m^3/h	9.6	10.8	12	13.2	14.4
Sound pressure level (High)	dB(A)	53	54	54	55	56
Sound power level (High)	dB(A)	64	65	65	66	67
Installation - Dimensions - Components						
Unit Dimensions WxDxH	mm	(775x545x995)*2	(775x545x995)*2	(775x545x995)*2	(775x545x995)*2	(775x545x995)*2
Packaged unit dimensions WxDxH	mm	(840x625x1150)*2	(840x625x1150)*2	(840x625x1150)*2	(840x625x1150)*2	(840x625x1150)*2
Net weight / Gross weight	Kg	344/366	344/366	344/366	344/366	344/366
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	2 INV	2 INV	2 INV	2 INV	2 INV
Refrigerant type		R410A	R410A	R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	4	4	4	4	4
Ø Liquid side refrigerant pipe	mm	12.7	15.9	15.9	15.9	15.9
Ø Gas side refrigerant pipe	mm	28.6	28.6	28.6	28.6	28.6
Ø OU Oil Equalisation Pipe	mm	9.52	9.52	9.52	9.52	9.52
Maximum piping length	m	300	300	300	300	300
Max linear piping length (Equivalent/Real)	m	150/120	150/120	150/120	150/120	150/120
Max height difference between IU and OU (*)	m	50/40	50/40	50/40	50/40	50/40
Water/gas exchanger						
Type		Double - tube in tube	Double - tube in tube	Double - tube in tube	Double - tube in tube	Double - tube in tube
Material		Copper/steel	Copper/steel	Copper/steel	Copper/steel	Copper/steel
Water input connection		DN32	DN32	DN32	DN32	DN32
Water output connection		DN32	DN32	DN32	DN32	DN32
Exchanger pressure drop	Kpa	35+35	35+50	50+50	50+70	70+70
Connection type		Internal thread	Internal thread	Internal thread	Internal thread	Internal thread
Max water input pressure	Mpa	1.6	1.6	1.6	1.6	1.6
Water input temperature range (Cooling/ Heating)	°C	7~45	7~45	7~45	7~45	7~45
Connectable Indoor Capacity Ratio						
Indoor / Outdoor Capacity Ratio	%	50-130	50-130	50-130	50-130	50-130
Maximum number of connectable IUs	No.	23	29	33	36	39

(*1) 50 m when the outdoor unit is above the indoor unit / 40 m when it is below
The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-12HP
AV08IMWEWA
AV10IMWEWA
AV12IMWEWA

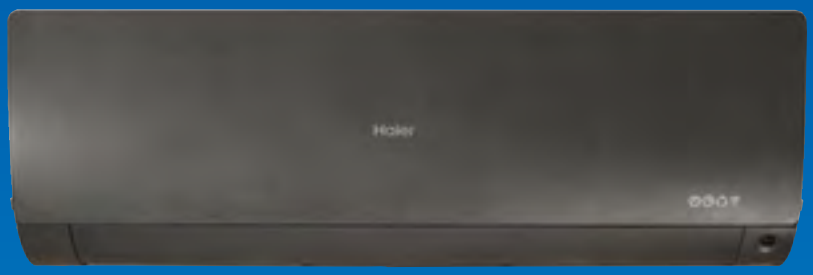
Model		**AV26IMWEWA** AV08IMWEWA AV08IMWEWA AV10IMWEWA	**AV28IMWEWA** AV08IMWEWA AV10IMWEWA AV10IMWEWA	**AV30IMWEWA** AV10IMWEWA AV10IMWEWA AV10IMWEWA
Commercial code				
Capacity				
Power Class	HP	26	28	30
Cooling	kW	72.8	78.4	84.0
Heating	kW	81.5	88.0	94.5
Electrical Parameters				
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	15.00	16.50	18.00
Max absorbed power - Cooling	kW	41.00	43.00	45.00
Absorbed current in cooling.	A	23.99	26.39	28.79
Max absorbed current - Cooling	A	65.57	68.77	71.97
Absorbed power – Heating	kW	14.10	15.75	17.40
Max absorbed power – Heating	kW	41.00	43.00	45.00
Absorbed current in heating	A	22.55	25.19	27.83
Max absorbed current – Heating	A	65.57	68.77	71.97
EER energy class	W/W	4.85	4.75	4.67
COP energy class	W/W	5.78	5.59	5.43
SEER energy class	W/W	5.84	5.80	5.76
SCOP energy class	W/W	6.11	6.10	6.01
Performance				
Water flow (High)	m^3/h	15.6	16.8	18.0
Sound pressure level (High)	dB(A)	55	55	56
Sound power level (High)	dB(A)	66	66	67
Installation - Dimensions - Components				
Unit Dimensions WxDxH	mm	(775x545x995)*3	(775x545x995)*3	(775x545x995)*3
Packaged unit dimensions WxDxH	mm	(840x625x1150)*2	(840x625x1150)*2	(840x625x1150)*2
Net weight / Gross weight	Kg	516/549	516/549	516/549
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	3 INV	3 INV	3 INV
Refrigerant type		R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	6	6	6
Ø Liquid side refrigerant pipe	mm	19.1	19.1	19.1
Ø Gas side refrigerant pipe	mm	31.8	31.8	31.8
Ø OU Oil Equalisation Pipe	mm	9.52	9.52	9.52
Maximum piping length	m	300	300	300
Max linear piping length (Equivalent/Real)	m	150/120	150/120	150/120
Max height difference between IU and OU (*)	m	50/40	50/40	50/40
Water/gas exchanger				
Type		Double - tube in tube	Double - tube in tube	Double - tube in tube
Material		Copper/steel	Copper/steel	Copper/steel
Water input connection		DN32	DN32	DN32
Water output connection		DN32	DN32	DN32
Exchanger pressure drop	Kpa	35+35+50	35+50+50	50+50+50
Connection type		Internal thread	Internal thread	Internal thread
Max water input pressure	Mpa	1.6	1.6	1.6
Water input temperature range (Cooling/ Heating)	°C	7~45	7~45	7~45
Connectable Indoor Capacity Ratio				
Indoor / Outdoor Capacity Ratio	%	50-130	50-130	50-130
Maximum number of connectable IUs	No.	43	46	50

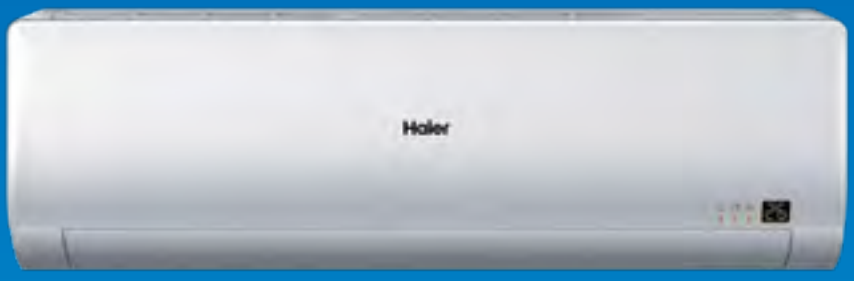
(*1) 50 m when the outdoor unit is above the indoor unit / 40 m when it is below
The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU

8-12HP
AV08IMWEWA
AV10IMWEWA
AV12IMWEWA

Model		**AV32IMWEWA** AV10IMWEWA AV10IMWEWA AV12IMWEWA	**AV34IMWEWA** AV10IMWEWA AV12IMWEWA AV12IMWEWA	**AV36IMWEWA** AV12IMWEWA AV12IMWEWA AV12IMWEWA
Commercial code				
Capacity				
Power Class	HP	32	34	36
Cooling	kW	89.5	95.0	100.5
Heating	kW	100.5	106.5	112.5
Electrical Parameters				
Power supply	Ph-V/Hz	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)	3/380-400/50/60 (5 wires L1+L2+L3+N+T)
Absorbed power - Cooling	kW	19.70	21.40	23.10
Max absorbed power - Cooling	kW	47.00	49.00	51.00
Absorbed current in cooling.	A	31.51	34.23	36.95
Max absorbed current - Cooling	A	75.17	78.37	81.57
Absorbed power – Heating	kW	19.40	21.40	23.40
Max absorbed power – Heating	kW	47.00	49.00	51.00
Absorbed current in heating	A	31.03	34.23	37.42
Max absorbed current – Heating	A	75.17	78.37	81.57
EER energy class	W/W	4.54	4.44	4.35
COP energy class	W/W	5.18	4.98	4.81
SEER energy class	W/W	5.74	5.72	5.69
SCOP energy class	W/W	5.99	5.97	5.96
Performance				
Water flow (High)	m^3/h	19.2	20.4	21.6
Sound pressure level (High)	dB(A)	57	57	58
Sound power level (High)	dB(A)	68	68	69
Installation - Dimensions - Components				
Unit Dimensions WxDxH	mm	(775x545x995)*3	(775x545x995)*3	(775x545x995)*3
Packaged unit dimensions WxDxH	mm	(840x625x1150)*2	(840x625x1150)*2	(840x625x1150)*2
Net weight / Gross weight	Kg	516/549	516/549	516/549
Compressor type		DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Quantity and type of the compressor	No.	3 INV	3 INV	3 INV
Refrigerant type		R410A	R410A	R410A
Pre-charged refrigerant qty.	Kg	6	6	6
Ø Liquid side refrigerant pipe	mm	19.1	19.1	19.1
Ø Gas side refrigerant pipe	mm	31.8	31.8	38.1
Ø OU Oil Equalisation Pipe	mm	9.52	9.52	9.52
Maximum piping length	m	300	300	300
Max linear piping length (Equivalent/Real)	m	150/120	150/120	150/120
Max height difference between IU and OU (*)	m	50/40	50/40	50/40
Water/gas exchanger				
Type		Double - tube in tube	Double - tube in tube	Double - tube in tube
Material		Copper/steel	Copper/steel	Copper/steel
Water input connection		DN32	DN32	DN32
Water output connection		DN32	DN32	DN32
Exchanger pressure drop	Kpa	50+50+70	50+70+70	70+70+70
Connection type		Internal thread	Internal thread	Internal thread
Max water input pressure	Mpa	1.6	1.6	1.6
Water input temperature range (Cooling/ Heating)	°C	7~45	7~45	7~45
Connectable Indoor Capacity Ratio				
Indoor / Outdoor Capacity Ratio	%	50-130	50-130	50-130
Maximum number of connectable IUs	No.	53	56	59

(*1) 50 m when the outdoor unit is above the indoor unit / 40 m when it is below
The specifications indicated are obtained with the following test conditions: in Cooling mode, Indoor temperature of 27°C BS / 19°C BU and Outdoor temperature of 35°C BS / 24°C BU. In Heating mode, Indoor temperature of 20°C BS and Outdoor temperature of 7°C BS / 6°C BU





MRV

Indoor units

Cassette Smart Flow

4-Way Cassette compact

Wall Mounted

1-Way Cassette

2-Way Cassette

Ceiling-Floor

Duct

Floor console, built-in

Floor Console - exposed type

Floor Console - exposed type – 2-way air flow

Wide range of OPTIONAL controllers.

Indoor units are NOT equipped with controller.

AB072MRERA
AB092MRERA
AB122MRERA
AB162MRERA
AB182MRERA
AB242MRERA

Panel with OPTIONAL presence sensor that can ONLY be managed with YR-E17, YR-HBS01, YR-E16B controllers

Optional controller HW-BA116ABK

With this controller it is NOT possible to independently control the individual deflectors and it is NOT possible to manage the OPTIONAL presence sensor

Optional controller HW-BA101ABT

With this controller it is NOT possible to independently control the individual deflectors and it is NOT possible to manage the OPTIONAL presence sensor

Optional controller YR-E17

Optional remote control YR-HBS01

Optional controller YR-E16B

- Exclusive 360° air diffusion system for a uniform radiation

- Independent control of the 4 diffusers
- 6 levels of positioning per individual deflector, 1296 possible combinations

- DC inverter fan motor
- 5 speeds ONLY selectable with wired controller YR-E16B, YR17 and with wireless controller YR-HBS01. With all other controllers, there are 3 speeds available.
- Standard condensate drain pump
- Preparation for fresh air input (pre-cut)

FUNCTION PANEL WITH PRESENCE SENSOR **OPTIONAL**

- With "Follow me or Avoid me" function, the sensor detects people's position by automatically managing the 4 deflectors independently so that they direct the air flow towards the people or direct away to avoid them, depending on the choice made from the controller.
- In the absence of person detection in the room, the unit automatically handles the temperature set on the controller by increasing or decreasing it (cooling or heating) by 1°C per hour, for the next 4 hours. After 4 hours, the unit will continue to work with the new setting. This will allow a significant reduction in energy consumption. A subsequent detection of people, will revert the temperature back to the initial setting. A detection during the 4 hours of "ECO" management will reassign the initial temperature setting.

Model		AB072MRERA	AB092MRERA	AB122MRERA	AB162MRERA	AB182MRERA	AB242MRERA
Commercial code		25014505J	25014515J	25014525J	25014545J	25014555J	25014565J
Capacity							
Cooling	kW	2.2	2.8	3.6	4.5	5.6	7.1
Heating	kW	2.5	3,2	4	5	6.3	8
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (High)	m^3/h	1000	1000	1000	1000	1000	1380
Sound pressure level (A/M/B)	dB(A)	30/27/25	30/27/25	30/27/25	32/29/27	33/30/29	35/34/31
Installation – Dimensions							
Unit Dimensions WxDxH	mm	840x840x183	840x840x183	840x840x183	840x840x183	840x840x183	840x840x204
Packaged unit dimensions WxDxH	mm	983x983x268	983x983x268	983x983x268	983x983x268	983x983x268	983x983x290
Net weight / Gross weight	Kg	28/31	28/31	28/31	28/31	28/31	29/32
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7	15.88
Panel							
Model		PB-950KB	PB-950KB	PB-950KB	PB-950KB	PB-950KB	PB-950KB
Model with optional presence sensor		PB-950MB	PB-950MB	PB-950MB	PB-950MB	PB-950MB	PB-950MB
Dimensions WxDxH	mm	950x950x50	950x950x50	950x950x50	950x950x50	950x950x50	950x950x50
Packaging dimensions WxDxH	mm	1013x1025x123	1013x1025x123	1013x1025x123	1013x1025x123	1013x1025x123	1013x1025x123
Net weight / Gross weight	Kg	6.5/9	6.5/9	6.5/9	6.5/9	6.5/9	6.5/9

AB282MRERA
AB302MRERA
AB382MRERA
AB482MRERA
AB602MRERA

Panel with OPTIONAL presence sensor that can ONLY be managed with YR-E17, YR-HBS01, YR-E16B controllers

Optional controller HW-BA116ABK

With this controller it is NOT possible to independently control the individual deflectors and it is NOT possible to manage the OPTIONAL presence sensor

Optional controller HW-BA101ABT

With this controller it is NOT possible to independently control the individual deflectors and it is NOT possible to manage the OPTIONAL presence sensor

Optional controller YR-E17

Optional remote control YR-HBS01

Optional controller YR-E16B

- Exclusive 360° air diffusion system for uniform radiation
- Independent control of the 4 diffusers
- 6 positioning levels per single deflector, 1296 possible combinations
- DC inverter fan motor
- 5 speeds ONLY selectable with wired controller YR-E16B, YR17 and with wireless controller YR-HBS01. With all other controllers, there are 3 speeds available.
- Standard condensate drain pump
- Preparation for fresh air input (pre-cut)

FUNCTION PANEL WITH PRESENCE SENSOR **OPTIONAL**

- With "Follow me or Avoid me" function, the sensor detects people's position by automatically managing the 4 deflectors independently so that they direct the air flow towards the people or direct away to avoid them, depending on the choice made from the controller.
- In the absence of person detection in the room, the unit automatically handles the temperature set on the controller by increasing or decreasing it (cooling or heating) by 1°C per hour, for the next 4 hours. After 4 hours, the unit will continue to work with the new setting. This will allow a significant reduction in energy consumption. A subsequent detection of people, will revert the temperature back to the initial setting. A detection during the 4 hours of "ECO" management will reassign the initial temperature setting.

Model		AB282MRERA	AB302MRERA	AB382MRERA	AB482MRERA	AB602MRERA
Commercial code		25014576J	25014577J	25014585J	25014595J	25014597J
Capacity						
Cooling	kW	8	9	11.2	14	16
Heating	kW	9	10	12.5	16	18
Electrical Parameters						
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation						
Air flow (High)	m^3/h	1380	2050	2050	2100	2100
Sound pressure level (A/M/B)	dB(A)	37/35/31	37/35/31	37/35/31	44/40/36	44/40/36
Installation – Dimensions						
Unit Dimensions WxDxH	mm	840x840x204	840x840x246	840x840x246	840x840x288	840x840x288
Packaged unit dimensions WxDxH	mm	983x983x290	983x983x331	983x983x331	983x983x373	983x983x373
Net weight / Gross weight	Kg	29/32	34/37	34/37	35/38	35/38
Ø Liquid side refrigerant pipe	mm	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	15.88	15.88	15.88	15.88	15.88
Panel						
Model		PB-950KB	PB-950KB	PB-950KB	PB-950KB	PB-950KB
Model with optional presence sensor		PB-950MB	PB-950MB	PB-950MB	PB-950MB	PB-950MB
Dimensions WxDxH	mm	950x950x50	950x950x50	950x950x50	950x950x50	950x950x50
Packaging dimensions WxDxH	mm	1013x1025x123	1013x1025x123	1013x1025x123	1013x1025x123	1013x1025x123
Net weight / Gross weight	Kg	6.5/9	6.5/9	6.5/9	6.5/9	6.5/9

MRV INDOOR UNIT 4-Way Cassette 60X60

AB052MCERA(M)
AB072MCERA(M)
AB092MCERA(M)
AB122MCERA(M)
AB162MCERA(M)
AB182MCERA(M)

With this controller it is not possible to independently control the individual louvres

Optional controller
HW-BA116ABK

With this controller it is not possible to independently control the individual louvres

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HBS01

Optional controller
YR-E16B

- Design panel with max 620x620 dimensions, maximum compatibility with module ceilings
- Independent control of the 4 diffusers
- 6 positioning levels per single deflector, 1296 possible combinations
- DC inverter fan motor
- 5 speeds ONLY selectable with wired controller YR-E16B, YR17 and with wireless controller YR-HBS01. With all other controllers, there are 3 speeds available.
- Standard condensate drain pump
- Preparation for fresh air input (pre-cut)

Model		AB052MCERA(M)	AB072MCERA(M)	AB092MCERA(M)	AB122MCERA(M)	AB162MCERA(M)	AB182MCERA(M)
Commercial code		2501450AJ	2501450BJ	2501451AJ	2501452AJ	2501454AJ	2501455AJ
Capacity							
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.6
Heating	kW	1.7	2.5	3,2	4.0	5.0	6.3
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (High)	m^3/h	650	700	700	700	700	700
Sound pressure level (A/M/B)	dB(A)	31/29/28	32/30/29	32/30/29	32/30/29	33/30/29	33/30/29
Sound power level (A/M/B)	dB(A)	45/43/42	46/44/43	46/44/43	46/44/43	47/44/43	47/44/43
Installation – Dimensions							
Unit Dimensions WxDxH	mm	570x570x260	570x570x260	570x570x260	570x570x260	570x570x260	570x570x260
Packaged unit dimensions WxDxH	mm	718x680x380	718x680x380	718x680x380	718x680x380	718x680x380	718x680x380
Net weight / Gross weight	Kg	17/21	17/21	17/21	19/23	19/23	19/23
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	12.7	12.7
Panel							
Model		PB-620KB	PB-620KB	PB-620KB	PB-620KB	PB-620KB	PB-620KB
Dimensions WxDxH	mm	620x620x60	620x620x60	620x620x60	620x620x60	620x620x60	620x620x60
Packaging dimensions WxDxH	mm	660x660x115	660x660x115	660x660x115	660x660x115	660x660x115	660x660x115
Net weight / Gross weight	Kg	3.1/4.8	3.1/4.8	3.1/4.8	3.1/4.8	3.1/4.8	3.1/4.8

MRV INDOOR UNIT 4-Way Cassette Compact

AB052MCERA
AB072MCERA
AB092MCERA
AB122MCERA
AB162MCERA
AB182MCERA(C)

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Aesthetic Panel 700x700
- Preparation for fresh air input (pre-cut)
- Standard condensate drain pump
- Silent operation

Model		AB052MCERA	AB072MCERA	AB092MCERA	AB122MCERA	AB162MCERA	AB182MCERA(C)
Commercial code		25014501J	25014502J	25014512J	25014522J	25014542J	25014551J
Capacity							
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.6
Heating	kW	1.7	2.5	3.2	4	5	6.3
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (High)	m^3/h	650	700	700	700	700	700
Sound pressure level (A/M/B)	dB(A)	31/29/28	32/30/29	32/30/29	32/30/29	33/30/29	33/30/29
Sound power level (A/M/B)	dB(A)	45/43/42	46/44/43	46/44/43	46/44/43	47/44/43	47/44/43
Installation – Dimensions							
Unit Dimensions WxDxH	mm	570/570/260	570/570/260	570x570x260	570x570x260	570x570x260	570x570x260
Packaged unit dimensions WxDxH	mm	718/680/380	718/680/380	718x680x380	718x680x380	718x680x380	718x680x380
Net weight / Gross weight	Kg	17/21	17/21	17/21	19/23	19/23	19/23
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	12.7	12.7
Panel							
Model		PB-700IB	PB-700IB	PB-700IB	PB-700IB	PB-700IB	PB-700IB
Dimensions WxDxH	mm	700x700x60	700x700x60	700x700x60	700x700x60	700x700x60	700x700x60
Packaging dimensions WxDxH	mm	740x740x115	740x740x115	740x740x115	740x740x115	740x740x115	740x740x115
Net weight / Gross weight	Kg	2.8/4.5	2.8/4.5	2.8/4.5	2.8/4.5	2.8/4.5	2.8/4.5

MRV INDOOR UNIT 4-Way Cassette

AB182MCERA
AB242MCERA
AB282MCERA
AB302MCERA
AB382MCERA
AB482MCERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Linear and compact panel design
- Preparation for fresh air input (pre-cut)
- Standard condensate drain pump
- Preparation for additional air delivery from unit body

Model		AB182MCERA	AB242MCERA	AB282MCERA	AB302MCERA	AB382MCERA	AB482MCERA
Commercial code		25014553J	25014567J	25014572J	25014575J	25014583J	25014593J
Capacity							
Cooling	kW	5.6	7.1	8	9	11.2	14
Heating	kW	6.3	8	9	10.0	12.5	16.0
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (High)	m^3/h	1200	1200	1200	1800	1800	1800
Sound pressure level (A/M/B)	dB(A)	34/32/30	35/34/31	37/35/31	37/35/31	37/35/31	42/39/35
Sound power level (A/M/B)	dB(A)	48/46/44	49/48/45	51/49/45	51/49/45	51/49/45	56/53/49
Installation – Dimensions							
Unit Dimensions WxDxH	mm	840x840x240	840x840x240	840x840x240	840x840x295	840x840x295	840x840x295
Packaged unit dimensions WxDxH	mm	930x930x330	930x930x330	930x930x330	930x930x330	930x930x330	930x930x330
Net weight / Gross weight	Kg	30/32.5	30/32.5	30/32.5	38/40	38/40	38/40
Ø Liquid side refrigerant pipe	mm	6.35	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	12.7	15.88	15.88	15.88	15.88	15.88
Panel							
Model		PB-950JB	PB-950JB	PB-950JB	PB-950JB	PB-950JB	PB-950JB
Dimensions WxDxH	mm	950x950x60	950x950x60	950x950x60	950x950x60	950x950x60	950x950x60
Packaging dimensions WxDxH	mm	992x992x115	992x992x115	992x992x115	992x992x115	992x992x115	992x992x115
Net weight / Gross weight	Kg	6/7.5	6/7.5	6/7.5	6/7.5	6/7.5	6/7.5

MRV INDOOR UNIT Wall Mounted

AS052MNERAB
AS072MNERAB
AS092MNERAB
AS122MNERAB
AS162MNERA
AS182MNERA
AS242MNERA
AS282MNERA
AS302MNERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Compact, linear design with dimmable information display
- Silenced EEV modulation valve
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are 3 speeds available.

Model		AS052MNERAB	AS072MNERAB	AS092MNERAB	AS122MNERAB	AS162MNERA	AS182MNERA	AS242MNERA	AS282MNERA	AS302MNERA
Commercial code		25011000J	25011004J	25011014J	25011024J	25011044J	25011054J	25011064J	25011070J	25011084J
Capacity										
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0
Heating	kW	1.7	2.5	3,2	4	5	6.3	8	9	10
Electrical Parameters										
Power supply	Ph-V/Hz	1/220-230/50/60								
Ventilation										
Air flow (A/M/B)	m³/h	500/430/370	550/480/420	600/530/470	630/560/500	800/720/650	920/800/720	1010/920/800	1500/1400/1300	1600/1500/1400
Sound pressure level (A/M/B)	dB(A)	33/31/29	35/31/29	36/31/29	37/33/29	39/36/34	40/39/35	44/40/36	48/43/40	49/44/41
Sound power level (A/M/B)	dB(A)	49/46/41	50/47/42	52/48/44	54/51/50	56/53/51	57/54/52	58/56/54	60/57/53	61/58/54
Installation – Dimensions										
Unit Dimensions WxDxH	mm	855x200x280	855x200x280	855x200x280	855x200x280	1115x243x336	1115x243x336	1115x243x336	1316x270x365	1316x270x365
Packaged unit dimensions WxDxH	mm	954x279x355	954x279x355	954x279x355	954x279x355	1206x342x418	1206x342x418	1206x342x418	1403x384x463	1403x384x463
Net weight / Gross weight	Kg	10.5/12.7	10.5/12.7	10.5/12.7	10.5/12.7	16.5/20.1	16.5/20.1	16.5/20.1	21.5/26.0	21.5/26.0
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	12.7	12.7	15.88	15.88	15.88

Motorised panel
Open: H 370 x D 263 (mm)
Closed: H 318 x D 212 (mm)

AS20S2SD1FA
AS25S2SD1FA
AS35S2SD1FA
AS42S2SD1FA

remote control (standard) YR-HQ

Optional controller HW-BA116ABK
Requires adapter WK-B

Optional controller HW-BA101ABT
Requires adapter WK-B

Optional wired controller YR-E17
Requires adapter WK-B

Optional controller YR-E16B
Requires adapter WK-B

MS1-036A valve
For 1:1 connection

MS3-036A valve
For 1:3 connection

- Design wall unit with motorised panel
- Silent operation, min 15 dBAS
- External thermal expansion valve
- Presence sensor to optimise consumption and air flow
- Standard Wi-Fi for remote management via Haier APP
- Unit display dimmable from remote controller
- 3D ventilation
- Easier installation thanks to the removable bottom panel that allows direct access to the pipes
- **This unit works exclusively in combination with the MS1-036A thermal expansion valves for individual connection, or the MS3-036A to make a group of 3 independent units.**
  The maximum connection distance between the MS external valve and the indoor unit is 15 meters.

Presence sensor: Detects room crowding and activates power management when no movement is detected.
By activating the feature from the remote controller, the sensor allows you to automatically adjust the direction of the airflow, to avoid or follow the person inside the room.
Light sensor: This system detects the change of sunlight or artificial light within environments, activating night mode to reduce consumption.

Model		AS20S2SD1FA	AS25S2SD1FA	AS35S2SD1FA	AS42S2SD1FA
Commercial code		2501300S3	2501301S3	2501302S3	2501305S3
Capacity					
Cooling	kW	2.0	2.6	3.5	4.2
Heating	kW	2.6	3.2	4.2	5.0
Electrical Parameters					
Power supply	Ph-V/Hz	1/220-230/50/60			
Ventilation					
Air flow (A/M/B)	m^3/h	650	650	700	800
Sound pressure level (A/M/B)	dB(A)	54	54	56	58
Sound power level (A/M/B)	dB(A)	34/29/25/15	34/29/25/15	35/30/26/16	37/35/30/16
Installation – Dimensions					
Unit Dimensions WxDxH	mm	980x212x318	980x212x318	980x212x318	980x212x318
Packaged unit dimensions WxDxH	mm				
Net weight / Gross weight	Kg	11.8	11.8	11.8	11.8
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	9.52

MRV INDOOR UNIT Flexis MW/MB

FLEXIS-MW

AS20S2SF1FA-MW
AS25S2SF1FA-MW
AS35S2SF1FA-MW
AS50S2SF1FA-MW
AS71S2SF1FA-MW

FLEXIS-MB

AS20S2SF1FA-MB
AS25S2SF1FA-MB
AS35S2SF1FA-MB
AS50S2SF1FA-MB
AS71S2SF1FA-MB

remote control (standard) YR-HQ

Optional controller HW-BA116ABK
Requires adapter WK-B

Optional controller HW-BA101ABT
Requires adapter WK-B

Optional wired controller YR-E17
Requires adapter WK-B

Optional controller YR-E16B
Requires adapter WK-B

MS1-036A valve
For 1:1 connection

MS3-036A valve
For 1:3 connection

- Silent operation, min 16 dBA (size 20-25)
- External thermal expansion valve
- ECO presence sensor to optimise consumption and air flow
- Standard Wi-Fi for remote management via Haier APP
- Unit display dimmable from remote controller
- 3D ventilation
- Easier installation thanks to the removable bottom panel that allows direct access to the pipes
- **This unit works exclusively in combination with the MS1-036A thermal expansion valves for individual connection, or the MS3-036A to make a group of 3 independent units.**
  The maximum connection distance between the MS external valve and the indoor unit is 15 meters.

ECO SENSOR

Presence sensor, detects room crowding and activates power saving feature when it does not detect movement. By activating the feature from the remote controller, the sensor allows you to automatically adjust the direction of the airflow, to avoid or follow the person inside the room.

Model FLEXIS-MW		AS20S2SF1FA-MW	AS25S2SF1FA-MW	AS35S2SF1FA-MW	AS50S2SF1FA-MW	AS71S2SF1FA-MW
Commercial code		2501300X2	2501301X2	2501302X2	2501305X2	2501306X2
Model FLEXIS-MB		**AS20S2SF1FA-MB**	**AS25S2SF1FA-MB**	**AS35S2SF1FA-MB**	**AS50S2SF1FA-MB**	**AS71S2SF1FA-MB**
		2501300W2	2501301W2	2501302W2	2501305W2	2501306W2
Capacity						
Cooling	kW	2.0	2.6 (0.8 - 3.2)	3.5 (1.0 - 4.0)	5.2 (1.4 - 7.0)	7.0 (2.2 - 7.5)
Heating	kW	2.5	3.2 (0.8 - 4.2)	4.2 (1.0 - 5.2)	6.0 (1.4 - 6.9)	8.0 (2.4 - 8.5)
Electrical Parameters						
Power supply	Ph-V/Hz	1/220-230/50/60				
Ventilation						
Air flow (A/M/B)	m^3/h	600	600	650	900	1100
Sound pressure level (A/M/B)	dB(A)	38/32/25/16	38/32/25/16	39/33/26/17	41/37/33/28	47/43/37/30
Sound power level (A/M/B)	dB(A)	53	53	55	57	60
Installation – Dimensions						
Unit Dimensions WxDxH	mm	866x196x300	866x196x300	866x196x300	1010x222x327	1126x232x343
Packaged unit dimensions WxDxH	mm					
Net weight	Kg	9.5	9.5	9.5	11.9	15.2
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	15.88

The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

AS20S2SF2FA
AS25S2SF2FA
AS35S2SF2FA
AS50S2SF2FA
AS71S2SF2FA

remote control (standard) YR-HE

Optional controller HW-BA116ABK
Requires adapter WK-B

Optional controller HW-BA101ABT
Requires adapter WK-B

Optional wired controller YR-E17
Requires adapter WK-B

Optional controller YR-E16B
Requires adapter WK-B

MS1-036A valve
For 1:1 connection

MS3-036A valve
For 1:3 connection

- Wall unit with classic and linear design
- Silent operation, min 16 dBA (size 20-25)
- External thermal expansion valve
- Unit display dimmable from remote controller
- Easier installation - removable bottom panel allows easy access to the pipes.
- 3D ventilation
- **This unit works exclusively in combination with the MS1-036A thermal expansion valves for individual connection, or the MS3-036A to make a group of 3 independent units.**
  The maximum connection distance between the MS external valve and the indoor unit is 15 meters.

Model		AS20S2SF2FA	AS25S2SF2FA	AS35S2SF2FA	AS50S2SF2FA	AS71S2SF2FA
Commercial code		2501300U2	2501301U2	2501302U2	2501305U2	2501306U2
Capacity						
Cooling	kW	2	2.6	3.5	5.2	7
Heating	kW	2.5	3,2	4.2	6	8
Electrical Parameters						
Power supply	Ph-V/Hz	1/220-230/50/60				
Ventilation						
Air flow (A/M/B)	m^3/h	600	600	650	900	1100
Sound pressure level (A/M/B)	dB(A)	53	53	55	57	60
Sound power level (A/M/B)	dB(A)	38/32/25/16	38/32/25/16	39/33/26/22	41/37/33/31	47/43/37/33
Installation – Dimensions						
Unit Dimensions WxDxH	mm	800x280x550	800x280x550	800x280x550	800x280x550	800x280x550
Packaged unit dimensions WxDxH	mm					
Net weight / Gross weight	Kg	29	29	31.5	37.8	49
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	15.88

MRV INDOOR UNIT 1-Way Cassette

AB052MAERA
AB072MAERA
AB092MAERA
AB122MAERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Modern, thin and linear design panel
- Automatic opening and closing of air discharge and air intake louvres
- 3D ventilation
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are 3 speeds available.
- Quiet and thin
- Standard intake filter
- Standard condensate drain pump

Model		AB052MAERA	AB072MAERA	AB092MAERA	AB122MAERA
Commercial code		25014600J	25014604J	25014610J	25014620J
Capacity					
Cooling	kW	1.5	2.2	2.8	3.6
Heating	kW	1.7	2.5	3,2	4.0
Electrical Parameters					
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation					
Air flow (High)	m^3/h	450	480	500	550
Sound pressure level (A/M/B)	dB(A)	35/32/29	36/33/30	37/34/31	38/35/32
Sound power level (A/M/B)	dB(A)	48/45/42	49/46/43	50/47/44	51/48/45
Installation – Dimensions					
Unit Dimensions WxDxH	mm	875x505x185	875x505x185	875x505x185	875x505x185
Packaged unit dimensions WxDxH	mm	1028x581x270	1028x581x270	1028x581x270	1028x581x270
Net weight / Gross weight	Kg	14.2/17.7	14.2/17.7	14.2/17.7	14.2/17.7
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	12.7	12.7	12.7	12.7
Panel					
Model		HMB-01A/T	HMB-01A/T	HMB-01A/T	HMB-01A/T
Dimensions WxDxH	mm	1050x550x125	1050x550x125	1050x550x125	1050x550x125
Packaging dimensions WxDxH	mm	1133x623x197	1133x623x197	1133x623x197	1133x623x197
Net weight / Gross weight	Kg	5.7/9.3	5.7/9.3	5.7/9.3	5.7/9.3

MRV INDOOR UNIT 2-Way Cassette

AB072MBERA
AB092MBERA
AB122MBERA
AB162MBERA
AB182MBERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Thin design, only 220 mm high
- Standard condensate drain pump
- Silent operation

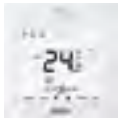
Model		AB072MBERA	AB092MBERA	AB122MBERA	AB162MBERA	AB182MBERA
Commercial code		25014403J	25014413J	25014423J	25014443J	25014453J
Capacity						
Cooling	kW	2.2	2.8	3.6	4.5	5.6
Heating	kW	2.5	3.2	4	5	6.3
Electrical Parameters						
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation						
Air flow (High)	m³/h	840	840	840	840	840
Sound pressure level (A/M/B)	dB(A)	42/37/33	42/37/33	42/37/33	44/39/34	44/39/34
Sound power level (A/M/B)	dB(A)	55/50/46	55/50/46	55/50/46	57/52/47	57/52/47
Installation – Dimensions						
Unit Dimensions WxDxH	mm	817x620x220	817x620x220	817x620x220	817x620x220	817x620x220
Packaged unit dimensions WxDxH	mm	1022x682x274	1022x682x274	1022x682x274	1022x682x274	1022x682x274
Net weight / Gross weight	Kg	21/23	21/23	21/23	21/23	21/23
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7
Panel						
Model		P2B-1055IB	P2B-1055IB	P2B-1055IB	P2B-1055IB	P2B-1055IB
Dimensions WxDxH	mm	1055x680x68	1055x680x68	1055x680x68	1055x680x68	1055x680x68
Packaging dimensions WxDxH	mm	1097x707x136	1097x707x136	1097x707x136	1097x707x136	1097x707x136
Net weight / Gross weight	Kg	7/8	7/8	7/8	7/8	7/8

MRV INDOOR UNIT Ceiling-Floor

AC092MCERA
AC122MCERA
AC162MCERA
AC182MCERA
AC242MCERA
AC282MFERA
AC302MFERA
AC382MFERA
AC482MFERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT



Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Flexible installation to floor or ceiling
- 3D ventilation, vertical and horizontal flow control
- Preparation for fresh air input: Ø 200 mm (only from size 282 to 482)
- High-efficiency, long-lasting air purification filters
- Input connections from different directions

Model		AC092MCERA	AC122MCERA	AC162MCERA	AC182MCERA	AC242MCERA	AC282MFERA	AC302MFERA	AC382MFERA	AC482MFERA
Commercial code		25014010J	25014012J	25014046J	25014056J	25014066J	25014072J	25014074J	25014082J	25014092J
Capacity										
Cooling	kW	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14
Heating	kW	3,2	4	5	6.3	8	9	10	12.5	16
Electrical Parameters										
Power supply	Ph-V/Hz	1/220-230/50/60								
Ventilation										
Air flow (High)	m³/h	800	800	800	800	800	2040	2040	2040	2040
Sound pressure level (A/M/B)	dB(A)	38/35/33	38/35/33	40/37/35	40/37/35	40/37/35	43/40/38	43/40/38	46/42/38	46/42/38
Sound power level (A/M/B)	dB(A)	51/48/46	51/48/46	53/50/48	53/50/48	53/50/48	56/53/51	56/53/51	59/55/51	59/55/51
Installation – Dimensions										
Unit Dimensions WxDxH	mm	990x655x199					1580x700x240			
Packaged unit dimensions WxDxH	mm	983x983x268					1720x800x330			
Net weight / Gross weight	Kg	28.3/34.3	28.3/36.4	28.3/36.4	28.3/36.4	28.3/36.4	50/57	50/27	54/31	54/31
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	9.52	12.7	12.7	12.7	15.88	15.88	15.88	15.88	15.88

Available
From April 2020

AC092MDERA
AC122MDERA
AC162MDERA
AC182MDERA
AC242MDERA
AC282MDERA
AC302MDERA
AC382MDERA
AC482MDERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- New design, subtle and harmonious
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17.
  With all other controllers, there are 3 speeds available.
- 3D ventilation with independent right and left wing group
- Outstanding installation height - the 14kW model can be installed up to 4.2 m high still ensuring adequate air distribution in the environment

Model		AC092MDERA	AC122MDERA	AC162MDERA	AC182MDERA	AC242MDERA	AC282MDERA	AC302MDERA	AC382MDERA	AC482MDERA
Commercial code		25014011J	25014013J	25014047J	25014057J	25014067J	25014073J	25014075J	25014083J	25014093J
Capacity										
Cooling	kW	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14
Heating	kW	3.2	4	5	6.3	8	9	10	12.5	16
Electrical Parameters										
Power supply	Ph-V/Hz	1/220-230/50/60								
Ventilation										
Air flow (High)	m^3/h	820	820	950	950	1420	1570	1570	2110	2110
Sound pressure level (A/M/B)	dB(A)	38/36/34	38/36/34	42/38/35	42/38/35	46/44/41	47/44/41	47/44/41	50/46/43	50/46/43
Sound power level (A/M/B)	dB(A)	52/50/47	52/50/47	55/51/48	55/51/48	60/58/54	61/58/55	61/58/55	63/60/57	63/60/57
Installation – Dimensions										
Unit Dimensions WxDxH	mm	100x680x230				1325x680x230			1650x680x230	
Packaged unit dimensions WxDxH	mm	1100x779x305				1425x779x305			1750x779x305	
Net weight / Gross weight	Kg	27.9/33.6	27.9/33.6	27.9/33.6	27.9/33.6	35.8/42.1	35.8/42.1	35.8/42.1	43.5/50.5	43.5/50.5
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	9.52	12.7	12.7	12.7	15.88	15.88	15.88	15.88	15.88

MRV INDOOR UNIT Slim Duct Low Pressure

AD052MSERA(D)
AD072MSERA(D)
AD092MSERA(D)
AD122MSERA(D)
AD162MSERA(D)

AD182MSERA(D)
AD242MSERA(D)

Panel Kit **OPTIONAL**

New panel with built-in receiver for infrared remote control and temperature info display dimmable from controller

Air discharge grill equipped with vertical and horizontal 3D effect motorised fins

Air intake grill equipped with filter

With this controller it is NOT possible to modify the static pressure values PA of the fan

Optional controller HW-BA116ABK

Optional controller HW-BA101ABT

Optional controller YR-E17

optional remote control YR-HD01 (in combination with the RE-02 receiver, not necessary if the panel kit is used)

Optional controller YR-E16B

- Ideal for bedrooms, hotel rooms and quiet environments
- Extremely thin, only 185 mm
- Preparation for fresh air input
- Standard condensate drain pump
- Intake of lower or rear air by moving the panel as standard
- Silent operation
- Designed for free-mount installation without duct, with a standard prevalence of 0 PA. You can increase static pressure to 15 or 30 PA by using this unit with the flush wired controllers: HW-BA101ABT, YR-E17, YR-E16B.
- Possibility of optional functional aesthetic control kit panel
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are 3 speeds available.

Model		AD052MSERA(D)	AD072MSERA(D)	AD092MSERA(D)	AD122MSERA(D)	AD162MSERA(D)	AD182MSERA(D)	AD242MSERA(D)
Commercial code		2501180DJ	2501180AJ	2501181AJ	2501182AJ	2501184AJ	2501185AJ	2501186AJ
Capacity								
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1
Heating	kW	1.7	2.5	3,2	4	5	6.3	8.0
Electrical Parameters								
Power supply	Ph-V/Hz	1/220-230/50/60						
Ventilation								
Air flow (A/M/B)	m³/h	430/370/310	480/420/360	480/410/350	550/430/370	600/540/460	800/690/580	930/850/750
Sound pressure level (A/M/B)	dB(A)	26/22/19	27/23/20	27/23/20	30/27/24	32/29/26	33/30/27	36/33/30
Sound power level (A/M/B)	dB(A)	40/36/33	41/37/34	41/37/34	44/41/38	46/43/40	47/44/41	50/47/43
Installation – Dimensions								
Unit Dimensions WxDxH	mm	850x420x185	850x420x185	850x420x185	850x420x185	850/420/185	1170x420x185	1170x420x185
Packaged unit dimensions WxDxH	mm	1045x540x270	1045x540x270	1045x540x270	1045x540x270	1045x540x270	1365x540x270	1365x540x270
Net weight / Gross weight	Kg	16.5/21.5	17.5/22.5	17.5/22.5	17.5/22.5	18.5/23.5	22.2/28.2	24/30
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	9.52	12.7	12.7	12.7	15.88
Static pressure (Standard / Max)	Pa	0/30	0/30	0/30	0/30	0/30	0/30	0/30
Panel								
Model		P1B-890IA/D With Display and Receiver					P1B-1210IA/D With Display and Receiver	
Commercial code		2505451A2 With Display and Receiver					2505451F2 With Display and Receiver	
Dimensions WxDxH (delivery deflector)	mm	890x190x100					1210x190x100	
Dimensions WxDxH (intake panel with filter)	mm	890x290.5x32.4					1210x290.5x32.4	
Packaging dimensions WxDxH	mm	938x335x220					1258x335x220	1258x335x220
Net weight / Gross weight	Kg	4/5	4/5	4/5	4/5	4/5	5/6	5/6

AD052MJERAB
AD072MJERAB
AD092MJERAB
AD122MJERAB
AD162MJERAB
AD182MJERAB
AD242MJERAB
AD282MJERAB
AD302MJERA
AD382MJERA
AD482MJERA

On the side of the unit there is a circular flange fitting, with 120mm diameter as standard to connect a hose for primary air entry.
Normally this flange is closed and fixed backwards, if not used.

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Compact Ducted Medium Pressure
- **Static pressure fan 50 / 100 PA.**
  The standard static pressure is 50 PA.
  It is possible to increase the PA from 50 to 100 by only using wired controller models HW-BA101ABT, YR-E17, YR-E16B .
  With all other controllers, the pressure remains fixed at 50 PA.
- Standard condensate drain pump

Model		AD052MJERA	AD072MJERA	AD092MJERA	AD122MJERA	AD162MJERA	AD182MJERA	AD242MJERA	AD282MJERA	AD302MJERA	AD382MJERA	AD482MJERA
Commercial code		25011804J	25011806J	25011816J	25011826J	25011846J	25011856J	25011864J	25011876J	25011878J	25011880J	25011890J
Capacity												
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14
Heating	kW	1.7	2.5	3,2	4	5	6.3	8	9	10	13	16.3
Electrical Parameters												
Power supply	Ph-V/Hz	1/220-230/50/60										
Ventilation												
Air flow (A/M/B)	m³/h	585/495/408	585/495/408	585/495/408	585/495/408	750/652/566	920/805/699	1230/1090/950	1230/1090/950	1500/1180/930	1700/1300/900	2000/1700/1250
Sound pressure level (A/M/B)	dB(A)	35/33/31	35/33/31	35/33/31	35/33/31	35/33/31	36/34/32	38/36/34	42/39/35	42/38/34	42/39/35	43/40/35
Sound power level (A/M/B)	dB(A)	39/37/35	39/37/35	39/37/35	39/37/35	39/37/35	40/38/36	42/40/38	46/43/39	46/42/38	46/33/39	47/44/39
Installation – Dimensions												
Unit Dimensions WxDxH	mm	750x720x250	750x720x250	750x720x250	750x720x250	750x720x250	1050x720x250	1050x720x250	1050x720x250	1100x700x248	1500x700x248	1500x700x248
Packaged unit dimensions WxDxH	mm	920x820x340	920x820x340	920x820x340	920x820x340	920x820x340	1170x860x340	1170x860x340	1170x860x340	1332x835x280	1698x857x305	1698x857x305
Net weight / Gross weight	Kg	24.1/28.3	24.1/28.3	24.1/28.3	24.1/28.3	25.9/30.1	30.5/38.0	33.1/40.6	33.1/40.6	39.4/45.4	48.3/56.5	51.3/59.5
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	12.7	12.7	12.7	12.7	12.7	12.7	15.88	15.88	15.88	15.88	15.88
Static pressure (Standard / Max)	Pa	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100	50/100

MRV INDOOR UNIT Ducted High Pressure

AD182MHERA
AD242MHERA
AD282MHERA
AD302MHERA
AD382MHERA
AD482MHERA

AD722MHERA
AD962MHERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Flexible and simple ductwork
- Simple maintenance
- Static pressure varies from 100 to 200 Pa using included booster cable.
- Not equipped with condensate drain pump
- 3 speeds + booster

Model		AD182MHERA	AD242MHERA	AD282MHERA	AD302MHERA	AD382MHERA	AD482MHERA	AD722MHERA	AD962MHERA
Commercial code		25011752J	25011766J	25011772J	25011774J	25011782J	25011792J	25011795J	25011797J
Capacity									
Cooling	kW	5.6	7.1	8	9	11.2	14	22.6	28
Heating	kW	6.3	8	9	10	12.5	16	25	31
Electrical Parameters									
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation									
Air flow (A/M/B)	m³/h	900/800/700	900/800/700	900/800/700	1560/1470/1390	1600/1500/1400	2100/2000/1900	4050/3250/2900	4050/3250/2900
Sound pressure level (A/B)	dB(A)	42/40	42/40	42/40	45/40	45/40	45/40	54/49	54/49
Sound power level (A/B)	dB(A)	55/53	55/53	55/53	58/53	58/53	58/53	67/62	67/62
Installation – Dimensions									
Unit Dimensions WxDxH	mm	975x876x360	975x876x360	975x876x360	1355x876x360	1355x876x360	1355x876x360	1725x876x360	1725x876x360
Packaged unit dimensions WxDxH	mm	1050x945x405	1050x945x405	1050x945x405	1386x966x418	1386x966x418	1386x966x418	1830x990x530	1830x990x530
Net weight / Gross weight	Kg	48/58	48/58	48/58	62/77	62/77	62/77	92/100	92/100
Ø Liquid side refrigerant pipe	mm	6.35	9.52	9.52	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	12.7	15.88	15.88	15.88	15.88	15.88	25.4	25.4
Static pressure (Standard / Max)	Pa	100/196	100/196	100/196	100/196	100/196	100/196	100/196	100/196

AD072MQERA
AD092MQERA
AD122MQERA
AD152MQERA
AD182MQERA
AD242MQERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Automatic system to maintain nominal air flow, offsetting duct losses of up to 200 PA
- Useful Static pressure up to 200 Pa with automatic selection.
- Maximum flexibility for the construction of air distribution ducts.
- Standard condensate drain pump
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are 3 speeds available.

Model		AD072MQERA	AD092MQERA	AD122MQERA	AD152MQERA	AD182MQERA	AD242MQERA
Commercial code		25011700J	25011710J	25011720J	25011740J	25011750J	25011760J
Capacity							
Cooling	kW	2.2	2.8	3.36	4.5	5.6	7.1
Heating	kW	2.5	3,2	4.0	5.0	6.3	8.0
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (A/M/B)	m^3/h	500/410/360	600/510/450	700/580/500	780/680/600	900/780/600	1100/1020/920
Sound pressure level (A/M/B)	dB(A)	30/25/23	30/25/23	32/29/26	32/29/26	32/29/26	33/29/25
Installation – Dimensions							
Unit Dimensions WxDxH	mm	750x635x280	750x635x280	750x635x280	750x635x280	750x635x280	950x635x280
Packaged unit dimensions WxDxH	mm	917x736x325	917x736x325	917x736x325	917x736x325	917x736x325	1117x736x325
Net weight / Gross weight	Kg	29/34	29/34	29/34	29/34	29/34	34/39
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7	15.88
Static pressure (automatic selection)	Pa	50 std - max 200	50 std - max 200	50 std - max 200	50 std - max 200	50 std - max 200	50 std - max 200

MRV INDOOR UNIT Ducted - Fixed Flow

AD302MQERA
AD362MQERA
AD422MQERA
AD482MQERA
AD542MQERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Automatic system to maintain nominal air flow, offsetting duct losses of up to 200 PA
- Useful Static pressure up to 200 Pa with automatic selection.
- Maximum flexibility for the construction of air distribution ducts.
- Standard condensate drain pump.
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are 3 speeds available.
- **For sizes 36-42-48-54 it is possible to fix the PA pressure at 50-100-150-200 excluding automatic function.**
  This setting can only be achieved with the wired controller YR-E17 and YR-E16B.

Model		AD302MQERA	AD362MQERA	AD422MQERA	AD482MQERA	AD542MQERA
Commercial code		25011770J	25011780J	25011790J	25011793J	25011798J
Capacity						
Cooling	kW	9.0	11.2	12.5	14.0	16.0
Heating	kW	10.0	12.5	14.0	16.0	18.0
Electrical Parameters						
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation						
Air flow (A/M/B)	m^3/h	1500x1320x1220	1700x1510x1400	2000x1780x1620	2280x1920x1780	2280x1920x1780
Sound pressure level (A/M/B)	dB(A)	33/29/25	38/36/30	38/36/30	40/34/29	40/34/29
Installation – Dimensions						
Unit Dimensions WxDxH	mm	950x635x280	1370x740x280	1370x740x280	1370x740x280	1370x740x280
Packaged unit dimensions WxDxH	mm	1117x736x325	1535x839x362	1535x839x362	1535x839x362	1535x839x362
Net weight / Gross weight	Kg	34/39	54/62	54/62	54/62	54/62
Ø Liquid side refrigerant pipe	mm	9.52	9.52	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	15.88	15.88	15.88	15.88	15.88
Static pressure (Standard / Max)	Pa	50 std - max 200	50 std - max 200	50 std - max 200	50 std - max 200	50 std - max 200

MRV UNIT INTERNAL Floor Console, built-in

AE072MLERA
AE092MLERA
AE122MLERA
AE162MLERA
AE182MLERA
AE242MLERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Compact and thin, only 220 mm depth
- Ideal for installation under window
- High-efficiency standard filter

Model		AE072MLERA	AE092MLERA	AE122MLERA	AE162MLERA	AE182MLERA	AE242MLERA
Commercial code		25018000J	25018010J	25018020J	25018040J	25018050J	25018060J
Capacity							
Cooling	kW	2.2	2.8	3.6	4.5	5.6	7.1
Heating	kW	2.5	3,2	4	5	6.3	8
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (A/M/B)	m^3/h	750/640/550	750/640/550	750/640/550	900/820/750	900/820/750	900/820/750
Sound pressure level (A/M/B)	dB(A)	38/35/33	38/35/33	40/37/35	40/37/35	42/39/36	42/39/36
Sound power level (A/M/B)	dB(A)	51/48/46	51/48/46	53/50/48	53/50/48	55/52/49	55/52/49
Installation – Dimensions							
Unit Dimensions WxDxH	mm	1116x221x624	1116x221x624	1116x221x624	1116x221x624	1116x221x624	1116x221x624
Packaged unit dimensions WxDxH	mm	1198x295x707	1198x295x707	1198x295x707	1198x295x707	1198x295x707	1198x295x707
Net weight / Gross weight	Kg	29/37	29/37	29/37	31/39	31/39	31/39
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7	15.88
Static pressure (Standard / Max)	Pa	0/30	0/30	0/30	0/30	0/30	0/30

MRV INDOOR UNIT Floor Console, exposed type

AE072MLERA(V)
AE092MLERA(V)
AE122MLERA(V)
AE162MLERA(V)
AE182MLERA(V)
AE242MLERA(V)

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

- Vertical floor installation units
- Double intake filter for floor or suspended installation
- Multidirectional, manual-controlled delivery grill (not from the controller)

Model		AE072MLERA(V)	AE092MLERA(V)	AE122MLERA(V)	AE162MLERA(V)	AE182MLERA(V)	AE242MLERA(V)
Commercial code							
Capacity							
Cooling	kW	2.2	2.8	3.6	4.5	5.6	7.1
Heating	kW	2.5	3.2	4	5	6.3	8
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (A/M/B)	m^3/h	750/640/550	750/640/550	750/640/550	900/820/750	900/820/750	900/820/750
Sound pressure level (A/M/B)	dB(A)	38/35/33	38/35/33	40/37/35	40/37/35	42/39/36	42/39/36
Sound power level (A/M/B)	dB(A)	51/48/46	51/48/46	53/50/48	53/50/48	55/52/49	55/52/49
Installation – Dimensions							
Unit Dimensions WxDxH	mm	1270x260x710	1270x260x710	1270x260x710	1270x260x710	1270x260x710	1270x260x710
Packaged unit dimensions WxDxH	mm	1330x270x750	1330x270x750	1330x270x750	1330x270x750	1330x270x750	1330x270x750
Net weight / Gross weight	Kg	32/40	32/40	32/40	34/42	34/42	34/42
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	9.52
Ø Gas side refrigerant pipe	mm	9.52	9.52	12.7	12.7	12.7	15.88
Static pressure (Standard / Max)	Pa	0/30	0/30	0/30	0/30	0/30	0/30

MRV INDOOR UNIT Floor Console, exposed type, double flow

AF052MBERA
AF072MBERA
AF092MBERA
AF122MBERA
AF162MBERA
AF182MBERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

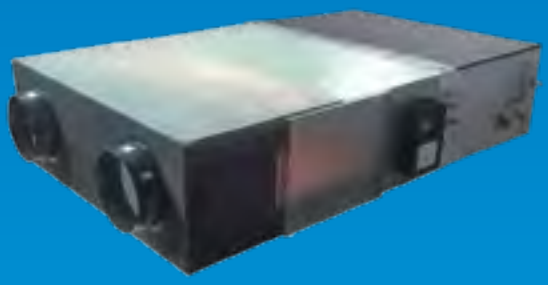
Optional controller
YR-E17

Optional remote control
YR-HD01

Optional controller
YR-E16B

- Double air delivery, upper and lower.
  In heating mode: both outputs are enabled, to spread hot air at floor level preventing the "cold feet" effect typical of only higher deliveries. By acting on the on-board selector it is possible to inhibit the lower output in heating mode.
  In cooling mode: The unit works only with the top delivery, the lower output automatically closes.
- Compact and elegant design
- Silent operation
- DC inverter fan motor
- 5 speeds only selectable with wired controller YR-E16B and YR-E17. With all other controllers, there are only 3 speeds available.

Model		AF052MBERA	AF072MBERA	AF092MBERA	AF122MBERA	AF162MBERA	AF182MBERA
Commercial code		25014201J	25014203J	25014213J	25014223J	25014243J	25014253J
Capacity							
Cooling	kW	1.5	2.2	2.8	3.6	4.5	5.0
Heating	kW	1.7	2.6	3,2	4	5	5.5
Electrical Parameters							
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation							
Air flow (High)	m³/h	460/380/300	460/380/300	460/380/300	510/450/350	640/470/390	640/470/390
Sound pressure level (A/M/B)	dB(A)	42/36/31	42/36/31	43/39/35	43/39/35	48/44/38	48/44/38
Sound power level (A/M/B)	dB(A)	53/47/42	53/47/42	54/50/46	54/50/46	59/55/49	59/55/49
Installation – Dimensions							
Unit Dimensions WxDxH	mm	700x210x600	700x210x600	700x210x600	700x210x600	700x210x600	700x210x600
Packaged unit dimensions WxDxH	mm	783x303x695	783x303x695	783x303x695	783x303x695	783x303x695	783x303x695
Net weight / Gross weight	Kg	17/19	17/19	17/19	17/19	17/19	17/19
Ø Liquid side refrigerant pipe	mm	6.35	6.35	6.35	6.35	6.35	6.35
Ø Gas side refrigerant pipe	mm	12.7	12.7	12.7	12.7	12.7	12.7



MRV

Indoor units

for air treatment

Ducted High-Pressure at all outdoor air

Heat Recovery Unit

Thermodynamic Heat Recovery Unit - with on board compressor

Air Treatment Units

AD482MPERA

AD722MPERA
AD962MPERA

Optional controller
HW-BA116ABK

Optional controller
HW-BA101ABT

Optional controller
YR-E17

optional remote control YR-HD01
(RE-02 remote control receiver)

Optional controller
YR-E16B

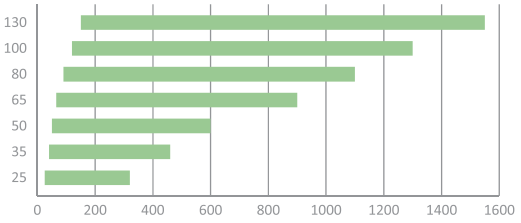
- Static pressure varies from 100 to 200 Pa using included booster cable.
- Can be installed together with other indoor units on the same refrigerating circuit, to pre-treat the outdoor air before sending it to indoor units or in the environment.
- The nominal potential in heating is always lower than that of cooling. Be careful in the selection.
- Not equipped with condensate drain pump.

NOTE:
The AD482MPERA unit cannot be used in 1:1 combination to create a mono system.
The use of air-to-air units outside the interior of a mixed MRV system must be evaluated and approved by a Haier technician.

Model		AD482MPERA	AD722MPERA	AD962MPERA
Commercial code		25011992J	25011995J	25011997J
Capacity				
Cooling	kW	14	22.6	28
Heating	kW	8.9	15.2	17.8
Electrical Parameters				
Power supply	Ph-V/Hz	1/220-230/50/60	1/220-230/50/60	1/220-230/50/60
Ventilation				
Air flow (High)	m^3/h	1600	2400	2800
Sound pressure level (A/B)	dB(A)	48	55	55
Sound power level (A/B)	dB(A)	61	68	68
Installation – Dimensions				
Unit Dimensions WxDxH	mm	1355x876x360	1725x876x360	1725x876x360
Packaged unit dimensions WxDxH	mm	1386x966x418	1830x990x530	1830x990x530
Net weight / Gross weight	Kg	62/77	92/100	92/100
Ø Liquid side refrigerant pipe	mm	9.52	9.52	9.52
Ø Gas side refrigerant pipe	mm	15.88	25.4	25.4
Static pressure (Standard / Max)	Pa	100/185	100/200	100/200

HACI-RP 25
HACI-RP 35
HACI-RP 50
HACI-RP 65
HACI-RP 80
HACI-RP 100
HACI-RP 130

Not compatible with with MRV-S and MRV-5RC



Wide range, flow selectable by controller

TECHNICAL SPECIFICATIONS

- **Static enthalpic cross-flow heat recovery unit with thermal efficiency up to 76%. Paper exchanger.**
- Self-supporting galvanised steel metal structure insulated internally and externally; accessibility through side door.
- Air filtration in efficiency class F9 (with pre-filter G3) on the fresh air, filter G3 on the intake flow
- Integrated dirty filters signalling pressure switch
- Motorised by-pass system of the heat recovery unit automatically implemented by the electronic control to guarantee free cooling with the outside air when convenient
- Electric fans with low consumption, high performance and low noise DC motor; possibility of managing 10 speed levels.
- Connections to the ducts with plastic fittings
- Built-in electrical panel with electronic board for controlling the ventilation and free-cooling functions
- Direct management from the controller of the SBE electrical resistor kit for pre or post-heating.
- **Electronic board with standard MOD-BUS output**
- Inputs for CO_2 and humidity ambient probes

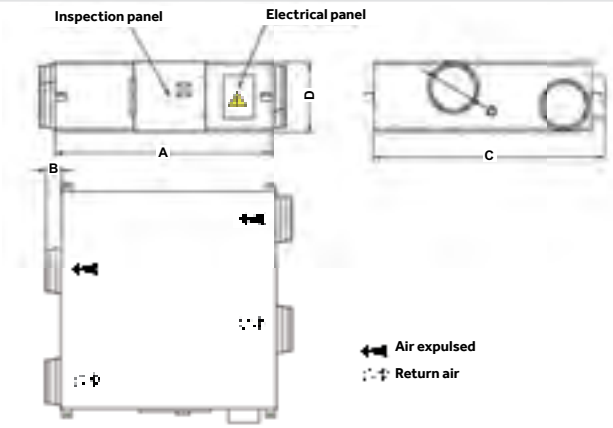
standard controller
PTS TOUCH

HACI-RP model		25	35	50	65	80	100	130
Rated air flow	m³/h	250	350	500	650	800	1000	1300
Nominal useful static pressure	Pa	90	140	110	100	140	140	140
Power supply	V/ph/Hz	230/1/50						
Total maximum absorbed current	A	0.5	0.6	0.6	1.2	1.4	2.1	2.7
FANS		**25**	**35**	**50**	**65**	**80**	**100**	**130**
Motor type		EC	EC	EC	EC	EC	EC	EC
No. of speeds (WIDE FLOW RANGE)		10	10	10	10	10	10	10
Ventilation control (1)		Man	Man	Man	Man	Man	Man	Man
Internal specific ventilation power - SFP (5)	W/(m³/s)	812	670	547	846	865	881	873
Total nominal absorbed power	kW	0.08	0.13	0.15	0.23	0.32	0.39	0.50
Sound pressure level (2)	db (A)	34	37	39	40	42	43	44
HEAT RECOVERY UNIT		**25**	**35**	**50**	**65**	**80**	**100**	**130**
Winter thermal efficiency (3)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.2
Winter enthalpic efficiency (3)	%	65.0	65.0	67.0	65.0	65.0	62.0	59.0
Summer thermal efficiency (4)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.0
Summer enthalpic efficiency (4)	%	62.0	62.0	63.0	60.0	63.0	60.0	58.0
Dry enthalpic efficiency (5)	%	73.0	74.0	76.0	74.0	76.0	76.0	74.0

(1) Man = Manual from selector or keyboard;
(2) Sound pressure level rated at 1m by: ducted delivery-discharge / ducted external air intake / inspection side at nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU Regulation 1253/2014: at nominal pressure; temperature and humidity conditions for EN 308

DIMENSIONS

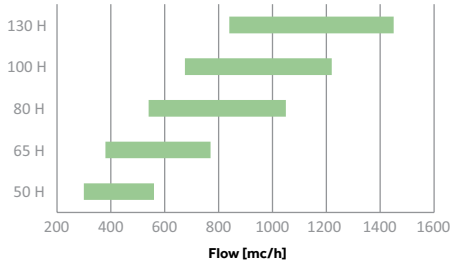
Model HACI-RP	Dimensions				Weight
	A [mm]	B [mm]	C [mm]	D [mm]	[kg]
25	814	100	650	270	30
35	814	100	855	270	37
50	894	107	955	270	43
65	1186	85	945	388	65
80	1186	85	1200	388	71
100	1199	85	1290	388	83
130	1199	85	1290	388	83



MRV INDOOR UNITS Cross-Flow Heat Recovery Unit
HACI-RPDX with direct expansion coil

HACI-RPDX 50
HACI-RPDX 65
HACI-RPDX 80
HACI-RPDX 100
HACI-RPDX 130

Not compatible with with MRV-S and MRV-5RC



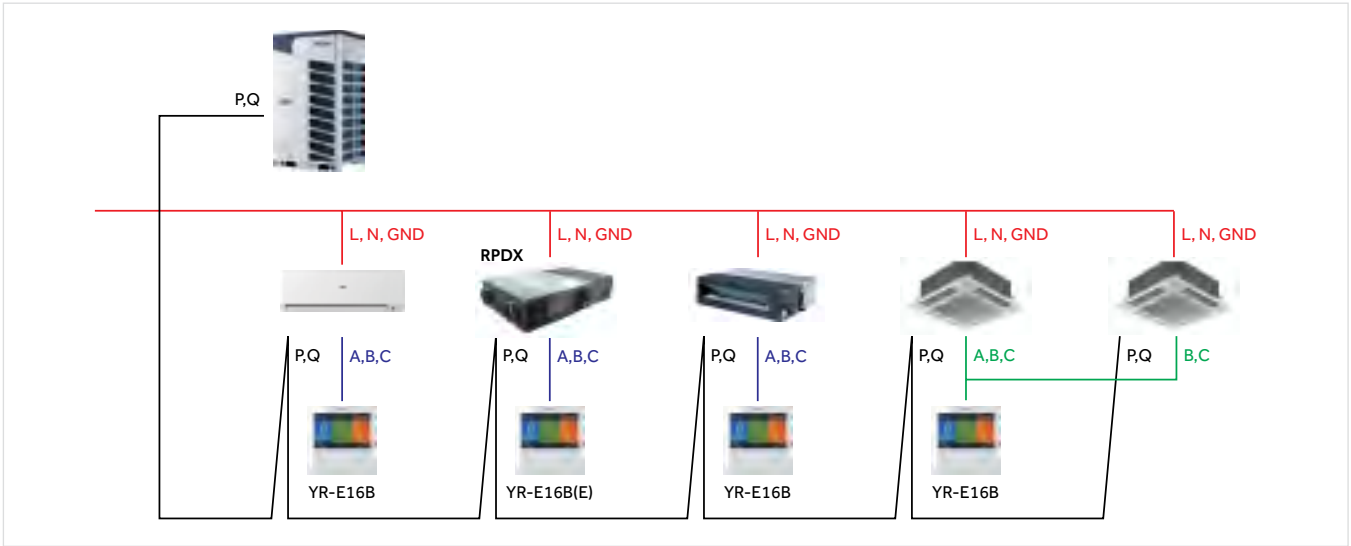
HACI-RPDX TECHNICAL SPECIFICATIONS

- Enthalpic heat recovery unit with integrated direct expansion coil.
- Self-supporting galvanised sheet metal structure insulated internally and externally; accessibility through side door.
- Air filtration in ISO 16890 ePM2.5 95% efficiency class (with COARSE pre-filter 50%) on the fresh air, COARSE filter 50% on the intake flow.
- Integrated dirty filter notification through pressure switch.
- Motorised by-pass system of the heat recovery unit automatically implemented by the electronic control to guarantee free cooling with the outside air when convenient.
- Electric fans with low consumption, high performance and low noise DC motor; possibility of managing 3 speed levels.
- Connections to the ducts with plastic fittings.
- Built-in electrical panel with electronic board for controlling the ventilation and free-cooling functions.
- Input module to be connected to VRF system with direct expansion coil with copper pipes and aluminium fins (R410A) equipped with expansion valve, filter, regulation probes on the refrigeration line and temperature probes upstream and downstream of the air flow.
- Electronic board for managing thermo-ventilation functions (optional remote-control panel), interfaced flexibly with the UTA kit.
- Remote control YR-E16B(E) is standard.

NOTES

- **This recovery unit is similar to an MRV indoor unit, which can be inserted into a system along with other indoor units.**
- **You cannot install it in 1:1 configuration without other MRV indoor units on the same circuit.**
- **When you insert this product into an MRV system, the outdoor unit of the system must not work beyond 130%**

standard controller
YR-E16B(E)



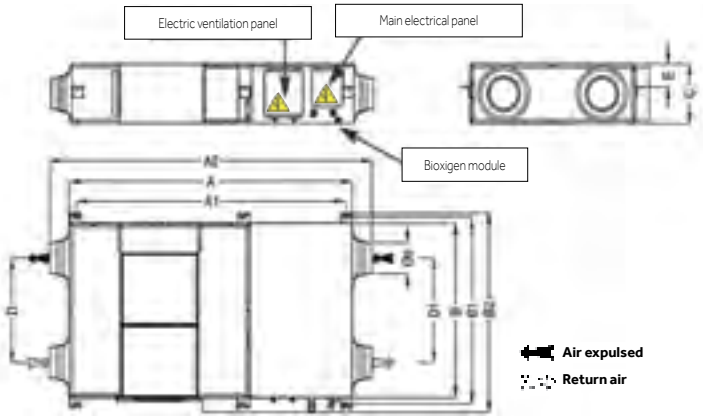
MRV INDOOR UNITS Cross-Flow Heat Recovery Unit
HACI-RPDX with direct expansion coil

Model HACI-RPDX		50	65	80	100	130
Air flow (min/nominal/max)	m³/h	300/500/560	380/650/770	540/800/1050	675/1000/1220	840/1300/1450
Nominal useful static pressure	Pa	90	75	120	115	105
Power supply	V/ph/Hz	230/1/50				
Total maximum absorbed current	A	0.6	1.2	1.4	2.1	2,7
FANS		**50**	**65**	**80**	**100**	**130**
Motor type		EC	EC	EC	EC	EC
Speed No.		3	3	3	3	3
Ventilation control (1)		Man	Man	Man	Man	Man
Specific indoor ventilation power - SFP indoor (5)	W/(m³/s)	547	846	865	881	873
Total nominal absorbed power	kW	0.15	0.23	0.32	0.39	0.49
Sound pressure level (2)	db (A)	39	40	42	43	44
HEAT RECOVERY UNIT		**50**	**65**	**80**	**100**	**130**
Winter thermal efficiency (3)	%	76.0	74.0	76.0	76.0	74.2
Winter enthalpic efficiency (3)	%	67.0	65.0	65.0	62.0	59.0
Summer thermal efficiency (4)	%	76.0	74.0	76.0	76.0	74.0
Summer enthalpic efficiency (4)	%	63.0	60.0	63.0	60.0	58.0
Dry enthalpic efficiency (5)	%	76.0	74.0	76.0	76.0	74.0
DIRECT EXPANSION COIL		**50**	**65**	**80**	**100**	**130**
Thermal power (6)	kW	2.5 (2.7)	3.0 (3.3)	4.4 (4.8)	5.2 (6.7)	6.2 (6.7)
Total cooling power (7)	kW	3.0	3.5	5.1	5.8	7.0

(1) Man = Manual from selector or keyboard;
(2) Sound pressure level rated at 1m by: ducted delivery-discharge / ducted external air intake / inspection side at nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU Regulation 1253/2014: at nominal pressure; temperature and humidity conditions for EN 308
(6) Coil input air: 13°C BS, 40% RH (11°C BS, 45% RH); condensation 40°C
(7) Coil input air: 28,5°C BS, 50% UR; evaporation 7°C

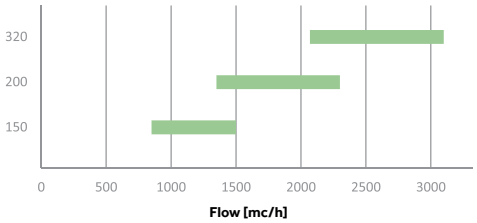
DIMENSIONS

Model HACI-RPDX	Dimensions [mm]										
	A	A1	A2	B	B1	B2	C	D	D1	Ø d	E
50	1495	1395	1705	880	960	1000	270	500	358	200	135
65	1685	1685	1870	885	940	965	390	428	363	250	170
80	1685	1685	1870	1125	1190	1230	390	678	446	250	170
100	1700	1700	1870	1215	1270	1320	390	621	552	250	190
130	1700	1700	1870	1215	1270	1320	390	621	552	250	190



HACI-RP 150
HACI-RP 200
HACI-RP 320

Not compatible with with MRV-S and MRV-5RC



INTRODUCTION

The HACI-RP series air renewal units are characterised by the adoption of an enthalpic special cross-flow paper exchanger. This avoids, or at least greatly reduces, the use of post-treatment systems for replacement air, with what follows at the energy and plant level.

The units in the HACI-RP series for ceiling or similar applications allow for large plant configurations.
They have as standard compact filters with F7 efficiency on the renewal flow and M5 on the discharge flow.

These units integrate optimally with traditional heating/environmental conditioning systems, either in series or in parallel.

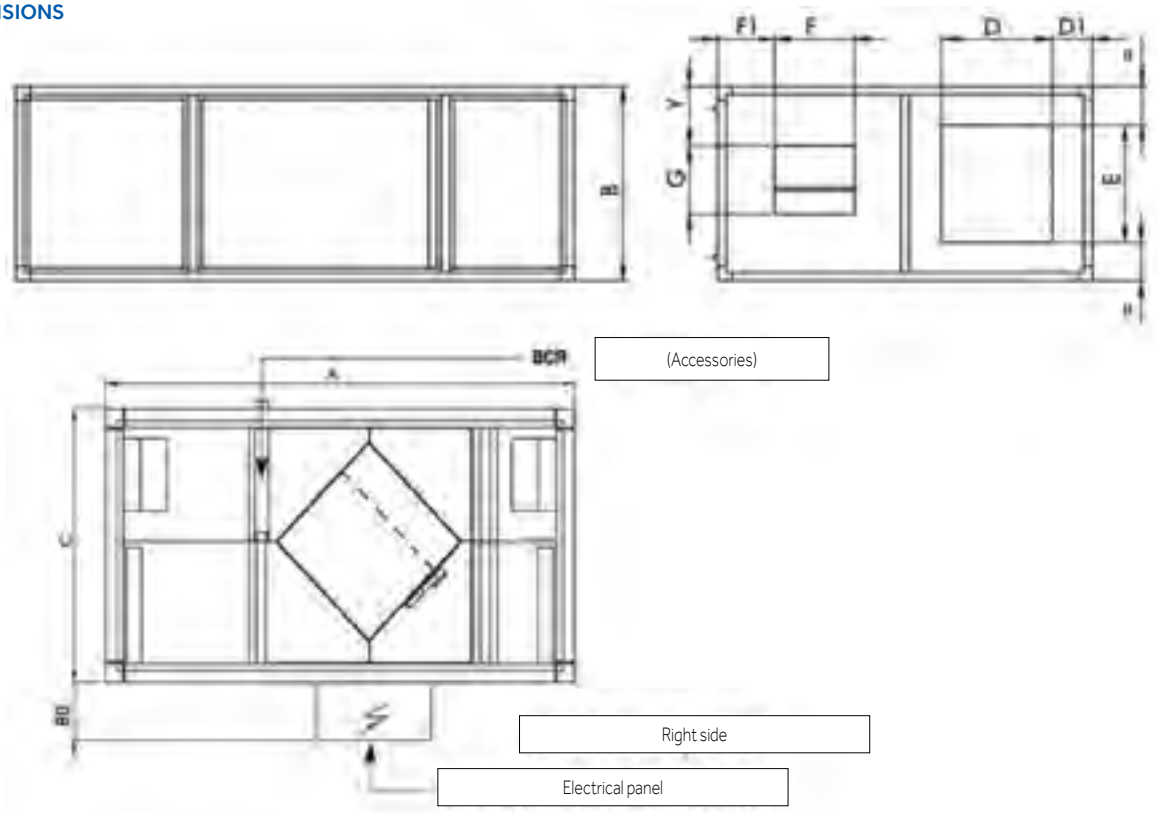
TECHNICAL SPECIFICATIONS

- Sandwich type panel structure sp. 23 mm, sheet metal pre-varnished externally with thermo-acoustic insulation polyurethane injected with a density of 45 kg/m³.
- Enthalpic heat recovery unit from static-type paper in counter-current flows with close pitch. Exchanger removable from below for maintenance on all models.
- Centrifugal double-intake electric fans with forward blades with directly coupled electric motor, continuously adjustable.
- Filtering sections consisting of compact cell filters with medium density propylene for low pressure drop; can be removed sideways; in F7 efficiency class in the renewal flow, and M5 in the discharge flow.
- Controller included.
- Free-cooling system, with by-pass section integrated in the manual controller, (Automated Controller OPTIONAL).

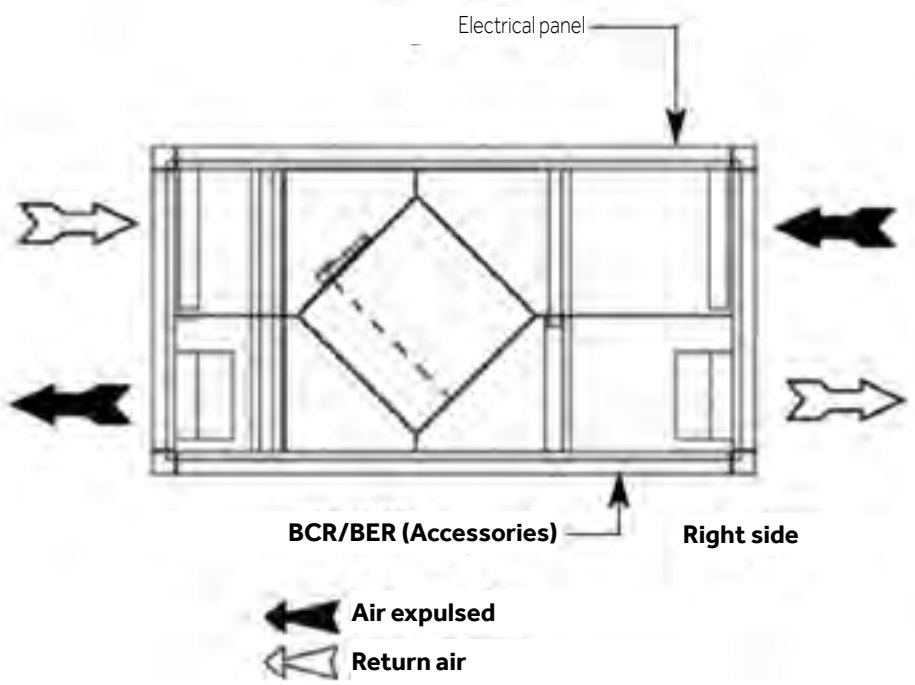
HACI-RP model		150	200	320
Rated air flow	m³/h	1500	2300	3100
Nominal useful static pressure	Pa	190	240	190
Power supply	V/ph/Hz	230/1/50		
Total maximum absorbed current	A	6.0	14.0	14.0
FANS		**150**	**200**	**300**
Motor type		AC	AC	AC
Speed No.		3	3	3
Ventilation control (1)		Man	Man	Man
Specific indoor ventilation power - SFP indoor (5)	W/(m³/s)	1031	1008	966
Total nominal absorbed power	kW	0.96	1.55	1.67
Sound pressure level (2)	db (A)	62	62	68
HEAT RECOVERY UNIT		**150**	**200**	**300**
Winter thermal efficiency (3)	%	73.0	73.2	71.4
Winter enthalpic efficiency (3)	%	62.5	62.7	55.5
Summer thermal efficiency (4)	%	60.1	60.2	57.4
Summer enthalpic efficiency (4)	%	58.3	58.5	52.5
Dry enthalpic efficiency (5)	%	73.1	73.2	73.0

(1) Man = Manual from selector or keyboard;
(2) Sound pressure level rated at 1m by: ducted delivery-discharge / ducted external air intake / inspection side at nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU Regulation 1253/2014: at nominal pressure; temperature and humidity conditions for EN 308

DIMENSIONS



Model HACI-RP	Dimensions												Weight
	A [mm]	B [mm]	C [mm]	D [mm]	D1 [mm]	E [mm]	F [mm]	F1 [mm]	G [mm]	G1 (1) Ø [inch]	Y [mm]	K [mm]	[kg]
150	2000	680	1290	400	130	410	300	170	260	3/4"	220	600	190
200	2000	680	1290	400	50	410	330	170	290	3/4"	155	620	200
300	2100	680	1290	500	50	510	330	195	290	3/4"	155	700	220
(1) Optional BCR post-heating water coil connections													



The orientations depicted are related to the machine seen from above

Not compatible with with MRV-S and MRV-5RC

HACI-RO 15
HACI-RO 28

TECHNICAL SPECIFICATIONS

Range consisting of two models for horizontal ceiling installation or vertical wall installation, comprising of:

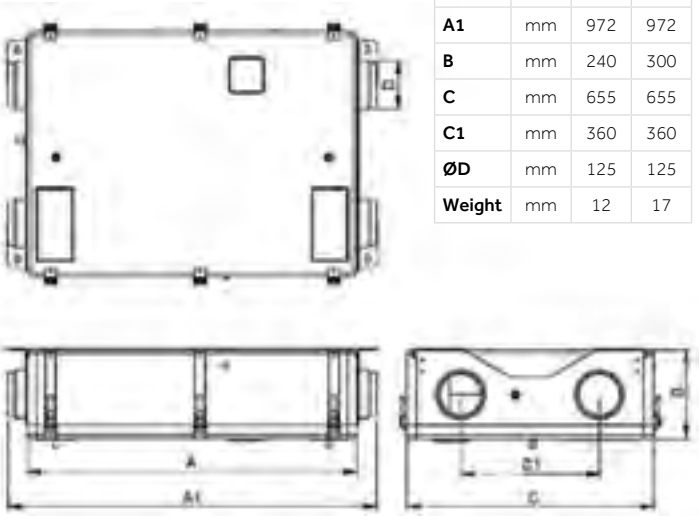
- Expanded polypropylene case and cover equipped with external reinforcing sheets for locking seals and for ceiling/wall fastening; internal aerodynamic shaping of the air circuits to minimise pressure drops and hiss
- G4 efficiency class synthetic panel filters (optional and in addition, F7 compact filters in polypropylene for low pressure drop)
- High-efficiency static air-air counter-current recovery unit in polystyrene complete with motorized by-pass system
- Free impeller fans in polyamide and fiberglass reinforced directly coupled to DC electric motor
- Circular aeraulic connections in plastic material equipped with additional sealing gasket
- Recovery unit complete with motorized partial by-pass system
- Electronic control complete with NTC probes and user interface
- Remote user interface with built-in room probe on PRE
- User interface and wireless remote sensors on PRH
- Wireless wi-fi remote control
  Coil life of 6 years
  3 speeds + timed ambient washing program
  4-key user interface

Model HACI-RO			15	28
Maximum air flow (at 100 Pa)		m^3/h	170	260
Rated air flow		m^3/h	155	200
Nominal static pressure		Pa	150	170
LpA sound pressure level (1)		db (A)	39	43
SEC Class (1)			A	A
Operating limits		°C	-15 ÷ 45	
FANS			**15**	**28**
Power supply		V/ph/Hz	230/1/50	
Maximum absorbed current (2)		A	1.20	1.50
Maximum absorbed power (2)		W	130	170
Speed No.			Adjustable >3	
HEAT RECOVERY UNIT			**15**	**28**
Winter regime (3)	Efficiency	%	90.2	90.0
	Air entered	°C / %	17.2 / 17.5	17.4 / 17
Summer regime (4)	Efficiency	%	84.2	83.9
	Air entered	°C / %	26.9	27.0 / 67

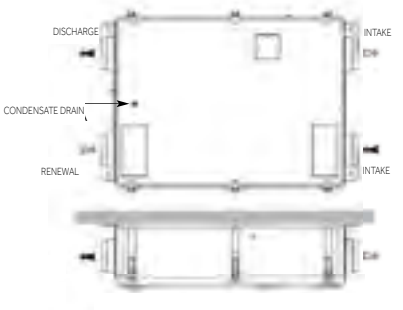
(1) At the reference flow rate equal to 70% of the maximum value, LpA 1.5 m of distance in open field
(2) Maximum total value of the two fans
(3) Outdoor air: -5 °C, RH 80%, ambient air: 20 °C, RH 50%
(4) Outdoor air: 32 °C, RH 50 %, ambient air: 26 °C, RH 50 %

DIMENSIONS

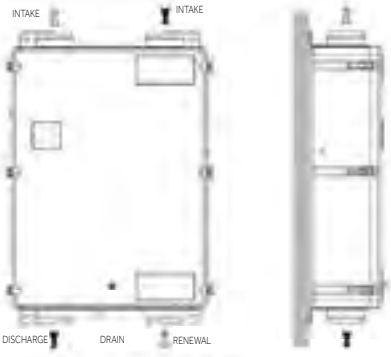
Model		15	28
A	mm	874	874
A1	mm	972	972
B	mm	240	300
C	mm	655	655
C1	mm	360	360
ØD	mm	125	125
Weight	mm	12	17



HORIZONTAL CEILING



WALL VERTICAL



Heat recovery efficiency up to 90%

Bypass device Integrated thermal

EC Counterflow Plug &play

Not compatible with with MRV-S and MRV-5RC

HACI-RV 150
HACI-RV 250
HACI-RV 350
HACI-RV 500
HACI-RV 600

TECHNICAL SPECIFICATIONS

- Stale air extraction and fresh air entry with very high efficiency heat recovery for residential and commercial applications with moderate air replacement requirements.
- Possible integration with existing heating and air conditioning systems.
- Suitable solution for installation in environments such as laundries, cellars, technical rooms in general, with vertical connections to ducts.

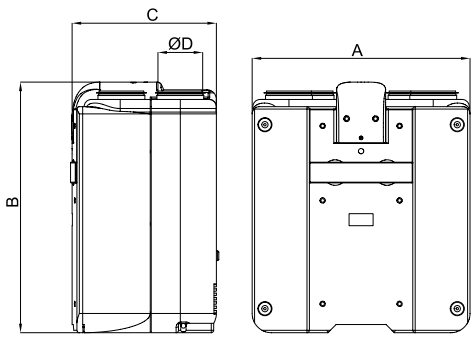
Range for vertical floor or wall unit installation, consisting of:

- Casing and cover in high density expanded polypropylene; internal aerodynamic shaping of the air circuits to minimise charge losses and hiss.
- Filters in efficiency class ISO 16890 and PM1 70% in polypropylene with low pressure drop.
- High-efficiency static air-air counter-current recovery unit in polystyrene, complete with motorised by-pass system (total of 350, 500 and 600).
- Free impeller fans in polyamide and fiberglass reinforced and directly coupled to DC electric motor.
- Reversible upper aeraulic connections between ambient and external side.
- Comprehensive electronic control with temperature probes and user interface; integrated thermal by-pass.
- Wireless remote controllable user interface and sensors.
- Standard Wi-Fi controller.

Model HACI-RV		150	250	350	500	600
Maximum nominal air flow (at 100 Pa)	m³/h	152	250	352	500	600
Maximum useful static pressure at nominal flow	Pa	300	100	280	100	100
Power supply	V/ph/Hz	230/1/50				
Maximum absorbed electrical power	W	136	136	196	196	340
Total maximum absorbed current	A	1.3	1.3	1.7	1.7	3.4
OPERATING LIMITS		**150**	**250**	**350**	**500**	**600**
Temperature conditions - external limit humidity	°C / %	-5 ... +45 °C / 5 ... 95%				
Temperature conditions - external limit humidity with BE1 /BW1 accessory	°C / %	-15 ... +45 °C / 5 ... 95%				
Temperature conditions - internal limit humidity	°C / %	+10 ... +35 °C / 10 ... 90%				
HEAT RECOVERY UNIT		**150**	**250**	**350**	**500**	**600**
Winter thermal efficiency (1)	%	87.2	87.0	85.7	88.2	84.8
Temperature of delivered air (1)	°C	17.0	22.0	16.4	17.0	16.2
Summer thermal efficiency (2)	%	82.4	79.9	80.4	81.0	79.2
Temperature of delivered air (2)	°C	27.1	27.2	27.2	27.1	27.2
SPECIFIC ECODESIGN DATA (3)		**150**	**250**	**350**	**500**	**600**
SEC moderate climate controlled with timer		**A**	**A**	**A**	**A**	**A**
SEC-class moderate climate controlled centrally		A	A	A	A	A
SEC-class moderate climate controlled locally		A	A	A+	A+	A
Sound pressure level radiated from LpA casing (4)	db (A)	38	40	42	43	44

(1) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(2) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(3) According to EU regulation 1253/2014: at the reference flow rate of 70% of the maximum, at 50 Pa useful
(4) LpA 1.5 m away in open field

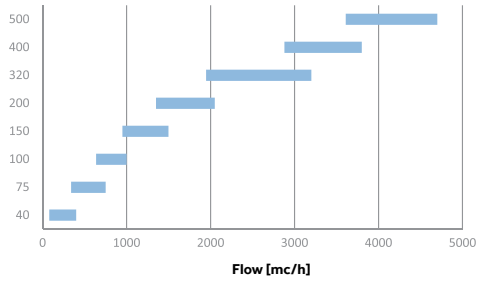
DIMENSIONS



Model		150	250	350	500	600
A	mm	700	700	905	905	905
B	mm	800	800	1030	1030	1030
C	mm	390	390	600	600	600
Ø D	mm	125	125	200	200	200
Weight	Kg	15	18	28	30	35

HACI-RA 40
HACI-RA 75
HACI-RA 100
HACI-RA 150
HACI-RA 200
HACI-RA 320
HACI-RA 400
HACI-RA 500

Not compatible with with MRV-S and MRV-5RC



INTRODUCTION

The HACI-RA series air renewal units are characterised by the adoption of a special aluminium air-to-air exchanger with counter-current flows.
This avoids, or at least greatly reduces, the use of post-treatment systems for replacement air, with what follows at the energy and plant level.

The units in the HACI-RA series for ceiling or similar applications allow for large plant configurations.
They have as standard compact filters with F7 efficiency on the renewal flow and M5 on the discharge flow (F7 in optional discharge).

These units integrate optimally with traditional heating/environmental conditioning systems, either in series or in parallel.

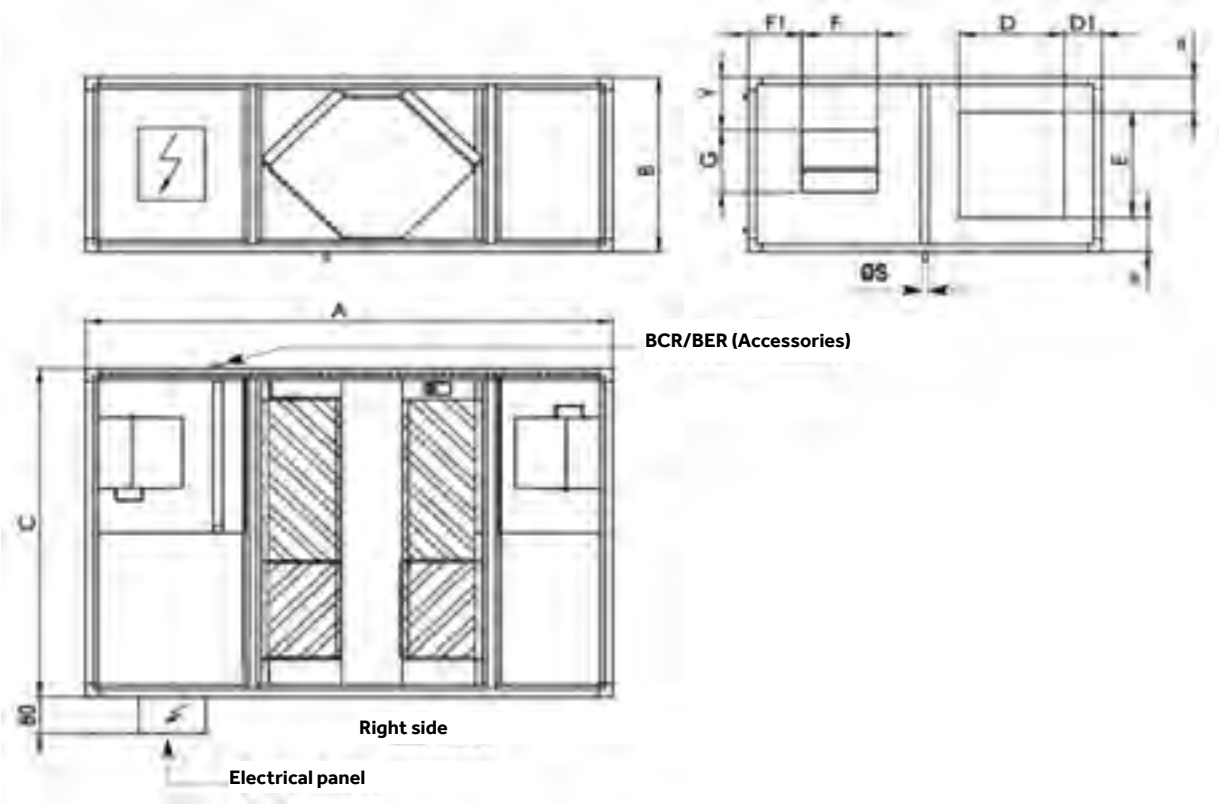
TECHNICAL SPECIFICATIONS

- Air-air heat recovery unit in static type aluminium with counter-current flows with close pitch.
  Lateral extraction of the exchanger for maintenance (except for size 40 with extraction from below).
- Sandwich type panel structure sp. 23 mm, sheet metal pre-varnished with thermo-acoustic insulation polyurethane injected with a density of 45 kg/m³.
- Centrifugal double-intake electric fans with forward blades, directly coupled electric motor, continuously adjustable; high-efficiency electric motors with DC technology (DC standard on size 400-500).
- Filtering sections consisting of compact cell filters with medium density in low load loss polypropylene, which can be removed sideways, in the F7 efficiency class in the renewal flow, and M5 in the discharge flow.
- Galvanised sheet metal condensate collection tank with lower drain connection.
- Standard controller.
- Manual integrated free-cooling system, (Optional automated).

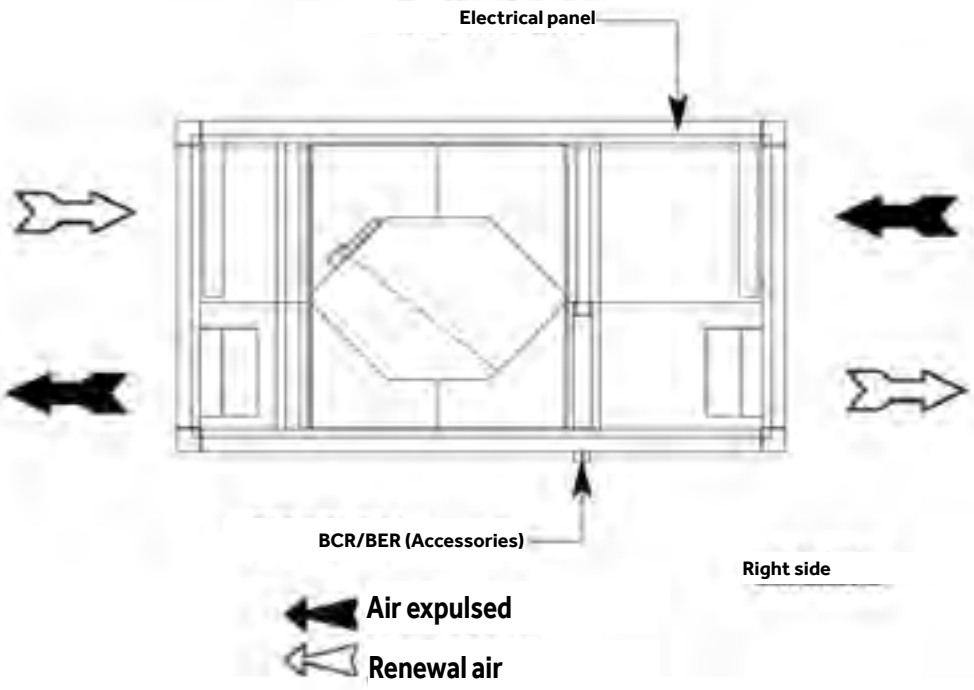
Model HACI-RA		40	75	100	150	200	320	400	500
Rated air flow	m³/h	400	750	1000	1500	2050	3200	3800	4700
Nominal useful static pressure	Pa	160	120	130	160	120	180	200	200
Maximum useful static pressure	Pa	160	120	130	160	120	180	330	200
Power supply	V/ph/Hz	230/1/50							
Total maximum absorbed current	A	1.5	2.9	6.0	6.0	6.0	14.0	8.8	8.8
FANS		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
Motor type		AC	AC	AC	AC	AC	AC	EC	EC
Speed No.		4	3	3	3	3	3	Multiple	Multiple
Ventilation control (1)		Man	Man	Man	Man	Man	Man	0-10V VSD	0-10V VSD
Specific indoor ventilation power - SFP indoor (5)	W/(m³/s)	740	934	1105	1102	1078	1054	949	935
Total nominal absorbed power	kW	0.17	0.38	0.52	0.80	1.00	1.79	1.78	2.19
Sound pressure level (2)	db (A)	59	60	63	63	63	69	70	73
HEAT RECOVERY UNIT		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
Winter thermal efficiency (3)	%	83.6	82.9	81.6	83.3	83.7	86.8	84.1	84.2
Summer thermal efficiency (4)	%	75.5	75.9	74.5	75.1	75.6	78.0	75.0	75.1
Dry enthalpic efficiency (5)	%	75.9	76.4	75.0	75.6	76.0	76.3	75.5	75.6

(1) Multiple = Multispeed > 3; Man = Manual from selector or keyboard; 0-10V = From potentiometer or keyboard; VSD = Constant flow or modulation by air quality / humidity sensor
(2) Sound pressure level rated at 1m by: ducted delivery-discharge / ducted external air intake / inspection side at nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU Regulation 1253/2014: at nominal pressure; temperature and humidity conditions for EN 308

DIMENSIONS



Model HACI-RP	Dimensions													Weight
	A [mm]	B [mm]	C [mm]	D [mm]	D1 [mm]	E [mm]	F [mm]	F1 [mm]	G [mm]	G1 (1) Ø [inch]	S Ø [inch]	Y [mm]	K [mm]	[kg]
150	2200	550	1400	300	100	410	230	145	260	3/4"	1/2"	90	600	170
200	2200	550	1400	500	100	410	300	215	260	3/4"	1/2"	90	620	200
320	2500	680	1400	500	150	510	330	195	290	3/4"	1/2"	115	700	230
400	2500	680	1400	500	100	510	405	157.5	405	1"	1/2"	/	700	260
500	2500	680	1700	500	185	510	405	232.5	405	1"	1/2"	/	800	300

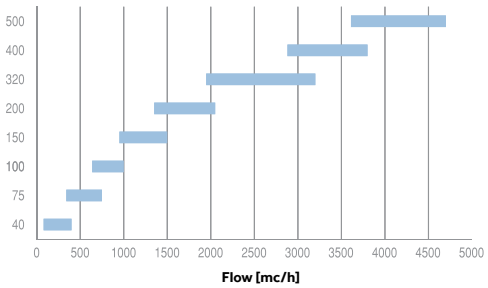


The orientations depicted are related to the machine seen from above

For vertical installation
DC motors

HACI-RAEV 40
HACI-RAEV 75
HACI-RAEV 100
HACI-RAEV 150
HACI-RAEV 200
HACI-RAEV 320
HACI-RAEV 400
HACI-RAEV 500

ErP 2018 COMPLIANT



INTRODUCTION

The HACI-RAV series air renewal units are characterised by the adoption of a special aluminium air-to-air exchanger with counter-current flows. This avoids, or at least greatly reduces, the use of post-treatment systems for replacement air, with what follows at the energy and plant level.
The units of the HACI-RAV series in horizontal or vertical version allow for large plant configurations and have standard fans that can be replaced, alternatively, by the corresponding DC technology (optional). They have compact filters as standard with efficiency ISO 16890 ePM_1 55% (F7 EN 779) on the renewal flow and ePM_{10} 55% (M5 EN 779) on the discharge flow ePM_1 55% (F7 EN 779) in optional discharge.
These units integrate optimally with traditional heating/environmental conditioning systems, whether they are placed in series or in parallel.
The HACI-RAV series consists of eight models, exclusively in the vertical version, to cover a ventilation requirement from 400 to 5000 m^3/h. Each model is available in two configurations.

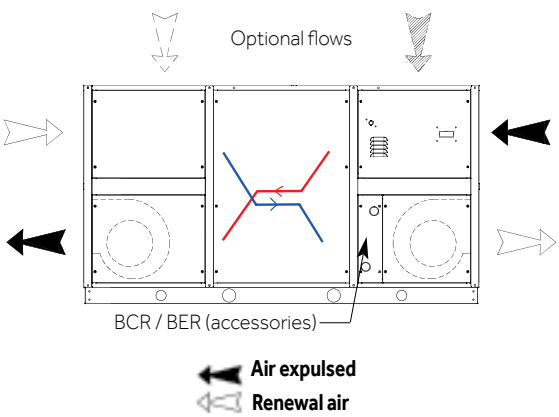
PCUE CONTROL PANEL AS STANDARD

- With this panel it is possible to manage the operating point of the DC fans, attributing to the 3 speeds, customized flow values by acting on the 0-10 V signal.
- Manages the activation of a water coil or electrical resistance by ON/OFF signal.
- Check the free-cooling function by reading the temperature probes installed in the machine,
- Manages the coil antifreeze and defrosting function of the recovery unit.
- Alternative command on PCUEM demand, same characteristics as the PCUE but with MODBUS RTU output as standard for third-party control.

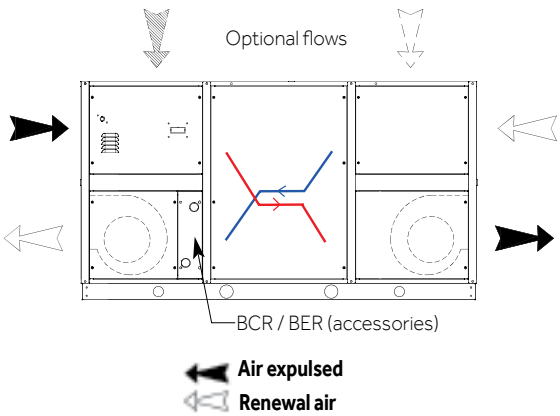
TECHNICAL SPECIFICATIONS

- High efficiency static heat recovery unit with removable aluminium counter-current plates for any extraordinary cleaning.
- Acoustic and thermal insulation of the panels by means of polyurethane with an average thickness of 23 mm.
- Renewal air and discharge air fans of double intake centrifugal type.
- Directly coupled electric motor, type DC in HACI-RAEV.
- Standard air filters with ISO 16890 ePM_1 55% efficiency (F7 EN 779) in delivery and ePM_{10} 55% (M5 EN 779) in intake, easily removable sideways for the purpose of allowing their periodic cleaning.
- Fresh air filter pressure switch with visual warning of dirty filter alarm.
- The supporting structure and the side panels (sandwich type, removable) are made of pre-varnished sheet metal.
- By pass for defrosting or free cooling.

ORIENTATION TYPE 01



ORIENTATION TYPE 02

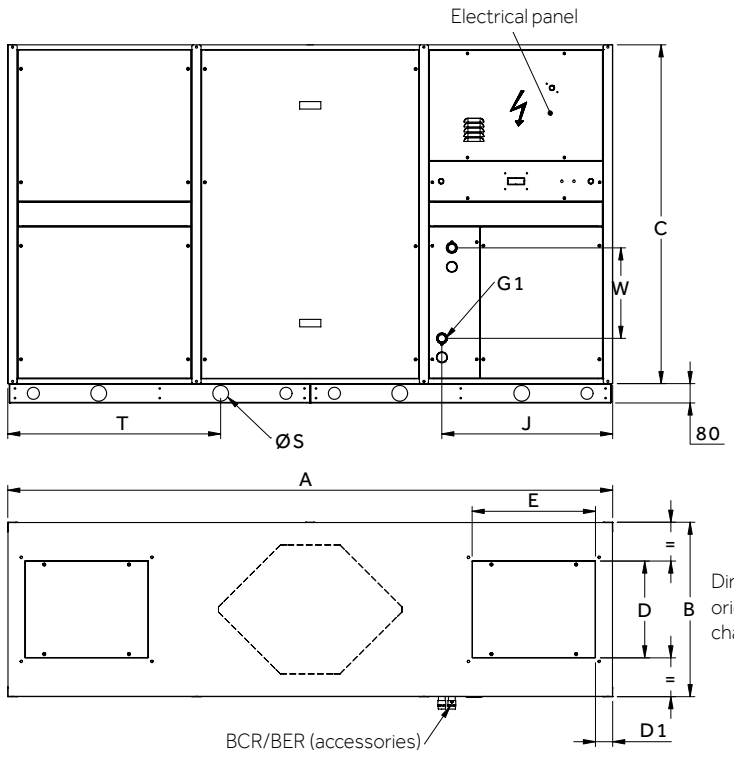


The orientations depicted are related to the machine seen from inspection side

Model HACI-RAV		40	75	100	150	200	320	400	500
Rated air flow	m^3/h	400	750	1000	1500	2050	3200	3800	4700
Nominal useful static pressure	Pa	160	120	180	160	120	180	200	200
Maximum useful static pressure	Pa	340	160	520	500	540	375	330	200
Power supply	V/ph/Hz	230/1/50		230/1/50-60					
Total maximum absorbed power	kW	0.56	0.56	2.12	2.12	2.12	2.35	2.11	2.11
Total maximum absorbed current	A	2.4	2.4	9.0	9.0	9.0	10.0	8.8	8.8
FUNCTIONAL LIMITATIONS		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
Temperature conditions - external limit humidity	°C / %	-5 ... +45 °C / 5 ... 95%							
Temperature conditions - external limit humidity with RMS and/ or BER-PRR accessory	°C / %	-15 ... +45 °C / 5 ... 95%							
Temperature conditions - internal limit humidity	°C / %	-15 ... +45 °C / 5 ... 95%							
FANS		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
Motor type		EC							
Speed No. (1)	No.	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple	Multiple
Ventilation control (1)		0-10V	0-10V	0-10V VSD	0-10V VSD	0-10V VSD	0-10V VSD	0-10V VSD	0-10V VSD
Total nominal absorbed power	kW	0.16	0.30	0.57	0.76	0.84	1.77	1.78	2.11
Total nominal absorbed current	A	0.7	1.3	2.4	3,2	3.6	7.5	7.6	9.0
HEAT RECOVERY UNIT		**40**	**75**	**100**	**150**	**200**	**320**	**400**	**500**
Winter thermal efficiency (2)	%	83.6%	82.9%	81.6%	83.3%	83.7%	86.8%	84.1%	84.2%
Thermal power recovered (2)	kW	2.76	5.13	6.73	10.30	14.14	22.90	26.34	32.62
Temperature of delivered air (2)	°C	15.9	15.7	15.4	15.8	15.9	16.7	16.0	16.1
Summer thermal efficiency (3)	%	75.5%	75.9%	74.5%	75.1%	75.6%	78.0%	75.0%	75.1%
Refrigerated power recovered (3)	kW	0.61	1.15	1.50	2.27	3.12	5.02	5.73	7.10
Temperature of delivered air (3)	°C	27.5	27.4	27.5	27.5	27.5	27.3	27.5	27.5
Dry thermal efficiency (4)	%	75.9%	76.4%	75.0%	75.6%	76.0%	76.3%	75.5%	75.6%
Sound power level radiated by casing (5)	dB(A)	57	60	59	61	59	64	66	68

(1) Multiple = Multispeed > 3
0-10V = From potentiometer or keyboard
VSD = constant flow or modulation by air quality / humidity sensor
(2) outdoor air -5°C 80% RH; ambient air 20°C 50% RH
(3) outdoor air 32°C 50% RH; ambient air 26°C 50% RH
(4) According to EU regulation 1253/2014: at nominal pressure; temperature and humidity conditions referring to EN 308
(5) Sound power level at nominal operating conditions

DIMENSIONS



Dimensional drawing referred to orientation 2: the dimensions do not change with the orientation.

Model HACI-RAV	Dimensions															Weight
	A [mm]	B [mm]	C [mm]	D [mm]	D1 [mm]	E [mm]	F [mm]	F1 [mm]	G [mm]	G1 (1) Ø inç	S (3) Ø inç	T [mm]	K (2) [mm]	J (1) [mm]	W (1) [mm]	[kg]
40	1480	420	830	200	80	210	230	190 / 240	70	3/4"	1/2"	360	500	412	177	90
75	1940	520	1070	300	80	310	230	135	210	3/4"	1/2"	710	500	550	190	150
100	1940	520	1070	300	80	310	230	135 / 235	260	3/4"	1/2"	710	500	550	190	160
150	2200	520	1080	300	70	410	230	165 / 270	260	3/4"	1/2"	800	600	550	265	180
200	2200	720	1480	500	70	410	300	165 / 270	260	3/4"	1/2"	800	620	550	350	220
320	2500	720	1480	400	80	510	330	195 / 350	290	3/4"	1/2"	875	700	620	375	250
400	2500	720	1480	500	80	510	405	150 / 280	405	1"	1/2"	875	700	620	375	280
500	2500	720	1780	500	80	510	405	150 / 280	405	1"	1/2"	875	800	620	375	330

(1) Optional BCR post-heating water coil connections
(2) Note referring to the RMS accessory (see figure on the previous page)
(3) Condensate drain

HACI-HP/E/EI 35
HACI-HP/E/EI 60
HACI-HP/E/EI 100
HACI-HP/E/EI 150
HACI-HP/E/EI 230
HACI-HP/E/EI 320
HACI-HP/E/EI 450

Standard controller installed on the machine.
Possibility of remote control via optional wired keyboard.

INTRODUCTION

The HACI-HP air renewal units are characterised by the adoption of a double energy recovery system, otherwise lost during the discharge of the stale air: the first, static type, by means of a cross-flow recovery unit with aluminium plates, the second (in cascade to the previous one), of the active type, created by means of a reversible cooling circuit.
This allows, with a single independent device, to satisfy at the same time the renewal of the air in respect of comfort, the reduction of the thermal loads associated with it and energy savings, thanks to the very high overall efficiency, both in winter and summer.
Together with their compact dimensions, the peculiar characteristics of these units facilitate installations unthinkable with traditional systems, requiring greater complications and plant costs.
In its new guise, HACI-HP allows even greater accessibility to the electrical panel for easier maintenance.
These units integrate optimally with traditional heating/environmental conditioning systems, whether they are placed in series or in parallel.

ATTENTION: the HACI-HP thermodynamic recovery units have been designed to extract and renew the air in the environments where they are installed. The refrigerant circuit on board is sized to neutralise the air entering the environment as much as possible so as not to alter the climatic conditions of the environment. These units are NOT to be considered air conditioners, the thermal loads of the rooms must be managed by other properly sized thermal or refrigeration sources .

TECHNICAL SPECIFICATIONS

- Frame in extruded aluminium profile, Anticorodal 63 alloy, with knot joints in preloaded nylon
- Sandwich type buffer panels sp. 23 mm, sheet metal galvanized internally and pre-varnished externally with thermo-acoustic insulation polyurethane injected with a density of 45 kg/m^3
- Filtration sections at the intake, consisting of filters with synthetic cells in efficiency class G4, removable both from below and laterally
- Centrifugal double-intake electric fans with forward blades with directly coupled electric motor.
- First stage of thermal transfer (static) by means of an air-air exchanger with crossed flows with aluminium exchange plates; lower condensate collection tank, extended to the whole area dedicated to heat treatment
- Second stage of thermal transfer (active) by means of a heat pump cooling circuit (with R410A gas) consisting of a hermetic compressor (rotary or scroll depending on the size of the machine), evaporating and condensing coils with copper pipes and continuous aluminium fins, electronic expansion valve, liquid separator and receiver, 4-way valve for cycle inversion, high and low pressure switches, freon filter, liquid sight glass
- Internal electrical panel for load management; NTC type temperature probes on both air circuits; electronic microprocessor control for automatic management of room temperature, hot / cold switching and defrosting cycles; remote control panel up to 20 m from the unit

CONSTRUCTION AND FUNCTIONAL FEATURES SPECIFIC TO HACI-HP / HPE / HPEI

- The **HP** series uses AC type fans and fixed power compressors. For the unit to function properly, the load losses introduced as a result of the installation of ducts and diffusers will need to ensure a final air flow of between +/- 10% of the nominal flow rate indicated in the table. **The operation of the unit with airflow beyond the indicated limit (+/-10%), does not guarantee the perfect operation of the refrigeration circuit in terms of yield, efficiency and reliability.**
- The **HPE** series, unlike the **HP**, uses DC motor fans and fixed power compressors. With DC motor fans it is possible to obtain higher static PA pressures than conventional AC motors. Sizes ranging from 100 to 450, thanks to DC technology, can work at a constant flow rate. The flow can also be electronically varied by +/-10% compared to the nominal flow.
  Operating the unit with airflow beyond the indicated limit (/-10%, due to installation factors, ducts and diffusers) does not guarantee the perfect operation of the refrigeration circuit in terms of yield, efficiency and reliability.
- The **HPI** series is equipped with a sophisticated inverter control that acts on the DC fans, compressor speed and expansion valve opening. In doing so, we have the possibility of varying the nominal air flow from -35% to +20% (for size 35 from -15 to +20%) of the latter. Automatically the compressor and the expansion valve will adapt to the flow and temperature values obtained, in order to guarantee the correct supply of power to the exchangers. This function is very useful for adapting the performance of the installed recovery unit to the actual crowding of the room where we intend to renew the air. (Example, if the room has a capacity of 100 and the recovery unit has been sized for 100, and if the room is crowded only at 80% or 70% or 110%, with the HPI series we have the possibility of reducing or increasing performance in order to guarantee the correct energy consumption according to the real crowding. It is possible to automate this function by installing a CO_2 probe in the environment that will communicate to the HPI recovery unit, the real% concentration of CO_2 present (regardless of the number of people) so that the inverter control intervenes on the various parameters / components of the recovery unit to adapt operation and return the CO_2 value in the room to the defined / allow limits, for ideal comfort with the right energy consumption. Sizes from 100 to 450 can also work with constant air flow to compensate for slight charge losses during the installation phase. **Operating the unit with airflow beyond the indicated limit (-30 +/20%, due to installation factors, ducts and diffusers) does not guarantee the perfect operation of the refrigerated circuit in terms of yield, efficiency and reliability.**

Model HACI-HP		35	E 35 EI 35	60	E60 EI60	100	E100 EI100	150	E150 EI150	230	E230 EI230	320	E320 EI320	450	E450 EI450
Nominal air flow (1 speed)	m³/h	350		600		1000		1500		2300		3200		4500	
Useful static pressure delivered	Pa	165	270	170	285	195	295	155	290	155	365	185	265	175	270
Useful static pressure intake	Pa	140	245	100	215	140	240	95	230	95	305	115	195	110	205
Sound pressure level (1)	db (A)	59 / 47 / 52		64 / 50 / 55		62 / 49 / 54		67 / 54 / 57		65 / 51 / 59		68 / 54 / 59		70 / 56 / 59	
FUNCTIONAL LIMITATIONS		**35**	**E 35 EI 35**	**60**	**E60 EI60**	**100**	**E100 EI100**	**150**	**E150 EI150**	**230**	**E230 EI230**	**320**	**E320 EI320**	**450**	**E450 EI450**
Standard configuration winter limit conditions	°C / %	Min -10°C OUT & Min 19°C 50% IN													
Winter limit conditions with RMS accessory	°C / %	Min -20°C OUT & Min 19°C 50% IN													
Summer limit conditions	°C / %	Max 38°C 50% OUT & Max 27°C IN													
Flow variation field **HP-HPE** (suitable for proper operation)		±10%													
Flow variation field **HPEI** (suitable for proper operation)		-15% .. +20%		-35% .. +20%		-35% .. +20%		-35% .. +20%		-30% .. +20%		-35% .. +20%		-35% .. +20%	
ELECTRICAL DATA		**35**	**E 35 EI 35**	**60**	**E60 EI60**	**100**	**E100 EI100**	**150**	**E150 EI150**	**230**	**E230 EI230**	**320**	**E320 EI320**	**450**	**E450 EI450**
Power supply	V/ph/Hz	230/1/50								400/3/50 (5 wires L1+L2+L3+N+T)					
Maximum absorbed current (2)	A	5.3	5.3	9.0	9.0	13.2	13.2	20.2	20.2	10.0	10.0	15.4	15.4	16.8	16.8
PERFORMANCE IN HEATING (3)		**35**	**E 35 EI 35**	**60**	**E60 EI60**	**100**	**E100 EI100**	**150**	**E150 EI150**	**230**	**E230 EI230**	**320**	**E320 EI320**	**450**	**E450 EI450**
Static recovery efficiency	%	62	62	51	51	50	50	50	50	50	50	50	50	50	50
Total thermal power	W	3580	3580	5790	5790	9410	9410	14390	14390	21190	21190	30260	30260	36010	36010
Active thermal power recovery	W	1740	1740	2960	2960	5010	5010	7690	7690	11090	11090	16300	16300	17300	17300
Global COP (4)	W/W	10.9	10.9	9.6	9.6	9.2	9.2	8.6	8.6	8.9	8.9	9.9	9.9	12.6	12.6
PERFORMANCE IN COOLING (5)		**35**	**E 35 EI 35**	**60**	**E60 EI60**	**100**	**E100 EI100**	**150**	**E150 EI150**	**230**	**E230 EI230**	**320**	**E320 EI320**	**450**	**E450 EI450**
Static recovery efficiency	%	56	56	50	50	50	50	50	50	50	50	50	50	49	49
Total cooling power	W	2210	2210	3450	3450	5840	5840	8720	8720	12830	12830	18390	18390	21440	21440
Refrigerating power active recovery	W	1810	1810	2860	2860	4890	4890	7270	7270	10580	10580	15310	15310	16990	16990
Global EER (4)	W/W	4.2	4.2	3.9	3.9	4.2	4.2	3.9	3.9	3.9	3.9	4.1	4.1	5.0	5.0
PERFORMANCE IN COOLING (5)		**35**	**E 35 EI 35**	**60**	**E60 EI60**	**100**	**E100 EI100**	**150**	**E150 EI150**	**230**	**E230 EI230**	**320**	**E320 EI320**	**450**	**E450 EI450**
Refrigerant - GWP		R410A													
Number of circuits		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Refrigerant charge	Kg	1.8	1.8	1.8	1.8	2.6	2.6	3.0	3.0	3,2	3,2	3.6	3.6	3.8	3.8
CO_2 equivalent	Ton	3.7	3.7	3.7	3.7	5.4	5.4	6.2	6.2	6.6	6.6	7.5	7.5	7.9	7.9

(1) Sound pressure level evaluated at 1m from: duct / intake / compressor compartment.
(2) Referred to nominal flow
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Excluding the power absorbed for ventilation
(5) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR

DIMENSIONS

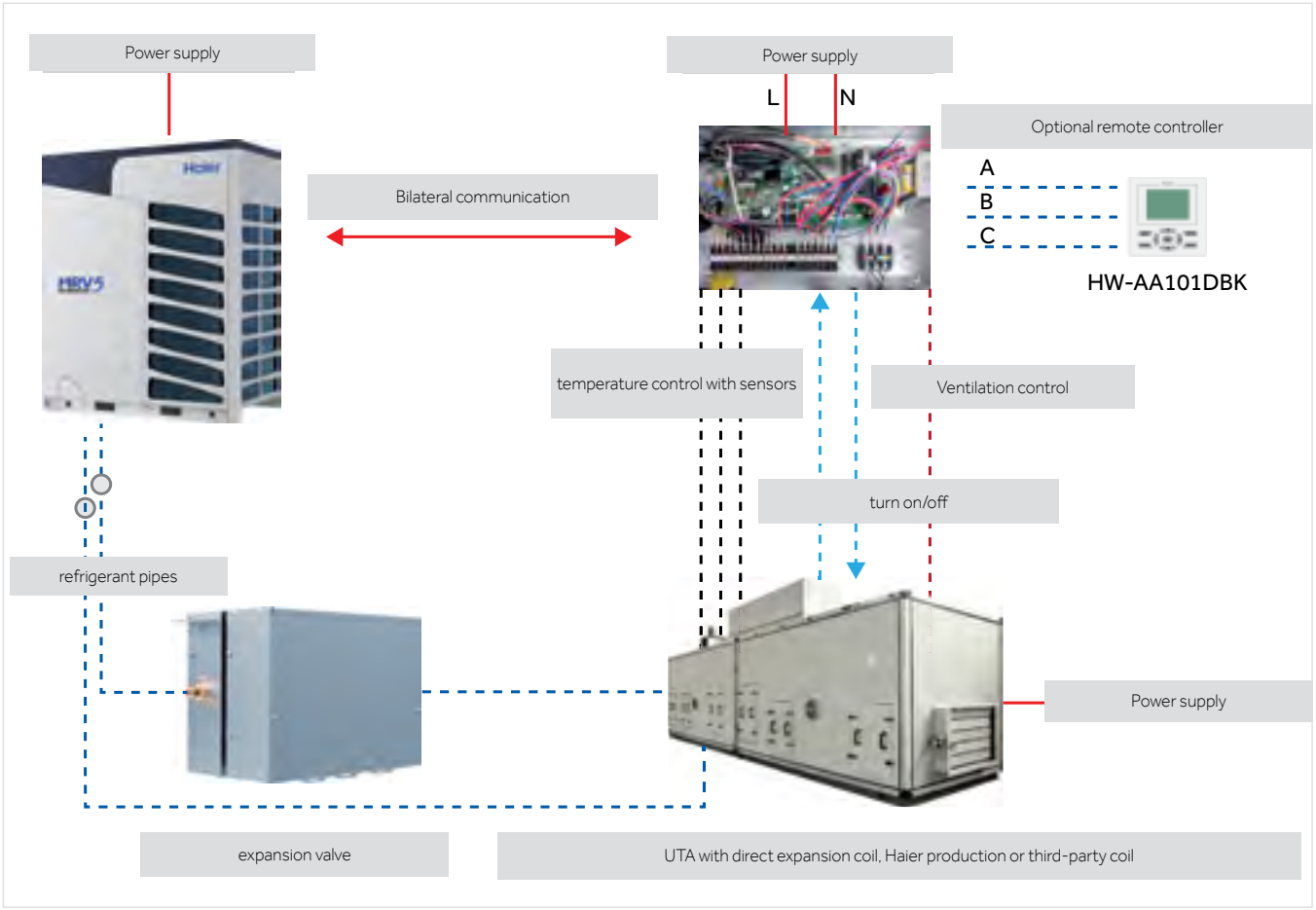
Model HACI-HP/E/I	Dimensions A [mm]	Dimensions B [mm]	Dimensions C [mm]	Weight [kg]
35	1540	370	1240	122
60	1540	370	1240	125
100	1840	410	1440	185
150	1840	500	1440	228
230	2040	550	1690	267
320	2040	650	1690	281
450	2240	710	1890	329

APPLICATIONS

Regulations require adequate air renewal in the premises according to the activity carried out inside the building. Thanks to the interface kit between high efficiency MRV units and direct expansion air treatment units, Haier is able to meet the needs for air renewal and treatment.



GENERIC CONNECTION SCHEME



CONNECTABLE OUTDOOR UNITS

Valve box	 MRV-S	 MRV5
	AH1-070B - AH1-140B - AH1-280B	AH1-280B - AH1-560B - AH1-730B
Valve box		
	1HP (3.5kW) <AHU connection capacity ≤10HP (28kW)	10HP (28kW) <AHU connection capacity ≤26HP (73kW)
UTA	 UTA, Haier	 Third-party UTA

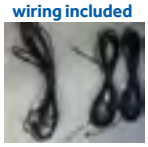
CONTENTS OF THE UTA KIT

AH1-070B
AH1-140B
AH1-280B

Refrigerant expansion valve included

Control electronics included

Temperature sensors and wiring included



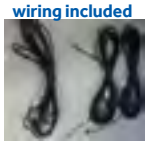
OPTIONAL HW-AA101DBK wired touch screen remote control to be ordered separately

AH1-560B
AH1-730B

Refrigerant expansion valve included

Control electronics included

Temperature sensors and wiring included

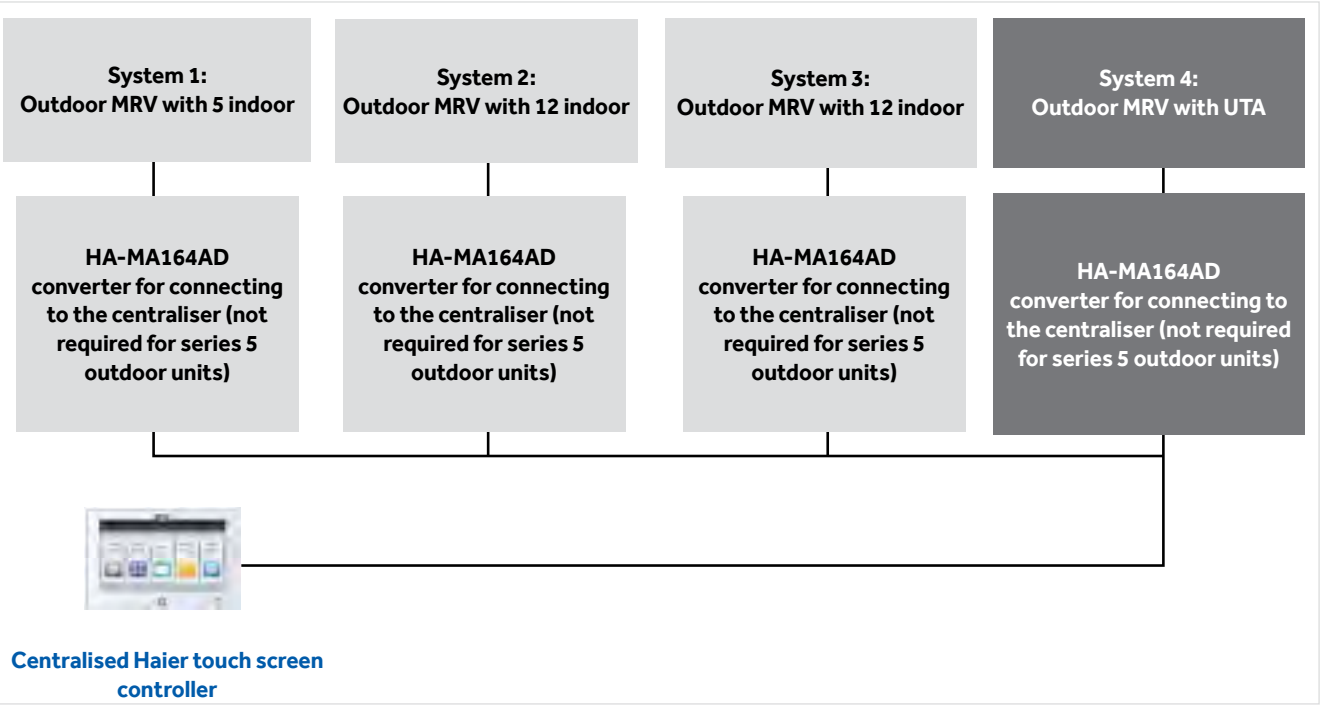


OPTIONAL HW-AA101DBK wired touch screen remote control to be ordered separately

CONTROL AND MANAGEMENT SYSTEMS

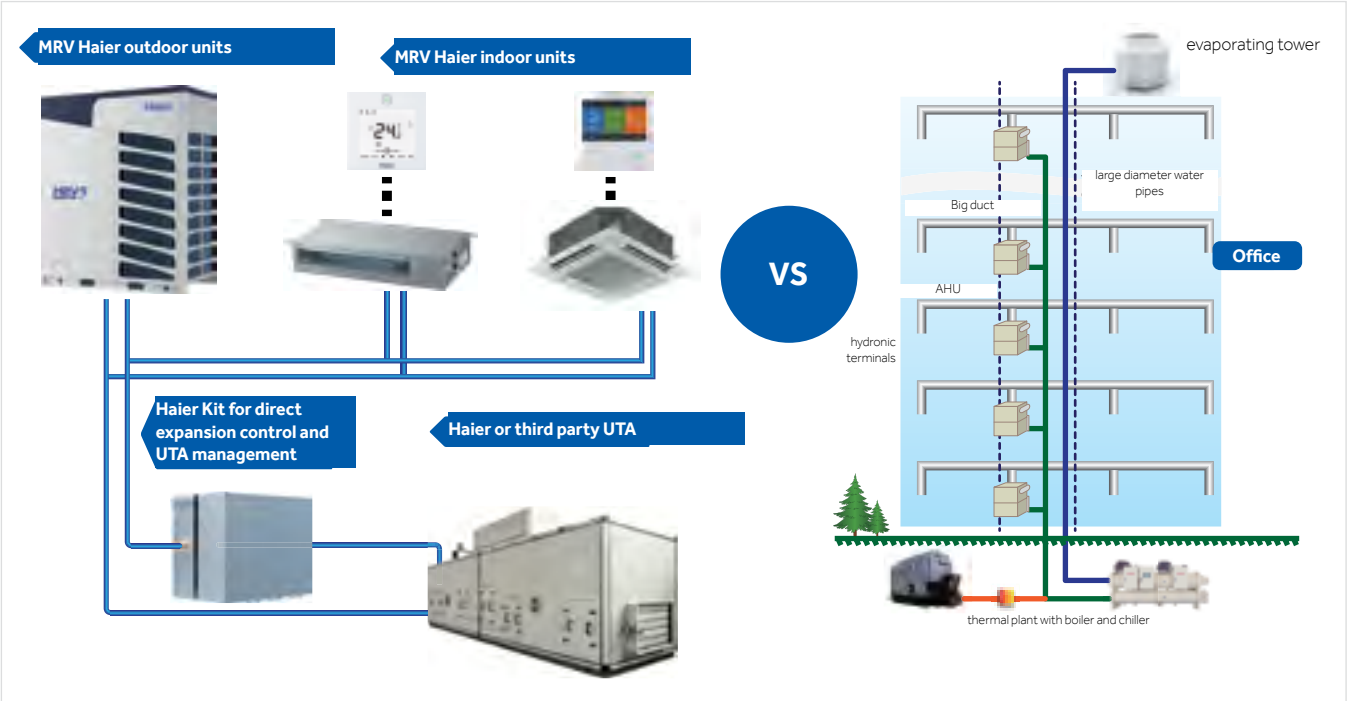
A Haier MRV-UTA system is comparable to a classic VRF system, therefore it can be inserted in a group control context.

Example



SIMPLE INSTALLATION

Compared to a traditional water system, Haier UTA-MRV direct-expansion technology minimises plant components. No cooling towers, large water pipes or pumps are needed. In addition, the efficiency of MRV/VRF/VRV systems is notoriously higher than traditional air/water systems. Haier UTA-MRV systems can be independently or centrally controlled thanks to Haier's multiple solutions for product control and management. It is also possible to power MRV and UTA indoor units within the same plant.



CHARACTERISTICS AND FUNCTIONS

- Possibility to control third-party UTA
- Compatible with MRV 5-series outdoor units and S-series" (4-12 HP)
- A single box covers a power range of 3.5 to 73 KW. Possibility to connect up to 3 boxes in parallel for large powers.
- Expansion valve and paired electronic boards, with separation possibilities for greater flexibility during installation.
- Managing 0-10 V DDC inbound signal from third-party controller
- Temperature signal control provided by a DDC control or return from the Haier sensor
- Remote contact input to select Hot/Cold mode
- Clean contact input for managing 3 ventilation speeds
- Status signal output "Defrost / Defrost"

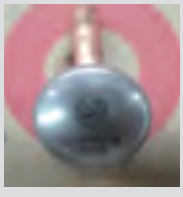
Technical specifications

AH1-070B
AH1-140B
AH1-280B

AH1-560B
AH1-730B

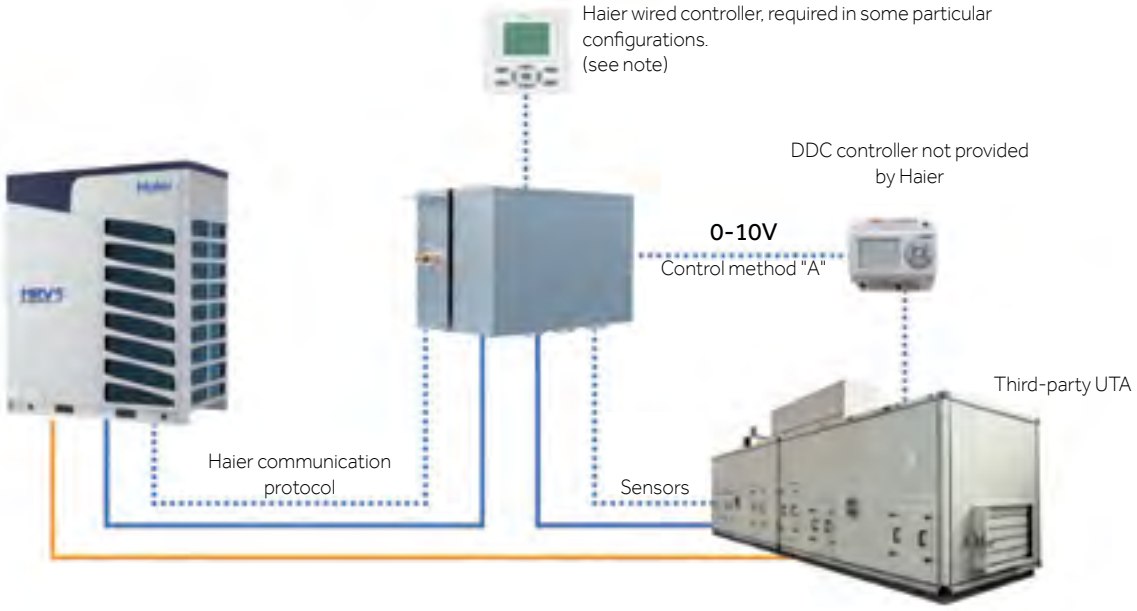
Model		AH1-070B	AH1-140B	AH1-280B	AH1-560B	AH1-730B
Commercial code		25030291J	25030292J	25030293J	25030294J	25030295J
Connectable capacity (kW UTA internal exchanger)	kW	3.5≤X≤7kW (1-3HP)	7≤X≤14kW (3-5HP)	14≤X≤28kW (5-10HP)	28≤X≤56kW (10-20HP)	56≤X≤73kW (20-26HP)
Power supply	V-Ph-Hz	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60
Unit Dimensions WxDxH	mm	420x260x165	420x260x165	420x260x165	420x260x215	420x260x215
Packaged unit dimensions WxDxH	mm	520x340x225	520x340x225	520x340x225	520x340x275	520x340x275
Net weight / Gross weight	Kg	5.5 / 8.5	5.5 / 8.5	5.5 / 8.5	6.5 / 10	6.5 / 10
Material		Galvanised sheet				
Colour		Grey	Grey	Grey	Grey	Grey
Liquid pipe diameter (input/output to UTA)	mm	9.52 / 6.35	9.52 / 6.35	9.52 / 6.35	12.7/ 15.88	12.7/ 15.88
Connection method		Flare	Flare	Flare	Flare	Flare
Maximum distance between BOX and UTA	m	5	5	5	5	5
Maximum height difference between BOX and UTA	m	5	5	5	5	5

ADVANTAGES

Valve capacity	**Possibility to control UTA with power values from 3 to 73 kW with a single valve**
High compatibility	**The same electronic boards as the MRV indoor units for simple management and maintenance**
Reliability	**The expansion valve is produced by FUJIKOKI, the Japanese leader in this sector.**  

Control method "A"

The third-party control system generates a signal ranging from 0-10 V to represent the required power demand. Haier's UTA Kit uses this input signal to adjust the power delivered by the MRV unit to meet the real need for thermal air treatment.

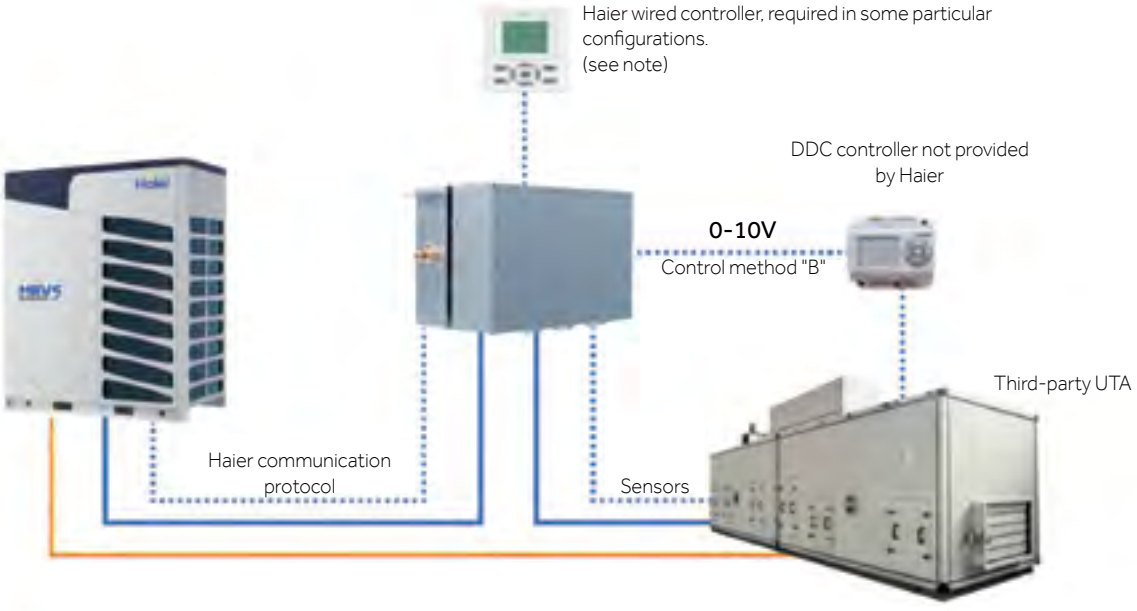


Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the UTA.

Note:
If the third-party DDC controller generates only the 0-10 V demand indicator signal, the Haier wired controller is necessary to handle the following signals: Hot/cold operating mode, switching UTA on/off, alarms.
If the DDC controller generates all the necessary signals, the Haier controller is not required.

Control method "B"

The temperature is controlled by the third-party DDC, which sends the 0-10 V modulating signal to the Haier kit that will control the temperature set point.

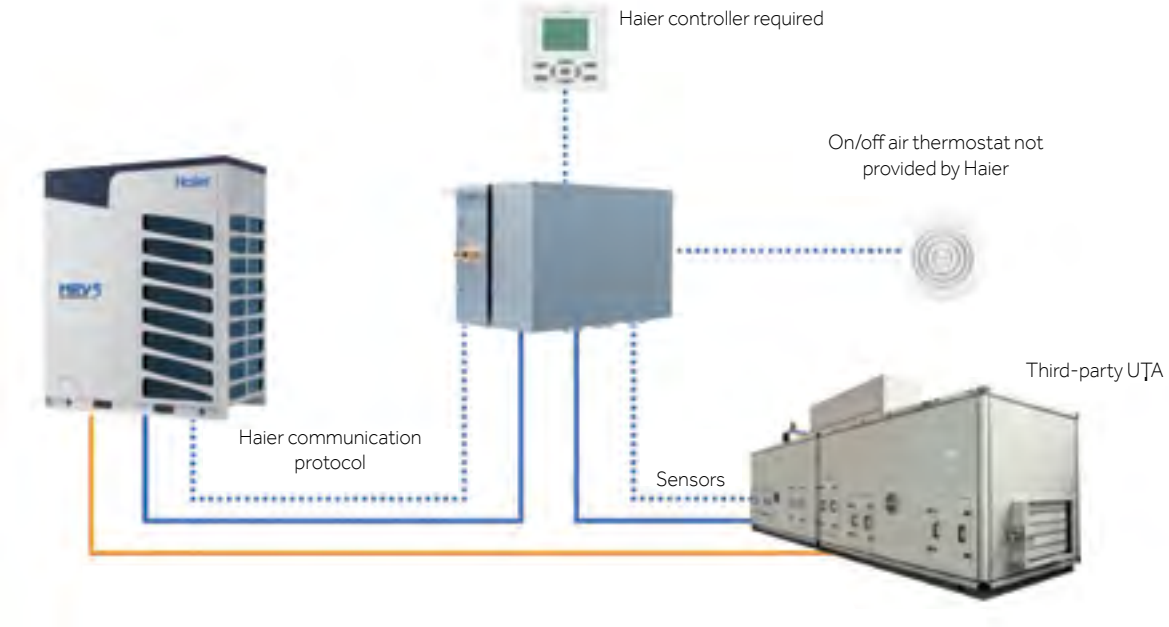


Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the UTA.

Note:
If the third-party DDC controller only generates the 0-10 V signal corresponding to the required temperature set point, the Haier wired controller is necessary to handle the following signals: Hot/cold operating mode, switching UTA on/off, alarms. If the DDC controller generates all the necessary signals, the Haier controller is not required.

Control method "C", special applications

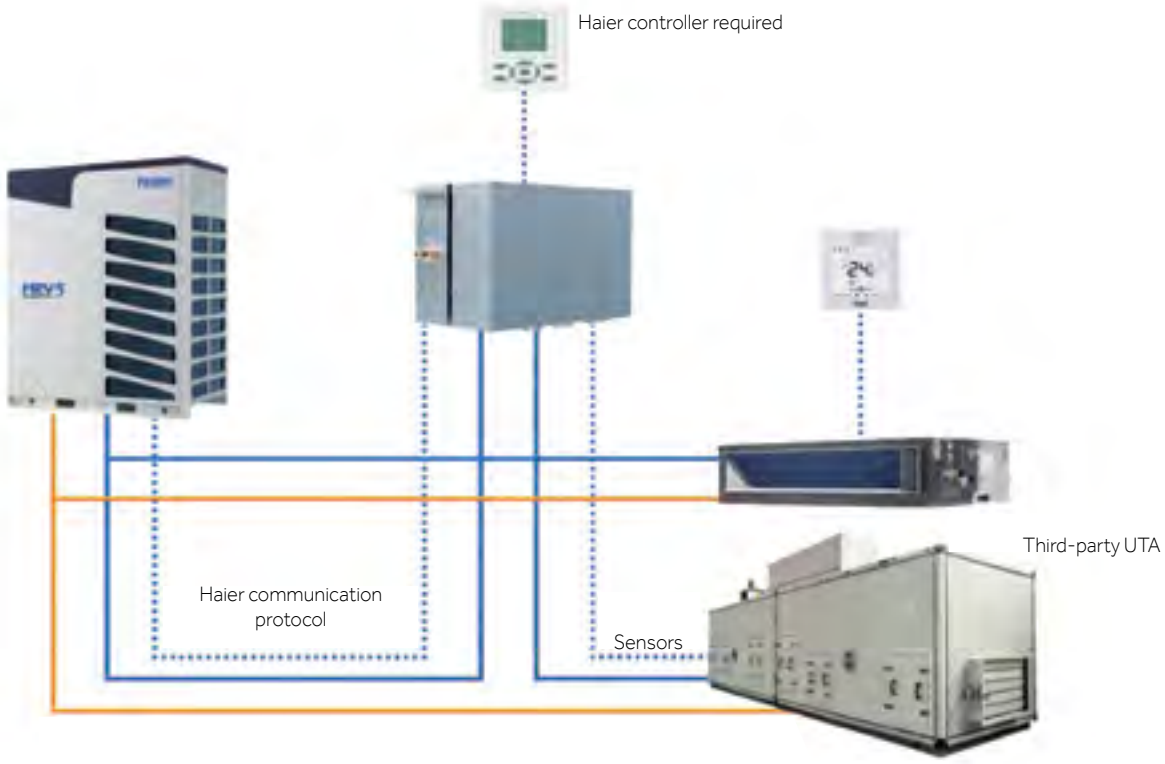
Configuring the system WITHOUT a third-party DDC. In this case, the Haier controller is necessary to make all the settings. This system requires the installation of an on/off thermostat that switches on or off the UTA when the temperature set point is reached. This "C" method is used to continuously heat or cool in an on/off manner, without modulation and therefore with less comfort in the environments.



Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the UTA.

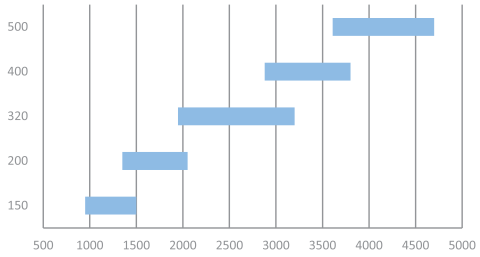
Control method "D"

MRV and UTA mixed air conditioning system work in the same cooling circuit with MRV Haier and third-party UTA indoor unit. In this case Haier controller is required.



Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the UTA.

HACI-S 150
HACI-S 200
HACI-S 320
HACI-S 400
HACI-S 500

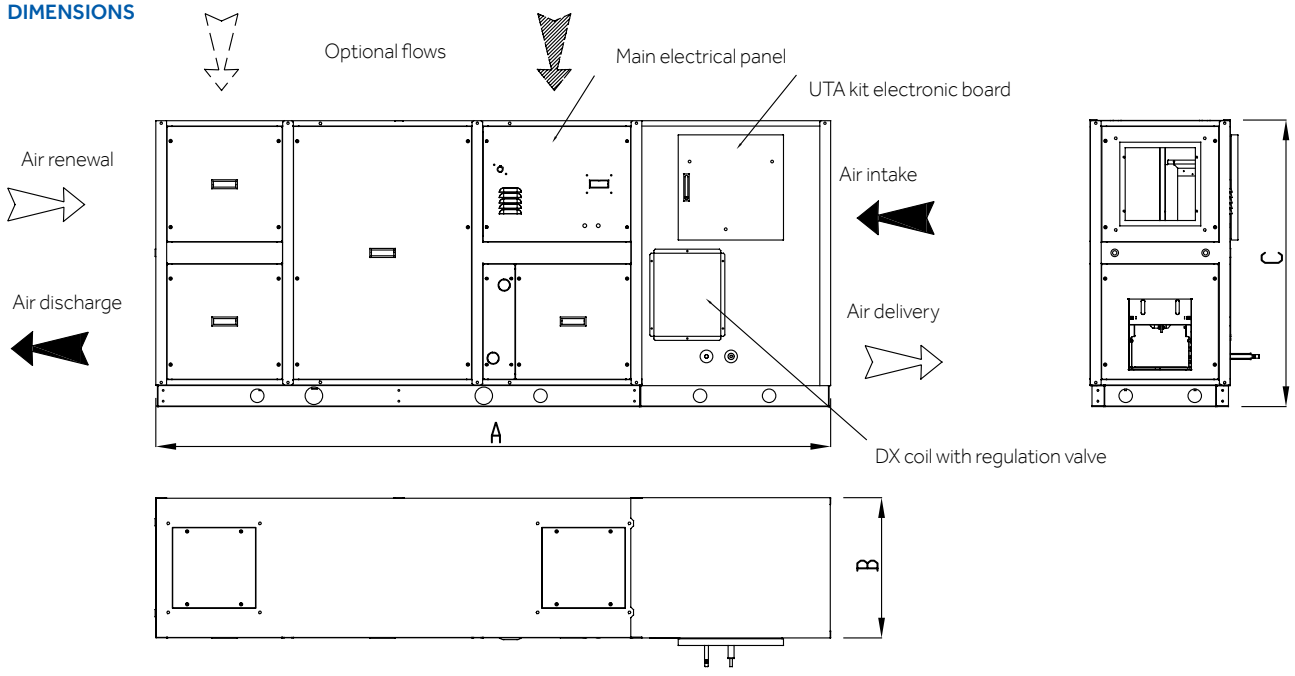


TECHNICAL SPECIFICATIONS

Primary air treatment unit with aluminium counter-current flow heat recovery unit with coil exclusively with direct expansion of standard refrigerant (no water option)

- Centrifugal double-intake electric fans with directly coupled electric motor with high efficiency DC technology.
- Constant flow fans **OPTIONAL**.
- Integrated thermal by-pass device.
- Sandwich type panel structure sp. 23 mm, sheet metal galvanised internally and pre-varnished externally with thermo-acoustic insulation polyurethane injected with a density of 45 kg/m³.
- Input module to be connected to VRF system with direct expansion coil with copper pipes and aluminium fins (R410A) equipped with expansion valve, filter, regulation probes on the refrigeration line and temperature probes upstream and downstream of the air flow.
- Sheet metal structure internally insulated by means of thermo-acoustic insulation, complete with stainless steel condensate collection tank.
- Filtering sections consisting of compact cell filters with medium density propylene for low pressure drop; can be removed sideways; in ISO 16890 ePM1 55% efficiency class in the renewal flow, and ePM10 55% in the discharge flow.
- Integrated dirty filter notification through pressure switch.
- Condensate collection tank with lower drain connection which guarantees total drainage.

DIMENSIONS



Refrigerant connections, condensation and inspections side

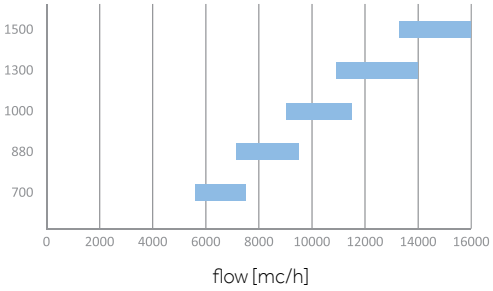
Model HACI-S	Dimensions			Weight (kg)
	A (mm)	B (mm)	C (mm)	
150	2900	550	1000	200
200	2900	550	1400	235
320	3200	680	1400	270
400	3200	680	1400	290
500	3200	380	1700	350

Model HACI-S		150	200	320	400	500
Rated air flow	m³/h	1500	2050	3200	3800	4700
Nominal useful static pressure	Pa	160	120	180	200	120
Maximum useful static pressure (8)	Pa	460	495	315	280	120
Power supply	V/ph/Hz	230 / 1 / 50-60				
Total maximum absorbed current	A	9.0	9.0	10.0	8.8	8.8
FANS		**150**	**200**	**320**	**400**	**500**
Motor type		EC	EC	EC	EC	EC
Speed No. (1)		Multiple	Multiple	Multiple	Multiple	Multiple
Ventilation control (1)		0-10V VSD	0-10V VSD	0-10V VSD	0-10V VSD	0-10V VSD
Specific indoor ventilation power - SFP indoor (5)	W/(m³/s)	1048	898	1040	949	902
Total nominal absorbed power	kW	0.76	0.84	1.77	1.78	2.11
Sound pressure level (2)	dB(A)	53	51	56	58	60
HEAT RECOVERY UNIT		**150**	**200**	**320**	**400**	**500**
Winter thermal efficiency (3)	%	83.3	83.7	86.8	84.1	84.2
Summer thermal efficiency (4)	%	75.1	75.6	78.0	75.0	75.1
Dry thermal efficiency (5)	%	75.6	76.0	76.3	75.5	75.6
DIRECT EXPANSION COIL 3 ROWS		**150**	**200**	**320**	**400**	**500**
Thermal power (6)	kW	8.6	11.3	17.3	20.4	23.6
Total cooling power (7)	kW	9.1	12.0	18.5	21.7	25.1
DIRECT EXPANSION COIL 4 ROWS		**150**	**200**	**320**	**400**	**500**
Thermal power (6)	kW	10.7	14.2	21.0	25.0	29.3
Total cooling power (7)	kW	12.0	15.4	23.2	28.0	32.3

(1) Multiple = Multispeed > 3
Man = Manually from selector or keyboard
0-10V = From potentiometer or keyboard
VSD = Constant flow or modulation from air quality/humidity sensor
(2) Sound pressure level assessed at 1m from the casing on the inspection side with delivery, discharge, intake and ducted outdoor air, under nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU regulation 1253/2014: at nominal pressure; temperature and humidity conditions referring to EN 308
(6) Coil input air: 13°C BS, 40% RH; condensation 40°C
(7) Coil input air: 28°C BS, 50% RH; evaporation 7°C
(8) With 3 rows coil

MRV AHU Air Treatment Unit **HACI-S**

HACI-S 700
HACI-S 880
HACI-S 1000
HACI-S 1300
HACI-S 1500



EC Crossflow Plug &play Constant air flow

TECHNICAL SPECIFICATIONS

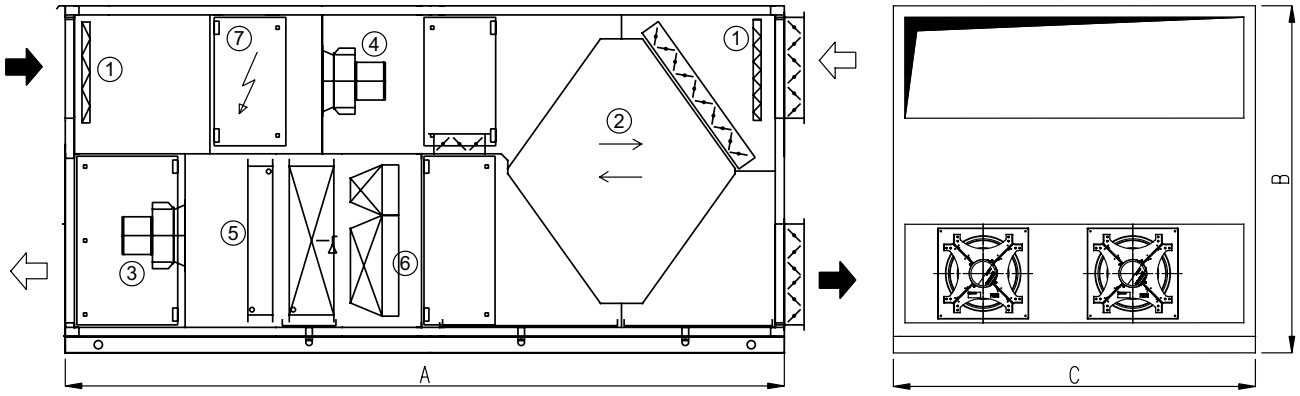
- **Primary air treatment unit with static aluminium air-to-air heat recovery unit for counter-current flows with thermal efficiency of up to 80%**
- **Constant flow fans available as an option**
- For floor or roof installation
- Integrated thermal by-pass device
- Extruded aluminium profile frame with preloaded nylon knot joints
- Sandwich-type 48 or 60 mm thick buffer panels, pre-varnished externally and galvanised internally with insulation polyurethane injected with a density of 45 kg/m³
- G4-class synthetic pre-filters and fiberglass F7 hard pocket filters on input air, M5 efficiency filter on discharge air
- Integrated dirty filter notification through pressure switch
- Centrifugal fans with free impeller with backward curved blades directly coupled to a high efficiency electric motor with DC technology
- Section prepared for water or direct expansion post-treatment coils and for the eventual insertion of steam generators and distributors
- Technical compartment for coil regulation valve housing and steam generator
- Full electrical adjustment panel and control panel

Model HACI-S		700	880	1000	1300	1500
Rated air flow	m³/h	6900	8800	10500	12600	15000
Nominal useful static pressure	Pa	200	200	200	200	200
Maximum useful static pressure	Pa	645	945	740	865	760
Power supply	V/ph/Hz	400 / 3+N / 50-60 (5 wires L1+L2+L3+N+T)				
Total maximum absorbed current	A	9.6	15.6	15.6	22.4	22.4
FANS		**700**	**880**	**1000**	**1300**	**1500**
Motor type		EC	EC	EC	EC	EC
Speed No. (1)		Multiple	Multiple	Multiple	Multiple	Multiple
Ventilation control (1)		0-10V	0-10V	0-10V	0-10V	0-10V
Specific indoor ventilation power - SFP indoor	W/(m³/s)	825	718	849	774	788
Total nominal absorbed power	kW	2.90	6.88	8.97	10.25	12.31
Sound pressure level (2)	dB(A)	61	63	62	63	64
HEAT RECOVERY UNIT		**700**	**880**	**1000**	**1300**	**1500**
Winter thermal efficiency (3)	%	76.2	76.6	78.3	76.4	77.0
Summer thermal efficiency (4)	%	75.6	75.9	77.6	75.8	76.3
Dry thermal efficiency (5)	%	76.0	76.4	78.1	76.2	76.8

(1) Multiple = Multispeed > 3; Man = Manual from selector or keyboard; 0-10V = From potentiometer or keyboard; VSD = Constant flow or modulation by air quality / humidity sensor
(2) Sound pressure level rated at 1m by: ducted delivery-discharge / ducted external air return / inspection side at nominal conditions
(3) Outdoor air -5°C 80% UR; ambient air 20°C 50% UR
(4) Outdoor air 32°C 50% UR; ambient air 26°C 50% UR
(5) According to EU regulation 1253/2014: at nominal pressure; temperature and humidity conditions referring to EN 308.

DIMENSIONS AND WEIGHTS

Air intake and delivery vents will be arranged according to the annexed drawing; inspections can be performed on both sides while any standard connections of the optional coil are at the left side of the input airflow.



Model HACI-S	Dimensions			Weight (kg)
	A (mm)	B (mm)	C (mm)	
700	3900	1820	2000	1580
880	4350	2100	2190	1900
1000	4350	2100	2190	2000
1300	4500	2100	2320	2240
1500	4800	2200	2320	2500

Legend	
1	Filter G4
2	Recovery unit
3	Intake fan
4	Discharge fan
5	Coil 2/4 row optional
6	F7 final filter
7	Electrical panel

Illustrative representation, dimensions and orientations will be defined at the time of order.

MOBILE AIR CONDITIONING UNIT

WHEELED MONOBLOCK HEAT PUMP

HACI-MB35E

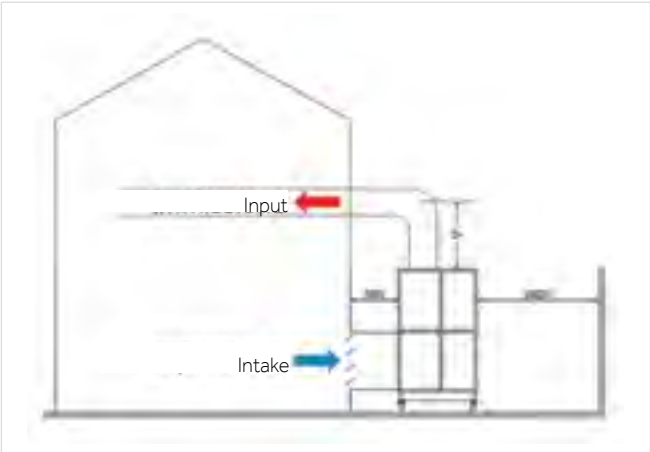
INTRODUCTION

The reversible monobloc wheeled heat pump units for HACI-MBE air conditioning are specifically designed for air treatment (summer air conditioning and winter heating) of removable tensile structures. They are designed to be easily transported, connected to the plant in slave mode and put into service; they are suitable for external installation.
They are equipped with an internal electrical panel and are powered only by electricity.

Easy handling is allowed by the orientable and braking rubber wheels (with bearings), which are also suitable for slightly irregular pavements (e.g. asphalt, rough concrete).

Internal air intake and delivery vents are easily connected to the ducts with the possibility of screwing them to the sturdy aluminium frame.

The HACI-MBE units are equipped with high-efficiency scroll compressors and internal fans powered by high-prevalence DC motors, with synchronous technology that ensures less energy consumption, offering greater features more advanced and accurate in the electronic adjustment.



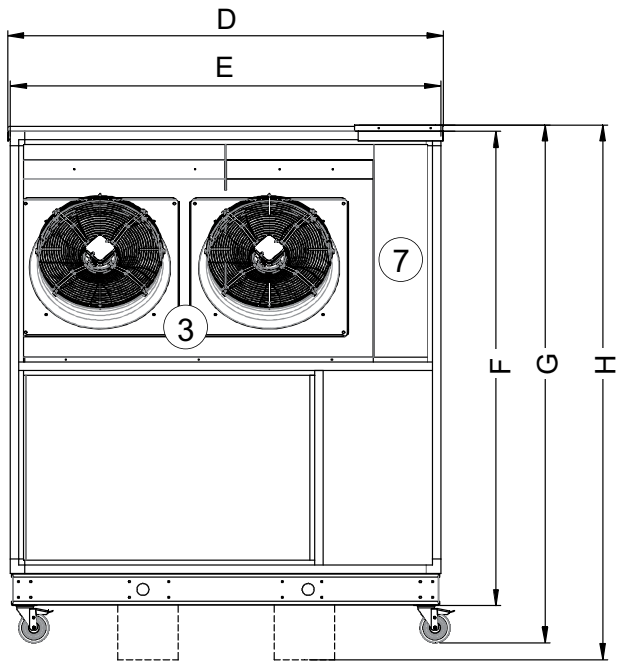
TECHNICAL SPECIFICATIONS

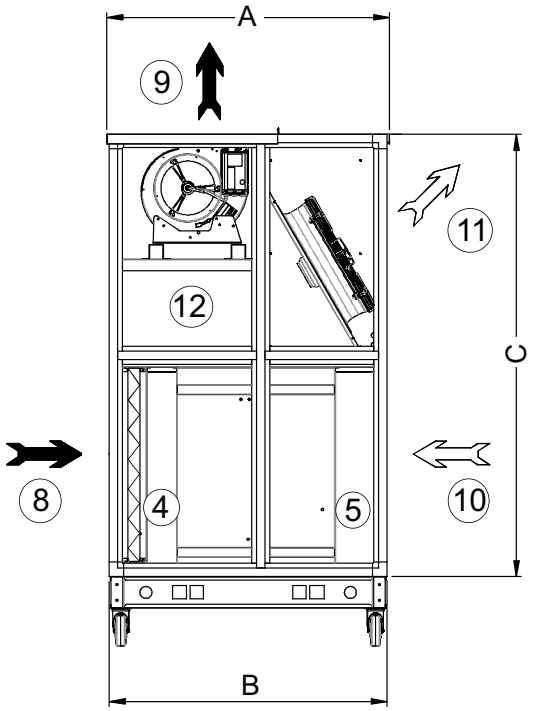
- Extruded aluminium profile frame, Anti-corodal alloy 63, with preloaded nylon knot joints.
- Sandwich type buffer panels sp. 23 mm, sheet metal galvanised internally and pre-varnished externally (RAL 9010) with thermo-acoustic insulation polyurethane injected with a density of 9010 kg/m^3
- Filtration sections at the intake which can be equipped with a control pressure switch, consisting of filters with synthetic cells in efficiency class G4 sp. 48 mm; removable laterally.
- HACI-MBE double intake centrifugal electric fans with forward curved blades, directly coupled with DC high efficiency synchronous electric motor with rotation speed control electronics already integrated in the fan. It offers the possibility of setting a constant flow rate of the air to be treated, regardless of pressure drops (within the limits of the maximum prevalence of the fan).
- Refrigerant heat pump circuit (R410A) consisting of hermetic scroll compressor with on / off regulation, reversible evaporating and condensing coils with copper pipes and continuous aluminium fins, electronic expansion valve, liquid receiver, 4-way valve for inversion cycle, high and low pressure switches, refrigerant dehydrating filter, liquid indicator.
- Internal electrical panel for load management; NTC type temperature probes on both air circuits; electronic microprocessor control for automatic management of the ambient temperature (input in the case of continuously variable capacity compressor), free-cooling (optional), hot / cold switching and defrosting cycles; remote control panel up to 30m from the unit, already implemented with Modbus RTU protocol for communication with the supervision system.

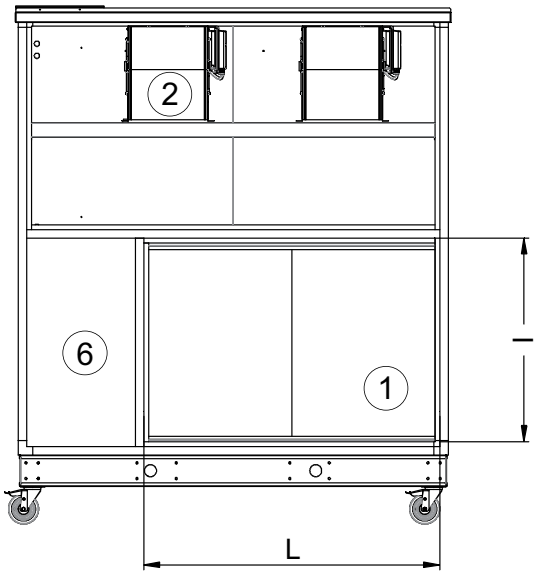
Model HACI-MB		35E
Rated air flow	m^3/h	8000
Useful static pressure delivered	Pa	120 (on request, version with 500 Pa)
Sound power level (1)	db (A)	74
OPERATING LIMITS		
Outdoor temperature / indoor intake temperature HEATING (2)	°C / %	Min-7°C Outdoor / min 19°C Indoor and 50% humidity
Outdoor temperature / indoor intake temperature COOLING (2)	°C / %	Max 40°C Outdoor / Max 28°C Indoor
Flow variation field	%	± 10 %
Maximum percentage of outdoor air to be treated (6)	%	30 %
ELECTRICAL DATA		
Power supply	V/ph/Hz	400/3/50 (5 wires L1+L2+L3+N+T)
Maximum absorbed current	A	32 / (45 with 500 Pa motors)
PERFORMANCE IN HEATING (7)		
Thermal power	kW	34.0
COP (4)		4.4
Input temperature	°C	34
PERFORMANCE IN COOLING (5)		
Total cooling power	kW	32.1
Sensitive cooling power	kW	25.6
EER (4)		2.9
Input temperature	°C	17.5
COOLING CIRCUIT		
Refrigerant - GWP		R410A
Number of circuits		1
Refrigerant charge	Kg	7.4
CO_2 equivalent	Ton	14.5

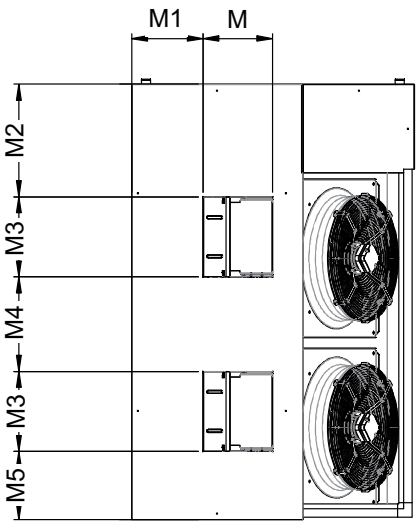
(1) Machine's global sound power levels in operation under nominal conditions, with ducted delivery and intake flows
(2) Referred to nominal flow
(3) Outdoor air 7°C 90% RH; ambient air 20°C 50% RH (EN14511)
(4) Excluding the power absorbed for ventilation
(5) Outdoor air 35°C 40% RH; ambient air 27°C 47% RH (EN14511)
(6) With SP2 accessory
7 With outdoor temperatures below 8°C, it is necessary to install self-supporting electric resistances KIT to guarantee nominal heating performance

APPLICATION SAMPLE





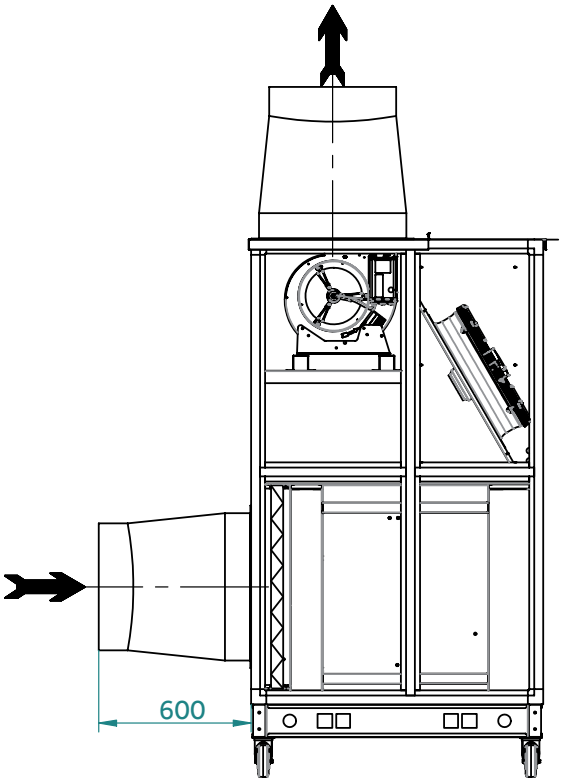


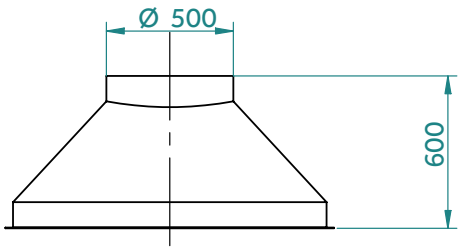


DIMENSIONS AND WEIGHTS		Model HACI-MB35E
A	mm	1170
B	mm	1150
C	mm	1830
D	mm	1800
E	mm	1780
F	mm	1960
G	mm	2140
H (for transport only)	mm	2160
I	mm	863
L	mm	1225
M	mm	288
M1	mm	296
M2	mm	465
M3	mm	331
M4	mm	391
M5	mm	282
Weight	Kg	550

LEGEND	
1	Filter G4 ambient air
2	Delivery fan
3	External fans
4	Reversible indoor 3R coil (summer evaporator)
5	Reversible outdoor coil 6R (summer condenser)
6	Compressor
7	Electrical panel
8	Intake of ambient air to be treated
9	Ambient air delivery
10	Outdoor air
11	Outdoor air discharge
12	Electric post-heating coil (optional)

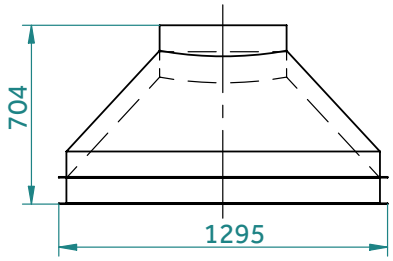
DUCT CONVERTER KIT FOR PIPE DIAMETER 500, OPTIONAL

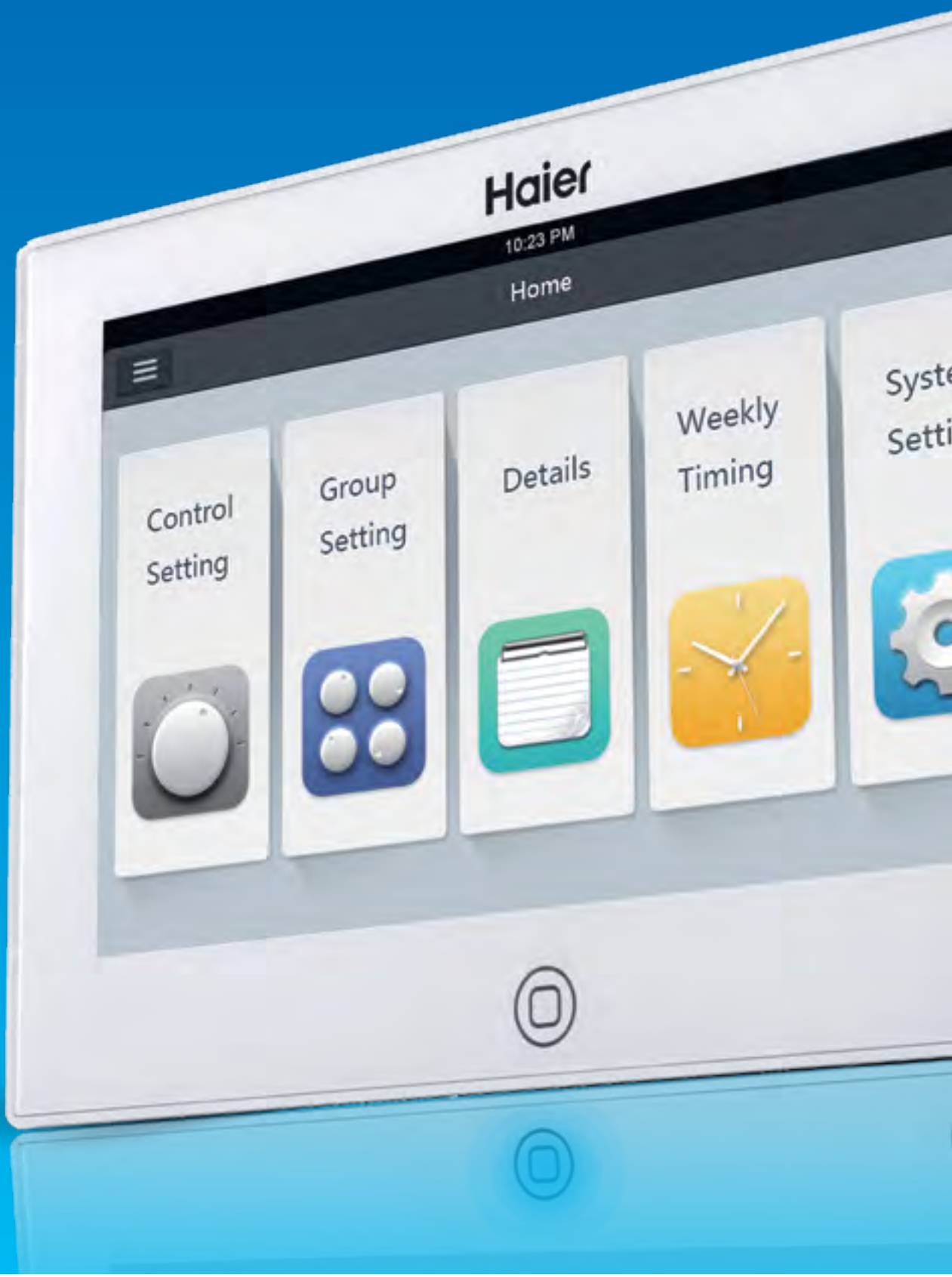




2 IDENTICAL DUCT CONVERTERS FOR MACHINE, MINIMUM DIMENSION IN TRANSPORT BECAUSE THEY ARE STACKABLE

2 PCS STACKED





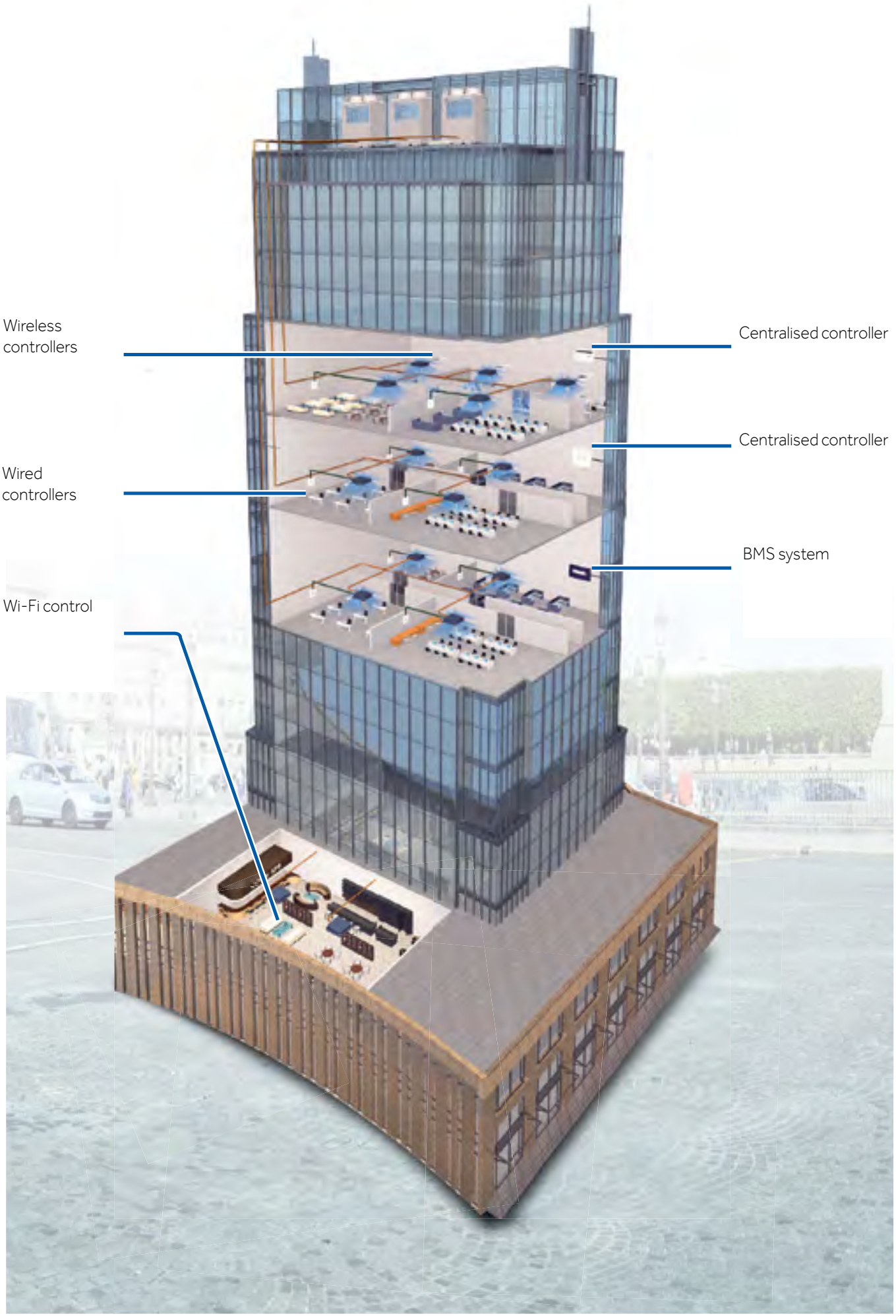
Control & Management Systems

SIMPLE AND INTUITIVE SOLUTIONS TO MANAGE PLANTS

A SINGLE INTEGRATED SYSTEM
Haier's communication protocol is unique to MRV systems and the residential and commercial products of the Supermatch line. This allows the same controls to be used for both small and large MRV plants.

MANAGEMENT AND SUPERVISION
Haier provides reliable and professional supervision systems for better management of preventive maintenance as well.

"SMART" CONTROLS
Systems that can be customised to meet your needs.



CENTRALISED CONTROL

The centralised controls provide a customised control of the entire system from a single point.
Manage individual units, groups, or zones and define different settings for each of them.

HC-SA164DBT

- Possibility to control via WEB/Internet by means of optional Wi-Fi module HI-WA164DBI
- Intelligent system for plants up to 64 indoor units
- 5" LCD TFT full touchscreen display backlit
- Built-in weekly timer
- Possibility of naming units and groups
- Displaying alarms
- Require HA-MA164AD converter (see diagrams on page 129)
- 32 independent cooling circuits, each with their own HA-MA164AD converter

- Ability to simultaneously control MRV units and line units Supermatch / Residential.
- MOD-BUS output as standard

YCZ-A004

- Smart system for medium size plants up to 256 indoor units
- Large 7" LCD TFT full touchscreen display
- Built-in weekly timer
- Possibility of naming units and groups
- Displaying alarms
- Require HA-MA164AD converter (see diagrams on page 129)
- 32 independent cooling circuits, each with their own HA-MA164AD converter

- **You cannot control MRV units and Supermatch/Residential line units at the same time.**

- MOD-BUS output as standard

HA-MA164AD

- Haier protocol converter to RS-485
- To be connected to centralised systems (not required for series 5 outdoor units)
- Each cooling circuit needs 1 converter (see diagrams from page 129)
- 1 converter can handle max 64 internal units on single cooling circuit

- This accessory, if NOT connected to a centralised controller as a dedicated converter, can be used individually to transform the communication protocol "Homebus Haier" into "MOD-BUS". (For this feature, configure the selectors in the desired mode)

HI-WA164DBI WI-FI MODULE

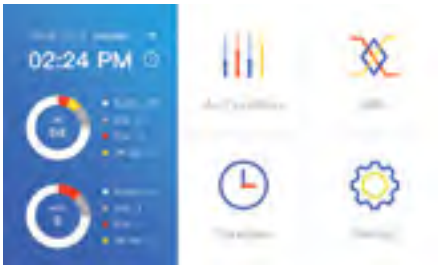
Features:
This module, connected to an Internet access with Wi-Fi, allows remote control via dedicated APP on tablets and smartphones (no PC).
Each Wi-Fi module can control up to 64 indoor units.
Through the APP, the same functionality as the centraliser, connected to the MRV system, is replicated and managed.

Specifications:

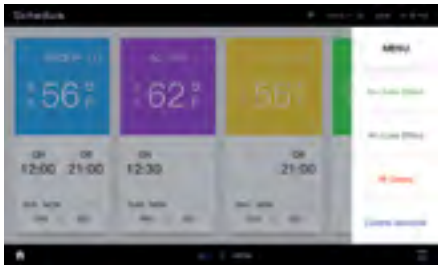
- Compact 86x86x10 mm
- Control functions, on/off, temperature setting, timer settings, weekly, fan speed.
- Alarm monitoring function, errors, error history.
- User account management, including account registration, password change and account information modification via APP.
- Convenient sharing of the management authority. The primary account can share the management of the primary account with the secondary accounts, without re-registering the units.
- Each individual APP can handle up to 256 indoor units.
  Example: 4 Wi-Fi modules with 64 Interior each, or 7 Wi-Fi modules with 36 interiors each
- If a HC-SA164DBT centralised controller is used directly, the Wi-Fi module can be connected directly to the centraliser on a dedicated terminal.
- The Wi-Fi module can be connected directly to the MRV series 5 outdoor units, or to the HA-MA164AD converter if the outdoor units are NOT series 5.

With this configuration it is possible to control the MRV system even without local centralised controllers, using only the APP installed on tablet or smartphone, by ensuring stable and fast Wi-Fi coverage to the module.

HC-SA164DBT



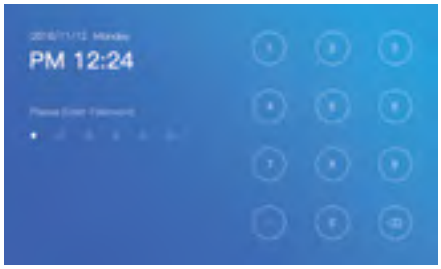
- Control of up to 64 indoor units
- Control of the operating mode, temperature, ventilation, deflectors
- Error control and alarm memory



- Daily and weekly programming for single unit
- Free and independent programming

- Monitoring the status of each individual unit

- Individual - group- total visualisation



- Password setting at different levels of operation

YCZ-A004

Monitoring and control

- Control of up to 256 indoor units
- Control of the operating mode, temperature, ventilation, deflectors
- Icons displayed similar to those on remote commands

Power-saving function

- User function locking mode
- Defining lower and upper limits for desired temperature selection

Zone management

- Defining zones as per user requests

Timer programmer

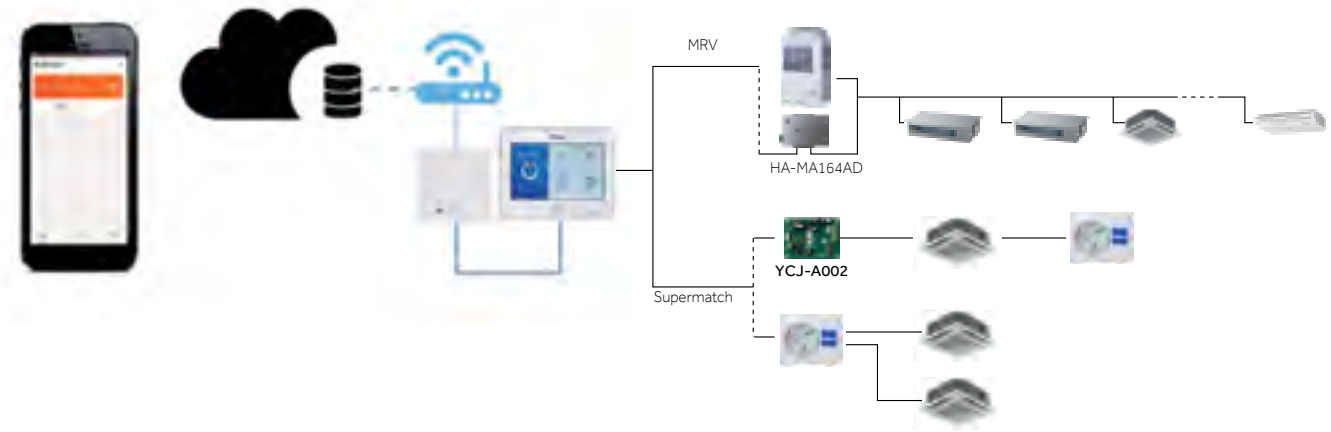
- Daily and weekly programming for single unit
- Free and independent programming

HI-WA164DBI WI-FI MODULE FOR CENTRALISED CONTROLLER HC-SA164DBT

HC-SA164DBT

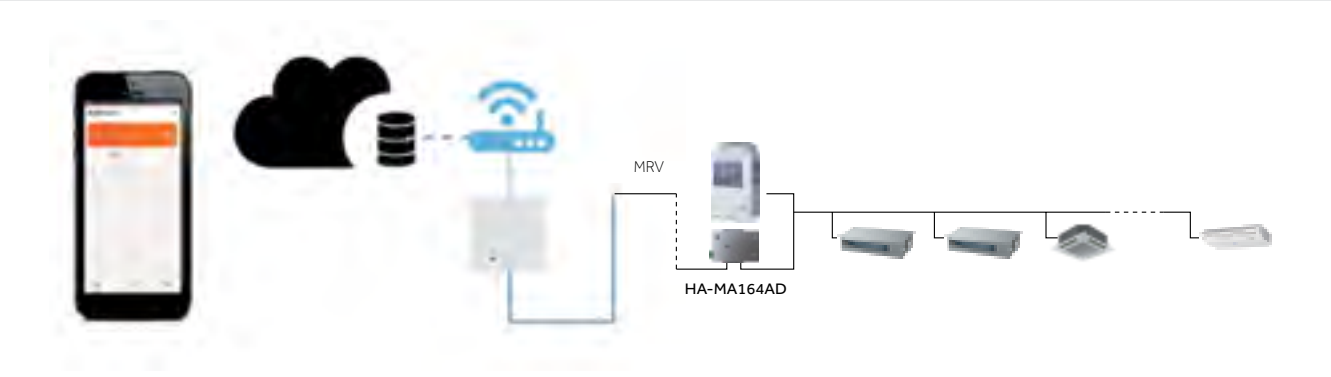
WI-FI MODULE
HI-WA164DBI

Configuration with centraliser



Configuration without centraliser

The Wi-Fi module can be connected directly to the MRV series 5 outdoor units, or to the HA-MA164AD converter connected to other non-series 5 MRV outdoor units.
With this system you can control the MRV system even without a centraliser installed, but through the APP alone by ensuring adequate Wi-Fi coverage to the module.



WI-FI FEATURES

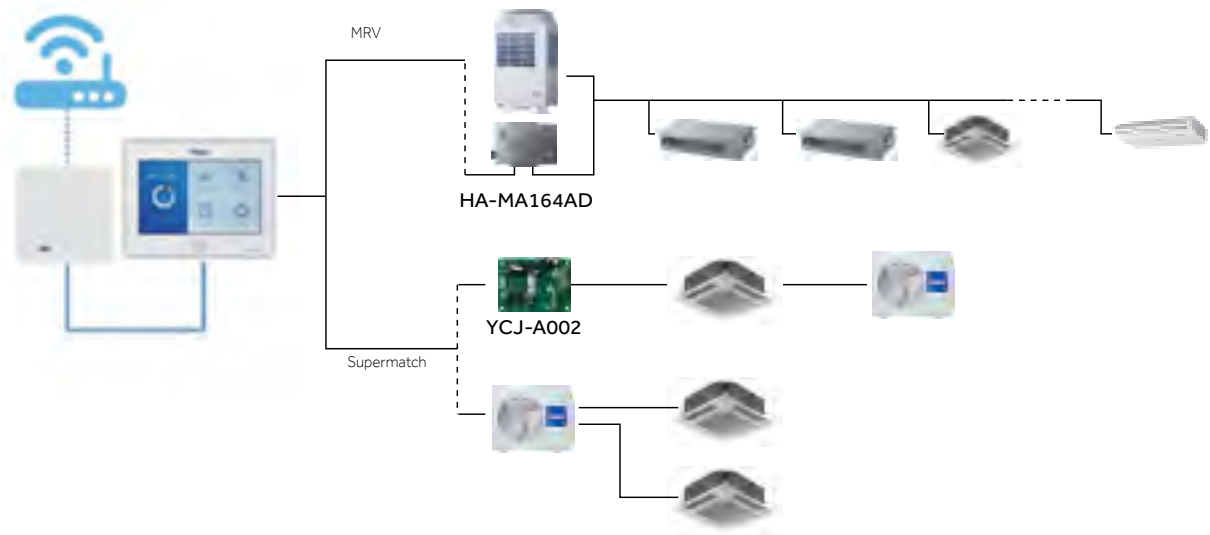
This module, connected to an Internet access with Wi-Fi, allows remote control via dedicated APP on tablets and smartphones (no PC).
Each Wi-Fi module can control up to a maximum of 64 indoor units, which is the limit of the centraliser. Through the APP, the same functionality as the centraliser, connected to the MRV system, is replicated and managed.

SPECIFICATIONS:

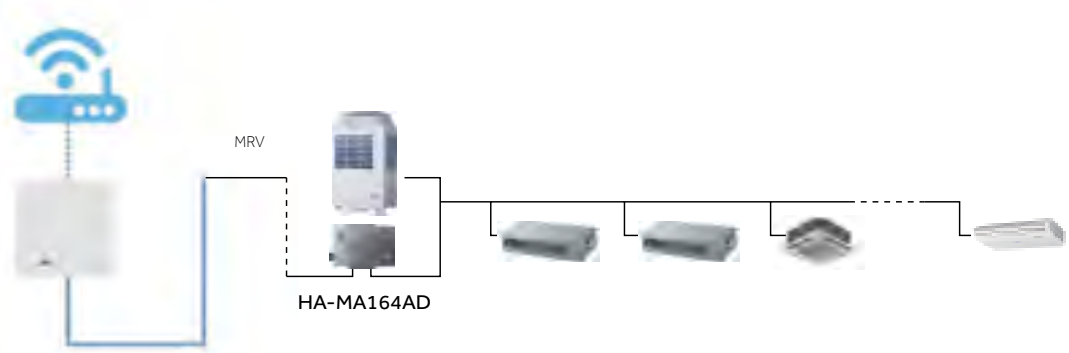
- Compact 86x86x10 mm
- It is connected to the centraliser through the cable supplied, from which it is powered.
- It can be connected up to 100 meters from the centraliser, so as to reach an area covered by Wi-Fi
- Control functions, on/off, temperature setting, timer settings, weekly, fan speed.
- Alarm monitoring function, errors, error history.
- User account management, including account registration, password change and account information modification via APP.
- Convenient sharing of the management authority. The primary account can share the management of the primary account with the secondary accounts, without re-registering the units.
- Each individual APP can handle up to 256 indoor units.
  Example: 4 Wi-Fi modules with 64 Interior each, or 7 Wi-Fi modules with 36 interiors each
- The Wi-Fi module can be connected directly to the MRV series 5 outdoor units, or to the HA-MA164AD converter if the outdoor units are NOT series 5.
  With this system you can control the MRV system even without a centraliser installed, but through the APP alone by ensuring adequate Wi-Fi coverage to the module.
- The APP is available for Android and iOS.

EXAMPLES OF CONNECTION FOR THE "HI-WA164DBI" WI-FI MODULE ACCORDING TO THE TYPE OF SYSTEM AND THE EXPECTED PRODUCTS

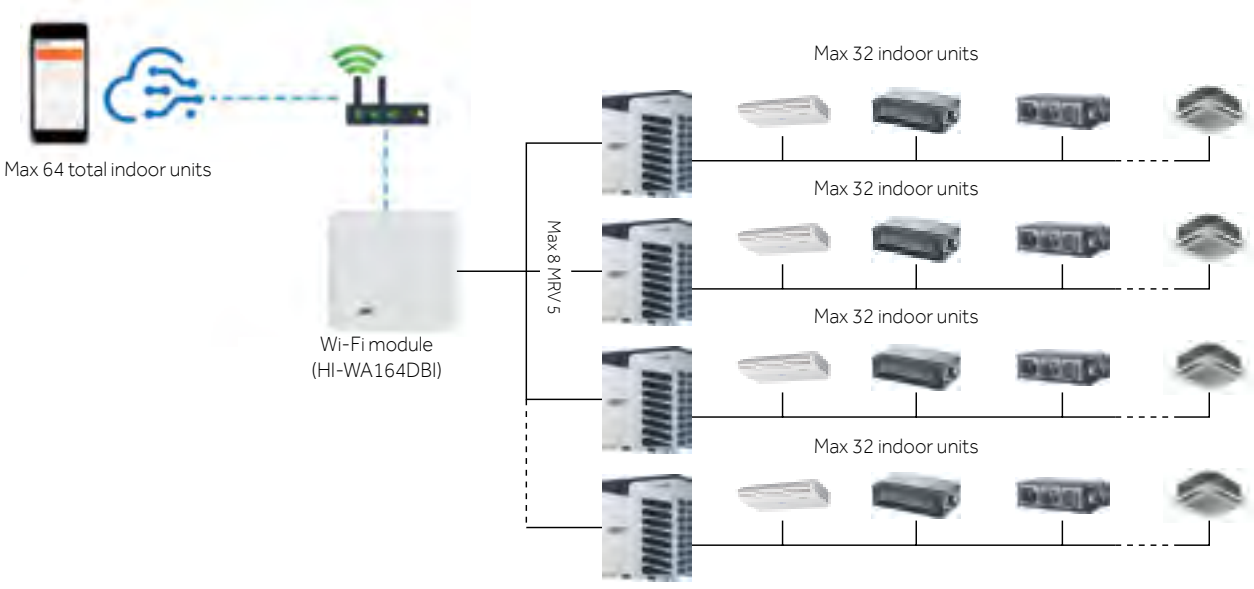
Directly to the HC-SA164DBT centralised controller if provided.
The module can only be connected directly to this centralised controller.



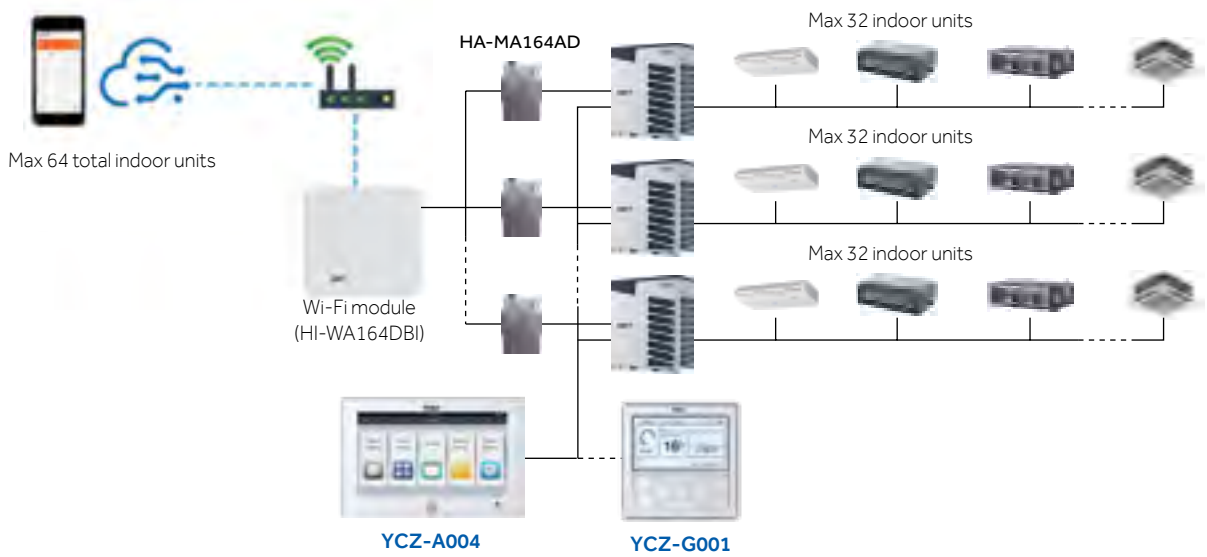
Directly to the plant; therefore, system management only via WEB / Wi-Fi



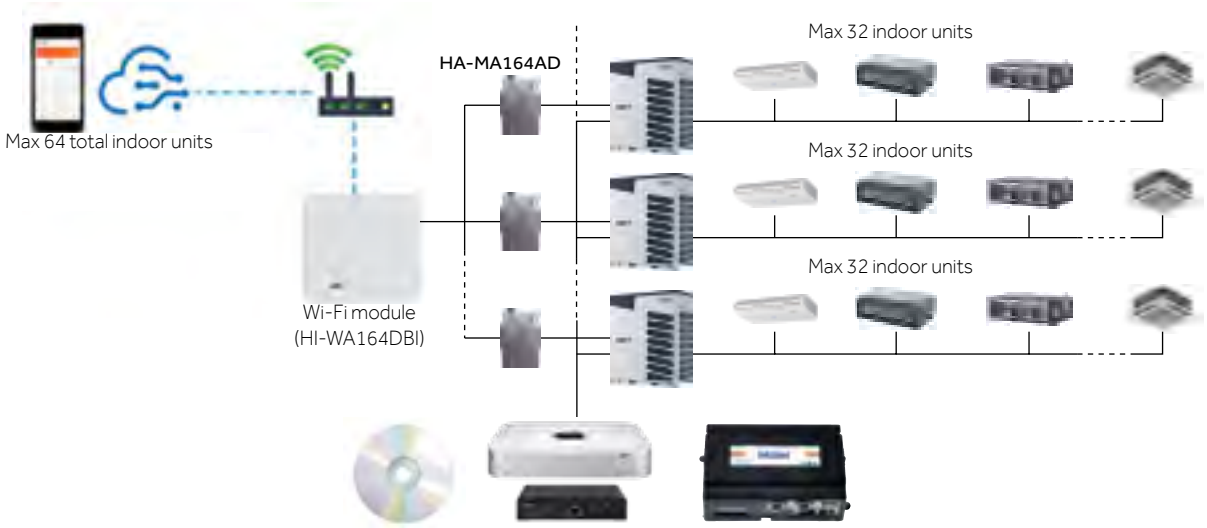
Directly to the plant; therefore, system management only via WEB / Wi-Fi
If the outdoor units are series 5, the HA-MA adapter is not required



If a centralised controller OTHER THAN the HC-SA164DBT model is required locally, it is necessary to add 1 HA-MA interface for each external unit

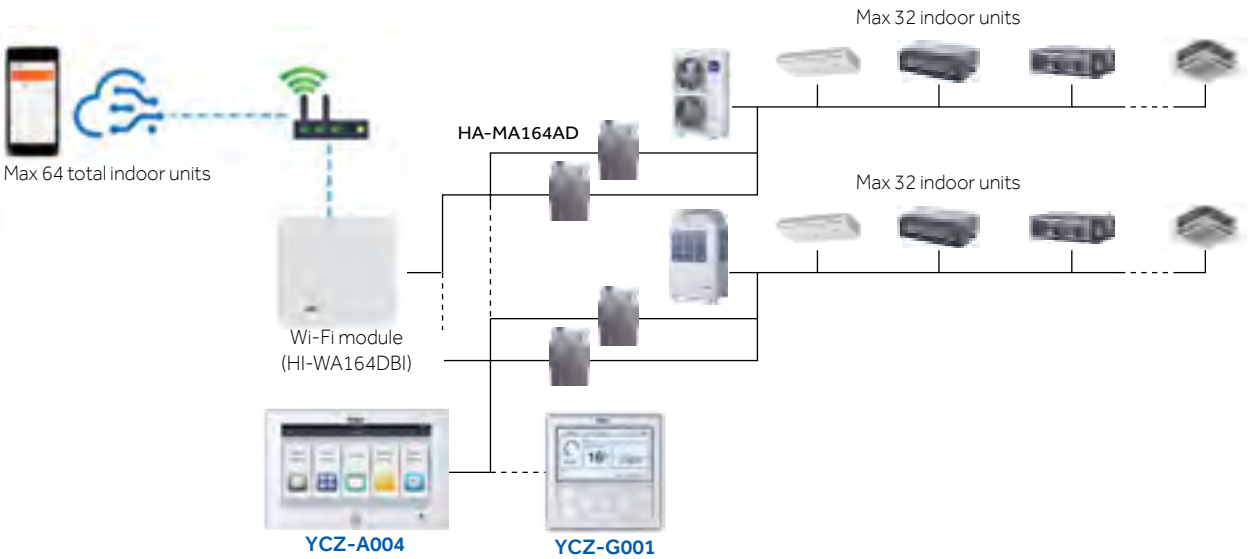


Coupled to a BMS-web or local system, always with the addition of HA-MA adapters

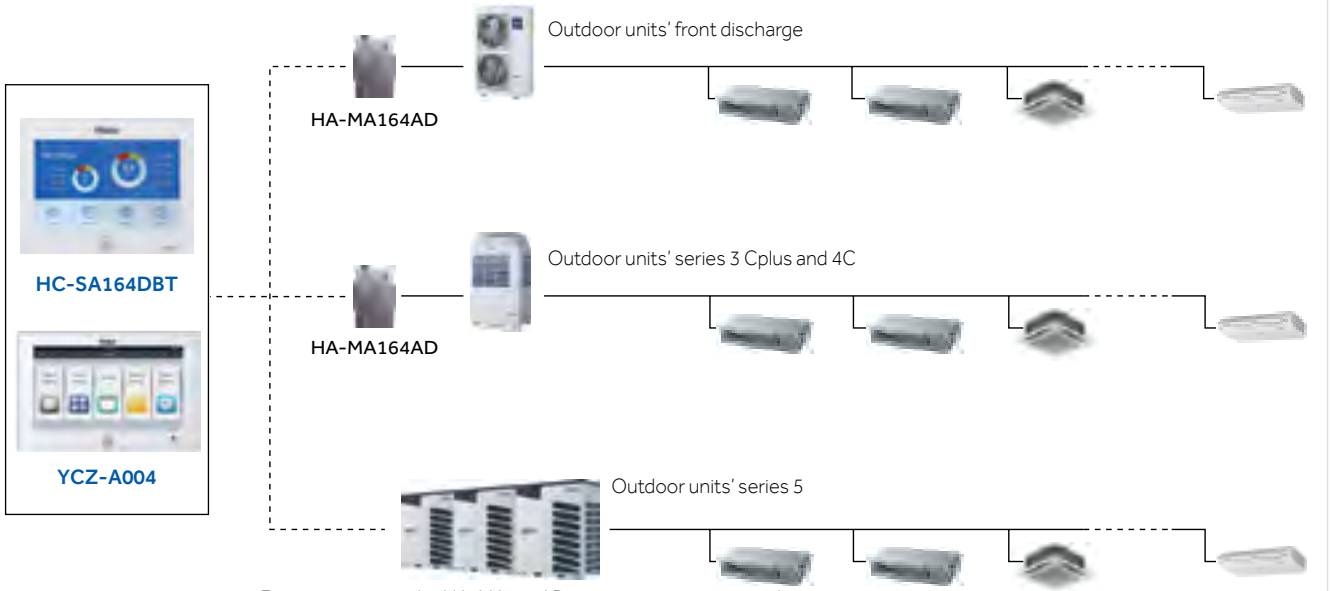


HCM-01A / HCM-03A / HCM-05 / HCM-05A

If a centralised controller is required locally and the external units are NOT 5 series, but 3C plus or S-series (front discharge), it is necessary to add 2 HA-MA interface for each outdoor unit, 1 for Wi-Fi and 1 for the centraliser

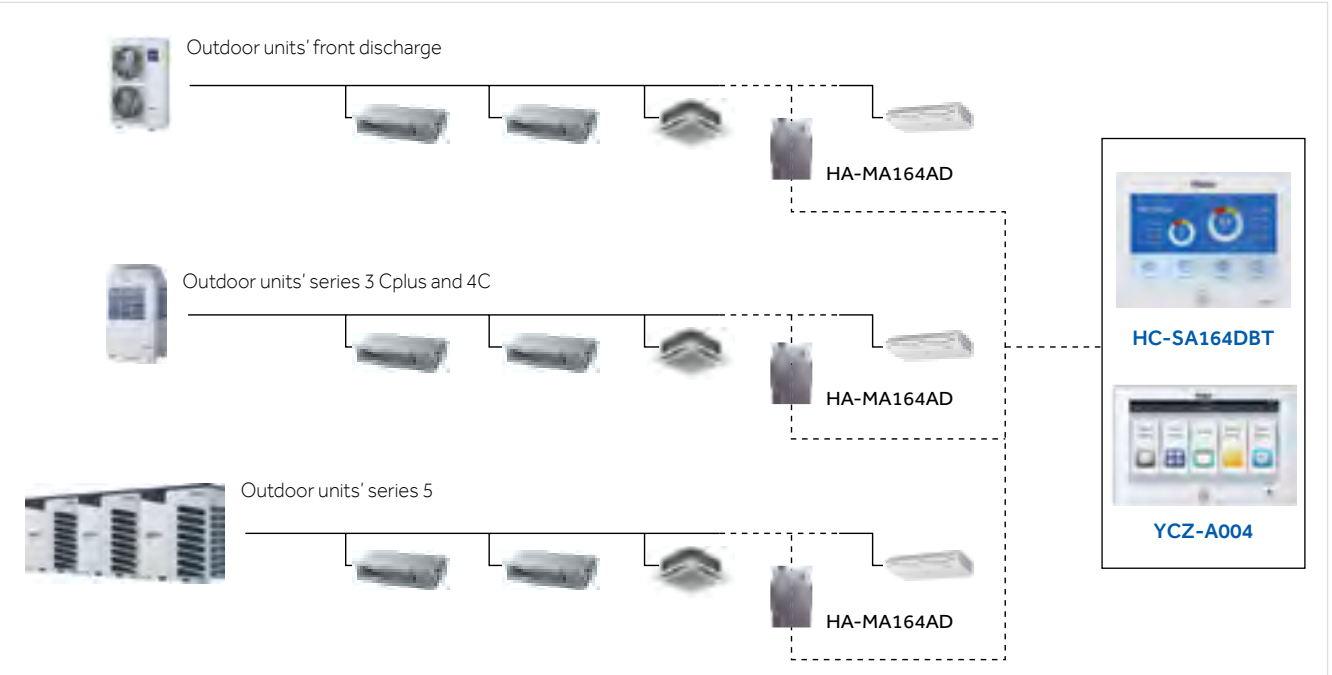


CONNECTION OF CENTRALISED CONTROLLERS DIRECTLY TO OUTDOOR UNITS

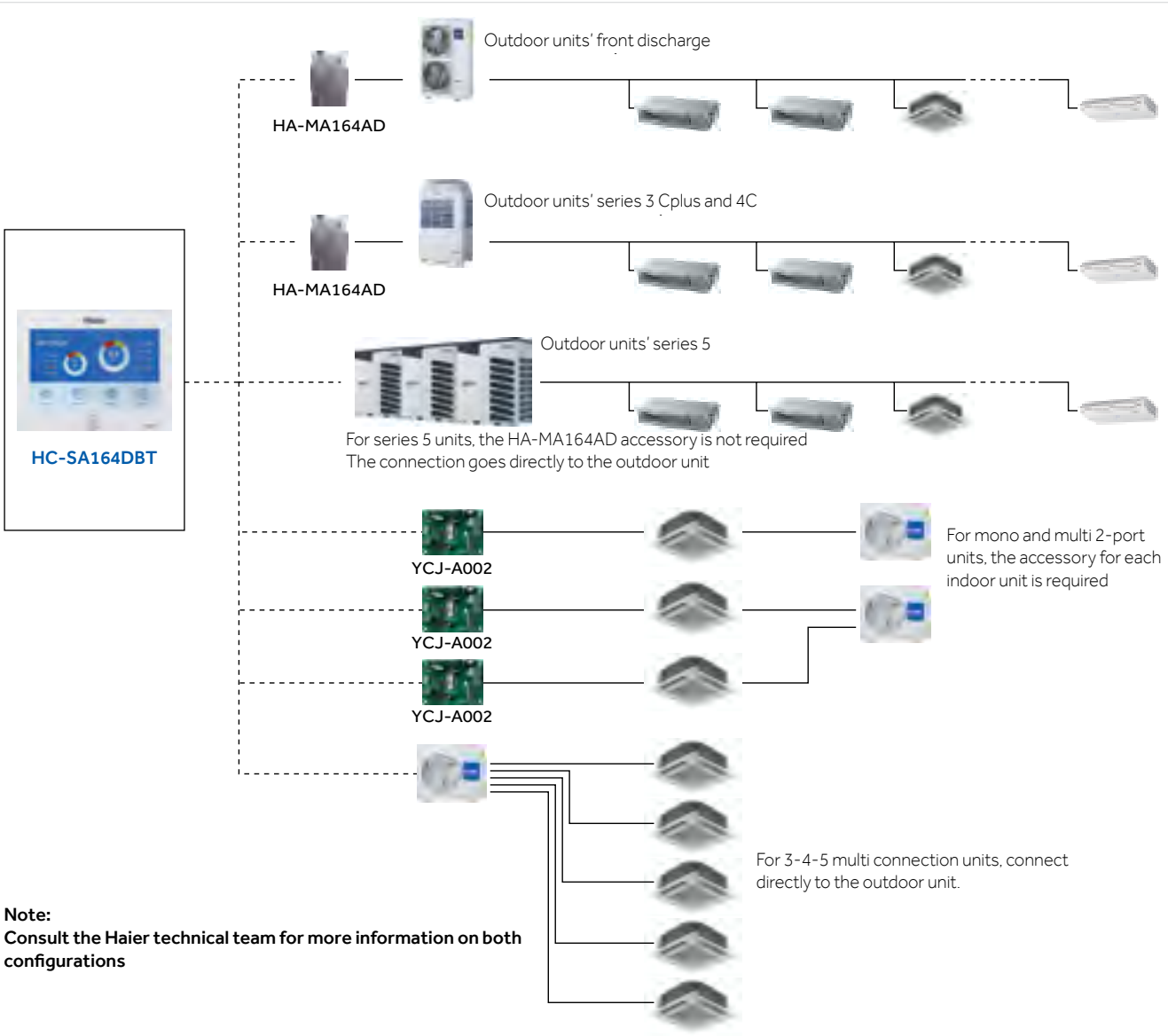


For series 5 units, the HA-MA164AD accessory is not required
The connection goes directly to the outdoor unit

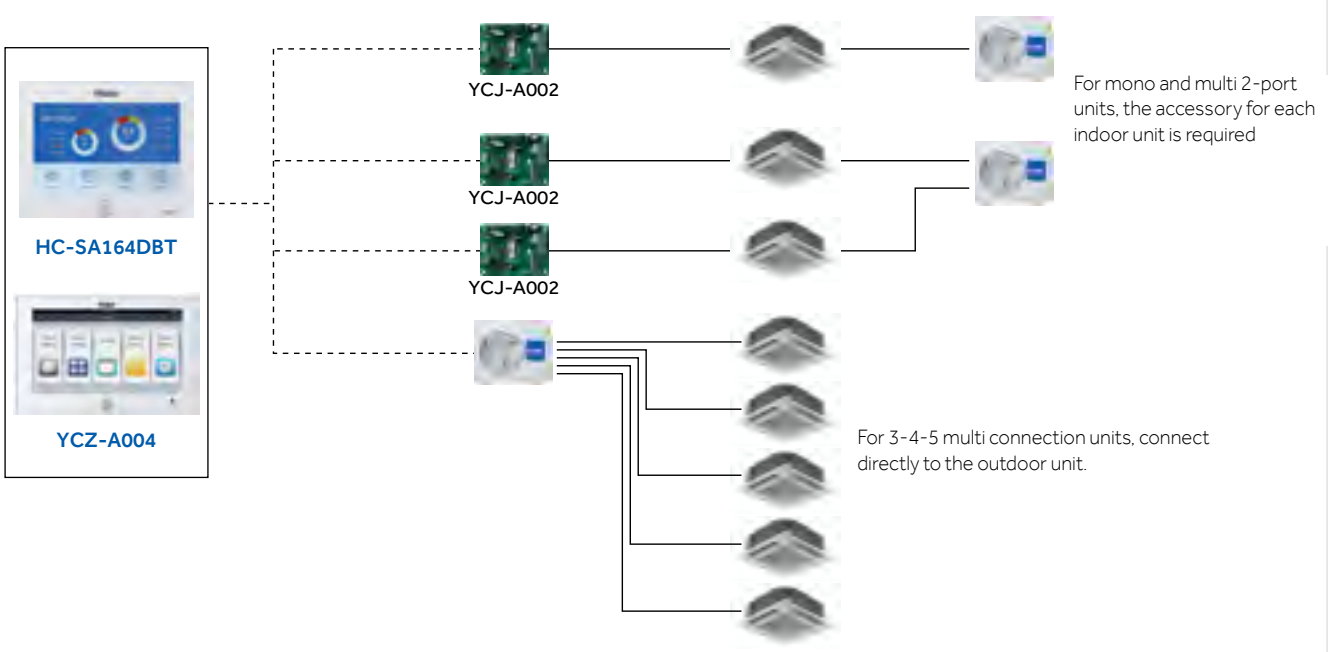
CONNECTION OF CENTRALISED CONTROLLERS IN AN INTERNAL POINT OF THE PLANT
In this configuration, the 5 series units also require the HA-MA164AD accessory



CONNECTION OF CENTRALISED CONTROLLERS IN MIXED MRV AND SUPERMATCH SYSTEMS
Only for HC-SA164DBT



CONNECTION OF CENTRALISED CONTROLLERS TO SYSTEMS COMPOSED ONLY OF SUPERMATCH UNITS



Remote controllers

Haier offers different types of remote controllers to choose from based on your functional and design requirements.

YR-HBS01

- On/off, temperature mode, deflectors
- Independent control
- 5 selectable ventilation speeds
- Independent control of deflectors [[only for cassette AB-MRERA-MCERA(M)]
- Daily clock and timer

YR-HD01

- On/off, temperature mode, deflectors
- Independent control
- Timer function on-off-on/off-off/on hour counter (no clock)

RE-02

- Universal receiver for wireless remote controllers
- Required for all units installed in the concealed position, without aesthetic panel.
- Only the 2-way cassette requires the receiver even if equipped with an aesthetic panel.

HW-BA116ABK

- On/off, temperature mode, deflectors
- Limited features ideal for hotels
- Filter cleaning interval indication
- Error control
- NOT equipped with a clock or timer
- On-board receiver for wireless infrared remote controllers, to create a double control mode (see diagram on page 135)
- Standard ambient temperature sensor. Select the ambient temperature control on the controller if you want a more accurate reading at standing height or in particular installation conditions.
- Possibility of group management with a single controller, (max 16 indoor units on a single controller), the functions and operating modes of all the indoor units connected to that controller will be identical to each other. Independent management is not possible. Each command will be replicated on all indoor units connected to that controller in the same way. (see diagrams on page 135)

YR-E17

- On/off, temperature mode, deflectors
- Smart and compact design with only 86x86x13 mm.
- Touch keys with large backlit display
- Independent control of deflectors [[only for cassette AB-MRERA-MCERA(M)]
- Daily clock and timer
- Simple installation and intuitive operation
- Error display
- PA static pressure management of indoor unit fans (on models where possible)
- Standard ambient temperature sensor. Select the ambient temperature control on the controller if you want a more accurate reading at standing height or in particular installation conditions.
- Possibility of group management with a single controller, (max 16 indoor units on a single controller), the functions and operating modes of all the indoor units connected to that controller will be identical to each other. Independent management is not possible. Each command will be replicated on all indoor units connected to that controller in the same way. (see diagrams on page 135)

HW-BA101ABT

- Modern, high-intensity LED design
- Full touch black display. Automatic lighting when the keys are pressed. Black screen at rest position.
- NOT equipped with a clock or timer
- Double temperature and fan speed setting mode; a continuous infinite range or by acting on the classic + and -
- Quiet operation
- Operating mode, deflectors in on / off mode
- Possibility of group control of up to 16 indoor units with the same operating mode
- Limited features ideal for hotels
- Filter cleaning interval indication
- Error control
- Function block from centraliser
- On-board receiver for wireless infrared remote controllers, to create a double control mode (see diagram on page 135)
- Standard ambient temperature sensor. Select the ambient temperature control on the controller if you want a more accurate reading at standing height or in particular installation conditions.
- Possibility of group management with a single controller, (max 16 indoor units on a single controller), the functions and operating modes of all the indoor units connected to that controller will be identical to each other. Independent management is not possible. Each command will be replicated on all indoor units connected to that controller in the same way.
(see diagrams on page 135)

YR-E16B

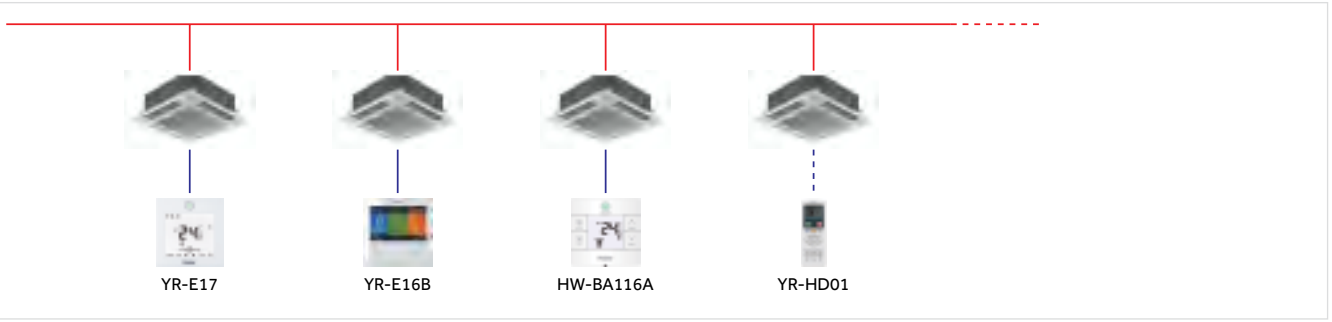
- On/off, temperature mode, deflectors
- Large backlit touch screen display
- Independent control of deflectors [only cassette AB-MRERA-MCERA(M)]
- Weekly clock and timer
- Alarm history
- Fan static pressure management function
- Selection between Celsius and Fahrenheit, (+/- 0,5 °C - +/- 1 °F)
- Standard ambient temperature sensor. Select the ambient temperature control on the controller if you want a more accurate reading at standing height or in particular installation conditions.
- Possibility of group management with a single controller, (max 16 indoor units on a single controller), the functions and operating modes of all the indoor units connected to that controller will be identical to each other. Independent management is not possible. Each command will be replicated on all indoor units connected to that controller in the same way. (see diagrams on page 135)

KZW-W001 Wi-Fi module for individual units

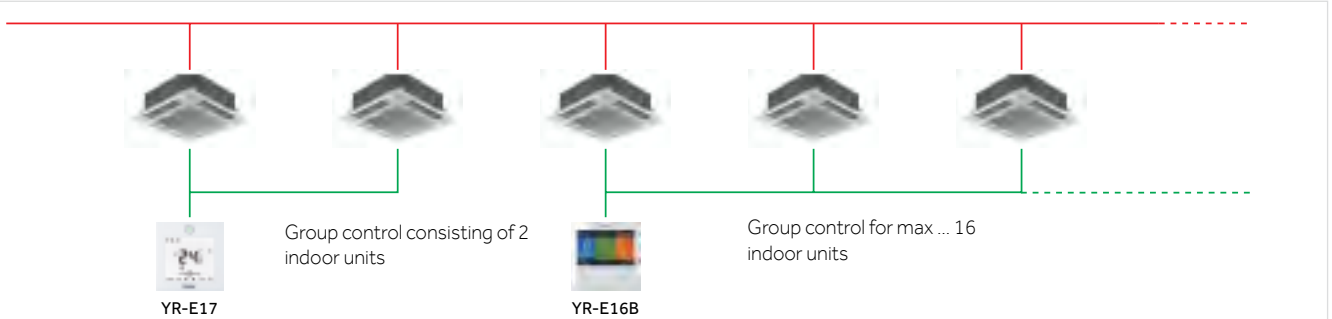
- Ideal for small plants with stable Wi-Fi coverage that reaches all indoor units. The end user and/or user of the system must ensure their own Wi-Fi coverage that has access to the internet.
- The module must be installed and connected to the electronic board of the MRV series indoor units that you want to control with Wi-Fi.
- The user will have to download the APP "Haier Smart Air" for android, create a profile and then register each individual indoor unit following the step-by-step instructions that the APP shows on the screen.
- Control: on/off, mode, temperature, deflectors, fan speed, weekly timer, function check, generic alarm signalling.
- By carrying out a group management with the wired controllers, (max 16 indoor units on a single controller), only one Wi-Fi module will have to be installed on the Master unit which will be the one where the wired controller will be connected. In a group management with a single wired controller, the functions and operating modes of all the internal units connected to that controller will be identical to each other. Independent management is not possible. As for the wired controller, also by acting through the web with the APP, each command will be replicated on all the indoor units connected to that Wi-Fi controller / module in the same way. (see diagrams on page 135)

EXAMPLES OF CONNECTION OF REMOTE CONTROLLERS AND WI.FI MODULES

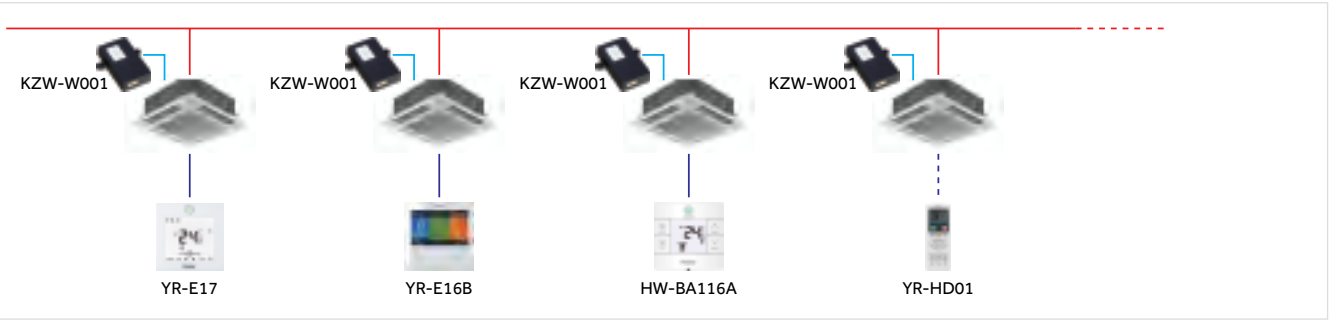
Example of single controller connection for independent operation of each indoor unit



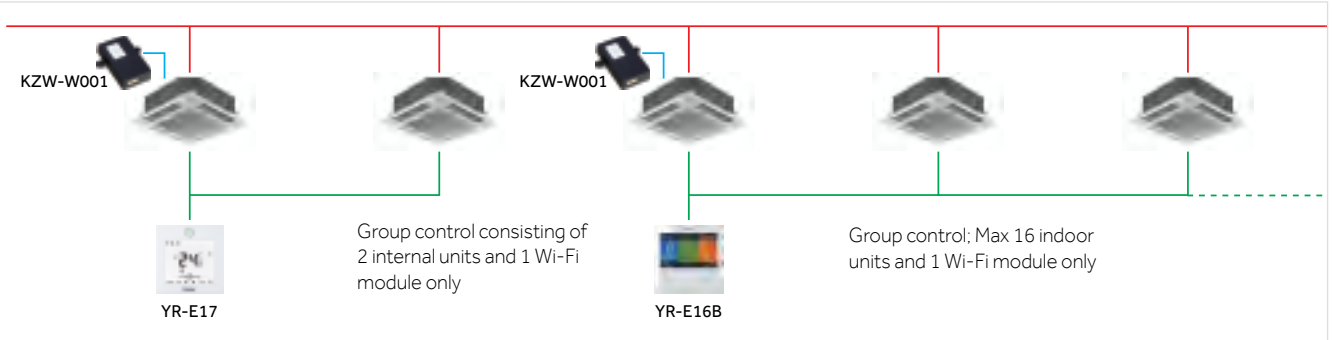
Example of group controller (only for wired controllers - max 16 indoor units on a single controller)
In a group management with a single wired controller, the functions and operating modes of all the internal units connected to that controller will be identical to each other. Independent management is not possible. Each command given will be replicated on all the indoor units in the same way.



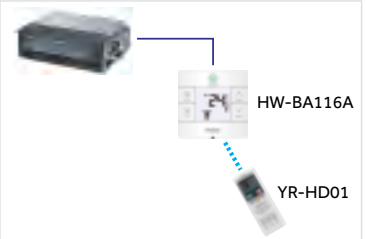
Example of a Wi-Fi module connection, for independent operation of each indoor unit



Example of group management through Wi-Fi module
Connect only one Wi-Fi module on the same Master unit, where the group wired controller is connected. Each command given through the APP, as for a group wire controller, will be replicated in the same way on all the indoor units connected to that wi-fi controller / module.



Infrared receiver on controller.
Wired controller models: HW-BA101ABT , HW-BA116ABK, are equipped with receiver for wireless remote controllers.
This function allows you to control an indoor unit with the wired controller and with a remote control simultaneously. (example: wired controller on the wall and remote controller on the desk or on the bedside.)

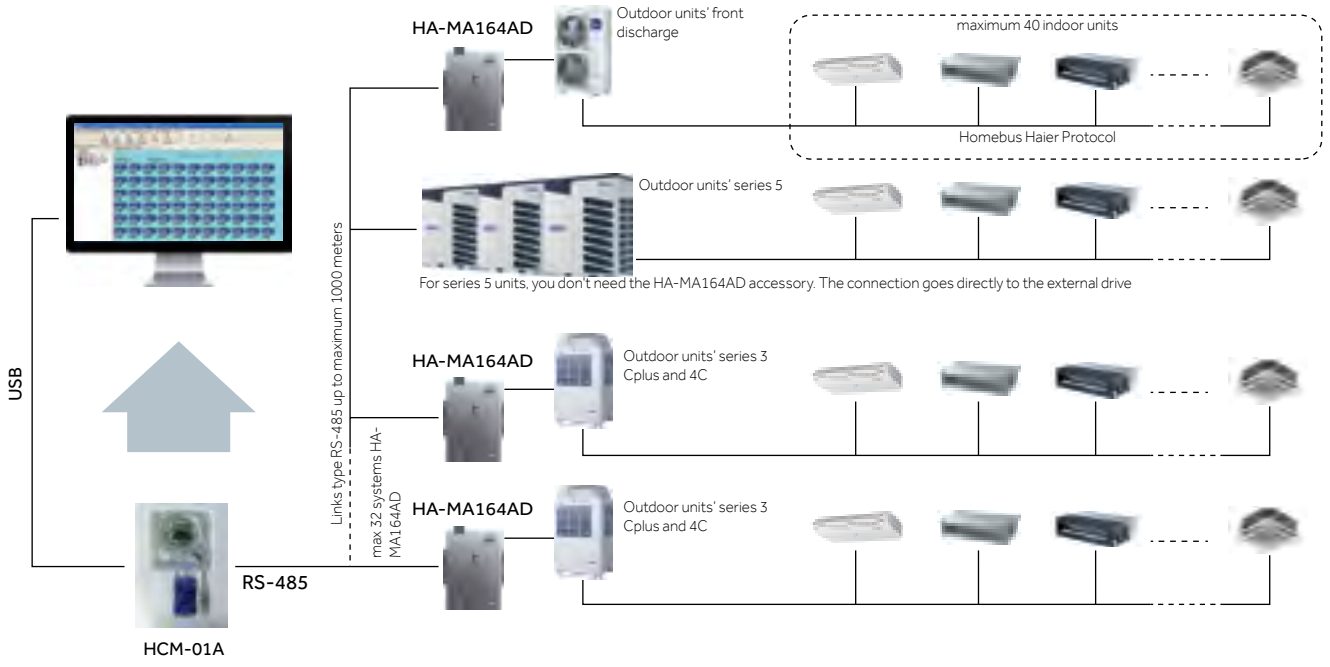


INTEGRATED MANAGEMENT SYSTEM FOR MEDIUM AND LARGE BMS PLANTS

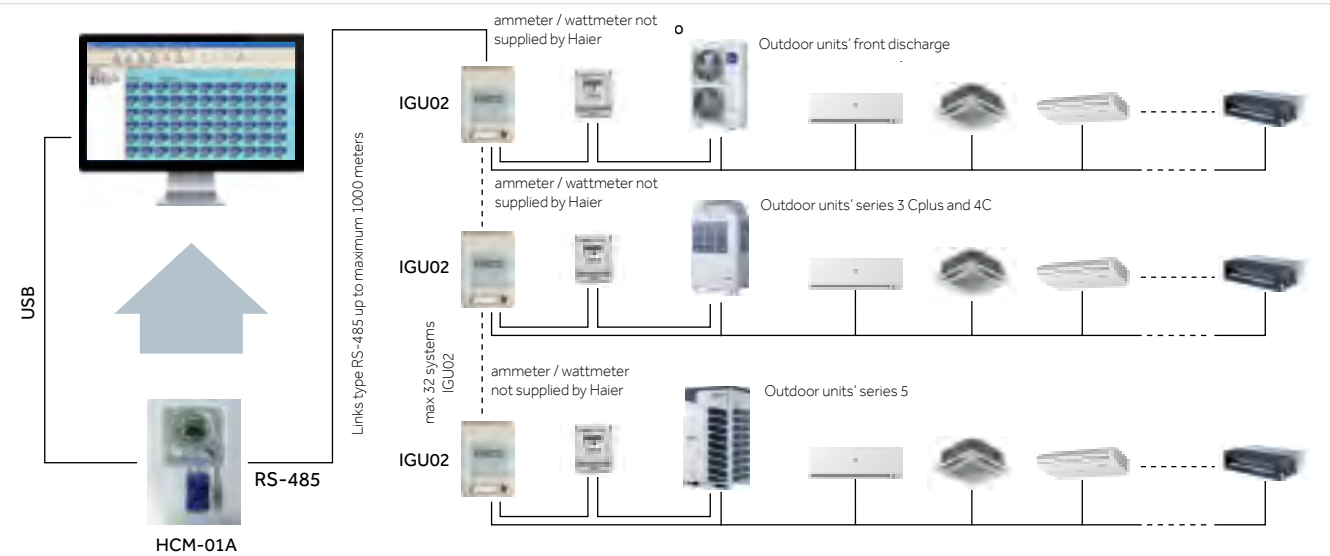
HCM-01A local management system for medium-sized plants

- MRV plant supervision and management system for local use on PC.
- RS-485 protocol converter in RS-232 via USB adapter for local use on PC.
- Control max 400 units and/or maximum 32 independent cooling circuits
- Each cooling circuit requires HA-MA164AD adapter (except for outdoor unit series 5)
- Management of all system parameters by zones / groups / individual units, weekly and monthly timers, error management and alarm history.
- Clear and intuitive visualisation software
- **DOES NOT allow management via web/Internet**
- The software works on Windows platform (7 32/64 bits- 8 Pro -10 Pro)
- The software has a license for use on a single PC. If you plan to use on two or more PCs, you need to purchase 2 or more licenses
- Possibility of accounting for electricity consumption. Providing IGU-02 adapters instead of HA-MA164AD. One IGU-02 for each cooling circuit, also for series 5 outdoor units. For each cooling circuit / IGU-02, a "Wattmeter / pulse generator" must be provided which detects the energy absorption of the outdoor units and proportionally generates counting pulses that the IGU-02 adapter receives and transforms into values to be managed and visualised by the software. **(the pulse generator wattmeter / ammeter is not supplied by Haier, as it must be selected and sized according to the power of the plants).**

Indicative diagram for local management with HCM-01A



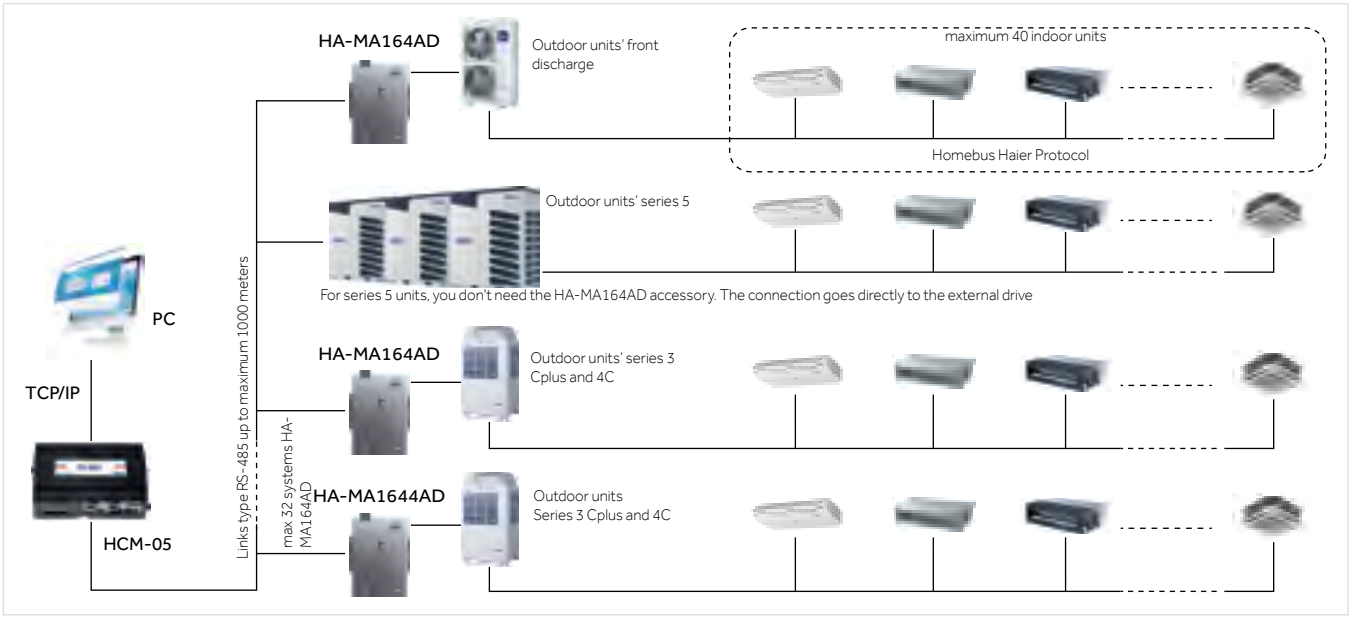
Indicative diagram for local management with HCM-01A and consumption accounting



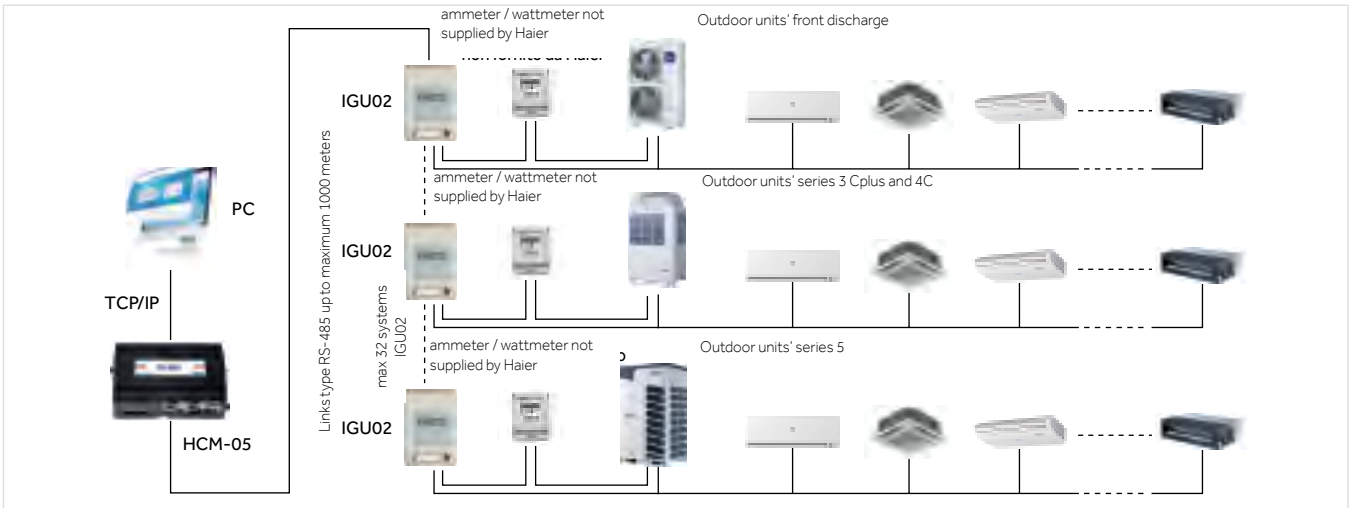
HCM-05 / HCM-05A medium plant management system with WEB / Internet control function
Integrated system for plants up to 250 internal units and up to 500 for the 05A model

- Local control over the network from PC or remotely via web/internet.
- Each HCM-05 adapter is equipped with a web browser integrated with a specific IP address. Requires a connection to a network with internet access, via ethernet cable. Once configured, anywhere in the world simply enter the IP address supplied with the HCM-05 in the web search engine **Google Chrome** to access the system to be controlled. Access to specific system management is protected by multi-level passwords.
- Possibility of communication with systems, not supplied by Haier, through the BACnet - IP protocol.
- Max 250 indoor units that can be controlled with the HCM-05 model and a maximum 500 indoor units that can be controlled with the HCM-05A model.
- Up to a maximum of 32 independent cooling circuits can be controlled. Each cooling circuit requires HA-MA164AD adapter (except for outdoor unit series 5)
- Management of all system parameters by zones / groups / individual units, weekly and monthly timers, error management and alarm history. Clear and intuitive visualisation software
- Possibility of accounting for electricity consumption. Providing IGU-02 adapters instead of HA-MA164AD. One IGU-02 for each cooling circuit, also for series 5 outdoor units. For each cooling circuit / IGU-02, a "Wattmeter / pulse generator" must be provided which detects the energy absorption of the outdoor units and proportionally generates counting pulses that the IGU-02 adapter receives and transforms into values to be managed and visualised by the software. **(the pulse generator wattmeter / ammeter is not supplied by Haier, as it must be selected and sized according to the power of the plants).**

Illustrative diagram for management via WEB with HCM-05



Illustrative diagram for management via WEB with HCM-05 with consumption accounting



Monitoring

Independent control of up to 500 indoor units
- Mode, temperature, ventilation, deflectors
- Blocking of user functions
- Controlling of blocking levels
- An icon with all the information for each individual unit

Energy consumption report for each unit

- Data store
- Possibility of defining different costs by usage ranges
- Preview and print the results
- Comparison of operating costs over time

Programming

- Weekly and monthly schedule graph
- Free configuration
- Defining sample programmes

Zone control

- Creation of zones for management that can be customised according to the requests

Alarm management

- History of alarm messages
- Detail of every single alarm

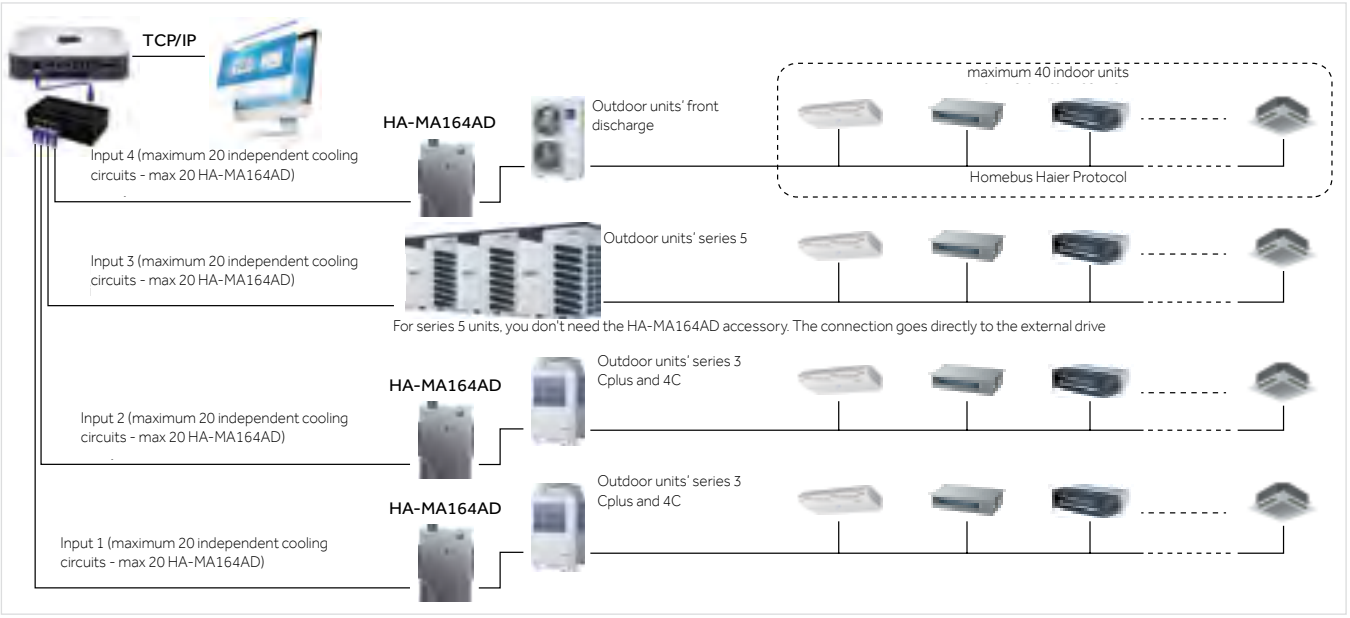
System configuration

- Building-based configuration
- Equipment configuration
- Management of access levels
- Management of parameters

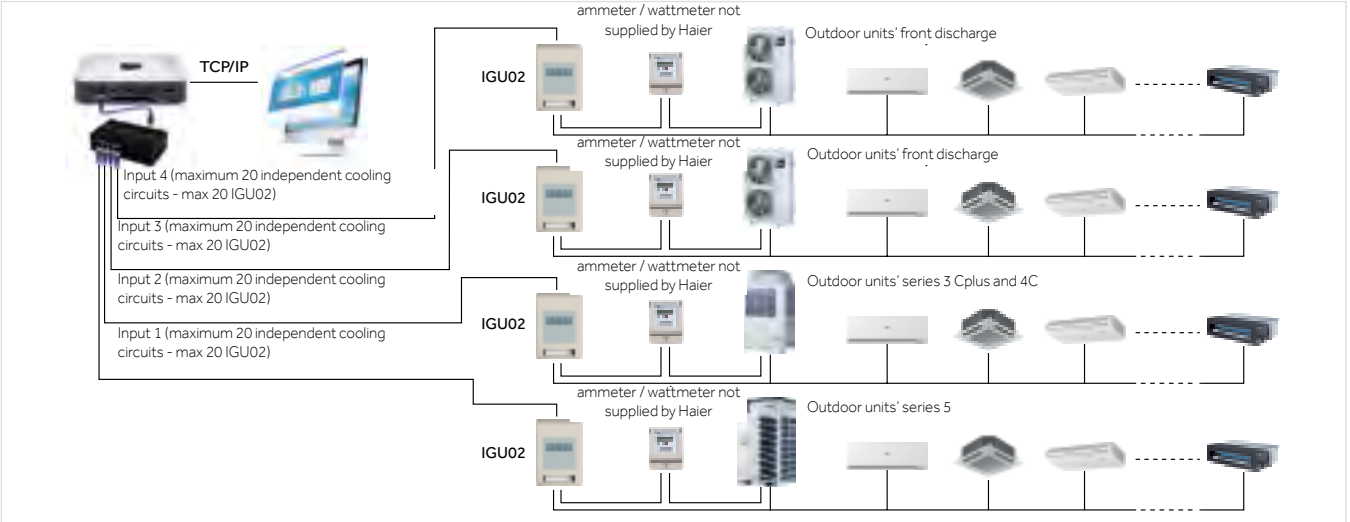
HCM-03A large plant management system with WEB/Internet control function
Integrated system for plants up to 1500 indoor units

- Local control over the network from PC or remotely via web/internet.
- Each HCM-03A adapter is equipped with a web browser integrated with a specific IP address. Requires a connection to a network with internet access, via ethernet cable. Once configured, anywhere in the world simply enter the IP address supplied with the HCM-03 in the web search engines **Google Chrome or Firefox** to access the system to be controlled. Access to specific system management is protected by multi-level passwords.
- Possibility of communication with systems, not supplied by Haier, through the BACnet - IP, Modbus protocol.
- Max 1500 controllable indoor units.
- Up to 20 independent cooling circuits can be connected to one of the four available ports, in order to obtain a system that provides a maximum of 80 circuits. Each cooling circuit requires HA-MA164AD adapter (except for outdoor unit series 5)
- Management of all system parameters by zones / groups / individual units, weekly and monthly timers, error management and alarm history. Clear and intuitive visualisation software
- Possibility of accounting for electricity consumption. Providing IGU-02 adapters instead of HA-MA164AD. One IGU-02 for each cooling circuit, also for series 5 outdoor units. For each cooling circuit / IGU-02, a "Wattmeter / pulse generator" must be provided which detects the energy absorption of the outdoor units and proportionally generates counting pulses that the IGU-02 adapter receives and transforms into values to be managed and visualised by the software.
  (the pulse generator wattmeter / ammeter is not supplied by Haier, as it must be selected and sized according to the power of the plants).
- Possibility to insert the building layout as a file in the HCM-03A system to create specific command buttons within the reference rooms via the loaded floor plan.
- Technology developed in collaboration with **MAC mini**.

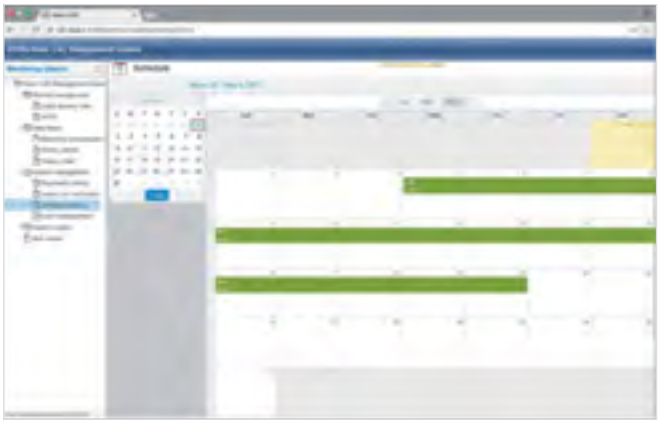
Illustrative diagram for management via WEB with HCM-03A.



Illustrative diagram for management via WEB with HCM-03A with consumption accounting



SIMPLE AND INTUITIVE NAVIGATION



Building layouts can be inserted as a file in the HCM-03A system to configure by positioning the specific indoor unit and the dedicated controller.
The creation of specific command buttons inside the premises allows direct management of the floor plan, simulating reality more accurately which makes everything more intuitive and simple.

HA-MA164AD - MOD-BUS adapter

- Haier to MOD-BUS protocol converter (not required for series 5 outdoor units)
- Each cooling circuit requires 1 converter
- 1 converter can handle max 64 indoor units on single cooling circuit
- Power supply transformer included
- It is not possible to account for electricity consumption

IGU02 - adaptor to account for consumption

- Haier protocol converter to RS-485 to be used in conjunction with BMS systems: HCM-01A / 03A / 05-05A, necessary if you want to monitor the electrical consumption of MRV systems.
- Each IGU-02 can control up to a maximum of 40 indoor units
- You need an IGU-02 for each cooling circuit, even for outdoor 5 series.
  For each cooling circuit / IGU-02, a "Wattmeter / pulse generator" must be provided which detects the energy absorption of the outdoor units and proportionally generates counting pulses that the IGU-02 adapter receives and transforms into values to be managed and visualised by the software.
  (the pulse generator wattmeter / ammeter is not supplied by Haier, as it must be selected and sized according to the power of the plants).

IGU07 - LonWorks adapter

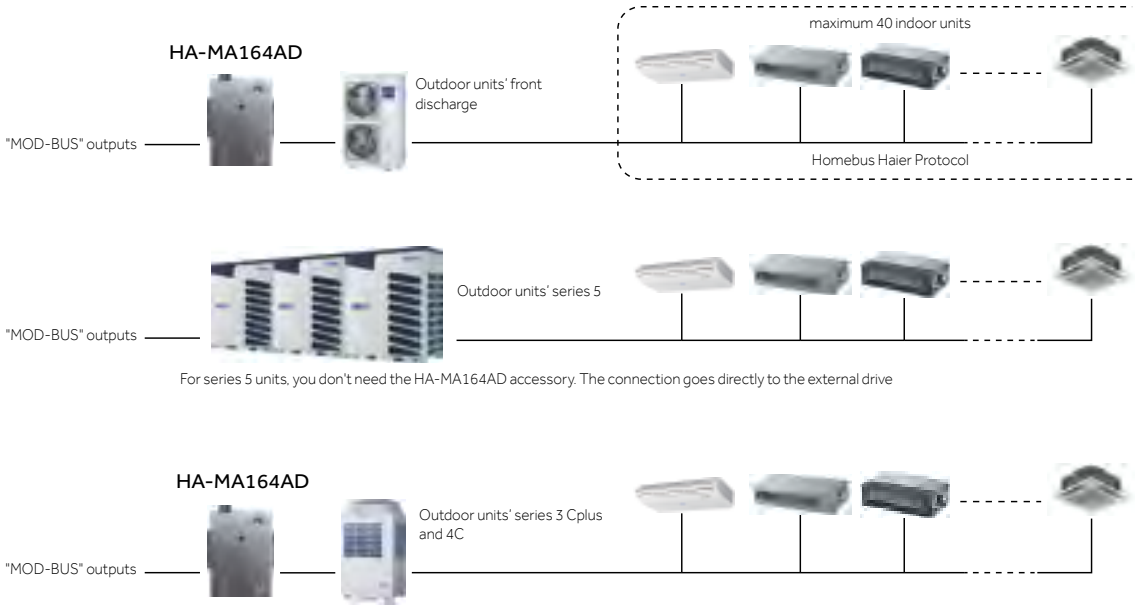
- Modbus > Lonworks protocol converter
- Each IGU-07 can control only 1 cooling circuit and up to a maximum of 32 indoor units
- The cooling circuit connected require adapter HA-MA164AD (except for series 5 outdoor units)
- **The IGU07 adapter does not have a power transformer, therefore it is necessary to have a 24 Volt DC power supply (24 VDC) fitted by the installer.**
- It is not possible to account for electricity consumption

HA-AC-KNX - KNX adapter

- Haier to KNX protocol converter
- Requires HA-MA164AD adapter
- 3 available models, up to 8, up to 16 and up to 64 controllable indoor units (HA-AC-KNX-8, HA-AC-KNX-16, HA-AC-KNX-64)
- Does not require power supply

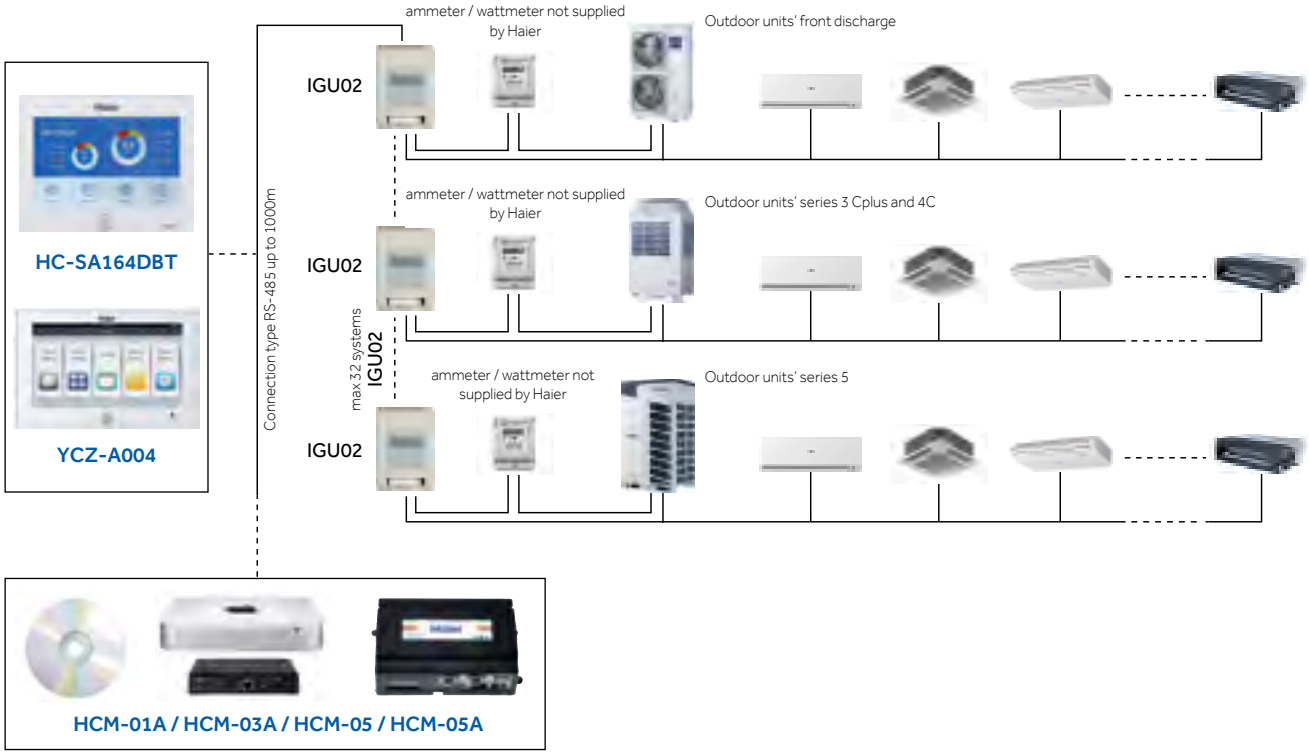
EXAMPLES OF CONNECTION ADAPTERS

HA-MA164AD, mod-BUS adapter

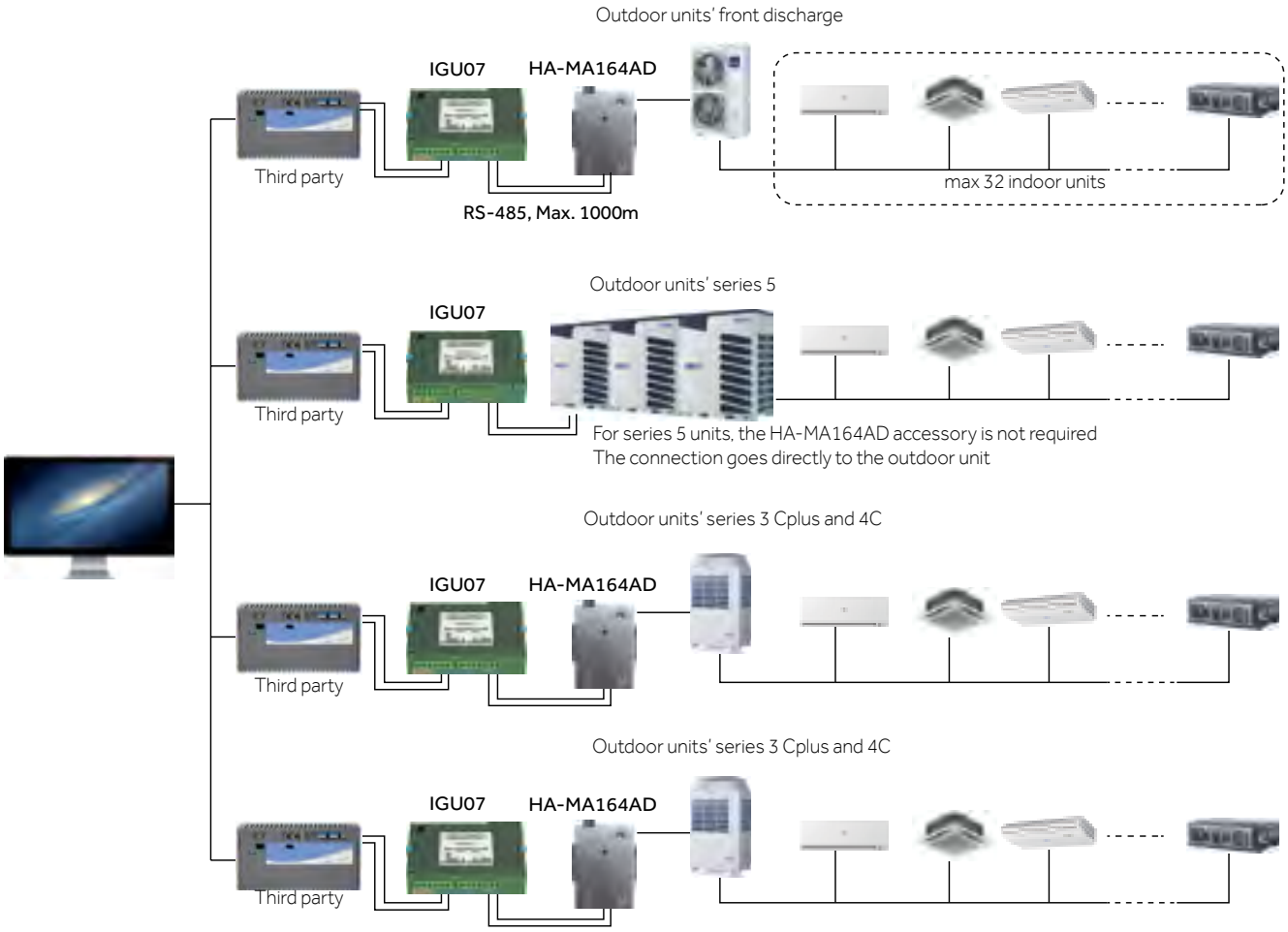


For series 5 units, you don't need the HA-MA164AD accessory. The connection goes directly to the external drive

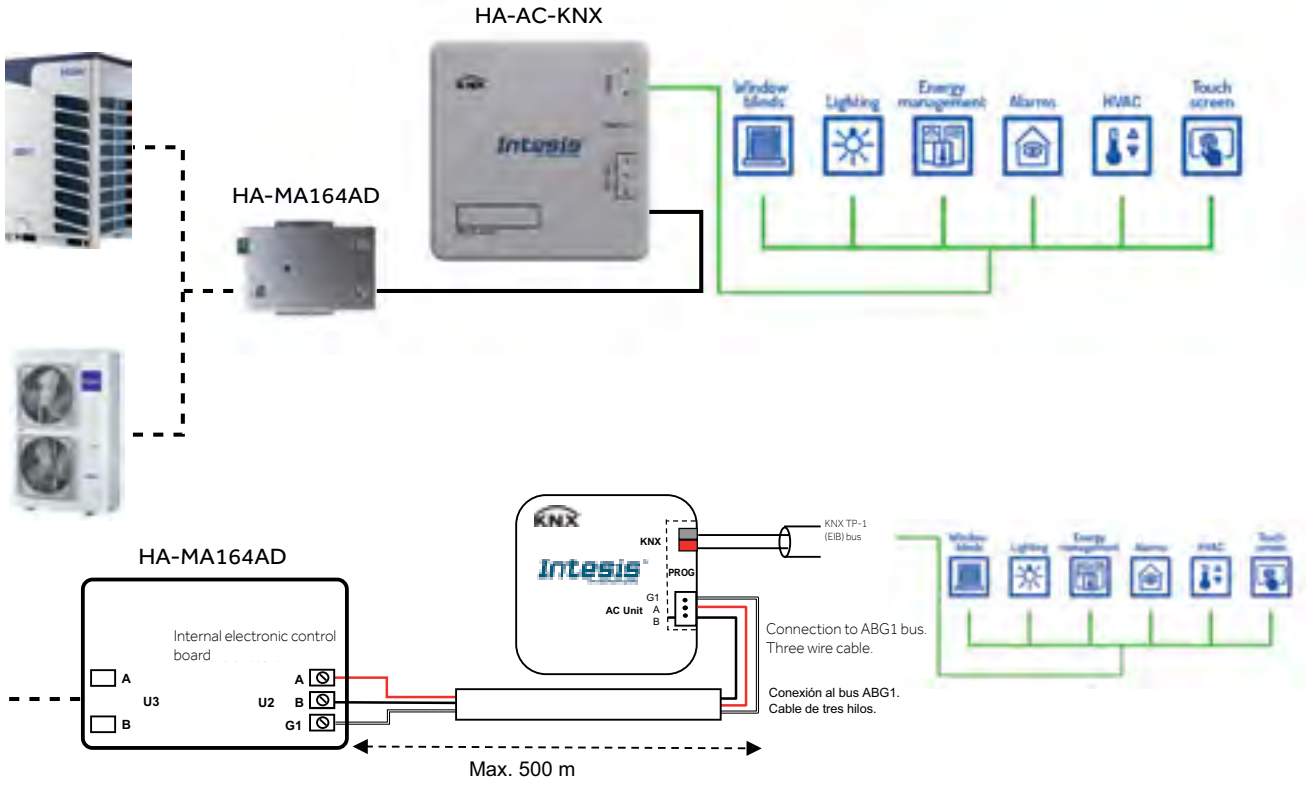
IGU-02 – adapter for accounting



IGU-07 illustrative connection scheme for LonWorks Systems



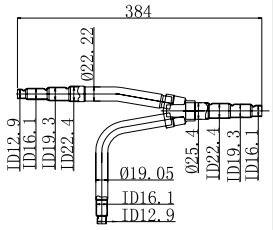
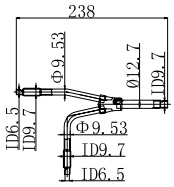
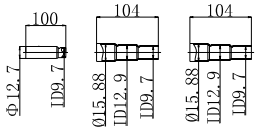
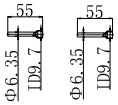
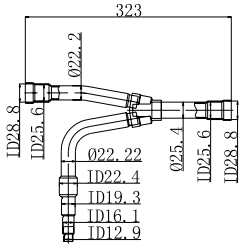
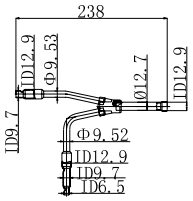
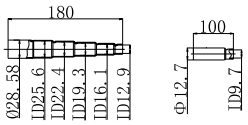
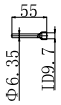
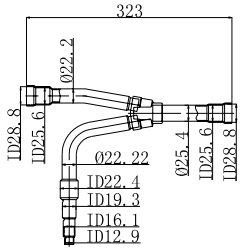
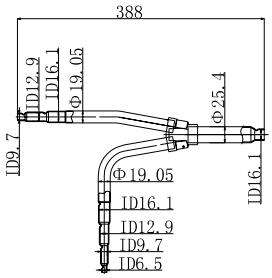
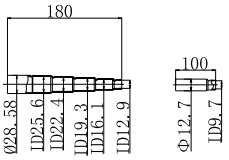
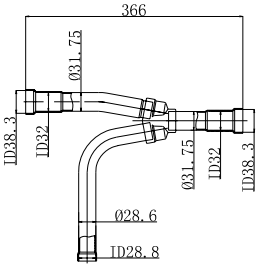
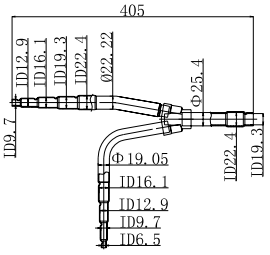
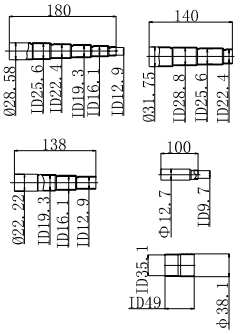
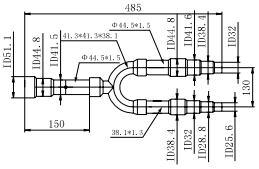
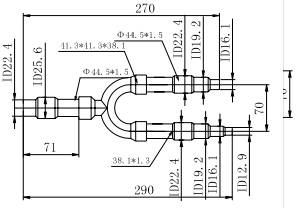
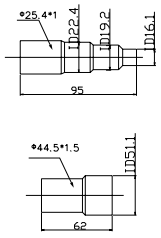
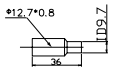
HA-AC-KNX - KNX adapter



SOLDER JOINTS TO CREATE COOLING CIRCUITS

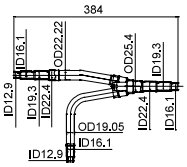
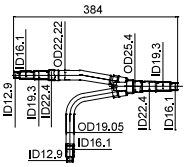
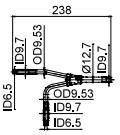
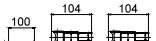
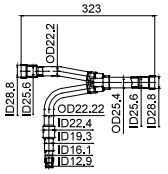
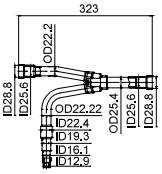
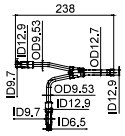
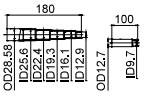
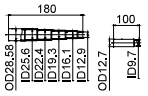
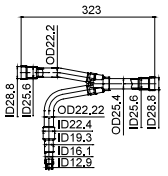
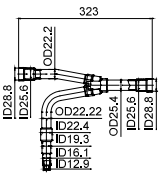
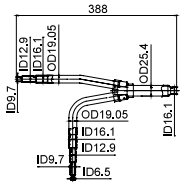
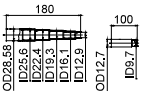
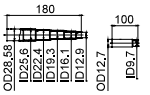
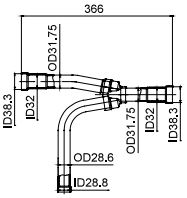
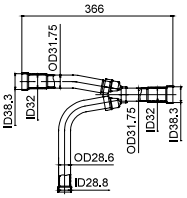
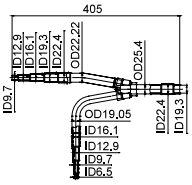
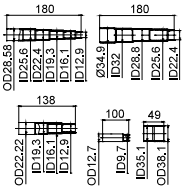
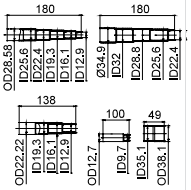
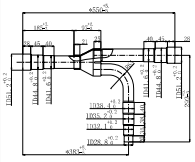
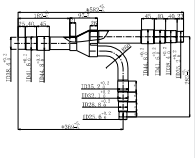
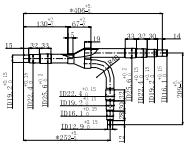
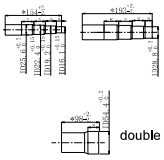
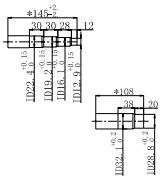
Joints for 2-pipe circuit - indoor unit side

Measurements in millimetres ID - inner diameter / OD - outer diameter

Model	Gas Side Joint	Liquid Side Joint	Gas Side Adapters included in the kit	Liquid side adapters included in the kit	Applicable kW power (total sum of the nominal cooling powers of the indoor units to be powered downstream of the joint)
FQG-B335A					Up to 33.5
FQG-B506A					33.5 to 50.6
FQG-B730A					50.6 to 73
FQG-B1350A					73 to 135
FQG-B2040A					Over 135

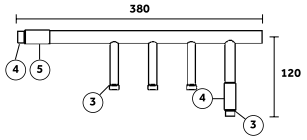
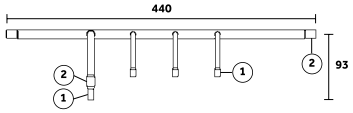
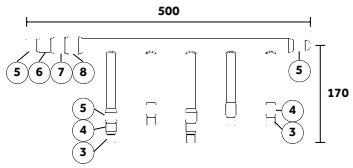
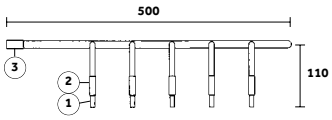
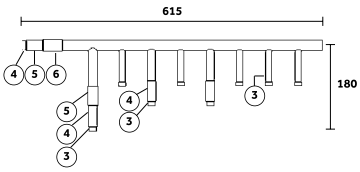
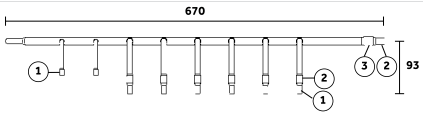
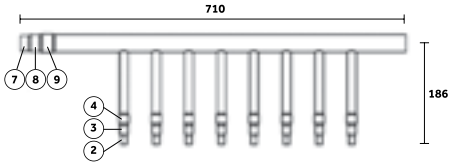
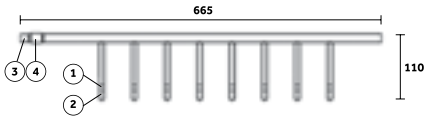
Joints for 3-pipe circuit - indoor unit side

Measurements in millimetres ID - inner diameter / OD - outer diameter

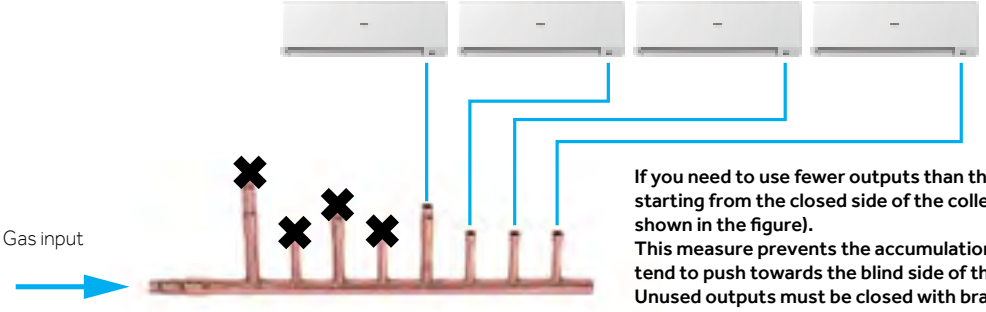
Model	Gas Side Joint Recovery/Return	Gas Side Joint High Pressure	Liquid Side Joint	Adapters side Gas Recovery/Return included in the kit	Adapters Side Gas High Pressure included in the kit	Adapters Side Liquid included in the kit	Applicable Power in kW (total sum of the nominal cooling powers of the indoor units to be powered downstream of the joint)
FQG-R335A							Up to 33.5
FQG-R506A							33.5 to 50.6
FQG-R730A							50.6 to 73
FQG-R1350A							73 to 135
FQG-R2040A							Over 135

SOLDER JOINTS TO CREATE COOLING CIRCUITS

Collectors for 2-pipe circuit on the side of indoor units

Model	Pipes	Branch	Adapter, Included in the kit	Applicable power in kW (total sum of the nominal cooling powers of the indoor units connected to the collector)
FQG-H3704	Gas		 2 PZ	up to 30 total (sum of all outputs) If you need to connect indoor units with power exceeding 5.6 kW, you must use model FQG-H3705 with more than 5 outputs for pipe diameter requirements
	Liquid			
FQG-H3705	Gas			up to 30 total (sum of all outputs)
	Liquid			
FQG H3708_35kW	Gas			up to 35 total (sum of all outputs)
	Liquid			
FQG-H3708_70kW	Gas		 1 PZ	up to 70 total (sum of all outputs)
	Liquid		 1 PZ	

Diameters in inches (")												
1	6.35 mm	1/4"	5	19.05 mm	3/4"	9	31.75 mm	1"1/4	13	44.45 mm	1"3/4
2	9.52 mm	3/8"	6	22.40 mm	7/8"	10	34.92 mm	1"3/8	14	50.80 mm	2"
3	12.70 mm	1/2"	7	25.40 mm	1"	11	38.10 mm	1"1/2			
4	15.88 mm	5/8"	8	28.57 mm	1"1/8	12	41.28 mm	1"5/8			

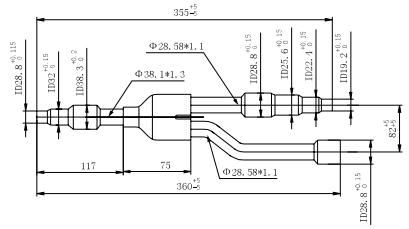
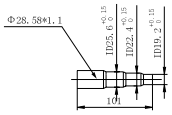
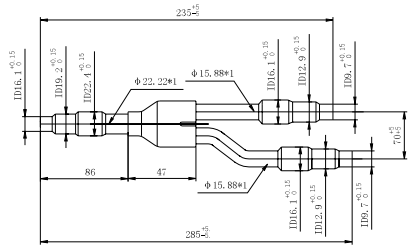


If you need to use fewer outputs than those provided by the collector, connect starting from the closed side of the collector, opposite to the gas input (as shown in the figure).
This measure prevents the accumulation of oil and dirt, which the gas would tend to push towards the blind side of the collector.
Unused outputs must be closed with braze welding.

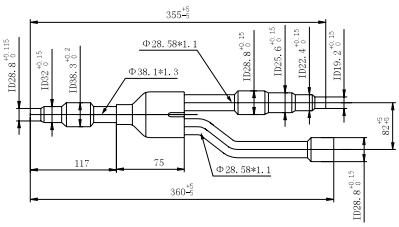
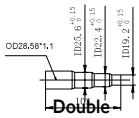
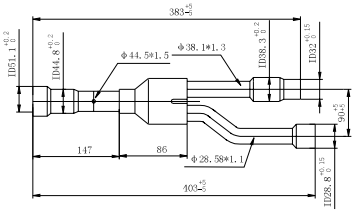
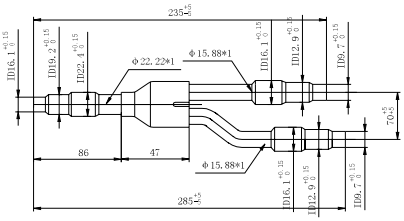
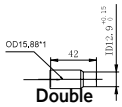
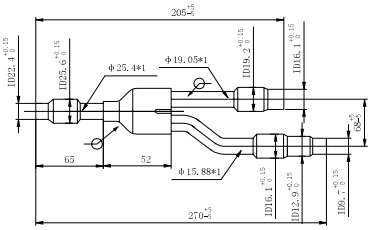
Joints to combine outdoor units with 2 tubes.

Measurements in millimetres ID - inner diameter / OD - outer diameter

HZG-20B - kit to be provided to combine 2 modules

Model	Pipes	ID	Branch	Gas Side Adapters Recovery/Return included in the kit
HZG-20B	Gas Side Joint	A		
	Liquid Side Joint	B		

HZG-30B - kit to be provided to combine 3 modules

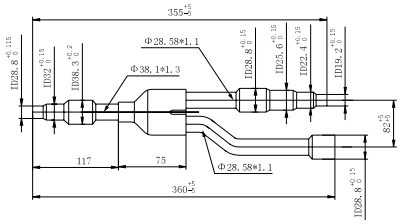
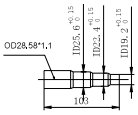
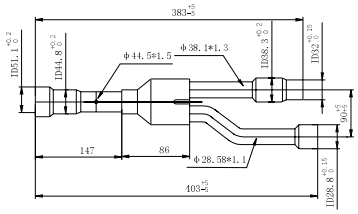
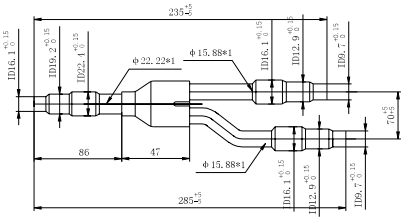
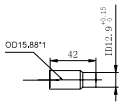
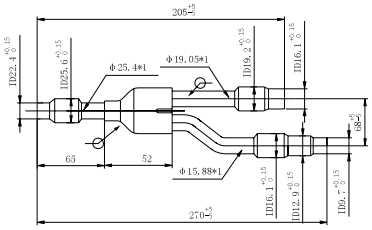
Model	Pipes	ID	Branch	Gas Side Adapters Recovery/Return included in the kit
HZG-30B	Gas Side Joint	C		
		D		
	Liquid Side Joint	E		
		F		

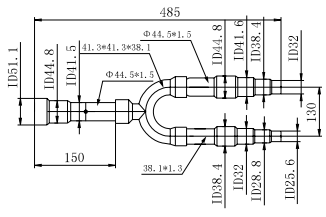
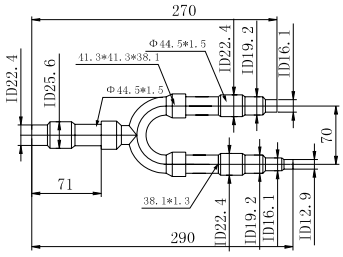
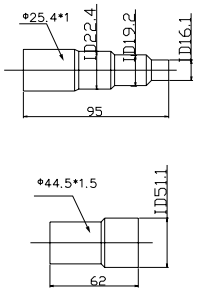
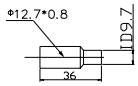
SOLDER JOINTS TO CREATE COOLING CIRCUITS

Joints to combine outdoor units with 2 tubes.

Measurements in millimetres ID - inner diameter / OD - outer diameter

HZG-30B - FQG-B20140A kit to be provided to combine 4 modules

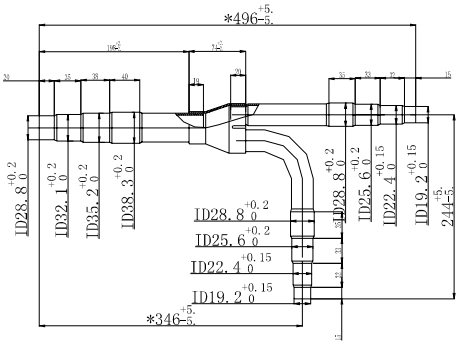
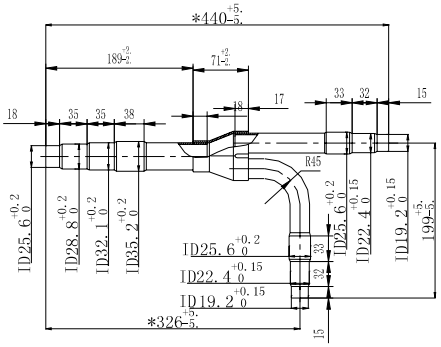
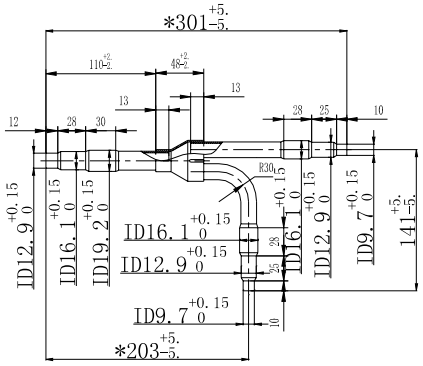
Model	Pipes	ID	Branch	Gas Side Adapters Recovery/Return included in the kit
HZG-30B	Gas Side Joint	C		 Double
		D		
	Liquid Side Joint	E		 Double
		F		

Model	Gas Side Joint	Liquid Side Joint	Gas Side Adapters included in the kit	Adapters included in the kit
FQG-B2040A				

Joints to combine outdoor units with 3 heat recovery tubes

Measurements in millimetres ID - inner diameter / OD - outer diameter

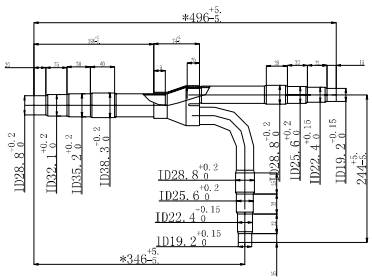
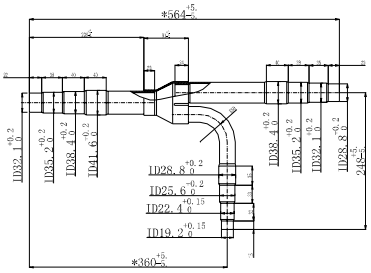
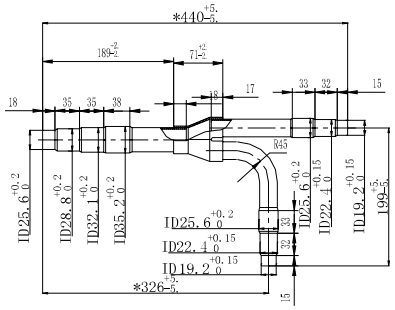
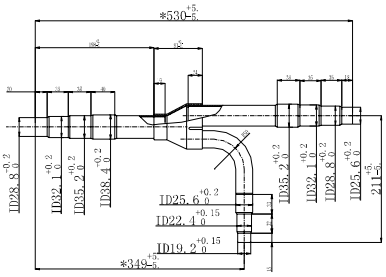
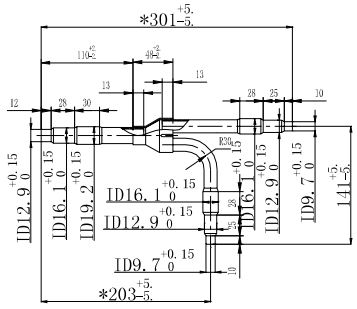
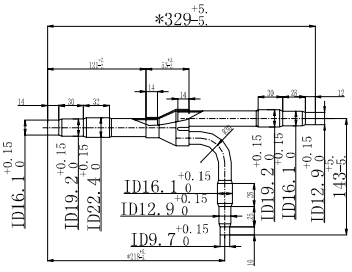
HZG-R20B - kit to be provided to combine 2 modules

Model	Pipes	ID	Branch
HZG-R20B	Gas Side Joint Recovery/ Return	A	
	Gas High Pressure Side Joint	B	
	Liquid Side Joint	C	

Joints to combine outdoor units with 3 heat recovery tubes

Measurements in millimetres ID - inner diameter / OD - outer diameter

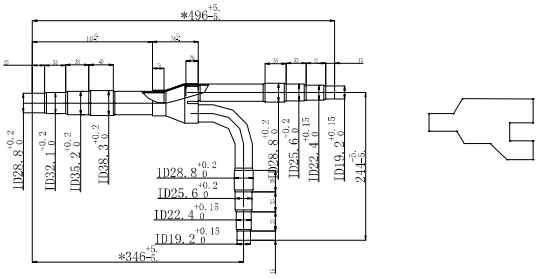
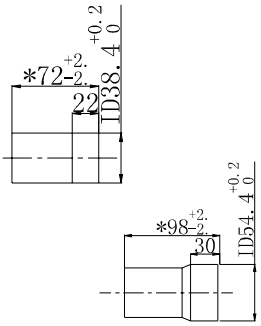
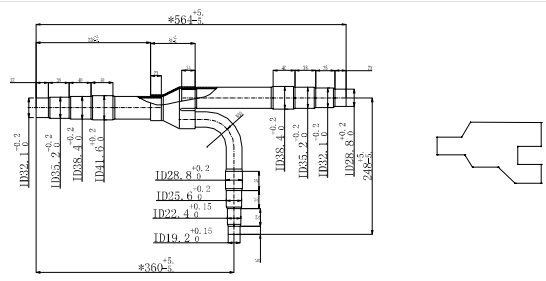
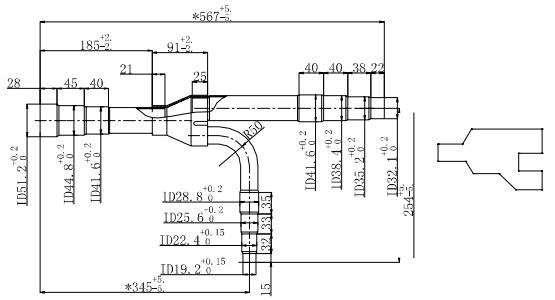
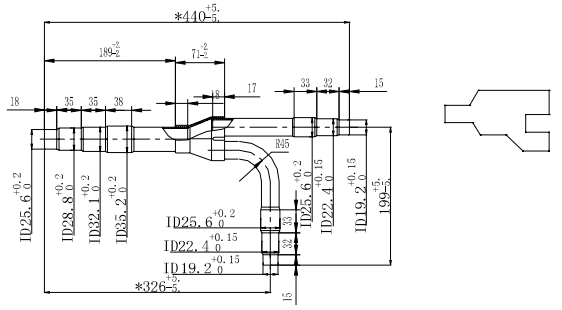
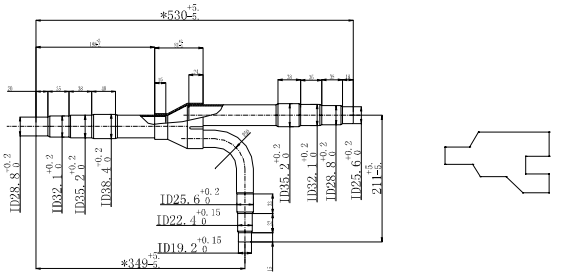
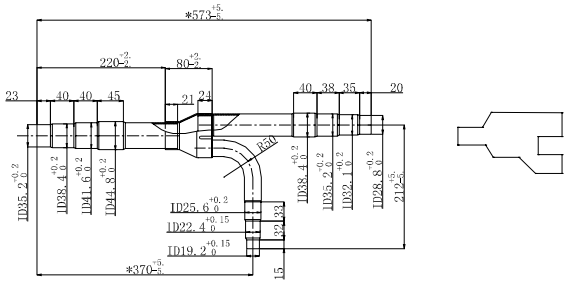
HZG-R30B - kit to be provided to combine 3 modules

Model	Pipes	ID	Branch
HZG-R30B	Gas Side Joint Recovery/ Return	D	
		E	
	Gas High Pressure Side Joint	F	
		G	
	Joint side Liquid	H	
		I	

Joints to combine outdoor units with 3 heat recovery tubes

Measurements in millimetres ID - inner diameter / OD - outer diameter

HZG-R40B – kit to be provided to combine 4 modules

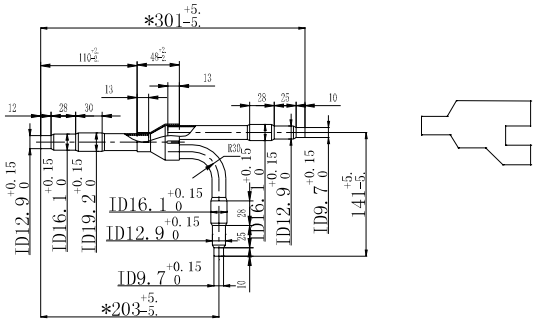
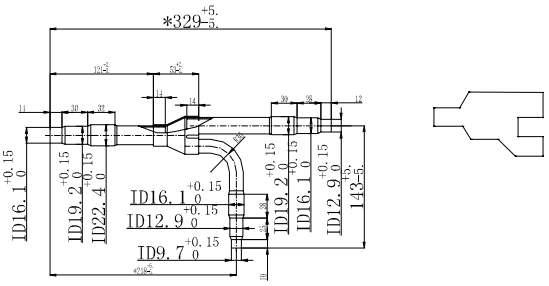
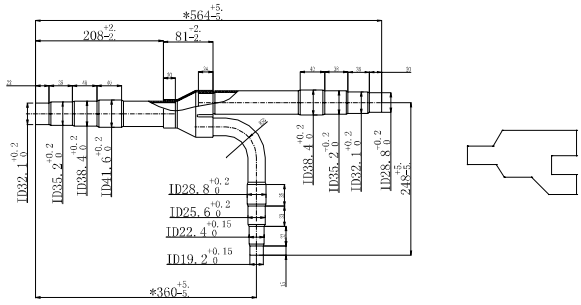
Model	Pipes	ID	Branch	Gas Side Adapters Recovery/Return included in the kit
HZG-R40B	Gas Side Joint Recovery/Return	J		
		K		
		L		
	Gas High Pressure Side Joint	M		
		N		
		O		

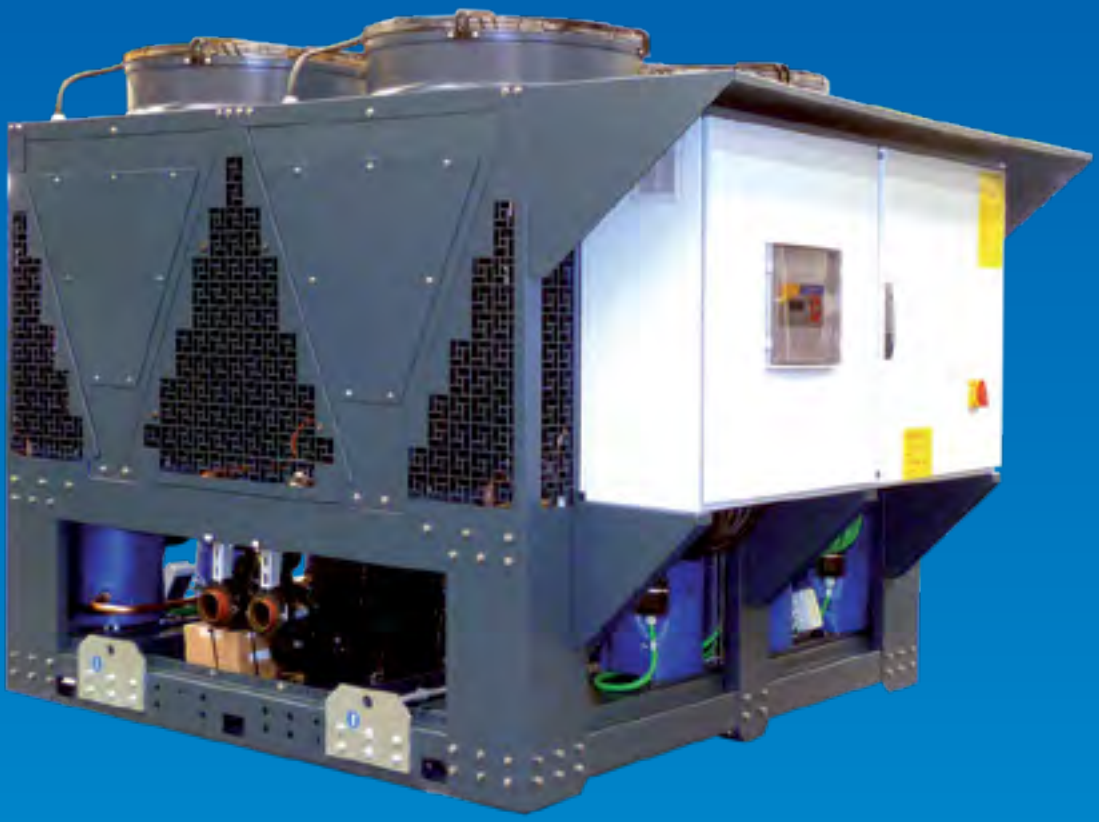
SOLDER JOINTS TO CREATE COOLING CIRCUITS

Joints to combine outdoor units with 3 heat recovery tubes

Measurements in millimetres ID - inner diameter / OD - outer diameter

HZG-R40B – kit to be provided to combine 4 modules

Model	Pipes	ID	Branch	Gas Side Adapters Recovery/Return included in the kit
HZG-R40B	Joint side Liquid	P		
		Q		
		R		



CHILLER

Modular multi-scroll reversible heat pump systems

Reversible heat pump systems with Inverter and multi-scroll technology

Haier

The first factory completely interconnected to the outside world

In October 2016, Haier inaugurated the new Chiller factory. 10 types of Chillers are produced in this plant, with powers ranging from 30 to 7034KW. Centrifugal magnetic and screw compressors are the flagship of this production plant. Customers can control the entire production process, tests and inspections of their Chiller by comfortably sitting in an armchair with the use of a smartphone from anywhere in the world through a specific application. Haier has set a new production and control standard with this new factory. The test laboratory, the largest ever built for testable power, is AHRI certified. The most complicated and important production processes are entrusted to robots for accuracy, while other computers monitor and store data continuously throughout the assembly phase.

Haier's 8th fully interconnected factory

The factory extends over a surface area of 87,000 m² with 51,000 m² dedicated to the production lines

10 different types of units that can be produced at the same time

8 fixed assembly lines and 4 modular areas

4,500 tons of maximum daily and testable total production capacity

compared to other factories of equal production capacity, this one from Haier saves over 20% energy

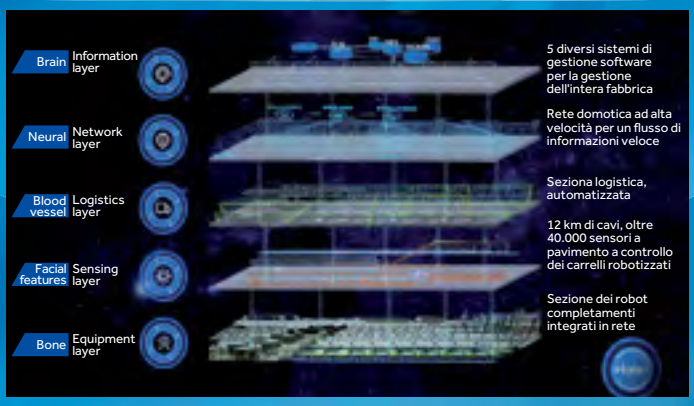
Haier

Redefine production standards, carrying out new ideas and guidelines for the factories of the future

The first factory interconnected to the outside world.

Customers can interact with the factory, personalising their requests through a flexible material supply platform and production styles.

All processes are visible from the outside



All production, control and shipping processes are visible through tablets or smartphones from anywhere in the world, giving continuity and real-time updates on the progress of the works.

Internal and external interconnection is also an Eco-sustainability factor.

Thanks to the interaction between customer and factory, production times, supplies, stocks, transport and logistics are reduced, positively influencing the environmental impact due to certain processes.

CHILLER

Modular CA Series

Reversible heat pump with scroll compressors

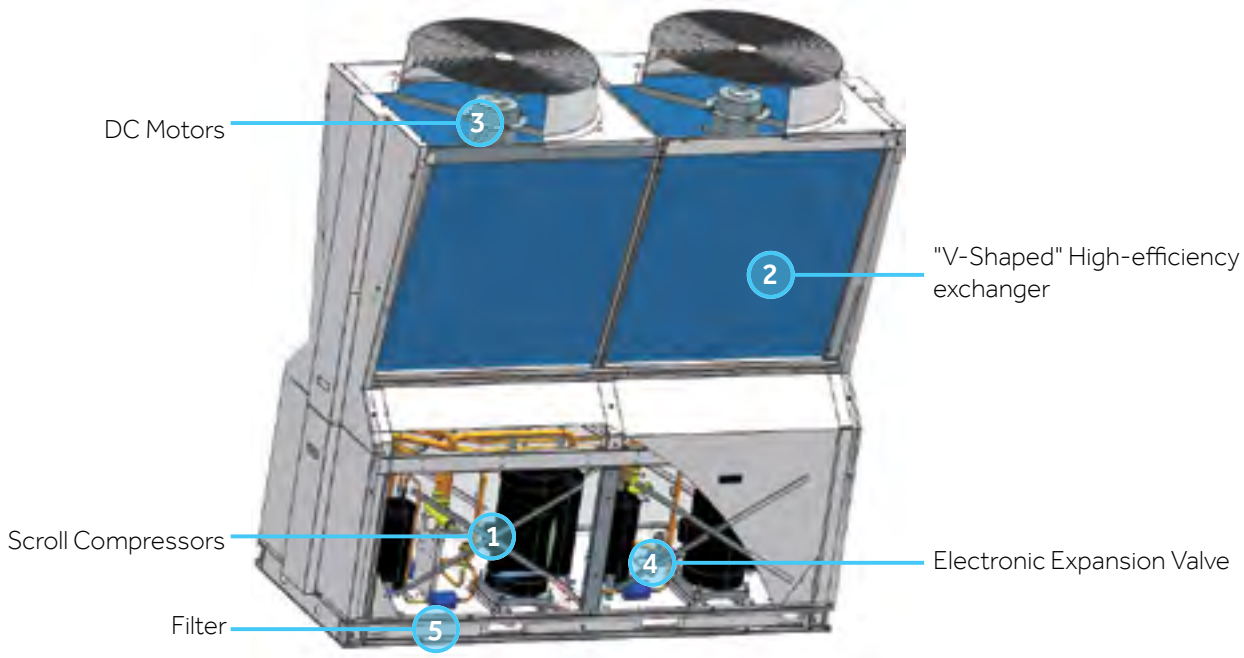
The CA series consists of 4 modules of different power heat pump equipped with compressors in "multi-scroll" technology. These modules are planned and designed for single "plug in" installations and for multiple modular configurations.
Up to 16 modules of similar or different capacity can be coupled under a single controller in order to reach 2080 KW of capacity. The simplicity of the construction and rational configuration with the various pre-installed protections make these models reliable and economical to manage. A wide range of external hydraulic modules allows the CA series units to adapt to all system requirements.

DESIGN

New structure

The "V-Shape" technology enabled us to reduce the footprint of the unit and achieve a more attractive and aesthetic look to the product

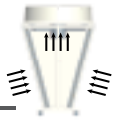
High efficiency



1 Compressors

This product line uses scroll compressors.

2 Air Exchanger



Thanks to the inclination of the exchangers, Haier's modular chillers with "V-Shape" technology offer up to 5% more exchange surface than standard technologies with the same footprints. This results in an increase in air side exchange efficiency.

3 Fan motors

High-efficiency motors, coupled with new fan designs tested in wind tunnels, ensures minimal noise from the movement of large volumes of air.

4 Electronic Expansion Valve

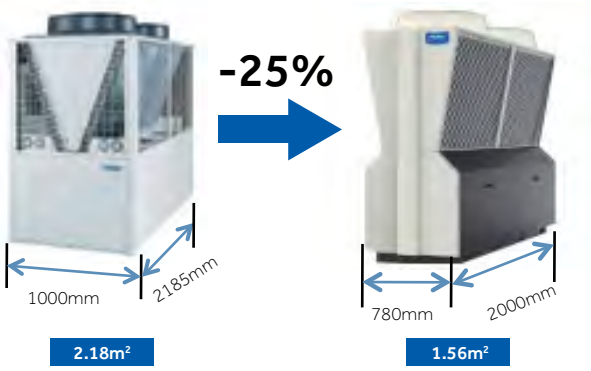
Haier's modular series uses only electronic valves to control the refrigerant flow. Unlike other types of electromechanical control, the electronic control defines more precisely the pressure and volume of gas to be entered into the exchangers according to the required load which increases efficiency.

Haier uses high-efficiency components which enables us to achieve very high EERs.

Simplified installation

Compact design

The new configuration of these Chillers allows a reduction of the installation spaces by 25% compared to the classic configurations.

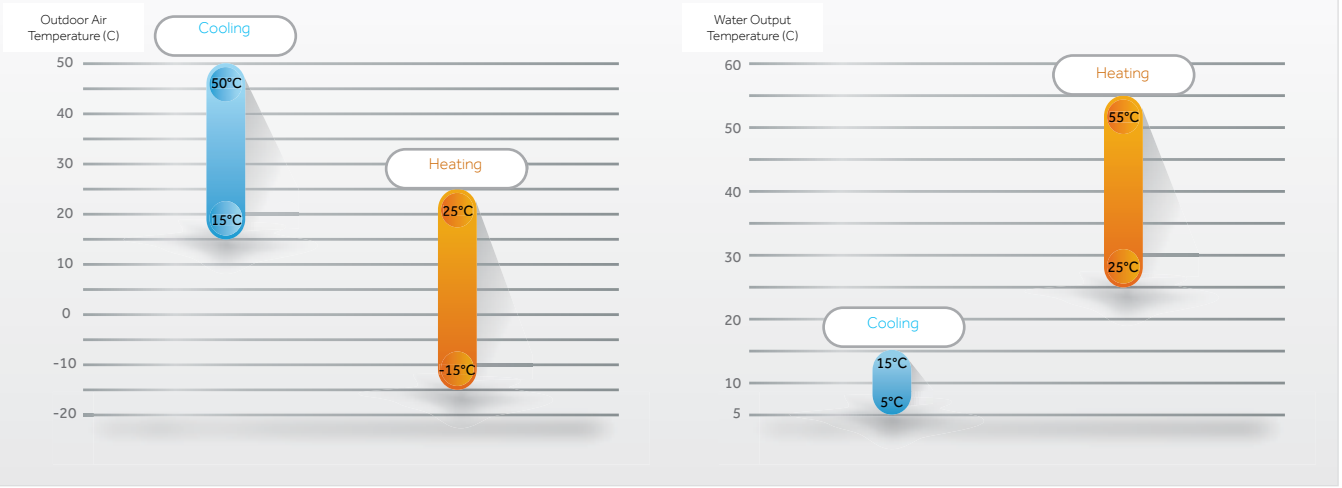


Flow Sensor

Many protections are standard such as the important water side "flow sensor" that controls the correct water flow in the circuit, preventing ruptures often caused by inadequate flow.

Extended applications

Large operating temperature ranges ensure performance in all conditions



Reliability

Gas-Water Exchanger pipe bundle

Sizes 70-100-130 use shell and pipe heat exchangers with opposite flows.
These exchangers prevent the accumulation of dirt, ensuring exchange efficiency over time.

Dryer filter

A special filter absorbs any traces of water in the gas circuit, preventing stops due to "ice formation".

Pressure sensors

A series of sensors allows pressures and temperatures to be controlled in real time by changing the operation of the system to ensure stable and accurate performance.

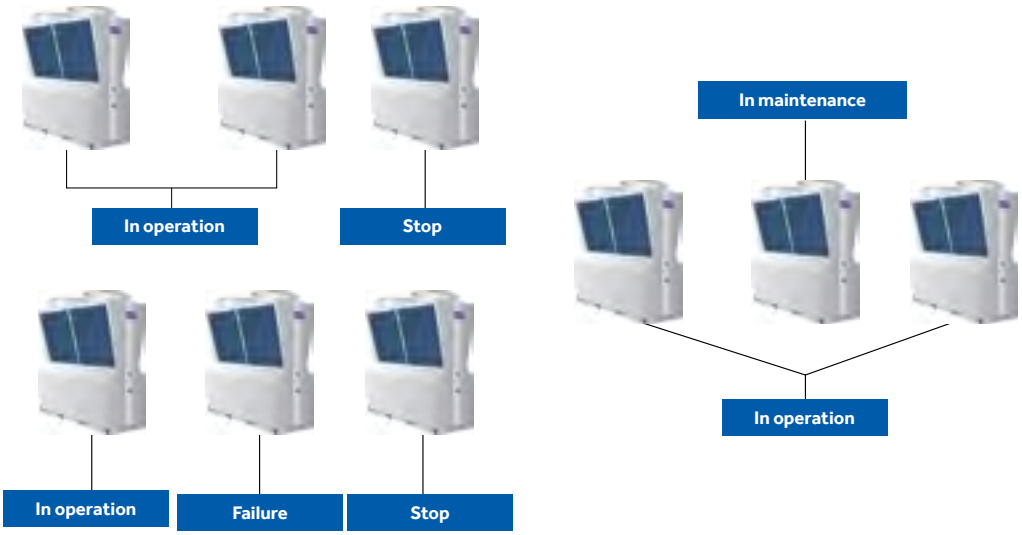
3-Phase fan motors

Compared to single-phase motors, these fans provide a reduced electrical absorption at the start, higher rotational speed and stability.

Reliability

Compact design

In combined systems, the back-up function also guarantees the service with reduced power.



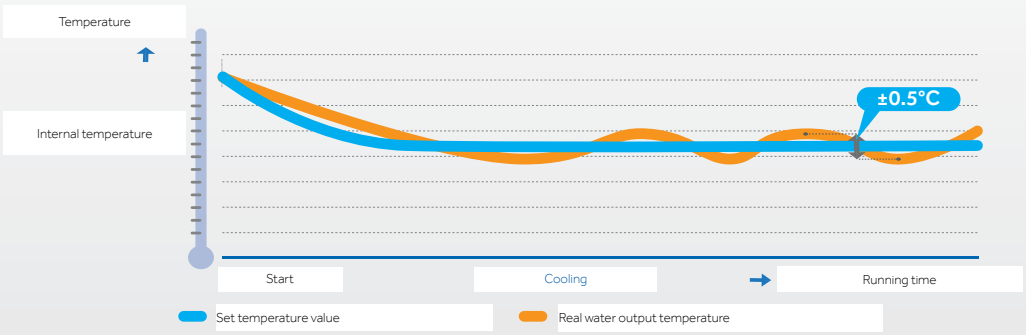
Security and protection

The modular chillers of Haier are equipped with a set of safety sensors to prevent: phase reversals on power supply, high or low pressure on gas side, formation of ice in the exchangers, overheating of components, exceeding standard absorptions and many more.

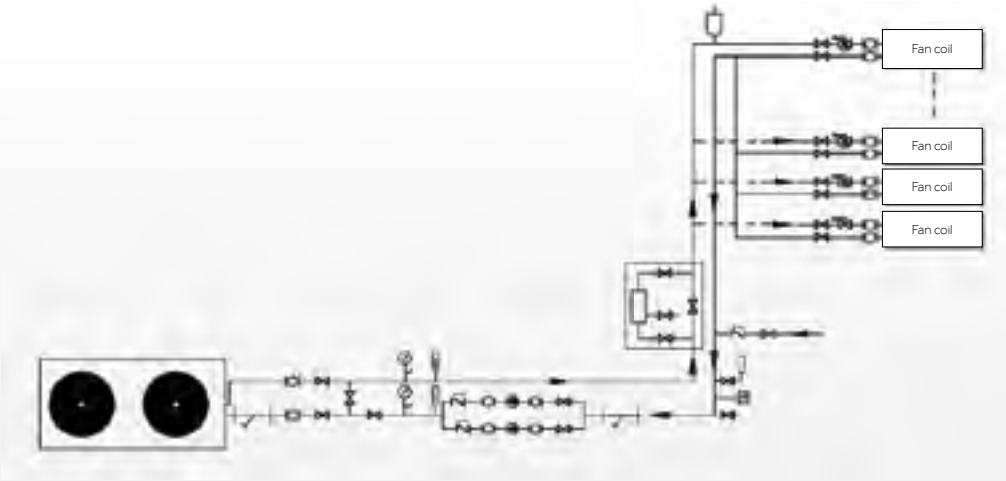
Comfort

Accurate water temperature control

By using the Electronic Expansion Valve combined with a Proportional Integral Derivative (PID) control technology, it is possible to ensure a maximum output temperature deviation of ±0,5°C from the set value.



Water-side illustrative diagram of terminals

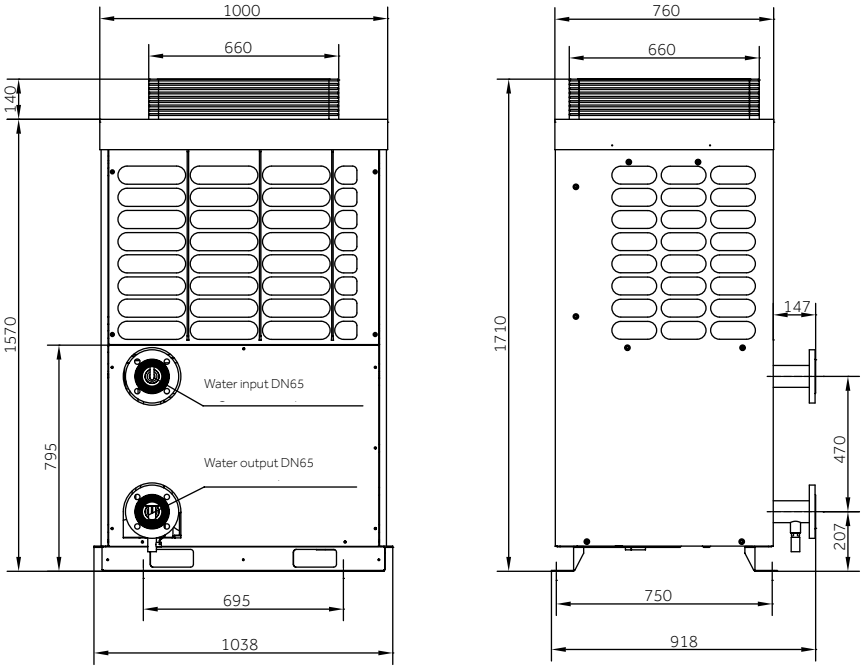


Model	Description	Model	Description
	Directional valve		Water pump
	Automatic vent valve		Flexible anti-vibration connection
	Tap		Expansion tank
	Stop valve		Water quality analyser
	Temperature indicators		3-way valve
	Pressure gauge		2-way valve

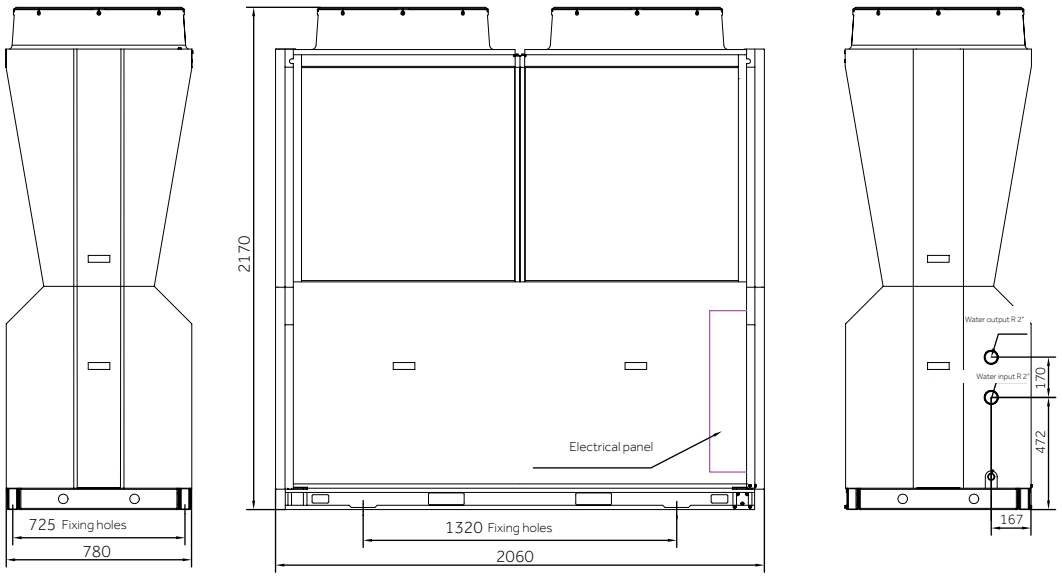
Model			CA0035EAND	CA0070EAND	CA0100EAND	CA0130EAND
Cooling	Capacity	kW	30	65	98	130
	Absorbed power	kW	9.4	19.2	28.9	38.4
	Absorbed current	A	15.8	34.6	53.2	75.4
Heating	Capacity	kW	33	70	103	135
	Absorbed power	kW	9.6	19.1	28.7	38.2
	Absorbed current	A	16.2	34.4	52.8	75
EER (1)		W/W	3.19	3.39	3.39	3.39
COP (2)		W/W	3.44	3.66	3.59	3.53
COP (3) for deductions		W/W	non-deductible	4.07	3.98	3.92
SEER		W/W	3.75	4.05	4.53	4.61
Maximum absorbed power		kW	16.3	28	45.6	56
Maximum absorbed current		A	27.5	55	82.5	110
Power supply		V	3N/380V/50Hz (L1+L2+L3+N+G)			
Refrigerant flow control			EEV electronic valve			
Capacity control			100%	50%, 100%	33%, 67%, 100%	25%, 50%, 75%, 100%
Protections and security			High and low refrigerant pressure, water flow, anti-freeze, overcurrent, overheating components, phase loss and reversal			
Compressor	Type		High efficiency multi-scroll at fixed speed			
	Amount		1	2	3	4
	Absorbed power	kW	9	18	27	36
Refrigerant	Type		R410A			
	Amount	Kg	5.5	6x2	5.8x3	5.8x4
Air side exchanger	Type		Corrugated copper pipe coupled with water-repellent aluminium			
	Fan motor power	kW	0.7	1.5	2.3	3
	Fan Type		Axial			
	Fan quantity		1	2	3	4
Gas-water exchanger	Type		Plates	Pipe beam		
	Nominal water flow	m^3/h	5.6	12	17.7	24
	Pipe diameter input/output		DN65	R 2" (external thread)	R 2" (external thread)	R2 1/2" (external thread)
	Water cleaning coefficient	$m^2.°C/KW$	0.018	0.018	0.018	0.018
	Std. working pressure	Mpa	1.0	1.0	1.0	1.0
	Indoor pressure drop	Kpa	40	45	50	60
Sound pressure @	Distance 1 m	dB(A)	60	65	67	68
	Distance 5m	dB(A)	56	60	62	63
	Distance 10m	dB(A)	48	54	56	57
Unit dimensions	Width	mm	918	2060	2060	2060
	Depth	mm	1038	780	1603	1603
	Height	mm	1810	2170	2170	2170
Packaging dimensions	Width	mm	1075	2200	2200	2200
	Depth	mm	940	830	1650	1650
	Height	mm	1950	2280	2280	2280
Unit weight	Net	Kg	270	630	960	1090
	Gross packed	Kg	290	645	990	1125
	Running order	Kg	280	670	1010	1245
Outdoor Temperature Operating Limits	Cooling	°C	15 – 50			
	Heating	°C	15 – 25			
MODBUS output as standard. Factory-mounted IGU21						

Notes:
The values indicated were obtained under following test conditions:
(1) Cooling: water input /output temperature of 12°/7°C with an outdoor temperature of 35°C BS
(2) Heating: water input/output temperature of 40°/45°C with an outdoor temperature of 7°C BS / 6°C BU
(3) Heating: water input/output temperature of 30°/35°C with an outdoor temperature of 7°C BS / 6°C BU
- Water side error factor: 0.086M2°C/KW
- @sound pressure measured in open field

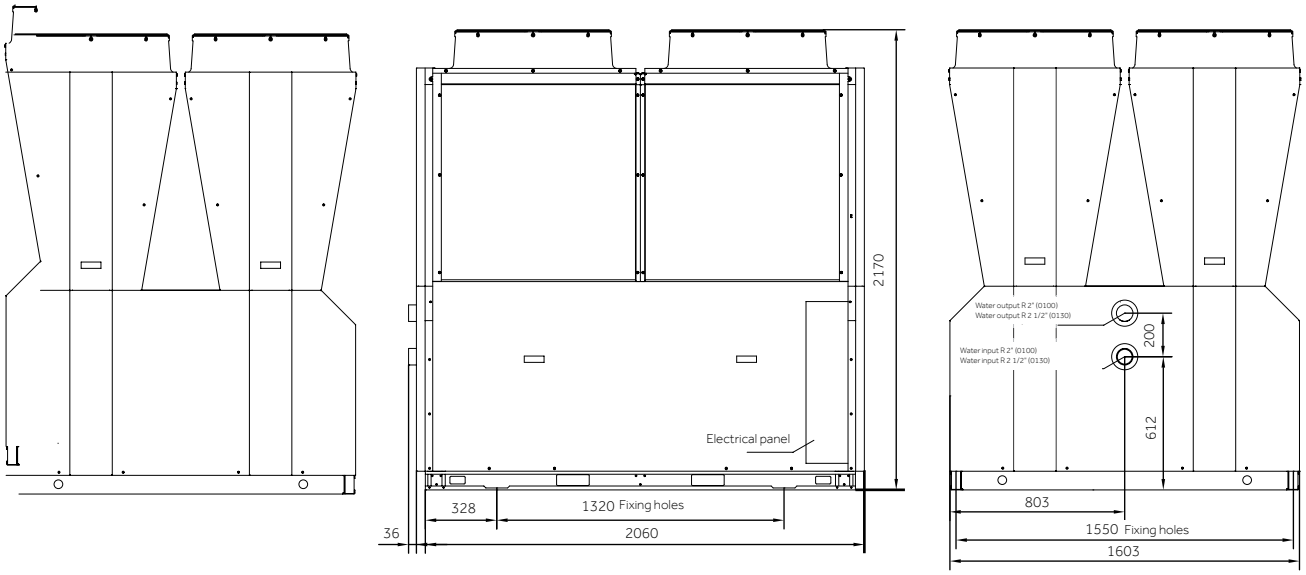
CA0035EAND



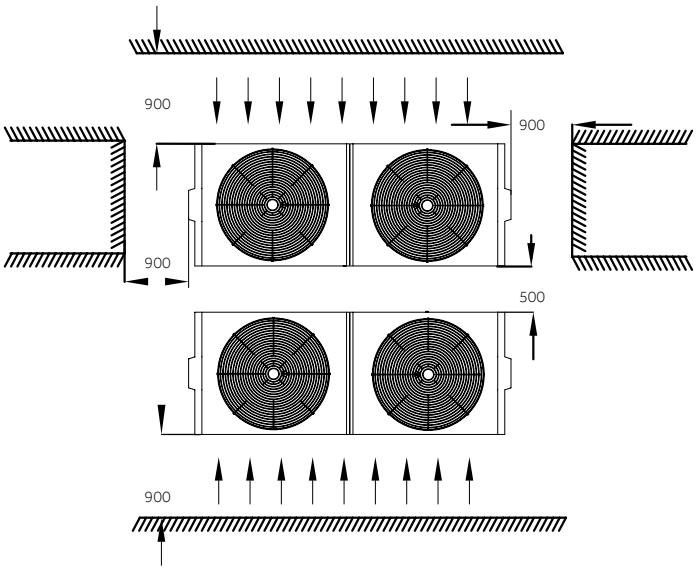
CA0070EAND

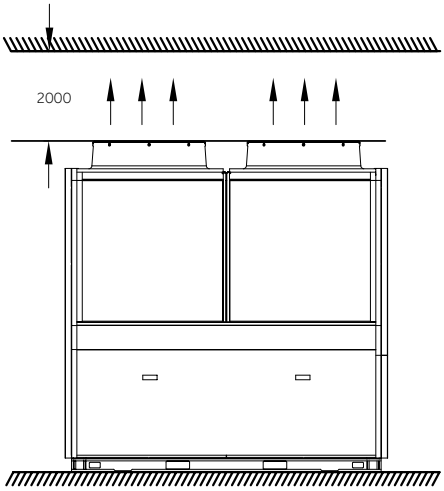


CA0100EAND/CA0130EAND



Minimum installation spaces





CA0035EAND

Cooling capacity

Output temperature Water (C)	Outdoor air temperature (C)				
	25	30	35	40	45
5	1.03	0.97	0.94	0.90	0.85
7	1.07	1.03	1.00	0.95	0.88
9	1.10	1.06	1.03	0.98	0.91
11	1.12	1.10	1.08	1.02	0.97
13	1.19	1.20	1.15	1.10	1.05
15	1.31	1.31	1.26	1.20	1.15

Heating capacity

Output temperature Water (C)	Outdoor air temperature (C)							
	15	10	7	5	0	-5	-10	-15
30	1.23	1.15	1.11	1.06	0.87	0.80	0.71	0.6208
35	1.13	1.10	1.08	0.83	0.74	0.68	0.58	0.57
40	1.13	1.09	1.05	0.83	0.74	0.66	0.57	0.55
45	1.13	1.09	1.00	0.83	0.74	0.64	0.57	0.53
50	1.13	1.07	0.92	0.81	0.74	0.64	0.56	0.51
55	1.12	1.06	0.92	0.81	0.72	0.62	-	-

Notes:
1. Real capacity = Nominal capacity x the correction coefficient.
2. The correction coefficient is an average value. See the technical manual for more details

CA0070EAND - CA01000EAND - CA0130EAND

Cooling capacity

Output temperature Water (C)	Outdoor air temperature (C)				
	25	30	35	40	45
5	1.07	1.00	0.94	0.94	0.81
7	1.14	1.07	1.00	0.96	0.86
9	1.20	1.13	1.06	0.98	0.91
11	1.27	1.19	1.12	1.04	0.96
13	1.34	1.26	1.17	1.09	1.01
15	1.41	1.32	1.23	1.14	1.06

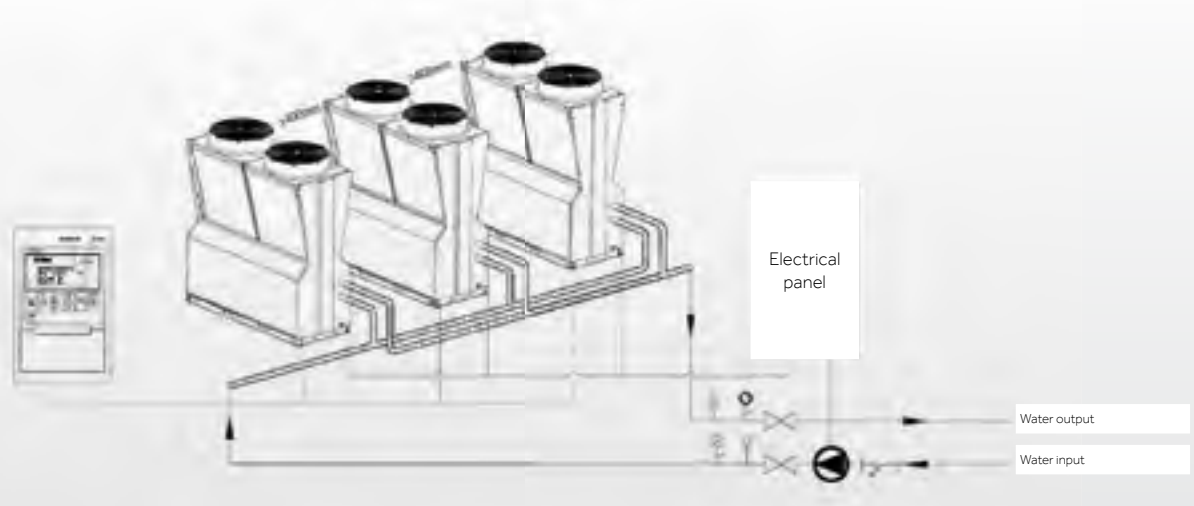
Heating capacity

Output temperature Water (C)	Outdoor air temperature (C)							
	15	10	7	5	0	-5	-10	-15
30	1.26	1.16	1.12	1.07	0.88	0.82	0.72	0.69
35	1.24	1.15	1.11	1.06	0.88	0.81	0.71	0.69
40	1.22	1.14	1.10	1.05	0.87	0.80	0.71	0.67
45	1.19	1.12	1.00	0.98	0.85	0.79	0.70	0.66
50	1.19	1.11	0.98	0.97	0.84	0.78	0.67	0.65
55	1.14	1.07	0.97	0.94	0.83	0.77	-	-

Notes:
1. Real capacity = Nominal capacity x the correction coefficient.
2. The correction coefficient is an average value. See the technical manual for more details

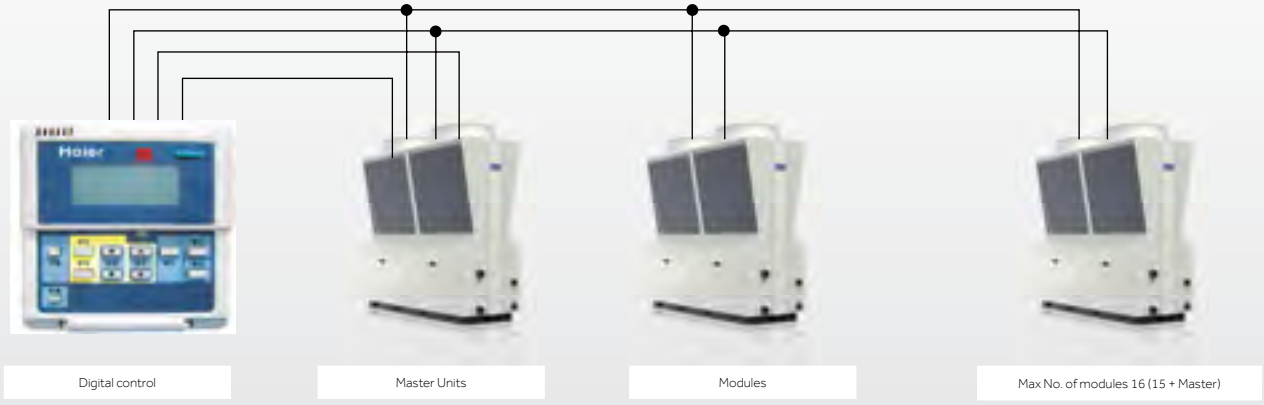
Illustrative diagram of assembly

Example of single-line water pipes and wiring, for a multiple combination without inertial storage tank.



Group control

You can connect up to 16 modules on a single hydraulic circuit, which can be controlled by a single controller.



HYDRONIC KIT HACI-M / HACI-MA

HACI-M
Units with pumps and accessories

HACI-MA
Units with pump, tank and accessories

INTRODUCTION

The HACI-M and HACI-MA units have been specifically designed to optimise the performance of air conditioning and cooling systems and to reduce installation time.

The units comprise of an integrated system, complete with all the components necessary for efficient operation of the hydraulic circuit (or for the distribution of cooled water).

They are designed, pre-assembled and every single unit is tested in the factory. This ensures higher quality in the execution of the plants and a simpler and faster installation. The kits are available with a wide range of pump/storage tank combinations that are functional to any type of cooling or heat pump system.

The units are made of materials and finishes designed for outdoor installations.

PLUS

- **Easy installation**
- **Tests carried out on 100% of the units produced**
- **Pre-mounted system**
- **Quick installation**
- **Correct unit sizing**
- **Reduced energy consumption**

The units comply with European Union directives and are marked with CE marking.

Compliance with the ErP directive on energy efficiency.

Pre-assembled and proven accessories for quick and secure installation.

STORAGE TANK FOR CHILLED WATER
Hydronic systems: HACI-MA vertical

HACI-MA vertical

AVAILABLE VERSIONS

The wide choice of pump-storage tank combinations allows you to meet every need for plant design.
There are many versions available with single or double pump together with storage tanks of 100, 200, 300 litres for single chiller combinations (for multi-chiller combinations, ask Haier A/C technical office).

HACI-MA units are hydraulic power stations with inertial storage tank designed to reduce the time it takes for air conditioning and refrigeration systems to be set up, and can be combined with all types of water coolers.

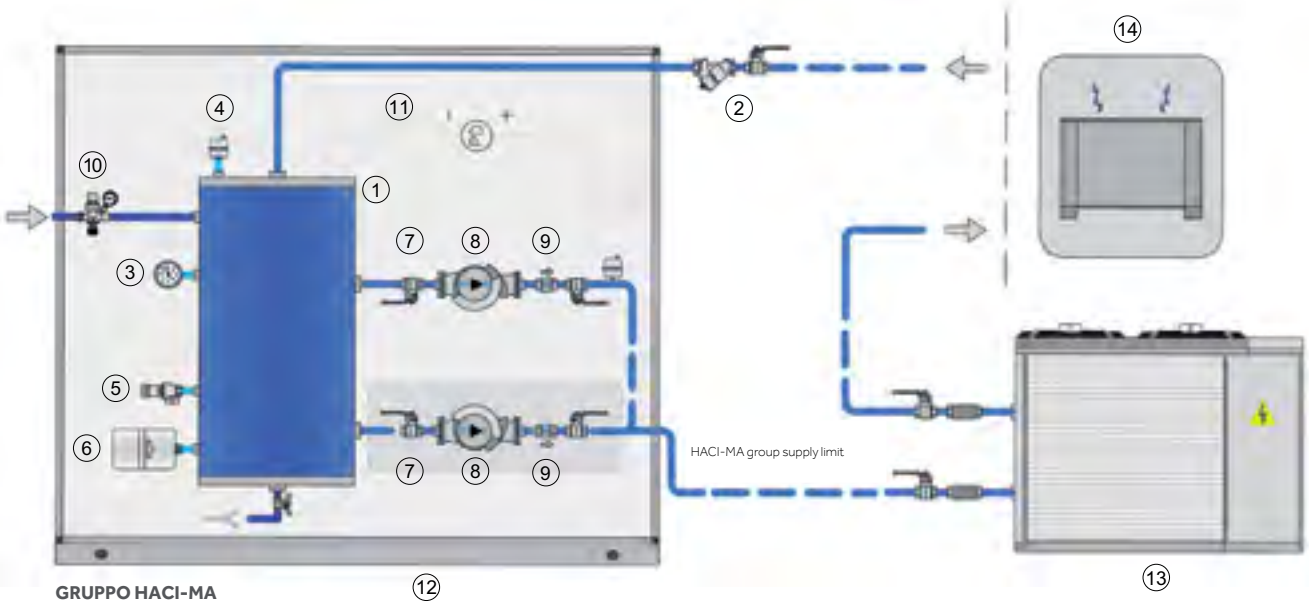
The HACI-MA unit consists of:

- Carbon steel tank and pipes insulated with anti-condensation elastomer.
- Single or double centrifugal pump with shut-off valves
- Electric power panel with pump alternating device at each start (version with 2 pumps), starting pump in case of pump failure (version with 2 pumps), magneto-thermic protections, clean contacts for remote signalling of running pumps, IP55 protection degree.
- Expansion tank.
- Safety valve.
- Deaerator.
- Pressure gauge.
- Loading/drain valves.
- Base made of galvanised and painted steel sheet
- Self-supporting panel in galvanised carbon steel sheet and painted accordingly for outdoor installation.

Recommended for Haier Chiller	Haier Code	Description
CA0035	M-A35_1P0,4_100	HYDRONIC MODULE WITH 100 LT INERTIAL STORAGE TANK. SINGLE PUMP with low prevalence from 5.7 m³/h - 15 mCA
	M-A35_1P0,6_100	HYDRONIC MODULE WITH 100 LT INERTIAL STORAGE TANK. SINGLE PUMP with high prevalence from 5.7 m³/h - 25 mCA
	M-A35_2P0,4_100	HYDRONIC MODULE WITH 100 LT INERTIAL STORAGE TANK. DOUBLE PUMP with low prevalence from 5.7 m³/h - 15 mCA
	M-A35_2P0,6_100	HYDRONIC MODULE WITH 100 LT INERTIAL STORAGE TANK. DOUBLE PUMP with high prevalence from 5.7 m³/h - 25 mCA
CA0070	M-A70_1P1_200	HYDRONIC MODULE WITH 200 LT INERTIAL STORAGE TANK. SINGLE PUMP with low prevalence from 12 m³/h - 15 mCA
	M-A70_1P2_200	HYDRONIC MODULE WITH 200 LT INERTIAL STORAGE TANK. SINGLE PUMP with high prevalence from 12 m³/h - 19 mCA
	M-A70_2P1_200	HYDRONIC MODULE WITH 200 LT INERTIAL STORAGE TANK. DOUBLE PUMP with low prevalence from 12 m³/h - 15 mCA
	M-A70_2P2_200	HYDRONIC MODULE WITH 200 LT INERTIAL STORAGE TANK. DOUBLE PUMP with high prevalence from 12 m³/h - 19 mCA
CA0100	M-A100_1P3_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. SINGLE PUMP with low prevalence from 17.2 m³/h - 14 mCA
	M-A100_1P5_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. SINGLE PUMP with high prevalence from 17.2 m³/h - 22 mCA
	M-A100_2P3_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. DOUBLE PUMP with low prevalence from 17.2 m³/h - 14 mCA
	M-A100_2P5_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. DOUBLE PUMP with high prevalence from 17.2 m³/h - 22 mCA
CA0130	M-A130_1P3_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. SINGLE PUMP with low prevalence from 23.2 m3/h - 11 mCA
	M-A130_1P5_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. SINGLE PUMP with high prevalence from 23.2 m³/h - 19 mCA
	M-A130_2P3_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. DOUBLE PUMP with low prevalence from 23.2 m³/h - 11 mCA
	M-A130_2P5_300	HYDRONIC MODULE WITH 300 LT INERTIAL STORAGE TANK. DOUBLE PUMP with high prevalence from 23.2 m³/h - 19 mCA

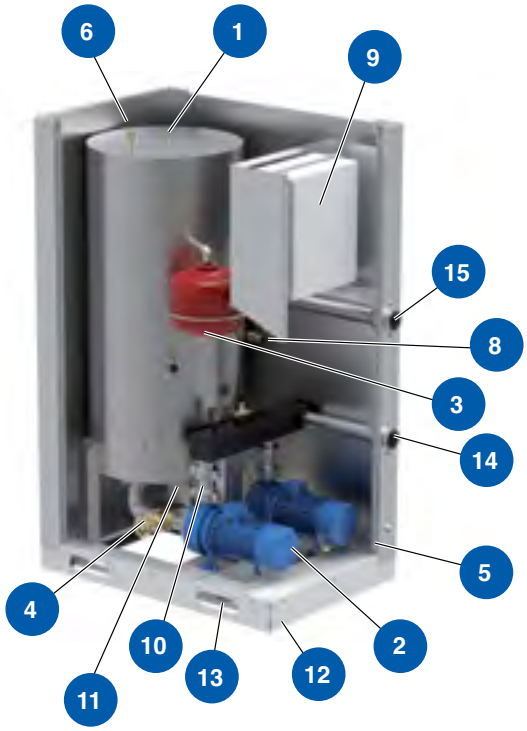
Features Layout 1:
Hydronic kit, Chiller and plant connected in series, which provides constant water flow throughout the plant.

NOTE: Entire HACI-MA kit is in Layout 1



Legend

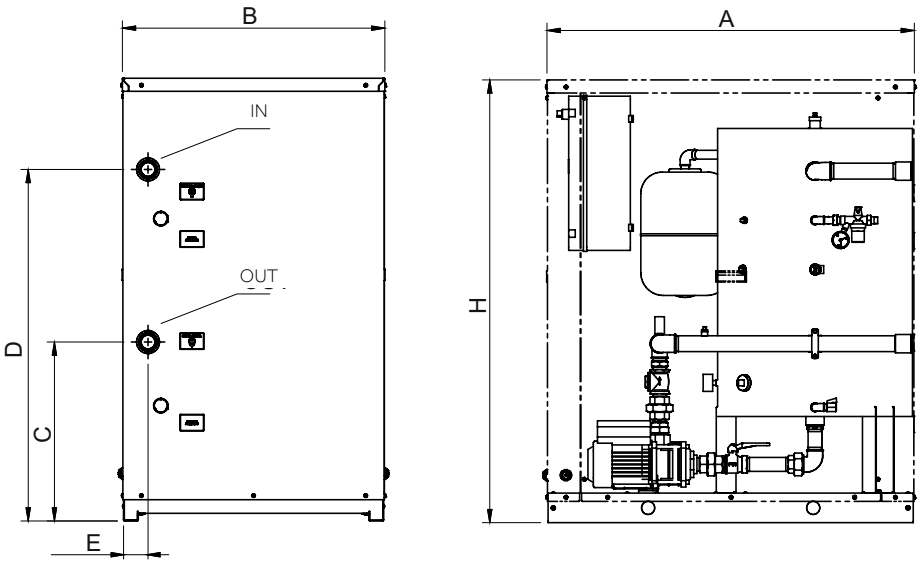
1. Storage tank
2. Y-filter (optional, supplied not assembled)
3. Pressure gauge
4. Deaerator
5. Safety valve
6. Expansion tank
7. On-off valve
8. Circulator
9. Check valve (only for 2-pump version).
10. Automatic filling group
11. Differential pressure switch (optional).
12. Suitable self-supporting woodwork for outdoor housing
13. Chiller
14 Plant



Components

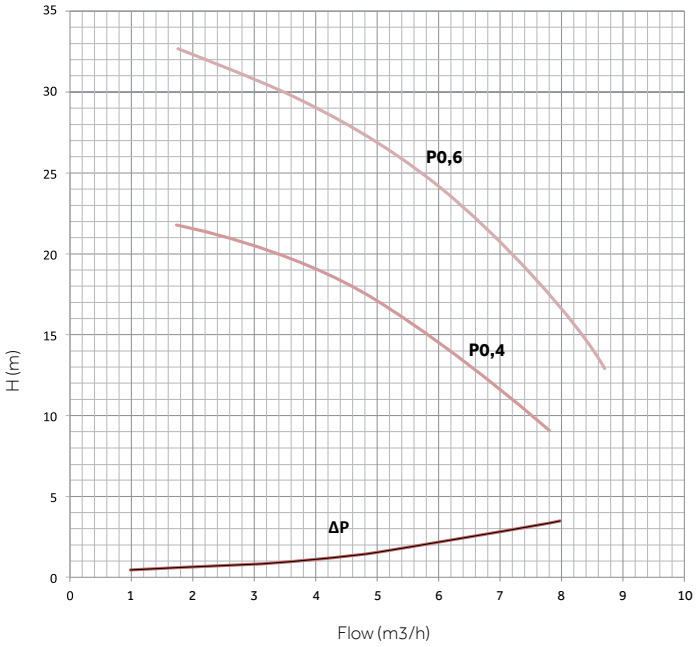
1 Tank
2 Circulator
3 Expansion tank
4 On-off valve
5 Automatic ventilation system
6 Air vent valve
8 Automatic filling group
9 Electrical panel
10 Check valve (version with 2 pumps only)
11 Drain
12 Electrical grid input
13 Lifting points
14 Delivery to the plant
15 Return from the plant

HYDRONIC SYSTEMS Layout 1: Dimensions & Connections

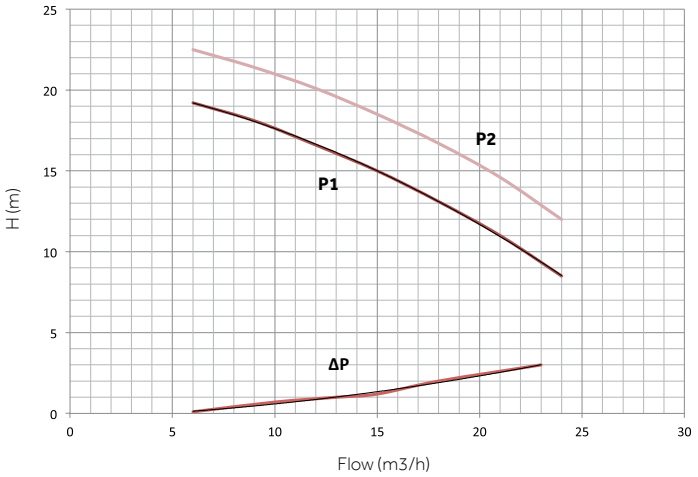


Vertical HACI-MA dimensions							
Capacity	A	B	H	C	D	E	IN/OUT
L	mm	mm	mm	mm	mm	mm	Inch
100	1120	800	1350	546	1002	100	1" ½
200	1120	800	1350	546	1072	80	1" ½
300	1100	760	1726	558	1008	60	2" ½

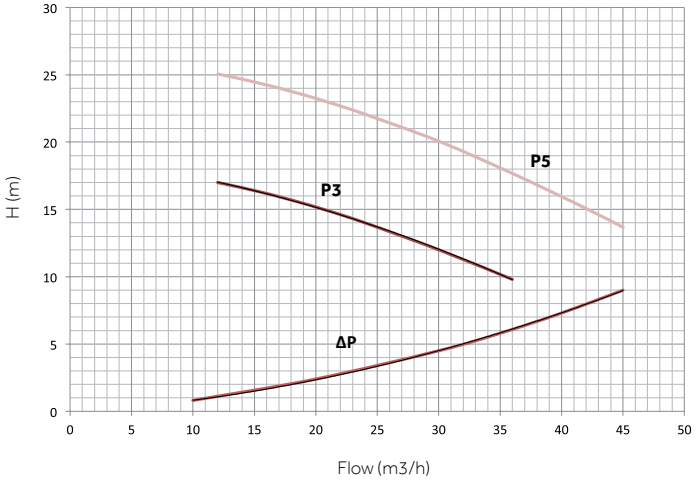
HACI-MA 35



HACI-MA 70

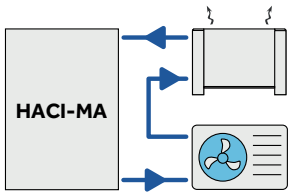


HACI-MA 100-130



ΔP: HACI-MA group pressure drop

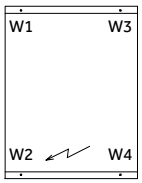
HYDRONIC SYSTEMS HACI-MA Weights & Electrical Parameters



HACI-MA	1 pump		2 pumps (1 reserve)					
Capacity	Model	Weight (kg)	Model	Weight (kg)	Power supply	F.L.I (kW)	F.L.I (A)	Ve (l)
100 vertical	P0.4	159	P0.4	195	380V three-phase (5 wires L1+L2+L3+N+G)	0.72	1.3	18
	P0.6	159	P0.6	195		0.97	1.6	18
200 vertical	P1	195	P1	211		1.1	2.5	18
	P2	195	P2	211		1.5	3,2	18
300 vertical	P3	188	P3	220		1.5	3.4	25
	P5	194	P5	231		3	5.6	25

F.L.I. Maximum absorbed power
F.L.A. Maximum absorbed current
Ve Expansion tank capacity

HYDRONIC SYSTEMS HACI-MA Weight Distribution



Unit top view

Pump model	Storage tank capacity (l)	1 pump				2 pumps (1 reserve)			
		W1 (kg)	W2 (kg)	W3 (kg)	W4 (kg)	W1 (kg)	W2 (kg)	W3 (kg)	W4 (kg)
P0.4	100	29	67	50	115	33	76	56	131
P0.6	100	29	67	50	115	33	76	57	131
P1	200	44	101	75	176	46	106	78	183
P2	200	44	102	76	175	46	106	79	182
P3	300	177	91	146	77	130	130	130	130
P5	300	179	92	149	76	134	134	132	132

HYDRONIC SYSTEMS HACI-MA Expansion Tank Capacity

Maximum water content in the plant and expansion tank sizing

The table shows the maximum amount of water contained in the hydraulic plant, compatible with the capacity of the expansion tank provided as standard on all HACI-MA models and with the activation value of the safety valve (3 bars for all models). If the actual water content of the plant, including the storage tank, is higher than that of the operating conditions shown in the table, additional expansion tanks must be installed.

Model	Hydraulic Height H	M	M
	Pre-loading the expansion tank	**1.80 bar**	**1.50 bar**
HACI-MA 100	Maximum water capacity of the circuit in litres (1)	708	885
	Maximum water capacity of the circuit in litres (2)	453	567
HACI-MA 200	Maximum water capacity of the circuit in litres (1)	708	885
	Maximum water capacity of the circuit in litres (2)	453	567
HACI-MA 300	Maximum water capacity of the circuit in litres (1)	984	1230
	Maximum water capacity of the circuit in litres (2)	630	788

Operating conditions:

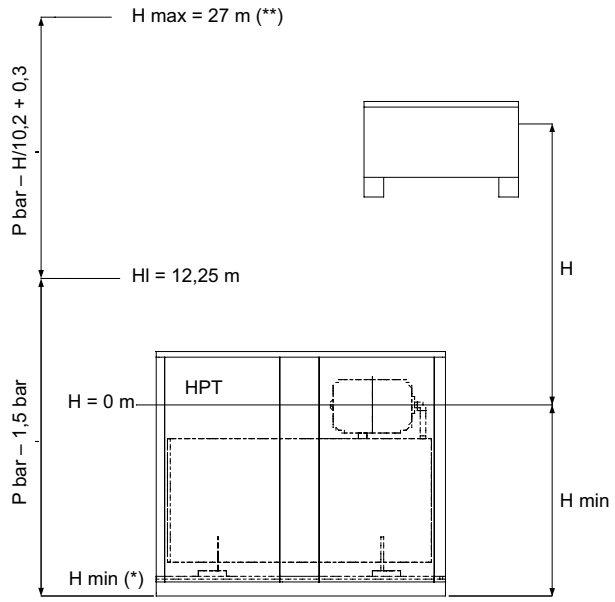
(1) Cooling:
Minimum fluid temperature = 4 °C
Maximum fluid temperature = 40 °C

(2) Heating (heat pump):
Minimum fluid temperature = 4 °C
Maximum fluid temperature = 50 °C

HYDRONIC SYSTEMS HACI-MA Pre-load of the Expansion Tank

The expansion tank of all models is pre-loaded with a standard value of 1.5 bars.
However, it is necessary to adjust this value according to the H-height of the plant.

The formula for calculating the preload value of the expansion tank is as follows:
P = (H /10.2)+0.3



Legend

H Plant height in meters
P: Pre-load of the expansion tank expressed in bars
If the result of the pre-load value is less than the standard value, no action is required. This means that for each installation with H less than 12.25 m, the pre-load of the expansion tank must be 1.5 bars. In this case, the operator must check the pressure value without making any intervention.

Example

Suppose an H-height value of 15.3 m.
The pre-load value will be:
P = (15.3/10.2)+0.3= 1.8 bar

H: plant height
HMAX: maximum plant height
Hl: The height below which the pre-load of the expansion tank is equal to the standard
* Check that the lowest point of the plant can support the pressure of the plant.
** Check that the highest point of the plant is not at a height greater than H max= 27 m.

Water temperature				
Glycol-water mixture	**Max**	**Min**	**Correction factor**	**Reference value**
10%	40	-2	0.507	(1)
10%	5	-2	0.686	(2)
20%	40	-4	0.434	(1)
20%	50	-4	0.604	(2)
30%	40	-6	0.393	(1)
30%	50	-6	0.555	(2)

Operating conditions:

(1) Cooling:
Minimum fluid temperature = 4 °C
Maximum fluid temperature = 40 °C

(2) Heating (heat pump):
Minimum fluid temperature = 4 °C
Maximum fluid temperature = 50 °C

Normal conditions of use

The HACI-MA hydronic group is designed to be inserted into air conditioning systems, normally coupled with a Chiller or heat pump.

The groups are designed to work with water or mixtures of water and ethylene glycol in a maximum percentage of 30% To operate with higher glycol percentages or with different fluids you need to consult the Haier technical team.

The minimum operating temperature of the fluid is -10°C, obviously with a mixture of water and glycol, while the maximum is 60°C. Special implementations for operation with lower or higher temperature fluids are available on request.

The operating outdoor air temperature range is -20°C +40 °C. Again, special versions are available for operation outside the standard range.

The maximum operating pressure of the group is 3 bars. Versions with higher maximum operating pressures are available on request.

HYDRONIC SYSTEMS HACI-M

HACI-M

TESTED

Pipes insulated with anti-condensation elastomer

INTRODUCTION

HACI-M units are hydraulic stations designed to speed up and reduce the time it takes to set up air conditioning and cooling systems.
They can be combined with any type of water cooler.

The HACI-M unit includes:

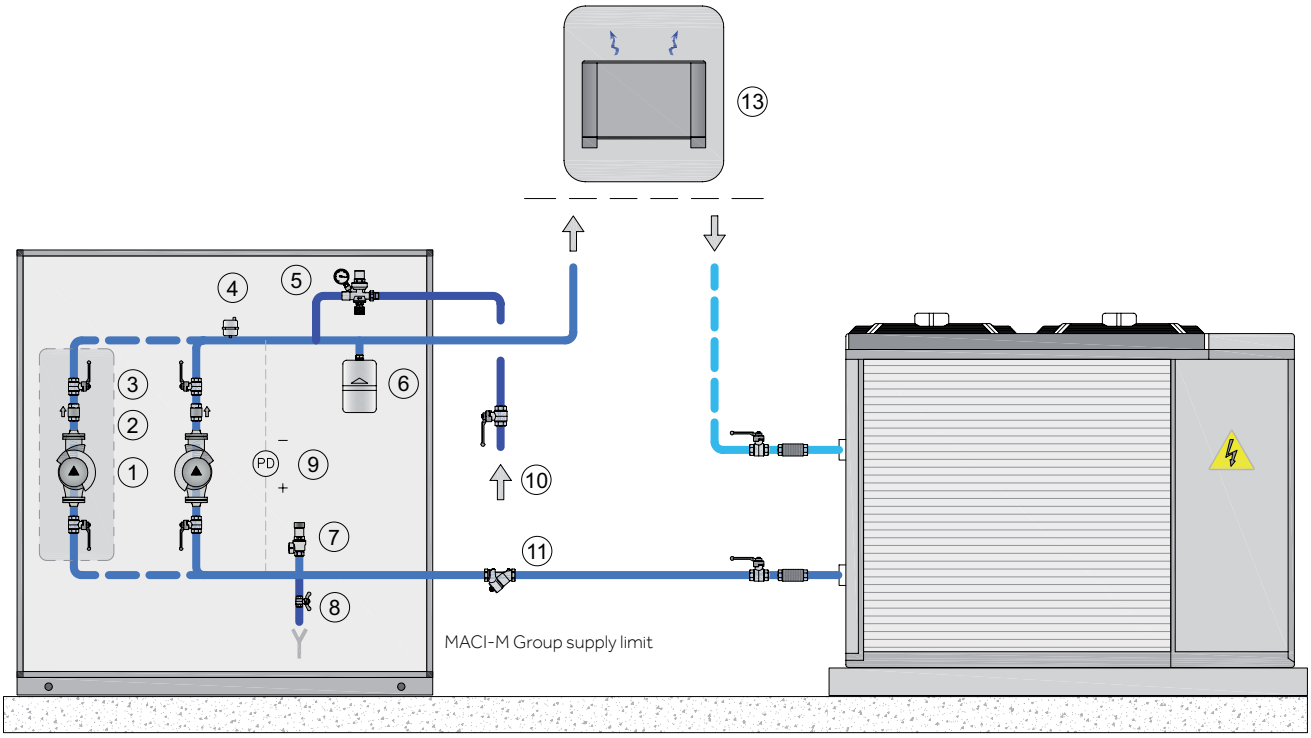
- Pipes insulated with anti-condensation elastomer
- Single or double centrifugal pump with shut-off valves
- Electric power panel with pump alternating device at each start (version with 2 pumps), starting pump in case of pump failure (version with 2 pumps), magneto-thermic protections, contacts for remote signalling of running pumps, IP55 protection degree.
- Safety valve.
- Deaerator.
- Pressure gauge.
- Filling/draining valves.
- Base made of galvanised and painted steel sheet
- Aluminium plate self-supporting panel suitable for outdoor installations.
- Easily and quickly removable panels
- Easy and quick access to the electric panel

The wide range of combinations offers solutions for any type of plant.

Recommended for Haier Chiller	Haier Code	Description
CA0035	M-35_1P0,4	HYDRONIC MODULE SINGLE PUMP with low prevalence of 5.7 m³/h - 15 mCA
	M-35_1P0,6	HYDRONIC MODULE SINGLE PUMP with high prevalence of 5.7 m³/h - 25 mCA
	M-35_2P0,4	HYDRONIC MODULE DOUBLE PUMP with low prevalence of 5.7 m³/h - 15 mCA
	M-35_2P0.6	HYDRONIC MODULE DOUBLE PUMP with high prevalence of 5.7 m³/h - 25 mCA
CA0070	M-70_1P1	HYDRONIC MODULE SINGLE PUMP with low prevalence of 12 m³/h - 15 mCA
	M-70_1P2	HYDRONIC MODULE SINGLE PUMP with high prevalence of 12 m³/h - 19 mCA
	M-70_2P1	HYDRONIC MODULE DOUBLE PUMP with low prevalence of 12 m³/h - 15 mCA
	M-70_2P2	HYDRONIC MODULE DOUBLE PUMP with high prevalence of 12 m³/h - 19 mCA
CA0100	M-100_1P3	HYDRONIC MODULE SINGLE PUMP with low prevalence of 17.2 m³/h - 14 mCA
	M-100_1P5	HYDRONIC MODULE SINGLE PUMP with high prevalence of 17.2 m³/h - 22 mCA
	M-100_2P3	HYDRONIC MODULE DOUBLE PUMP with low prevalence of 17.2 m³/h - 14 mCA
	M-100_2P5	HYDRONIC MODULE DOUBLE PUMP with high prevalence of 17.2 m³/h - 22 mCA
CA0130	M-130_1P3	HYDRONIC MODULE SINGLE PUMP with low prevalence of 23.2 m³/h - 11 mCA
	M-130_1P5	HYDRONIC MODULE SINGLE PUMP with high prevalence of 23.2 m³/h - 19 mCA
	M-130_2P3	HYDRONIC MODULE DOUBLE PUMP with low prevalence of 23.2 m³/h - 11 mCA
	M-130_2P5	HYDRONIC MODULE DOUBLE PUMP with high prevalence of 23.2 m³/h - 19 mCA

Features:
Hydronic kit, Chiller and plant connected in series, which provides constant water flow throughout the plant.

NOTE: Entire HACI-M kit is in Layout 1

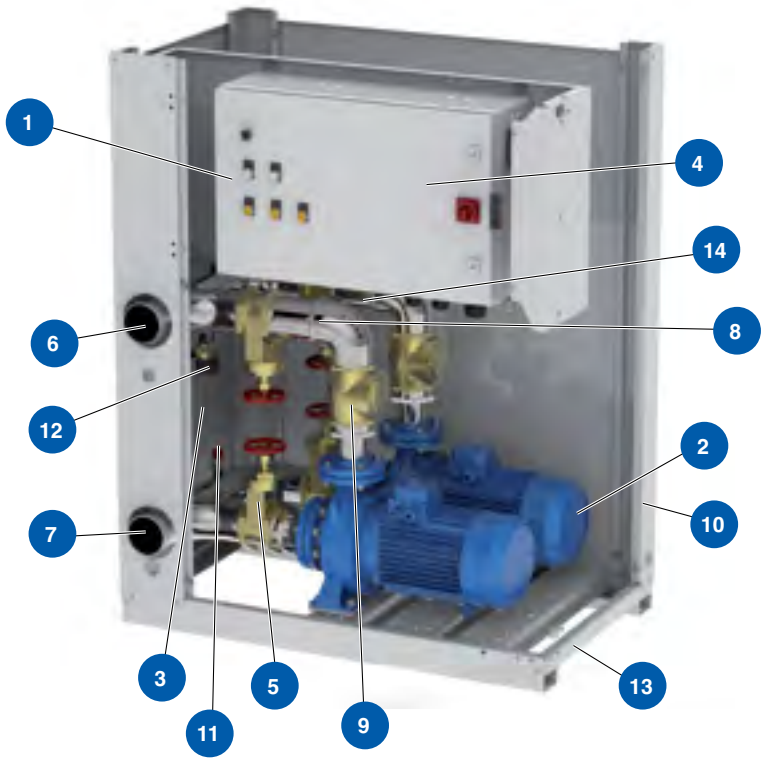


GRUPPO HACI-M

Legend

1. Circulator
2. Check valve (only for 2-pump version)
3. On-off valve
4. Deaerator
5. Automatic filling group
6. Expansion tank (optional)
7. Safety valve
8. Drain
9. Differential pressure switch (optional)
10. Fluid refilling input
11. Y-filter (optional), supplied unassembled
12. Chiller
13. Plant

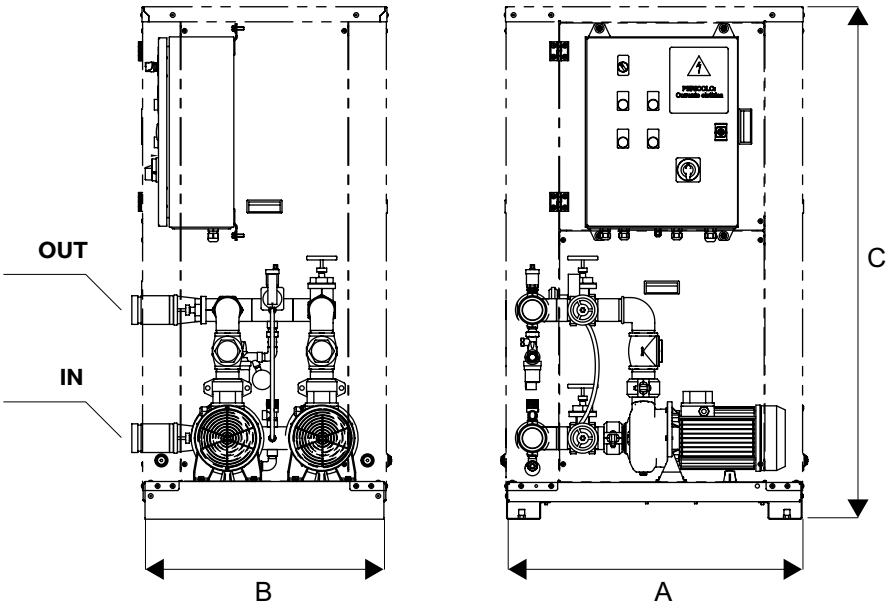
HYDRONIC SYSTEMS HACI-M Components



Components

1 Electrical panel
2 Circulation pump (optional double pump version)
3 Removable bolted panel
4 Hinged panel that can be opened
5 Shut-off valves
6 Water output connection
7 Water input connection
8 Pressure transducer (only on inverter versions)
9 Check valve (only on double pump versions)
10 Ventilation grill
11 Safety valve
12 Automatic filling group
13 Stand
14 Automatic air vent

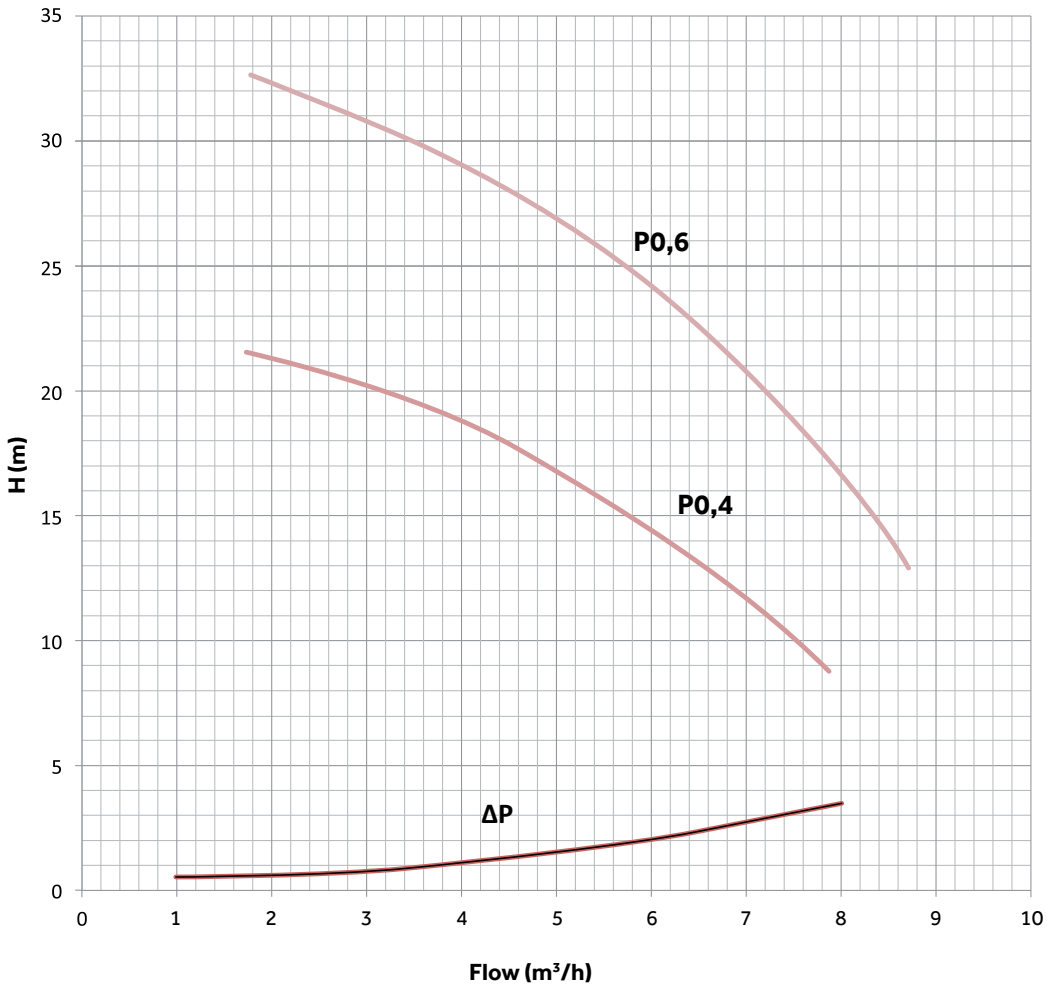
HYDRONIC SYSTEMS HACI-M Layout 1: Dimensions & Connections



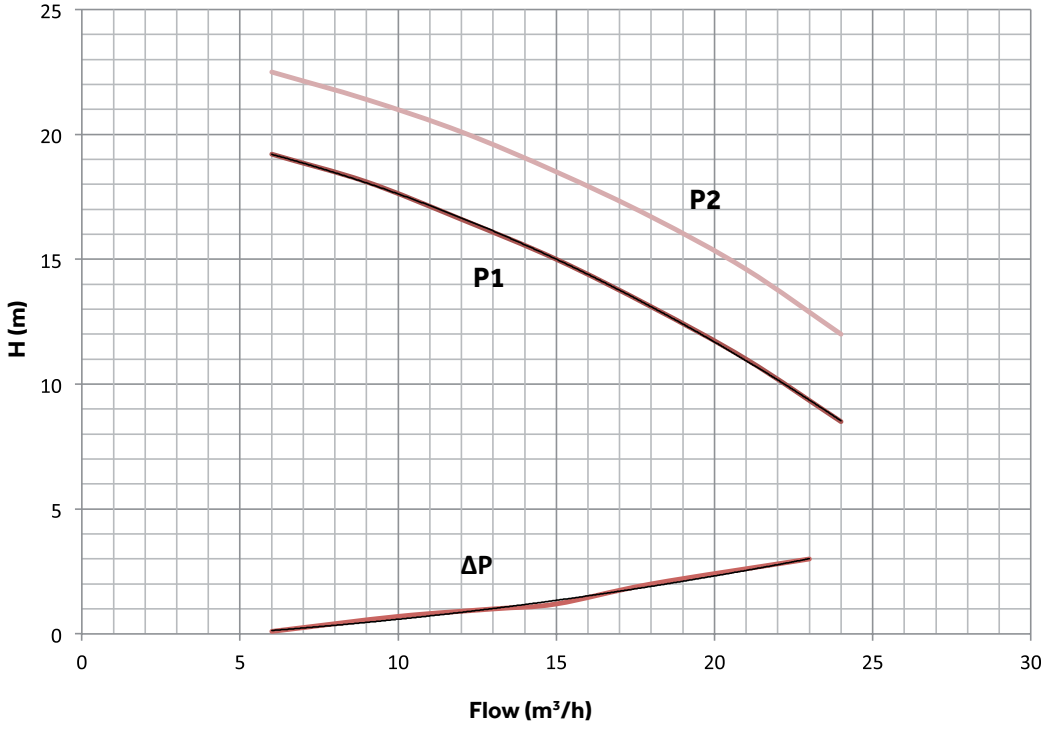
Dimensions HACI-M

Model Pump	1 pump Dimensions			2 pumps (1 spare) Dimensions			CONNECTIONS
	A	B	C	A	B	C	IN/OUT
	mm	mm	mm	mm	mm	mm	Inch
P0,4 - P0,6	790	650	1360	790	650	1360	1"1/2
P1-P2-P3-P5	790	650	1360	790	650	1360	2"1/2

HACI-M 35

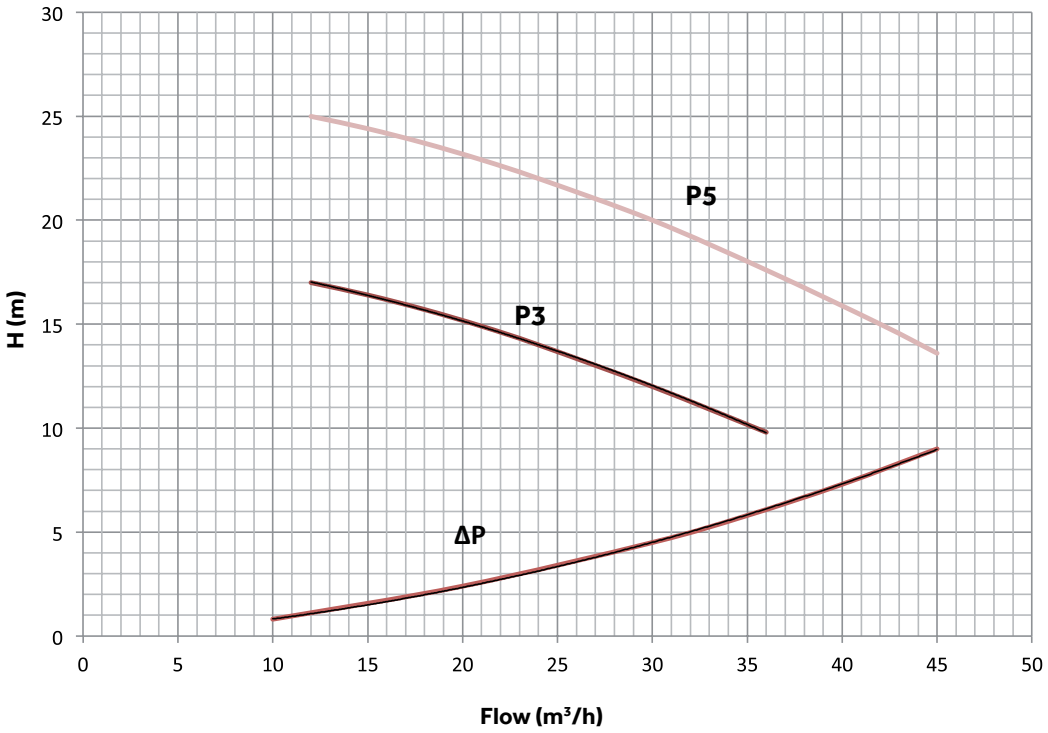


HACI-M 70



ΔP: HACI-M group pressure drop

HACI-M 100-130



ΔP: HACI-M group pressure drop

HYDRONIC SYSTEMS HACI-M Weights & Electrical Parameters

HACI-M	1 pump	2 pumps (1 reserve)	Electrical Parameters		
Pump model	**Weight (kg)**	**Weight (kg)**	**Power supply**	**F.L.I (kW)**	**F.L.I (A)**
P0.6	100	114	380V three-phase (5 wires L1+L2+L3+N+G)	0.97	1.6
P0.4	100	114		0.72	1.3
P1	129	150		1.1	2.5
P2	130	151		1.5	3.2
P3	131	153		1.5	3.4
P5	137	163		3	5.6

F.L.I. Maximum absorbed power
F.L.A. Maximum absorbed current

CHILLER

H4M Series

Reversible &
Modular Air/
Water Heat Pump

Reversible and modular air/water heat pump for the production of cold and hot water for air conditioning or ACS (Sanitary Hot Water) on a dedicated circuit.

Only 23 kW module in Cooling and 27 kW in Heating.

Possibility to connect up to 4 modules on a single cooling circuit.

GENERAL FEATURES

- Wide standard operating range, outdoor air:
  cooling from -10°C to + 45°C / heating from -20°C to +35°C
- Ideal for ACS production: +60°C
- COP 4.1*
- Low sound level
- Evi technology
- Standard DC fan
- Possible modular combination of up to 4 cascading units
- Innovative Sliding Defrost
- Air exchanger with hydrophilic treatment

The H4M unit is designed for use in residential and tertiary utilities, both newly built and undergoing renovation. The unique 3-way valve kit, pre-assembled on demand, transforms the machine from 2 to 4 tubes, to produce ACS on a dedicated circuit. ACS production does not take place with the recovery method, but with the priority system. With an ACS request the machine stops the production of water for air conditioning and diverts all the power on the other circuit to produce ACS. Once the ACS demand is satisfied, the machine starts air conditioning on the dedicated circuit.

Use E.V.I. technology (Enhanced Vapor Injection) which allows to significantly extend the operating limits of the equipment.

In "Heating" mode, the unit is sized to operate with very rigid outdoor air temperatures (down to -20 °C) and to heat the water to high temperature levels (max 60 °C).

The high operating range makes H4M the ideal solution for both low temperature (e.g. radiant panels) and high temperature (e.g. radiators) plants present in new or redeveloped buildings.

Using the available KITs it is possible to produce sanitary hot water both during winter and summer, thus avoiding the installation of additional heat sources. The production of the ACS takes place on a dedicated output, so the machine is presented with 4 pipes. 2 for air conditioning and 2 for ACS. Demand for ACS from utilities, has priority over the production of air conditioning. The advantage is that 2 circuits which in most cases are independent and autonomous in the air conditioning systems and ACS are powered with a single machine.
H4M units were developed with "modular logic" to meet a wide range of thermal and refrigerated performance.

It is possible to pair multiple basic modules (max 4) and expand the application potential accordingly.
The modules are designed to be easily installed and interconnected during user through the appropriate kits supplied.
The modular logic makes it easy to increase the power of the plant after the first installation.

The electronic control system intelligently coordinates the different units to ensure continuity of operation and maintain high efficiency. By connecting 2 or more modules, the controller can define which and how many units to dedicate to ACS production when required.

MODEL			1 x H4M 081A
A35 / W7	Cooling potential	kW	23.02
	Total absorbed power ****	kW	7.87
	COP (EN 14511-2013) *	-	3.03
A35 / W18	Cooling potential	kW	30.73
	Total absorbed power ****	kW	8.22
	COP (EN 14511-2013) *	-	3.85
A7 / W35	Thermal potential	kW	26.93
	Total absorbed power ****	kW	6.83
	COP (EN 14511-2013) *	-	4.12
A7 / W45	Thermal potential	kW	27.20
	Total absorbed power ****	kW	8.43
	COP (EN 14511-2013) *	-	3.34
A2 / W35	Thermal potential	kW	24.14
	Total absorbed power ****	kW	6.79
	COP (EN 14511-2013) *	-	3.72
A2 / W45	Thermal potential	kW	24.63
	Total absorbed power ****	kW	8.41
	COP (EN 14511-2013) *	-	3.04

Note: A - outdoor air temperature in°C / W = water output temperature in °C

SCOP	-	3.29
ESEER**	-	3.54
Energy Class Regulation of (EU) 811/2013	-	A+
Maximum current	A	19.5
Maximum starting current	A	104.33
Scroll compressors	No.	1
Cooling circuits	No.	1
Partitioning steps	No.	1
Power supply voltage	V/Ph/Hz	400/3P+N/50 (5 wires L1+L2+L3+N+T)
Sound power Lw ***	dB(A)	69.8
Sound pressure Lp ***	dB(A)	38.1
PLANT SIDE EXCHANGER		
Type of fluid	-	Water
Plate exchanger	No.	A+
Water flow	l/s	1.10
Pressure drop	Kpa	9.21
VENTILATING SECTION		
Axial fan	No.	1
Total air flow	m^3/s	4.44
Rotation speed	min^{-1}	687
Unit-absorbed power	kW	0.61
Unit-absorbed current	A	1.00
DIMENSIONS AND WEIGHTS (without accessories)		
Width	mm	1185
Width	mm	1300
Height	mm	2306
Empty weight	Kg	520
HYDRAULIC PART		
Plant side pump	No.	1
Useful external prevalence	Kpa	83.4
Useful external prevalence (K3V on the machine)	Kpa	79.8
Absorbed power	kW	0.35
Absorbed current	A	1.33
Plant side expansion tank	L	10
Maximum plant side pressure	Kpa	300

* Ratio between output power and absorbed power according to EN 14511.
** Cooled water temperature: Constant at 7°C.
*** Sound power, Sound pressure at 10 meters in open field (ref. ISO 3744).
**** Absorbed power with pump included

A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C

MODEL			2 x H4M 081A	3 x H4M 081A	4 x H4M 081A
A35 / W7	Cooling potential	kW	46.04	69.06	92.08
	Total absorbed power ****	kW	15.74	23.61	31.48
	COP (EN 14511-2013) *	-	3.03	3.03	3.03
A35 / W18	Cooling potential	kW	61.46	92.19	122.92
	Total absorbed power ****	kW	16.44	24.66	32.88
	COP (EN 14511-2013) *	-	3.85	3.85	3.85
A7 / W35	Thermal potential	kW	53.86	80.79	107.72
	Total absorbed power ****	kW	13.66	20.49	27.32
	COP (EN 14511-2013) *	-	4.12	4.12	4.12
A7 / W45	Thermal potential	kW	54.40	81.60	108.80
	Total absorbed power ****	kW	16.86	25.29	33.72
	COP (EN 14511-2013) *	-	3.34	3.34	3.34
A2 / W35	Thermal potential	kW	48.28	72.42	96.56
	Total absorbed power ****	kW	13.58	20.37	27.16
	COP (EN 14511-2013) *	-	3.72	3.72	3.72
A2 / W45	Thermal potential	kW	49.26	73.89	98.52
	Total absorbed power ****	kW	16.82	25.23	33.64
	COP (EN 14511-2013) *	-	3.04	3.04	3.04

Note: A - outdoor air temperature in°C / W = water output temperature in °C

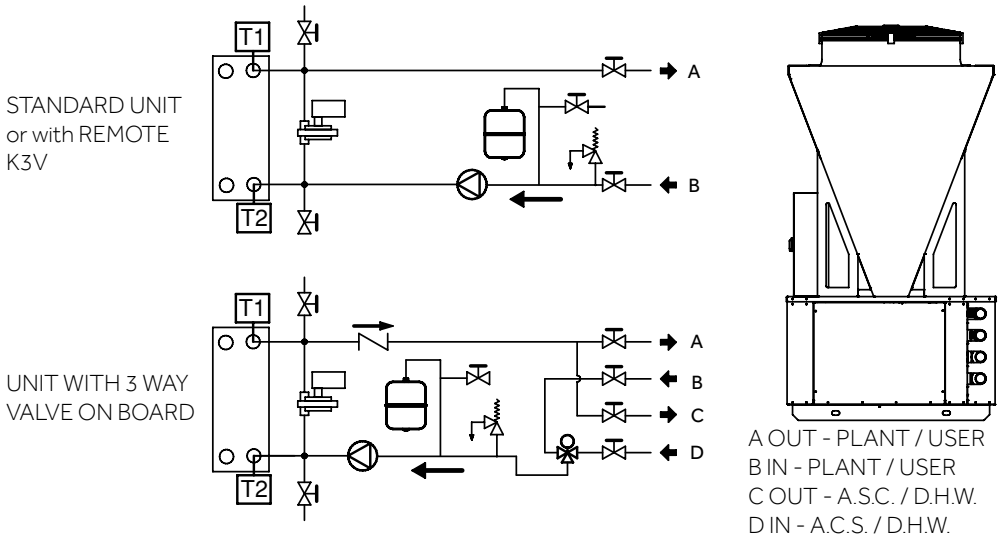
Energy Class Regulation of (EU) 811/2013	-	A+	A+	A+
Maximum current	A	39.00	58.50	78.00
Maximum starting current	A	123.83	143.33	162.83
Scroll compressors	No.	2	3	4
Cooling circuits	No.	2	3	4
Partitioning steps	No.	2	3	4
Power supply voltage	V/Ph/Hz	400/3P+N/50 (5 wires L1+L2+L3+N+T)	400/3P+N/50 (5 wires L1+L2+L3+N+T)	400/3P+N/50 (5 wires L1+L2+L3+N+T)
Sound power Lw ***	dB(A)	72.8	74.6	75.8
Sound pressure Lp ***	dB(A)	41.0	42.5	43.6
PLANT SIDE EXCHANGER				
Type of fluid	-	Water	Water	Water
Plate exchanger	No.	2	3	4
Water flow	l/s	2.20	3.30	4.40
Pressure drop	Kpa	9.21	9.21	9.21
VENTILATING SECTION				
Axial fan	No.	2	3	4
Total air flow	m^3/s	8.89	13.33	17.78
Rotation speed	min^{-1}	687.00	687.00	687.00
Unit-absorbed power	kW	0.61	0.61	0.61
Unit-absorbed current	A	1.00	1.00	1.00
DIMENSIONS AND WEIGHTS (without accessories)				
Width	mm	1185	1185	1185
Width	mm	2610	3920	5230
Height	mm	2306	2306	2306
Empty weight	Kg	1040	1560	1560
HYDRAULIC PART				
Plant side pump	No.	2	3	4
Useful external prevalence	Kpa	83.4	83.4	83.4
Useful external prevalence (K3V on the machine)	Kpa	79.8	79.8	79.8
Absorbed power	kW	0.7	1.05	1.4
Absorbed current	A	2.66	3.99	5.32
Plant side expansion tank	L	20	30	40
Maximum plant side pressure	Kpa	300	300	300

* Ratio between output power and absorbed power according to EN 14511.
** Cooled water temperature: Constant at 7°C.
*** Sound power, Sound pressure at 10 meters in open field (ref. ISO 3744).
**** Absorbed power with pump included

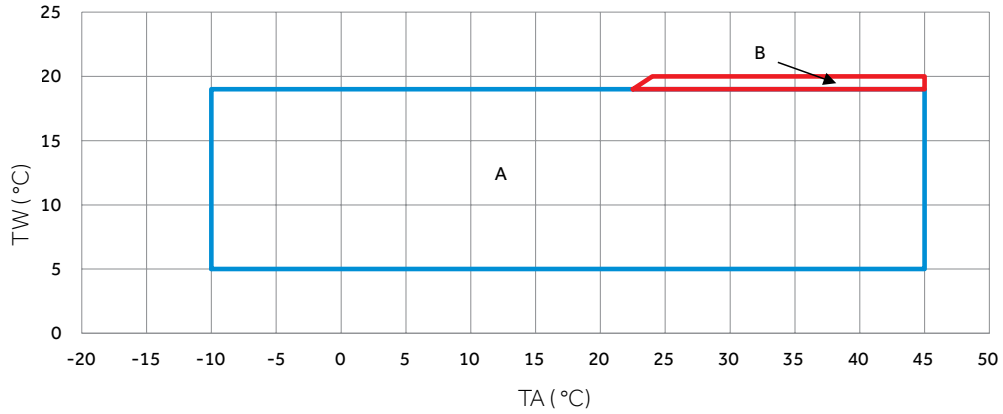
A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C

K3V ACCESSORY: THREE-WAY VALVE KIT

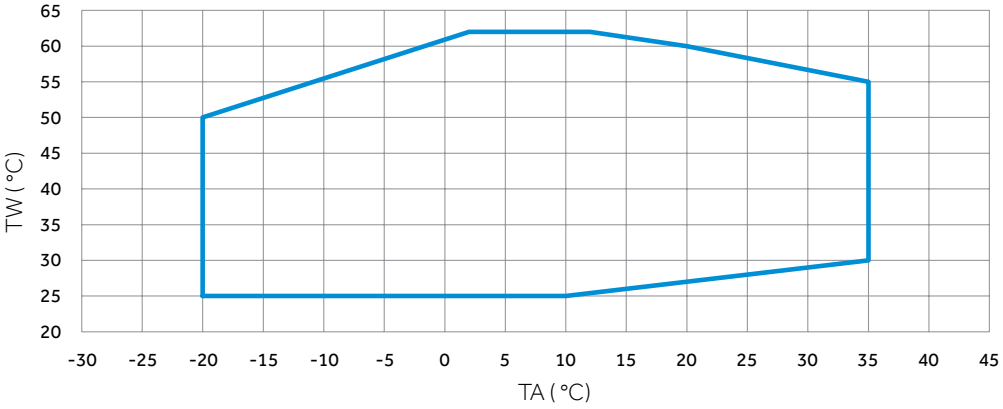
The three-way valve kit - K3V, allows you to use the H4M 081A heat pump for heating sanitary water as well as for the hot / cold water demand of the air conditioning system.
The K3V three-way valve kit exists in both the on-board and remote versions.
In the first case (K3V on the machine) the unit is equipped with 4 hydraulic connections to power the air conditioning plant and the heating exchanger of the ACS storage tank.
In the second case (remote K3V) the unit is equipped with only 2 hydraulic connections: the installer will be responsible for assembling the three-way valve supplied with the system.
In both cases, the regulating device automatically manages the commutation of the three-way valve in order to guarantee the priority of ACS production in both the "Heating and Cooling" functions.



OPERATING RANGE IN COOLING



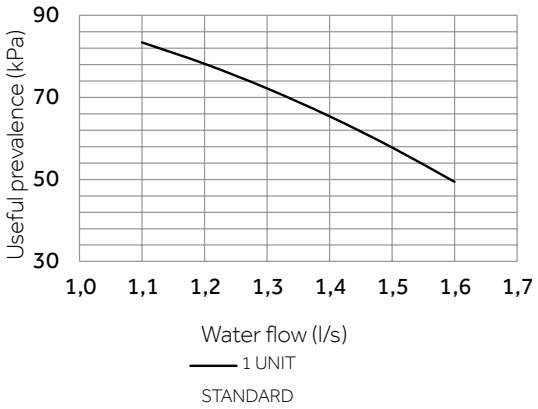
OPERATING RANGE IN HEATING



LEGEND
TW (°C) - Heat exchanger output water temp
TA (.C) - Outdoor air temperature

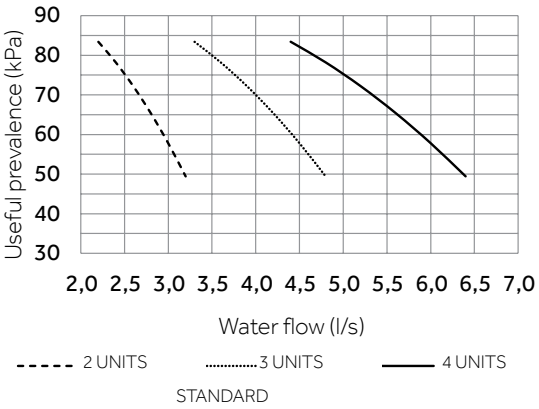
A - Standard operation
B - Temporary operation only

PUMP PERFORMANCE
1 UNIT - STANDARD



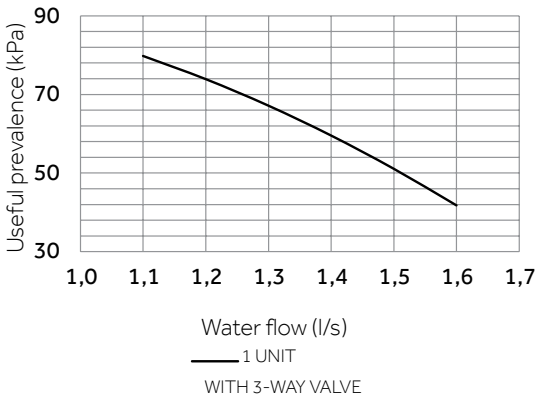
STANDARD

PUMP PERFORMANCE
MULTIPLE UNITS - STANDARD



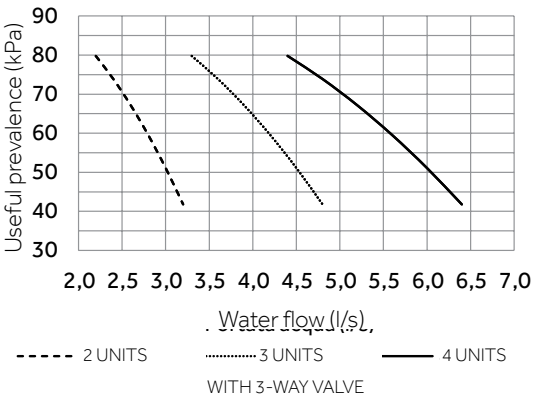
STANDARD

PUMP PERFORMANCE
1 UNIT - 3-WAY VALVE ON THE MACHINE



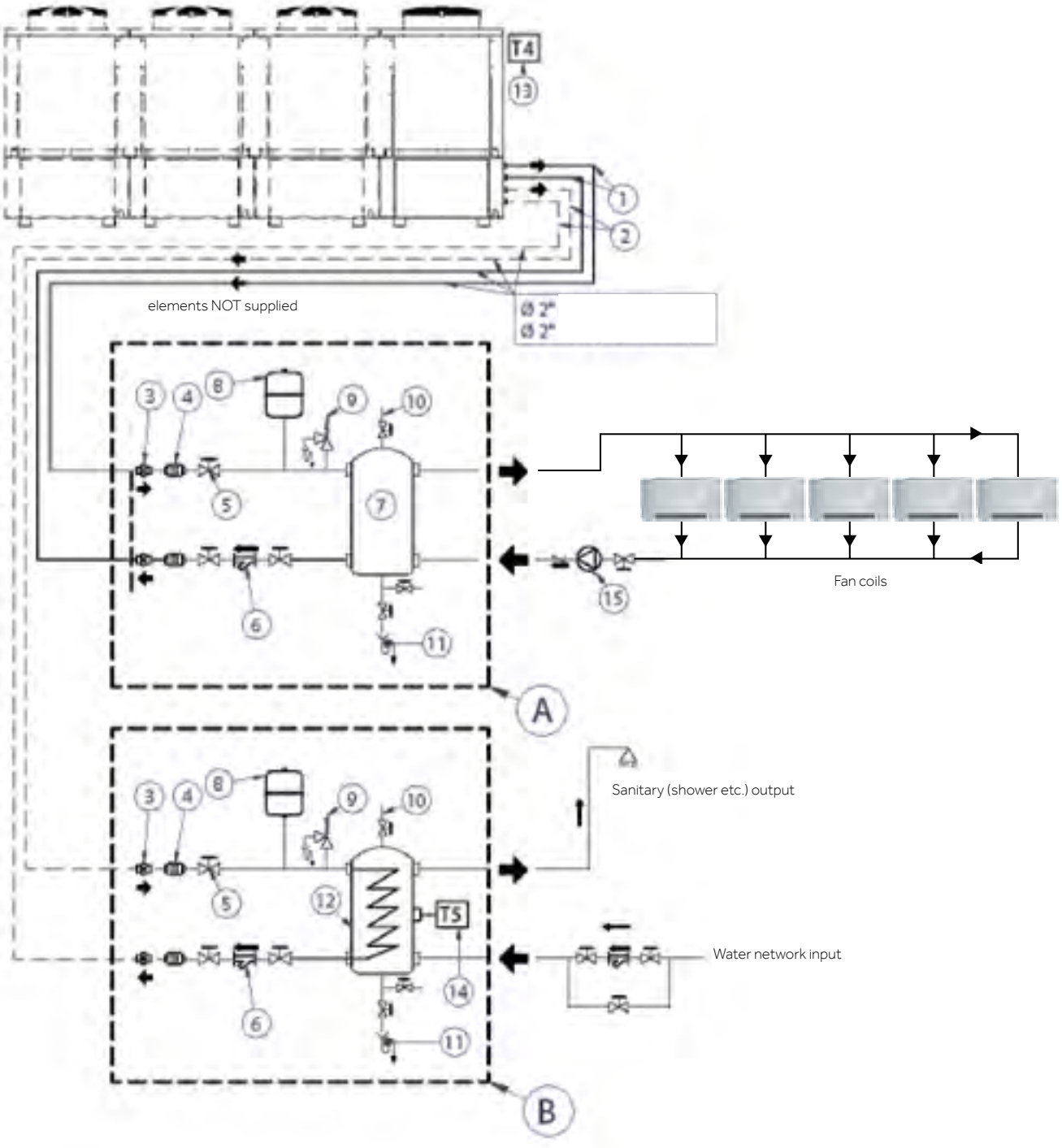
WITH 3-WAY VALVE

MULTIPLE UNIT PUMP PERFORMANCE
3-WAY VALVE ON THE MACHINE



WITH 3-WAY VALVE

INDICATIVE DIAGRAM WITH 3-WAY VALVE ON BOARD AND 4-TUBE OUTPUT
(2 pipes per climate circuit and 2 for ACS production)

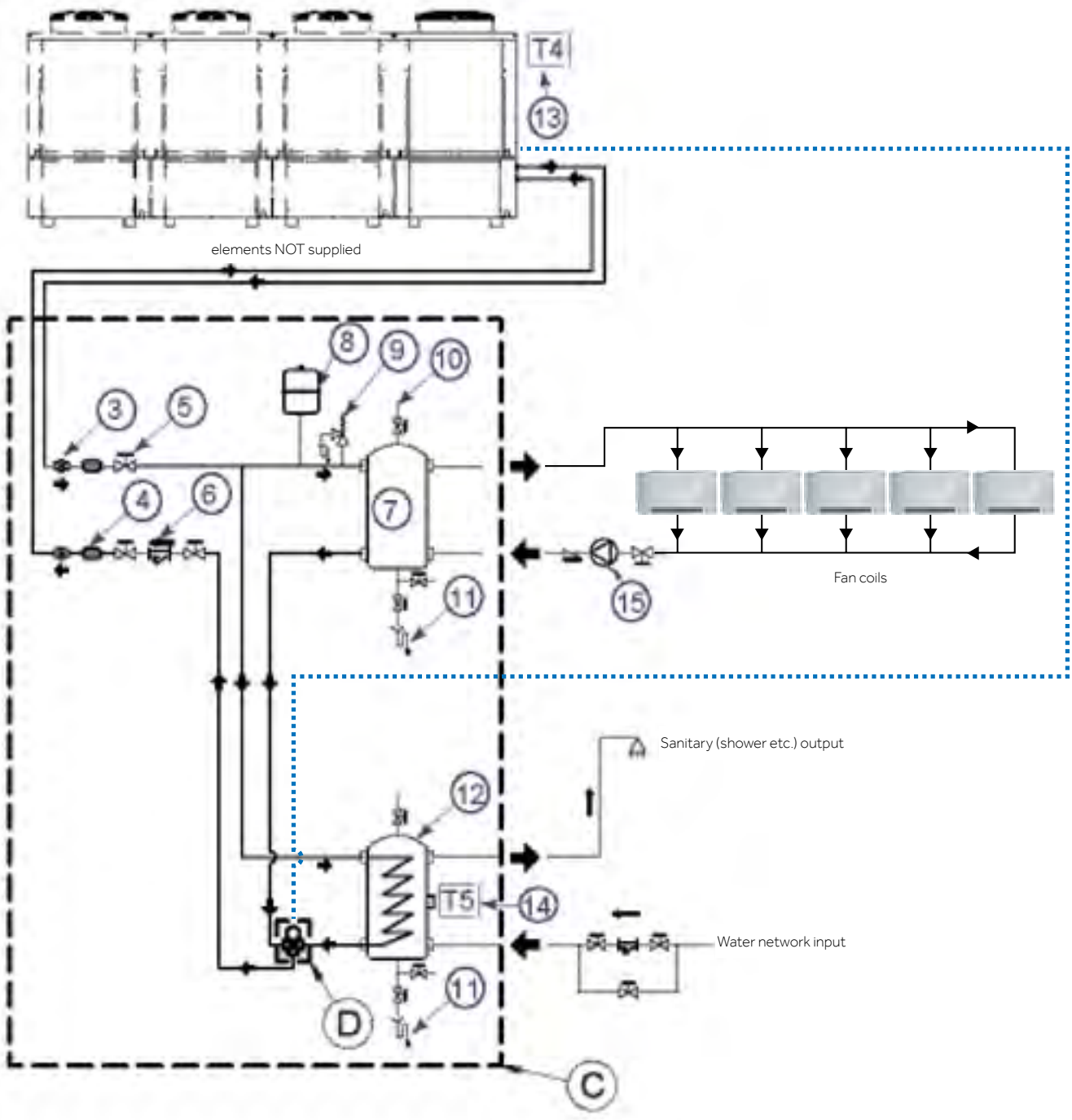


A - Terminal circuit, radiant, fan coil for air conditioning
B - ACS Production Circuit

LEGEND

1- Plant delivery/return pipes
2- ACS delivery/return pipes
3- "VICTAULIC" connection
4- Antivibration
5- Tap
6- Y Filter
7- Separator
8-Expansion tank
9- Safety valve
10- Tap
11- Water drain
12- ACS storage tank
13- Outdoor air temperature probe
14- Storage tank water temperature
15- Secondary pump

INDICATIVE DIAGRAM WITH REMOTE 3-WAY VALVE, EXIT FROM H4M TO 2 TUBES
(switching between air conditioning and ACS takes place on the outdoor)

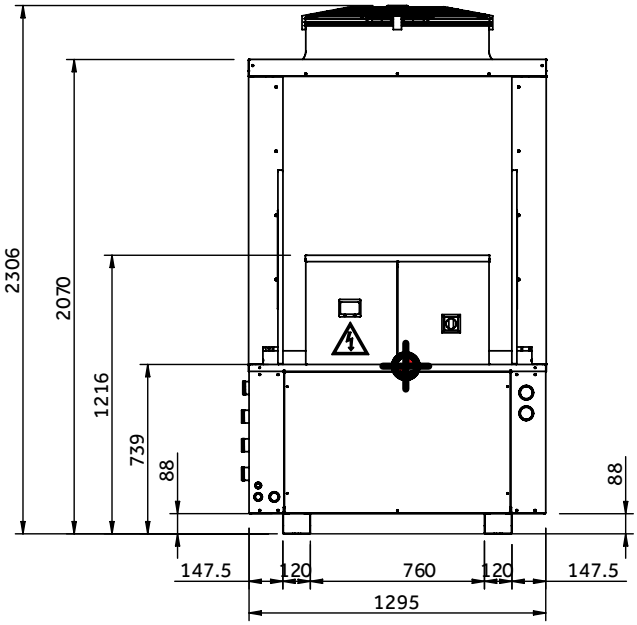


C - System diagram with remote 3-way valve
D - 3-way valve for ACS controlled by the H4M module

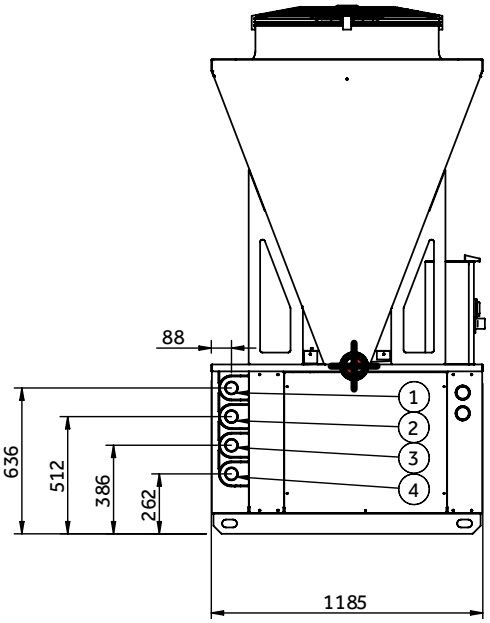
LEGEND

1- Plant delivery/return pipes
2- ACS delivery/return pipes
3- "VICTAULIC" connection
4- Antivibration
5- Tap
6- Y Filter
7- Separator
8-Expansion tank
9- Safety valve
10- Tap
11- Water drain
12- ACS storage tank
13- Outdoor air temperature probe
14- Storage tank water temperature
15- Secondary pump

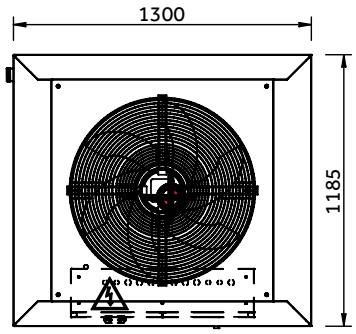
DIMENSIONS AND HYDRAULIC CONNECTIONS - SINGLE UNIT



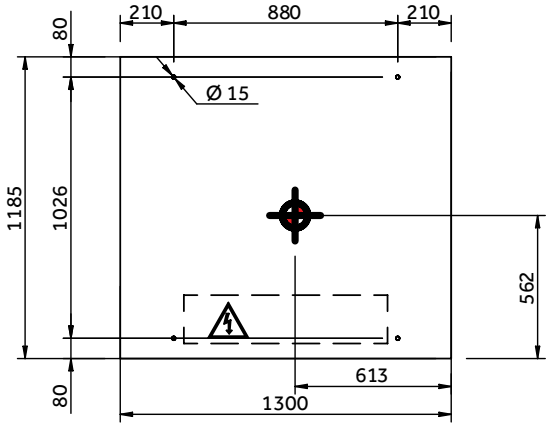
FRONT VIEW



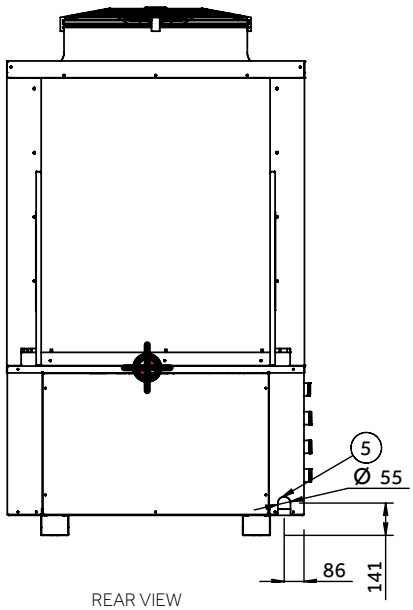
LEFT VIEW



VIEW FROM ABOVE



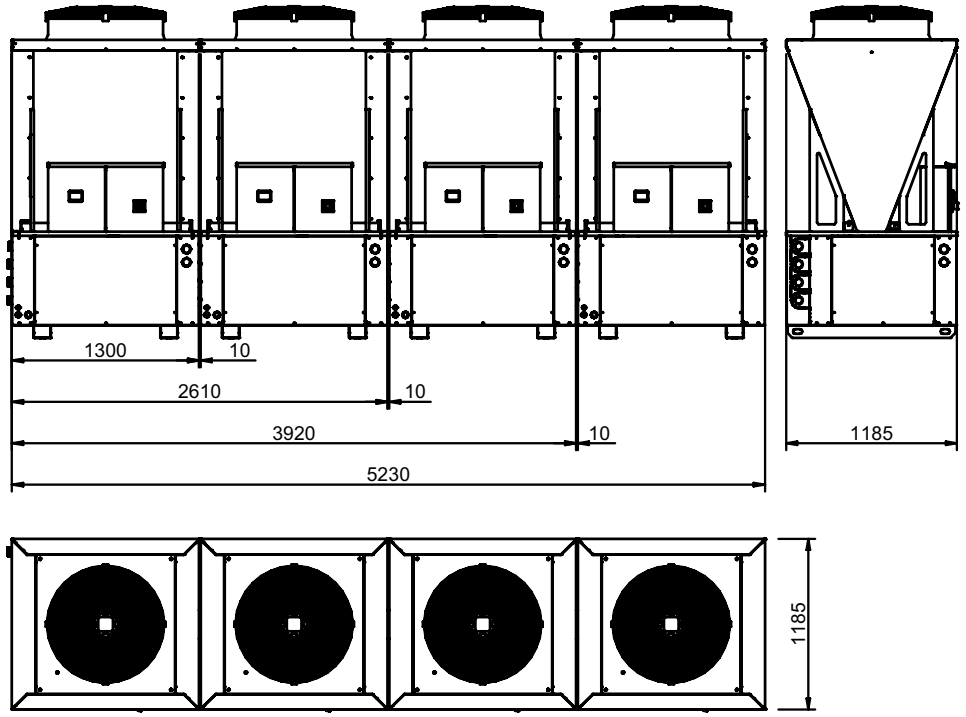
OVERALL DIMENSION



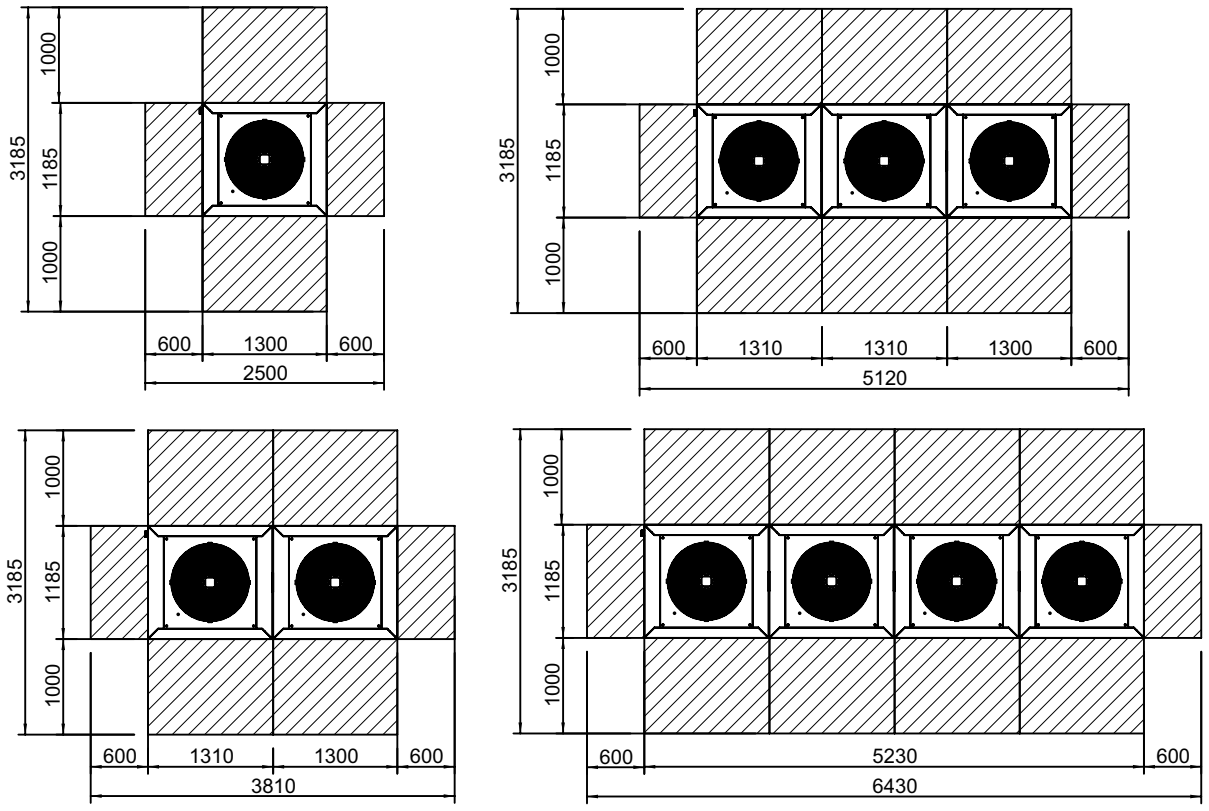
REAR VIEW

PLANT		HOT SANITARY WATER		CONDENSATION
1	2	3	4	5
OUT	IN	OUT	IN	OUT
2"M	2"M	2"M	2"M	Øe 40

COUPLED UNIT DIMENSIONS (MAX 4 UNITS)

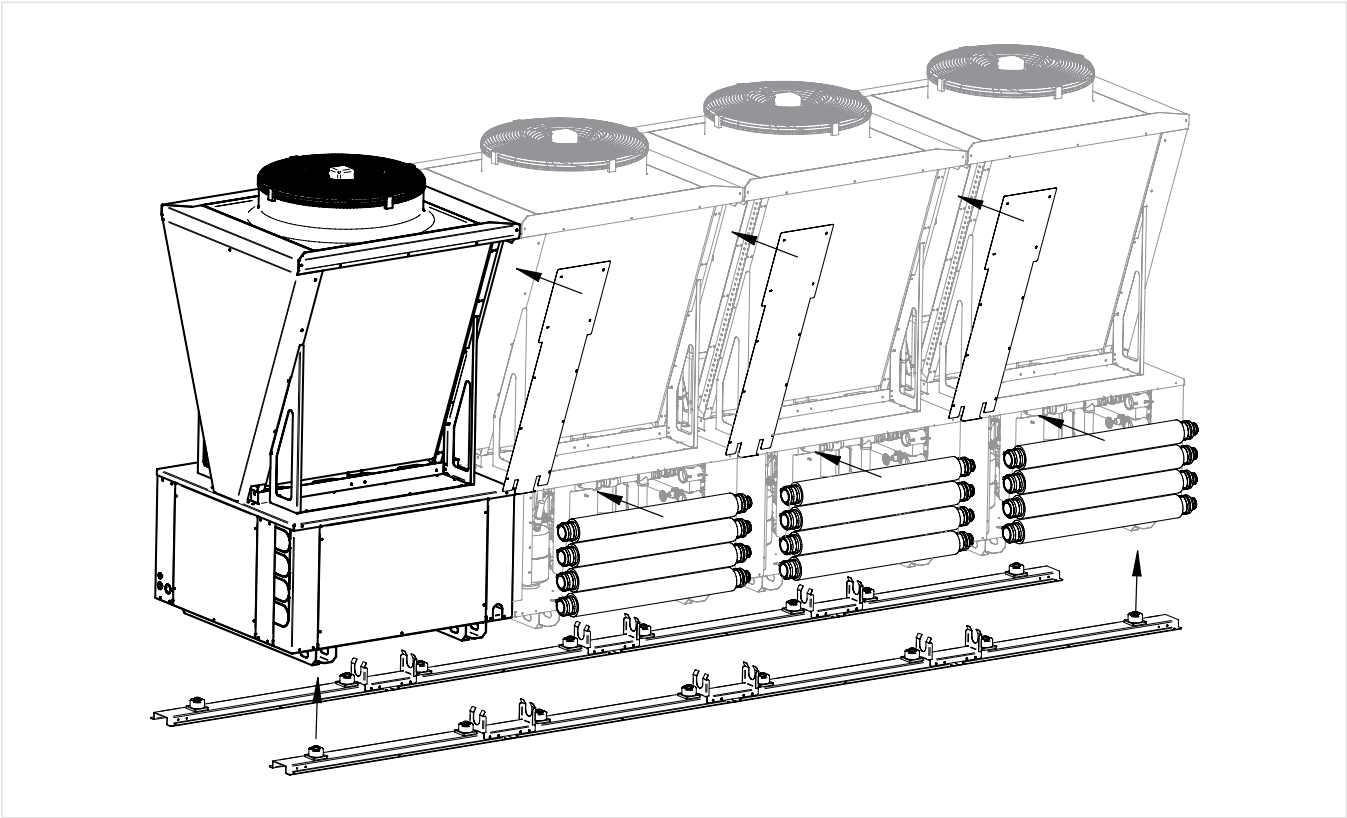


RECOMMENDED MINIMUM SERVICE SPACES



MODULAR OPERATION

Up to 4 H4M modules can be coupled with the 081A kit, with a design prepared to minimise the required space and therefore the overall dimensions of the units.
The coupling kits facilitate their positioning and interconnection.



ACCESSORIES

The standard basic module includes a hydronic kit complete with high efficiency electronic circuitry, expansion tank, safety valve and protection device against lack of flow, all assembled on board and ready for connection to the user plant.
The following accessories allow you to choose the most suitable type of operation according to the different plant requirements:

ACCESSORIES INSTALLED ON THE MACHINE	
3-way ACS valve kit on board H4M	H4M evaporator anti-freeze heater kit, pipes with ACS
H4M coil with pre-varnished fin	H4M tray defrosting resistance kit
H4M coil with Electro-fin® treatment	H4M fan kit and resistance electric panel
Refrigerant pressure gauges	H4M RS485 Modbus Serial Card **
H4M evaporator anti-freeze resistance kit and pipes	H4M Soft start compressor

ACCESSORIES PROVIDED SEPARATELY	
H4M unit mechanical coupling kit	Water network filter kit, 2"
H4M unit hydraulic coupling kit	Water network filter kit, 2" 1/2
Hydraulic unit coupling kit + heating cable	ACS remote 3-way valve kit, 1 "1/4
Base bracket kit for 2 H4M units	ACS remote 3-way valve kit, 2"
Base bracket kit for 3 H4M units	Multi-step control kit ***
Base bracket kit for 4 H4M units	H4M remote control kit
Kit 4 rubber anti-vibration mounts	

** One card for each H4M unit, required for multi-step cascade systems.
A control kit for managing a multi-step system consisting of 2, 3 or 4 H4M units.

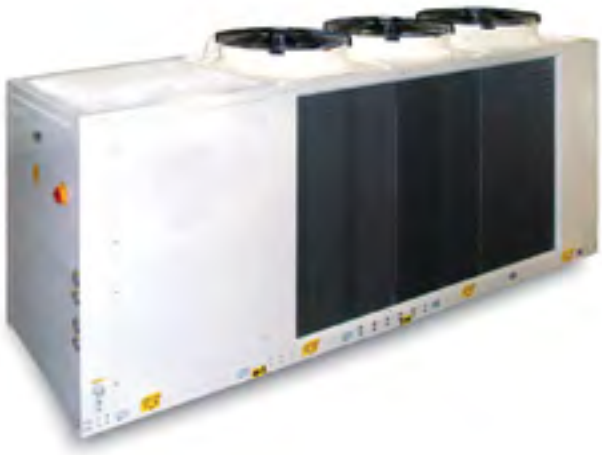
CHILLER

HZN & HZN PLUS Series

Reversible Air Cooled Heat Pump

Reversible air-cooled heat pump

HZN series



GENERAL FEATURES

- High-efficiency heat pump with 40 to 220 kW potential
- Multi-scroll unit with refrigerant R410A
- **Standard unit** operating range, outdoor air:
  cooling from -15°C to + 45°C / heating from -10°C to +20°C
- Unit operating range **with mounted accessories**, outdoor air:
  cooling from -7°C to + 45°C / heating from -10°C to +35°C
- High efficiency at partial loads
- Optional internal hydronic kit
- Low sound level
- STD or SUPER-SILENT (SLN) version available
- Standard RS485 card
- Wide range of optional accessories
- Robust and well-defined woodwork

The HZN is a reversible air-cooled heat pump for outdoor and scroll compressors, available in an extensive range of multi-compressor models with potential from 40 to 220 kW. All units use R410A refrigerant, and are sized to achieve excellent energy efficiencies, particularly high in partial load operation.

HZN can be used in any plant setting, thanks to the compactness and the presence of an extensive range of equipment and accessories.
Thanks to the construction solutions adopted, the installation and maintenance activities are particularly facilitated, saving the experts time and money.

The units are assembled on a self-supporting galvanized sheet structure complete with removable panelling, all painted with oven-dried polyester powders of RAL 9018 colour after having undergone phosphating, washing and drying cycles.

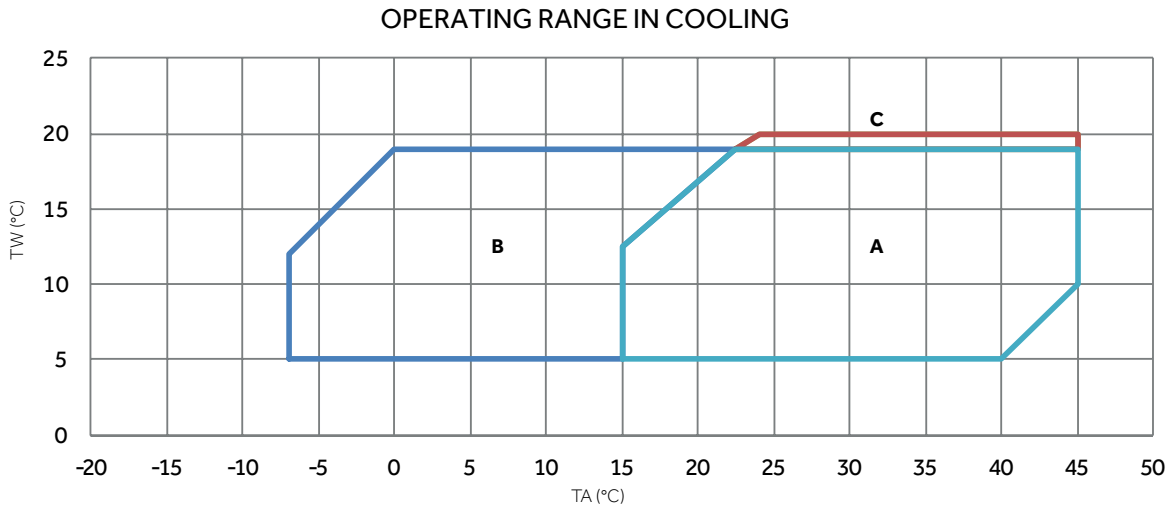
ACCESSORIES AVAILABLE ON DEMAND	
1 pump	Compressor casing resistance (INCLUDED)
1 HP pump	Compressor magneto thermic protections
2 pumps	Rubber anti-vibration mounts
2 HP pumps	Coil protection network
1 pump + storage tank in series	Compressor soft starter kit
1 HP pump + storage tank in series	Coil with pre-varnished fin
2 pumps + storage tank in series	Auto power factor correction kit cos ϕ 0,95)
2 HP pumps + storage tank in series	Fan Kit / Res. Electric Q.E.
Partial heat recovery (desuperheater)	Modulating ventilation control
Refrigerant pressure gauges	Electronic thermostatic valve
Top remoting	Buffer coil for electronic thermostatic valve
Evaporator anti-freeze resistance + pipes	DC fans
Evaporator anti-freeze resistance - storage tank	RS485 Modbus Serial Card (INCLUDED)
Coil bottom resistance panel kit	

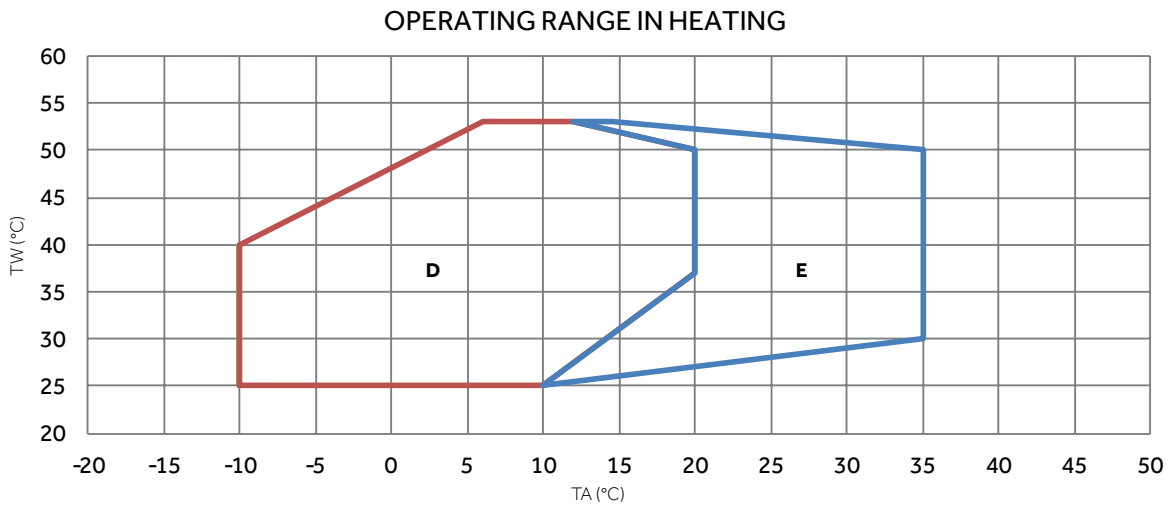
HZN STD (standard) version				082A	102A	122A	152A	123A	133A	153A	134A	154A	126A
COOLING	SEASONAL COOLING PERFORMANCE (Reg. EU 2016/2281)												
	SEER			3.42	3.73	3.64	3.94	3.53	3.96	4.12	3.75	4.05	3.69
	η			134	146	143	155	138	155	162	147	159	145
	A35/W7	Cooling potential	kW	38.8	45.9	58.2	79.2	88.1	99.9	113.5	128.3	154.6	170.6
		Total absorbed power (1)	kW	15.1	16.8	22.2	28.2	33.9	35.6	42.0	47.7	55.5	64.8
		EER (EN 14511-2013)		2.5	2.7	2.6	2.8	2.6	2.8	2.7	2.7	2.7	2.6
	A35/W18	Cooling potential	kW	53.2	63.3	79.3	107.5	120.4	139.5	152.8	177.3	209.1	234.0
		Total absorbed power (1)	kW	16.2	18.1	24.2	30.8	36.9	38.8	46.4	52.7	60.9	70.4
		EER (EN 14511-2013)		3,2	3.4	3,2	3.4	3,2	3.5	3,2	3.3	3.4	3,2
Note: A - outdoor air temperature in°C / W = water output temperature in °C													
HEATING	SEASONAL HEATING PERFORMANCE (Low temperature application / Average climatic area) Reg. EU 813/2013												
	SCOP			3.24	3.36	3.34	3.29	3.33	3.47	3.66	3.28	3.25	3.51
	η			126.8	131.3	130.6	128.6	130	136	143.3	128.4	126.9	137.3
	Energy class			A+	A+	A+							
	A7/W35	Thermal potential	kW	47.4	55.6	67.9	95.0	106.7	118.9	139.2	154.9	185.1	211.9
		Total absorbed power (1)	kW	12.4	14.0	17.7	23.7	27.8	29.8	34.3	39.7	46.8	55.3
		COP (EN 14511-2013)		3.8	3.9	3.8	4.0	3.8	4.0	4.0	3.9	3.9	3.8
	A7/W45	Thermal potential	kW	46.7	54.4	66.4	88.6	104.6	114.0	129.8	148.6	172.9	208.4
		Total absorbed power (1)	kW	14.8	16.8	21.1	27.8	33.0	35.3	40.3	47.3	55.2	66.4
		COP (EN 14511-2013)		3.1	3,2	3.1	3,2	3.1	3,2	3,2	3.1	3.1	3.1
	A2/W35	Thermal potential	kW	42.7	49.9	61.0	84.6	96.0	105.3	123.9	136.9	164.7	190.9
		Total absorbed power (1)	kW	12.5	14.2	18.0	23.4	28.1	29.3	33.7	38.9	46.0	55.6
		COP (EN 14511-2013)		3.4	3.5	3.4	3.6	3.4	3.6	3.6	3.5	3.5	3.4
	A2/W45	Thermal potential	kW	42.2	49.1	60.0	78.5	94.5	101.9	115.1	133.2	153.4	188.4
		Total absorbed power (1)	kW	14.7	16.7	21.0	27.3	32.7	34.9	39.6	46.7	54.1	65.7
		COP (EN 14511-2013)		2.9	2.9	2.8	2.9	2.9	2.9	2.9	2.8	2.8	2.8
Note: A - outdoor air temperature in°C / W = water output temperature in °C													
Maximum current			A	38.6	43.2	54.0	71.0	80.5	89.2	99.7	114.5	132.7	151.7
Starting current			A	116.0	134.3	145.2	178.9	172.4	195.8	207.6	221.1	238.9	241.3
Scroll Compressors			No.	2	2	2	2	3	3	3	4	4	6
Cooling circuits			No.	1	1	1	1	1	1	1	2	2	2
Partitioning steps			No.	2	2	2	2	3	3	3	4	4	6
Power supply voltage			V/Ph/Hz	400/3/50 (5 wires L1+L2+L3+N+T)									
Sound power Lw (2)			dB(A)	79.5	79.5	79.5	83.0	82.2	82.2	83.7	82.5	85.2	84.3
Sound pressure Lp (2)			dB(A)	47.8	47.8	47.8	51.1	50.3	50.3	51.8	50.5	53.2	52.3
PLANT SIDE EXCHANGER													
Type of fluid				Clean water									
Plate exchanger			No.	1	1	1	1	1	1	1	1	1	1
Fluid flow (A35/W7)			l/s	1.8	2.2	2.6	3.8	4.1	4.8	5.4	6.1	7.4	8.1
Pressure drop (A35/W7)			KPa	19.9	20.6	29.4	17.1	19.7	19.1	24.7	31.3	35.8	43.5
VENTILATING SECTION													
Axial fans			No.	1	1	1	2	2	2	2	2	3	3
Total air flow			m^3/s	6.5	6.4	6.4	13.0	13.0	12.8	12.8	12.5	18.6	18.1
Rotation speed			min-1	890	890	890	890	890	890	890	890	890	890
Unit-absorbed power			kW	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Unit-absorbed current			A	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
DIMENSIONS AND WEIGHTS (without accessories)													
Width			mm	1955	1955	1955	3005	3005	3005	3005	4255	4255	4255
Width			mm	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123
Height			mm	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954
Empty weight			Kg	578	603	609	751	828	830	882	1020	1115	1320

A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C
(1) Absorbed total electric power excluding pump on the plant side
(2) Sound power in accordance with ISO3744 standard. Average sound pressure level at 10 m in open field with unit positioned on reflective surface

HZN SLN version (silenced)				082A	102A	122A	152A	123A	133A	153A	134A	154A
COOLING	**SEASONAL COOLING PERFORMANCE (Reg) EU 2016/2281)**											
	SEER			3.56	3.83	3.68	4.11	3.95	4.16	4.42	4.08	4.4
	η			140	150	144	161	155	163	174	160	173
	A35/W7	Cooling potential	kW	37.4	45.0	57.9	77.3	87.0	97.4	113.7	131.2	154.7
		Total absorbed power (1)	kW	15.0	16.9	21.0	27.9	31.8	35.5	40.9	46.7	53.9
		EER (EN 14511-2013)		2.5	2.6	2.7	2.8	2.7	2.7	2.7	2.8	2.8
	A35/W18	Cooling potential	kW	51.0	61.7	80.4	104.3	119.9	134.9	153.1	182.8	209.2
		Total absorbed power (1)	kW	16.3	18.3	22.5	30.6	34.4	39.2	45.3	51.2	59.3
		EER (EN 14511-2013)		3.1	3.3	3.5	3.4	3.4	3.4	3.3	3.5	3.4
Note: A - outdoor air temperature in°C / W = water output temperature in °C												
HEATING	**SEASONAL HEATING PERFORMANCE (Low temperature application / Average climatic area) Reg. EU 813/2013**											
	SCOP			3.34	3.51	3.27	3.49	3.46	3.66	3.89	3.22	3.46
	η			131	138	128	136	135	144	153	126	135
	Energy class			A+	A+	A+						
	A7/W35	Thermal potential	kW	45.8	54.9	71.2	94.1	104.5	117.4	140.9	155.6	187.6
		Total absorbed power (1)	kW	11.9	13.5	18.3	22.7	26.7	28.8	33.3	39.9	45.3
		COP (EN 14511-2013)		3.8	4.0	3.8	4.1	3.9	4.0	4.2	3.9	4.1
	A7/W45	Thermal potential	kW	45.1	53.8	69.4	87.5	102.4	112.4	131.2	149.6	174.9
		Total absorbed power (1)	kW	14.2	16.3	21.9	26.7	32.1	34.3	39.4	47.5	53.7
		COP (EN 14511-2013)		3.1	3.3	3.1	3.3	3,2	3.3	3.3	3.1	3,2
	A2/W35	Thermal potential	kW	41.2	49.2	63.8	83.5	93.9	103.6	125.4	138.1	166.6
		Total absorbed power (1)	kW	12.0	13.7	18.5	22.3	27.0	28.3	32.7	39.2	44.5
		COP (EN 14511-2013)		3.4	3.6	3.4	3.7	3.5	3.6	3.8	3.5	3.7
	A2/W45	Thermal potential	kW	40.8	48.5	62.4	77.6	92.3	100.6	116.3	134.1	155.1
		Total absorbed power (1)	kW	14.2	16.2	21.7	26.2	31.8	33.8	38.6	46.9	52.7
		COP (EN 14511-2013)		2.9	3.0	2.9	2.9	2.9	3.0	3.0	2.8	2.9
Note: A - outdoor air temperature in°C / W = water output temperature in °C												
Maximum current			A	37.0	41.6	54.4	67.7	77.2	85.9	96.4	113.3	127.8
Starting current			A	115.2	133.5	148.7	177.3	170.8	194.2	206.0	221.3	236.5
Scroll Compressors			No.	2	2	2	2	3	3	3	4	4
Cooling circuits			No.	1	1	1	1	1	1	1	2	2
Partitioning steps			No.	2	2	2	2	3	3	3	4	4
Power supply voltage			V/Ph/Hz	400/3/50 (5 wires L1+L2+L3+N+T)								
Sound power Lw (2)			dB(A)	76.4	76.4	78.8	80.1	79.1	79.1	80.8	80.8	82.3
Sound pressure Lp (2)			dB(A)	44.7	44.7	46.9	48.2	47.2	47.2	48.9	48.7	50.3
PLANT SIDE EXCHANGER												
Type of fluid				Clean water								
Plate exchanger			No.	1	1	1	1	1	1	1	1	1
Fluid flow (A35/W7)			l/s	1.8	2.2	2.8	3.7	4.2	4.7	5.4	6.3	7.4
Pressure drop (A35/W7)			KPa	19.2	19.8	32.8	16.3	20.6	18.2	24.8	32.8	35.8
VENTILATING SECTION												
Axial fans			No.	1	1	2	2	2	2	2	3	3
Total air flow			m^3/s	5.5	5.4	11.0	11.0	10.8	10.8	10.5	15.6	15.1
Rotation speed			min-1	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0
Unit-absorbed power			kW	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Unit-absorbed current			A	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
DIMENSIONS AND WEIGHTS (without accessories)												
Width			mm	1955	1955	3005	3005	3005	3005	3005	4255	4255
Width			mm	1123	1123	1123	1123	1123	1123	1123	1123	1123
Height			mm	1954	1954	1954	1954	1954	1954	1954	1954	1954
Empty weight			Kg	595	620	737	769	845	847	900	1116	1139

A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C
(1) Absorbed total electric power excluding pump on the plant side
(2) Sound power in accordance with ISO3744 standard. Average sound pressure level at 10 m in open field with unit positioned on reflective surface



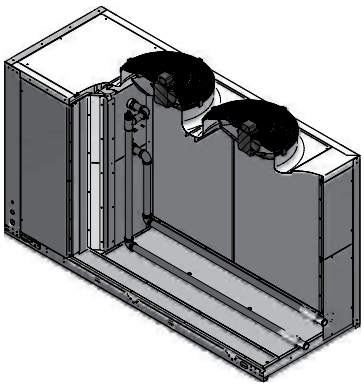


LEGEND:

TW (°C) - Temperature of water leaving the exchanger
TA (°C) - Outdoor air temperature

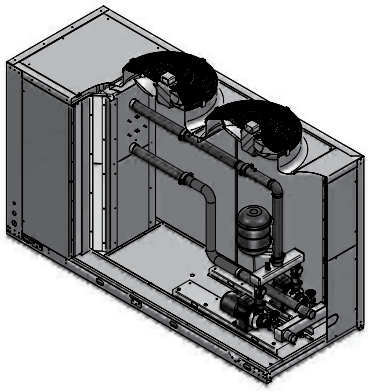
HZN STD / SLN basic unit without accessories	area **A - D**
HZN STD / SLN With 137DCC accessories...	area **B - E**
HZN STD / SLN	temporary **C** area

137DCC... - Modulating ventilation control
137VEC... - Units with DC fans

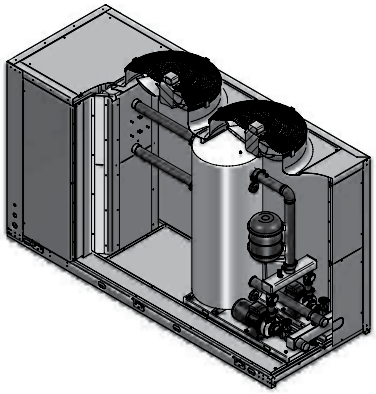


BASIC UNIT
Connecting pipes to the exchanger supplied as standard.

(Protection against lack of flow included).

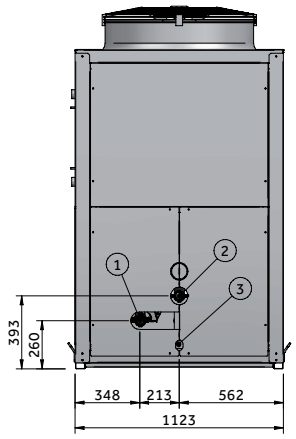


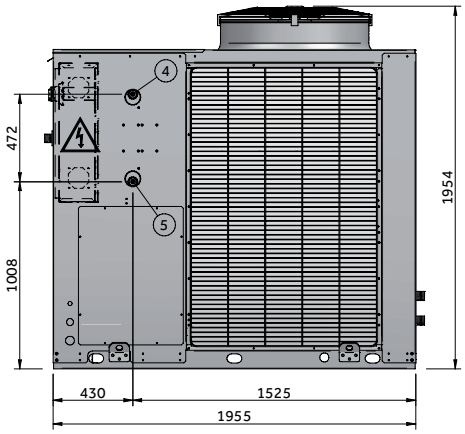
VERSION P1-P2 / PH1-PH2
Version with 1 or 2 circulation pumps (without inertial storage tank) including protection against lack of water flow, 6 Bar safety valve, expansion tank, pump shut-off taps (check valve on delivery pipe in the presence of 2 pumps).

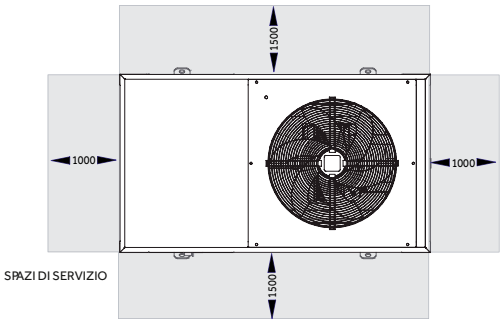


VERSION P1S-P2S / PH1S-PH2S
Version with 1 or 2 circulation pumps with inertial storage including protection against lack of water flow, 6 bar safety valve, expansion tank, pump shut-off taps (check valve on delivery pipe in the presence of 2 pumps).
The storage tank is inserted in series with the water delivery pipe to the system.

HZN		082A	102A	122A	152A	123A	133A	153A	134A	154A	126A
HYDRONIC SYSTEM KIT (ACCESSORY)											
Fluid flow (A35/W7)	l/s	1.85	2.19	2.8	3.79	4.2	4.77	5.42	6.13	7.39	8.15
Safety valve	Bar	6	6	6	6	6	6	6	6	6	6
Expansion tank	L	6	6	6	10	10	10	10	10	18	18
Maximum plant fluid pressure	Bar	6	6	6	6	6	6	6	6	6	6
VERSIONS: 1 standard pump											
No. pumps	No.	1	1	1	1	1	1	1	1	1	1
Useful external prevalence	Kpa	138	132	107	118	108	98	77	96	73	80
Single absorbed power (each)	kW	1.1	1.1	1.1	1.5	1.5	1.5	1.5	2	2	2.5
Single absorbed current (each)	A	2.2	2.2	2.2	2.7	2.7	2.7	2.7	3.7	3.7	5
Empty weight	Kg	49	49	49	66	66	66	70	70	82	82
VERSIONS:1 HP pump											
No. pumps	No.	1	1	1	1	1	1	1	1	1	1
Useful external prevalence	Kpa	169	164	141	157	147	138	119	135	111	138
Single absorbed power (each)	kW	1.4	1.4	1.4	2	2	2	2	2.5	2.5	3.3
Single absorbed current (each)	A	2.7	2.7	2.7	3.7	3.7	3.7	3.7	5	5	6
Empty weight	Kg	52	52	52	70	70	70	75	75	87	87
VERSIONS: 2 standard pumps											
No. pumps	No.	2	2	2	2	2	2	2	2	2	2
Useful external prevalence	Kpa	139	132	107	118	108	98	77	96	73	80
Single absorbed power (each)	kW	1.1	1.1	1.1	1.5	1.5	1.5	1.5	2	2	2.5
Single absorbed current (each)	A	2.2	2.2	2.2	2.7	2.7	2.7	2.7	3.7	3.7	5
Empty weight	Kg	77	77	77	100	100	100	108	108	120	120
VERSIONS: 2 HP pumps											
No. pumps	No.	2	2	2	2	2	2	2	2	2	2
Useful external prevalence	Kpa	169	164	141	157	147	138	119	135	111	138
Single absorbed power (each)	kW	1.4	1.4	1.4	2	2	2	2	2.5	2.5	3.3
Single absorbed current (each)	A	2.7	2.7	2.7	3.7	3.7	3.7	3.7	5	5	6
Empty weight	Kg	83	83	83	108	108	108	118	118	130	130
VERSIONS: 1 standard pump + storage tank											
Storage tank	L	150	150	150	300	300	300	300	300	300	300
No. pumps	No.	1	1	1	1	1	1	1	1	1	1
Useful external prevalence	Kpa	138	132	107	118	108	98	77	96	73	80
Single absorbed power (each)	kW	1.1	1.1	1.1	1.5	1.5	1.5	1.5	2	2	2.5
Single absorbed current (each)	A	2.2	2.2	2.2	2.7	2.7	2.7	2.7	3.7	3.7	5
Empty weight	Kg	85	85	85	116	116	116	120	120	131	131
VERSIONS: 1 HP pump + storage tank											
Storage tank	L	150	150	150	300	300	300	300	300	300	300
No. pumps	No.	1	1	1	1	1	1	1	1	1	1
Useful external prevalence	Kpa	169	164	141	157	147	138	119	135	111	138
Single absorbed power (each)	kW	1.4	1.4	1.4	2	2	2	2	2.5	2.5	3.3
Single absorbed current (each)	A	2.7	2.7	2.7	3.7	3.7	3.7	3.7	5	5	6
Empty weight	Kg	88	88	88	120	120	120	125	125	137	137
VERSIONS: 2 standard pumps + storage tank											
Storage tank	L	150	150	150	300	300	300	300	300	300	300
No. pumps	No.	2	2	2	2	2	2	2	2	2	2
Useful external prevalence	Kpa	139	132	107	118	108	98	77	96	73	80
Single absorbed power (each)	kW	1.1	1.1	1.1	1.5	1.5	1.5	1.5	2	2	2.5
Single absorbed current (each)	A	2.2	2.2	2.2	2.7	2.7	2.7	2.7	3.7	3.7	5
Empty weight	Kg	104	104	104	141	141	141	148	148	160	160
VERSIONS: 2 HP pumps + storage tank											
Storage tank	L	150	150	150	300	300	300	300	300	300	300
No. pumps	No.	2	2	2	2	2	2	2	2	2	2
Useful external prevalence	Kpa	169	164	141	157	147	138	119	135	111	138
Single absorbed power (each)	kW	1.4	1.4	1.4	2	2	2	2	2.5	2.5	3.3
Single absorbed current (each)	A	2.7	2.7	2.7	3.7	3.7	3.7	3.7	5	5	6
Empty weight	Kg	110	110	110	150	150	150	160	160	172	172

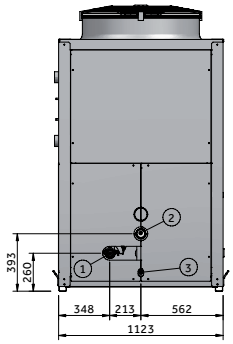


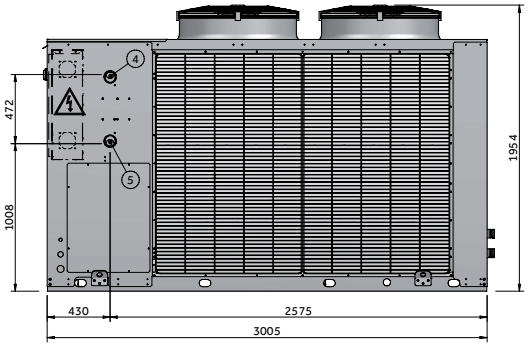


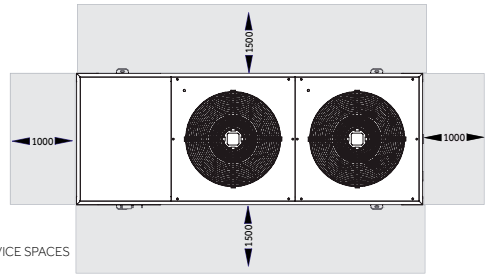


Model	HZN	
	STD	SLN
082	X	X
102	X	X
122	X	

		STD SERIES				
		1	2	3	4	5
	Size	IN	OUT	DRAIN STORAGE TANK	OUT RECOVERY	IN RECOVERY
HZN STD	082	1"1/2	1"1/2	1/2" M	1"1/ 2	1"1/2
	102	1"1/2	1"1/2	1/2" M	1"1/ 2	1"1/2
	122	1"1/2	1"1/2	1/2" M	1"1/ 2	1"1/2
HZN SLN	082	1"1/2	1"1/2	1/2" M	1"1/ 2	1"1/2
	102	1"1/2	1"1/2	1/2" M	1"1/ 2	1"1/2





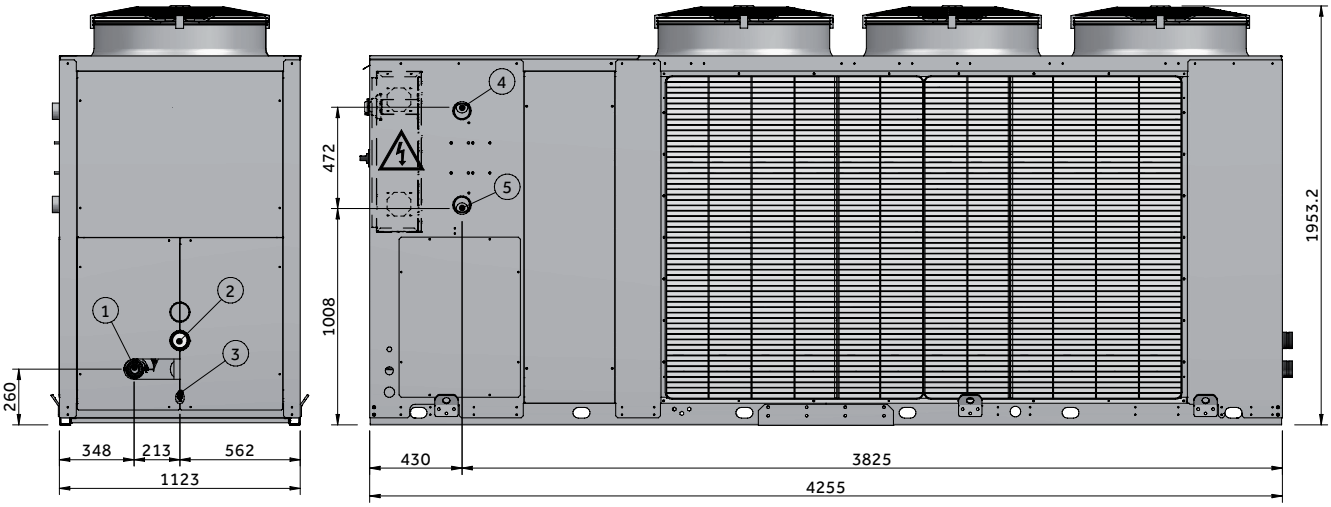


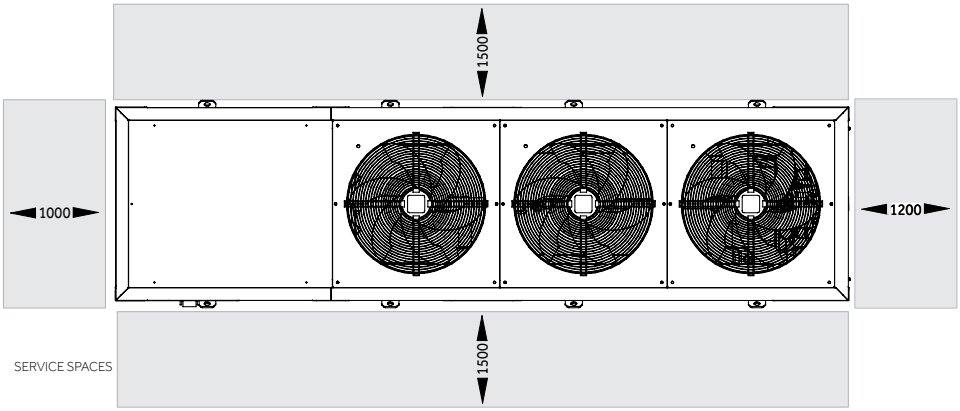
Model	HZN	
	STD	SLN
102		
122		X
152	X	X
123	X	X
133	X	X
153	X	X
134	X	

		STD SERIES			HRP RECOVERY	
		1	2	3	4	5
	Model	IN	OUT	DRAIN STORAGE TANK	IN	OUT
HZN STD	152	2"	2"	1/2" M	1"1/2	1"1/2
	123	2"	2"	1/2" M	1"1/2	1"1/2
	133	2"	2"	1/2" M	1"1/2	1"1/2
	153	2"	2"	1/2" M	1"1/2	1"1/2
	134	2"1/2	2"1/2	1/2" M	2"1/2	2"1/2
HZN SLN	122	1"1/2	1"1/2	1/2" M	1"1/2	1"1/2
	152	2"	2"	1/2" M	1"1/2	1"1/2
	123	2"	2"	1/2" M	1"1/2	1"1/2
	133	2"	2"	1/2" M	1"1/2	1"1/2
	153	2"	2"	1/2" M	1"1/2	1"1/2

1	Plant side - Fluid input
2	Plant side - Fluid output
3	Plant side - Tank discharge
4 (HRP)	Partial heat recovery unit - Fluid output
5 (HRP)	Partial heat recovery unit - Fluid input

n.a.	not available
V	Victaulic
M	Male thread





	HZN	
Model	STD	SLN
153		
134		X
154	X	X
126	X	

		STD SERIES			HRP RECOVERY	
		1	2	3	4	5
	Model	IN	OUT	DRAIN STORAGE TANK	IN	OUT
HZN STD	154	2" 1/2	2" 1/2	1/2" M	2" 1/2	2" 1/2
	126	2" 1/2	2" 1/2	1/2" M	2" 1/2	2" 1/2
HZN SLN	134	2" 1/2	2" 1/2	1/2" M	2" 1/2	2" 1/2
	154	2" 1/2	2" 1/2	1/2" M	2" 1/2	2" 1/2

1 Plant side - Fluid input
2 Plant side - Fluid output
3 Plant side - Tank discharge
4 (HRP) Partial heat recovery unit - Fluid output
5 (HRP) Partial heat recovery unit - Fluid input

n.a. not available
V Victaulic
M Male thread

Reversible air-cooled heat pump

HZN PLUS series

GENERAL FEATURES

- High-efficiency heat pump with 190 to 320 kW potential.
- Multi-scroll unit with R410A refrigerant (R134a on request)
- **Standard unit** operating range, outdoor air:
  cooling from -15°C to + 45°C / heating from -10°C to +20°C
- Unit operating range **with mounted accessories**, outdoor air:
  cooling from -7°C to + 45°C / heating from -10°C to +35°C
- High efficiency at partial loads
- Optional internal hydronic kit
- Low sound level
- STD or SUPER-SILENT (SLN) version available
- Standard RS485 card
- Wide range of optional accessories
- Robust and well-defined woodwork

HZN PLUS is a high-efficiency reversible air-cooled heat pump for outdoor with scroll compressors, available in an extensive range of multi-compressor models with 190 to 320 kW potential. All groups use R410A refrigerant (R134a version on request R134a), and are sized to achieve excellent energy efficiencies, particularly high in partial load operation.

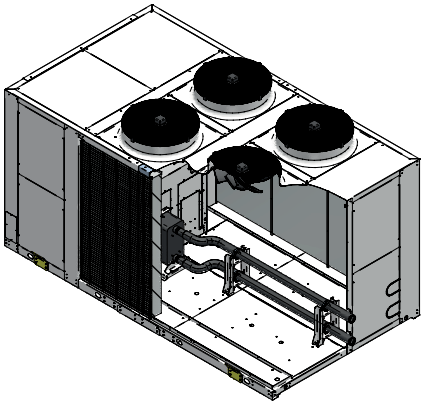
HZN PLUS can be used in any plant setting, thanks to the compactness and the presence of an extensive range of equipment and accessories.

All models executed as standard place the compressors in an acoustically isolated compartment.
The noise emission is contained and compatible with required silence standards. For particularly low acoustic emission requirements, the SLN version is available on which, in addition to the enhancement of the sound proofing of the compressor compartment, low-speed fans and thermal exchange surfaces are used to ensure high energy efficiencies.

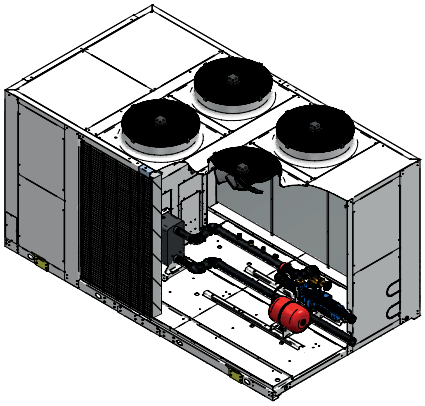
Both in the standard and low-noise version, all units can be integrated with optional devices that allow them to be adapted to various plant engineering requirements.

Among the most used are:
- Hydronic section with single pump P1;
- Hydronic section with double pump P2;
- Hydronic section with pump (single/double) and inertial storage tank AP1-AP2;
- APH1-APH2 with high prevalence;
- Inertial storage tank with serial connection to the plant or equipped with 4 connections with function of hydraulic separator between unit and user plant:
- HRP partial heat recovery;
- Electronic thermostatic valve.

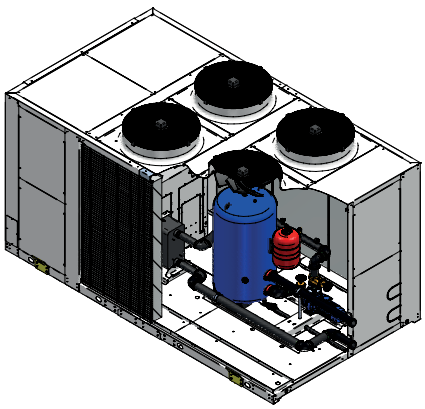
ACCESSORIES AVAILABLE ON REQUEST	
1 pump	Rubber anti-vibration hydronic kit
1 HP pump	Coil protection network
2 pumps	Compressor soft starter kit
2 HP pumps	Coil with pre-varnished fin
1 pump + storage tank in series	Coil treated with Electrofin® varnish
1 HP pump + storage tank in series	Coils with copper fin
2 pumps + storage tank in series	Auto power factor correction kit cos ϕ 0,95)
2 HP pumps + storage tank in series	Fan Kit / Res. Electric Q.E.
Partial heat recovery (desuperheater)	Electrical panel resistance
Refrigerant pressure gauges	Modulating ventilation control
Top remoting	Electronic thermostatic valve
Evaporator anti-freeze resistance + pipes	Buffer coil electronic thermostatic valve
Evaporator anti-freeze resistance - storage tank	DC fans
Coil bottom resistance panel	Spring anti-vibration mounts (pipes only)
Compressor casing resistance (INCLUDED)	Spring anti-vibration mounts (pump + storage tank)
Compressor magneto thermic protections	RS485 Modbus Serial Card (INCLUDED)
Machine rubber vibration dampers Base / hydronic kit	



BASIC UNIT
Connecting pipes to the exchanger supplied as standard.
(Protection against lack of flow included).



VERSION P1-P2 / PH1-PH2
Version with 1 or 2 circulation pumps (without inertial storage tank) including protection against lack of water flow, 6 Bar safety valve, expansion tank, pump shut-off taps (check valve on the delivery pipe in the presence of 2 pumps).



VERSION P1S-P2S / PH1S-PH2S
Version with 1 or 2 circulation pumps with inertial storage tank including protection against lack of water flow, 6 Bar safety valve, expansion tank, pump shut-off taps (check valve on delivery pipe in the presence of 2 pumps).

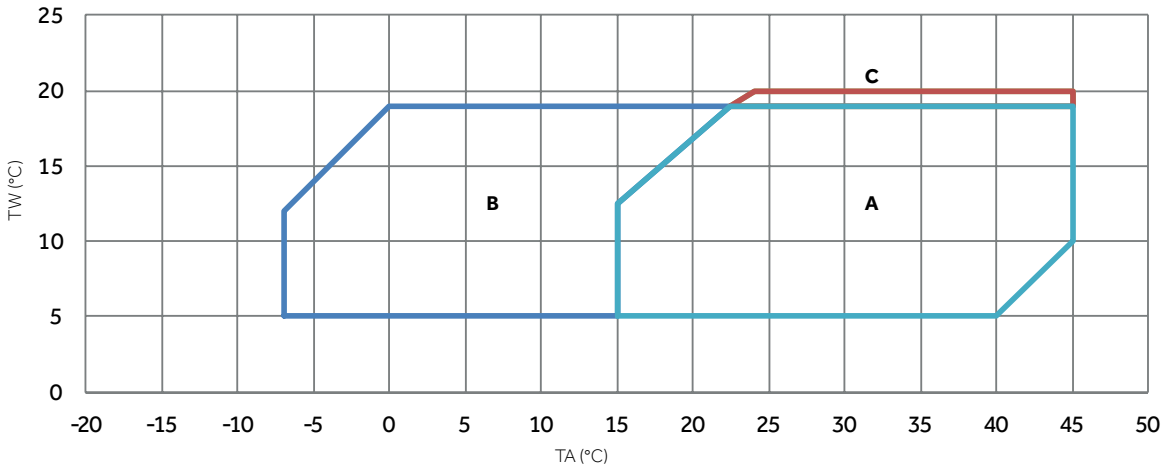
The storage tank is inserted in series with the water delivery pipe to the system.

HZN PLUS STD (standard) version				136A	146A	156A	234A	284A	304A
COOLING	**SEASONAL COOLING PERFORMANCE (Reg. EU 2016/2281)**								
	SEER			3.83	3.79	3.98	3.87	3.80	3.82
	η			150	149	156	152	149	150
	A35/W7	Cooling potential	kW	193.0	203.1	228.0	266.6	286.6	322.3
		Total absorbed power (1)	kW	70.8	75.1	81.6	96.2	105.6	116.7
		EER (EN 14511-2013)		2.7	2.7	2.8	2.8	2.7	2.7
	A35/W18	Cooling potential	kW	262.4	273.3	302.6	359.5	387.7	435.7
		Total absorbed power (1)	kW	76.7	81.7	89.0	102.7	114.5	126.7
		EER (EN 14511-2013)		3.3	3.3	3.3	3.4	3.3	3.4
Note: A - outdoor air temperature in°C / W = water output temperature in °C									
HEATING	**SEASONAL HEATING PERFORMANCE (Low temperature application / Average climatic area) Reg. EU 813/2013**								
	SCOP			3,2	3.52	3.45	3.31	3.36	3.19
	η			125	138	135	129	131	125
	Energy class			-	-	-	-	-	-
	A7/W35	Thermal potential	kW	234.4	248.9	285.8	321.8	345.0	391.4
		Total absorbed power (1)	kW	59.1	61.7	67.0	79.7	85.2	94.3
		COP (EN 14511-2013)		3.9	4.0	4.2	4.0	4.0	4.1
	A7/W45	Thermal potential	kW	225.4	236.0	264.7	313.7	336.5	381.0
		Total absorbed power (1)	kW	70.4	73.4	79.7	98.1	105.2	116.2
		COP (EN 14511-2013)		3,2	3,2	3.3	3,2	3,2	3,2
	A2/W35	Thermal potential	kW	207.7	220.1	252.8	285.7	306.1	346.9
		Total absorbed power (1)	kW	58.4	61.0	66.3	79.7	85.0	94.0
		COP (EN 14511-2013)		3.5	3.6	3.8	3.6	3.6	3.7
	A2/W45	Thermal potential	kW	201.7	210.4	234.3	280.5	301.1	340.6
		Total absorbed power (1)	kW	69.8	72.7	78.6	98.0	105.2	116.0
		COP (EN 14511-2013)		2.9	2.9	3.0	2.9	2.8	2.9
Note: A - outdoor air temperature in°C / W = water output temperature in °C									
Maximum current			A	186.6	194.8	211.2	249.1	267.1	293.1
Starting current			A	288.8	321.9	338.3	492.1	501.1	514.1
Scroll Compressors			No.	6	6	6	4	4	4
Cooling circuits			No.	2	2	2	2	2	2
Partitioning steps			No.	6	6	6	4	4	4
Power supply voltage			V/Ph/Hz	400/3/50 (5 wires L1+L2+L3+N+T)					
Sound power Lw (2)			dB(A)	85.2	85.8	86.7	88.9	89.6	90.2
Sound pressure Lp (2)			dB(A)	53.0	53.6	54.5	56.6	57.3	57.8
PLANT SIDE EXCHANGER									
Type of fluid				Clean water					
Plate exchanger			No.	1	1	1	1	1	1
Fluid flow (A35/W7)			l/s	9.2	9.7	10.9	12.7	13.7	15.4
Pressure drop (A35/W7)			KPa	39.0	38.2	38.6	48.2	38.9	39.9
VENTILATING SECTION									
Axial fans			No.	4	4	4	6	6	6
Total air flow			m^3/s	23.7	23.7	22.8	35.1	35.1	33.6
Rotation speed			min-1	885	885	885	885	885	885
Unit-absorbed power			kW	1.7	1.7	1.7	1.7	1.7	1.7
Unit-absorbed current			A	3.7	3.7	3.7	3.7	3.7	3.7
DIMENSIONS AND WEIGHTS (without accessories)									
Width			mm	4125	4125	4125	5125	5125	5125
Width			mm	2205	2205	2205	2205	2205	2205
Height			mm	2266	2266	2266	2266	2266	2266
Empty weight			Kg	1841	1848	1944	2356	2375	2499

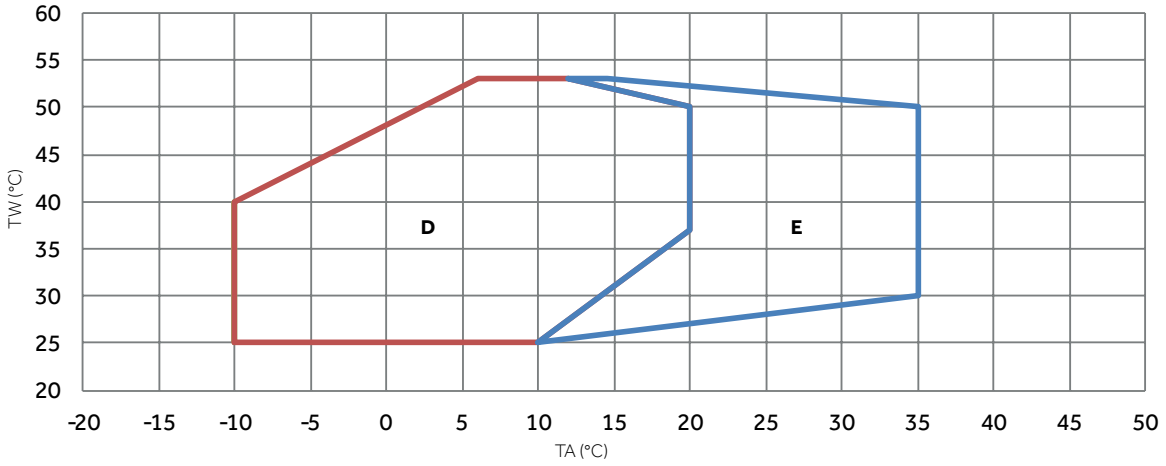
A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C
(1) Absorbed total electric power excluding pump on the plant side
(2) Sound power in accordance with ISO3744 standard. Average sound pressure level at 10m in open field with unit positioned on reflective surface.

HZN PLUS SLN version (silenced)					136A	146A	156A	234A	284A
COOLING	**SEASONAL COOLING PERFORMANCE (Reg. EU 2016/2281)**								
	SEER				4.01	4.02	4.12	3.87	3.88
	η				157	158	162	152	152
	A35/W7	Cooling potential		kW	192.1	202.0	234.2	265.5	285.1
		Total absorbed power (1)		kW	69.2	73.5	79.7	93.7	103.3
		EER (EN 14511-2013)			2.7	2.7	2.9	2.8	2.7
	A35/W18	Cooling potential		kW	260.7	271.4	312.6	357.3	385.0
		Total absorbed power (1)		kW	75.3	80.4	86.3	100.6	112.6
		EER (EN 14511-2013)			3.4	3.3	3.5	3.5	3.3
Note: A - outdoor air temperature in°C / W = water output temperature in °C									
HEATING	**SEASONAL HEATING PERFORMANCE (Low temperature application / Average climatic area) Reg. EU 813/2013**								
	SCOP				3.39	3.83	3.44	3.58	3.63
	η				133	150	135	140	142
	Energy class				-	-	-	-	-
	A7/W35	Thermal potential		kW	237.5	252.7	290.9	325.0	349.2
		Total absorbed power (1)		kW	57.1	59.7	67.5	76.7	82.2
		COP (EN 14511-2013)			4.1	4.2	4.2	4.2	4.2
	A7/W45	Thermal potential		kW	227.9	238.8	270.2	316.5	339.9
		Total absorbed power (1)		kW	68.4	71.4	80.2	95.0	102.2
		COP (EN 14511-2013)			3.3	3.3	3.3	3.3	3.3
	A2/W35	Thermal potential		kW	210.0	222.8	258.3	288.4	309.2
		Total absorbed power (1)		kW	56.4	59.0	66.8	76.6	82.0
		COP (EN 14511-2013)			3.7	3.7	3.8	3.7	3.7
	A2/W45	Thermal potential		kW	203.7	212.7	239.1	282.9	303.9
		Total absorbed power (1)		kW	67.8	70.7	79.2	95.0	102.1
		COP (EN 14511-2013)			3.0	3.0	3.0	3.0	3.0
Note: A - outdoor air temperature in°C / W = water output temperature in °C									
Maximum current				A	180.0	188.2	204.6	239.2	257.2
Starting current				A	282.2	315.3	331.7	482.2	491.2
Scroll Compressors				No.	6	6	6	4	4
Cooling circuits				No.	2	2	2	2	2
Partitioning steps				No.	6	6	6	4	4
Power supply voltage				V/Ph/Hz	400/3/50 (5 wires L1+L2+L3+N+T)				
Sound power Lw (2)				dB(A)	82.1	82.8	83.8	86.6	86.6
Sound pressure Lp (2)				dB(A)	49.9	50.6	51.6	54.3	54.3
PLANT SIDE EXCHANGER									
Type of fluid					Clean water				
Plate exchanger				No.	1	1	1	1	1
Fluid flow (A35/W7)				l/s	9.2	9.7	11.2	12.7	13.6
Pressure drop (A35/W7)				KPa	38.6	37.8	40.7	47.8	38.5
VENTILATING SECTION									
Axial fans				No.	4	4	4	6	6
Total air flow				m^3/s	18.8	18.8	29.1	27.7	27.7
Rotation speed				min-1	720	720	720	720	720
Unit-absorbed power				kW	1.2	1.2	1.2	1.2	1.2
Unit-absorbed current				A	2.1	2.1	2.1	2.1	2.1
DIMENSIONS AND WEIGHTS (without accessories)									
Width				mm	4125	4125	5125	5125	5125
Width				mm	2205	2205	2205	2205	2205
Height				mm	2266	2266	2266	2266	2266
Empty weight				Kg	1965	1977	2198	2512	2531

A7/W35 Outdoor air temperature: 7°C - Plant fluid temperature (water): 30/35 °C
A7/W45 Outdoor air temperature: 7°C - Plant fluid temperature (water): 40/45 °C
A2/W35 Outdoor air temperature: 2°C - Plant fluid temperature (water): 30/35 °C
A2/W45 Outdoor air temperature: 2°C - Plant fluid temperature (water): 40/45 °C
A35/W7 Outdoor air temperature: 35°C - Plant fluid temperature (water): 12/7 °C
A35/W18 Outdoor air temperature: 35°C - Plant fluid temperature (water): 23/18 °C
(1) Absorbed total electric power excluding pump on the plant side
(2) Sound power in accordance with ISO3744 standard. Average sound pressure level at 10m in open field with unit positioned on reflective surface.



OPERATING RANGE IN HEATING



LEGEND:

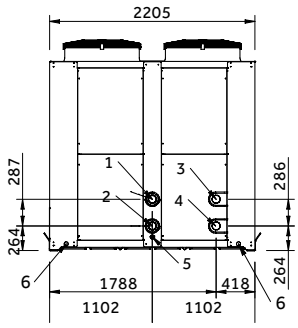
TW (°C) - Temperature of water leaving the exchanger
TA (°C) - Outdoor air temperature

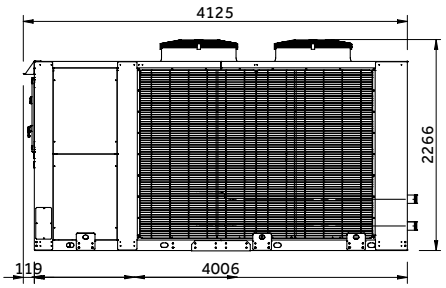
HZN PLUS STD / SLN basic unit without accessories	area **A - D**
HZN PLUS STD / SLN With 137DCC accessories...	area **B - E**
HZN PLUS STD / SLN	temporary **C** area

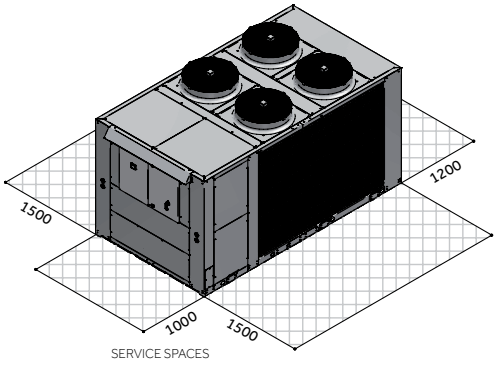
137DCC... - Modulating ventilation control
137VEC... - Units with DC fans

HZN PLUS		136A	146A	156A	234A	284A	304A
HYDRONIC SYSTEM KIT (ACCESSORY)							
Fluid flow (A35/B7) STD	l/s	9.23	10.14	11.09	12.74	14.21	16.00
Safety valve	Bar	6	6	6	6	6	6
Expansion tank	L	1 x 25	1 x 25	1 x 25	2 x 25	2 x 25	2 x 25
Maximum plant fluid pressure	Bar	6	6	6	6	6	6
VERSIONS: 1 STD pump							
No. pumps	No.	1	1	1	1	1	1
Useful external prevalence	Kpa	114	102	93	118	106	120
Single absorbed power (each)	kW	2.2	2.2	2.2	3.0	3.0	4.0
Single absorbed current (each)	A	4.6	4.6	4.6	6.3	6.3	7.8
Empty weight	Kg	55	55	55	80	80	80
VERSIONS:1 HP pump							
No. pumps	No.	1	1	1	1	1	1
Useful external prevalence	Kpa	157	147	149	135	186	174
Single absorbed power (each)	kW	3	3	4	4	5.5	5.5
Single absorbed current (each)	A	6.3	6.3	7.8	7.8	10.4	10.4
Empty weight	Kg	62	62	62	87	87	87
VERSIONS: 2 STD pumps							
No. pumps	No.	2	2	2	2	2	2
Useful external prevalence	Kpa	114	102	93	118	106	120
Single absorbed power (each)	kW	2.2	2.2	2.2	3.0	3.0	4.0
Single absorbed current (each)	A	4.6	4.6	4.6	6.3	6.3	7.8
Empty weight	Kg	98	98	98	133	133	133
VERSIONS: 2 HP pumps							
No. pumps	No.	2	2	2	2	2	2
Useful external prevalence	Kpa	157	147	149	135	186	174
Single absorbed power (each)	kW	3	3	4	4	5.5	5.5
Single absorbed current (each)	A	6.3	6.3	7.8	7.8	10.4	10.4
Empty weight	Kg	112	112	112	147	147	147
VERSIONS: 1 standard pump + storage tank							
Storage tank	L	500	500	500	750	750	750
No. pumps	No.	1	1	1	1	1	1
Useful external prevalence	Kpa	114	102	93	118	106	120
Single absorbed power (each)	kW	2.2	2.2	2.2	3.0	3.0	4.0
Single absorbed current (each)	A	4.6	4.6	4.6	6.3	6.3	7.8
Empty weight	Kg	121	121	121	176	176	176
VERSIONS: 1 HP pump + storage tank							
Storage tank	L	500	500	500	750	750	750
No. pumps	No.	1	1	1	1	1	1
Useful external prevalence	Kpa	157	147	149	135	186	174
Single absorbed power (each)	kW	3	3	4	4	5.5	5.5
Single absorbed current (each)	A	6.3	6.3	7.8	7.8	10.4	10.4
Empty weight	Kg	128	128	128	183	183	183
VERSIONS: 2 standard pumps + storage tank							
Storage tank	L	500	500	500	750	750	750
No. pumps	No.	2	2	2	2	2	2
Useful external prevalence	Kpa	114	102	93	118	106	120
Single absorbed power (each)	kW	2.2	2.2	2.2	3.0	3.0	4.0
Single absorbed current (each)	A	4.6	4.6	4.6	6.3	6.3	7.8
Empty weight	Kg	164	164	164	229	229	229
VERSIONS: 2 HP pumps + storage tank							
Storage tank	L	500	500	500	750	750	750
No. pumps	No.	2	2	2	2	2	2
Useful external prevalence	Kpa	157	147	149	135	186	174
Single absorbed power (each)	kW	3	3	4	4	5.5	5.5
Single absorbed current (each)	A	6.3	6.3	7.8	7.8	10.4	10.4
Empty weight	Kg	178	178	178	243	243	243

HYDRAULIC CONNECTIONS





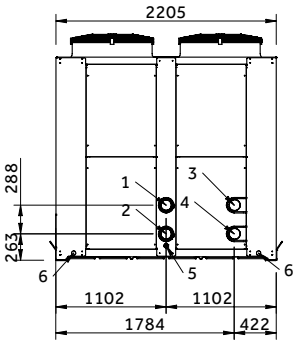


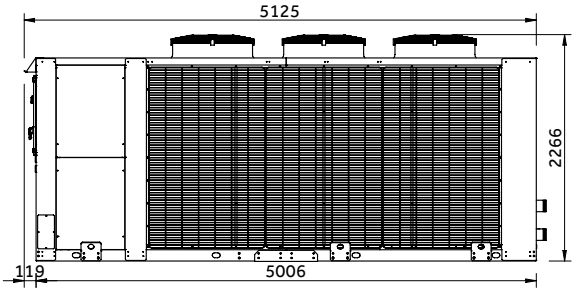
SERVICE SPACES

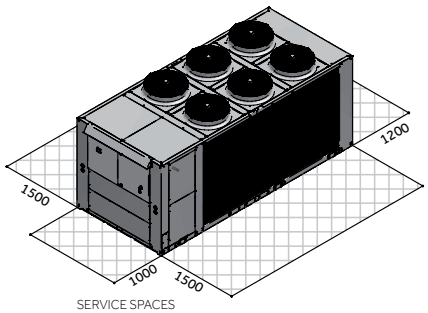
	HZN PLUS	
Model	STD	SLN
136	X	X
146	X	X
156	X	

			Victaulic couplings				Storage tank drain	Condensate drain
			Plant		Partial recovery			
	Version	Model	1	2	3	4	5	6
			IN	OUT	OUT	IN	OUT	OUT
HZN PLUS	STD	136-146 156	3"	3"	1"1/2	1"1/2	1" M Gas	Ø 40
	SLN	136-146	3"	3"	1"1/2	1"1/2	1" M Gas	Ø 40

HYDRAULIC CONNECTIONS







SERVICE SPACES

	HZN PLUS	
Model	STD	SLN
156		X
234	X	X
284	X	X
304	X	

			Victaulic couplings				Storage tank drain	Condensate drain
			Plant		Partial recovery			
	Version	Model	1	2	3	4	5	6
			IN	OUT	OUT	IN	OUT	OUT
HZN PLUS	STD	234-284 304	4"	4"	2"	2"	1" M Gas	Ø 40
	SLN	156	3"	3"	1"1/2	1"1/2	1" M Gas	Ø 40
	SLN	234-284	4"	4"	2"	2"	1" M Gas	Ø 40

1 Fluid input
2 Fluid output
3 Drain (1)
4 Fluid output
5 Fluid input

G Male threaded coupling
V Victaulic-type coupling

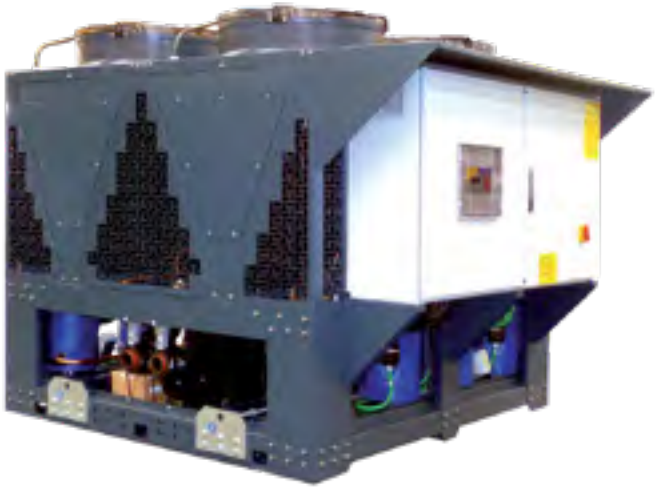
(1) Only versions with hydronic kits
n.a. not available

CHILLER

V-HP series

Reversible cooled heat pump with inverter/scroll compressors & DC fans for outdoor installation

The V-HP series lends itself to a wide range of customisations, from compressor technology to the condensation method and the type of refrigerant, including a vast range of accessories that can be selected and pre-assembled at the factory.



GENERAL FEATURES

Haier's Chiller V-Range is characterised by its reliability and durability, which ensures important benefits in terms of reducing management and maintenance costs.
These chillers are characterised by a lightweight and compact structure that makes them suitable for various applications. In addition to this, the reduced vibrations and very low noise levels mean that these chillers can be used in both civil and industrial (comfort cooling) applications.
Haier has always been attentive to the environment and the specific needs of its customers, which is why the V-Range is developed to ensure maximum performance in accordance with all current energy regulations.
V-HP heat pump reversible Chillers are mounted on a self-supporting metal structure, painted with appropriately treated epoxy powders for outdoor installation.
All units are fully wired and ready to be connected to the user system.
The units are designed, built and certified in accordance with European Union regulations.
Each machine undergoes a performance test according to the strictest rules in place with intervention tests for all the safety systems and components installed.
Each unit is supplied with DC-controlled speed fans. Characterised by a wide operating range and used for two-pipe hydronic circuits, they produce hot water up to 55 °C* during winter and chilled water during summer.

* Based on the operational limitations of the compressor and the refrigerant gas and the temperature trend of the outdoor air

THE BASIC VERSION INCLUDES:

- Scroll Compressor
- Microchannel condenser
- Brazed plate evaporator
- AC/DC fan as per technical reference data
- Safety valves (if required by EN 378)
- Pressure switch
- Pressure transducer
- Dehydration filter
- Inspection glass
- Electronic expansion valve (equipped with backup coil for emergency closure)
- Water temperature sensors
- Water flow switch
- Water filter
- Anti-freeze resistance
- Refrigerant charge
- Electrical panel with main switch, fuses, phase sequence control
- Electronic board for unit management: input / output water temperatures, cooling capacity, working hours of each compressor, high / low pressure alarms, condensation pressure regulation.
  (For all other available functions refer to the general manual)
- Standard equipment includes digital input for remote ON / OFF control, digital out for signalling unit alarm status.

Model V-HP (IT INVERTER compressors)		0020IT	0030IT	0037IT	0042IT	0050IT	0060IT	0066IT	0077IT	0090IT
Nominal cooling power (1)	kW	20.2	30.6	36.7	41.8	49	59.9	66	76.5	86.1
Nominal absorbed power (1)	kW	6.7	10.2	13	14.7	17	19	21	24.5	28.8
EER	W/W	3.01	3	2.83	2.85	2.88	3.15	3.14	3.12	2.99
SEER (EN 14511-2018) (2)	W/W	4.67	5.01	4.6	4.58	4.35	5.04	5.03	4.94	4.82
Nominal heating power (8)	kW	22.9	33.1	40.1	46.2	53	63.5	70.3	81.7	92.4
Nominal absorbed power (8)	kW	7.1	9.9	12	14.1	16	18.3	19.9	23.5	27.9
C.O.P. (water 40/45 - T outdoor + 7°C)	W/W	3.25	3.34	3.34	3.28	3.31	3.47	3.53	3.48	3.31
C.O.P. For deductions (water 30/35 - T outdoor + 7°C)	W/W	4.08	4.03	4.08	3.9	3.91	4.12	4.26	4.21	3.99
SCOP (EN 14511-2018) (2)	W/W	3.37	3.9	4.01	3.66	3.72	4.1	4.17	4.11	3.76
Refrigerant Gas - R410A (9)	Kg	6.5	7.5	8.0	8.9	9.3	12.1	12.5	17.0	17.7
Sound pressure level at 1 m	dB(A)	70.1	71.2	70.6	73.7	73.1	75.8	75.9	79.3	82.7
Sound pressure level at 1 m ((7) optional unit LN) (3)	dB(A)	65.5	64.1	63.8	67.4	67.2	68.0	68.1	70.5	73.9
Sound pressure level at 5 m	dB(A)	59.6	60.7	60.1	63.2	62.6	65.4	65.5	68.9	72.2
Sound pressure level at 5 m ((7) optional unit LN) (3)	dB(A)	55.1	53.7	53.4	57.0	56.7	57.6	57.6	60.0	63.5
Sound pressure level at 10 m (3)	dB(A)	53.6	54.7	54.1	57.2	56.6	59.3	59.4	62.9	66.2
Sound pressure level at 10 m ((7) optional unit LN) (3)	dB(A)	49.0	47.6	47.3	50.9	50.7	51.6	51.6	54.0	57.5
Compressor typology	Type	INVERTER SCROLL								
Number of compressors	No.	1	1	1	1	1	1	1	1	1
Number of circuits	No.	1	1	1	1	1	1	1	1	1
Condenser typology (4)	Type	Microchannel / finned								
Number of fans and typology	No. / type	2 / AC	1 / DC	1 / DC	1 / DC	1 / DC	2 / DC	2 / DC	2 / DC	2 / DC
Evaporator typology (5)	Type	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates
Input/output pipe diameter	"	1"1/4	1"1/2	1"1/2	1"1/2	1"1/2	2"	2"	2"	2"
Indoor pressure drop	Kpa	30	31	32	35	45	42	50	46	47
Minimum volume of water needed in the plant	L	30	80	80	80	80	160	160	160	160
Nominal water flow	m³/h	4	6	7	8	9	11	12	14	16
Electric Power (5 wires L1+L2+L3+N+T)	V/Ph/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Rated current	A	11.4	17.3	22	24.9	28.9	32.3	35.7	41.7	49
Maximum current	A	26	31.2	46.9	46.9	55	55	76.3	76.3	76.3
Starting current	A	33	35	51	51	59	62	84	84	84
Length with electrical panel (6)	mm	1600	1750	1750	1750	1750	2760	2760	2760	2760
Width (6)	mm	590	1050	1050	1050	1050	1050	1050	1050	1050
Height	mm	1250	2430	2430	2430	2430	2430	2430	2430	2430
Weight in transport (7)	Kg	351	628	679	698	722	955	1062	1090	1100
Weight in use (7)	Kg	357	638	692	711	735	974	1081	1113	1123

Model V-HP (FS multi-scroll compressors)		0100FS	0110FS	0125FS	0135FS	0150FS	0170FS	0190FS	0230FS	0250FS	0280FS
Nominal cooling power (1)	kW	97.7	108.6	124.6	134.4	149.7	169	190	225.4	244	271.2
Nominal absorbed power (1)	kW	32.2	37.5	40.2	45.1	50.2	53.7	63.7	72.3	81.3	88.1
EER	W/W	3.04	2.9	3.1	2.98	2.98	3.15	2.98	3.12	3	3.08
SEER (EN 14511-2018) (2)	W/W	4.36	4.1	4.36	4.16	4.22	4.37	4.26	4.35	4.32	4.38
Nominal heating power (8)	kW	102.1	114.4	130.6	142.1	159	177.7	204.6	236.3	259.3	286.7
Nominal absorbed power (8)	kW	31.7	35.6	40.4	44.2	49.3	53.5	62.8	72	79.1	89.8
C.O.P. (water 40/45 - T outdoor + 7°C)	W/W	3.22	3.22	3.23	3.22	3.23	3.32	3.26	3.28	3.28	3.19
C.O.P. For deductions (water 30/35 - T outdoor + 7°C)	W/W	4.18	4.05	4.17	4.07	4.12	4.33	4.14	4.1	4.07	4.14
SCOP (EN 14511-2018) (2)	W/W	3.61	3.57	3.62	3.53	3.6	3.85	3.32	3.42	3.55	3.6
Refrigerant Gas - R410A (9)	Kg	21.3	22.2	29.2	32.0	32.7	39.9	41.8	50.7	52.6	59.8
Sound pressure level at 1 m	dB(A)	74.0	74.7	74.4	75.2	75.6	73.6	77.0	78.0	78.0	78.2
Sound pressure level at 1 m ((7) optional unit LN) (3)	dB(A)	69.5	69.7	68.8	71.1	71.2	71.8	72.5	73.5	73.5	74.1
Sound pressure level at 5 m	dB(A)	63.6	64.2	64.0	64.7	65.1	63.2	66.6	67.5	67.5	67.7
Sound pressure level at 5 m ((7) optional unit LN) (3)	dB(A)	59.04	59.23	58.33	60.63	60.73	61.32	62.05	63.00	63.00	63.64
Sound pressure level at 10 m (3)	dB(A)	57.6	58.2	57.9	58.7	59.1	57.2	60.6	61.5	61.5	61.7
Sound pressure level at 10 m ((7) optional unit LN) (3)	dB(A)	53.0	53.2	52.3	54.6	54.7	55.3	56.0	57.0	57.0	57.6
Compressor typology	Type	Multi Scroll									
Number of compressors	No.	2	2	2	2	2	4	4	4	4	4
Number of circuits	No.	1	1	1	1	1	2	2	2	2	2
Condenser typology (4)	Type	Microchannel / finned									
Number of fans and typology	No. / type	2 / DC	2 / DC	3 / DC	3 / DC	3 / DC	4 / DC	4 / DC	5 / DC	5 / DC	6 / DC
Evaporator typology (5)	Type	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates	Plates
Input/output pipe diameter	"	2"1/2	2"1/2	3"	3"	3"	3"	3"	3"	3"	3"
Indoor pressure drop	Kpa	50	41	42	42	52	46	61	43	50	64
Minimum volume of water needed in the plant	L	160	160	350	350	350	350	350	350	350	350
Nominal water flow	m³/h	18	20	23	25	28	31	36	41	45	50
Electric Power (5 wires L1+L2+L3+N+T)	V/Ph/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Rated current	A	54.7	63.7	68.3	76.6	85.4	91.3	108.3	123	138.3	149.8
Maximum current	A	90.4	105.4	116.1	123.1	139.1	158.8	180.8	214.5	228.5	246.2
Starting current	A	256	271	320	327	387	319	346	380	432	450
Length with electrical panel (6)	mm	2760	2760	3860	3860	3860	2774	2774	3821	3821	3821
Width (6)	mm	1050	1050	1050	1050	1050	2100	2100	2100	2100	2100
Height	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430	2430
Weight in transport (7)	Kg	1265	1284	1523	1539	1670	1945	2188	2574	2609	2784
Weight in use (7)	Kg	1281	1305	1548	1564	1695	1984	2226	2633	2668	2851

Notes:

(1) Nominal data for input / output water 12/7 °C outdoor air 35 °C
(2) Contact with the manufacturer for seasonal energy indicators
(3) Measured sound pressure in open field (directivity factor=2) according to ISO 3744
(4) Finned microchannel
(5) Brazed plate exchanger
(6) Hydronic connections and lifting brackets excluded
(7) LN option (compressor compartment)
(8) Nominal data for water 40/45 °C outdoor air 7 °C - RH 87%
9 Estimated refrigerant charge. The data can be modified in accordance with technical and design improvements and / or variations of the unit and its components.

All data is subject to change without notice by the manufacturer

CODE ACCESSORY	DESCRIPTION
HR	Partial heat recovery: Through an auxiliary heat exchanger the unit can produce hot water using the hot gas temperature, simultaneously with the production of chilled water. It is not possible to produce hot water if there is no chilled water production. Partial heat recovery: to avoid malfunctions or reductions in the thermal capacity of the chiller's reversible heat pump. Partial heat recovery must be disabled by the user during winter mode operation. Partial heat recovery: the exchanger is not suitable for the direct flow of hot water and it is therefore mandatory to use an additional heat exchanger to separate the circulating water inside the cooler from the sanitary water and each are required by local laws and regulations. Partial heat recovery: the user must provide a minimum heating power dissipation. Installers must provide ally other safety device required by local laws and regulations for the production of hot water. Partial heat recovery: the user must make sure that the water temperature is above 35 °C during the operation of the compressor.
LN	Standard soundproofing with only panels: metal compartment for housing the compressors equipped with removable doors for service access and inspection.
XLN	Extra soundproofing with panels and sound insulation: metal compartment for housing the compressors equipped with removable doors for service access and inspection. The internal surface is covered with sound-absorbing material to decrease the noise emission of the compressors.
V	Variable speed pump (inverter), additional option to the normal pump that can be used for the correct calibration of the delivery pressure - the primary circuit always remains at constant flow
T	Inertial storage tank (pressurised): The equipment consists of a pressurised tank, insulation, pre-pressurised closed expansion tank, air and drain valves, safety valve calibrated to the circuit PS.
FL	Flow switch: electromechanical type; suitable to increase the safety of the flow control in the evaporator; supplied separately to be installed by the user
MR	Refrigerant pressure gauges: a high-pressure gauge and a low-pressure gauge for each refrigerant circuit
MH	Water pressure gauges: a pressure gauge on the input side and a pressure gauge on the output side of the hydronic circuit
RIF	Current re-phaser:
LSC	Soft starter:
TD7	Touch screen display 7"
TD10	Touch screen display 10"
RS485	Modbus RTU
RS485-IP	Modbus TCP/IP: Ethernet connection
BAC	Bacnet interface:
BAC1	BACNet/IP:
BAC2	BACNet MS/TP:
WEB	Reach Web Monitoring System: Allows viewing the main working parameters and alarm history, resetting the alarm and updating the SW remotely via WEB of the main unit. It is supplied standard with a 3G modem.
LON	LonWorks interface:
AV1	Antivibration mounts: type with rubber damping element
AV2	High performance anti-vibration mount: type with metal spring suspension element
EP1.x	Pump kit: Centrifugal pump safety valve in the input section, air vent valve, drain valve
EP2.x	Double pump kit: Centrifugal pumps check valves, safety valve in the input section, air vent valve, drain valve
	Double pump kit: The operating pressure of the hydronic circuits is reduced to PS = 4 bar
EP3.x	Pump kit: Centrifugal pump safety valve in the input section, air vent valve, drain valve
EP4.x	Double pump kit: Centrifugal pumps check valves, safety valve in the input section, air vent valve, drain valve
EP5	Single pump with high prevalence (electrical data declared separately from the unit's main data): water flow and differential pressure according to user requirements. Depending on the performance required, the basic dimensions of the unit may vary. Consult the manufacturer before ordering.
EP6	Double pump with high prevalence (electrical data declared separately from the unit's main data): water flow and differential pressure according to user requirements. Depending on the performance required, the basic dimensions of the unit may vary. Consult the manufacturer before ordering.
RLD	Refrigerant leak detector: Installable only in case of compressor compartment equipped with doors. It allows to monitor the eventual leakage of refrigerant from the circuits. The alarm is signalled by a potential-free switching contact, which can be used for remote signalling.
GP	Metal grills for coil protection

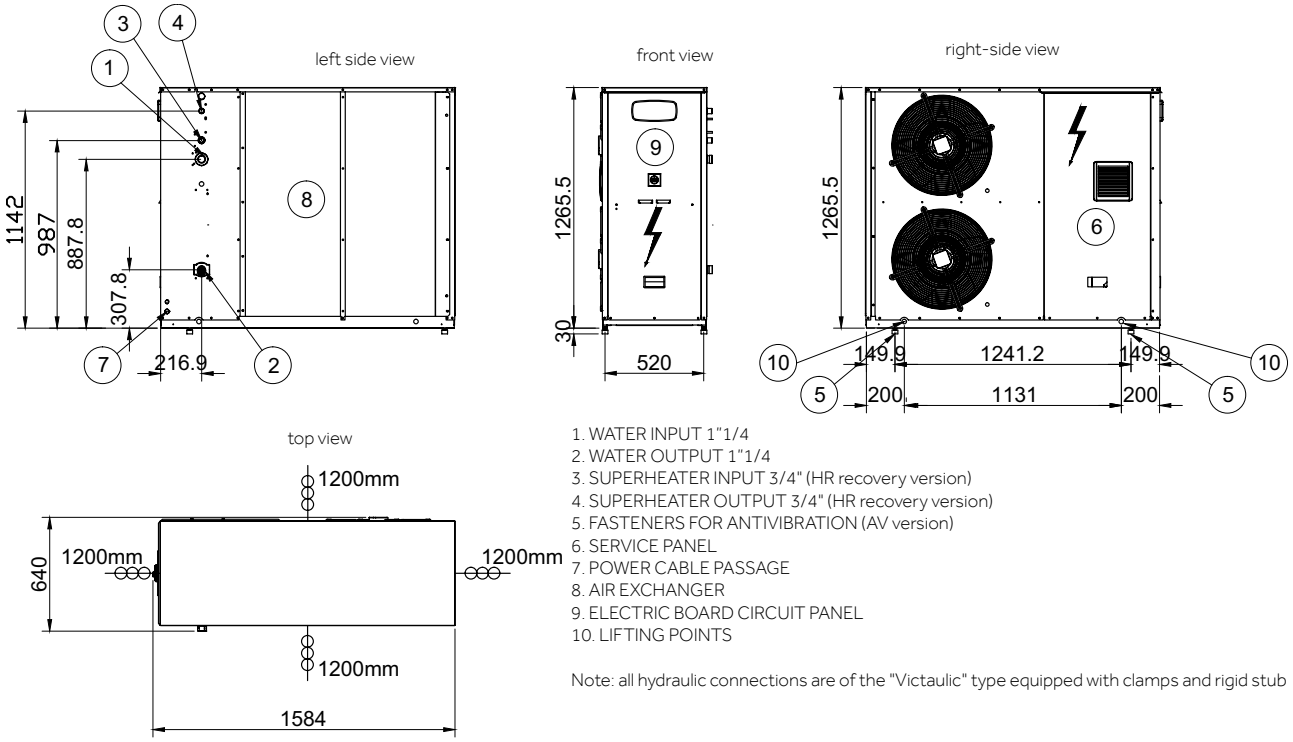
Accessory code	Accessory description	Compatibility of V-HP models (IT INVERTER compressors) / accessories								
		0020IT	0030IT	0037IT	0042IT	0050IT	0060IT	0066IT	0077IT	0090IT
HR	Partial heat recovery (desuperheater)	•	•	•	•	•	•	•	•	•
LN	Compressor compartments with panels	NA	•	•	•	•	•	•	•	•
XLN	Compressor compartments with panels and sound insulation	NA	•	•	•	•	•	•	•	•
V	Variable speed pump (inverter)	NA	•	•	•	•	•	•	•	•
T	Inertial storage tank (pressurised)	NA	•	•	•	•	•	•	•	•
	Illustrative volume (litres)	--	80	80	80	80	160	160	160	160
FL	Flow switch	•	•	•	•	•	•	•	•	•
MR	Refrigerant pressure gauges	•	•	•	•	•	•	•	•	•
MH	Water pressure gauges	•	•	•	•	•	•	•	•	•
RIF	Current re-phaser	•	•	•	•	•	•	•	•	•
LSC	Soft start	NA	NA	NA	NA	NA	NA	NA	NA	NA
TD7	Touch screen 7"	NA	NA	NA	•	•	•	•	•	•
TD10	Touch screen 10"	NA	NA	NA	•	•	•	•	•	•
RS485	Modbus RTU	•	•	•	•	•	•	•	•	•
RS485-IP	Modbus TCP/IP	•	•	•	•	•	•	•	•	•
BAC	Bacnet Interface	•	•	•	•	•	•	•	•	•
BAC1	BACNet/IP	•	•	•	•	•	•	•	•	•
BAC2	BACNet MS/TP	•	•	•	•	•	•	•	•	•
WEB	Management via web	•	•	•	•	•	•	•	•	•
LON	LonWorks Interface	•	•	•	•	•	•	•	•	•
AV1	Anti-vibration mounts	•	•	•	•	•	•	•	•	•
AV2	High-performance anti-vibration mounts	•	•	•	•	•	•	•	•	•
EP1.x	Single pump with low prevalence - 60 to 100 kPa	NA	•	•	•	•	•	•	•	•
EP2.x	Double pump with low prevalence - 60 to 100 kPa	NA	NA	NA	NA	NA	•	•	•	•
EP3.x	Single pump with average prevalence - 130 to 170 kPa	•	•	•	•	•	•	•	•	•
EP4.x	Double pump with average prevalence - 130 to 170 kPa	NA	NA	NA	NA	NA	•	•	•	•
EP5.x	Single pump with high prevalence over 170 kPa; on request. (electrical data declared separately from the unit's main data)	•	•	•	•	•	•	•	•	•
EP6.x	Double pump with high prevalence over 170 kPa; on request. (electrical data declared separately from the unit's main data)	NA	NA	NA	NA	NA	•	•	•	•
RLD	Refrigerant leak detector	•	•	•	•	•	•	•	•	•
GP	Metal grills for coil protection	NA	•	•	•	•	•	•	•	•

Accessory code	Accessory description	Compatibility of V-HP models (FS multi-scroll compressors) / accessories									
		0100FS	0110FS	0125FS	0135FS	0150FS	0170FS	0190FS	0230FS	0250FS	0280FS
HR	Partial heat recovery (desuperheater)	•	•	•	•	•	•	•	•	•	•
LN	Compressor compartments with panels	•	•	•	•	•	•	•	•	•	•
XLN	Compressor compartments with panels and sound insulation	•	•	•	•	•	•	•	•	•	•
V	Variable speed pump (inverter)	•	•	•	•	•	•	•	•	•	•
T	Inertial storage tank (pressurised)	•	•	•	•	•	•	•	•	•	•
	Illustrative volume (litres)	160	160	350	350	350	350	350	350	350	350
FL	Flow switch	•	•	•	•	•	•	•	•	•	•
MR	Refrigerant pressure gauges	•	•	•	•	•	•	•	•	•	•
MH	Water pressure gauges	•	•	•	•	•	•	•	•	•	•
RIF	Current re-phaser	•	•	•	•	•	•	•	•	•	•
LSC	Soft start	•	•	•	•	•	•	•	•	•	•
TD7	Touch screen 7"	•	•	•	•	•	•	•	•	•	•
TD10	Touch screen 10"	•	•	•	•	•	•	•	•	•	•
RS485	Modbus RTU	•	•	•	•	•	•	•	•	•	•
RS485-IP	Modbus TCP/IP	•	•	•	•	•	•	•	•	•	•
BAC	Bacnet Interface	•	•	•	•	•	•	•	•	•	•
BAC1	BACNet/IP	•	•	•	•	•	•	•	•	•	•
BAC2	BACNet MS/TP	•	•	•	•	•	•	•	•	•	•
WEB	Management via web	•	•	•	•	•	•	•	•	•	•
LON	LonWorks Interface	•	•	•	•	•	•	•	•	•	•
AV1	Anti-vibration mounts	•	•	•	•	•	•	•	•	•	•
AV2	High-performance anti-vibration mounts	•	•	•	•	•	•	•	•	•	•
EP1.x	Single pump with low prevalence - 60 to 100 kPa	•	•	•	•	•	•	•	•	•	•
EP2.x	Double pump with low prevalence - 60 to 100 kPa	•	•	•	•	•	•	•	•	•	•
EP3.x	Single pump with average prevalence - 130 to 170 kPa	•	•	•	•	•	•	•	•	•	•
EP4.x	Double pump with average prevalence - 130 to 170 kPa	•	•	•	•	•	•	•	•	•	•
EP5.x	Single pump with high prevalence over 170 kPa; on request. (electrical data declared separately from the unit's main data)	•	•	•	•	•	•	•	•	•	•
EP6.x	Double pump with high prevalence over 170 kPa; on request. (electrical data declared separately from the unit's main data)	•	•	•	•	•	•	•	•	•	•
RLD	Refrigerant leak detector	•	•	•	•	•	•	•	•	•	•
GP	Metal grills for coil protection	•	•	•	•	•	•	•	•	•	•

NA - Not available / not expected
• = available option

The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

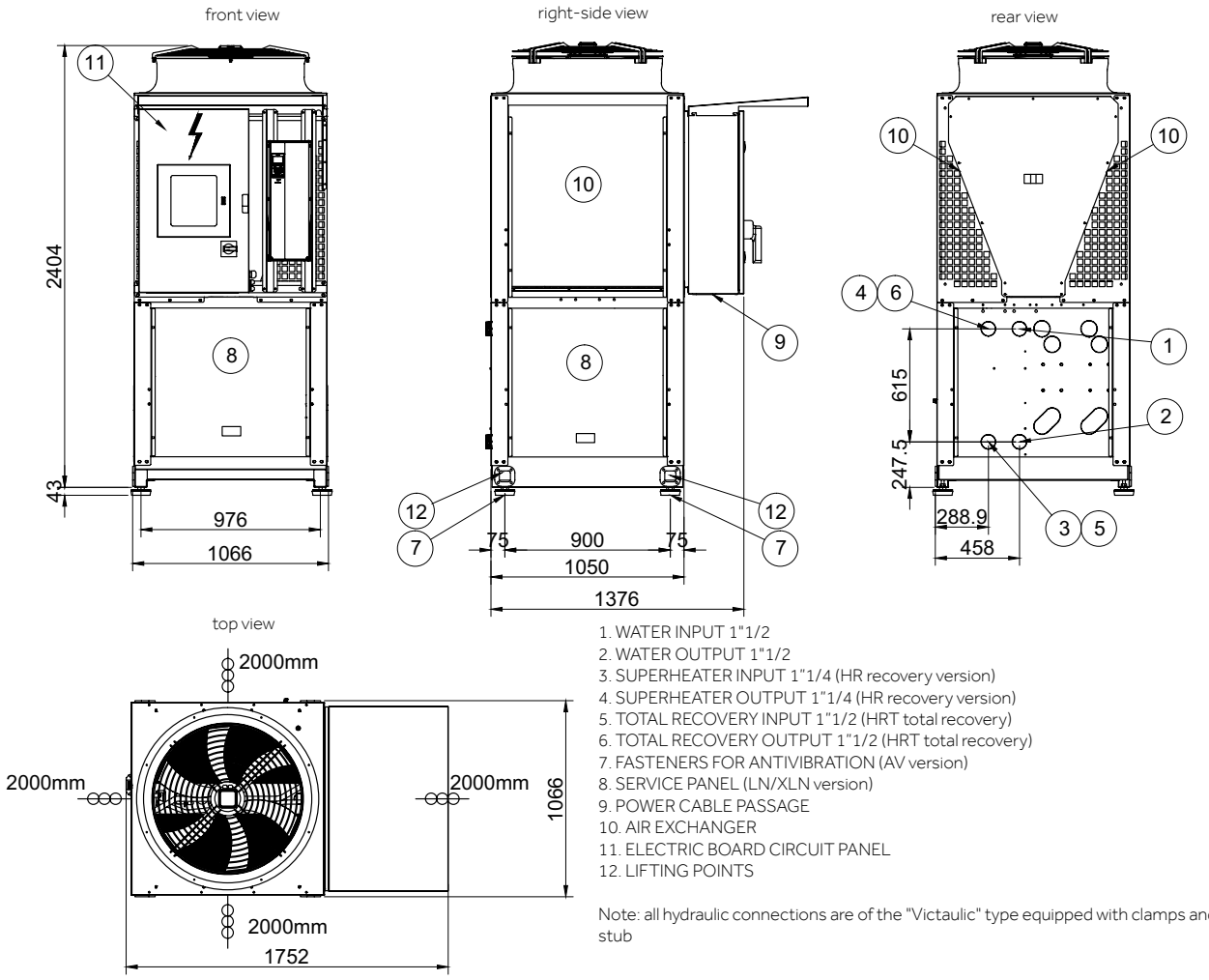
V-HP 0020IT 20 kW Inverter



1. WATER INPUT 1"1/4
2. WATER OUTPUT 1"1/4
3. SUPERHEATER INPUT 3/4" (HR recovery version)
4. SUPERHEATER OUTPUT 3/4" (HR recovery version)
5. FASTENERS FOR ANTIVIBRATION (AV version)
6. SERVICE PANEL
7. POWER CABLE PASSAGE
8. AIR EXCHANGER
9. ELECTRIC BOARD CIRCUIT PANEL
10. LIFTING POINTS

Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0030IT - 0037IT - 0042IT - 0050IT from 30 to 50 kW Inverter

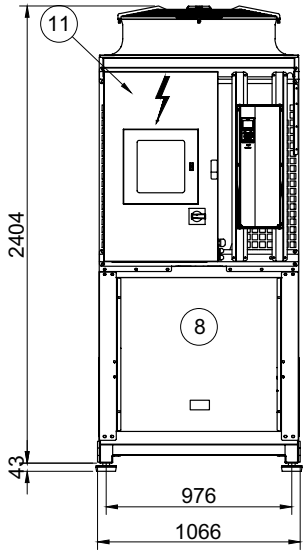


1. WATER INPUT 1"1/2
2. WATER OUTPUT 1"1/2
3. SUPERHEATER INPUT 1"1/4 (HR recovery version)
4. SUPERHEATER OUTPUT 1"1/4 (HR recovery version)
5. TOTAL RECOVERY INPUT 1"1/2 (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 1"1/2 (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

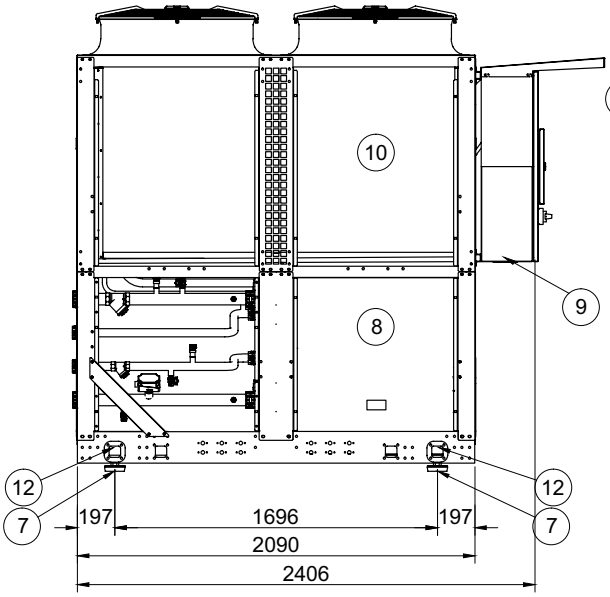
Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0060IT - 0066IT - 0077IT - 0090IT from 50 to 90 kW Inverter

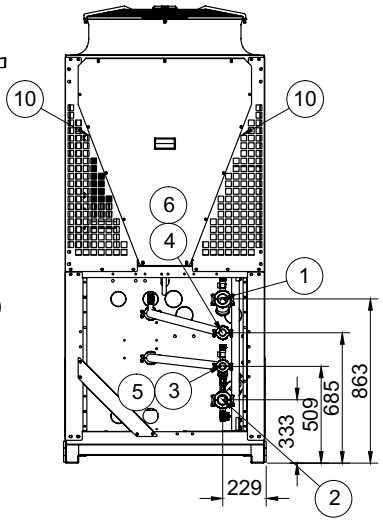
front view



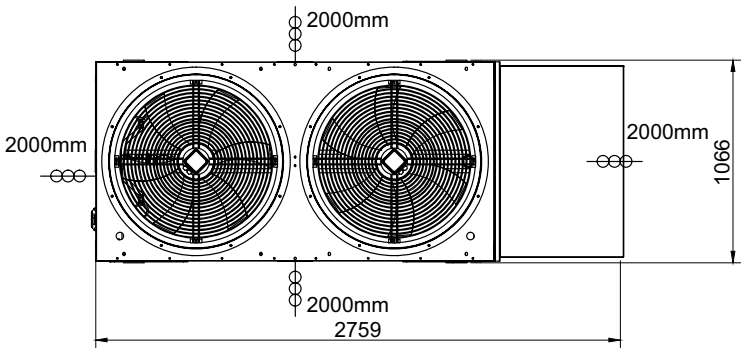
right-side view



front view



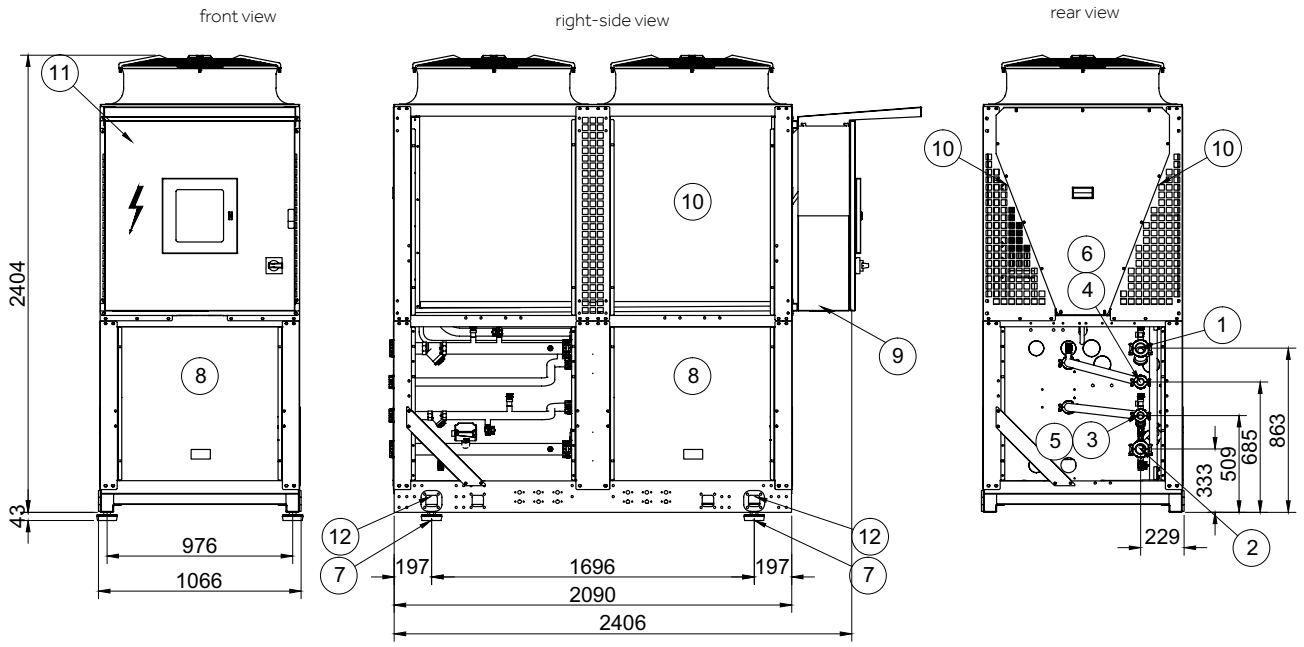
top view

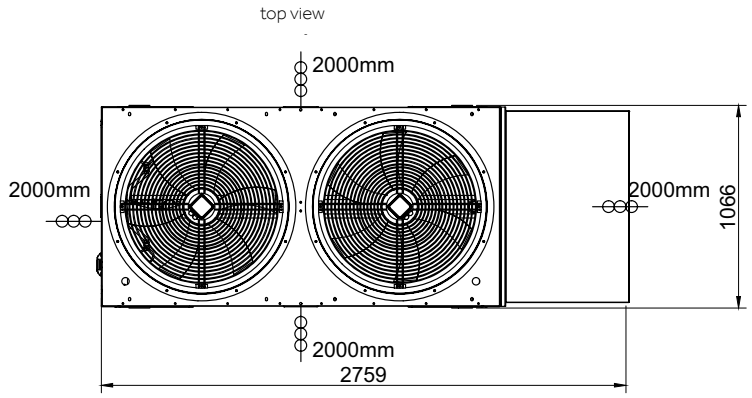


1. WATER INPUT 2"
2. WATER OUTPUT 2"
3. SUPERHEATER INPUT 1"1/4 (HR recovery version)
4. SUPERHEATER OUTPUT 1"1/4 (HR recovery version)
5. TOTAL RECOVERY INPUT 2" (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 2" (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0100FS - 0110FS from 100 to 110 kW multi-scroll

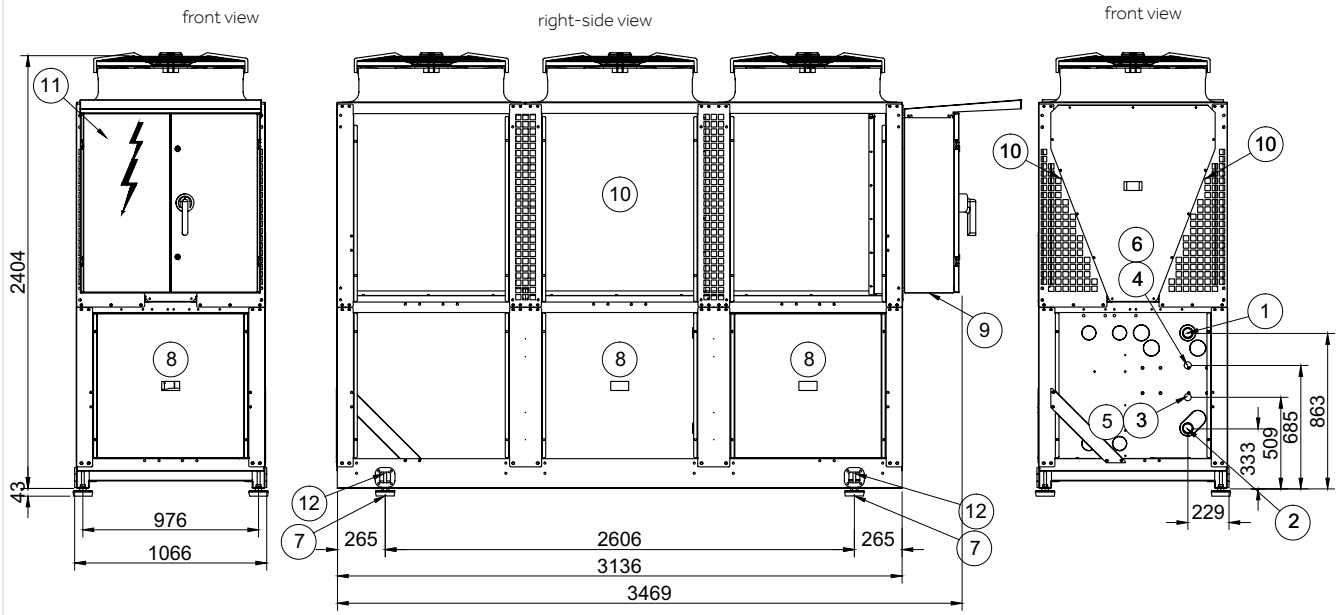


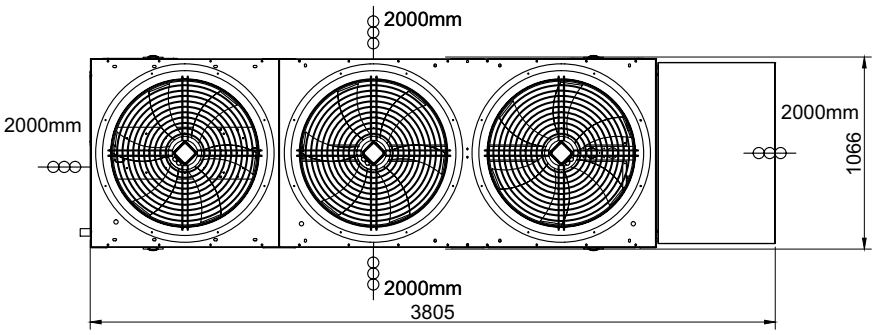


1. WATER INPUT 2"1/2
2. WATER OUTPUT 2"1/2
3. SUPERHEATER INPUT 1"1/2 (HR recovery version)
4. SUPERHEATER OUTPUT 1"1/2 (HR recovery version)
5. TOTAL RECOVERY INPUT 2"1/2 (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 2"1/2 (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0125FS - 0135FS - 0150FS from 125 to 150 kW multi-scroll



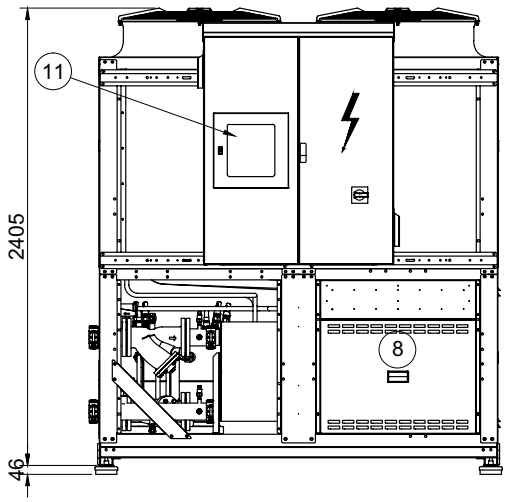


1. WATER INPUT 3"
2. WATER OUTPUT 3"
3. SUPERHEATER INPUT 2" (HR recovery version)
4. SUPERHEATER OUTPUT 2" (HR recovery version)
5. TOTAL RECOVERY INPUT 3" (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 3" (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

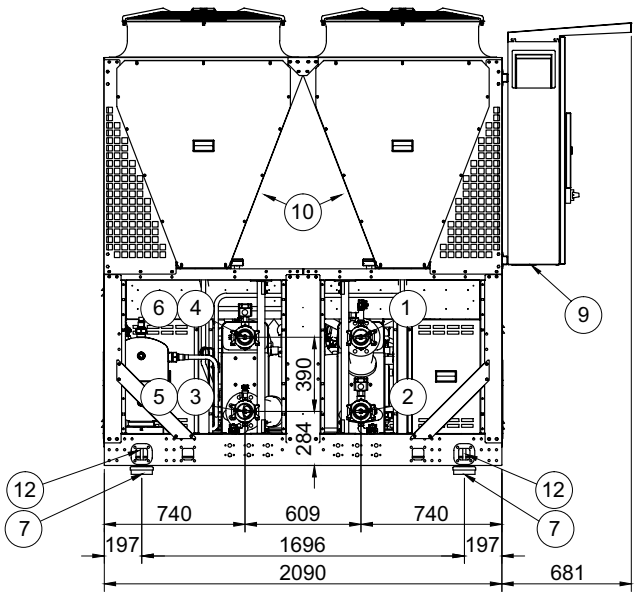
Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0170FS - 0190FS from 170 to 190 kW multi-scroll

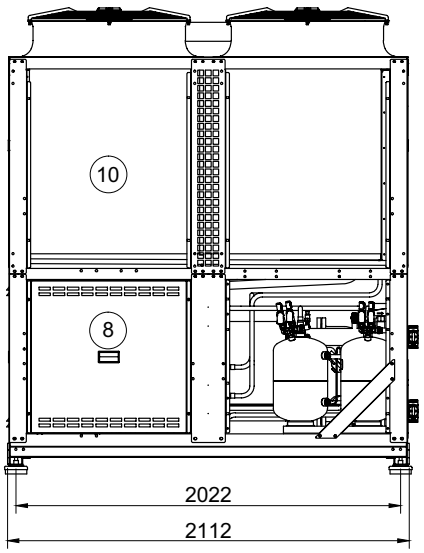
front view



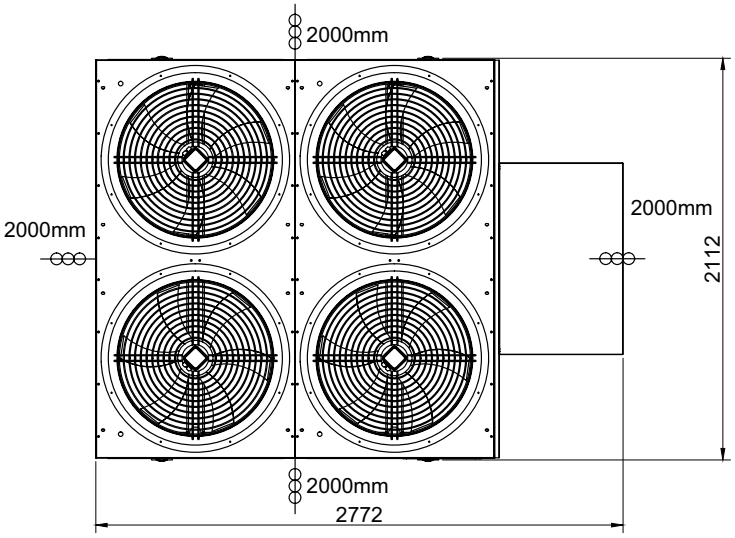
right-side view



rear view



top view

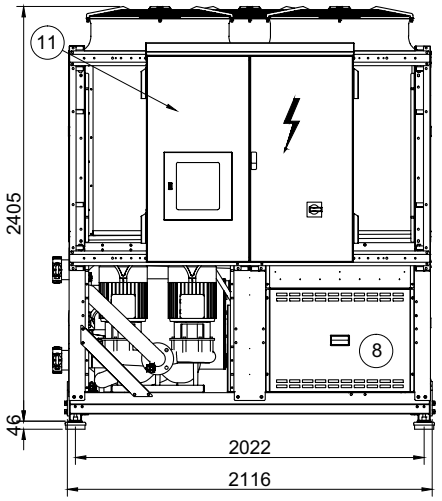


1. WATER INPUT 3"
2. WATER OUTPUT 3"
3. SUPERHEATER INPUT 2" (HR recovery version)
4. SUPERHEATER OUTPUT 2" (HR recovery version)
5. TOTAL RECOVERY INPUT 3" (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 3" (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

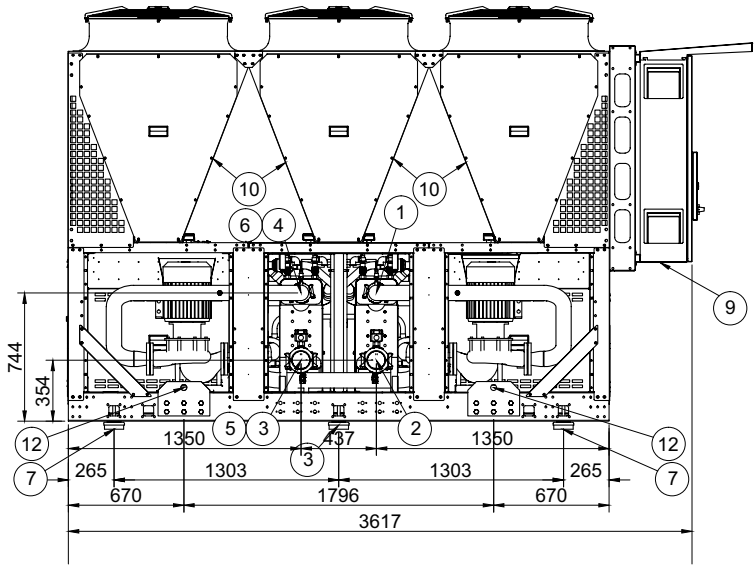
Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

V-HP 0230FS - 0250FS - 0280FS from 225 to 280 kW multi-scroll

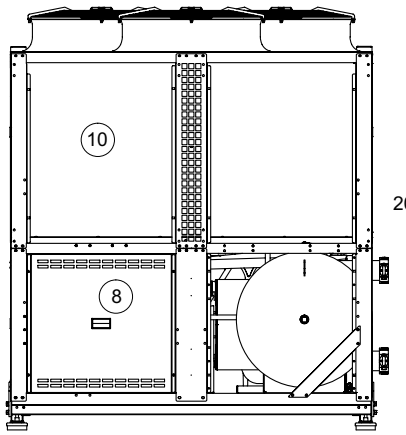
front view



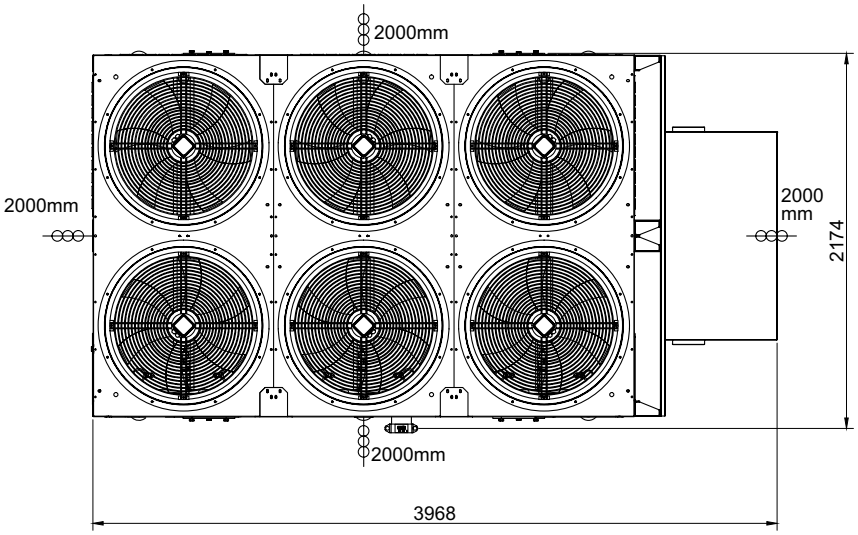
right-side view



rear view



top view



1. WATER INPUT 3"
2. WATER OUTPUT 3"
3. SUPERHEATER INPUT 2" (HR recovery version)
4. SUPERHEATER OUTPUT 2" (HR recovery version)
5. TOTAL RECOVERY INPUT 3" (HRT total recovery)
6. TOTAL RECOVERY OUTPUT 3" (HRT total recovery)
7. FASTENERS FOR ANTIVIBRATION (AV version)
8. SERVICE PANEL (LN/XLN version)
9. POWER CABLE PASSAGE
10. AIR EXCHANGER
11. ELECTRIC BOARD CIRCUIT PANEL
12. LIFTING POINTS

Note: all hydraulic connections are of the "Victaulic" type equipped with clamps and rigid stub

Series	Short description	Capacity Cooling (kW) Heating (kW) 0 125 250 375 500 625 750 875 1000	Exchanger type		compressor typology - available refrigerant							kW Chillers		kW Thermal	
			Brazed plate exchanger	Exchanger pipe bundle	Scroll - R410A	Pistons - R134*	Screw - R134*	Pistons - R290*	Pistons - R1234ze*	Screw - R1234ze*	Scroll - R452*	from	To	from	to
V-HP (Air/Water)	Chiller only cold		X	X	x***	X	X	X	X	X	X	10	980		
	Reversible heat pumps		X	X	x***	X	X	X	X	X	X	10	840	10	900
	Reversible heat pumps for low temperatures		X		X							30	180	30	180
	Free cooling		X		X	X	X	X	X	X	X	30	900		
	Multi-purpose for 4-pipe systems		X		X	X	X		X	X		30	840	35	950
	Multi-purpose for 2-pipe systems technical water production		X		X	X	X		X	X		30	840	35	950
V-SA (Air/Water)	Condensing units WITHOUT evaporator - only cold				X	X	X				X	10	450		
	Condensing units WITHOUT evaporator - heat pump				X	X	X				X	10	450	10	450
V-HR (Air/Water)	Chiller only cold, Centrifugal fan		X		X						X	65	365		
	Heat pumps, Centrifugal fan		X		X							65	365	65	400
	Multi-purpose for 4-pipe systems, Centrifugal fan		X		X							65	365	65	400
V-HH (Water/Water)	Chiller		X		X						X	12	495		
	Reversible heat pumps Water circuit reversal		X		X						X	12	495	13	495
	Reversible heat pumps Gas circuit reversal		X		X						X	12	495	12	540
	Multi-purpose for 4-pipe systems		X		X							12	495	12	540
	Multi-purpose for 2-pipe systems		X		X							12	495	12	540
	Non-reversible heat pumps for high temperature		X		ND	X	X							15	150
V-SH (Water/Water)	Condensing units WITHOUT evaporator - only cold		X		X							12	495		
V-SE (Water/Water)	Evaporating unit only cold		X		X							10	450		
	Evaporating unit to heat pump		X		X							10	450	10	450

Notes:
Other versions, even if not mentioned or not available, can be evaluated on specific request in accordance with the operating limits of the project, the components and the type of refrigerant gas.
Not all refrigerant gases can be used on the total available power range.
* Pre-design and sizing on required specification is done without commitment.
** The selection of a screw or piston compressors is dependent on the specific requirements of the user, and according to the operational limits required and compatible with the chosen refrigerant gas.
Depending on the type of request and in compliance with the energy indices imposed by legislation, the manufacturer assesses the applicability of the inverter technology in accordance with all the other aspects related to the specific project.
*** With reference to current energy standards, single-compressor / single-circuit sizes are equipped with inverter technology.

CHILLER

Hydronic Terminals

Floor - Slim Design Ceiling

Floor-Ceiling

4-Way Cassette

Ducted Medium PA

Ducted High PA

Ducted Super Silent

Ducted Smart Single Block

Hi-Wall

The lines represented in this section indicate the types of hydronic terminals available.

For any products with special configurations, contact headquarters.

INTRODUCTION

The new H-SL terminal has been designed and built to fit discreetly and elegantly in residential and commercial applications, where products with clean, harmonious and subtle shapes, guaranteeing comfort and silence in any scenario.

This new line of terminals is equipped with advanced electronics, brushless DC motors to minimise noise and energy consumption.

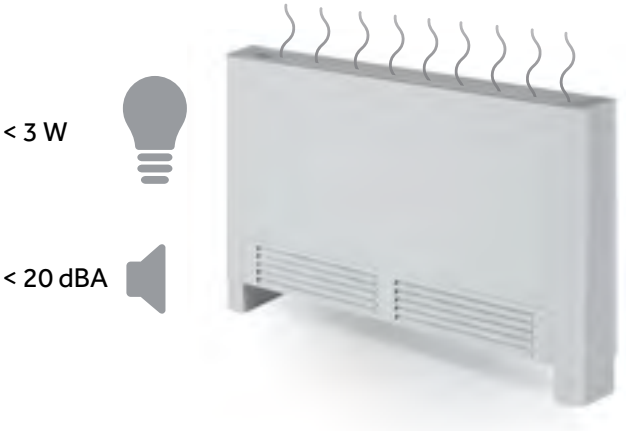
The high efficiency water / air exchanger is designed to work with low temperature fluid which is ideal for heat pumps or condensing boilers.

The depth is only 119mm; the low thickness makes it perfectly integrable in blind spaces and in renovations.

Thanks to the special configuration of the exchanger, in combination with the electronics, the valve and the DC motor, it is possible in some situations to activate and appreciate the heating in the form of radiation.

More precisely, when approaching the desired temperature, the fan slows down until it almost stops, thus making the noise subtle with only 19db, while the electrical consumption drops below 3 Watts.

In this mode there will be a heat production comparable to a static and not dynamic element.



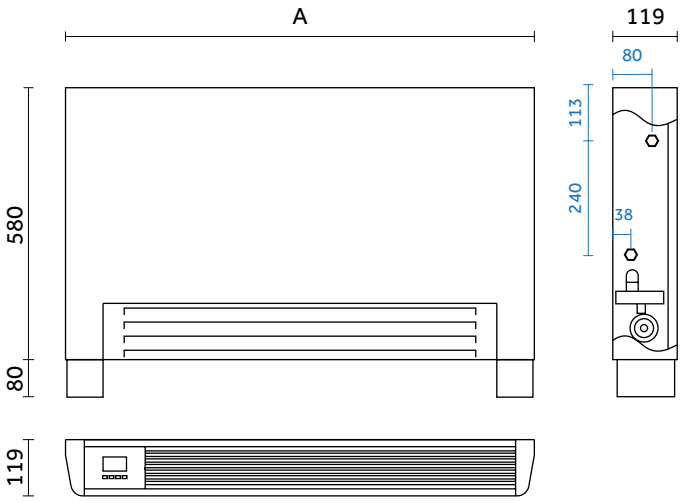
ELECTRONIC CONTROL

Simple and intuitive digital user interface, installable on the machine or on the wall, allows you to manage the following functions:

- Manual or automatic selection of the operating mode
- Manual or automatic selection of the ventilation speed
- Water temperature probe
- Silent mode (night)
- Semi static heating function.
- Possibility of integration with MODBUS home automation systems (with additional module)
- Master/slave functionality

VB
VERTICAL VERSION WITH MOBILE

HB
HORIZONTAL VERSION WITH MOBILE



Standard SX (left) couplings. On demand DX (right) couplings.
For more information, contact headquarters

VERTICAL VB VERSION WITH MOBILE				
(MOD.	A (mm)	B (mm) *	C (mm)	Weight (kg)
15	600	580	119	17
35	800	580	119	20
45	1000	580	119	23
55	1200	580	119	26

HORIZONTAL HB VERSION WITH MOBILE				
(MOD.	A (mm)	B (mm)	C (mm) *	Weight (kg)
15	600	119	580	17
35	800	119	580	20
45	1000	119	580	23
55	1200	119	580	26

* Add 80 mm for caps

A - length mm - B - height mm - C - depth mm

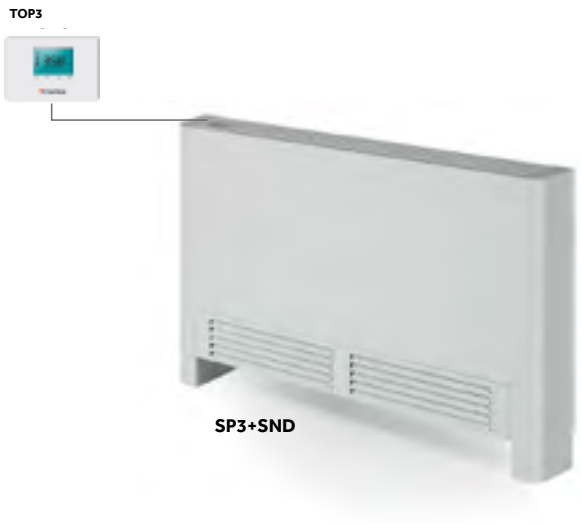
VD VERTICAL VERSION WITHOUT MOBILE				
(MOD.	A (mm)	B (mm)	C (mm)	Weight (kg)
15	480	555	120	9
35	680	555	120	12
45	880	555	120	15
55	1080	555	120	18

HORIZONTAL HD VERSION WITHOUT MOBILE				
(MOD.	A (mm)	B (mm)	C (mm)	Weight (kg)
15	520	126	555	9
35	720	126	555	12
45	920	126	555	15
55	1120	126	555	18

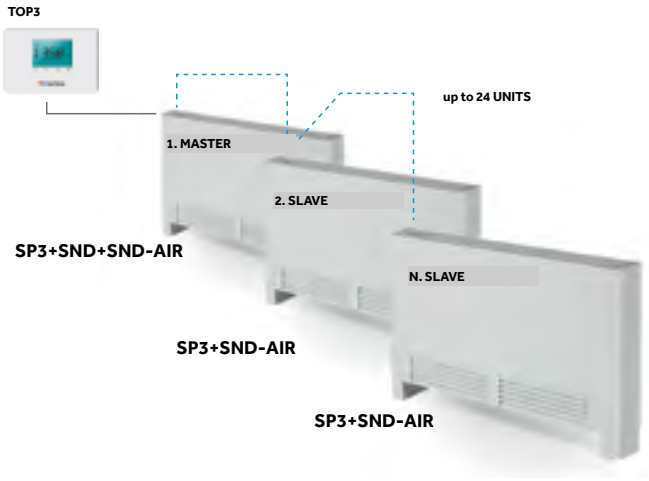
A - length mm - B - height mm - C - depth mm

POSSIBLE CONFIGURATIONS

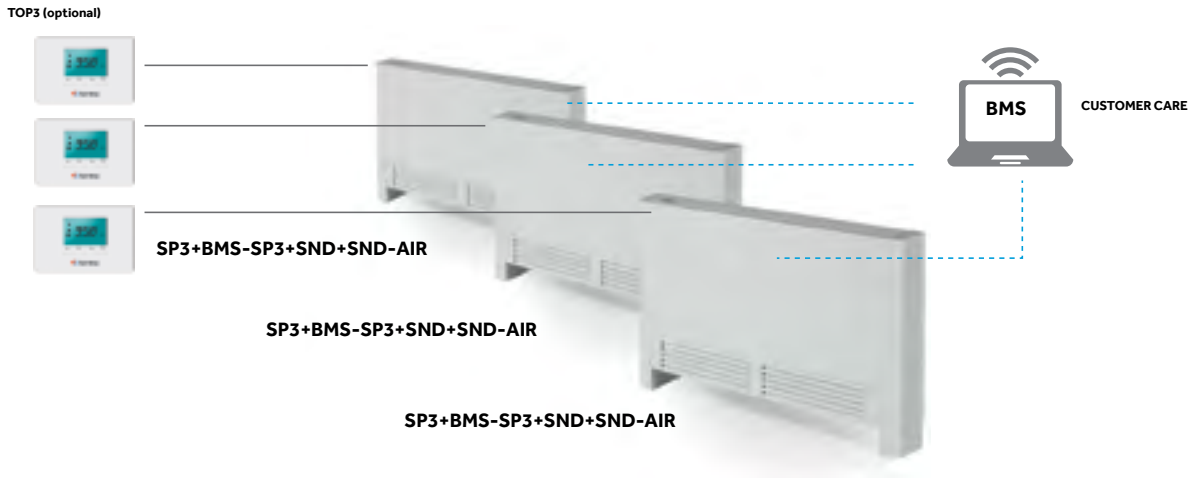
Electronic control that can be installed on the wall or on board the machine. Management with **STAND ALONE**.



Management of multiple MASTER / SLAVE units with single electronic wall controller.



Management with **Modbus** supervision with optional BMS-SP3 module.
In this case, the unit can work with/or without a keypad.



LEGEND: SND: water probe SND-AIR: air probe

H-SL				15	35	45	55
	Airflow	MAX	m3/h	180	340	500	600
		MED	m3/h	130	235	340	415
		MIN	m3/h	60	120	175	215
	Total cooling power (1)	MAX	kW	0.83	1.61	2.56	3.28
		MED	kW	0.66	1.24	1.93	2.48
		MIN	kW	0.37	0.74	1.14	1.46
	Sensitive cooling power	MAX	kW	0.68	1.32	2.02	2.53
		MED	kW	0.53	0.98	1.49	1.88
		MIN	kW	0.28	0.56	0.85	1.07
	Exchanger water flow	MAX	l/h	142	277	440	564
		MED	l/h	114	214	332	427
		MIN	l/h	63	127	196	250
	Primary exchanger pressure drop	MAX	Kpa	9	6	18	33
		MED	Kpa	6	4	11	20
		MIN	Kpa	2	2	4	8
	Exchanger thermal power (2)	MAX	kW	0.97	1.88	2.83	3.51
		MED	kW	0.75	1.40	2.07	2.59
		MIN	kW	0.40	0.80	1.18	1.47
	Exchanger water flow	MAX	l/h	169	325	490	607
		MED	l/h	131	242	359	449
		MIN	l/h	69	137	204	254
	Exchanger pressure drop	MAX	Kpa	10	7	19	33
		MED	Kpa	7	5	11	19
		MIN	Kpa	2	2	4	7
	Sound power level	MAX	dB(A)	53	53	54	54
		MED	dB(A)	45	46	46	46
		MIN	dB(A)	37	38	38	38
	Sound pressure level	MAX	dB(A)	44	44	45	45
		MED	dB(A)	36	37	37	37
		MIN	dB(A)	28	29	29	29
	Absorbed power	MAX	W	11	19	20	24
		MED	W	6	11	12	15
		MIN	W	5	6	7	9
	Maximum motor electric absorption		A	0.1	0.2	0.2	0.2

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) Hot: T. Ambient: 20° C - T. water (in/out): 45/40 °C

H-ZE_VA
Vertical lower view of intake

H-ZE_VB
Vertical front view of intake with "CZF" kit

H-ZE_HA
Horizontal lower view of intake

H-ZE_HB
Horizontal front view of intake with "CZF" kit

H-ZE_VC
Vertical built-in

H-ZE_HC
Horizontal built-in

INTRODUCTION

The H-ZE series fan coil unit in the VA-VB-HA-HB-VC-HC versions, comes with adjustable grids and the option of having lower or frontal intake.
Particular attention was paid to creating an interlocking side body panel which makes installation easier.

The pleasant design, the silence, the versatility, the quality components and the wide range of accessories make this fan coil unit an excellent product for heating and conditioning any residential and commercial environment.
The model is also available with a DC motor for greater energy savings and noise reduction.
The fan coils are supplied with connections on the right side unless otherwise specified, with the possibility of reversibility during installation; a 4-pipe version is also available.

SATH2-BI
(to be installed on the machine)

SATH3

SATH4

SP3+TOP3

SATH5

H-ZE_VA_VB_HA_HB_VC_HC			316	628	840	1250	1575	1885
ROWS			**3**	**3**	**3**	**3**	**4**	**4**
2-PIPE PLANT								
Airflow	MAX	m³/h	332	522	692	1060	1359	1744
	MED	m³/h	289	450	595	963	1204	1557
	MIN	m³/h	196	304	421	611	877	1102
Total cooling power (1)	MAX	kW	1.70	2.72	3.87	5.23	7.65	10.00
	MED	kW	1.50	2.41	3.45	4.88	6.98	9.17
	MIN	kW	1.07	1.75	2.65	3.52	5.43	7.05
Sensitive cooling power	MAX	kW	1.22	1.95	2.68	3.60	5.39	6.88
	MED	kW	1.12	1.75	2.40	3.36	4.94	6.37
	MIN	kW	0.83	1.31	1.86	2.45	3.90	4.93
Exchanger water flow	MAX	l/h	291	467	665	898	1313	1715
	MED	l/h	257	413	592	838	1197	1574
	MIN	l/h	184	299	454	604	932	1209
Primary exchanger pressure drop	MAX	Kpa	6.7	7.0	16.7	28.9	12.8	24.0
	MED	Kpa	5.3	5.6	13.5	25.4	10.8	20.5
	MIN	Kpa	2.9	3,2	8.3	14.0	6.9	12.7
Exchanger thermal power (2)	MAX	kW	2.27	3.62	4.94	6.77	9.92	12.70
	MED	kW	2.05	3.20	4.40	6.34	9.02	11.64
	MIN	kW	1.50	2.37	3.34	4.50	7.00	8.84
Primary exchanger water flow	MAX	l/h	291	467	665	898	1313	1715
	MED	l/h	257	413	592	838	1197	1574
	MIN	l/h	184	299	454	604	932	1209
Primary exchanger pressure drop	MAX	Kpa	5.8	6.0	14.1	24.5	10.8	20.1
	MED	Kpa	4.6	4.8	11.4	21.6	9.2	17.2
	MIN	Kpa	2.5	2.7	7.0	11.8	5.8	10.6
Additional exchanger thermal power	MAX	kW	1.90	2.98	4.13	5.37	6.97	8.83
	MED	kW	1.80	2.74	3.78	5.06	6.48	8.28
	MIN	kW	1.37	2.13	3.06	3.81	5.35	6.72
Additional exchanger water flow	MAX	l/h	167	262	363	471	612	775
	MED	l/h	158	241	332	445	570	728
	MIN	l/h	121	187	269	334	470	590
Additional exchanger pressure drop	MAX	Kpa	5.2	2.4	5.3	8.7	16.2	28.2
	MED	Kpa	4.7	2.1	4.5	7.8	14.2	25.1
	MIN	Kpa	2.8	1.3	3.1	4.6	9.9	17.1
Sound power	MAX	dB(A)	46	46	52	62	58	65
	MED	dB(A)	43	43	48	59	55	62
	MIN	dB(A)	33	34	37	51	48	55
Sound pressure level (3)	MAX	dB(A)	37	37	43	53	49	56
	MED	dB(A)	34	34	39	50	46	53
	MIN	dB(A)	24	25	28	42	39	46
Absorbed power	MAX	W	33	43	87	140	147	184
	MED	W	27	3	72	118	135	163
	MIN	W	16	21	42	69	107	124
Maximum motor electric absorption		A	0.15	0.19	0.38	0.61	0.68	0.82
Water content		L	0.256	0.397	0.540	0.540	0.683	0.791
Electric heater		W	1000	1250	2000	2000	3000	3000
Plumbing connections			1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

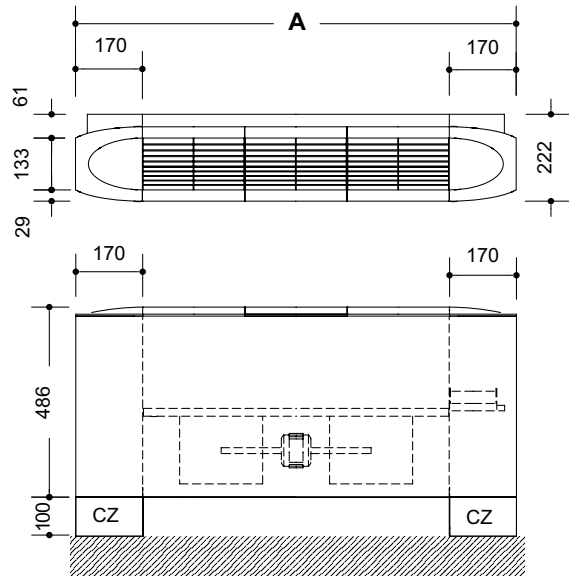
NOTE: Other sizes with optional coil (308 to 2; 320/634/847/1260 to 4 rows) available on the selection program.

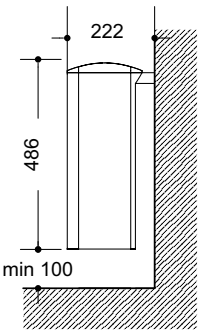
H-ZE_VA_VB_HA_HB_VC_HC			316	628	840	1250	1575	1885
ROWS			**3**	**3**	**3**	**3**	**4**	**4**
2-PIPE PLANT								
Airflow	MAX	m³/h	359	535	850	1004	1364	1473
	MED	m³/h	251	346	538	624	599	638
	MIN	m³/h	187	259	304	372	293	306
Total cooling power (1)	MAX	kW	1.78	2.76	4.49	5.04	7.68	8.78
	MED	kW	1.35	1.95	3.19	3.58	3.69	4.49
	MIN	kW	1.04	1.50	2.03	2.41	2.12	2.41
Sensitive cooling power	MAX	kW	1.31	1.99	3.10	3.47	5.41	6.13
	MED	kW	1.01	1.46	2.24	2.47	2.90	3.21
	MIN	kW	0.80	1.16	1.45	1.69	1.53	1.68
Exchanger water flow	MAX	l/h	306	474	771	865	1318	1507
	MED	l/h	231	335	548	614	680	770
	MIN	l/h	178	258	348	413	363	413
Primary exchanger pressure drop	MAX	Kpa	7.3	7.3	21.8	26.9	12.9	18.9
	MED	Kpa	4.4	3.9	11.7	14.4	3.9	5.6
	MIN	Kpa	2.7	2.4	5.2	7.0	1.3	1.9
Exchanger thermal power (2)	MAX	kW	2.41	3.69	5.77	6.53	9.96	11.13
	MED	kW	1.84	2.63	4.07	4.56	5.10	5.58
	MIN	kW	1.44	2.07	2.56	3.03	2.71	2.88
Primary exchanger water flow	MAX	l/h	306	474	771	865	1318	1507
	MED	l/h	231	335	528	614	680	707
	MIN	l/h	178	258	348	413	363	413
Primary exchanger pressure drop	MAX	Kpa	6.4	6.2	18.5	22.9	10.9	15.9
	MED	Kpa	3.8	3.3	9.9	12.2	3,2	4.7
	MIN	Kpa	2.3	2.0	4.3	5.9	1.0	1.5
Additional exchanger thermal power	MAX	kW	2.05	3.05	4.47	5.21	6.90	8.03
	MED	kW	1.63	2.33	3.56	3.88	4.20	4.76
	MIN	kW	1.36	1.95	2.45	2.80	2.63	2.92
Additional exchanger water flow	MAX	l/h	180	268	417	458	606	705
	MED	l/h	143	205	313	341	369	418
	MIN	l/h	119	172	215	246	231	256
Additional exchanger pressure drop	MAX	Kpa	6.0	2.6	6.9	8.2	15.9	23.7
	MED	Kpa	3.9	1.5	4.1	4.8	6.4	9.1
	MIN	Kpa	2.8	1.1	2.0	2.6	2.7	3.7
Sound power	MAX	dB(A)	48	49	55	59	64	64
	MED	dB(A)	39	39	43	48	44	45
	MIN	dB(A)	32	32	31	35	40	36
Sound pressure level (3)	MAX	dB(A)	39	40	46	50	55	55
	MED	dB(A)	30	30	34	39	35	36
	MIN	dB(A)	23	26	22	26	31	27
Absorbed power	MAX	W	14	19	35	58	107	108
	MED	W	7	9	12	19	19	17
	MIN	W	5	7	7	8	5	6
Maximum motor electric absorption		A	0.12	0.15	0.25	0.41	0.93	0.92
FCEER-COOLING CLASS			A	A	A	A	A	A
FCCOP-HEATING CLASS 2T			A	A	A	A	A	A
FCCOP-HEATING CLASS 4T			B	B	A	B	B	B
Water content		L	0.256	0.397	0.540	0.540	0.683	0.791
Electric heater		W	1000	1250	2000	2000	3000	3000
Plumbing connections			1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

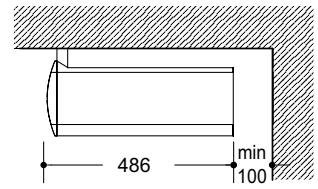
(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

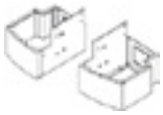
NOTES FOR DC MOTOR:
Speed data under the following conditions:
Size: 3-6 Max= 8.5 Volt - Med= 4.5 Volt - Min= 2.5 Volt. - Size: 8 Max= 9 Volt - Med= 4.5 Volt - Min= 2,5 Volt
Size: 12 Max= 8.5 Volt - Med= 4.5 Volt - Min= 2 Volt. - Size 15-18: Max= 7.5 Volt - Med= 3 Volt - Min= 1 Volt
For 4-pipe systems see auxiliary coil in note 2.

Installation view with lower intake, VA_HA





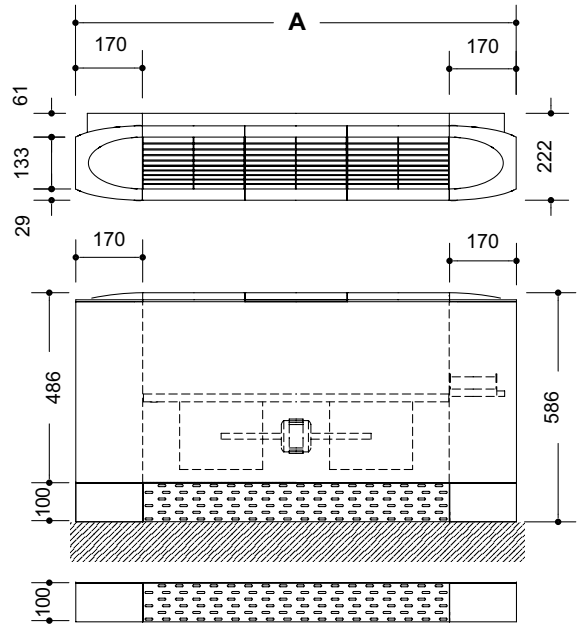




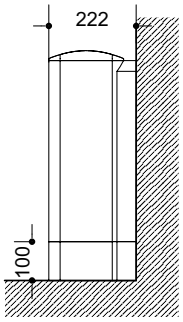
"CZ"
Couple of caps.
Height 100 mm

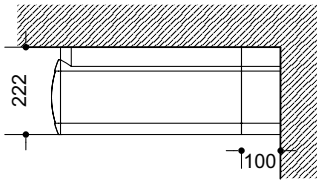
NOTE: Coupling side; standard connections are on the right side.
(Left side connections are available on request. However in any case it is convertible during installation)

Installation view with front intake, VB_HB



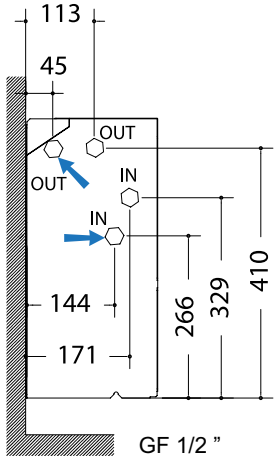
"CZF" Couple of caps with openable intake panel.
Height 100 mm





NOTE: Coupling side; standard connections are on the right side.
(Left side connections are available on request. However in any case it is convertible during installation)

Coil connections



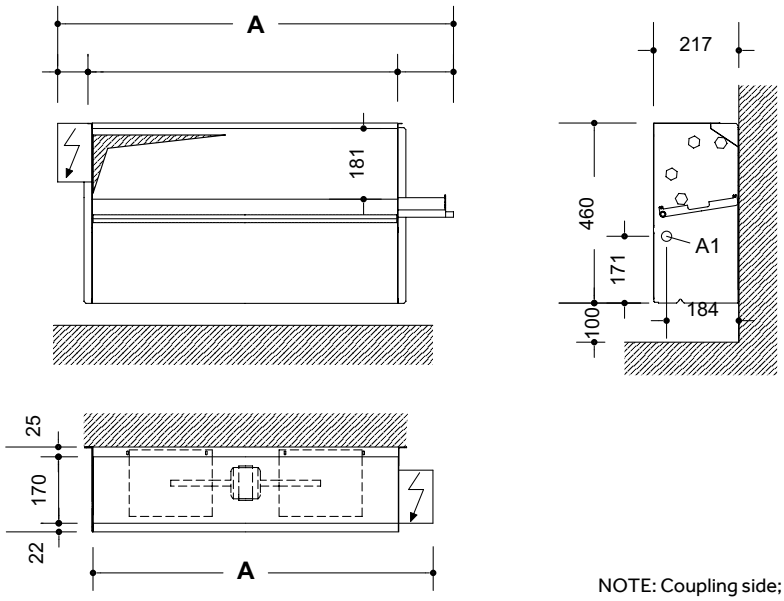
The arrows indicate the IN and OUT of the main coil

A1 Connection Ø20
Condensate drain
Vertical version

A2 Connection Ø16
Condensate drain
Horizontal version

SIZE	A (mm)	Weight (kg)
308	860	17
316	860	17
320	860	18
628	1120	18
634	1120	22
840	1380	22
847	1380	23
1250	1380	29
1260	1380	28
1575	1640	29
1885	1900	35

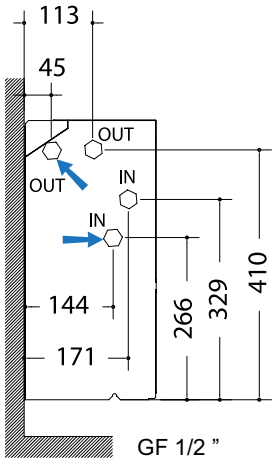
VC built-in vertical installation - HC built-in horizontal installation



Intake side view

NOTE: Coupling side; standard connections are on the right side.
(Left side connections are available on request. However in any case it is convertible during installation)

Coil connections



The arrows indicate the IN and OUT of the main coil

A1 Connection Ø20
Condensate drain
Vertical version

A2 Connection Ø16
Condensate drain
Horizontal version

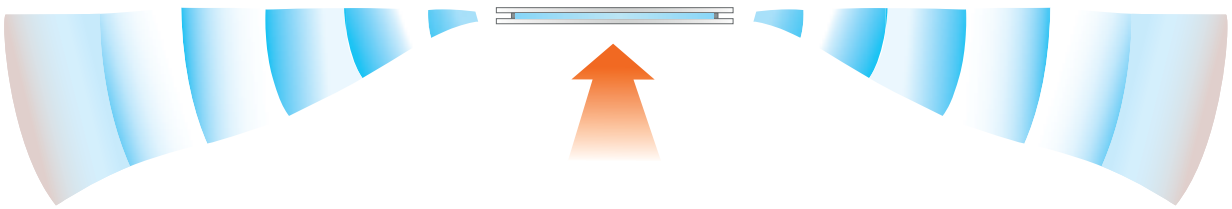
SIZE	A (mm)	Weight (kg)
308	746	15
316	746	15
320	746	16
628	1006	16
634	1006	19
840	1266	19
847	1266	20
1250	1266	24
1260	1266	23
1575	1526	24
1885	1786	29

MPK-C
62x62 cm panel with Coanda effect

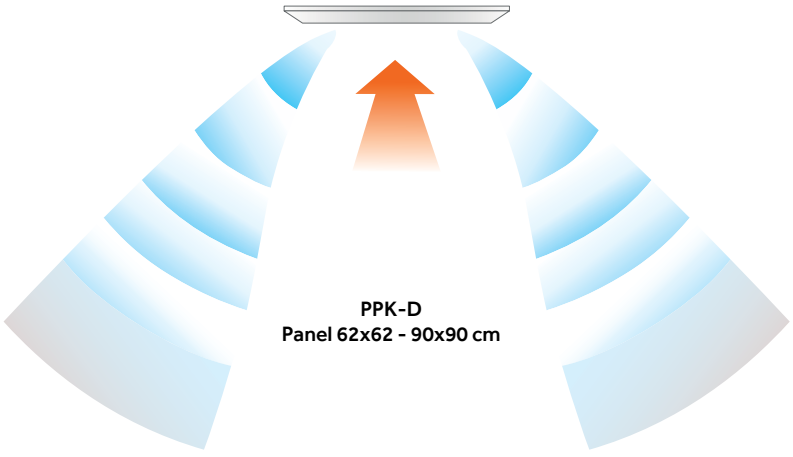
PPK-D
Panel 62x62 - 90x90 cm

INTRODUCTION

The H-FLAT units are available with 2 types of panel. The **MPK-C** series is designed to guarantee high comfort.
The problematic currents of cold air are avoided by the particular shape of the panel, which introduces the air into the environment with a COANDA effect.
The COANDA effect is the tendency of a fluid to follow the contour of a nearby surface: the air in this case follows the false ceiling, then falls back on the walls. Since the speed of the incoming air is very low, it does not create inconvenience to people as it falls at the area perimeter.
In the event that the ceiling height of the room is greater than 3m and consequently there is a need to direct the flow of hot air downwards, it is advisable to use the PPK-D series panel equipped with 4 classic deflectors with adjustable angles.
In this way it is possible to manually set the orientation of the air flow independently for each of the four deliveries.
The MPK-C and PPK-D panels have actual dimensions of 62x62 so they do not overlap with the classic frames of the ceilings for 60x60 panels.
For sizes 27-28, the unit is an 80x80 with a 90x90 panel.
All units are equipped with a standard condensate drain pump.
A wide range of accessories is available to meet all plant engineering requirements.
It is recommended that cassette units have valves installed to stop the flow of water when it is not required in order to guarantee greater comfort in the environment and avoid stratification.



62x62 cm MPK-C Panel with Coanda effect



PPK-D
Panel 62x62 - 90x90 cm

60x60 cassette with AC motor		12			22			32			42		
2-PIPE PLANT													
Speed		min	med	max	min	med	max	min	med	max	min	med	max
Air flow	mc/h	280	400	515	280	400	610	320	570	840	440	680	975
COOLING - Air 27 °C d.b., 19 °C w.b. - water input 7 °C , water output 12 °C													
Total capacity	kW	1.7	2.3	2.7	2.1	2.8	3.9	2.3	3.7	5.1	3.0	4.3	5.7
Sensitive capacity	kW	1.2	1.6	2.0	1.5	2.0	2.8	1.7	2.6	3.6	2.2	3.0	4.0
Water flow	l/h	290	391	473	353	476	675	393	640	874	515	738	978
Pressure drop	Kpa	3,2	5.5	7.8	3.3	5.7	10.7	4.0	9.8	17.1	6.5	12.6	20.5
HEATING - Air 20 °C - water input 50 °C													
Total capacity	kW	2.1	2.7	3.3	2.4	3,2	4.6	2.7	4.3	5.9	3.5	5.0	6.6
Water flow	l/h	290	391	473	353	476	675	393	640	874	515	738	978
Pressure drop	Kpa	3.0	5.2	7.4	3.1	5.3	10.1	3.8	9.2	16.4	6.2	12.0	19.2
ELECTRICAL ABSORPTIONS													
Absorbed power	W	46	55	61	46	55	68	46	63	76	55	70	81
Absorbed current	A	0.28			0.31			0.35			0.37		
SOUND LEVEL													
Sound power	dB(A)	32	40	47	32	40	52	35	50	60	43	54	63
Sound pressure	dB(A)	23	31	38	23	31	43	26	41	51	34	45	54

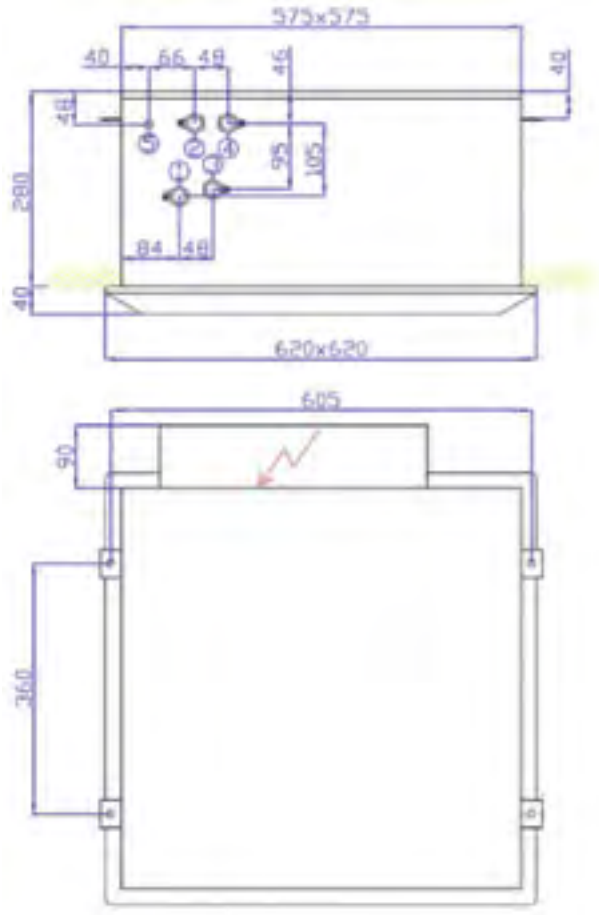
60x60 cassette with DC motor		32-DC					42-DC				
2-PIPE PLANT											
Speed		min	med		max		min	med		max	
Signal		2V	4V	6V	8V	10V	2V	4V	6V	8V	10V
Air flow	mc/h	260	410	560	710	860	260	410	560	710	860
COOLING - Air 27 °C d.b., 19 °C w.b. - water input 7 °C , water output 12 °C											
Total capacity	kW	1.6	2.3	2.9	3.5	4.0	1.9	2.8	3.7	4.5	5.2
Sensitive capacity	kW	1.2	1.6	2.1	2.4	2.8	1.4	2.0	2.6	3.1	3.6
Water flow	l/h	270	395	503	594	682	331	481	630	763	885
Pressure drop	Kpa	3,2	5.6	8.7	11.8	15.3	3.0	5.9	9.4	13.3	17.6
HEATING - Air 20 °C - water input 50 °C											
Total capacity	kW	1.9	2.8	3.5	4.1	4.8	2.2	3.3	4.3	5.2	6.0
Water flow	l/h	270	395	503	594	682	331	481	630	763	885
Pressure drop	Kpa	2.7	5.3	8.3	11.3	14.6	2.7	5.5	9.0	12.7	16.6
ELECTRICAL ABSORPTIONS											
Absorbed power	W	8	12	18	27	42	8	12	18	27	42
Absorbed current	A	0.20					0.20				
SOUND LEVEL											
Sound power	dB(A)	30	41	49	55	60	30	41	49	55	60
Sound pressure	dB(A)	21	32	40	46	51	21	32	40	46	51
FCEER		A					A				
FCCOP		B					A				

HACI **H-FLAT** 4-Way Cassette **90x90** Technical Data

90x90 cassette with AC motor		272			282		
2-PIPE PLANT							
Speed		min	med	max	min	med	max
Air flow	mc/h	540	730	1250	730	1250	1700
COOLING - Air 27 °C d.b., 19 °C w.b. - water input 7 °C , water output 12 °C							
Total capacity	kW	4.3	5.4	8.5	5.4	8.5	10.8
Sensitive capacity	kW	2.9	3.8	5.9	3.8	5.9	7.4
Water flow	l/h	735	935	1455	935	1455	1850
Pressure drop	Kpa	6.0	9.4	20.4	9.4	20.4	31.4
HEATING - Air 20 °C - water input 50 °C							
Total capacity	kW	5.0	6.5	10.3	6.5	10.3	13.2
Water flow	l/h	735	935	1455	935	1455	1850
Pressure drop	Kpa	4.7	7.5	16.8	7.5	16.8	26.1
ELECTRICAL ABSORPTIONS							
Absorbed power	W	35	53	101	53	101	140
Absorbed current	A		0.5			0.7	
SOUND LEVEL							
Sound power	dB(A)	31	37	51	37	51	58
Sound pressure	dB(A)	22	28	42	28	42	49

90x90 cassette with DC motor		282-DC				
2-PIPE PLANT						
Speed		min		med		max
Signal		2V	4V	6V	8V	10V
Air flow	mc/h	750	997	1245	1491	1740
COOLING - Air 27 °C d.b., 19 °C w.b. - water input 7 °C , water output 12 °C						
Total capacity	kW	5.6	7.1	8.5	9.8	11.0
Sensitive capacity	kW	3.9	4.9	5.8	6.7	7.5
Water flow	l/h	960	1218	1456	1674	1882
Pressure drop	Kpa	9.9	15.0	20.5	26.3	32.3
HEATING - Air 20 °C - water input 50 °C						
Total capacity	kW	6.7	8.5	10.3	11.9	13.5
Water flow	l/h	960	1218	1456	1674	1882
Pressure drop	Kpa	7.9	12.2	16.8	21.7	27.0
ELECTRICAL ABSORPTIONS						
Absorbed power	W	12	22	40	68	107
Absorbed current	A			0.80		
SOUND LEVEL						
Sound power	dB(A)	35	45	50	55	59
Sound pressure	dB(A)	26	36	41	46	50
FCEER				A		
FCCOP				A		

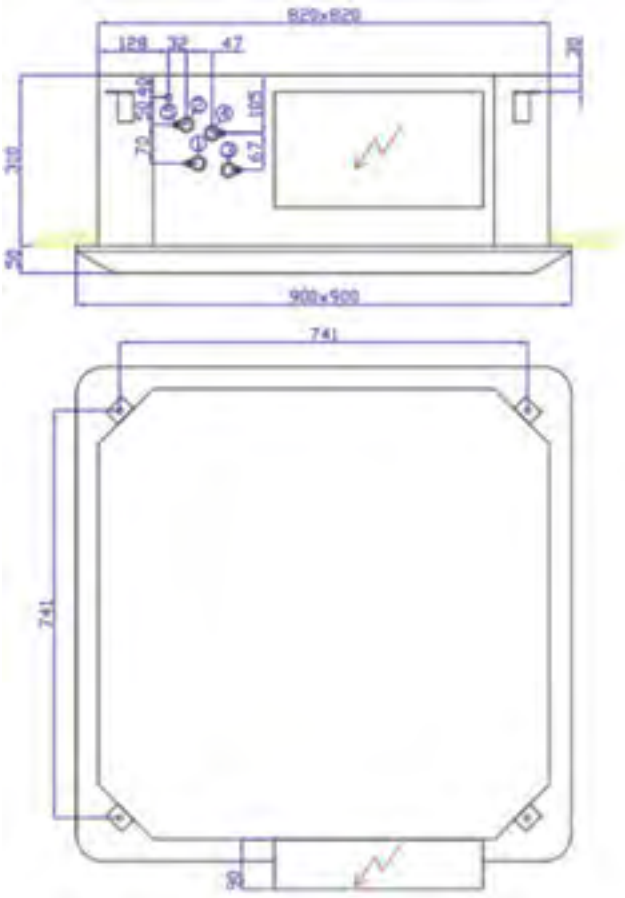
4-way cassette 60x60



1	Main water input	1/2"
2	Main water output	1/2"
3	Auxiliary water input	1/2"
4	Auxiliary water output	1/2"
5	Condensate drain connection	d.12

SIZE		272-282	274-284 (4t)
Weight	Kg	50	50
Internal volume of the primary exchanger	L	4.0	3.6
Auxiliary exchanger internal volume	L	18	1.1

4-way cassette 90x90



1	Auxiliary water input	1/2"
2	Auxiliary water output	1/2"
3	Main water input	3/4"
4	Main water output	3/4"
5	Condensate drain connection	d.12

SIZE		272-282	274-284 (4t)
Weight	Kg	50	50
Internal volume of the primary exchanger	L	4.0	3.6
Auxiliary exchanger internal volume	L	18	1.1

HP 70 and HP 150
Horizontal standard version

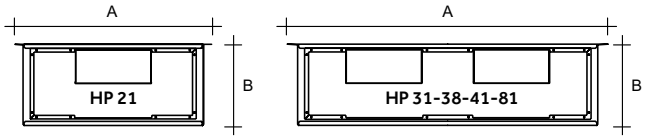
Vertical version
on demand

INTRODUCTION

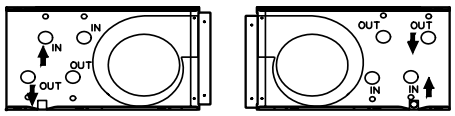
The **H-HP** series, ducted units for heating and air conditioning systems with a prevalence of 70 to 400 PA (AC and DC motors) are ideal for small, medium and large centralised air conditioning systems where the distribution of air in the room takes place through special ducts.
Refrigerating powers range from 4 to 43 kW (2 tubes).
The **HP 70** unit has a height ranging from 300 to 375mm and has been developed with quality components facilitating the installation, accessibility and maintenance operations by the final installer. High-prevalence fans are sized to provide 70 PA pressure at nominal range.

The units are available in the horizontal STANDARD or vertical versions ON REQUEST with AC and DC motors. A wide range of accessories are available alongside the basic units.
The **HP 150** units have a height ranging from 370 to 485 mm. The high prevalence fans are sized to provide up to 400 PA (size 81 with DC motor) pressure at the nominal flow rate.
HP 150 is available in the standard version without filter, with single horizontal panel and AC / DC motors. Other double panel configurations are available on request (double casing for noise containment). A wide range of accessories are available alongside the basic units.

DIMENSIONS OF HP70



COIL CONNECTION



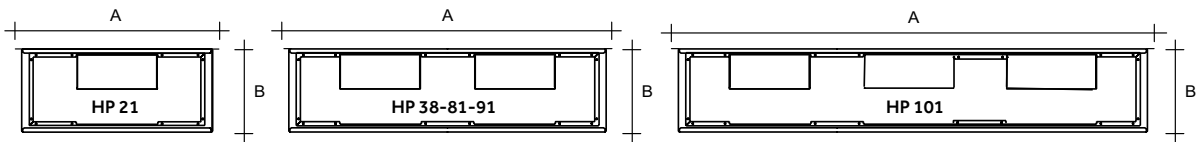
Left side on demand — Standard on right side

The arrows indicate the IN and OUT of the main coil

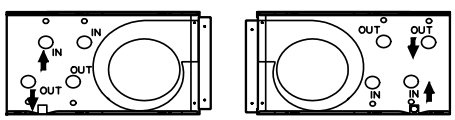
SINGLE PANEL DIMENSIONS						
SIZE	A (mm)	B (mm)	C (mm)	Weight of unit with coil 3R (kg)	Weight of additional coil 1R (kg)	Weight of additional coil 2R (kg)
21	738	300	550	38	2	4
31	1178	300	550	54	3	6
38	1178	300	550	55	3	6
41	1728	375	650	90	4	8
81	1728	375	650	94	4	8

A = length mm B = height mm C = depth mm
For more information, see the technical manual.

DIMENSIONS OF HP150



COIL CONNECTION



Left side on demand — Standard on right side

The arrows indicate the IN and OUT of the main coil

SINGLE PANEL DIMENSIONS							
SIZE	A (mm)	B (mm)	C (mm)	Weight of unit with coil 3R (kg)	Weight of unit with coil 4R (kg)	Weight of unit with coil 6R (kg)	Weight of additional coil 2R (kg)
21	738	370	650	48	50	54	4
38	1178	370	650	65	68	74	6
81	1728	435	750	100	104	112	8
91	1728	485	795	-	135	145	-
101	2028	485	795	-	150	160	-

A = length mm B = height mm C = depth mm
For more information, see the technical manual.

HP 70 DC motors			21	31	38	41	81*
ROWS			**3**	**3**	**3**	**3**	**3**
2-PIPE PLANT							
Useful air prevalence	MAX	Pa	68	56	59	64	67
	MED	Pa	50	50	50	50	50
	MIN	Pa	23	40	38	37	35
Airflow	MAX	m³/h	880	1630	2009	3071	4037
	MED	m³/h	752	1555	1854	2722	3516
	MIN	m³/h	508	1374	1619	2326	2980
Total cooling power (1)	MAX	kW	4.06	7.62	8.76	14.62	17.62
	MED	kW	3.63	7.38	8.31	13.42	16.06
	MIN	kW	2.74	6.78	7.60	12.05	14.27
Sensitive cooling power	MAX	kW	2.87	5.32	6.14	10.21	12.25
	MED	kW	2.59	5.16	5.80	9.40	11.09
	MIN	kW	1.96	4.74	5.29	8.45	9.97
Exchanger water flow	MAX	l/h	697	1307	1503	2509	3024
	MED	l/h	623	1266	1425	2302	2756
	MIN	l/h	470	1163	1303	2067	2449
Primary exchanger pressure drop	MAX	Kpa	16.6	17.8	23.1	16.0	22.5
	MED	Kpa	13.5	16.8	20.9	13.7	19.0
	MIN	Kpa	8	14.4	17.7	11.2	15.3
Exchanger thermal power (2)	MAX	kW	5.41	10.06	11.65	19.28	23.38
	MED	kW	4.83	9.75	10.80	17.65	21.22
	MIN	kW	3.60	8.91	10.02	15.74	18.85
Exchanger water flow	MAX	l/h	697	1307	1503	2509	3024
	MED	l/h	623	1266	1397	2302	2756
	MIN	l/h	470	1163	1303	2067	2449
Exchanger pressure drop	MAX	Kpa	14.4	15.2	19.7	13.5	19.0
	MED	Kpa	11.7	14.3	17.2	11.5	16.0
	MIN	Kpa	6.9	12.3	15.1	9.5	12.9
Sound power, intake + radiation	MAX	dB(A)	65	69	70	70	77
	MED	dB(A)	60	68	67	68	74
	MIN	dB(A)	51	64	65	65	70
Sound power delivered	MAX	dB(A)	64	68	69	69	76
	MED	dB(A)	59	67	66	67	73
	MIN	dB(A)	50	63	64	64	69
Absorbed power	MAX	W	150	225	303	549	914
	MED	W	129	191	258	486	814
	MIN	W	70	168	233	402	620
Maximum motor electric absorption		A	0.8	1.3	1.6	2.5	4.5
Sound pressure level, intake + radiation (3)	MAX	dB(A)	56	60	61	61	68
	MED	dB(A)	51	59	58	59	65
	MIN	dB(A)	42	55	56	56	61
Sound pressure level delivered	MAX	dB(A)	55	59	60	60	67
	MED	dB(A)	50	58	57	58	64
	MIN	dB(A)	41	54	55	55	60
Electric heater		kW	230V-50Hz single-phase				
			2.5	4.5	4.5	6.0	6.0
Plumbing connections			3/4"	3/4"	3/4"	1"	1"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

* Size 81 outperforms the maximum values envisaged by the Eurovent program for ducted FCUs

Note: Other sizes with optional coil (81 a 3+1; 21/31/38/41/81 a 4+1, 3+2, 4+2 rows) are available on the selection program. The data shown refers to Soffio single panel version.

HACI **H-HP 70** Ducted Medium Pressure with **AC** Motor, Technical Data

HP 70 DC motors			21	31	38	41	81*
ADDITIONAL COIL			**3+1**	**3+1**	**3+1**	**3+1**	**3+1**
4-PIPE PLANT							
Useful air prevalence	MAX	Pa	67	55	58	64	67
	MED	Pa	50	50	50	50	50
	MIN	Pa	23	40	38	37	36
Airflow	MAX	m³/h	856	1582	1939	3033	3989
	MED	m³/h	734	1506	1798	2695	3453
	MIN	m³/h	500	1344	1573	2312	2946
Total cooling power (1)	MAX	kW	3.99	7.47	8.59	14.52	17.38
	MED	kW	3.58	7.20	8.14	13.34	15.85
	MIN	kW	2.70	6.68	7.45	11.97	14.23
Sensitive cooling power	MAX	kW	2.80	5.20	5.96	10.11	12.19
	MED	kW	2.54	5.02	5.66	9.32	11.01
	MIN	kW	1.94	4.66	5.19	8.40	9.85
Exchanger water flow	MAX	l/h	684	1282	1474	2491	2982
	MED	l/h	614	1236	1397	2289	2720
	MIN	l/h	463	1146	1278	2054	2441
Primary exchanger pressure drop	MAX	Kpa	16.0	17.2	22.2	15.8	21.9
	MED	Kpa	13.1	16.1	20.2	13.5	18.5
	MIN	Kpa	7.8	14.0	17.1	11.1	15.2
Exchanger thermal power (2)	MAX	kW	4.22	7.80	8.81	15.35	17.99
	MED	kW	3.81	7.62	8.40	14.34	16.58
	MIN	kW	2.99	7.06	7.76	13.05	15.10
Exchanger water flow	MAX	l/h	371	685	774	1348	1580
	MED	l/h	335	669	738	1260	1456
	MIN	l/h	262	620	681	1146	1326
Exchanger pressure drop	MAX	Kpa	4.9	6.8	8.5	8.9	11.9
	MED	Kpa	4.1	6.5	7.8	7.8	10.2
	MIN	Kpa	2.6	5.6	6.7	6.5	8.6
Sound power, intake + radiation	MAX	dB(A)	65	69	70	70	77
	MED	dB(A)	60	68	67	68	74
	MIN	dB(A)	51	64	65	65	70
Sound power delivered	MAX	dB(A)	64	68	69	69	76
	MED	dB(A)	59	67	66	67	73
	MIN	dB(A)	50	63	64	64	69
Absorbed power	MAX	W	150	225	303	549	914
	MED	W	129	191	258	486	814
	MIN	W	70	168	233	402	620
Maximum motor electric absorption		A	0.8	1.3	1.6	2.5	4.5
Sound pressure level, intake + radiation (3)	MAX	dB(A)	56	60	61	61	68
	MED	dB(A)	51	59	58	59	65
	MIN	dB(A)	42	55	56	56	61
Sound pressure level delivered	MAX	dB(A)	55	59	60	60	67
	MED	dB(A)	50	58	57	58	64
	MIN	dB(A)	41	54	55	55	60
Electric heater		kW	230V-50Hz single-phase				
			2.5	4.5	4.5	6.0	6.0
Plumbing connections			3/4"	3/4"	3/4"	1"	1"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

* Size 81 outperforms the maximum values envisaged by the Eurovent program for ducted FCUs

Note: Other sizes with optional coil (81 a 3+1; 21/31/38/41/81 a 4+1, 3+2, 4+2 rows) are available on the selection program. The data shown refers to Soffio single panel version.

HP 70 DC motors			21	38	41	81*
ROWS			**3**	**3**	**3**	**3**
2-PIPE PLANT						
Useful air prevalence	MAX	Pa	85	81	72	74
	MED	Pa	50	50	50	50
	MIN	Pa	17	17	22	19
Airflow	MAX	m³/h	1017	2037	3300	4058
	MED	m³/h	779	1605	2758	3355
	MIN	m³/h	454	926	1770	2011
Total cooling power (1)	MAX	kW	4.49	8.86	15.39	17.62
	MED	kW	3.73	7.57	13.57	15.54
	MIN	kW	2.51	5.08	9.81	10.79
Sensitive cooling power	MAX	kW	3.16	6.13	10.72	12.31
	MED	kW	2.64	5.25	9.49	10.83
	MIN	kW	1.80	3.60	6.94	7.62
Exchanger water flow	MAX	l/h	770	1520	2640	3023
	MED	l/h	640	1298	2329	2666
	MIN	l/h	431	827	1683	1852
Primary exchanger pressure drop	MAX	Kpa	20	24	18	23
	MED	Kpa	14	18	14	18
	MIN	Kpa	7	9	8	10
Exchanger thermal power (2)	MAX	kW	6.02	11.77	20.30	23.46
	MED	kW	4.97	9.97	17.82	20.54
	MIN	kW	3.31	6.63	12.78	14.09
Exchanger water flow	MAX	l/h	770	1520	2640	3023
	MED	l/h	640	1298	2329	2666
	MIN	l/h	431	827	1683	1852
Exchanger pressure drop	MAX	Kpa	18	21	15	19
	MED	Kpa	13	15	12	16
	MIN	Kpa	6	8	7	8
Sound power, intake + radiation	MAX	dB(A)	70	71	75	79
	MED	dB(A)	65	68	72	75
	MIN	dB(A)	53	57	64	65
Sound power delivered	MAX	dB(A)	69	70	74	78
	MED	dB(A)	64	67	71	74
	MIN	dB(A)	52	56	63	64
Absorbed power	MAX	W	165	320	475	770
	MED	W	95	165	295	435
	MIN	W	25	45	95	115
Maximum motor electric absorption		A	1.80	2.30	2.60	4.2
FCEER-COOLING CLASS			C	B	B	C
FCCOP-HEATING CLASS			B	A	A	B
Sound pressure level, intake + radiation (3)	MAX	dB(A)	61	62	66	70
	MED	dB(A)	56	59	63	66
	MIN	dB(A)	44	48	55	56
Sound pressure level delivered	MAX	dB(A)	60	61	65	69
	MED	dB(A)	55	58	62	65
	MIN	dB(A)	43	47	54	55
Electric heater		kW	230V-50Hz single-phase		400V-50Hz tri-phase	
			2.5	6.0	9.0	9.0
Plumbing connections			3/4"	3/4"	1"	1"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

* * Size 81 outperforms the maximum values envisaged by the Eurovent program for ducted FCUs

Note: Other sizes with optional coil (81 a 3+1; 21/31/38/41/81 a 4+1, 3+2, 4+2 rows) are available on the selection program. The data shown refers to Soffio single panel version.

NOTE FOR DC MOTORS: Max= 10 Volt - Med= 7 Volt - Min= 3 Volt

HP 70 DC motors			21	38	41	81*
ADDITIONAL COIL			**3+1**	**3+1**	**3+1**	**3+1**
4-PIPE PLANT						
Useful air prevalence	MAX	Pa	85	81	72	74
	MED	Pa	50	50	50	50
	MIN	Pa	17	17	22	19
Airflow	MAX	m³/h	971	1973	3183	3947
	MED	m³/h	742	1524	2669	3265
	MIN	m³/h	436	893	1702	1947
Total cooling power (1)	MAX	kW	4.35	8.68	14.99	17.36
	MED	kW	3.58	7.29	13.26	15.25
	MIN	kW	2.41	4.94	9.53	10.56
Sensitive cooling power	MAX	kW	3.05	6.04	10.42	12.07
	MED	kW	2.55	5.08	9.25	10.65
	MIN	kW	1.75	3.49	6.74	7.45
Exchanger water flow	MAX	l/h	746	1490	2573	2979
	MED	l/h	614	1252	2275	2616
	MIN	l/h	414	848	1635	1813
Primary exchanger pressure drop	MAX	Kpa	19	23	17	22
	MED	Kpa	13	17	14	17
	MIN	Kpa	6	8	7	9
Exchanger thermal power (2)	MAX	kW	4.54	8.83	15.80	17.93
	MED	kW	3.58	7.61	14.20	15.99
	MIN	kW	2.77	5.56	10.82	11.75
Exchanger water flow	MAX	l/h	399	776	1388	1574
	MED	l/h	338	669	1247	1405
	MIN	l/h	244	488	950	1032
Exchanger pressure drop	MAX	Kpa	6	9	10	12
	MED	Kpa	4	7	8	10
	MIN	Kpa	2	4	5	6
Sound power, intake + radiation	MAX	dB(A)	70	71	75	79
	MED	dB(A)	65	68	72	75
	MIN	dB(A)	53	57	64	65
Sound power delivered	MAX	dB(A)	69	70	74	78
	MED	dB(A)	64	67	71	74
	MIN	dB(A)	52	56	63	64
Absorbed power	MAX	W	165	320	475	770
	MED	W	95	165	295	435
	MIN	W	25	45	95	115
Maximum motor electric absorption		A	1.80	2.30	2.60	4.20
FCEER-COOLING CLASS			C	B	B	C
FCCOP-HEATING CLASS			B	B	B	C
Sound pressure level, intake + radiation (3)	MAX	dB(A)	61	62	66	70
	MED	dB(A)	56	59	63	66
	MIN	dB(A)	44	48	55	56
Sound pressure level delivered	MAX	dB(A)	60	61	65	69
	MED	dB(A)	55	58	62	65
	MIN	dB(A)	43	47	54	55
Electric heater		kW	230V-50Hz single-phase		400V-50Hz tri-phase	
			2.5	6.0	9.0	9.0
Plumbing connections			3/4"	3/4"	1"	1"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

* * Size 81 outperforms the maximum values envisaged by the Eurovent program for ducted FCUs

Note: Other sizes with optional coil (81 a 3+1; 21/31/38/41/81 a 4+1, 3+2, 4+2 rows) are available on the selection program. The data shown refers to Soffio single panel version.

NOTE FOR DC MOTORS: Max= 10 Volt - Med= 7 Volt - Min= 3 Volt

HP 150 AC motors			21			38			81			91		101	
ROWS			**3**	**4**	**6**	**3**	**4**	**6**	**3**	**4**	**6**	**4**	**6**	**4**	**6**
2-PIPE PLANT															
Useful air prevalence	MAX	Pa	150	150	150	150	150	150	150	150	150	150	150	150	150
	MED	Pa	100	100	100	115	115	115	89	89	89	85	85	89	89
	MIN	Pa	60	60	60	74	74	74	35	35	35	35	35	35	35
Airflow	MAX	m³/h	1231	1231	1231	2200	2200	2200	4085	4085	4085	4943	4943	6081	6081
	MED	m³/h	1009	1009	1009	1927	1927	1927	3133	3133	3133	3733	3733	4701	4701
	MIN	m³/h	797	797	797	1544	1544	1544	2001	2001	2001	2372	2372	2996	2996
Total cooling power (1)	MAX	kW	5.09	6.08	7.71	9.32	11.02	14.16	17.77	20.85	27.19	25.96	33.57	32.26	41.79
	MED	kW	4.45	5.27	6.58	8.53	10.04	12.77	14.83	17.24	22.01	21.08	26.55	26.76	33.87
	MIN	kW	3.81	4.42	5.44	7.33	8.57	10.66	10.75	12.15	15.1	14.78	18.49	18.95	23.32
Sensitive cooling power	MAX	kW	3.56	4.32	5.44	6.47	7.76	9.86	12.29	14.84	18.76	18.34	23.87	22.35	29.18
	MED	kW	3.13	3.75	4.70	5.93	7.06	8.92	10.33	12.25	15.25	15.02	19.07	18.63	23.78
	MIN	kW	2.67	3.16	3.89	5.13	6.06	7.50	7.61	8.81	10.63	10.66	12.92	13.37	16.31
Exchanger water flow	MAX	l/h	874	1043	1323	1598	1891	2429	3049	3578	4666	4455	5759	5535	7170
	MED	l/h	764	905	1129	1464	1723	2191	2544	2958	3776	3618	4556	4591	5812
	MIN	l/h	654	758	933	1257	1470	1828	1845	2085	2590	2536	3172	3251	4002
Primary exchanger pressure drop	MAX	Kpa	25.3	20.6	24.4	25.8	19.0	30.1	22.8	16.6	38	15.8	18.4	26.2	30.5
	MED	Kpa	19.7	15.8	18.2	22.0	16.0	24.9	16.4	11.7	25.9	10.8	12.0	18.7	20.8
	MIN	Kpa	14.7	11.4	12.8	16.6	11.9	17.9	9.2	6.2	13.1	5.7	6.2	10.0	10.6
Exchanger thermal power (2)	MAX	kW	6.85	8.05	9.77	12.41	14.55	17.68	23.58	27.51	33.42	34.04	41.88	41.64	51.36
	MED	kW	5.97	6.96	8.31	11.33	13.20	15.87	19.55	22.54	26.79	27.47	32.91	34.27	41.23
	MIN	kW	5.06	5.81	6.82	9.68	11.15	13.17	14.05	15.82	18.14	19.11	22.00	23.98	27.68
Exchanger water flow	MAX	l/h	874	1043	1323	1598	1891	2429	3049	3578	4666	4455	5759	5535	7170
	MED	l/h	764	905	1129	1464	1723	2191	2544	2958	3776	3618	4556	4591	5812
	MIN	l/h	654	758	933	1257	1470	1828	1845	2085	2590	2536	3172	3251	4002
Exchanger pressure drop	MAX	Kpa	22.0	17.9	21.2	22.1	16.2	25.5	19.3	14.0	31.8	13.3	15.5	22.0	25.6
	MED	Kpa	17.1	13.7	15.7	18.8	13.6	21.1	13.8	9.9	21.6	9.1	10.1	15.6	17.5
	MIN	Kpa	12.8	9.8	11.0	14.2	10.2	15.1	7.7	5.2	10.9	4.8	5.2	8.3	8.8
Sound power, intake + radiation	MAX	dB(A)	66	66	67	70	70	70	79	79	79	80	80	81	81
	MED	dB(A)	63	63	62	67	67	67	74	74	74	75	75	76	76
	MIN	dB(A)	61	61	53	65	65	65	64	64	64	65	65	66	66
Sound power delivered	MAX	dB(A)	65	65	65	69	69	69	78	78	78	79	79	80	80
	MED	dB(A)	62	62	61	66	66	66	73	73	73	74	74	75	75
	MIN	dB(A)	60	60	52	64	64	64	63	63	63	64	64	65	65
Absorbed power	MAX	W	240	240	240	480	480	480	970	970	970	1180	1180	1440	1440
	MED	W	195	195	195	390	390	390	770	770	770	900	900	1150	1150
	MIN	W	150	150	150	300	300	300	620	620	620	650	650	930	930
Maximum motor electric absorption		A	2	2	2	4	4	4	8	8	8	8	8	12	12
Sound pressure level Intake + radiation (3)	MAX	dB(A)	57	57	57	61	61	61	70	70	70	71	71	72	72
	MED	dB(A)	54	54	54	58	58	58	65	65	65	66	66	67	67
	MIN	dB(A)	52	52	52	56	56	56	55	55	55	56	56	57	57
Sound pressure level delivered	MAX	dB(A)	56	56	56	60	60	60	69	69	69	70	70	71	71
	MED	dB(A)	53	53	53	57	57	57	64	64	64	65	65	66	66
	MIN	dB(A)	51	51	51	55	55	55	54	54	54	55	55	56	56
Electric heater		kW	230V-50Hz single-phase									230V-50Hz single-phase			
			2.5			4.5						6.0			
Plumbing connections			3/4"			3/4"						1"			

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

The data shown refers to HP single panel version.

HACI **H-HP 150** Duct High Pressure with **AC** Motor, Technical Data

HP 150 AC motors			21		38		81		91	101
ADDITIONAL COIL			**3+2**	**4+2**	**3+2**	**4+2**	**3+2**	**4+2**	**4+2**	**4+2**
4-PIPE PLANT										
Useful air prevalence	MAX	Pa	150	150	150	150	150	150	150	150
	MED	Pa	106	106	121	121	90	90	86	90
	MIN	Pa	68	68	82	82	35	35	35	35
Airflow	MAX	m³/h	1171	1171	2015	2015	4047	4047	4902	6019
	MED	m³/h	989	989	1832	1832	3129	3129	3717	4678
	MIN	m³/h	784	784	1502	1502	2002	2002	2362	2992
Total cooling power (1)	MAX	kW	4.94	5.88	8.79	10.37	17.57	20.81	25.85	31.98
	MED	kW	4.38	5.21	8.25	9.72	14.81	17.22	21.01	26.69
	MIN	kW	3.76	4.36	7.19	8.36	10.76	12.15	14.68	18.92
Sensitive cooling power	MAX	kW	3.45	4.14	6.16	7.33	12.28	14.70	18.22	22.23
	MED	kW	3.09	3.69	5.75	6.83	10.32	12.23	14.97	18.57
	MIN	kW	2.66	3.15	5.01	5.94	7.61	8.82	10.66	13.36
Exchanger water flow	MAX	l/h	847	1009	1508	1779	3015	3521	4435	5488
	MED	l/h	752	894	1416	1668	2541	2954	3606	4579
	MIN	l/h	645	748	1234	1435	1846	2085	2518	3247
Primary exchanger pressure drop	MAX	Kpa	23.8	19.3	23.2	17.0	22.4	16.5	15.7	25.8
	MED	Kpa	19.1	15.4	20.7	15.1	16.4	11.7	10.8	18.6
	MIN	Kpa	14.4	11.1	16.1	11.4	9.2	6.2	5.6	10.0
Exchanger thermal power (2)	MAX	kW	8.59	8.59	15.17	15.17	30.33	30.33	38.41	46.48
	MED	kW	7.70	7.70	14.27	14.27	25.69	25.69	31.96	39.46
	MIN	kW	6.62	6.62	12.47	12.47	18.97	18.97	23.41	29.08
Exchanger water flow	MAX	l/h	754	754	1332	1332	2664	2664	3374	4082
	MED	l/h	676	676	1253	1253	2256	2256	2807	3466
	MIN	l/h	581	581	1096	1096	1666	1666	2056	2554
Exchanger pressure drop	MAX	Kpa	11.2	11.2	11.1	11.1	8.7	8.7	18.1	28.2
	MED	Kpa	9.1	9.1	9.9	9.9	6.4	6.4	12.9	20.9
	MIN	Kpa	6.9	6.9	7.7	7.7	3.6	3.6	7.3	11.9
Sound power, intake + radiation	MAX	dB(A)	66	66	70	70	79	79	80	81
	MED	dB(A)	63	63	67	67	74	74	75	76
	MIN	dB(A)	61	61	65	65	64	64	65	66
Sound power delivered	MAX	dB(A)	65	65	69	69	78	78	79	80
	MED	dB(A)	62	62	66	66	73	73	47	75
	MIN	dB(A)	60	60	64	64	63	63	64	65
Absorbed power	MAX	W	240	240	480	480	970	970	1180	1440
	MED	W	195	195	390	390	770	770	900	1150
	MIN	W	150	150	300	300	620	620	650	930
Maximum motor electric absorption		A	2	2	4	4	8	8	8	12
Sound pressure level Intake + radiation (3)	MAX	dB(A)	57	57	61	61	70	70	71	72
	MED	dB(A)	54	54	58	58	65	65	66	67
	MIN	dB(A)	52	52	56	56	55	55	56	57
Sound pressure level delivered	MAX	dB(A)	56	56	60	60	69	69	70	71
	MED	dB(A)	53	53	57	57	64	64	65	66
	MIN	dB(A)	51	51	55	55	54	54	55	56
Electric heater		kW	230V-50Hz single-phase						400V-50Hz tri-phase	
			2.5		4.5		6.0		9.0	
Plumbing connections			3/4"		3/4"		1"		1" ¼	

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

The data shown refers to HP single panel version.

HP 150 DC motors			21			38			81			91		101	
MODELS			**3**	**4**	**6**	**3**	**4**	**6**	**3**	**4**	**6**	**4**	**6**	**4**	**6**
2-PIPE PLANT															
Useful air prevalence	MAX	Pa	200	200	200	210	210	210	400	400	400	360	360	380	380
	MED	Pa	70	70	70	72	72	72	115	115	115	104	104	109	109
	MIN	Pa	23	23	23	23	23	23	37	37	37	33	33	34	34
Airflow	MAX	m³/h	1263	1263	1263	2193	2193	2193	4076	4076	4076	4970	4970	6349	6349
	MED	m³/h	751	751	751	1322	1322	1322	2214	2214	2214	2676	2676	3376	3376
	MIN	m³/h	429	429	429	764	764	764	1259	1259	1259	1499	1499	1918	1918
Total cooling power (1)	MAX	kW	5.2	6.2	7.9	9.3	11.0	14.1	17.7	20.8	27.1	26.1	33.7	33.3	43.2
	MED	kW	3.6	4.2	5.1	6.6	7.6	9.4	11.6	13.2	16.4	16.3	20.3	20.8	25.6
	MIN	kW	2.4	2.7	3.3	4.4	4.8	6.0	7.5	8.0	10.3	9.9	12.6	13.1	16.2
Sensitive cooling power	MAX	kW	3.6	4.4	5.6	6.4	7.8	9.8	12.3	14.8	18.7	18.8	24.0	23.1	30.2
	MED	kW	2.6	3.0	3.7	4.6	5.4	6.6	8.1	9.5	11.5	11.7	14.4	14.6	18.1
	MIN	kW	1.7	2.0	2.3	3.1	3.6	4.2	5.4	6.1	7.1	7.4	8.6	9.4	11.0
Exchanger water flow	MAX	l/h	888	1064	1349	1594	1886	2422	3042	3569	4655	4476	5787	5711	7413
	MED	l/h	622	726	881	1130	1302	1607	1989	2260	2823	2792	3492	3567	4395
	MIN	l/h	413	457	560	752	829	1023	1292	1390	1770	1695	2163	2245	2776
Primary exchanger pressure drop	MAX	Kpa	26.0	21.3	25.3	25.7	18.9	29.9	22.7	16.5	37.9	16.0	18.6	27.7	32.4
	MED	Kpa	13.4	10.5	11.5	13.7	9.6	14.1	10.5	7.2	15.3	6.8	7.4	11.8	12.5
	MIN	Kpa	6.3	4.5	5.0	6.5	4.2	6.2	4.8	3.0	6.6	2.8	3.1	5.1	5.5
Exchanger thermal power (2)	MAX	kW	7.00	8.20	10.00	12.40	14.50	17.60	23.50	27.40	33.40	34.20	42.10	43.00	53.30
	MED	kW	4.80	5.60	6.50	8.60	9.90	11.55	15.20	17.10	19.80	21.10	24.50	26.40	30.80
	MIN	kW	3.20	3.50	4.00	5.70	6.30	7.10	9.80	10.70	11.90	13.00	14.40	16.00	18.40
Exchanger water flow	MAX	l/h	888	1064	1349	1594	1886	2422	3042	3569	4655	4476	5787	5711	7413
	MED	l/h	622	726	881	1130	1302	1607	1989	2260	2823	2792	3492	3567	4395
	MIN	l/h	413	457	560	752	829	1023	1292	1390	1770	1695	2163	2245	2776
Exchanger pressure drop	MAX	Kpa	22.70	18.50	21.90	22.00	16.10	25.40	19.20	13.90	31.70	13.50	15.70	23.30	27.30
	MED	Kpa	11.60	9.10	9.90	11.60	8.10	11.90	8.80	6.00	12.70	5.70	6.20	9.90	10.50
	MIN	Kpa	5.40	3.80	4.30	5.50	3.50	5.20	4.00	2.50	5.40	2.30	2.60	4.20	4.50
Sound power, intake + radiation	MAX	dB(A)	69	69	69	73	73	73	83	83	83	84	84	85	85
	MED	dB(A)	61	61	61	65	65	65	65	65	65	66	66	67	67
	MIN	dB(A)	58	58	58	62	62	62	62	62	62	63	63	64	64
Sound power delivered	MAX	dB(A)	68	68	68	72	72	72	82	82	82	83	83	84	84
	MED	dB(A)	50	50	50	64	64	64	64	64	64	65	65	66	66
	MIN	dB(A)	57	57	57	61	61	61	61	61	61	62	62	63	63
Absorbed power	MAX	W	114	114	114	228	228	228	633	633	633	633	633	949	949
	MED	W	38	38	38	76	76	76	144	144	144	144	144	216	216
	MIN	W	24	24	24	48	48	48/1.8	53	53	53	53	53	80	80
Maximum motor electric absorption		A	0.90	0.90	0.90	1.80	1.80	1.80	5.0	5.0	5.0	5.0	5.0	7.5	7.5
Sound pressure level Intake + radiation (3)	MAX	dB(A)	60	60	60	64	64	64	74	74	74	75	75	76	76
	MED	dB(A)	52	52	52	56	56	56	56	56	56	57	57	58	58
	MIN	dB(A)	49	49	49	53	53	53	53	53	53	54	54	55	55
Sound pressure level delivered	MAX	dB(A)	59	59	59	63	63	63	73	73	73	74	74	75	75
	MED	dB(A)	51	51	51	55	55	55	55	55	55	56	56	57	57
	MIN	dB(A)	48	48	48	52	52	52	52	52	52	53	53	54	54
Electric heater		kW	230V-50Hz single-phase									400V-50Hz single-phase			
			2.5			4.5			6.0			9.0			
Plumbing connections			3/4"			3/4"			1"			1 1/4"			

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

NOTE FOR DC MOTORS: Max= 10 Volt - Med= 7 Volt - Min= 3 Volt

The data shown refers to HP single panel version.

HACI **H-HP 150** Duct High Pressure with **DC** Motor, Technical Data

HP 150 DC motors			21		38		81		91	101
ADDITIONAL COIL			**3+2**	**4+2**	**3+2**	**4+2**	**3+2**	**4+2**	**4+2**	**4+2**
4-PIPE PLANT										
Useful air prevalence	MAX	Pa	200	200	210	210	400	400	360	380
	MED	Pa	70	70	72	72	115	115	104	109
	MIN	Pa	23	23	23	23	37	37	33	34
Airflow	MAX	m³/h	1263	1263	2193	2193	4076	4076	4970	6349
	MED	m³/h	751	751	1322	1322	2214	2214	2676	3376
	MIN	m³/h	429	429	764	764	1259	1259	1499	1918
Total cooling power (1)	MAX	kW	5.2	6.2	9.3	11	17.7	20.8	26.1	33.3
	MED	kW	3.6	4.2	6.6	7.6	11.6	13.2	16.3	20.8
	MIN	kW	2.4	2.7	4.4	4.8	7.0	8.1	9.9	13.1
Sensitive cooling power	MAX	kW	3.6	4.4	6.0	7.8	12.0	14.8	18.8	23.1
	MED	kW	2.6	3.0	5.0	5.4	8.0	9.5	11.7	14.6
	MIN	kW	1.7	2.0	3.0	3.6	5.0	6.1	7.4	9.4
Exchanger water flow	MAX	l/h	888	1064	1594	1886	3042	3569	4476	51711
	MED	l/h	622	726	1130	1302	1989	2260	2792	3567
	MIN	l/h	413	457	752	829	1292	1390	1695	2245
Primary exchanger pressure drop	MAX	Kpa	26.0	21.3	26.0	18.9	23.0	16.5	16.0	27.7
	MED	Kpa	13.4	10.5	14.0	9.6	11.0	7.2	6.8	11.8
	MIN	Kpa	6.3	4.5	7.0	4.2	5.0	3.0	2.8	5.1
Exchanger thermal power (2)	MAX	kW	9.0	9.0	16.0	16.0	31.0	30.5	38.7	48.1
	MED	kW	6.4	6.4	12.0	11.5	20.0	20.3	25.6	31.6
	MIN	kW	4.3	4.3	8.0	7.8	14.0	13.6	16.8	21.1
Exchanger water flow	MAX	l/h	792	792	1406	1406	2683	2683	3399	4225
	MED	l/h	565	565	1009	1009	1785	1785	2246	2775
	MIN	l/h	381	381	688	688	1198	1198	1480	1856
Exchanger pressure drop	MAX	Kpa	12.3	12.3	12.0	12.3	9.0	8.8	18.4	30.1
	MED	Kpa	6.5	6.5	7.0	6.6	4.0	4.1	8.5	13.9
	MIN	Kpa	3.1	3.1	3.0	3,2	2.0	2.0	4.0	6.6
Sound power, intake + radiation	MAX	dB(A)	69	69	73	73	83	83	84	85
	MED	dB(A)	61	61	65	65	65	65	66	67
	MIN	dB(A)	58	58	62	62	62	62	63	64
Sound power delivered	MAX	dB(A)	68	68	72	72	82	82	83	84
	MED	dB(A)	50	60	64	64	64	64	65	66
	MIN	dB(A)	57	57	61	61	61	61	62	63
Absorbed power	MAX	W	114	114	228	228	633	633	633	949
	MED	W	38	38	76	76	144	144	144	216
	MIN	W	24	24	48	48	53	53	53	80
Maximum motor electric absorption		A	0.9	0.9	1.8	1.8	5.0	5.0	5.0	7.5
Sound pressure level Intake + radiation (3)	MAX	dB(A)	60	60	64	64	74	74	75	76
	MED	dB(A)	52	52	56	56	56	56	57	58
	MIN	dB(A)	49	49	53	53	53	53	54	55
Sound pressure level delivered	MAX	dB(A)	59	59	63	63	73	73	74	75
	MED	dB(A)	51	51	55	55	55	55	56	57
	MIN	dB(A)	48	48	52	52	52	52	53	54
Electric heater		kW	230V-50Hz single-phase						400V-50Hz tri-phase	
			2.5		4.5		6.0		9.0	
Plumbing connections			3/4"		3/4"		1"		1" ¼	

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

NOTE FOR DC MOTORS: Max= 10 Volt - Med= 7 Volt - Min= 3 Volt

The data shown refers to HP single panel version.

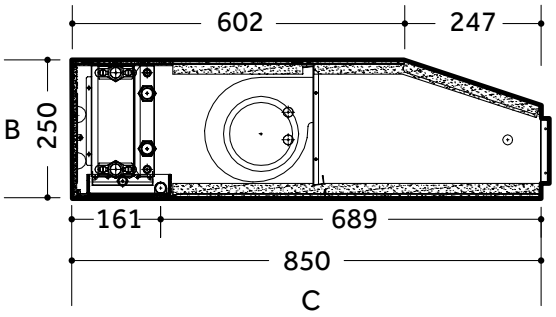
H-LNH
Ducted super silent, ideal for hotels, homes, hospitals and prestigious premises.

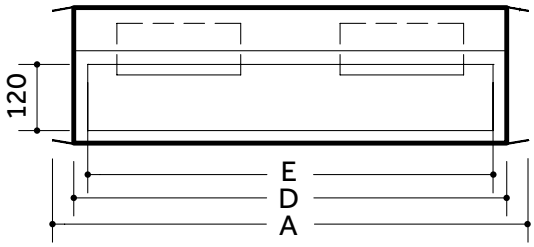
INTRODUCTION

H-LNH has been designed to provide maximum energy comfort and maximum silence, which are difficult to obtain with other traditional air conditioning units (split, fan coils). The minimum noise level is 18 dB (A) (version with DC motor). Its performance makes it the ideal product for installations that require compliance with strict acoustic standards. Extremely silent thanks to its technical solutions: the careful study of an integrated silencer plenum of the entire machine body which is isolated with an insulating material with high sound-absorbing power.

LNH is designed for maximum comfort during maintenance: the fan, like the main tray and the coil can be inspected and removed with the same procedure. **LNH** is available with AC and DC motors.
Natural condensate drain, pump-free.
As standard, it is supplied with connections on the right; reversible during installation; otherwise specify connections on the left when ordering.

Dimensions





SIZE	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Weight (kg)
3	660	250	850	525	475	23
6	860	250	850	785	735	33
8	1120	250	850	1045	995	41
12	1120	250	850	1045	995	43

A = length mm B = height mm C = depth mm

H-LNH			AC motor, 2-pipe plant				DC motor, 2-pipe plant			
			3	6	8	12	3	6	8	12
ROWS			**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Airflow	MAX	m³/h	343	547	784	1255	359	535	850	1004
	MED	m³/h	239	468	675	1102	251	346	538	624
	MIN	m³/h	203	327	413	696	187	259	304	372
Total cooling power (1)	MAX	kW	2.11	3.21	4.88	6.95	2.20	3.14	5.21	5.90
	MED	kW	1.88	2.79	4.35	6.32	1.64	2.12	3.61	4.08
	MIN	kW	1.37	2.04	2.89	4.46	1.27	1.68	2.23	2.61
Sensitive cooling power	MAX	kW	1.50	2.35	3.41	4.82	1.55	2.33	3.64	4.11
	MED	kW	1.33	2.09	3.05	4.37	1.18	1.65	2.56	2.87
	MIN	kW	1.00	1.57	2.08	3.12	0.93	1.27	1.60	1.90
Exchanger water flow	MAX	l/h	362	550	837	1193	378	588	894	1012
	MED	l/h	322	479	746	1084	282	364	619	699
	MIN	l/h	235	351	495	765	218	289	383	448
Primary exchanger pressure drop	MAX	Kpa	12.9	5.6	15.0	28.7	13.9	5.4	16.9	21.2
	MED	Kpa	10.4	4.4	12.1	24.1	8.1	2.7	8.7	10.8
	MIN	Kpa	5.8	2.5	5.8	12.7	5.1	1.8	3.7	4.8
Exchanger thermal power (2)	MAX	kW	2.70	4.25	6.17	8.89	2.80	4.16	6.57	7.49
	MED	kW	2.37	3.74	5.45	8.07	2.09	2.89	4.52	5.11
	MIN	kW	1.75	2.76	3.61	5.60	1.62	2.26	2.76	3.29
Exchanger water flow	MAX	l/h	362	550	837	1193	378	538	894	1012
	MED	l/h	322	479	746	1084	282	364	619	699
	MIN	l/h	235	351	495	765	218	289	383	448
Exchanger pressure drop	MAX	Kpa	11.2	4.8	12.7	24.4	12.1	4.6	14.3	18.0
	MED	Kpa	9.0	3.7	10.3	20.4	7.0	2.2	7.3	9.1
	MIN	Kpa	5.0	2.1	4.8	10.8	4.4	1.5	3.0	4.0
Additional exchanger thermal power	MAX	kW	1.96	3.12	4.48	5.86	2.05	3.05	4.47	5.21
	MED	kW	1.83	2.79	4.20	5.43	1.63	2.33	3.56	3.88
	MIN	kW	1.42	2.25	3.00	4.16	1.36	1.95	2.45	2.80
Additional exchanger water flow	MAX	l/h	172	274	393	515	180	268	417	458
	MED	l/h	160	245	362	477	143	205	313	341
	MIN	l/h	125	198	26	365	119	172	215	246
Additional exchanger pressure drop	MAX	Kpa	5.5	2.7	6.2	10.3	6.0	2.6	6.9	8.2
	MED	Kpa	4.8	2.2	5.3	8.9	3.9	1.5	4.1	4.8
	MIN	Kpa	3.0	1.4	3.0	5.4	2.8	1.1	2.0	2.6
Sound power	MAX	dB(A)	43	45	47	55	46	48	52	56
	MED	dB(A)	39	41	43	53	36	37	38	45
	MIN	dB(A)	30	32	33	43	27	29	27	32
Absorbed power	MAX	W	33	53	85	137	14	19	35	58
	MED	W	27	41	43	118	7	9	12	19
	MIN	W	16	24	33	61	5	7	7	8
Maximum motor electric absorption		A	0.15	0.24	0.37	0.66	0.12	0.15	0.25	0.41
FCEER-COOLING CLASS			-	-	-	-	236 A	230 A	282 A	233 A
FCCOP-HEATING CLASS 2T			-	-	-	-	302 A	310 A	351 A	298 A
FCCOP-HEATING CLASS 4T			-	-	-	-	246 B	259 B	259 B	241 B
Sound pressure level (3)	MAX	dB(A)	34	36	38	46	37	39	43	47
	MED	dB(A)	30	32	34	44	27	28	29	36
	MIN	dB(A)	21	23	24	34	18	20	18	23
Plumbing connections			1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

(1) Cold: T. Ambient: 27° C - DB - 19° C - T. water (in/out): 7/12° C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50 °C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20° C - T. water (in/out): 70/60° C
(3) Sound pressure levels are lower than power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 seconds

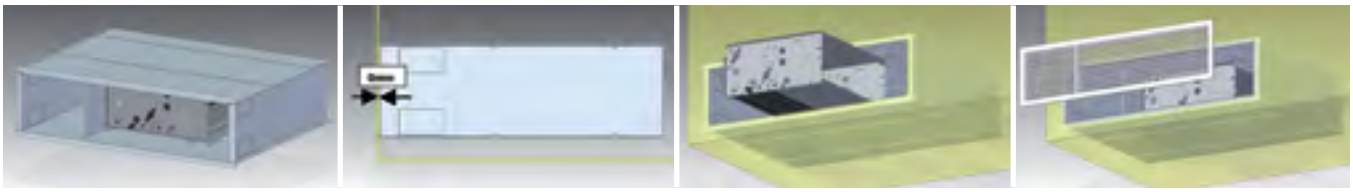
NOTES FOR DC MOTORS
Speed data under the following conditions:
Size 3-6: Max = 8.5 Volt - Med = 4.5 Volt - Min = 2.5 Volt
Size 8: Max = 9 Volt - Med = 4.5 Volt - Min= 2.5 Volt
Size 12: Max = 8.5 Volt - Med = 4.5 Volt - Min = 2 Volt

H-SHS
"Smart Hotel Solution"
Ducted super silent,
pre-assembled in a casing already complete with grid.
Space saving solution.

INTRODUCTION

H-SHS belongs to the family of silence hydronic fan coils (20 dB (A) DC motor). It was developed for environments where built-in installations take place in confined spaces such as hotels.
It is possible to install them in the corridors, to get flush with the entrance door only with the grid, avoiding the classic lowering above the door in the room.
SHS has a single grid for the delivery and intake of ambient air specially designed to avoid short air circuits and does not require to be equipped with an inspection hatch.

Accessibility to the unit takes place by removing the front grill. The special chamber where the core of the fan coil resides, slides on rails which, once fixed on site, allow SHS to slide easily into the technical compartment: this specific construction leaves the ceiling free and allows the installation of lighting fixtures.
The version with DC motor guarantees even more optimal performance and comfort.
Being extremely quiet and easy to install, this version is also ideal for renovations.



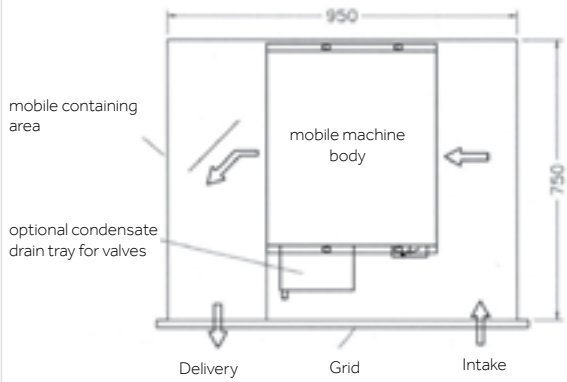
Dimensions

SHS 320

FRONT VIEW WITHOUT GRID

optional condensate drain tray for valves

FRONT VIEW WITHOUT GRID



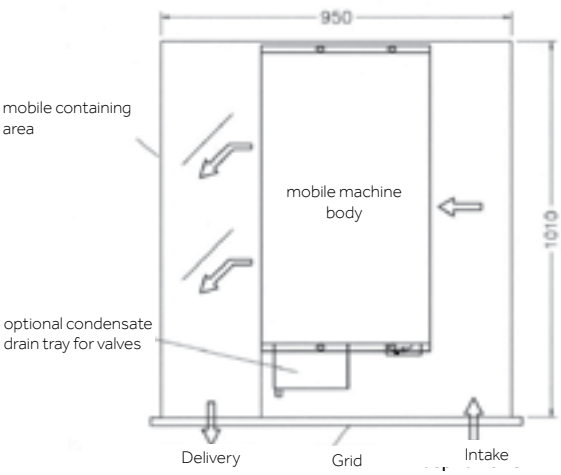
VIEW FROM ABOVE

SHS 634

FRONT VIEW WITHOUT GRID

optional condensate drain tray for valves

FRONT VIEW WITHOUT GRID



VIEW FROM ABOVE

HACI **H-SHS** Duct Smart Single Block, Technical Data

H-SHS			AC motor				DC motor			
			2-pipe plant		4-pipe plant		2-pipe plant		4-pipe plant	
			320	634	320	634	320	634	320	634
ROWS			**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Airflow	MAX	m³/h	335	535	335	535	330	480	330	480
	MED	m³/h	210	360	210	360	200	280	200	280
	MIN	m³/h	130	225	130	225	110	160	110	160
Total cooling power (1)	MAX	kW	2.07	3.13	2.07	3.13	2.06	2.86	2.06	2.86
	MED	kW	1.42	2.20	1.42	2.20	1.36	1.79	1.36	1.79
	MIN	kW	0.95	1.49	0.95	1.49	0.81	1.16	0.81	1.16
Sensitive cooling power	MAX	kW	1.47	2.33	1.47	2.33	1.46	2.13	1.46	2.13
	MED	kW	1.02	1.70	1.02	1.70	0.99	1.36	0.99	1.36
	MIN	kW	0.68	1.12	0.68	1.12	0.58	0.84	0.58	0.84
Exchanger water flow	MAX	l/h	354	538	354	538	354	490	354	490
	MED	l/h	243	378	243	378	234	307	234	307
	MIN	l/h	163	256	163	256	139	199	139	199
Primary exchanger pressure drop	MAX	Kpa	12	6	12	6	12	5	12	5
	MED	Kpa	6	3	6	3	6	2	6	2
	MIN	Kpa	3	2	3	2	2	1	2	1
Exchanger thermal power (2)	MAX	kW	2.65	4.16	1.91	3.05	2.62	3.81	1.88	2.87
	MED	kW	1.80	3.00	1.42	2.43	1.73	2.41	1.41	2.03
	MIN	kW	1.19	2.02	1.09	1.78	1.01	1.50	0.97	1.44
Exchanger water flow	MAX	l/h	354	538	168	268	354	490	165	252
	MED	l/h	243	378	124	213	234	307	124	178
	MIN	l/h	163	256	96	156	139	199	85	126
Exchanger pressure drop	MAX	Kpa	11	5	5	3	10.7	4	5	2
	MED	Kpa	5	2	3	2	5	2	3	1
	MIN	Kpa	2	2	2	1	2	1	2	1
Sound power (*)	MAX	dB(A)	45	48	45	48	45	46	45	46
	MED	dB(A)	35	39	35	39	34	35	34	35
	MIN	dB(A)	26	30	26	30	22	25	22	25
Sound power level (**)	MAX	dB(A)	36	39	36	39	36	37	36	37
	MED	dB(A)	26	30	26	30	25	26	25	26
	MIN	dB(A)	< 20	21	< 20	21	< 20	< 20	< 20	< 20
NR (***)	MAX	dB	33	36	33	36	32	33	32	33
	MED	dB	22	27	22	27	21	22	21	22
	MIN	dB	11	18	11	18	5	10	5	10
Absorbed power	MAX	W	48	67	48	67	21	25	21	25
	MED	W	24	39	24	39	8	10	8	10
	MIN	W	14	24	14	24	5	7	5	7
Maximum motor electric absorption		A	0.25	0.35	0.25	0.35	0.20	0.20	0.20	0.20
Electric heater		W	1000	1250	1000	1250	1000	1250	1000	1250
Electric heater			1/2"		1/2"		1/2"		1/2"	

OCTAVE BAND dB (input + output + radiated)														
	SHS 320 AC							SHS 320 DC						
	125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
MAX	48.5	47.6	45.7	39.9	31.9	27.2	21.6	48.2	47.3	45.3	39.5	31.5	26.7	21.4
MED	39.7	38.3	35.5	28.8	19.8	14.0	19.4	38.8	37.3	34.4	27.5	18.6	13.5	19.4
MIN	31.7	29.3	24.9	16.3	9.5	10.8	19.5	28.5	24.7	19.1	0	0	10.6	19.4

OCTAVE BAND dB (input + output + radiated)														
	SHS 634 AC							SHS 634 DC						
	125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
MAX	52.9	51.0	48.6	39.7	31.2	24.8	20.8	50.9	48.9	46.4	37.0	27.8	21.3	20.2
MED	45.0	43.1	40.5	29.5	18.4	13.7	19.5	41.0	38.8	35.4	23.3	10.7	10.6	19.5
MIN	37.7	35.0	30.6	17.3	0	10.5	19.4	32.7	30.0	23.6	7.9	0	7.7	19.4

(1) Cold: T. Ambient: 27 °C - DB - 19 °C - T. water (in/out): 7/12 °C
(2) - 2-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 50°C - same cooling water flow rate
- 4-pipe plant: Hot: T. Ambient: 20 °C - T. water (in/out): 70/60°C
(*) Measured sound power in reverberant chamber in accordance with ISO 3741
(**) Sound pressure levels are lower than the power levels of 9 dB (A) for an environment of 100 m³ with reverberation time of 0.5 s.
(***) NR value based on a hypothetical reduction of sound power in the environment of 9d (B)

NOTES FOR DC MOTORS
Speed data under the following conditions:
Max = 10 Volt - Med = 5 Volt - Min = 2 Volt

H-HWN_EC
DC Motors

SCT-GH
WPC-GH series remote controller

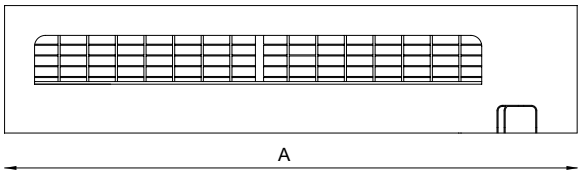
Optional wired controller

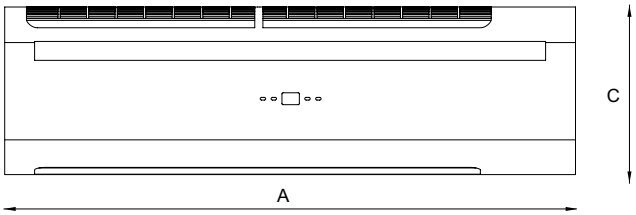
INTRODUCTION

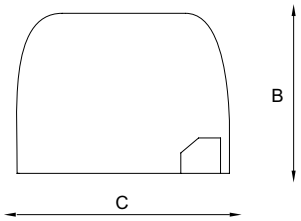
H-HWN is a wall convector designed to meet and exceed the highest standards of efficiency, silence and design. With an elegant profile and a cabinet with a modern and functional design, it adapts to any environment, while the microprocessor control ensures accurate management of temperature and functions. The elegant cabinet is made of self-extinguishing ABS with a modern and silver-white look with rounded corners. The water exchanger has a large heat exchange surface and uses water repellent aluminium and internally ribbed copper pipes for a greater exchange surface. The water coil is also equipped with an air vent valve and a water purge valve.

The connecting pipes in synthetic elastomer, with external braid and stainless steel connectors allow fast connections without brazing.
The DC motor of the HWN wall convector is a tested electronic variable speed motor that guarantees optimal performance with maximum silence and minimum electrical consumption. Refined mesh "air filters" that are easy to remove and washable, are standard for all models.
The units are equipped with two independent deflectors and directional flaps, allowing the distribution of air in a personalized and automatic way in the room.
The unit is supplied with a standard wireless remote controller and 3-way valve already installed on board.

DIMENSIONS AND FUNCTIONAL SPACES







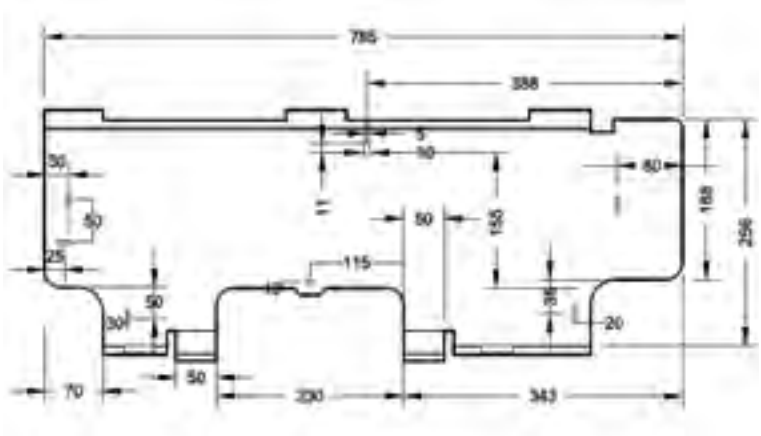
SIZE	A (mm)	B (mm)	C (mm)	Weight (kg)
25	876	300	228	13
30	876	300	228	13
40	876	300	228	14

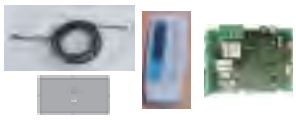
A = length mm B = height mm C = depth mm
Water input and output connection: mm 12,70 (Ø 1/2)
Hydraulic connectors: female type

H-HWN_EC			25	30	40
2-PIPE PLANT (2)					
Power supply		V/Ph/Hz	230/1/50		
Airflow	MAX	m³/h	500	645	788
	MED	m³/h	370	445	740
	MIN	m³/h	290	370	570
Total cooling power (1)	MAX	kW	2.49	3.02	3.74
	MED	kW	1.86	2.40	3.28
	MIN	kW	1.61	1.94	2.68
Sensitive cooling power	MAX	kW	1.81	2.22	2.74
	MED	kW	1.34	1.47	2.40
	MIN	kW	1.15	1.40	1.95
Exchanger water flow	MAX	l/h	427	525	641.91
	MED	l/h	319	411	562.96
	MIN	l/h	276	332	459.98
Primary exchanger pressure drop	MAX	Kpa	28.0	39.3	45.0
	MED	Kpa	17.1	19.9	37.0
	MIN	Kpa	13.4	18.4	25.6
Exchanger thermal power	MAX	kW	3.21	3.93	4.87
	MED	kW	2.37	2.61	4.20
	MIN	kW	2.03	2.48	3.45
electrical resistance power			1	1	1.5
Exchanger water flow	MAX	l/h	427	525	641.91
	MED	l/h	319	411	562.96
	MIN	l/h	276	332	459.98
Exchanger pressure drop	MAX	Kpa	22.7	31.8	28.8
	MED	Kpa	13.5	15.9	20.4
	MIN	Kpa	10.7	14.8	19.2
Sound power	MAX	dB(A)	48	53	57
	MED	dB(A)	40	43	52
	MIN	dB(A)	35	38	45
Sound pressure level	MAX	dB(A)	37	43	46
	MED	dB(A)	30	34	40
	MIN	dB(A)	26	29	34
Absorbed power	MAX	W	13	20	30
	MED	W	10	13	20
	MIN	W	8	10	13
Maximum motor electric absorption		A	0.142	0.182	0.272
FCEER			195 A	187 B	183 B
FCCOP			248 B	230 B	238 B

(1) T. Ambient: 27 °C - DB 19 °C WB - T. water (in/out): 7/12° C
(2) T. Ambient: 20 °C - T. water IN: 50 °C

WALL ANCHOR BRACKET



Photos	Description	HAIER-W Code
	Wall thermostat with speed selector and summer/winter changeover. Valve management.	**SATH3**
	Advanced wall thermostat with speed selector and AUTO function, summer / winter changeover and AUTO function, management, valves, window contact.	**SATH4**
	On-board thermostat with speed and summer/winter changeover selector Kit version to be installed	**SATH3-BI** **SATH3-BI KIT**
	Temperature sensor that can be used as minimum level probe for all SATH and SP3 controllers. For SATH4 and SP3 it can also be used as an external air probe.	**SND (for water)** **SND AIR (for air)**
	Programmable main electronic board, installed on the machine to regulate fan convectors with standard or brushless electronic motors. To be combined with SND water probe and TOP3 controller LCD display terminal.	**SP3**
	Keypad, display for remote management of SP3 board	**TOP3**
	Built-in wall thermostat in box 503 with AUTO speed selector, summer-winter mode and minimum level probe. Complete with adapter for aesthetic frames from the major manufacturers.	**SATH5**
	Complete system for fan coil management with remote control. Includes SP3 main board, IRR SP3 infrared receiver, SND water probe, IRC SP3 infrared remote controller.	**SP3 + IRR SP3 + SND +IRC SP3**
	Power relay for motors up to 2.5 A (*) Version supplied in KIT to be installed for units with high electrical absorption downstream of the control / thermostat	**ETBN 2.5A** **ETBN 25A-K**
	Power relay for motors up to 6 A (*) Version supplied in KIT to be installed for units with high electrical absorption downstream of the control / thermostat	**ETBN 6A** **ETBN 6A-K**
	Interface board for DC motor control with 3-speed external thermostat Version supplied in kit to be installed	**SC3** **SC3 K**

NOTES
(*) See Annex B for the maximum number of units to be put in Master / Slave sequence

For all hydraulic accessories, e.g. 2 and 3-way valves, additional coils, flexible couplings and anything that could be required for special installations, contact the HACI-Haier technical office.

Haier

air conditioners

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