



improve your life

**iSERIES** 

2014

**A2A, A2W & DHW  
HEAT PUMP & AIR COND**

**eco**  
friendly





improve your life

## WHAT IS ISERIES?

iSeries is a true novelty in the sector of winter and summer air-conditioning systems. It is entirely regulated by sophisticated DC Inverter electronics developed in Italy by Argoclima technicians. It is produced in Italy with the most advanced technology available for the production of electronic boards.

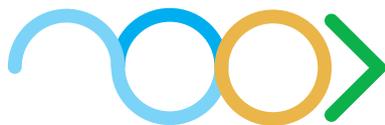
The use of renewable energy is at the basis of any choice regarding the iSeries system. It is the first heat pump multi-split inverter, which creates different configurations with the same outdoor unit. No more borders between air/air, air/water and mixed systems.

iSeries: designed in Europe to work all over the world!

### Argo: Hot Water Re-Invented

With iSeries the production of domestic hot water from renewable sources becomes a reality, accessible to everyone, thanks to the new eMix and eMix Tank units.

This revolutionary discovery does not only provide hot water also when the air-conditioners are being used to cool the indoor environments, but also entirely uses all the energy that is usually dispersed into the air with normal air-conditioners. This ensures significant energy and cost savings, with advantages for the environment and your finances!



RENEWABLE ENERGIES

### The key points

**The same units for residential and commercial applications**

**The same outdoor units for Mono and Multi split  
70% fewer references to manage**

**Flexible combination of direct expansion and hydronic**

**Domestic hot water always available, also while cooling**

**Wide range of air to air outdoor units, including hydrokit units for radiating floor, radiators and fan coils**

**SDHV, flexible nylon ductable system**

**Operates from -32°C to +50°C**

**Highly technological inverters**

**All included**

**Designed and built in Italy**



## ARGOCLIMA, AN ITALIAN COMPANY

Argoclima is a historical Italian company established in 1929. Its history is filled with memorable achievements, such as the Argo radiators and heaters, followed by boilers and the first window air-conditioner dating back to 1965, always keeping up with the times. Today Argoclima heads a European group that comprises three companies, all engaged in air-conditioning and heating from renewable sources.

Argoclima develops and manufactures its products in Gallarate (VA), Italy, a few kilometres from the Milano Malpensa international airport, with distributions worldwide through the logistic centre purposely located near Brescia.

The Argoclima group's marketing department and laboratories constantly focus on the search for and development of state-of-the-art solutions that generate high-quality products that are well designed and very comfortable for service and use by end users. The design of the Argo brand products is complemented by an important activity of development and production on the behalf or third parties targeting international OEM brands and companies.

The company offers constant technical training and support to all its customers, and particularly to all its valued installers, who play a major role in the success of any installation, as a fundamental element of the quality perceived by the end users, whether these are families, companies, factories, shopping centre etc.

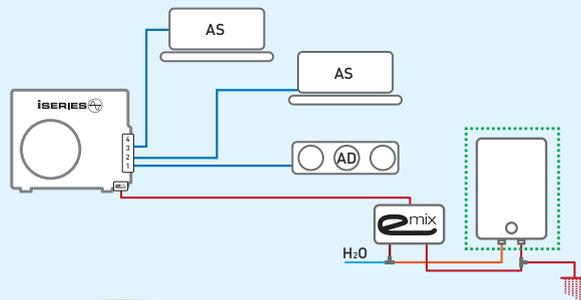
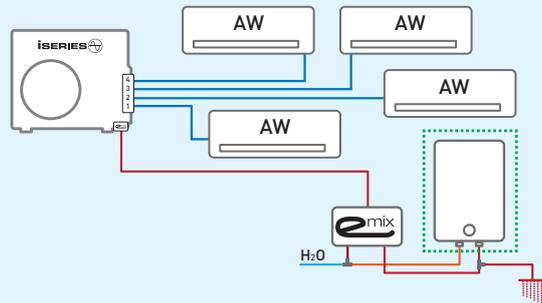
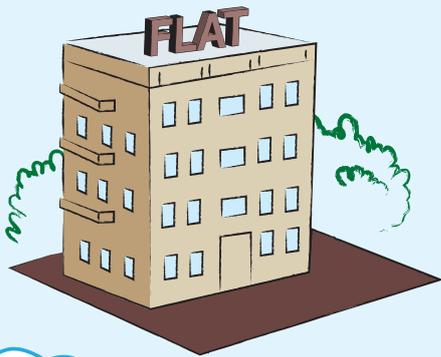
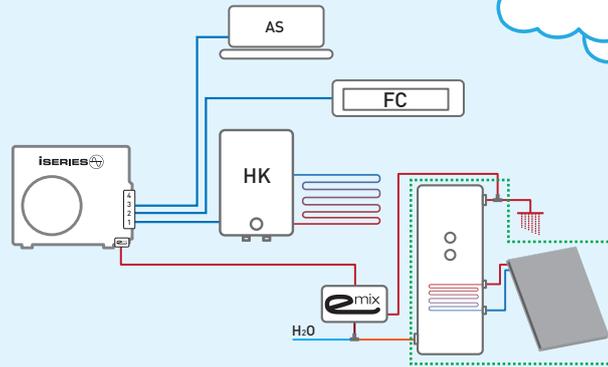
In its sector the Argo brand is now a synonym with Italian production, quality and reliability over time and features and excellent portfolio of products and systems that meet a multitude of needs for the integrated air-conditioning and heating service in residential, service and business applications.



# iSERIES

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Argo iSeries: heat pumps for heating, cooling and domestic hot water at the same time



apartments, houses, offices, open spaces



ALL INCLUDED, BUILT AND DESIGNED IN ITALY

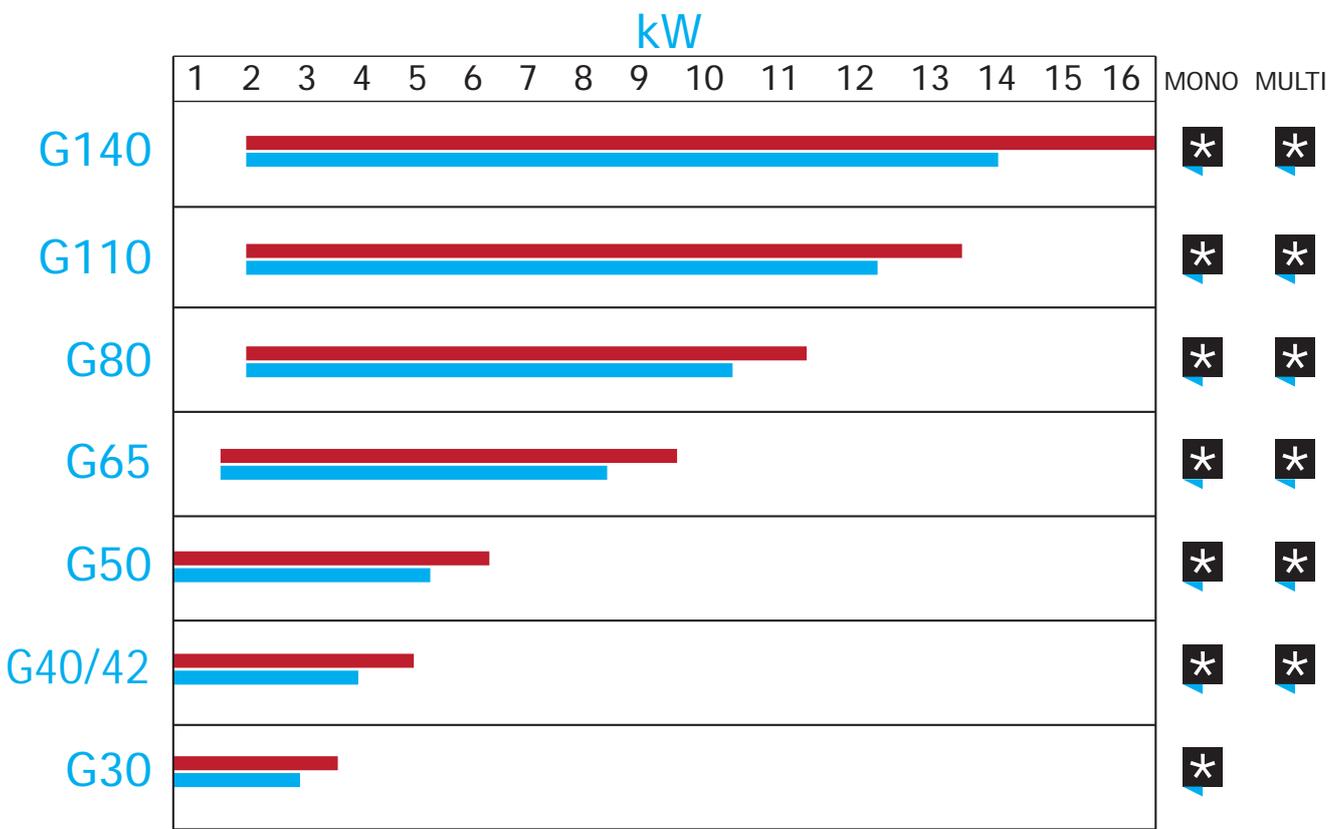


[www.argoclima.com](http://www.argoclima.com)



**iSERIES™** is a split system with a feature that has never been seen before: the same outdoor units are both mono and multi, they do not change based on the application and are compatible with all the indoor units in the iSERIES™ range. Some outdoor units are available to satisfy the needs of the most demanding customers, covering a modulated heat output range from 0.6 kW to over 16 kW; the range will be further extended up to over 22 kW.

**RANGES AND USAGE TYPES**

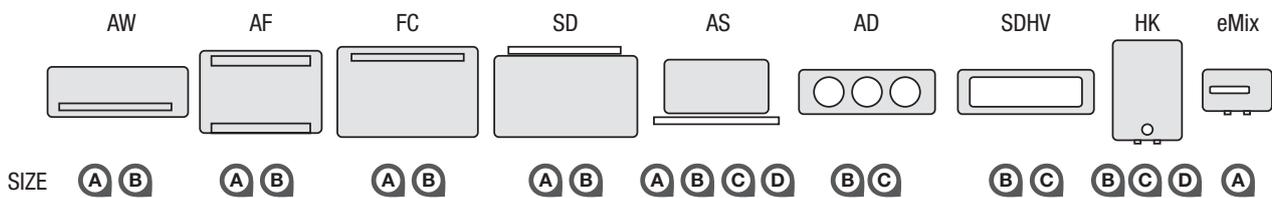


The indoor units in the iSERIES™ range are divided into categories by capacity and by application.

There are four capacity categories:

- size A up to 4 kW
- size B up to 7 kW
- size C up to 11 kW
- size D up to 14 kW

Thanks to the iSERIES™ sophisticated inverter regulation system, the classic references of rated capacity are replaced by a greater flexibility and the number of product codes and references is reduced by 70%.



The application categories are:

#### Air/Air type:

- AW wall mounted
- AF two-way floor
- FC floor and ceiling mounted
- SD floor and ceiling mounted for built-in applications
- AS cassette for dropped ceilings
- AD mono and multi-zone ducted
- SDHV high speed flexible ducted

#### Air/Water type:

- HK Hydrokit for underfloor systems, radiators and fan coils
- eMix for domestic hot water

Great flexibility in the combination of different types and categories of indoor units allows many different residential and commercial applications that previously could not be integrated into a single system.

**Air/air mono-split**, from a typical high quality residential split solutions for small service sector applications, offices, restaurants, bars... also multi-zone systems with ductable units... or for special applications such as containers, motor homes...

**Air/air multi-split**, a classic solution for the summer air conditioning of apartments and villas but also for heating and cooling offices, shops and small service sector applications in general.

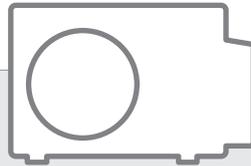
**Air/water mono-split**, this solution is commonly used for heating and cooling by underfloor systems, but can also be used with low temperature radiators or fan coils, even in combined and multi-zone combinations.

**Air/water multi-split mixed with air/air**, a new solution that offers a wide spectrum of applications. With this system we can create mixed configuration with underfloor heating plus high wall and any other kind of indoor units.

**Domestic hot water**, the revolutionary eMix and eMix tank units make it now possible to produce domestic hot water in any iSeries system 365 days a year in any operating mode, for both heating and while the system is in cooling mode.

iSERIES™ is an integrated system for heating, air conditioning, air treatment and domestic hot water production, entirely based on a sophisticated technique employing high efficiency inverter heat pumps, a renewable energy source that can be combined with thermal and photovoltaic solar power.

The flexibility of the iSERIES™ system satisfies the requirements of the residential market and small service sector applications: from the simplest high quality split unit systems to multi-zone systems with underfloor systems, to multi-split systems for apartments, offices and public spaces...



Outdoor Units



Indoor Units

		AE1G30LT	AE1G40LT	AE1G50LT	AE1G30EMX	AE1G42EMX	AE1G50EMX	AE1G65EMX	AE1G80EMX	AE1G110EMX	AE1G140EMX	Wall	Floor	Floor/Ceiling	Floor/Ceiling Built-in	Cassette	Ducted	SDHV	HydroKit	eMix / eMix Tank	
air/air mono-split					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
		✓	✓	✓								✓	✓	✓	✓	✓					
air/water mono-split	domestic hot water				✓	✓	✓	✓	✓	✓	✓										✓
	one zone underfloor						✓	✓	✓	✓	✓									✓	✓
	two zones underfloor						✓	✓	✓	✓	✓									✓	✓
	one zone fan coil						✓	✓	✓	✓	✓									✓	✓
	one zone underfloor and one zone fan coil						✓	✓	✓	✓	✓									✓	✓
	one zone underfloor and one zone radiators						✓	✓	✓	✓	✓									✓	✓
	one zone radiators						✓	✓	✓	✓	✓									✓	✓
air/air multi-split					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
mixed multi-split	air to air and domestic hot water						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	air to air and air to water						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	air to air, air to water and domestic hot water							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

## iSERIES™ OUTDOOR UNITS

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### Technical specifications for outdoor units

**Refrigerant flow/volume regulation** via centralised PID control system driving an SPWM Inverter, electronic expansion valves and DC fans.

**SVPWM180°, inverter with sensor less 180° PWM**; this is a purely sinusoidal inverter with extremely low electromagnetic noise emissions. It provides constant control of the permanent magnet synchronous motors throughout their 360° revolution (180°+180°). This optimises torque, a key factor in motor control for compressors in particular, thus providing excellent performance in terms of output, efficiency and quietness, both at max and low speeds.

**Multi-processor platform** based on the client/server model, with an operating system controlling the motors and microprocessors in the outdoor and indoor units.

**Standard RS485 bus communication** via shielded pair cable: the highest level of communication security is ensured thanks to a balanced interface normally used for industrial applications. The bus provides an address for each unit and can be wired either as a bus or in a star configuration starting from the outdoor unit. This allows the system to be expanded and developed whilst still ensuring compatibility between units. One advantage of the RS485 bus is the possibility of supplying the units in the system with power either in a centralised manner or each to unit independently.

**Compact and sophisticated electronics**, built using SMD technology, resin coated for protection from atmospheric agents and equipped with certified hardware protection circuits.

**Diagnostic system** for the easy identification of any technical faults, with data logging for technicians accessed directly from bus RS485.

**BootLoader** for software updates for outdoor and indoor units, with no risk of losing flash eeprom data.

**Automatic restart** following power black outs, with the same operating parameters as before and restart protected against over pressures.

**Heat exchangers in high quality copper/aluminium with inorganic hydrophilic aluminium**, which does not smell and provides top performance in heat exchange output and efficiency.

**Maximum installation flexibility**, supported by right pipe length and height difference between units.

**Rust-proof treatment**, providing the best protection against corrosion and rust even under extreme conditions such as in sea side.



By using state-of-the-art DC Inverter technology, iSeries modulates the power of each outdoor unit from 10% to 130% of the nominal value (the compressor decreases or increases the rotational speeds based on the approximate 100% value).

In this way the compressor runs also with heat loads as low as 600 W avoiding the on/off cycles of other models featuring less sophisticated electronics.

On the other hand, the unit can automatically supply in excess of the nominal power, unlike most traditional multi-split systems, which need the manual activation of the turbo function.

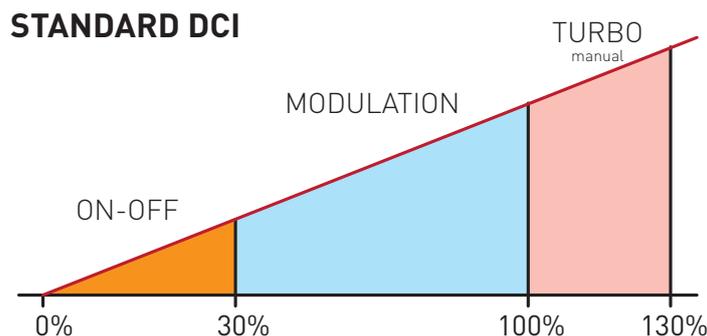
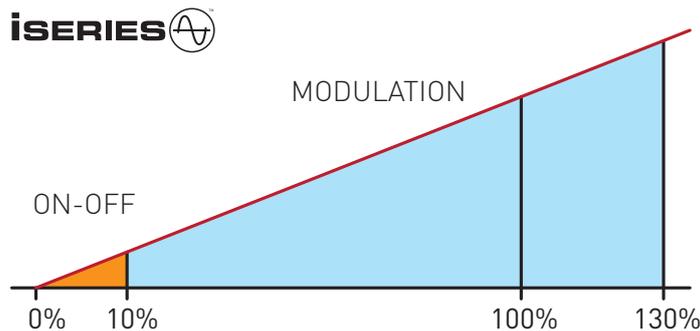
The advantages include:

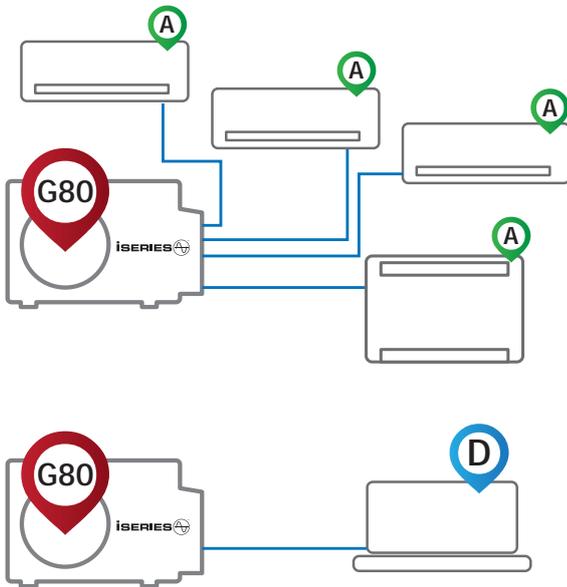
**increased efficiency** thanks to lower energy consumption (no on/off cycles)

**greater speed and precision** to reach and maintain the required temperature.

The borderline values for the operation of the outdoor units range from -50°C to +50°C, within which the self-protection mechanisms are activated. Many installations exist in Northern countries, which operate with temperatures around -30°C, and others in desert areas with outside temperatures of around 50°C. Obviously, at these temperatures the performance is much lower than the nominal values but operation is guaranteed in any case. The wide operating external temperature range should be underlined to describe the iSeries' high construction quality compared to products of a lower standard.

All outdoor units are fitted with two heating elements as standard: one in the unit base to prevent the formation of ice in heating mode (70 W) and one in the compressor casing to prevent the lubricating oil from freezing when the unit is in stand-by (30 W). Both elements are regulated and managed by the electronics and activated only when strictly necessary.





The same outdoor and indoor units can be used for residential and commercial applications. Different product lines no longer exist. A solution never seen before.

All the outdoor units of the iSeries range may be used in both mono-split (one indoor unit connected with an outdoor unit according to the selection tables) and multi-split configuration (several indoor units connected to an outdoor unit according to the selection tables) without any modification and/or without any special setting required.

Simply, the system adapts to the configuration automatically. This characteristic makes the iSeries unique in the market. As a matter of fact, all brands of air-conditioning systems propose the same indoor units for both mono-split and multi-split configurations (a feature which our units also have).

The process of ice prevention and elimination on the heat exchanger of the outdoor unit (needed for any air/air heat pump) in heating mode is managed by an **Intelligent Defrost** and **Non Stop Operation** function.

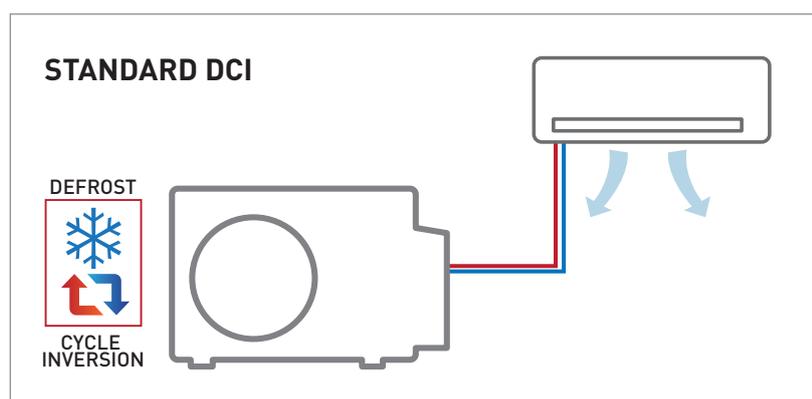
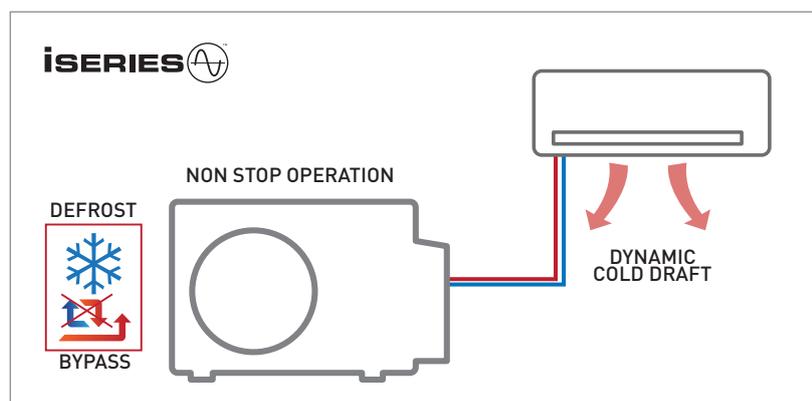
In most traditional products this process takes place by reversing the cycle (from heating to cooling mode) so that the heat exchanger of the outdoor unit is sent to the hot gas flowing out of the compressor, allowing the defrosting of the heat exchanger. This leads to a sudden decrease in the temperature of the heat exchanger of the indoor units. The indoor unit fans are stopped to prevent the infiltration of cold air into the room.

iSeries manages this procedure differently. If the control system does not detect any critical conditions in the outdoor air, the unit does not invert the cycle but rather adopts the hot gas by-pass technique. Basically, part of the gas leaving the compressor is sent to the heat exchanger of the outdoor unit so that it is possible to eliminate the accumulated ice. A quantity of hot gas continues to be sent to the indoor unit (the operation mode is always

on heating). By doing so, the heat exchanger of the indoor units remain at a temperature apt to heat the environment.

In addition to this function, iSeries dynamically understands whether it is possible to keep the fans of the indoor units active to continue to provide heat to the environment.

Example: if an environment is 15° C and the system is on Intelligent Defrost, the function called **Dynamic Cold Draft** recognises that it is still possible to heat the environments (thanks to the fact of having the heat exchanger of the units at a much higher temperature than the same environment) and will therefore keep the fans at the maximum speed possible based on the temperature difference between the heat exchanger and environment. Vice versa, if the environment is at a temperature that is very close to the one of the heat exchanger, the system will avoid sending cold air and causing discomfort to the users by stopping the ventilation.





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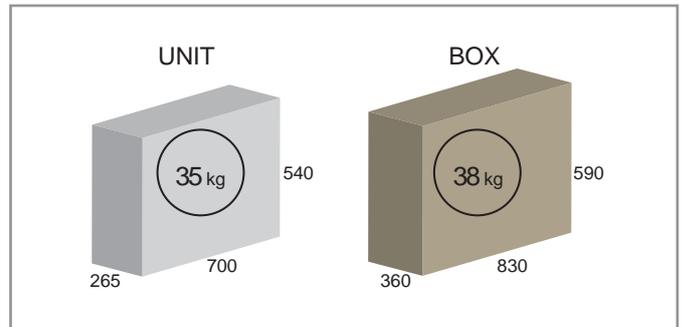


eco friendly

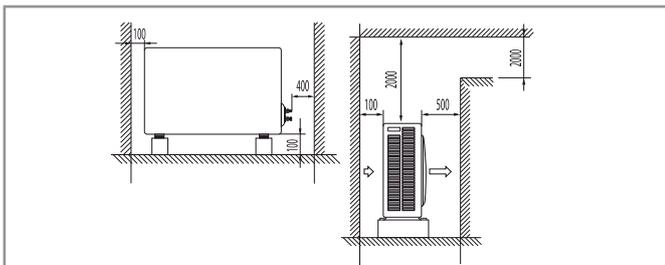
# AEI 1G 30 LT

A top level and high capacity mono-split outdoor unit of the iSeries range, to be used with any size A of the different kind of air to air indoor units: high wall, floor, floor/ceiling, cassette and slim ducted. Fully compliant with ERP/Ecodesign regulation, this high quality and reliable outdoor unit is a perfect choice to make many application both for heating and cooling.

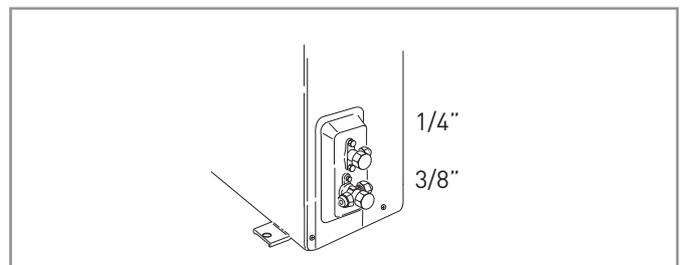
## DIMENSIONS (mm)



## MINIMUM OPERATION AREA (mm)



## GAS CONNECTIONS



## OPERATING LIMITS

-20°C | +43°C

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	2680	<b>A++</b>
	SEER		6.11	
<b>HEATING</b> Average -10°C	Pdesignh	W	3030	<b>A</b>
	SCOP		3.82	

ERP Ecodesign - EN14825

### COOLING

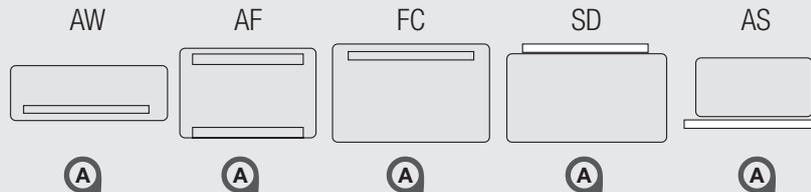
+35°C OU / 27/19°C IU	Minimum	W	1370
	Maximum	W	3650

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	930
	Maximum	W	3880
-7/-8°C OU / +20°C IU	Maximum	W	2650
-10/-11°C OU / +20°C IU	Maximum	W	2350
-20/-21°C OU / +20°C IU	Maximum	W	2150

EN14511

## INDOOR MATCHING



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1550/ 6,90
R410A standard refrigerant charge	kg	0.81
Compressor Type		Single Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	40

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	9,52 (3/8")
Total length of pipes (standard load)	m	7,5
Total length of pipes (additional load)	m	15
Maximum height difference (total)	m	10



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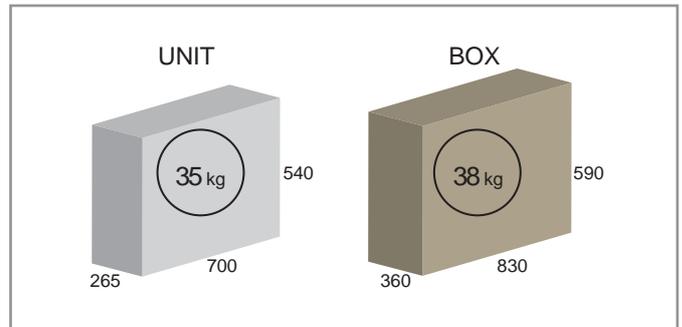


# AEI 1G 30 EMX

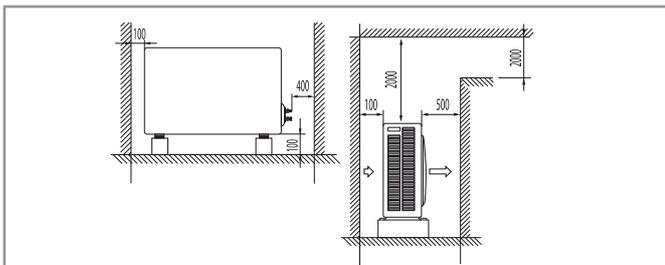
The smallest mono-split outdoor unit of the iSeries range, to be used with any size A air/air indoor unit, is the most compact class A++ outdoor unit complying with the new ERP/Ecodesign regulations.

AEI1G30emx may also be connected to an eMix or eMix tank to create a split inverter system suitable for the sole production of domestic hot water from a thermo-dynamic source.

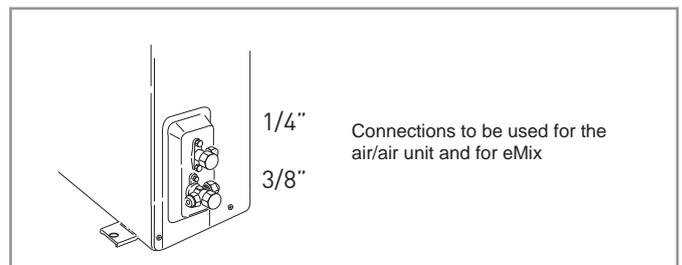
## DIMENSIONS (mm)



## MINIMUM OPERATION AREA (mm)



## GAS CONNECTIONS



## OPERATING LIMITS

-32°C | +50°C

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	3550	<b>A++</b>
	SEER		6.23	
<b>HEATING</b> Average -10°C	Pdesignh	W	3240	<b>A+</b>
	SCOP		4.39	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	1370
	Maximum	W	3600

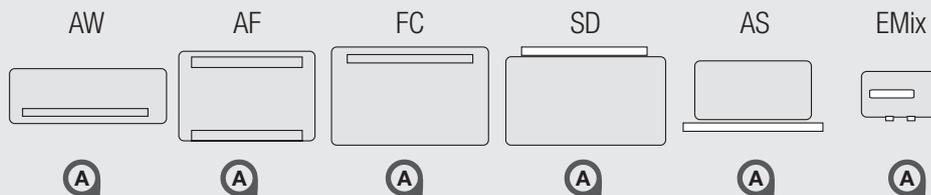
### HEATING

+7/6°C OU / +20°C IU	Minimum	W	930
	Maximum	W	3320
-7/-8°C OU / +20°C IU	Maximum	W	2840
-10/-11°C OU / +20°C IU	Maximum	W	2660
-22/-23°C UE / +20°C UI	Massimo	W	2170

EN14511

## INDOOR MATCHING

**A**  
**eMix**



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1550/ 6,90
R410A standard refrigerant charge	kg	0.81
Compressor Type		Single Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	40

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	9,52 (3/8")
Total length of pipes (standard load)	m	7,5
Total length of pipes (additional load)	m	15
Maximum height difference (total)	m	10



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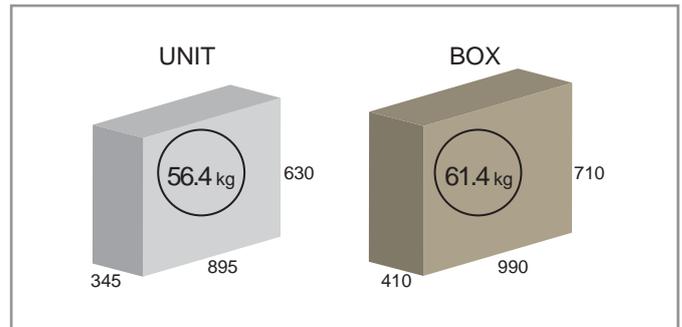


# AEI 1G 40 LT

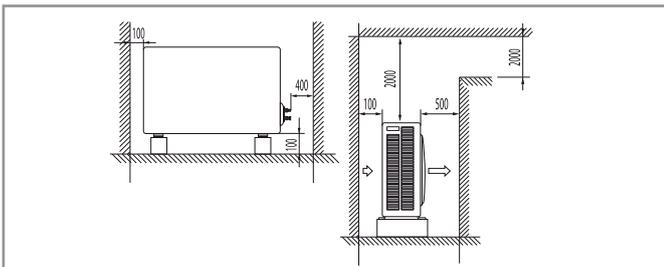
A top level A++ mono-split outdoor unit of the iSeries range, to be used with any size A of the different kind of air to air indoor units: high wall, floor, floor/ceiling, cassette and slim ducted.

Fully compliant with ERP/Ecodesign regulation, this high quality and reliable outdoor unit is a perfect choice to make many application both for heating and cooling.

## DIMENSIONS (mm)

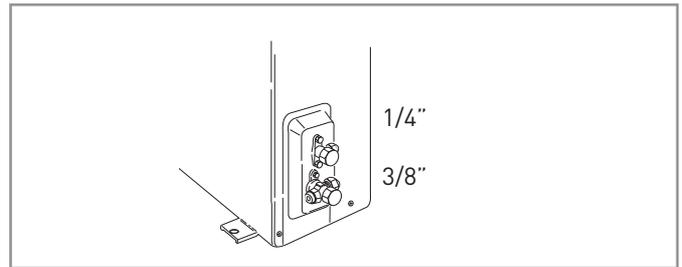


## MINIMUM OPERATION AREA (mm)



OPERATING LIMITS  
-20°C | +43°C

## GAS CONNECTIONS



## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	3670	<b>A++</b>
	SEER		6.06	
<b>HEATING</b> Average -10°C	Pdesignh	W	4020	<b>A+</b>
	SCOP		4.01	

ERP Ecodesign - EN14825

### COOLING

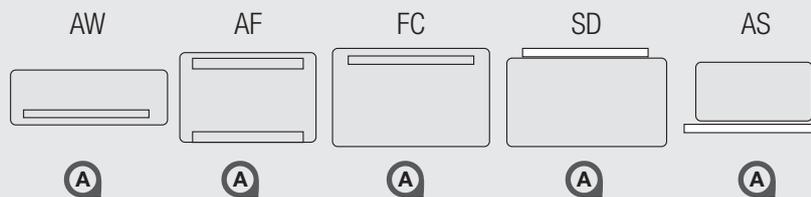
+35°C OU / 27/19°C IU	Minimum	W	1010
	Maximum	W	4060

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	910
	Maximum	W	4870
-7/-8°C OU / +20°C IU	Maximum	W	3510
-10/-11°C OU / +20°C IU	Maximum	W	3250
-20/-21°C UE / +20°C UI	Massimo	W	2980

EN14511

## INDOOR MATCHING



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1550/6,90
R410A standard refrigerant charge	kg	1,1
Compressor Type		Single Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	44

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	9,52 (3/8")
Total length of pipes (standard load)	m	7,5
Total length of pipes (additional load)	m	15
Maximum height difference (total)	m	10



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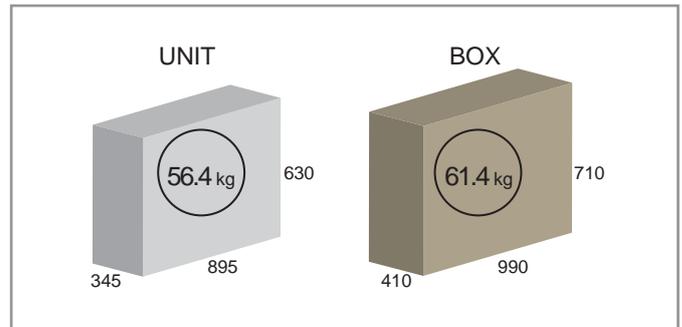


# AEI 1G 42 EMX

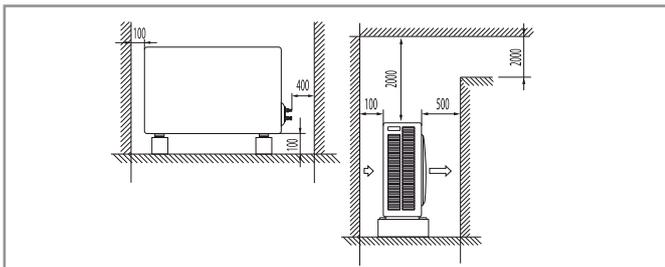
Outdoor unit that can be connected to any size A air/air indoor unit both in mono and dual configuration, or to just one size B air/air indoor unit.

It is also possible to connect an eMix or eMix tank (through the dedicated eMix port) to a size A or B indoor unit at the same time, for the production of hot water for domestic use. This means that with AEI1G42emx mono configurations with size A or B, dual with size A, mono size A or B plus eMix and dual with size A plus eMix are possible for air-conditioning and the simultaneous production of hot domestic water in both cooling and heating mode up to thermo-dynamic 80°C.

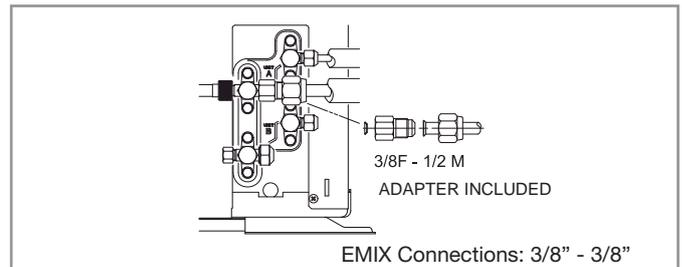
## DIMENSIONS (mm)



## MINIMUM OPERATION AREA (mm)



## GAS CONNECTIONS



OPERATING LIMITS  
-32°C | +50°C

\*the AEI1G42 version without eMix port is also available

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	4300	<b>A++</b>
	SEER		6.52	
<b>HEATING</b> Average -10°C	Pdesignh	W	3420	<b>A+</b>
	SCOP		4.09	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	1020
	Maximum	W	4310

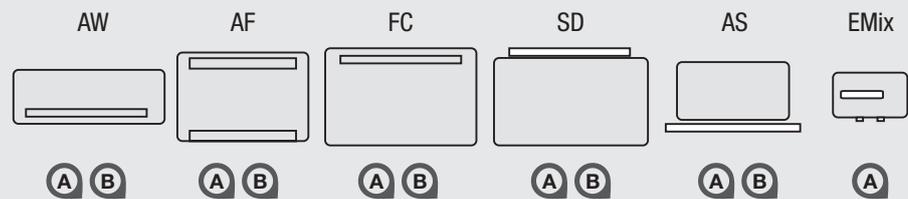
### HEATING

+7/6°C OU / +20°C IU	Minimum	W	940
	Maximum	W	5150
-7/-8°C OU / +20°C IU	Maximum	W	3030
-10/-11°C OU / +20°C IU	Maximum	W	2900
-22/-23°C OU / +20°C IU	Maximum	W	2400

EN14511

## INDOOR MATCHING

A + A  
A + A + eMix  
A  
A + eMix  
B  
B + eMix



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1790 / 7,80
R410A standard refrigerant charge	kg	1,3
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	41

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	9,52 (3/8")
Total length of pipes (standard load)	m	Dual 15 / Mono 7.5
Total length of pipes (additional load)	m	Dual 30 / Mono 20
Pipe length per unit (standard load)	m	Dual 12
Pipe length per unit (additional load)	m	Dual 25
Maximum height difference (total)	m	10
Maximum height difference (between indoor units)	m	5



improve your life

eco friendly

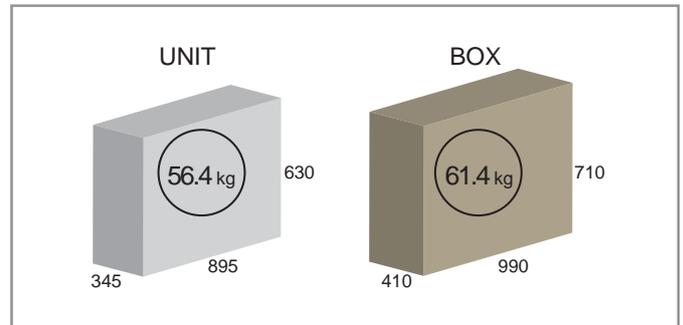


# AEI 1G 50 LT

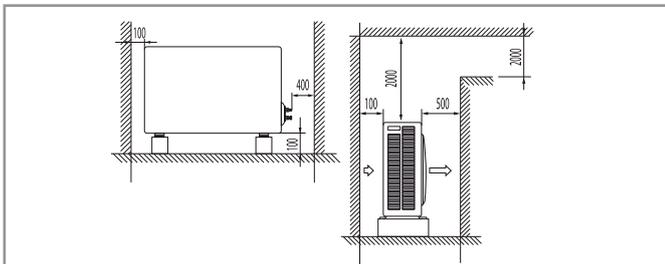
A top level and high capacity mono-split outdoor unit of the iSeries range, to be used with any size B of the different kind of air to air indoor units: high wall, floor, floor/ceiling, cassette and slim ducted.

Fully compliant with ERP/Ecodesign regulation, this high quality and reliable outdoor unit is a perfect choice to make many application both for heating and cooling.

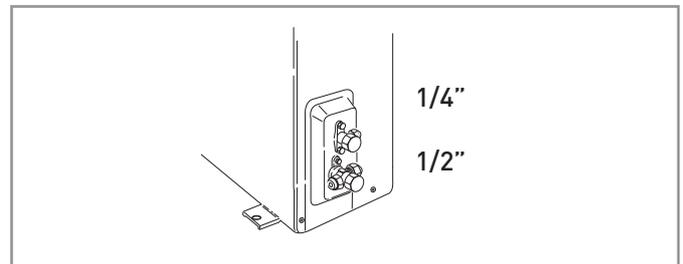
## DIMENSIONS (mm)



## MINIMUM OPERATION AREA (mm)



## GAS CONNECTIONS



## OPERATING LIMITS

-20°C | +43°C

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	5215	<b>A++</b>
	SEER		6.74	
<b>HEATING</b> Average -10°C	Pdesignh	W	4470	<b>A+</b>
	SCOP		4.16	

ERP Ecodesign - EN14825

### COOLING

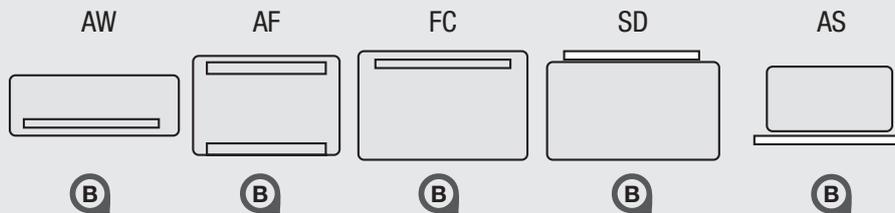
+35°C OU / 27/19°C IU	Minimum	W	900
	Maximum	W	5650

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	1030
	Maximum	W	5290
-7/-8°C OU / +20°C IU	Maximum	W	3900
-10/-11°C OU / +20°C IU	Maximum	W	3300
-20/-21°C UE / +20°C UI	Massimo	W	3040

EN14511

## INDOOR MATCHING



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1790 / 7,80
R410A standard refrigerant charge	kg	1,3
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	41

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	12,77 (1/2")
Total length of pipes (standard load)	m	7,5
Total length of pipes (additional load)	m	20
Maximum height difference (total)	m	10



improve your life

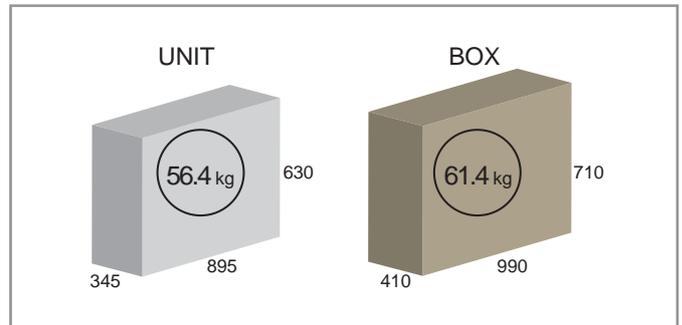


# AEI 1G 50 EMX

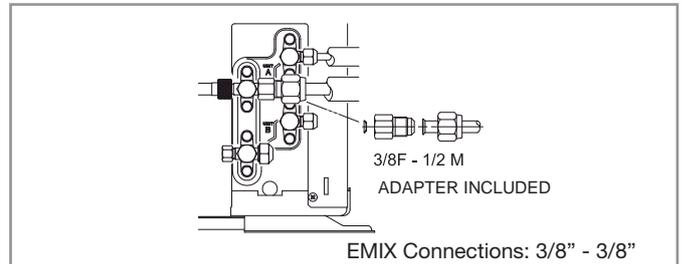
Mono/dual outdoor unit featuring great application flexibility; with AEI1G50emx connections are possible to indoor units of the iSeries range of the air/air type, of the SDHV flexible ductable type, of the Hydrokit type for underfloor heating systems in mono, multi and mixed air/air and air/water configuration. The port dedicated to eMix allows the simultaneous production of domestic hot water up to thermo-dynamic 80°C, with any combination (among those supported) of size A or B indoor units in both cooling and heating mode. With G50emx it is also possible to create a multi application for production of hot domestic water, for example by connecting two eMix Tanks 300 clusterized to provide 600 litres of hot water.

AEI1G50emx offers a range of solutions that go well beyond its mono/dual configuration; just think of a solution with a Hydrokit and an i1218 SDHV unit, two units which can work at the same time or alternatively, for example to heat with the underfloor heating system and cool and/or de-humidify with the distribution of air through the SDHV unit. Obviously, the eMix or eMix tank module may be added to the two units to produce domestic hot water at the same time during both the heating period and the cooling period.

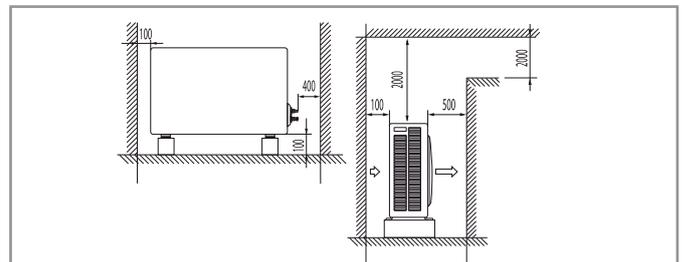
## DIMENSIONS (mm)



## GAS CONNECTIONS



## MINIMUM OPERATION AREA (mm)



\*the AEI1G50BB version without eMix port is also available

OPERATING LIMITS  
-32°C | +50°C

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	5400	<b>A++</b>
	SEER		6.36	
<b>HEATING</b> Average -10°C	Pdesignh	W	4290	<b>A+</b>
	SCOP		4.01	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	840
	Maximum	W	5900

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	950
	Maximum	W	6000
-7/-8°C OU / +20°C IU	Maximum	W	3930
-10/-11°C OU / +20°C IU	Maximum	W	3730
-22/-23°C OU / +20°C IU	Maximum	W	3270

EN14511

## AIR / WATER

AEI1G50EMX+HKBE

EN14511

### COOLING

+35°C

Capacity @ 18/23°C (nom)	W	4500
EER @ 18/23°C		3,57
Capacity @ 7/12°C (nom)	W	3150
EER @ 7/12°C		1,97

### HEATING

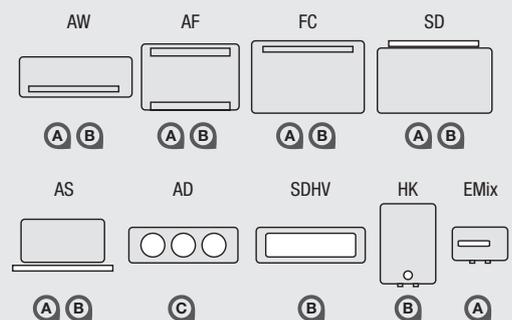
+7°C

-7°C

Capacity @ 30/35°C (nom)	W	5240	3800
COP @ 30/35°C		4,22	2,37
Capacity @ 40/45°C (nom)	W	4930	3210
COP @ 40/45°C		3,31	1,83
Capacity @ 45/50°C (nom)	W	4780	3100
COP @ 45/50°C		2,96	1,92
Capacity @ 20/25°C (nom)	W	6200	3160
COP @ 20/25°C		5,36	2,73

## INDOOR MATCHING

- A + A
- A + A + eMix
- A + B
- A + B + eMix
- B
- B + eMix
- C (only ADICS10)
- C (only ADICS10) + eMix



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	1790 / 7,80
R410A standard refrigerant charge	kg	1,3
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	41

Liquid Pipe	mm (inch)	6,35 (1/4")
Gas Pipe	mm (inch)	9,52 (3/8")
Total length of pipes (standard load)	m	Dual 15 / Mono 7.5
Total length of pipes (additional load)	m	Dual 30 / Mono 20
Pipe length per unit (standard load)	m	Dual 12
Pipe length per unit (additional load)	m	Dual 25
Maximum height difference (indoor/outdoor units)	m	10
Maximum height difference (indoor/indoor units)	m	5



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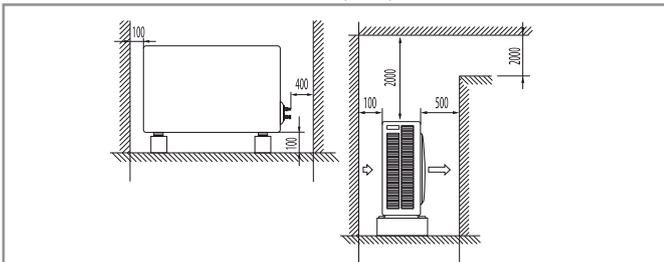
# AEI 1G 65 EMX

AEI1G65emx, is a mono/dual/trial connections, compact size with the possibility of connecting an eMix or eMix tank, is suitable to create a wide range of summer and winter air-conditioning solutions, with or without domestic hot water production, in small family homes, residential flats or offices as well as in restaurants, shops and small stores.

All the types of indoor units of the iSeries range are recognised and may work in single, multiple and mixed mode.

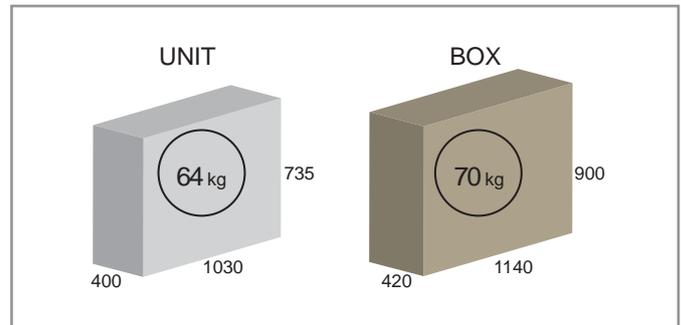
AEI1G65emx is very flexible in the mixed air/air configurations with air/water, allowing the installation of underfloor heating systems or low temperature radiators, at the same time as any type of direct expansion indoor units (wall mounted, floor/ceiling mounted, consoles, cassettes, ductable) and obviously the SDHV units with sound-proofed flexible ducting to reach every corner of the building, bathrooms and kitchen included. Worth remembering is the possibility of mono/multi configuration with eMix and eMix tank units for the creation of cluster application suitable for the production of domestic hot water only.

### MINIMUM OPERATION AREA (mm)

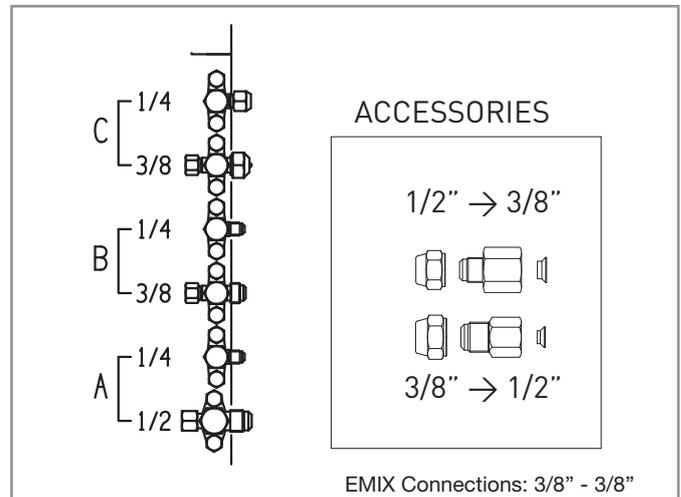


**OPERATING LIMITS**  
-32°C | +50°C

### DIMENSIONS (mm)



### GAS CONNECTIONS



\*the three phase version will be available during 2014

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	6500	<b>A++</b>
	SEER		6.49	
<b>HEATING</b> Average -10°C	Pdesignh	W	6400	<b>A+</b>
	SCOP		4.01	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	1570
	Maximum	W	7650

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	1820
	Maximum	W	8670
-7/-8°C OU / +20°C IU	Maximum	W	5920
-10/-11°C OU / +20°C IU	Maximum	W	5340
-22/-23°C OU / +20°C IU	Maximum	W	4260

EN14511

## AIR / WATER

AEI1G65EMX+HKBE

EN14511

### COOLING

+35°C

Capacity @ 18/23°C (nom)	W	6000
EER @ 18/23°C		3,60
Capacity @ 7/12°C (nom)	W	5200
EER @ 7/12°C		2,58

### HEATING

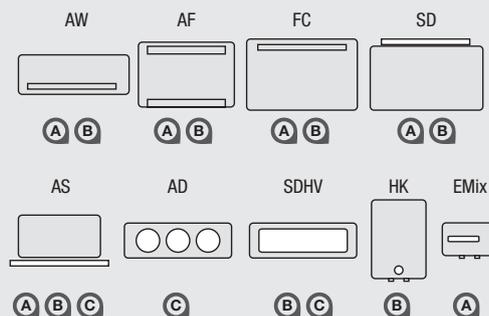
+7°C

-7°C

Capacity @ 30/35°C (nom)	W	8220	5210
COP @ 30/35°C		4,14	2,80
Capacity @ 40/45°C (nom)	W	7290	4720
COP @ 40/45°C		3,25	2,20
Capacity @ 50/55°C (nom)	W	5650	3500
COP @ 50/55°C		2,63	1,58
Capacity @ 20/25°C (nom)	W	8700	4500
COP @ 20/25°C		5,48	2,70

## INDOOR MATCHING

A + A + A  
 A + A + A + eMix  
 A + A + B  
 A + A + B + eMix  
 B + B  
 B + B + eMix  
 A + B  
 A + B + eMix  
 A + A  
 A + A + eMix  
 B  
 B + eMix  
 C  
 C + eMix



Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	2600 / 12
R410A standard refrigerant charge	kg	2.7
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	47

Liquid Pipe	mm (inch <sup>3</sup> )	6,35 (1/4")
Gas Pipe	mm (inch <sup>3</sup> )	9,52 (3/8") / 12,77 (1/2")
Total length of pipes (standard load)	m	Multi 30 / Mono 20
Total length of pipes (additional load)	m	Multi 45 / Mono 35
Pipe length per unit (standard load)	m	Dual 25 / Trial 20
Pipe length per unit (additional load)	m	Dual 30 / Trial 25
Maximum height difference (indoor/outdoor units)	m	10
Maximum height difference (indoor/indoor units)	m	5



improve your life

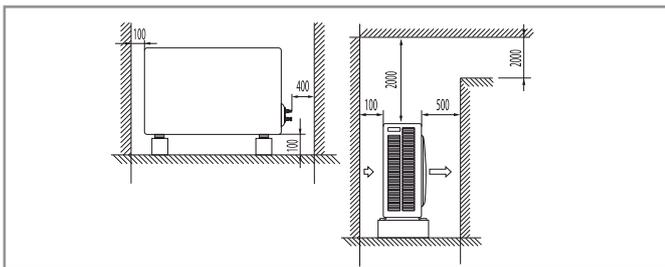


# AEI 1G 80 EMX

AEI1G80emx is an outdoor unit for border applications between residential and small service sector complexes. With its thermal power, the compact size of a mono fan structure, the possibility of creating mono, dual, tri and quadri split systems and the simultaneous production of domestic hot water, AEI1G80emx is the perfect solution to use as a primary heating system, able to offer an air-conditioning service all year long, with an air and/or water unit, underfloor panel heaters or low temperature radiators, flexible ducting and hot water heated with the renewable energy of the AEI1G80emx heat pump.

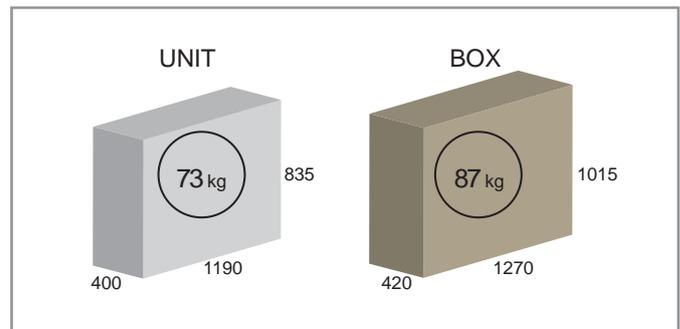
No less important is the possibility of installing up to four eMix units, dedicating AEI1G80emx just to producing large quantities of domestic hot water for hotels, schools, factories, the availability of the version for three-phase power supply (during 2014) and the multiple opportunities offered for applications in the service sector with cassettes, ductable units, slim ducted for hotel, SDHV flexible ductable units.

## MINIMUM OPERATION AREA (mm)

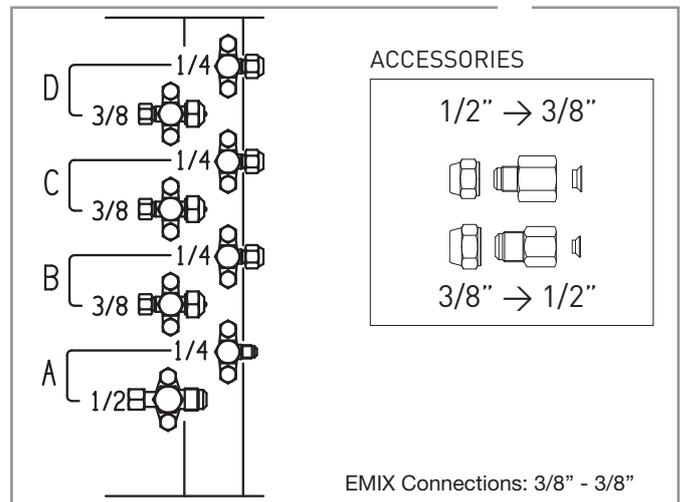


**OPERATING LIMITS**  
-32°C | +50°C

## DIMENSIONS (mm)



## GAS CONNECTIONS



\*the three phase version will be available during 2014

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	8970	<b>A++</b>
	SEER		6.74	
<b>HEATING</b> Average -10°C	Pdesignh	W	7660	<b>A+</b>
	SCOP		4.07	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	1600
	Maximum	W	9620

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	1700
	Maximum	W	11200
-7/-8°C OU / +20°C IU	Maximum	W	6780
-10/-11°C OU / +20°C IU	Maximum	W	6480
-22/-23°C OU / +20°C IU	Maximum	W	4930

EN14511

## AIR / WATER

EN14511

AEI1G80EMX+HKCE

### COOLING

+35°C

Capacity @ 18/23°C (nom)	W	7980
EER @ 18/23°C		4,01
Capacity @ 7/12°C (nom)	W	6870
EER @ 7/12°C		2,84

### HEATING

+7°C

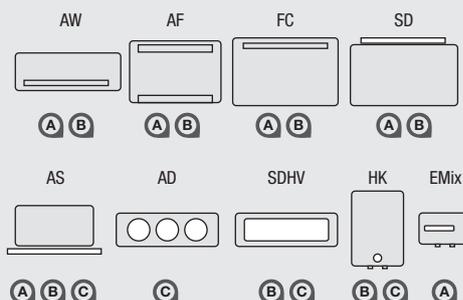
-7°C

Capacity @ 30/35°C (nom)	W	9700	5890
COP @ 30/35°C		4,06	2,59
Capacity @ 40/45°C (nom)	W	8010	5700
COP @ 40/45°C		3,36	2,35
Capacity @ 50/55°C (nom)	W	6400	3900
COP @ 50/55°C		2,49	1,49
Capacity @ 20/25°C (nom)	W	10240	5120
COP @ 20/25°C		5,03	2,56

Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	3300 / 15
R410A standard refrigerant charge	kg	2.9
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	47
Liquid Pipe	mm (inch*)	6,35 (1/4")
Gas Pipe	mm (inch*)	9,52 (3/8") / 12,77 (1/2")
Total length of pipes (standard load)	m	Multi 40 / Mono 30
Total length of pipes (additional load)	m	Multi 65 / Mono 50
Pipe length per unit (standard load)	m	30
Pipe length per unit (additional load)	m	30
Maximum height difference (indoor/outdoor units)	m	10
Maximum height difference (indoor/indoor units)	m	5

## INDOOR MATCHING

**A + A + A + A**  
**A + A + A + A + eMix**  
**A + A + A + B**  
**A + A + A + B + eMix**  
**A + A + A**  
**A + A + A + eMix**  
**A + A + B**  
**A + A + B + eMix**  
**A + B + B**  
**A + B + B + eMix**  
**B + B**  
**B + B + eMix**  
**A + B**  
**A + B + eMix**  
**A + A**  
**A + A + eMix**  
**A + C**  
**A + C + eMix**  
**B**  
**B + eMix**  
**C**  
**C + eMix**





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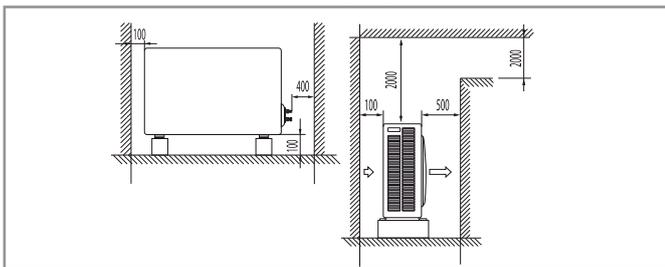


eco friendly

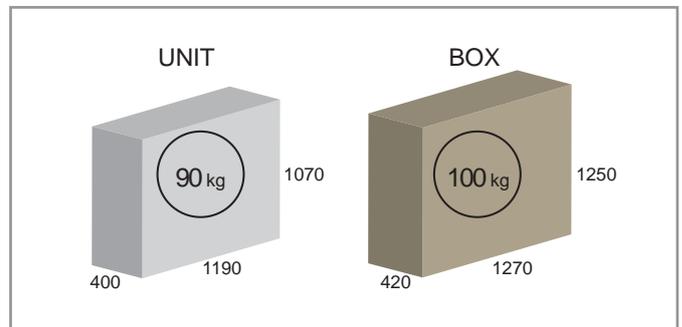
# AEI 1G 110 EMX

It is the iSeries most powerful outdoor unit currently available; with its thermal 13 kW it perfectly suits the applications for the service sector, where the wide range of indoor units expresses its maximum flexibility. Likewise AEI1G110emx is a great primary heating and air-conditioning solution for moderately sized residential buildings, whether these are large flats or family homes. AEI1G110emx features a compact structure with a single fan in single-phase and three-phase version (during 2013) and offers four ports per indoor unit as well as the eMix port for the production of domestic hot water at the same time as heating and air-conditioning. Mono, dual, trial and quadri split solutions are thus possible by combining all the types and sizes of iSeries indoor units, standard air/air, SDHV type air/air, air/water (hydrokit for underfloor heating/cooling or low temperature radiators) and obviously eMix and eMix Tank, also clustered for just producing hot water from a renewable source in large quantities (up to 1200 litres per system).

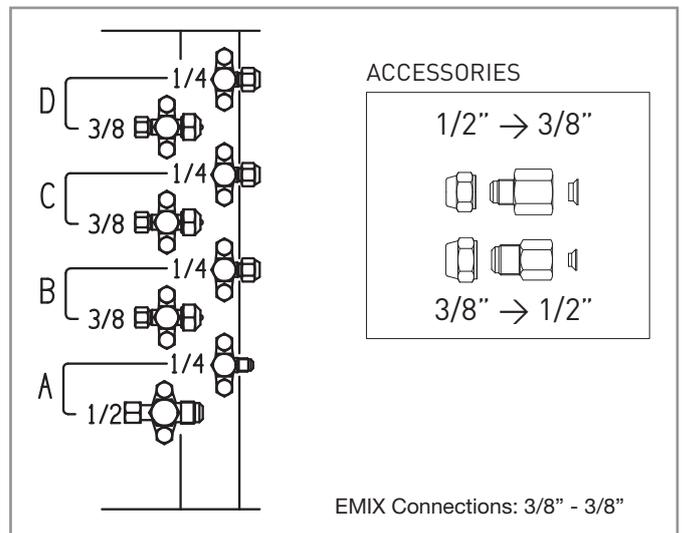
### MINIMUM OPERATION AREA (mm)



### DIMENSIONS (mm)



### GAS CONNECTIONS



**OPERATING LIMITS**  
 -32°C | +50°C

\*the three phase version will be available during 2014

## AIR / AIR

<b>COOLING</b> +35°C	Pdesignc	W	10640	<b>A++</b>
	SEER		6.60	
<b>HEATING</b> Average -10°C	Pdesignh	W	9400	<b>A+</b>
	SCOP		4.12	

ERP Ecodesign - EN14825

### COOLING

+35°C OU / 27/19°C IU	Minimum	W	1800
	Maximum	W	11500

### HEATING

+7/6°C OU / +20°C IU	Minimum	W	1900
	Maximum	W	13500
-7/-8°C OU / +20°C IU	Maximum	W	8300
-10/-11°C OU / +20°C IU	Maximum	W	7530
-22/-23°C OU / +20°C IU	Maximum	W	6010

EN14511

## AIR / WATER

AEI1G110EMX+HKDE

EN14511

### COOLING

+35°C

Capacity @ 18/23°C (nom)	W	10320
EER @ 18/23°C		3,39
Capacity @ 7/12°C (min/nom/max)	W	7140
EER @ 7/12°C		2,19

### HEATING

+7°C

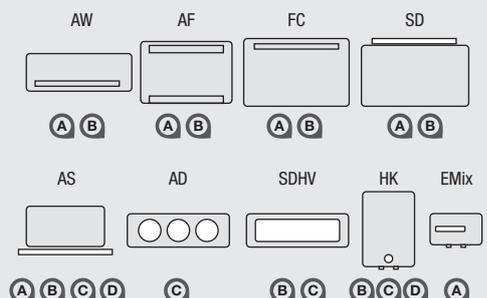
-7°C

Capacity @ 30/35°C (nom)	W	11200	5330
COP @ 30/35°C		4,08	2,31
Capacity @ 40/45°C (nom)	W	9650	5700
COP @ 40/45°C		3,20	2,21
Capacity @ 50/55°C (nom)	W	7500	5400
COP @ 50/55°C		2,47	2,05
Capacity @ 20/25°C (nom)	W	12250	5150
COP @ 20/25°C		4,76	2,51

Power supply	V/Ph/Hz	230/1/50
Power Input (max.)	W/A	4400 / 20
R410A standard refrigerant charge	kg	3.38
Compressor Type		Twin Rotary
Fan speed		Auto
Sound pressure (max.)	dB(A)	48
Liquid Pipe	mm (inch")	6,35 (1/4")
Gas Pipe	mm (inch")	9,52 (3/8") / 12,77 (1/2")
Total length of pipes (standard load)	m	Multi 40 / Mono 30
Total length of pipes (additional load)	m	Multi 65 / Mono 50
Pipe length per unit (standard load)	m	30
Pipe length per unit (additional load)	m	30
Maximum height difference (indoor/outdoor units)	m	10
Maximum height difference (indoor/indoor units)	m	5

## INDOOR MATCHING

**A + A + A + A**  
**A + A + A + A + eMix**  
**A + A + A + B**  
**A + A + A + B + eMix**  
**A + A + B + B**  
**A + A + B + B + eMix**  
**A + B + B + B**  
**A + B + B + B + eMix**  
**A + A + A**  
**A + A + A + eMix**  
**A + A + B**  
**A + A + B + eMix**  
**A + B + B**  
**A + B + B + eMix**  
**B + B + B**  
**B + B + B + eMix**  
**B + B**  
**B + B + eMix**  
**A + C**  
**A + C + eMix**  
**A + B**  
**A + B + eMix**  
**A + A**  
**A + A + eMix**  
**B + C**  
**B + C + eMix**  
**B**  
**B + eMix**  
**C**  
**C + eMix**  
**D**  
**D + eMix**



# iSERIES™ V

iSeries V, the extension to large residential and commercial applications is as the first represented by the new G140, a compact and silent outdoor unit capable to reach up to 16 kW in heating and in near future by additional outdoor units that will be released up to 22 kW in a single inverter driven outdoor unit, capable to be connected in double, triple or quad cluster up to 88 kW of renewable energy with up to 44 indoor units.

G140 is the new boundary of iSeries system introducing as the first in commercial applications, the added value of iSeries like the domestic hot water production during cooling operation and mixed air to air and air to water indoor units.



OPERATING LIMITS  
-32°C | +50°C

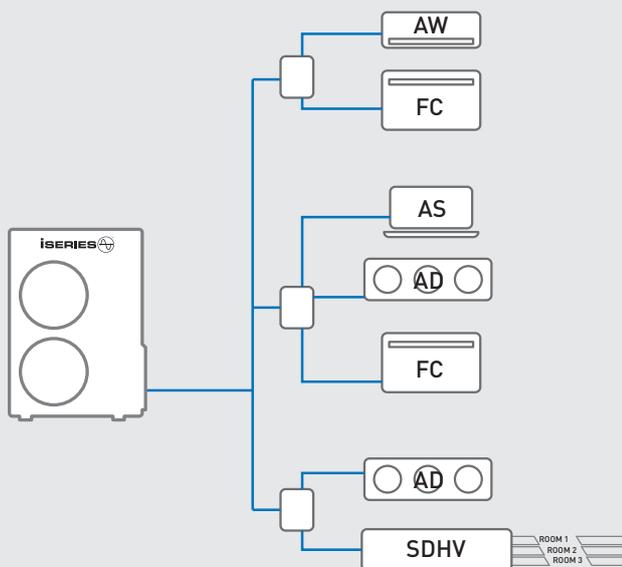
AE 1G 140

# iSERIES™ V

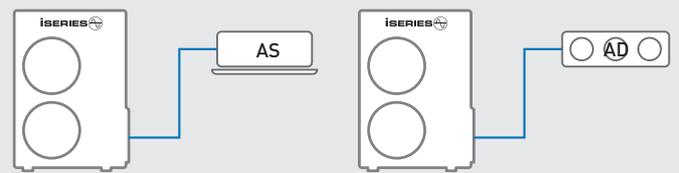
The iSeries V provide extended refrigerant circuit in a mixed tree/star topology; the full range of iSeries indoor unit could be connected on the iSeries V refrigerant circuit, including hydrokit and emix units, through three different kind of intelligent multibox providing one to two, one to three and one to four outdoor/indoor unit connections.

The multiboxes are connected at the same level of the refrigerant circuit on the outdoor side; the max number of multiboxes depend of the max number of required indoor unit and the max capacity of the selected outdoor unit.

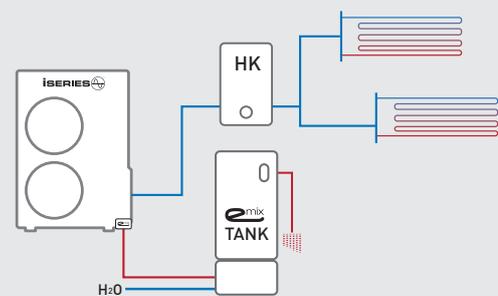
## COMMERCIAL MULTI



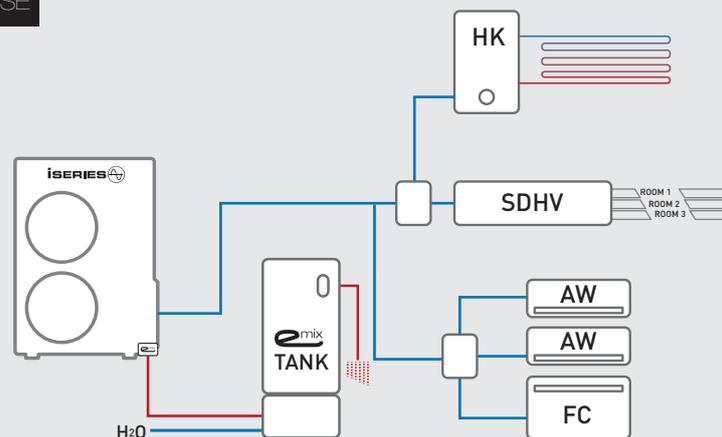
## COMMERCIAL SINGLE



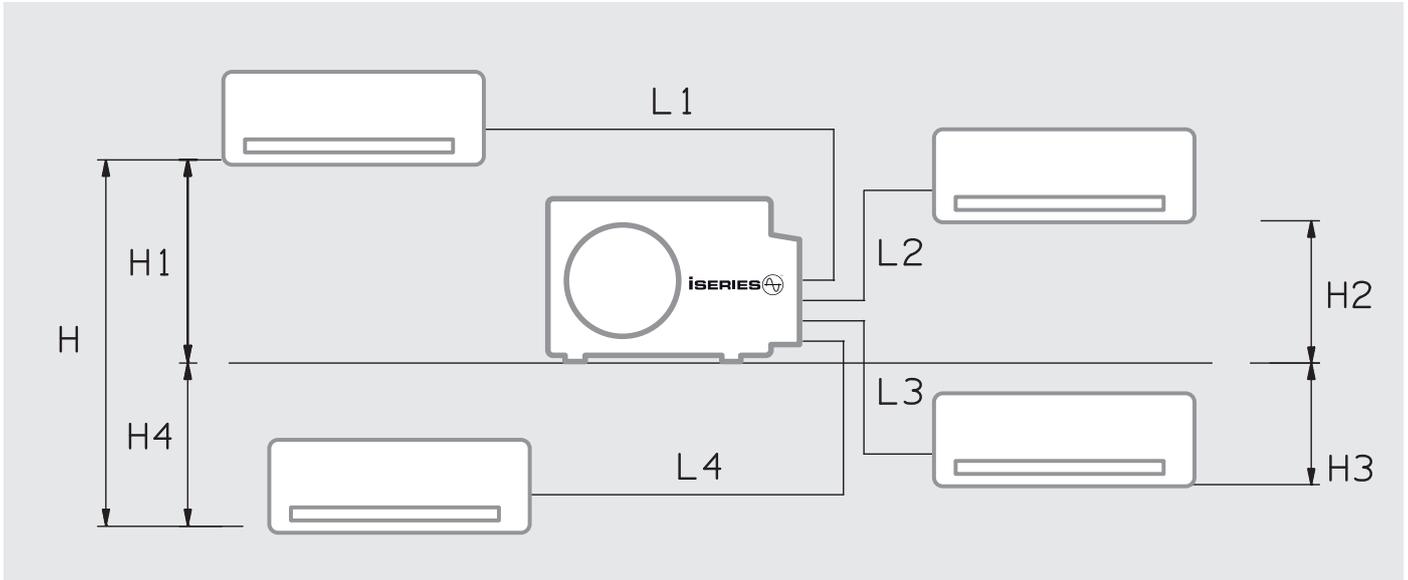
## RESIDENTIAL HEAT PUMP



## RESIDENTIAL MIXED BIG HOUSE



# iSERIES™ OUTDOOR/INDOOR REFRIGERANT CONNECTIONS



		STANDARD LOAD		ADDITIONAL LOAD	
		L Tot (m)	L n (m)	L Tot (m)	L n (m)
<b>AEI1G30</b>	Mono	7,5	-	15	-
<b>AEI1G40/42</b>	Mono	7,5	-	20	-
	Dual	15	12	30	25
<b>AEI1G50</b>	Mono	7,5	-	20	-
	Dual	15	12	30	25
<b>AEI1G65</b>	Mono	20	-	35	-
	Dual	30	25	45	30
	Tripl	30	20	45	25
<b>AEI1G80</b>	Mono	30	-	50	-
	Dual	40	30	65	30
	Tripl	40	30	65	30
	Quadri	40	30	65	30
<b>AEI1G110</b>	Mono	30	-	50	-
	Dual	40	30	65	30
	Tripl	40	30	65	30
	Quadri	40	30	65	30

Tot L = Total length of pipes, given by the sum of pipe lengths for each indoor unit (L1+L2+L3...)

L n = Maximum pipe length per single indoor unit (n = 1, 2, 3...)

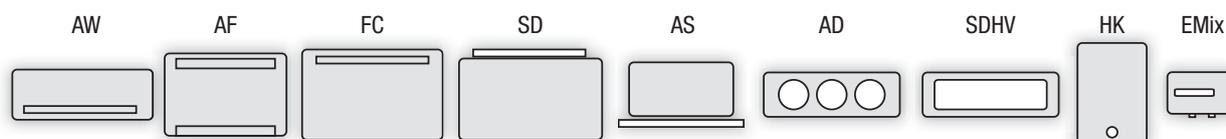
**QUANTITY OF ADDITIONAL REFRIGERANT**

for pipes 1/4" - 3/8" = 15 g/m  
for pipes 1/4" - 1/2" = 20 g/m

**MAXIMUM HEIGHT DIFFERENCE OUTDOOR UNIT/INDOOR UNIT: 10 m - H1, H2, H3, H4**

**MAXIMUM HEIGHT DIFFERENCE BETWEEN INDOOR UNITS: 5 m - H**

## iSERIES™ INDOOR UNITS



Every indoor unit in the iSERIES™ system has its own specific features but there are also features common to all units in the range, these are listed here below.

**Dynamic Cold Draft**, an active protection system preventing the emission of air that is noticeably colder than ambient temperature during heating operation and particularly during defrost stages.

**Antifreeze**, this protection system prevents the formation of ice on the indoor unit heat exchanger when the system is working in cooling mode and there are particular temperature and humidity conditions.

**Temperature settings from +10°C to +32°C** both in cooling and heating modes; the units can therefore be used for indoor low ambient temperature applications such as in cellars, server rooms and radio stations... They can also be used to maintain a minimum temperature in spaces that are unused during weekends such as offices and shops, or places that are unused during the week such as holiday homes in the mountains or at the seaside...

**iFEEL function**, a comparative function that ensures optimum temperature settings based on the values read at the remote control sensor, the sensor in the indoor unit and the resulting ambient temperature stratification conditions, which are always different from one room to another.

**Wide range IR receiver**, this receives the remote control signal even under difficult conditions. It is equipped with a noise canceller for complete immunity from interference generated by low energy consumption fluorescent bulbs.

**Hardware or software addressing** of units for recognition on communication bus RS485.

**Remote control addressing** for the management of one or more grouped indoor units, up to a maximum of four units. This function is useful where several indoor units are situated in a large space (open space offices, hotel reception rooms, restaurants, etc...), and need to be controlled either by one or several remote controls.

**Five operating modes:** automatic, cool, heat, dehumidify and fan.

**Night Function** for maximum operating economy during the night without compromising comfort.

**High Power Function**, when maximum power is required straight away.

**Active/passive air filters:** all air/air units are equipped with washable mesh filters and can be fitted with an activated charcoal filter; some units are fitted as standard with a titanium dioxide photocatalytic anti-bacterial filter, activated via remote control by invisible dedicated LEDs fitted inside the unit, fully compliant with EU regulations concerning UV emissions.

**Intelligent air flap control** based on operating mode, which when combined with the iFEEL function offers the maximum in comfort to counter air temperature stratification effects.

**Automatic fan** (or manual fan) to provide maximum heat (when required) and the right amount of cool, without creating annoying cold air draughts or excessive amounts of hot air.

**Timer** for programming the operating times of each individual indoor unit, with weekend\* and holiday\* controls.

**Wireless and wired universal remote control** for all iSERIES™ indoor units, with multi-function keypad, LCD graphic display, wall mount and wired connection. Elegant ergonomic interface with **micro LEDs that can be deactivated** via remote control, particularly useful for those that prefer complete darkness at night.

**Protective grilles**, which offer the maximum in safety in compliance with standard EN60335. This allows for installation even at low heights where children could otherwise potentially touch moving parts such as fans and motors.

**Heat exchangers in high quality copper/aluminium with inorganic hydrophilic aluminium**, which does not emit odours and provides top performance in heat exchange output and efficiency.

**Plastic materials** with high quality looks and functional properties (improved thermal stability). As green as possible thanks to the use of noble acrylics such as PMMA, pure ABS for the parts on view and recycled PS for the internal structures.

**Hydrokit with heat exchanger with plates** made from AISI316L stainless steel for heat exchange between the refrigerant and water, built-in module for additional electrical heating, automatically controlled by software in three steps, controlled by thermal-magnetic switches that can be deactivated manually, safety thermostats, pressure switch, high performance water pump and water flow rate control device.

**Controller for hydrokit**, with climatic curve control and control of the various applications of the hydronic circuit (floor, fan coils, radiators, mixed...), with the possibility of separation into areas with different settings.

Wide range of hydronic accessories to suit various different system configurations.

Production of **domestic hot water using the eMix™** unit, which is able to provide hot water from a thermo-dynamic source all year round both in cooling and heating operations.



# A12

**Model:**

- AWIAS12DC
- P1AW
- P2AW (front panel)
- P3AW

A12, a unique wall-mounted indoor unit: another step towards the integration with furnishing accessories. Consisting of a unit body completely made of precious paintable ABS and three types of panel, which may be chosen to match the characteristics of the environment of installation.

## DC MOTOR

A tangential fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.

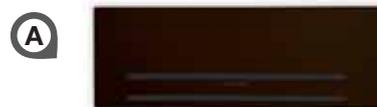
A12 White



A12 Oak



A12 Wengè



Dimensions: HxLxD 305x895x195/110 mm  
Weight: 10.5 kg

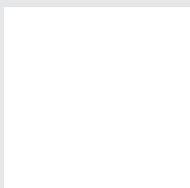
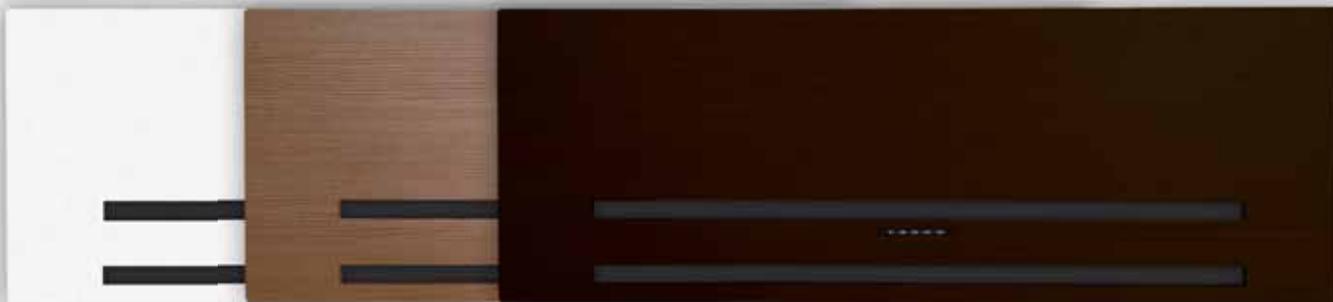


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# A12

AWIA S12 DC

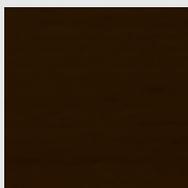
Air flow rate I.U. (el.-l.-m.-h.)	m³/h	250-410-480-600
Dehumidification	l/h	1,5
Fan speed	N°	Auto + 3 remote control settings
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	21-29-36-39
Electrical power supply	V/Ph/Hz	230/1/50
Power input max	kW	0,012
Liquid pipe diameter	mm (*)	6,35(1/4")
Gas pipe diameter	mm (*)	9,52(3/8")
Net weight I.U.	kg	10,5
Net dimensions I.U. (H./W./D.D of recess-fitted I.U.)	mm	305x895x195/110



WHITE



OAK



WENGÈ

The two Oak and Wenge panels are made of oil-phenolic plywood, while the white panel is made of water repellent wood fiber to be totally immune to deformation and formation of condensation.

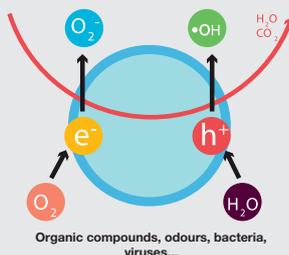
## LOCK + MAGNET



**A12** is also fitted with a panel with the Lock & Magnet quick coupling system which carries out all the maintenance and filter cleaning operations of the panel, in the simplest and safest manner possible. Just secure the panel to the upper bushes and the magnets will make the panel more solid.

**A12** is designed to provide high energy efficiency and has one very important feature: it can be built-in using the dedicated wall mounting kit.

**A12** is also easy to install, thanks to the possibility of connecting the refrigerant pipes either to horizontal compartment or to the right side; the bilateral condensation discharge pipe and the possibility of fitting the unit at below two metres in height (thanks to the protection grille), complete the flexibility of this high quality unit.



**A12** is equipped with an active photocatalytic filter that is able to significantly reduce the bacterial load in the environment thanks to the titanium dioxide oxidation process activated by completely concealed special UV LEDs that are fully compliant with EU standards. This filter uses the oxidising power of Titanium Dioxide (TiO<sub>2</sub>) to destroy bacteria and inhibit viruses. It also effectively reduces dust and dirt particles and helps to prevent unpleasant odours.



# A8

**Model:**

AWIAS87B  
AWIAS87W

A8, a wall-mounted indoor unit with a distinctive design, ideal for modern spaces and also compatible with more conventional styles. Combines easily with many different styles and colours found in the office and at home.

A8 Black



A8 White



Dimensions: HxLxD 305x895x195/110 mm  
Weight: 10.5 kg



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# A8

AWA S87 W/B

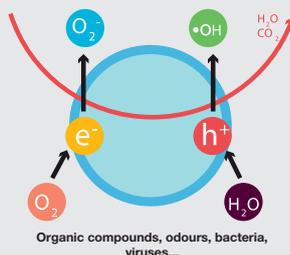
Air flow rate I.U. (el.-l.-m.-h.)	m <sup>3</sup> /h	250-410-480-600
Dehumidification	l/h	1,5
Fan speed	N°	Auto + 3 remote control settings
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	21-29-36-39
Electrical power supply	V/Ph/Hz	230/1/50
Power input max	kW	0,031
Liquid pipe diameter	mm (")	6,35(1/4")
Gas pipe diameter	mm (")	9,52(3/8")
Net weight I.U.	kg	10,5
Net dimensions I.U. (H.xW.xD./D built-in)	mm	305x895x195/110



**A8** has a front panel made of PMMA, a prized acrylic material, is dual coated on the back and available in satin white or carbon fibre black; the transparent border along the panel perimeter creates a bright frame that responds to colour changes in the environment. The horizontal central strip in silver conceals the noiseless remote control signal receiver and the extremely elegant blue and white micro LEDs. These are very discreet and can also be deactivated using a function developed specifically for those that prefer complete darkness at night.

**A8** is designed to provide high energy efficiency and has one very important feature: it can be built-in using the dedicated wall mounting kit.

**A8** is also easy to install, thanks to the possibility of connecting the refrigerant pipes either to the horizontal compartment or to the right side; the bilateral condensation discharge pipe and the possibility of fitting the unit at below two metres in height (thanks to the protection grille), complete the flexibility of this high quality unit.



**A8** is equipped with an active photocatalytic filter, which is able to significantly reduce the bacterial load in the environment thanks to the titanium dioxide oxidation process activated by completely concealed special UV LEDs that are fully compliant with EU standards. This filter uses the oxidising power of Titanium Dioxide (TiO<sub>2</sub>) to destroy bacteria and inhibit viruses. It also effectively reduces dust and dirt particles and helps to prevent unpleasant odours.



A7  
A9

**Model:**

AWIAS7DC

**Model:**

AWIBS9DC

Elegant and discreet, available in sizes A (A7) and B (A9), an indoor unit to suit all tastes, suitable for all settings both in terms of design and heat output.

**A**



Dimensions: HxLxD 270x805x215 mm  
Weight: 8 kg

**B**



Dimensions: HxLxD 285x995x240 mm  
Weight: 12 kg

**DC MOTOR**

A tangential fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.



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A7-A9

		AMA S7 DC	AWB S9 DC
Air flow rate I.U. (el.-l.-m.-h.)	m³/h	390-430-450-470	410-580-710-880
Dehumidification	l/h	1,5	2,0
Fan speed	N°	Auto + 3 remote control settings	Auto + 3 remote control settings
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	23-29-36-39	29-35-43-47
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50
Power input max	kW	0,012	0,019
Liquid pipe diameter	mm (")	6,35(1/4")	6,35(1/4")
Gas pipe diameter	mm (")	9,52(3/8")	12,7(1/2")
Net weight I.U.	kg	8	12
Net dimensions I.U. (H./W./D.)	mm	270x805x215	285x995x240



The casing for model **A7/A9** is treated using a photo engraving technique to obtain a satin effect on the plastic, this is done during the injection stage and no further treatments are applied. You can see the quality of the material and manufacturing process used with the naked eye, this sets the **A7/A9** unit apart from other white wall-mounted indoor units.



**A7/A9** allows condensation discharge to the right or left, it has LEDs that can be deactivated and washable filters, it is compact and easy to install.

## Mesh filters with optional odour-capturing activated charcoal filter

The optional activated charcoal filter is comprised of a layer of synthetic material folded to increase the filtering surface area and treated with a professional anti-bacterial solution, combined with an activated charcoal mesh. Activated charcoal is a material mainly made up of carbon in the form of graphite micro crystals treated in such a way as to create a porous structure with a vast internal

surface area. When the forced air flow passes through the filter element, the charge of static energy allows the filter to trap even the smallest particles of pollutants and allergens, down to a size of 0.01 microns. The activated charcoal layer attracts and absorbs the organic molecules responsible for unpleasant odours, eliminating them completely.



# A13

**Model:**  
AWIAS13  
AWIBS13

A13, a modern and elegant wall mounted indoor unit, equipped with a soft led and display interface and a design that can be easily integrated in any kind of residential and commercial environment.



Dimensions: HxLxD 289x845x209 mm  
Weight: 10 kg



Dimensions: HxLxD 300x970x224 mm  
Weight: 13,5 kg



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# A13

		AWA S13	AWB S13
Air flow rate I.U. (l.-m.-h.-hh.)	m³/h	330-460-540-660	520-610-720-800
Dehumidification	l/h	1,5	2,0
Fan speed	N°	Auto + 3 remote control settings	Auto + 3 remote control settings
Sound pressure I.U. (l.-m.-h.-hh.)	dB(A)	35-31-39-42	36-39-42-46
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50
Power input max	kW	0,031	0,086
Liquid pipe diameter	mm (")	6,35(1/4")	6,35(1/4")
Gas pipe diameter	mm (")	9,52(3/8")	12,7(1/2")
Net weight I.U.	kg	10	13,5
Net dimensions I.U. (H./W./D.)	mm	289x845x209	300x970x224



**A13** is made in a compact and efficient structure in high quality PS, finished in polished white, easy to be installed and equipped with a double condensate discharge (left or right). This unit is perfect for any kind of residential and commercial application, offering an high level of comfort in the whole range of operational temperatures.

**A13** is available in the two standard A & B size of iSeries indoor units covering the typical applications of the high wall;

**A13** offer an MMI interface very soft, composed by symbol/led and numerical display that, as iSeries tradition, could be disabled by remote control in order to have quite nights without light during the sleep type.

**A13** is equipped with a first level washable filter to protect the exchanger and with a monolithic electronic plasma filter that does not require any maintenance and it is managed by the remote control; the plasma filter is able to make oxidation of bacteria and many organic and inorganic pollution particulate.



# AF

**Model:**

AFIAS11DC

AFIBS11DC

A refined console for low wall installation, at just a few centimetres from the floor and with two-way air flow, up and down, for maximum comfort in summer and winter.



Dimensions: HxLxD 600x750x220 mm  
Weight: 18 kg



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AF

AFIA S11 DC

AFIB S11 DC

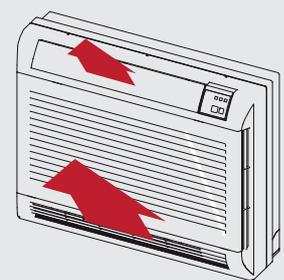
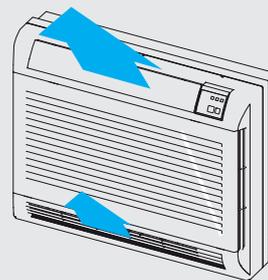
Air flow rate I.U. (el.-l.-m.-h.)	m³/h	450-500-590-700	615-665-760-830
Dehumidification	l/h	1,3	2,3
Fan speed	N°	Auto + 3 remote control settings	Auto + 3 remote control settings
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	22/26/30/37	28/30/37/45
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50
Power input max	kW	0,012	0,019
Liquid pipe diameter	mm (")	6,35(1/4")	6,35(1/4")
Gas pipe diameter	mm (")	9,52(3/8")	12,7(1/2")
Net weight I.U.	kg	18	18
Net dimensions I.U. (H./W./D.)	mm	600x750x220	600x750x220



AF is equipped with DCM (DC motors) and is fitted with a humidity sensor used to modulate the temperature according to the temperature index perceived or to limit the maximum percentage of relative humidity in the environment. In addition, as shown in the figure, the two fans are activated in a differential mode to provide the best air distribution according to the operating cooling or heating mode.

SUMMER

WINTER



AF is made of a prized ABS and is well suited for installation under windows or mid-wall, occupying the smallest space possible. AF is available in sizes A and B, whilst still maintaining the same structure and dimensions. It filters and purifies the air using a washable mesh filter and a titanium dioxide photocatalytic filter that can be activated via remote control. At 22 dB(A), the unit is extremely quiet thanks to its specially-designed structure and two tangential fans managed by inverter-controlled DC motors.

### DC MOTOR

A tangential fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.



- LED operation can be deactivated by remote control



FC

**Model:**  
FCIAS8  
FCIBS9

FC and SD, two versions of the same unit, reversible for floor or ceiling installation, they can be fitted on view (FC) or concealed in dedicated spaces (SD) created using plasterboard or wood or in dropped ceilings.

FC **(A)**  
**(B)**



Dimensions: HxLxD 680x900x190 mm  
Weight: 23.5 kg

SD

**Model:**  
SDIAS8  
SDIBS9

### DC MOTOR

Fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.

**Will be available during 2014**

SD **(A)**  
**(B)**



Dimensions: HxLxD 585x890x190 mm  
Weight: 25 kg

FC Size C and D will be available during 2014



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FC  
SD

		FCIA S8	FCIB S9	SDIA S8	SDIB S9
Air flow rate I.U. (el.-l.-m.-h.)	m <sup>3</sup> /h	310-390-430-520	450-510-610-720	310-390-430-520	440-500-590-700
Dehumidification	l/h	1,3	2,3	1,3	3,3
Fan speed	N°	Auto + 3 remote control settings			
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	24-26-30-37	35-40-46-49	24-26-30-37	35-40-46-49
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Power input	kW	0,037	0,075	0,037	0,075
Current input	A	0,17	0,33	0,17	0,33
Liquid pipe diameter	mm (")	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")
Gas pipe diameter	mm (")	9,52(3/8")	12,7(1/2")	9,52(3/8")	12,7(1/2")
Net weight I.U.	kg	23,5	23,5	25	25
Net dimensions I.U. (H./W./D.)	mm	680x900x190	680/900/190	585x890x190	585x890x190



- Easy installation and condensation discharge
- Easy maintenance



- It fits everywhere!!!

**FC** and **SD** are available in sizes A and B, whilst still maintaining the same structure and dimensions. They are easy to install and maintain thanks to washable filters that are easy to access on both versions.

**SD**, despite being designed for built-in and therefore concealed fitting, can be controlled by the iSERIES™, universal remote control in either wireless or wired mode.



- Ceiling installation
- LED operation can be deactivated by remote control



- Condensation anti-drip system



ONLY  
18.9 cm!!!

The depth of only 19 cm and quiet operation at 24 dB(A), make these two iSERIES™ units an excellent solution for villas, offices, hotel rooms, restaurants and public spaces etc...



- Vertical installation



# AS

**Model:**

- ASIAS8
- ASIBS9
- ASICS10
- ASIDS13\*

AS, the cassette unit for dropped ceilings that we can often observe above our heads in public spaces, offices, shops and restaurants.

It is certainly also suitable for private dwellings as it was originally designed with this application in mind, however it is more common to see it used in service sector applications.

## DC MOTOR

Fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.

**Will be available during 2014**

**A**



Dimensions: HxLxD 296x575x575 mm  
Weight: A | 19 kg - B | 20.5 kg

**B**

**C**



Dimensions: HxLxD 338x860x860 mm  
Weight: 22 kg

**D**



Dimensions: HxLxD 338x860x1150 mm  
Weight: 30,5 kg

\* Size D will be available during 2014



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# AS

		ASIA S8	ASIB S9	ASIC S11	ASID S13
Air flow rate I.U. (el.-l.-m.-h.)	m³/h	470/500/600/700	500/530/630/750	680/840/1020/1140	1200/1320/1680/1920
Dehumidification	l/h	1,2	2,3	3,6	3,6
Fan speed	N°	Auto + 3 remote control settings			
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	35-37-40-44	35-37-40-44	41/44/45/46	41/46/50/53
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50
Power input	kW	0,087	0,087	0,175	0,180
Current input	A	0,41	0,41	0,77	0,79
Liquid pipe diameter*	mm (")	6,35(1/4")	6,35(1/4")	6,35(1/4")	6,35(1/4")
Gas pipe diameter*	mm (")	9,52(3/8")	12,7(1/2")	12,7(1/2")	12,7(1/2")
Net weight I.U.	kg	19	20,5	22	27
Net dimensions I.U. (H./W./D.)	mm	296x575x575	296x575x575	310x760x760	338x1050x760
Net dimensions grille (H./W./D.)	mm	41x730x730	41x730x730	30x860x860	30x1150x860

Available in sizes A and B, and with slightly larger dimensions also in size C (80x80) and size D (110x80), this unit is built with great attention to detail: insulated metal, four flocked anti-condensation flaps, carefully calibrated fan, quality plastic grille and a large filter that is easy to access for cleaning.

Fresh Air Intake available for all the models.

**AS** is designed for air exchange with the outside, which is mandatory for installations in public spaces, and is equipped with a condensation discharge pump.

As with all the other units in the iSERIES™ range, **AS** is controlled using the universal remote control. In applications where this cassette unit is installed the remote control is able to express some of its more special features, such as the option for wired connection instead of wireless control and the ability to control groups of units, which is very useful for open space offices, restaurants, and hotel reception areas.

\* For the connection adapter see installation manual



• Easy installation and discharge • Perfect integration!



• Flocked anti-condensation flaps



• Body in anti-corrosion metal



• Simple and convenient maintenance



# AD

**Model:**

ADICS10

AD, the high prevalence ductable unit, to be combined with purpose built plenums with or without the aid of the three-way duct built into the unit.

AD ©



## DC MOTOR

Fan powered by a DC brushless motor ensure very high levels of comfort in almost complete silence.

**Will be available during 2014**

Dimensions: HxLxD 266x1175x636 mm  
Weight: 23.5 kg

Size B will be available during 2014



improve your life

# AD

### ADIC S10

Air flow rate I.U. (el.-l.-m.-h.)	m <sup>3</sup> /h	500/600/700/1000
Dehumidification	l/h	2,5
Fan speed	N°	Auto + 3 remote control settings
Sound pressure I.U. (el.-l.-m.-h.)	dB(A)	35-40-46-49
Electrical power supply	V/Ph/Hz	230/1/50
Power input	kW	0,114
Current input	A	0,51
Liquid pipe diameter	mm (")	6,35(1/4")
Gas pipe diameter	mm (")	12,7(1/2")
Net weight I.U.	kg	23,5
Net dimensions I.U. (H./W./D.)	mm	266 x 1175 x 636

**AD**, as with the cassette units, this unit is mainly designed for use in service sector applications and is built with great care from carefully selected materials.

Available in size C, it is equipped with high quality centrifugal fans and a condensation discharge pump. It is also fitted with washable filters that are easy to access and can be controlled using the iSERIES™ universal remote control in wired or wireless mode.



• Plenum for ducting the air into 3 spaces



• Removable filters



• Perfect distribution



• Standard integration

# SDHV

## SMALL DUCT HIGH VELOCITY

**The Unico System**  
Small-Duct Central Heating & Air Conditioning

SDHV (Small Duct High Velocity) is an extension of the Argo iSeries system that makes it possible to distribute air for cooling or heating through various flexible ducts connected through a main duct with one or more ductable indoor units.

The available indoor units will come in two sizes: 1218 (size B) and 2430 (size C).

Unit 1218 is of the "monobloc" type consisting of a single section that includes the part housing the fan and the part with the direct expansion coil. Instead unit 2430 is of the "modular" type consisting of two separate sections (fan + direct expansion coil) which must be coupled with special hooks during installation.

The main feature of this type of ductable systems is the possibility of distributing air inside the environments to be air-conditioned with tubes with a very small diameter (just 50 mm). This is possible thanks to the high speed of the air, about 5 m/s, leaving each terminal. The air distribution tubes are built to prevent the transmission of noise to the environments. They are made of woven nylon (a material that dampens noise by nature) and wrapped in a metal wire to ensure stiffness. Thanks to this expedient, sound pressure values are reached which are completely similar to those of the best wall mounted split units on the market today (approx. 21 dBA). Adjusting the air flow in the system is managed by the sophisticated DC Inverter electronics as in all the models of the Argo iSeries range. In SDHV applications, the control system does not manage just the modulation of the compressor and the fan motor of the outdoor unit but also the modulation of the fan motor of the ductable unit so that the air flow is always a function of the requested heat load.

The result is an always optimal distribution of air which triggers an air mixing mechanism and guarantees a very uniform temperature distribution in the environments.

The air outlets may be of various shapes: circular (standard solution) or rectangular. The outlets may be installed on walls/ceilings and on the floor. Various finishings are available (various types of wood or aluminium), which make the SDHV terminals perfect for any environment.

There is a host of applications for these systems, all characterised by two great advantages: reduced visual impact and simple and quick installation.

The SDHV iSeries systems are well suited for domestic/residential environments, where the need for an unobtrusive centralised system is a key design feature. Furthermore, with these systems it is possible to air-condition environments which were hardly feasible with traditional systems (split type) such as: bathrooms, kitchens, etc... In case of highly efficient pre-fabricated houses, the delivery outlets and the flexible hoses can be easily concealed directly in the wall at the time of construction.

iSeries SDHV is just as interesting when used for installations in the service sector (offices) or commercial (shops) environments. In these cases the possibility of using several indoor ductable units to create different climatic areas in an open space environment is an asset. Each indoor unit will be individually adjusted with its digital remote control.

The installation is always very flexible and not very difficult. Except for the main duct, all the accessories (flexible tubes, delivery outlets, assembly kit) are supplied. The flexible hoses also make installation very easy by limiting the typical worksite problems to the minimum.

### TOP FEATURES

- 5 m/s of speed from each terminal
- Distribution tubes 50 mm diameter
- 30% extra dehumidification
- Less loss of heat in the ducts (reduced pass-through area and improved insulation)
- Environmental temperature difference 1°C

SDHV i1218



SDHV i2430



Size D - SDHV i3036 will be available during 2014



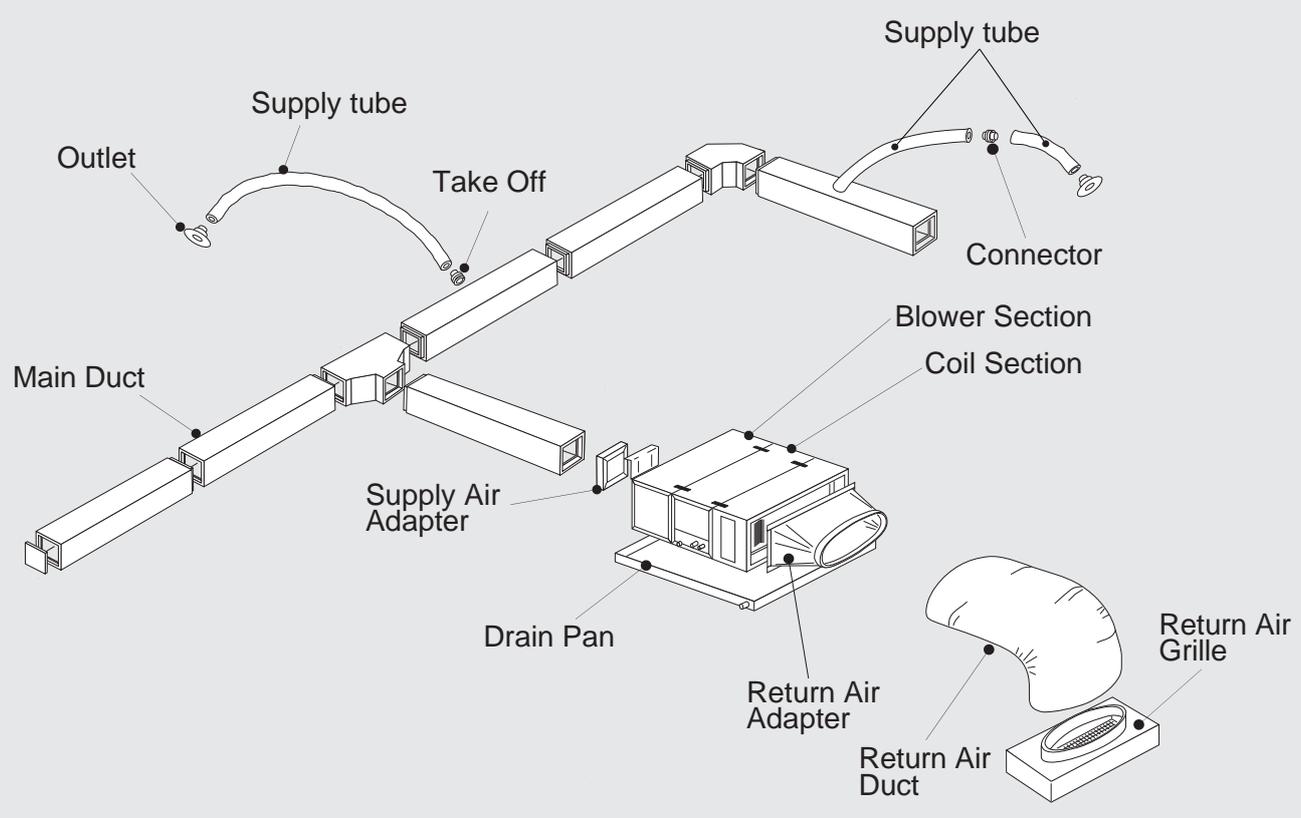
improve your life

# SDHV

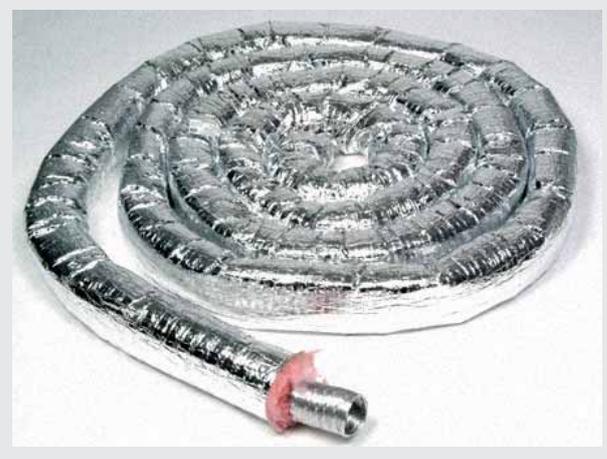
**SDHV i1218**

**SDHV i2430**

Air flow rate (min./max)	m <sup>3</sup> /h	340/680	510/1020
Static pressure (min/max)	Pa	50/550	50/625
Fan speed	N°	Auto	Auto
Sound pressure	dB(A)	41	44,5
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50
Power input	kW	0,37	0,37
Current input	A	0,51	0,51
Liquid pipe diameter	mm (")	6,35(1/4")	6,35(1/4")
Gas pipe diameter	mm (")	12,7(1/2")	12,7(1/2")
Net weight I.U.	kg	42	56
Net dimensions I.U. (H./W./D.)	mm	305 x 965 x 508	445 x 698 x 635



Flexible silenced tube



Aluminium flexible tube (optional)



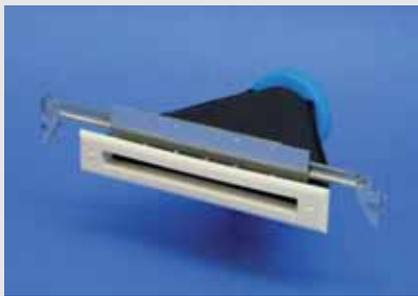
improve your life



Standard outlet to distribute air into the environment



Optional outlets in different finishes



Rectangular outlet



90° attachment rectangular outlet





Return air adapter



Return air duct



Return air grille with filter



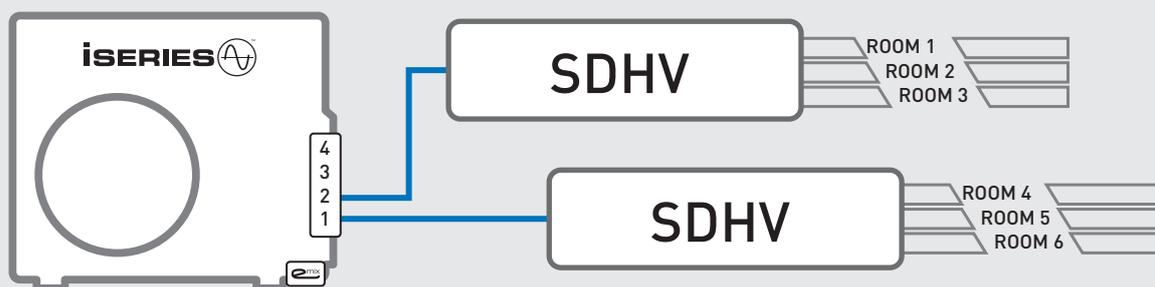
Control box unit is designed and built to be used with SDHV (Small Duct High Velocity) indoor units. In this way, they can be integrated in iSeries system, like any other indoor units. This control system brings a brand new feature for ducted indoor units: automatic control of air flow rate, according to indoor temperature set point. Why is this feature so important? Because, in this way, the amount of air flow is always adjusted following the temperature difference between indoor spaces and setpoint. The result of this type of regulation is a very high level of comfort both in cooling and in heating operation. Control box unit has three main components: main metal box, IR receiver and IR wireless controller.

Main unit is composed by electronic boards with BUS and power line wiring connections, inside a metal box. This box has to be fixed with screws on ducted indoor unit; its position can be choose according to available space (lateral side or upper side). Installation is always easy and comfortable. There are some input contacts on main electronic

boards, such as: remote on/off contact, optional drain pump and a flow switch used to turn off the unit in case condensate overflow.

Infrared receiver is connected with main electronic board with a 10 meters cable. The receiver is normally wall mounted. Its function is to transmit the signals coming from wireless controller to electronic control system. There are three leds on it, for stand by or operation status and for timer.

Wireless controller coming with Control Box is the same of any other iSeries indoor unit. In this case, it works like an indoor thermostat which will communicate (through infrared receiver) the indoor temperature to main control board. In this way, thanks to advanced regulation control system, air flow rate will be modulated matching indoor temperature and setpoint. iFeel function is very useful in this case. This option compares air temperature value read by wireless controller and return air one. Normally, in a ducted application the controller will be placed far from return air point. iFeel function, providing a better analysis of temperature trend, will help control system calculating the right amount of air flow for indoor rooms.



Another great innovation introduced in the SDHV systems thanks to iSeries, is the possibility of multi unit configuration. It is possible to connect several indoor units to an outdoor unit of a suitable size in a typical multi-split configuration. In this way, it is very simple to manage two different areas (also an open space) without having to resort to motorised blinds which act on the main duct. Each area is managed through a dedicated indoor unit connected with its own universal remote control, which will work as a digital thermostat. The great advantage of this solution is that it simplifies both installation (no dampers, no area thermostats) and management (one remote control against several thermostats).



improve your life



Small-Duct Central Heating & Air Conditioning



# HK

## Hydrokit

*Hydrokit HKE, available in sizes B, C and D, is the indoor unit to be combined with the iSERIES™ outdoor units to create heating and air-conditioning solutions with underfloor, wall or ceiling mounted radiator systems.*

The unit is already equipped with:

6 litre expansion tank

Circulation pump (compatible with the parameters requested by the new standard 2013) at 3 selectable speeds during start up,

Supplementary heating elements. The elements may be activated through a thermomagnetic switch in two steps: 2 + 2 kW; 2 + 4 kW. All the elements may be unpowered completely but, to guarantee the correct operation of the unit in every condition, it is advisable to leave one 2 kW step active. The control system is responsible for the electric backup management, which will only activate when necessary, based on the outdoor temperature or in case the temperature of the water in the system is too low.

The HK unit is easy to install thanks to its small size and may be installed up to 50 m with an additional load of refrigerant.

Hydrokit must be powered separately (it is not possible to connect power line from the outdoor unit) in both mono-phase and three-phase mode according to the network availability; it is necessary to connect HK always on line A of the outdoor unit.

The unit is provided with Aquaset Climatic Control and with water filter.

### HK MATCHINGS

- (B)** AEI1G50emx
- (B)** AEI1G65emx
- (B) (C)** AEI1G80emx
- (B) (C) (D)** AEI1G110emx

In case of installations in a mixed Air/Air + Air/Water configuration, the possible combinations between the various indoor units are broadened according to the application (to be defined according to the project).



improve your life

# HK

		HKBE	HKOE	HKDE
Multi stage electric backup	kW	2/4/6	2/4/6	2/4/6
Rated Input	A	27	27	27
Protected Rating	A	32	32	32
Electrical power supply	V/Ph/Hz	230/1/50	230/1/50	230/1/50
Sound pressure I.U.	dB(A)	38	38	38
Water Connections	inch	3/4" M	3/4" M	3/4" M
Gas Connections	inch	1/4" - 1/2"	1/4" - 1/2"	1/4" - 1/2"
Net weight I.U.	kg	41	41	41
Net dimensions I.U. (H./W./D.)	mm	826x527x284	826x527x284	826x527x284
Operating range		-20°C / +43°C	-20°C / +43°C	-20°C / +43°C
Minimum Water Volume	lt.	50	50	65

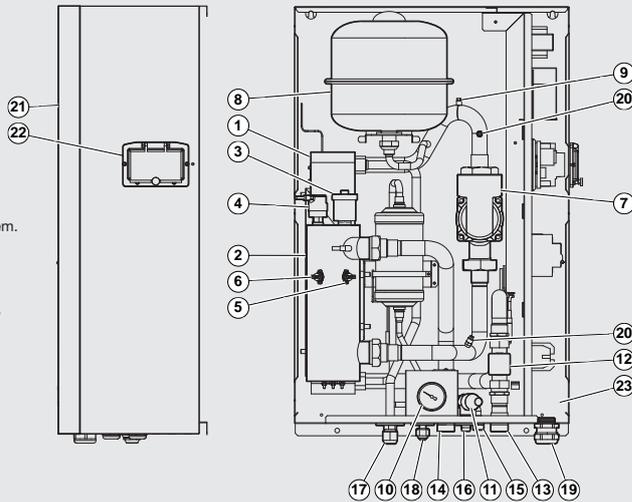
- 1 - Plate type heat exchanger.
- 2 - Electric heater:

- 4 kW : 1<sup>st</sup> stage = 2 kW; 2<sup>nd</sup> stage = 2 kW.
- 6 kW : 1<sup>st</sup> stage = 4 kW; 2<sup>nd</sup> stage = 2 kW.

- 3 - Automatic air vent valve.
- 4 - Water pressostat.
- 5 - Automatic reset safety thermostat.
- 6 - Manual reset safety thermostat.
- 7 - Circulator pump.
- 8 - Surge tank.
- 9 - Manual air vent valve.
- 10 - Hydraulic system pressure gauge.
- 11 - Safety valve.
- 12 - Flow detector.
- 13 - Water inlet connection.
- 14 - Water outlet connection.
- 15 - Filling / drainage of the water system.
- 16 - Safety valve drain connection.
- 17 - Flare gas connector.
- 18 - Flare liquid connector.
- 19 - Electrical cable passage.
- 20 - Water system pressure tap for flow control.
- 21 - Cover.
- 22 - Communication module access window.
- 23 - Electrical box

**Materials:**

- Copper piping.
- Stainless steel water heat exchanger.
- Painted sheet metal cabinet.



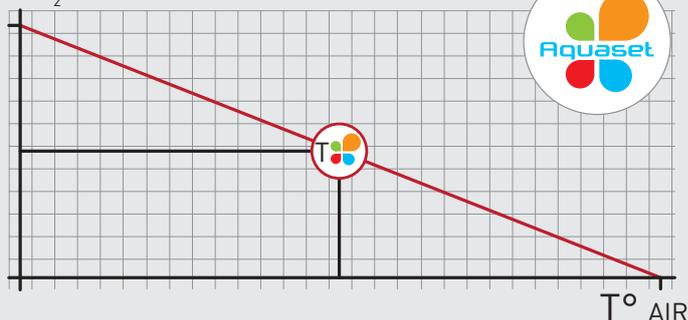
OUTDOOR SENSOR



ROOM SENSOR

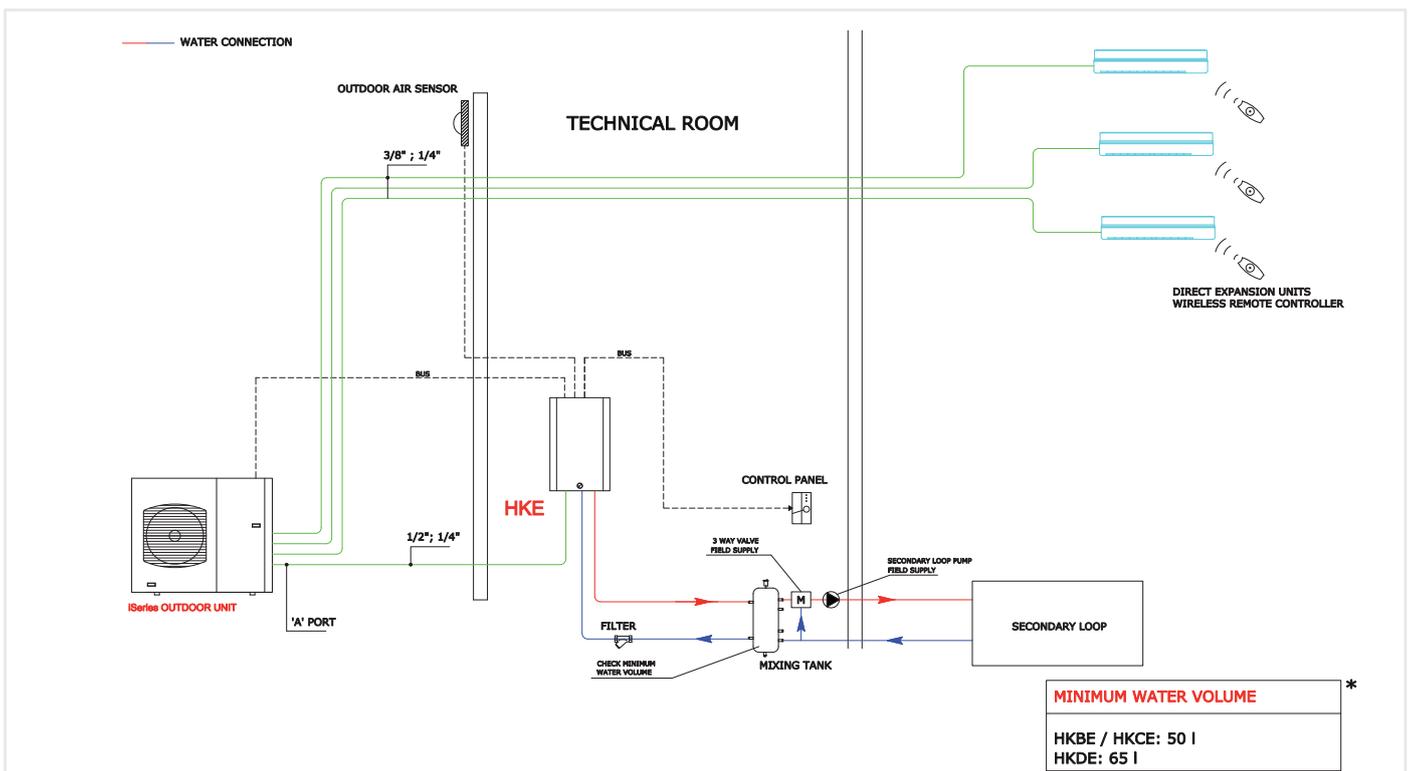
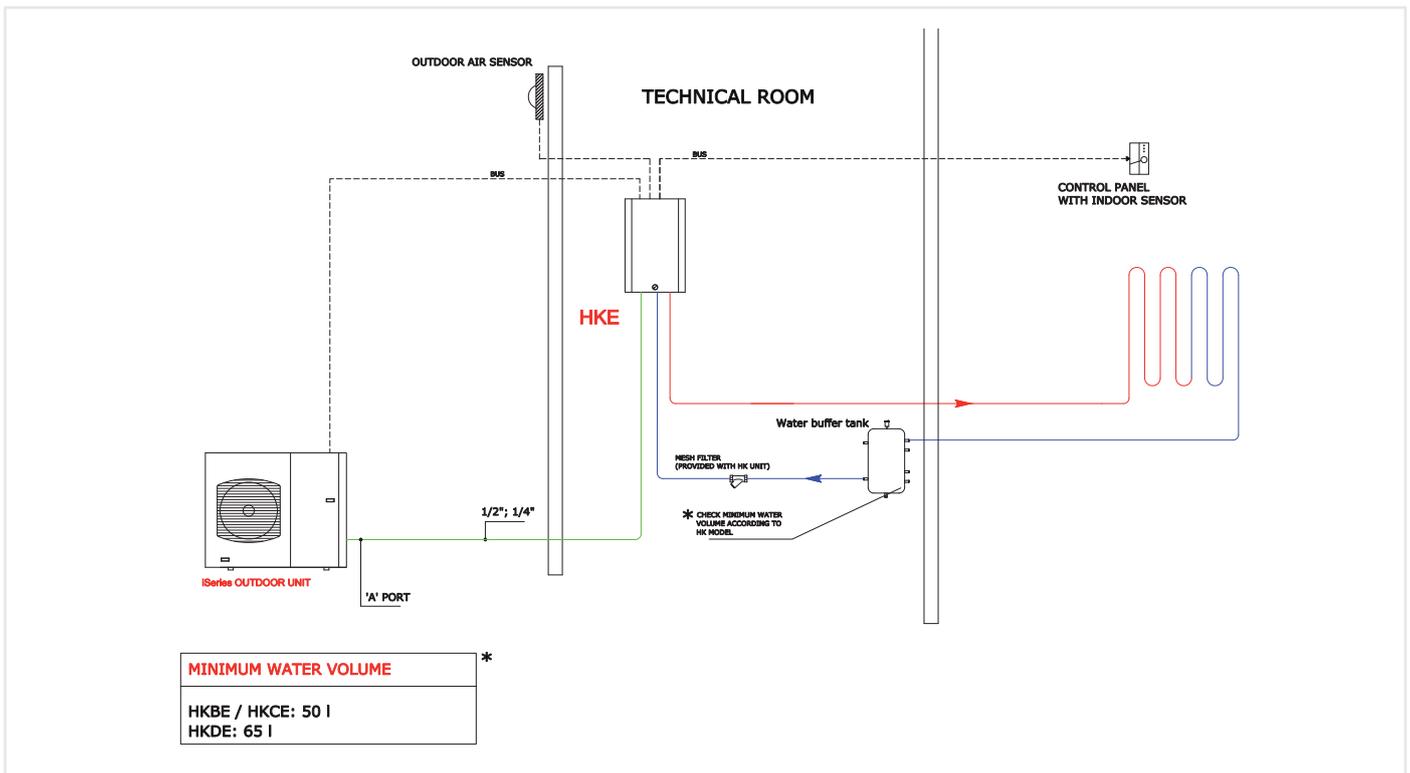
Each hydrokit unit features the **Aquaset** management electronics inside as standard. The electronics in charge of managing the delivery temperature of the water in the system. Aquaset deals with establishing the optimal water outlet temperature based on a series of parameters that may be set during start up (maximum temperature on the return, minimum regional temperature, etc...), the outdoor air temperature detected and the set environment temperature. Based on this, it communicates with the iSeries electronics to provide the necessary power to reach this value.

T° H<sub>2</sub>O

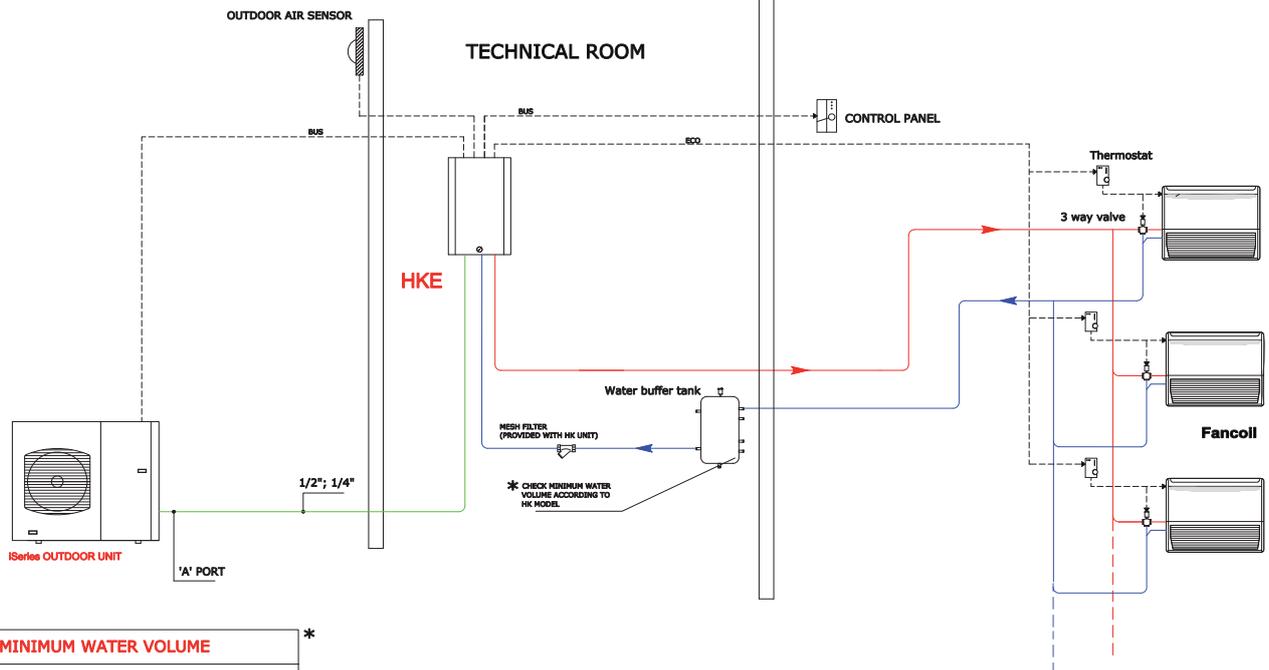


Aquaset manages various system layouts. Some examples: 1 or 2 underfloor zones, 1 fancoil zone and 1 underfloor zone and 1 low temperature radiators zone.

# HYDROKIT TYPICAL SCHEMAS



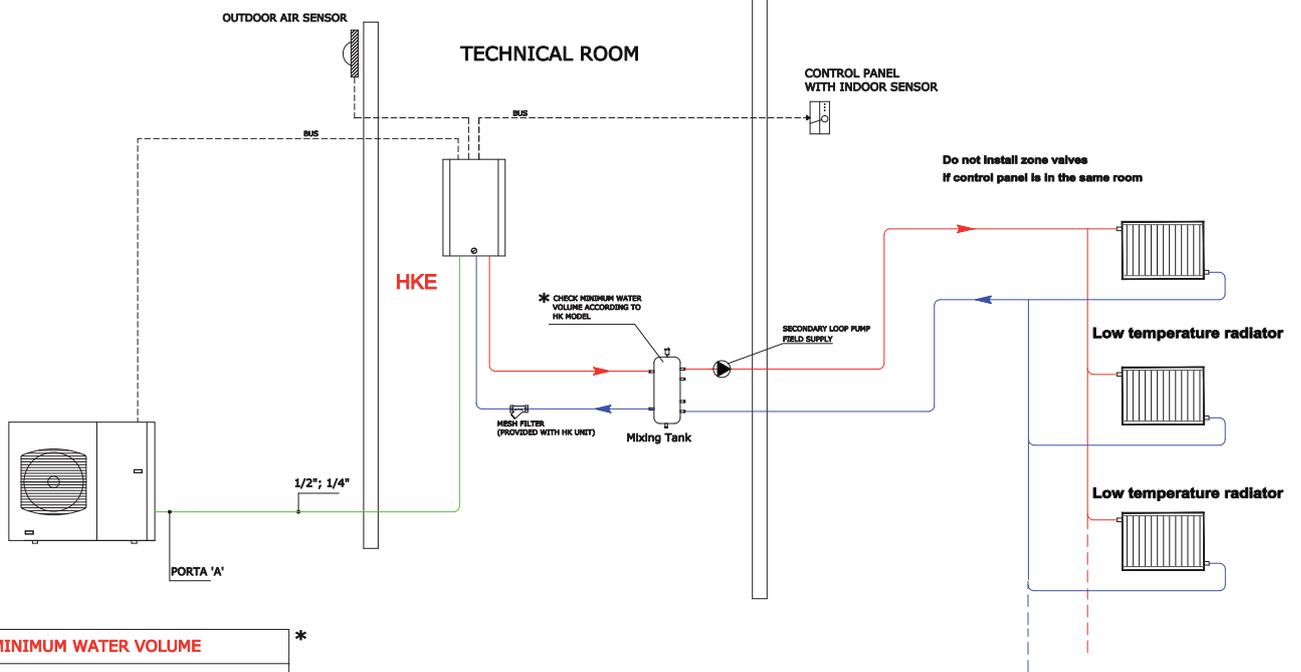
— REFRIGERANT CONNECTION  
 — WATER CONNECTION



**MINIMUM WATER VOLUME** \*

HKBE / HKCE: 50 l  
 HKDE: 65 l

— REFRIGERANT CONNECTION  
 — WATER CONNECTION



**MINIMUM WATER VOLUME** \*

HKBE / HKCE: 50 l  
 HKDE: 65 l

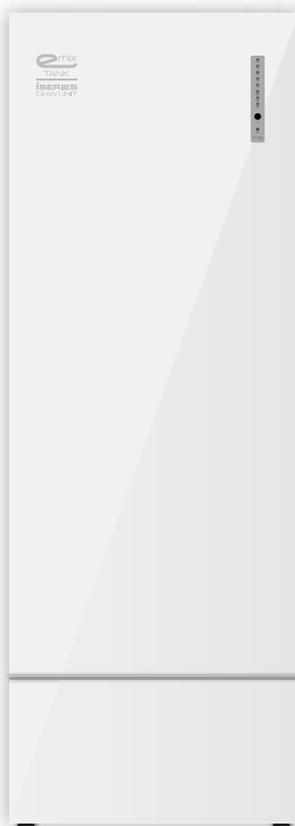
Do not install zone valves  
 if control panel is in the same room

# EMIX

*eMix is the innovative indoor unit in the iSERIES™ range, able to provide domestic hot water from a thermo-dynamic source all year round, i.e. independently of the system's operating mode.*



EMIX



EMIX TANK 220



EMIX TANK 300



improve your life

# EMIX

EMIX

EMIX TANK 220

EMIX TANK 300

Electrical power supply	V/Ph/Hz	230/1/50	230/1/50 - 380/3/50	
Minimum power input	W/A		4 / 0,05	
Maximum power input	W/A		70 / 0,53	
Water connections	inch		3/4" G - 3/4" G	
Gas connections	inch		3/8" - 3/8"	
Net weight I.U.	kg	16,5	95	114
Net dimensions I.U. (H./W./D.)	mm	268x527x285	1460x598x618	1875x598x618
Electric back up heaters	kW	-	3	3

A 3/4" G hydraulic filter is provided to be placed upstream of the eMix, if not already present in the system. A water softener is advised to reduce the loss of performance of the heat exchanger. eMix inlet and outlet taps are advised. Add pressure reducers for high pressures.

## Why eMix?

Domestic hot water service is always required in every type of building, from small flats to big hotels or open space offices. Among all available technologies, heat pump is one of the best choice for domestic hot water production, since it is a renewable source of energy, as stated by European Community. For this reason, eMix is designed to upgrade iSeries system making it fully capable to provide not only heating and cooling in different solutions, but also domestic hot water service.

eMix concept is totally new and brings a great innovation: finally its possible to produce hot water during cooling. Standard heat pumps are designed to provide cooling or domestic hot water but not at the same time. eMix wipes away this limit with its revolutionary technology and makes iSeries the only heat pump system capable to provide cooling and domestic hot water service at the same time.

## Domestic hot water with R410A

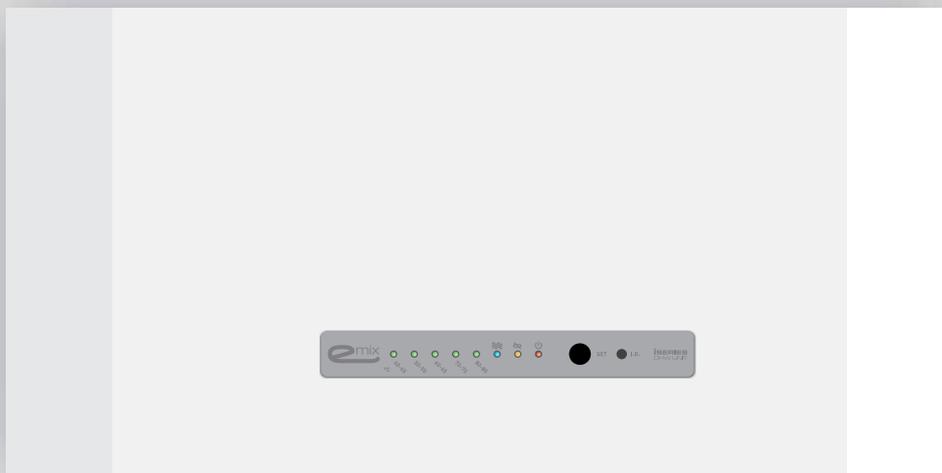
eMix unit is capable of produce hot domestic water up to 80° C (more than normally required, typical storage water temperature is set around 60° C) using only energy from the heat pump. The energy is taken by R410A gas; there is no need of secondary thermodynamic cycles. High temperatures of water are reached because eMix uses superheating power of refrigerant cycle. This energy "boost" maximum water temperature without using other mechanical or electrical components. Moreover, during cooling mode water heating is granted and it's free of charge. In fact it represents an effective process that normally does not occur. Instead of losing outside the heat taken from indoor rooms, it is partially transferred to water by eMix unit without increasing electric power input. From another point of view, iSeries in multisplit configuration (one indoor unit is enough) is an energy recovery system.

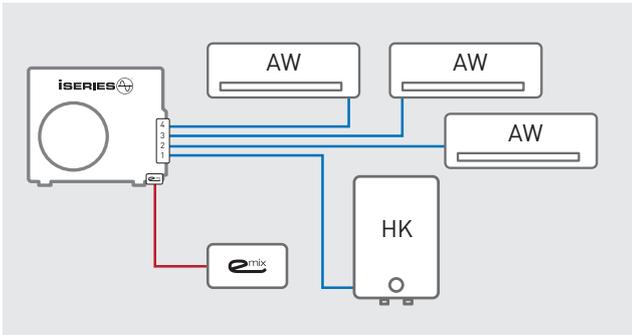
## eMix & eMix Tank

eMix and eMix tank are two different solutions for the same aim: domestic hot water service. The difference stands in their construction concept: while eMix is a tankless solution, eMix tank is provided with a buffer storage inside a chassis. Operation of these two models is the same, the energy of heat pump is transferred to hot water.

eMix tank is a "turn key" solution very easy to set and to install. Since the only mechanical component inside the unit is a small pump, eMix tank has a noise level close to zero so it can be placed even in small space, maybe in the kitchen or directly in the bathroom.

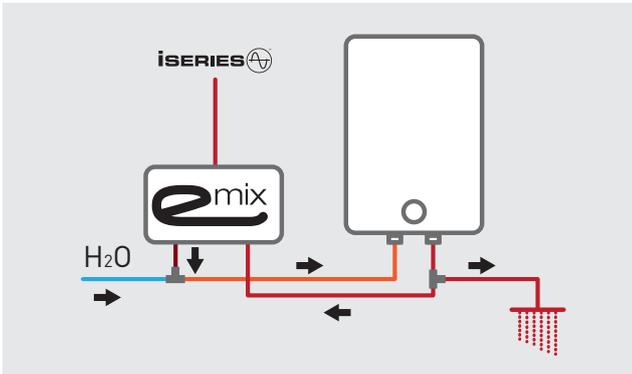
eMix tank is available in two sizes, according to tank volume of storage: 220 liters and 300 liters. First size is perfect for families of 3-4 people; second one is a good solution for bigger application (bar, pubs, small restaurant, large families).





## eMix in iSeries system

eMix unit is part of iSeries system, like any other indoor units. The only difference stands in its purpose: as standard indoor units are designed to make air conditioning, eMix is meant to heat domestic water. How is it possible to install standard indoor units and eMix at the same time with a single outdoor unit? This is possible because outdoor units of iSeries range are equipped with a special port which connects only eMix unit while the other indoor units are placed on standard gas connections.



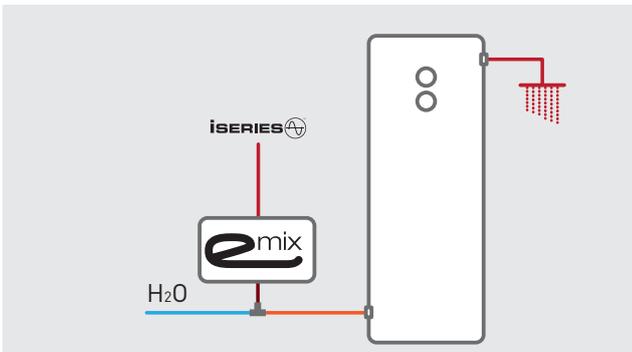
## How does it work?

eMix unit is not an instantaneous solution, like gas boilers. It has been designed to heat water in every typology of storage tank: from standard electric boilers up to solar tanks.

Why is this possible? Because eMix has no temperature sensors to be installed in the buffer tank. Thanks to this solution, eMix works "in parallel" with the hydraulic circuit and directly connect to buffer tank. For this reason, installation is very simple and fast and matches any situation.

Electric boiler connection is one of the possibilities. Using it with a water storage tank the volume of water must be defined according to application requirements considering eMix performances.

Water temperature setting is very easy, too. There is only a button to be pushed to set desired temperature level which will be indicated through 5 green leds. Control system will take care of all the rest. End users have nothing to worry about: even the legionella protection cycle is automatically managed. Domestic hot water service is always granted, electronic regulation will balance all the system components in order to distribute the energy and to support both heating/cooling and hot water requests.



## Emix components

### Heat Exchanger

Heat exchanger is one of the major components of eMix unit. It is a double wall plate exchanger model made in stainless steel AISI316L. Double wall means that (as shown in the picture) between refrigerant gas R410A and domestic hot water there is a channel that prevent any leakage of either of the two fluids passing through the heat exchanger. In other words, there will be no contact between gas and water, even in case of damages. This solution is fully compliant with 98783/EC Regulation.

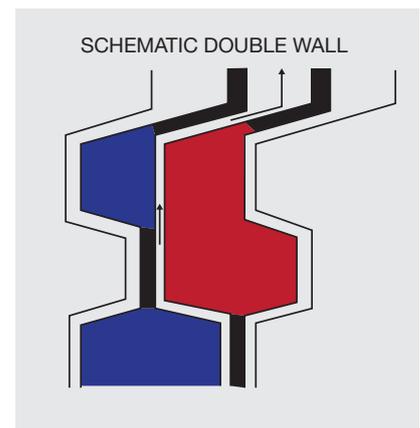
### Inverter pump

Another very important component inside eMix unit is A class inverter pump. This pump is managed by embedded inverter control under iSeries major level electronic regulation. Pump control is very important during eMix operation. Changing its speed, heat transfer from gas to water will change too. This means that control system will operate in order to maintain the correct speed value of the pump based on several conditions.

### Water circuit

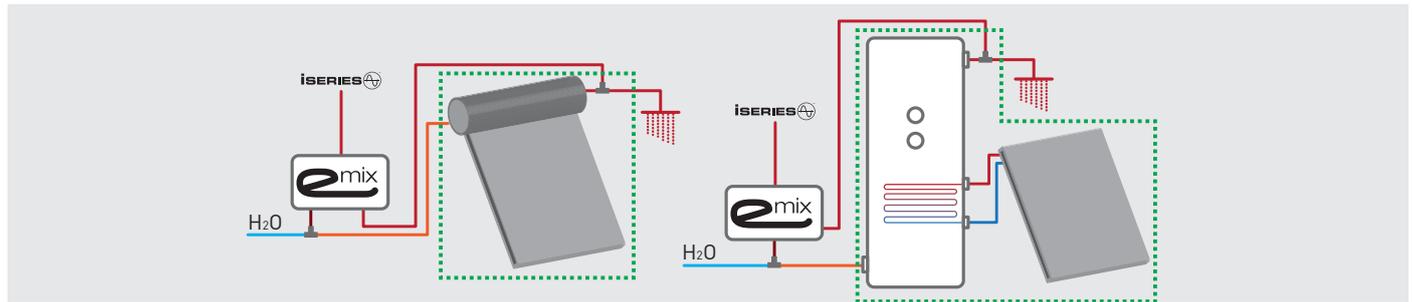
As already described, eMix has to be connected directly to domestic water circuit. It has been designed to work with tap water up to 10 bars and it is compatible with all the European countries tap water network. Normally during installation of standard products for DHW several accessories are provided: filters or softeners, mixing valves, vent valves, etc...

In particular filters or softeners installation is very important because these components avoiding limescale, will preserve heat exchanger during operation time.



# Solar systems integration

Solar systems for DHW production are very common all around European countries (specially in south of Europe). They are normally divided in two categories: natural circulation and forced circulation. eMix can be connected both to natural and forced systems. It will work as integration of these systems in order to provide hot water when their performance are not very high (winter or night time) or when there is a big tapping request. Now it's clear why we decided to use eMix (energy Mixer) definition for this unit: because it can manage several sources of heating (solar panels, heat pump and electric heaters) always choosing and mixing the most efficient at the moment.



# Electric back up heaters

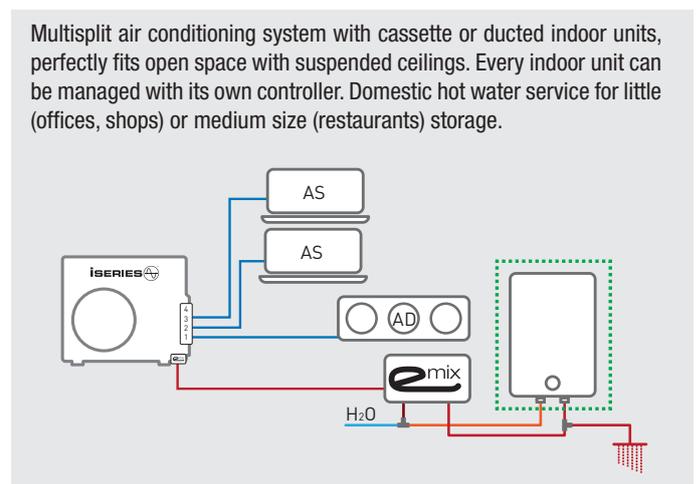
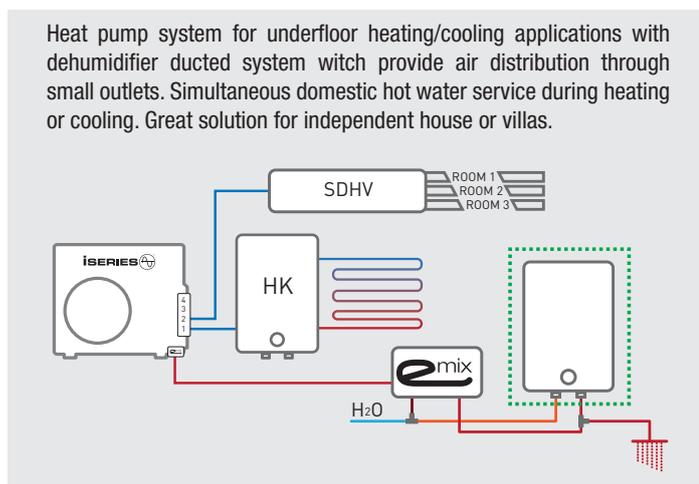
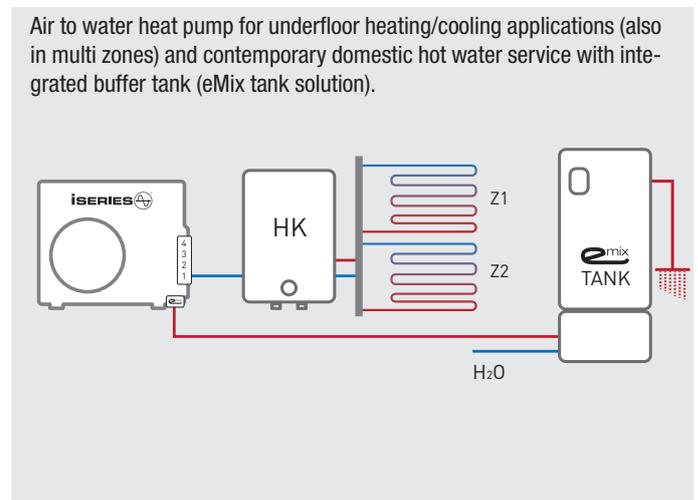
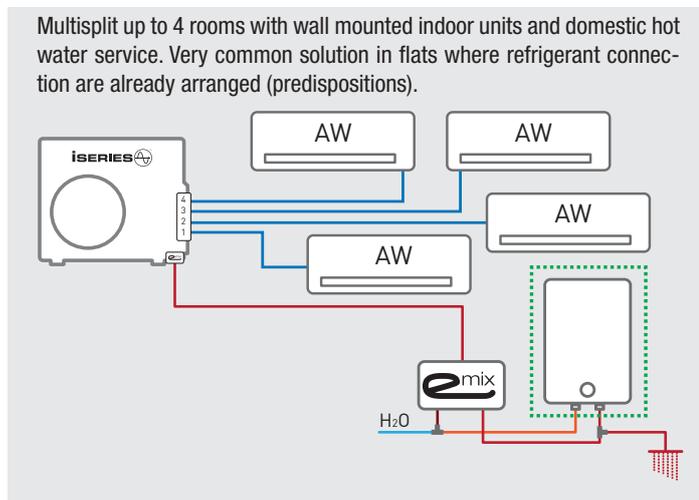
If buffer tank has electric heaters already installed, eMix unit can drive them. The only operation required is the electric connection between eMix and electric heaters. We suggest the adoption of a back-up electric heating system which will start in case of manutencion and to ensure the anti-legionella cycle.

A simple electric wiring is needed to connect the electric heaters. After this, end users can choose if use electric heaters manually (maybe to speed up water heating when it's necessary) or leave to control system their management. In this case, eMix software will use electric power only when strictly needed, having as first choice heat pump power or solar power (if a solar system is installed) since they are high efficiency heating sources.

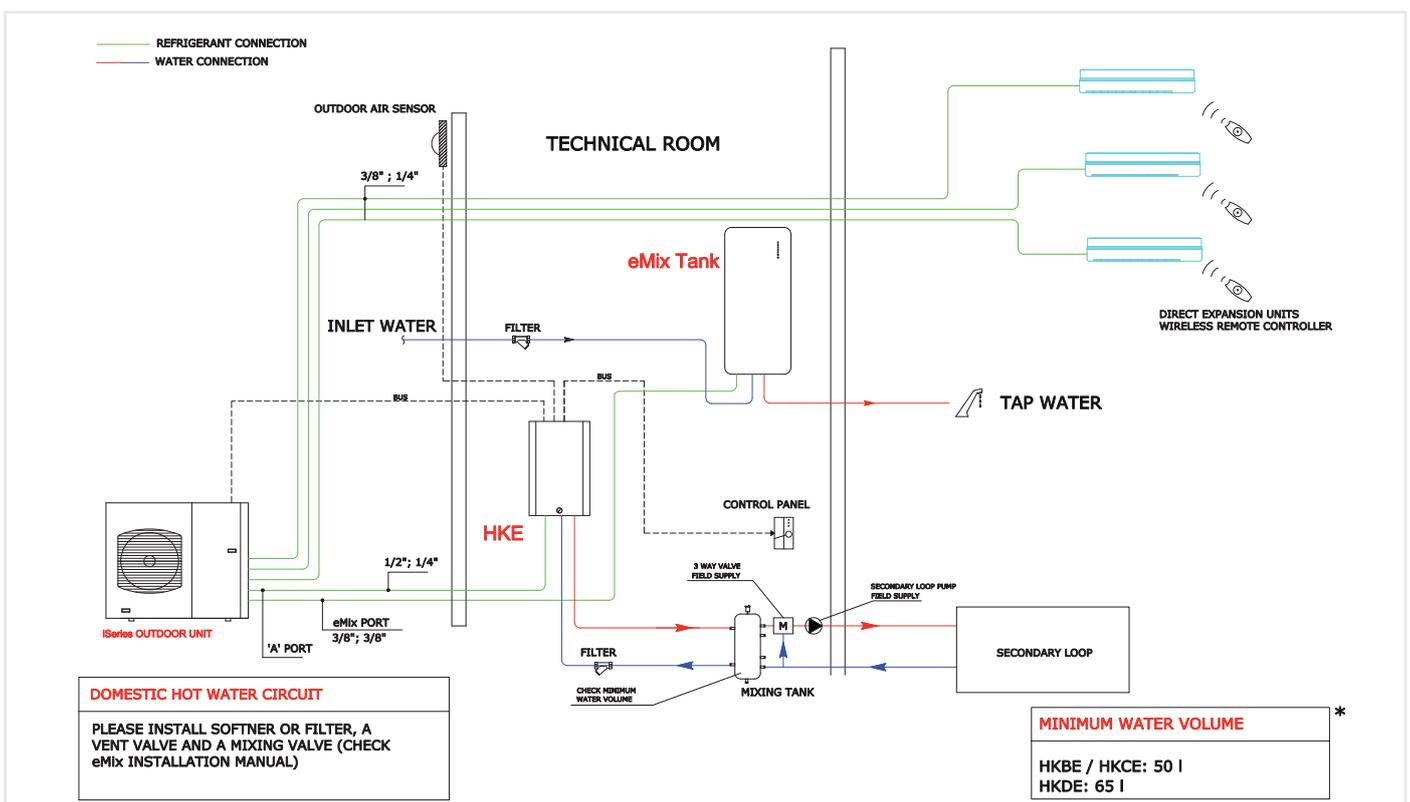
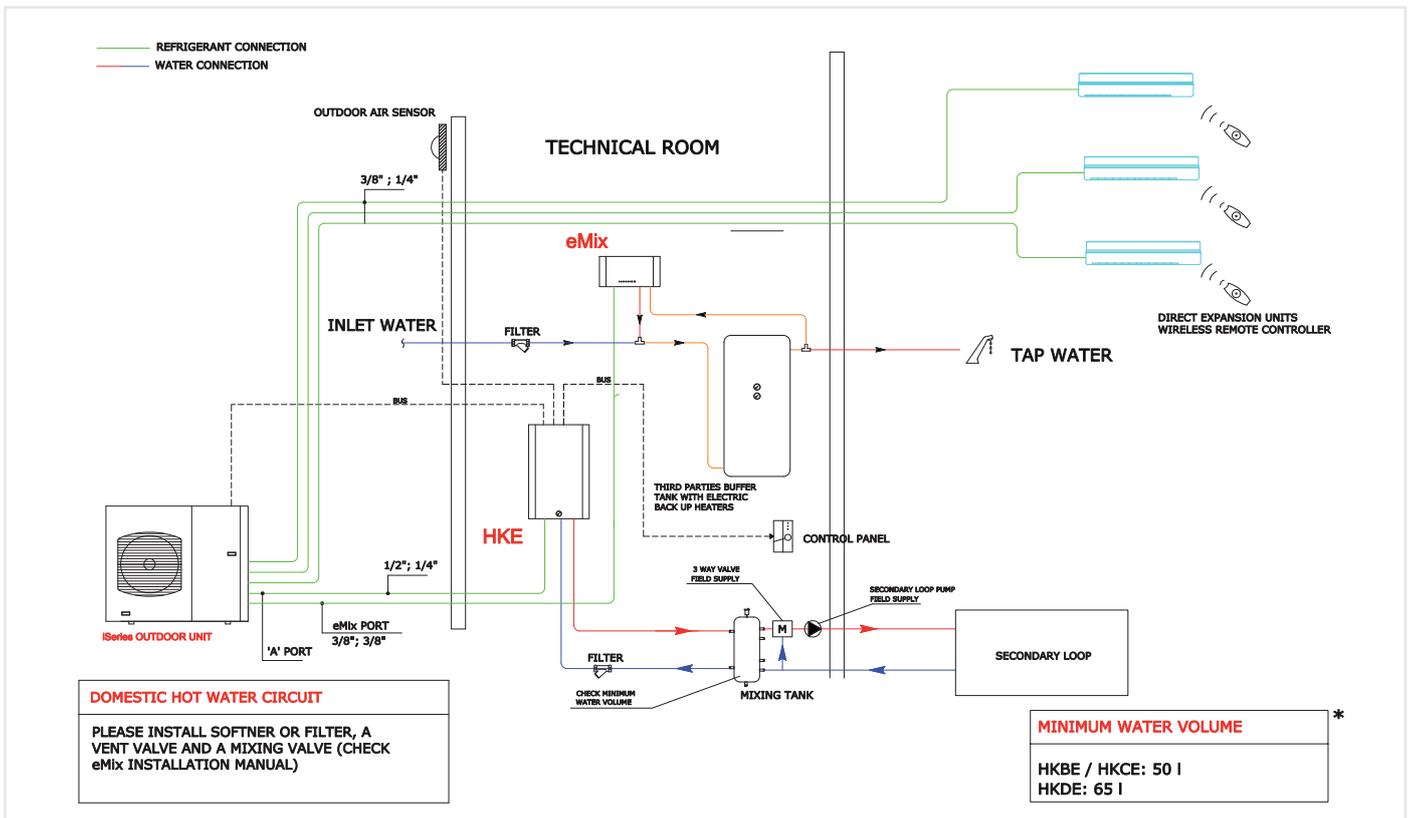
eMix tank has 3 kw of electric heaters already embedded. Even with this unit, end users can decide if force operation of heaters or leave the management of the elements to control system.

# eMix applications

eMix unit, as part of iSeries system, has a lot of possible applications. It can be added following iSeries matching tables (check our catalogues) mixed with standard direct expansion indoor units, hydrokit units or SDHV units. Flats, villas, offices, restaurants, shops: in every situation is always easy to find the best configuration of iSeries system with eMix unit for domestic hot water service. Some sample applications will follow:



# EMIX TYPICAL SCHEMAS



# CONTROL SYSTEMS

## Wireless or wired Universal Digital Remote Control

All air-conditioner operating parameters can be controlled from the remote control: operating modes (auto or cooling only, heat pump only, dehumidification only, fan only), 1h and 24h timer, setpoint temperature, room temperature reading, TiO<sub>2</sub> and electronic filter activation (where fitted), fan speed, flap oscillation for optimum air distribution in the room and economy or night functions. Many operations can be set automatically or managed when needed, including the deactivation of the LED indicators for those that prefer complete darkness at night.

**Adjustable set point from 10° to 32° C**  
both in cooling and heat pump modes



### “EASY Mode” buttons

The new layout lets you simply and quickly choose the start up and the two operating modes, cooling and heating

### “WIRED Mode”

The remote control may also be used as a wired command by simply removing the protection lid and connecting the communication cable to the indoor unit.

*P.S. Contact your sales representative or check our website to have the updated list of compatibility between indoor units and wired support*

- Wide range of operation. The presence of a dual infrared transmitter ensures a very wide range of operation: just place the remote control where you like for "made-to-measure" comfort in that area.
- Built-in temperature sensor for iFeel operations.
- Wide display with graphic symbols and alphanumeric indicators.

• Dual transmitter



### • Multi directional

The remote control can be set to control four different units in an open space for unified control, or customised according to temperature, timer, operating mode, and all other functions.

### • iFeel function

a comparative function that ensures optimum temperature settings based on the values read at the remote control sensor, the sensor in the indoor unit and the resulting ambient temperature stratification conditions, which are always different from one room to another.

### • iFlap Function

The air flow can be released into the room in an "intelligent" way based on whether the unit is set to heating or cooling mode, thanks to a special system that controls the oscillation of the horizontal.

### • Hi power function

when maximum power is required straight away.

### • “ECO” function

Unlike the "Hi power" function, for those who want instant maximum power, this function may be activated to optimise the operation of the outdoor units and the ventilation by reducing consumption and noise, exploiting all the modulation capacities of the inverter units.

### One for all



### One to One



### • Wall mounted support

# CONTROL SYSTEMS

## Control Box



Control box unit is designed and built to be used with SDHV (Small Duct High Velocity) indoor units. In this way, they can be integrated in iSeries system, like any other indoor units. This control system brings a brand new feature for ducted indoor units: automatic control of air flow rate, according to indoor temperature set point. Why is this feature so important? Because, in this way, the amount of air flow is always adjusted following the temperature difference between indoor spaces and setpoint. The result of this type of regulation is a very high level of comfort both in cooling and in heating operation. Control box unit has three main components: main metal box, IR receiver and IR wireless controller.

Main unit is composed by electronic boards with BUS and power line wiring connections, inside a metal box. This box has to be fixed with screws on ducted indoor unit; its position can be choose according to available space (lateral side or upper side). Installation is always easy and comfortable. There are some input contacts on main electronic boards, such as: remote on/off contact, optional drain pump and a flow switch used to turn off the unit in case condensate overflow.

Infrared receiver is connected with main electronic board with a 10 meters cable. The receiver is normally wall mounted. Its function is to transmit the signals coming from wireless controller to electronic control system. There are three leds on it, for stand by or operation status and for timer.

Wireless controller coming with Control Box is the same of any other iSeries indoor unit. In this case, it works like an indoor thermostat which will communicate (through infrared receiver) the indoor temperature to main control board. In this way, thanks to advanced regulation control system, air flow rate will be modulated matching indoor temperature and setpoint. iFeel function is very useful in this case. This option compares air temperature value read by wireless controller and return air one. Normally, in a ducted application the controller will be placed far from return air point. iFeel function, providing a better analysis of temperature trend, will help control system calculating the right amount of air flow for indoor rooms.

## Aquaset



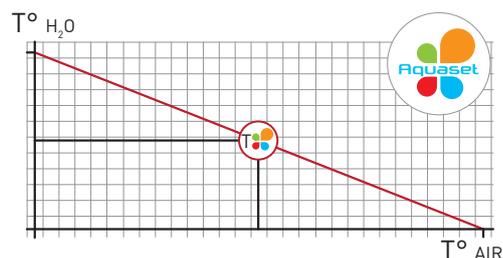
Aquaset control system has been developed and upgraded by Argoclima R&D department. Aquaset is provided as standard with Hydrokit units of iSeries range. These units can be used for hydronic applications, such as: underfloor heating/cooling, fancoils, low temperature radiators (air2air or mixed air2air and air2water configurations). Aquaset control main goal is to manage water temperature for hydronic system, calculating water setpoint. This value is defined according to several parameters of the software. One of these parameters has a great importance: outdoor air temperature. Using so called "Water Law", Aquaset regulation calculates water setpoint in accordance with outdoor air temperature. When outside temperature is increasing, water setpoint will decrease (for example, during spring or autumn).

This feature gives two main benefits for end users: high level of comfort in any climate conditions and money saving thanks to low energy input when there is no need of much heating. During commissioning of Hydrokit unit it is possible to set hydronic application type (underfloor, fancoils, etc...) in order to optimize performance and operation. Other parameters can be set, for example outdoor air threshold for heat pump operation. This value can be choose according to climate conditions (milder or colder). Aquaset can manage back up heating source, too. In this case, back up is provided by electric heaters on Hydrokit unit. These elements are automatically managed by software with energy saving focus: they will be used only if strictly necessary. Moreover, there are some parameters to be set in order to modify electric heaters operation.

Aquaset control system has two main components: control panel and outdoor air sensor. Control panel is employed both by technicians during start up for parameters setting and by end users for management of all control functions, such as: on/off, cooling/heating mode selection, "anti-freeze" option during stand-by mode, etc...

Aquaset is a chronothermostat, too: end users can program on/off scheduling during 24 hours a day, choosing desired temperature setpoint.

Outdoor unit sensor is used by software in order to calculate water setpoint according to outdoor conditions.



# CONTROL SYSTEMS

## Touch screen controller and web gateway



The TC43 is a modern capacitive touch screen controller with embedded software capable to supply different level of service into the iSeries systems. TC43 is equipped with a powerful microprocessor and all the necessary I/O to be connected to the iSeries communication bus; it must be powered by a 12 VDC supplied by a standard power supply and thanks to the compact dimensions (touch screen is 105,5 x 67,2 mm) has to be wall mounted in a right position to be managed by the end user.

By TC43 is possible to manage entirely the iSeries system in any detail of the indoor units both in single or multisplit operations; set the temperature, read the real room temperature, set the mode in cooling, dehumidification, just ventilation or heating, set the iFeel feature, set the fan speed and flap operation and enable the air filtration.

The TC43 making possible any feature available by the standard remote control by a single access point and this could be convenient both in houses, hotels, restaurant, offices and both in single or multisplit configuration.

In addition TC43 is capable to drive hydrokit and emix in order to set the different services provided by the air to water indoor unit connected to the iSeries system.

Added value feature of TC43 are a complete configuration of the rooms by alias name assignment, intuitive environment and control by graphics and touch sensitive approach like the smartphone and sophisticated programming of the cooling/heating and DHW services during the time; everything could be set by different level of access through passwords.

TC43 is also designed to have a single help point incase of errors and feature to make special configuration by technical people during installation or maintenance activities; a standard USB port is located in the bottom side of the controller and could be used to log the system and to upload improvements and new features.

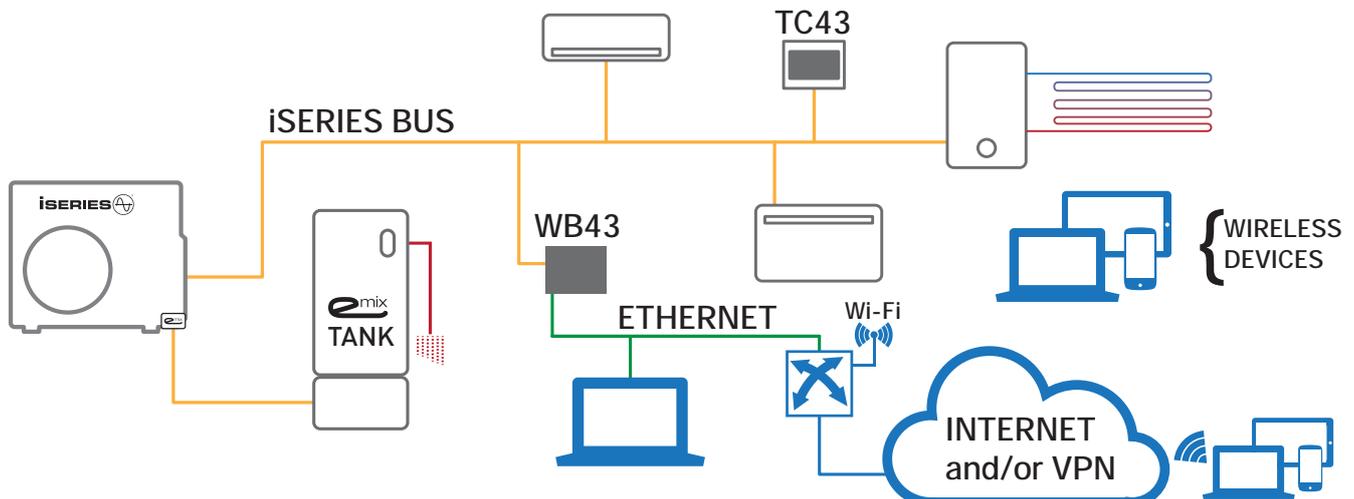
TC43 has a friend: it is WB43, a web gateway that could be installed in the same iSeries bus, running alone or in parallel mode with TC43 and giving the access to iSeries control by a web

browser interface like Iexplorer, Safari, Google chrome and any other popular browser available on PC, MAC, Tablet and Smartphone.

WB43 is designed to be fitted in any location and to be wired connected to the local router by an Ethernet 10/100 port; by the router in any ADLS, HDLS or VPN you can reach WB43 IP address through dynamic IP assignment, dynamic DNS service or static IP assignment and through the WB43 you will see your iSeries on your web browser locally and remotely.

WB43 giving to the end user all the main service of TC43 like configuration, mode setting, temperature setting... and to the technical people the opportunity to supply a supervisor and/or maintenance service with remote access to iSeries as supervision, remote configuration, diagnostics and preventive control.

\*available during 2014











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