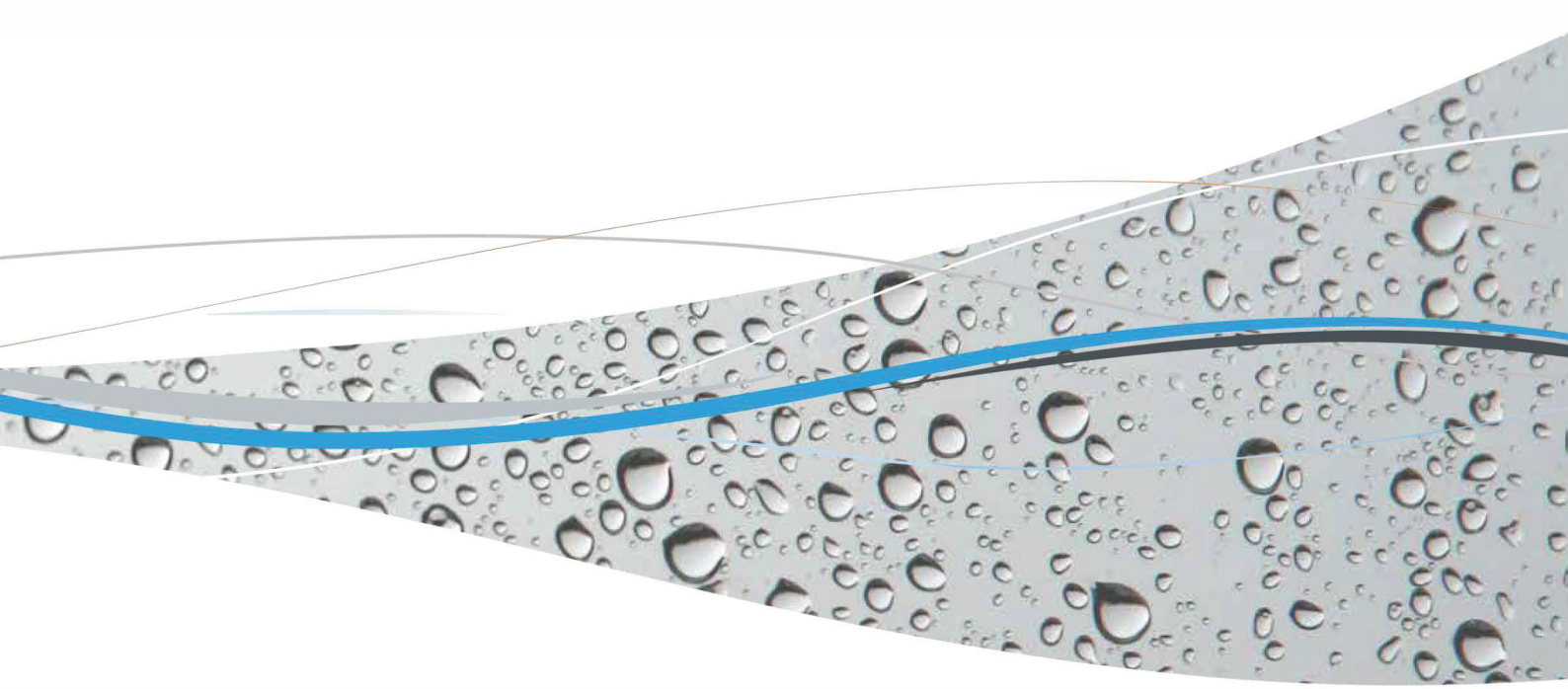


YOUR AIR, OUR PASSION

PRODUCT OVERVIEW

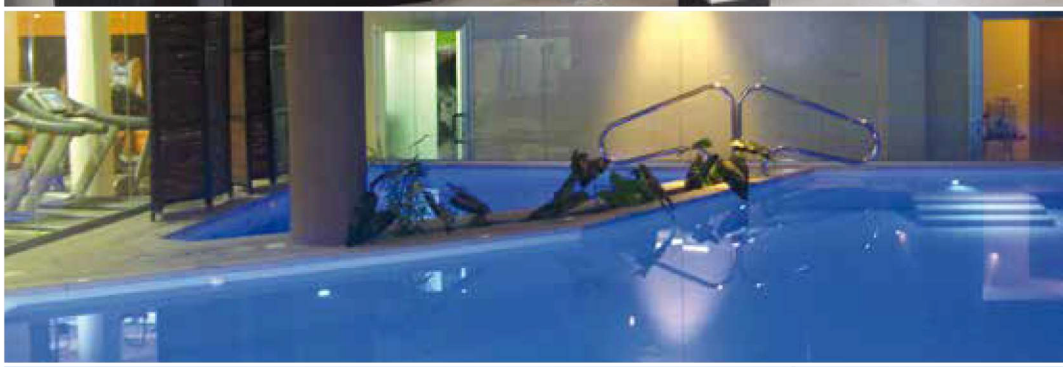
Dehumidifiers

Heat pumps

High efficiency air source and ground source heat pumps using state-of-the-art technology. Ranges from 10 kW to 200 kW (air source) and 7 kW to 660 kW (ground/water source).

Dehumidifiers

Dehumidifiers for use in swimming pools, cold rooms, industrial applications and passive cooling systems.

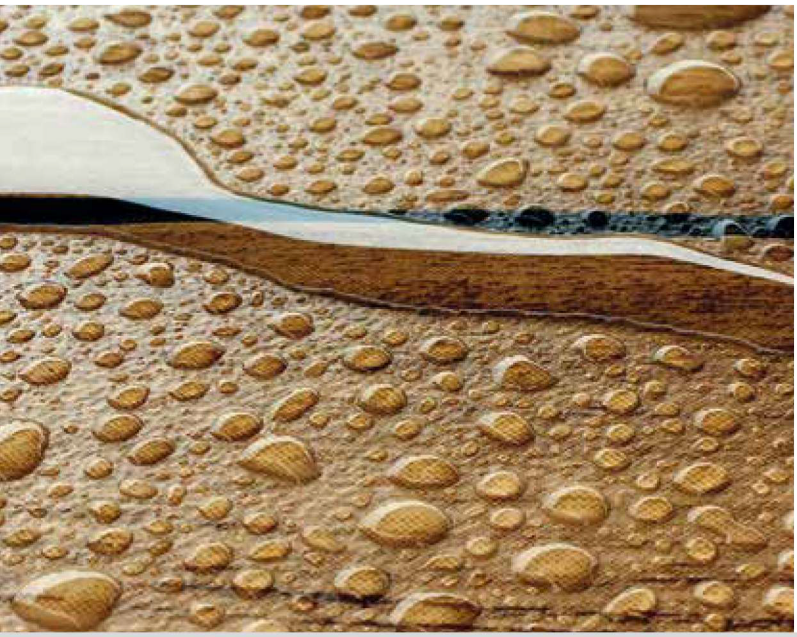


Water Chillers

Air cooled and water cooled packaged chillers to 1 MW capacity for both external and internal installation. Free cooling, split condenser and condensing unit versions also available.

What is Humidity?

The air we breathe contains water vapour the majority of which comes from the evaporation of water from lakes and oceans. This vapour is what we commonly describe as humidity. Humidity is a basic requirement in various sectors of human activities but it is also an invisible element that can cause serious damage to processes and products.

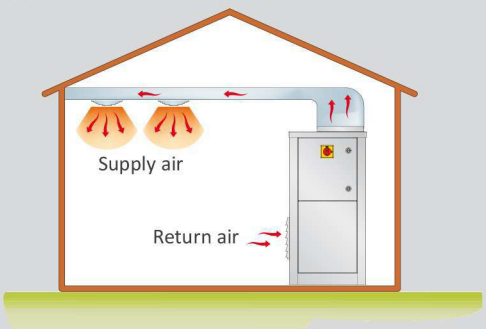


Why Control Humidity?

The control of humidity suppresses the growth of moulds thereby resulting in a healthier environment. It reduces corrosion problems, increases the reliability of electric and electronic components, increases the preservation time of foodstuffs, improves environmental comfort and removes obnoxious odours.

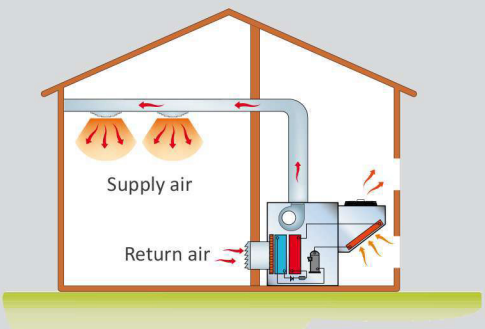
Versions

Base unit



In these versions, the air leaving the unit is always warmer than the incoming air. The thermal power generated by the unit depends on the thermo-hygrometric conditions of the environment.

Unit with desuperheater



In these versions the air leaving the unit is in neutral thermal conditions. The exceeding thermal power is disposed of by the air or water desuperheater, placed on the unit and connected to the outside of the environment to be treated.

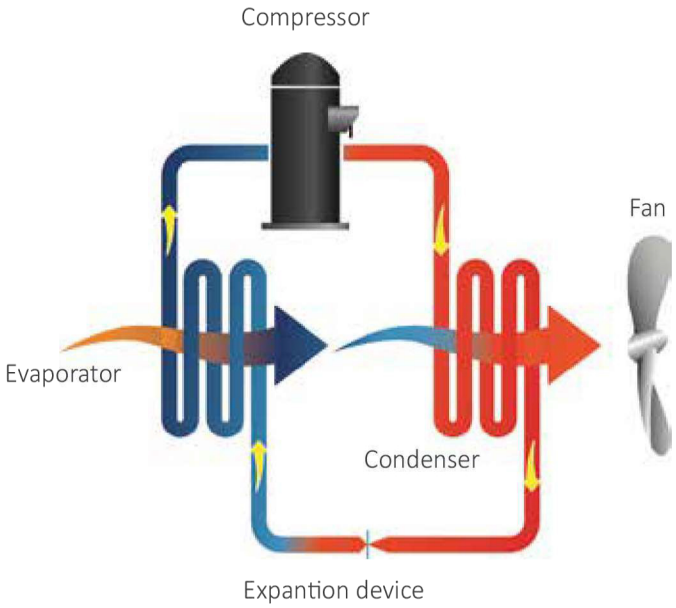
How a Dehumidifier works

There are several methods to reduce the content of water vapor in the air. Envi products provide dehumidification by condensation of the moisture using the refrigerant cycle.

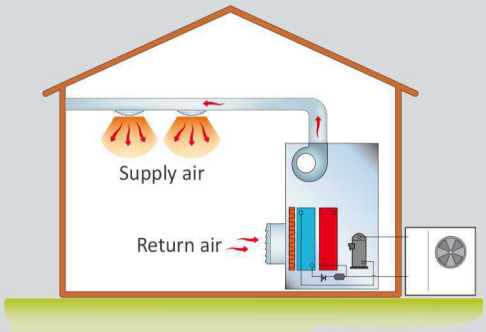
The method of operation is as follows. Firstly, the air is drawn in and passed through a cold finned coil. Inside the coil is cold refrigerant in a liquid/gas mixture. Heat is absorbed Form the air to change the remaining liquid to gas. Absorbing heat from the air cools It to the dew point where it cannot contain the water vapour within it and this therefore condenses in the form of drops on the fins of the evaporator.

The liquid water thus produced is collected in a condensate tray and is drained via a discharge pipe.

The air is now cold and at saturation point, it must be heated back to room temperature. The energy that was absorbed from the air is present in the refrigerant gas and this, plus the electrical energy powering the unit, heats the refrigerant which is passed to a finned condensing coil. The cold, satu-rated air is passed over this coil and is heated. As its tempe-rature rises, it expands and, because a lot of its moisture has been removed, is supplied in a warm, dry condition.



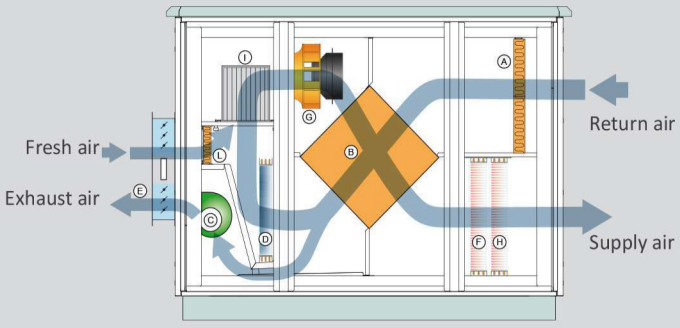
Unit with remote condenser



In these versions there are two condensers: one air cooled and one water cooled, both mounted on the unit. The water condenser must be connected to an external source. The air leaving the unit can be cooled or heated by alternately activating the two capacitors;

- Air cooled condenser activated: Air Dehumidified and he-ated
- Water cooled condenser activated: Air Dehumidified and cooled.

Unit with Alpha cycle



To increase the dehumidification capacity, particular sy-stems are used that increase the value of specific dehumi-dification with the same air flow rate introduced into the room. These systems are called “alpha-cycle systems”. On average, an alpha cycle allows you to have from 20% to 30% more dehumidification capacity compared to a traditional dehumidifier, with the same amount of air flow treated.

Residential Applications

It's perhaps dehumidifier's best known application: especially in the winter season such devices are used to remove moisture from humid environments with the presence of mold and poor ventilation.

A typical case is the cellar or underground rooms where such equipment can also be used during the whole year. In such applications, the dehumidifier is widely used in the drying clothing in the winter time that in addition to decrease the content of water vapor in the air, as has been said previously, this unit also causes the relative heating, facilitating further thus the transfer by clothing of water vapor and subsequent drying. Another application of some importance in residential sector is drying screeds in the building, or drying environments after flooding. The use of a dehumidifier in this case accelerates the drying process in a very substantial, significantly reducing recovery times. Another application of great spread are the gyms, where in the winter period, given the considerable influx of people, the relative humidity reaches a level often intolerable.

Industrial Applications

Envi dehumidifiers are used in a wide range of industrial applications: the plastics industry, paper, wood, packaging, the glass industry, marble industry. In all these areas, the common denominator is that the humidity must be maintained within certain levels so that the industrial process can be carried out successfully.

The operating temperatures can be the most diverse and range from a few degrees above zero until reaching 50-60 °C. The values of relative humidity may vary from 15-20% up to 50-60%.

Due to this wide range of operating range used, they do not always have the same configuration, but have specific design depending on the concerned application. The sizing is therefore carried out according to the specific needs required by the application in question, that generally is a function of the value of temperature and humidity to ensure, the correct amount of water to be removed, the air flow rate and to ensure the duration of the production cycle .

Pools and Wellness

The water contained in indoor pools is generally heated to 27-28°C and this induces a high evaporation. The amount of steam is generally produced from a square meter of pool can vary from 100 to 250 g / h, depending on its temperature and physical activity of people present.

To prevent any problems of condensation on the cold walls of the enclosure, or corrosion due to the presence of disinfectant agents in the water, it becomes necessary the installation of a dehumidification system. In most applications the dehumidifier integratesthe heating system of the air already present, in other systems it acts as a complete air handling unit enabling even the winter heating, summer cooling, heat recovery and fresh air treatment.

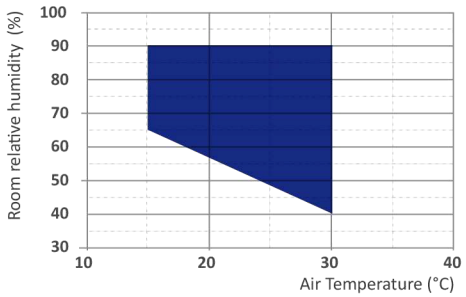
FH - GH

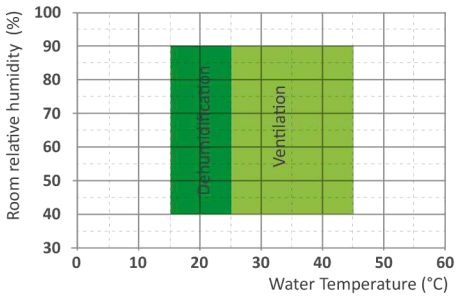
Dehumidifiers for radiant cooling systems

Available versions

WZ Units supplied with double condenser (the first is an air condenser, the second is a water one) and of a logic which allows the dehumidification with neutrum air or with cooled air.

Operation limits

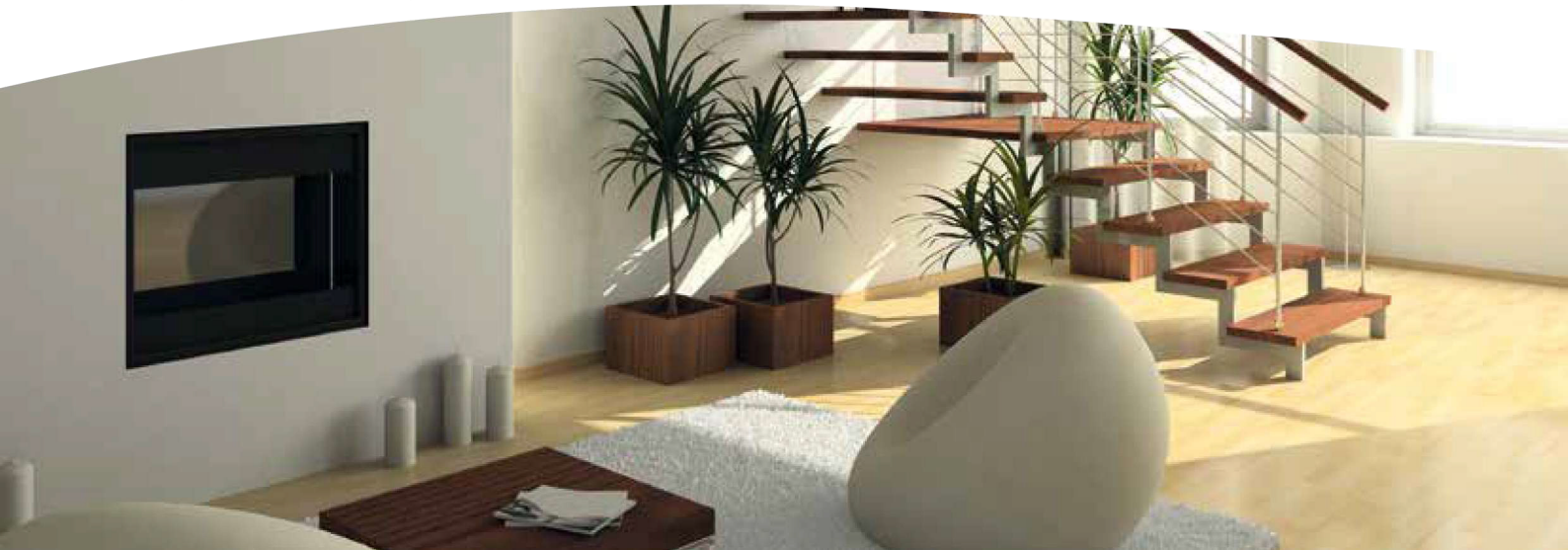




Models FH		25	25WZ
Moisture removed (1)	l/24h	20,1	20,1
Cooling capacity (1)	W	---	1250
Total power input (1)	W	360	360
Water flow	l/h	150	150
Air flow	m³/h	250	250
Dimensions (LxPxH)	mm	545x223x681	545x223x681

Models GH		25	25WZ	50	50WZ	100	100WZ	200	200WZ
Moisture removed (1)	l/24h	20,1	20,1	48,5	48,5	87,2	87,2	164,0	164,0
Cooling capacity (1)	W	---	1250	---	3500	---	6000	---	11300
Total power input (1)	W	340	340	700	700	1450	1450	2450	2450
Water flow	l/h	150	150	500	500	600	600	900	900
Air flow	m³/h	250	250	600	600	1000	1000	1850	1850
Dimensions (LxPxH)	mm	582x582x257		582x582x352		730x800x392		930x888x464	

(1)Room temperature 26°C; relative humidity 65% with cold water coil water inlet temp. 15°C.



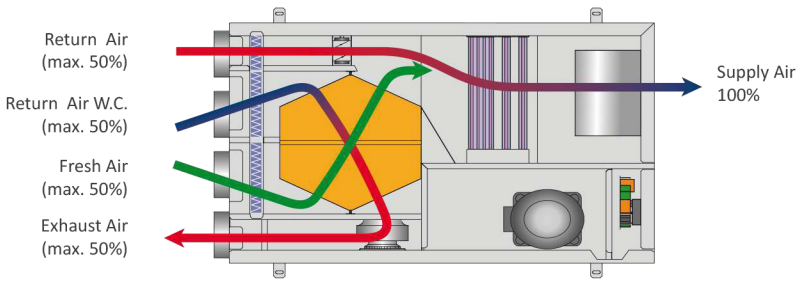
GHE - FHE

Dehumidifiers for radiant cooling systems with heat recovery

Available versions

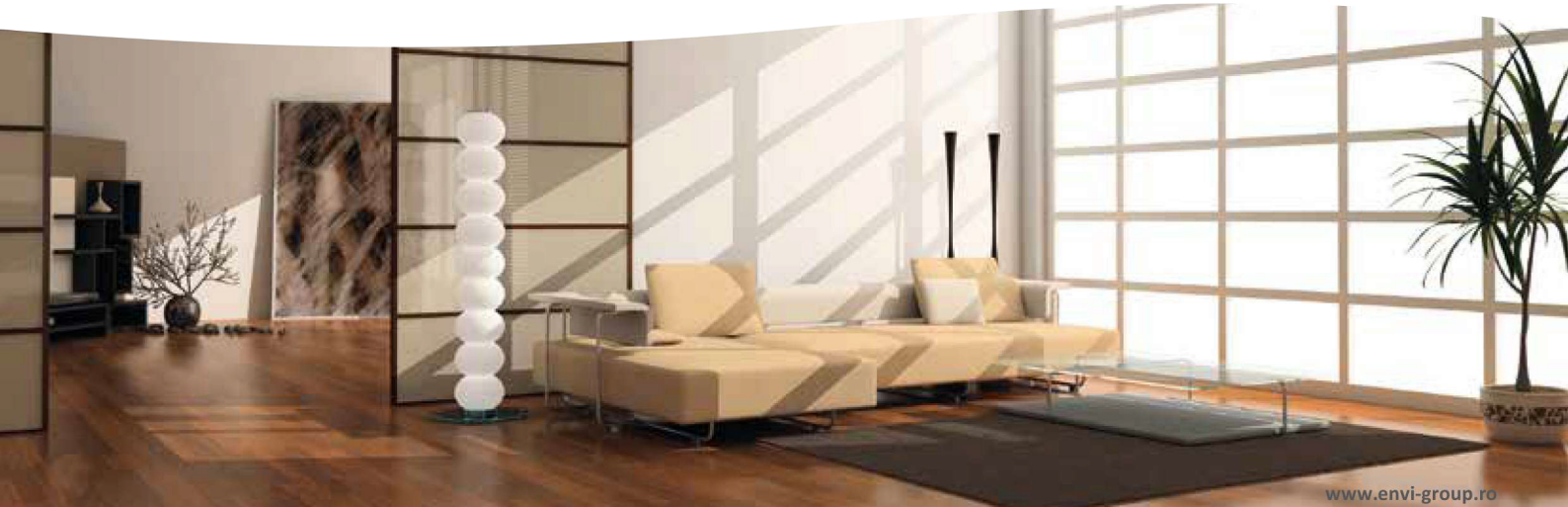
STD The dehumidifiers with heat recovery of high efficiency were designed to provide dehumidification and fresh air in a residential area with very high energy efficiency, combined with radiant cooling systems. The units have been designed to grant the dehumidification either under conditions of thermally neutral air or in terms of air-cooled, managing small air flow thus avoiding annoying tiny air currents typical of traditional air conditioning systems.

FC **Free Cooling**: allows the air to avoid unnecessary switching on the cooling circuit, thus granting excellent environmental conditions with high energy savings. The Free Cooling option is perfect in the middle seasons, when heating or cooling systems are not in use.



Models		GHE 26	GHE 26FC	GHE 51	FHE 26
Useful dehumidification capacity (1)	l/24h	30,1	30,1	61,8	30,1
Total cooling Power (latent + sensible) (1)	W	1380	1380	2820	1380
Efficiency winter recovery (2)	%	90	90	90	90
Efficiency summer recovery (1)	%	75	75	72	70
Compressor absorbed power (1)	W	340	340	480	340
Outdoor air flow	m^3/h	80 - 130	80 - 130	140 - 250	80 - 130
Supply air flow	m^3/h	130 - 260	130 - 260	250 - 500	130 - 260
Dimensions (LxPxH)	mm	732x1105x260	732x1355x260	835x1370x400	600x440x1125

(1) Room Temp. 26°C; 65% RU; Ambient Temp. 35°C; 50% RU; Fresh Air System volume 130 m^3/h (GHE26),250 m^3/h(GHE51); Water IN 15°C, Water Flow 250 l/h(GHE26), 350l/GHE51)- (from the net hygroscopic content of the external air).
(2) Ambient Temp.-5°C; 80% RU, Room Temp. 20°C; 50% RU, maximum external air fllow.



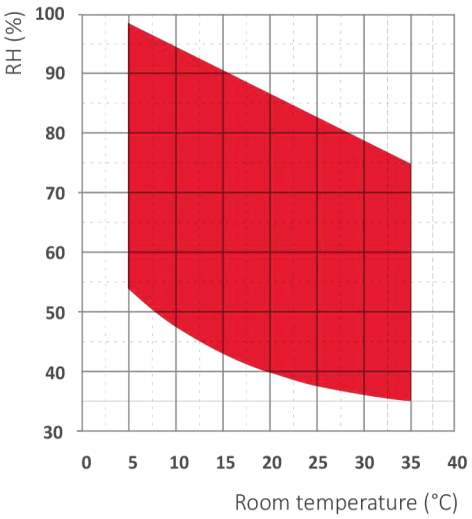
HBA - HHA

Industrial dehumidifiers

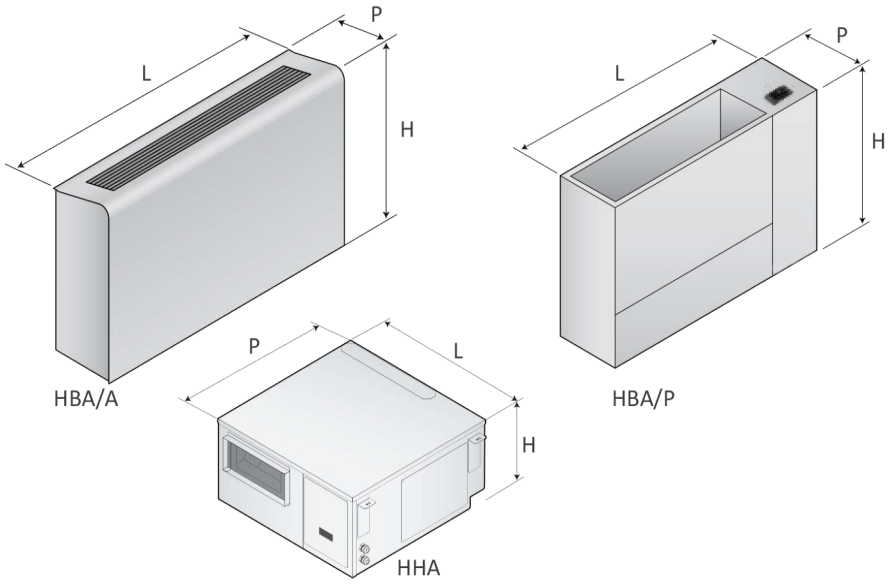
Available versions

HBA A With cabinet.
HBA P Ductable vertical unit.
HHA Ductable horizontal unit.

Operation limits



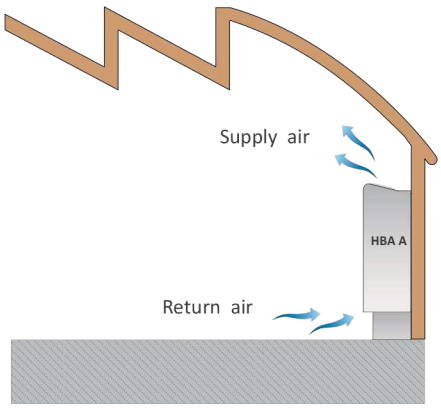
Dimensions

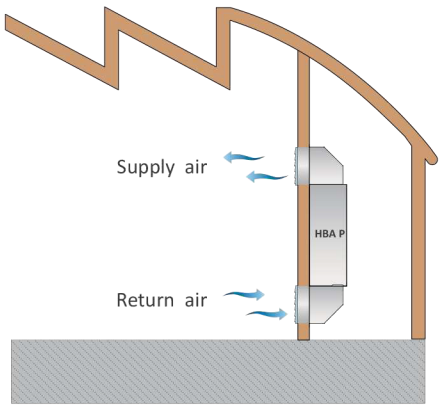


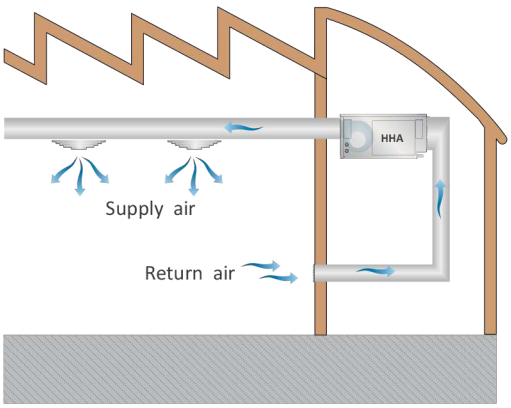
Model HBA/A-P		50	75	100	150	200
Moisture removed at 30°C - 60%	l/24h	40,1	56,6	77,3	113,1	143,5
Moisture removed at 27°C - 60%	l/24h	35,6	50,7	68,9	96,6	131,7
Moisture removed at 20°C - 60%	l/24h	25,8	35,6	51,3	71,5	96,6
Maximum input power	kW	1,2	1,5	2,0	2,3	3,1
Air Flow	m^3/h	500	800	1000	1400	1650
Dimensions HBA/A (LxPxH)	mm	760x260x750	1060x260x750	1060x260x750	1310x310x836	1310x310x836
Dimensions HBA/P (LxPxH)	mm	706x250x680	1006x250x680	1006x250x680	1255x300x770	1255x300x770

Model HHA		50	75	100	150	200
Moisture removed at 30°C - 60%	l/24h	39,0	56,7	77,4	118,3	146,7
Moisture removed at 27°C - 60%	l/24h	34,9	50,1	69,1	104,4	129,5
Moisture removed at 20°C - 60%	l/24h	25,6	35,4	50,7	75,7	92,5
Maximum input power	kW	1,2	1,5	2,0	2,3	3,1
Air Flow	m^3/h	500	800	1000	1400	1650
Dimensions HBA/A (LxPxH)	mm	710x700x360	900x980x460	900x980x460	1050x1160x530	1050x1160x530

Plant scheme







HDA - HMA

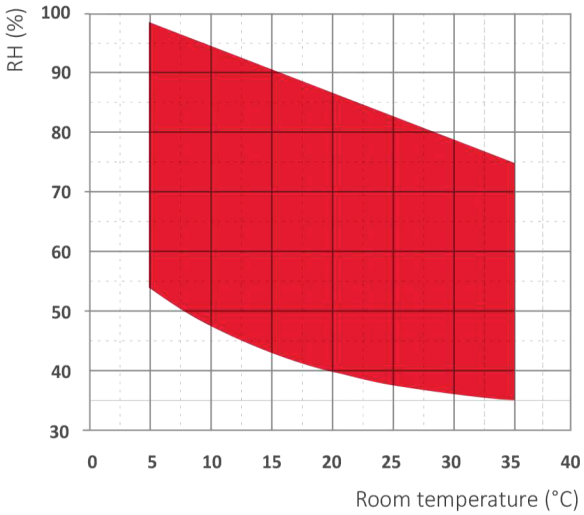
Industrial dehumidifiers

Available versions

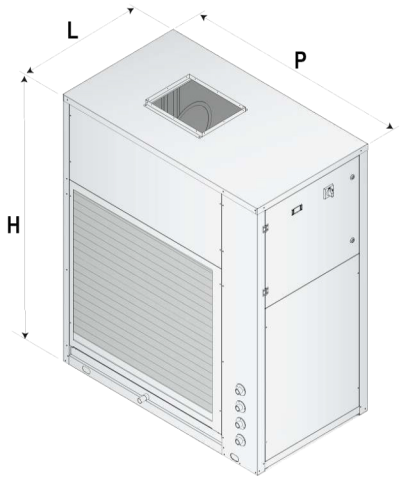
HMA Z These versions are supplied with an air condenser and are used in those applications where it is necessary the simultaneous control of temperature and humidity.

HMA BT The units are supplied with a specific refrigerant circuit design to operate with a wide range of temperatures, they are also equipped with hot gas injection system (used to defrost the evaporator) and condensate discharge drip tray equipped with antifreeze heater, in case of operation in low ambient temperature conditions.

Operation limits



Dimensions

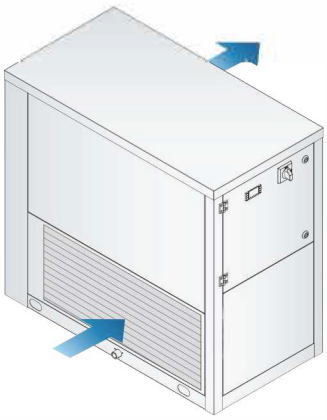


Model HDA		75	100	150	200	250
Moisture removed at 30°C - 60%	l/24h	56,6	76,5	111,0	145,3	190,3
Moisture removed at 27°C - 60%	l/24h	49,4	68,5	99,7	127,8	169,5
Moisture removed at 20°C - 60%	l/24h	34,5	50,2	66,6	90,6	122,4
Maximum input power	kW	1,59	2,05	2,68	3,44	4,39
Air Flow	m^3/h	800	1000	1500	1800	2000
Dimensions (LxPxH)	mm	400x800x800	400x800x800	550x1060x1000	550x1060x1000	550x1060x1000

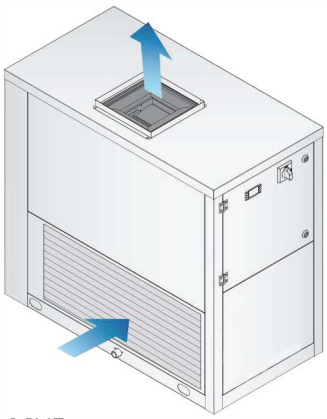
Model HMA		270	350	450	550	750	950
Moisture removed at 30°C - 60%	l/24h	185,1	262,3	336,3	425,0	596,4	759,7
Moisture removed at 27°C - 60%	l/24h	161,4	233,5	302,0	375,7	534,3	680,3
Moisture removed at 20°C - 60%	l/24h	111,4	168,5	223,9	267,1	391,0	501,0
Maximum input power	kW	7,50	7,99	9,85	10,30	15,60	20,10
Air Flow	m^3/h	3500	4200	4200	5500	7000	8500
Dimensions (LxPxH)	mm	704x1154x1378	704x1154x1378	704x1154x1378	854x1504x1750	854x1504x1750	854x1504x1750

Outdoor Unit (Z)

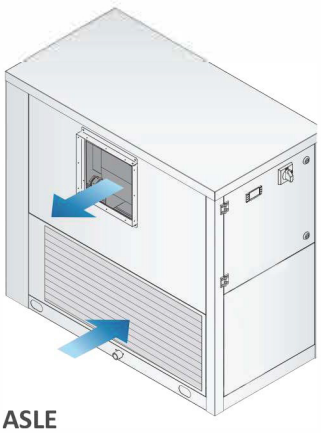
Possible configurations



ASRI



ASVE



ASLE

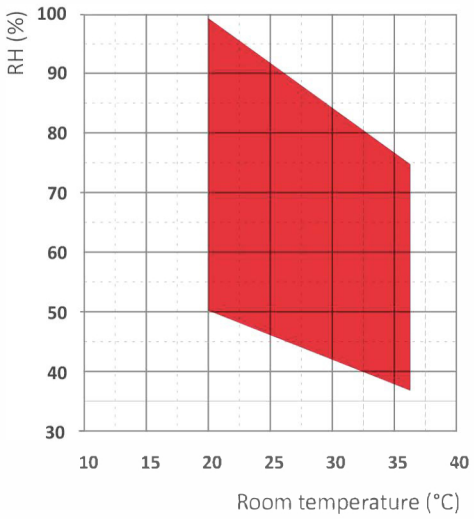
SBA - SHA

Swimming pool dehumidifiers

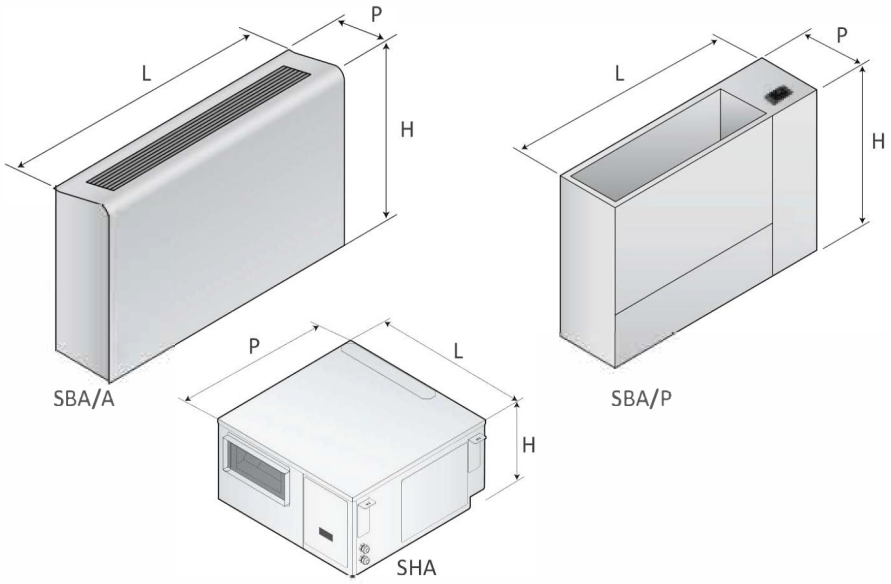
Available versions

SBA A With cabinet.
SBA P Ductable vertical unit.
SHA Ductable horizontal unit.

Operation limits



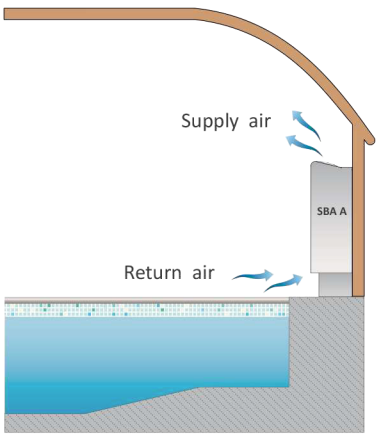
Dimensions

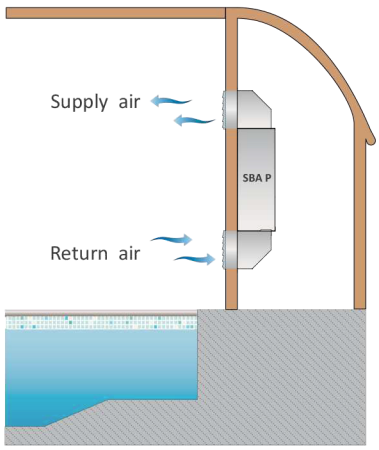


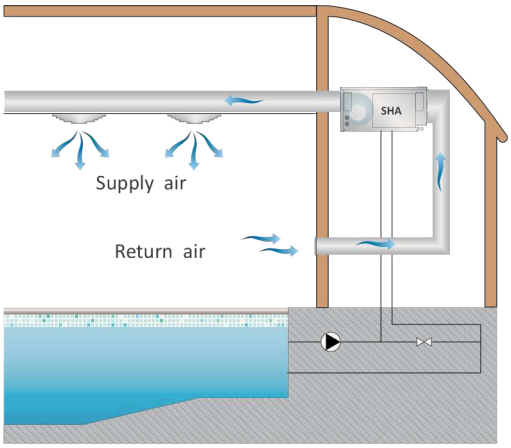
Model SBA/A-P		50	75	100	150	200
Moisture removed at 30°C - 80%	l/24h	49,0	73,0	95,0	155,0	190,0
Moisture removed at 30°C - 60%	l/24h	40,1	56,6	77,3	113,1	143,5
Moisture removed at 27°C - 60%	l/24h	35,6	50,7	68,9	96,6	131,7
Nominal input power	kW	0,9	1,2	1,6	1,9	2,5
Air Flow	m^3/h	500	800	1000	1400	1650
Dimensions SBA/A (LxPxH)	mm	760x260x750	1060x260x750	1060x260x750	1310x310x836	1310x310x836
Dimensions SBA/P (LxPxH)	mm	706x250x680	1006x250x680	1006x250x680	1255x300x770	1255x300x770

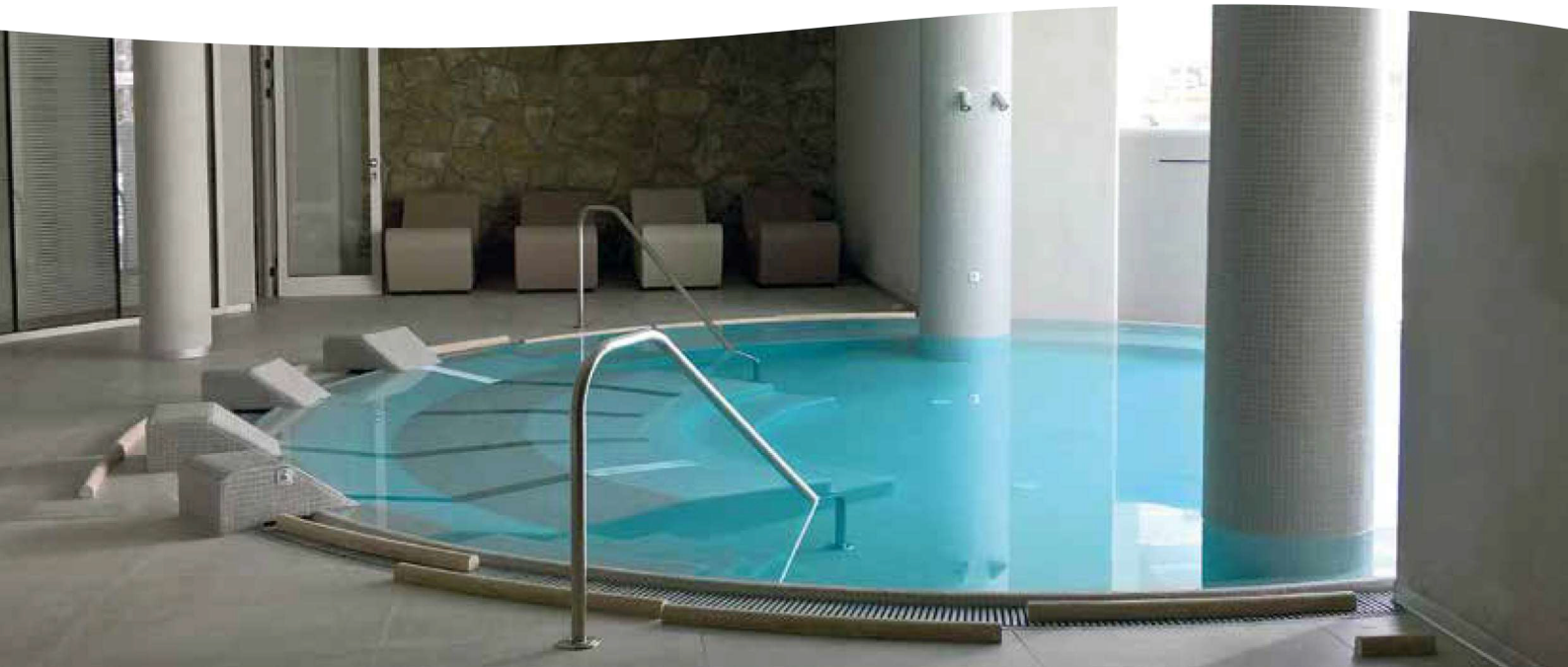
Model SHA		50	75	100	150	200
Moisture removed at 30°C - 80%	l/24h	49	73	95	155	190
Moisture removed at 30°C - 60%	l/24h	39,0	56,7	77,4	118,3	146,7
Moisture removed at 27°C - 60%	l/24h	34,9	50,1	69,1	104,4	129,5
Nominal input power	kW	0,97	1,29	1,76	2,07	2,74
Air Flow	m^3/h	500	800	1000	1400	1650
Dimensions (LxPxH)	mm	710x700x360	900x980x460	900x980x460	1050x1160x530	1050x1160x530

Plant scheme









SDA - SMA

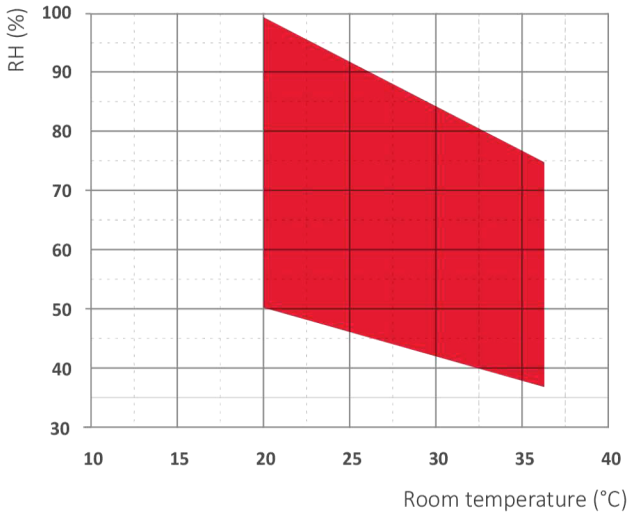
Swimming pool dehumidifiers

Available versions

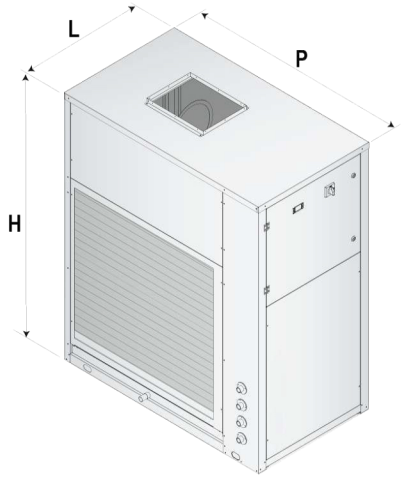
SDA The series includes 5 models with air flows from 800 to 2000 m³/h.

SMA The series includes 6 models with air flows from 3800 to 8500 m³/h.

Operation limits



Dimensions

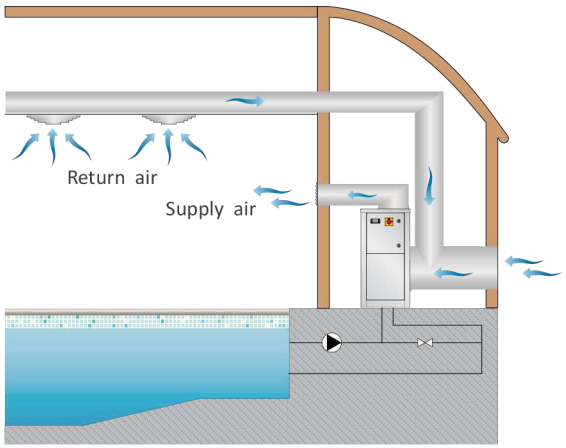


Model SDA		75	100	150	200	250
Moisture removed at 30°C - 80%	l/24h	73,0	95,2	157,1	194,3	240,2
Moisture removed at 30°C - 60%	l/24h	56,6	76,5	111,0	145,3	190,3
Moisture removed at 27°C - 60%	l/24h	49,4	68,5	99,7	127,8	169,5
Maximum input power	kW	1,59	2,05	2,68	3,44	4,39
Air Flow	m³/h	800	1000	1500	1800	2000
Dimensions (LxPxH)	mm	400x800x800	400x800x800	550x1060x1000	550x1060x1000	550x1060x1000

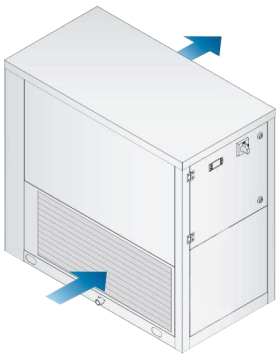
Model SMA		270	350	450	550	750	950
Moisture removed at 30°C - 80%	l/24h	263,1	340,2	418,8	566,8	751,1	939,3
Moisture removed at 30°C - 60%	l/24h	185,1	262,3	336,3	425,0	596,4	759,7
Moisture removed at 27°C - 60%	l/24h	161,4	233,5	302,0	375,7	534,3	680,3
Maximum input power	kW	7,50	7,99	9,85	10,30	15,60	20,10
Air Flow	m³/h	3500	4200	4200	5500	7000	8500
Dimensions (LxPxH)	mm	704x1154x1378	704x1154x1378	704x1154x1378	854x1504x1750	854x1504x1750	854x1504x1750

Outdoor Unit (Z)

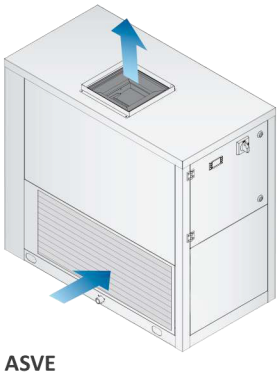
Plant scheme



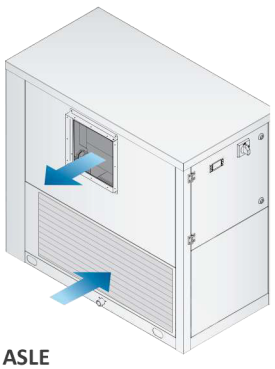
Possible configurations



ASRI



ASVE



ASLE

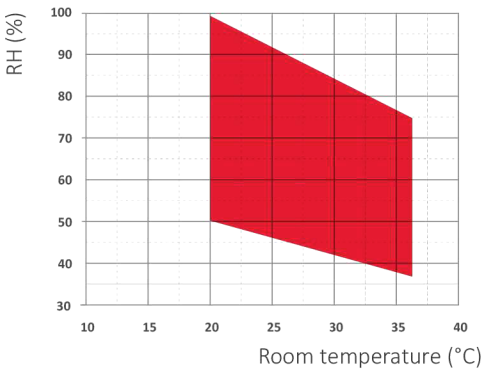
SRH

Swimming pool dehumidifiers

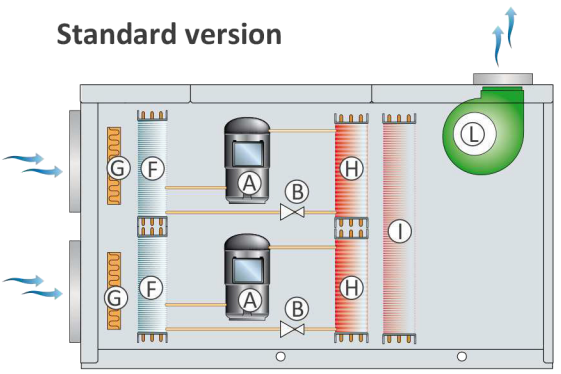
Available versions

WZ Unit with heat recovery: The unit is designed to have one refrigerant circuit condensed by air, the other one condensed both by water and air. If the unit is supplied with the advanced control panel it is possible to set operation priorities (air or water). In the SRH/WZ versions the heat recovery is designed to reject on the water about 50% of the total thermal load generated by the unit. When the heat recovery is activated, the supply air temperature of the unit is, basically, the same of the return air, so,in this case, the dehumidification is performed without air temperature increase. This operation mode is suitable during intermediate seasons when the humidity in the swimming pool has to be controlled but also the room air temperature overheating has to be avoided.

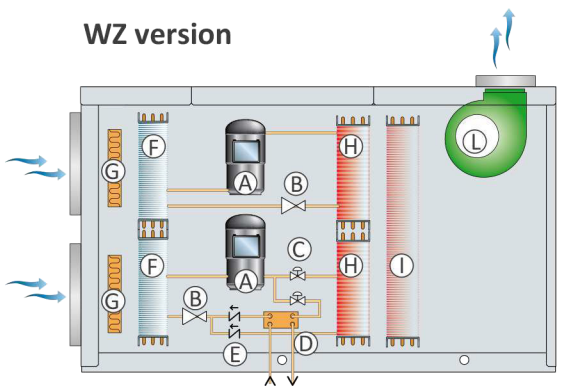
Operation limits



Standard version



WZ version



A	Compressor
B	Expansion valve
C	Solenoid valve
D	Heat recovery
E	One way valve
F	Evaporator
G	Air filter
H	Condenser
I	Hot watercoil (accessory)
L	Fan

SRH Models		1100	1300	1500	1800	2200	3000
Moisture removed 30°C - 80%	l/24h	1130	1285	1480	1855	2310	3050
Nominal input power 30°C - 80%	m³/h	19,9	23,6	26,8	36,3	41,8	55,8
Air flow	m³/h	9500	10500	13000	15000	17000	25000
Dimensions (LxPxH)	mm	850x1870x1250	850x1870x1250	1105x2608x1566	1105x2608x1566	1105x2608x1566	1105x3608x1566

UTA

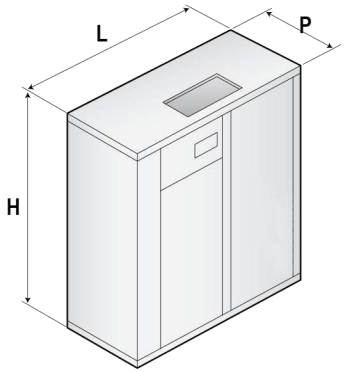
Energy recovery high efficiency dehumidifiers

Available versions

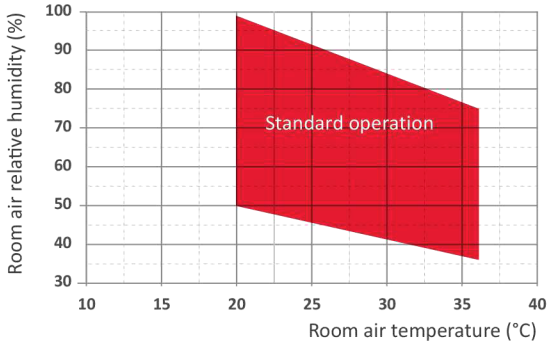
UTA The energy recovery high efficiency dehumidifiers UTA range have been designed to grant the complete control of temperature, humidity, the energy recovery and the fresh air treatment in the covered swimming pools or in other applications with very high internal loads. The use of double-passage-cross-flow energy recovery allows to increase up to 30% the dehumidification capacity in comparison to the traditional dehumidifiers.

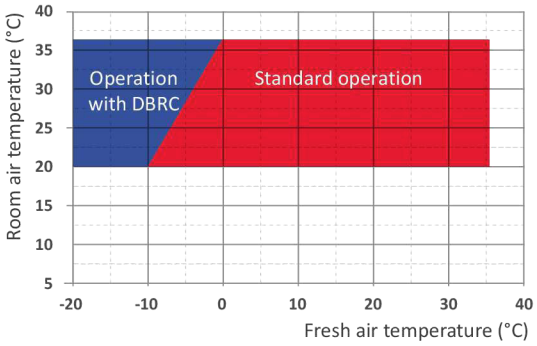
UTAZ **Version with temperature control:** These versions are supplied with a remote condenser and are used in those applications where it is necessary the simultaneous control of temperature and humidity: Dehumidification mode: the internal condenser is activated; the unit dehumidifies and heats up the room temperature; Cooling mode: the remote condenser is activated; the unit dehumidifies and cools down the room temperature.

Dimensions



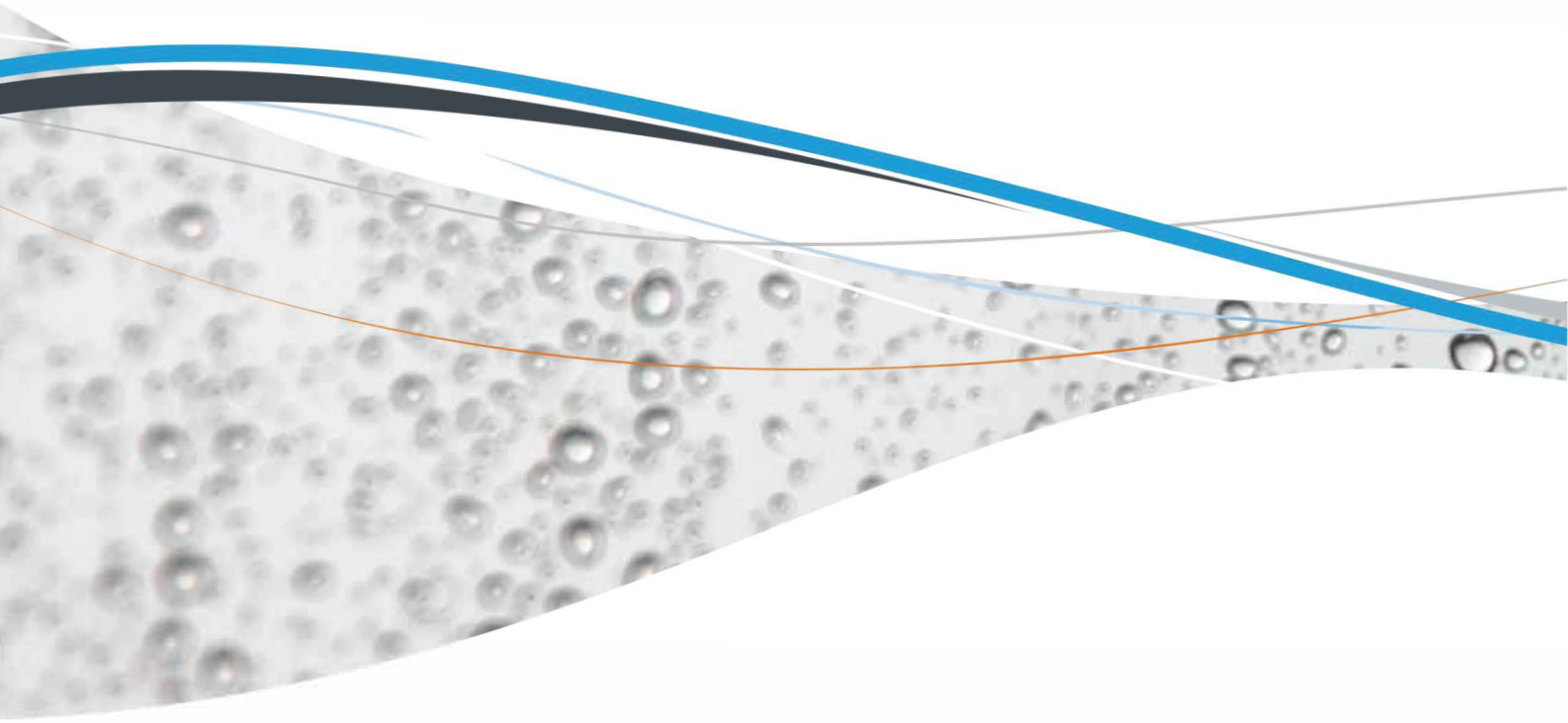
Operation limits





UTA Models		015	020	028	035	042	052	060
Moisture removed (1)	l/24h	223,0	290,9	444,8	552,2	587,5	746,4	907,5
Total air flow	m^3/h	1500	2000	2800	3500	4200	5200	6000
Maximum fresh air flow	m^3/h	450	600	845	1050	1260	1560	1800
Dimensions (LxPxH)	mm	1000x640x1770	1000x640x1770	1500x750x1850	1500x750x1850	1950x1250x1950	1950x1250x1950	1950x1250x1950

(1) Room temperature 30°C; relative humidity 60%, fresh air 30% (-5°C 80%).



Management System
ISO 14001:2015
OHSAS 18001:2007
ISO 9001:2015
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