

## SHH

### Swimming pool dehumidifiers



SHH

Series SHH dehumidifier are expressly designed for use in swimming pools where humidity should be closely controlled in order to guarantee optimal comfort. These units are intended to be installed in a technical room close to the swimming pool. A centrifugal fan with high available static pressure allows unit connection to ductworks, both for air suction and discharge. This series comprises 5 basic models which cover a capacity range from 330 to 937 l/24h.

#### VERSIONS

- The series includes 5 models with air flows from 3800 to 8200 m<sup>3</sup>/h.

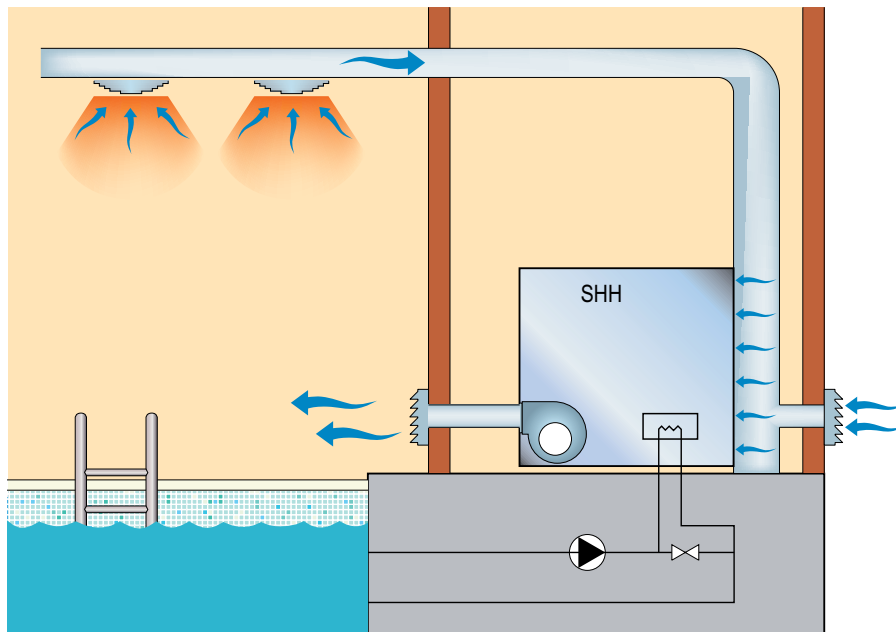
#### ACCESSORIES

- **FARC:** Air filter with frame for ducted installation.
- **HOEL:** Electric heater kit ( 3kW, 4,5kW, 6kW, 12kW).
- **HOWA:** Hot water coil.
- **HYGR:** Remote mechanical hygostat.
- **HYGR:** Remote mechanical hygostat + thermostat.
- **KIVA:** On/Off 3 way valve kit installed.
- **LS00:** Low noise version with insulation of the compressor vane.
- **POSC:** Condensate discharge pump .
- **RP00:** Partial heat recovery.
- **HORI:** Horizontal air discharge.

# SHH

Models SHH		330	400	560	740	940
Moisture removed <sup>(1)</sup>	l/24h	329,9	414,8	564,1	738,5	937,3
Total power input <sup>(1)</sup>	kW	5,3	6,6	8,7	11,7	15,6
Max power input <sup>(2)</sup>	kW	6,4	7,9	9,3	13,3	17,9
Max input current <sup>(2)</sup>	A	17,6	19,6	20,0	26,0	32,3
Peak current	A	72,1	80,6	102,0	131,0	172,3
Partial heat recovery <sup>(3)</sup>	kW	4,8	5,7	7,7	10,2	13,1
Hot water coil <sup>(3)</sup>	kW	21,8	21,8	36,2	46,0	55,7
Air flow	m <sup>3</sup> /h	3800	3800	5150	6850	8200
Available static pressure	Pa	230	230	250	250	250
Refrigerant		R407C	R407C	R407C	R407C	R407C
Sound pressure <sup>(4)</sup>	dB(A)	67	69	72	73	74
Temperature operating range	°C	15-36	15-36	15-36	15-36	15-36
Humidity operating range	%	50-99	50-99	50-99	50-99	50-99
Weight	Kg	195	209	405	421	450
Power supply	V/Ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50

SHH



Performances refer to the following conditions:  
 (1) Room temperature 30°C; relative humidity 80%.  
 (2) Room temperature 35°C; relative humidity 80%.

(3) Room temperature 32°C; water temperature 80/70°C.  
 (4) Sound pressure level measured at 1 mt from the unit in free field conditions according to ISO 9614.

## SHH

### FRAME

All SHH units are made from hot-galvanised thick sheet metal, painted with polyurethane powder enamel at 180°C to ensure the best resistance against the atmospheric agents. The frame is self-supporting with removable panels. The drip tray is present standard in all SHH units and it's in stainless steel. The colour of the units is RAL 7035.

### REFRIGERANT CIRCUIT

The refrigerant gas used in these units is R407C. The refrigerant circuit is made by using international primary brands components and according to ISO 97/23 concerning welding procedures. The refrigerant circuit includes: sight glass, filter drier, thermal expansion valve with external equalizer, Schrader valves for maintenance and control, pressure safety device (according to PED regulation).

### COMPRESSOR

The compressor is scroll type with crankcase heater and thermal overload protection by a klixon embedded in the motor winding. It's mounted on rubber vibration dampers and, by request, it can be supplied with some jackets to reduce the noise (accessory). The crankcase heater, when present, is always powered when the compressor is in stand-by. The inspection is possible through the frontal panel of the unit.

### CONDENSER AND EVAPORATOR

Condensers and evaporators are made of copper pipes and aluminium fins. All evaporators are painted with epoxy powders to prevent corrosion problem due to their use in aggressive environments. The diameter of the copper pipes is 3/8" and the thickness of the aluminium fins is 0,1 mm. The tubes are mechanically expanded into the aluminium fins to improve the heat exchange factor. The geometry of these heat exchangers guarantees a low air side pressure drop and then the use of low rotation (and low noise emission) fans. All units are supplied, standard, with a stainless steel drip tray and all evaporators are supplied with a temperature sensor used as automatic defrost probe.

### FANS

The fan is centrifugal type. It's statically and dynamically balanced and supplied complete of the safety fan guard according to EN 294. It's mounted on the unit frame by interposition of rubber vibration dampers. The electric motor is at 4 poles (about 1500 rpm). Connected to the fan by belts and pulleys and it's equipped of an integrated thermal overload protection. The protection class of the motors is IP 54.

### AIR FILTER

It's supplied standard with the unit. It's made of filtering material in synthetic fibre without electrostatic charge. It can be removed for differential disposal, class G3, according to EN 779:2002.

### MICROPROCESSOR

All SHH units are supplied standard with microprocessor controls. The microprocessor controls the following functions: compressor timing, automatic defrost cycles, the management of fresh and exhaust air, post heating valve and alarms. An appropriate LCD display shows the operation mode of the unit, set point and alarms.

### ELECTRIC BOX

The electric switch board is made according to electromagnetic compatibility norms CEE 73/23 and 89/336. The accessibility to the board is possible after removing the front panel of the unit and the OFF positioning of the main switch. In all SHH units are installed, standard, the compressors sequence relay which disables the operation of the compressor in case the power supply phase sequence is not the correct one (scroll compressors in fact, can be damaged if they rotate reverse wise). The following components are also standard installed: main switch, magnetic-thermal switches (as a protection of the fans), compressors fuses, control circuit automatic breakers, compressor contactors. The terminal board is also supplied with voltage free contacts for remote ON-OFF.

### CONTROL AND PROTECTION DEVICES

All units are supplied with the following control and protection devices: defrost thermostat, which signals to the microprocessor control that a defrost cycle is needed and controls its termination, high pressure switch with manual reset, low pressure switch with automatic reset, high pressure safety valve, compressor thermal overload protection, fans thermal overload protection.

### TEST

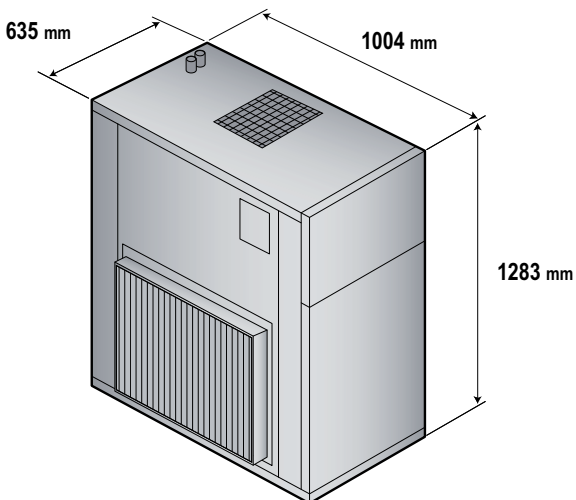
All the units are fully assembled and wired at the factory, carefully evacuated and dried after leak tests under pressure and then charged with refrigerant R407C. They are all fully operational tested before shipment. They all conform to European Directives and are individually marked with the CE label and provided with Conformity Declaration.

# SHH

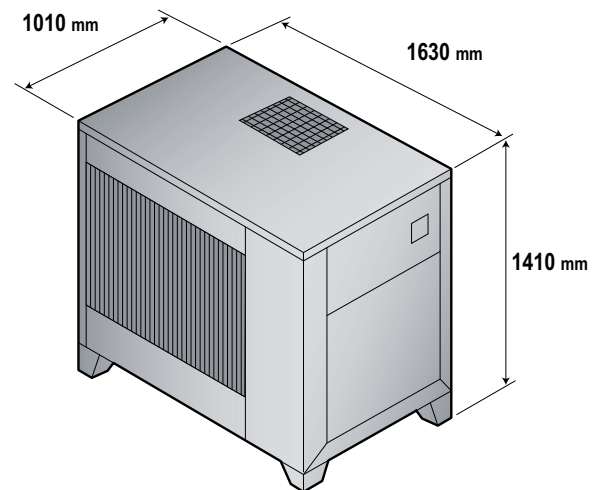
Versions SHH	Code	330	400	560	740	940
Remote mechanical hygrostat	HYGR	○	○	○	○	○
Remote mechanical hygrostat + thermostat	HYGR	○	○	○	○	○
Condensate discharge pump	POSC	–	–	○	○	○
Partial heat recovery	RP00	○	○	○	○	○
Hot water coil	HOWA	○	○	○	○	○
On/Off 3 way valve kit installed	KIVA	○	○	○	○	○
Electric heater kit 6 kW (400/3~+N/50)	HOEL	○	○	○	○	○
Electric heater kit 12 kW (400/3~+N/50)	HOEL	○	○	○	○	○
Air filter with frame for ducted installation	FARC	○	○	○	○	○
Low noise version with insulation of the compressor vane	LS00	○	○	○	○	○
Horizontal air discharge	HORI	–	–	○	○	○

● Standard, ○ Optional, – Not Available.

SHH



SHH330 / SHH400



SHH560 / SHH740 / SHH940