

HiDew

Dehumidifiers

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DDS

Dehumidifiers for swimming
pools – direct installation

DCS

Dehumidifiers for swimming
pools – ducted installation

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

DDS and DCS series dehumidifiers are thought for the usage in small swimming pools, where a 24h/day functioning is required.

Even if their typical installation is for swimming pools, the technical characteristics of these units make them suitable also for other applications, such as museum, archives, libraries, churches, cellars, warehouses and, in general, for ambiances where condensate and humidity can damage the structure and / or the product, or create discomfort.

DDS and DCS dehumidifiers combine avant-garde technical solutions and a sober and fine looking, so they are easily adaptable also in design and prestigious ambiances.

The top-quality refrigeration, hydraulic, aeraulic and electrical components make DDS and DCS units the state of the art dehumidifiers in terms of efficiency, reliability and sound power emitted. Moreover, they have been designed to be easily inspected and maintained.



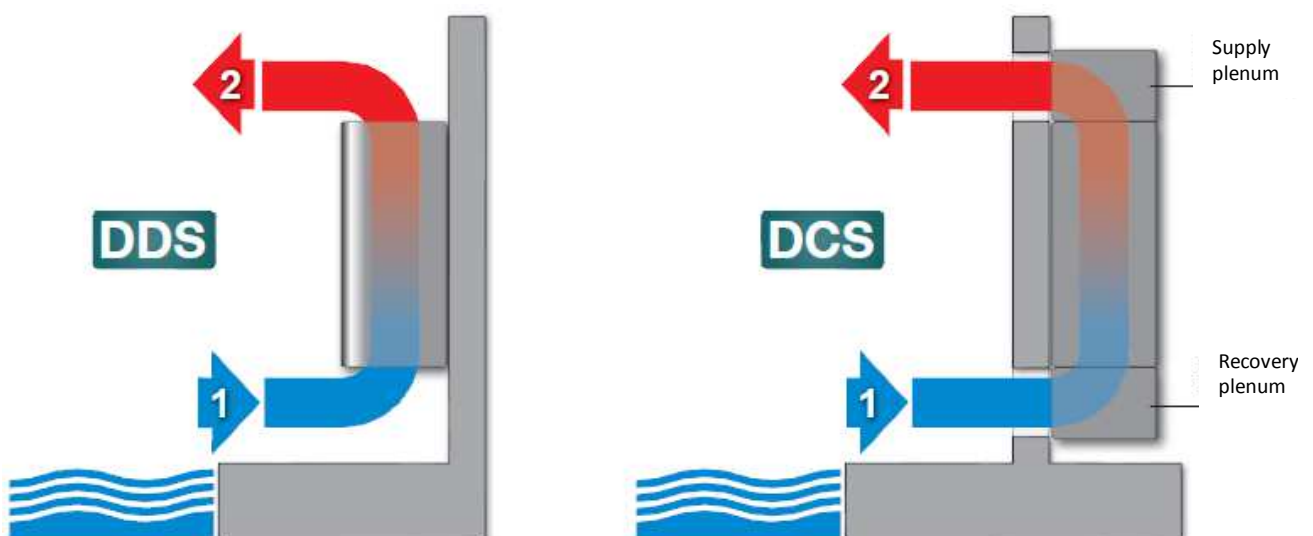
A long list of accessories allows meeting any type of requirement and, in the event that the standard range and available accessories are not enough to meet these demands, HiDew can offer specific solutions to the Customer.

DDS and DCS series is composed by 10 models according to the air flow rate (from 350 up to 1500 m³/h) and to the capacity of dehumidification (from 46 up to 226 L/day). Thanks to this wide and complete range and to the great looking, this line of products represents a reference on the market.

INSTALLATION

DDS models are conceived for a direct installation in the ambience to dehumidify.

DCS models are conceived for a ducted installation in a technical adjacent room, thus are supplied without the front cover (see dimensional drawings on page 7). DCS are predisposed for the connection with supply and recover grilles (optional), or other alternative ducting to permit the suction and supply of the air into the room that needs to be dehumidified.



Standard and Advanced control functions

DDS and DCS models are supplied with a control that manages the basic functions of a dehumidifier: dehumidification, heating, alarms, defrosting cycles.

DDS and DCS units are furnished with a high-performances Advanced control, equipped with a graphic display, temperature and humidity probes on board which makes the unit completely autonomous in both the reading and the management of temperature and humidity parameters.

The Advanced control grants a series of sophisticated functions which can satisfy the requirement of most exigent Customers.

Here below you find a table which resumes the functions of our Advanced control:

	Advanced Control
Display of unit functioning and/or alarms status	√
Temperature and humidity probes on board	√
Evaporation low-pressure protection probe	√
Management of 3-speeds of ventilation during dehumidification, recirculation, heating	√
Time bands On/Off management	√
Time-bands temperature management	√
Time-bands humidity management	√
Alarm history management	√
Electrical heaters and hot water coil with 3-ways valve (exclusion of models 040 – 050 – 060) contemporaneity management	√
Automatic defrost management	√
Alarm on terminal board signal	√
Retro-lighted graphic display	√
Possibility of placing the display at distance (i.e. on the wall)	√
II° Advanced Display at distance	Optional
RS485 Serial board	Optional
On board humidistat management	-
Remote chrono-thermo-hygrostat management	Optional
Management of several units from the same remote Advanced display	Optional
Possibility of having a customized software	Optional

AVAILABLE OPTIONS

	DDS	DCS
	Advanced Control	Advanced Control
Hot water coil	•	•
Hot water coil + 3-ways valve	•	•
Electrical heaters for air heating	•	•
Silent version	•	•
RS485 Serial board	•	•
Supply and recovery air plenum (2 pcs)	-	•
Supply and recovery air grilles (2 pcs)	-	•

- Option available
- Option NOT available

OPTIONS LIST

ADVANCED CONTROL

The Advanced control is composed by a card with a programmable micro-processor plus a graphic display which allows several functions / options easy to manage thanks to an intuitive and complete interface.

The management software is totally developed in HiDew by high-qualified technician. The display can be put at a distance up to 20 meters and, thanks to the temperature and humidity probe mounted on board, can manage temperature, humidity and time-bands on/off of the unit.

Customized software are available under specifications and will be treated as special executions.



HOT WATER REHEAT COIL

It is a reheat hot water coil which heats the supply air thanks to the hot water coming from a boiler or from a heat pump.



HOT WATER REHEAT COIL WITH 3-WAYS VALVE

In addition to the hot water coil, the DDS and DCS can be equipped with a 3-ways valve managed directly from the control of the unit. The contemporaneity of a 3-ways valve and electrical heaters is possible only if combined with the Advanced control (excluded models 040 – 050 – 060).



ELECTRICAL HEATERS

Single-step electrical heaters allow the heating of supply air when there is no hot water available. The safety is granted by a thermostat that, in case of overheating, turns off the heaters and signals the alarm. The contemporaneity of the 3-ways valve and electrical heaters is possible only if combined with the Advanced control (excluded models 040 – 050 – 060)



SILENT VERSION

The silent version allows a reduction of the emitted sound level from the compressor, so the unit is more silent.



It consists of a sound absorbent insulation of the compressor area that reduces the noise and increases the comfort.

RS485 SERIAL BOARD

The Modbus RS485 connection is available with the Advanced control, to supervision of the unit at distance or from a domotic plant. For further information, please consult the technical manual.

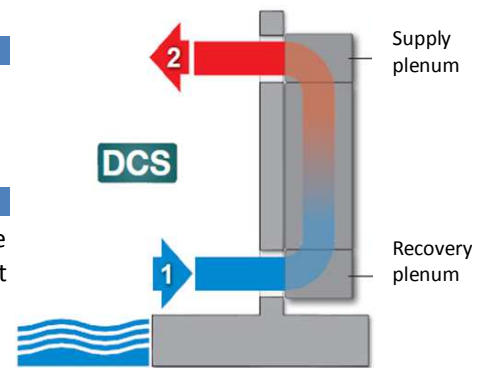
SUPPLY AND RECOVER AIR PLENUM

Nr° 2 supply and recover air plenum can be supplied only with the DCS models.

SUPPLY AND RECOVER AIR GRILLES

Nr° 2 supply and recover grilles can be supplied only with the DCS models. The grilles are in anodized aluminium with fix fins and are characterized by a pleasant and sober design.

Modbus®



TECHNICAL DATA

	Model	040	050	060	070	090	100
Dehumidifying capacity 30° - 80% R.H.	L/day	46	52	62	68	89	98
Dehumidifying capacity 30° - 60% R.H.	L/day	37	41	48	54	71	76
Dehumidifying capacity 27° - 60% R.H.	L/day	33	36	43	46	62	67
Dehumidifying capacity 20° - 60% R.H.	L/day	24	26	30	33	45	50
Nominal air flow	m ³ /h	350	450	500	600	700	800
Available static pressure	Pa	40	40	40	40	40	40
Sound level (1)	db(A)	43	45	46	47	48	49
Hot water coil capacity (2)	kW	3.7	4.5	4.8	6.1	6.8	7.5
Load losses hot water coil without valve	kPa	8	11	12	25	30	36
Load losses hot water coil with valve	kPa	11	16	17	35	42	50
Electrical heaters capacity	Kw	1.5	1.5	1.5	2	3.6	3.6
Power supply	V/ph/Hz	230 / 1 / 50					
Nominal power consumption	kW	0.84	0.86	1	1	1.5	1.5
Maximum power consumption	kW	1.1	1.1	1.2	1.2	1.9	1.9
Maximum power consumption with electrical heaters	kW	3.9	3.9	4.5	4.5	7.3	7.4
Nominal absorbed current	Amp	5.1	5.1	5.6	5.7	9	9
Maximum absorbed current	Amp	19	19	19	19.1	37.4	37.4
Maximum absorbed current with electrical heaters	Amp	2.34	2.36	2.5	3	5.1	5.1
Inrush current	Amp	2.6	2.6	2.7	3.2	5.5	5.5
Working temperature range	°C	12 – 36					
Working humidity range	%	45 – 95					
Refrigerant gas		R410A					

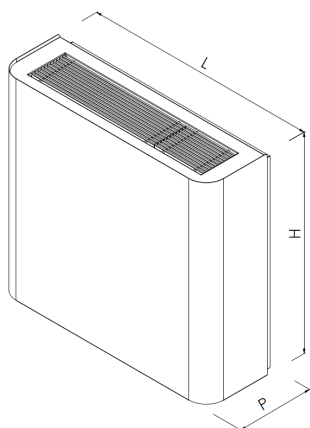
	Model	160	190	210	230
Dehumidifying capacity 30° - 80% R.H.	L/day	165	186	211	226
Dehumidifying capacity 30° - 60% R.H.	L/day	132	145	160	170
Dehumidifying capacity 27° - 60% R.H.	L/day	119	130	142	153
Dehumidifying capacity 20° - 60% R.H.	L/day	82	93	105	115
Nominal air flow	m ³ /h	1000	1200	1500	1500
Available static pressure	Pa	40	40	40	40
Sound level (1)	db(A)	51	53	54	55
Hot water coil capacity (2)	kW	10.1	11.5	14.5	14.5
Load losses hot water coil without valve	kPa	14	18	32	32
Load losses hot water coil with valve	kPa	24	31	52	52
Electrical heaters capacity	Kw	4	4	7.2	7.2
Power supply	V/ph/Hz	230 / 1 / 50		400 / 3+N / 50	
Nominal power consumption	kW	2.5	2.6	3.9	4
Maximum power consumption	kW	3.1	3.2	4.9	4.9
Maximum power consumption with electrical heaters	kW	11.6	12.4	7.7	7.9
Nominal absorbed current	Amp	14.4	15	9.4	9.5
Maximum absorbed current	Amp	63	63	49.9	49.9
Maximum absorbed current with electrical heaters	Amp	6.5	6.6	11.1	11.2
Inrush current	Amp	7.1	7.2	12.1	12.1
Working temperature range	°C	12 – 36			
Working humidity range	%	45 – 95			
Refrigerant gas		R410A			

- (1) Sound level declared at 1 m in free field
- (2) Heat output with water 80 / 70°C , ambient 30°C

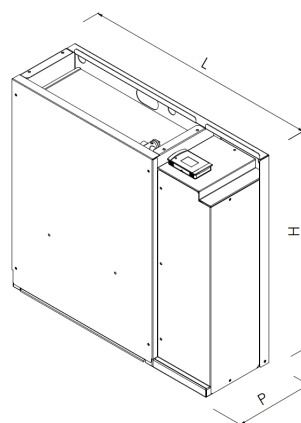
DIMENSIONS

		Model	040	050	060	070	090	100
Dimensions L x H x D	DDS	mm	850 x 780 x 280			1050 x 780 x 280		
Dimensions L x H x D	DCS	mm	802 x 763 x 257			1002 x 763 x 257		

		Model	160	190	210	230
Dimensions L x H x D	DDS	mm	1350 x 850 x 330		1550 x 850 x 330	
Dimensions L x H x D	DCS	mm	1302 x 833 x 307		1502 x 833 x 307	



DDS



DCS

COMPONENTS

STRUCTURE

The unit is realized with an exclusive design that, when the machine is closed, grants the inaccessibility to all the components.
 The removable frontal panel grants a complete accessibility to the unit, for a simple and quick maintenance.
 Bolts and screws are non-oxidable, INOX or in carbon steel with passivation treatments.
 The condensate collection tank is in inox steel.
 Carpentries are completely varnished with polyester powders.
 Heat exchanger realized with anti-corrosion treatment.

REFRIGERANT CIRCUITS

The refrigerant circuit is completely realized in our Factory, using only high-quality components.
 Production operators are qualified staff.
 Each DDS and DCS unit is assembled, welded, wired and tested within our Factory, ad a granted high-quality product.
 DDS and DCS units respond to Direction 97/23/CE. All the unit are realized with the ecological gas R410A.

Refrigerant components:

- Compressors: rotative or scroll type of primary international brand. The engines are thermally protected by an internal protection which controls the temperature of windings and turns off the power supply if necessary.
- Dehydrater filter with molecular siever
- Thermal expansion valve or rolling organ (according to the model)
- Liquid indicator
- High pressure switch
- Schrader valves for the control of working pressure and / or the maintenance of the refrigerant circuit
- Thermal exchange coils varnished and with anti-corrosion treatment

VENTILATION

For the ventilation, centrifugal at double suction, 7-speeds (3-speeds for models 210 – 230) with plastic fan (excluded models 210 -230) for a major resistance to the corrosion and a sensible reduction of the sound level emitted, for a major comfort.



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