

# HSK®

## POOLLINE

### AIR HANDLING UNIT

[www.hsk.com.tr](http://www.hsk.com.tr)



HSK Air Handling Units  
are produced with  
Frame Drill Technology.

**“Powered by Self Quality”**



ISO 9001:2008 / ISO 14001:2004

OHSA 18001

# AIR HANDLING UNITS FOR DEHUMIDIFICATION OF INDOOR POOL AREAS

When the humidity is not controlled at indoor pool areas, it decreases the comfort conditions and damages the building. During the months of winter and in cool summer evenings, the outside air temperature can become visibly lower than the indoors air temperature. Warm air holds humidity; but cold walls or window surfaces can cause condense.

When the relative humidity gets above 62% for a long time, it starts harming the structure. Chlorine, which evaporates from the chemicals pool water, combines with the condensed moisture and turns into hydrochloric acid, and speeds up the corrosion on wooden and metal surfaces.

A high volume of moisture causes a high increase of bacteria, fungi, and viruses. Keeping the relative humidity around 50 – 60% decreases the activities and number of micro organisms.

As a result, moisture is an element which has to be kept under control at pool locations. HSK POOLLINE “HPL” Air Handling Units for Dehumidification provide the best solution packages for this purpose. It increases the energy efficiency with its heat recovery application with the heat recovery exchanger with heat pipe (Heat Pipe) heat exchangers, and minimizes the operation costs. Using its microprocessor control unit, it can be operated in different operating conditions during day, night and changing season conditions.

- Night operations (No dehumidification) (100 % inside air, compressor is off)
- Night operations (Dehumidification) (100 % inside air, compressor is on)
- Day operations (Dehumidification) (mixing, compressor is on)
- Day operations (No dehumidification) (Min fresh air, compressor is off)
- Season changes and summer (100 % outside air, compressor is off)



## SPECIFICATIONS

- Air flow between 2500 – 15.000 m<sup>3</sup>/h,
- Dehumidification capacity of 15 – 90 kg/h,
- Removable drop eliminators made out of polypropylene with rays and with a service door,
- Against the corrosion effects of pool chemicals, all epoxy coated aluminium surfaces, the heater and cooler heat exchangers casings made from stainless sheet metal.
- Stainless steel drain pan with two designs to keep the pen always dry,
- Drop holder made from polypropylene profiles resistant to temperatures up to 130 °C,
- Energy efficiency and low operation cost with heat recovery,
- Cooling circuit with high efficient scroll type hermetic compressor,
- Equipped with field equipments and control panel to control the unit for different air conditions.



## POOLLINE TECHNICAL SPECIFICATIONS TABLE

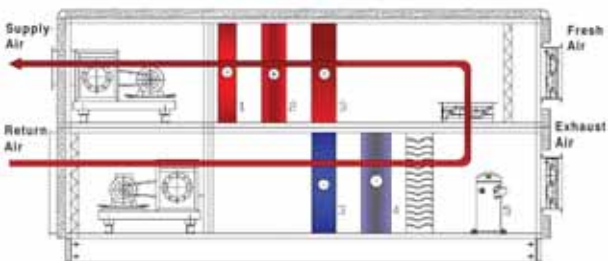
TYPE		HPL-2500	HPL-4000	HPL-5500	HPL-8000	HPL-10000	HPL-15000
POOL SURFACE	m <sup>2</sup>	55	85	120	180	220	330
DEHUMIDIFICATION CAPACITY	kg/h	15	25	35	49	60	90
AIR VOLUME	m <sup>3</sup> /h	2500	4000	5500	8000	10000	15000
COOLING CAPACITY	kW	17	28	38	54	65	101
	kcal/h	14620	24080	32680	46440	55900	86860
WATER HEATING CAPACITY	kW	26	40	61	74	116	169
	kcal/h	22360	34400	52460	63640	99760	145340
HEAT RECOVERY CAPACITY	kW	8	13	18	26	33	48
	kcal/h	6880	11180	15480	22360	28380	41280
SUPPLY SIDE EXTERNAL PRESSURE	Pa	300	400	550	500	500	450
EXHAUST SIDE EXTERNAL PRESSURE	Pa	300	350	450	450	450	400
CONDENSER CAPACITY	kW	22	33	46	62	76	121
EXHAUST MOTOR POWER	kW	1.5	3	2.2	3	4	7.5
SUPPLY MOTOR POWER	kW	1.5	3	3	4	5.5	7.5
ELECTRICAL CONSUMPTION	kW	7.4	12.8	14.9	22.4	24.9	37.9

## DIMENSION

TYPE		HPL-2500	HPL-4000	HPL-5500	HPL-8000	HPL-10000	HPL-15000
DIMENSION	L	3007	3772	3772	3925	4231	4231
	W	772	1078	1078	1384	1384	1690
	H	1544	1544	2156	2156	2768	2768
HEATING COIL INLET / OUTLET PIPE	inch	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
DRAIN PAN OUTLET PIPE DIAMETER	inch	1"	1"	1"	1"	1"	1"
WEIGHT	kg	1045	1255	1505	1860	2275	2530

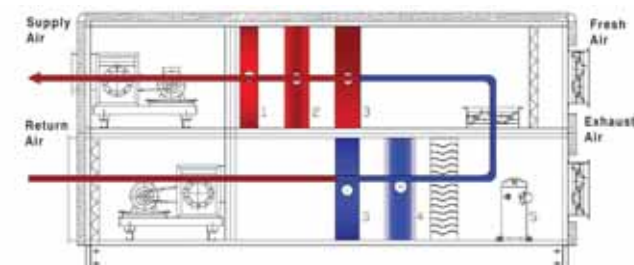
AMBIENT CONDITIONS AT % 55 RELATIVE HUMIDITY AND 30°C OUTDOOR AIR CONDITIONS +5 °C AND 85% RELATIVE HUMIDITY

ALL THE SELECTIONS FOR THE FINAL HEATER CAPACITY (STANDARD) AT WATER TEMPERATURE IS 80 / 60 °C WITH 30 % FRESH AIR AND 70 % INDOOR AIR.



### Night Operation Where Dehumidification Is Not Applied:

Return fan is closed, Supply fan is operating. Cooling circuit is closed. By having the return air pass through the mixture damper and the final heater, the pool location is heated with sufficient air flow.



### Night Operation Where Dehumidification Is Applied:

Dehumidification is realized in the night operation with low usage by having the air of the location pass through the heat pipe and evaporator. The cool air coming out from the evaporator with condensed moisture passes through the heat pipe (upper part) and the condenser, and is sent to the pool location heated. (The air can be further heated up by initiating the final heater if necessary)

1. Heater

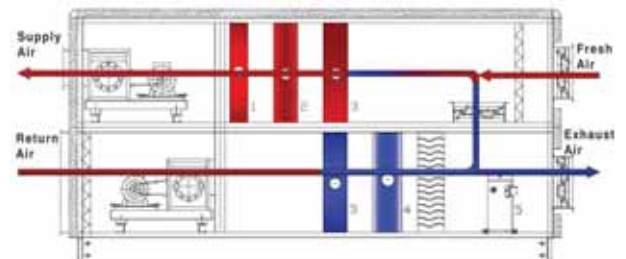
2. Condenser

3. Heat Recover

4. Evaporator

5. Compressor

HSK is entitled to make changes on the technical specifications of the products due to continuous product development studies.

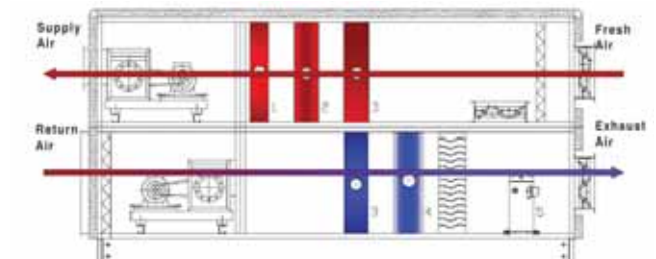


### Day Operation Where Dehumidification Is Applied:

The return air is mixed with the fresh air and so the clean air requirement is also fulfilled, and the return air is discharged until the clean air amount is obtained. The location air is passing through the heat pipe and evaporator, and the dehumidification process is completed. The cool air coming out from the evaporator with condensed moisture passes through the heat pipe (upper part) and the condenser and is sent to pool location heated.

### Day Operation Where Dehumidification Is Not Applied:

Clean air is used at minimum level, the compressor is closed and heating is done whenever necessary.



### Operation During Season Changes: (Dehumidification ON/ OFF)

Dehumidification and ventilation process is done with a maximum fresh air volume. (A great part of the circulating air is discharged to the outside environment)



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