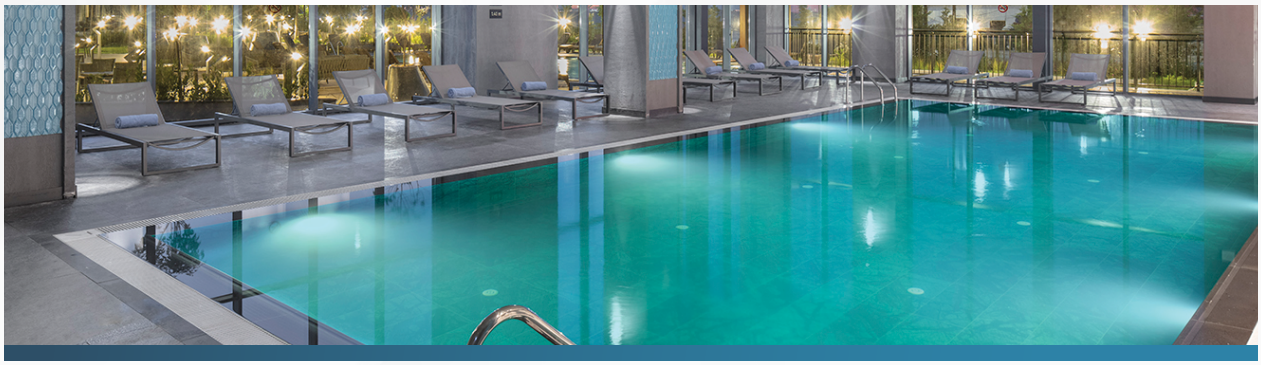
BOREAS

POOLSIDE DE-HUMIDIFYING AIR HANDLING UNIT

Ultimate Poolside Experience, Humidity Managed

POOLSIDE DE-HUMIDIFYING
AIR HANDLING UNIT



GENERAL FEATURES
Heat Insulation Class: The unit is designed to meet the TB1 heat insulation class requirements.
Body Mechanical Strength Class: The body of the unit has a mechanical strength class of D1.
Air Leakage Rate Class: The air leakage rate of the unit complies with class L1 standards.
Filter Bypass Leakage Rate: The filter bypass leakage rate is F9.
Thermal Heat Transmission: Thermal heat transmission is rated as T2.
Surface Coating: The external and internal surfaces of the unit are coated with electrostatic 90-nicron powder coating.
Heat Recovery Battery: The unit is equipped with a cross-flow type heat recovery battery.
Surface Coating: The external and internal surfaces of the unit are coated with electrostatic 90-nicron powder coating.
Heat Recovery Battery: The unit is equipped with a cross-flow type heat recovery battery.
Air Conditioning Process Innovation: The unit incorporates innovative design features for the air conditioning process.
Compressor and Cooling Equipment: High Efficiency The unit utilizes high-efficiency compressor and cooling equipment.
Operation Modes: Automatic Operation in Four Scenarios The unit supports automatic in four different scenario modes.
Automation System: ModBus Output The unit includes an automation system with ModBus output.
Panel: Complete Energy and Automation Panel A factory-assembled complete energy and automation panel is provided.
Packaging: The unit is shipped with air cushion packaging for protection.
User Interface: The unit features a touch screen interface with remote control or device mounting options.
Optional Components: Electric Heater Battery Optional components such as a lectric heater battery may be provided.

EUROVENT CERTIFIED PERFORMANCE
AHU No. 15.06.010
Range BRS
www.eurovent-certification.com

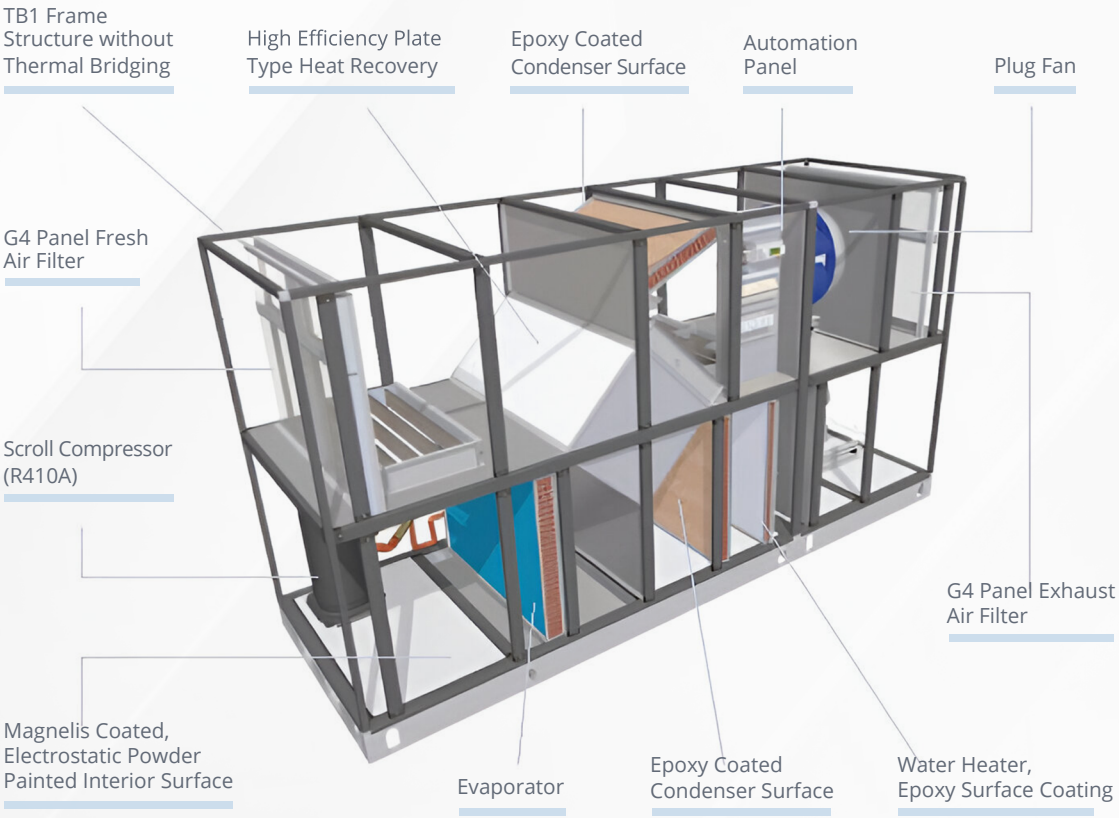
Thanks to Eurovent Certified BRS casing BHS is offering high standard.

BOREAS Air Handling Unit is Eurovent Certified with Mechanical Strength Class D1, Casing Air Leakage Class L1, Thermal Transmittance Class T2, Thermal Bridging Class TB1, and Filter Bypass Leakage Class F9 according to EN 1886.

Frame Structure

The frame structure of the BOREAS Poolside De-Humidifying Air Handling Unit comprises electrostatic oven painted box profiles manufactured from steel material with dimensions of 30x30 and 30x60 mm and a thickness of 2 mm, and aluminum corner and plastic fittings.

The BOREAS Poolside De-Humidifying Air Handling Unit is class D1, the highest class according to the EN 1886 Mecanical Strenght test.



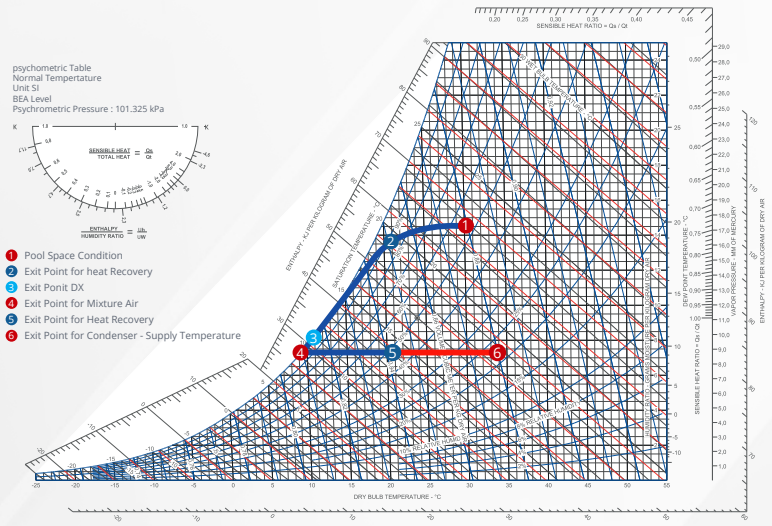


TABLE OF TECHNICAL SPE CIFICATIONS FOR THE BOREAS POOLSIDE DE -HUMIDIFYING AIR HANDLING UNIT											
MODEL		BHS 3000	BHS 4500	BHS 6000	BHS 8000	BHS 10000	BHS 12000	BHS 16000	BHS 18000	BHS 20000	BHS 25000
De-humidification Capacity	kg/h	21,17	27,73	37,96	50,92	63,1	76,4	101,55	114,23	126,93	158,66
Pool Area	m²	55	82	110	147	184	220	294	330	368	460
Air Flow Rate	m³/h	3000	4500	6000	8000	10000	12000	16000	18000	20000	25000
Cooling Capacity	kW	21	26,31	31,2	49	60,46	63,49	81,13	95	104	130,1
Water Heater Capacity	kW	39,11	59,03	80,54	100,4	121,6	153	201,3	212,3	253,9	303
Heat Recovery Capacity	kW	9,65	15,93	26,24	28,22	35,32	52,2	72,28	77,79	87,96	109,8
Fresh Air External Pressure	Pa	400	400	400	400	400	400	400	400	400	400
Exhaust Line External Pressure	Pa	400	400	400	400	400	400	400	400	400	450
Aspirator Motor Power	kW	1,5	2,2	3	3	5,5	5,5	7,5	7,5	11	15
Ventilator Motor Power	kW	1,5	2,2	3	4	7,5	7,5	7,5	11	11	15
Compressor Power	kW	5,876	7,753	8,758	15,28	15,28	18,24	23,18	23,18	29,17	36,43
Electrical Power Drawn	kW	8,876	12,153	14,758	22,28	28,28	31,24	38,18	41,68	51,17	66,43

Designed according to VDI 2089

TABLE OF DIMENSIONS FOR THE BOREAS POOLSIDE DE-HUMIDIFYING AIR HANDLING UNIT										
MODELS		BHS 3000	BHS 4500	BHS 6000	BHS 8000	BHS 10000	BHS 12000	BHS 16000	BHS 18000	BHS 20000	BHS 25000
DIMENSIONS	L	4.324	4.488	5.242	5.140	5.140	5.650	6.976	6.670	6.976	6.976
	W	1.018	1.324	1.018	1.324	1.630	1.630	1.630	1.936	1.630	1.936
	H	1.514	1.514	2.126	2.126	2.126	2.126	2.738	2.738	3.146	3.350
Weight	Kg	1.467	1.805	1.976	2.396	2.725	2.940	3.592	3.962	4.248	4.914

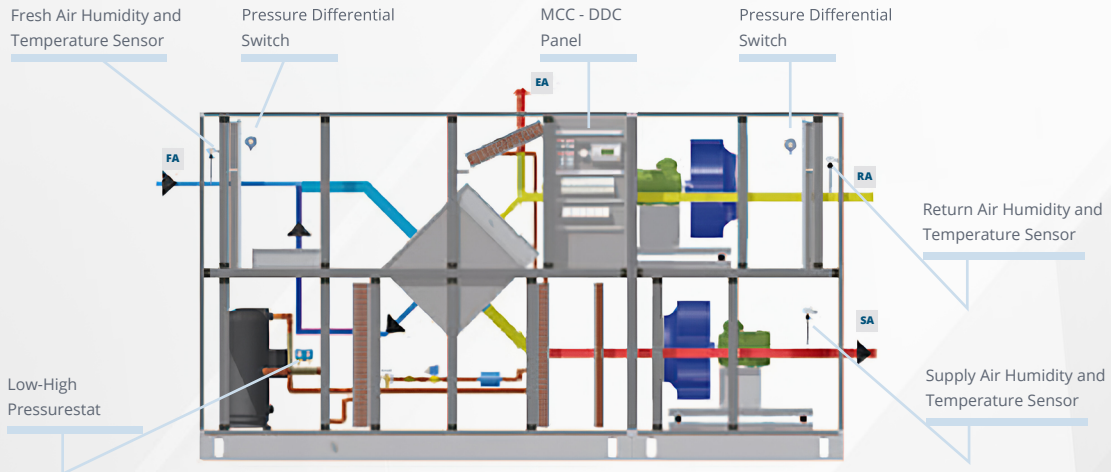
BHS reserves the right to introduce changes of parameters and sizes in the process of improvement of the devices

The Automation System

Control Point	Application Point	Equipment Used
Humidity and Temperature Control	Outdoor Air Tempe rature, Return Air Temperature, Supply Air Temperature	Humidity and Temperature Sensor
Filter Dirtiness Control	Fresh Air Filter and Return Air Filter	Pressure Differential Switch (0-250Pa)
High -Low Pressure Control	Lift and Force Line of the Compressor	Low-High Pressurestat with Manual Reset
Damper Control	Fresh Air, Mixture, Bypass, Intake Line Dampers	Proportional and On/Off Damper Motor

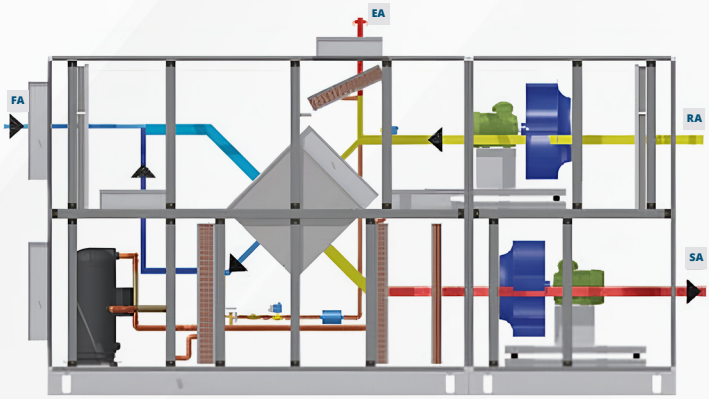
The automation system of the BOREAS Poolside De-Humidifying Air Handling Unit includes all control and power components needed to implement operating scenarios on the unit and within the MCC-DCC panel.

All scenarios are pre-loaded in the control card. Power supply from the mains is sufficient for commissioning, no additional automation application is needed.



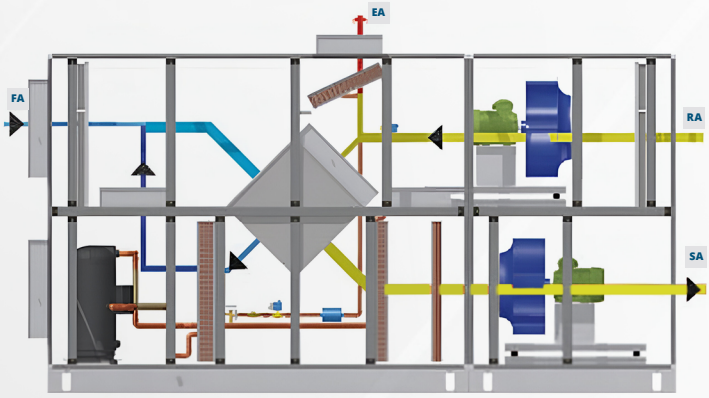
Operating Scenarios

Scenario 1 - Daytime Operation-Heavy Pool Activity



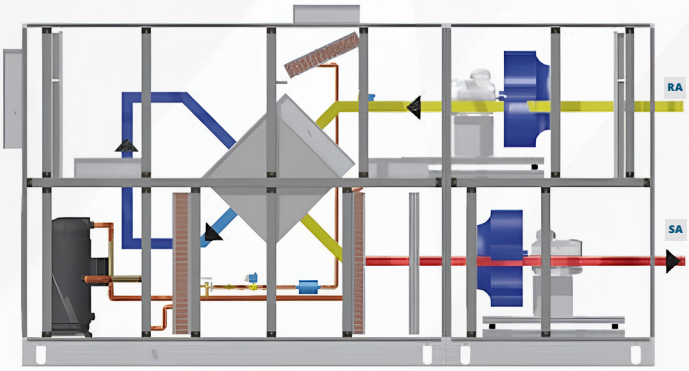
Air Flow Rate	Operates with 30% (maximum) Fresh Air and 70% Return Air
Cooling System	The Cooling System is Enabled (De-Humidification is Performed)
Condenser	Both or One of the Condensers will be Enabled
Fans	The Return Fan and Supply Fan are Enabled
Fans Hot Water Heating Coil	Hot Water Heating Coil is Enable

Scenario 2 - Daytime Operation-Heavy Pool Activity



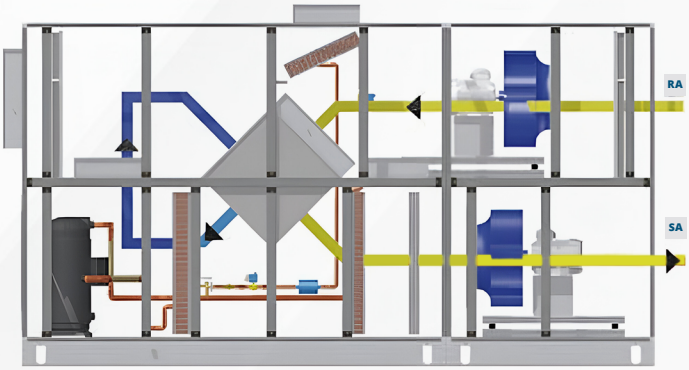
Air Flow Rate	Operates with 30% (maximum) Fresh Air and 70% Return Air
Cooling System	The Cooling System is Enabled (De-Humidification is Performed)
Condenser	Both or One of the Condensers will be Enabled
Fans	The Return Fan and Supply Fan are Enabled
Fans Hot Water Heating Coil	Hot Water Heating Coil is Disable

Scenario 3 - Light Pool Activity



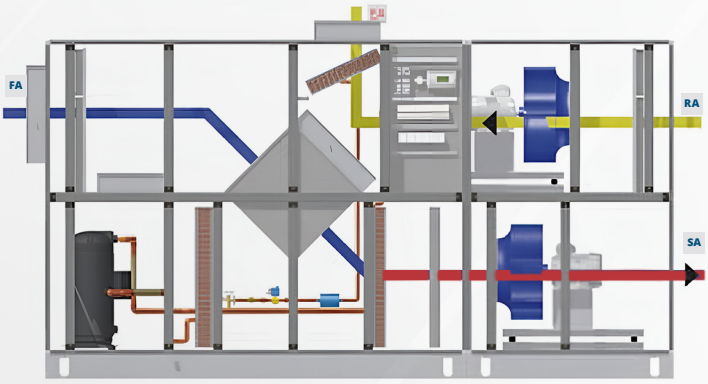
Air Flow Rate	Operates with 100% Return Air Fresh Air is not needed
Cooling System	The Cooling System is Enabled (De- Humidification is not Performed)
Condenser	The Supply Line Condenser is Disabled, the Exhaust Condenser is Disabled
Fans	The Return Fan and Supply Fan are Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Enable

Scenario 4 - Light Pool Activity



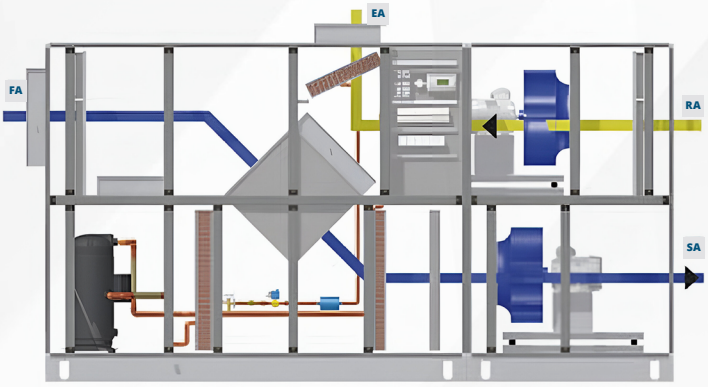
Air Flow Rate	Operates with 100% Return Air Fresh Air is not needed
Cooling System	The Cooling System is Enabled (De- Humidification is not Performed)
Condenser	The Supply Line Condenser is Enabled, the Exhaust Condenser is Disabled
Fans	The Return Fan is Disabled, the Supply Fan is Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Disable

Scenario 5 - Seasonal Transitions Operation - No De-Humidification Porcess



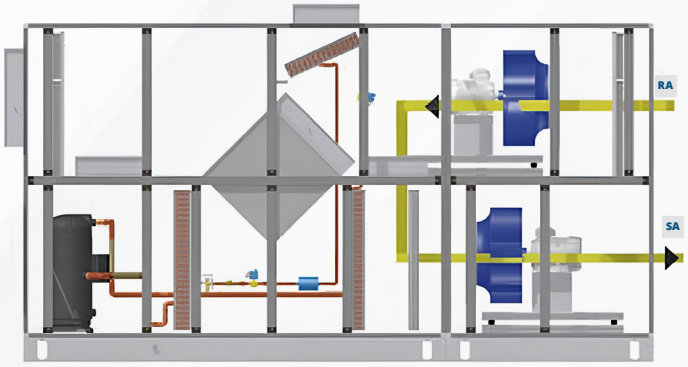
Air Flow Rate	Operates with 100% Fresh Air
Cooling System	The Cooling System is Disabled (De-Humidification is not Performed)
Condenser	The Supply Line Condenser is Disabled, the Exhaust Condenser is Enabled
Fans	The Return Fan and Supply Fan are Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Enable

Scenario 6 - Seasonal Transitions Operation - No De-Humidification Porcess



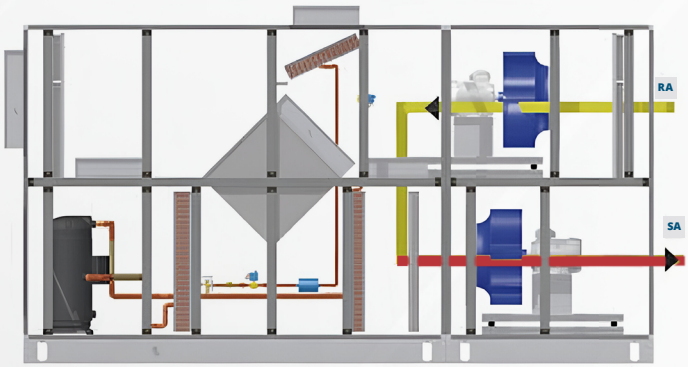
Air Flow Rate	Operates with 100% Fresh Air
Cooling System	The Cooling System is Disabled (De-Humidification is not Performed)
Condenser	The Supply Line Condenser is Disabled, the Exhaust Condenser is Enabled
Fans	The Return Fan and Supply Fan are Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Disable

Scenario 7 - Seasonal Transitions Operation - No De-Humidification Porcess



Air Flow Rate	Operates with 100% Return Air
Cooling System	The Cooling System is Disabled (De-Humidification is not Performed)
Condenser	The Supply Line Condenser is Disabled, the Exhaust Condenser is Disabled
Fans	The Return Fan is Disabled, the Supply Fan is Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Disable

Scenario 8 - Night Time Operation - No De-Humidification Porcess



Air Flow Rate	Operates with 100% Return Air
Cooling System	The Cooling System is Disabled (De-Humidification is not Performed)
Condenser	The Supply Line Condenser is Disabled, the Exhaust Condenser is Disabled
Fans	The Return Fan is Disabled, the Supply Fan is Enabled
Hot Water Heating Coil	Hot Water Heating Coil is Enable

POOLSIDE DE-HUMIDIFYING

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