POOL AIR TREATMENT

Pool dehumidification units

VLT-AHU-PD

DEHUMIDIFICATION / VENTILATION / HEAT RECOVERY



20-160 kg/h

2,527-18,115 m³/h / nine-model schedule

01 / THE POOL RANGE

Manage humidity around the pool.

Pool air treatment combines moisture removal, ventilation and heat management around the actual operating load.

VLT-AHU-PD covers nine recorded sizes. Select the moisture-removal duty and air volume together, using pool surface area, water temperature, room conditions, occupancy and the operating schedule.



A PROJECT-SPECIFIC SELECTION

The range schedule is the starting point. The offered unit needs confirmed rating conditions, fan duty, air-path arrangement, electrical supply and installation details.

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02 / MOISTURE & AIR

Treat the moisture load and the air.

A pool produces a changing latent load. Airflow alone does not establish dehumidification performance.

FUNCTIONAL PRINCIPLE

01

Moist air

Pool-hall return air contains water vapour.

→

02

Moisture removal

The selected refrigeration circuit condenses moisture.

→

03

Heat management

Recovered heat follows the selected operating arrangement.

Functional sequence only. It is not a duct, refrigeration, wiring or manufacturing schematic. Fresh-air and exhaust-air quantities require project selection.

1 **Define the pool hall**

Record pool areas, water temperatures, room temperature and relative humidity.

2 **Define how it operates**

Record activity, occupancy, covers, opening hours and the out-of-hours strategy.

Select at the actual design conditions.

Confirm moisture duty, fresh/exhaust air balance and the selected supply-air condition in one project report.

03 / PRODUCT INTERFACES

Coordinate the visible interfaces.

Use the approved product arrangement to plan air connections, operation and accessible servicing.



Approved product illustration. Confirm the offered connection faces, controls and access arrangement in the project drawing.

A **Inspect & access**

Keep service doors and viewing points reachable.

B **Operate & monitor**

Confirm local controls, isolation and required sensors.

C **Connect the air paths**

Confirm duct faces and motorised damper interfaces.

D **Provide service space**

Keep connection and component removal routes clear.

04 / ACCESS & CONTROLS

Details that need service space.

Service doors, operating controls and air-path connections need accessible installation space.



A / Access & inspection

Service doors and viewing points. Keep door swing and internal access clear.



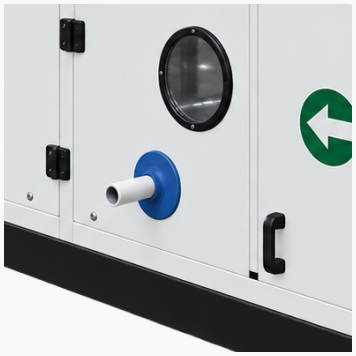
B / Local operation

Visible operating interfaces. Specify isolation, sensors, alarms and the control sequence.



C / Air-path interfaces

Coordinate duct faces, damper operation and the fresh/return/exhaust arrangement.



D / Service connections

Coordinate the connection schedule and maintenance route for the offered unit.

Illustrated arrangement only. Connection sizes, component makes, materials and included control functions must follow the offered configuration.

05 / AIRFLOW & MOISTURE SCHEDULE

Nine models. Two separate duties.

Recorded airflow and dehumidification capacity. The listed schedule does not state complete rating conditions.

Model	Airflow m^3/h	Dehumidification kg/h
VLT-AHU-PD-20	2,527	20
VLT-AHU-PD-35	4,095	35
VLT-AHU-PD-45	5,046	45
VLT-AHU-PD-57	6,356	57
VLT-AHU-PD-67	7,498	67
VLT-AHU-PD-85	9,426	85
VLT-AHU-PD-100	11,093	100
VLT-AHU-PD-130	14,473	130
VLT-AHU-PD-160	18,115	160

CONFIRM THE RATING BASIS

Moisture-removal capacity depends on entering-air temperature and humidity and the selected operating conditions. Airflow values do not establish external static pressure or a fan duty point.

Do not size a pool from the model number alone. Use a project moisture-load assessment and an equipment-specific selection report.

06 / ELECTRICAL POWER SCHEDULE

Separate component and total entries.

Recorded kW entries for supply fan, extract fan, compressor and total. Preserve the stated ratings as separate values.

Model	Supply fan kW	Extract fan kW	Compressor kW	Recorded total kW
VLT-AHU-PD-20	1.29	1.25	2.33	4.87
VLT-AHU-PD-35	1.24	1.24	3.82	6.30
VLT-AHU-PD-45	1.73	1.68	5.18	8.59
VLT-AHU-PD-57	2.36	2.36	6.35	11.07
VLT-AHU-PD-67	2.43	2.43	7.29	12.15
VLT-AHU-PD-85	3.35	3.35	9.49	16.19
VLT-AHU-PD-100	4.25	4.25	11.15	19.65
VLT-AHU-PD-130	5.91	5.91	14.45	26.27
VLT-AHU-PD-160	7.84	7.84	18.20	33.88

ELECTRICAL COORDINATION

Confirm voltage, phase, frequency, motor starting/control method, protective devices and the installed auxiliary loads. These kW entries do not define the supply circuit or the absorbed power at every duty.

The recorded total is reproduced from the existing schedule; it has not been replaced by a new calculation or independently tested.

07 / ELECTRICAL CURRENT SCHEDULE

Read current independently of power.

Recorded A entries for the same nine models. The equipment-specific electrical documentation governs final design.

Model	Supply fan A	Extract fan A	Compressor A	Recorded total A
VLT-AHU-PD-20	2.50	2.42	4.56	9.48
VLT-AHU-PD-35	2.42	2.42	6.92	11.76
VLT-AHU-PD-45	3.31	3.21	10.07	16.59
VLT-AHU-PD-57	4.47	4.47	11.93	20.87
VLT-AHU-PD-67	4.59	4.59	13.28	22.46
VLT-AHU-PD-85	6.33	6.33	16.78	29.44
VLT-AHU-PD-100	8.25	8.25	21.77	38.27
VLT-AHU-PD-130	10.81	10.81	25.76	47.38
VLT-AHU-PD-160	14.43	14.43	32.41	61.27

REQUEST THE ACTUAL ELECTRICAL PACKAGE

Use the offered-unit wiring diagram and component data to confirm running/starting currents, isolation, circuit protection and cable selection. No supply voltage or electrical protection size is inferred here.

The current entries and recorded totals are distinct values; their operating and aggregation basis needs confirmation.

08 / HEAT RECOVERY & COP

Keep the rating conditions visible.

Existing recovery-power and COP entries are range references; the data do not state the COP definition or test conditions.

Model	Airflow m^3/h	Heat-recovery transfer power / kW	Recorded COP
VLT-AHU-PD-20	2,527	11	4.12
VLT-AHU-PD-35	4,095	16	4.13
VLT-AHU-PD-45	5,046	22	4.10
VLT-AHU-PD-57	6,356	28	4.21
VLT-AHU-PD-67	7,498	33	4.32
VLT-AHU-PD-85	9,426	41	4.18
VLT-AHU-PD-100	11,093	48	4.18
VLT-AHU-PD-130	14,473	59	4.21
VLT-AHU-PD-160	18,115	73	4.18

A PROJECT DUTY NEEDS ITS OWN RATING

Confirm entering/leaving air, moisture-removal duty, recovered-heat destination, operating mode and which electrical inputs are included in COP. No seasonal efficiency, recovery percentage or certified performance claim is made.

Do not derive pool-heating or water-heating duty from these entries without the selected circuit and supporting calculation.

09 / DIMENSIONAL INTERFACES

Plan the equipment and its access.

The dimensional schedule identifies the recorded equipment envelope. Add service space around the selected arrangement.



L = length; W = width; H = casing height; Hmax = overall height including the base in the recorded schedule. Perspective identification only; not a scaled fabrication drawing.

1 Separate envelope and access

Keep door swing, component withdrawal and service circulation outside the unit envelope.

2 Coordinate the interfaces

Confirm duct, pipe, drain and electrical entry positions with the final drawing.

10 / DIMENSIONAL SCHEDULE

Seven envelopes. Two to confirm.

Recorded dimensions in mm. PD-130 and PD-160 dimensions are not available in the existing project schedule.

Model	L mm	W mm	H mm	Hmax mm
VLT-AHU-PD-20	2,770	1,050	1,460	1,610
VLT-AHU-PD-35	3,150	1,050	1,850	2,000
VLT-AHU-PD-45	3,400	1,350	1,850	2,000
VLT-AHU-PD-57	3,500	1,350	2,500	2,650
VLT-AHU-PD-67	3,500	1,650	2,500	2,650
VLT-AHU-PD-85	3,765	1,650	2,140	2,290
VLT-AHU-PD-100	3,965	1,950	2,140	2,290
VLT-AHU-PD-130	To confirm	To confirm	To confirm	To confirm
VLT-AHU-PD-160	To confirm	To confirm	To confirm	To confirm

FINAL PROJECT DRAWING

Confirm section splits, unit mass, support points, base arrangement, duct openings, service connections and withdrawal routes. PD-130 and PD-160 require their own dimensional drawings; no scaled or extrapolated dimensions are supplied.

Hmax includes the base in the recorded reference arrangement. These dimensions do not establish delivery splits or lifting requirements.

11 / CONTROLS & SELECTION REPORT

Define the sequence before release.

Use the AHU selection program and a coordinated controls brief for the actual pool project.

Selection input	Define with the project team
Pool & occupancy	Pool surface areas, water temperatures, activity, occupancy and opening hours.
Room & ambient	Room temperature/RH, outdoor design conditions and building condensation risks.
Air-side duty	Supply, return, fresh/exhaust balance; external pressure and duct distribution.
Moisture & heat	Moisture load, selected operating modes and recovered-heat arrangement.
Controls	Day/night modes, setpoints, sensors, protections, alarms and BMS scope.
Release package	Selected fan curves, capacity report, dimensional drawing and wiring diagram.

Keep a dated selection report.

Confirm the offered unit at the project conditions. No PD software selection has been executed for this catalogue; no interface screenshot is used as performance evidence.

Control functions and operating modes follow the final ordered package; the model code alone does not define the included hardware.

12 / INSTALLATION & COMMISSIONING

Coordinate drainage, access and air.

Indoor-pool installations need coordinated moisture management across the equipment and the building.

Coordination item	Project action
Delivery & support	Confirm lifting splits, unit mass, access route, support and any isolation.
Corrosion exposure	Confirm coating/material compatibility with the pool atmosphere and maintenance regime.
Drainage	Confirm condensate connection, trap design, installation level and discharge route.
Air distribution	Coordinate supply/return locations and fresh/exhaust balance with the room design.
Service access	Keep doors, heat exchangers, filters, fans and control interfaces accessible.
Commissioning	Verify airflow, pressures, condensate drainage, sensors, alarms and agreed modes.

DOCUMENT THE OPERATING HANDOVER

Provide the final selection report, drawings, wiring, settings and maintenance instructions. Unit selection does not replace building-physics assessment or the pool-hall ventilation design.

English review issue. Document design approval and engineering validation remain separate.

VOLTVENT®
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VLT-AHU-PD

Pool dehumidification units



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EN / V1