Dantherm®
CLIMATE SOLUTIONS



DUCTED SWIMMING POOL & INDUSTRIAL DEHUMIDIFIERS

CDP 85-135-175

IDEAL FOR HOTEL POOLS, PRIVATE POOLS,
THERAPY POOLS AND MORE

DANTHERMGROUP



High-capacity pool dehumidification

Based on its renowned predecessor CDP 75-125-165, this range of ducted pool dehumidifiers offers new controller hardware and control strategies developed to further improve performance, user-friendliness and energy efficiency.

Having been through extensive testing at our inhouse testing facility, the range of ducted CDP dehumidifiers comes delivered in a largely unchanged robust cabinet to facilitate easy replacement of older CDP units where required.

While the exterior might look familiar and unchanged, the interior has been completely upgraded with new technology. The following lays out some of the most significant changes.



Constant flow fan capabilities

The new models are designed to maintain a constant volumetric flow rate, with adjustable minimum and maximum setpoints available via the 2.4-inch touch display. The available volumetric flow ranges are as follows: 500-1,500 m^3/h for the 85 model, 1,200-2,500 m^3/h for the 135 model, and 1,500-3,600 m^3/h for the 175 model.

Figure 1 below shows the operational airflow range, which is consistent across all sizes. Thanks to the centrifugal EC fan, the system can handle increased external pressure drops, making it suitable for longer ductwork and additional air vents or grilles.

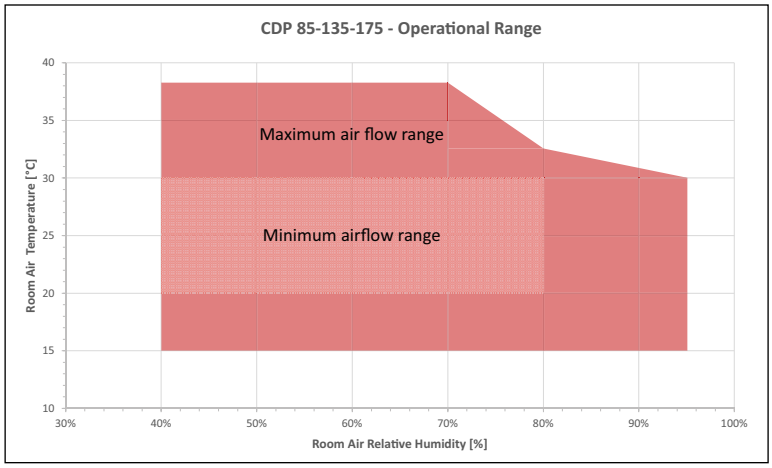


Figure 1

Operational range depending on minimum and maximum airflow of the given unit size.

New refrigerant – reducing CO_2 equivalent by over 95%

To meet the requirements of the EU F-Gas regulation, the new CDP models use refrigerant 454C, which has a GWP of 148 (IPCC, AR4, 2007).

The fin-and-tube condenser has been replaced with a micro-channel condenser. This change reduces the internal volume of the cooling circuit and the overall refrigerant charge, while also improving heat transfer efficiency.

Optional internal re-heaters

The redesigned condenser allows for the inclusion of an internal re-heater, which helps maintain a set room temperature. The internal low-pressure hot water (LPHW) coil can be integrated during installation. An external heating signal from a 230 V relay can control the heating medium for the LPHW coil. Additionally, a 2-way valve and a 230 V on/off actuator are available as accessories.

Built-in water-cooled condenser (WCC)

The new titanium water-cooled condenser offers improved performance and enhanced durability. When choosing this option, the WCC connections are relocated to the supply air side.

Expanded control options

The new controller offers a range of features and regulation options. The main display shows return air conditions and the operational status of the dehumidifier, with any active errors or alarms displayed immediately. Settings, setpoints, and configurable parameters can be accessed through the menu, including the option to enable external heating or cooling signals. For servicing, live data for all inputs and outputs is available, allowing technicians to clearly monitor dehumidifier variables.

Initial configuration of the ducted CDP must be done via the 2.4-inch touch display, where you can set setpoints, enable heating/cooling, and adjust other settings. After configuration, a Dantherm remote controller can be connected to display room temperature and relative humidity.

CDP 85-135-175



CDP 85

The CDP 85-135-175 ducted condensation dehumidifiers are specifically designed for hotel, private, and therapy swimming pool hall dehumidification. They offer a great moisture removal per kWh, high durability, and efficient self-regulation. They are ideal for installation in an adjacent technical room.

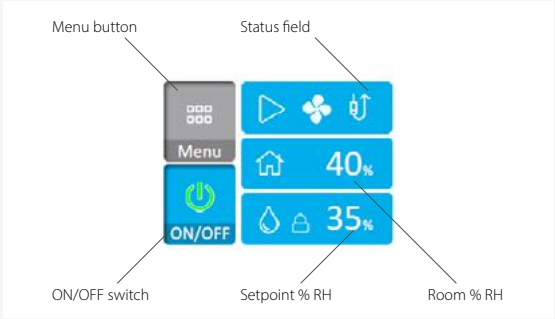
All metal parts and internal surfaces are powder coated before assembly and evaporator and condenser coils are made of epoxycoated aluminium. The corrosion protection is in accordance with EN/ISO 12944-2, class C4.

The range is equipped with the Dantherm CC6 controller which comes with an integrated 2.4" touch screen for easy user customisation of setpoints and visualisation of operational variables.

- EC centrifugal constant flow fan
- User specified low and high air volume
- R454C refrigerant with GWP of 148
- Movable inspection access
- Outdoor air inlet possibility (15%) through duct connection
- Supply air duct either horizontally or vertically connected
- Microchannel condenser
- Integrated control of exhaust fan and/or outdoor air damper
- Heat- and cooling demand regulation
- Datalogging and software update via supplied microSD card
- Compact unit designed to suit any plant room configuration
- Sandwich cover panels with 45mm insulation
- Optional water-cooled condenser
- Three setpoint specified control modes – relative, absolute, or dew point
- Modbus RTU (RS485)

Specifications	Units	CDP 85	CDP 135	CDP 175
Operating temperature range	°C	15-38	15-38	15-38
Operating relative humidity range	% RH	40-95	40-95	40-95
Air flow, nominal	m^3/h	1,500	2,500	3,600
Air flow, range	m^3/h	550-1,500	1,200-2,500	1,500-3,600
Dehumidification capacity @ 30°C/60% RH	l/24h	88	155	170
Dehumidification capacity @ 20°C/60% RH	l/24h	56	75	100
Dehumidification capacity @ 30°C/60% RH***	l/24h	126	222	261
Specific Energy Consumption (SEC)*	kWh/l	0.38	0.39	0.45
Specific Energy Consumption (SEC)**	kWh/l	0,58	0,58	0,67
Max. external pressure loss	Pa	300	350	450
R454C gas weight/CO_2 equivalent	kg/t	1.2/0.18	1.5/0.22	1.7/0.25
Power supply	V/Hz	230/1ph/50	230/1ph/50	400/3ph/50
			400/3ph/50	
Power consumption, nominal air flow	kW	1.9	3.3	4.6
Current, max.	A	8.8	16.1	9.1
			5.7	
@ 20°C/60%	kW	1.3	1.9	2.6
@ 30°C/60%	kW	1.4	2.8	3.2
Maximum	kW	1.9	3.3	4.6
Product size (w x d x h)	mm	1,155 x 725 x 650	1,300 x 900 x 850	1,400 x 1,010 x 975
Weight (w/o water-cooled condenser)	kg	140	230	240
Colour		RAL 9016	RAL 9016	RAL 9016

*30°C/60% RH @ nominal airflow **20°C/60% RH @ nominal airflow ***15% outdoor air w/ 9.0 g/kg



Control panel

The CDP series touchscreen control panel helps you set up and monitor the following - and more - parameters:

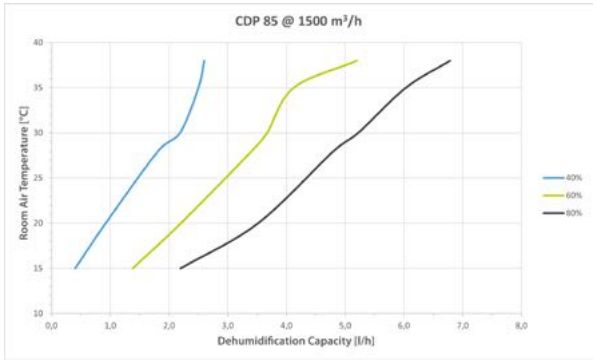
- Current and desired temperature
- Current and desired humidity
- Operational status indicator
- Menu access to a multitude of other settings
- On/off switch

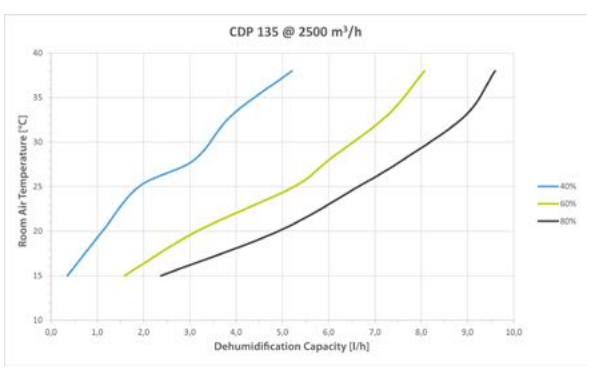
Accessories

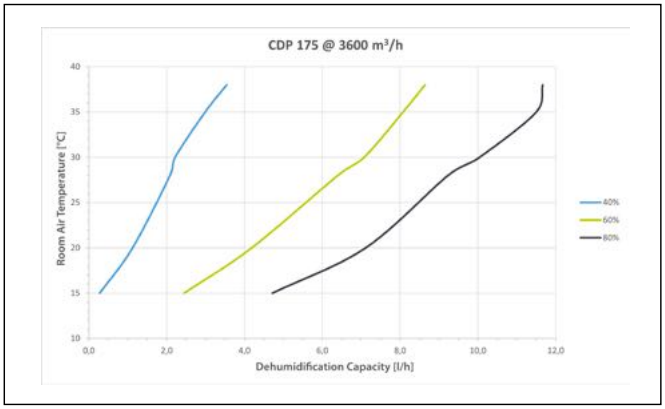
- Heating coil water, internal
- Remote controller, wireless
- 2 way valve
- Valve actuator
- Temp/RH sensor, 10 meter cable
- Anti-vibration stands
- Wall brackets



Performance data

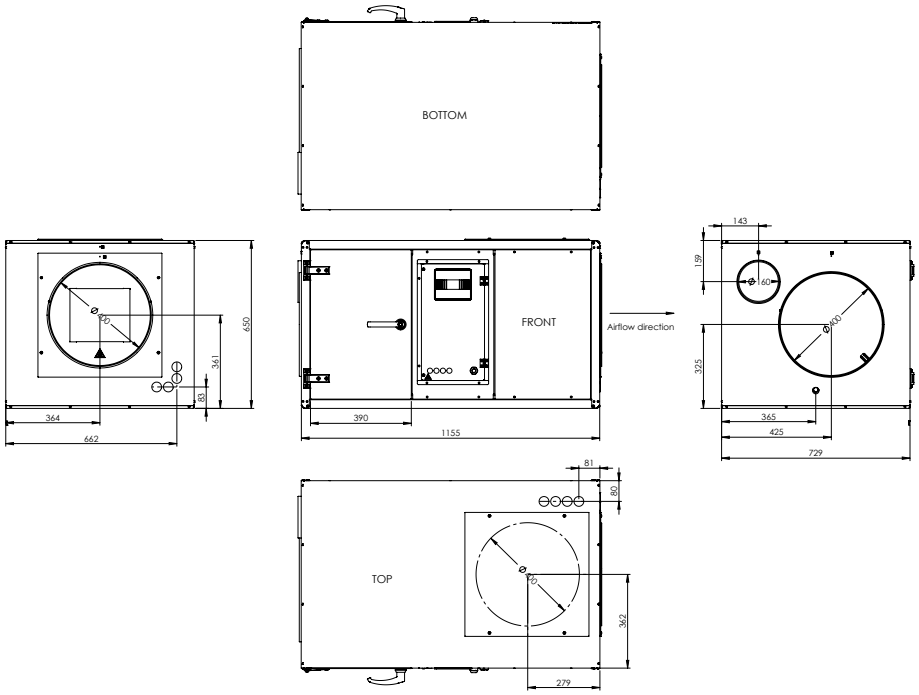




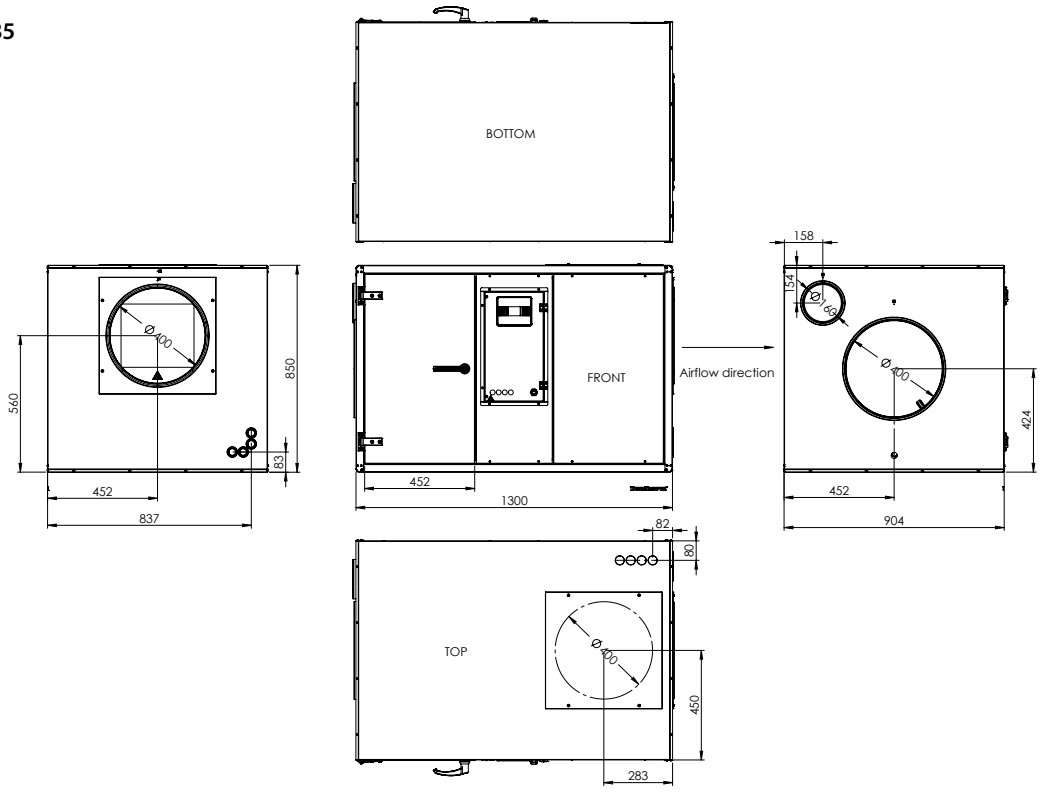


Product dimensions

CDP 85

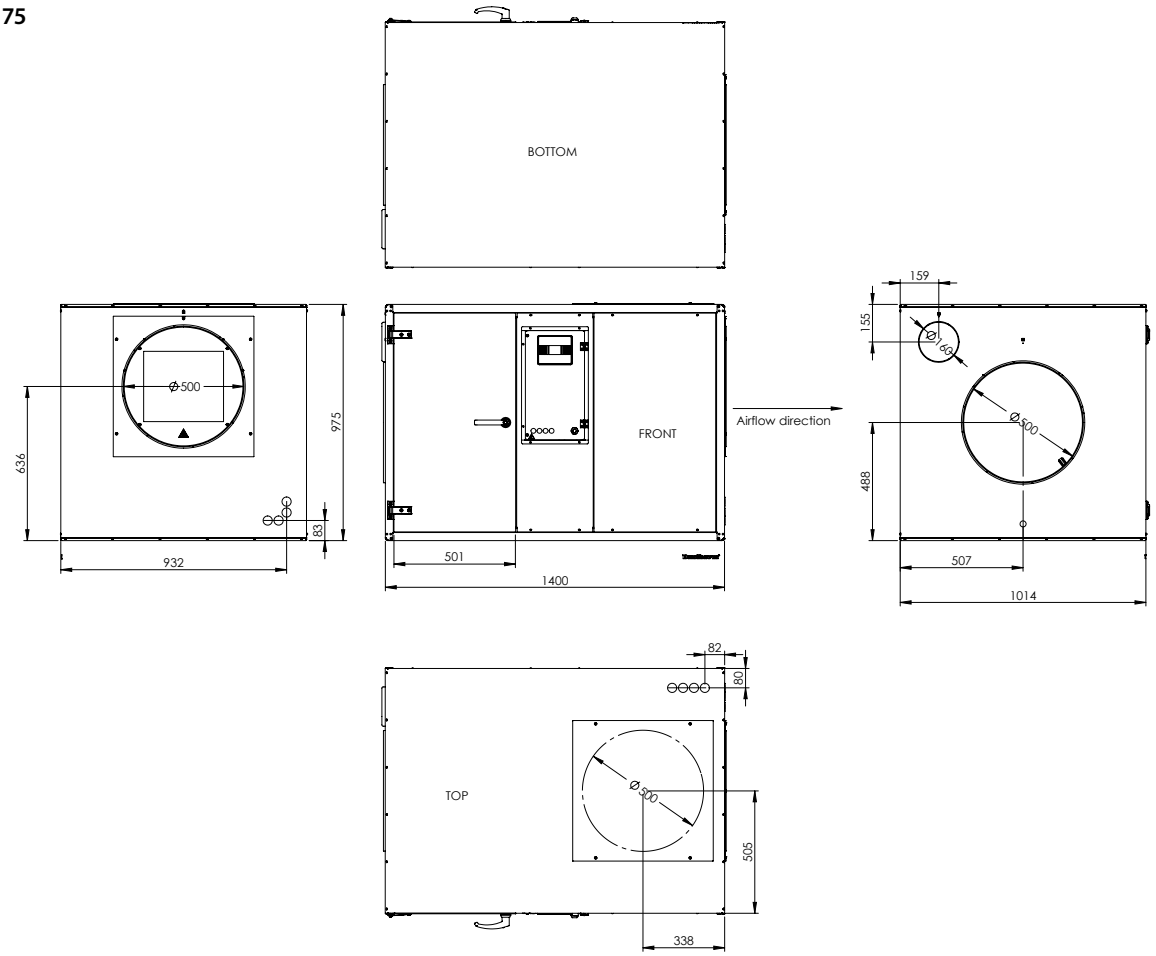


CDP 135



Product dimensions

CDP 175



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