

CDP 50 SWIMMING POOL DEHUMIDIFIER

Function

The CDP 50 is an energy efficient and quiet pool dehumidifier. It works in accordance with the condensation principle. A fan draws the humid air into the dehumidifier and through an evaporator coil. When passing through the evaporator the air is cooled down to below its dew point temperature, and its content of water vapour is condensed into water, which falls into the drip tray and then is led from the drip tray to a drain. The cold, dry air is then passed over the condenser coil where it is re-heated, before leaving the unit at a temperature, which is approx. 5°C higher than at the inlet.

Applications:

- Indoor swimming pools, private or hotels
- Therapy pools
- Spas
- Gymnasias

FEATURES

Dehumidifier

- Built into a strong and robust powder coated hot galvanized sheet metal cabinet
- Evaporator and condenser coils are epoxy-coated for high corrosion resistance
- Fixed to the wall by means of a wall mounting strip supplied with the unit
- Condensate outlet located at the bottom. Outlet stub can be connected to a ¾" hose
- Outside connection to mains

Control

- Built in electronic hygostat and thermostat
- Integrated ON/OFF control of humidity and temperature (electric or water heating coils as accessories)
- 0-VOLT connection for alarm
- 230 V for control valve, exhaust fan and pump/boiler
- RS 485 gate for BMS (Modbus)



Diodes

- BLUE: Power connected, standby mode
- GREEN: Compressor ON, deicing
- YELLOW: Remote pairing mode
- RED: Errors

Defrosting

Active, demand-controlled defrosting is incorporated in the electronic control.

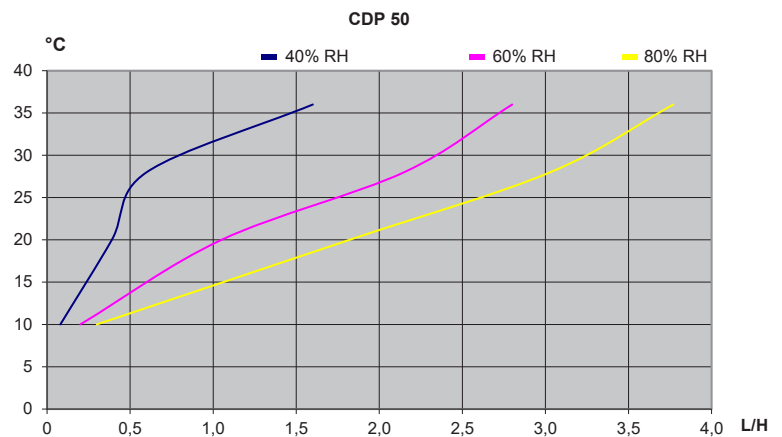
Service

For easy service the refrigerant circuit is supplied with a service valve. The PCB has a USB gate for history data logging for easy fault finding.

TECHNICAL DATA

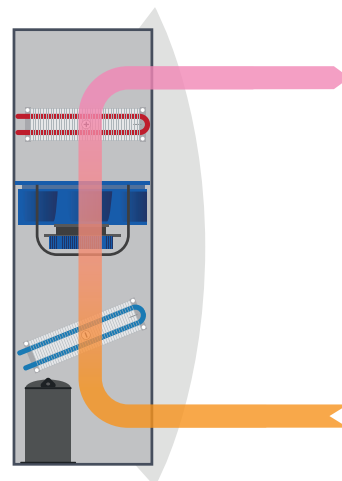
Model	CDP 50
Operating range – humidity	40 – 100 %RH
Operating range – temperature	10 – 36°C
Air volume	680 m ³ /h
Power supply	1x230/50 V/Hz
Max. ampere consumption	6,6 A
Max. power consumption	1,5 kW
Refrigerant	R407C
Quantity of refrigerant	0,9 kg
Compressor	Rotary
Fan	Radial
Sound level (at 1 metre)	47 dB(A)
Weight	65 kg
Filter	G3 PPI 15
Colour (Cabinet/Front)	RAL 7035 / 9016
Protection class	IPX4
Corrosion protection in accordance with EN/ISO 12944-2	C4

CAPACITY CURVES



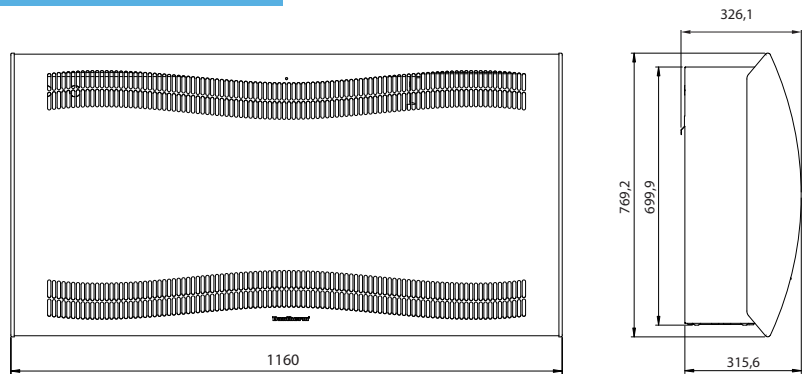
Specific energy consumption (SEC):
0,48 kWh/l at 28°C & 60% RH

INSTALLATION

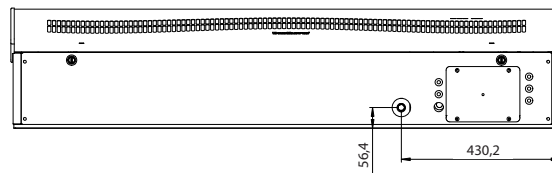


CDP 40, 50 and 70 are designed for installation in the pool hall.

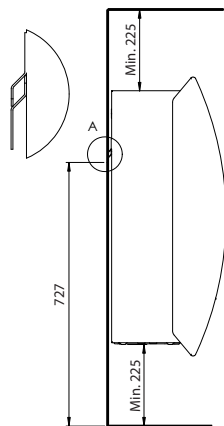
DIMENSIONS CDP 50



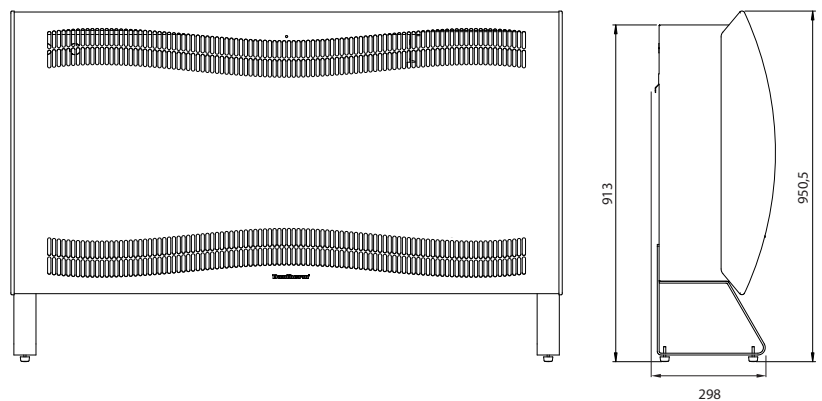
Drain outlet position



Recommended installation of CDP 50



Floor mounting kit



Accessories


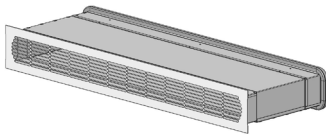
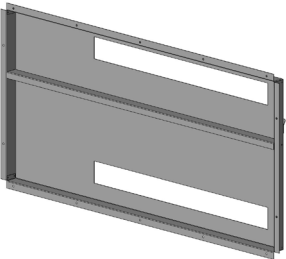
- Wireless remote control DRC1
- Floor mounting kit
- Water heating coils
- Control valve for water heating coils
- Electric heating coils
- Exhaust fans

All dimensions are in mm.

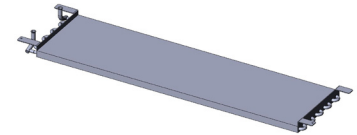
ACCESSORIES CDP 40 – CDP 50 – CDP 70 – CDP 40T – CDP 50T – CDP 70T

Illustration	Accessory	Description	CDP type	Dantherm no.
	Remote control, DRC1	DRC1 is a wireless RH and temperature controller. Frequency: 433 mhz Range: Up to 50 m depending on the conditions Protection class: IPX 2 Functionalities: • Reading and setting of RH, temperature, alarms and service information • Locking of settings	CDP 40 CDP 50 CDP 70 CDP 40T CDP 50T CDP 70T	093455
	External RH/t sensor	Remote sensor with 10 meter wire. Protection class: IPX 7	CDP 40 CDP 50 CDP 70 CDP 40T CDP 50T CDP 70T	051710
	Floor mounting kit, 2 pcs.	Each bracket to be mounted on each side of the dehumidifier.	CDP 40 CDP 50 CDP 70	094322
	Water heating coil 2.6 kW*	Comprises water heating coil, flexible hose, fittings and gasket *at 80/60° C <i>(See technical specifications for water heating coils on separate page).</i>	CDP 40 CDP 40T	094333
	Water heating coil 4.2 kW*		CDP 50 CDP 50T	094334
	Water heating coil 6.2 kW*		CDP 70 CDP 70T	094335
	DN 10 control valve and actuator for water heating coils	Comprises valve and actuator 230 V, ON/OFF (180 seconds from closed to fully open), incl. union nut for Ø 12 tube.	CDP 40 CDP 50 CDP 70 CDP 40T CDP 50T CDP 70T	094340
	Electric heating coil 2 kW	Comprises electric heating coil, relays and electric wires.	CDP 40 CDP 40T	094336
	Electric heating coil 3.5 kW		CDP 50 CDP 50T	094337
	Electric heating coil 5 kW		CDP 70 CDP 70T	094338

ACCESSORIES CDP 40 – CDP 50 – CDP 70 – CDP 40T – CDP 50T – CDP 70T

Illustration	Accessory	Description	CDP type	Dantherm no.																													
	Pro 30 Standard Exhaust fan	<p>The exhaust fan can be used in combination with the CDP to either increase dehumidification capacity or establish outdoor air supply.</p> <p>Pro 30 Standard: Power supply: 230 V/50 Hz Power consumption: 7,5 W Air volume: 97 m³/h Sound level: 25 dB (A)</p>	<p>CDP 40 CDP 50 CDP 70 CDP 40T CDP 50T CDP 70T</p>	094339																													
	Pro 32 Standard Exhaust fan	<p>Pro 32 Standard: Power supply: 230 V/50 Hz Power consumption: 17 W Air volume: 185 m³/h Sound level: 32 dB (A)</p> <p>Dimensions:</p> <table border="1"> <thead> <tr> <th></th> <th>Pro 30 Standard</th> <th>Pro 32 Standard</th> </tr> </thead> <tbody> <tr> <td>∅D</td> <td>99</td> <td>124</td> </tr> <tr> <td>B</td> <td>158</td> <td>182</td> </tr> <tr> <td>H</td> <td>136</td> <td>158</td> </tr> <tr> <td>L</td> <td>107</td> <td>91</td> </tr> <tr> <td>L1</td> <td>26</td> <td>27</td> </tr> <tr> <td>D</td> <td>100</td> <td>125</td> </tr> <tr> <td>L2</td> <td>500</td> <td>500</td> </tr> <tr> <td>B2</td> <td>100</td> <td>125</td> </tr> <tr> <td>C</td> <td>125</td> <td>150</td> </tr> </tbody> </table>		Pro 30 Standard	Pro 32 Standard	∅D	99	124	B	158	182	H	136	158	L	107	91	L1	26	27	D	100	125	L2	500	500	B2	100	125	C	125	150	<p>CDP 40 CDP 50 CDP 70 CDP 40T CDP 50T CDP 70T</p>
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	<p>Through-wall duct kit with filter, extension kit and alu grill</p>	<p>Comprises inlet and outlet section, grills, inlet filter and extension.</p> <p>For walls between 70 and 366 mm thickness.</p>	CDP 40T	094271																													
			CDP 50T	094243																													
			CDP 70T	093508																													
	<p>Duct lead-in adapter</p>	<p>The adapter makes it possible to place CDP 40T-50T-70T on the wall without changing the existing wall openings.</p>	CDP 40T	094801																													
			CDP 50T	094802																													
			CDP 70T	094804																													

ACCESSORIES CDP 40 - CDP 50 - CDP 70 - CDP 40T - CDP 50T - CDP 70T



Water heating coils - calculations at room temperature = 28°C; 60% RH

CDP 40 + CDP 40T	Q = 400 m³/h						
Water temperature	°C	82/71	80/60	70/35	90/70	60/40	55/45
Capacity	kW	3,32	2,64	0,68	3,4	1,02	1,36
Water flow rate	l/sec.	0,07	0,03	0,005	0,04	0,01	0,03
Water pressure drop	kPa	11,8	2,8	0,1	4,2	0,6	3,1
Water velocity	m/sec.	1,05	0,46	0,07	0,6	0,18	0,47
Air flow rate	m ³ /sec.	0,11	0,11	0,11	0,11	0,11	0,11
Inlet temperature	°C	82	80	70	90	60	55
Outlet temperature	°C	71	60	35	70	40	45
Air pressure drop	Pa	8	8	8	8	8	8
Connection tube	Ø mm	12	12	12	12	12	12

CDP 50 + CDP 50T	Q = 680 m³/h						
Water temperature	°C	82/71	80/60	70/35	90/70	60/40	55/45
Capacity	kW	5,28	4,27	0,99	5,45	1,82	2,2
Water flow rate	l/sec.	0,12	0,05	0,01	0,07	0,02	0,05
Water pressure drop	kPa	32,3	7,6	0,2	11,6	1,8	8,6
Water velocity	m/sec.	1,68	0,74	0,1	0,95	0,32	0,76
Air flow rate	m ³ /sec.	0,19	0,19	0,19	0,19	0,19	0,19
Inlet temperature	°C	82	80	70	90	60	55
Outlet temperature	°C	71	60	35	70	40	45
Air pressure drop	Pa	10	10	10	10	10	10
Connection tube	Ø mm	12	12	12	12	12	12

CDP 70 + CDP 70T	Q = 900 m³/h						
Water temperature	°C	82/71	80/60	70/35	90/70	60/40	55/45
Capacity	kW	7,56	6,23	2,37	7,9	2,83	3,23
Water flow rate	l/sec.	0,17	0,08	0,02	0,1	0,03	0,08
Water pressure drop	kPa	83	20,1	1,5	30,1	5,3	22,9
Water velocity	m/sec.	2,4	1,09	0,23	1,38	0,49	1,12
Air flow rate	m ³ /sec.	0,25	0,25	0,25	0,25	0,25	0,25
Inlet temperature	°C	82	80	70	90	60	55
Outlet temperature	°C	71	60	35	70	40	45
Air pressure drop	Pa	8	8	8	8	8	8
Connection tube	Ø mm	12	12	12	12	12	12