PURE PERFORMANCE

Dehumidification and drying for industrial
and commercial companies

condair

Why use a dehumidifier?

Particularly in the industrial and commercial sectors, swimming pool and warehousing industries, operators are often confronted with a pressing need to control the humidity of the air.

Ensuring product quality
Being able to precisely control air humidity throughout production processes is an essential factor in ensuring product quality remains consistently high. Using air dehumidifiers and dryers helps to ensure that these processes remain safe and stable.

Maintaining operations and preventing downtime
Dehumidifiers can protect pipework, installations, operating materials and technical appliances from moisture damage. This ensures a high level of operational readiness.
High costs due to moisture-related remediation work and loss of production are avoided.

Protecting valuables in storage and archives
In the archive and warehouse sector, dehumidifiers help to protect valuable items from moisture damage, which can, in extreme cases, lead to total destruction.

Conservation of out of service machinery
Machines and equipment that are taken out of service periodically can be protected from corrosion damage with air dehumidifiers. This keeps them in peak condition to ensure that they can be put back into service more quickly when the time comes.

Protecting building structures
Air dehumidifiers can be used to prevent/minimize water vapor diffusion through building structures, and so protect them from deterioration over the long term. High follow-up costs for building renovation are thus prevented.

Operational safety and hygiene
Condensate formation on walkways can lead to an increased risk of accidents and encourage bacterial growth.
Air dehumidifiers help to maintain safe and hygienic conditions.

Preventing condensation

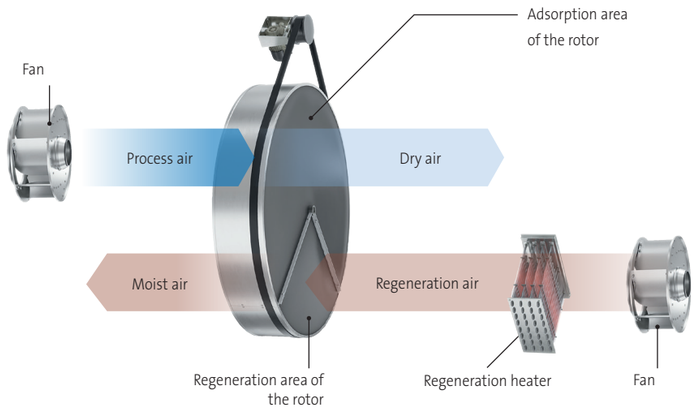
Protection from rust and corrosion

Preventing mold and rot

Ensuring product quality

Preventing clumping

Desiccant drying — functional principle



Condair DA series

Condair DA desiccant driers are designed to be used wherever extremely low humidity is needed, such as in industrial drying processes, or where there are very low temperatures to deal with.

The powerful sorption rotors enable the safe operation of the units down to temperatures of -30°C as well as bringing humidity values down to a minimum.

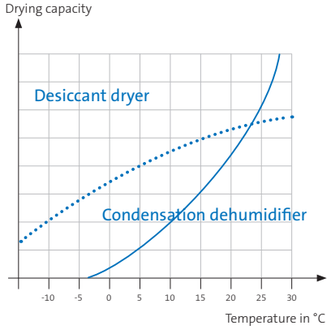
As well as standard designs with drying capacities of 0.6–182 kg/h, a wide range of specialized versions are also available.

Depending on their size, the units can be fitted with pre- and/or post-cooling batteries, heat exchangers or condensation modules prior to delivery. Post-cooling in particular is often necessary due to the heat given off by the dry air, and should be taken into account at an early stage of the planning process. As well as a range of different regeneration processes, you also have the option to combine existing media of your own, such as steam or PWW systems, with the electrical regeneration heater.

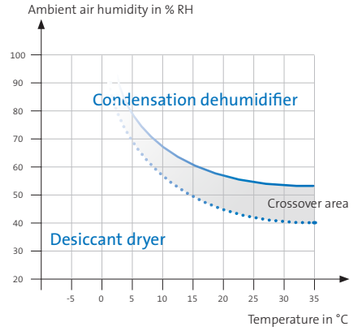
This saves a considerable amount of energy, particularly with larger systems, and can therefore help you achieve a substantial reduction in operating costs.

The sorption rotor used in Condair desiccant dryers is silicone-free. The drying agent is neither respirable nor flammable.

Performance characteristics



Recommended area of application according to temperature/humidity



Double-wall housing
As of size DA 500, all units have a fully insulated double-wall housing made of corrosion-resistant Aluzinc® with powder coating as standard. The spaces between the housings are filled with at least 30 mm of mineral wool as an insulation material. This ensures safe and efficient operation even at very low temperatures as well as maximum hygiene. Optionally, the housing can also be manufactured in AISI 304 stainless steel.

Different control options
The Condair adsorption dryers can be equipped with different control variants depending on customer requirements. Depending on the application, the unit can be equipped with a PLC with touch screen, which allows the control of the humidity and optionally the temperature. In addition, the PLC increases operational reliability because it monitors the internal components and issues a service note or alarm depending on the situation.

Highly efficient desiccant rotor
The desiccant rotor consists of a glass fibre structure which is coated with an extremely hygroscopic silica gel. This honeycomb structure creates an enormous internal surface for efficient moisture transmission. The rotor material is hygienic, non-flammable and non-respirable, and the rotors are largely maintenance-free.

Efficient fans
Only high-quality, directly driven EC-brand fans are used. The fans are designed in push configuration. Here the air for the regeneration and process air is led over the rotor with positive pressure.
This enables problem-free use even at very low humidity levels, because the regeneration fan does not come into contact with hot moist air.

Regenerative heat sources
All adsorption dryers up to and including size DA 4000 have electrical PTC heating elements for the regeneration process. The self-regulating properties of the PTC heating elements provide protection against fusing and thermostat interruptions. Alternatively, the adsorption dryer can also be equipped with a hot water or steam register or, for larger air volumes, with a gas burner.

Sophisticated construction
All of the components are designed to be easy to remove and maintain. The filter inserts can be replaced easily. Construction with a vertically arranged rotor enables a low overall height. The optimum load distribution of the installed components ensures a long service life and high operational reliability.

Technical Data
DA **DESICCANT DRYER**

DA 160

DA 400

Technical Data		DA 160	DA 250	DA 440
Drying capacity at 20°C – 60% RH	kg/h	0.6	1.1	1.4
Nominal process air volume	m^3/h	160	250	440
Nominal regeneration air volume	m^3/h	40	50	100
Electrical connected load	kW	1	1.3	2.1
Current consumption	A	4.3	5.65	9.1
Temperature/humidity operating range	°C / % RH	-30 to +40 / 0 to 100		
Voltage supply	V/Ph/Hz	230/1/50		
Air intake area	mm	145 x 155	145 x 255	
Dry air connection diameter	mm	100	125	
Damp air connection diameter	mm	63	80	
Dimensions (H x W x D)	mm	273 x 322 x 329	351 x 335 x 357	
Sound pressure levels [1)]	dB(A)	53	52.9	69
Weight	kg	10.5	14	14

Technical Data		DA 210	DA 400	DA 450
Drying capacity at 20°C – 60% RH	kg/h	0.6	1.5	2.2
Nominal process air volume	m^3/h	210	400	450
Nominal regeneration air volume	m^3/h	40	120	120
Electrical connected load	kW	1.1	2.3	3.5
Current consumption	A	4.8	10	15.2
Temperature/humidity operating range	°C / % RH	-30 to +40 / 0 to 100		
Voltage supply	V/Ph/Hz	230/1/50		
Process air connection diameter	mm	125	160	
Dry air connection diameter	mm	100	160	
Humid / regeneration air connection diameter	mm	63	80	
Dimensions (H x W x D)	mm	457 x 315 x 315	525.5 x 504 x 428	
Sound pressure levels [1)]	dB(A)	53.3	62.2	63
Weight	kg	16.5	28	31

1) Laboratory values measured with connected ventilation ducts at a distance of 1 m from the instrument surface. Actual values may vary.

Technical Data
DA **DESICCANT DRYER**

DA 500

Technical Data		DA 500	DA 700	DA 1000	DA 1400	DA 2400	DA 3400	DA 4000
Drying capacity at 20°C – 60% RH	kg/h	3.3	5.1	7.1	10	13.5	14.5	20
Nominal process air volume	m^3/h	500	700	1,000	1,400	2,400	3,400	4,000
Nominal regeneration air volume	m^3/h	150	220	350	400	500	550	850
Ext. compression — process air	Pa	300	200	300	200	300	300	200
Ext. compression — regeneration air	Pa	300	250	200	300	250	200	200
Electrical connected load	kW	4.5	7.5	11.0	13.6	19.0	20.6	28.7
Electrical power of regeneration heating coil	kW	4.0	7.0	10.2	13.0	17.5	18.0	26.0
Temperature/humidity operating range	°C / % RH	-30 to +40 / 0 to 100						
Voltage supply	V/Ph/Hz	400/3/50						
Process air connection diameter	mm	400						
Dry air connection diameter	mm	315						
Humid/regeneration air connection diameter	mm	200						
Dimensions (H x W x D)	mm	910 x 1,199 x 992						
Sound pressure levels [1)]	dB(A)	62	62	62	63	68	69	69
Weight	kg	185	190	190	195	200	200	205

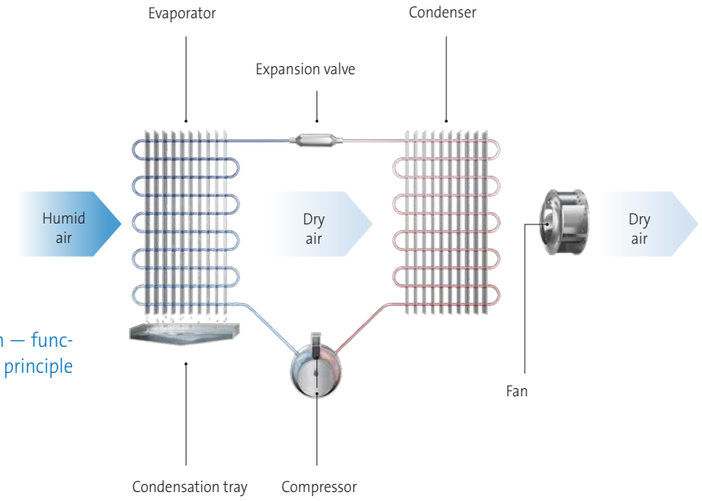
Technical Data		DA 4400	DA 6400	DA 7400	DA 9400
Drying capacity at 20°C – 60% RH	kg/h	28	36.5	45	54
Nominal process air volume	m^3/h	4,400	6,400	7,400	9,400
Nominal regeneration air volume	m^3/h	1,200	1,600	2,250	2,500
Ext. compression — process air	Pa	≥ 200			
Ext. compression — regeneration air	Pa	≥ 200			
Electrical connected load	kW	40.9	54.5	66.5	79.0
Electrical power of regeneration heating coil	kW	36.0	48.0	60.0	72.0
Temperature/humidity operating range	°C / % RH	-30 to +40 / 0 to 100			
Voltage supply	V/Ph/Hz	400/3/50			
Process air connection diameter	mm	630			
Dry air connection diameter	mm	500			
Regeneration air connection diameter	mm	315			
Damp air connection diameter	mm	315			
Dimensions (H x W x D)	mm	1,311 x 2,194 x 1,280			
Sound pressure levels [1)]	dB(A)	72-73			
Weight	kg	550	600	650	700

Technical Data
DA **DESICCANT DRYER**

DA 27000 SP

Technical Data		DA 13000SP [1]	DA 19000SP [1]	DA 27000SP [1]
Drying capacity at 20°C – 60% RH	kg/h	86	120	182
Nominal process air volume	m^3/h	13,000	19,000	27,900
Nominal regeneration air volume	m^3/h	4,200	6,000	6,980
Ext. compression — process air	Pa	590	440	400
Ext. compression — regeneration air	Pa	200	450	250
Total electrical connected load	kW	143.5	207.5	309
Electrical power of regeneration heating coil	kW	132	192	288
Temperature/humidity operating range	°C / % RH	-30 to +40 / 0 to 100		
Voltage supply	V/Ph/Hz	400/3/50		
Process air connection diameter	mm	800	1,000	
Dry air connection diameter	mm	800	1,000	
Regeneration air connection diameter	mm	500	630	
Damp air connection diameter	mm	500	630	
Process air / regeneration air filter class	-	G4		
Dimensions (height)	mm	2,300	2,500	2,500
Dimensions (width)	mm	2,250	2,400	2,900
Dimensions (depth)	mm	1,600	1,900	2,400
Weight	kg	1,350	1,700	2,400

1) All data refers to a standard unit with electrical regeneration.



Condensation dehumidification — functional principle

Condair DC series

Condair industrial dehumidifiers have many different applications across the industrial, commercial and warehousing sectors. They are based around a cooling circuit system, and are generally used in areas which require a relative humidity as low as 45% rH.
Condair industrial dehumidifiers can be configured in a variety of ways and to suit our customers' individual needs. So we always have the optimum unit for any application.

The standard units in the Condair DC series cover a broad range of applications. They have dehumidification capacities from 75 l / 24 h up to 930 l / 24 h. Due to their enormous air capacities up to 8,500 m³/h, even the humidity in very large buildings can be regulated with only one, or just a few, units. They can be free-standing or configured for mobile use, and can even be connected to the air duct network to ensure optimum distribution of the dehumidified air.

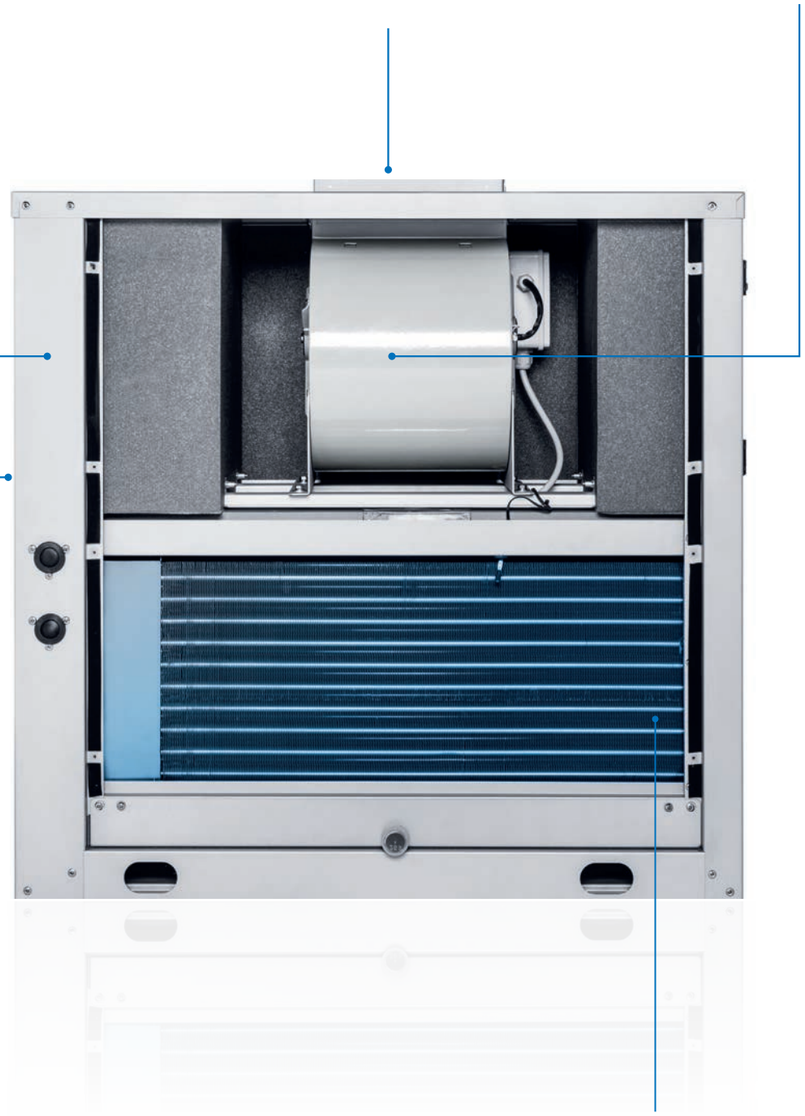
For temperature-sensitive areas, we offer special temperature-neutral versions.
The condensation heat from the dehumidifier is drawn away via an external condenser so that the room temperature is not affected.

Condair DC industrial dehumidifiers are equipped with hot gas defrosting as standard, which ensures safe and economical operation even at low room temperatures.

Durable housing
The robust, hot-dip galvanized RAL 9006 housing provides maximum protection against the aggressive environmental conditions often experienced in the industrial sector. The housing is easy to disassemble to ensure fast access to all of the relevant components. A stainless steel version is also available.

Flexible connection options
Condair DC dehumidifiers can be operated independently or connected to a ventilation duct network. Separate connection frames are available for this. For longer duct networks and specialist applications, we offer more powerful EC fans with higher compression levels.

Fan
High-quality, directly controlled AC or EC fan. The fan is very energy-efficient and quiet to run. A variety of external compressors can be installed on the unit.
The fan housing is soundproof and completely separate from the cooling circuit.



Controller
The dehumidifier is controlled fully electronically via a microprocessor. Operation and error notifications are displayed on the integrated screen, which can also show operating hours. The microprocessor controls important functions such as defrosting and compressor operation. A a volt-free contact is provided for issuing fault messages.

Cooling circuit
Highly efficient R410A cooling circuit. We only use well-known branded components in our cooling circuits. The pressure is equalized by thermostatic expansion valves. All components are easily accessible after disassembly of the corresponding cladding parts.
Specialized versions, e.g. for operation at higher temperatures, are available on request.

Heat exchangers
In all versions of the unit, the heat exchangers feature a special coating to protect them from aggressive environmental conditions as standard. Special varnishes and coatings are available if the unit is to be operated under particularly aggressive conditions.

Technical Data
Condensation dehumidifier **DC**

DC 200

Technical Data		DC 75	DC 100	DC 150	DC 200
Dehumidification capacity at 30°C – 80% RH	l/24h	73.0	95.2	157.1	194.3
Dehumidification capacity at 20°C – 60% RH	l/24h	34.5	50.2	66.0	90.6
Dehumidification capacity at 10°C – 70% RH	l/24h	26.6	33.7	43.9	60.7
Air circulation	m^3/h	800	1,000	1,500	1,800
Nominal power consumption [1]	kW	1.59	1.83	2.22	2.84
Maximum current consumption [2]	A	7.1	8.1	12.6	15.5
Compression available (higher compression optional)	Pa	50–150			
Operating range — humidity	% RH	40–99			
Operating range — temperature	°C	5–36			
Voltage supply	V/Ph/Hz	230/1/50			
Sound pressure levels [3]	dB(A)	52	54	60	62
Refrigerant / fill volume	Type/g	R410A / 550		R410A / 1100	
Total of CO_2 equivalent [4]	t-CO_2e	1.15	1.15	2.30	2.30
Dimensions (H x W x D)	mm	800 x 819 x 400		981 x 1,055 x 554	
Weight	kg	85	90	130	135

Technical Data		DC 270	DC 350	DC 450	DC 550	DC 750	DC 950
Dehumidification capacity at 30°C – 80% RH	l/24h	263.1	340.2	418.8	566.8	751.1	939.3
Dehumidification capacity at 20°C – 60% RH	l/24h	111.4	168.5	223.9	267.1	391.0	501.0
Dehumidification capacity at 10°C – 70% RH	l/24h	75.7	118.3	160.9	180.2	269.8	349.6
Air circulation	m^3/h	3,500	4,200		5,500	7,000	8,500
Nominal power consumption [1]	kW	4.09	5.40	8.33	9.38	13.90	18.39
Maximum current consumption [2]	A	10.4	12.8	17.0	19.4	28.2	34.8
Compression available (higher compression optional)	Pa	50–150					
Operating range — humidity	% RH	40–99					
Operational range — temperature	°C	5–36					
Voltage supply	V/Ph/Hz	400/3/50					
Sound pressure levels [3]	dB(A)	63	64	64	66	66	66
Refrigerant / fill volume	Type/g	R410A/3,000	R410A/2,500		R410A/6,300	R410A/6,600	R410A/7,000
Total of CO_2 equivalent [4]	t-CO_2e	6.26	5.22	5.22	13.16	13.78	14.62
Internal unit dimensions (H x W x D)	mm	1,378 x 1,154 x 704			1,750 x 1,504 x 854		
Weight	kg	207	211	215	415	423	430

1) at t_R = 30°C; humidity = 80% RH 2) full load current; FLA = full load amperage 3) laboratory values in 1 m free field according to ISO 9614, actual values may differ
4) R410A global warming potential (GWP) = 2,088 CO_2e

For wall mounting
Condair **DC-W**

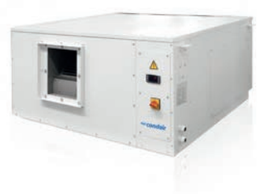
Technical Data		DC 50W	DC 75W	DC 100W	DC 150W	DC 200W
Dehumidification capacity at 30°C – 80%	l/24h	49.0	73.0	95.0	155.0	190.0
Dehumidification capacity at 20°C – 60%	l/24h	25.6	39.2	50.3	68.2	90.9
Dehumidification capacity at 10°C – 70%	l/24h	17.3	26.6	33.7	44.3	60.9
Air circulation	m^3/h	500	800	1,000	1,400	1,650
Compression available	Pa	40				
Nominal power consumption [1]	kW	0.9	1.2	1.6	1.9	2.5
Maximum current consumption [2]	A	3.9	8.3	11.5	13.4	17.0
Temperature/humidity operating range	C°/ % RH	5–36°C / 40–99% RH				
Voltage supply	V/Ph/Hz	230/1/50				
Sound pressure levels [3]	dB(A)	47	50	50	52	54
Refrigerant / fill volume	Type/g	R410A / 470	R410A / 600	R410A / 700	R410A / 1,200	
Total of CO_2 equivalent [4]	t-CO_2e	0.98	1.25	1.46	2.51	
Dimensions (H x W x D)	mm	750 x 835 x 260	751 x 1,134 x 260		840 x 1,384 x 310	
Weight	kg	50	71	75	99	102

For rear wall mounting
Condair **DC-R**

Technical Data		DC 50R	DC 75R	DC 100R	DC 150R	DC 200R
Dehumidification capacity at 30°C – 80%	l/24h	49.0	73.0	95.0	155.0	190.0
Dehumidification capacity at 20°C – 60%	l/24h	25.6	39.2	50.3	68.2	90.9
Dehumidification capacity at 10°C – 70%	l/24h	17.3	26.6	33.7	44.3	60.9
Air circulation	m^3/h	500	800	1,000	1,400	1,650
Compression available	Pa	40				
Nominal power consumption [1]	kW	0.9	1.2	1.6	1.9	2.5
Maximum current consumption [2]	A	3.9	8.3	11.5	13.4	17.0
Temperature/humidity operating range	C°/ % RH	5–36°C / 40–99% RH				
Voltage supply	V/Ph/Hz	230/1/50				
Sound pressure levels [3]	dB(A)	47	50	50	52	54
Refrigerant / fill volume	Type/g	R410A / 470	R410A / 600	R410A / 700	R410A / 1,200	
Total of CO_2 equivalent [4]	t-CO_2e	0.98	1.25	1.46	2.51	
Dimensions (H x W x D)	mm	680 x 695 x 252	681 x 1,006 x 253		770 x 1,255 x 300	
Weight	kg	41	57	61	82	87

1) at t_R = 30°C; humidity = 80% RH 2) full load current; FLA = full load amperage 3) laboratory values in 1 m free field according to ISO 9614, actual values may differ
4) R410A global warming potential (GWP) = 2,088 CO_2e

For ceiling mounting
Condair **DC-C**



Technical Data		DC 50C	DC 75-C	DC 100C	DC 150C	DC 200C
Dehumidification capacity at 30°C – 80%	l/24h	49.0	73.0	95.0	155.0	190.0
Dehumidification capacity at 20°C – 60%	l/24h	25.6	39.2	50.2	62.8	87.1
Dehumidification capacity at 10°C – 70%	l/24h	17.3	26.6	33.7	44.3	60.9
Air circulation	m^3/h	500	800	1,000	1,400	1,650
Compression available (higher compression optional)	Pa	150				
Nominal power consumption [1]	kW	0.97	1.29	1.76	2.07	2.74
Maximum current consumption [2]	A	3.9	6.1	9.3	12.0	15.7
Temperature/humidity operating range	C°/ % RH	5–36°C / 40–99% RH				
Voltage supply	V/Ph/Hz	230/1/50				
Sound pressure levels [3]	dB(A)	50	52	54	59.5	61.5
Refrigerant / fill volume	Type/g	R410A / 360	R410A / 600		R410A / 900	R410A / 1,200
Total of CO_2 equivalent [4]	t-CO_2e	0.75	1.25		1.88	2.51
Dimensions (H x W x D)	mm	360 x 710 x 700	460 x 900 x 980		530 x 1,050 x 1,160	
Weight	kg	63	95	122	131	140

With external heat dissipation
Condair **DC-N**

Technical data / Dehumidifier		DC 270N	DC 350N	DC 450N	DC 550N	DC 750N	DC 950N
Dehumidification capacity at 30°C – 80%	l/24h	263.1	340.2	418.8	566.8	751.1	939.3
Dehumidification capacity at 20°C – 60%	l/24h	111.4	168.5	223.9	267.1	391.0	501.0
Dehumidification capacity at 10°C – 70%	l/24h	75.7	118.3	160.9	180.2	269.8	349.6
Air circulation	m^3/h	3,500	4,200	4,200	5,500	7,000	8,500
Compression available (higher compression optional)	Pa	50–150					
Sensitive cooling capacity [1] (35°C outdoor air)	kW	4.48	5.91	7.2	8.8	12.45	15.5
Nominal power consumption [1] [5]	kW	4.38	5.69	9.04	10.09	15.52	20.01
Maximum current consumption	A	11.0	14.0	18.2	25.6	34.4	44.1
Temperature/humidity operating range	C°/ % RH	5–36°C / 40–99% RH					
Voltage supply	V/Ph/ Hz	400/1/50			400/3/50		
Sound pressure levels [3]	dB(A)	63	64	64	66	66	66
Coolant	Type	R410A	R410A		R410A	R410A	R410A
Fill volume	g	3,000	2,500		9,000	8,000	8,000
Total of CO_2 equivalent [4]	t-CO_2e	6.3	5.2	5.2	18.8	16.7	16.7
Dimensions (H x W x D)	mm	1,378 x 1,154 x 704			1,750 x 1,504 x 854		
Weight	kg	207	211	215	415	423	430

Technical data / Outdoor condenser		DC 270N	DC 350N	DC 450N	DC 550N	DC 750N	DC 950N
Voltage supply	V/Ph/Hz	230/1/50					
Number of fans		1			2		3
Air circulation	m^3/h	7,519	7,095	6,714	15,040	14,190	21,280
Total power consumption of fan (nom.)	kW	0.71			1.42		2.13
Total current consumption of fan (nom.)	A	3.10			6.2		9.3
Inlet/outlet connection diameter	mm	22/20		35/28			42/35
Operating range — temperature	°C	10–40					
Protection class		IP 54					
Sound pressure levels [3]	dB(A)	49			52		54
Dimensions (H x W x D)	mm	828 x 1,115 x 520			828 x 2,015 x 520		828 x 2,915 x 520
Weight	kg	46	51	57	87	96	141

1) at t_R = 30°C; humidity = 80% RH 2) full load current; FLA = full load amperage 3) laboratory values in 1 m free field according to ISO 9614, actual values may differ
4) R410A global warming potential (GWP) = 2,088 CO_2e 5) incl. outdoor condenser

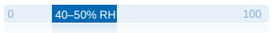
For low temperatures
Condair **DC-LT**

Technical Data		DC 270LT	DC 350LT	DC 450LT
Dehumidification capacity at 30°C – 80% RH	l/24h	263.1	340.2	418.8
Dehumidification capacity at 20°C – 60% RH	l/24h	111.4	168.5	223.9
Dehumidification capacity at 10°C – 70% RH	l/24h	75.6	11.3	160.9
Dehumidification capacity at 5°C – 70% RH	l/24h	46.7	80.2	112.2
Air circulation	m^3/h	3,500	4,200	4,200
Nominal power consumption [1]	kW	4.09	5.4	8.33
Maximum current consumption [2]	A	10.4	12.8	17.0
Compression available (higher compression optional)	Pa	50–150		
Temperature/humidity operating range	C°/ % RH	1–36°C / 40–99%		
Voltage supply	V/PH/Hz	400/3/50		
Sound pressure levels [3]	dB(A)	63	64	64
Refrigerant / fill volume	Type/g	6,000	5,000	5,000
Total of CO_2 equivalent [4]	t-CO_2 e	12.52	10.44	10.44
Dimensions (H x W x D)	mm	1,378 x 1,154 x 704		
Weight	kg	227	231	235

Technical Data		DC 550LT	DC 750LT	DC 950LT
Dehumidification capacity at 30°C – 80% RH	l/24h	566.8	751.1	939.3
Dehumidification capacity at 20°C – 60% RH	l/24h	267.1	391	501
Dehumidification capacity at 10°C – 70% RH	l/24h	180.2	269.8	349.6
Dehumidification capacity at 5°C – 70% RH	l/24h	121.9	87.3	246.1
Air circulation	m^3/h	5,500	7,000	8,500
Nominal power consumption [1]	kW	9.38	13.90	18.39
Maximum current consumption [2]	A	19.4	28.2	34.8
Compression available (higher compression optional)	Pa	50–150		
Temperature/humidity operating range	°C / % RH	1–36°C / 40–99%		
Voltage supply	V/PH/Hz	400/3/50		
Sound pressure levels [3]	dB(A)	66	66	66
Refrigerant / fill volume	Type/g	13,500	14,000	15,500
Total of CO_2 equivalent [4]	t-CO_2 e	28.18	29.23	32.36
Dimensions (H x W x D)	mm	1,750 x 1,504 x 854		
Weight	kg	435	443	450

Storing wood

Storing paper



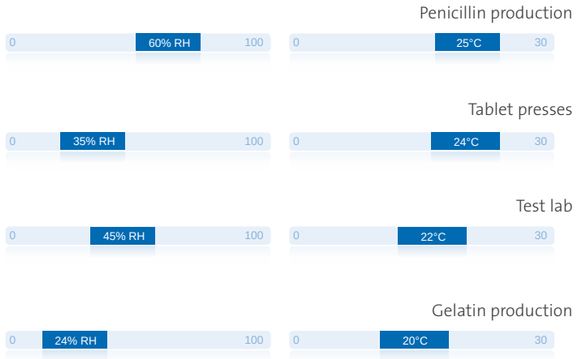
Assembly halls

Storage and cooling

Excessively high humidity is a serious problem in many parts of the warehousing industry. The main causes of this are air infiltrating from outside and moisture evaporating from the products being stored themselves. There are a number of symptoms, including: moisture damage on packaging, clumping, mold and corrosion, that can all have a negative impact on product quality. Condensation can form on walkways, technical equipment, vertical blinds and other components, preventing you from ensuring that you have a safe and hygienic work environment.

The consequences of external air infiltrating cold storage facilities can be even more dramatic. Ice can form on goods, walls, floors, walkways and equipment, and fog can negatively affect the health of employees working in the area. Condensation can damage or even contaminate the goods being stored, meaning that you have to make additional effort and incur additional costs to ensure that the necessary hygiene standards are met.

By using a suitable dehumidification system, you can guarantee the safe and efficient operation of your warehouses and cold storage facilities. Our systems ensure optimum product quality, and provide a safe and hygienic work environment.



Pharmaceutical industry

Many pharmaceutical products are made from hygroscopic raw materials in powdered or granulated form. High and uncontrolled humidity during the tableting and packaging process can cause a variety of problems that are often difficult to solve.

If powders or granulates come into contact with the water vapor in the air, this can have a serious effect on both the production process and product quality.

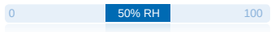
Powdered materials can clump together and block pneumatic transportation systems, which can in turn result in extensive cleaning work, and therefore downtime, being required.
If this additional moisture causes irregularities in the dosing process, the effectiveness of the active chemicals may be limited and uncontrollable.

Variations in volume, weight, color and product characteristics, and a possible reduction in the shelf life of the product, can all have a negative effect on the perception of the corresponding company brand.

High humidity and high levels of condensation can also encourage bacteria and mold to grow. This in turn can result in long interruptions to the production process with devastating financial consequences.

Laboratories, too, need to precisely control their humidity to ensure that they produce accurate, reliable results. Dehumidification systems can keep humidity at the optimum level during the production and packaging process, and so ensure maximum production security and efficiency.

Condair offers a wide range of technologies and additional options to help you tailor a solution to your specific requirements.



Water suppliers

Condensation is one of the biggest challenges faced by companies operating and maintaining equipment at water supply facilities, particularly during the warmer months of the year.
The infiltration of warm, humid air into cooler buildings can lead to condensation forming on the pipes and fittings that carry the water, and other colder components.
This can cause considerable damage to technical systems and the building itself:

- Destruction of anti-corrosion coatings
- Corrosion of electrical contacts and damage to sensitive electronics
- Droplet and mold formation
- Mold build-up and microbe growth
- Clumping of chemicals and additives
- Wet surfaces representing a safety risk for staff

Powerful dehumidification systems can effectively and efficiently protect technical equipment in water supply facilities from all kinds of moisture-related damage. They can also help to significantly reduce the amount of downtime required for maintenance by keeping equipment in peak condition. Plus, they keep the working environment safe and hygienic for staff.

Food

When it comes to producing, processing and storing foods, it is incredibly important for companies to adhere to the strictest of hygiene standards. As well as moisture infiltration from warm, humid external air, people and the products themselves, the often regular and intensive cleaning measures necessary in this field can also cause an enormous additional build-up of moisture at production facilities. Dehumidifiers are the most effective and efficient solution to ensure you maintain the optimum conditions for uninterrupted, hygienic and safe operation.

Large quantities of water vapor can be discharged in the shortest possible time, so that condensation and droplet formation can be avoided. Interruptions to operations after cleaning work are minimized. Transport systems, too, are available again quickly after cleaning.

Potential dangers for staff, such as those posed by wet walkways and fog are avoided, and mold cannot even begin to grow.

Efficiency

One traditional method of dehumidification that is still commonplace today is a simple ventilation and circulation system, whereby the damp air is sucked in via a ventilator and drier air streams in from outside. This external air must then be reheated, which takes a huge amount of energy. This method is therefore incredibly wasteful.

It is far more efficient to run dehumidifiers based on a closed cooling circuit system. All Condair industrial dehumidifiers work according to the heat pump principle, whereby all of the warmth given up in the heat pump circuit is used to heat the room. This considerably decreases operating costs. Compared to a simple ventilation system with supply and exhaust air streams, a dehumidifier can be up to 60% more efficient.

Desiccant driers can also be very economical if the fluids available on site, such as steam or PWW, are combined with the electrical regeneration heater.

Using a hybrid regeneration battery like this saves a considerable amount of energy, particularly with larger systems, and can therefore help you achieve a substantial reduction in operating costs.

Planning and service

We offer a wide and comprehensive range of dehumidification options. For this reason, we recommend that when it comes to selecting your system, you consult a specialist who can offer objective, expert advice for planners, installers and operators.

The experts at Condair GmbH are happy to help you plan, design and select the optimum dehumidification system for your needs.

And if you ever experience an issue, help is available fast for both industrial and commercial customers. Condair GmbH offers a nationwide customer service program which you can also use to source maintenance and commissioning services for your dehumidifier as needed.

Condair GmbH offers the following product-applicable services:

- Planning support
- On-site consultation and sales with our specialists
- Software-supported design and calculations
- Nationwide after-sales service
- Replacement parts

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