



ADSORPTION DEHUMIDIFIERS

DRD RANGE

EFFICIENT HUMIDITY CONTROL SOLUTIONS FOR INDUSTRIAL PROCESS,
FOOD AND PHARMACEUTICAL INDUSTRIES





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INTRODUCTION

DRD ADSORPTION DEHUMIDIFIERS

Thanks to their wide range of sizes and ability to operate between -20°C and $+40^{\circ}\text{C}$, the DRD adsorption dehumidifiers are ideal for complex humidity regulation. They offer extremely efficient humidity control for a wide range of industrial processing, food industry, pharmaceutical and similar challenging applications.



Key features

- Effective dehumidification with very low dew-point, even under extreme conditions ($-20^{\circ}\text{C}/+40^{\circ}\text{C}$)
- Variety of sizes to cater to different operational needs and conditions
- Electric or steam, reactivation with optional features on demand
- Sturdy and non-flammable rotor capable of withstanding heat and saturated air
- G4 filters mounted in air and high-temperature regeneration inlets
- The integrated alarm notifies you when filters are dirty and required replacement
- PLC control with intuitive touch-screen terminal and remote connection via RS485 or TCP/IP
- EC fans on process and regeneration air
- The units can be customised to your installation requirements on request

Applications:

- Confectionery
- Food industry
- Cold rooms
- Greenhouses
- Pharmaceutical
- Defence
- Lithium batteries
- Power plants
- Waterworks
- Industrial processes
- Storage of hygroscopic materials
- Dry air storage
- Museums and archives
- Ice rinks

INTRODUCTION

DRD ADSORPTION DEHUMIDIFIERS

Technology

The DRD adsorption dehumidifiers operate through moisture absorption by means of a rotor-reinforced composite on which absorbing elements are permanently fixed. Capable of creating dew points as low as -60°C , this rotor drying technology makes the dehumidification process very effective even under extreme conditions ($-20^{\circ}\text{C}/+40^{\circ}\text{C}$). It also ensures a continuous dehumidification process, with expulsion of the humid air to the outside without having to remove condensed water. Moreover, when required, the rotor can be washed without altering its operating characteristics.

Electrical control and command

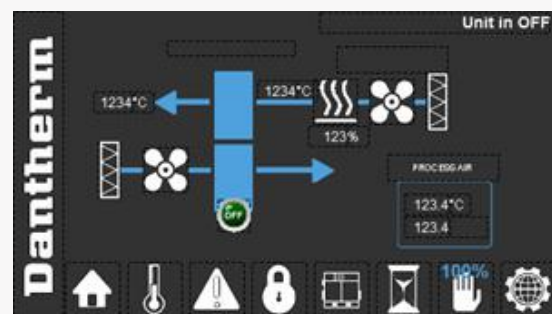
The electric control panel is complete with electrical wiring for power supply voltages at 400Vac 3Ph + PE and 230Vac 1Ph+N for the smaller sizes.

The panel comes equipped with Power On command and a voltage transformer for auxiliary circuit control. The contactor-initiated fan motors for process and reactivation are of the EC type. They have been fitted with magneto-thermal protection and they can be reset manually. Regulation and control of the unit is handled by a microprocessor board for optimal performance. The controller comes equipped with RS 485 and/or TCP/IP connections.

Functions

The functions related to the control panel are:

- Regeneration air temperature control
- Management of manual or automatic operation via the external humidistat (optional)
- Safety thermostat for the regeneration element
- Regeneration cool down timing
- Reporting to display unit status and alarms
- Pre and post cooling or heating temperature control (optional)



Intuitive and user-friendly touchscreen control panel

Construction specifications

The DRD range have been designed with a sturdy self-supporting base and structure with sandwich panels. All panels are insulated on the inside with a 25mm layer of mineral wool.

ADSORPTION DEHUMIDIFIERS

DRD 10-34-60



DRD 10



- Corrosion class for the interior is C3 (Aluzink 150, ISO 12944) and C5-I for stainless steel housing
- Single phase 50 or 60Hz
- Reactivation air in/out on same side
- Hour counter included as standard
- G4 filters for process and reactivation

Ideally suited for dehumidification tasks where space is limited, this range of small air flow adsorption dehumidifiers is characterised by its high performance due to two air inlets, two air outlets and two fans as well as robustness due to the insulated stainless-steel cabinet.

The dehumidifier range is suitable for several fields of application, in particular where space is limited. The stainless-steel housing with corrosion resistance class C5-I makes the units ideal for both hygienic and aggressive environments.

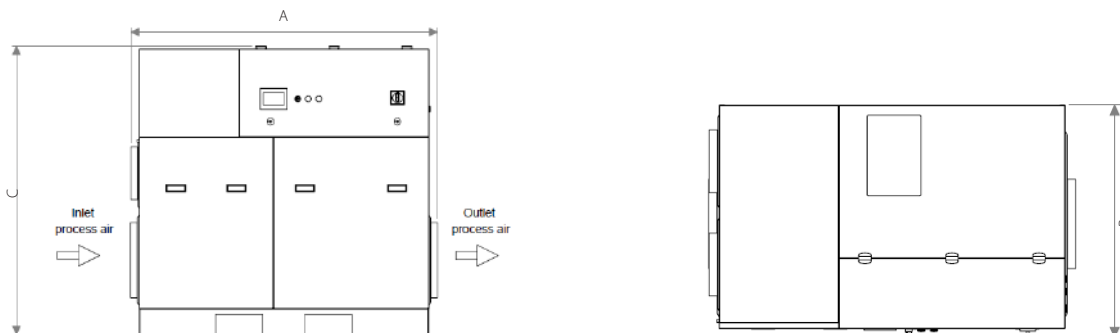
Specifications	Units	DRD 10	DRD 34	DRD 60
Dehumidification capacity @ 20°C/60% RH	kg/h	0.4	1.4	2.5
Process air flow	m ³ /h	90	300	450
Available pressure	Pa	150	200	200
Regeneration air flow	m ³ /h	25	75	120
Available pressure	Pa	150	150	200
Power consumption	kW	0.7	1.8	3.6
Power supply	V/Hz	230/1ph+N/50-60	230/1ph+N/50-60	400/3ph+N/50-60
Sound level*	dB(A)	42	44	46
Reactivation power	kW	0.6	1.7	3.3
Electric, steam		E/S	E/S	E/S
Filter	class	G4	G4	G4
Product size (l x w x h)	mm	400 x 500 x 450	500 x 600 x 600	500 x 600 x 600
Weight	kg	25	32	33

* Sound pressure level calculated in free field, 10m from unit, direction factor Q2 , according to ISO 9614

ADSORPTION DEHUMIDIFIERS

DRD 10-34-60

Dimensions



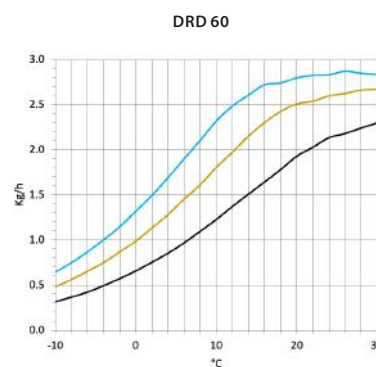
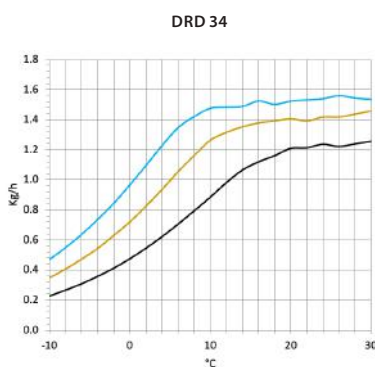
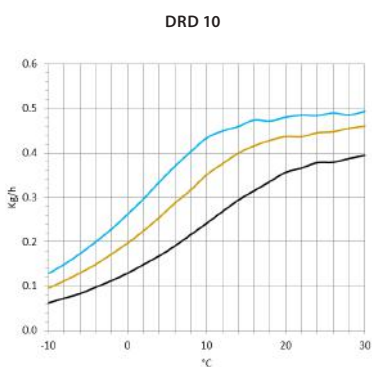
Dimensions	Units	DRD 10	DRD 34	DRD 60
A	mm	400	500	500
B	mm	500	600	600
C	mm	450	600	600

Part	Units	DRD 10	DRD 34	DRD 60
Process air inlet	Ømm	125	160	200
Dry air outlet	Ømm	125	160	200
Reactivation air inlet	Ømm	80	125	160
Wet air outlet	Ømm	80	125	160

Performance data

Legend

- 40% RH
- 60% RH
- 80% RH



ADSORPTION DEHUMIDIFIERS

DRD 120-163-235-358



DRD 120

This range of medium air flow and high-capacity adsorption dehumidifiers has been designed with an insulated stainless-steel casing for maximum robustness and with the regeneration inlet and outlet placed on the same side to simplify installation. The units are very suitable for several fields of application, including those that offer limited installation space. The stainless-steel used is corrosion resistance class C5-I, thus making the adsorption dehumidifiers ideal for both hygienic and aggressive environments.

Delivered with an advanced user interface and fully ready for site installation, the dehumidifiers need only be connected ducting before they are ready for operation.



- Corrosion class for the interior is C3 (Aluzink 150, ISO 12944) and C5-I for stainless steel housing
- Three-phase 50 or 60Hz
- Reactivation air in/out on same side
- Advanced user interface with RS485 and/or TCP/IP protocol
- G4 filters for process and reactivation
- Ventilated electric panel
- Can be customised

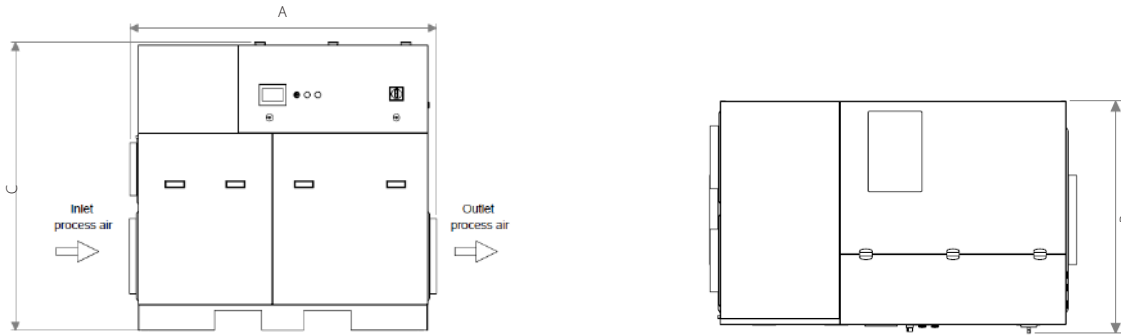
Specifications	Units	DRD 120	DRD 163	DRD 235	DRD 358
Dehumidification capacity @ 20°C/60% RH	kg/h	5.0	6.8	9.8	14.9
Process air flow	m ³ /h	800	1,100	1,300	2,300
Available pressure	Pa	200	400	350	180
Regeneration air flow	m ³ /h	250	370	400	680
Available pressure	Pa	200	350	300	400
Power consumption	kW	6.9	10.4	13.9	20.8
Power supply	V/Hz	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60
Sound level*	dB(A)	65	66	68	68
Reactivation power	kW	6.6	9.7	13.2	19.8
Electric, steam		E/S	E/S	E/S	E/S
Filter	class	G4	G4	G4	G4
Product size (l x w x h)	mm	1300 x 800 x 1300	1300 x 800 x 1300	1400 x 900 x 1400	1400 x 900 x 1400
Weight	kg	220	230	320	330

* Sound pressure level calculated in free field, 10m from unit, direction factor Q2 , according to ISO 9614

ADSORPTION DEHUMIDIFIERS

DRD 120-163-235-358

Dimensions



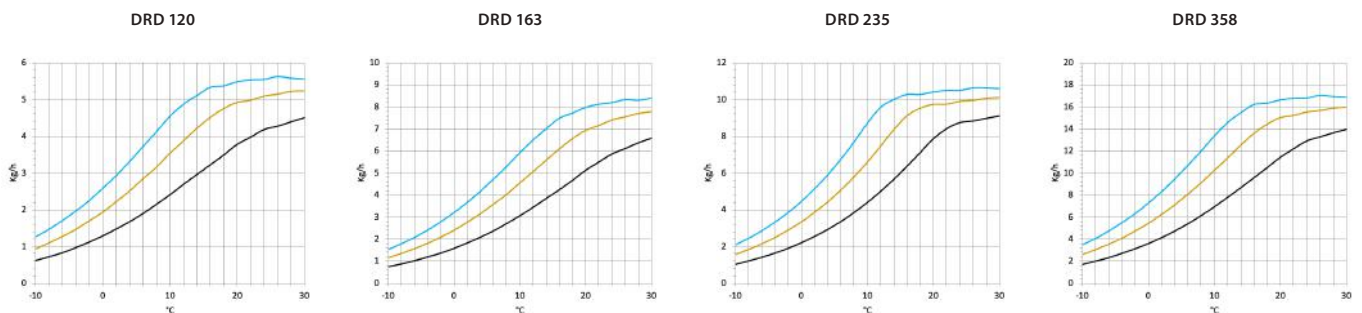
Dimensions	Units	DRD 120	DRD 163	DRD 235	DRD 358
A	mm	1300	1300	1400	1400
B	mm	800	800	900	900
C	mm	1300	1300	1400	1400

Parts	Units	DRD 120	DRD 163	DRD 235	DRD 358
Process air inlet	Ømm	315	315	355	355
Dry air outlet	Ømm	315	315	355	355
Reactivation air inlet	Ømm	160	160	250	250
Wet air outlet	Ømm	160	160	250	250

Performance data

Legend

- 40% RH
- 60% RH
- 80% RH



ADSORPTION DEHUMIDIFIERS

DRD 535-665-948-1188



DRD 535



- Corrosion class for the interior is C3 (Aluzink 150, ISO 12944) and C5-I for stainless steel housing
- Three-phase 50 or 60Hz
- Reactivation air in/out on same side
- Advanced user interface with RS485 and/or TCP/IP protocol
- G4 filters for process and reactivation
- Ventilated electric panel
- Can be customised

This range of large air flow, high-capacity adsorption dehumidifiers has a cabinet built from robust insulated stainless steel. To simplify installation, regeneration inlets and outlets are placed on the same side.

Suitable for several fields of application, the compact units will fit nicely in installation areas that offer limited space. The stainless-steel housing with corrosion resistance class C5-I makes them ideal for both hygienic and aggressive environments.

The dehumidifiers come standard fitted with an advanced user interface and are fully prepared for site installation.

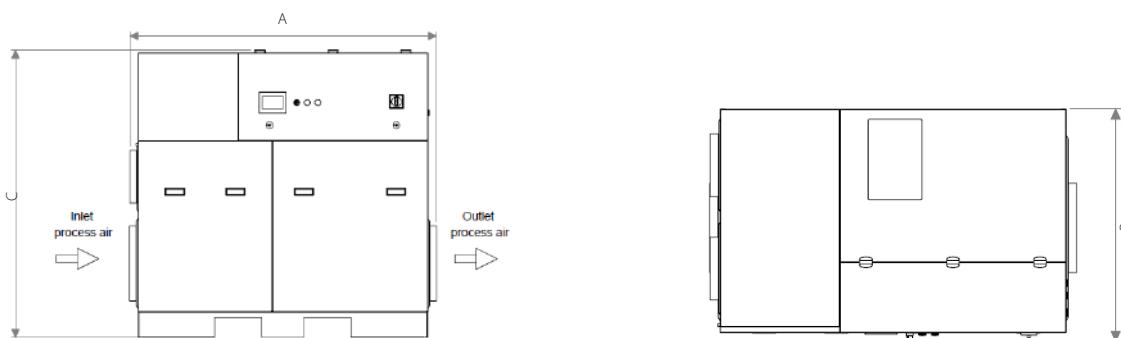
Specifications	Units	DRD 535	DRD 665	DRD 948	DRD 1188
Dehumidification capacity @ 20°C/60% RH	kg/h	22.3	27.7	39.5	49.5
Process air flow	m ³ /h	3,500	4,500	5,800	7,000
Available pressure	Pa	300	200	450	450
Regeneration air flow	m ³ /h	870	1,300	1,630	2,150
Available pressure	Pa	450	250	250	450
Power consumption	kW	30.0	37.5	54.0	67.5
Power supply	V/Hz	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60
Sound level*	dB(A)	69	71	72	73
Reactivation power	kW	31.6	39.3	57.4	71.5
Electric, steam		E/S	E/S	E/S	E/S
Filter	class	G4	G4	G4	G4
Product size (l x w x h)	mm	1480 x 1110 x 1630	1480 x 1110 x 1630	1730 x 1395 x 1980	1730 x 1395 x 1980
Weight	kg	470	485	670	690

* Sound pressure level calculated in free field, 10m from unit, direction factor Q2, according to ISO 9614

ADSORPTION DEHUMIDIFIERS

DRD 535-665-948-1188

Dimensions



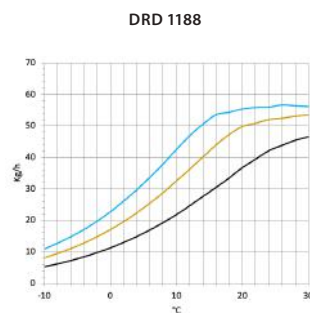
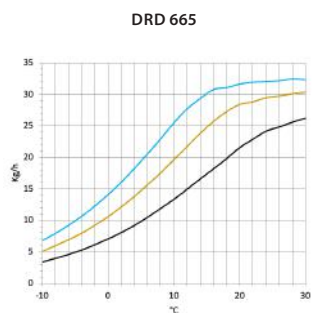
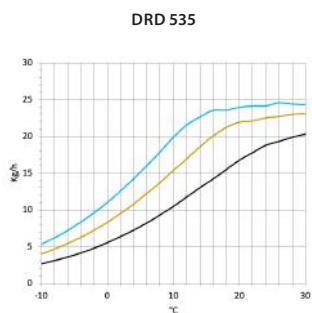
Dimensions	Units	DRD 535	DRD 665	DRD 948	DRD 1188
A	mm	1550	1600	1650	1800
B	mm	1050	1150	1350	1500
C	mm	1500	1650	1900	2100

Part	Units	DRD 535	DRD 665	DRD 948	DRD 1188
Process air inlet	Ømm	450	400	500	500 x2
Dry air outlet	Ømm	450	400	500	500 x2
Reactivation air inlet	Ømm	280	315	315	355
Wet air outlet	Ømm	280	315	315	355

Performance data

Legend

- 40% RH
- 60% RH
- 80% RH



ADSORPTION DEHUMIDIFIERS

DRD 1529-1963-2208-3146-3888



DRD 1529



- Corrosion class for the interior is C3 (Aluzink 150, ISO 12944) and C4 for painted housing
- Three-phase 50 or 60Hz
- Reactivation air in/out on same side
- Advanced user interface with RS485 and/or TCP/IP protocol
- G4 filters for process and reactivation
- Ventilated electric panel
- Can be customised

These extra-large air flow, high-capacity adsorption dehumidifiers are manufactured with an insulated epoxy-painted casing and are fitted with an advanced controller interface as standard.

The range is highly suitable for all fields of application, especially those requiring extra high volumes of air to be treated.

The dehumidifiers are delivered pre-fitted with factory-mounted flanges. Once connected to ducting, they are ready for operation.

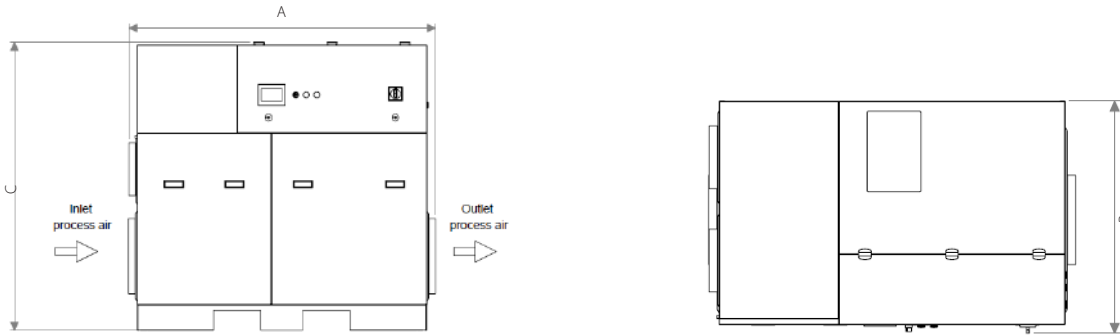
Specifications	Units	DRD 1529	DRD 1963	DRD 2208	DRD 3146	DRD 3888
Dehumidification capacity @ 20°C/60% RH	kg/h	63.7	81.8	92.0	131.0	162.0
Process air flow	m ³ /h	9,000	11,000	13,000	19,000	25,000
Available pressure	Pa	400	400	400	400	400
Regeneration air flow	m ³ /h	2,700	3,700	4,300	5,500	7,900
Available pressure	Pa	400	400	400	400	400
Power consumption	kW	98.7	131.0	155.0	195.0	273.0
Power supply	V/Hz	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60	400/3ph/50-60
Sound level*	dB(A)	72	74	74	76	76
Reactivation power	kW	90	120	144	180	252
Electric, steam		E/S	E/S	E/S	E/S	E/S
Filter	class	G4	G4	G4	G4	G4
Product size (l x w x h)	mm	2350 x 1350 x 1750	3050 x 1600 x 1850	3050 x 1600 x 1850	3850 x 1950 x 2150	3850 x 1950 x 2150
Weight	kg	700	1350	1390	1980	2150

* Sound pressure level calculated in free field, 10m from unit, direction factor Q2, according to ISO 9614

ADSORPTION DEHUMIDIFIERS

DRD 1529-1963-2208-3146-3888

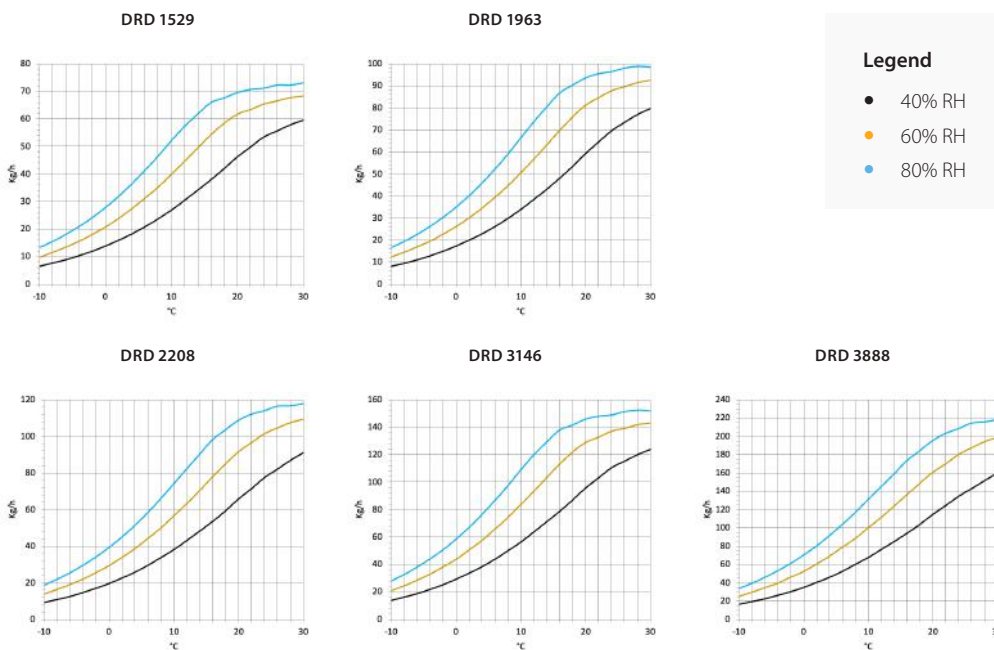
Dimensions



Dimensions	Units	DRD 1529	DRD 1963	DRD 2208	DRD 3146	DRD 3888
A	mm	2350	3050	3050	3850	3850
B	mm	1350	1600	1600	1950	1950
C	mm	1750	1850	1850	2150	2150







Part	Units	DRD 1529	DRD 1963	DRD 2208	DRD 3146	DRD 3888
Process air inlet	Ømm	1155 x 560	1250 x 600	1250 x 600	1500 x 800	1500 x 900
Dry air outlet	Ømm	1155 x 560	1250 x 600	1250 x 600	1500 x 800	1500 x 900
Reactivation air inlet	Ømm	560 x 460	600 x 600	600 x 600	800 x 800	800 x 800
Wet air outlet	Ømm	350	400	400	500	630

Performance data



ACCESSORIES

We offer a variety of accessories, including the below.

Illustration	Accessory	Description	Products	Code
	Duct probe	RH% + temp. range 0-100% / -30°/70°C (4..20mA - 24Vac/dc)	All DRD products	H1D
	Wall probe	RH% + temp. range 0-100% / -30°/70°C (4..20mA - 24Vac/dc)	All DRD products	H1W
	Wall probe	RH% + temp. range 10-90% / 0°/50°C (4..20mA - 24Vdc)	All DRD products	H2W
	Electronic humidistat	Electronic humidistat for wall 1 step + 1 alarm + ModBus power supply 230Vac	All DRD products	HW230
	Electronic humidistat	Electronic humidistat for wall 0/10Vdc + 1 alarm + ModBus power supply 24Vdc	All DRD products	HW24
	Duct probe	Duct probe dew-point range -60°/20°C (4..20mA - 24Vdc)	All DRD products	HDWP

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