

# DUPLEXbase PT 500

DUPLEXbase PT



## PERFORMANCE

Fans		Supply Air	Extract Air
Air volume @200Pa	m³/hr / l/sec	500 / 139	500 / 139
Nominal voltage	V	230	230
Power input (at operation point)	kW	0.14	0.12
Fan speed (at operation point)	RPM	3849	3649
Max power input	kW	0.17	0.17
Max current	A	1.4	1.4
SFP	W/l/s	1.002	0.861
Fan type		EC	EC

Note: The figures above have been measured at 500 m³/h and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

The unit consist of fans equipped with the EC technology. These fans have modulating speed control throughout the marked area.

Heat Recovery		Supply Air	Extract Air
Air volume @200Pa	m³/hr / l/sec	500 / 139	500 / 139
Temperature at inlet	°C	-5	20
Temperature at outlet	°C	16	3
Humidity at inlet	% RH	90	40
Humidity at outlet	% RH	20	100
Heat recovery efficiency winter / summer	%	82 / 78	
Performance in winter / summer	kW	3.5 / 0.8	
Condensation	l/h	0.7	
Type of heat exchanger		Counterflow, Plastic	
Part No.		90001425	

Note: The figures above have been measured at 500 m³/h and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

Sound Power Level LwA (dB)	Total	dB (A)							
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Outdoor air e1	50	33	35	39	48	41	35	31	<25
Supply air e2	73	42	50	58	67	67	68	63	58
Extract air i1	50	32	34	37	48	40	33	29	<25
Exhaust air i2	72	41	49	57	65	66	67	61	56
Breakout noise	50	30	35	41	48	36	36	36	27
Sound Pressure Level LpA (dB) measured at 3m	29	<25	<25	<25	28	<25	<25	<25	<25

Note: The figures above have been measured at 500 m³/h and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

## KEY FEATURES

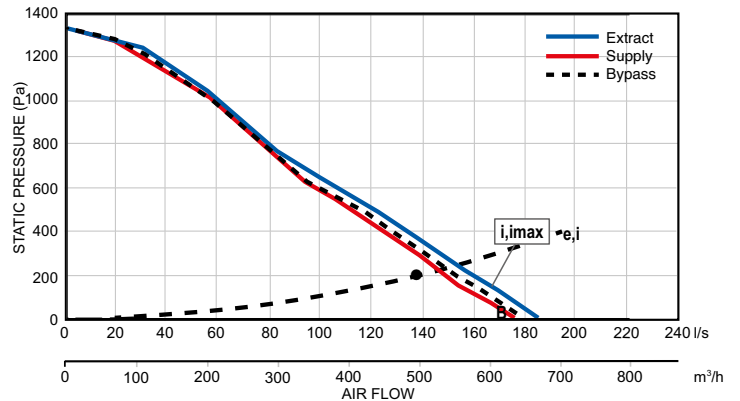
- Air volume up to 500 m³/h at 200 Pa according to ErP 2018
- Excellent thermal efficiency, up to 90%
- Compact design and high flexibility in unit orientation
- Low SFP with energy saving EC fans
- Low noise, refer to NR35 and BB93 standards
- Excellent thermal insulation (class T2, TB1)
- 100% adjustable digital controller with Internet and BMS connection
- BREEAM, Part L, Volume 2 and ErP 2018 compliant
- 2 year warranty+

## OPTIONAL FEATURES

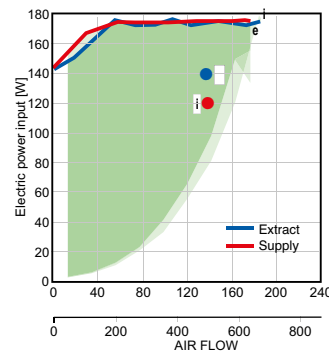
- Modulating control based on flow (constant flow function)
- Modulating control based on pressure (0-10V input)
- Pre and post-heating coils
- Cooling coils
- CO<sub>2</sub> monitors

More options available using our Duplexvent selection software.

## AIR FLOW CURVE



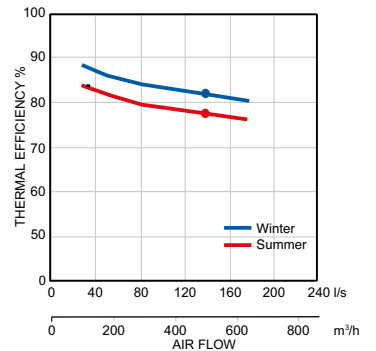
## POWER CONSUMPTION



Note: Green area denotes power consumption range. Power consumption depends on system installation.

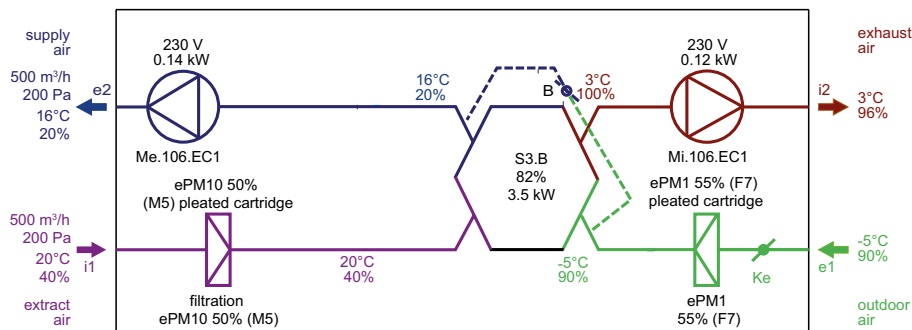
+excludes motors. Motor warranty one year from date of purchase.

## HEAT RECOVERY EFFICIENCY

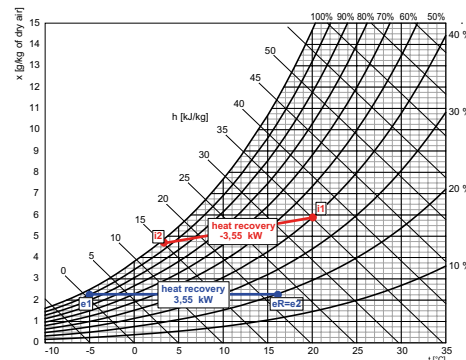


**Winter Operation:**

e1 - outdoor air (ODA)      i1 - extract air (ETA)  
 e2 - supply air (SUP)      i2 - exhaust air (EHA)



Note: AHU functions diagram. Inlet and outlet location may differ from actual position and port configuration.


**Supply**

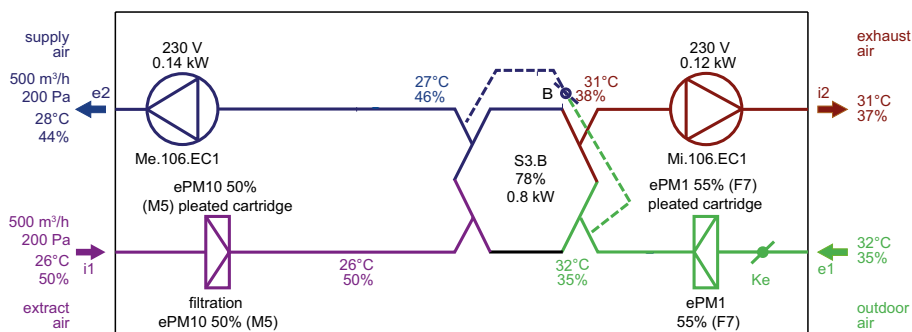
	Description	t [°C]	RH [%]
e1	Outdoor Air	-5.0	90
eR	Heat Recovery	16.1	20

**Exhaust**

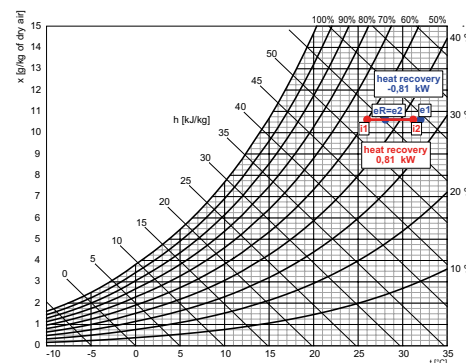
	Description	t [°C]	RH [%]
i1	Extract Air	20.0	40
i2	Heat Recovery	33	96

**Summer Operation:**

e1 - outdoor air (ODA)      i1 - extract air (ETA)  
 e2 - supply air (SUP)      i2 - exhaust air (EHA)



Note: AHU functions diagram. Inlet and outlet location may differ from actual position and port configuration.


**Supply**

	Description	t [°C]	RH [%]
e1	Outdoor Air	32.0	35
eR	Heat Recovery	28.0	44

**Exhaust**

	Description	t [°C]	RH [%]
i1	Extract Air	26.0	50
i2	Heat Recovery	31.2	37

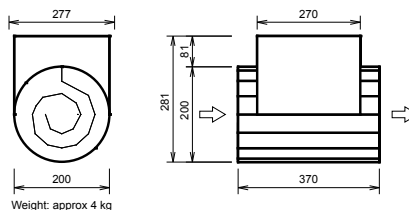
# DUPLEXbase PT 500

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## OPTIONAL ACCESSORIES

### PRE-HEATING

Electric pre-heater		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Heating capacity	kW	0.0
Max. heating capacity	kW	2.0
Voltage	V	230
Heating coil type		built-in
Electric pre-heater		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Max. heating capacity	kW	2
Voltage	V	230
Connection ports	mm	Ø 200
Heating coil type		external



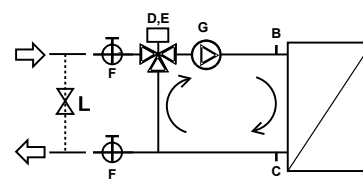
### POST HEATING

Electric post-heater		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Temperature at inlet (upstream of heater)	°C	16
Temperature at outlet (downstream of heater)	°C	19
Heating capacity	kW	0.7
Max. heating capacity	kW	2.0
Voltage	V	230
Heating coil type		built-in

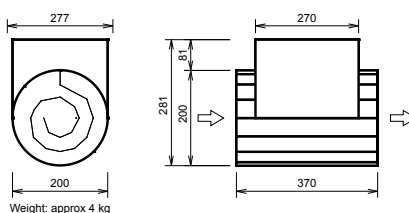
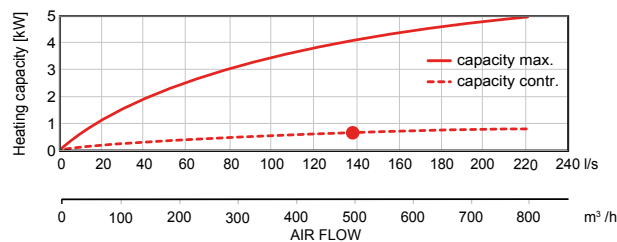
Water heating coil		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Temperature at inlet (after heat recovery)	°C	16
Temperature at outlet (downstream of heater)	°C	19
Heating capacity	kW	0.7
Heating medium temperature drop	°C	70 / 20
Medium flow (from source)	l/h	11
Medium-side pressure drop in heat exchanger / in valve	kPa	4.10 / 0.23
Connection dimension (hydraulic kit)		1" female
Coil capacity	l	0.6
Heating coil type		built-in

Note: The figures above have been measured at 500 m<sup>3</sup>/hr and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

Electric post-heater		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Temperature at inlet (upstream of heater)	°C	16
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	0.7
Max. heating capacity	kW	2
Voltage	V	230
Connection ports	mm	Ø 200
Heating coil type		external



- B Sludge valve plug 2)
  - C Sludge valve plug 2)
  - Hydraulic kit: RE-HW3.LM24A-SR
  - D Mixing valve 1)
  - E Actuator 1)
  - F Globe valve 1" female 1)
  - G Pump WILO YONOS PARA RS 20/6- RKC 1)
  - Others
  - L Water bypass 3)
- 1 - Delivered separately  
 2 - Fitted and connected  
 3 - Not part of delivery, recommended



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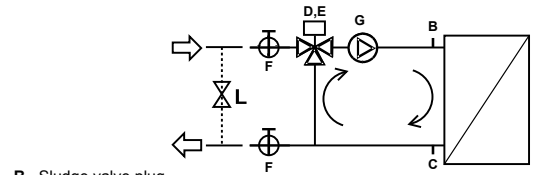
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## OPTIONAL ACCESSORIES

### POST HEATING continued

Water heating coil		Supply Air
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Temperature at inlet (after heat recovery)	°C	16
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	0.7
Heating medium temperature drop	°C	70 / 24
Medium flow (from source)	l/h	12
Medium-side pressure drop in heat exchanger / in valve	kPa	2.00 / 0.38
Connection dimension (hydraulic kit)		1" female
Coil capacity	l	0.5
Heating coil type		external

Note: The figures above have been measured at 500 m<sup>3</sup>/hr and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels



- B Sludge valve plug 2)
- C Sludge valve plug 2)

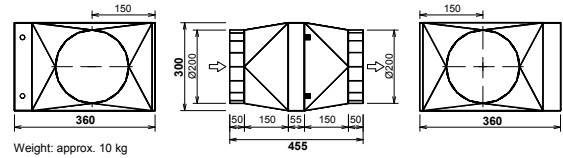
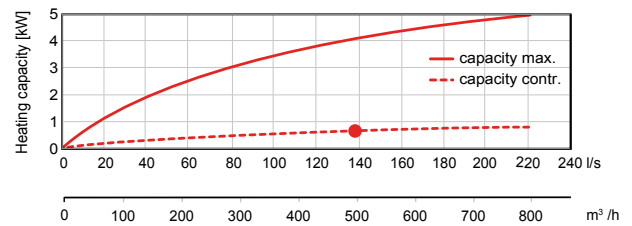
**Hydraulic kit: RE-HW3.LM24A-SR**

- D Mixing valve IVAR.MIX4, Kv 12, 1" 1)
- E Actuator LM24A-SR 1)
- F Globe valve 1" female 1)
- G Pump WILO YONOS PARA RS 20/6- RKC 1)

**Others**

- L Water bypass 3)

- 1 - Delivered separately
- 2 - Fitted and connected
- 3 - Not part of delivery, recommended

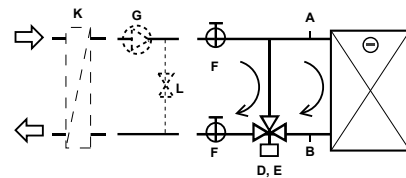


Weight: approx. 10 kg

### COOLING

Water cooling coil		Supply
Air volume @200Pa	m <sup>3</sup> /hr / l/sec	500 / 139
Temperature at inlet (after heat recovery)	°C	27
Temperature at outlet (downstream of cooling coil)	°C	16
Inlet relative humidity (after heat recovery)	% RH	46
Outlet relative humidity (downstream the cooling coil)	% RH	85
Cooling capacity	kW	2.2
Condensate production	l/h	0
Water temperature drop	°C	6 / 10
Medium flow (at max. capacity)	l/h	490
Medium-side pressure drop in heat exchanger / in valve	kPa	24.10 / 0.07
Connection dimension		1" female
Coil capacity	l	0.6
Heating coil type		built-in

Note: The figures above have been measured at 500 m<sup>3</sup>/hr and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.



- B Sludge valve plug 2)
- C Sludge valve plug 2)

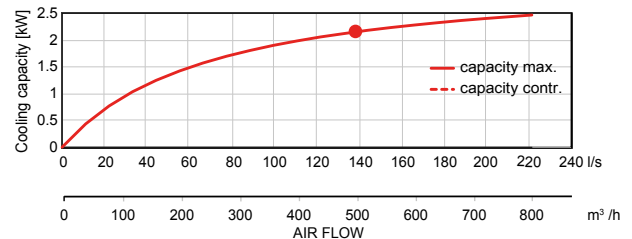
**Hydraulic kit: R-CW3.TR 24-SR**

- D 3-way ball valve R320BM, Kv 21,3/4" 1)
- E Actuator TR 24-SR 1)
- F Globe valve 1" female 1)

**Others**

- G Pump 3)
- L Water bypass 3)
- K Coil water/ethylene glycol 3)

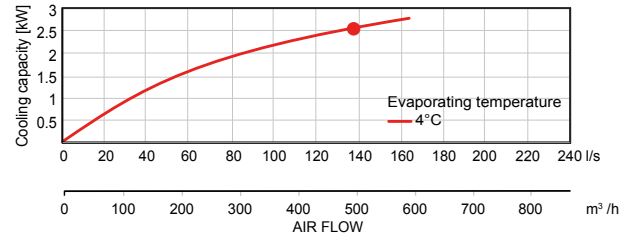
- 1 - Delivered separately
- 2 - Fitted and connected
- 3 - Not part of delivery, recommended



# DX COIL

DX coil		Supply
Air volume @200Pa	m³/hr / l/sec	500 / 139
Temperature at inlet (after heat recovery)	°C	27
Temperature at outlet (downstream of cooling coil)	°C	16
Inlet relative humidity (after heat recovery)	% RH	46
Outlet relative humidity (downstream the cooling coil)	% RH	75
Cooling capacity	kW	2.57
Condensate production	l/h	1
Refrigerant type		R32
Evaporating temperature	°C	4
Coil capacity	l	0.5
Heating coil type		built-in

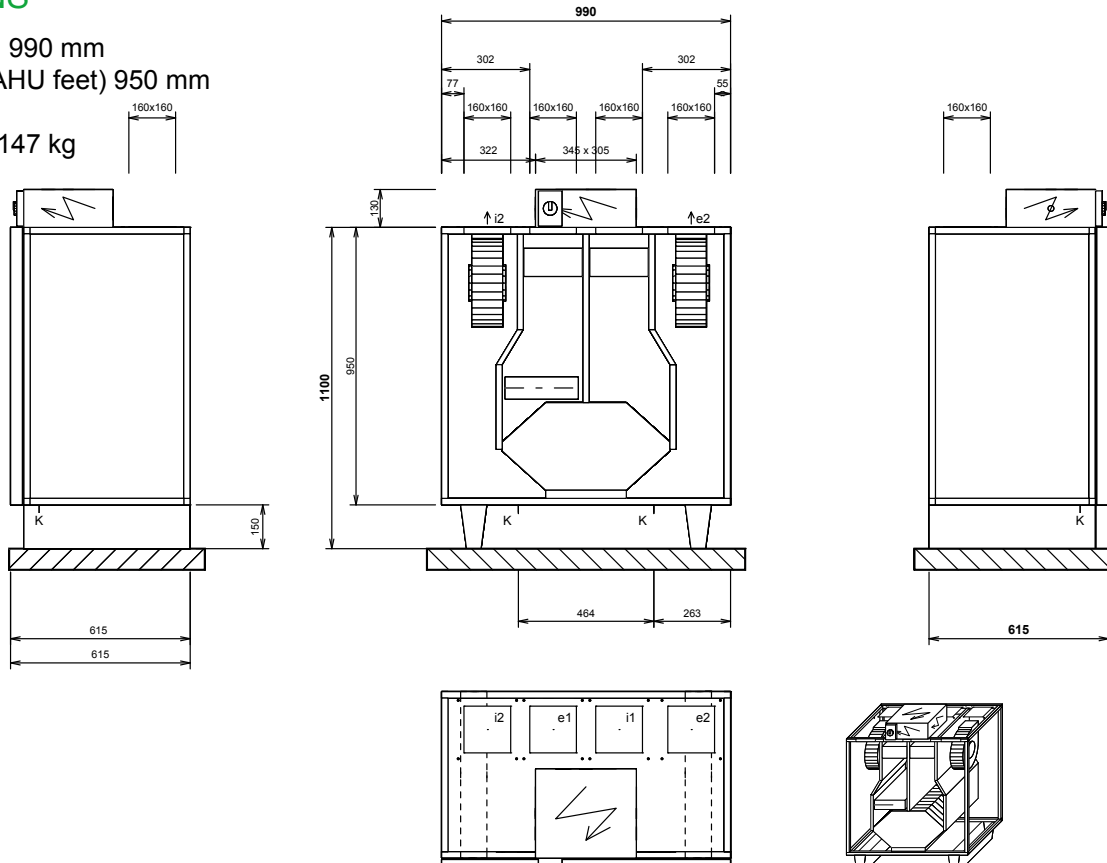
# COOLING CAPACITY



Note: The figures above have been measured at 500 m³/hr and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

# DIMENSIONS

AHU size length 990 mm  
 height (without AHU feet) 950 mm  
 depth 570 mm  
 Weight approx. 147 kg



Connections	Type	Dimensions	Optional components
e1	e1- outdoor air (ODA)	160 x 160 mm	4 x M6 thread for 20 mm flange
e2	e2- supply air (SUP)	160 x 160 mm	4 x M6 thread for 20 mm flange
i1	i1- extract air (ETA)	160 x 160 mm	4 x M6 thread for 20 mm flange
i2	i2- exhaust air (EHA)	160 x 160 mm	4 x M6 thread for 20 mm flange
K	condensate drain	2x Ø 16 mm / 22 mm	

Notice:  
 - Door – 2 parts  
 - Diagram is intended only for basic information, binding dimensions receive at device delivery, or on request from the manufacturer.  
 - Bolt holes for duct connection (for one port): 4 x M6

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