

# DUPLEXbase PT 3500

DUPLEXbase PT



## PERFORMANCE

Fans		Supply Air	Extract Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 972	3500 / 972
Nominal voltage	V	400	400
Power input (at operation point)	kW	1.15	1.14
Max power input	kW	2.5	2.5
Max current	A	4	4
SFP	W/l/s	1.182	1.177
Fan type		EC	EC

Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 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 @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 972	3500 / 972
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	%	83 / 79	
Performance in winter / summer	kW	25.2 / 5.7	
Condensation	l/h	5.4	
Type of heat exchanger		Counterflow, Plastic	
Part No.		90001429	

Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 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	60	42	46	56	56	50	41	31	<25
Supply air e2	85	56	63	80	81	79	74	68	64
Extract air i1	59	41	46	56	56	50	41	30	<25
Exhaust air i2	85	56	63	80	81	79	74	68	63
Breakout noise	72	51	55	67	66	64	65	61	49
Sound Pressure Level LpA (dB) measured at 3m	52	30	34	47	45	43	45	40	29

Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

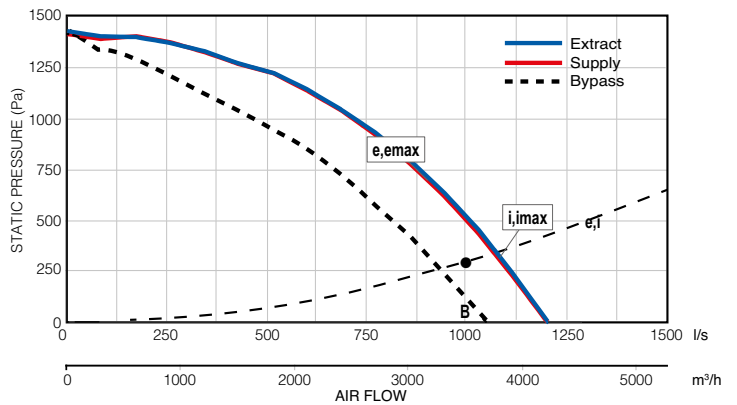
## KEY FEATURES

- Air volume up to 3500 m<sup>3</sup>/h at 300 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+

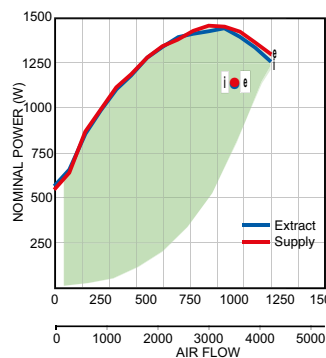
## OPTIONAL FEATURES

- 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



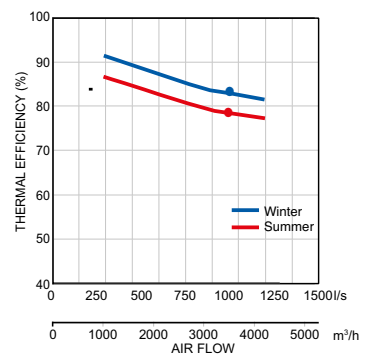
## POWER CONSUMPTION



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

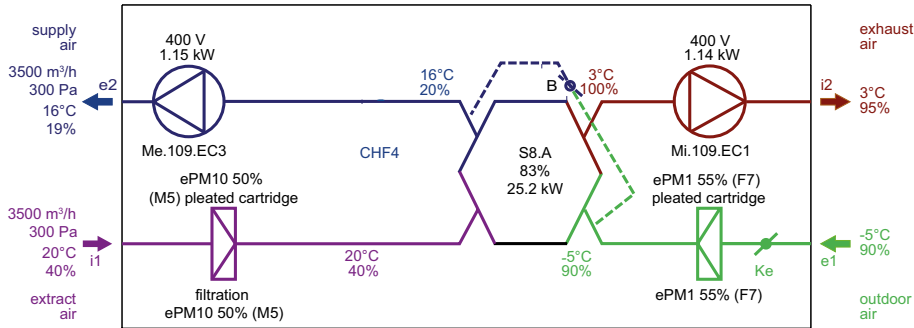
+excludes motors. Motor warranty one year from date of purchase.

## HEAT RECOVERY EFFICIENCY

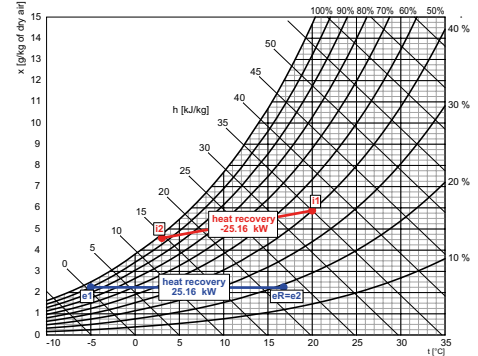


### Winter Operation:

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

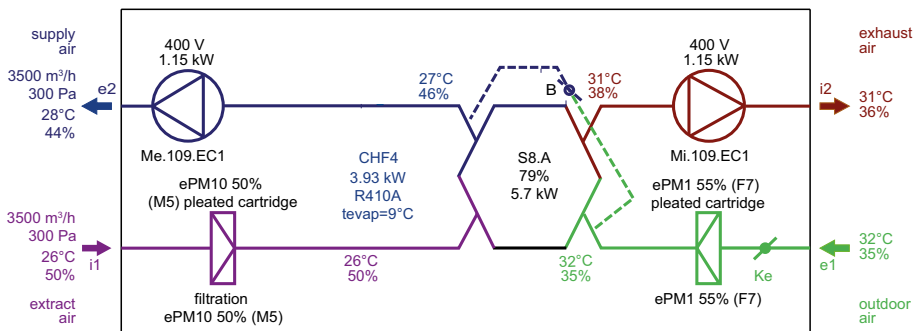
Description	t [°C]	RH [%]
e1 Outdoor Air	-5.0	90
eR Heat Recovery	16.5	19

#### Exhaust

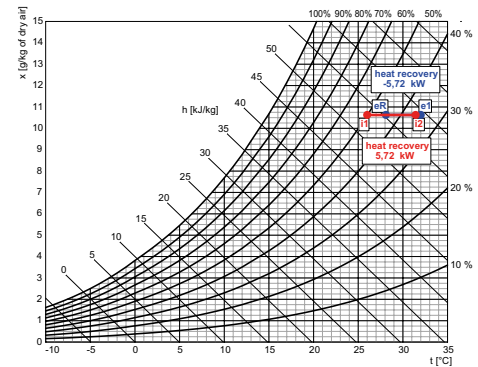
Description	t [°C]	RH [%]
i1 Extract Air	20.0	40
i2 Heat Recovery	3.3	95

### 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	28.1	44

#### Exhaust

Description	t [°C]	RH [%]
i1 Extract Air	26.0	50
i2 Heat Recovery	31.4	36

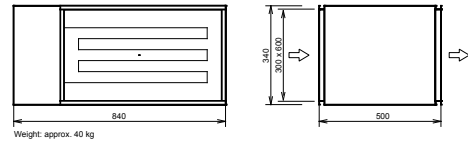
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## OPTIONAL ACCESSORIES

### PRE-HEATING

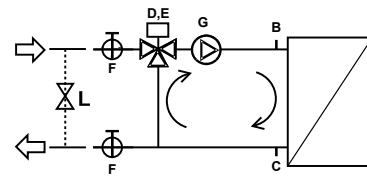
Electric pre-heater		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Max. heating capacity	kW	9.9
Voltage	V	400
Heating coil type		built-in



Electric pre-heater		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Max. heating capacity	kW	13.5
Voltage	V	400
Connection ports	mm	300 x 600
Heating coil type		external

### POST HEATING

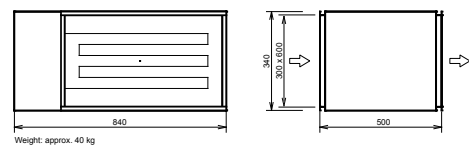
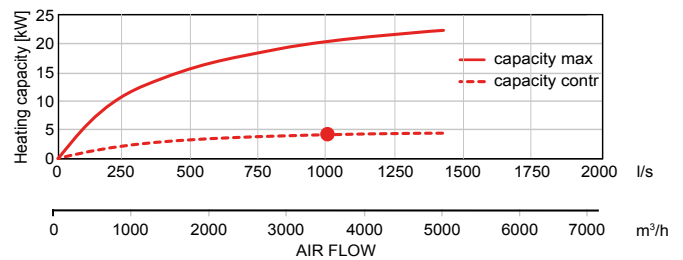
Electric post-heater		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Temperature at inlet (upstream of heater)	°C	16
Temperature at outlet (downstream of heater)	°C	19
Heating capacity	kW	4.2
Max. heating capacity	kW	9.9
Voltage	V	400
Heating coil type		built-in



Water heating coil		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Temperature at inlet (after heat recovery)	°C	16
Temperature at outlet (downstream of heater)	°C	19
Heating capacity	kW	4.1
Heating medium temperature drop	°C	70 / 19
Medium flow (from source)	l/h	70
Medium-side pressure drop in heat exchanger / in valve	kPa	4.10 / 0.58
Connection dimension (hydraulic kit)		1" female
Coil capacity	l	4.3
Heating coil type		built-in

- 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

Electric post-heater		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Temperature at inlet (upstream of heater)	°C	17
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	4.2
Max. heating capacity	kW	13.5
Voltage	V	400
Connection ports	mm	300 x 600
Heating coil type		external



Note: The figures to the left have been measured at 3500 m<sup>3</sup>/h and 300 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.



# DUPLEXbase PT 3500

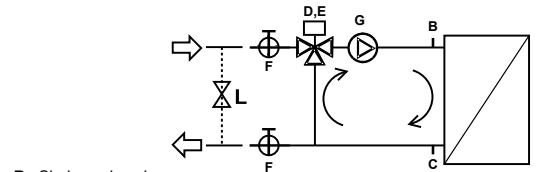
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## OPTIONAL ACCESSORIES

### POST HEATING continued

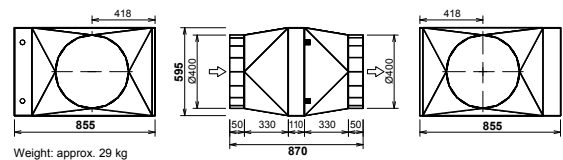
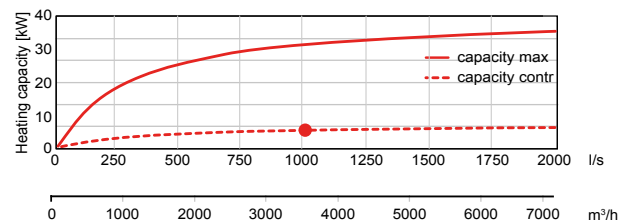
Water heating coil		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Temperature at inlet (after heat recovery)	°C	17
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	4.2
Heating medium temperature drop	°C	70 / 22
Medium flow (from source)	l/h	75
Medium-side pressure drop in heat exchanger / in valve	kPa	1.10 / 0.62
Connection dimension (hydraulic kit)		1" female
Coil capacity	l	3.5
Heating coil type		external

Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 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

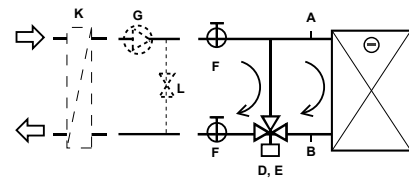


Weight: approx. 29 kg

### COOLING

Water cooling coil		Supply Air
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
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	15
Condensate production	l/h	3
Water temperature drop	°C	6 / 11
Medium flow (at max. capacity)	l/h	2540
Medium-side pressure drop in heat exchanger / in valve	kPa	38.90 / 0.69
Connection dimension		1" female
Coil capacity	l	5.5
Heating coil type		built-in

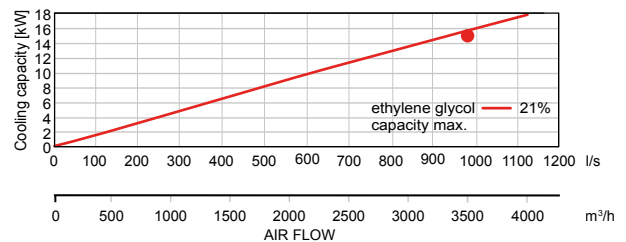
Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.



- 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)

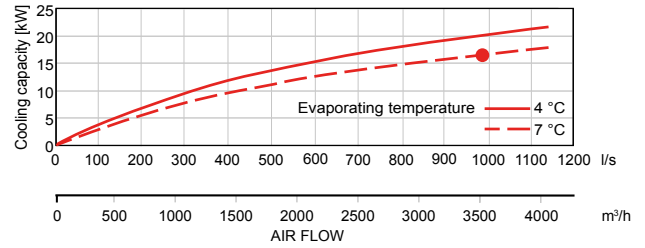
- Others
- G Pump 3)
- L Water bypass 3)
- K Coil water/ethylene glycol 3)

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



## COOLING CAPACITY

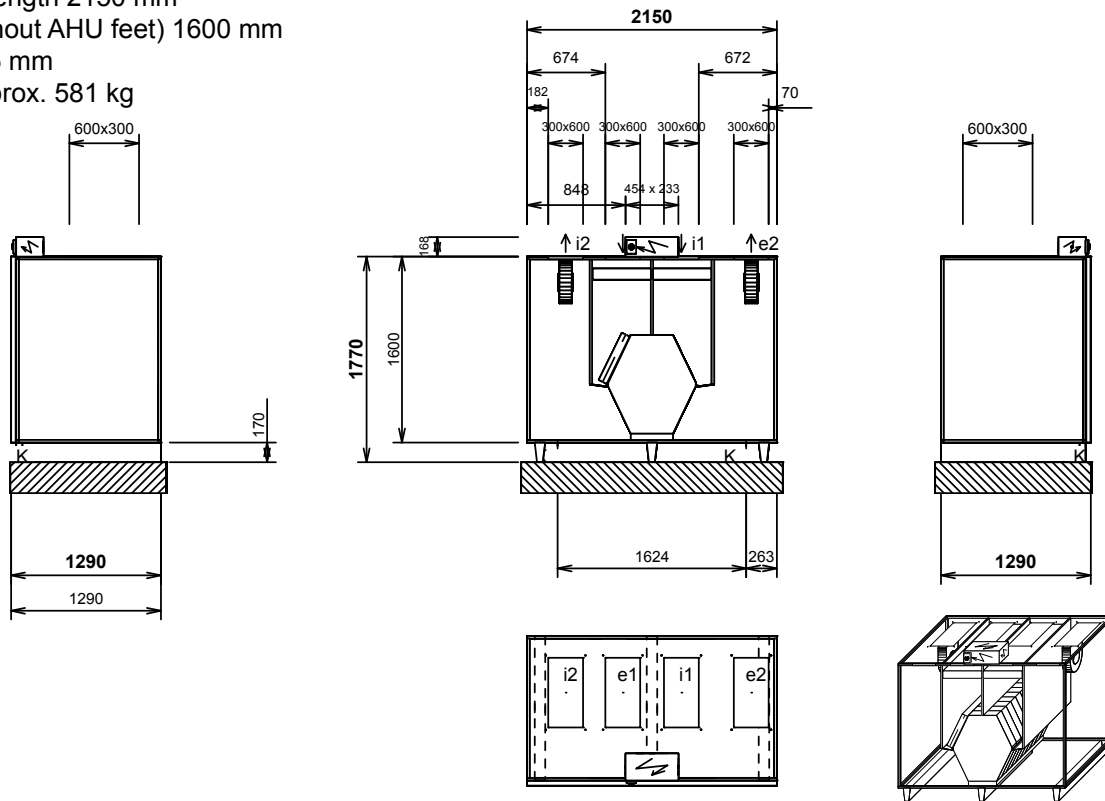
DX coil		Supply
Air volume @300Pa	m <sup>3</sup> /hr / l/sec	3500 / 778
Temperature at inlet (after heat recovery)	°C	27
Temperature at outlet (downstream of cooling coil)	°C	16
Inlet relative humidity (after heat recovery)	% RH	46
Outlet relative humidity (downstream the cooling coil)	% RH	79
Cooling capacity	kW	16.62
Condensate production	l/h	6
Refrigerant type		R32
Evaporating temperature	°C	7
Coil capacity	l	4.8
Heating coil type		built-in



Note: The figures above have been measured at 3500 m<sup>3</sup>/h and 300 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

## DIMENSIONS

AHU size length 2150 mm  
height (without AHU feet) 1600 mm  
depth 1245 mm  
Weight approx. 581 kg



Connections	Type	Dimensions	Optional components
e1	e1- outdoor air (ODA)	300 x 600 mm	4x M6 thread for 20 mm flange
e2	e2- supply air (SUP)	300 x 600 mm	4x M6 thread for 20 mm flange
i1	i1- extract air (ETA)	300 x 600 mm	4x M6 thread for 20 mm flange
i2	i2- exhaust air (EHA)	300 x 600 mm	4x 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): 4x M6

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