

DUPLEXbase PS 3500

DUPLEXbase PS



PERFORMANCE

Fans		Supply Air	Extract Air
Air volume @200Pa	m³/hr / l/sec	3500 / 972	3500 / 972
Nominal voltage	V	400	400
Power input (at operation point)	kW	1.24	0.85
Max power input	kW	2.5	0.47
Max current	A	3.8	3.8
SFP	W/l/s	1.276	0.874
Fan type		EC	EC

Note: The figures above have been measured at 3500 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	3500 / 972	3500 / 972
Temperature at inlet	°C	-5	20
Temperature at outlet	°C	17	2.0
Humidity at inlet	% RH	90	40
Humidity at outlet	% RH	19	100
Heat recovery efficiency winter / summer	%	87 / 83	
Performance in winter / summer	kW	26.4 / 6.0	
Condensation	l/h	6.2	
Type of heat exchanger		Counterflow, Plastic	
Part No.		90001590	

Note: The figures above have been measured at 3500 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	58	44	49	54	53	48	40	30	<25
Supply air e2	79	64	72	74	72	71	70	64	58
Extract air i1	62	42	51	59	57	47	41	<25	<25
Exhaust air i2	80	64	71	75	72	72	72	66	59
Breakout noise	61	46	44	57	57	51	43	35	<25
Sound Pressure Level LpA (dB) measured at 3m	40	25	<25	36	37	31	<25	<25	<25

Note: The figures above have been measured at 3500 m³/h and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.

Sound power level is calculated for simultaneous operation of both fans and measured in accordance with ISO 3744. Sound power level at connection ports is measured in accordance with ISO 5136.

KEY FEATURES

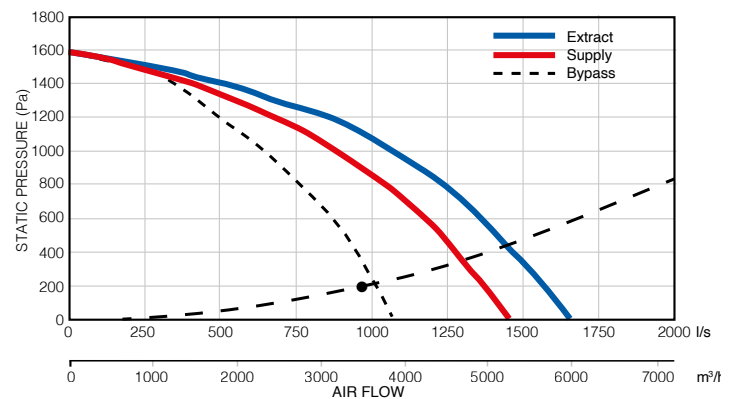
- Air volume up to 3500 m³/h (0.97 m3/s) at 200 Pa according to ErP 2018
- Excellent heat recovery efficiency up to 93%
- Compact design and high flexibility in unit orientation
- Low SFP with energy saving EC fans
- Filter access doors for easy maintenance
- Excellent thermal insulation (class T2, TB1)
- 100% adjustable digital controller with Internet and BMS connection
- BREEAM, Part L, Volume 2 and ErP 2018 compliant
- Passivhaus Institute certified
- 2 year warranty*

OPTIONAL FEATURES

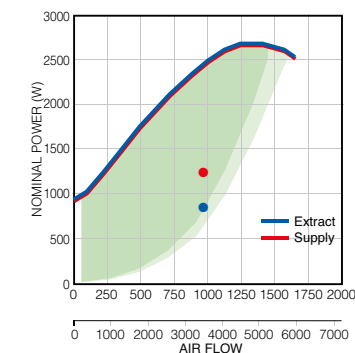
- Modulating control based on flow (constant flow function)
- Modulating control based on pressure (0-10V input)
- Pre and post-heating coils
- Cooling coils
- CO₂ monitors

More options available using our selection software.

AIR FLOW CURVE



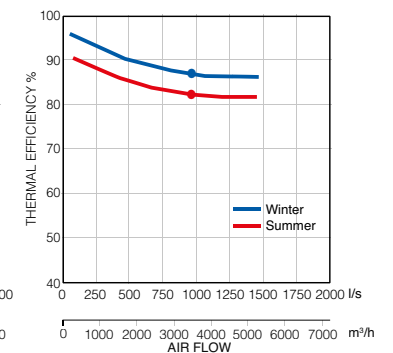
POWER CONSUMPTION



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

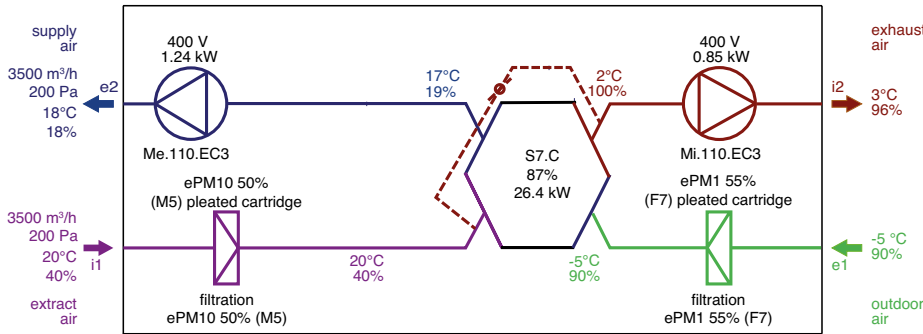
*Excludes motors. Motor warranty one year from date of purchase.

HEAT RECOVERY EFFICIENCY

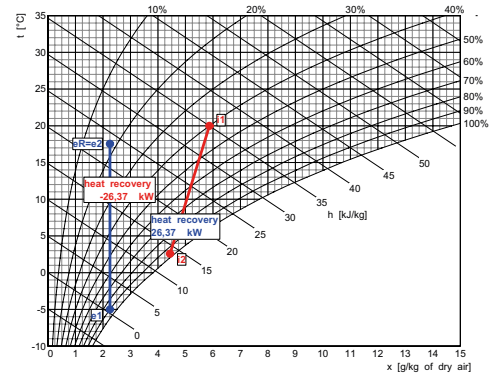


Winter Operation:

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

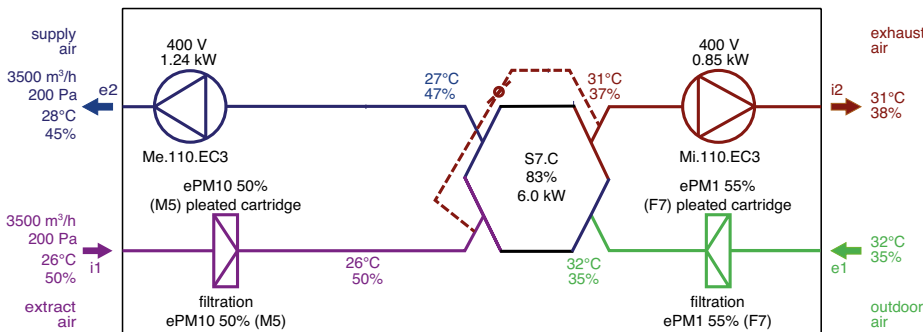
Description	t [°C]	RH [%]
e1 Outdoor Air	-5.0	90
eR Heat Recovery	17.6	18

Exhaust

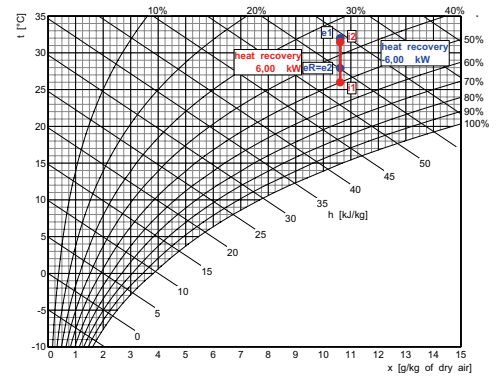
Description	t [°C]	RH [%]
i1 Extract Air	20.0	40
i2 Heat Recovery	2.6	96

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	27.9	45

Exhaust

Description	t [°C]	RH [%]
i1 Extract Air	26.0	50
i2 Heat Recovery	31.5	36

FILTERS

Filtration	Supply	Extract	Accessories (part of delivery)
Type	Pleated Cartridge		Pfe dirty filter pressure switch for supply air Pfi dirty filter pressure switch for extract air
Filtration class	ePM1 55% (F7)	ePM10 50% (M5)	
Number of filters (pcs)	1+1	1+1	
Filter cartridge size (mm)	750 x 295 x 96 750 x 405 x 96	750 x 295 x 96 750 x 405 x 96	

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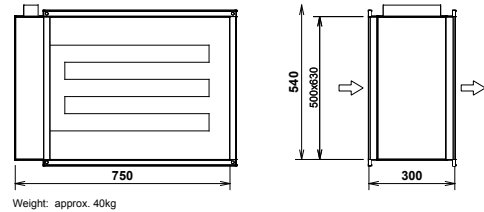
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OPTIONAL ACCESSORIES

PRE-HEATING

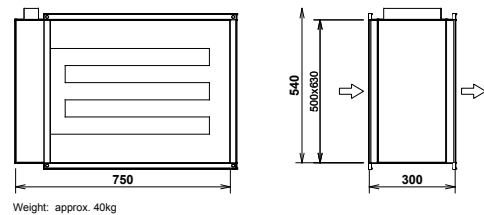
Built-in electric pre-heater		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Heating capacity	kW	3.4
Max. heating capacity	kW	9.9
Voltage	V	400
Heating coil type		built-in

External electric pre-heater		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Max. heating capacity	kW	12
Voltage	V	400
Connection ports	mm	500 x 630
Heating coil type		external

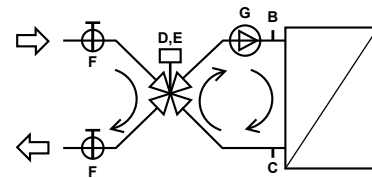


POST HEATING

Electric post-heater		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Temperature at inlet (upstream of heater)	°C	18
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	2.9
Max. heating capacity	kW	12
Voltage	V	400
Heating coil type		external



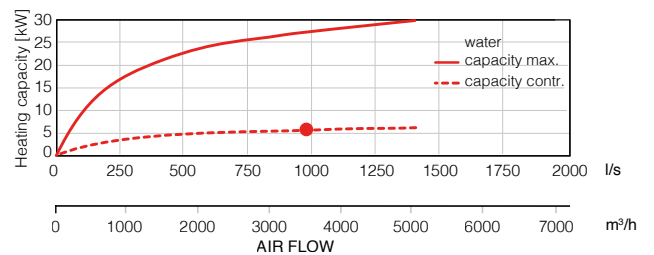
Water heating coil		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Temperature at inlet (after heat recovery)	°C	18
Temperature at outlet (downstream of heater)	°C	20
Heating capacity	kW	2.8
Heating medium temperature drop	°C	70 / 50
Medium flow (from source)	l/h	122
Medium-side pressure drop in heat exchanger / in valve	kPa	2.60 / 0.34
Connection dimension (hydraulic kit)		1" female
Coil capacity	l	2.7
Heating coil type		external



Accessories (part of delivery)

B sludge valve	plug	2)
C sludge valve	plug	2)
Hydraulic kit: RE-HW4.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)

1 – delivered separately
2 – fitted and connected



Note: The figures above have been measured at 3500 m³/h and 200 Pa. Please use the Duplexvent Selection Software to calculate measurements at other performance levels.



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OPTIONAL ACCESSORIES

COOLING

Water cooling coil		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Temperature at inlet (after heat recovery)	°C	28
Temperature at outlet (downstream of cooling coil)	°C	17
Inlet relative humidity (after heat recovery)	% RH	44
Outlet relative humidity (downstream the cooling coil)	% RH	82
Cooling capacity	kW	14.4
Condensate production	l/h	2.0
Water temperature drop	°C	6 / 14
Medium flow (at max. capacity)	l/h	1740
Medium-side pressure drop in heat exchanger / in valve	kPa	31.10 / 0.32
Connection dimension		1" female
Coil capacity	l	5.0
Heating coil type		external

Accessories (part of delivery)

- A sludge valve plug 2)
- B sludge valve plug 2)

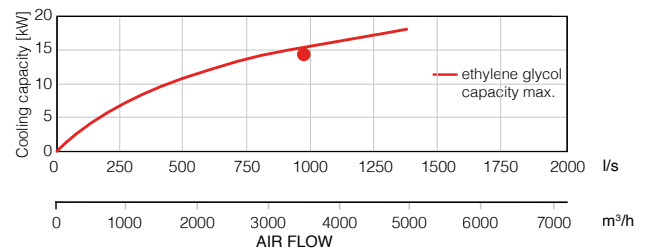
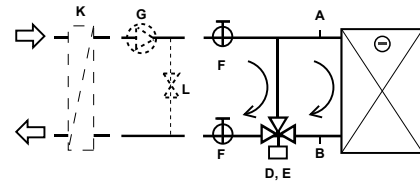
Hydraulic kit: R-CW3. TR 24-SR

- D 3-way ball valve R30BM, Kv 21, ¾" 1)
- E actuator TR24-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

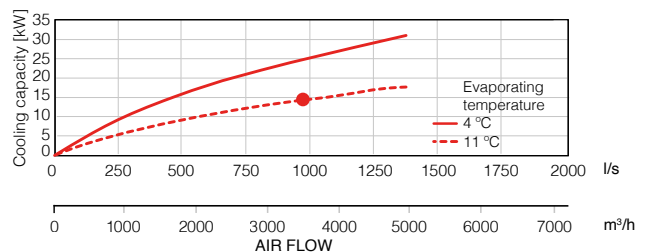
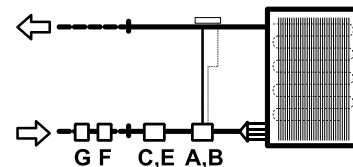


DX cooling coil		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Temperature at inlet (after heat recovery)	°C	28
Temperature at outlet (downstream of cooling coil)	°C	17
Inlet relative humidity (after heat recovery)	% RH	44
Outlet relative humidity (downstream the cooling coil)	% RH	82
Cooling capacity	kW	14.34
Condensate production	l/h	3.0
Refrigerant type		R32
Evaporating temperature	°C	11
Coil capacity	l	5.5
Heating coil type		external

Accessories (part of delivery)

- A expansion valve 3)
- B nozzle 3)
- C magnetic valve 3)
- E coil 3)
- F sight glass 3)
- G drier 3)

3 – not part of delivery



Design data condensing AHU		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Refrigerant type		R32
Evaporating temperature	°C	11
Outdoor temperature	°C	32
Cooling capacity	kW	14.34
Required min. outdoor temperature	°C	10



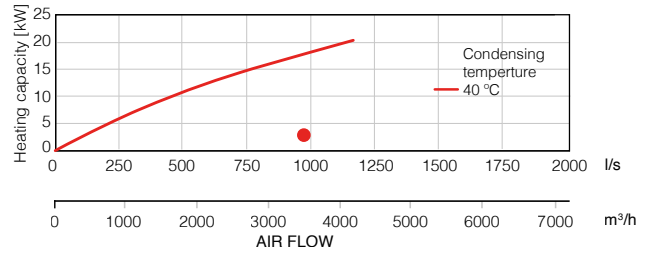
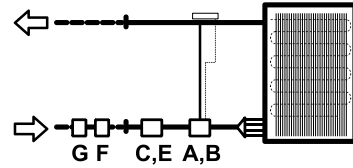
HEAT PUMP CALCULATION

DX coil in heating mode		Supply Air
Volume flow	m ³ /h	3500 / 972
Inlet temp. (after heat recovery)	°C	16
Outlet temp. (downstr. Of heater)	°C	20
Heating capacity	kW	2.78

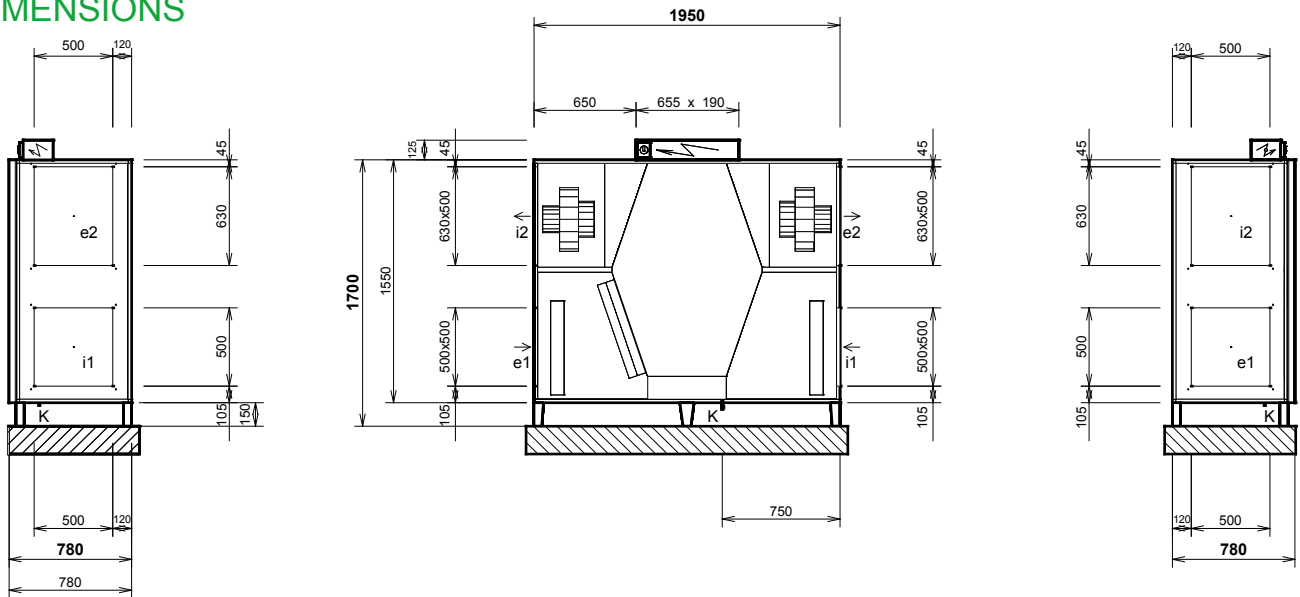
Design data for condensing AHU		Supply Air
Air volume @200Pa	m ³ /hr / l/sec	3500 / 972
Refrigerant type		R32
Condensing temperature	°C	40
Outdoor temperature	°C	-5
Heating capacity	kW	2.78
Required min. outdoor temperature	°C	-5

Accessories (part of delivery)

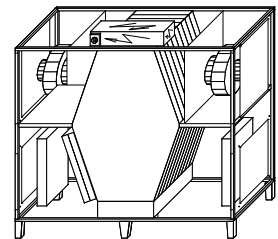
- A expansion valve 3)
 - B nozzle 3)
 - C magnetic valve 3)
 - E coil 3)
 - F sight glass 3)
 - G drier 3)
- 3 – not part of delivery



DIMENSIONS



Versatile position (floor-standing)
Weight: approx. 343 kg



Connections	Type	Dimensions	Optional components
e1	e1- outdoor air (ODA)	500 x 500 mm	4 x M6 thread for 20 mm flange
e2	e2- supply air (SUP)	630 x 500 mm	4 x M6 thread for 20 mm flange
i1	i1- extract air (ETA)	500 x 500 mm	4 x M6 thread for 20 mm flange
i2	i2- exhaust air (EHA)	630 x 500 mm	4 x M6 thread for 20 mm flange
K	condensate drain	Ø 32 mm / 40 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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