

Project data																
Project																
Handled by																
Additional info																
Unit code	Size	qT m3/h	qP m3/h	Heat recovery section			Coils			Sounds				Electric motor		Spec. input power Clean filter
				Heat recovery	etaTs %	etaT %	v m/s	qLP l/s	qJP l/s	qLTO l/s	LWP dB(A)	LWI dB(A)	PN kW	IN A	SFPv kW/(m³/s)	SFP kW/(m³/s)
1: PN-1	5F	30000		LR	79.5	79.5	2.77	1.14	8.33		81	78	18.5	36.5	2.12	
1: PN-1	5F		30000	LR							94	77	15.0	28.4	1.74	3.86
2: PN-2	5F	30000		LR	79.5	79.5	2.77	1.14	8.33		81	78	18.5	36.5	2.12	
2: PN-2	5F		30000	LR							94	77	15.0	28.4	1.74	3.86
3: PN-3	2C	5000		LG	78.0		2.39	0.20		0.51	83	73	3.00	5.86	1.92	
3: PN-3	2C		5200	LG			2.56			0.51	88	74	3.00	5.86	2.13	3.98
4: PN-4	4C	11500		LR	77.7	77.7	2.75		3.00		87	68	5.50	10.9	1.46	
4: PN-4	4C		11500	LR							86	70	4.00	8.13	1.26	2.73
5: PN-5	3C	6800		LR	76.6	77.3	2.60	0.29			80	67	3.00	6.18	1.29	
5: PN-5	3C		6800	LR							84	67	2.20	4.65	1.16	2.45
6: PN-6	2B	4200		LG	70.0		2.70	0.23		0.44	87	69	3.00	5.86	2.48	
6: PN-6	2B		3800	LG			2.51			0.44	86	71	2.20	4.48	2.41	4.66
7: PN-7	2B	4300		LG	67.0		2.76	0.26		0.50	88	70	3.00	5.86	2.66	
7: PN-7	2B		4200	LG			2.78			0.50	87	72	3.00	5.86	2.70	5.30
8: U-1	3C	6600					2.53	1.16			81	77	3.00	5.90	1.53	
9: P-12	3C	3300					1.26	0.58			76	72	1.50	3.31	1.58	
10: P-10	4B	9200					2.96	1.70			87	81	5.50	10.7	2.29	
11: P-11	4B	9200					2.96	1.70			87	81	5.50	10.7	2.29	
12: P-3	2B	3600					2.31	0.67			77	71	1.50	3.17	1.67	
13: P-5	2C	5600									89	78	3.00	5.90	1.32	
14: N-3	2A		2000								81	67	0.75	1.86	1.66	1.66
15: N-7	2A		2000								81	67	0.75	1.86	1.66	1.66
16: N-8	2A		1800								79	65	0.75	1.86	1.35	1.35
17: N-9	2A		1800								79	65	0.75	1.86	1.35	1.35
18: N-6	2B		3400								80	71	1.10	2.52	1.29	1.29

Project data																	
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Additional info																	
Unit code	Size	qT	qP	Heat recovery section			Coils		Sounds					Electric motor		Spec. input power	
				Heat recovery	etaTs	etaT	v	qLP	qJP	qLTO	LWP	LWI	PN	IN	SFPv	SFP	
		m3/h	m3/h		%	%	m/s	l/s	l/s	l/s	dB(A)	dB(A)	kW	A	kW/(m³/s)	kW/(m³/s)	
Total		129300	102500										123.0				

Total electric supply, clean filters 119.35 kW

Common SFP figure of units, clean filters 3.32 kW/(m³/s)

Abbreviations used:		Unit
qT	Supply air flow	m³/h
qP	Exhaust air flow	m³/h
LL	Plate-type exchanger heat recovery	
LG	Water-glycol heat recovery	
LR	Rotor heat recovery	
etaTs	Entering air temperature efficiency with even air flows	%
etaT	Entering air temperature efficiency with designed air flows	%
v	Coil face velocity	m/s
qLP	Water flow of heating coil	l/s

Abbreviations used:		Unit
qJP	Water flow of cooling coil	l/s
qLTO	Fluid flow of heat recovery coil	l/s
LWP	Sound power level at unit's pressure side	dB(A)
LWI	Sound power level at unit's suction side	dB(A)
PN	Fan motor's nominal capacity	kW
IN	Fan motor's nominal current (3~400V)	A
SFPv	Single unit's nominal input power, clean filter	kW/(m³/s)
SFP	Supply-exhaust unit's nominal input power, clean filter	kW/(m³/s)

Unit: PN-1

## Project data

Handled by

**Unit : 1** PN-1

## Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 5F		Recair 5F	
Air flow	30000	m3/h	30000	m3/h
External static pressure of the unit	750	Pa	750	Pa
Motor power	18.50	kW	14.70	kW
Coil face velocity	2.8	m/s		
Face velocity of the unit	2.6	m/s	2.6	m/s
SFP, specific fan power	3.86	kW/(m³/s)		
SFPint	0.93	kW/(m³/s)	401 / 323	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

### Supply unit

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		75	84	78	80	76	71	57	45	dB	81 dB(A)
Suction side of the unit		74	88	76	76	73	65	53	44	dB	78 dB(A)
Through the casing		73	76	67	66	67	66	54	42	dB	72 dB(A)

### Exhaust unit

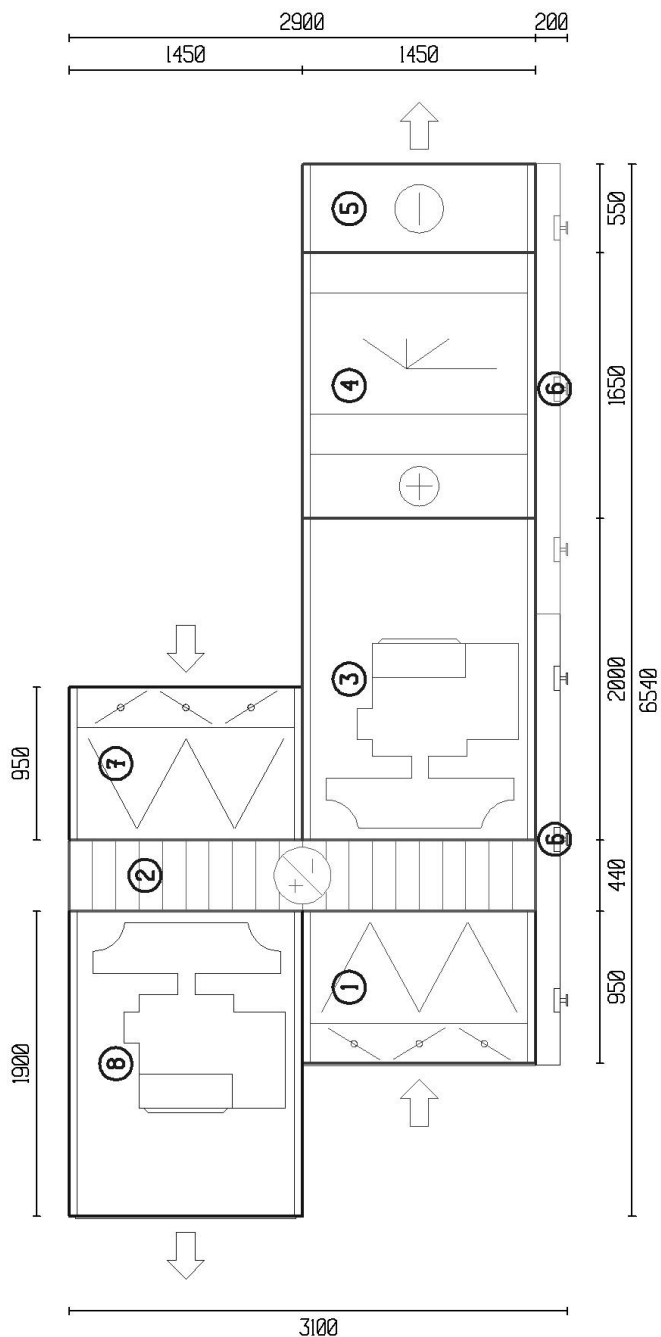
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		75	87	85	87	87	89	85	82	dB	94 dB(A)
Suction side of the unit		69	84	77	74	71	67	53	48	dB	77 dB(A)
Through the casing		68	75	67	66	67	70	56	47	dB	73 dB(A)

Unit: PN-1  
Unit code PN-1  
Unit size 5F  
Supply air flow 30000 m<sup>3</sup>/h  
Exhaust air flow 30000 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 3729 kg  
Additional info  
Duct connections supplied with connection flange

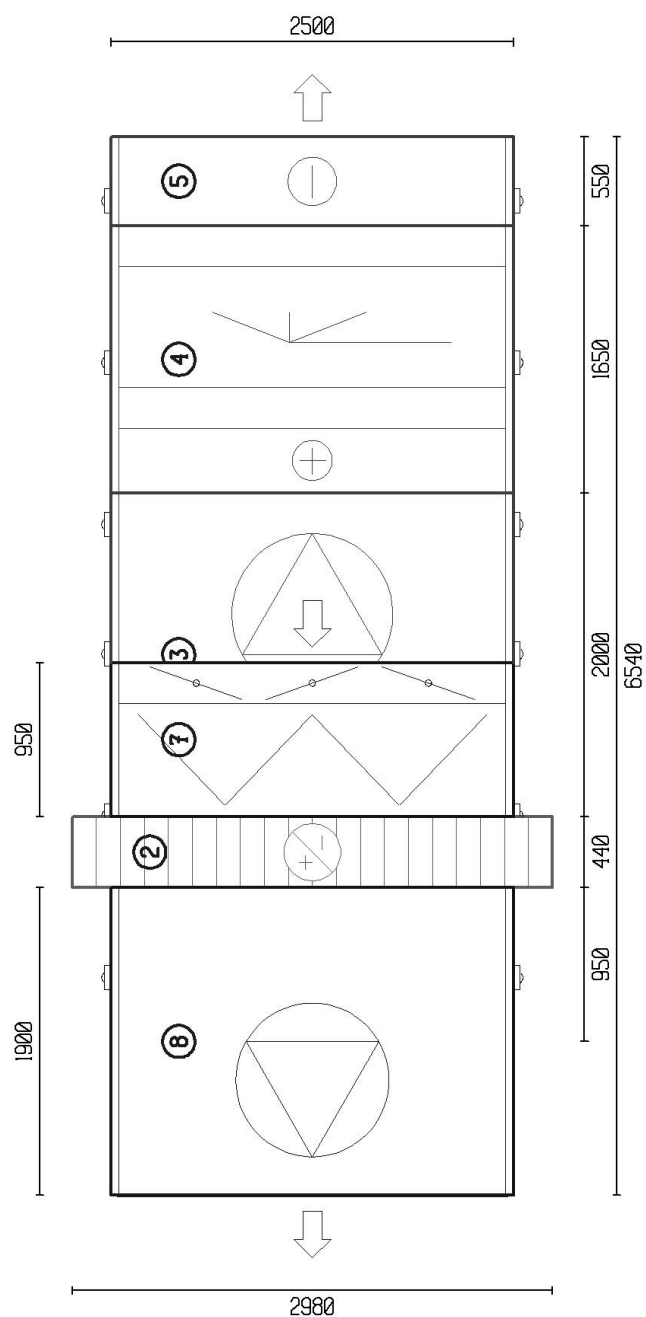
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-1

## Unit sections and technical data

### Supply unit

#### ① CASING 5F L=950

Dimensions (width x height x length)	2500 x 1450 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	314	kg

#### DAMPER SECTION 5F L=250

Tightness class	Leakage class 4	
Pressure loss	14	Pa
Torque demand	17	Nm

#### FILTER SECTION 5F L=700

Filter class	F7	
Initial pressure loss	143	Pa
Calculation pressure loss	214	Pa
Final pressure loss	286	Pa
Filter quantity and size	8x[592x592]	
Spare filter set	1	pc

#### ② ROTARY HEAT EXCHANGER SECTION 5F D=2720 SECTORIZED

Enventus				
Sorption rotor				
Dimensions (width x height x length)	2980 x 2900 x 440		mm	
Weight	760		kg	
Electric supply (max)	230V/1-v/50Hz / 400		W	
External pre fuse	6.3		A	
Control signal	0-10		V	
Air flow	Supply 30000	m3/h	Exhaust 30000	m3/h
Pressure loss	258	Pa	258	Pa
Heating capacity	482.2	kW		
Supply air temperature efficiency	80	%		
Supply air humidity efficiency	82	%		
Entering air: temperature / humidity	-20.7 °C / 60	%	22.0 °C / 40	%
Leaving air: temperature / humidity	13.2 °C / 58	%	-11.9 °C / 99	%
Air absolute humidity, entering/leaving	0.44 / 5.53	g/kg	6.74 / 1.51	g/kg
Rotor is supplied with purge sector				
Switch and cable for light				

#### ③ CASING 5F L=2000

Dimensions (width x height x length)	2500 x 1450 x 2000	mm
Weight, includes the weight of the casing and parts inside the casing	798	kg

#### FAN SECTION 5F 900 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166				
Manufacturer	Ziehl			
Blade type/diameter	Backward curved / D900			
Air flow	30000		m3/h	
Connection type	To a chamber			
Fan total pressure	1541		Pa	
Fan efficiency	77		%	
Electrical total efficiency	69		%	
Motor speed	1240		1/min	
Maximum speed of revolution	1300		1/min	
Fan shaft power	16.61		kW	
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1446 Pa / 789.0			

#### DIRECT DRIVEN FAN ER90C

Voltage	400V/3-v/50Hz			
Motor shaft power	16.61		kW	
Nominal capacity	18.50		kW	
Nominal current	36.50		A	
Nominal speed (50 Hz)	970		1/min	

Unit: PN-1

Efficiency	90	%
Motor input power in working point	18.50	kW
Motor frequency in the working point	64	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		
<b>Light IP 44</b>		
<b>Switch and cable for light</b>		
<b>Air flow meter, analog</b>		

#### ④ CASING 5F L=1650

Dimensions (width x height x length)	2500 x 1450 x 1650	mm
Weight, includes the weight of the casing and parts inside the casing	624	kg

##### LG-5F-01-S

Air flow	30000	m3/h
Heating capacity	87.5	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 27	Pa
Air temperature, entering / leaving	13.2 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	1.14 l/s / 1.15 m/s / 10.7	kPa
Fluid volume	11	l
Tube connections, flange	DN32	

##### SERVICE SECTION 5F L=250

Pressure loss	0	Pa
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##### HUMIDIFIER SECTION 5F-85

Pump circuit		
Air flow	30000	m3/h
Voltage	230V/1-v/50Hz	
Humidification efficiency	85	%
Pressure loss	112	Pa
Leaving air	73 % / 8.9	°C
Water consumption including adjusted overflow	7.7	l/min
Space for drop eliminator		

##### SERVICE SECTION 5F L=250

Pressure loss	0	Pa
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#### ⑤ CASING 5F L=550

Dimensions (width x height x length)	2500 x 1450 x 550	mm
Weight, includes the weight of the casing and parts inside the casing	210	kg

##### COOLING SECTION, WATER 5F Z=4

Air flow	30000	m3/h
Cooling capacity	158.0	kW
Row number / fin spacing	4 / 2.5	mm
Face velocity / Pressure loss	2.8 m/s / 83	Pa
Entering air: temperature / humidity / enthalpy	27.0 °C / 60 % / 62.3	kJ/kg
Leaving air: temperature / humidity / enthalpy	18.0 °C / 84 % / 45.6	kJ/kg
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	7 / 12	°C
Fluid flow / fluid velocity / pressure loss	8.33 l/s / 1.94 m/s / 39.0	kPa
Fluid volume	59	l
Tube connections, flange	DN100	
Space for drop eliminator		

Unit: PN-1

## Exhaust unit

### ⑦ CASING 5F L=950

Dimensions (width x height x length)	2500 x 1450 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	314	kg

### DAMPER SECTION 5F L=250

Tightness class	Leakage class 4	
Pressure loss	14	Pa
Torque demand	17	Nm

### FILTER SECTION 5F L=700

Filter class	F5	
Initial pressure loss	65	Pa
Calculation pressure loss	97	Pa
Final pressure loss	130	Pa
Filter quantity and size	8x[592x592]	
Spare filter set	1	pc

### ② ROTARY HEAT EXCHANGER SECTION 5F D=2720 SECTORIZED

The results are shown with the supply air unit

### ⑧ CASING 5F L=1900

Dimensions (width x height x length)	2500 x 1450 x 1900	mm
Weight, includes the weight of the casing and parts inside the casing	631	kg

### FAN SECTION 5F 800 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D800	
Air flow	30000	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1251	Pa
Fan efficiency	78	%
Electrical total efficiency	71	%
Motor speed	1425	1/min
Maximum speed of revolution	1485	1/min
Fan shaft power	13.39	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2341 Pa / 620.0	

### DIRECT DRIVEN FAN ER80C

Voltage	400V/3-v/50Hz	
Motor shaft power	13.39	kW
Nominal capacity	15.00	kW
Nominal current	28.40	A
Nominal speed (50 Hz)	1470	1/min
Efficiency	91	%
Motor input power in working point	14.70	kW
Motor frequency in the working point	48	Hz
Motor maximum frequency	51	Hz
Inspection window as standard		

### Light IP 44

### Switch and cable for light

### Air flow meter, analog

### ⑥ UNIT BASE 4F-8F L=2800 B=2500 H=200

Adjustable feets with synthetic rubber pad		
Number of similar unit bases.	2	pc
Weight	39	kg

Unit: PN-2

**Unit : 2**

PN-2

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 5F		Recair 5F	
Air flow	30000	m3/h	30000	m3/h
External static pressure of the unit	750	Pa	750	Pa
Motor power	18.50	kW	14.70	kW
Coil face velocity	2.8	m/s		
Face velocity of the unit	2.6	m/s	2.6	m/s
SFP, specific fan power	3.86	kW/(m³/s)		
SFPint	0.93	kW/(m³/s)	401 / 323	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		75	84	78	80	76	71	57	45	dB	81 dB(A)
Suction side of the unit		74	88	76	76	73	65	53	44	dB	78 dB(A)
Through the casing		73	76	67	66	67	66	54	42	dB	72 dB(A)

**Exhaust unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		75	87	85	87	87	89	85	82	dB	94 dB(A)
Suction side of the unit		69	84	77	74	71	67	53	48	dB	77 dB(A)
Through the casing		68	75	67	66	67	70	56	47	dB	73 dB(A)



Unit: PN-2

Unit code

PN-2

Unit size

5F

Supply air flow

30000

m3/h

Exhaust air flow

30000

m3/h

Tot. (dry) weight of the unit

3729

kg

Additional info

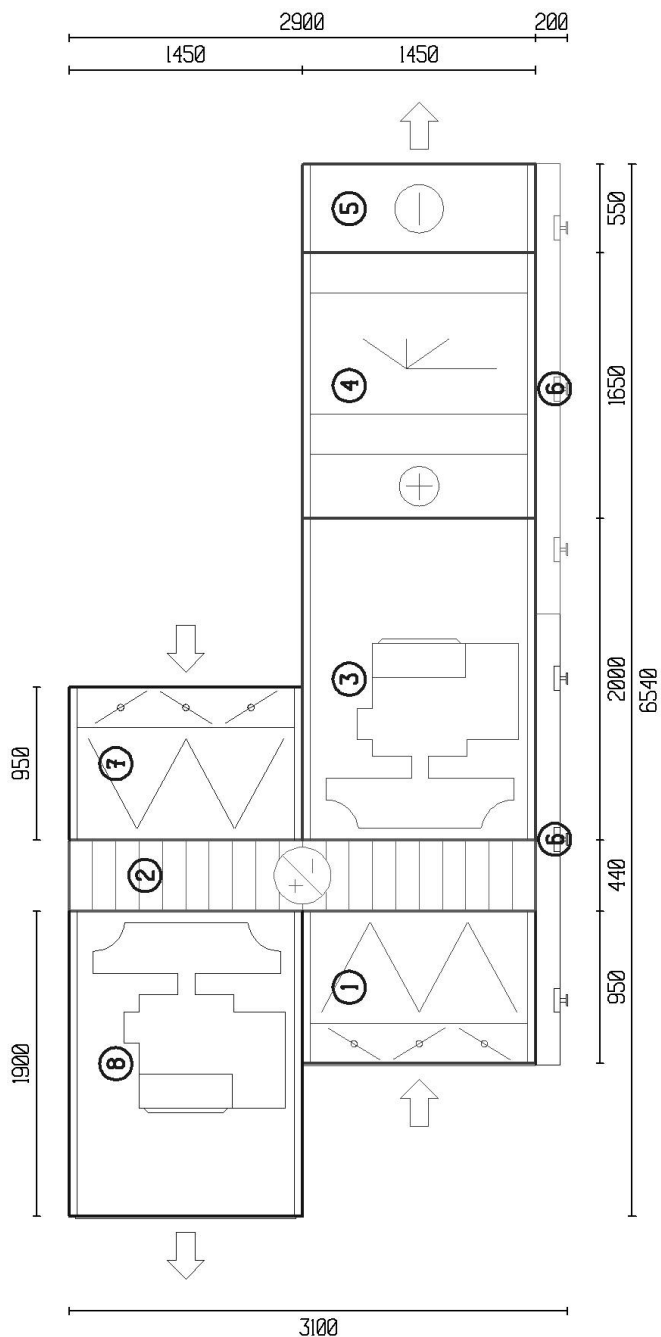
Duct connections supplied with connection flange

Handled by

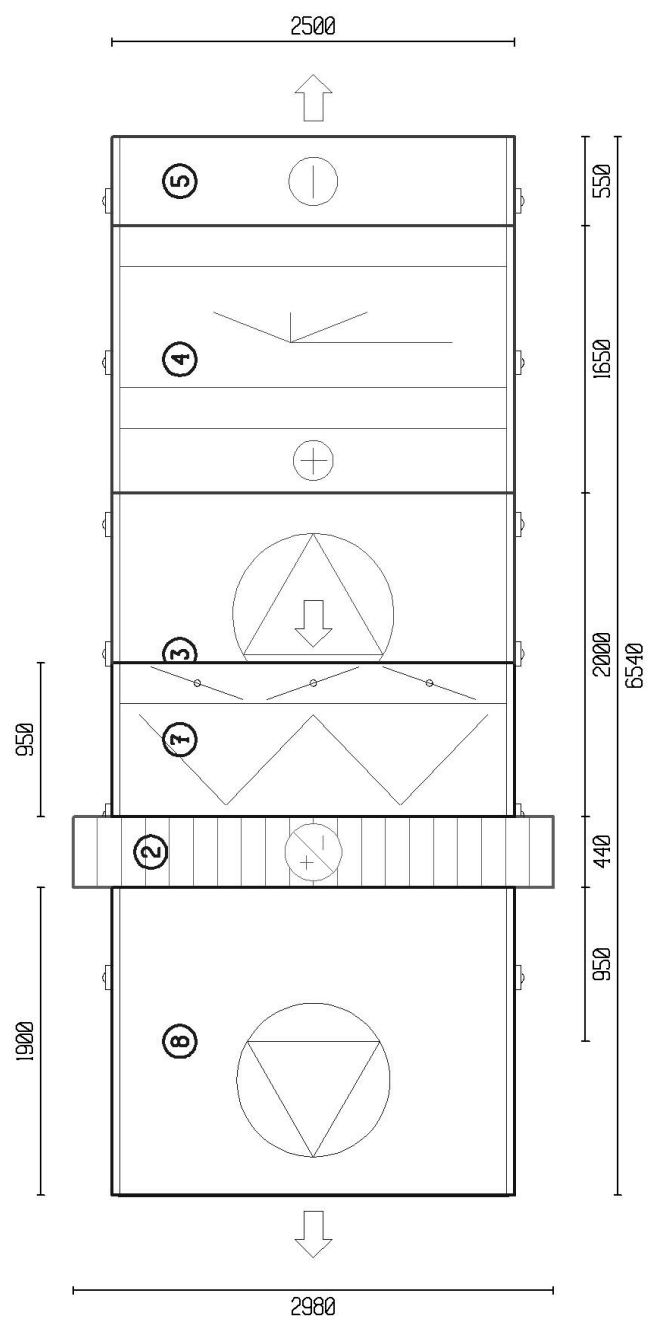
Scale

No scale

### From the service side



### Top view



Unit: PN-2

## Unit sections and technical data

### Supply unit

#### ① CASING 5F L=950

Dimensions (width x height x length)	2500 x 1450 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	314	kg

#### DAMPER SECTION 5F L=250

Tightness class	Leakage class 4	
Pressure loss	14	Pa
Torque demand	17	Nm

#### FILTER SECTION 5F L=700

Filter class	F7	
Initial pressure loss	143	Pa
Calculation pressure loss	214	Pa
Final pressure loss	286	Pa
Filter quantity and size	8x[592x592]	
Spare filter set	1	pc

#### ② ROTARY HEAT EXCHANGER SECTION 5F D=2720 SECTORIZED

Enventus				
Sorption rotor				
Dimensions (width x height x length)	2980 x 2900 x 440	mm		
Weight	760	kg		
Electric supply (max)	230V/1-v/50Hz / 400	W		
External pre fuse	6.3	A		
Control signal	0-10	V		
Air flow	Supply 30000	m3/h	Exhaust 30000	m3/h
Pressure loss	258	Pa	258	Pa
Heating capacity	482.2	kW		
Supply air temperature efficiency	80	%		
Supply air humidity efficiency	82	%		
Entering air: temperature / humidity	-20.7 °C / 60	%	22.0 °C / 40	%
Leaving air: temperature / humidity	13.2 °C / 58	%	-11.9 °C / 99	%
Air absolute humidity, entering/leaving	0.44 / 5.53	g/kg	6.74 / 1.51	g/kg
Rotor is supplied with purge sector				
Switch and cable for light				

#### ③ CASING 5F L=2000

Dimensions (width x height x length)	2500 x 1450 x 2000	mm
Weight, includes the weight of the casing and parts inside the casing	798	kg

#### FAN SECTION 5F 900 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D900	
Air flow	30000	m3/h
Connection type	To a chamber	
Fan total pressure	1541	Pa
Fan efficiency	77	%
Electrical total efficiency	69	%
Motor speed	1240	1/min
Maximum speed of revolution	1300	1/min
Fan shaft power	16.61	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1446 Pa / 789.0	

#### DIRECT DRIVEN FAN ER90C

Voltage	400V/3-v/50Hz	
Motor shaft power	16.61	kW
Nominal capacity	18.50	kW
Nominal current	36.50	A
Nominal speed (50 Hz)	970	1/min

Unit: PN-2

Efficiency	90	%
Motor input power in working point	18.50	kW
Motor frequency in the working point	64	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		
<b>Light IP 44</b>		
<b>Switch and cable for light</b>		
<b>Air flow meter, analog</b>		

#### ④ CASING 5F L=1650

Dimensions (width x height x length)	2500 x 1450 x 1650	mm
Weight, includes the weight of the casing and parts inside the casing	624	kg

##### LG-5F-01-S

Air flow	30000	m3/h
Heating capacity	87.5	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 27	Pa
Air temperature, entering / leaving	13.2 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	1.14 l/s / 1.15 m/s / 10.7	kPa
Fluid volume	11	l
Tube connections, flange	DN32	

##### SERVICE SECTION 5F L=250

Pressure loss	0	Pa
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##### HUMIDIFIER SECTION 5F-85

Pump circuit		
Air flow	30000	m3/h
Voltage	230V/1-v/50Hz	
Humidification efficiency	85	%
Pressure loss	112	Pa
Leaving air	73 % / 8.9	°C
Water consumption including adjusted overflow	7.7	l/min
Space for drop eliminator		

##### SERVICE SECTION 5F L=250

Pressure loss	0	Pa
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#### ⑤ CASING 5F L=550

Dimensions (width x height x length)	2500 x 1450 x 550	mm
Weight, includes the weight of the casing and parts inside the casing	210	kg

##### COOLING SECTION, WATER 5F Z=4

Air flow	30000	m3/h
Cooling capacity	158.0	kW
Row number / fin spacing	4 / 2.5	mm
Face velocity / Pressure loss	2.8 m/s / 83	Pa
Entering air: temperature / humidity / enthalpy	27.0 °C / 60 % / 62.3	kJ/kg
Leaving air: temperature / humidity / enthalpy	18.0 °C / 84 % / 45.6	kJ/kg
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	7 / 12	°C
Fluid flow / fluid velocity / pressure loss	8.33 l/s / 1.94 m/s / 39.0	kPa
Fluid volume	59	l
Tube connections, flange	DN100	
Space for drop eliminator		

Unit: PN-2

## Exhaust unit

### ⑦ CASING 5F L=950

Dimensions (width x height x length)	2500 x 1450 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	314	kg

### DAMPER SECTION 5F L=250

Tightness class	Leakage class 4	
Pressure loss	14	Pa
Torque demand	17	Nm

### FILTER SECTION 5F L=700

Filter class	F5	
Initial pressure loss	65	Pa
Calculation pressure loss	97	Pa
Final pressure loss	130	Pa
Filter quantity and size	8x[592x592]	
Spare filter set	1	pc

### ② ROTARY HEAT EXCHANGER SECTION 5F D=2720 SECTORIZED

The results are shown with the supply air unit

### ⑧ CASING 5F L=1900

Dimensions (width x height x length)	2500 x 1450 x 1900	mm
Weight, includes the weight of the casing and parts inside the casing	631	kg

### FAN SECTION 5F 800 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D800	
Air flow	30000	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1251	Pa
Fan efficiency	78	%
Electrical total efficiency	71	%
Motor speed	1425	1/min
Maximum speed of revolution	1485	1/min
Fan shaft power	13.39	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2341 Pa / 620.0	

### DIRECT DRIVEN FAN ER80C

Voltage	400V/3-v/50Hz	
Motor shaft power	13.39	kW
Nominal capacity	15.00	kW
Nominal current	28.40	A
Nominal speed (50 Hz)	1470	1/min
Efficiency	91	%
Motor input power in working point	14.70	kW
Motor frequency in the working point	48	Hz
Motor maximum frequency	51	Hz
Inspection window as standard		

### Light IP 44

### Switch and cable for light

### Air flow meter, analog

### ⑥ UNIT BASE 4F-8F L=2800 B=2500 H=200

Adjustable feets with synthetic rubber pad		
Number of similar unit bases.	2	pc
Weight	39	kg

Unit: PN-3

**Unit : 3**

PN-3

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 2C		Recair 2C	
Air flow	5000	m3/h	5200	m3/h
External static pressure of the unit	500	Pa	500	Pa
Motor power	2.81	kW	3.10	kW
Coil face velocity	2.4	m/s	2.6	m/s
Face velocity of the unit	2.3	m/s	2.4	m/s
Temp. efficiency of the heat recovery	78.00	%		
SFP, specific fan power	3.98	kW/(m³/s)		
SFPint	1.53	kW/(m³/s)	598 / 585	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		69	69	68	77	80	77	72	66	dB	83 dB(A)
Suction side of the unit		71	67	68	75	65	59	45	36	dB	73 dB(A)
Through the casing		63	58	53	58	63	62	51	41	dB	67 dB(A)

**Exhaust unit**

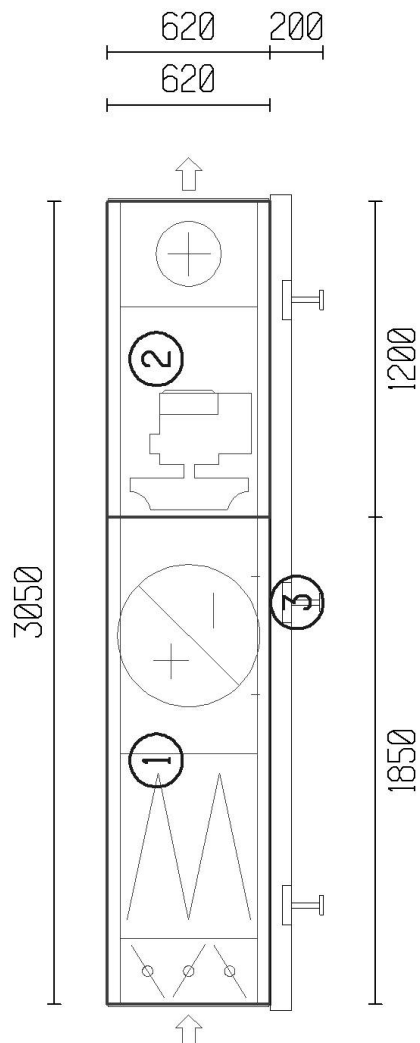
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	71	72	79	84	82	81	77	dB	88 dB(A)
Suction side of the unit		73	68	69	76	65	60	46	36	dB	74 dB(A)
Through the casing		63	59	54	58	64	63	52	42	dB	68 dB(A)

Unit: PN-3  
Unit code PN-3  
Unit size 2C  
Supply air flow 5000 m<sup>3</sup>/h  
Exhaust air flow 5200 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 618 kg  
Additional info  
Duct connections supplied with connection flange

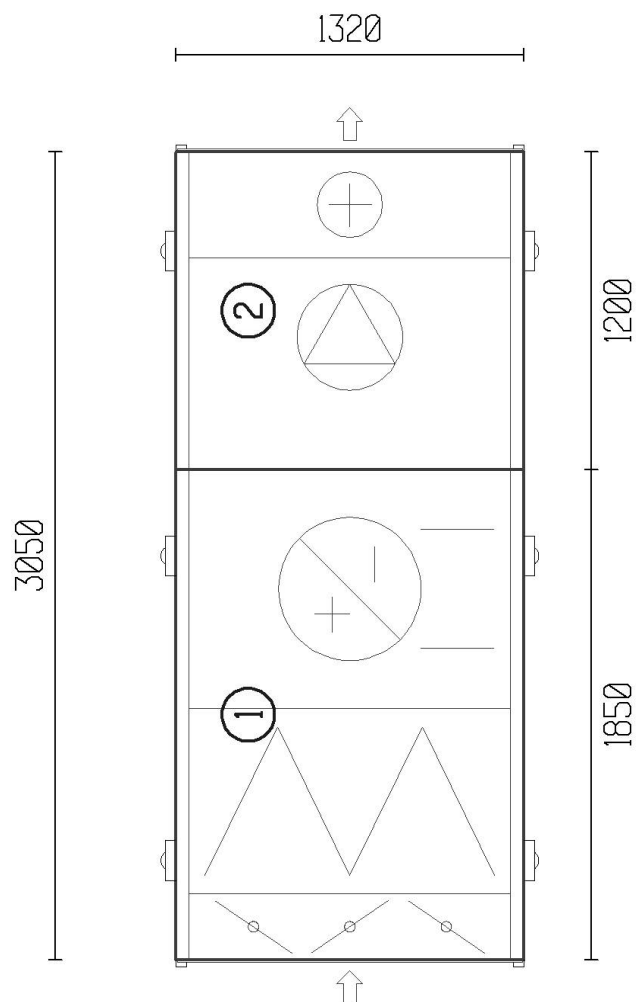
Handled by  
Scale

No scale

### From the service side



### Top view

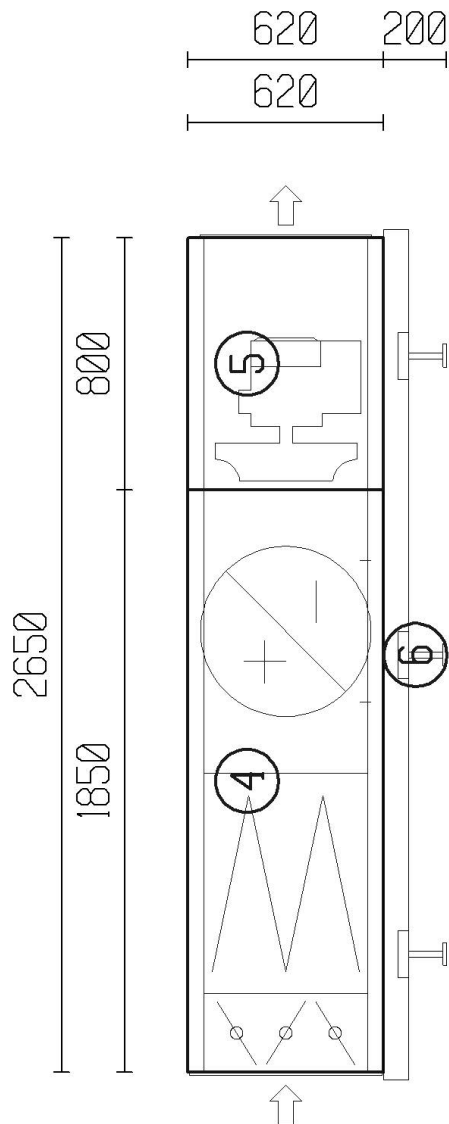


Unit: PN-3  
Unit code PN-3  
Unit size 2C  
Supply air flow 5000 m<sup>3</sup>/h  
Exhaust air flow 5200 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 445 kg  
Additional info  
Duct connections supplied with connection flange

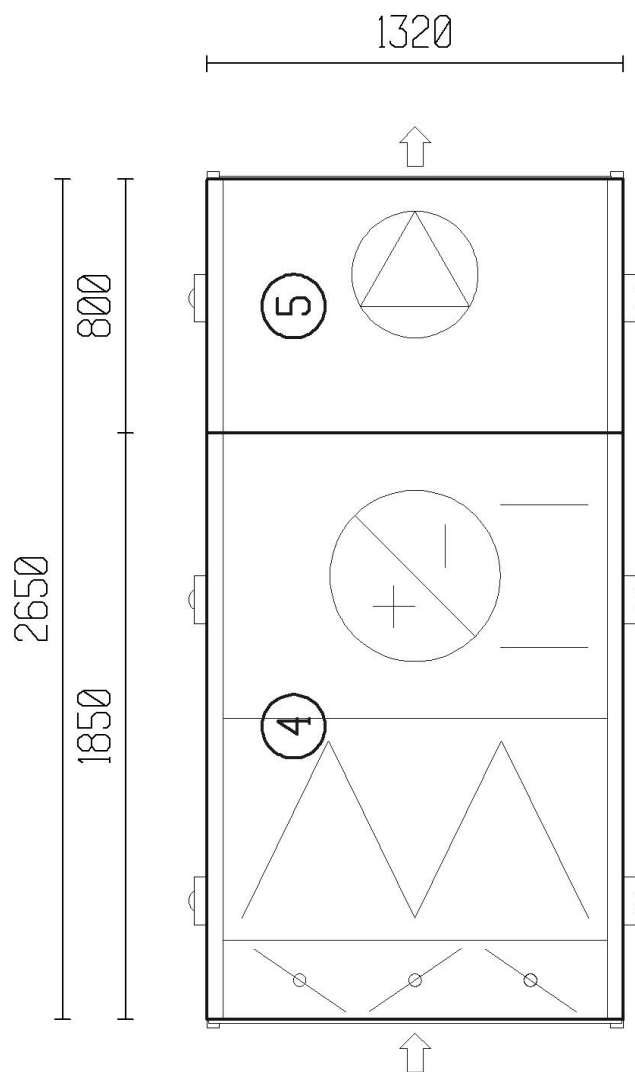
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-3

## Unit sections and technical data

### Supply unit

#### ① CASING 2C L=1850

Dimensions (width x height x length)	1320 x 620 x 1850	mm
Weight, includes the weight of the casing and parts inside the casing	295	kg

#### DAMPER SECTION 2C L=250

Tightness class	Leakage class 4	
Pressure loss	15	Pa
Torque demand	8	Nm

#### FILTER SECTION 2C L=700

Filter class	F7	
Initial pressure loss	125	Pa
Calculation pressure loss	187	Pa
Final pressure loss	250	Pa
Filter quantity and size	2x[592x442]	
Spare filter set	1	pc

#### HEAT RECOVERY SECTION 2C Z=24 SUPPLY

Air flow	5000	m <sup>3</sup> /h
Heating capacity	55.5	kW
Row number / fin spacing	24 / 2.0	mm
Face velocity / Pressure loss	2.5 m/s / 473	Pa
Entering air: temperature / humidity / enthalpy	-20.7 °C / 60 % / -19.7	kJ/kg
Leaving air: temperature / humidity / enthalpy	12.6 °C / 0 % / 0.0	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	17 / -12	°C
Fluid flow / fluid velocity / pressure loss	0.51 l/s / 0.69 m/s / 67.7	kPa
Fluid volume	49	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

#### ② CASING 2C L=1200

Dimensions (width x height x length)	1320 x 620 x 1200	mm
Weight, includes the weight of the casing and parts inside the casing	294	kg

#### FAN SECTION 2C 315 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D315	
Air flow	5000	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1323	Pa
Fan efficiency	77	%
Electrical total efficiency	65	%
Motor speed	3765	1/min
Maximum speed of revolution	4050	1/min
Fan shaft power	2.38	kW
Air flow measurement pressure difference / K value	$\left( q = k \sqrt{\Delta p} \right)$ 2770 Pa / 95.0	

#### DIRECT DRIVEN FAN ER31C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.38	kW
Nominal capacity	3.00	kW
Nominal current	5.86	A
Nominal speed (50 Hz)	2891	1/min
Efficiency	85	%
Motor input power in working point	2.81	kW
Motor frequency in the working point	65	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		
Light IP 44		



Unit: PN-3

**Switch and cable for light**  
**Air flow meter, analog**
**LG-2C-01-S**

Air flow	5000	m3/h
Heating capacity	15.7	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.4 m/s / 21	Pa
Air temperature, entering / leaving	12.6 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.20 l/s / 0.62 m/s / 2.6	kPa
Fluid volume	2	l
Tube connections, flange	DN25	

**③ UNIT BASE 1C-6C L=3100 B=1320 H=200**

Adjustable feet with synthetic rubber pad

Weight	28	kg
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**Exhaust unit**
**④ CASING 2C L=1850**

Dimensions (width x height x length)	1320 x 620 x 1850	mm
Weight, includes the weight of the casing and parts inside the casing	295	kg

**DAMPER SECTION 2C L=250**

Tightness class	Leakage class 4	
Pressure loss	16	Pa
Torque demand	8	Nm

**FILTER SECTION 2C L=700**

Filter class	F5	
Initial pressure loss	61	Pa
Calculation pressure loss	91	Pa
Final pressure loss	122	Pa
Filter quantity and size	2x[592x442]	
<b>Spare filter set</b>	1	pc

**HEAT RECOVERY SECTION 2C Z=24 EXHAUST**

Air flow	5200	m3/h
Cooling capacity	55.5	kW
Row number / fin spacing	24 / 2.0	mm
Face velocity / Pressure loss	2.6 m/s / 644	Pa
Entering air: temperature / humidity / enthalpy	22.0 °C / 25 % / 32.8	kJ/kg
Leaving air: temperature / humidity / enthalpy	-5.4 °C / 100 % / 0.5	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	-12 / 17	°C
Fluid flow / fluid velocity / pressure loss	0.51 l/s / 0.69 m/s / 67.7	kPa
Fluid volume	49	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

**⑤ CASING 2C L=800**

Dimensions (width x height x length)	1320 x 620 x 800	mm
Weight, includes the weight of the casing and parts inside the casing	123	kg

**FAN SECTION 2C 315 ARRANGEMENT1 DIRECT DRIVE**

Performance value tolerance DIN 24166

Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D315	
Air flow	5200	m3/h
Connection type	To a chamber	
Fan total pressure	1389	Pa
Fan efficiency	77	%
Electrical total efficiency	65	%

Unit: PN-3

Motor speed	3884	1/min
Maximum speed of revolution	4050	1/min
Fan shaft power	2.60	kW
Air flow measurement pressure difference / K value	$\left( q = k \sqrt{\Delta p} \right)$ 2996 Pa / 95.0	

#### DIRECT DRIVEN FAN ER31C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.60	kW
Nominal capacity	3.00	kW
Nominal current	5.86	A
Nominal speed (50 Hz)	2891	1/min
Efficiency	85	%
Motor input power in working point	3.10	kW
Motor frequency in the working point	67	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		

**Light IP 44**

**Switch and cable for light**

**Air flow meter, analog**

#### ⑥ UNIT BASE 1C-6C L=2700 B=1320 H=200

Adjustable feet with synthetic rubber pad  
Weight

26 kg

Unit: PN-4

**Unit : 4**

PN-4

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 4C		Recair 4C	
Air flow	11500	m3/h	11500	m3/h
External static pressure of the unit	470	Pa	470	Pa
Motor power	5.04	kW	4.15	kW
Coil face velocity	2.8	m/s		
Face velocity of the unit	2.7	m/s	2.7	m/s
SFP, specific fan power	2.73	kW/(m <sup>3</sup> /s)		
SFPint	0.85	kW/(m <sup>3</sup> /s)	382 / 305	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		73	72	84	78	83	77	78	81	dB	87 dB(A)
Suction side of the unit		65	65	76	62	57	47	34	34	dB	68 dB(A)
Through the casing		66	60	66	57	63	58	49	46	dB	66 dB(A)

**Exhaust unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		71	72	82	78	81	75	77	80	dB	86 dB(A)
Suction side of the unit		68	68	77	66	60	53	43	45	dB	70 dB(A)
Through the casing		64	60	64	57	61	56	48	45	dB	64 dB(A)

Unit: PN-4

Unit code

PN-4

Unit size

4C

Supply air flow

11500

m<sup>3</sup>/h

Exhaust air flow

11500

m<sup>3</sup>/h

Tot. (dry) weight of the unit

1228

kg

Additional info

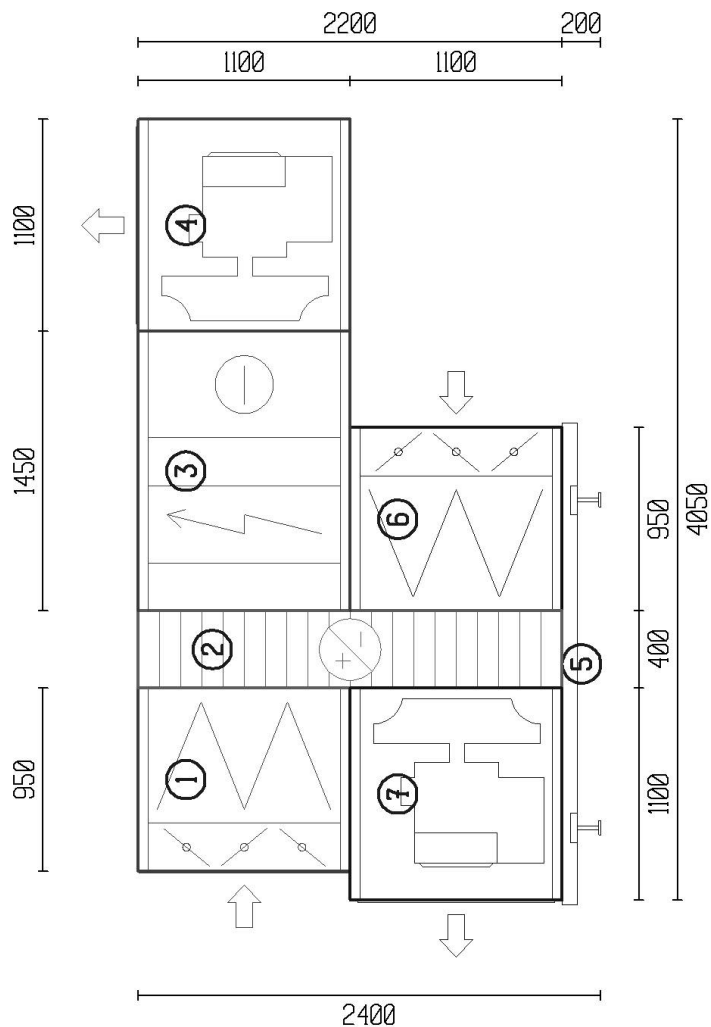
Duct connections supplied with connection flange

Handled by

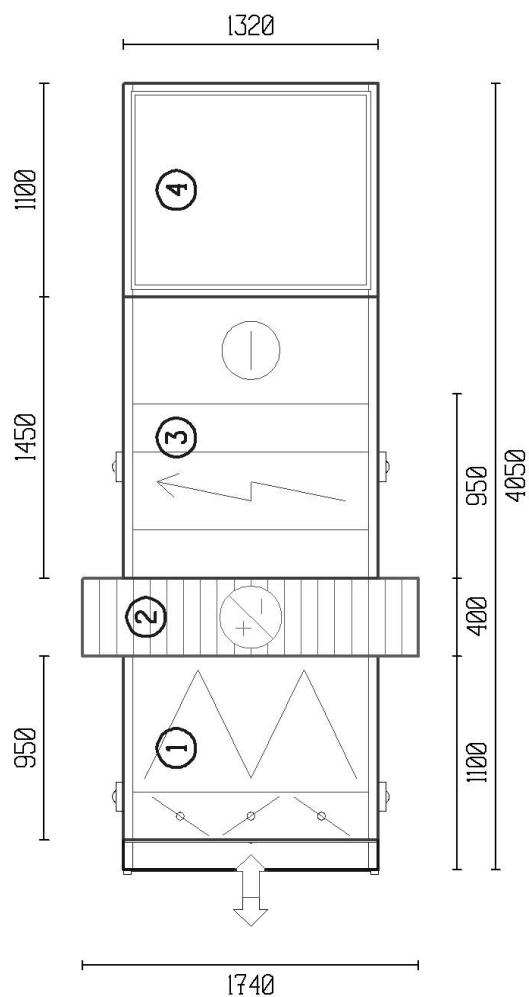
Scale

No scale

### From the service side



### Top view



Unit: PN-4

## Unit sections and technical data

### Supply unit

#### ① CASING 4C L=950

Dimensions (width x height x length)	1320 x 1100 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	138	kg

#### DAMPER SECTION 4C L=250

Tightness class	Leakage class 4	
Pressure loss	20	Pa
Torque demand	12	Nm

#### FILTER SECTION 4C L=700

Filter class	F7	
Initial pressure loss	142	Pa
Calculation pressure loss	213	Pa
Final pressure loss	284	Pa
Filter quantity and size	2x[592x892]	
Spare filter set	1	pc

#### ② ROTARY HEAT EXCHANGER SECTION 4C D=1520

Enventus				
Non-hygroscopic rotor wheel material				
Dimensions (width x height x length)	1740 x 2200 x 400	mm		
Weight	246	kg		
Electric supply (max)	230V/1-v/50Hz / 400	W		
External pre fuse	6.3	A		
Control signal	0-10	V		
Air flow	Supply 11500	m3/h	Exhaust 11500	m3/h
Pressure loss	240	Pa	240	Pa
Heating capacity	156.1	kW		
Supply air temperature efficiency	78	%		
Supply air humidity efficiency	65	%		
Entering air: temperature / humidity	-20.7 °C / 60	%	22.0 °C / 25	%
Leaving air: temperature / humidity	12.5 °C / 31	%	-11.2 °C / 90	%
Air absolute humidity, entering/leaving	0.44 / 2.83	g/kg	4.21 / 1.46	g/kg
Rotor is supplied with purge sector				
Switch and cable for light				

#### ③ CASING 4C L=1450

Dimensions (width x height x length)	1320 x 1100 x 1450	mm
Weight, includes the weight of the casing and parts inside the casing	217	kg

#### SERVICE SECTION 4C L=250

Pressure loss	0	Pa
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#### HEATING SECTION, ELECTRIC 4C

Tube type				
Air flow	11500	m3/h		
Heating capacity	36.5	kW		
Row number / fin spacing	1 / 2.0	mm		
Face velocity / Pressure loss	2.9 m/s / 16	Pa		
Voltage	400V/3-v/50Hz	Hz		
Capacity steps/capacity partition	20.0+10.0+5.0+2.5+2.5	kW		
Air temperature, entering / leaving	12.5 / 22.0	°C		

Standard accessories: over heating and fire safety thermostats

Notice! Electric heater section does not include power control system and equipment for heating power regulation.

#### SERVICE SECTION 4C L=250

Pressure loss	0	Pa
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#### COOLING SECTION, WATER 4C Z=4

Air flow	11500	m3/h
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Unit: PN-4

Cooling capacity	62.9	kW
Row number / fin spacing	4 / 2.5	mm
Face velocity / Pressure loss	2.8 m/s / 84	Pa
Entering air: temperature / humidity / enthalpy	27.0 °C / 60 % / 62.3	kJ/kg
Leaving air: temperature / humidity / enthalpy	18.0 °C / 82 % / 45.0	kJ/kg
Fluid type	Water	
Entering / leaving fluid	7 / 12	°C
Fluid flow / fluid velocity / pressure loss	3.00 l/s / 1.51 m/s / 19.2	kPa
Fluid volume	18	l
Tube connections, flange	DN50	
Space for drop eliminator		

#### ④ CASING 4C L=1100

Dimensions (width x height x length)	1320 x 1100 x 1100	mm
Weight, includes the weight of the casing and parts inside the casing	222	kg

#### FAN SECTION 4C 500 ARRANGEMENT3 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D500	
Air flow	11500	m3/h
Connection type	To a chamber	
Fan total pressure	1147	Pa
Fan efficiency	81	%
Electrical total efficiency	73	%
Motor speed	2123	1/min
Maximum speed of revolution	2255	1/min
Fan shaft power	4.54	kW
Air flow measurement pressure difference / K value	$\left( q = k \sqrt{dp} \right)$ 2083 Pa / 252.0	

#### DIRECT DRIVEN FAN ER50C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	4.54	kW
Nominal capacity	5.50	kW
Nominal current	10.90	A
Nominal speed (50 Hz)	1460	1/min
Efficiency	88	%
Motor input power in working point	5.04	kW
Motor frequency in the working point	73	Hz
Motor maximum frequency	78	Hz
Inspection window as standard		

**Light IP 44**
**Switch and cable for light**
**Air flow meter, analog**

### Exhaust unit

#### ⑥ CASING 4C L=950

Dimensions (width x height x length)	1320 x 1100 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	138	kg

#### DAMPER SECTION 4C L=250

Tightness class	Leakage class 4	
Pressure loss	20	Pa
Torque demand	12	Nm

#### FILTER SECTION 4C L=700

Filter class	F5	
Initial pressure loss	65	Pa
Calculation pressure loss	97	Pa
Final pressure loss	130	Pa
Filter quantity and size	2x[592x892]	
Spare filter set	1	pc

#### ② ROTARY HEAT EXCHANGER SECTION 4C D=1520

The results are shown with the supply air unit

Unit: PN-4

### ⑦ CASING 4C L=1100

Dimensions (width x height x length)	1320 x 1100 x 1100	mm
Weight, includes the weight of the casing and parts inside the casing	240	kg

### FAN SECTION 4C 500 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D500	
Air flow	11500	m3/h
Connection type	To a chamber	
Fan total pressure	931	Pa
Fan efficiency	80	%
Electrical total efficiency	72	%
Motor speed	2008	1/min
Maximum speed of revolution	2030	1/min
Fan shaft power	3.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 2083 Pa / 252.0	

### DIRECT DRIVEN FAN ER50C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	3.72	kW
Nominal capacity	4.00	kW
Nominal current	8.13	A
Nominal speed (50 Hz)	1450	1/min
Efficiency	87	%
Motor input power in working point	4.15	kW
Motor frequency in the working point	69	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		

**Light IP 44**
**Switch and cable for light**
**Air flow meter, analog**

### ⑤ UNIT BASE 1C-6C L=2500 B=1320 H=200

Adjustable feets with synthetic rubber pad		
Weight	25	kg

Unit: PN-5

**Unit : 5**

PN-5

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 3C		Recair 3C	
Air flow	6800	m3/h	6800	m3/h
External static pressure of the unit	500	Pa	500	Pa
Motor power	2.64	kW	2.26	kW
Coil face velocity	2.6	m/s		
Face velocity of the unit	2.4	m/s	2.4	m/s
SFP, specific fan power	2.45	kW/(m <sup>3</sup> /s)		
SFPint	0.53	kW/(m <sup>3</sup> /s)	254 / 172	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	68	75	71	79	70	66	66	dB	80 dB(A)
Suction side of the unit		68	65	72	65	60	50	40	39	dB	67 dB(A)
Through the casing		64	57	60	52	62	55	45	41	dB	64 dB(A)

**Exhaust unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		71	70	78	73	82	73	73	77	dB	84 dB(A)
Suction side of the unit		68	67	73	65	59	50	40	41	dB	67 dB(A)
Through the casing		64	58	60	52	62	54	44	42	dB	64 dB(A)



Unit: PN-5

Unit code PN-5

Unit size 3C

Supply air flow 6800 m<sup>3</sup>/h

Exhaust air flow 6800 m<sup>3</sup>/h

Tot. (dry) weight of the unit 948 kg

Additional info

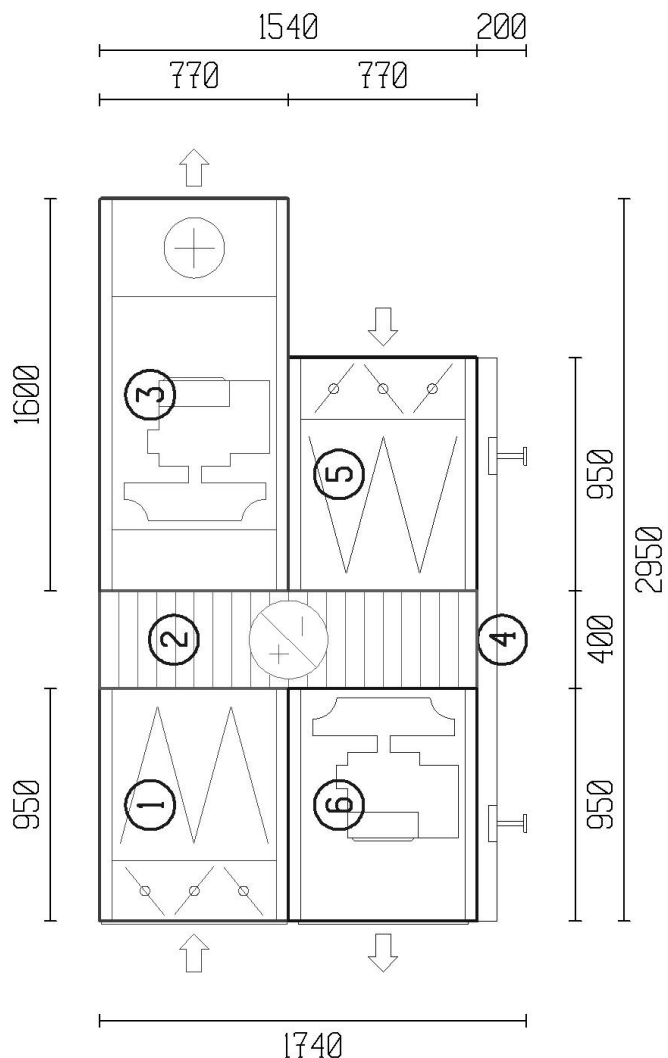
Duct connections supplied with connection flange

Handled by

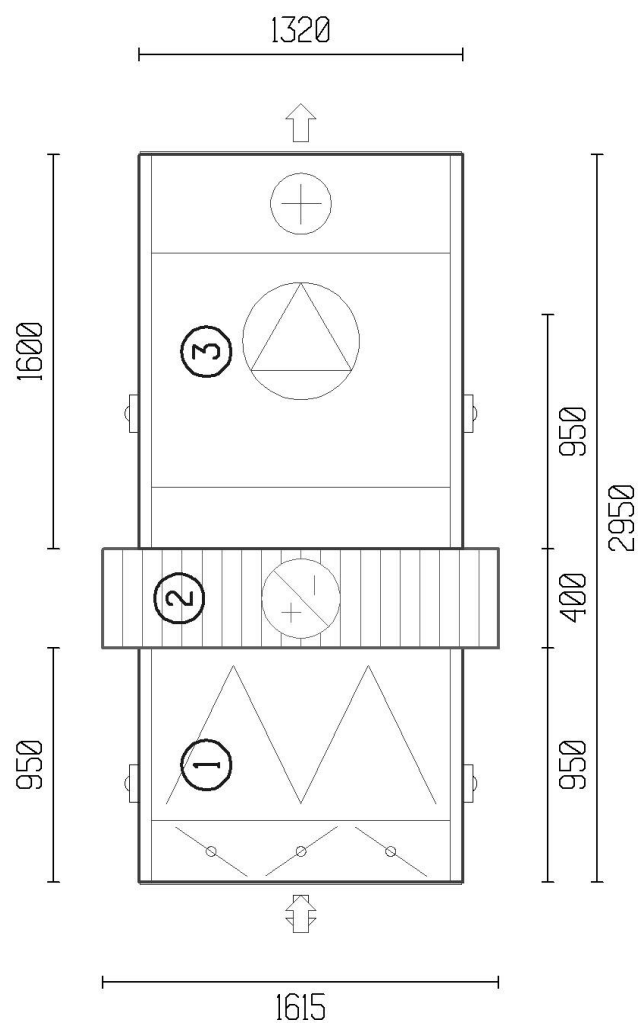
Scale

No scale

### From the service side



### Top view



Unit: PN-5

## Unit sections and technical data

### Supply unit

#### ① CASING 3C L=950

Dimensions (width x height x length)	1320 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	116	kg

#### DAMPER SECTION 3C L=250

Tightness class	Leakage class 4	
Pressure loss	12	Pa
Torque demand	9	Nm

#### FILTER SECTION 3C L=700

Filter class	F7	
Initial pressure loss	123	Pa
Calculation pressure loss	185	Pa
Final pressure loss	247	Pa
Filter quantity and size	2x[592x592]	
Spare filter set	1	pc

#### ② ROTARY HEAT EXCHANGER SECTION 3C D=1370

Non-hygroscopic rotor wheel material				
Dimensions (width x height x length)	1615 x 1540 x 400			mm
Weight	200			kg
Electric supply (max)	230V/1-v/50Hz / 400			W
External pre fuse	6.3			A
Control signal	0-10			V
Air flow	Supply 6800	m3/h	Exhaust 6800	m3/h
Pressure loss	96	Pa	127	Pa
Heating capacity	78.4	kW		
Supply air temperature efficiency	77	%		
Supply air humidity efficiency	18	%		
Entering air: temperature / humidity	-20.7 °C / 60	%	22.0 °C / 25	%
Leaving air: temperature / humidity	12.0 °C / 12	%	-11.0 °C / 95	%
Air absolute humidity, entering/leaving	0.44 / 1.04	g/kg	4.21 / 1.57	g/kg
Rotor is supplied with purge sector				

#### ③ CASING 3C L=1600

Dimensions (width x height x length)	1320 x 770 x 1600	mm
Weight, includes the weight of the casing and parts inside the casing	343	kg

#### SERVICE SECTION 3C L=250

Pressure loss	0	Pa
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#### FAN SECTION 3C 400 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166				
Manufacturer	Ziehl			
Blade type/diameter	Backward curved / D400			
Air flow	6800			m3/h
Connection type	To a chamber			
Fan total pressure	947			Pa
Fan efficiency	80			%
Electrical total efficiency	68			%
Motor speed	2520			1/min
Maximum speed of revolution	2650			1/min
Fan shaft power	2.24			kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$	1950 Pa / 154.0		

#### DIRECT DRIVEN FAN ER40C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.24	kW
Nominal capacity	3.00	kW
Nominal current	6.18	A

Unit: PN-5

Nominal speed (50 Hz)	1440	1/min
Efficiency	86	%
Motor input power in working point	2.64	kW
Motor frequency in the working point	88	Hz
Motor maximum frequency	93	Hz

Inspection window as standard

**Light IP 44**
**Switch and cable for light**
**Air flow meter, analog**
**LG-3C-01-S**

Air flow	6800	m <sup>3</sup> /h
Heating capacity	22.6	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.6 m/s / 24	Pa
Air temperature, entering / leaving	12.0 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.29 l/s / 0.89 m/s / 6.3	kPa
Fluid volume	3	l
Tube connections, flange	DN25	

**Exhaust unit**
**⑤ CASING 3C L=950**

Dimensions (width x height x length)	1320 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	116	kg

**DAMPER SECTION 3C L=250**

Tightness class	Leakage class 4	
Pressure loss	12	Pa
Torque demand	9	Nm

**FILTER SECTION 3C L=700**

Filter class	F5	
Initial pressure loss	57	Pa
Calculation pressure loss	86	Pa
Final pressure loss	115	Pa
Filter quantity and size	2x[592x592]	
<b>Spare filter set</b>	1	pc

**② ROTARY HEAT EXCHANGER SECTION 3C D=1370**

The results are shown with the supply air unit

**⑥ CASING 3C L=950**

Dimensions (width x height x length)	1320 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	152	kg

**FAN SECTION 3C 400 ARRANGEMENT1 DIRECT DRIVE**

Performance value tolerance DIN 24166

Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D400	
Air flow	6800	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	789	Pa
Fan efficiency	79	%
Electrical total efficiency	66	%
Motor speed	2419	1/min
Maximum speed of revolution	2500	1/min
Fan shaft power	1.88	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 1950 Pa / 154.0	

**DIRECT DRIVEN FAN ER40C Cpro**

Voltage	400V/3-v/50Hz	
Motor shaft power	1.88	kW
Nominal capacity	2.20	kW

Unit: PN-5

Nominal current	4.65	A
Nominal speed (50 Hz)	1440	1/min
Efficiency	84	%
Motor input power in working point	2.26	kW
Motor frequency in the working point	84	Hz
Motor maximum frequency	87	Hz
Inspection window as standard		
<b>Light IP 44</b>		
<b>Switch and cable for light</b>		
<b>Air flow meter, analog</b>		

**④ UNIT BASE 1C-6C L=2300 B=1320 H=200**Adjustable feet with synthetic rubber pad  
Weight

20 kg

Unit: PN-6

**Unit : 6**

PN-6

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 2B		Recair 2B	
Air flow	4200	m3/h	3800	m3/h
External static pressure of the unit	800	Pa	800	Pa
Motor power	3.01	kW	2.55	kW
Coil face velocity	2.7	m/s	2.5	m/s
Face velocity of the unit	2.6	m/s	2.4	m/s
Temp. efficiency of the heat recovery	70.00	%		
SFP, specific fan power	4.66	kW/(m³/s)		
SFPint	21.47	kW/(m³/s)	148 / 67	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

**Unit is NOT according the demands of Ecodesign2016 Directive**

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	69	70	71	78	82	81	80	75	dB	87 dB(A)
Suction side of the unit	68	65	65	72	61	54	37	25	dB	69 dB(A)
Through the casing	62	58	53	57	62	62	51	40	dB	66 dB(A)

**Exhaust unit**

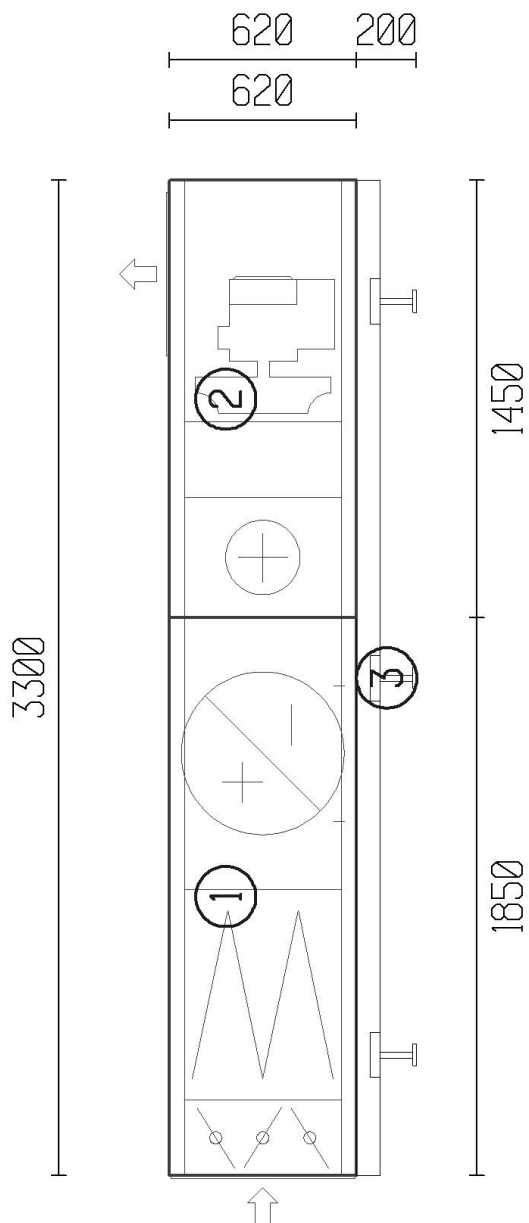
Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	68	70	71	77	81	79	78	73	dB	86 dB(A)
Suction side of the unit	68	65	68	72	63	56	44	34	dB	71 dB(A)
Through the casing	61	58	53	56	61	60	49	38	dB	65 dB(A)

Unit: PN-6  
Unit code PN-6  
Unit size 2B  
Supply air flow 4200 m<sup>3</sup>/h  
Exhaust air flow 3800 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 559 kg  
Additional info  
Duct connections supplied with connection flange

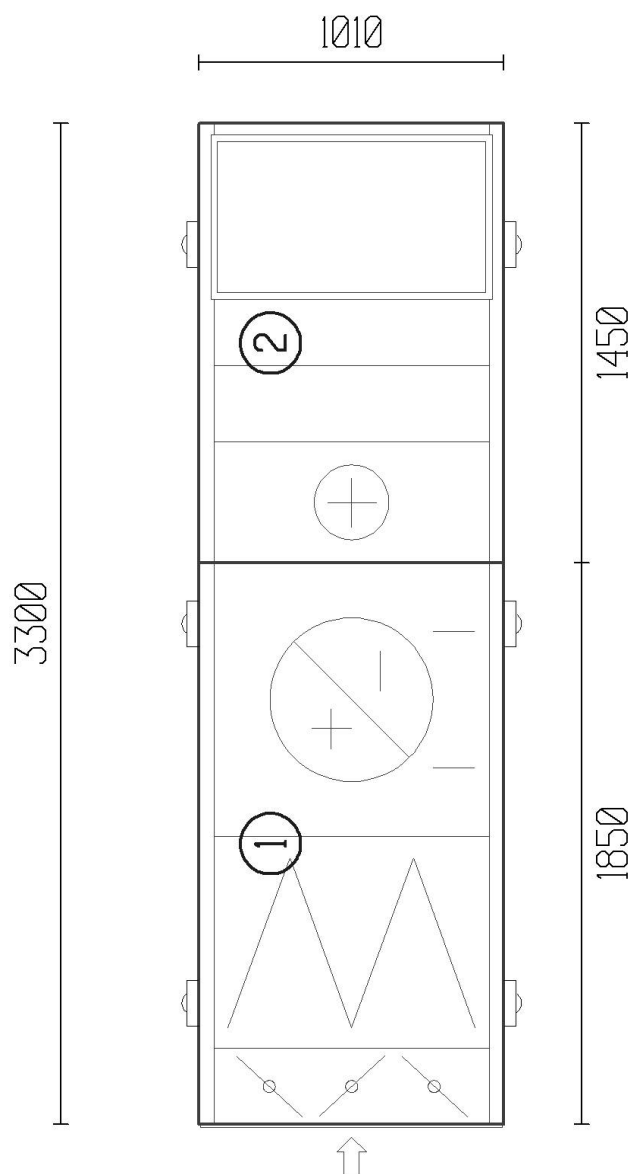
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-6

Unit code

PN-6

Unit size

2B

Supply air flow

4200

m<sup>3</sup>/h

Exhaust air flow

3800

m<sup>3</sup>/h

Tot. (dry) weight of the unit

360

kg

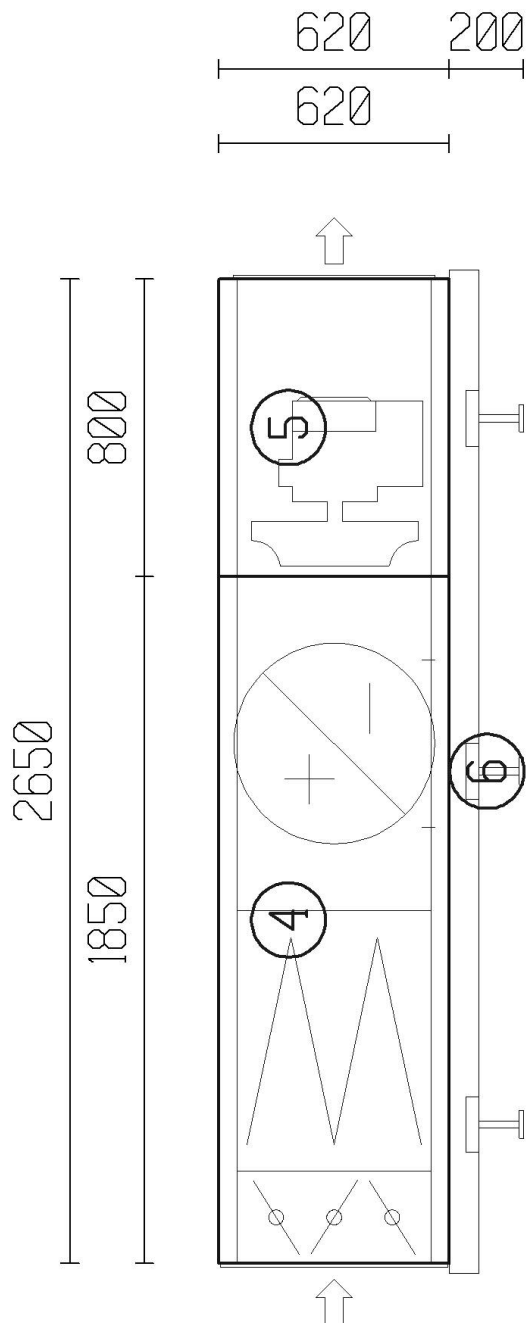
Additional info

Duct connections supplied with connection flange

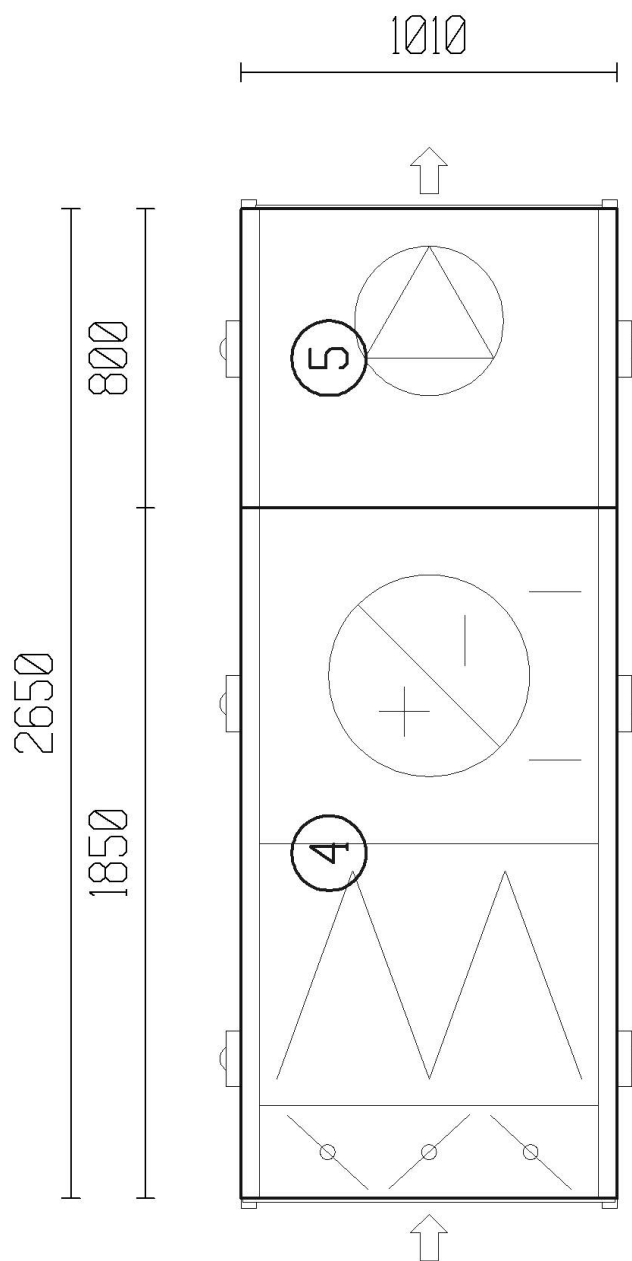
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-6

## Unit sections and technical data

### Supply unit

#### ① CASING 2B L=1850

Dimensions (width x height x length)	1010 x 620 x 1850	mm
Weight, includes the weight of the casing and parts inside the casing	230	kg

#### DAMPER SECTION 2B L=250

Tightness class	Leakage class 4	
Pressure loss	20	Pa
Torque demand	7	Nm

#### FILTER SECTION 2B L=700

Filter class	F7	
Initial pressure loss	148	Pa
Calculation pressure loss	221	Pa
Final pressure loss	295	Pa
Filter quantity and size	1x[592x442] + 1x[287x442]	
Spare filter set	1	pc

#### HEAT RECOVERY SECTION 2B Z=22 SUPPLY

Air flow	4200	m <sup>3</sup> /h
Heating capacity	41.8	kW
Row number / fin spacing	22 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 522	Pa
Entering air: temperature / humidity / enthalpy	-20.7 °C / 60 % / -19.7	kJ/kg
Leaving air: temperature / humidity / enthalpy	9.2 °C / 0 % / 0.0	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	14 / -11	°C
Fluid flow / fluid velocity / pressure loss	0.44 l/s / 0.71 m/s / 65.2	kPa
Fluid volume	34	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

#### ② CASING 2B L=1450

Dimensions (width x height x length)	1010 x 620 x 1450	mm
Weight, includes the weight of the casing and parts inside the casing	300	kg

#### LG-2B-01-S

Air flow	4200	m <sup>3</sup> /h
Heating capacity	17.9	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.7 m/s / 26	Pa
Air temperature, entering / leaving	9.2 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.23 l/s / 0.71 m/s / 2.7	kPa
Fluid volume	2	l
Tube connections, flange	DN25	

#### SERVICE SECTION 2B L=250

Pressure loss	0	Pa
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#### FAN SECTION 2B 315 ARRANGEMENT3 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D315	
Air flow	4200	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1678	Pa
Fan efficiency	77	%
Electrical total efficiency	65	%
Motor speed	3802	1/min
Maximum speed of revolution	4050	1/min



Unit: PN-6

Fan shaft power	2.54	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 1955 Pa / 95.0	
<b>DIRECT DRIVEN FAN ER31C Cpro</b>		
Voltage	400V/3-v/50Hz	
Motor shaft power	2.54	kW
Nominal capacity	3.00	kW
Nominal current	5.86	A
Nominal speed (50 Hz)	2891	1/min
Efficiency	85	%
Motor input power in working point	3.01	kW
Motor frequency in the working point	66	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		
<b>Light IP 44</b>		
<b>Switch and cable for light</b>		
<b>Air flow meter, analog</b>		

- ③ **UNIT BASE 1B-4B L=3300 B=1010 H=200**  
Adjustable feet with synthetic rubber pad  
Weight 29 kg

## Exhaust unit

- ④ **CASING 2B L=1850**  
Dimensions (width x height x length) 1010 x 620 x 1850 mm  
Weight, includes the weight of the casing and parts inside the casing 230 kg
- DAMPER SECTION 2B L=250**  
Tightness class Leakage class 4  
Pressure loss 16 Pa  
Torque demand 7 Nm
- FILTER SECTION 2B L=700**  
Filter class F5  
Initial pressure loss 59 Pa  
Calculation pressure loss 88 Pa  
Final pressure loss 118 Pa  
Filter quantity and size 1x[592x442] + 1x[287x442]  
**Spare filter set** 1 pc
- HEAT RECOVERY SECTION 2B Z=22 EXHAUST**  
Air flow 3800 m<sup>3</sup>/h  
Cooling capacity 41.8 kW  
Row number / fin spacing 22 / 2.0 mm  
Face velocity / Pressure loss 2.5 m/s / 579 Pa  
Entering air: temperature / humidity / enthalpy 22.0 °C / 25 % / 32.8 kJ/kg  
Leaving air: temperature / humidity / enthalpy -6.1 °C / 100 % / -0.5 kJ/kg  
Fluid type Ethylene glycol 30 %  
Entering / leaving fluid -11 / 14 °C  
Fluid flow / fluid velocity / pressure loss 0.44 l/s / 0.71 m/s / 65.2 kPa  
Fluid volume 34 l  
Tube connections, flange DN25  
Pipe size of the internal coil pipes 12 mm
- ⑤ **CASING 2B L=800**  
Dimensions (width x height x length) 1010 x 620 x 800 mm  
Weight, includes the weight of the casing and parts inside the casing 105 kg
- FAN SECTION 2B 315 ARRANGEMENT1 DIRECT DRIVE**  
Performance value tolerance DIN 24166  
Manufacturer Ziehl  
Blade type/diameter Backward curved / D315  
Air flow 3800 m<sup>3</sup>/h  
Connection type To a chamber  
Fan total pressure 1557 Pa

Unit: PN-6

Fan efficiency	77	%
Electrical total efficiency	64	%
Motor speed	3602	1/min
Maximum speed of revolution	3655	1/min
Fan shaft power	2.15	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1600 Pa / 95.0	

#### DIRECT DRIVEN FAN ER31C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.15	kW
Nominal capacity	2.20	kW
Nominal current	4.48	A
Nominal speed (50 Hz)	2890	1/min
Efficiency	83	%
Motor input power in working point	2.55	kW
Motor frequency in the working point	62	Hz
Motor maximum frequency	64	Hz
Inspection window as standard		

**Light IP 44**
**Switch and cable for light**
**Air flow meter, analog**

#### ⑥ UNIT BASE 1B-4B L=2700 B=1010 H=200

Adjustable feet with synthetic rubber pad  
Weight

26 kg

Unit: PN-7

**Unit : 7**

PN-7

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 2B		Recair 2B	
Air flow	4300	m3/h	4200	m3/h
External static pressure of the unit	1000	Pa	1000	Pa
Motor power	3.30	kW	3.15	kW
Coil face velocity	2.8	m/s	2.8	m/s
Face velocity of the unit	2.7	m/s	2.6	m/s
Temp. efficiency of the heat recovery	67.00	%		
SFP, specific fan power	5.30	kW/(m³/s)		
SFPint	1.44	kW/(m³/s)	546 / 562	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	71	72	79	83	82	80	75	dB	88 dB(A)
Suction side of the unit		69	65	65	72	61	55	38	25	dB	70 dB(A)
Through the casing		63	59	54	58	63	63	51	40	dB	67 dB(A)

**Exhaust unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	71	72	78	82	81	80	75	dB	87 dB(A)
Suction side of the unit		69	66	68	74	64	59	45	35	dB	72 dB(A)
Through the casing		63	59	54	57	62	62	51	40	dB	66 dB(A)

Unit: PN-7

Unit code PN-7

Unit size 2B

Supply air flow 4300 m<sup>3</sup>/h

Exhaust air flow 4200 m<sup>3</sup>/h

Tot. (dry) weight of the unit 522 kg

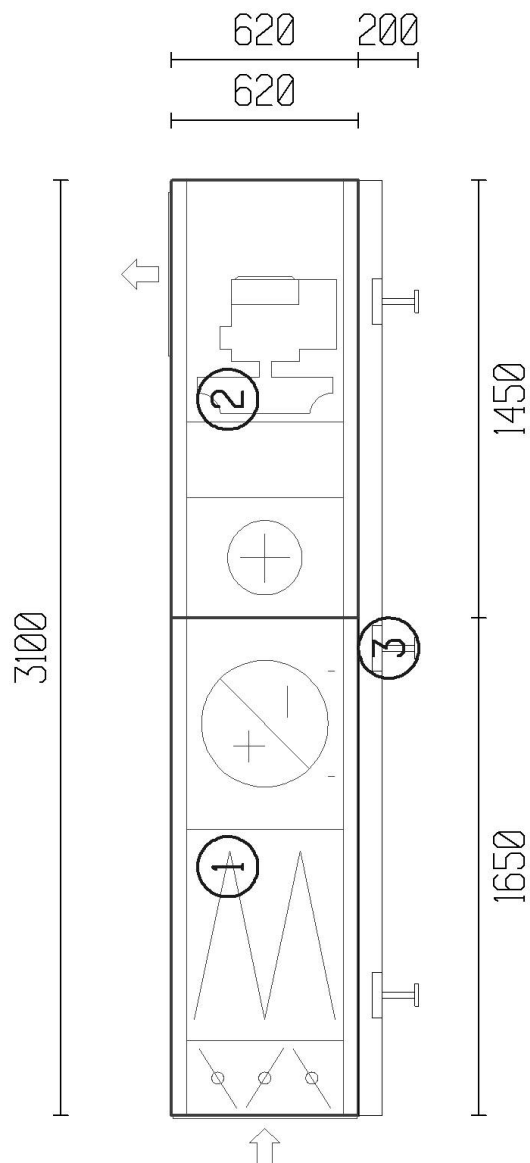
Additional info

Duct connections supplied with connection flange

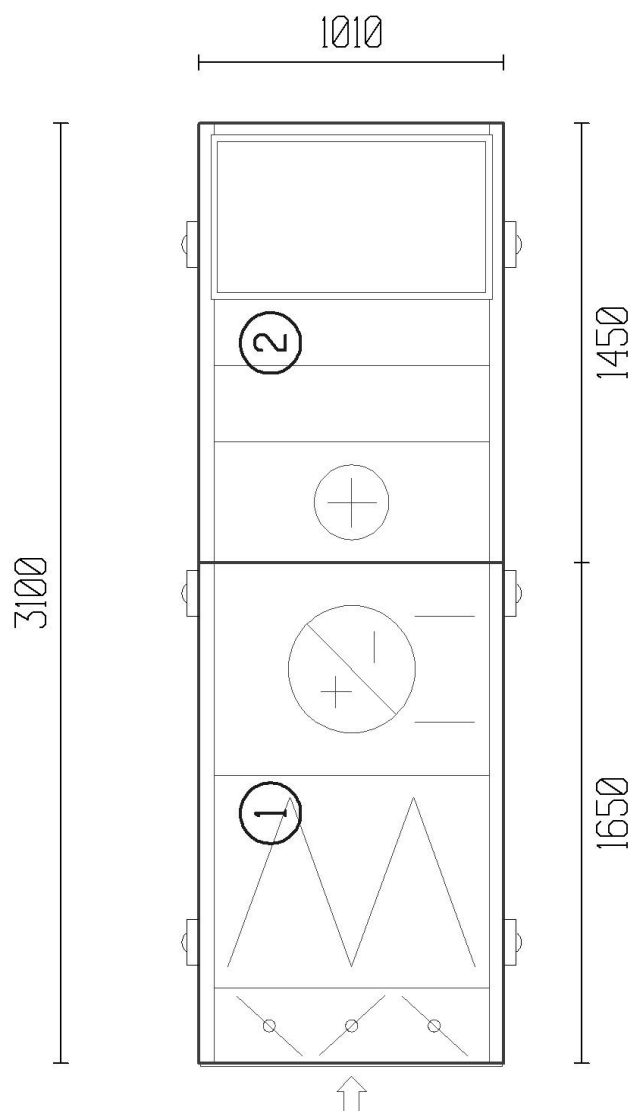
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-7

Unit code PN-7

Unit size 2B

Supply air flow 4300 m<sup>3</sup>/h

Exhaust air flow 4200 m<sup>3</sup>/h

Tot. (dry) weight of the unit 343 kg

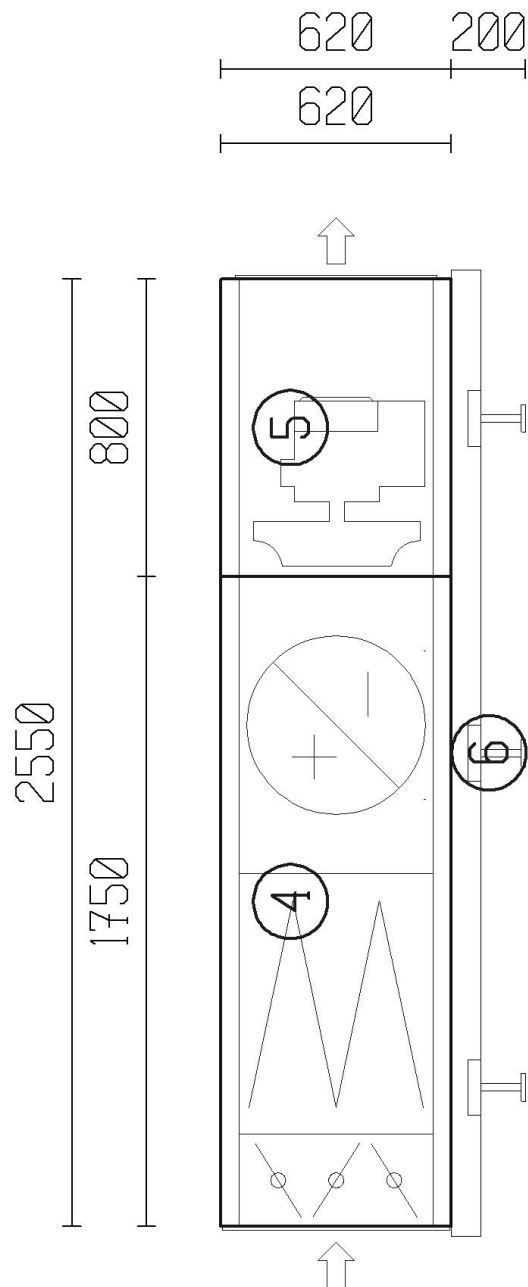
Additional info

Duct connections supplied with connection flange

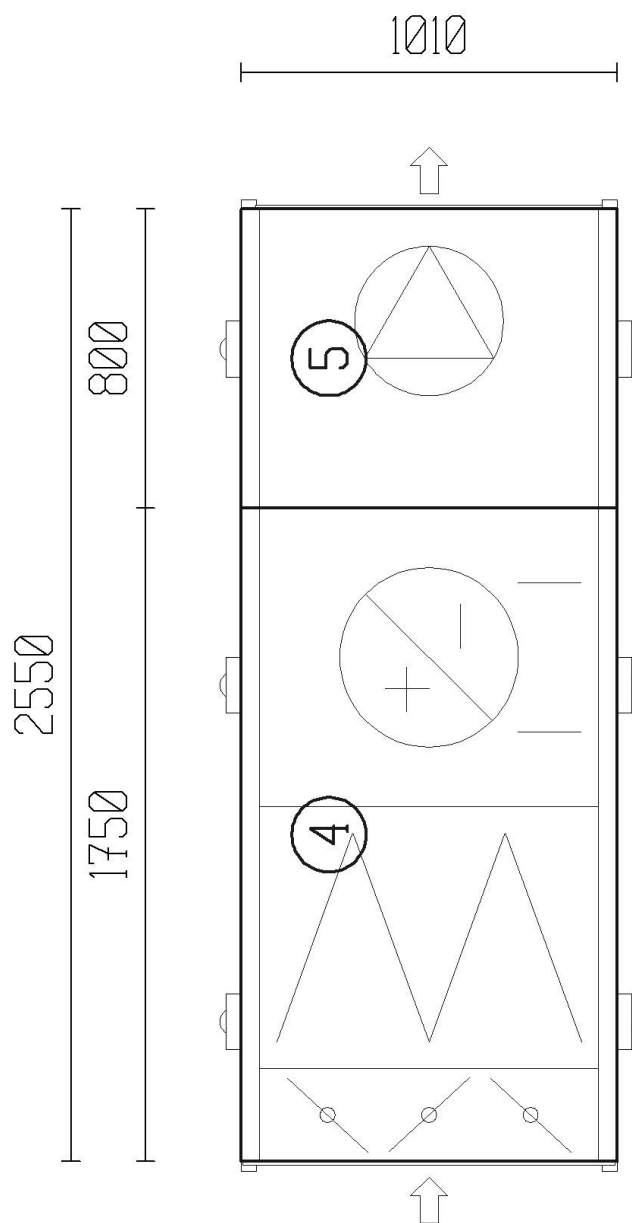
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: PN-7

## Unit sections and technical data

### Supply unit

#### ① CASING 2B L=1650

Dimensions (width x height x length)	1010 x 620 x 1650	mm
Weight, includes the weight of the casing and parts inside the casing	194	kg

#### DAMPER SECTION 2B L=250

Tightness class	Leakage class 4	
Pressure loss	21	Pa
Torque demand	7	Nm

#### FILTER SECTION 2B L=700

Filter class	F7	
Initial pressure loss	153	Pa
Calculation pressure loss	229	Pa
Final pressure loss	306	Pa
Filter quantity and size	1x[592x442] + 1x[287x442]	
Spare filter set	1	pc

#### HEAT RECOVERY SECTION 2B Z=16 SUPPLY

Air flow	4300	m <sup>3</sup> /h
Heating capacity	41.0	kW
Row number / fin spacing	16 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 393	Pa
Entering air: temperature / humidity / enthalpy	-20.7 °C / 60 % / -19.7	kJ/kg
Leaving air: temperature / humidity / enthalpy	7.9 °C / 0 % / 0.0	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	13 / -9	°C
Fluid flow / fluid velocity / pressure loss	0.50 l/s / 0.82 m/s / 61.1	kPa
Fluid volume	25	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

#### ② CASING 2B L=1450

Dimensions (width x height x length)	1010 x 620 x 1450	mm
Weight, includes the weight of the casing and parts inside the casing	300	kg

#### LG-2B-02-S

Air flow	4300	m <sup>3</sup> /h
Heating capacity	20.2	kW
Row number / fin spacing	2 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 41	Pa
Air temperature, entering / leaving	7.9 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.26 l/s / 0.79 m/s / 6.9	kPa
Fluid volume	3	l
Tube connections, flange	DN25	

#### SERVICE SECTION 2B L=250

Pressure loss	0	Pa
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#### FAN SECTION 2B 315 ARRANGEMENT3 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D315	
Air flow	4300	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1778	Pa
Fan efficiency	77	%
Electrical total efficiency	64	%
Motor speed	3907	1/min
Maximum speed of revolution	4050	1/min

Unit: PN-7

Fan shaft power	2.76	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2049 Pa / 95.0	
<b>DIRECT DRIVEN FAN ER31C Cpro</b>		
Voltage	400V/3-v/50Hz	
Motor shaft power	2.76	kW
Nominal capacity	3.00	kW
Nominal current	5.86	A
Nominal speed (50 Hz)	2891	1/min
Efficiency	85	%
Motor input power in working point	3.30	kW
Motor frequency in the working point	68	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		
<b>Light IP 44</b>		
<b>Switch and cable for light</b>		
<b>Air flow meter, analog</b>		

- ③ **UNIT BASE 1B-4B L=3100 B=1010 H=200**  
Adjustable feet with synthetic rubber pad  
Weight 28 kg

## Exhaust unit

- ④ **CASING 2B L=1750**  
Dimensions (width x height x length) 1010 x 620 x 1750 mm  
Weight, includes the weight of the casing and parts inside the casing 207 kg
- DAMPER SECTION 2B L=250**  
Tightness class Leakage class 4  
Pressure loss 20 Pa  
Torque demand 7 Nm
- FILTER SECTION 2B L=700**  
Filter class F5  
Initial pressure loss 67 Pa  
Calculation pressure loss 100 Pa  
Final pressure loss 134 Pa  
Filter quantity and size 1x[592x442] + 1x[287x442]  
**Spare filter set** 1 pc
- HEAT RECOVERY SECTION 2B Z=18 EXHAUST**  
Air flow 4200 m<sup>3</sup>/h  
Cooling capacity 41.0 kW  
Row number / fin spacing 18 / 2.0 mm  
Face velocity / Pressure loss 2.8 m/s / 535 Pa  
Entering air: temperature / humidity / enthalpy 22.0 °C / 25 % / 32.8 kJ/kg  
Leaving air: temperature / humidity / enthalpy -3.7 °C / 100 % / 3.2 kJ/kg  
Fluid type Ethylene glycol 30 %  
Entering / leaving fluid -9 / 13 °C  
Fluid flow / fluid velocity / pressure loss 0.50 l/s / 0.82 m/s / 68.3 kPa  
Fluid volume 28 l  
Tube connections, flange DN25  
Pipe size of the internal coil pipes 12 mm
- ⑤ **CASING 2B L=800**  
Dimensions (width x height x length) 1010 x 620 x 800 mm  
Weight, includes the weight of the casing and parts inside the casing 111 kg
- FAN SECTION 2B 315 ARRANGEMENT1 DIRECT DRIVE**  
Performance value tolerance DIN 24166  
Manufacturer Ziehl  
Blade type/diameter Backward curved / D315  
Air flow 4200 m<sup>3</sup>/h  
Connection type To a chamber  
Fan total pressure 1745 Pa

Unit: PN-7

Fan efficiency	77	%
Electrical total efficiency	65	%
Motor speed	3855	1/min
Maximum speed of revolution	4050	1/min
Fan shaft power	2.65	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1955 Pa / 95.0	

#### DIRECT DRIVEN FAN ER31C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.65	kW
Nominal capacity	3.00	kW
Nominal current	5.86	A
Nominal speed (50 Hz)	2891	1/min
Efficiency	85	%
Motor input power in working point	3.15	kW
Motor frequency in the working point	67	Hz
Motor maximum frequency	70	Hz
Inspection window as standard		

**Light IP 44**
**Switch and cable for light**
**Air flow meter, analog**

#### ⑥ UNIT BASE 1B-4B L=2600 B=1010 H=200

Adjustable feet with synthetic rubber pad  
Weight

26 kg



Unit: U-1

**Unit : 8**

U-1

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 3C			
Air flow	6600	m3/h	6600	m3/h
External static pressure of the unit	750	Pa	750	Pa
Motor power	2.98	kW	0.00	kW
Coil face velocity	2.5	m/s		
Face velocity of the unit	2.4	m/s	2.4	m/s
SFP, specific fan power	1.53	kW/(m³/s)		
SFPint	0.15	kW/(m³/s)	118	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

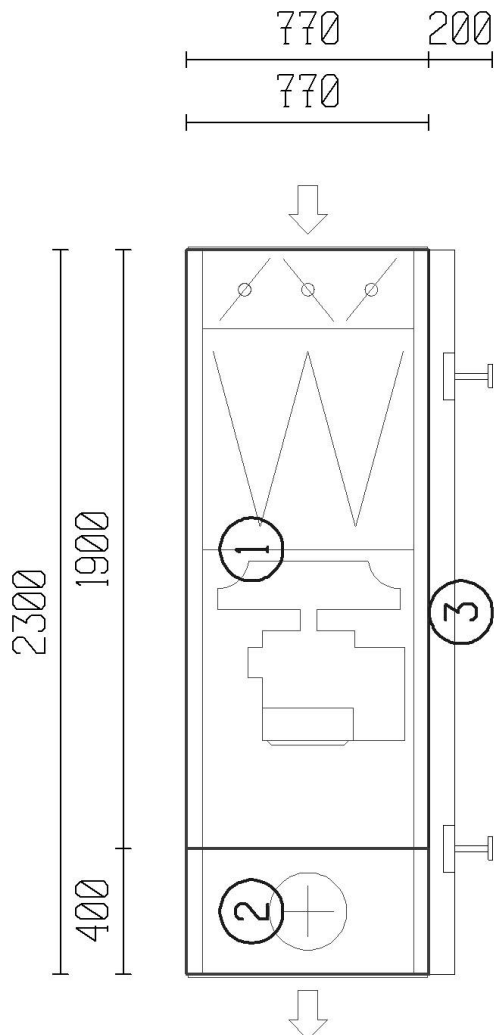
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		68	74	79	77	77	74	68	64	dB	81 dB(A)
Suction side of the unit		67	71	82	76	69	59	50	43	dB	77 dB(A)
Through the casing		62	63	64	58	60	59	47	39	dB	65 dB(A)

Unit: U-1  
Unit code U-1  
Unit size 3C  
Supply air flow 6600 m<sup>3</sup>/h  
Exhaust air flow 6600 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 460 kg  
Additional info  
Duct connections supplied with connection flange

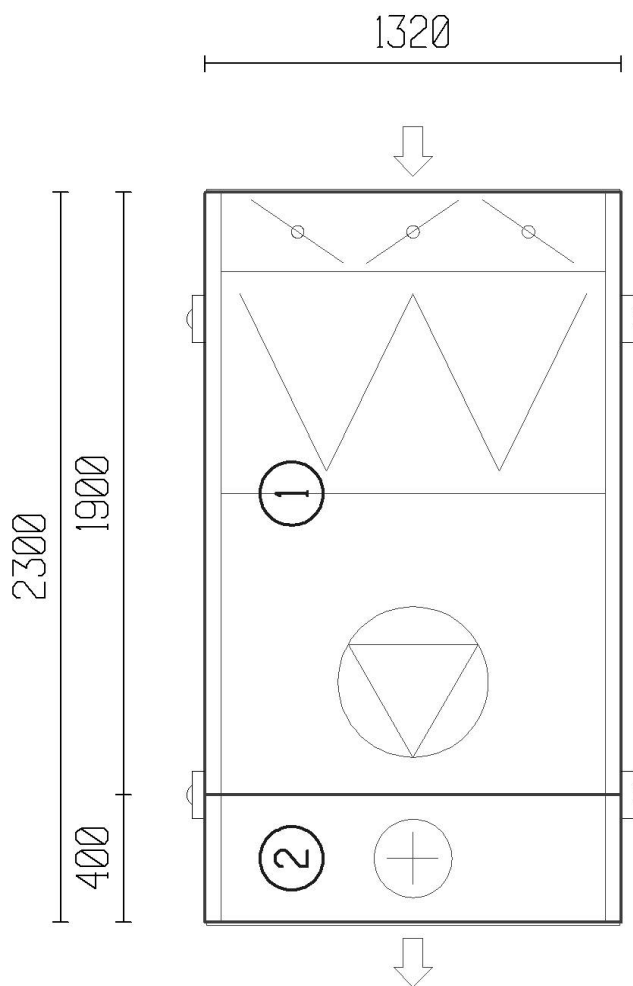
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: U-1

## Unit sections and technical data

### Supply unit

#### ① CASING 3C L=1900

Dimensions (width x height x length)	1320 x 770 x 1900	mm
Weight, includes the weight of the casing and parts inside the casing	261	kg

#### DAMPER SECTION 3C L=250

Tightness class	Leakage class 4	
Pressure loss	11	Pa
Torque demand	9	Nm

#### FILTER SECTION 3C L=700

Filter class	F7	
Initial pressure loss	118	Pa
Calculation pressure loss	177	Pa
Final pressure loss	236	Pa
Filter quantity and size	2x[592x592]	
Spare filter set	1	pc

#### FAN SECTION 3C 400 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D400	
Air flow	6600	m3/h
Connection type	To a chamber	
Fan total pressure	1053	Pa
Fan efficiency	79	%
Electrical total efficiency	65	%
Motor speed	2709	1/min
Maximum speed of revolution	2808	1/min
Fan shaft power	2.45	kW
Fan's maximum power	4.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 1634 Pa / 163.3	

#### DIRECT DRIVEN FAN GPEB400

Voltage	400V/3-v/50Hz	
Motor shaft power	2.45	kW
Nominal capacity	3.00	kW
Nominal current	5.90	A
Nominal speed (50 Hz)	2925	1/min
Efficiency	85	%
Motor input power in working point	2.98	kW
Motor frequency in the working point	46	Hz
Motor maximum frequency	48	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### ② CASING 3C L=400

Dimensions (width x height x length)	1320 x 770 x 400	mm
Weight, includes the weight of the casing and parts inside the casing	179	kg

#### LG-3C-02-S

Air flow	6600	m3/h
Heating capacity	89.5	kW
Row number / fin spacing	2 / 2.0	mm
Face velocity / Pressure loss	2.5 m/s / 36	Pa
Air temperature, entering / leaving	-20.7 / 20.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	1.16 l/s / 1.41 m/s / 10.7	kPa
Fluid volume	5	l

Unit: U-1

Tube connections, flange

DN32

- ③ **UNIT BASE 1C-6C L=2300 B=1320 H=200**  
Adjustable feet with synthetic rubber pad  
Weight

20 kg

Unit: P-12

**Unit : 9**

P-12

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 3C			
Air flow	3300	m3/h	3300	m3/h
External static pressure of the unit	800	Pa	800	Pa
Motor power	1.46	kW	0.00	kW
Coil face velocity	1.3	m/s		
Face velocity of the unit	1.2	m/s	1.2	m/s
SFP, specific fan power	1.58	kW/(m <sup>3</sup> /s)		
SFPint	0.06	kW/(m <sup>3</sup> /s)	41	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		63	69	74	72	72	69	63	59	dB	76 dB(A)
Suction side of the unit		62	66	77	71	64	54	45	38	dB	72 dB(A)
Through the casing		57	58	59	53	55	54	42	34	dB	60 dB(A)

Unit: P-12

Unit code P-12

Unit size 3C

Supply air flow 3300 m<sup>3</sup>/h

Exhaust air flow 3300 m<sup>3</sup>/h

Tot. (dry) weight of the unit 453 kg

Additional info

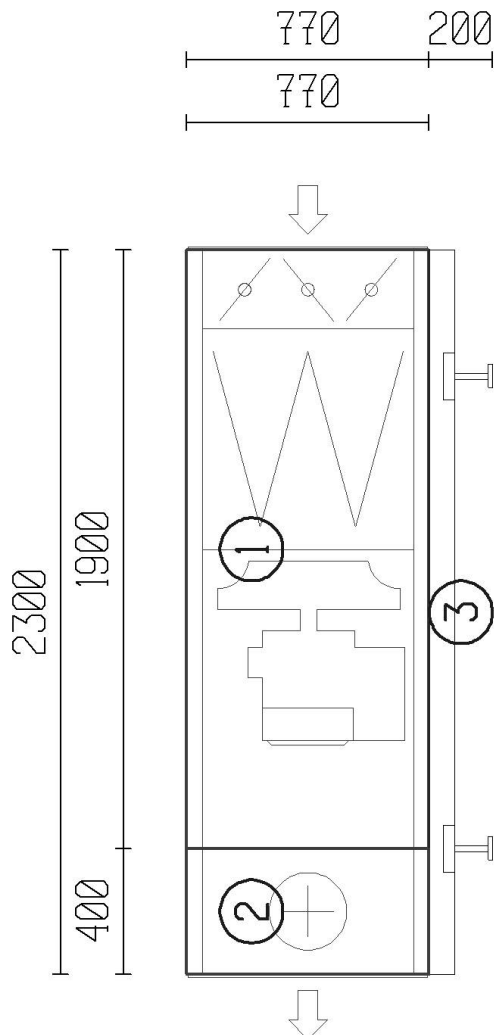
Duct connections supplied with connection flange

Handled by

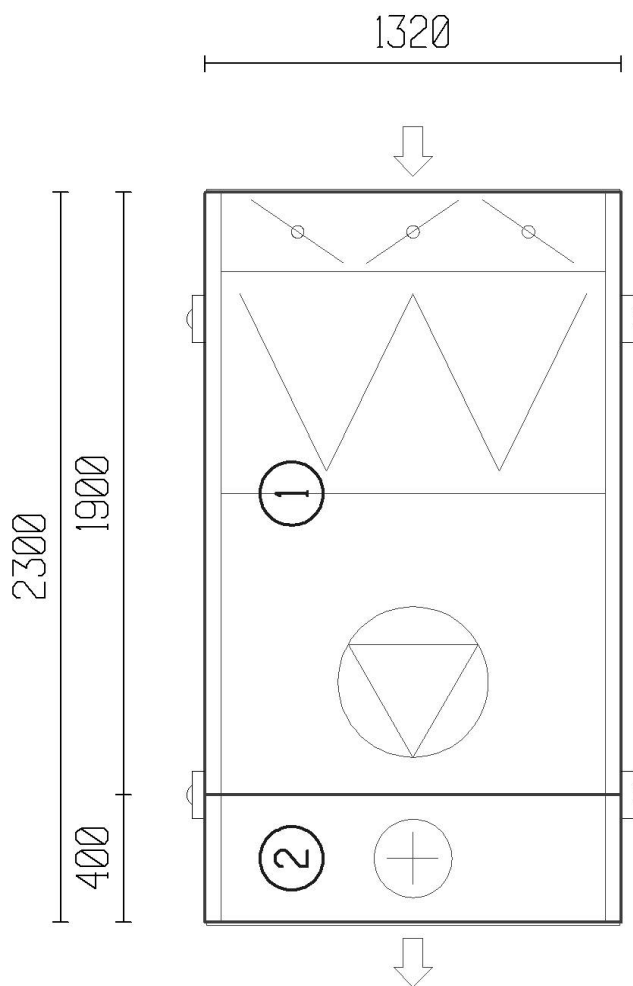
Scale

No scale

### From the service side



### Top view



Unit: P-12

## Unit sections and technical data

### Supply unit

#### ① CASING 3C L=1900

Dimensions (width x height x length)	1320 x 770 x 1900	mm
Weight, includes the weight of the casing and parts inside the casing	254	kg

#### DAMPER SECTION 3C L=250

Tightness class	Leakage class 4	
Pressure loss	3	Pa
Torque demand	9	Nm

#### FILTER SECTION 3C L=700

Filter class	F7	
Initial pressure loss	41	Pa
Calculation pressure loss	63	Pa
Final pressure loss	83	Pa
Filter quantity and size	2x[592x592]	
Spare filter set	1	pc

#### FAN SECTION 3C 400 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D400	
Air flow	3300	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	897	Pa
Fan efficiency	70	%
Electrical total efficiency	56	%
Motor speed	2140	1/min
Maximum speed of revolution	2262	1/min
Fan shaft power	1.17	kW
Fan's maximum power	4.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 409 Pa / 163.3	

#### DIRECT DRIVEN FAN GPEB400

Voltage	400V/3-v/50Hz	
Motor shaft power	1.17	kW
Nominal capacity	1.50	kW
Nominal current	3.31	A
Nominal speed (50 Hz)	1450	1/min
Efficiency	83	%
Motor input power in working point	1.46	kW
Motor frequency in the working point	74	Hz
Motor maximum frequency	78	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### ② CASING 3C L=400

Dimensions (width x height x length)	1320 x 770 x 400	mm
Weight, includes the weight of the casing and parts inside the casing	179	kg

#### LG-3C-02-S

Air flow	3300	m <sup>3</sup> /h
Heating capacity	44.8	kW
Row number / fin spacing	2 / 2.0	mm
Face velocity / Pressure loss	1.3 m/s / 12	Pa
Air temperature, entering / leaving	-20.7 / 20.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.58 l/s / 1.17 m/s / 13.3	kPa
Fluid volume	5	l

Unit: P-12

Tube connections, flange

DN25

**③ UNIT BASE 1C-6C L=2300 B=1320 H=200**

Adjustable feet with synthetic rubber pad

Weight

20 kg



Unit: P-10

**Unit : 10**

P-10

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 4B			
Air flow	9200	m3/h	9200	m3/h
External static pressure of the unit	1190	Pa	1190	Pa
Motor power	6.17	kW	0.00	kW
Coil face velocity	3.0	m/s		
Face velocity of the unit	2.9	m/s	2.9	m/s
SFP, specific fan power	2.29	kW/(m <sup>3</sup> /s)		
SFPint	0.21	kW/(m <sup>3</sup> /s)	165	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Supply unit**

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	73	85	81	83	77	74	69	dB	87 dB(A)
Suction side of the unit		72	75	85	78	75	65	55	49	dB	81 dB(A)
Through the casing		64	62	70	62	66	62	53	44	dB	70 dB(A)

Unit: P-10

Unit code

P-10

Unit size

4B

Supply air flow

9200

m<sup>3</sup>/h

Exhaust air flow

9200

m<sup>3</sup>/h

Tot. (dry) weight of the unit

410

kg

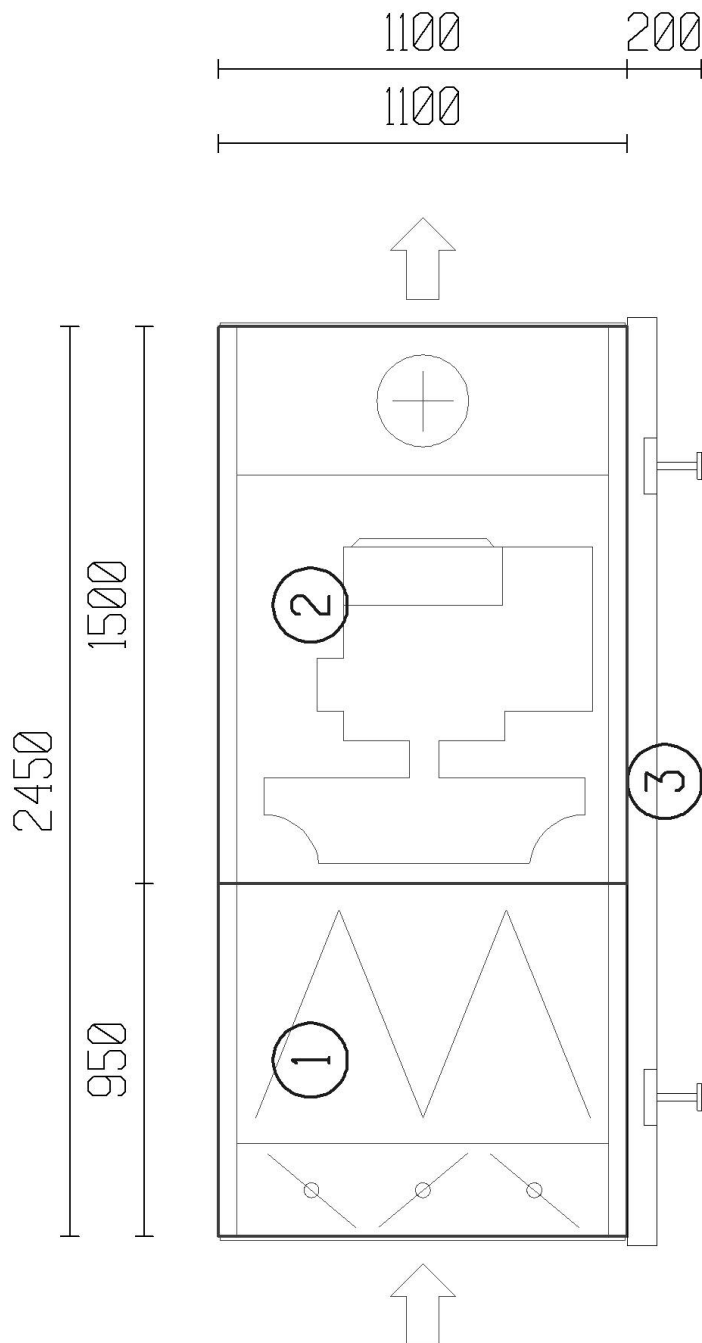
Additional info

Duct connections supplied with connection flange

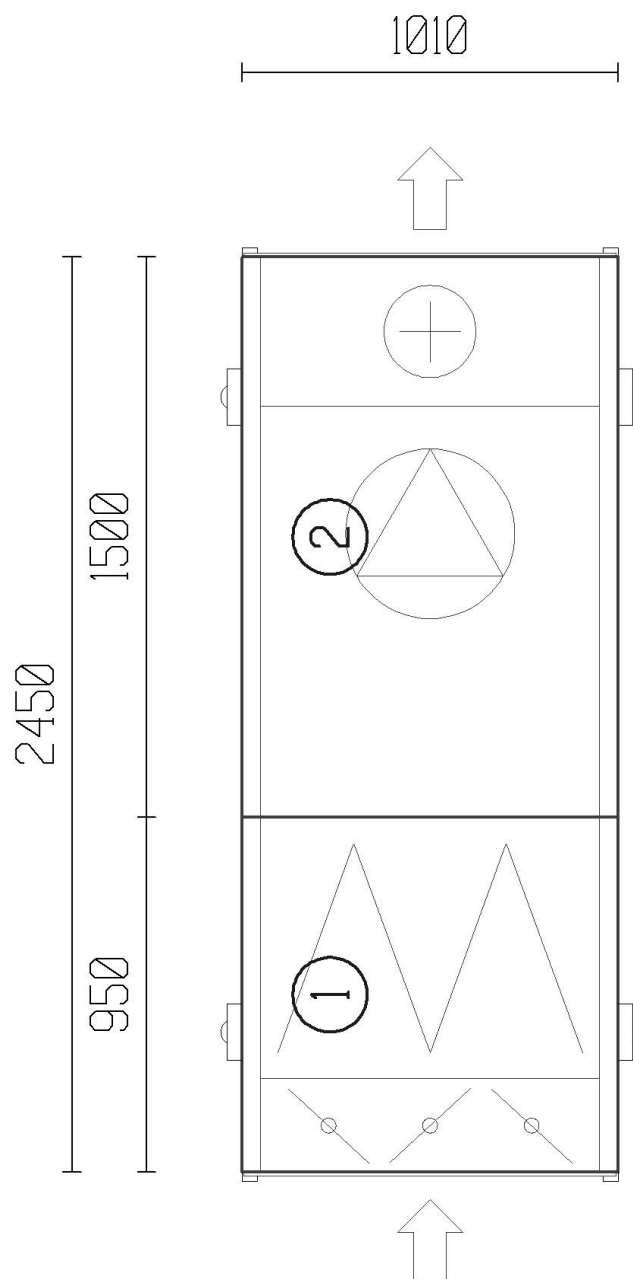
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: P-10

## Unit sections and technical data

### Supply unit

#### ① CASING 4B L=950

Dimensions (width x height x length)	1010 x 1100 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	116	kg

#### DAMPER SECTION 4B L=250

Tightness class	Leakage class 4
Pressure loss	24 Pa
Torque demand	11 Nm

#### FILTER SECTION 4B L=700

Filter class	F7
Initial pressure loss	165 Pa
Calculation pressure loss	246 Pa
Final pressure loss	329 Pa
Filter quantity and size	1x[592x892] + 1x[287x892]
Spare filter set	1 pc

#### ② CASING 4B L=1500

Dimensions (width x height x length)	1010 x 1100 x 1500	mm
Weight, includes the weight of the casing and parts inside the casing	269	kg

#### FAN SECTION 4B 450 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166	
Manufacturer	Fläkt Woods
Blade type/diameter	Backward curved / D450
Air flow	9200 m <sup>3</sup> /h
Connection type	To a chamber
Fan total pressure	1621 Pa
Fan efficiency	80 %
Electrical total efficiency	67 %
Motor speed	2833 1/min
Maximum speed of revolution	2852 1/min
Fan shaft power	5.21 kW
Fan's maximum power	6.90 kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2166 Pa / 197.7

#### DIRECT DRIVEN FAN GPEB450

Voltage	400V/3-v/50Hz
Motor shaft power	5.21 kW
Nominal capacity	5.50 kW
Nominal current	10.70 A
Nominal speed (50 Hz)	2910 1/min
Efficiency	87 %
Motor input power in working point	6.17 kW
Motor frequency in the working point	49 Hz
Motor maximum frequency	49 Hz
Inspection window as standard	

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### HEAT RECOVERY SECTION 4B Z=3 SUPPLY

Air flow	9200	m <sup>3</sup> /h
Heating capacity	130.9	kW
Row number / fin spacing	3 / 2.0	mm
Face velocity / Pressure loss	3.0 m/s / 66	Pa
Air temperature, entering / leaving	-20.7 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	1.70 l/s / 1.29 m/s / 11.4	kPa
Fluid volume	10	l

Unit: P-10

Tube connections, flange

DN40

**③ UNIT BASE 1B-4B L=2500 B=1010 H=200**

Adjustable feet with synthetic rubber pad

Weight

25 kg

Unit: P-11

## Unit : 11

P-11

### Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 4B			
Air flow	9200	m3/h	9200	m3/h
External static pressure of the unit	1190	Pa	1190	Pa
Motor power	6.17	kW	0.00	kW
Coil face velocity	3.0	m/s		
Face velocity of the unit	2.9	m/s	2.9	m/s
SFP, specific fan power	2.29	kW/(m3/s)		
SFPint	0.21	kW/(m3/s)	165	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

### Supply unit

Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		70	73	85	81	83	77	74	69	dB	87 dB(A)
Suction side of the unit		72	75	85	78	75	65	55	49	dB	81 dB(A)
Through the casing		64	62	70	62	66	62	53	44	dB	70 dB(A)

Unit: P-11

Unit code

P-11

Unit size

4B

Supply air flow

9200

m<sup>3</sup>/h

Exhaust air flow

9200

m<sup>3</sup>/h

Tot. (dry) weight of the unit

410

kg

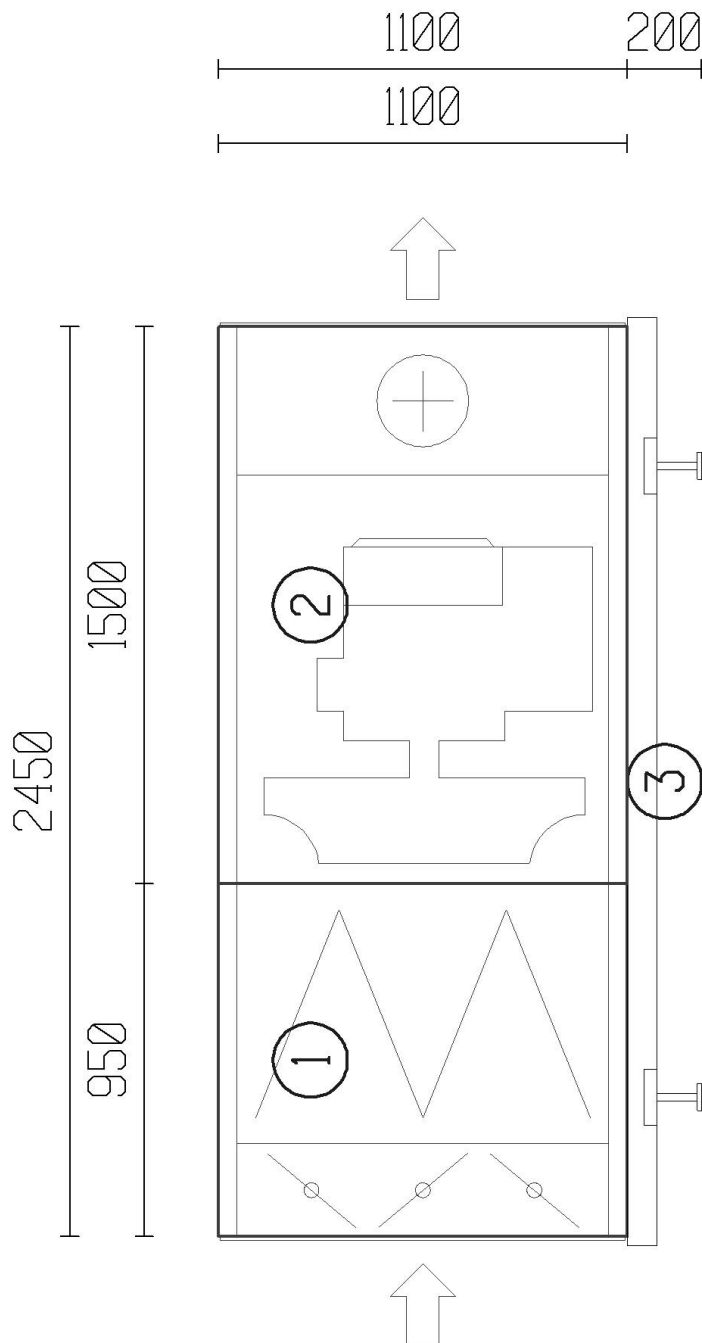
Additional info

Duct connections supplied with connection flange

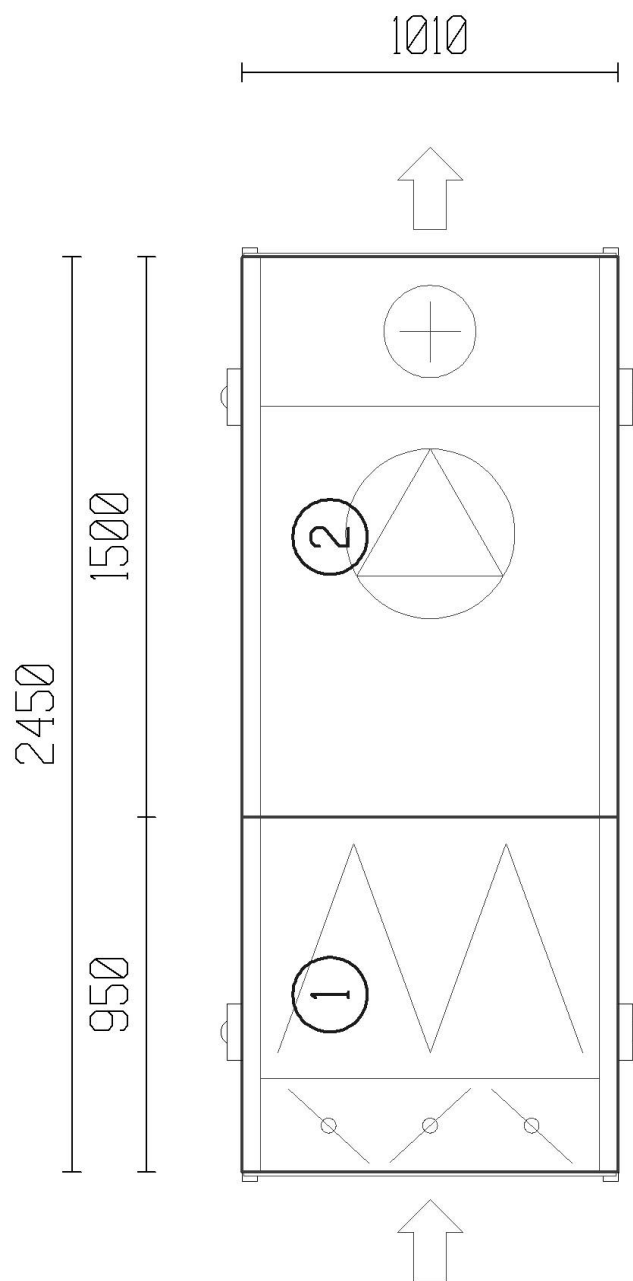
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: P-11

## Unit sections and technical data

### Supply unit

#### ① CASING 4B L=950

Dimensions (width x height x length)	1010 x 1100 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	116	kg

#### DAMPER SECTION 4B L=250

Tightness class	Leakage class 4	
Pressure loss	24	Pa
Torque demand	11	Nm

#### FILTER SECTION 4B L=700

Filter class	F7	
Initial pressure loss	165	Pa
Calculation pressure loss	246	Pa
Final pressure loss	329	Pa
Filter quantity and size	1x[592x892] + 1x[287x892]	
Spare filter set	1	pc

#### ② CASING 4B L=1500

Dimensions (width x height x length)	1010 x 1100 x 1500	mm
Weight, includes the weight of the casing and parts inside the casing	269	kg

#### FAN SECTION 4B 450 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D450	
Air flow	9200	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1621	Pa
Fan efficiency	80	%
Electrical total efficiency	67	%
Motor speed	2833	1/min
Maximum speed of revolution	2852	1/min
Fan shaft power	5.21	kW
Fan's maximum power	6.90	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2166 Pa / 197.7	

#### DIRECT DRIVEN FAN GPEB450

Voltage	400V/3-v/50Hz	
Motor shaft power	5.21	kW
Nominal capacity	5.50	kW
Nominal current	10.70	A
Nominal speed (50 Hz)	2910	1/min
Efficiency	87	%
Motor input power in working point	6.17	kW
Motor frequency in the working point	49	Hz
Motor maximum frequency	49	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### HEAT RECOVERY SECTION 4B Z=3 SUPPLY

Air flow	9200	m <sup>3</sup> /h
Heating capacity	130.9	kW
Row number / fin spacing	3 / 2.0	mm
Face velocity / Pressure loss	3.0 m/s / 66	Pa
Air temperature, entering / leaving	-20.7 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	1.70 l/s / 1.29 m/s / 11.4	kPa
Fluid volume	10	l

Unit: P-11

Tube connections, flange

DN40

- ③ **UNIT BASE 1B-4B L=2500 B=1010 H=200**  
Adjustable feet with synthetic rubber pad  
Weight

25 kg



Unit: P-3

## Unit : 12

P-3

### Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 2B			
Air flow	3600	m3/h	3600	m3/h
External static pressure of the unit	800	Pa	800	Pa
Motor power	1.77	kW	0.00	kW
Coil face velocity	2.3	m/s		
Face velocity of the unit	2.3	m/s	2.3	m/s
SFP, specific fan power	1.67	kW/(m3/s)		
SFPint	0.15	kW/(m3/s)	117	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

#### Supply unit

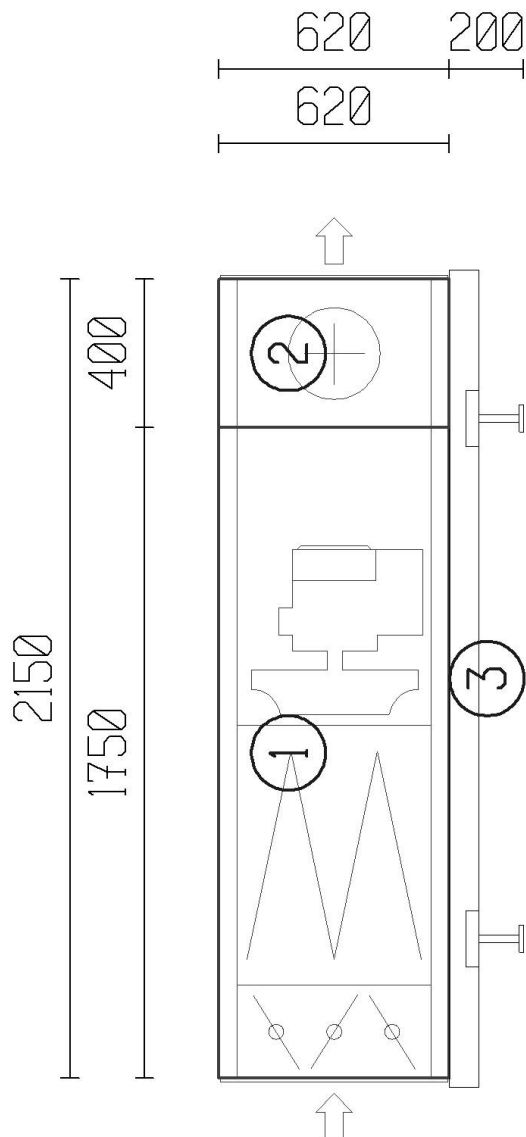
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		65	65	63	72	74	70	67	62	dB	77 dB(A)
Suction side of the unit		68	65	67	72	66	53	44	37	dB	71 dB(A)
Through the casing		59	54	48	53	57	55	46	37	dB	60 dB(A)

Unit: P-3  
Unit code P-3  
Unit size 2B  
Supply air flow 3600 m<sup>3</sup>/h  
Exhaust air flow 3600 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 369 kg  
Additional info  
Duct connections supplied with connection flange

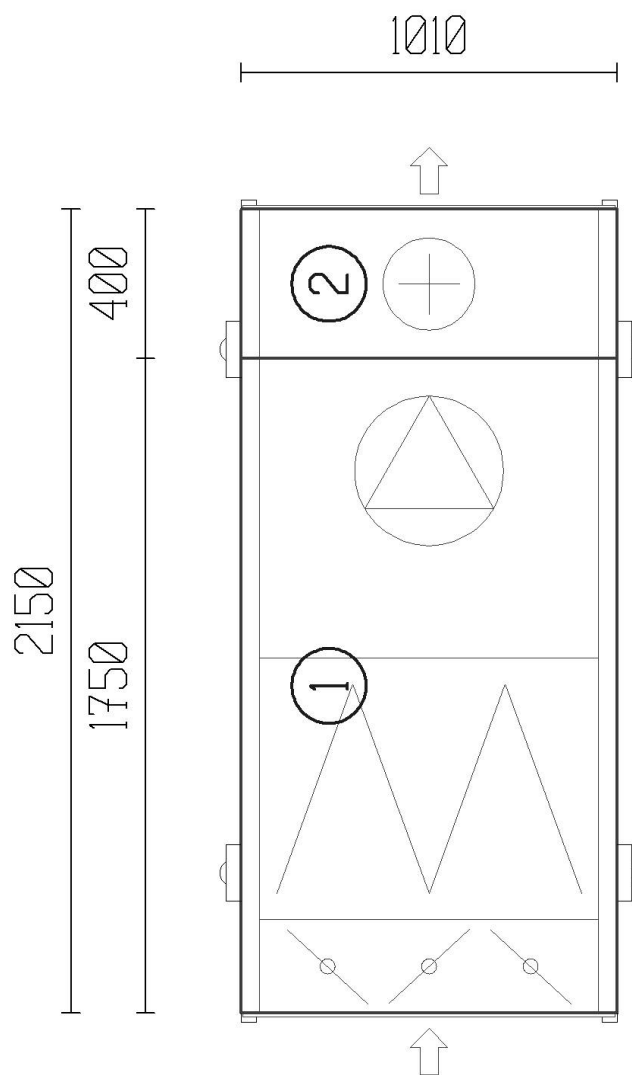
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: P-3

## Unit sections and technical data

### Supply unit

#### ① CASING 2B L=1750

Dimensions (width x height x length)	1010 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	177	kg

#### DAMPER SECTION 2B L=250

Tightness class	Leakage class 4	
Pressure loss	14	Pa
Torque demand	7	Nm

#### FILTER SECTION 2B L=700

Filter class	F7	
Initial pressure loss	117	Pa
Calculation pressure loss	176	Pa
Final pressure loss	234	Pa
Filter quantity and size	1x[592x442] + 1x[287x442]	
Spare filter set	1	pc

#### FAN SECTION 2B 315 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D315	
Air flow	3600	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	1082	Pa
Fan efficiency	77	%
Electrical total efficiency	61	%
Motor speed	3316	1/min
Maximum speed of revolution	3364	1/min
Fan shaft power	1.40	kW
Fan's maximum power	3.34	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 1312 Pa / 99.4	

#### DIRECT DRIVEN FAN GPEB310

Voltage	400V/3-v/50Hz	
Motor shaft power	1.40	kW
Nominal capacity	1.50	kW
Nominal current	3.17	A
Nominal speed (50 Hz)	2900	1/min
Efficiency	81	%
Motor input power in working point	1.77	kW
Motor frequency in the working point	57	Hz
Motor maximum frequency	58	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### ② CASING 2B L=400

Dimensions (width x height x length)	1010 x 620 x 400	mm
Weight, includes the weight of the casing and parts inside the casing	172	kg

#### LG-2B-02-S

Air flow	3600	m <sup>3</sup> /h
Heating capacity	51.2	kW
Row number / fin spacing	2 / 2.0	mm
Face velocity / Pressure loss	2.3 m/s / 31	Pa
Air temperature, entering / leaving	-20.7 / 22.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.67 l/s / 1.34 m/s / 10.8	kPa
Fluid volume	3	l

Unit: P-3

Tube connections, flange

DN25

- ③ **UNIT BASE 1B-4B L=2200 B=1010 H=200**  
Adjustable feet with synthetic rubber pad  
Weight

20 kg

Unit: P-5

## Unit : 13

P-5

### Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size	Recair 2C			
Air flow	5600	m3/h	5600	m3/h
External static pressure of the unit	450	Pa	450	Pa
Motor power	2.35	kW	0.00	kW
Face velocity of the unit	2.6	m/s	2.6	m/s
SFP, specific fan power	1.32	kW/(m³/s)		
SFPint	0.21	kW/(m³/s)	148	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

### Supply unit

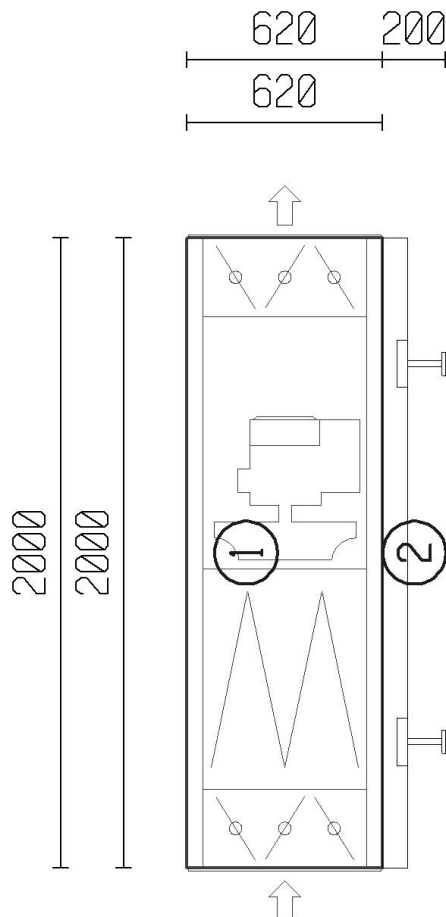
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		73	73	73	81	84	81	82	79	dB	89 dB(A)
Suction side of the unit		75	72	74	79	73	60	51	44	dB	78 dB(A)
Through the casing		66	61	55	60	64	62	53	44	dB	67 dB(A)

Unit: P-5  
Unit code P-5  
Unit size 2C  
Supply air flow 5600 m<sup>3</sup>/h  
Exhaust air flow 5600 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 267 kg  
Additional info  
Duct connections supplied with connection flange

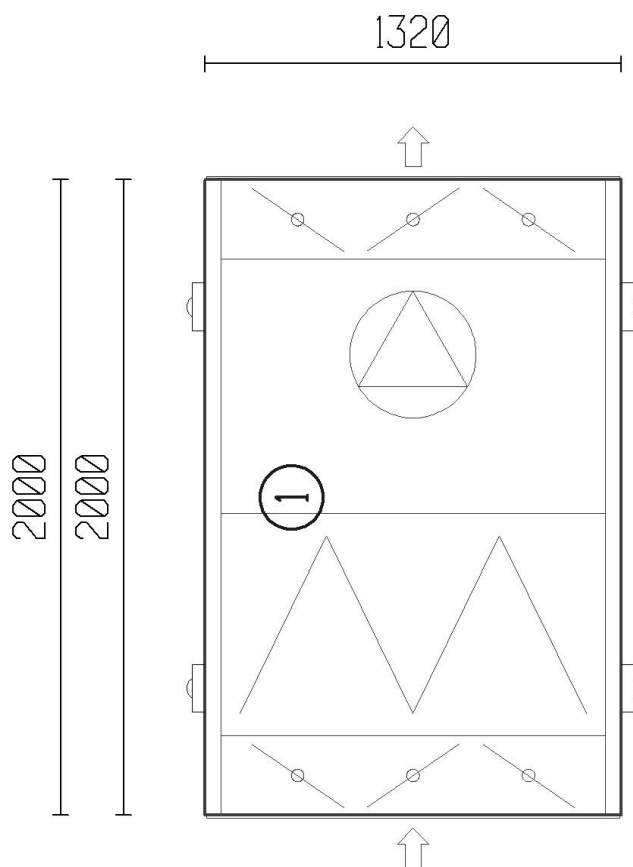
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: P-5

## Unit sections and technical data

### Supply unit

#### ① CASING 2C L=2000

Dimensions (width x height x length)	1320 x 620 x 2000	mm
Weight, includes the weight of the casing and parts inside the casing	249	kg

#### DAMPER SECTION 2C L=250

Tightness class	Leakage class 4	
Pressure loss	19	Pa
Torque demand	8	Nm

#### FILTER SECTION 2C L=700

Filter class	F7	
Initial pressure loss	148	Pa
Calculation pressure loss	222	Pa
Final pressure loss	296	Pa
Filter quantity and size	2x[592x442]	
Spare filter set	1	pc

#### FAN SECTION 2C 315 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D315	
Air flow	5600	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	857	Pa
Fan efficiency	69	%
Electrical total efficiency	57	%
Motor speed	3941	1/min
Maximum speed of revolution	4270	1/min
Fan shaft power	1.93	kW
Fan's maximum power	3.34	kW
Air flow measurement pressure difference / K value	$\left( q = k \sqrt{\Delta p} \right)$ 3174 Pa / 99.4	

#### DIRECT DRIVEN FAN GPEB310

Voltage	400V/3-v/50Hz	
Motor shaft power	1.93	kW
Nominal capacity	3.00	kW
Nominal current	5.90	A
Nominal speed (50 Hz)	2925	1/min
Efficiency	85	%
Motor input power in working point	2.35	kW
Motor frequency in the working point	67	Hz
Motor maximum frequency	73	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2C L=250

Tightness class	Leakage class 4	
Pressure loss	19	Pa
Torque demand	8	Nm

#### ② UNIT BASE 1C-6C L=2000 B=1320 H=200

Adjustable feets with synthetic rubber pad		
Weight	19	kg

Unit: N-3

**Unit : 14**

N-3

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size			Recair 2A	
Air flow	2000	m3/h	2000	m3/h
External static pressure of the unit	800	Pa	800	Pa
Motor power	0.00	kW	0.93	kW
Face velocity of the unit	1.9	m/s	1.9	m/s
SFP, specific fan power			1.66	kW/(m <sup>3</sup> /s)
SFPint			0.06	kW/(m <sup>3</sup> /s)
			43	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Exhaust unit**

Octave band    Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	60	62	65	72	74	75	75	71	dB	81    dB(A)
Suction side of the unit	60	61	63	68	62	53	47	39	dB	67    dB(A)
Through the casing	53	50	47	51	54	56	46	36	dB	59    dB(A)

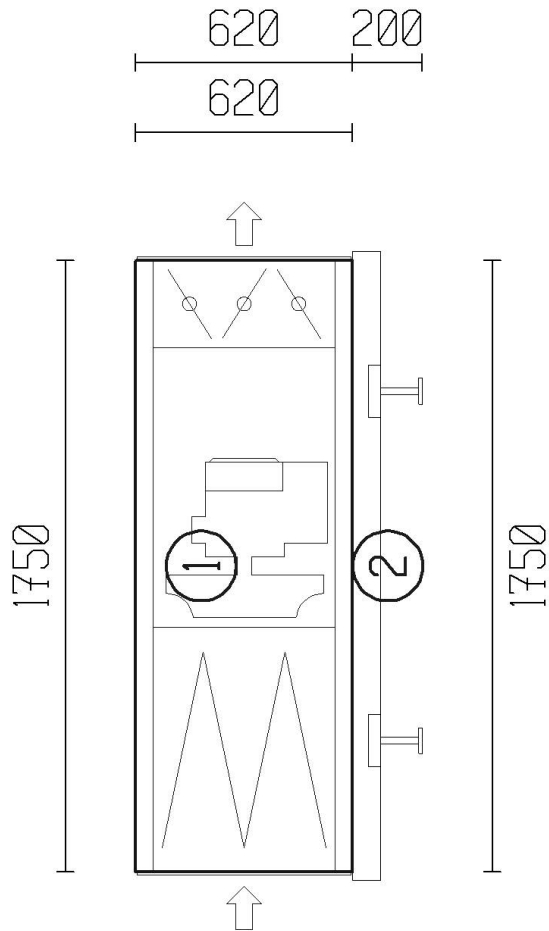


Unit: N-3  
Unit code N-3  
Unit size 2A  
Supply air flow 2000 m<sup>3</sup>/h  
Exhaust air flow 2000 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 153 kg  
Additional info  
Duct connections supplied with connection flange

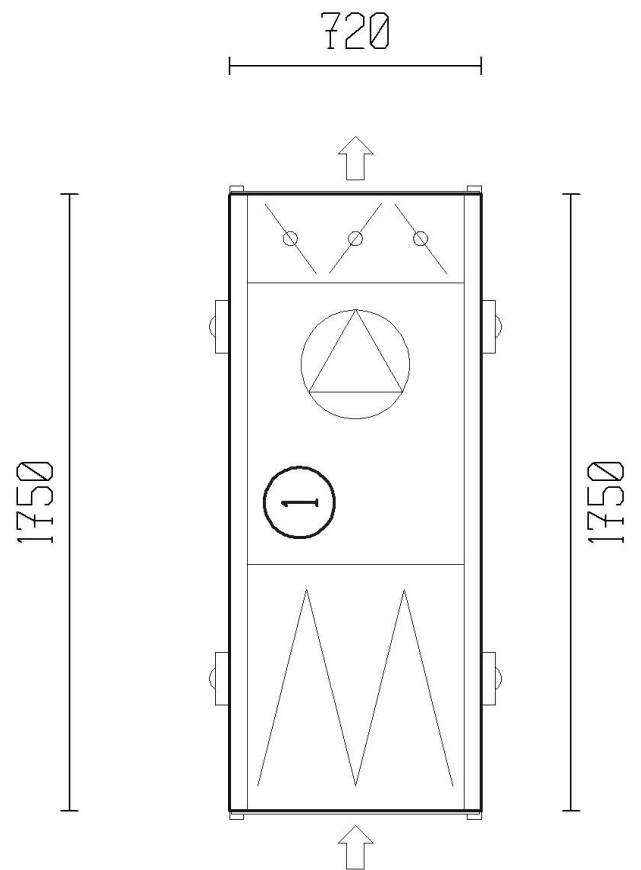
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: N-3

## Unit sections and technical data

### Exhaust unit

#### ① CASING 2A L=1750

Dimensions (width x height x length)	720 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	137	kg

#### FILTER SECTION 2A L=700

Filter class	F5	
Initial pressure loss	43	Pa
Calculation pressure loss	65	Pa
Final pressure loss	86	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

#### FAN SECTION 2A 250 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	2000	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	923	Pa
Fan efficiency	73	%
Electrical total efficiency	55	%
Motor speed	3744	1/min
Maximum speed of revolution	3816	1/min
Fan shaft power	0.70	kW
Fan's maximum power	1.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 927 Pa / 65.7	

#### DIRECT DRIVEN FAN GPEB250

Voltage	400V/3-v/50Hz	
Motor shaft power	0.70	kW
Nominal capacity	0.75	kW
Nominal current	1.86	A
Nominal speed (50 Hz)	2848	1/min
Efficiency	77	%
Motor input power in working point	0.93	kW
Motor frequency in the working point	66	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	11	Pa
Torque demand	5	Nm

#### ② UNIT BASE 1A-3A L=1800 B=720 H=200

Adjustable feets with synthetic rubber pad		
Weight	16	kg

Unit: N-7

**Unit : 15**

N-7

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size			Recair 2A	
Air flow	2000	m3/h	2000	m3/h
External static pressure of the unit	800	Pa	800	Pa
Motor power	0.00	kW	0.93	kW
Face velocity of the unit	1.9	m/s	1.9	m/s
SFP, specific fan power			1.66	kW/(m <sup>3</sup> /s)
SFPint			0.06	kW/(m <sup>3</sup> /s)
			43	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Exhaust unit**

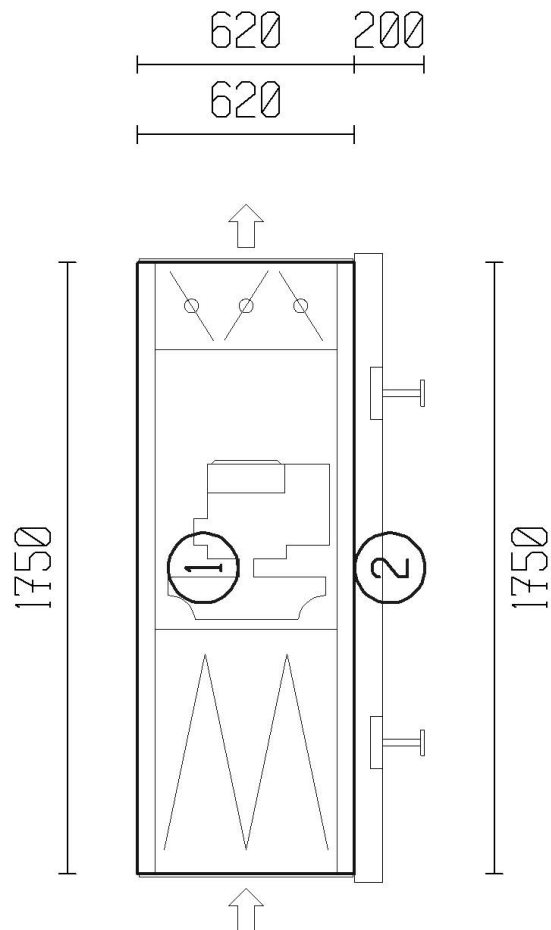
Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.	
Pressure side of the unit	60	62	65	72	74	75	75	71	dB	81	dB(A)
Suction side of the unit	60	61	63	68	62	53	47	39	dB	67	dB(A)
Through the casing	53	50	47	51	54	56	46	36	dB	59	dB(A)

Unit: N-7  
Unit code N-7  
Unit size 2A  
Supply air flow 2000 m<sup>3</sup>/h  
Exhaust air flow 2000 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 153 kg  
Additional info  
Duct connections supplied with connection flange

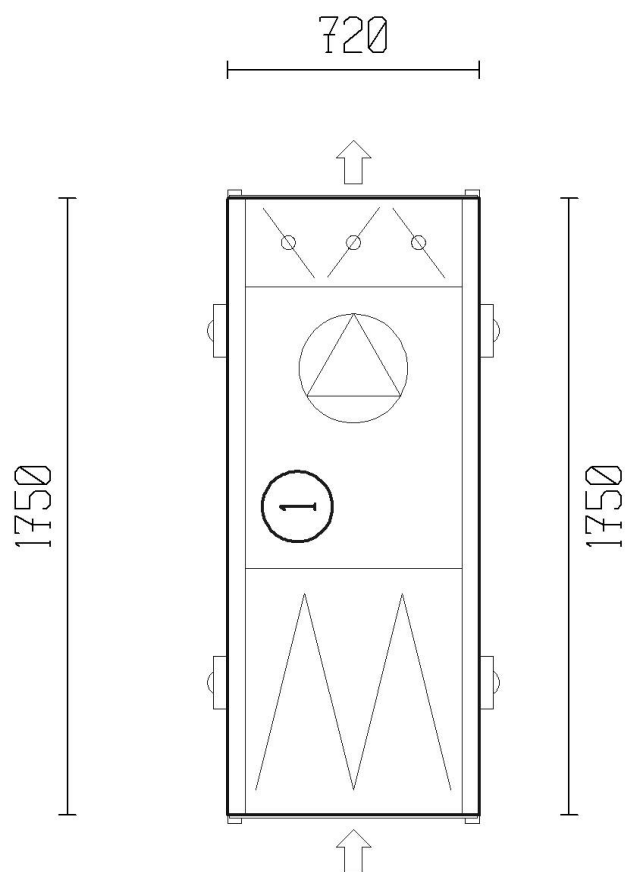
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: N-7

## Unit sections and technical data

### Exhaust unit

#### ① CASING 2A L=1750

Dimensions (width x height x length)	720 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	137	kg

#### FILTER SECTION 2A L=700

Filter class	F5	
Initial pressure loss	43	Pa
Calculation pressure loss	65	Pa
Final pressure loss	86	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

#### FAN SECTION 2A 250 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	2000	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	923	Pa
Fan efficiency	73	%
Electrical total efficiency	55	%
Motor speed	3744	1/min
Maximum speed of revolution	3816	1/min
Fan shaft power	0.70	kW
Fan's maximum power	1.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 927 Pa / 65.7	

#### DIRECT DRIVEN FAN GPEB250

Voltage	400V/3-v/50Hz	
Motor shaft power	0.70	kW
Nominal capacity	0.75	kW
Nominal current	1.86	A
Nominal speed (50 Hz)	2848	1/min
Efficiency	77	%
Motor input power in working point	0.93	kW
Motor frequency in the working point	66	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	11	Pa
Torque demand	5	Nm

#### ② UNIT BASE 1A-3A L=1800 B=720 H=200

Adjustable feets with synthetic rubber pad		
Weight	16	kg

Unit: N-8

## Unit : 16

N-8

### Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size			Recair 2A	
Air flow	1800	m3/h	1800	m3/h
External static pressure of the unit	650	Pa	650	Pa
Motor power	0.00	kW	0.68	kW
Face velocity of the unit	1.7	m/s	1.7	m/s
SFP, specific fan power			1.35	kW/(m³/s)
SFPint			0.05	kW/(m³/s)
			38	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

#### Exhaust unit

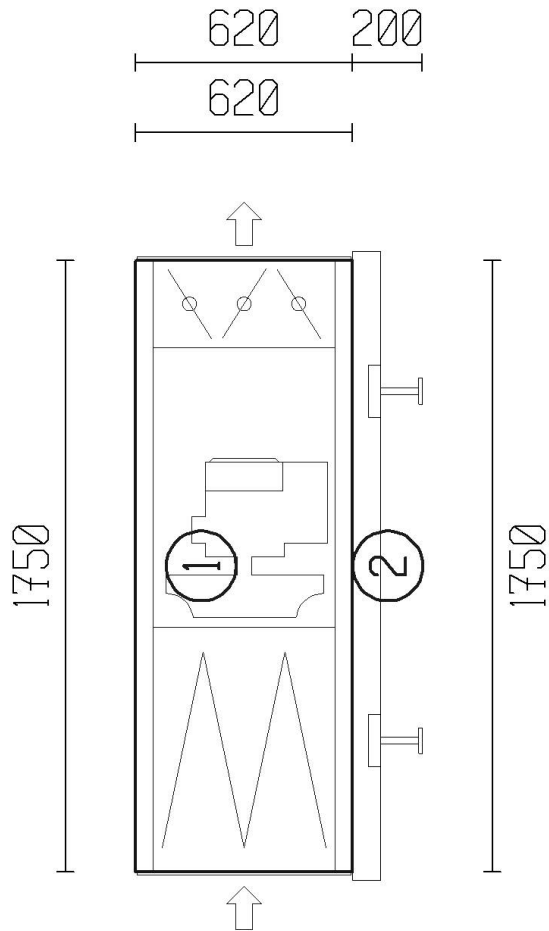
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		58	60	63	70	72	73	73	69	dB	79 dB(A)
Suction side of the unit		58	59	61	66	60	51	45	37	dB	65 dB(A)
Through the casing		51	48	45	49	52	54	44	34	dB	57 dB(A)

Unit: N-8  
Unit code N-8  
Unit size 2A  
Supply air flow 1800 m<sup>3</sup>/h  
Exhaust air flow 1800 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 153 kg  
Additional info  
Duct connections supplied with connection flange

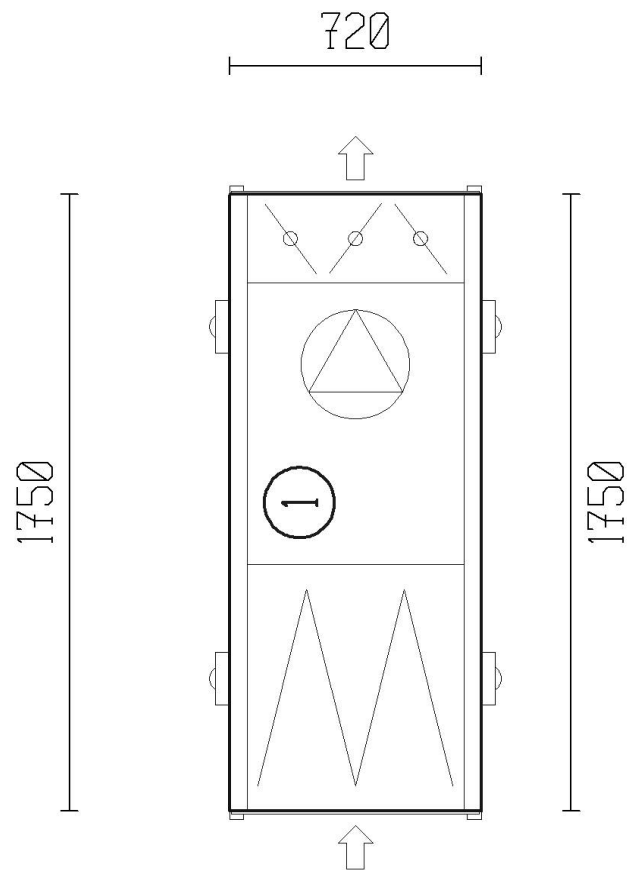
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: N-8

## Unit sections and technical data

### Exhaust unit

#### ① CASING 2A L=1750

Dimensions (width x height x length)	720 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	137	kg

#### FILTER SECTION 2A L=700

Filter class	F5	
Initial pressure loss	38	Pa
Calculation pressure loss	57	Pa
Final pressure loss	75	Pa
Filter quantity and size	1x[592x442]	
<b>Spare filter set</b>	1	pc

#### FAN SECTION 2A 250 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	1800	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	754	Pa
Fan efficiency	73	%
Electrical total efficiency	55	%
Motor speed	3387	1/min
Maximum speed of revolution	3816	1/min
Fan shaft power	0.51	kW
Fan's maximum power	1.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 751 Pa / 65.7	

#### DIRECT DRIVEN FAN GPEB250

Voltage	400V/3-v/50Hz	
Motor shaft power	0.51	kW
Nominal capacity	0.75	kW
Nominal current	1.86	A
Nominal speed (50 Hz)	2848	1/min
Efficiency	77	%
Motor input power in working point	0.68	kW
Motor frequency in the working point	59	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	9	Pa
Torque demand	5	Nm

#### ② UNIT BASE 1A-3A L=1800 B=720 H=200

Adjustable feets with synthetic rubber pad		
Weight	16	kg



Unit: N-9

## Unit : 17

N-9

### Summary data

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size			Recair 2A	
Air flow	1800	m3/h	1800	m3/h
External static pressure of the unit	650	Pa	650	Pa
Motor power	0.00	kW	0.68	kW
Face velocity of the unit	1.7	m/s	1.7	m/s
SFP, specific fan power			1.35	kW/(m³/s)
SFPint			0.05	kW/(m³/s)
			38	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

#### Exhaust unit

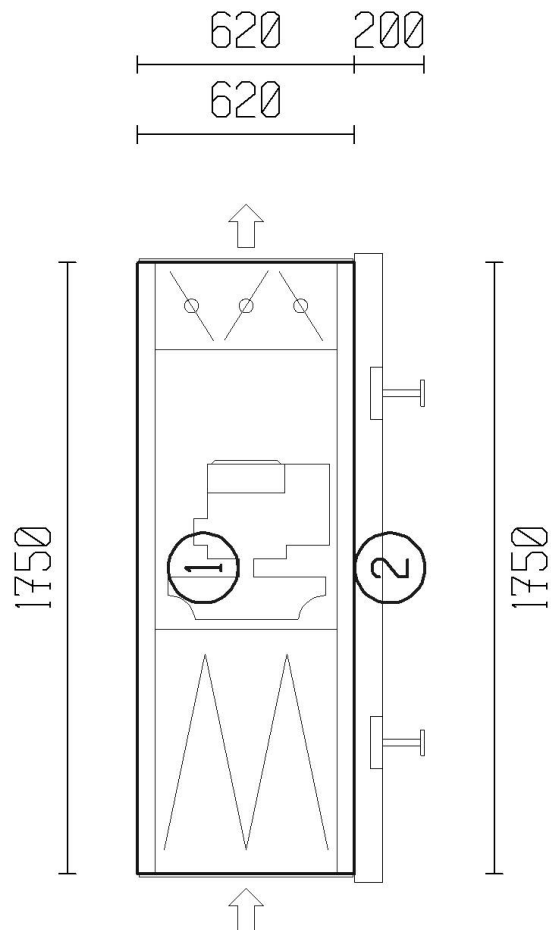
Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	58	60	63	70	72	73	73	69	dB	79 dB(A)
Suction side of the unit	58	59	61	66	60	51	45	37	dB	65 dB(A)
Through the casing	51	48	45	49	52	54	44	34	dB	57 dB(A)

Unit: N-9  
Unit code N-9  
Unit size 2A  
Supply air flow 1800 m3/h  
Exhaust air flow 1800 m3/h  
Tot. (dry) weight of the unit 153 kg  
Additional info  
Duct connections supplied with connection flange

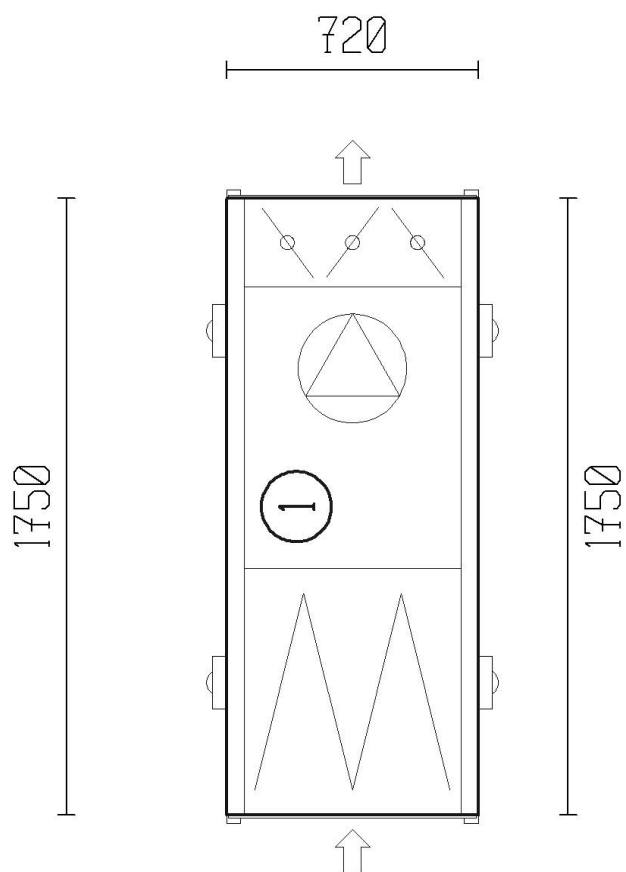
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: N-9

## Unit sections and technical data

### Exhaust unit

#### ① CASING 2A L=1750

Dimensions (width x height x length)	720 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	137	kg

#### FILTER SECTION 2A L=700

Filter class	F5	
Initial pressure loss	38	Pa
Calculation pressure loss	57	Pa
Final pressure loss	75	Pa
Filter quantity and size	1x[592x442]	
<b>Spare filter set</b>	1	pc

#### FAN SECTION 2A 250 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	1800	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	754	Pa
Fan efficiency	73	%
Electrical total efficiency	55	%
Motor speed	3387	1/min
Maximum speed of revolution	3816	1/min
Fan shaft power	0.51	kW
Fan's maximum power	1.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 751 Pa / 65.7	

#### DIRECT DRIVEN FAN GPEB250

Voltage	400V/3-v/50Hz	
Motor shaft power	0.51	kW
Nominal capacity	0.75	kW
Nominal current	1.86	A
Nominal speed (50 Hz)	2848	1/min
Efficiency	77	%
Motor input power in working point	0.68	kW
Motor frequency in the working point	59	Hz
Motor maximum frequency	67	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2A L=250

Tightness class	Leakage class 4	
Pressure loss	9	Pa
Torque demand	5	Nm

#### ② UNIT BASE 1A-3A L=1800 B=720 H=200

Adjustable feets with synthetic rubber pad		
Weight	16	kg

Unit: N-6

**Unit : 18**

N-6

**Summary data**

Altitude	0	m
Air pressure	1013	mbar
Air density	1.20	kg/m3

	Supply unit		Exhaust unit	
Unit size			Recair 2B	
Air flow	3400	m3/h	3400	m3/h
External static pressure of the unit	650	Pa	650	Pa
Motor power	0.00	kW	1.25	kW
Face velocity of the unit	2.1	m/s	2.1	m/s
SFP, specific fan power			1.29	kW/(m <sup>3</sup> /s)
SFPint			0.07	kW/(m <sup>3</sup> /s)
			51	Pa

Calculation of the SFP figure includes frequency converter's efficiency 97%

Unit equipped with T-handles

Air Handling unit is for use with Frequency Converter. Frequency converter must be installed.

Unit fans must be connected with Frequency Converter.

Unit is according the demands of Ecodesign2016 Directive

The noise performances in accordance with ISO 3741, ISO 5136 and ISO 7235.

Sound power levels in the unit connections

**Exhaust unit**

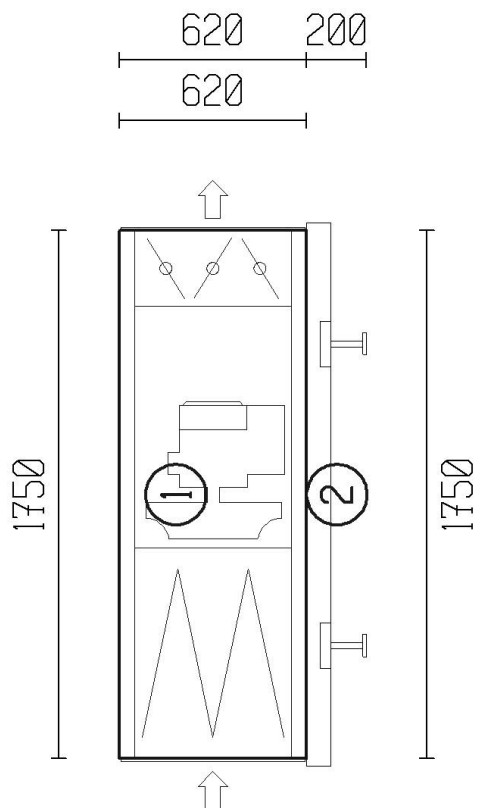
Octave band    Hz	63	125	250	500	1k	2k	4k	8k		Tot.	
Pressure side of the unit	62	64	73	70	75	72	74	70	dB	80	dB(A)
Suction side of the unit	63	61	77	70	63	54	47	39	dB	71	dB(A)
Through the casing	55	52	55	49	55	53	45	35	dB	58	dB(A)

Unit: N-6  
Unit code N-6  
Unit size 2B  
Supply air flow 3400 m<sup>3</sup>/h  
Exhaust air flow 3400 m<sup>3</sup>/h  
Tot. (dry) weight of the unit 192 kg  
Additional info  
Duct connections supplied with connection flange

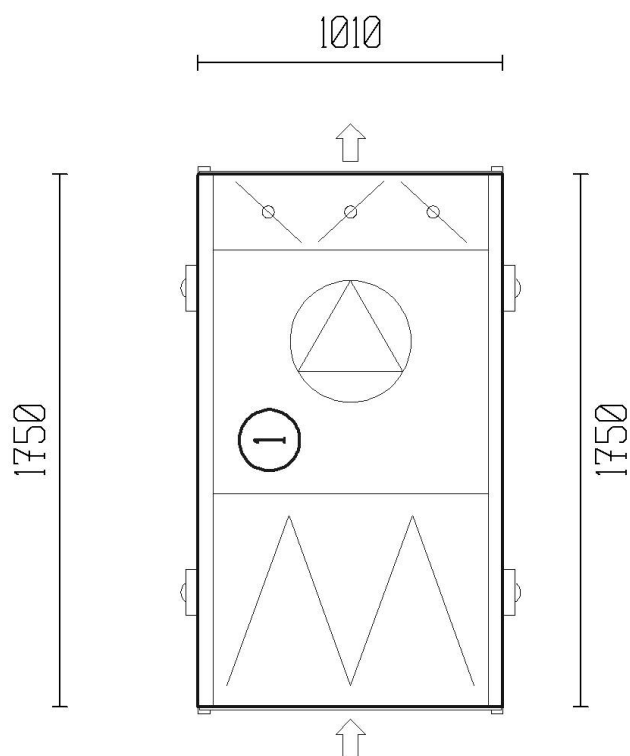
Handled by  
Scale

No scale

### From the service side



### Top view



Unit: N-6

## Unit sections and technical data

### Exhaust unit

#### ① CASING 2B L=1750

Dimensions (width x height x length)	1010 x 620 x 1750	mm
Weight, includes the weight of the casing and parts inside the casing	174	kg

#### FILTER SECTION 2B L=700

Filter class	F5	
Initial pressure loss	51	Pa
Calculation pressure loss	76	Pa
Final pressure loss	102	Pa
Filter quantity and size	1x[592x442] + 1x[287x442]	
Spare filter set	1	pc

#### FAN SECTION 2B 315 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166

Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D315	
Air flow	3400	m <sup>3</sup> /h
Connection type	To a chamber	
Fan total pressure	794	Pa
Fan efficiency	78	%
Electrical total efficiency	60	%
Motor speed	2957	1/min
Maximum speed of revolution	3063	1/min
Fan shaft power	0.97	kW
Fan's maximum power	3.34	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1170 Pa / 99.4	

#### DIRECT DRIVEN FAN GPEB310

Voltage	400V/3-v/50Hz	
Motor shaft power	0.97	kW
Nominal capacity	1.10	kW
Nominal current	2.52	A
Nominal speed (50 Hz)	2890	1/min
Efficiency	80	%
Motor input power in working point	1.25	kW
Motor frequency in the working point	51	Hz
Motor maximum frequency	53	Hz
Inspection window as standard		

#### Light IP 44

#### Switch and cable for light

#### Air flow meter, analog

#### DAMPER SECTION 2B L=250

Tightness class	Leakage class 4	
Pressure loss	13	Pa
Torque demand	7	Nm

#### ② UNIT BASE 1B-4B L=1800 B=1010 H=200

Adjustable feets with synthetic rubber pad		
Weight	17	kg