

Project data																	
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Handled by																	
Additional info																	
Unit code		Size	qT	qP	Heat recovery section			Coils			Sounds			Electric motor		Spec. input power	
					Heat	etaT	etaTs	v	qLP	qJP	qLTO	LWP	LWI	PN	IN	SFPv	Clean filter
			m3/h	m3/h	recovery	%	%	m/s	l/s	l/s	l/s	dB(A)	dB(A)	kW	A	kW/(m³/s)	kW/(m³/s)
1: PN-1		3C	7445		LR	78.6	80.5	2.85	0.31			85	74	3.00	5.90	1.35	
1: PN-1		3C		7040	LR							85	68	3.00	6.18	1.16	2.45
Total			7445	7040										6.00			

Total electric supply, clean filters 5.07 kW

Common SFP figure of units, clean filters 2.45 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	AHU series 3C		AHU series 3C	
Air flow	7445	m3/h	7040	m3/h
External static pressure of the unit	400	Pa	400	Pa
Motor power	2.95	kW	2.32	kW
Coil face velocity	2.8	m/s		
Face velocity of the unit	2.7	m/s	2.5	m/s
SFP, specific fan power	2.45	kW/(m³/s)		
SFPint calculated	0.73	kW/(m³/s)		
SFPint (limit 2016)	1.31	kW/(m³/s)		
SFPint (limit 2018)	1.03	kW/(m³/s)		
dPint calculated	303 / 255	Pa		
Heat Recover %, Ecodesign calculated	81	%		
Heat Recover %, Ecocalculation limit for 2016	67	%		
Heat Recover %, Ecocalculation limit for 2018	73	%		
Ecodesign 2016	OK			
Ecodesign 2018	OK			

SFP calculation includes 97% efficiency for frequency converter if the calculation is for fans with external converters.

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.

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	76	83	79	80	77	74	71	dB	85 dB(A)
Suction side of the unit		66	70	78	74	65	55	45	37	dB	74 dB(A)
Through the casing		64	65	66	60	62	61	49	41	dB	67 dB(A)

Exhaust unit

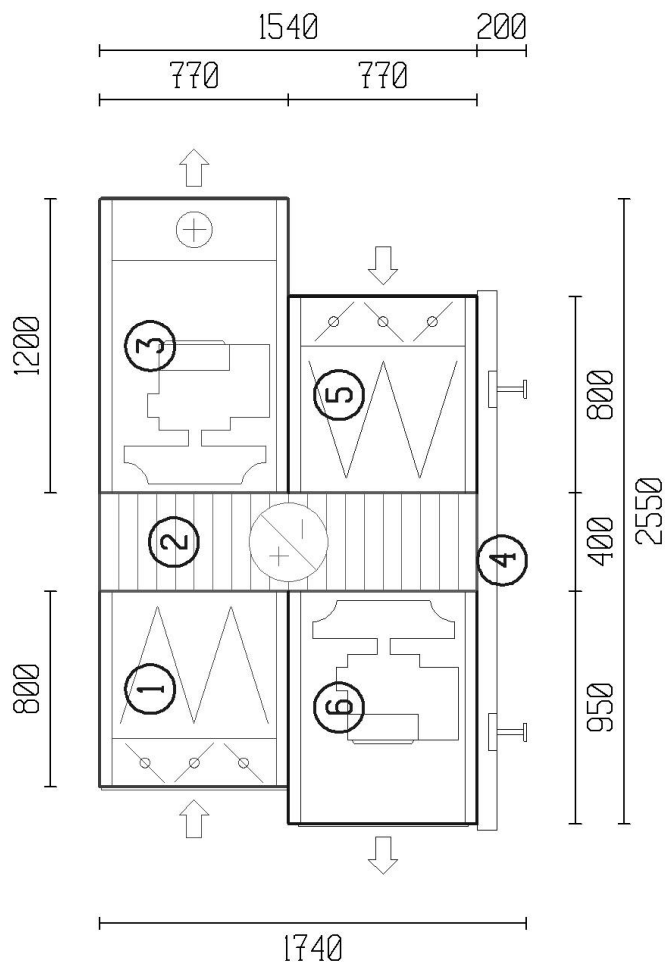
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		71	71	79	74	82	74	74	78	dB	85 dB(A)
Suction side of the unit		69	68	74	66	59	50	40	42	dB	68 dB(A)
Through the casing		64	59	61	53	62	55	45	43	dB	64 dB(A)

Unit: PN-1
Unit code PN-1
Unit size 3C
Supply air flow 7445 m³/h
Exhaust air flow 7040 m³/h
Tot. (dry) weight of the unit 755 kg
Additional info
Duct connections supplied with connection flange

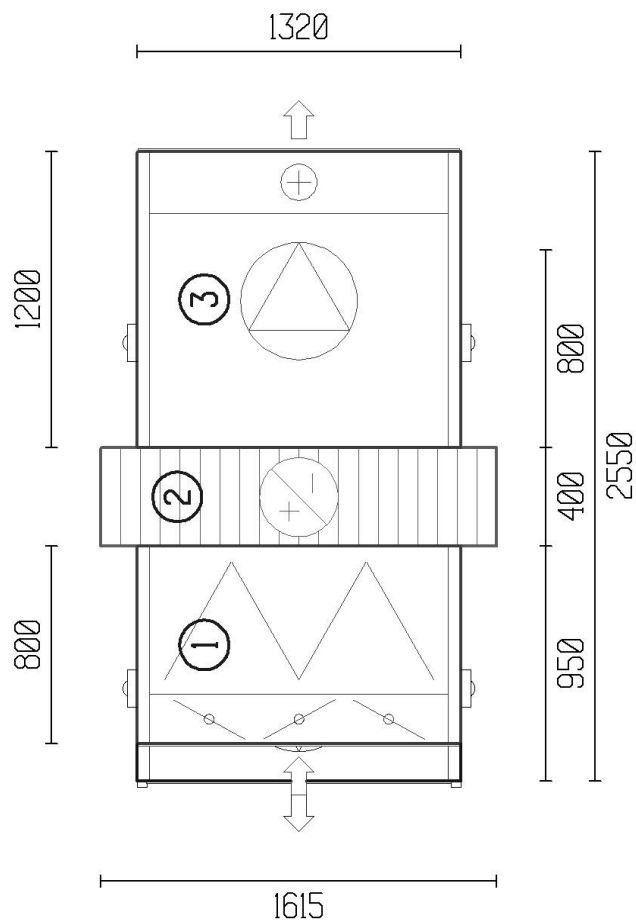
Handled by
Scale

No scale

From the service side



Top view



Unit: PN-1

Unit sections and technical data

Supply unit

① CASING 3C L=800

Dimensions (width x height x length)	1320 x 770 x 800	mm
Weight, includes the weight of the casing and parts inside the casing	99	kg

DAMPER 3C L=200

Tightness class	Leakage class 4
Pressure loss	15 Pa
Torque demand	9 Nm

FILTER 3C L=600

Filter class	F7
Initial pressure loss	113 Pa
Calculation pressure loss	155 Pa
Final pressure loss	197 Pa
Filter quantity and size	2x[592x592]
Spare filter set	1 pc

② ROTARY HEAT EXCHANGER SECTION 3C D=1370

LRE			
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	
	Supply	Exhaust	
Air flow	7445 m3/h	7040 m3/h	
Pressure loss	190 Pa	180 Pa	
Heating capacity	126.9 kW		
Supply air temperature efficiency	79 %		
Supply air temperature efficiency / equal airflows	81 %		
Supply air humidity efficiency	79 %		
Supply air humidity efficiency / equal airflows	83 %		
Entering air: temperature / humidity	-25.0 °C / 90 %	22.0 °C / 40 %	
Leaving air: temperature / humidity	11.9 °C / 61 %	-17.1 °C / 85 %	
Air absolute humidity, entering/leaving	0.45 / 5.34 g/kg	6.74 / 0.85 g/kg	
Rotor is supplied with purge sector			
Switch and cable for light			

③ CASING 3C L=1200

Dimensions (width x height x length)	1320 x 770 x 1200	mm
Weight, includes the weight of the casing and parts inside the casing	181	kg

FAN SECTION 3C

Performance value tolerance DIN 24166	
Manufacturer	Fläkt Woods
Blade type/diameter	Backward curved / D400
Air flow	7445 m3/h
Connection type	To a chamber
Fan total pressure	888 Pa
Fan efficiency	76 %
Electrical total efficiency	62 %
Motor speed	2759 1/min
Maximum speed of revolution	2808 1/min
Fan shaft power	2.42 kW
Fan's maximum power	4.72 kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2079 Pa / 163.3

FAN Ø400 PULL-OUT

Voltage	400V/3-v/50Hz
Motor shaft power	2.42 kW

Unit: PN-1

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	2.95	kW
Motor frequency in the working point	47	Hz
Motor maximum frequency	48	Hz
Inspection window as standard		

Light IP 44
Switch and cable for light
Air flow meter, analog
HEATING COIL, WATER 3C TV1

Air flow	7445	m3/h
Heating capacity	25.0	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.8 m/s / 28	Pa
Air temperature, entering / leaving	11.9 / 22.0	°C
Fluid type	Water	
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.31 l/s / 0.92 m/s / 5.4	kPa
Fluid volume	3	l
Tube connections, threaded	DN25	

Exhaust unit
⑤ CASING 3C L=800

Dimensions (width x height x length)	1320 x 770 x 800	mm
Weight, includes the weight of the casing and parts inside the casing	99	kg

DAMPER 3C L=200

Tightness class	Leakage class 4	
Pressure loss	13	Pa
Torque demand	9	Nm

FILTER 3C L=600

Filter class	M5	
Initial pressure loss	60	Pa
Calculation pressure loss	83	Pa
Final pressure loss	105	Pa
Filter quantity and size	2x[592x592]	
Spare filter set	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	157	kg

FAN SECTION 3C

Performance value tolerance DIN 24166

Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D400	
Air flow	7040	m3/h
Connection type	To a chamber	
Fan total pressure	788	Pa
Fan efficiency	79	%
Electrical total efficiency	67	%
Motor speed	2464	1/min
Maximum speed of revolution	2650	1/min
Fan shaft power	1.96	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{\Delta p})$ 2090 Pa / 154.0	

FAN Ø400 Cpro PULL-OUT

Voltage	400V/3-v/50Hz
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Unit: PN-1

Motor shaft power	1.96	kW
Nominal capacity	3.00	kW
Nominal current	6.18	A
Nominal speed (50 Hz)	1440	1/min
Efficiency	86	%
Motor input power in working point	2.32	kW
Motor frequency in the working point	86	Hz
Motor maximum frequency	93	Hz
Inspection window as standard		

Light IP 44**Switch and cable for light****Air flow meter, analog****④ UNIT BASE 1C-6C L=2200 B=1320 H=200**

Adjustable feet with synthetic rubber pad

Weight 20 kg