

Project data																			
Project																			
Handled by																			
Additional info																			
Unit code		Size				Heat recovery section			Coils			Sounds				Electric motor		Spec. input power	
			qT	qP		Heat	etaT	etaTs	v	qLP	qJP	qLTO	LWP	LWI	PN	IN	SFPv	SFP	
			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:		2A	2100			LG	65.0		1.99	0.10		0.25	81	62	1.10	2.52	1.36		
1:		2A		2100		LG			2.05			0.25	82	66	1.10	2.52	1.86	3.22	
Total			2100	2100											2.20				

Total electric supply, clean filters 1.88 kW

Common SFP figure of units, clean filters 3.22 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:

Project data

Handled by

Unit: 1

Summary data

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

	Supply unit		Exhaust unit	
Unit size	AHU series 2A		AHU series 2A	
Air flow	2100	m3/h	2100	m3/h
External static pressure of the unit	300	Pa	300	Pa
Motor power	0.82	kW	1.08	kW
Coil face velocity	2.0	m/s	2.0	m/s
Face velocity of the unit	2.0	m/s	2.0	m/s
SFP, specific fan power	3.22	kW/(m³/s)		
SFPint calculated	1.44	kW/(m³/s)		
SFPint (limit 2016)	1.67	kW/(m³/s)		
SFPint (limit 2018)	1.51	kW/(m³/s)		
dPint calculated	394 / 669	Pa		
Heat Recover %, Ecodesign calculated	65	%		
Heat Recover %, Ecocalculation limit for 2016	63	%		
Heat Recover %, Ecocalculation limit for 2018	68	%		
Ecodesign 2016	OK			
Ecodesign 2018	NO			

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. Frenquency 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		60	62	65	72	74	75	75	71	dB	81 dB(A)
Suction side of the unit		58	59	59	64	57	46	35	24	dB	62 dB(A)
Through the casing		53	50	47	51	54	56	46	36	dB	59 dB(A)

Exhaust unit

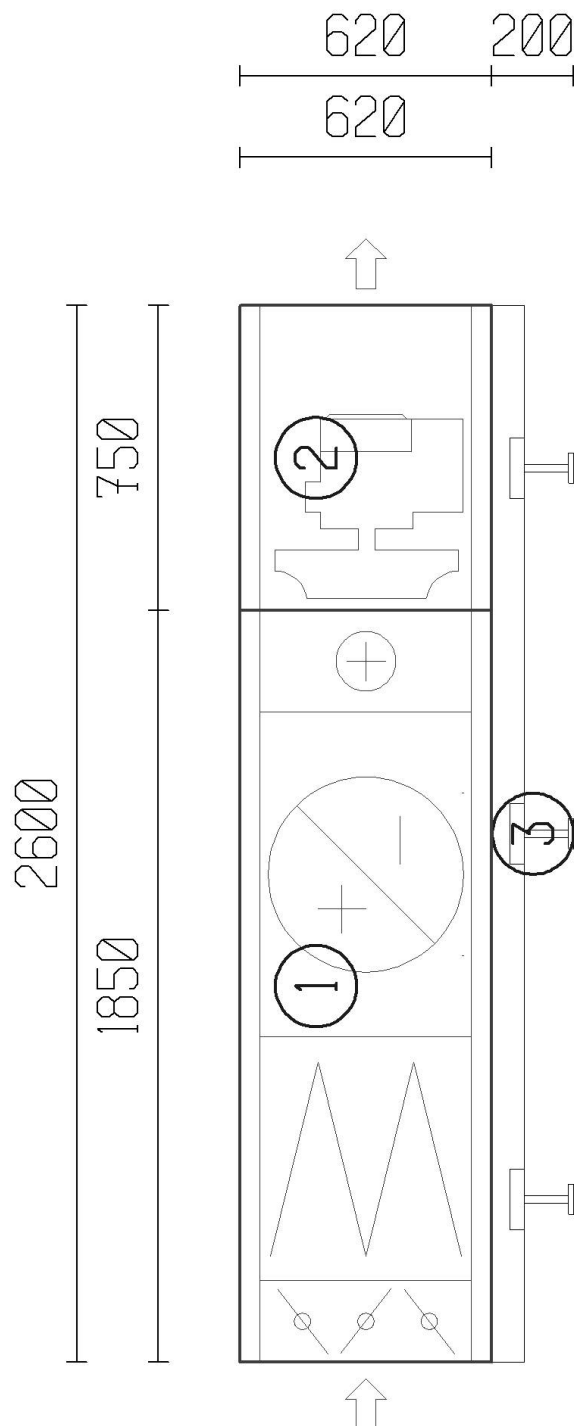
Octave band	Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit		61	63	66	73	75	76	76	72	dB	82 dB(A)
Suction side of the unit		60	61	61	67	60	50	40	30	dB	66 dB(A)
Through the casing		54	51	48	52	55	57	47	37	dB	61 dB(A)

Unit:
Unit code
Unit size 2A
Supply air flow 2100 m3/h
Exhaust air flow 2100 m3/h
Tot. (dry) weight of the unit 264 kg
Additional info
Duct connections supplied with connection flange

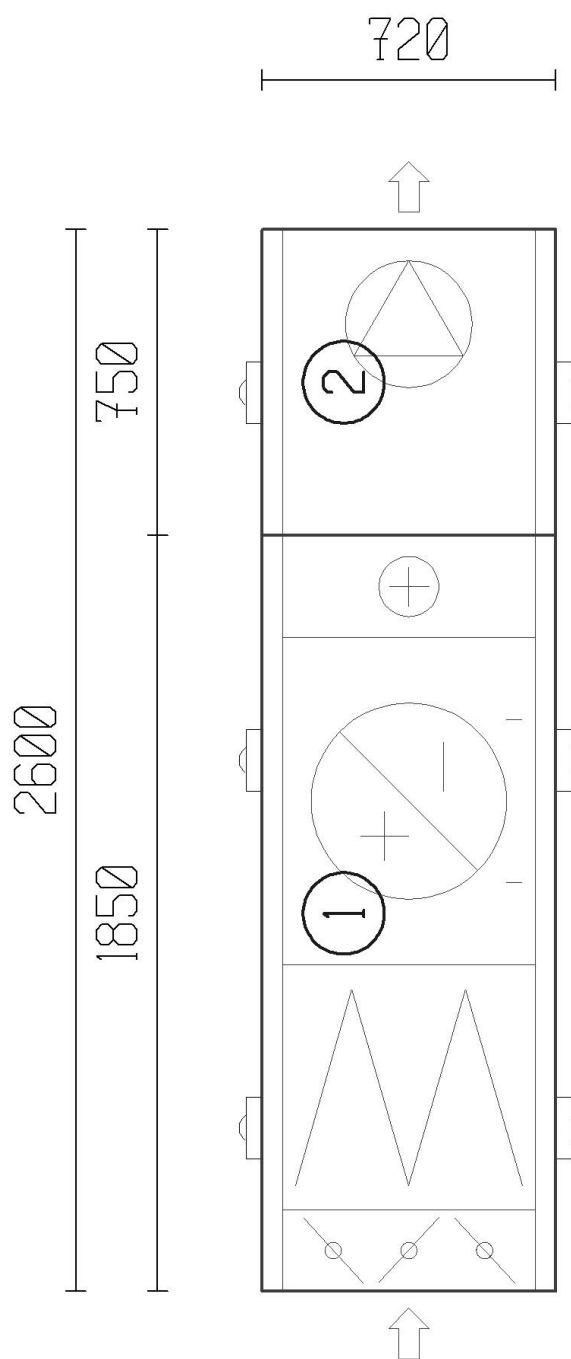
Handled by
Scale

No scale

From the service side



Top view



Unit:

Unit code

Unit size 2A

Supply air flow 2100 m³/h

Exhaust air flow 2100 m³/h

Tot. (dry) weight of the unit 270 kg

Additional info

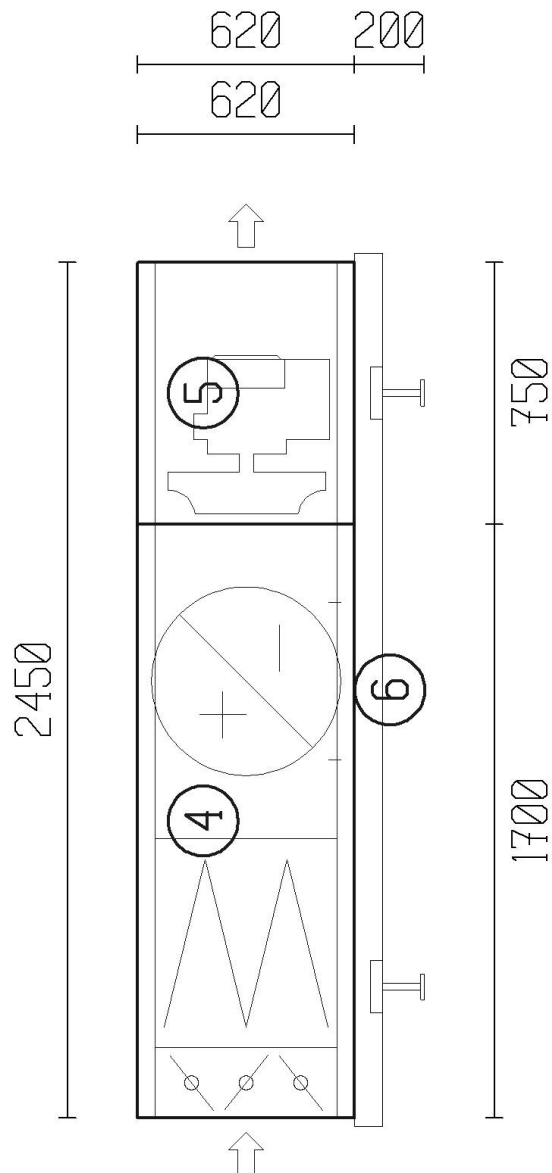
Duct connections supplied with connection flange

Handled by

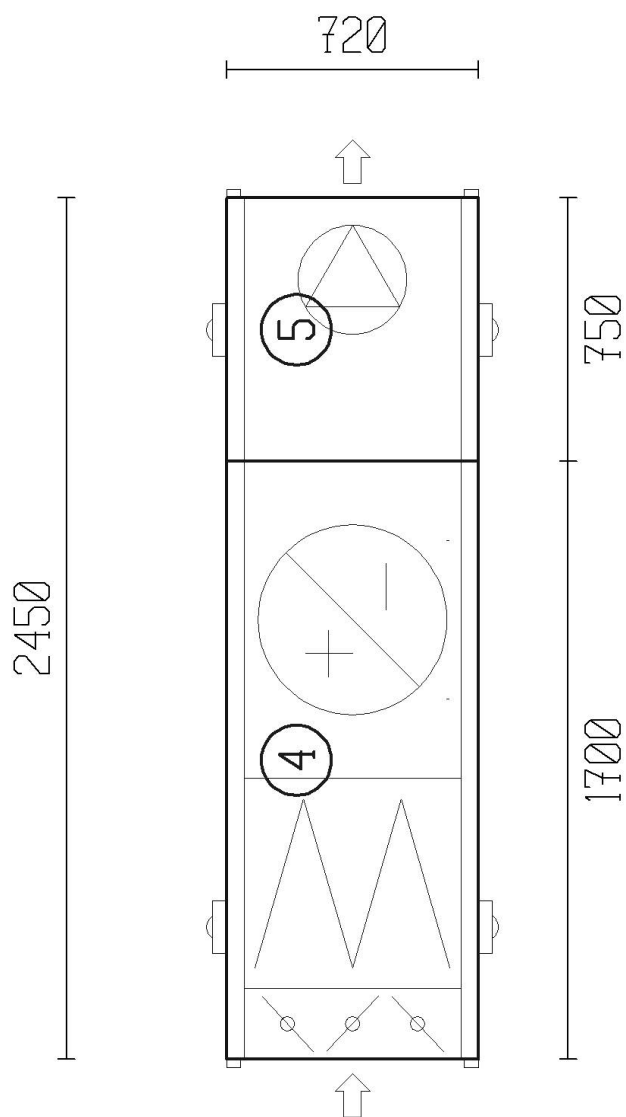
Scale

No scale

From the service side



Top view

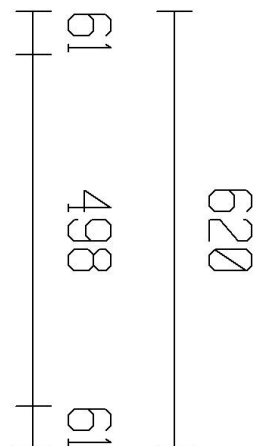
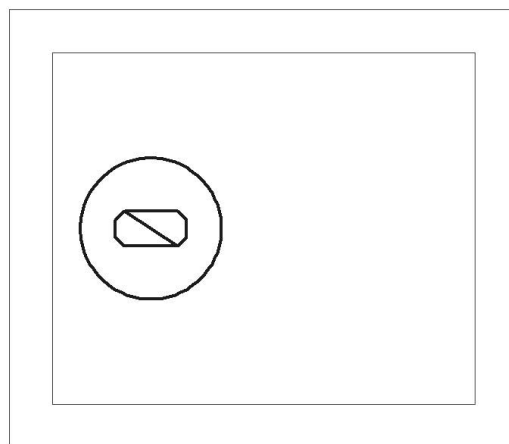
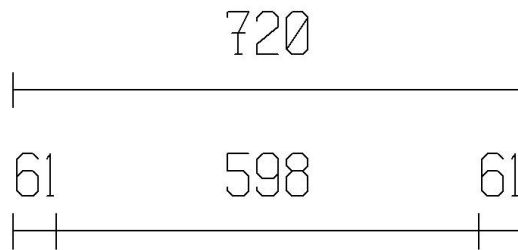


Unit:

Supply fan outlet

Flow direction forward

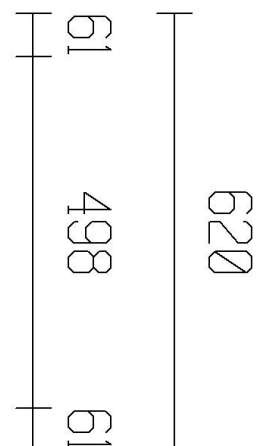
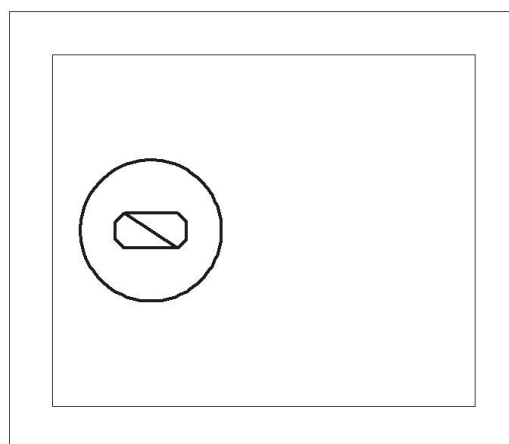
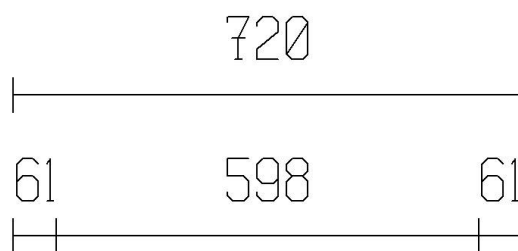
Unit size: 2A



Exhaust fan outlet

Flow direction forward

Unit size: 2A



Unit:

Unit sections and technical data

Supply unit

① CASING 2A L=1850

Dimensions (width x height x length)	720 x 620 x 1850	mm
Weight, includes the weight of the casing and parts inside the casing	165	kg

DAMPER 2A L=200

Tightness class	Leakage class 4	
Pressure loss	12	Pa
Torque demand	5	Nm

FILTER 2A L=600

Filter class	F7	
Initial pressure loss	77	Pa
Calculation pressure loss	106	Pa
Final pressure loss	135	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

HEAT RECOVERY SECTION 2A Z=18 SUPPLY

Air flow	2100	m ³ /h
Heating capacity	20.9	kW
Supply air temperature efficiency	65	%
Row number / fin spacing	18 / 1.6	mm
Face velocity / Pressure loss	2.0 m/s / 317	Pa
Entering air: temperature / humidity / enthalpy	-24.0 °C / 85 % / -23.0	kJ/kg
Leaving air: temperature / humidity / enthalpy	5.9 °C / 8 % / 7.1	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	14 / -8	°C
Fluid flow / fluid velocity / pressure loss	0.25 l/s / 0.51 m/s / 22.7	kPa
Fluid volume	20	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

HEATING COIL, WATER 2A TV1

Air flow	2100	m ³ /h
Heating capacity	8.5	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.0 m/s / 16	Pa
Air temperature, entering / leaving	5.9 / 18.0	°C
Fluid type	Water	
Entering / leaving fluid	70 / 50	°C
Fluid flow / fluid velocity / pressure loss	0.10 l/s / 0.62 m/s / 3.0	kPa
Fluid volume	1	l
Tube connections, threaded	DN10	

② CASING 2A L=750

Dimensions (width x height x length)	720 x 620 x 750	mm
Weight, includes the weight of the casing and parts inside the casing	76	kg

FAN SECTION 2A

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	2100	m ³ /h
Connection type	To a chamber	
Fan total pressure	803	Pa
Fan efficiency	74	%
Electrical total efficiency	57	%
Motor speed	3647	1/min
Maximum speed of revolution	4335	1/min
Fan shaft power	0.63	kW
Fan's maximum power	1.72	kW

Unit:

Air flow measurement pressure difference / K value

$$q = k \sqrt{\Delta p}$$
1022 Pa / 65.7

FAN Ø250 PULL-OUT

Voltage	400V/3-v/50Hz	
Motor shaft power	0.63	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	0.82	kW
Motor frequency in the working point	63	Hz
Motor maximum frequency	75	Hz
Inspection window as standard		
Light IP 44		
Switch and cable for light		
Air flow meter, analog		

③ UNIT BASE 1A-3A L=2600 B=720 H=200

Adjustable feet with synthetic rubber pad

Weight 23 kg

Exhaust unit
④ CASING 2A L=1700

Dimensions (width x height x length)	720 x 620 x 1700	mm
Weight, includes the weight of the casing and parts inside the casing	171	kg

DAMPER 2A L=200

Tightness class	Leakage class 4	
Pressure loss	12	Pa
Torque demand	5	Nm

FILTER 2A L=600

Filter class	M5	
Initial pressure loss	46	Pa
Calculation pressure loss	63	Pa
Final pressure loss	81	Pa
Filter quantity and size	1x[592x442]	
Spare filter set	1	pc

HEAT RECOVERY SECTION 2A Z=24 EXHAUST

Air flow	2100	m3/h
Cooling capacity	20.9	kW
Row number / fin spacing	24 / 1.6	mm
Face velocity / Pressure loss	2.0 m/s / 623	Pa
Entering air: temperature / humidity / enthalpy	22.0 °C / 40 % / 39.3	kJ/kg
Leaving air: temperature / humidity / enthalpy	-0.3 °C / 100 % / 8.9	kJ/kg
Fluid type	Ethylene glycol 30	%
Entering / leaving fluid	-8 / 14	°C
Fluid flow / fluid velocity / pressure loss	0.25 l/s / 0.51 m/s / 29.8	kPa
Fluid volume	26	l
Tube connections, flange	DN25	
Pipe size of the internal coil pipes	12	mm

⑤ CASING 2A L=750

Dimensions (width x height x length)	720 x 620 x 750	mm
Weight, includes the weight of the casing and parts inside the casing	76	kg

FAN SECTION 2A

Performance value tolerance DIN 24166		
Manufacturer	Fläkt Woods	
Blade type/diameter	Backward curved / D250	
Air flow	2100	m3/h
Connection type	To a chamber	
Fan total pressure	1050	Pa
Fan efficiency	73	%

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Unit:

Electrical total efficiency	57	%
Motor speed	3966	1/min
Maximum speed of revolution	4335	1/min
Fan shaft power	0.84	kW
Fan's maximum power	1.72	kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 1022 Pa / 65.7	

FAN Ø250 PULL-OUT

Voltage	400V/3-v/50Hz	
Motor shaft power	0.84	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	1.08	kW
Motor frequency in the working point	69	Hz
Motor maximum frequency	75	Hz
Inspection window as standard		

Light IP 44
Switch and cable for light
Air flow meter, analog
⑥ UNIT BASE 1A-3A L=2500 B=720 H=200

Adjustable feet with synthetic rubber pad	
Weight	23 kg