

Project data																	
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Handled by																	
Additional info																	
Unit code	Size	qT m3/h	qP m3/h	Heat recovery section			Coils			Sounds				Electric motor		Spec. input power	
				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)	Clean filter SFP kW/(m³/s)	
				LR	74.4	78.7	2.69	0.36		84	73	4.00	7.65	1.29			
1:	3D	8665															
1:	3D		7665	LR								86	69	3.00	6.18	1.10	2.26
Total		8665	7665											7.00			

Total electric supply, clean filters 5.45 kW

Common SFP figure of units, clean filters 2.26 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	Recair 3D			Recair 3D		
Air flow	8665	m3/h		7665	m3/h	
External static pressure of the unit	300	Pa		300	Pa	
Motor power	3.44	kW		2.43	kW	
Coil face velocity	2.7	m/s				
Face velocity of the unit	2.5	m/s		2.2	m/s	
SFP, specific fan power	2.26	kW/(m³/s)				

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

Unit equipped with T-handles

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	74	74	80	78	81	75	71	69	dB	84 dB(A)
Suction side of the unit	74	71	78	73	62	55	45	41	dB	73 dB(A)
Through the casing	68	63	65	59	64	60	50	44	dB	67 dB(A)

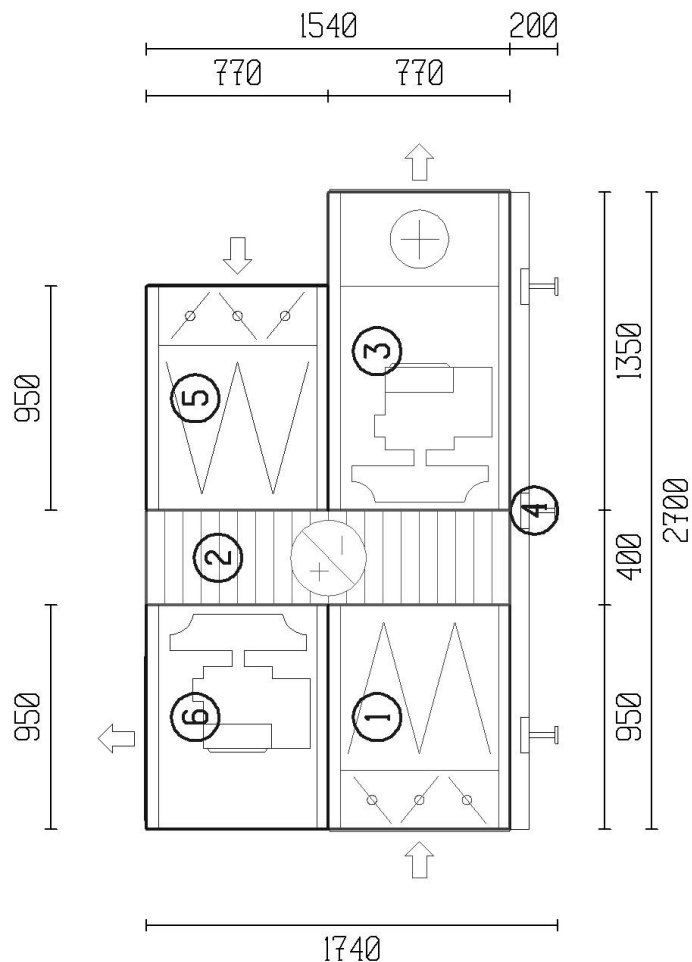
Exhaust unit

Octave band Hz	63	125	250	500	1k	2k	4k	8k		Tot.
Pressure side of the unit	72	73	80	76	82	76	76	79	dB	86 dB(A)
Suction side of the unit	71	70	75	68	60	52	42	43	dB	69 dB(A)
Through the casing	65	61	62	55	62	57	47	44	dB	65 dB(A)

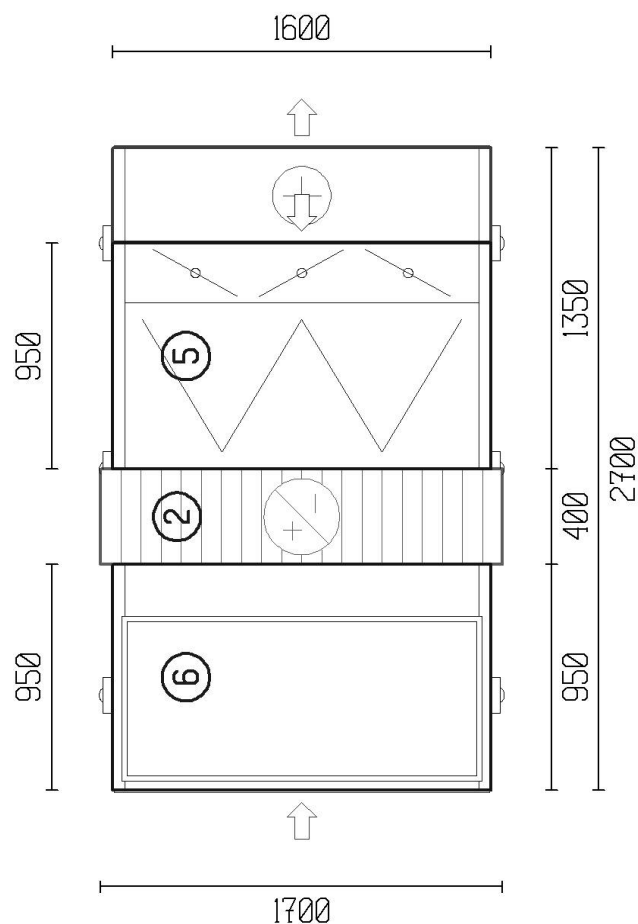
Unit:
Unit code
Unit size 3D
Supply air flow 8665 m³/h
Exhaust air flow 7665 m³/h
Tot. (dry) weight of the unit 996 kg
Additional info
Duct connections supplied with connection flange

Handled by
Scale No scale

From the service side



Top view



Unit:

Unit sections and technical data

Supply unit

① CASING 3D L=950

Dimensions (width x height x length)	1600 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	136	kg

DAMPER SECTION 3D L=250

Tightness class	Leakage class 4
Pressure loss	12 Pa
Torque demand	10 Nm

FILTER SECTION 3D L=700

Filter class	F7
Initial pressure loss	131 Pa
Calculation pressure loss	196 Pa
Final pressure loss	262 Pa
Filter quantity and size	2x[592x592] + 1x[287x592]
Spare filter set	1 pc

② ROTARY HEAT EXCHANGER SECTION 3D D=1370

Enventus				
Non-hygroscopic rotor wheel material				
Dimensions (width x height x length)	1700 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	8665	m3/h	7665	m3/h
Pressure loss	222	Pa	196	Pa
Heating capacity	132.2	kW		
Supply air temperature efficiency	74	%		
Supply air temperature efficiency / equal airflows	79	%		
Supply air humidity efficiency	72	%		
Supply air humidity efficiency / equal airflows	78	%		
Entering air: temperature / humidity	-23.8 °C / 80	%	22.0 °C / 35	%
Leaving air: temperature / humidity	10.3 °C / 54	%	-16.6 °C / 86	%
Air absolute humidity, entering/leaving	0.45 / 4.28	g/kg	5.90 / 0.89	g/kg
Rotor is supplied with purge sector				
Switch and cable for light				

③ CASING 3D L=1350

Dimensions (width x height x length)	1600 x 770 x 1350	mm
Weight, includes the weight of the casing and parts inside the casing	309	kg

FAN SECTION 3D 400 ARRANGEMENT1 DIRECT DRIVE

Performance value tolerance DIN 24166	
Manufacturer	Ziehl
Blade type/diameter	Backward curved / D400
Air flow	8665 m3/h
Connection type	To a chamber
Fan total pressure	911 Pa
Fan efficiency	74 %
Electrical total efficiency	64 %
Motor speed	2855 1/min
Maximum speed of revolution	3025 1/min
Fan shaft power	2.96 kW
Air flow measurement pressure difference / K value	$(q = k \sqrt{dp})$ 3166 Pa / 154.0

DIRECT DRIVEN FAN ER40C Cpro

Voltage	400V/3-v/50Hz
Motor shaft power	2.96 kW
Nominal capacity	4.00 kW

Unit:

Nominal current	7.65	A
Nominal speed (50 Hz)	2900	1/min
Efficiency	86	%
Motor input power in working point	3.44	kW
Motor frequency in the working point	49	Hz
Motor maximum frequency	53	Hz
Inspection window as standard		

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

Air flow	8665	m ³ /h
Heating capacity	28.1	kW
Row number / fin spacing	1 / 2.0	mm
Face velocity / Pressure loss	2.7 m/s / 26	Pa
Air temperature, entering / leaving	10.3 / 20.0	°C
Fluid type	Ethylene glycol 35	%
Entering / leaving fluid	80 / 60	°C
Fluid flow / fluid velocity / pressure loss	0.36 l/s / 1.11 m/s / 10.3	kPa
Fluid volume	3	l
Tube connections, flange	DN25	

Exhaust unit
⑤ CASING 3D L=950

Dimensions (width x height x length)	1600 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	136	kg

DAMPER SECTION 3D L=250

Tightness class	Leakage class 4	
Pressure loss	10	Pa
Torque demand	10	Nm

FILTER SECTION 3D L=700

Filter class	F5	
Initial pressure loss	51	Pa
Calculation pressure loss	77	Pa
Final pressure loss	103	Pa
Filter quantity and size	2x[592x592] + 1x[287x592]	
Spare filter set	1	pc

② ROTARY HEAT EXCHANGER SECTION 3D D=1370

The results are shown with the supply air unit

⑥ CASING 3D L=950

Dimensions (width x height x length)	1600 x 770 x 950	mm
Weight, includes the weight of the casing and parts inside the casing	185	kg

FAN SECTION 3D 400 ARRANGEMENT3 DIRECT DRIVE

Performance value tolerance DIN 24166		
Manufacturer	Ziehl	
Blade type/diameter	Backward curved / D400	
Air flow	7665	m ³ /h
Connection type	To a chamber	
Fan total pressure	730	Pa
Fan efficiency	76	%
Electrical total efficiency	64	%
Motor speed	2543	1/min
Maximum speed of revolution	2650	1/min
Fan shaft power	2.06	kW
Air flow measurement pressure difference / K value	$\left(q = k \sqrt{\Delta p} \right)$ 2477 Pa / 154.0	

DIRECT DRIVEN FAN ER40C Cpro

Voltage	400V/3-v/50Hz	
Motor shaft power	2.06	kW

Unit:

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	2.43	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****④ UNIT BASE 3D-6D L=2700 B=1600 H=200**

Adjustable feet with synthetic rubber pad

Weight 31 kg