Project: TGG Surbiton
Unit name: - Design data

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GOLD F RX
Manufactured by Swegon, Kvänum, Sweden

Dimensioning data			
Unit size		025	
Air density		1.200	kg/m³
Supply air flow		2.000	m³/s
Static pressure drop	Outdoor air duct	50	Pa
	Supply air duct	250	Pa
Extract air flow		2.000	m³/s
Static pressure drop	Extract air duct	240	Pa
	Exhaust air duct	50	Pa
Climate data		Kvänum,	Sweden
Weather station, reference		HALLUM,	Sweden
Design outdoor temperature, summer		24.6	°C
Design outdoor humidity, summer		59	%
Design outdoor temperature, winter		-16.9	°C
Design outdoor humidity, winter		98	%
Supply air temperature, summer		25.4	°C
Supply air temperature, winter		14.9	°C
Annual operating period		8760	h

Key Performance Data			
Specific fan power SFPv	With clean filter and including effect of OACF & EATR	1.73	kW/(m³/s)
Dry temperature efficiency of supply air, winter		79.7	%
Eurovent Energy Efficiency Class	Summer: A+ ↳ 2020	Winter: A+	2016
Eurovent; Fs_Pref:	Summer: 0.92	Winter:	0.92
ErP Commission Regulation (EU) No 1253/2014		Compliant	2018

Casing	
Construction	Frameless, double skinned panels with mineral wool insulation
Panels	52mm thick with 1mm thick steel sheet inside and out. Outer sheet with grey painted finish
Thermal insulation class	T2
Thermal bridging class	TB2
Casing leakage class	L1(M) / L2(R) according to EN 1886:2007 at -400 Pa and +700 Pa
Casing strength	D1(M)
Hygiene	Compliant with the requirements of VDI 6022
Insulating material	Version F, casing 3: Standard

Electrical connections	
GOLD F RX	3-phase, 5-wire, 400 V-10/+15%, 50 Hz, 10 A

Functional sections viewed in the direction of air flow	Velocity m/s	Air Temperature in/out Winter °C	Air Temperature in/out Summer °C	Power kW	Design Pressure drop Pa	Noise Level dB(A)
Outdoor air duct					-50	69
End section					-8	
Filter	1.58				-101	
Rotary heat exchanger	2.58	-16.9/14.1	24.6/24.6		-157	
Fan				1.880	578	
End section					-12	
Supply air duct					-250	83
Extract air duct					-240	70
End section					-7	
Filter	1.49				-48	
Rotary heat exchanger	2.69	22.0/-9.0	25.0/25.0		-166	
Extra pressure drop					-0	
Fan				1.810	524	
End section					-14	
Exhaust air duct					-50	84

Sound power to duct, measured according to ISO 5136
Noise reduction for function section included to duct.
Sound power emitted to surroundings, measured according to ISO 3741

Frequency band	63	125	250	500	1k	2k	4k	8k	All	
To supply air duct	81	76	78	80	77	76	74	74	dB	83	dB(A)
To outdoor air duct	76	75	75	64	56	53	49	52	dB	69	dB(A)
To extract air duct	77	76	77	65	57	55	54	57	dB	70	dB(A)
To exhaust air duct	82	77	79	81	78	77	75	75	dB	84	dB(A)
To surroundings	74	66	59	63	48	47	44	47	dB	61	dB(A)

GOLD-Unit with control system

Components are arranged according to airflow direction

Quantity	Supply air		
1	**End section, outdoor air**		
	Static pressure drop	8	Pa
1	**Filter**		
	Filter class ePM1 50% (F7)		
	2x(592x592x520-10), 2x(592x287x520-10), 1x(287x592x520-5)		
	Velocity in the filter section	1.58	m/s
	Recommended design pressure drop	101	Pa
	Initial pressure drop	51	Pa
	Final pressure drop	151	Pa
1	**Rotary heat exchanger, G025F3RXP01**		
	Rotary heat exchanger of type RECOnomic STE		
	Standard aluminium		
	Speed controlled		
	Pressure drop, supply air	157	Pa
	Pressure drop, extract air	166	Pa
	Extra pressure drop in extract air side (damper) to ensure the right flow direction	0	Pa
	Purging flow including leakage	0.113	m³/s
	Outdoor Air Correction Factor, OACF	1.06	
	Exhaust Air Transfer Ratio, EATR	0.5	%
	Dry temperature efficiency of supply air, winter (79.7% at the same airflow)	79.7	%
	Dry temperature efficiency of supply air, summer	79.7	%
	Humidity efficiency, supply air, winter	27.6	%
	Humidity efficiency, supply air, summer	0.0	%
	Annual energy efficiency, dry conditions	93.2	%
	Annual temperature efficiency according to Svensk Ventilation (Off. etc.)	79.7	%
	Annual energy efficiency according to Svensk Ventilation (Off. etc.)	98.9	%

Supply air side, winter	In	Out	
Air temperature	-16.9	14.1	°C
Relative humidity	98	16	%
Heating power		74.88	kW

Extract air side, winter	In	Out	
Air temperature	22.0	-9.0	°C
Relative humidity	20	100	%

Supply air side, summer	In	Out	
Air temperature	24.6	24.6	°C
Relative humidity	59	59	%
Cooling power		0.00	kW

Extract air side, summer	In	Out	
Air temperature	25.0	25.0	°C
Relative humidity	50	50	%

1 Fan

Fan of type GOLD Wing+	Fan size: 25	
Withdrawable fan with integrated airflow measurement		
Direct drive with speed controlled EC motor. Efficiency class corresponding to IE5		
Isolated with internal flexible connection and rubber anti-vibration mounting		
Standard connection, internal		
Supply air flow	2.000	m³/s
The fan system effect is included in the fan performances		
Design static pressure (wet conditions)	578	Pa
Static pressure rise in the SFPv calculation	528	Pa
Temperature rise caused by the fan	0.8	°C
Min speed	280	rpm
Speed in the SFPv calculation	1,662	rpm
Design speed	1,704	rpm
Max speed	1,890	rpm
Design electric power to motor(s)	1.880	kW
Electric power to motor(s) in the SFPv calculation	1.720	kW
Rated motor power/motor	2.400	kW
Motor option	1	
Motor code	DOMEL 751.3.301-401	
Number of fans/motors in the air stream	1	
Overall static efficiency drive	61.5	%
Maximum motor efficiency (incl. motor control 92.0%)	94.0	%
Efficiency grade; FMEG, plenum fan, incl. motor control	73.00	
Regulation(EU)No 327/2011 overall efficiency	67.3	%
Specific fan power efficiency	0.86	kW/(m³/s)

1 End section, supply air

Static pressure drop	12	Pa

Quantity	Extract air

1 End section, extract air

Static pressure drop	7 Pa

1 Filter

Filter class ePM10 60% (M5)	
2x(592x592x520-10), 2x(592x287x520-10), 1x(287x592x520-5)	
Velocity in the filter section	1.49 m/s
Recommended design pressure drop	48 Pa
Initial pressure drop	24 Pa
Final pressure drop	72 Pa

1 Rotary heat exchanger, G025F3RXP01

Accessories and technical data, see supply air

1 Fan

Fan of type GOLD Wing+	Fan size: 25
Withdrawable fan with integrated airflow measurement	
Direct drive with speed controlled EC motor. Efficiency class corresponding to IE5	
Isolated with internal flexible connection and rubber anti-vibration mounting	
Standard connection, internal	
Extract air flow	2.000 m³/s
The fan system effect is included in the fan performances	
Design static pressure (wet conditions)	524 Pa
Static pressure rise in the SFPv calculation	500 Pa
Temperature rise caused by the fan	0.7 °C
Min speed	280 rpm
Speed in the SFPv calculation	1,681 rpm
Design speed	1,702 rpm
Max speed	1,890 rpm
Design electric power to motor(s)	1.810 kW
Electric power to motor(s) in the SFPv calculation	1.730 kW
Rated motor power/motor	2.400 kW
Motor option	1
Motor code	DOMEL 751.3.301-401
Number of fans/motors in the air stream	1
Overall static efficiency drive	61.1 %
Maximum motor efficiency (incl. motor control 92.0%)	94.0 %
Efficiency grade; FMEG, plenum fan, incl. motor control	73.00
Regulation(EU)No 327/2011 overall efficiency	67.3 %
Specific fan power efficiency	0.82 kW/(m³/s)

End section, exhaust air

1	Static pressure drop	14 Pa

Quantity	Accessories