Swegon

ProUnit
2015-09-28

Version: 34 / 2015.8.11
Agar Grove, london, AHU's Rev 4, G741669

Technical specification

Project	**Agar Grove, london AHU's Rev 4**	
Atmospheric pressure	101325	Pa
Air density	1.200	kg/m³

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
Components are arranged according to airflow direction

AHU 1
GOLD RX
Manufactured by Swegon

Unit size	11	
Supply air flow	0.523	m³/s
Static pressure drop		
Outdoor air duct		Pa
Supply air duct	190	Pa
Extract air flow	0.523	m³/s
Static pressure drop		
Extract air duct	190	Pa
Exhaust air duct		Pa
Design outdoor temperature, summer	30.0	°C
Lowest design outdoor air temperature	-4.0	°C
Supply air temperature, summer	22.7	°C
Required supply air temperature, winter (ERS selected)	22.0	°C
Specific fan power efficiency rating, SFPv (clean filters)	1.16	kW/(m³/s)

Eurovent energy efficiency class A

With computer-based IQlogic control system
52mm double skin panel insulated with mineral wool with external paint finish

Electrical connections	1-phase, 3-wire, 230 V-10/+15%, 50 Hz, 16 A
alternative	3-phase, 5-wire, 400 V-10/+15%, 50 Hz, 10 A

Supply air

1 **Air intake section for outdoor installation, TBTF-2-12-1-1-1**

Pressure drop, connection	5	Pa

1	**Silencer in casing, TCDA-1-12**										
	Static pressure drop								4		Pa
	Frequency band	63	125	250	500	1k	2k	4k	8k		Hz
	Attenuation	3	7	16	15	15	10	8	7		dB
	Measured according to ISO 5136 (Duct measurement method for fans)										
1	**Damper in casing, TCSA-3-12**										
	Motor with spring return action, 24V										
	Tightness class 3 to EN 1751										
	Static pressure drop								1		Pa
1	**Air handling system, GOLD, GOLD-11-E-RX**										
	Accessories										
1	Filter set, one airflow direction, TBFZ-2-01-12-7										
1	Hand terminal GOLD ver E without WLAN										
1	Filter set, one airflow direction, TBFZ-2-01-12-7										
1	Roof for outdoor installation, TBTB-3-12-RX										
1	Baseframe										
1	AHU Exhaust air cowl for outdoor installation, TBTA-2-000-050-2										
	Pressure drop								4		Pa
1	Pressure sensor, TBLZ-1-23-01										
1	Pressure sensor, TBLZ-1-23-01										
1	**Filter**										
	Filter class F7										
	2x(490x592x370-8)mm										
	Velocity in the filter section								0.77		m/s
	Recommended design pressure drop								63		Pa
	Initial pressure drop								33		Pa
	Final pressure drop								93		Pa
1	**Rotary heat exchanger**										
	Rotary heat exchanger of type RECOnomic										
	Standard aluminium										
	Speed controlled										
	Pressure drop, supply air								69		Pa
	Pressure drop, extract air								69		Pa
	Extra pressure drop in extract air side (damper)										
	to ensure the right flow direction								0		Pa
	Purging flow including leakage								0.070		m³/s
	Temperature efficiency of supply air (86.5% at the same airflow)								86.5		%
	Annual energy efficiency, dry conditions								99.4		%
	PHI, Supply air temperature efficiency								84		%
	(according to Passivhaus Institut formula for regenerative heat recovery)										
	Humidity efficiency, supply air, winter								12.5		%
	Humidity efficiency, supply air, summer								0.0		%
	Supply air side, winter							In	Out		
	Air temperature							-4.0	17.6		°C
	Relative humidity							100	23		%
	Capacity								13.90		kW

	In	Out	
Extract air side, winter			
Air temperature	21.0	-0.6	°C
Relative humidity	25	100	%
Supply air side, summer			
Air temperature	30.0	22.2	°C
Relative humidity	45	71	%
Extract air side, summer			
Air temperature	21.0	28.8	°C
Relative humidity	50	31	%

1 **Fan section**

Fan of type GOLD Wing+
Direct drive with speed controlled EC motor
Standard connection, internal
Rubber anti-vibration mountings

Supply air flow		0.523	m³/s
LOT without flow reduction		21.5	°C
Flow reduction at the lowest design outdoor temp.		100	%
Static pressure drop, duct		190	Pa
The fan system effect is included in the fan performances			
Static pressure rise (dry conditions)	(Clean filter: 311 Pa)	341	Pa
Temperature rise caused by the fan		0.5	°C
Speed	(Min 400, Max 2780, Clean filter 1617 r/m)	1671	r/m
Electric power to motor(s)	(Clean filter: 0.29 kW)	0.31	kW
Rated motor power		1.15	kW
Motor option		1	
Motor code	DOMEL 747.3.392		
Number of fans/motors in the air stream		1	
Overall static efficiency drive		57.0	%
Maximum motor efficiency	(incl. motor control 89%)	94	%
Specific fan power efficiency		0.54	kW/(m³/s)

Sound power level

Frequency band	**Hz**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**		**All**	
To supply air duct		70	61	52	51	52	57	54	52	dB	61	dB(A)
To outdoor air duct		65	58	46	37	28	31	28	30	dB	45	dB(A)
To surroundings		62	54	45	45	34	34	28	28	dB	45	dB(A)
To surroundings incl. exh. air		66	58	49	49	38	38	32	32	dB	49	dB(A)

1 **Silencer in casing, TCDA-1-12**

Static pressure drop 4 Pa

Frequency band	63	125	250	500	1k	2k	4k	8k	Hz
Attenuation	3	7	16	15	15	10	8	7	dB

Measured according to ISO 5136 (Duct measurement method for fans)

1 **End section, supply air**

Static pressure drop 4 Pa

Extract air

1 **End section, extract air**

Static pressure drop 4 Pa

1 **Silencer in casing, TCDA-1-12**

Static pressure drop								4	Pa
Frequency band	63	125	250	500	1k	2k	4k	8k	Hz
Attenuation	3	7	16	15	15	10	8	7	dB

Measured according to ISO 5136 (Duct measurement method for fans)

(Air handling system, GOLD)

1 **Filter**

Filter class F7		
2x(490x592x370-8)mm		
Velocity in the filter section	0.77	m/s
Recommended design pressure drop	63	Pa
Initial pressure drop	33	Pa
Final pressure drop	93	Pa

(Rotary heat exchanger)

Accessories and technical data, see supply air

1 **Fan section**

Fan of type GOLD Wing+			
Direct drive with speed controlled EC motor			
Standard connection, internal			
Rubber anti-vibration mountings			
Extract air flow		0.523	m³/s
Static pressure drop, duct		190	Pa
The fan system effect is included in the fan performances			
Static pressure rise (dry conditions)	(Clean filter: 314 Pa)	344	Pa
Temperature rise caused by the fan		0.5	°C
Speed	(Min 400, Max 2780, Clean filter 1701 r/m)	1751	r/m
Electric power to motor(s)	(Clean filter: 0.32 kW)	0.35	kW
Rated motor power		1.15	kW
Motor option		1	
Motor code	DOMEL 747.3.392		
Number of fans/motors in the air stream		1	
Overall static efficiency drive		58.0	%
Maximum motor efficiency	(incl. motor control 89%)	94	%
Specific fan power efficiency		0.62	kW/(m³/s)

Sound power level

Frequency band	**Hz**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**		**All**	
To extract air duct		66	59	47	38	29	32	29	31	dB	47	dB(A)
To exhaust air duct		71	62	53	52	53	58	55	53	dB	63	dB(A)
To surroundings		63	55	46	46	35	35	29	29	dB	47	dB(A)

1 **Damper in casing, TCSA-3-12**

Motor with spring return action, 24V	
Tightness class 3 to EN 1751	
Static pressure drop	1 Pa

1 **Silencer in casing, TCDA-1-12**

Static pressure drop								4	Pa
Frequency band	63	125	250	500	1k	2k	4k	8k	Hz

Attenuation	3	7	16	15	15	10	8	7	dB
Measured according to ISO 5136 (Duct measurement method for fans)									

1 **End section, exhaust air**

Static pressure drop	4	Pa

Technical specification

Project	**Agar Grove, london AHU's Rev 4**	
Atmospheric pressure	101325	Pa
Air density	1.200	kg/m³

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
Components are arranged according to airflow direction

AHU 2
GOLD RX
Manufactured by Swegon

Unit size	14	
Supply air flow	0.790	m³/s
Static pressure drop		
Outdoor air duct		Pa
Supply air duct	200	Pa
Extract air flow	0.790	m³/s
Static pressure drop		
Extract air duct	200	Pa
Exhaust air duct		Pa
Design outdoor temperature, summer	30.0	°C
Lowest design outdoor air temperature	-4.0	°C
Supply air temperature, summer	22.7	°C
Required supply air temperature, winter (ERS selected)	22.0	°C
Specific fan power efficiency rating, SFPv (clean filters)	1.10	kW/(m³/s)

Eurovent energy efficiency class A

With computer-based IQlogic control system
52mm double skin panel insulated with mineral wool with external paint finish
Electrical connections 3-phase, 5-wire, 400 V-10/+15%, 50 Hz, 10 A

Supply air

1 **Air intake section for outdoor installation, TBTF-2-20-1-1-1**

Pressure drop, connection	7	Pa

1 **Silencer in casing, TCDA-1-20**

	Static pressure drop								7	Pa
	Frequency band	63	125	250	500	1k	2k	4k	8k	Hz
	Attenuation	3	7	16	15	15	10	8	7	dB

Measured according to ISO 5136 (Duct measurement method for fans)

1 **Damper in casing, TCSA-3-20**

	Motor with spring return action, 24V		
	Tightness class 3 to EN 1751		
	Static pressure drop	1	Pa

1 **Air handling system, GOLD, GOLD-14-E-RX**

Accessories

1	Filter set, one airflow direction, TBFZ-2-01-20-7		
1	Hand terminal GOLD ver E without WLAN		
1	Filter set, one airflow direction, TBFZ-2-01-20-7		
1	Roof for outdoor installation, TBTB-3-20-RX		
1	AHU Exhaust air cowl for outdoor installation, TBTA-2-100-040-2		
	Pressure drop	2	Pa
1	Pressure sensor, TBLZ-1-23-01		
1	Pressure sensor, TBLZ-1-23-01		

1 **Filter**

	Filter class F7		
	2x(592x592x520-10)mm		
	Velocity in the filter section	0.99	m/s
	Recommended design pressure drop	61	Pa
	Initial pressure drop	31	Pa
	Final pressure drop	91	Pa

1 **Rotary heat exchanger**

	Rotary heat exchanger of type RECOnomic		
	Standard aluminium		
	Speed controlled		
	Pressure drop, supply air	74	Pa
	Pressure drop, extract air	74	Pa
	Extra pressure drop in extract air side (damper)		
	to ensure the right flow direction	0	Pa
	Purging flow including leakage	0.100	m³/s
	Temperature efficiency of supply air (86.5% at the same airflow)	86.5	%
	Annual energy efficiency, dry conditions	99.4	%
	PHI, Supply air temperature efficiency	83	%
	(according to Passivhaus Institut formula for regenerative heat recovery)		
	Humidity efficiency, supply air, winter	12.5	%
	Humidity efficiency, supply air, summer	0.0	%

	Supply air side, winter	In	Out	
	Air temperature	-4.0	17.6	°C
	Relative humidity	100	23	%
	Capacity		21.00	kW

	Extract air side, winter	In	Out	
	Air temperature	21.0	-0.6	°C

Relative humidity	25	100	%
Supply air side, summer	In	Out	
Air temperature	30.0	22.2	°C
Relative humidity	45	71	%
Extract air side, summer	In	Out	
Air temperature	21.0	28.8	°C
Relative humidity	50	31	%

1 **Fan section**

Fan of type GOLD Wing+
Direct drive with speed controlled EC motor
Standard connection, internal
Vibration dampers are steel spring type

Supply air flow		0.790	m³/s
LOT without flow reduction		21.5	°C
Flow reduction at the lowest design outdoor temp.		100	%
Static pressure drop, duct		200	Pa
The fan system effect is included in the fan performances			
Static pressure rise (dry conditions)	(Clean filter: 327 Pa)	357	Pa
Temperature rise caused by the fan		0.5	°C
Speed	(Min 300, Max 2250, Clean filter 1374 r/m)	1418	r/m
Electric power to motor(s)	(Clean filter: 0.41 kW)	0.45	kW
Rated motor power		1.60	kW
Motor option		1	
Motor code	DOMEL 748.3.292		
Number of fans/motors in the air stream		1	
Overall static efficiency drive		62.0	%
Maximum motor efficiency	(incl. motor control 92%)	94	%
Specific fan power efficiency		0.52	kW/(m³/s)

Sound power level

Frequency band	**Hz**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**		**All**	
To supply air duct		72	63	54	53	54	59	56	54	dB	63	dB(A)
To outdoor air duct		67	60	48	39	30	33	30	32	dB	47	dB(A)
To surroundings		64	56	47	47	36	36	30	30	dB	48	dB(A)
To surroundings incl. exh. air		68	60	51	51	40	40	34	34	dB	51	dB(A)

1 **Silencer in casing, TCDA-1-20**

Static pressure drop								4	Pa
Frequency band	63	125	250	500	1k	2k	4k	8k	Hz
Attenuation	3	7	16	15	15	10	8	7	dB

Measured according to ISO 5136 (Duct measurement method for fans)

1 **End section, supply air**

Static pressure drop	3	Pa

Extract air

1 **End section, extract air**

Static pressure drop	2	Pa

1 **Silencer in casing, TCDA-1-20**

Static pressure drop									7	Pa
Frequency band	63	125	250	500	1k	2k	4k	8k		Hz
Attenuation	3	7	16	15	15	10	8	7		dB

Measured according to ISO 5136 (Duct measurement method for fans)

(Air handling system, GOLD)

1 **Filter**

Filter class F7		
2x(592x592x520-10)mm		
Velocity in the filter section	0.99	m/s
Recommended design pressure drop	61	Pa
Initial pressure drop	31	Pa
Final pressure drop	91	Pa

(Rotary heat exchanger)

Accessories and technical data, see supply air

1 **Fan section**

Fan of type GOLD Wing+			
Direct drive with speed controlled EC motor			
Standard connection, internal			
Vibration dampers are steel spring type			
Extract air flow		0.790	m³/s
Static pressure drop, duct		200	Pa
The fan system effect is included in the fan performances			
Static pressure rise (dry conditions)	(Clean filter: 325 Pa)	355	Pa
Temperature rise caused by the fan		0.5	°C
Speed	(Min 300, Max 2250, Clean filter 1432 r/m)	1473	r/m
Electric power to motor(s)	(Clean filter: 0.45 kW)	0.50	kW
Rated motor power		1.60	kW
Motor option		1	
Motor code	DOMEL 748.3.292		
Number of fans/motors in the air stream		1	
Overall static efficiency drive		63.5	%
Maximum motor efficiency	(incl. motor control 92%)	94	%
Specific fan power efficiency		0.58	kW/(m³/s)

Sound power level

Frequency band	**Hz**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**		**All**	
To extract air duct		68	61	49	40	31	34	31	33	dB	49	dB(A)
To exhaust air duct		73	64	55	54	55	60	57	55	dB	65	dB(A)
To surroundings		65	57	48	48	37	37	31	31	dB	49	dB(A)

1 **Damper in casing, TCSA-3-20**

Motor with spring return action, 24V		
Tightness class 3 to EN 1751		
Static pressure drop	1	Pa

1 **Silencer in casing, TCDA-1-20**

Static pressure drop									4	Pa
Frequency band	63	125	250	500	1k	2k	4k	8k		Hz
Attenuation	3	7	16	15	15	10	8	7		dB

Measured according to ISO 5136 (Duct measurement method for fans)

1	**End section, exhaust air**			
	Static pressure drop	3	Pa	