

Technical Specification

Project name : Great Ormond Street Hospital,
London

Project no. : Great Ormond Street Hospital, /
001

Customer reference : AHU1



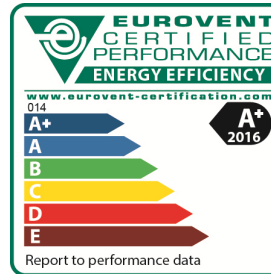
Software version: E4.53 (06-02-2019)(R238)/A

Eurovent identification number: 16.04.014

GENERAL DATA

Customer reference	AHU1
Number of	1
Location	External (flat roof)
Delivery	In sections
AHU finish	Outside in standard colour
Product	Air handling unit
AHU configuration	Double deck (opposite)
Total weight (each)	2586 kg
Radiated casework SWL	54 dB(A)
Real unit leakage @ -400 Pa	13.2 l/s
Real unit leakage @ +400 Pa	13.9 l/s
Internal leakage rate EATR	-
Energy consumption filter (supply/exhaust)	79 / 43 kWh

Eurovent energy classification



SFP _e	2.12 kJ/m ³
SFP _v	1.91 kJ/m ³

This unit complies with Regulation EU No 1253/2014 Ecodesign delivery 2018 .

Ecodesign (EU) 1253/2014 2018 BVU

Intermediate calculations

E (Pa)	150
F (filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	1065.5
SFP int supply air (W/(m ³ /s))	371.2
SFP int extract air (W/(m ³ /s))	312.9
SFP int (W/(m ³ /s))	684.1

Supply air unit data

Airflow (m ³ /s)	1.23
System effect (Pa)	20
Static pressure (Pa)	755
p fan (kW)	1.52
n fan (%)	61.3
Filter >=F7	Yes
dp F7 (Pa)	43
nt nrvu (%)	78
dp HRS (Pa)	164

Extract air unit data

Airflow (m ³ /s)	1.23
System effect (Pa)	20
Static pressure (Pa)	558
p fan (kW)	1.09
n fan (%)	63.0
Filter >=M5	Yes
dp M5 (Pa)	10
nt nrvu (%)	78
dp HRS (Pa)	167

Check

NRVU	Passed
Fan with VSD	Passed
Filter pressure gauge need	Passed
Heat recovery	Passed
SFP int	Passed
Total check	Passed

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ACCESS DATA

Handle type L-Handle
Pressure guard Included

EXHAUST DATA

Type	HHFlex 07.06	Air volume	m3/s	1.23
Casing construction	RP080	Internal sheet		Polyester coated steel 0.80mm
Insulation	Rockwool 60-70 kg/m3	External sheet		Polyester coated steel 0.80mm
Unit velocity	m/s 1.24			
SFPe	kJ/m3 0.89	SFPv	kJ/m3	0.84

Mechanical performance according EN1886

Model box	D1	L2	F9	T2	TB2	(M)

Sound data exhaust SWL	Hz	125	250	500	1k	2k	4k	8k	dB(A)
Inlet Full face	dB	67	69	65	56	54	49	44	66
Outlet Right side	dB	73	73	70	68	63	58	52	73

SUPPLY DATA

Type	HHFlex 07.06	Air volume	m3/s	1.23
Casing construction	RP080	Internal sheet		Polyester coated steel 0.80mm
Design outdoor temperature	°C -5.0	External sheet		Polyester coated steel 0.80mm
Unit velocity	m/s 1.24	Insulation		Rockwool 60-70 kg/m3
SFPe	kJ/m3 1.23	SFPv	kJ/m3	1.07

Mechanical performance according EN1886

Model box	D1	L2	F9	T2	TB2	(M)

Sound data supply SWL	Hz	125	250	500	1k	2k	4k	8k	dB(A)
Inlet Full face	dB	72	73	70	63	64	57	53	71
Outlet Full face	dB	73	74	71	64	58	45	40	71

UNIT EXTRAS

Improved leakage class

In direction of airflow, the unit comprises:

DELIVERY SECTION(S)

Section	Width (mm)	Height (mm)	Length (mm)	Baseframe (mm)	Weight (kg)
1	1218	1058	1858	200	438
2	1218	1058	1378	160	291
3	1218	1058	2338	200	560
4	1218	2276	1698	200	771
5	1218	1058	2018	160	526

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EXHAUST COMPONENTS

INLET Exhaust

Opening, width x height mm 1058 x 898
Pressure drop Pa 1

Provided with:

Damper
1 x 7 Nm, max 0 Pa

External, Opposed blades,
Suitable for actuator,
Aluminium

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
wiring

1 x Light switch, incl. wiring to armature

FILTER Exhaust

Filter type Bag (Synthetic)
Filter class (EN 779) M5
Filter class(EN ISO 16890) ISO COARSE 70%
Initial pressure drop Pa 17
Design pressure drop Pa 42
Final pressure drop Pa 67

Withdrawal method Side

Filter length mm 500

Filter frame material Galvanised

ACCESS Exhaust

Access type Hatch Access side Left

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
wiring

1 x Light switch, incl. wiring to armature

1 x Pressure gauge wall mounted, Magnehelic 2000

Spare Filter

INLET PLENUM Exhaust

Air pressure drop Pa 0

FAN Exhaust

Fan type ER45Cpro
Fan arrangement Single
Air volume m3/s 1.23
Fan outlet velocity m/s 6.49
System effect Pa 20
External static pressure Pa 325
Total static pressure Pa 558
Dynamic pressure Pa 25
Total pressure Pa 584
Fan speed rpm 1518

Installed motor power kW 1.80
Motor EC
Motor efficiency class IE4
Motor speed rpm 1800
Voltage V 3~400V
Current A 2.8
Abs. motor power incl. F.I. kW 1.09
Operating control signal V 8.43
Maximum fan speed at 10V rpm 1800

Efficiency % 66.0

Fan sound data SWL	Hz	63	125	250	500	1k	2k	4k	8k
Inlet dB	Total SWL	65	69	71	68	63	62	59	54
Outlet dB		67	74	75	73	72	69	65	60

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FAN EXTRAS

Design fan speed is reached at the operating control signal or the
speed at 10V setting must be specially configured
Inlet cone measuring points

Wire mesh(access entrance)

Flexible connection single skin

ACCESS Exhaust

Access type

Door

Viewport

Included

Access side

Left

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
wiring

1 x Light switch, incl. wiring to armature

RECUPERATOR Exhaust

Winter conditions

Exhaust air on °C/%RH 22.0 / 40

Exhaust air off °C/%RH 8.2 / 94

Summer conditions

Exhaust air on °C/%RH 25.0 / 50

Exhaust air off °C/%RH 27.3 / 44

Exhaust pressure drop Pa 167

Exhaust pressure drop Pa 167
Exhaust eliminator type None

OUTLET Exhaust

Opening, width x height mm 1120 x 960

Pressure drop Pa 3

Provided with:

Opening product
Damper
1 x 7 Nm, max 0 Pa

Louvre
Internal, Opposed blades,
Suitable for actuator,
Extra corrosion resistant,
Aluminium

ACCESS Exhaust

Access type

Hatch

Access side

Left

EXTRAS

1 x Identification plate

SUPPLY COMPONENTS

INLET Supply

Opening, width x height mm 1120 x 960

Pressure drop Pa 3

Provided with:

Opening product
Damper
1 x 7 Nm, max 0 Pa

Louvre
Internal, Opposed blades,
Suitable for actuator,
Extra corrosion resistant,
Aluminium

ACCESS Supply

Access type

Hatch

Access side

Right

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
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1 x Light switch, incl. wiring to armature

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HOT WATER COIL			(lphw)			
Supply						
Air volume	m3/s	1.23		Number of coils		1
Duty	kW	11.86		Fluid	100%	Water
Air on db	°C	-5.0		Fluid flow rate	l/s	0.14
Air off db	°C	3.0		Fluid on	°C	80.0
Air pressure drop	Pa	4		Fluid off	°C	60.0
				Fluid pressure drop	kPa	10
				Fluid content	l	16.90
Tubes/fins/connections		Cu / Al / Cu		Connection type		Threaded (Right)
Coil frame		Stainless steel 304		Connection size		1"
Tube thickness	mm	Standard		Fin spacing	mm	0.0
Tube Diameter	mm	16.5		Fin thickness	mm	0.13
Face velocity	m/s	1.5				

EXTRAS

1 x Identification plate

FILTER Supply					
Filter type		Panel (Synthetic)	Withdrawal method		Side
Filter class (EN 779)		G4			
Filter class(EN ISO 16890)		ISO COARSE 65%			
Initial pressure drop	Pa	31			
Design pressure drop	Pa	61			
Final pressure drop	Pa	90			
			Filter length	mm	48
Filter frame material		Stainless steel 316			
ACCESS Supply					
Access type		Hatch	Access side		Right

EXTRAS

1 x Identification plate

Spare Filter

1 x Pressure gauge wall mounted, Magnehelic 2000

INLET PLENUM Supply

Air pressure drop	Pa	0							
FAN Supply									
Fan type		ER45Cpro							
Fan arrangement		Single							
Air volume	m3/s	1.23			Installed motor power	kW	1.80		
Fan outlet velocity	m/s	6.49			Motor		EC		
System effect	Pa	20			Motor efficiency class		IE4		
External static pressure	Pa	325			Motor speed	rpm	1800		
Total static pressure	Pa	755			Voltage	V	3~400V		
Dynamic pressure	Pa	25			Current	A	2.8		
Total pressure	Pa	780			Abs. motor power incl. F.I.	kW	1.52		
Fan speed	rpm	1703			Operating control signal	V	9.46		
					Maximum fan speed at 10V	rpm	1800		
Efficiency	%	63.0							
Fan sound data SWL	Hz	63	125	250	500	1k	2k	4k	8k
Inlet dB	Total SWL	69	73	74	71	65	66	62	58
Outlet dB		72	77	78	76	75	72	68	63

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FAN EXTRAS

Design fan speed is reached at the operating control signal or the
speed at 10V setting must be specially configured
Inlet cone measuring points

Wire mesh(access entrance)

Flexible connection single skin

ACCESS Supply

Access type

Door

Viewport

Included

Access side

Right

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
wiring

1 x Light switch, incl. wiring to armature

Spare Fan

RECUPERATOR Supply

Recuperator material

Coated aluminium

Bypass type

Side bypass

Winter conditions

Bypass damper

Included

Supply air on

°C/%RH

5.0 / 50

Supply total efficiency

%

85

Supply air off

°C/%RH

19.4 / 19

Supply pressure drop

Pa

164

Total duty

kW

21.00

Dry efficiency at equal
airflow

%

78

Summer conditions

Supply air on

°C/%RH

28.0 / 60

Supply pressure drop

Pa

164

Supply air off

°C/%RH

25.7 / 69

ACCESS Supply

Access type

Door

Access side

Right

EXTRAS

1 x Identification plate

1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl.
wiring

1 x Light switch, incl. wiring to armature

Sloping Drain

DX COIL Supply

Air volume

m3/s

1.23

Number of coils

1

Duty

kW

32.00

Refrigerant

R410a

Air on db

°C

28.0

Evaporating temperature

°C

7.00

Air on wb/RH

°C/%

20.2 / 50

Air off db

°C

13.1

Air off wb/RH

°C/%

12.8 / 97

Air pressure drop coil (Dry)

Pa

64

Air pressure drop elim.

Pa

9

Tubes/fins

CuET / CuET

Connection side

Right

Coil frame

Stainless steel 316

Liquid connection size

mm

Standard

Tube thickness

mm

Standard

Suction connection size

mm

-

Tube Diameter

mm

16.5

Fin thickness

mm

0.11

Face velocity

m/s

1.6

Fin spacing

mm

2.5

Eliminator

Plastic

Drainpan type

Sloping (cleanable)

Drainpan material

Stainless steel 304

Note: DX Element calculation is based on one section.

EXTRAS

1 x Identification plate

Sloping Drain

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INSPECTION Supply

ACCESS Supply			
Access type	Door	Viewport	Included
Access side	Right		
EXTRAS			
1 x Identification plate		1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl. wiring	
1 x Light switch, incl. wiring to armature			

HOT WATER COIL Supply

		(lphw)			
Air volume	m3/s	1.23	Number of coils	1	
Duty	kW	16.00	Fluid	100%	Water
Air on db	°C	5.0	Fluid flow rate	l/s	0.20
Air off db	°C	15.7	Fluid on	°C	80.0
Air pressure drop	Pa	6	Fluid off	°C	60.0
			Fluid pressure drop	kPa	15
			Fluid content	l	4.50
Tubes/fins/connections		Cu / Cu / Cu	Connection type		Threaded (Right)
Coil frame		Standard	Connection size		3/4"
Tube thickness	mm	Standard	Fin spacing	mm	2.0
Tube Diameter	mm	12.45	Fin thickness	mm	0.12
Face velocity	m/s	1.5			

EXTRAS
1 x Identification plate

FILTER Supply

Filter type		Bag (Synthetic)	Withdrawal method	Side
Filter class (EN 779)		F7		
Filter class(EN ISO 16890)		ISO ePM2.5 70%		
Initial pressure drop	Pa	45		
Design pressure drop	Pa	79		
Final pressure drop	Pa	112		
			Filter length	mm 500
Filter frame material		Stainless steel 316		
ACCESS Supply				
Access type	Hatch	Access side	Right	
EXTRAS				
1 x Identification plate		1 x Light armature, LED Bulkhead 4000K 600 Lumens - 230V, excl. wiring		
1 x Light switch, incl. wiring to armature		1 x Pressure gauge wall mounted, Magnehelic 2000		
Spare Filter				

OUTLET Supply

Opening, width x height	mm	1058 x 898	Provided with:	
Pressure drop	Pa	1	Damper	External, Opposed blades, Suitable for actuator, Aluminium
			1 x 7 Nm, max 0 Pa	

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1 x Identification plate

