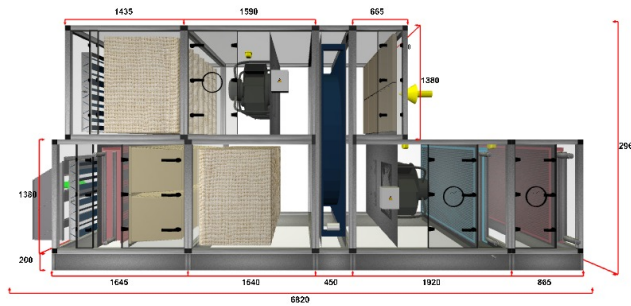


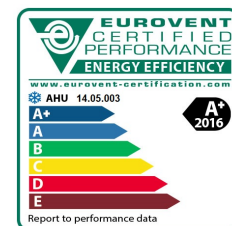


Project 025544 - RBS Spinningfields Manchester
Unit AHU 07-01

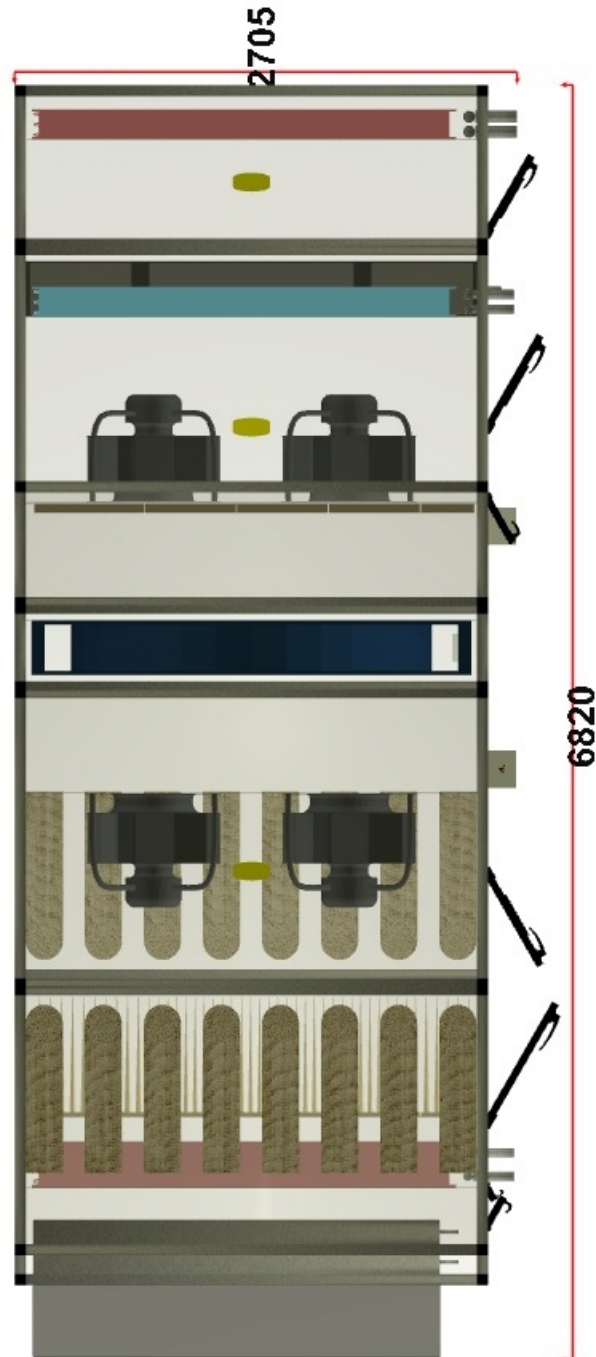


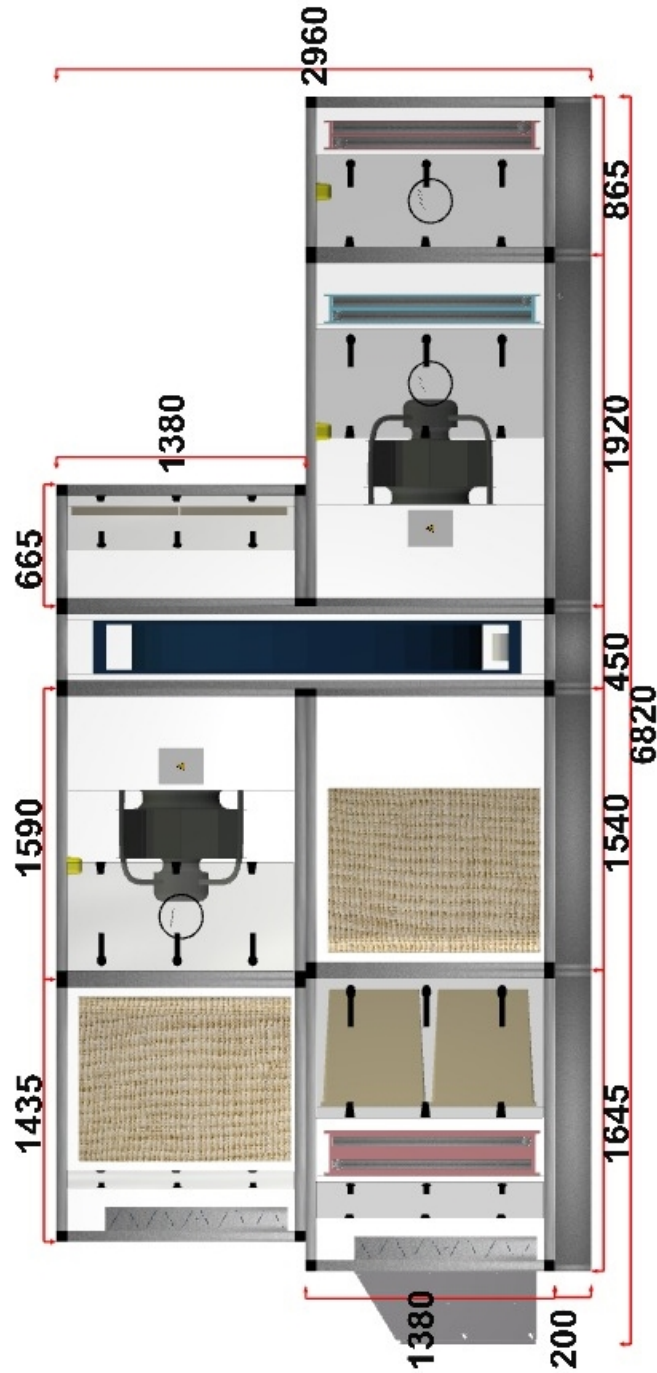
Unit Data

Range / Series	D-AHU PROFESSIONAL
Model	1380 X 2550
Panel • Insulation	62 mm • Mineral Wool
Model Box Ref.	Sound ThermiC° S2
Panel Inner Skin	Aluzinc 1.0 mm
Panel Outer Skin	Precoated 1.0 mm
Internal Parts	Aluzinc
Profile	Aluminium Anodized Thermal Break
AHU Base	200mm Galvanized
Flat Roof	Yes
Supply Width • Height	2550 mm • 1380 mm
Return Width • Height	2550 mm • 1380 mm
Length Overall	6820 mm
Weight	4343 Kg
Connection Side • Door	Right • Right
Supply Air Flow	5.48 m ³ /s
External Pressure Drop	375 Pa
Return Air Flow	5.48 m ³ /s
External Pressure Drop	375 Pa
Air Density • Altitude	1.18 Kg/m ³ • 200 m a.s.l.
Total Supply Filters Eff. ePM1•ePM2.5•ePM10	62 % • 70 % • 91 %
Specific fan power efficiency rating:	
SFPv (clean filters)	1865 W/(m ³ /s)
SFPe (medium filters)	2020 W/(m ³ /s)
ERP Compliant	ERP 2018









Mechanical Characteristic (EN1886]

Casing Strength
D1(M)

Casing Leakage
L1(M)/L1(M)

Thermal Transmit
T2(M)

Thermal bridging
TB2(M)

EN 13053

Supply Power
Class (EN13053)
P1

Supply Velocity
Class(EN13053)
V2

Return Power
Class (EN13053)
P1

Return Velocity
Class(EN13053)
V2

Heat Recovery
Class(EN13053)
H2

1) Damper Supply

Pressure Drop	58 Pa
Material	Aluminium
Mounting	Internal • Left
External Connection	Rain Hood
Dimensions (HxW)	1010x2190 mm
Torque	15 Nm

2) Empty Section Supply

Length	200 mm
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3) Coil Heating Water Supply

Geometry

Model	Cu-ALMG 2.5-FeZn P3012LAC 7R-38T-2210A 44C 2
Geometry • Rows	P3012 • 7
Frame	Galvanized
Tube Material • Thickness	Copper • 0.35 mm
Fin Material • Space	Bare • ----
Header Material	Copper
Connections (Diam) • Type • Side	50 mm (2) • Threaded • Right
Total Capacity	66.7 kW

Heating Air Side

Air Flow • Velocity	5.48 m ³ /s • 2.18 m/s
Temp. Dry Bulb In • Out	-5 °C • 5 °C
Temp. Wet Bulb In • Out	-5.4 °C • 0.8 °C
Relative Humidity In • Out	90 % • 43 %
Pressure Drop Dry	21 Pa

Heating Fluid Side

Flow	3.2 l/s
Temperature In • Out	45 °C • 40 °C
Fluid Velocity • Volume	0.8 m/s • 65.3 dm ³
Pressure Drop	18 kPa

Calculated in Dry Condition

4) Filter Supply

Mounting	Slide
Air Velocity	1.97 m/s
Pressure Drop Design	Medium
Filter Class	ePM1 60%(F7)
Filter Energy Classification	A
Filter Name	DriPak NX
Material	Synthetic
Area	43.4 m ²
Dimensions	2x(592x592x640) 6x(490x592x640) 2x(287x592x640)
Efficiency ePM1 • ePM2.5 • ePM10	62 % • 70 % • 91 %
Clean Pressure Drop	44 Pa
Medium Pressure Drop	88 Pa
Dirty Pressure Drop	132 Pa

5) Attenuator Supply

Splitter Number	8x200
Splitters Length	900 mm
Material	TISSUE Galvanized
Pressure Drop	17 Pa
SPL Average Attenuation	31 dB
63 Hz	4 dB
125 Hz	6 dB
250 Hz	15 dB
500 Hz	21 dB
1000 Hz	28 dB
2000 Hz	25 dB
4000 Hz	15 dB
8000 Hz	9 dB

6) Empty Section Supply

Length	450 mm
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7) Recuperator Heat Wheel Supply

Part Number	SE3-LL-WV-2270-SM-V1-A1-5-W2370-H2370
Type	Enthalpy • Variable Speed
Diameter	2270 mm
Dry Efficiency (EN308)	75.2 %
Energy Class (EN13053)	H2 • 72.9 %
Motor Consumption	0.4 kW

WINTER

Power	119.3 kW
Thermal Efficiency	75.6 %
Dry Efficiency (Eurovent)	75.6 %
Supply	
Flow Rate	5.48 m ³ /s
Standard • Actual Pressure Drop	151 Pa • 143 Pa
Temp. Dry Bulb Outdoor • Supply	5 °C • 17.9 °C
Relative Humidity Outdoor • Supply	41 % • 34 %
Temp. Wet Bulb Outdoor • Supply	0.6 °C • 9.9 °C
Return	
Flow Rate	5.48 m ³ /s
Standard • Actual Pressure Drop	151 Pa • 152 Pa
Temp. Dry Bulb Extract • Exhaust	22 °C • 9.1 °C
Relative Humidity Extract • Exhaust	50 % • 80 %
Temp. Wet Bulb Extract • Exhaust	15.3 °C • 7.4 °C

SUMMER

Power	-39.1 kW
Thermal Efficiency	73.2 %
Dry Efficiency (Eurovent)	73.2 %
Humidity Efficiency (Eurovent)	29.5 %
Supply	
Flow Rate	5.48 m ³ /s
Standard • Actual Pressure Drop	151 Pa • 158 Pa
Temp. Dry Bulb Outdoor • Supply	32 °C • 27.6 °C
Relative Humidity Outdoor • Supply	42 % • 52 %
Temp. Wet Bulb Outdoor • Supply	21.9 °C • 20.2 °C
Return	
Flow Rate	5.48 m ³ /s
Standard • Actual Pressure Drop	151 Pa • 154 Pa
Temp. Dry Bulb Extract • Exhaust	26 °C • 30.4 °C
Relative Humidity Extract • Exhaust	50 % • 41 %
Temp. Wet Bulb Extract • Exhaust	18.6 °C • 20.5 °C

Assumed that the system effect was considered in the design.

8) Empty Section Supply

Length	250 mm
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9) Fan Supply

Model	GR56I-ZID.GL.CR
Type	EC Centrifugal Fan Including Electrical Panel & Main Switch
Material	Composite
Quantity	2x(Fan Array)
External Static Pressure	375 Pa
Internal Static Pressure	402 Pa
Total Static Pressure	777 Pa
Dynamic Pressure	21 Pa
Flow Design	5.48 m ³ /s

K Factor	355
Rotation Speed Work • Max	1530 RPM • 1780 RPM
Efficiency (Reg327/2011)	73 %
Efficiency	71.1 %
Electrical Power Input	2x2.99 kW
Power Class • PMREF (EN13053)	P1 • 8.46 kW
SFPv Class • SFPv (EN13053)	SFP2 • 1008 W/(m ³ /s)

Motor Data

Efficiency Class	IE5
Power • Nominal Current	4.6 kW • 7.4 A
Electrical Connection	3Ph-380-480V

Fan system effect is taken into account in the fan performances

10) Coil Cooling Water Supply

Geometry

Model	Cu-ALMG 2.5-Inox304 P60AR 4R-19T-2210A-3.0pa 19C 2
Geometry • Rows	P60 • 4
Frame	SS304
Tube Material • Thickness	Copper • 0.4 mm
Fin Material • Space	Al Mg 0.2 mm • 3 mm
Header Material	Copper
Connections (Diam) • Type • Side	50 mm (2) • Threaded • Right
Sensible Capacity	80.8 kW
Total Capacity	95.1 kW

Cooling Air Side

Air Flow • Velocity	5.48 m ³ /s • 2.18 m/s
Temp. Dry Bulb In • Out	32 °C • 20 °C
Temp. Wet Bulb In • Out	22.1 °C • 17.7 °C
Relative Humidity In • Out	42 % • 80 %
Pressure Drop Dry • Wet	31 Pa • 47 Pa

Cooling Fluid Side

Flow	3.77 l/s
Temperature In • Out	6 °C • 12 °C
Fluid Velocity • Volume	1.03 m/s • 41.8 dm ³
Pressure Drop	20 kPa

Calculated in Wet Condition

11) Empty Section Supply

Length	500 mm
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12) Coil Heating Water Supply

Geometry

Model	Cu-ALMG 2.5-FeZn P60AC 3R-19T-2210A-4.0pa 28C 2 1/2
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Geometry • Rows	P60 • 3
Frame	Galvanized
Tube Material • Thickness	Copper • 0.4 mm
Fin Material • Space	Al Mg 0.2 mm • 4 mm
Header Material	Copper
Connections (Diam) • Type • Side	65 mm (2 1/2) • Threaded • Right
Total Capacity	86.7 kW

Heating Air Side

Air Flow • Velocity	5.48 m ³ /s • 2.18 m/s
Temp. Dry Bulb In • Out	5 °C • 18 °C
Temp. Wet Bulb In • Out	0.7 °C • 7.6 °C
Relative Humidity In • Out	41 % • 17 %
Pressure Drop Dry	13 Pa

Heating Fluid Side

Flow	4.15 l/s
Temperature In • Out	45 °C • 40 °C
Fluid Velocity • Volume	0.78 m/s • 36.9 dm ³
Pressure Drop	6 kPa

Calculated in Dry Condition

13) Filter Return

Mounting	Slide
Air Velocity	1.97 m/s
Pressure Drop Design	Medium
Filter Class	ePM10 60%(M5)
Filter Energy Classification	E
Filter Name	Ecopleat Green
Material	Synthetic
Area	36.8 m ²
Dimensions	2x(592x592x48) 6x(490x592x48) 2x(287x592x48)
Efficiency ePM1 • ePM2.5 • ePM10	15 % • 24 % • 64 %
Clean Pressure Drop	54 Pa
Medium Pressure Drop	104 Pa
Dirty Pressure Drop	154 Pa

14) Empty Section Return

Length	250 mm
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15) Fan Return

Model	GR56I-ZID.GQ.CR
Type	EC Centrifugal Fan Including Electrical Panel & Main Switch
Material	Composite

Quantity	2x(Fan Array)
External Static Pressure	375 Pa
Internal Static Pressure	283 Pa
Total Static Pressure	658 Pa
Dynamic Pressure	21 Pa
Flow Design	5.48 m ³ /s
K Factor	355
Rotation Speed Work • Max	1444 RPM • 1860 RPM
Efficiency (Reg327/2011)	73.2 %
Efficiency	70.9 %
Electrical Power Input	2x2.54 kW
Power Class • PMREF (EN13053)	P1 • 7.25 kW
SFPv Class • SFPv (EN13053)	SFP2 • 857 W/(m ³ /s)

Motor Data

Efficiency Class	IE5
Power • Nominal Current	5.2 kW • 8.2 A
Electrical Connection	3Ph-380-480V

Fan system effect is taken into account in the fan performances

16) Attenuator Return

Splitter Number	8x200
Splitters Length	900 mm
Material	TISSUE Galvanized
Pressure Drop	17 Pa
SPL Average Attenuation	31 dB
63 Hz	4 dB
125 Hz	6 dB
250 Hz	15 dB
500 Hz	21 dB
1000 Hz	28 dB
2000 Hz	25 dB
4000 Hz	15 dB
8000 Hz	9 dB

17) Empty Section Return

Length	100 mm
--------	--------

18) Damper Return

Pressure Drop	8 Pa
Material	Aluminium
Mounting	Internal • Right
Dimensions (HxW)	1010x2190 mm
Torque	15 Nm

Section List

Num.	Height (mm)	Width (mm)	Length (mm)	Weight (Kg)	Transportable
1	1580	2550	1645	761	Container or Truck
2	1580	2550	1540	567	Container or Truck
3	2960	2550	450	602	Special Truck
4	1580	2550	1920	828	Container or Truck
5	1580	2550	865	400	Container or Truck
6	1380	2550	665	188	Container or Truck
7	1380	2550	1590	491	Container or Truck
8	1380	2550	1435	506	Container or Truck

Options List

Unit Options

Flat Roof
Pallet for Container
Barrier Bag (External Storage)

4) Filter Supply

Magnehelic 0-500 Pa

9) Fan Supply

Light mounted wired to external switch (w/o bulb)
Port Hole
Drive Screen

10) Coil Cooling Water Supply

DrainPan SS304

11) Empty Section Supply

Light mounted wired to external switch (w/o bulb)
Port Hole

15) Fan Return

Light mounted wired to external switch (w/o bulb)
Port Hole
Drive Screen

Sound Report

Supply Sound Power (dB)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	AVG dB (A)
Fan Inlet	69	81	75	71	69	66	61	62	75
Fan Outlet	75	87	79	81	78	75	71	67	83
Unit Inlet	62	70	53	43	31	30	37	45	55
Unit Outlet	74	85	76	77	73	69	66	63	79
Airborne	56	68	53	53	50	45	29	22	56
Pressure (1m) *	45	57	42	42	39	34	18	11	45

* Simple source in free field, spherical propagation

Return Sound Power (dB)	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	AVG dB (A)
Fan Inlet	70	80	75	73	70	66	64	63	76
Fan Outlet	74	87	78	81	79	74	71	66	83
Unit Inlet	69	79	74	71	67	63	62	61	74
Unit Outlet	70	81	63	60	51	49	56	57	67
Airborne	55	68	52	53	51	44	29	21	56
Pressure (1m) *	44	57	41	42	40	33	18	10	45

* Simple source in free field, spherical propagation

NRVU - Regulation (EU) No 1253/2014

Manufacturer's Name	Daikin Applied Europe S.p.a.
Serial Number	1025675
Typology (NRVU, UVU or BVU)*	NRVU BVU
Drive Type	Inverter (included on the electronic fan)
HRS Type	Other
HRS Thermal Efficiency (EN308)	75.2 %
Nominal NRVU Flow Rate	
<i>Supply</i>	5.48 m ³ /s
<i>Return</i>	5.48 m ³ /s
Effective Electric Power Input	
<i>Supply</i>	11.09 kW
SFP Internal	553 W/(m ³ /s)
Face Velocity at Flow Rate Design	
<i>Supply</i>	1.79 m/s
<i>Return</i>	1.79 m/s
Nominal Internal Pressure Drop	
<i>Supply</i>	187 Pa
<i>Return</i>	206 Pa
Nominal External Pressure Drop	
<i>Supply</i>	375 Pa
<i>Return</i>	375 Pa
Efficiency (Reg327/2011)	
<i>Supply</i>	73 %
<i>Return</i>	73 %
External Leakage (RU) +400Pa • -400Pa	0.89 % • 0.44 %
Maximum Internal Leakage	3 %
Summer Outdoor Conditions	32 °C • 42 %
Winter Outdoor Conditions	-5 °C • 90 %
Filter Energy Classification	A E
Filter Service Warning**	Displayed on HMI Controller (by others with ADN units)
Sound Power Level (LWA)	Please refer to Selection Software
Pre-/Dis-assembly Instructions	https://www.daikinapplied.eu/ahu-instructions-for-pre-disassembly/

* In accordance with Commission Regulation (EU) No 1253/2014 of July 2014

** Clean/replace Filter(s) when maximum pressure drop is reached or when warning is displayed on HMI controller