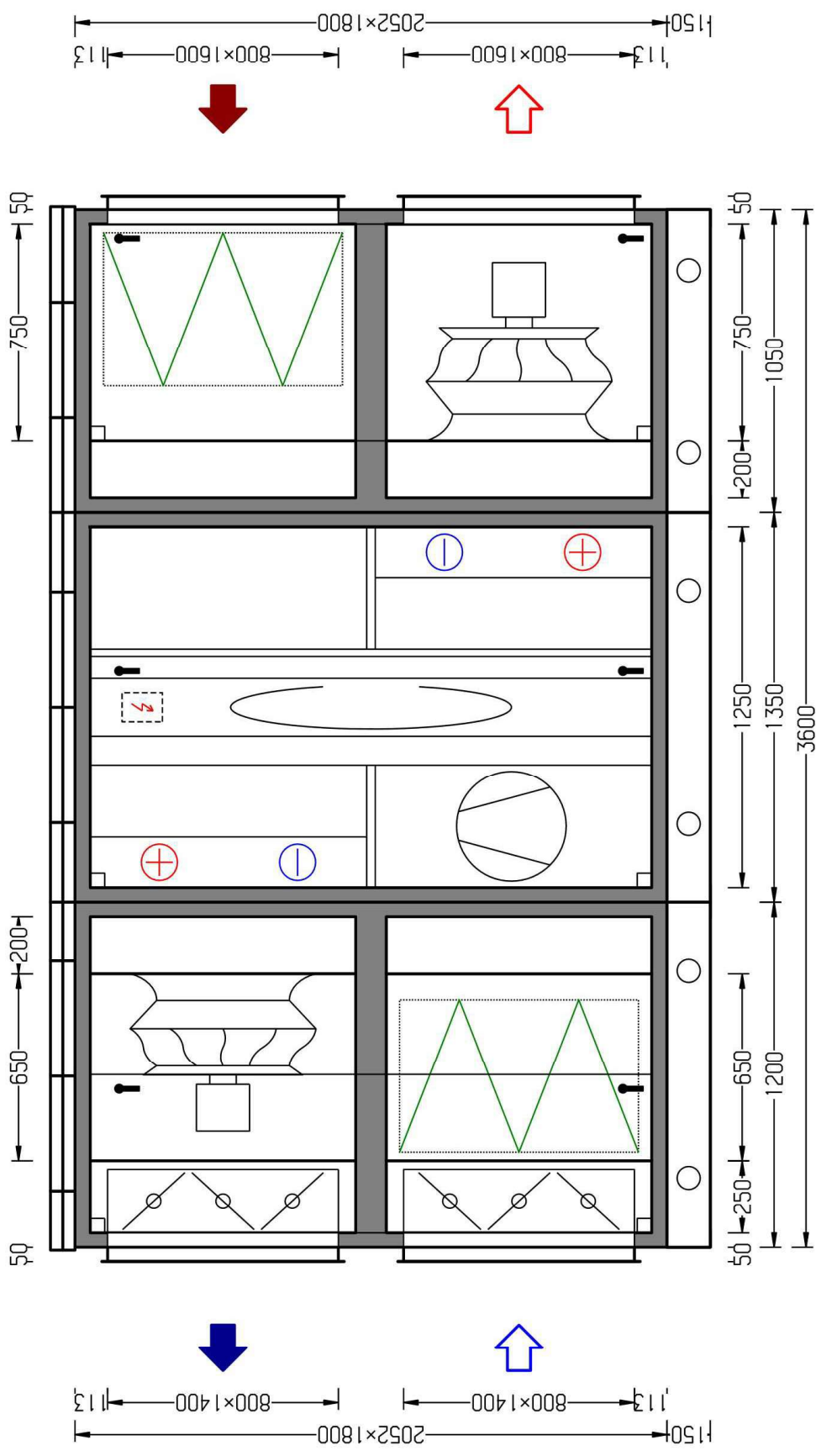




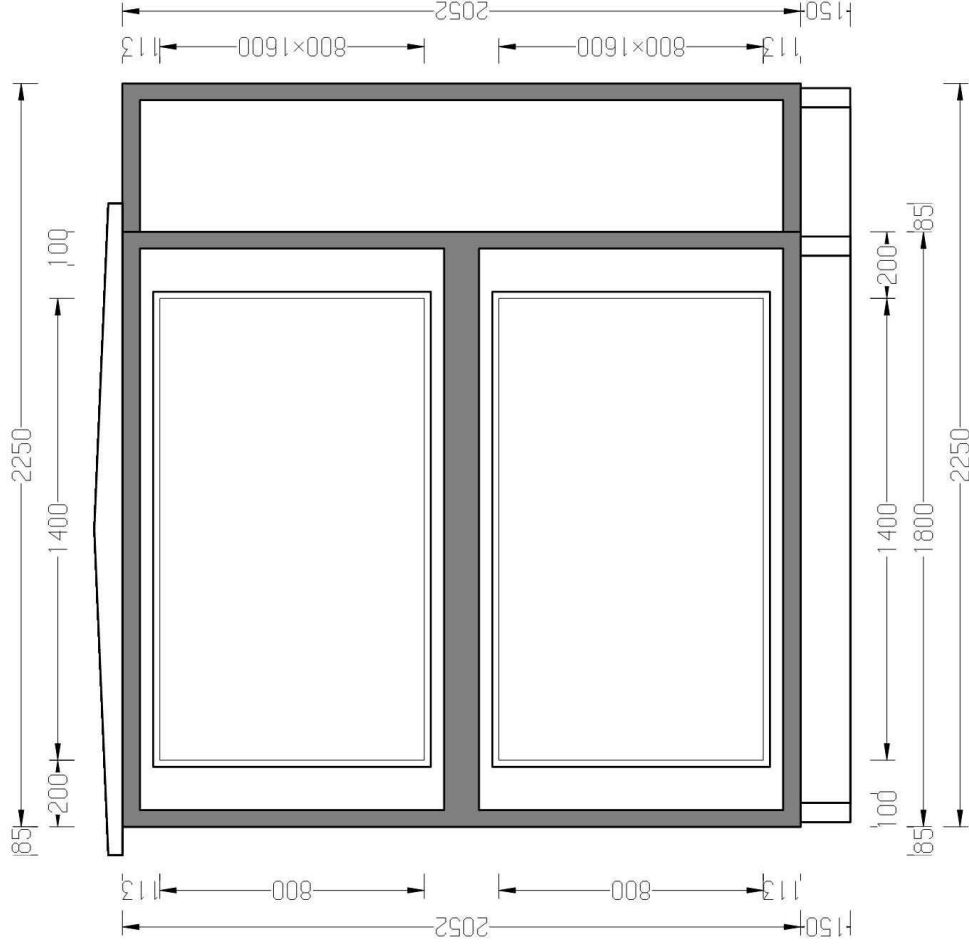
From Inspection Side
 2021-03-01
 Acon 2.54.45169
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Customer id 2459
Project 29722
Unit 7
AOC ACON-02776896

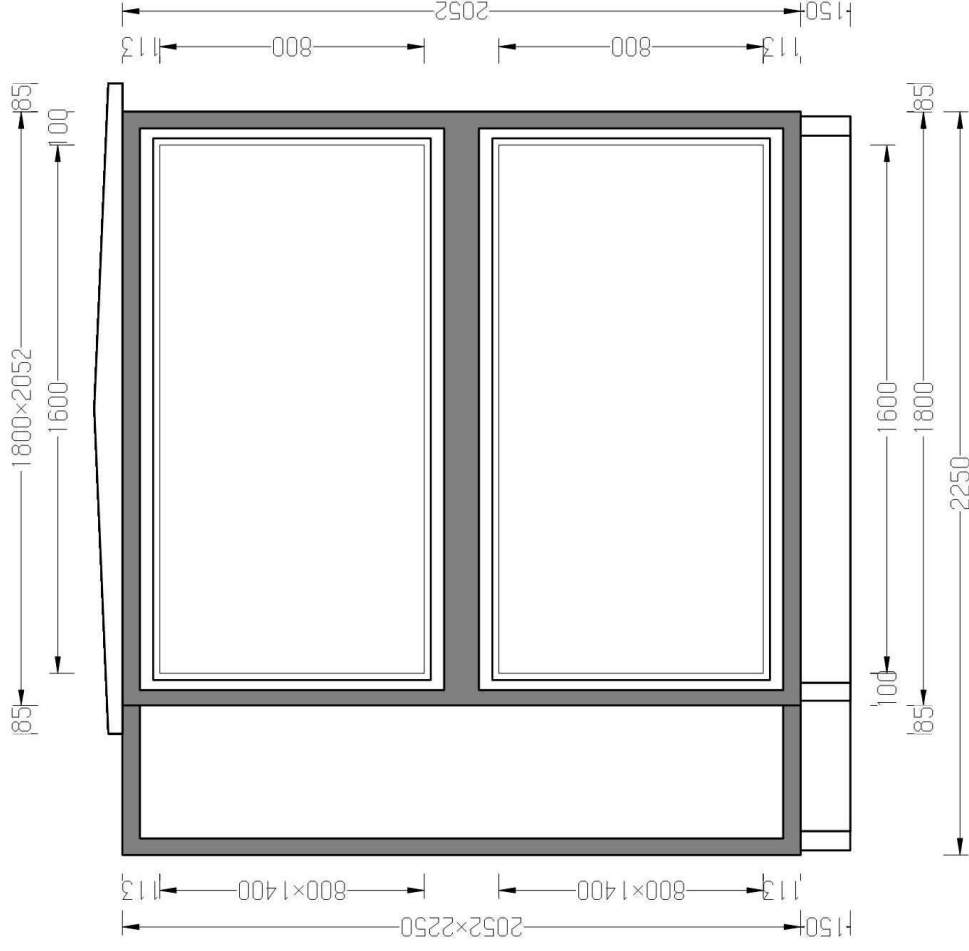
Project name
Unit name
Supply air
Exhaust air

eQ Prime-032
 eQ Prime-032

The Shed, Kentish Town
 (des) / AHU 1 DXHP AHU @DESIGN
 2.22 m³/sec
 2.20 m³/sec



Customer id Project Unit AOC	2459 29722 7 ACON-02776896	Project name Unit name Supply air Exhaust air	(des) / AHU 1 DXHP AHU @DESIGN eQ Prime-032 eQ Prime-032	The Shed, Kentish Town 2.22 m³/sec 2.20 m³/sec
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From Right Hand Side
2021-03-01
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Customer id
Project
Unit
AOC

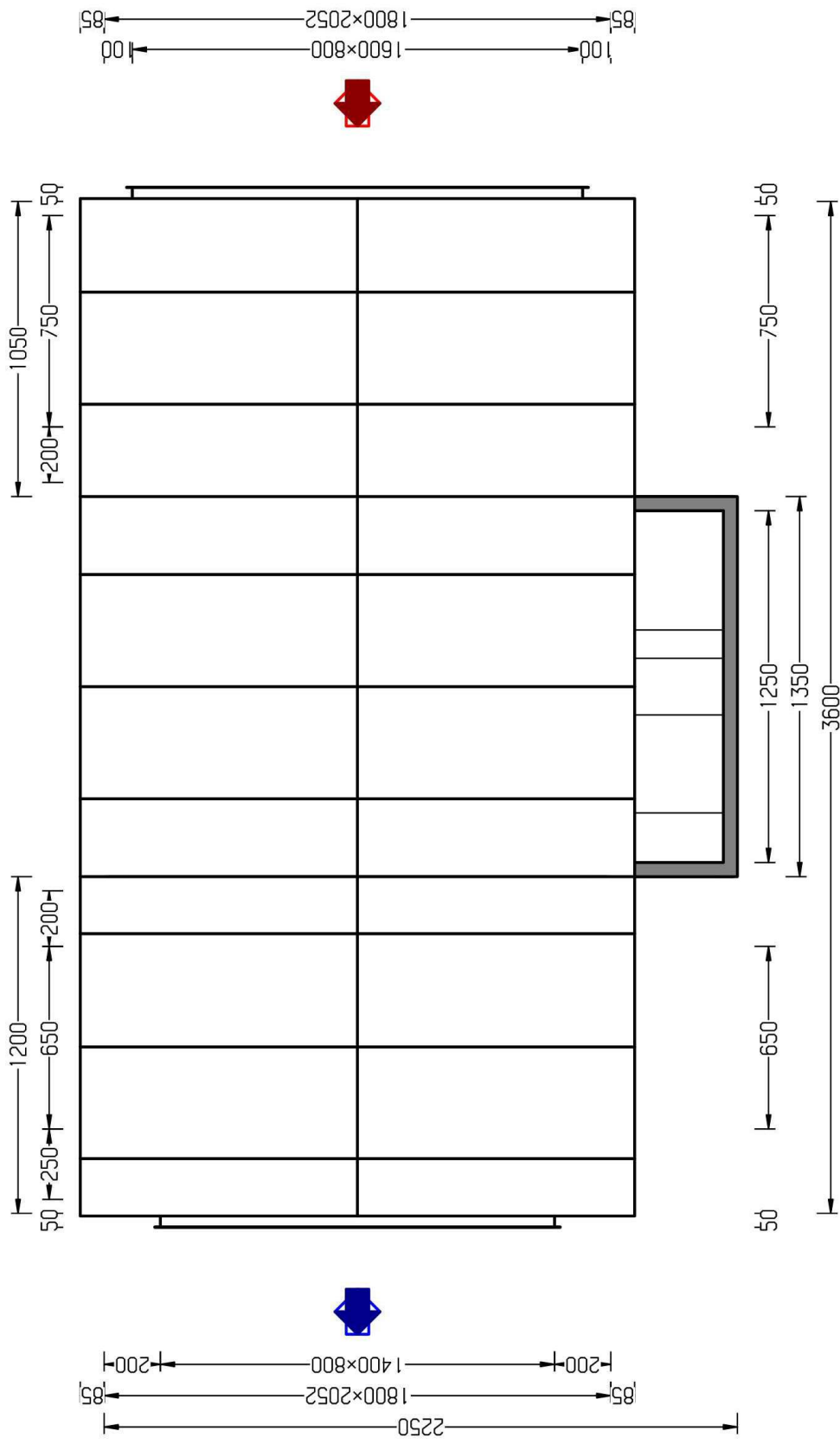
2459
29722
7
ACON-02776896

Project name
Unit name
Supply air
Exhaust air

eQ Prime-032
eQ Prime-032

(des) / AHU 1 DXHP AHU @DESIGN
2.22 m³/sec
2.20 m³/sec

The Shed, Kentish Town
FläktGroup



From Above 2021-03-01 Acon 2.54.45169 Page 4/19	Customer id Project 2459 Unit 29722 AOC 7	Project name Unit name Supply air Exhaust air	The Shed, Kentish Town (des) / AHU 1 DXHP AHU @DESIGN eQ Prime-032 eQ Prime-032 2.22 m³/sec 2.20 m³/sec
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Project 29722 () / The Shed, Kentish Town Acon 2.54.45169
 AOC ACON-02776896
 Unit 7 (des) / AHU 1 DXHP AHU @DESIGN 2021-03-01
 Size 032 Page 6/19

Customer
 Customers ref.
 Our ref. Peter Morris
 Supply air volume flow rate 2.22 m³/sec Exhaust air volume flow rate 2.20 m³/sec
 External static pressure 250 Pa External static pressure 275 Pa
 Mains electricity 3x400VAC±10%+N+PE, 50Hz Weight 1977 kg
 Specific el. power demand (SFPv) 1.40 kW/(m³/s) Dimensioned for wet condition
 Ref. density 1.2 kg/m³ Ref. altitude above sea level 0 m

SUMMARY

Functional sections in direction of air flow	v0 (m/s)	Et (%)	tw (°C)	ts (°C)	dP* (Pa)
Supply air:					
Connection section	2.3				3
Filter	2.0				90
Cooler	1.7		-5 / 20.5	30 / 20.4	174
Inspection section					0
Plenum fan		69.6	20.5 / 21.1	20.4 / 21	517
Connection section	0.0				0
Supply outlet					250
Exhaust air:					
Exhaust inlet					275
Connection section	0.0				0
Filter	1.7				48
Cooler	1.8		21 / -3	21 / 30.8	173
Inspection section					0
Plenum fan		67.6			498
Connection section	2.3				2

*Refers to the fan design case

Fan system effect is taken into account in fan performance

SOUND POWER LEVELS

(standard: EN13053 ISO/CD 13347-2)

	Lw per octave band (dB)								LwA dB(A)
Octave band (Hz)	63	125	250	500	1k	2k	4k	8k	
Fresh air connection	70	71	67	63	66	63	61	56	70
Supply air connection	75	82	77	77	74	71	68	64	79
Extract connection	76	74	71	66	66	63	61	57	71
Exhaust connection	80	83	79	80	77	74	71	68	82
To surroundings	72	67	63	62	66	65	62	48	70

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
Size	032	Page 7/19

TECHNICAL SPECIFICATION (components listed in direction of air flow)

SUPPLY AIR

Intake air section

Size: 032
Material: AZ sheet steel
Inspection side: right
Pressure drop, dimensioning

EQVI-032-1-1-3-2-1-0-8-1-1

Damper

Width cm : 140
Height in cm : 080
Tightness class : CEN 3
Connection: Flange
Function : Outdoor air
Location: internally end wall
Damper type: 200 mm blade
Material : AlZn

3 Pa
EQAZ-12-140-080-3-2-1-11-2-0-8

Damper actuator

Type: 2-Point with spring return
Delivery options: Mounted and connected

STBZ-30-01-10-2-0-2-1-1-2

Duct connection piece

Connection: slip joint (PG)
Material, frame: galvanized sheet steel / AlZn

EQAZ-26-140-080-1-1-1

Filter

Inspection side: right

Filter selection

Filter class: F7 - ePM1 60%, glassfibre
Filter frame : Galv cassette
Prefilter: without

EQPB-032-07-33-4-4-1-1-0-0-8-1

Design

Connection side : inlet in end wall
Location: negative pressure
Drain tray: without

Number of filters

4x392x792

Pressure drop, start

45 Pa

Pressure drop, dimensioning

90 Pa

Pressure drop, end

134 Pa

Face area

1.3 m²

Face velocity

2.0 m/s

Analogue differential pressure sensor

Design: U-tube manometer for air flow measuring

EQPZ-12-1-1

Filter monitoring

Location: Supply air
Type: Combi sensor (modbus)
Delivery options: Mounted and connected

STBZ-24-1-4-000-1-2

ReCooler HP

Size: 032
Rotor type: RegAsorp
Voltage: 3 x 400 V
Control connections: eQ Prime
Droplet eliminator: without
Material: galvanized sheet steel
Inspection side: right

EQKR-032-1-1-3-1-1-0-1-1-1-0-4

Rotor

Temperature Efficiency

Summer
83.1

Winter
84.1 %

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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Capacity reduction	49.1	88.2 kW
Humidity efficiency	75.7	83.1 %
Air flow transfer	0.25	0.25 m³/sec
Rotor, Supply air	Summer	Winter
Pressure drop	143	127 Pa
Air temperature	30 / 22.5	-5 / 16.9 °C
Wet temperature	22 / 16.4	-5 / 12.1 °C wb
Rotor, Exhaust air	Summer	Winter
Pressure drop	140	129 Pa
Air temperature	21 / 28.5	21 / -1.1 °C
Wet temperature	14.6 / 20.6	14.6 / -1.3 °C wb
Rotor, EN308		
Temperature efficiency according to standard EN 308		84.1 %
Rotor, Efficiency		
Temperature efficiency at 0°C outdoors		84.1 %
Cooler, Supply air side, coil	Summer	Winter
Power	5.77	9.73 kW
Air temperature	22.5 / 20.4	16.9 / 20.5 °C
Wet temperature	16.4 / 15.6	12.1 / 13.6 °C wb
Pressure drop	31	26 Pa
Face velocity	1.7	1.7 m/s
Cooler, Exhaust air side, coil	Summer	Winter
Power	6.48	8.63 kW
Air temperature	28.5 / 30.8	-1.1 / -3 °C
Wet temperature	20.6 / 21.3	-1.3 / -3 °C wb
Pressure drop	33	32 Pa
Face velocity	2.0	1.8 m/s
Cooler, Compressor	Summer	Winter
Electrical Power Demand	1.02	1.6 kW
Rotational speed	773	1832 Rpm
Cooler, Compressor and Rotor	Summer	Winter
Power	54.9	98 kW
Energy Efficiency Ratio (EER)	53.8	
Coefficient of performance (COP)		61.2

ReCooler HP

EQKR-032-1-1-3-1-1-0-2-1-1-0-4

Size: 32
Rotor type: RegAsorp
Voltage: 3 x 400 V
Control connections: eQ Prime
Droplet eliminator: without
Material: galvanized sheet steel
Inspection side: 50

Empty section

EQTC-032-020-0-0-0-0-0-0-1-1

Size: 032
Length: 200 mm
Drain tray: without
Inspection door: without door
Inspection side: right

Plenum fan

EQLE-032-1-0-1-2-4-1-1-2-8-1-1

Inspection side: right
Fan selection
Impeller type: Bluefin (composite)
Fan size: size 1
Anti-vibration mountings: wall mounted
Motor selection

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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Motor type: EC-motor

Motor control

Manufacture, type: EC-motor ZA

Housing protection: IP55

Design: on motor

Delivery options: mounted on current sub, quick connection

Dimensioning data

Speed	1532 Rpm
Max speed	2150 Rpm
Total efficiency	69.6 %
Total static pressure, dimensioning (wet coil)	517 Pa
Dynamic pressure	22 Pa
Fan system input power (absorbed electrical power)	1.73 kW
Temperature rise	0.6 °C
K factor	12.86
Fan wheel size	050

SFP Calculation

Fan system input power (absorbed electrical power) according to SFP	1.55 kW
Pressure rise	456 Pa
Speed	1479 Rpm

Motor

Motor output	4.6 kW
Electric current	6.0 A
Output margin, minimum	30 %

Doorstop (for doors on pressurized units)

EQAZ-17-1

Pressure-/flow sensor

STBZ-22-1-4-375-0-1-2

Location: Supply air

Type: Combi sensor (modbus)

Pressure range: 0-3750 Pa

Delivery options: Mounted and connected

Frequency converter

STRR-1-4-0060-3-0-3-9-51-2

Motor cable

ACAB-032-1-20-51-0060-00-9-4-2

Fan + EC motor

GAEC-050-0460-4-0-1-0-00-0-1-1

Intake air section

EQVI-032-1-1-0-0-3-3-8-1-1

Size: 032

Material: AZ sheet steel

Inspection side: right

Pressure drop, dimensioning

0 Pa

Duct connection piece

EQAZ-26-160-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

EXHAUST AIR

Intake air section

Size: 032

Material: AZ sheet steel

Inspection side: left

Pressure drop, dimensioning

0 Pa

Duct connection piece

EQAZ-26-160-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

Pressure adjustment plate

EQAZ-30-160-080-1-1-1

Material, frame: galvanized sheet steel / AlZn

Filter

EQPB-032-05-31-4-4-7-1-0-0-8-2

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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Inspection side: left

Filter selection

Filter class: M5 - ePM10 50%, synthetic

Filter frame : Galv cassette

Prefilter: without

Design

Connection side : inlet in end wall, withdrawable filter frame

Location: negative pressure

Drain tray: without

Number of filters

4x392x792

Pressure drop, start

24 Pa

Pressure drop, dimensioning

48 Pa

Pressure drop, end

72 Pa

Face area

1.3 m²

Face velocity

1.7 m/s

Analogue differential pressure sensor

EQPZ-12-1-1

Design: U-tube manometer for air flow measuring

Filter monitoring

STBZ-24-2-4-000-1-2

Location: Exhaust air

Type: Combi sensor (modbus)

Delivery options: Mounted and connected

Empty section

EQTC-032-020-0-0-0-0-0-2-1

Size: 032

Length: 200 mm

Drain tray: without

Inspection door: without door

Inspection side: left

Plenum fan

EQLE-032-1-0-1-2-4-1-2-2-8-2-1

Inspection side: left

Fan selection

Impeller type: Bluefin (composite)

Fan size: size 1

Anti-vibration mountings: wall mounted

Motor selection

Motor type: EC-motor

Motor control

Manufacture, type: EC-motor ZA

Housing protection: IP55

Design: on motor

Delivery options: mounted on current sub, quick connection

Dimensioning data

Speed

1641 Rpm

Max speed

2150 Rpm

Total efficiency

67.6 %

Total static pressure, dimensioning (wet coil)

498 Pa

Dynamic pressure

27 Pa

Fan system input power (absorbed electrical power)

1.98 kW

Temperature rise

0.7 °C

K factor

12.86

Fan wheel size

050

SFP Calculation

Fan system input power (absorbed electrical power) according to SFP

1.56 kW

Pressure rise

467 Pa

Speed

1480 Rpm

Motor

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
Size	032	Page 11/19

Motor output	4.6 kW
Electric current	6.0 A
Output margin, minimum	30 %

Doorstop (for doors on pressurized units)

EQAZ-17-1

Pressure-/flow sensor

STBZ-22-2-4-375-0-1-2

Location: Exhaust air

Type: Combi sensor (modbus)

Pressure range: 0-3750 Pa

Delivery options: Mounted and connected

Frequency converter

STRR-2-4-0060-3-0-3-9-51-2

Motor cable

ACAB-032-2-20-51-0060-00-9-4-2

Fan + EC motor

GAEC-050-0460-4-0-1-0-00-0-1-1

Intake air section

Size: 032

Material: AZ sheet steel

Inspection side: left

Pressure drop, dimensioning

2 Pa

Damper

EQAZ-12-140-080-3-2-4-11-2-0-8

Width cm : 140

Height in cm : 080

Tightness class : CEN 3

Connection: Flange

Function : extract air

Location: internally end wall

Damper type: 200 mm blade

Material : AlZn

Damper actuator

STBZ-30-04-10-2-0-2-1-1-2

Type: 2-Point with spring return

Delivery options: Mounted and connected

Duct connection piece

EQAZ-26-140-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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CONTROLS

Product list

Electrical cabinet

STEQ-000-41-00-0-1-4-62-6-2-5

Placement: In cabinet

Voltage: 3x400 VAC

Control equipment: Siemens Climatix 600, TCP/IP

HMI (display): Semigrafical, handheld IP65

Design: Outdoor

Temperature control

STBZ-01-2-0-0-1-0-0-0-1-62-1

Type of control: Exhaust air control

Cooling recovery: with

Temperature control

STBZ-02-20-1-0-1-1-5

Placement: Exhaust air

Design: Mounted in air handling unit

Delivery options: Mounted and connected to combi sensor

Temperature control

STBZ-02-30-1-0-1-1-5

Placement: Out door temp sensor

Design: Mounted in air handling unit

Delivery options: Mounted and connected to combi sensor

Fan control

STBZ-20-3-0-0-0-0-1-1-0

Control function: Flow supply- and extract fan

Fire function: Both fans stopped

Communication

STBZ-51-62-1-0-0-0-1-2

Web: Simple web

Delivery options: Mounted and connected

Temperature control

STBZ-02-10-1-0-2-1-3

Placement: Supply air

Design: Duct mounted

Delivery options: Enclosed

Controls documentation

STBZ-36-62-5-032-1-03-03-1-1

Documentaion language, electrical drawings: English

HMI language: English

Start equipment fan

STBZ-21-3-2-4-060-060-3-2-2

Fan configuration: Supply- and extract fan

Motor type:

Voltage: 3 x 400 V

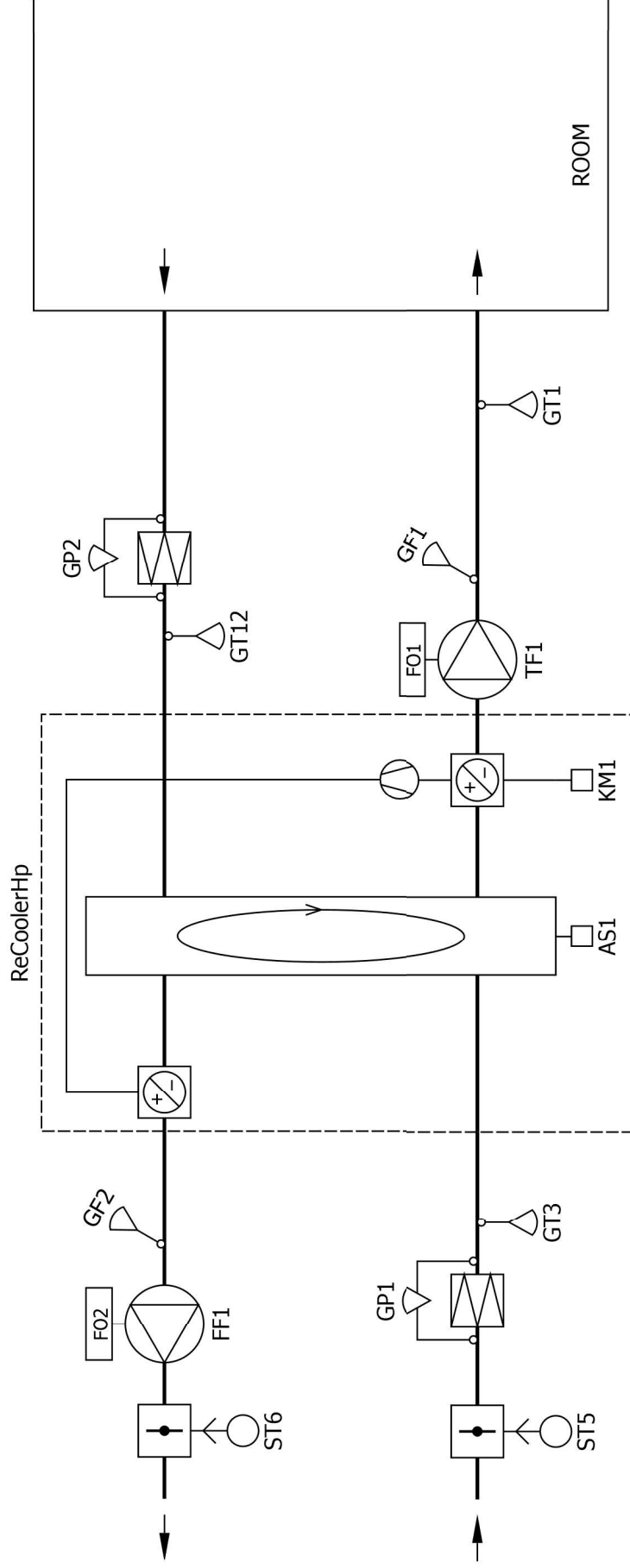
Delivery options: Mounted and connected

Main switch

STBZ-80-022-1-1-2

Auxiliary switch: With auxiliary contact

Delivery options: Mounted and connected



RC1

Customer id Project Uid AOC	2459 29722 7 ACON-02776896	Project name Unit name The Shed, Kentish Town (des) / AHU 1 DXHP AHU @DESIGN Page 13/19	
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Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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Description of Operation

Start and stop of air handling unit

When the fire alarm is triggered, both the supply air fan TF and exhaust fan FF are stopped.
Damper actuator ST5 opens before TF starts and closes when TF stops. ST5 closes at power failure.
Damper actuator ST6 opens before FF starts and closes when FF stops. ST6 closes at power failure.
The operation and alarm indication are in the OP-panel of RC1
RC1 controls the heatrecovery to 100% at start up, if the outdoor temperature is below 15°C

Temperature control

RC1 controls the reversible cooler, the heat exchanger and the heat pump in sequence. At increased need for heat the heat exchanger VVX is controlled for heat recovery and the heatpump for warm air. At increased need for cooling the reversible cooler is controlled for cold air.
Temperature sensor GT12 keeps the right exhaust air temperature via RC1.
Temperature sensor GT1 keeps the supply air temperature within limits via RC1.

Fan control

Flow sensor GF1 keeps the flow constant for TF via corresponding VSD.
Flow sensor GF2 keeps the flow constant for FF via corresponding VSD.

Alarms for:

Running in manual mode,
control failure supply air fan,
control failure exhaust air fan,
failure frequency converter supply air fan,
filter guard supply air,
filter guard exhaust air,
or temperature sensor failure.

Project 29722 () / The Shed, Kentish Town
 AOC ACON-02776896
 Unit 7 (des) / AHU 1 DXHP AHU @DESIGN
 Size 032

Acon 2.54.45169

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Component List

Description	Reference	Type	Delivery options	Notes
on/off damper actu. spring Outdoor air	ST5	GCA1.21	Factory Fitted & Wired	
on/off damper actu. spring Exhaust air	ST6	GCA1.21	Factory Fitted & Wired	
Pressure guard Supply filter	GP1	QBM70	Factory Fitted & Wired	
Frequency converter exhaust air	FO2	ZIEHL-ABEGG	Factory Fitted & Wired	
Frequency converter supply air	FO1	ZIEHL-ABEGG	Factory Fitted & Wired	
Pressure guard Exhaust filter	GP2	QBM70	Factory Fitted & Wired	
Temperature sensor Exhaust air	GT12	QBM70	Factory Fitted & Wired	
Temperature sensor Outdoor air	GT3	QBM70	Factory Fitted & Wired	
Flow control Supply air	GF1	QBM70	Factory Fitted & Wired	
Flow control Exhaust air	GF2	QBM70	Factory Fitted & Wired	
Temperature sensor Supply air	GT1	PT1000 AKF1019207	Supplied loose with Cable & Quick Connector for Fitting/Containment by others	

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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RATED CURRENT

Connection Point	Product Codes Acon	Rated Voltage	Rated Current
Electrical cabinet	STEQ + EQKR	3x400 VAC	35.1 A*
TOTAL			35.1 A

*External loads (e.g pumps, shunts) are not included.

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AOC	ACON-02776896	
Unit	7 (des) / AHU 1 DXHP AHU @DESIGN	2021-03-01
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BLOCK LIST

	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	VOLUME (m³)	WEIGHT (kg)
EQHC-032-120-22-1-1-2-1-2-2-1 Unit casing, eQ Prime Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) Intake air section Filter Fan function with EC-motor Empty section	1300	1950	2457	6.23	528
EQHB-032-135-22-1-1-2-1-6-2-1 Unit casing (frame, unit) Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) ReCooler HP ReCooler HP	1400	2300	2457	7.91	1013
EQHC-032-105-22-1-1-2-1-4-2-1 Unit casing, eQ Prime Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) Empty section Filter Fan function with EC-motor Intake air section	1150	1950	2457	5.51	436
				19.65	1977

The dimensions are transport dimensions including packaging

*Fläkt Group eQ AHUs are leakage class L2 real unit as certified by Eurovent.

CAL class @-400Pa and @+700Pa. For units where the casing has; (i) a customised or special design that differs from standard module box, (ii) nonstandard components penetrating the casing that is non-standard for a real unit, and (iii) where holes or penetrations are made in casing after delivery to site, the leakage class cannot be guaranteed. This also includes damage to the unit from handling and transportation.

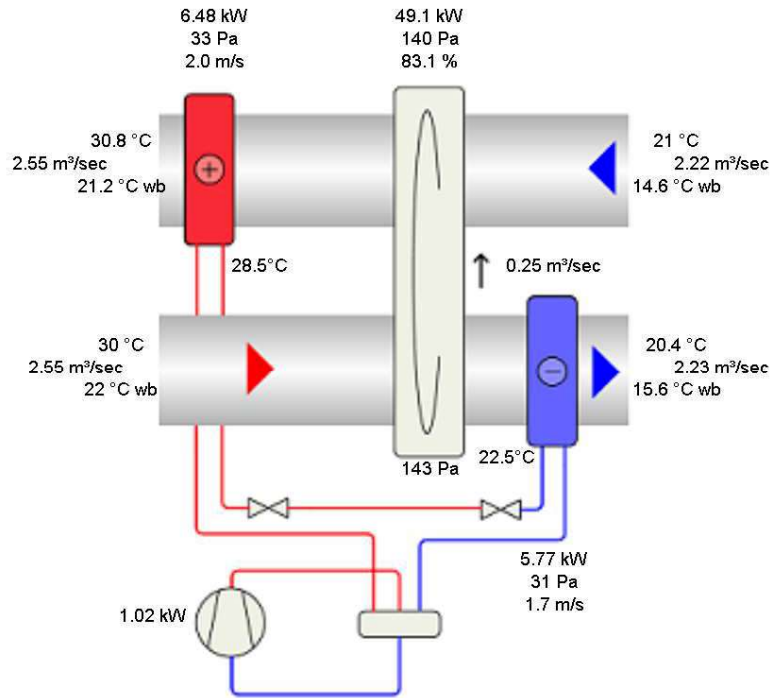
Project 29722 () / The Shed, Kentish Town
 AOC ACON-02776896
 Unit 7 (des) / AHU 1 DXHP AHU @DESIGN
 Size 032

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Diagram ReCooler HP - Summer



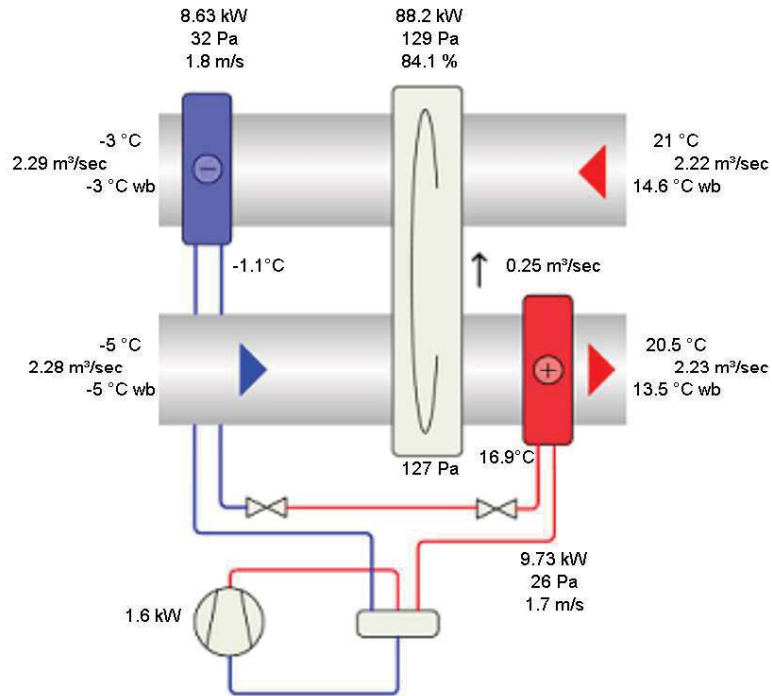
Project 29722 () / The Shed, Kentish Town
 AOC ACON-02776896
 Unit 7 (des) / AHU 1 DXHP AHU @DESIGN
 Size 032

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Diagram ReCooler HP - Winter



Project 29722 () / The Shed, Kentish Town Acon 2.54.45169
 AOC ACON-02776894
 Unit 6 () / AHU 1 DXHP AHU Including Margin 2021-03-01
 Size 032 Page 1/14

Customer
 Customers ref.
 Our ref. Peter Morris
 Supply air volume flow rate 2.55 m³/sec Exhaust air volume flow rate 2.53 m³/sec
 External static pressure 330 Pa External static pressure 363 Pa
 Mains electricity 3x400VAC±10%+N+PE, 50Hz Weight 1977 kg
 Specific el. power demand (SFPv) 1.77 kW/(m³/s) Dimensioned for wet condition
 Ref. density 1.2 kg/m³ Ref. altitude above sea level 0 m

SUMMARY

Functional sections in direction of air flow	v0 (m/s)	Et (%)	tw (°C)	ts (°C)	dP* (Pa)
Supply air:					
Connection section	2.6				3
Filter	2.3				107
Cooler	2.0		-5 / 20.4	30 / 20.2	205
Inspection section					0
Plenum fan		69.7	20.4 / 21.2	20.2 / 21	645
Connection section	0.0				0
Supply outlet					330
Exhaust air:					
Exhaust inlet					363
Connection section	0.0				0
Filter	2.0				61
Cooler	2.0		21 / -2.7	21 / 30.9	204
Inspection section					0
Plenum fan		68.4			631
Connection section	2.6				3

*Refers to the fan design case

Fan system effect is taken into account in fan performance

SOUND POWER LEVELS

(standard: EN13053 ISO/CD 13347-2)

	Lw per octave band (dB)								LwA dB(A)
Octave band (Hz)	63	125	250	500	1k	2k	4k	8k	
Fresh air connection	73	73	68	64	66	63	61	57	70
Supply air connection	79	84	80	81	78	75	72	69	83
Extract connection	78	77	76	68	66	64	61	59	73
Exhaust connection	83	88	83	84	80	78	74	74	86
To surroundings	73	69	65	62	66	65	62	48	71

Project	29722 () / The Shed, Kentish Town	Acon 2.54.45169
AOC	ACON-02776894	
Unit	6 () / AHU 1 DXHP AHU Including Margin	2021-03-01
Size	032	Page 2/14

TECHNICAL SPECIFICATION (components listed in direction of air flow)

SUPPLY AIR

Intake air section

EQVI-032-1-1-3-2-1-0-8-1-1

Size: 032
Material: AZ sheet steel
Inspection side: right
Pressure drop, dimensioning

3 Pa

Damper

EQAZ-12-140-080-3-2-1-11-2-0-8

Width cm : 140
Height in cm : 080
Tightness class : CEN 3
Connection: Flange
Function : Outdoor air
Location: internally end wall
Damper type: 200 mm blade
Material : AlZn

Damper actuator

STBZ-30-01-10-2-0-2-1-1-2

Type: 2-Point with spring return
Delivery options: Mounted and connected

Duct connection piece

EQAZ-26-140-080-1-1-1

Connection: slip joint (PG)
Material, frame: galvanized sheet steel / AlZn

Filter

EQPB-032-07-33-4-4-1-1-0-0-8-1

Inspection side: right

Filter selection

Filter class: F7 - ePM1 60%, glassfibre
Filter frame : Galv cassette
Prefilter: without

Design

Connection side : inlet in end wall
Location: negative pressure
Drain tray: without

Number of filters

4x392x792

Pressure drop, start

57 Pa

Pressure drop, dimensioning

107 Pa

Pressure drop, end

157 Pa

Face area

1.3 m²

Face velocity

2.3 m/s

Analogue differential pressure sensor

EQPZ-12-1-1

Design: U-tube manometer for air flow measuring

Filter monitoring

STBZ-24-1-4-000-1-2

Location: Supply air

Type: Combi sensor (modbus)

Delivery options: Mounted and connected

ReCooler HP

EQKR-032-1-1-3-1-1-0-1-1-1-0-4

Size: 032

Rotor type: RegAsorp

Voltage: 3 x 400 V

Control connections: eQ Prime

Droplet eliminator: without

Material: galvanized sheet steel

Inspection side: right

Rotor

Summer

Winter

Temperature Efficiency

80.9

82.3 %

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Capacity reduction	53.8	99 kW
Humidity efficiency	70.8	80.6 %
Air flow transfer	0.27	0.27 m³/sec
Rotor, Supply air	Summer	Winter
Pressure drop	166	148 Pa
Air temperature	30 / 22.7	-5 / 16.4 °C
Wet temperature	22 / 16.7	-5 / 11.8 °C wb
Rotor, Exhaust air	Summer	Winter
Pressure drop	163	150 Pa
Air temperature	21 / 28.4	21 / -0.6 °C
Wet temperature	14.6 / 20.4	14.6 / -0.8 °C wb
Rotor, EN308		
Temperature efficiency according to standard EN 308		82.3 %
Rotor, Efficiency		
Temperature efficiency at 0°C outdoors		82.3 %
Cooler, Supply air side, coil	Summer	Winter
Power	7.72	12.3 kW
Air temperature	22.7 / 20.2	16.4 / 20.4 °C
Wet temperature	16.7 / 15.8	11.8 / 13.4 °C wb
Pressure drop	39	33 Pa
Face velocity	2.0	2.0 m/s
Cooler, Exhaust air side, coil	Summer	Winter
Power	8.52	11.1 kW
Air temperature	28.4 / 30.9	-0.6 / -2.7 °C
Wet temperature	20.4 / 21.1	-0.8 / -2.7 °C wb
Pressure drop	41	40 Pa
Face velocity	2.2	2.0 m/s
Cooler, Compressor	Summer	Winter
Electrical Power Demand	1.16	2.39 kW
Rotational speed	968	2324 Rpm
Cooler, Compressor and Rotor	Summer	Winter
Power	61.5	111 kW
Energy Efficiency Ratio (EER)	52.8	
Coefficient of performance (COP)		46.6

ReCooler HP

EQKR-032-1-1-3-1-1-0-2-1-1-0-4

Size: 32
Rotor type: RegAsorp
Voltage: 3 x 400 V
Control connections: eQ Prime
Droplet eliminator: without
Material: galvanized sheet steel
Inspection side: 50

Empty section

EQTC-032-020-0-0-0-0-0-0-1-1

Size: 032
Length: 200 mm
Drain tray: without
Inspection door: without door
Inspection side: right

Plenum fan

EQLE-032-1-0-1-2-4-1-1-2-8-1-1

Inspection side: right
Fan selection
Impeller type: Bluefin (composite)
Fan size: size 1
Anti-vibration mountings: wall mounted
Motor selection

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Motor type: EC-motor

Motor control

Manufacture, type: EC-motor ZA

Housing protection: IP55

Design: on motor

Delivery options: mounted on current sub, quick connection

Dimensioning data

Speed	1736 Rpm
Max speed	2150 Rpm
Total efficiency	69.7 %
Total static pressure, dimensioning (wet coil)	645 Pa
Dynamic pressure	29 Pa
Fan system input power (absorbed electrical power)	2.48 kW
Temperature rise	0.8 °C
K factor	12.86
Fan wheel size	050

SFP Calculation

Fan system input power (absorbed electrical power) according to SFP	2.25 kW
Pressure rise	577 Pa
Speed	1682 Rpm

Motor

Motor output	4.6 kW
Electric current	6.0 A
Output margin, minimum	30 %

Doorstop (for doors on pressurized units)

EQAZ-17-1

Pressure-/flow sensor

STBZ-22-1-4-375-0-1-2

Location: Supply air

Type: Combi sensor (modbus)

Pressure range: 0-3750 Pa

Delivery options: Mounted and connected

Frequency converter

STRR-1-4-0060-3-0-3-9-51-2

Motor cable

ACAB-032-1-20-51-0060-00-9-4-2

Fan + EC motor

GAEC-050-0460-4-0-1-0-00-0-1-1

Intake air section

EQVI-032-1-1-0-0-3-3-8-1-1

Size: 032

Material: AZ sheet steel

Inspection side: right

Pressure drop, dimensioning

0 Pa

Duct connection piece

EQAZ-26-160-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

EXHAUST AIR

Intake air section

Size: 032

Material: AZ sheet steel

Inspection side: left

Pressure drop, dimensioning

0 Pa

Duct connection piece

EQAZ-26-160-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

Pressure adjustment plate

EQAZ-30-160-080-1-1-1

Material, frame: galvanized sheet steel / AlZn

Filter

EQPB-032-05-31-4-4-7-1-0-0-8-2

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Inspection side: left

Filter selection

Filter class: M5 - ePM10 50%, synthetic

Filter frame : Galv cassette

Prefilter: without

Design

Connection side : inlet in end wall, withdrawable filter frame

Location: negative pressure

Drain tray: without

Number of filters

4x392x792

Pressure drop, start

31 Pa

Pressure drop, dimensioning

61 Pa

Pressure drop, end

92 Pa

Face area

1.3 m²

Face velocity

2.0 m/s

Analogue differential pressure sensor

EQPZ-12-1-1

Design: U-tube manometer for air flow measuring

Filter monitoring

STBZ-24-2-4-000-1-2

Location: Exhaust air

Type: Combi sensor (modbus)

Delivery options: Mounted and connected

Empty section

EQTC-032-020-0-0-0-0-0-2-1

Size: 032

Length: 200 mm

Drain tray: without

Inspection door: without door

Inspection side: left

Plenum fan

EQLE-032-1-0-1-2-4-1-2-2-8-2-1

Inspection side: left

Fan selection

Impeller type: Bluefin (composite)

Fan size: size 1

Anti-vibration mountings: wall mounted

Motor selection

Motor type: EC-motor

Motor control

Manufacture, type: EC-motor ZA

Housing protection: IP55

Design: on motor

Delivery options: mounted on current sub, quick connection

Dimensioning data

Speed

1867 Rpm

Max speed

2150 Rpm

Total efficiency

68.4 %

Total static pressure, dimensioning (wet coil)

631 Pa

Dynamic pressure

36 Pa

Fan system input power (absorbed electrical power)

2.85 kW

Temperature rise

0.8 °C

K factor

12.86

Fan wheel size

050

SFP Calculation

Fan system input power (absorbed electrical power) according to SFP

2.27 kW

Pressure rise

592 Pa

Speed

1685 Rpm

Motor

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Motor output	4.6 kW
Electric current	6.0 A
Output margin, minimum	30 %

Doorstop (for doors on pressurized units)

EQAZ-17-1

Pressure-/flow sensor

STBZ-22-2-4-375-0-1-2

Location: Exhaust air

Type: Combi sensor (modbus)

Pressure range: 0-3750 Pa

Delivery options: Mounted and connected

Frequency converter

STRR-2-4-0060-3-0-3-9-51-2

Motor cable

ACAB-032-2-20-51-0060-00-9-4-2

Fan + EC motor

GAEC-050-0460-4-0-1-0-00-0-1-1

Intake air section

Size: 032

Material: AZ sheet steel

Inspection side: left

Pressure drop, dimensioning

3 Pa

Damper

EQAZ-12-140-080-3-2-4-11-2-0-8

Width cm : 140

Height in cm : 080

Tightness class : CEN 3

Connection: Flange

Function : extract air

Location: internally end wall

Damper type: 200 mm blade

Material : AlZn

Damper actuator

STBZ-30-04-10-2-0-2-1-1-2

Type: 2-Point with spring return

Delivery options: Mounted and connected

Duct connection piece

EQAZ-26-140-080-1-1-1

Connection: slip joint (PG)

Material, frame: galvanized sheet steel / AlZn

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CONTROLS

Product list

Electrical cabinet

STEQ-000-41-00-0-1-4-62-6-2-5

Placement: In cabinet

Voltage: 3x400 VAC

Control equipment: Siemens Climatix 600, TCP/IP

HMI (display): Semigrafical, handheld IP65

Design: Outdoor

Temperature control

STBZ-01-2-0-0-1-0-0-0-1-62-1

Type of control: Exhaust air control

Cooling recovery: with

Temperature control

STBZ-02-20-1-0-1-1-5

Placement: Exhaust air

Design: Mounted in air handling unit

Delivery options: Mounted and connected to combi sensor

Temperature control

STBZ-02-30-1-0-1-1-5

Placement: Out door temp sensor

Design: Mounted in air handling unit

Delivery options: Mounted and connected to combi sensor

Fan control

STBZ-20-3-0-0-0-0-1-1-0

Control function: Flow supply- and extract fan

Fire function: Both fans stopped

Communication

STBZ-51-62-1-0-0-0-1-2

Web: Simple web

Delivery options: Mounted and connected

Temperature control

STBZ-02-10-1-0-2-1-3

Placement: Supply air

Design: Duct mounted

Delivery options: Enclosed

Controls documentation

STBZ-36-62-5-032-1-03-03-1-1

Documentaion language, electrical drawings: English

HMI language: English

Start equipment fan

STBZ-21-3-2-4-060-060-3-2-2

Fan configuration: Supply- and extract fan

Motor type:

Voltage: 3 x 400 V

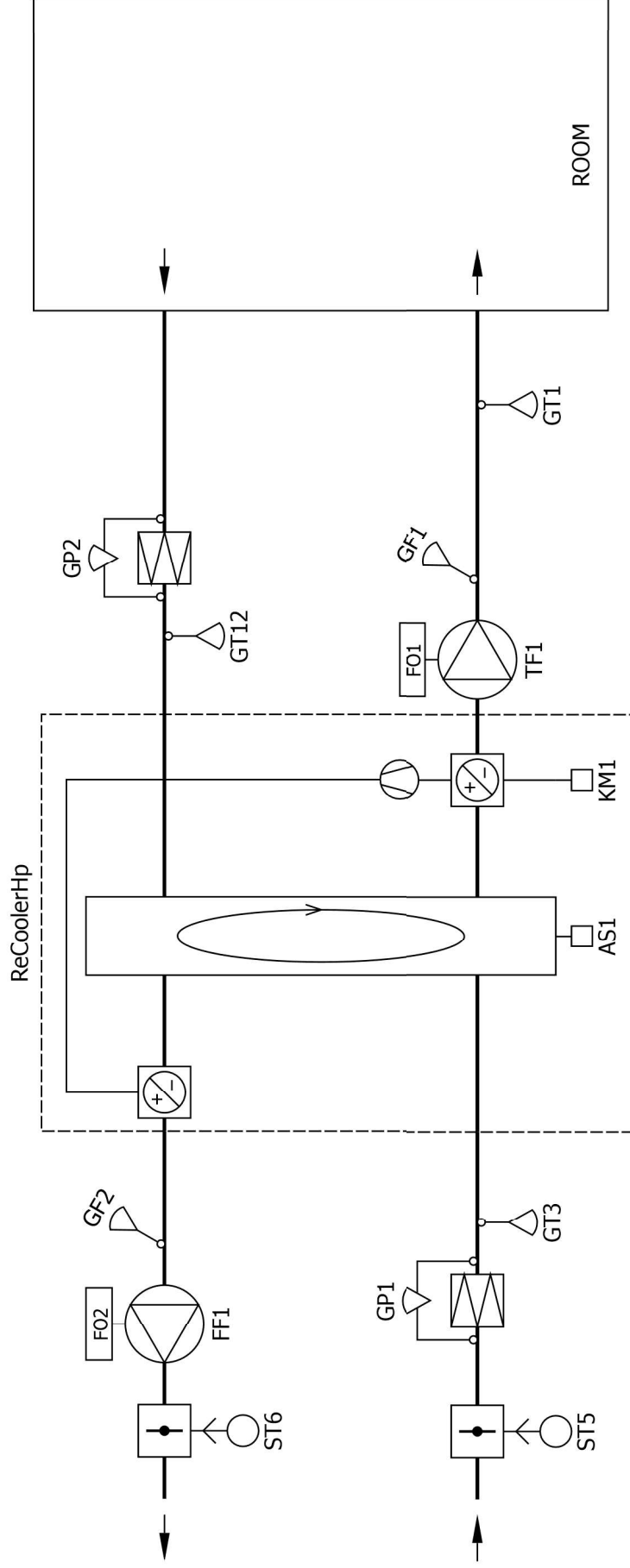
Delivery options: Mounted and connected

Main switch

STBZ-80-022-1-1-2

Auxiliary switch: With auxiliary contact

Delivery options: Mounted and connected



Customer id
Project
UId
AOC

2459
29722
6
ACON-02776894

Project name
Unit name

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Description of Operation

Start and stop of air handling unit

When the fire alarm is triggered, both the supply air fan TF and exhaust fan FF are stopped.
Damper actuator ST5 opens before TF starts and closes when TF stops. ST5 closes at power failure.
Damper actuator ST6 opens before FF starts and closes when FF stops. ST6 closes at power failure.
The operation and alarm indication are in the OP-panel of RC1
RC1 controls the heatrecovery to 100% at start up, if the outdoor temperature is below 15°C

Temperature control

RC1 controls the reversible cooler, the heat exchanger and the heat pump in sequence. At increased need for heat the heat exchanger VVX is controlled for heat recovery and the heatpump for warm air. At increased need for cooling the reversible cooler is controlled for cold air.
Temperature sensor GT12 keeps the right exhaust air temperature via RC1.
Temperature sensor GT1 keeps the supply air temperature within limits via RC1.

Fan control

Flow sensor GF1 keeps the flow constant for TF via corresponding VSD.
Flow sensor GF2 keeps the flow constant for FF via corresponding VSD.

Alarms for:

Running in manual mode,
control failure supply air fan,
control failure exhaust air fan,
failure frequency converter supply air fan,
filter guard supply air,
filter guard exhaust air,
or temperature sensor failure.

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Component List

Description	Reference	Type	Delivery options	Notes
on/off damper actu. spring Outdoor air	ST5	GCA1.21	Factory Fitted & Wired	
on/off damper actu. spring Exhaust air	ST6	GCA1.21	Factory Fitted & Wired	
Pressure guard Supply filter	GP1	QBM70	Factory Fitted & Wired	
Frequency converter exhaust air	FO2	ZIEHL-ABEGG	Factory Fitted & Wired	
Frequency converter supply air	FO1	ZIEHL-ABEGG	Factory Fitted & Wired	
Pressure guard Exhaust filter	GP2	QBM70	Factory Fitted & Wired	
Temperature sensor Exhaust air	GT12	QBM70	Factory Fitted & Wired	
Temperature sensor Outdoor air	GT3	QBM70	Factory Fitted & Wired	
Flow control Supply air	GF1	QBM70	Factory Fitted & Wired	
Flow control Exhaust air	GF2	QBM70	Factory Fitted & Wired	
Temperature sensor Supply air	GT1	PT1000 AKF1019207	Supplied loose with Cable & Quick Connector for Fitting/Containment by others	

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RATED CURRENT

Connection Point	Product Codes	Rated Voltage	Rated Current
Electrical cabinet	Acon STEQ + EQKR	3x400 VAC	35.1 A*
TOTAL			35.1 A

*External loads (e.g pumps, shunts) are not included.

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BLOCK LIST

	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	VOLUME (m³)	WEIGHT (kg)
EQHC-032-120-22-1-1-2-1-2-2-1 Unit casing, eQ Prime Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) Intake air section Filter Fan function with EC-motor Empty section	1300	1950	2457	6.23	528
EQHB-032-135-22-1-1-2-1-6-2-1 Unit casing (frame, unit) Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) ReCooler HP ReCooler HP	1400	2300	2457	7.91	1013
EQHC-032-105-22-1-1-2-1-4-2-1 Unit casing, eQ Prime Model box code: EQ 2111 Material: AlZn sheet steel Thermal insulation: T3 Condensation insulation: TB3 Leakage class: L2(R)* Casing strength: D1(M) Empty section Filter Fan function with EC-motor Intake air section	1150	1950	2457	5.51	436
				19.65	1977

The dimensions are transport dimensions including packaging

*Fläkt Group eQ AHUs are leakage class L2 real unit as certified by Eurovent.

CAL class @-400Pa and @+700Pa. For units where the casing has; (i) a customised or special design that differs from standard module box, (ii) nonstandard components penetrating the casing that is non-standard for a real unit, and (iii) where holes or penetrations are made in casing after delivery to site, the leakage class cannot be guaranteed. This also includes damage to the unit from handling and transportation.

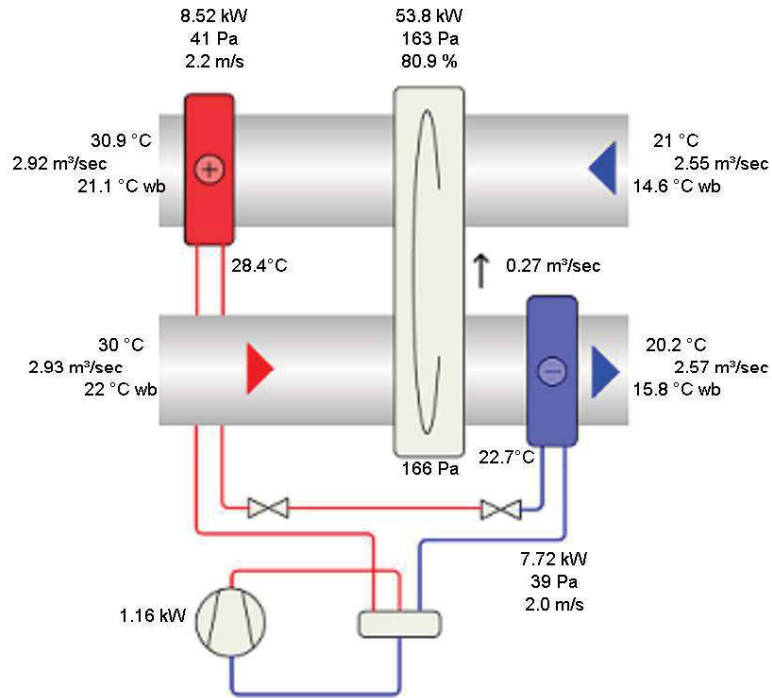
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Diagram ReCooler HP - Summer



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Diagram ReCooler HP - Winter

