

Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 1 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



Clerk: M.Leis **Quantity:** 1 Piece
Construction: HYD S Outside installation
Base Frame: inside galvanized 120 mm,
164,16 kg
Base Frame top unit: Without
Total Weight: 1690 kg
Thermal Decoupling: T2/TB4
CAL (R)@-400 Pa: 0,327 dm³/(sm²)
CAL (R)@+400 Pa: 0,403 dm³/(sm²)
Accessories: Roof overhang 100mm
Transport Steel Pipes
insulation strips

Cert. No: 02.03.036
Efficiency Factor Winter: 0,92
Efficiency Factor Summer: 0,92
Reference city: DK-Hvide Sande
Dry bulb temperature: 25,30
Wet bulb temperature: 20,20
Dew point temperature: 17,80



Software ALAG
[02.05.2024]
Version 1.23/4.2



Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 2 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



Technical Data Supply Air

| | | | | |
|----------------------------------|-------|---------------------------------|---------------------------------|----------------------|
| Outside Metal Sheet: | mm | 1,0 galvanized coated, RAL 9002 | Unit Size: | Special |
| Inside Metal Sheet: | mm | 1,0 galvanized | Position of Access Side: | Left |
| Inside Floor Metal Sheet: | mm | 53,0 galvanized | Position of Piping Side: | Left |
| Wall Thickness: | mm | 53,0 galvanized | Insulation Roof/Floor: | Mineral Wool 99kg/m³ |
| Dimensions (L x W x H): | mm | 4562x1121x825 | Insulation Walls: | Mineral Wool 99kg/m³ |
| Air velocity: | m/sec | 1,85 | Class of Velocity: | V3 |
| Weight: | kg | 1100 | Design: | Standard |

(SUP) Air Inlet Section GSC/GSC/GS **Weight:** 104 kg **Length:** 554 mm **Pressure Drop:** 24 Pa

Connection:

Layer: Roof
Material: galvanized and painted
Design: Damping Connection VDI6022
Potential Equalisation: Yes

Damper Size:

Assembly: Inside
Material: Aluminium
Design: Gear
Tightness: Class 2
Shaft Position: Inside
Actuator: Open/Close 24V
Dimensions (W x H x D): 762 x 314 x 115

Dimensions (W x H) 762 x 314

Grating: Without

Design: Access Door
Lockers: Lockers
Hinges: 3D-Hinges

Condensate Trough: RAL/V2A (AISI304)

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Siphon SN | |
| | Door locker | |



Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 3 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



| | | | | |
|---------------------------------|----------------------|---------------------------------|-----------------------|------------------------------|
| (SUP) Filter | GSC/GSC/GS | Weight: 78 kg | Length: 555 mm | Pressure Drop: 142 Pa |
| Brand: | Rox | Filter Maintenance: | Clamp Rail | |
| Spare Filter: | No | Frame: | V2A (AISI304) | |
| | | Manometer: | DPA2500 with display | |
| 1st Filter step | | | | |
| Filter Type: | Bag Filter short | Energy Efficiency Class: | C | |
| Filter Class EN779:2012: | F7 | Filter Surface: | m ² | 6,5 |
| Filter Class ISO16890: | ePM1 60% | Medium: | Glass Fibre | |
| ΔP Initial: | Pa 85 | | | |
| ΔP End: | Pa 200 | | | |
| Max. Pressure Drop: | Pa 250 | | | |
| ΔP Dim: | Pa 142 | | | |
| Type/Size/Quantity | Hi-Flo XLT 7/370 50+ | 592*592*370 mm | | 1 Piece |
| | Hi-Flo XLT 7/370 50+ | 287*592*370 mm | | 1 Piece |
| Design: | Access Door | Condensate Trough: | RAL/V2A (AISI304) | |
| Lockers: | Lockers | Condensate Drain: | Yes | |
| Hinges: | 3D-Hinges | | | |
| Accessories | | | | |
| Item Number | Description | | | Weight |
| | Siphon SN | | | |
| | Door locker | | | |



Datasheet: 02037297 Position: 729701
 Project: Mc Donalds DK Skjern Side: 4 by 14
 Location: Date: 21.08.2024
 Unit: AHU 02 Tender Position:



Plate Heat Exchanger GSC/GS/GS Weight: 382 kg Length: 1497 mm Pressure Drop: 146 Pa

Brand: Rox Type: KV-100/P1/0990/BSK116,H
 Actuator: Continuous 24V Diagonal: mm 1387

Technical Data Supply Air Extract Air

Operating Mode: Winter

| | | | |
|--------------------|------|------|------|
| Air Volume: | m³/h | 4800 | 4300 |
| Temp. In: | °C | -12 | 22 |
| Rel. Humidity In: | % | 90 | 30 |
| Temp. Out: | °C | 13,3 | -1,9 |
| Rel. Humidity out: | % | 12,9 | 100 |
| Heat Recovery dry: | % | 69,3 | 77,1 |
| Heat Recovery wet: | % | 74,4 | 70,4 |

Humidification / Dehumidification: g/kg

| | | | |
|---------------------------------|------|--------|--------|
| Condensate: | kg/h | 0 | 9 |
| Pressure Drop dry: | Pa | 145,99 | 124,19 |
| Pressure Drop wet: | Pa | 0 | 0 |
| Pressure drop standard density: | Pa | 159 | 132 |
| Air velocity: | m/s | 1,7 | 1,5 |
| Sensible Heat Load: | kW | 40,8 | -34,7 |
| Latent Heat Load: | kW | 0 | -6,1 |
| Total Heat Load: | kW | 40,8 | -40,8 |

Operating Mode: Summer

| | | | |
|--------------------|------|------|------|
| Air Volume: | m³/h | 4800 | 4300 |
| Temp. In: | °C | 34 | 26 |
| Rel. Humidity In: | % | 35 | 50 |
| Temp. Out: | °C | 28,4 | 32,2 |
| Rel. Humidity out: | % | 48 | 34,9 |
| Heat Recovery dry: | % | 69,7 | 77,6 |
| Heat Recovery wet: | % | 69,7 | 77,6 |

Humidification / Dehumidification: g/kg

| | | | |
|---------------------------------|------|--------|--------|
| Condensate: | kg/h | 0 | 0 |
| Pressure Drop dry: | Pa | 165,09 | 136,07 |
| Pressure Drop wet: | Pa | 0 | 0 |
| Pressure drop standard density: | Pa | 159 | 132 |
| Air velocity: | m/s | 1,7 | 1,5 |
| Sensible Heat Load: | kW | -9,2 | 9,1 |
| Latent Heat Load: | kW | 0 | 0,1 |
| Total Heat Load: | kW | -9,2 | 9,2 |

Operation Point according to EN13053:2012

| | | | |
|-------------------------------------|----|-------|-------|
| Temp. In: | °C | 5,00 | 25,00 |
| relative humidity %: | % | 0,00 | 0,00 |
| Pressure Drop dry: | Pa | 151 | 129 |
| Pel HR: | kW | 0,58 | |
| Power Digit: | - | 38,92 | |
| Energy Efficiency: | % | 71,70 | |
| electrical Power (auxiliary power): | W | 0,00 | |
| Heat Recovery: | % | 73,59 | |
| Heat Recovery Class: | - | H1 | |

Design: Access Door
 Lockers: Lockers

Condensate Trough: RAL/V2A (AISI304)
 Condensate Drain: Yes

Software ALAG
 [02.05.2024]
 Version 1.23/4.2



Management System
 ISO 9001:2015
 www.tuv.com
 ID 0910083041

Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 5 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



Hinges: 3D-Hinges

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Siphon SN | |
| | Door locker | |

| (SUP) Cooler/Heater | | GSC/GS/GS | Weight: 321 kg | Length: 153 mm | Pressure Drop: 114 Pa | |
|----------------------------|----------------|------------------|---------------------------------|-----------------------|--|----------------|
| Brand: | Rox | | Type: | | DV / 24 / 818 / 6 R / 12 K / 3.0 Cu,9.5x0.50/Al-L1 | |
| Pipes: | Copper 9.5x0.5 | | Weight Heat Exchanger: | kg | 28,006 | |
| Fin: | Aluminium | | Medium | | | |
| Collector: | Copper | | Refrigerant: | | R32 | |
| Frame: | Aluminium | | Flow-Rate: | m³/h | 12,61 | |
| Separation (A x B): | mm 25x22 | | Evaporation temperature: | °C | 8,5 | |
| Quantity Pipe Rows: | 6 | | Überhitzung: | °K | 5 | |
| Number of Circuits: | 12 | | Charge: | l | 7,6 | |
| Fin Distance: | mm 3 | | Pressure Drop: | kPa | 109 | |
| Connections: | Straight | | Air | | Cooling | Heating |
| Connection Inlet: | 2x 16mm | | Air Volume: | m³/h | 4800 | |
| Connection Outlet: | 2x 22 mm | | Temp. In: | °C | 29,4 10 | |
| Finned height: | mm 600 | | Rel. Humidity In: | % | 48 | |
| Finned width: | mm 818 | | Temp. Out: | °C | 18 24 | |
| Freeze protection: | °C 0 | | Rel. Humidity out: | % | 88,4 | |
| | | | Pressure Drop: | Pa | 114 | |
| | | | Pressure Drop dry: | Pa | 109 | |
| | | | Air velocity: | m/s | 2,72 | |
| | | | Dehumidification: | kg/h | 5,2 | |
| | | | Surface Reserve: | % | 10,40 | |
| | | | Capacity: | kW | 22,56 22,62 | |
| | | | Latent Capacity: | kW | 3,61 | |
| | | | Sensible Capacity: | kW | 18,95 | |

Design: Access Panel **Condensate Trough:** RAL/V2A (AISI304)
Lockers: Lockers

Accessories

| Item Number | Description | Weight |
|------------------|--|--------|
| Heat Pump | 2x Samsung AM 040DXMDNG | |
| EEV-Kit | 2x Samsung MXD K 050AN | |
| | The heat pump will be mounted on a base frame extension and delivered piped and pre-filled at the Rox factory. | |



Datasheet: 02037297 Position: 729701
 Project: Mc Donalds DK Skjern Side: 6 by 14
 Location: Date: 21.08.2024
 Unit: AHU 02 Tender Position:



(SUP) Droplet Eliminator

| | | | | |
|-----------|------------------|---------------------------|-----------------------|-----------------------------|
| | GSC/GS/GS | Weight: 65 kg | Length: 462 mm | Pressure Drop: 22 Pa |
| Brand: | Rox | | | |
| Material: | PPTV | Guiding Rail: | V2A (AISI304) | |
| Design: | Access Panel | Condensate Trough: | RAL/V2A (AISI304) | |
| Lockers: | Lockers | Condensate Drain: | Yes | |

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Siphon SN | |

(SUP) Fan

| | | | | |
|---|--|------------------------------------|-----------------------|----------------------------|
| | GSC/GS/GS | Weight: 118 kg | Length: 765 mm | Pressure Drop: 0 Pa |
| Brand: | Rox | Construction: | Free Running | |
| Fan Type: | 1 x GKHM 355-CII.118.6FF IE Gen3 | Drivetrain: | Motor in Airstream | |
| SFP-Data with FC: | m³/s 1309 | SFP-Class with FC: | SFP3 | |
| Air Volume: | m³/h 4800 | Motor type: | EC | |
| ΔP ext.: | Pa 300 | Voltage / Frequency: | V/Hz | 3~200-240 / 50/60 |
| Dyn. Pressure Drop: | Pa 47 | Nominal Power: | kW | 2,77 |
| Installation loss: | Pa 28 | Nominal Current: | A | 7,25 |
| Static Pressure Drop: | Pa 795 | Nominal Rotation Speed: | 1/min | 3115 |
| Total Pressure Drop: | Pa 842 | Frequency Converter: | Integrated | |
| electrical Power Input: | kW 1,74 / P1 | Nozzle Pressure Difference: | Pa | 1045,29 |
| Reference Power Input: | kW 2,27 | k-Factor: | m²s/h | 115 |
| Nominal Rotation Speed: | 1/min 2642 | | | |
| Maximum Rotation Speed: | 1/min 3115 | | | |
| Rotation Speed Spare: | % 15,14 | | | |
| Total Efficiency: | % 64,40 | | | |
| Static System Efficiency: | % 60,80 | | | |
| Total Efficiency in Efficiency Optimum: | % 69 | | | |
| Air Volume Measuring Point: | Air Volume Measuring Point with Pressure Sensor DPA 2500 | | | |
| Total Sound Power level: | dB(A) 80,3 | | | |

| | | | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|-----------|
| f | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
| Lw o | 53 | 77 | 77 | 78 | 76 | 75 | 72 | dB |
| Lw i | 47 | 73 | 74 | 73 | 72 | 71 | 68 | dB |

Design: Access Door
 Lockers: Lockers
 Hinges: 3D-Hinges

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Door locker | |

Hints: The Installation losses of the fan are considered in the Fan Performances
 Designed for wet conditions
 Motor wired to Repair Switch



Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 7 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



(SUP) Air Outlet Section **GSC/GS/GS** **Weight: 32 kg** **Length: 1 mm** **Pressure Drop: 19 Pa**

Connection:

Layer: Front Side
Material: galvanized
Design: Damping Connection VDI6022
Potential Equalisation: Yes
Dimensions (W x H): 956 x 360

Grating: Without

Design: Fixed Panel

Supply Air Acoustic Data

Supply Air Connector

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 52 | 76 | 76 | 77 | 75 | 74 | 71 | 83 |
| Residue Sound Power in dB(A) | 36 | 68 | 73 | 77 | 77 | 75 | 70 | 82 |

Outside Air Connector

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 31 | 51 | 53 | 48 | 39 | 39 | 35 | 56 |
| Residue Sound Power in dB(A) | 15 | 42 | 49 | 48 | 40 | 40 | 34 | 53 |

Surrounding Acoustic Emission (Casing Emission)

Wall Thickness: 53 mm

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 39 | 68 | 65 | 57 | 49 | 39 | 32 | 70 |
| Residue Sound Power in dB(A) | 23 | 59 | 62 | 57 | 50 | 40 | 31 | 65 |

The Acoustic Data refer only on the inside fan
 Possibly the Supply Air and Extract Air Data have to be added together



| | | | |
|-------------------|----------------------|-------------------------|------------|
| Datasheet: | 02037297 | Position: | 729701 |
| Project: | Mc Donalds DK Skjern | Side: | 8 by 14 |
| Location: | | Date: | 21.08.2024 |
| Unit: | AHU 02 | Tender Position: | |



Technical Data Extract Air

| | | | | |
|----------------------------------|-------|---------------------------------|---------------------------------|----------------------------------|
| Outside Metal Sheet: | mm | 1,0 galvanized coated, RAL 9002 | Unit Size: | Special |
| Inside Metal Sheet: | mm | 1,0 galvanized | Position of Access Side: | Right |
| Inside Floor Metal Sheet: | mm | 53,0 galvanized | Position of Piping Side: | Right |
| Wall Thickness: | mm | 53,0 galvanized | Insulation Roof/Floor: | Mineral Wool 99kg/m ³ |
| Dimensions (L x W x H): | mm | 2300x1121x825 | Insulation Walls: | Mineral Wool 99kg/m ³ |
| Air velocity: | m/sec | 1,66 | Class of Velocity: | V2 |
| Weight: | kg | 346 | Design: | Standard |

| | | | | |
|--------------------------------|------------------|----------------------|---------------------|----------------------------|
| (EXT) Air Inlet Section | GSC/GS/GS | Weight: 32 kg | Length: 1 mm | Pressure Drop: 1 Pa |
|--------------------------------|------------------|----------------------|---------------------|----------------------------|

Connection:

| | |
|--------------------------------|-------------------------------|
| Layer | Front Side |
| Material: | galvanized |
| Design: | Damping Connection VDI6022 |
| Potential Equalisation: | Yes |
| Dimensions (W x H) | 956 x 759 |

| | |
|-----------------|---------|
| Grating: | Without |
|-----------------|---------|

| | |
|----------------|-------------|
| Design: | Fixed Panel |
|----------------|-------------|

Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 9 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



| | | | | |
|---------------------------------|----------------------|---------------------------------|-----------------------|------------------------------|
| (EXT) Filter | GSC/GS/GS | Weight: 68 kg | Length: 650 mm | Pressure Drop: 138 Pa |
| Brand: | Rox | Filter Maintenance: | Clamp Rail | |
| Spare Filter: | No | Frame: | galvanized | |
| | | Manometer: | DPA2500 with display | |
| 1st Filter step | | | | |
| Filter Type: | Bag Filter short | Energy Efficiency Class: | C | |
| Filter Class EN779:2012: | F7 | Filter Surface: | m ² | 6,5 |
| Filter Class ISO16890: | ePM1 60% | Medium: | Glass Fibre | |
| ΔP Initial: | Pa 76 | | | |
| ΔP End: | Pa 200 | | | |
| Max. Pressure Drop: | Pa 250 | | | |
| ΔP Dim: | Pa 138 | | | |
| Type/Size/Quantity | Hi-Flo XLT 7/370 50+ | 592*592*370 mm | | 1 Piece |
| | Hi-Flo XLT 7/370 50+ | 287*592*370 mm | | 1 Piece |
| Design: | Access Door | | | |
| Lockers: | Lockers | | | |
| Hinges: | 3D-Hinges | | | |
| Accessories | | | | |
| Item Number | Description | | | Weight |
| | Door locker | | | |



Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 10 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



| (EXT) Fan | | GSC/GS/GS | Weight: 120 kg | Length: 730 mm | Pressure Drop: 0 Pa |
|--|-------|---|------------------------------------|-----------------------|----------------------------|
| Brand: | | Rox | Construction: | Free Running | |
| Fan Type: | | 1 x GKHM 355-CII.118.6FF IE Gen3 | Drivetrain: | Motor in Airstream | |
| SFP-Data with FC: | m³/s | 1070 | SFP-Class with FC: | SFP2 | |
| Air Volume: | m³/h | 4300 | Motor type: | EC | |
| ΔP ext.: | Pa | 300 | Voltage / Frequency: | V/Hz | 3~380-480 / 50/60 |
| Dyn. Pressure Drop: | Pa | 38 | Nominal Power: | kW | 4,44 |
| Installation loss: | Pa | 23 | Nominal Current: | A | 6,8 |
| Static Pressure Drop: | Pa | 623 | Nominal Rotation Speed: | 1/min | 3650 |
| Total Pressure Drop: | Pa | 661 | Frequency Converter: | Integrated | |
| electrical Power Input: | kW | 1,28 / P1 | Nozzle Pressure Difference: | Pa | 838,87 |
| Reference Power Input: | kW | 1,64 | k-Factor: | m²s/h | 115 |
| Nominal Rotation Speed: | 1/min | 2348 | | | |
| Maximum Rotation Speed: | 1/min | 3650 | | | |
| Rotation Speed Spare: | % | 35,55 | | | |
| Total Efficiency: | % | 61,80 | | | |
| Static System Efficiency: | % | 58,20 | | | |
| Total Efficiency in Efficiency Optimum: | % | 69 | | | |
| Air Volume Measuring Point: | | Air Volume Measuring Point with Pressure Sensor DPA 2500 | | | |
| Total Sound Power level: | dB(A) | 77,4 | | | |

| f | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Hz |
|-------------|-----|-----|-----|------|------|------|------|-----------|
| Lw o | 50 | 74 | 74 | 75 | 73 | 72 | 69 | dB |
| Lw i | 44 | 70 | 71 | 70 | 69 | 68 | 65 | dB |

Design: Access Door
Lockers: Lockers
Hinges: 3D-Hinges

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Door locker | |

Hints: The Installation losses of the fan are considered in the Fan Performances
 Designed for wet conditions
 Motor wired to Repair Switch



Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 11 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



(EXT) Air Outlet Section **GSC/GS/GS** **Weight: 126 kg** **Length: 534 mm** **Pressure Drop: 37 Pa**

| | | | |
|--------------------------------|----------------------------|--------------------------------|-----------------|
| Connection: | | Damper Size: | |
| Layer | Roof | Assembly: | Inside |
| Material: | galvanized and painted | Material: | Aluminium |
| Design: | Throwing Nozzle, rainproof | Design: | Gear |
| Potential Equalisation: | Yes | Tightness: | Class 2 |
| | | Shaft Position: | Inside |
| | | Actuator: | Open/Close 24V |
| Dimensions (W x H) | 715 x 314 | Dimensions (W x H x D): | 715 x 314 x 115 |
| Grating: | Without | | |

| | | | |
|-----------------|-------------|---------------------------|-------------------|
| Design: | Access Door | Condensate Trough: | RAL/V2A (AISI304) |
| Lockers: | Lockers | Condensate Drain: | Yes |
| Hinges: | 3D-Hinges | | |

Accessories

| Item Number | Description | Weight |
|-------------|-------------|--------|
| | Siphon DS | |
| | Door locker | |



Datasheet: 02037297
Project: Mc Donalds DK Skjern
Location:
Unit: AHU 02

Position: 729701
Side: 12 by 14
Date: 21.08.2024
Tender Position:



Electrical Cabinet

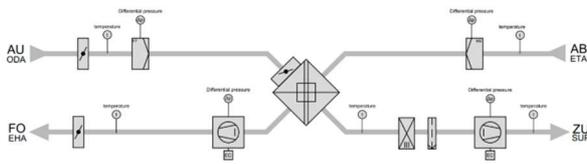
GSC/GS/GS

Weight: 126 kg

Length: 534 mm

Pressure Drop: 0Pa

Air handling Unit AHU 2



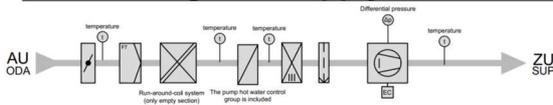
control strategy:

- AHU 2 = supply air temperature control
- Kitchen = supply air temperature control

control of additional components:

- Required sensors for device control - included in the Rox delivery
 (Including 1 S+S RTM-CO2-SD-U-Lobby combination sensor für the lobby,
 1 Thermokon NOVOS 3 LM2352 kitchen room sensor,
 2 S+S Premasgard 2121-SD-1000 Pa sensor for the air pipe system) sensor für the lobby,
- 2 Roof fan (exhaust air Kitchen and Dish)
- 1 Tablet Display incl. 1 Frame
- 2 LED's
- BACnet interface for connection to Schneider Electric System controller
- Remote control by vpn including email for maintenance and error messages

Air handling Unit Supply Air Kitchen



Design: Access Door
Lockers: Lockers
Hinges: 3D-Hinges

Accessories Schaltschrankdach

Software ALAG
 [02.05.2024]
 Version 1.23/4.2



Management System
 ISO 9001:2015
 www.tuv.com
 ID 0910083041

Datasheet: 02037297
Project: Mc Donalds DK Skjern
Location:
Unit: AHU 02

Position: 729701
Side: 13 by 14
Date: 21.08.2024
Tender Position:



Extract Air Acoustic Data

Exhaust Air Connection

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 44 | 66 | 70 | 72 | 70 | 69 | 66 | 78 |
| Residue Sound Power in dB(A) | 28 | 58 | 67 | 72 | 72 | 70 | 65 | 77 |

Extract Air Connection

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 38 | 62 | 61 | 55 | 48 | 46 | 41 | 65 |
| Residue Sound Power in dB(A) | 22 | 53 | 57 | 55 | 49 | 47 | 40 | 61 |

Surrounding Acoustic Emission (Casing Emission)

Wall Thickness: 53 mm

| Frequency f in Hz | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Sum |
|------------------------------|-----|-----|-----|----|----|----|----|-----|
| Residue Sound Power in dB | 36 | 65 | 62 | 55 | 46 | 36 | 29 | 67 |
| Residue Sound Power in dB(A) | 20 | 56 | 59 | 55 | 47 | 37 | 28 | 62 |

The Acoustic Data refer only on the inside fan
Possibly the Supply Air and Extract Air Data have to be added together

Datasheet: 02037297 **Position:** 729701
Project: Mc Donalds DK Skjern **Side:** 14 by 14
Location: **Date:** 21.08.2024
Unit: AHU 02 **Tender Position:**



| | | | |
|----------------------------------|------|--------------------------------|-----|
| Unit Type | NRVU | Construction of Unit | BVU |
| Non residential ventilation unit | | Bidirectional ventilation unit | |

| | |
|---|----------------------|
| Total unit characteristics: | |
| Type of HR: | Plate Heat Exchanger |
| Temperature ratio dry: | 73,59 % |
| Highest External Leakage rate (+400Pa/-400Pa): | 0,27 % |
| Highest Internal Leakage rate (250Pa): | 0,03 % |

| | |
|--------------------------|---------------------------|
| SFPint: | 768,18 [W/(m³/s)] |
| SFPint max. 2016: | 1208,12 [W/(m³/s)] |
| SFPint max. 2018: | 928,12 [W/(m³/s)] |



| Supply air features | | Extract air features | |
|---|--------------------|---|-------------------|
| Air Volume: | 1,33 m³/s | Air Volume: | 1,19 m³/s |
| ΔP ext: | 300 Pa | ΔP ext: | 300 Pa |
| ΔP s, add: | 231 Pa | ΔP s, add: | 95 Pa |
| ΔP s, int: | 283 Pa | ΔP s, int: | 243 Pa |
| Filter: | ePM1 60% (F7) | Filter: | ePM1 60% (F7) |
| Filter pressure drop beginning: | 85 Pa | Filter pressure drop beginning: | 76 Pa |
| Heat recovery pressure drop dry: | 151 Pa | Heat recovery pressure drop dry: | 129 Pa |
| Fan pressure drop total: | 814 Pa | Fan pressure drop total: | 638 Pa |
| Fan pressure drop dynamic: | 47 Pa | Fan pressure drop dynamic: | 38 Pa |
| Fan electric power input: | 1,74 kW | Fan electric power input: | 1,28 kW |
| Fan efficiency static: | 60,80 % | Fan efficiency static: | 58,20 % |
| SFPv: | 1167,76 [W/(m³/s)] | SFPv: | 924,40 [W/(m³/s)] |

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|-------------------------------|--|
| Hints | |
| Filter warn indication | The Filter warn indication is realized by a differential pressure manometer. According to the guideline 1253/2014/EU the filter monitoring has to be mounted onsite if it is not contained in the equipment. |
| Thermal Bypass | The required thermal bypass of the HRS according to the guideline 1253/2014/EU is realized by a bypass of the HR-System. |
| Drivetrain | If the unit is ordered and delivered without DDC, a governor or a cascade drive is provided to fulfil the requirements of the guideline 1253/2014/EU. |
| Disposal note | Further information under www.rox-online.de |