

# AL-KO THERM GMBH

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## Data sheet

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Project: **90496 - PAU Comparison**

Pos.: **6**

**QUOTATION**

Order #:

GS-pos.:

Proj. descr.:

Date printed:

02.12.2010

Unit: Concept 6 -Extract&RRcoil - 1

Edition Date

12/2/2010

Type: AT4 16x12 / 16x12 - Interior

Piece: 1

Editor:

Hoang Thang

Note: All data relate to normal conditions for air density = 1.2 kg/m<sup>3</sup>

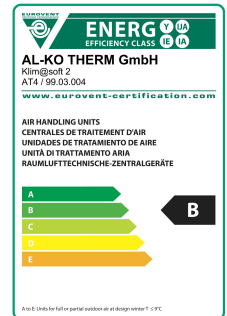
### Unit data

#### Supply air

#### Exhaust air

|                   | Target value | Actual                   | Target value | Actual                   |
|-------------------|--------------|--------------------------|--------------|--------------------------|
| Air flow          | 10,000       | 10,000 m <sup>3</sup> /h | 10,000       | 10,000 m <sup>3</sup> /h |
| External pressure | 450          | 450 Pa                   | 350          | 350 Pa                   |
| Internal pressure | 1,490        | 1,490 Pa                 | 676          | 676 Pa                   |
| Air speed         |              | 2.5 m/s                  |              | 2.5 m/s                  |

Eurovent Energy Efficiency Class B



### SA - Damper outside

G 1

FU 0

#### Accessory

Type:

Damper outside

- Damper air tight, powder coated

Width:

1,224.0 mm

Height:

459 mm

Connector:

A20

Needed torque:

7 Nm

Design pressure:

31 Pa

### SA - Empty section

G 1

FU 11

#### Accessory

Specification:

Empty section

Length:

5 AT4 raster

### SA - Filter - Z-line

G 1

FU 1

#### Accessory

Manufacturer type:

- Filter to maintenance side pull able, stainless steel (1.4301)

Class:

G4

- Maintenance door

Design pressure:

133 Pa

Initial pressure:

67 Pa

End pressure:

200 Pa

Airflow face speed:

2.5 m/s

Filter face surface:

6.0 m<sup>2</sup>

Filter length:

47 mm

Filter bag 592x592:

2

Filter bag 592x287:

2

Maintenance:

A - pull able

Air flow:

10,000 m<sup>3</sup>/h

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## SA - Filter - Biostat F5-500

G 1

FU 2

### Accessory

Manufacturer type:

- Biostatic equipped Filter Medium

Class:

F5

- Quick change filter frame out of stainless steel (1.4301)

Design pressure:

126 Pa

- Maintenance door

Initial pressure:

51 Pa

End pressure:

200 Pa

Airflow face speed:

2.5 m/s

Filter face surface:

12.2 m<sup>2</sup>

Filter length:

508 mm

Filter bag 592x592:

2

Filter bag 592x287:

2

Maintenance:

F - quick change filter frame

Air flow:

10,000 m<sup>3</sup>/h

## SA - Wärmetauscher - Run-around cooler

FU 3

### Accessory

Type:

KVS - Copper/Aluminium - A

- droplet eliminator convertible

pressure drop (dry):

482 Pa

- Maintenance panel

Pressure drop eliminator:

31 Pa

- Base tub stainless steel 1.4301

Air flow speed:

3.31 m/s

Temperature Inlet:

36.8 °C

Rel. Humidity Inlet:

72.0 %

Abs. Humidity Inlet:

28.7 g/kgL

Temperature Outlet:

30.1 °C

Rel. Humidity Outlet:

100.0 %

Abs. Humidity Outlet:

27.4 g/kgL

Capacity:

34.8 kW

Exchange rate:

85.2 %

Medium:

Water - Ethlenglycol

Glycol content:

25 %

Medium flow quantity:

3,825.9 l/h

Δp medium:

111.6 kPa

Δ fins:

2.5 mm

Fill-up quantity:

92.0 l

Pipes:

Copper

Fins:

Aluminium

Collector:

Copper

Frame:

Aluminium

Connection type: A - water connection straight sideways

Connection width:

DN 32 (R 1-1/4)

Interwinded circuits:

2

Air flow:

10,000 m<sup>3</sup>/h

## SA - Wärmetauscher - Cooling unit

G 3

FU 4

### Accessory

Type:

PCW - Copper/Aluminium - A

- Coil installation rail made of stainless steel 1.4301

pressure drop (dry):

538 Pa

- droplet eliminator convertible

Pressure drop eliminator:

31 Pa

- Maintenance panel

Air flow speed:

3.19 m/s

- Base tub stainless steel 1.4301

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|                         |  |
|-------------------------|--|
| Temperature Inlet:      | 30.0 °C                                |
| Rel. Humidity Inlet:    | 100.0 %                                |
| Abs. Humidity Inlet:    | 27.2 g/kgL                             |
| Temperature Outlet:     | 13.8 °C                                |
| Rel. Humidity Outlet:   | 100.0 %                                |
| Abs. Humidity Outlet:   | 9.8 g/kgL                              |
| <b>Capacity:</b>        | <b>204.1 kW</b>                        |
| Power reserve:          | 0 %                                    |
| Medium:                 | Water                                  |
| Glycol content:         | 0 %                                    |
| Medium temperature IN:  | 7.0 °C                                 |
| Medium temperature OUT: | 12.0 °C                                |
| Medium flow quantity:   | 35,028 l/h                             |
| Δp medium:              | 58.1 kPa                               |
| Δ fins:                 | 4.0 mm                                 |
| Rows:                   | 20                                     |
| Circuits:               | 46                                     |
| Fill-up quantity:       | 62.0 l                                 |
| Pipes:                  | Copper                                 |
| Fins:                   | Aluminium                              |
| Collector:              | Copper                                 |
| Frame:                  | Stainless steel (1.4301)               |
| Connection type:        | A - water connection straight sideways |
| Connection width:       | DN 80 (R 3)                            |
| Interwinded circuits:   | 2                                      |
| Air flow:               | 10,000 m³/h                            |

## SA - Wärmetauscher - Heating coil G 3

## FU 5

## Accessory

|                         |                            |
|-------------------------|----------------------------|
| Type:                   | PWW - Copper/Aluminium - A |
| pressure drop (dry):    | 24 Pa                      |
| Air flow speed:         | 3.15 m/s                   |
| Temperature Inlet:      | 14.0 °C                    |
| Rel. Humidity Inlet:    | 100.0 %                    |
| Abs. Humidity Inlet:    | 10.0 g/kgL                 |
| Temperature Outlet:     | 20.0 °C                    |
| <b>Capacity:</b>        | <b>20.5 kW</b>             |
| Power reserve:          | 82 %                       |
| Medium:                 | Water                      |
| Glycol content:         | 0 %                        |
| Medium temperature IN:  | 80.0 °C                    |
| Medium temperature OUT: | 60.0 °C                    |
| Medium flow quantity:   | 880 l/h                    |
| Δp medium:              | 33.3 kPa                   |
| Δ fins:                 | 3.0 mm                     |
| Rows:                   | 1                          |
| Circuits:               | 2                          |
| Fill-up quantity:       | 5.0 l                      |
| Pipes:                  | Copper                     |
| Fins:                   | Aluminium                  |
| Collector:              | Copper                     |
| Frame:                  | Galvanised steel           |

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Piece: 1

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Frame to hold frost protection Without  
equipment:  
Connection type: A - water connection straight sideways  
Connection width: DN 25 (R 1)  
Interwinded circuits: 2  
Air flow: 10,000 m<sup>3</sup>/h

## SA - Fan - RZR 15 - 400

## G 4

## FU 6

## Accessory

Fan type: RZR 15-400  
Air flow: 10,000 m<sup>3</sup>/h  
Static increase of pressure: 1,940 Pa  
Total pressure: 2,052 Pa  
Casing pressure drop: 64 Pa  
Capacity on shaft: 7.0 kW  
Static efficiency: 77 %  
total efficiency: 82 %  
Revolution: 2,729 1/min  
Max. speed: 3,600 1/min  
Motor: 0  
Model: 1LE1002-1DB23-4AB0  
Control type: FC  
Revolution: 1,473 1/min  
Working Frequency: 50 Hz  
max. Frequency: 50 Hz  
Power input: 8.4 kW  
Power PM-FU: 8.84 kW  
SFP value (EnEV 2009): 2,196 W/(m<sup>3</sup>/s)  
SFP class: SFP 5  
Speed Class: V3  
Nominal rated voltage: 400/690 V  
Power Frequency: 50 Hz  
Nominal rated capacity: 11 kW  
Nominal rated current: 22/12,75 A  
Nominal rated speed(s): 1460 /min  
Protection class: IP55  
Overload protection: PTC thermistor  
Insulation class: F  
Drive: 0  
Belt profile: SPB  
Belt length: 2,360 mm  
Number of belts: 2  
Ømotor pulley: 315 mm  
Øfan pulley: 170 mm  
Belt tension check force: 31 N  
Belt deflection: 9 mm  
Sound Power Level Inlet: 91.6 dB(A)  
Sound Power Level Outlet: 90.7 dB(A)  
Octave band: 63 125 250 500 1k 2k 4k 8k Hz  
Lw Inlet: 85 88 87 91 86 83 78 71 dB  
Lw Outlet: 90 89 88 89 86 82 77 69 dB  
Air flow: 10,000 m<sup>3</sup>/h

- FR-O.LEU. 60W IP 44  
- Light Switch  
- Repair switch for frequency converter  
- Grommet M20  
- Fan base powder coated  
- Nozzle frame coated  
- Motor slide powder coated  
- Fan pressure wall powder-coated  
- Fan - Powder Coating  
- Maintenance door

Project: **90496 - PAU Comparison**Pos.: **6****QUOTATION**

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Piece: 1

Editor:

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**SA - Empty section****G 4****FU 13****Accessory**

Specification:

Empty section

Length:

5 AT4 raster

**SA - Damper outside****G 4****FU 0****Accessory**

Type:

Damper outside

- Damper air tight, powder coated

Width:

1,224.0 mm

Height:

459 mm

Connector:

A20

Needed torque:

7 Nm

Design pressure:

31 Pa

**EA - Damper outside****G 5****FU 0****Accessory**

Type:

Damper outside

- Damper air tight, powder coated

Width:

1,224.0 mm

Height:

459 mm

Connector:

A20

Needed torque:

7 Nm

Design pressure:

31 Pa

**EA - Empty section****G 5****FU 12****Accessory**

Specification:

Empty section

Length:

5 AT4 raster

**EA - Filter - Biostat F5-500****G 5****FU 7****Accessory**

Manufacturer type:

- Biostatic equipped Filter Medium

Class:

F5

- Quick change filter frame out of stainless steel (1.4301)

Design pressure:

126 Pa

- Maintenance door

Initial pressure:

51 Pa

End pressure:

200 Pa

Airflow face speed:

2.5 m/s

Filter face surface:

12.2 m<sup>2</sup>

Filter length:

508 mm

Filter bag 592x592:

2

Filter bag 592x287:

2

Maintenance:

F - quick change filter frame

Air flow:

10,000 m<sup>3</sup>/h**EA - Wärmetauscher - Run-aroundG 5****FU 10****Accessory**

heater

Type:

KVS - Copper/Aluminium - A

- Maintenance panel

pressure drop (dry):

425 Pa

Air flow speed:

3.16 m/s

Temperature Inlet:

24.0 °C

Rel. Humidity Inlet:

50.0 %

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Abs. Humidity Inlet: 9.3 g/kgL  
 Temperature Outlet: 34.2 °C  
 Capacity: 34.8 kW  
 Exchange rate: 85.2 %  
 Energy recovery class: H4  
 Medium: Water - Ethlenglycol  
 Glycol content: 25 %  
 Medium flow quantity: 3,825.9 l/h  
 Δp medium: 111.6 kPa  
 Δ fins: 2.5 mm  
 Fill-up quantity: 92.0 l  
 Pipes: Copper  
 Fins: Aluminium  
 Collector: Copper  
 Frame: Galvanised steel  
 Frame to hold frost protection equipment: Without  
 Connection type: A - water connection straight sideways  
 Connection width: DN 32 (R 1-1/4)  
 Interwinded circuits: 2  
 Air flow: 10,000 m³/h

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## EA - Fan - RZR 15 - 400

## G 6

## FU 8

## Accessory

|                              |                    |   |
|------------------------------|--------------------|---|
| Fan type:                    | RZR 15-400         | - FR-O.LEU. 60W IP 44                   |
| Air flow:                    | 10,000 m³/h        | - Light Switch                          |
| Static increase of pressure: | 1,026 Pa           | - Repair switch for frequency converter |
| Total pressure:              | 1,138 Pa           | - Grommet M20                           |
| Casing pressure drop:        | 64 Pa              | - Fan base powder coated                |
| Capacity on shaft:           | 3.9 kW             | - Nozzle frame coated                   |
| Static efficiency:           | 73 %               | - Motor slide powder coated             |
| total efficiency:            | 81 %               | - Fan pressure wall powder-coated       |
| Revolution:                  | 2,190 1/min        | - Fan - Powder Coating                  |
| Max. speed:                  | 3,600 1/min        | - Maintenance door                      |
| Motor:                       | 0                  |   |
| Model:                       | 1LE1002-1CA03-4AB0 |   |
| Control type:                | FC                 |   |
| Revolution:                  | 2,920 1/min        |   |
| Working Frequency:           | 50 Hz              |   |
| max. Frequency:              | 50 Hz              |   |
| Power input:                 | 4.9 kW             |   |
| Power PM-FU:                 | 5.16 kW            |   |
| SFP value (EnEV 2009):       | 1,631 W/(m³/s)     |   |
| SFP class:                   | SFP 4              |   |
| Speed Class:                 | V3                 |   |
| Nominal rated voltage:       | 400/690 V          |   |
| Power Frequency:             | 50 Hz              |   |
| Nominal rated capacity:      | 5,5 kW             |   |
| Nominal rated current:       | 10,6/6,14 A        |   |
| Nominal rated speed(s):      | 2905 /min          |   |
| Protection class:            | IP55               |   |
| Overload protection:         | PTC thermistor     |   |
| Insulation class:            | F                  |   |

# Data sheet

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|                           |                               |
|---------------------------|-------------------------------|
| Drive:                    | 0                             |
| Belt profile:             | SPZ                           |
| Belt length:              | 1,600 mm                      |
| Number of belts:          | 1                             |
| Ømotor pulley:            | 150 mm                        |
| Øfan pulley:              | 200 mm                        |
| Belt tension check force: | 22 N                          |
| Belt deflection:          | 9 mm                          |
| Sound Power Level Inlet:  | 87.6 dB(A)                    |
| Sound Power Level Outlet: | 86.7 dB(A)                    |
| Octave band:              | 63 125 250 500 1k 2k 4k 8k Hz |
| Lw Inlet:                 | 81 84 83 87 82 79 74 67 dB    |
| Lw Outlet:                | 86 85 84 85 82 78 73 65 dB    |
| Air flow:                 | 10,000 m <sup>3</sup> /h      |

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## EA - Empty section

**G 6**

**FU 14**

**Accessory**

Specification:

Empty section

Length:

5 AT4 raster

## EA - Damper outside

**G 6**

**FU 0**

**Accessory**

Type:

Damper outside

- Damper air tight, powder coated

Width:

1,224.0 mm

Height:

459 mm

Connector:

A20

Needed torque:

7 Nm

Design pressure:

31 Pa

## Unit features:

Frame material

Galvanised steel

Panel material

7001/7001

Unit corner material (frame)

Plastic

Sealing supply side

Incl. intergrated parts (Hygiene)

Siphon

Standard siphon

Transport

Standard transport

Base frame

100 mm

## Dimensions

**Transport weight**

Length: 6,502 mm

Width: 1,301 mm

Height: 2,218 mm

2,723 kg

**\*\*\* END OF LIST \*\*\***