

# AL-KO THERM GMBH

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## Data sheet

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Project: **90496 - PAU Comparison**

Pos.: **5**

**QUOTATION**

Order #:

GS-pos.:

Proj. descr.:

Date printed:

02.12.2010

Unit: Concept 5-Extract&Rotary heatex&RRcoil-type3 - 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 =  $1.2 \text{ kg/m}^3$

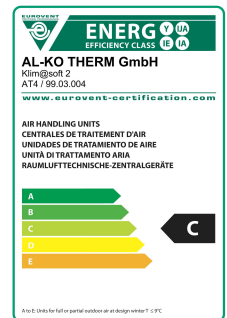
### Unit data

#### Supply air

#### Exhaust air

	Target value	Actual	Target value	Actual
Air flow	10,000	10,000 $\text{m}^3/\text{h}$	10,000	10,000 $\text{m}^3/\text{h}$
External pressure	450	450 Pa	350	350 Pa
Internal pressure	968	968 Pa	396	396 Pa
Air speed		2.5 m/s		2.5 m/s

Eurovent Energy Efficiency Class C



### 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 - 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  $\text{m}^2$

Filter length:

47 mm

Filter bag 592x592:

2

Filter bag 592x287:

2

Maintenance:

A - pull able

Air flow:

10,000  $\text{m}^3/\text{h}$

### 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)

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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 - Run around coil - cooler

**G 0**

**FU 18**

## Accessory

Type:	PCW - Copper/Aluminium - A
pressure drop (dry):	93 Pa
Pressure drop eliminator:	31 Pa
Air flow speed:	3.13 m/s
Temperature Inlet:	36.8 °C
Rel. Humidity Inlet:	72.0 %
Abs. Humidity Inlet:	28.7 g/kgL
Temperature Outlet:	32.0 °C
Rel. Humidity Outlet:	94.0 %
Abs. Humidity Outlet:	28.7 g/kgL

- Coil installation rail made of stainless steel 1.4301
- droplet eliminator convertible

Capacity: 17.1 kW

Power reserve:	3 %
Medium:	Water
Glycol content:	0 %
Medium temperature IN:	26.4 °C
Medium temperature OUT:	28.6 °C
Max. medium pressure:	16.0 bar
Medium flow quantity:	6,720 l/h
Δp medium:	29.9 kPa
Δ fins:	2.5 mm
Rows:	3
Circuits:	20
Fill-up quantity:	9.8 l
Pipes:	Copper
Fins:	Aluminium
Collector:	Copper
Frame:	Stainless steel (1.4301)
Connection type:	A - water connection straight sideways
Connection width:	DN 40 (R 1-1/2)
Interwinded circuits:	2
Air flow:	10,000 m <sup>3</sup> /h

## Rotary heatex

**G 3**

**FU 9**

## Accessory

Type:	Sorption
Total Thermal Capacity:	-176.6 kW
Thermal efficiency:	87.0 %
Humidity exchange rate:	95.4 %
Energy recovery class:	H1
operating state:	1

- Rotor with Sorptive Coating
- Maintenance door
- Maintenance panel

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Supply air:	10,000 m <sup>3</sup> /h
Δ Pressure (S) :	144.3 Pa
Temperature IN:	32.0 °C
Rel. Humidity IN:	94.0 %
Abs. Humidity IN:	28.7 g/kgL
Temperature Out:	25.0 °C
Rel. Humidity OUT:	51.4 %
Abs. Humidity OUT:	10.2 g/kgL
Exhaust air:	10,000 m <sup>3</sup> /h
Δ Pressure (E):	144.3 Pa
Temperature IN:	24.0 °C
Rel. Humidity IN:	50.0 %
Abs. Humidity IN:	9.3 g/kgL
Temperature Out:	31.1 °C
Rel. Humidity OUT:	95.0 %
Abs. Humidity OUT:	27.5 g/kgL
Drive output:	180 W
Current:	0.70 A
Voltage:	230 V
Phase count:	3-phase

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## SA - Wärmetauscher - Cooling unit G 0

## FU 3

## Accessory

Type:	PCW - Copper/Aluminium - A
pressure drop (dry):	206 Pa
Pressure drop eliminator:	31 Pa
Air flow speed:	3.08 m/s
Temperature Inlet:	24.8 °C
Rel. Humidity Inlet:	54.6 %
Abs. Humidity Inlet:	10.7 g/kgL
Temperature Outlet:	14.0 °C
Rel. Humidity Outlet:	99.0 %
Abs. Humidity Outlet:	9.9 g/kgL
Capacity:	43.0 kW
Power reserve:	71 %
Medium:	Water
Glycol content:	0 %
Medium temperature IN:	7.0 °C
Medium temperature OUT:	12.0 °C
Max. medium pressure:	16 bar
Medium flow quantity:	7,356 l/h
Δp medium:	6.4 kPa
Δ fins:	2.5 mm
Rows:	10
Circuits:	56
Fill-up quantity:	27.5 l
Pipes:	Copper
Fins:	Aluminium
Collector:	Copper
Frame:	Aluminium
Connection type:	A - water connection straight sideways
Connection width:	DN 65 (R 2-1/2)
Interwinded circuits:	2

- Coil installation rail made of stainless steel 1.4301
- droplet eliminator convertible

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Page: 4

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Air flow: 10,000 m<sup>3</sup>/h

SA - Run around coil - heater	G 0	FU 19	Accessory
Type:	PWW - Copper/Aluminium - A		
pressure drop (dry):		51 Pa	
Air flow speed:		3.19 m/s	
Temperature Inlet:		13.8 °C	
Rel. Humidity Inlet:		100.0 %	
Abs. Humidity Inlet:		9.8 g/kgL	
Temperature Outlet:		18.8 °C	
Capacity:		17.1 kW	
Power reserve:		9 %	
Medium:		Water	
Glycol content:		0 %	
Medium temperature IN:		28.6 °C	
Medium temperature OUT:		26.4 °C	
Medium flow quantity:		6,665 l/h	
Δp medium:		16.9 kPa	
Δ fins:		2.5 mm	
Rows:		2	
Circuits:		14	
Fill-up quantity:		10.0 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 40 (R 1-1/2)		
Interwinded circuits:	2		
Air flow:		10,000 m <sup>3</sup> /h	

SA - Wärmetauscher - Heating coil	G 0	FU 4	Accessory
Type:	PWW - Copper/Aluminium - A		
pressure drop (dry):		27 Pa	
Air flow speed:		2.93 m/s	
Temperature Inlet:		19.0 °C	
Rel. Humidity Inlet:		73.0 %	
Abs. Humidity Inlet:		10.0 g/kgL	
Temperature Outlet:		20.0 °C	
Capacity:		3.4 kW	
Power reserve:		1,946 %	
Medium:		Water	
Glycol content:		0 %	
Medium temperature IN:		80.0 °C	
Medium temperature OUT:		60.0 °C	
Medium flow quantity:		144 l/h	
Δp medium:		5.4 kPa	
Δ fins:		4.0 mm	
Rows:		1	

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Circuits: 1  
 Fill-up quantity: 3.0 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 15 (R 1/2)  
 Interwinded circuits: 2  
 Air flow: 10,000 m<sup>3</sup>/h

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## SA - Fan - RZR 15 - 400

## G 5

## FU 5

## Accessory

Fan type:	RZR 15-400	- FR-O.LEU. 60W IP 44
Air flow:	10,000 m <sup>3</sup> /h	- Light Switch
Static increase of pressure:	1,418 Pa	- Repair switch for frequency converter
Total pressure:	1,530 Pa	- Grommet M20
Casing pressure drop:	64 Pa	- Fan base powder coated
Capacity on shaft:	5.2 kW	- Nozzle frame coated
Static efficiency:	76 %	- Motor slide powder coated
total efficiency:	82 %	- Fan pressure wall powder-coated
Revolution:	2,431 1/min	- Fan - Powder Coating
Max. speed:	3,600 1/min	- Maintenance door
Motor:	0	
Model:	1LE1002-1CA13-4AB0	
Control type:	FC	
Revolution:	2,865 1/min	
Working Frequency:	49 Hz	
max. Frequency:	50 Hz	
Power input:	6.3 kW	
Power PM-FU:	6.68 kW	
SFP value (EnEV 2009):	1,443 W/(m <sup>3</sup> /s)	
SFP class:	SFP 4	
Speed Class:	V3	
Nominal rated voltage:	400/690 V	
Power Frequency:	50 Hz	
Nominal rated capacity:	7,5 kW	
Nominal rated current:	14,4/8,35 A	
Nominal rated speed(s):	2925 /min	
Protection class:	IP55	
Overload protection:	PTC thermistor	
Insulation class:	F	
Drive:	0	
Belt profile:	SPZ	
Belt length:	1,462 mm	
Number of belts:	2	
Ømotor pulley:	112 mm	
Øfan pulley:	132 mm	
Belt tension check force:	16 N	
Belt deflection:	9 mm	
Sound Power Level Inlet:	88.6 dB(A)	

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Sound Power Level Outlet: 87.7 dB(A)

Octave band: 63 125 250 500 1k 2k 4k 8k Hz

Lw Inlet: 82 85 84 88 83 80 75 68 dB

Lw Outlet: 87 86 85 86 83 79 74 66 dB

Air flow: 10,000 m<sup>3</sup>/h

## SA - Empty section

**G 5**

**FU 10**

**Accessory**

Specification:

Empty section

Length:

5 AT4 raster

## SA - 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 - 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

## EA - Empty section

**G 6**

**FU 11**

**Accessory**

Specification:

Empty section

Length:

5 AT4 raster

## EA - Filter - Biostat F5-500

**G 6**

**FU 6**

**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 - Fan - RZR 15 - 400

**G 6**

**FU 7**

**Accessory**

Fan type:

RZR 15-400

- FR-O.LEU. 60W IP 44

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Type: AT4 16x12 / 16x12 - Interior

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Air flow:	10,000 m <sup>3</sup> /h	- Light Switch
Static increase of pressure:	746 Pa	- Repair switch for frequency converter
Total pressure:	858 Pa	- Grommet M20
Casing pressure drop:	64 Pa	- Fan base powder coated
Capacity on shaft:	3.0 kW	- Nozzle frame coated
Static efficiency:	68 %	- Motor slide powder coated
total efficiency:	79 %	- Fan pressure wall powder-coated
Revolution:	2,000 1/min	- Fan - Powder Coating
Max. speed:	3,600 1/min	- Maintenance door
Motor:	0	
Model:	1LE1002-1BB23-4AB0	
Control type:	FC	
Revolution:	1,500 1/min	
Working Frequency:	52 Hz	
max. Frequency:	52 Hz	
Power input:	3.9 kW	
Power PM-FU:	4.15 kW	
SFP value (EnEV 2009):	967 W/(m <sup>3</sup> /s)	
SFP class:	SFP 3	
Speed Class:	V3	
Nominal rated voltage:	400/690 V	
Power Frequency:	50 Hz	
Nominal rated capacity:	4 kW	
Nominal rated current:	8,2/4,75 A	
Nominal rated speed(s):	1435 /min	
Protection class:	IP55	
Overload protection:	PTC thermistor	
Insulation class:	F	
Drive:	0	
Belt profile:	SPZ	
Belt length:	1,662 mm	
Number of belts:	1	
Ømotor pulley:	200 mm	
Øfan pulley:	150 mm	
Belt tension check force:	22 N	
Belt deflection:	9 mm	
Sound Power Level Inlet:	86.0 dB(A)	
Sound Power Level Outlet:	85.1 dB(A)	
Octave band:	63 125 250 500 1k 2k 4k 8k Hz	
Lw Inlet:	76 79 78 85 81 78 73 65 dB	
Lw Outlet:	80 80 80 83 81 77 72 63 dB	
Air flow:	10,000 m <sup>3</sup> /h	

## Rotary heatex

**G 3**

**FU 9**

**Accessory**

See above

## EA - Empty section

**G 7**

**FU 8**

**Accessory**

Specification:

Empty section

Length:

5 AT4 raster

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**EA - Damper outside****G 7****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:	6,349 mm	Width:	2,218 mm	Height:	2,371 mm	Transport weight	2,452 kg
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**\*\*\* END OF LIST \*\*\***