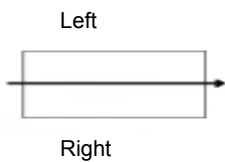


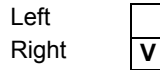
Client  
Reference EVERSOLT AHU's  
Reference AHU with plate heat exchanger

Offer N° 0406-15  
Date 17-04-2015  
Unit model: CTL 20  
Q.ty 1  
Air volume: 2160 m³/h  
Revision: 03  
Date: 17-04-2015

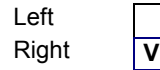
### AHU general features and manufacturing options



#### Inspection side:



#### Connection side:



**Panel :** External side in prepainted sheet 6/10 Internal side in galvanized steel 8/10 Thickness 48 [mm]  
**Profile :** Anodized aluminium profile  
**Insulation :** in mineral wool density 90 kg/m³.  
**Corners :** die-cast black aluminium  
**Internal guides and supports:** Galvanized steel  
**Base frame :** galvanized sheet

Corner profile : 50 mm  
Omega profile : 50 mm

**Barometric pressure Kpa** 101.3  
**Length mm** 4075    **Width mm** 800+800    **Height mm** 650 + 120    **Weight Kg** 686

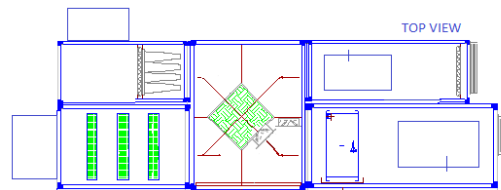
With sloped drain pan, section height can be slightly different from original

#### Panels acoustic attenuation - frequency analysis

F [Hz]	63	125	250	500	1000	2000	4000	8000
db	-	13	18	24	24	23	26	30

#### Mechanical characteristics of structure according EN1886

Mechanical strength	Leakage	Thermal transmittance	Thermal bridging
D2(M)	L2	T4	TB4



#### SECTIONS DIMENSIONS

	Length	Width	Height	Weight
<b>Section 1 T</b>	1240 mm	800 mm	650+120 mm	89 kg
<b>Section 2 B</b>	800 mm	800 mm	650+120 mm	113 kg
<b>Section 3 B</b>	1420 mm	800 mm	1300+120 mm	208 kg
<b>Section 4 B</b>	1415 mm	800 mm	650+120 mm	164 kg
<b>Section 5 T</b>	1105 mm	800 mm	650+120 mm	112 kg

Sections are numbered accordingly with air flow; B means " Bottom " , T means " Top "

## TECHNICAL SCHEDULE

Client  
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Reference AHU with plate heat exchanger

Offer N° 0406-15  
Date 17-04-2015  
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Q.ty 1  
Air volume: 2160 m³/h  
Revision: 03  
Date: 17-04-2015

Code		Intake section	
n° pc.	Description	Brand - Code	
1	Regulation damper, frame made of aluminium, fins made of aluminium, dim. 350x410 mm. Air volume 2160 m³/h With internal damper		
1	Galvanized rain hood with mesh <b>Damper with leakage class 4 (EN 1751)</b>		

Code		Soft bag filters	
n° pc.	Description	Brand - Code	
1	Prefilter, filtering efficiency G4 Pleated Synthetic eff. >=90% 592 x 490 x 48 mm		
1	Soft bag filter efficiency F7 - 80-90% Dim. 592 x 490 x 380 mm Filter pressure drop: Clean 112 Pa - Average 181 Pa - Recommended dirty 250 Pa Pre-filter pressure drop: Clean 43 Pa - Average 96 Pa - Recommended dirty 150 Pa Side removal of tray filters		
1	Differential manometer magnehelic type		

Code		Intake section	
n° pc.	Description	Brand - Code	
1	Galvanized rain hood with mesh		

Code		Sound attenuator						
n° pc.	Description	Brand - Code						
1	Sound attenuator length 700 mm Galvanized mesh							
<b>Acoustic attenuation of sound attenuator frequency analysis</b>								
F [Hz]	63	125	250	500	1000	2000	4000	8000
db	6	10	14	23	32	26	20	15

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Revision: 03  
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Code		Plate heat recovery unit	
n° pc.	Description	Brand - Code	
1	BI AL 07 N 0600 R 1 AE SC AGBP100 <b>Exhaust air</b> Exhaust air temperature in 21 °C Exhaust relative humidity in 50 % Exhaust air temperature out 7.11 °C Exhaust relative humidity out 97 % Exhaust air volume 2160 m³/h Exhaust air side pressure drop 146 Pa <b>Supply air</b> External air temperature in -4 °C External relative humidity in 80 % External air temperature out 13.86 °C External relative humidity out 22 % External air volume 2160 m³/h External air side pressure drop 140 Pa <b>Capacity</b> 12.91 kW Heat Recovery Efficiency 71.4 % Temperature ratio 71.4 % Efficiency at flow balanced 65.8 % Rirculation factor 0.0 % Heat Recovery Dry Efficiency 65.8 % Dry Temperature ratio 65.8 %  Aluminium recovery unit With frame made of Galvanized steel With free cooling damper SLOPED drain pan in stainless steel AISI 304 <b>Rirculation damper</b> 1 Regulation damper, frame made of aluminium, fins made of aluminium,dimensions 460x210 mm. Pressure drop: 0.0 Pa Damper with leakage class 4 (EN 1751) Damper with leakage class 4 (EN 1751) Damper with leakage class 4 (EN 1751)		
	<b>Summer conditions</b> <b>Exhaust air</b> Exhaust air temperature in 24 °C Exhaust relative humidity in 50 % Exhaust air temperature out 27.96 °C Exhaust relative humidity out 39 % Exhaust air volume 2160 m³/h Exhaust air side pressure drop 153 Pa <b>Supply air</b> External air temperature in 30 °C External relative humidity in 50 % External air temperature out 26.04 °C External relative humidity out 63 % External air volume 2160 m³/h External air side pressure drop 156 Pa Capacity 2.86 kW Heat Recovery Efficiency 66.0 % Temperature ratio 66.0 % Heat Recovery Dry Efficiency 66.0 % Dry Temperature ratio 66.0 %		

## TECHNICAL SCHEDULE

Client  
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 Reference AHU with plate heat exchanger

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 Q.ty 1  
 Air volume: 2160 m³/h  
 Revision: 03  
 Date: 17-04-2015

Code		Direct expansion coil (in heat pump)	
n° pc.	Description		Brand - Code
1	BAF30x26 T14 L580 R3 C4 P3.0 Material Copper x 0.60 mm - 0.11 mm Aluminium - Galvanized frame Air flow 2160 [m³/h], Air speed 2.4 [m/s], Air pressure drop 80 [Pa] Air dry pressure drop 34 [Pa] Air density 1.165 [Kg/m³] Entering air: DBT 30.0 [°C], WBT 22.0 [°C], RH 50 [%], enthalpy 64.3 [kJ/kg] Leaving air: DBT 21.0 [°C], WBT 18.2 [°C], RH 77 [%], enthalpy 51.5 [kJ/kg] Type of fluid:R410A Expansion temp. 5.0 C° Fluid volume: 206 [kg/h], Fluid speed: 0.1 [m/s], Pressure drop: 9.3 [kPa] Total capacity: 9.2 [kW] Sensible capacity: 6.6 [kW] Headers diameter: 22 mm Exchange surface 11.57 [m²] Inside volume (header excluded) 3.40 [l] N° GAS circuits: 1 SLOPED drain pan in stainless steel AISI 304	160 (12-12)	

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 Revision: 03  
 Date: 17-04-2015

Code		Supply fan							Brand - Code	
n° pc.	Description									
1	Size 288 Fan type Plug fan Air flow 2160 m³/h, External static pres. 200 Pa, Total static pres. 771 Pa N. of revolutions 3010 RPM, Sound power level Lw (Inlet) 74 db(A), Efficiency 78.00% Dynamic Press. 32 Pa, Total Press. 803 Pa, Request mechanical power 0.61 kW Air speed on fan outlet 7.29 m/s K Factor : 79 <b>MOTOR Class IE2 (50Hz)</b> 1.10 KW 2 Poles 230-400/3/50 V/ph/Hz Size 80 Efficiency 100 % Mechanical power input 0.61 kW Actual electrical power absorption 0.84 kW Freq. Nominal / Max 52 / 64 Hz Gebhardt								RLM E6-2528-2W-11-J	
1	With round window									
1	With complete internal light									
1	With PTC probe integrated									
1	with frequency converter prewired									
	Frequency converter installation is mandatory for RPM regulation									
1	Mainswitch mounted and wired to the electric motor									
1	Safety microswitch + wire mesh door guard.									
4	Rubber shock absorber: H.30 D40 M8									
	<b>Design for wet conditions</b>									
	<b>Octave bands sound power level (dB) single fan</b>									
	F [Hz]	63	125	250	500	1000	2000	4000	8000	
	dB	64	64	73	70	69	65	65	59	Suction
	dB	72	69	73	69	73	73	72	65	Discharge

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Q.ty 1  
Air volume: 2160 m³/h  
Revision: 03  
Date: 17-04-2015

Code		Return fan																											
n° pc.	Description	Brand - Code																											
1	Size 288 Fan type Plug fan Air flow 2160 m³/h, External static pres. 200 Pa, Total static pres. 486 Pa N. of revolutions 2621 RPM, Sound power level Lw (Inlet) 71 db(A), Efficiency 80.00% Dynamic Press. 32 Pa, Total Press. 518 Pa, Request mechanical power 0.39 kW Air speed on fan outlet 7.29 m/s K Factor : 79 <b>MOTOR Class IE2 (50Hz)</b> 1.10 KW 2 Poles 230-400/3/50 V/ph/Hz Size 80 Efficiency 100 % Mechanical power input 0.39 kW Actual electrical power absorption 0.56 kW Freq. Nominal / Max 46 / 64 Hz Gebhardt  <b>ACCESSORIES LIST</b> 1 With round window 1 With complete internal light 1 With PTC probe integrated 1 with frequency converter prewired Frequency converter installation is mandatory for RPM regulation 1 Mainswitch mounted and wired to the electric motor 1 Safety microswitch + wire mesh door guard. 4 Rubber shock absorber: H.30 D40 M8 <b>Design for wet conditions</b> <b>Octave bands sound power level (dB) single fan</b> <table border="1"> <thead> <tr> <th>F [Hz]</th> <th>63</th> <th>125</th> <th>250</th> <th>500</th> <th>1000</th> <th>2000</th> <th>4000</th> <th>8000</th> </tr> </thead> <tbody> <tr> <td>dB</td> <td>61</td> <td>61</td> <td>70</td> <td>67</td> <td>66</td> <td>62</td> <td>62</td> <td>56</td> </tr> <tr> <td>dB</td> <td>69</td> <td>66</td> <td>70</td> <td>66</td> <td>70</td> <td>70</td> <td>69</td> <td>62</td> </tr> </tbody> </table>	F [Hz]	63	125	250	500	1000	2000	4000	8000	dB	61	61	70	67	66	62	62	56	dB	69	66	70	66	70	70	69	62	RLM E6-2528-2W-11-J
F [Hz]	63	125	250	500	1000	2000	4000	8000																					
dB	61	61	70	67	66	62	62	56																					
dB	69	66	70	66	70	70	69	62																					
									Suction																				
									Discharge																				

Code		Panel filter							
n° pc.	Description	Brand - Code							
1	Panel filter corrugated synthetic type, thick. 48mm, eff. G4 - >=90% Dim. 592 x 490 x 48 mm Filter pressure drop: Clean 43 Pa - Average 96 Pa - Recommended dirty 150 Pa								
1	Differential manometer magnehelic type								

Code		Intake section							
n° pc.	Description	Brand - Code							
1	Anti-vibrating flexible connections								

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### Octave band (Hz) - Octave band corrected Sound power level (dB)

AHU sound levels	Tot.dB(A)	125	250	500	1000	2000	4000	8000
Sound power level inlet (supply side)	69	60	69	66	64	59	60	51
Sound power level discharge (supply side)	79	69	73	69	73	73	72	65
Sound power level inlet (return side)	71	61	70	67	66	62	62	56
Sound power level discharge (return side)	49	52	52	39	33	38	44	39
Airborne power level	55	56	55	45	49	50	46	35

Calculated sound pressure level at 1 mt free field (43 dBA)

### Additional elements

Q.ty	Description
1	Additional Magnehelic
1	DX in heat pump

### Accessories

With pre-painted roof

This design was done according to specific customer's requirements therefore different, operating conditions could result in sensible changes in performances.