

## Technical Specification

Project name : CUF TEJO Julho 2017 Lisboa  
 Project no. : 13111501cuf\_tejo pepe\_Mar17 / 045  
 Customer reference : UTAN P 01.04 Geral P1



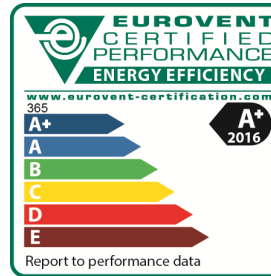
Software version: E4.52 (30-06-2017)(R218)/A

Eurovent identification number: 16.04.014

### GENERAL DATA

Customer reference	UTAN P 01.04 Geral P1
Number of	1
Location	Internal
Delivery	In sections
AHU finish	Outside in standard colour
Product	Air handling unit
AHU configuration	Double deck (opposite)
Total weight (each)	1735 kg
Radiated casework SWL	58 dB(A)
Real unit leakage @ -400 Pa	26.1 l/s
Real unit leakage @ +400 Pa	27.4 l/s
Internal leakage rate EATR	0.00 %
Energy consumption filter (supply/exhaust)	103 / 48 kWh

### Eurovent energy classification



SFP <sub>e</sub>	1.56 kJ/m <sup>3</sup>
SFP <sub>v</sub>	1.43 kJ/m <sup>3</sup>

This unit complies with Regulation EU No 1253/2014 Ecodesign delivery 2018 .

### Ecodesign (EU) 1253/2014 2018 BVU

#### Intermediate calculations

E (Pa)	0
F (filter correction) (Pa)	0
SFP int_limit (W/(m <sup>3</sup> /s))	843.3
SFP int supply air (W/(m <sup>3</sup> /s))	307.5
SFP int extract air (W/(m <sup>3</sup> /s))	237.4
SFP int (W/(m <sup>3</sup> /s))	544.9

#### Supply air unit data

Airflow (m <sup>3</sup> /s)	1.71
System effect (Pa)	20
Static pressure (Pa)	667
p fan (kW)	1.84
n fan (%)	62.1
Filter >=F7	Yes
dp F7 (Pa)	67
nt nrvu (%)	73
dp HRS (Pa)	104

#### Extract air unit data

Airflow (m <sup>3</sup> /s)	1.29
System effect (Pa)	20
Static pressure (Pa)	392
p fan (kW)	0.84
n fan (%)	60.2
Filter >=M5	Yes
dp M5 (Pa)	11
nt nrvu (%)	73
dp HRS (Pa)	112

#### Check

RVU	Passed
Fan with VSD	Passed
Filter pressure gauge need	Passed
Heat recovery	Passed
SFP int	Passed
Total check	Passed

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### ACCESS DATA

Handle type L-Handle  
 Pressure guard Included

### EXHAUST DATA

Type	HHFlex 07.06	Air volume	m3/s	1.29
Casing construction	INOX in 60 mm	Internal sheet		Stainless steel 316 0.80mm
Insulation	Rockwool 60-70 kg/m3	External sheet		Polyester coated steel 0.80mm
Unit velocity	m/s 1.30			
SFPe	kJ/m3 0.65	SFPv	kJ/m3	0.62

Mechanical performance according EN1886

Model box	D2	L2	F9	T2	TB1	(M)
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Sound data exhaust SWL	Hz	125	250	500	1k	2k	4k	8k	dB(A)
Inlet Full face	dB	54	56	46	27	26	31	33	49
Outlet Full face	dB	66	76	73	74	69	68	67	78

### SUPPLY DATA

Type	HHFlex 07.06	Air volume	m3/s	1.71
Casing construction	INOX in 60 mm	Internal sheet		Stainless steel 316 0.80mm
Design outdoor temperature	°C 3.0	External sheet		Polyester coated steel 0.80mm
Unit velocity	m/s 1.72	Insulation		Rockwool 60-70 kg/m3
SFPe	kJ/m3 1.07	SFPv	kJ/m3	0.97

Mechanical performance according EN1886

Model box	D2	L2	F9	T2	TB1	(M)
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Sound data supply SWL	Hz	125	250	500	1k	2k	4k	8k	dB(A)
Inlet Full face	dB	72	75	70	58	54	48	44	70
Outlet Full face	dB	69	68	57	43	38	33	34	61

### UNIT EXTRAS

Cable Gantry bracket

In direction of airflow, the unit comprises:

### DELIVERY SECTION(S)

Section	Width (mm)	Height (mm)	Length (mm)	Baseframe (mm)	Weight (kg)
1	1218	1058	1698	62	239
2	1218	1058	1538	62	252
3	1218	1058	1538	160	217
4	1538	2178	578	160	358
5	1218	1058	529	160	94
6	1218	1058	3409	160	576



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### INLET PLENUM Exhaust

Air pressure drop Pa 0  
 ACCESS Exhaust  
 Access type Door Access side Left

### EXTRAS

1 x Identification plate 1 x Measuring nipple, M20

### FAN Exhaust

Fan type		ER40Cpro							
Fan arrangement		Single		Installed motor power	kW	2.40			
Air volume	m3/s	1.29		Motor		EC			
Fan outlet velocity	m/s	8.56		Motor efficiency class		IE4			
System effect	Pa	20		Motor speed	rpm	2400			
External static pressure	Pa	200		Voltage	V	3~400V			
Total static pressure	Pa	392		Current	A	3.6			
Dynamic pressure	Pa	44		Abs. motor power incl. F.I.	kW	0.84			
Total pressure	Pa	436		Operating control signal	V	7.16			
Fan speed	rpm	1718		Maximum fan speed at 10V	rpm	2400			
Efficiency	%	67.0							
Fan sound data SWL	Hz	63	125	250	500	1k	2k	4k	8k
Inlet dB	Total SWL	62	63	70	70	63	62	64	64
Outlet dB		65	66	76	73	74	69	68	67

### FAN EXTRAS

Design fan speed is reached at the operating control signal or the speed at 10V setting must be specially configured Epoxy paint  
 Inlet cone measuring points Flexible connection single skin

### ACCESS Exhaust

Access type Door Access side Left Viewport Included

### EXTRAS

1 x Identification plate 1 x Isolator 3P max.15A, incl. Aux.cont and EMC wiring DOL to motor  
 1 x Light switch, incl. wiring to armature 1 x Light armature, Bulleye PH-PL 9 Watt - 230V, excl. wiring  
 2 x Measuring nipple, 6mm 1 x Cable connection box  
 1 x AM-Modbus Module, EC motor

### OUTLET Exhaust

Opening, width x height mm 1058 x 898 Provided with:  
 Pressure drop Pa 2 Opening product Duct spigot  
 Damper Internal, Opposed blades,  
 1 x 7 Nm, max 0 Pa Suitable for actuator,  
 Extra corrosion resistant,  
 Aluminium

### EXTRAS

1 x Identification plate 1 x Measuring nipple, M20

### SUPPLY COMPONENTS

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### INLET Supply

Opening, width x height	mm	1058 x 898	Provided with:	
Pressure drop	Pa	7	Opening product	Duct spigot
			Damper	Internal, Opposed blades,
			1 x 7 Nm, max 0 Pa	Suitable for actuator,
				Extra corrosion resistant,
				Aluminium

ACCESS Supply				
Access type		Door	Access side	Right

EXTRAS				
1 x Identification plate			1 x Measuring nipple, M20	
v shaped drain pan AISI316				

### FILTER Supply

Filter type		Bag (Synthetic)	Withdrawal method	Side
Filter class		M5	Test method	M5 acc. EN779:2012
Initial pressure drop	Pa	29		
Design pressure drop	Pa	58		
Final pressure drop	Pa	86		
Measuring section		Included	Filter length	mm 500
Filter frame material		Stainless steel 316		

ACCESS Supply				
Access type		Door	Viewport	Included
Access side		Right		

EXTRAS				
1 x Identification plate			1 x Light switch, incl. wiring to armature	
1 x Light armature, Bulleye PH-PL 9 Watt - 230V, excl. wiring			1 x Pressure switch, P233A-4-AAC (50-400 Pa)	
2 x Measuring nipple, 6mm			positive pressure filter frame	

### ANY COMPONENT Supply

Pressure drop	Pa	0		
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### HEAT WHEEL Supply

Rotor type		Sorption	Rotor frame material	Galvanised
Rotor material		Aluminium	Rotor purging sector	Included
Rotor situation		Build-in	Delivery requirement	Single section
Component mountings		Galvanised		

#### Winter conditions

Supply air on	°C/%RH	3.0 / 80	Supply pressure drop	Pa	104
Supply air off	°C/%RH	16.8 / 54			
Supply dry efficiency	%	73	Supply latent efficiency	%	59
Total duty	kW	42.70			

#### Summer conditions

Supply air on	°C/%RH	34.0 / 33	Supply pressure drop	Pa	104
Supply air off	°C/%RH	27.5 / 45			
Supply dry efficiency	%	73	Supply latent efficiency	%	57
Total duty	kW	17.20	Dry efficiency at equal airflow	%	73

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**EXTRAS**

1 x Rotor controller

2 x Measuring nipple, 6mm

**INLET PLENUM Supply**

Air pressure drop Pa 0

ACCESS Supply

Access type Door Access side Right

**EXTRAS**

1 x Identification plate

1 x Measuring nipple, M20

**FAN Supply**

Fan type ER45Cpro

Fan arrangement Single

Air volume m3/s 1.71

Fan outlet velocity m/s 9.03

System effect Pa 20

External static pressure Pa 300

Total static pressure Pa 667

Dynamic pressure Pa 49

Total pressure Pa 716

Fan speed rpm 1813

Efficiency % 67.0

Installed motor power kW 2.90  
 Motor EC  
 Motor efficiency class IE4  
 Motor speed rpm 2120  
 Voltage V 3~400V  
 Current A 4.5  
 Abs. motor power incl. F.I. kW 1.84  
 Operating control signal V 8.55  
 Maximum fan speed at 10V rpm 2120

Fan sound data SWL	Hz	63	125	250	500	1k	2k	4k	8k
Inlet dB	Total	79	76	79	76	69	67	64	62
	SWL								
Outlet dB		80	78	82	80	79	74	70	67

**FAN EXTRAS**

Design fan speed is reached at the operating control signal or the speed at 10V setting must be specially configured  
 Inlet cone measuring points

Epoxy paint  
 Flexible connection single skin

**ACCESS Supply**

Access type Door  
 Access side Right

Viewport Included

**EXTRAS**

1 x Identification plate  
 1 x Light armature, Bulleye PH-PL 9 Watt - 230V, excl. wiring  
 2 x Measuring nipple, 6mm  
 1 x AM-Modbus Module, EC motor

1 x Isolator 3P max.15A, incl. Aux.cont and EMC wiring DOL to motor  
 1 x Light switch, incl. wiring to armature  
 1 x Cable connection box

**ATTENUATOR Supply**

Length	mm	640	Sound data according ISO 7235						
Pressure drop	Pa	25							
Insertion loss	Hz	63	125	250	500	1k	2k	4k	8k
		4	5	10	18	26	23	17	13

**EXTRAS**

1 x Identification plate

REMOVABLE HATCH

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### CHILLED WATER COIL

#### Supply

Air volume	m3/s	1.71	Number of coils		1
Duty	kW	14.00	Fluid	100%	Water
Air on db	°C	28.0	Fluid flow rate	l/s	0.67
Air on wb/RH	°C/%	20.0 / 48	Fluid on	°C	7.0
Air off db	°C	22.1	Fluid off	°C	12.0
Air off wb/RH	°C/%	17.9 / 67	Fluid pressure drop	kPa	39
Air pressure drop coil (Dry)	Pa	23	Fluid content	l	8.00
Tubes/fins/connections		Cu / Al / Cu	Connection type		Threaded (Right)
Coil frame		Stainless steel 316	Connection size		1"
Tube thickness	mm	Standard	Fin spacing	mm	2.5
Tube Diameter	mm	12.45	Fin thickness	mm	0.115
Face velocity	m/s	2.3	Eliminator		None
Drainpan type		Sloping (cleanable)	Drainpan material		Stainless steel 316

#### EXTRAS

1 x Identification plate

### INSPECTION Supply

ACCESS Supply					
Access type		Door	Viewport		Included
Access side		Right			
EXTRAS					
1 x Light switch, incl. wiring to armature			1 x Light armature, Bulleye PH-PL 9 Watt - 230V, excl. wiring		
1 x Identification plate			1 x Measuring nipple, M20		

### HOT WATER COIL

#### Supply

		(lphw)			
Air volume	m3/s	1.71	Number of coils		1
Duty	kW	21.00	Fluid	100%	Water
Air on db	°C	14.0	Fluid flow rate	l/s	1.00
Air off db	°C	24.2	Fluid on	°C	45.0
Air pressure drop	Pa	20	Fluid off	°C	40.0
			Fluid pressure drop	kPa	19
			Fluid content	l	6.90
Tubes/fins/connections		Cu / Al / Fe	Connection type		Threaded (Right)
Coil frame		Stainless steel 316	Connection size		1 1/4"
Tube thickness	mm	Standard	Fin spacing	mm	2.0
Tube Diameter	mm	16.5	Fin thickness	mm	0.13
Face velocity	m/s	2.2			

### FILTER Supply

Filter type		Bag (Synthetic)	Withdrawal method		Side
Filter class		F7	Test method		F7 acc. EN779:2012
Initial pressure drop	Pa	70			
Design pressure drop	Pa	111			
Final pressure drop	Pa	152			
Measuring section		Included	Filter length	mm	500
Filter frame material		Stainless steel 316			

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<b>ACCESS Supply</b>			
Access type	Door	Viewport	Included
Access side	Right		
<b>EXTRAS</b>			
1 x Identification plate		1 x Light armature, Bulleye PH-PL 9 Watt - 230V, excl. wiring	
1 x Light switch, incl. wiring to armature		2 x Measuring nipple, 6mm	
1 x Pressure switch, P233A-4-AAC (50-400 Pa)		Positive pressure filter frame	

<b>OUTLET Supply</b>			
Opening, width x height	mm	1058 x 898	Provided with:
Pressure drop	Pa	0	Opening product
			Duct spigot

<b>EXTRAS</b>	
1 x Identification plate	1 x Measuring nipple, M16