

AIR HANDLING UNIT DESCRIPTION

The modular section "UTA" series of Air Handling Units have been specifically designed to meet the thermodynamic and hydrometric requirements of most commercial and industrial applications through heating, cooling, humidifying and filtering the air supply

GENERAL DATA		CASING SPECIFICATION				AHU MAIN DATA	
Version	A - Supply air unit	Profile type	P150.45	Made of	Aluminium	Airflow	14,110 m³/h
Execution	Indoor Unit	Panel thck.	45.0 mm	Ins. type	Mineral wool 40 kg/m³	ESP	650 Pa
AHU type-size	UTA45S 150	External sheet	galvanized pre	Thck.	0.50 mm	Power supply	3x400V-50Hz
Intallation	Indoor	Internal sheet	galvanized	Thck.	0.80 mm		
Atex		Corners	Nylon				
Casing strenght	D1(M)	Cas. leak. -400 Pa	L2(M)	Thermal transmitt.	T4		
Unit SFP	1,678	Cas. leak. +700 Pa	L2(M)	Thermal bridging	TB3		

F	Filter		
CFT - Bag Filter The filter consist of one or more plated filter mats installed on one or more guide rails for an easy withdraw of filter mats. Each guide rails have a single lever.			
Class	M5	According to	EN779:2012
Init. pressure drop	50 Pa	Final pressure drop	250 Pa
Medium material	Synthetic		
Quantity - Size	4 pcs ; 592.0 x 592.0 x 360.0 mm	2 pcs ; 592.0 x 287.0 x 360.0 mm	
Door with hinge and turn bold with dimensions : 400.0 x 1,292.0 mm			

VF	Plug fan																				
This fan has no spiral housing and is directly driven by an electric motor via its shaft. The electric motor is mounted on the fan frame by a base plate. The fan structural frame is fixed to the unit housing by means of vibration insulator. A flexible duct connection prevents fan pressure flange vibrati																					
<table> <tr> <th>Fan data</th><th>Electric motor data</th></tr> <tr> <td>Manufacturer/Model</td><td>Comefri - NPL 630 S.4-6-7.5-IE2</td></tr> <tr> <td>Air volume</td><td>14,110 m³/h</td></tr> <tr> <td>External static pressure</td><td>650 Pa</td></tr> <tr> <td>Total static pressure</td><td>1,104 Pa</td></tr> <tr> <td>Fan shaft power</td><td>5.72 kW</td></tr> <tr> <td>Impeller speed</td><td>1,477 Rpm</td></tr> <tr> <td>efficiency</td><td>75.63 %</td></tr> <tr> <td>outlet velocity</td><td>m/s</td></tr> <tr> <td></td><td>Vibration damper type ?</td></tr> </table>		Fan data	Electric motor data	Manufacturer/Model	Comefri - NPL 630 S.4-6-7.5-IE2	Air volume	14,110 m³/h	External static pressure	650 Pa	Total static pressure	1,104 Pa	Fan shaft power	5.72 kW	Impeller speed	1,477 Rpm	efficiency	75.63 %	outlet velocity	m/s		Vibration damper type ?
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Door with hinge and lever with dimensions : 500.0 x 1,292.0 mm																					
Opening dimensions 388.0 x 388.0 mm																					

WTK	Cooling coil					
CK1 - Cooling coil H2O / Glycol						
A chilled water cooling coil consists of a frame, fin package, and manifold. The fin package is formed by tubes, to which fins are joined by means of mechanical expansion.						
The manifold which interconnect the fin package tubes, are fitted with an air-bleed and drain valve. The chilled water cooling coil is mounted in the housing by means of guides allowing its removal in case of defect or damage.						
Airflow	14,110 m³/h	Capacity	77.57 kW	air velocity	2.48 m/s	
Air in	20.00 °C 50.0 %	Air out	7.56 °C 92.0 %	Air pressure drop	219 Pa	
Water inlet	-1.28 °C	Water outlet	3.43 °C	Pressure drop water	41.00 kPa	
Medium type	Ethylen Glycol35 %	Water flow	4.44 l/s	Connection	IN 2" ½ - OUT 2" ½	
Shut-off and balancing damper of air intake and exhaust. Damper blades contro-rotating type is actuated by levers. The dampers can be operated automatically by actuators or manually and can be mounted on the damper or outside of the AHU.						
Dimensions	1,592.0 x 1,210.0 x 130.0 mm			Flange dimendions	40 mm	
Frame material	galvanized	Thinckness	1,2 mm	Airflow	14,110 [m³/h]	
Sandwich blades	galvanized	Thinckness	1,2 mm	air velocity	2.03 [m/s]	
Bush material	Nylon	Shaft	ø 12 mm	EN-1751 Class	1	
Fully welded flat drip tray complete with drain connection installed on the bottom panels. Drip pan is made in AISI 304						
Drop eliminator frame made in galvanized blade in galvanized						

Noise calculation table

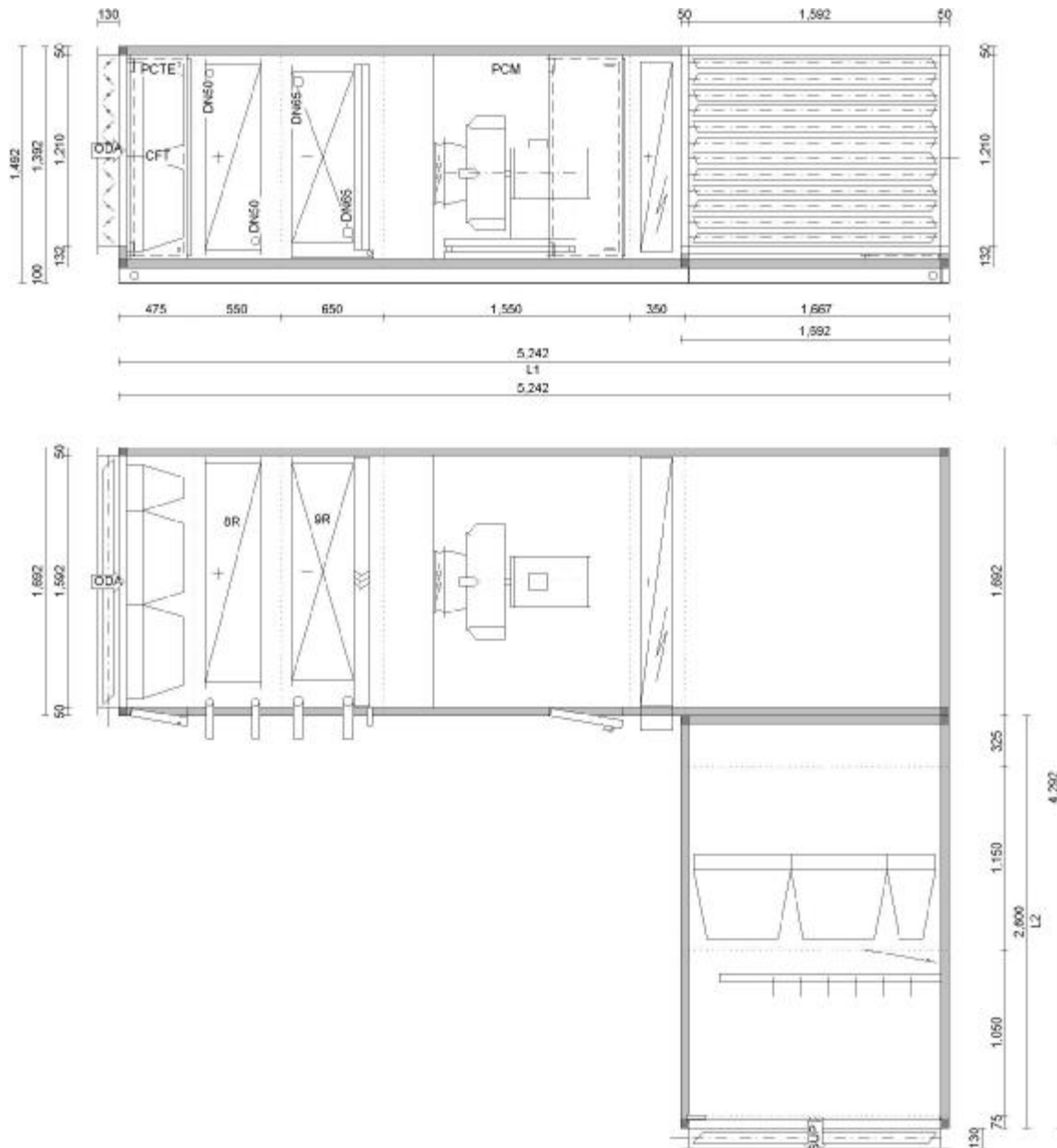
sound power level [dB]									
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum dB[A]
Inlet	77.6	78.8	87.4	78.0	74.5	71.5	68.9	63.1	82.2
Outlet	77.4	82.4	89.4	86.4	82.4	75.4	74.4	63.4	87.7
Casing	75.1	77.6	72.1	62.5	61.3	64.5	60.7	51.1	70.5
sound pressure level [dB]									
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum dB[A]
Inlet	69.7	70.9	79.5	70.1	66.6	63.6	61.0	55.2	74.3
Outlet	69.5	74.5	81.5	78.5	74.5	67.5	66.5	55.5	79.8
Casing	67.2	69.7	64.2	54.6	53.4	56.6	52.8	43.2	62.6

measuring point at **1 m** Distance

The air handling unit will be installed in a common base frame. The base frame of the unit sections will be bolted together.

Material	galvanized	Height [mm]	100.0	Welded	No
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S.T.A.	Packaging
S.T.A.	Wooden pallet



AIR HANDLING UNIT DESCRIPTION

The modular section "UTA" series of Air Handling Units have been specifically designed to meet the thermodynamic and hydrometric requirements of most commercial and industrial applications through heating, cooling, humidifying and filtering the air supply

GENERAL DATA

Version **A - Supply air unit**
Execution **Indoor Unit**
AHU type-size **UTA45S 150**
Intallation **Indoor**
Atex

CASING SPECIFICATION

Profile type **P150.45** Made of **Aluminium**
Panel thck. **45.0 mm** Ins. type **Mineral wool 40 kg/m³**
External sheet **galvanized pre** Thck. **0.50 mm**
Internal sheet **galvanized** Thck. **0.80 mm**
Corners **Nylon**

AHU MAIN DATA

Airflow **14,110 m³/h**
ESP **650 Pa**
Power supply **3x400V-50Hz**

Casing strenght **D1(M)**
Unit SFP **2,482**

Cas. leak. -400 Pa **L2(M)**
Cas. leak. +700 Pa **L2(M)**

Thermal transmitt. **T4**
Thermal bridging **TB3**

F	Filter				
CFT - Bag Filter The filter consist of one or more plated filter mats installed on one or more guide rails for an easy withdraw of filter mats. Each guide rails have a single lever.					
Class	M5	According to	EN779:2012		
Init. pressure drop	50 Pa	Final pressure drop	250 Pa		
Medium material	Synthetic				
Quantity - Size	4 pcs ; 592.0 x 592.0 x 360.0 mm	2 pcs ; 592.0 x 287.0 x 360.0 mm			
Door with hinge and turn bold with dimensions : 400.0 x 1,292.0 mm					
Shut-off and balancing damper of air intake and exhaust. Damper blades contro-rotating type is actuated by levers. The dampers can be operated automatically by actuators or manually and can be mounted on the damper or outside of the AHU.					
Dimensions	1,592.0 x 1,210.0 x 130.0 mm		Flange dimendions	40 mm	
Frame material	galvanized	Thinckness	1,2 mm	Airflow	14,110 [m³/h]
Sandwich blades	galvanized	Thinckness	1,2 mm	air velocity	2.03 [m/s]
Bush material	Nylon	Shaft	ø 12 mm	EN-1751 Class	1

WTH	Heating coil				
CH1 - Heating coil H2O / Glycol					
A water heater consists of a frame, fin package, and manifold. The fin package is formed by tubes, to which fins are joined by means of mechanical expansion.					
The manifold which interconnect the fin package tubes, are fitted with an air-bleed and drain valve. The water heater is mounted in the housing by means of guides allowing its removal in case of defect or damage.					
Airvolume	14,110 m³/h	Capacity	77.57 kW	Face velocity	2.48 m/s
Air inlet	-20.00 °C 100.0 %	Air outlet	-3.71 °C 26.28 %	Air pressure drop	131 Pa
Water inlet	3.43 °C	Water Outlet	-1.28 °C	Pressure drop water	41.00 kPa
Medium water	Ethylen Glycol	Water flow	4.44 l/s	Connection	IN 2" 1/2 / OUT 2" 1/2

WTK	Cooling coil				
CK1 - Cooling coil H2O / Glycol					
A chilled water cooling coil consists of a frame, fin package, and manifold. The fin package is formed by tubes, to which fins are joined by means of mechanical expansion.					
The manifold which interconnect the fin package tubes, are fitted with an air-bleed and drain valve. The chilled water cooling coil is mounted in the housing by means of guides allowing its removal in case of defect or damage.					
Airflow	14,110 m³/h	Capacity	176.24 kW	air velocity	2.65 m/s
Air in	32.00 °C 45.0 %	Air out	10.00 °C 100.0 %	Air pressure drop	238 Pa
Water inlet	4.00 °C	Water outlet	10.00 °C	Pressure drop water	29.92 kPa
Medium type	Water	Water flow	7.0100 l/s	Connection	IN 2" ½ - OUT 2" ½
Fully welded flat drip tray complete with drain connection installed on the bottom panels.					
Drip pan is made in		AISI 304			
Drop eliminator frame made in		galvanized	blade in	galvanized	

VF	Plug fan		
<p>This fan has no spiral housing and is directly driven by an electric motor via its shaft. The electric motor is mounted on the fan frame by a base plate. The fan structural frame is fixed to the unit housing by means of vibration insulator. A flexible duct connection prevents fan pressure flange vibration.</p>			
<table> <tr> <td> Fan data Manufacturer/Model Comefri - NPL 630 S.4-6-11-IE2 Air volume 14,110 m³/h External static pressure 650 Pa Total static pressure 1,669 Pa Fan shaft power 8.77 kW Impeller speed 1,717 Rpm efficiency 74.55 % outlet velocity m/s </td><td> Electric motor data Power 11.00 kW Power supply 3x400 V - 50 Hz Protection IP55 Poles 6 Speed 970 Rpm Vibration damper type ? </td></tr> </table>		Fan data Manufacturer/Model Comefri - NPL 630 S.4-6-11-IE2 Air volume 14,110 m³/h External static pressure 650 Pa Total static pressure 1,669 Pa Fan shaft power 8.77 kW Impeller speed 1,717 Rpm efficiency 74.55 % outlet velocity m/s	Electric motor data Power 11.00 kW Power supply 3x400 V - 50 Hz Protection IP55 Poles 6 Speed 970 Rpm Vibration damper type ?
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Door with hinge and lever with dimensions : 500.0 x 1,292.0 mm			
Opening dimensions 388.0 x 388.0 mm			

WTE	Electric heater				
CEE - Electric heater					
A electric heater consists of a frame, heating rods, and safety thermostat. The heating rods could be “U” or “I” shaped.					
The heating rods will be interconnect to the connection box according to the control required. The electric heater is mounted in the housing by means of guides allowing its removal in case of defect or damage.					
Airvolume	14,110 m³/h	Capacity	70.88 kW	Face velocity	2.53 m/s
Air inlet	10.00 °C %	Air outlet	25.00 °C %	Air pressure drop	79 Pa
Power supply	400 - 3 - 50 V-ph-Hz	Step. No.	/ 70.88 - - - - -		
Automatic safety thermostat range 30°C÷90°C			TR-711N		

UL	Turning section
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WTH	Heating coil				
CH1 - Heating coil H2O / Glycol					
A water heater consists of a frame, fin package, and manifold. The fin package is formed by tubes, to which fins are joined by means of mechanical expansion.					
The manifold which interconnect the fin package tubes, are fitted with an air-bleed and drain valve. The water heater is mounted in the housing by means of guides allowing its removal in case of defect or damage.					
Airvolume	14,110 m³/h	Capacity	97.50 kW	Face velocity	2.46 m/s
Air inlet	4.40 °C %	Air outlet	25.00 °C %	Air pressure drop	22 Pa
Water inlet	70.00 °C	Water Outlet	50.00 °C	Pressure drop water	14.52 kPa
Medium water	Water	Water flow	1.1900 l/s	Connection	1" ¼ " / 1" ¼ "

F	Filter		
CFT - Bag Filter The filter consist of one or more cassettes with plated filter mats. The cassettes are designed for easy replace of filter mats. Each cassette is fitted with a sealing strip.			
Class	F9	According to	EN779:2012
Init. pressure drop	180 Pa	Final pressure drop	250 Pa
Medium material	Synthetic		
Quantity - Size	4 pcs ; 592.0 x 592.0 x 535.0 mm	2 pcs ; 592.0 x 287.0 x 535.0 mm	
Door with hinge and turn bold with dimensions : 500.0 x 1,292.0 mm			

DB Steam humidifier

The steam humidifier consists of a steam distributor, which can be connected to its own steam generator or from another steam source. The steam distributor connection to pressure steam system is established on the outer side of the housing back wall.

The steam generator will be installed outside the AHU casing.

Air inlet	25.00 °C	3.0 %	Air outlet	25.00 °C	50.0 %	Capacity	157.74 kg/
Steam distributor	4 pcs. - type DP125D40R0						

Fully welded flat drip tray complete with drain connection installed on the bottom panels.

Drip pan is made in **AISI 304**

TAS Drop eliminator

Shut-off and balancing damper of air intake and exhaust. Damper blades contro-rotating type is actuated by levers. The dampers can be operated automatically by actuators or manually and can be mounted on the damper or outside of the AHU.

Dimensions	1,592.0 x 1,210.0 x 130.0 mm	Flange dimensions	40 mm
Frame material	galvanized	Thickness	1,2 mm
Sandwich blades	galvanized	Thickness	1,2 mm
Bush material	Nylon	Shaft	ø 12 mm
		Airflow	14,110 [m³/h]
		air velocity	2.03 [m/s]
		EN-1751 Class	1

Fully welded flat drip tray complete with drain connection installed on the bottom panels.

Drip pan is made in **AISI 304**

Drop eliminator frame made in **galvanized** blade in **galvanized**

Noise calculation table

sound power level [dB]										Sum dB[A]	measuring point at	1 m	Distance
Frq. Hz	63	125	250	500	1000	2000	4000	8000					
Inlet	71.0	76.1	82.0	75.0	70.1	65.0	58.5	51.0		77.3			
Outlet	83.4	81.4	91.4	86.4	79.4	67.4	55.4	43.4		87.0			
Casing	78.6	78.7	74.2	64.5	65.1	68.1	65.3	58.0		73.7			
sound pressure level [dB]										Sum dB[A]	measuring point at	1 m	Distance
Frq. Hz	63	125	250	500	1000	2000	4000	8000					
Inlet	63.1	68.2	74.1	67.1	62.2	57.1	50.6	43.1		69.4			
Outlet	75.5	73.5	83.5	78.5	71.5	59.5	47.5	35.5		79.1			
Casing	70.7	70.8	66.3	56.6	57.2	60.2	57.4	50.1		65.8			

The air handling unit will be installed in a common base frame. The base frame of the unit sections will be bolted together.

Material	galvanized	Height [mm]	100.0	Welded	No
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S.T.A.	Packaging
S.T.A.	Wooden pallet