

# Power Play Max



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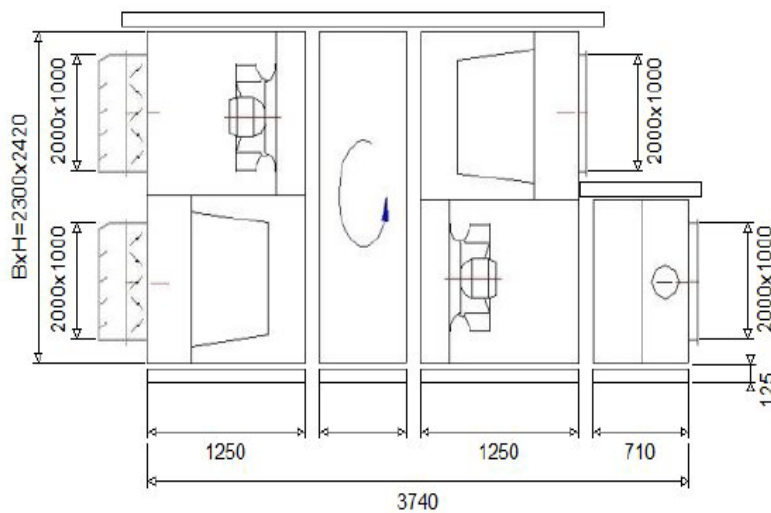
Projecto: UTAN 1

Posição: UTAN 1

Modelo: Power Play Max 90 T80 HYG G4+F7/F5 EG C3

## TECHNICAL SPECIFICATION

AHU size: 80



Atmosphere pressure:	[Pa]	101325
Air density:	[kg/m <sup>3</sup> ]	1,2
<b>AHU parameters</b>		
Supply air volume:	[m <sup>3</sup> /h]	19365
Static pressure:	[Pa]	200
Exhaust air volume:	[m <sup>3</sup> /h]	19365
Static pressure:	[Pa]	200
Design outdoor temperature winter:	[°C]	4
SFP (clean filters):	[kW/m <sup>3</sup> /s]	1,4
Full load I:	[A]	37,5

### Basic construction

Panels from two galvanized steel sheets filled with thermal and sound insulation  
fire-resistant min. wool ( $\lambda=0,039$  W/mK).

# Power Play Max



## AHU base frame

Separate, connected to each section

Panels thickness [mm] 45

## Unit weight

Weight (netto): [kg] 2220

## Pallets

A [mm] 800x2550  
 FVS [mm] 1600x2550  
 FVS+RO [mm] 1700x2550

## Accessories:

Roof

Inlet hood [mm] 2295x1204x300

Outlet hood [mm] 2295x1204x300

## Control automatics

C3

Rotary heat exchanger with frequency converter: RR-AH-2100-M-O-SN(2200x2200x310)-PN-A1-T

Frequency converter: ESMD371X2SFA

Designed for dry conditions

Diameter: 2100 mm

Wave height: 2,1 mm

Type: AH (HYGROSCOPIC AL)

		Heating		Cooling	
		Supply	Exhaust	Supply	Exhaust
Temp. efficiency	[%]	69		69,6	
Pressure drop	[Pa]	107	115	124	121
Velocity	[m/s]	3,43	3,62	3,77	3,69
Density	[kg/m <sup>3</sup> ]	1,22	1,2	1,17	1,18
<b>Inlet:</b>					
Air volume	[m <sup>3</sup> /h]	19365	19365	19365	19365
Temperature	[°C]	4,0	20,0	32,0	25,0
Relative humidity	[%]	80	50	40	50
Absolute humidity	[g/kg]	3,98	7,16	11,66	9,7
Enthalpy	[kJ/kg]	14,08	38,51	62,61	50,25
<b>Outlet:</b>					
Temperature	[°C]	15	9	27,1	29,9
Relative humidity	[%]	41	97	52	38
Absolute humidity	[g/kg]	4,3	6,84	11,46	9,89
Enthalpy	[kJ/kg]	26,46	26,07	55,76	57,09
<b>Energy recovery:</b>					
Energy transare(Sensible)	[kW]	76,69		35,32	
Free water	[kg/h]	0		0	

## SUPPLY AIR

# Power Play Max



## Damper with actuator

Aluminium profile air damper

Pressure drop	[Pa]	5
Actuator type		SM24

## Air filter:

Bag filter

Filter class: F7

Pressure drop (clean filter): 82 Pa

Pressure drop: 116 Pa

Recommended maximum pressure drop: (EN 13779:2007) 150 Pa

Velocity in the AHU filter section: 2,12 m/s

Dimensions bxdxh: 490x490x635 mm

Quantity of bags: 10

Quantity of filters: 4

Dimensions bxdxh: 490x592x635 mm

Quantity of bags: 10

Quantity of filters: 4

## Air cooler

Cu-Al-FeZn P60AR 2R-16T-2015A-2.5pa 8C 1 1/4"

Capacity	[kW]	37,0
	[kcal/h]	31820
Standard air volume	[Sm <sup>3</sup> /h]	19365
Velocity	[m/s]	2,9
Pressure drop	[Pa]	38
Inlet temperature	[°C]	27,1
Inlet rel. humidity	[%]	52
Outlet temperature	[°C]	22,15
Outlet rel. humidity	[%]	69
Absolute humidity	[g/kg]	11,48
Fluid		Water
Inlet temperature	[°C]	7
Outlet temperature	[°C]	12
Internal volume	[dm <sup>3</sup> /h]	6359
Pressure drop	[kPa]	19,5
Etilenglycol by volume	[%]	0
Condensation	[kg/h]	6,00
Technical specification		
Tubes		Copper
Plates		Aluminium
Volume	[m <sup>3</sup> ]	0,0163
Useful space	[m <sup>2</sup> ]	84,91
Fin pitch	[mm]	2,5
Connection tubes	["]	1 1/4"

Restricions

# Power Play Max



## Droplet separator with drainage

Pressure drop [Pa] 26

## Fan with frequency converter

Type ER80C  
Wheel diameter [mm] 800  
Air volume [m<sup>3</sup>/h] 19365  
Static pressure [Pa] 509  
P(L) [kW] 4,47  
Speed [1/min] 993  
Total efficiency [%] 46,7

## Motor

Power [kW] 7,5  
Speed [1/min] 1455  
Frequency [Hz] 50  
FOP [Hz] 34  
Rated current at 400V 50Hz [A] 15,2  
One speed with frequency converter  
Power input [kW] 5,86  
Frequency converter **ESV752N04TFD**

## EXHAUST AIR

### Damper with actuator

Aluminium profile air damper  
Pressure drop [Pa] 5  
Actuator type SM24

### Air filter:

Bag filter  
Filter class: F5  
Pressure drop (clean filter): 47 Pa  
Pressure drop: 98 Pa  
Recommended maximum pressure drop: (EN 13779:2007) 150 Pa  
Velocity in the AHU filter section: 2,12 m/s

Dimensions bxxhxl: 490x490x635 mm

Quantity of bags: 10

Quantity of filters: 4

Dimensions bxxhxl: 490x592x635 mm

Quantity of bags: 10

Quantity of filters: 4

### Fan with frequency converter

Type ER80C  
Wheel diameter [mm] 800  
Air volume [m<sup>3</sup>/h] 19365  
Static pressure [Pa] 424  
P(L) [kW] 3,81  
Speed [1/min] 945  
Total efficiency [%] 45

# Power Play Max



## Motor

Power	[kW]	5,5
Speed	[1/min]	1455
Frequency	[Hz]	50
FOP	[Hz]	32
Rated current at 400V 50Hz	[A]	11,4
One speed with frequency converter		
Power input	[kW]	5,06
Frequency converter		ESV552N04TFC

## ACOUSTIC DATA

### Sound power level

#### To the air ducts

F[Hz]		Supply air volume		Exhaust air volume	
		Inlet	Outlet	Inlet	Outlet
63	[dB]	73,2	78,6	74,0	78,5
125	[dB]	75,5	81,9	77,1	80,8
250	[dB]	74,1	85,0	78,4	82,0
500	[dB]	70,2	84,4	75,0	80,4
1000	[dB]	59,8	80,3	65,5	74,6
2000	[dB]	55,8	75,1	60,4	72,3
4000	[dB]	49,2	70,8	53,3	68,9
8000	[dB]	41,4	64,9	46,1	64,6
dB(A)		70,4	85,4	74,9	81,5

#### To surrounding (1m)

63	[dB]	70,3
125	[dB]	71,2
250	[dB]	67,8
500	[dB]	50,6
1000	[dB]	50,1
2000	[dB]	43,8
4000	[dB]	33,6
8000	[dB]	27,3
dB(A)		61,3