

Power Play Max



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Projecto: UTAN 2

Posição: UTAN 2

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

TECHNICAL SPECIFICATION

AHU size: 80



Atmosphere pressure:	[Pa]	101325
Air density:	[kg/m ³]	1,2

AHU parameters

Supply air volume:	[m ³ /h]	17665
Static pressure:	[Pa]	200

Exhaust air volume:	[m ³ /h]	17665
Static pressure:	[Pa]	200

Design outdoor temperature winter:	[°C]	4
SFP (clean filters):	[kW/m ³ /s]	1,3

Full load I:	[A]	33,6
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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] 2212

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	[%]	71		71,3	
Pressure drop	[Pa]	98	105	113	110
Velocity	[m/s]	3,13	3,31	3,44	3,36
Density	[kg/m ³]	1,22	1,2	1,17	1,18
Inlet:					
Air volume	[m ³ /h]	17665	17665	17665	17665
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
Outlet:					
Temperature	[°C]	15,4	8,8	27	30
Relative humidity	[%]	41	98	52	38
Absolute humidity	[g/kg]	4,35	6,79	11,46	9,89
Enthalpy	[kJ/kg]	26,14	26,54	55,88	56,97
Energy recovery:					
Energy transfare(Sensible)	[kW]	72,64		32,93	
Free water	[kg/h]	0		0	

SUPPLY AIR

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Damper with actuator

Aluminium profile air damper

Pressure drop	[Pa]	4
Actuator type		SM24

Air filter:

Bag filter

Filter class: F7

Pressure drop (clean filter): 73 Pa

Pressure drop: 111 Pa

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

Velocity in the AHU filter section: 1,93 m/s

Dimensions b x h x d: 490x490x635 mm

Quantity of bags: 10

Quantity of filters: 4

Dimensions b x h x d: 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]	33,0
	[kcal/h]	28380

Standard air volume	[Sm ³ /h]	17665
Velocity	[m/s]	2,65
Pressure drop	[Pa]	33

Inlet temperature	[°C]	27,0
Inlet rel. humidity	[%]	52

Outlet temperature	[°C]	22,19
Outlet rel. humidity	[%]	68
Absolute humidity	[g/kg]	11,4

Fluid		Water
Inlet temperature	[°C]	7
Outlet temperature	[°C]	12
Internal volume	[dm ³ /h]	5672
Pressure drop	[kPa]	15,86
Etilenglycol by volume	[%]	0
Condensation	[kg/h]	5,00

Technical specification

Tubes		Copper
Plates		Aluminium
Volume	[m ³]	0,0163
Useful space	[m ²]	84,91
Fin pitch	[mm]	2,5
Connection tubes	["]	1 1/4"

Restrictions

Power Play Max



Droplet separator with drainage

Pressure drop [Pa] 23

Fan with frequency converter

Type ER80C

Wheel diameter [mm] 800

Air volume [m³/h] 17665

Static pressure [Pa] 484

P(L) [kW] 3,84

Speed [1/min] 942

Total efficiency [%] 46,5

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] 5,11

Frequency converter **ESV552N04TFC**

EXHAUST AIR

Damper with actuator

Aluminium profile air damper

Pressure drop [Pa] 4

Actuator type SM24

Air filter:

Bag filter

Filter class: F5

Pressure drop (clean filter): 42 Pa

Pressure drop: 96 Pa

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

Velocity in the AHU filter section: 1,93 m/s

Dimensions b x h x l: 490x490x635 mm

Quantity of bags: 10

Quantity of filters: 4

Dimensions b x h x l: 490x592x635 mm

Quantity of bags: 10

Quantity of filters: 4

Fan with frequency converter

Type ER80C

Wheel diameter [mm] 800

Air volume [m³/h] 17665

Static pressure [Pa] 410

P(L) [kW] 3,3

Speed [1/min] 897

Total efficiency [%] 45,9

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Motor		
Power	[kW]	5,5
Speed	[1/min]	1455
Frequency	[Hz]	50
FOP	[Hz]	31
Rated current at 400V 50Hz	[A]	11,4
One speed with frequency converter		
Power input:	[kW]	4,38
Frequency converter		ESV552N04IFC

ACOUSTIC DATA

Sound power level

To the air ducts

F[Hz]		Supply air volume		Exhaust air volume	
		Inlet	Outlet	Inlet	Outlet
63	[dB]	72,2	77,5	72,9	77,3
125	[dB]	74,4	80,7	75,9	79,6
250	[dB]	73,0	83,8	77,1	80,8
500	[dB]	69,0	83,1	73,8	79,1
1000	[dB]	58,8	79,0	64,3	73,3
2000	[dB]	54,7	73,8	59,2	70,9
4000	[dB]	48,2	69,5	52,2	67,5
8000	[dB]	40,5	63,6	45,1	63,2
dB(A)		69,3	84,1	73,7	80,1

To surrounding (1m)

63	[dB]	69,3
125	[dB]	70,1
250	[dB]	66,8
500	[dB]	49,8
1000	[dB]	49,3
2000	[dB]	43,0
4000	[dB]	33,0
8000	[dB]	26,7
dB(A)		60,3