SURNA®
Cultivation Technologies

ENVIROPRO™
SURNA MINI AIR HANDLER

2-PIPE: 4-ROW COOLING
MODELS SHAU(4R)-XXX-VX-X-AECM-L

The Surna Mini Air Handler (SHAU) is an ideal air handling unit for suspended ceiling or ground-mounted installation and suitable for ducted air distribution. It is constructed of sandwich panels to achieve low noise level during operation as well as wipedown construction to GMP standards. The SHAU is shipped completely assembled and motor wiring is introduced into the control box to reduce on-site installation time and manpower. Every unit is thoroughly inspected and tested to prevent potential problems during startup. The unit contains side panels that provide easy access to fans, motors and filters.

The SHAU is available standard in four different sizes with other custom sizes available upon request, ensuring a solution for any size environment. Utilizing designs with multiple units within each grow space allows for distributed airflow throughout while offering redundancy if a unit fails or needs maintenance.

When applied into a chilled water system with automation, this system provides the ability to change entering water temperatures, flow rate, and fan speed to provide real-time changes to the cooling or dehumidification capacity provided at any given point in order to precisely manage temperature and humidity. In addition to providing precise climates, it also allows the flexibility to modify the system output capacity as conditions in the facility change.

Sensible heat ratio (SHR) is a term used to describe the amount of sensible cooling (temperature reduction) vs latent cooling (dehumidification) for any given air conditioning unit. By coupling with a properly designed chilled water system and lower entering water temperatures, SHAU units have been constructed to have more latent cooling than comfort cooling units of similar tonnage.

This unit utilizes an electronically commuted (EC) motor. An EC motor offers multiple energy-saving advantages. This includes running cooler (producing less waste heat), performing only at the speed required (saving electricity), and offering significantly greater controllability than constant volume permanent split capacitor (PSC) motors.

FEATURES AND BENEFITS

GMP-Compliant
With HVAC design, this means consistent parameters, effective filtration, airflow patterns specifically designed for avoidance of cross contamination, and more.

Heat Recovery
When coupled with a Surna heat recovery chiller plant, heat is captured as a byproduct of cooling (for cooling and dehumidification), rather than being rejected to the outside.

Energy Efficient
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SPECIFICATIONS

Custom configurations and sizes may be available upon request

PHYSICAL			SHAU(4R)-200-VX-X-AECM-L	SHAU(4R)-400-VX-X-AECM-L	SHAU(4R)-600-VX-X-AECM-L	SHAU(4R)-800-VX-X-AECM-L
Length		in (mm)	50-3/8 (1279.53)	66-1/8 (1679.58)	74 (1879.6)	85-13/16 (2179.64)
Width		in (mm)	40-9/16 (1030.29)			
Height		in (mm)	25-3/16 (639.76)			
Weight		lbs (kg)	330 (149.69)	410 (185.97)	490 (22.26)	560 (254.01)
Cooling Water Connections	In Out	in (mm)	1-1/4 (31.75)			
Heating Water Connections	In Out	in (mm)	1 (25.4)			
Condensate Drainage Connection		in (mm)	1 (25.4)			
ELECTRICAL & FAN MOTOR						
Power Supply		V/PH/Hz	220/1/60			
Full Load Amps (FLA)		A	1.63	2.17	4.34	
Min. Circuit Ampacity (MCA)		A	2.04	2.71	5.43	
Max. Overcurrent Protection (MOP)		A	15			
Fan Motor Power @ Max. Speed		W	375	500	1000	
CERTIFICATIONS						
			ETL			
CHILLED WATER COIL PERFORMANCE						
Nominal Output		BTU/Hr (kW)	53347 (15.63)	95657 (28.03)	143556 (42.07)	182100 (53.34)
Rated Airflow		CFM (m^3/h)	1321 (2244)	2417 (4107)	3739 (6353)	4835 (8215)
Water Flow Rate		GPM (L/h)	10.5 (2385)	18..9 (4293)	28.4 (6450)	36.0 (8176)
Water Pressure Drop		Ft/Head (kPa)	6.1 (18.23)	7.1 (21.22)	15.9 (47.51)	12.5 (37.35)

Note::
a. Assumes entering water temperature of 45° F (7.22° C)
b. Airflow is adjustable
c. Data assumes specified GPM
d. All dimensions are approximate within 1/16 of an inch of those indicated.

P 303.993.5271
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July 2021
All data subject to change without notice

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ENVIROPRO™
SURNA MINI AIR HANDLER

4-PIPE: 4-ROW COOLING AND 1-ROW REHEAT
MODELS SHAU(4R+1)-XXX-PX-X-AECM-L

The Surna Mini Air Handler (SHAU) is an ideal air handling unit for suspended ceiling or ground-mounted installation and suitable for ducted air distribution. It is constructed of sandwich panels to achieve low noise level during operation as well as wipedown construction to GMP standards. The SHAU is shipped completely assembled and motor wiring is introduced into the control box to reduce on-site installation time and manpower. Every unit is thoroughly inspected and tested to prevent potential problems during startup. The unit contains side panels that provide easy access to fans, motors and filters.

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Energy Efficient
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SPECIFICATIONS

Custom configurations and sizes may be available upon request

PHYSICAL			SHAU(4R+1)-200-PX-X-AECM-L	SHAU(4R+1)-400-PX-X-AECM-L	SHAU(4R+1)-600-PX-X-AECM-L	SHAU(4R+1)-800-PX-X-AECM-L
Length		in (mm)	50-3/8 (1279.53)	66-1/8 (1679.58)	74 (1879.6)	85-13/16 (2179.64)
Width		in (mm)	40-9/16 (1030.29)			
Height		in (mm)	25-3/16 (639.76)			
Weight		lbs (kg)	340 (154.22)	430 (195.05)	510 (231.33)	580 (263.08)
Cooling Water Connections	In Out	in (mm)	1-1/4 (31.75)			
Heating Water Connections	In Out	in (mm)	1 (25.4)			
Condensate Drainage Connection		in (mm)	1 (25.4)			
ELECTRICAL & FAN MOTOR						
Power Supply		V/PH/Hz	220/1/60			
Full Load Amps (FLA)		A	1.63	2.17	4.34	
Min. Circuit Ampacity (MCA)		A	2.04	2.71	5.43	
Max. Overcurrent Protection (MOP)		A	15			
Fan Motor Power @ Max. Speed		W	375	500	1000	
CERTIFICATIONS						
			ETL			
CHILLED WATER COIL PERFORMANCE						
Nominal Output		BTU/Hr (kW)	51867 (15.2)	94241 (27.62)	141477 (41.46)	179405 (52.58)
Rated Airflow		CFM (m^3/h)	1265 (2149)	2379 (4042)	3658 (6215)	44759 (76046)
Water Flow Rate		GPM (L/h)	10.2 (2317)	18.6 (4225)	27.9 (6337)	35.4 (8040)
Water Pressure Drop		Ft/Head (kPa)	5.8 (17.33)	6.9 (20.62)	15.5 (46.32)	12.2 (36.46)
REHEAT COIL PERFORMANCE						
Hydronic Heating Capacity (EWT 140°F/60°C)		BTU/Hr (kW)	48591 (14.24)	85942 (25.19)	123502 (36.19)	157284 (46.1)
Water Flow Rate		GPM (L/h)	2.4 (545)	4.3 (977)	6.2 (1408)	7.8 (1772)
Water Pressure Drop		Ft/Head (kPa)	3.2 (9.56)	1.7 (5.08)	3.6 (10.76)	2.0 (59.77)

Note::
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b. Airflow is adjustable
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d. All dimensions are approximate within 1/16 of an inch of those indicated.

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SURNA MINI AIR HANDLER

4-PIPE: 4-ROW COOLING AND 2-ROW REHEAT
MODELS SHAU(4R+2)-XXX-PX-X-AECM-L

The Surna Mini Air Handler (SHAU) is an ideal air handling unit for suspended ceiling or ground-mounted installation and suitable for ducted air distribution. It is constructed of sandwich panels to achieve low noise level during operation as well as wipedown construction to GMP standards. The SHAU is shipped completely assembled and motor wiring is introduced into the control box to reduce on-site installation time and manpower. Every unit is thoroughly inspected and tested to prevent potential problems during startup. The unit contains side panels that provide easy access to fans, motors and filters.

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Energy Efficient
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SPECIFICATIONS

Custom configurations and sizes may be available upon request

PHYSICAL			SHAU(4R+2)-200-PX-X-AECM-L	SHAU(4R+2)-400-PX-X-AECM-L	SHAU(4R+2)-600-PX-X-AECM-L	SHAU(4R+2)-800-PX-X-AECM-L
Length		in (mm)	50-3/8 (1279.53)	66-1/8 (1679.58)	74 (1879.6)	85-13/16 (2179.64)
Width		in (mm)	40-9/16 (1030.29)			
Height		in (mm)	25-3/16 (639.76)			
Weight		lbs (kg)	353 (160.12)	445 (201.85)	530 (240.40)	600 (272.16)
Cooling Water Connections	In Out	in (mm)	1-1/4 (31.75)			
Heating Water Connections	In Out	in (mm)	1 (25.4)			
Condensate Drainage Connection		in (mm)	1 (25.4)			
ELECTRICAL & FAN MOTOR						
Power Supply		V/PH/Hz	220/1/60			
Full Load Amps (FLA)		A	1.63	2.17	4.34	
Min. Circuit Ampacity (MCA)		A	2.04	2.71	5.43	
Max. Overcurrent Protection (MOP)		A	15			
Fan Motor Power @ Max. Speed		W	412	765	1300	1530
CERTIFICATIONS						
			ETL			
CHILLED WATER COIL PERFORMANCE						
Nominal Output		BTU/Hr (kW)	50016 (14.66)	93533 (27.41)	138359 (40.55)	178057 (52.18)
Rated Airflow		CFM (m^3/h)	1209 (2054)	2341 (3977)	3577 (6077)	4683 (7956)
Water Flow Rate		GPM (L/h)	9.9 (2249)	18.5 (4202)	27.3 (6201)	35.2 (7995)
Water Pressure Drop		Ft/Head (kPa)	5.4 (16.14)	6.8 (20.32)	14.9 (44.53)	12.0 (35.86)
REHEAT COIL PERFORMANCE						
Hydronic Heating Capacity (EWT 140°F/60°C)		BTU/Hr (kW)	71129 (20.85)	131312 (38.48)	190464 (55.82)	246499 (72.24)
Water Flow Rate		GPM (L/h)	3.5 (795)	6.5 (1476)	9.5 (2158)	12.3 (2794)
Water Pressure Drop		Ft/Head (kPa)	1.9 (5.68)	1.0 (2.99)	2.3 (6.87)	1.3 (3.88)

Note::
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b. Airflow is adjustable
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SURNA MINI AIR HANDLER

2-PIPE: 6-ROW COOLING
MODELS SHAU(6R)-XXX-VX-X-AECM-L

The Surna Mini Air Handler (SHAU) is an ideal air handling unit for suspended ceiling or ground-mounted installation and suitable for ducted air distribution. It is constructed of sandwich panels to achieve low noise level during operation as well as wipedown construction to GMP standards. The SHAU is shipped completely assembled and motor wiring is introduced into the control box to reduce on-site installation time and manpower. Every unit is thoroughly inspected and tested to prevent potential problems during startup. The unit contains side panels that provide easy access to fans, motors and filters.

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SPECIFICATIONS

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PHYSICAL			SHAU(6R)-200-VX-X-AECM-L	SHAU(6R)-400-VX-X-AECM-L	SHAU(6R)-600-VX-X-AECM-L	SHAU(6R)-800-VX-X-AECM-L
Length		in (mm)	50-3/8 (1279.53)	66-1/8 (1679.58)	74 (1879.6)	85-13/16 (2179.64)
Width		in (mm)	40-9/16 (1030.29)			
Height		in (mm)	25-3/16 (639.76)			
Weight		lbs (kg)	353 (160.12)	445 (201.85)	530 (240.40)	600 (272.16)
Cooling Water Connections	In Out	in (mm)	1-1/4 (31.75)			
Heating Water Connections	In Out	in (mm)	1 (25.4)			
Condensate Drainage Connection		in (mm)	1 (25.4)			
ELECTRICAL & FAN MOTOR						
Power Supply		V/PH/Hz	220/1/60			
Full Load Amps (FLA)		A	1.63	2.17	4.34	
Min. Circuit Ampacity (MCA)		A	2.04	2.71	5.43	
Max. Overcurrent Protection (MOP)		A	15			
Fan Motor Power @ Max. Speed		W	375	500	1000	
CERTIFICATIONS						
			ETL			
CHILLED WATER COIL PERFORMANCE						
Nominal Output		BTU/Hr (kW)	54859 (16.07)	107061 (31.38)	148861 (43.63)	198866 (58.28)
Rated Airflow		CFM (m^3/h)	1209 (2054)	2341 (3977)	3577 (6077)	4683 (7957)
Water Flow Rate		GPM (L/h)	10.8 (2453)	21.1 (4792)	29.4 (6678)	39.3 (8926)
Water Pressure Drop		Ft/Head (kPa)	3.2 (9.57)	12.9 (38.55)	3.8 (113.56)	7.2 (21.52)

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4-PIPE: 6-ROW COOLING AND 1-ROW REHEAT
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SPECIFICATIONS

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PHYSICAL			SHAU(6R+1)-200-PX-X-AECM-L	SHAU(6R+1)-400-PX-X-AECM-L	SHAU(6R+1)-600-PX-X-AECM-L	SHAU(6R+1)-800-PX-X-AECM-L
Length		in (mm)	50-3/8 (1279.53)	66-1/8 (1679.58)	74 (1879.6)	85-13/16 (2179.64)
Width		in (mm)	40-9/16 (1030.29)			
Height		in (mm)	25-3/16 (639.76)			
Weight		lbs (kg)	365 (165.56)	460 (208.65)	550 (249.47)	620 (281.23)
Cooling Water Connections	In Out	in (mm)	1-1/4 (31.75)			
Heating Water Connections	In Out	in (mm)	1 (25.4)			
Condensate Drainage Connection		in (mm)	1 (25.4)			
ELECTRICAL & FAN MOTOR						
Power Supply		V/PH/Hz	220/1/60			
Full Load Amps (FLA)		A	1.63	2.17	4.34	
Min. Circuit Ampacity (MCA)		A	2.04	2.71	5.43	
Max. Overcurrent Protection (MOP)		A	15			
Fan Motor Power @ Max. Speed		W	375	500	1000	
CERTIFICATIONS						
			ETL			
CHILLED WATER COIL PERFORMANCE						
Nominal Output		BTU/Hr (kW)	52828 (15.48)	105441 (30.9)	146624 (42.97)	195855 (57.4)
Rated Airflow		CFM (m^3/h)	1153 (1959)	2303 (3913)	3497 (5941)	4607 (7827)
Water Flow Rate		GPM (L/h)	10.4 (2362)	20.8 (4724)	29.0 (6587)	38.7 (8790)
Water Pressure Drop		Ft/Head (kPa)	3.0 (8.96)	12.6 (37.65)	3.7 (11.06)	7.0 (20.92)
REHEAT COIL PERFORMANCE						
Hydronic Heating Capacity (EWT 140°F/60°C)		BTU/Hr (kW)	45256 (13.26)	83881 (24.58)	119615 (35.06)	153513 (44.99)
Water Flow Rate		GPM (L/h)	2.3 (522)	4.2 (954)	6.0 (1363)	7.7 (1749)
Water Pressure Drop		Ft/Head (kPa)	2.9 (8.67)	1.6 (4.78)	3.4 (10.16)	1.9 (5.68)

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