

Main Features:



Coil

Herringbone wavy fins, mechanically bonded copper/aluminum coil with 14 fins per inch 1/2" nominal tubes for hot water coils and steam coils.

Coils

Herringbone wavy fins, which result high in capacity of coils. Coils are tested at 100 psig air under water. Fins are continuous across width and depth of coils vertically oriented to resist against a collection of dirt and foreign particles

Enclosure

Steady casing protects unit against shocks. Durable and attractive blue or white epoxy powder coating is standard.

Louvers

Adjustable horizontal louvers are standard for adjustable of air distribution.

Mounting Hardware

Heavy duty threaded hardware allows unit to be mounted with threaded rod. The isolators filter unwanted vibrations.

Maximum Airflow

Die-formed venture inlet draws air smoothly into unit for maximum airflow.

Electro fan

Direct drive motors, continuous lubricated for extended motor life.

Low operating costs.

Quiet operation

Fans blades are so designed to move air efficiently with minimum power requirement

Finger Proof Fan Guard

Standard equipment on the basis of CSA, OSHA

Securely mounts motor to unit while absorbing vibration with rubber isolation mounts.

TABLE 1
Hot water unit heaters
Standard specifications

UNIT SIZE	UHA045	UHA050	UHA055	UHA060	UHA065
Nominal Airflow Rate (CFM)	800	1000	1200	1600	1800
Heating Coil					
Heating Capacity (btu/hr)	37400	51700	67000	78200	95800
Hot Waterflow Rate (gpm)	7.500	10.300	13.400	15.600	19.200
Outlet Air Temperature (°F)	104.3	107.3	108.4	109.8	110.7
Air Pressure Drop (inch of water)	0.492	0.366	0.288	0.375	0.289
Water Pressure Drop (ft of water)	2.455	3.160	3.809	1.144	1.427
Fan Diameter (mm)	295	295	345	345	395
Nominal Motor Power (w)	130	130	170	170	240
Dimensions(mm)					
Height	450	500	550	600	650
Width	450	500	550	600	650
Depth	300	300	300	300	300
Weight (kg)	21	24	27	31	34

UNIT SIZE	UHA070	UHA075	UHA080	UHA090	UHA095
Nominal Airflow Rate (CFM)	2200	2600	3000	3400	4000
Heating coil					
Heating Capacity (btu/hr)	120300	146500	170000	210500	248000
Hot Waterflow Rate (gpm)	24.00	30.10	34.90	43.30	51
Outlet Air Temperature (°F)	112.2	113.9	114.2	119.5	119.6
Air Pressure Drop (inch of water)	0.273	0.253	0.256	0.190	0.193
Water Pressure Drop (ft of water)	1.721	2.240	2.871	2.650	3.933
Fan Diameters (mm)	395	445	445	495	495
Nominal Motor Power (w)	240	250	250	420	420
Dimensions(mm)					
Height	700	750	800	900	950
Width	700	750	800	900	950
Depth	300	300	300	300	300
WEIGHT (kg)	37	42	49	56	62

NOTE:

- Heating ratings are based on 180/170°F inlet and outlet water temperature and 60°F entering air dry-bulb temperatures.
- All calculations are based on sea level altitude.

TABLE 2
Steam unit heaters
Standard specifications

UNIT SIZE	UHB045	UHB050	UHB055	UHB060	UHB065
Nominal Airflow Rate (CFM)	800	1000	1200	1600	1800
Heating Coil					
Heating Capacity (btu/hr)	49200	63740	82580	10870	126370
Outlet Air Temperature (°F)	116.7	119.0	122.2	123.1	124.5
Air Pressure Drop (inch of water)	0.510	0.443	0.336	0.359	0.311
Condensate (lb/hr)	52.70	68.60	88.90	116.3	136.0
Fan Diameter (mm)	295	295	345	345	395
Nominal Motor Power (w)	130	130	170	170	240
dimensions(mm)					
Height	450	500	550	600	650
Width	450	500	550	600	650
Depth	300	300	300	300	300
weight (kg)	23	27	29	33	36

UNIT SIZE	UHB070	UHB075	UHB080	UHB090	UHB095
Nominal Airflow Rate (CFM)	2200	2600	3000	3400	4000
Heating coil					
Heating Capacity (btu/hr)	153040	186670	215940	260925	308230
Outlet Air Temperature (°F)	125.0	126.4	126.6	131.0	131.3
Air Pressure Drop (inch of water)	0.322	0.286	0.283	0.221	0.218
Condensate (lb/hr)	164.8	200.9	232.5	280.9	331.8
Fan Diameter (mm)	395	445	445	495	495
Nominal Motor Power (w)	240	250	250	420	420
Dimensions(mm)					
Height	700	750	800	900	950
Width	700	750	800	900	950
Depth	300	300	300	300	300
Weight (kg)	39	44	52	58	64

NOTE:

- Heating ratings are based on 180/170°F inlet and outlet water temperature and 60°F entering air dry-bulb temperatures.
- All calculations are based on sea level altitude.

TABLE 3
Hot Water
Correction Factor

Inlet Water Temperature	Inlet Air Temperature (°F)							
Deg (°F)	30	40	50	60	70	80	90	100
150	1.035	0.940	0.840	0.743	0.650	0.570	0.475	0.395
160	1.115	1.025	0.930	0.835	0.745	0.650	0.560	0.475
170	1.210	1.105	1.050	0.920	0.825	0.735	0.640	0.560
180	1.295	1.195	1.090	1.000	0.905	0.815	0.720	0.710
190	1.380	1.275	1.175	1.080	0.980	0.895	0.805	0.790
200	1.465	1.360	1.265	1.165	1.070	0.980	0.885	0.875
210	1.545	1.440	1.345	1.240	1.150	1.060	0.965	0.955
220	1.640	1.535	1.430	1.325	1.235	1.140	1.050	1.035
230	1.720	1.620	1.510	1.405	1.315	1.220	1.130	1.115
240	1.810	1.700	1.600	1.500	1.395	1.300	1.210	1.150
250	1.895	1.785	1.690	1.580	1.480	1.380	1.280	1.185

TABLE 4
Air Quantity (CFM)
Correction Factor

Inlet Air Temperature (°F)	30	40	50	60	70	80	90	100
Correction Factor	1.060	1.040	1.020	1.000	0.982	0.964	0.945	0.930

TABLE 5
Steam
Correction Factor

Steam Pressure	Inlet Air Temperature (°F)							
(psig)	30	40	50	60	70	80	90	100
0	0.849	0.802	0.756	0.709	0.662	0.616	0.569	0.522
2	0.880	0.833	0.786	0.740	0.693	0.646	0.600	0.553
5	0.920	0.873	0.827	0.780	0.733	0.687	0.640	0.563
10	0.977	0.930	0.884	0.837	0.791	0.744	0.696	0.650
15	1.026	0.978	0.932	0.885	0.838	0.792	0.745	0.698
20	1.067	1.021	0.974	0.927	0.881	0.834	0.787	0.732
30	1.139	1.092	1.045	1.000	0.935	0.906	0.860	0.813
40	1.198	1.151	1.104	1.058	1.011	0.965	0.918	0.871
50	1.250	1.202	1.156	1.109	1.063	1.016	0.969	0.923
60	1.294	1.248	1.201	1.154	1.108	1.061	1.014	0.968
80	1.372	1.325	1.273	1.231	1.186	1.139	1.093	1.045
100	1.436	1.390	1.343	1.297	1.250	1.203	1.156	1.110
125	1.506	1.461	1.414	1.367	1.320	1.273	1.226	1.181
150	1.568	1.521	1.474	1.427	1.380	1.335	1.288	1.240
175	1.622	1.575	1.529	1.482	1.435	1.389	1.342	1.292
200	1.670	1.628	1.576	1.531	1.484	1.436	1.390	1.344

TABLE 6
Properties of Steam

Pressuer (psig)	0	2	5	10	15	20	30	40
Temperature (°F)	212	218	227	239	250	259	274	287
Latent Heat (btu/lb)	970	966	961	952	945	939	929	919
Pressure (psig)	50	60	80	100	125	150	175	200
Temperature (F)	298	307	324	338	353	366	377	388
Latent Heat (btu/lb)	911	904	891	881	868	857	847	838

TABLE 7
Hot Water Unit Heaters
Connections Sizes

Connections Sizes	Inlet	Outlet
UHA045	1"	1"
UHA050	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA055	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA060	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA065	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA070	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA075	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "
UHA080	1 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "
UHA090	1 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "
UHA095	2"	2"

TABLE 8
Steam Unit Heaters
Connections Sizes

Connections Sizes	Steam	Condensate
UHB045	1 $\frac{1}{4}$ "	1"
UHB050	1 $\frac{1}{4}$ "	1"
UHB055	1 $\frac{1}{4}$ "	1"
UHB060	1 $\frac{1}{2}$ "	1"
UHB065	1 $\frac{1}{2}$ "	1"
UHB070	1 $\frac{1}{2}$ "	1"
UHB075	2"	1 $\frac{1}{4}$ "
UHB080	2"	1 $\frac{1}{4}$ "
UHB090	2"	1 $\frac{1}{4}$ "
UHB095	2 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "

Selection Guide :

Here are two examples of selecting Unit Heaters:

Example 1: Hot Water Unit Heater

Heating Capacity	95000 BTU/hr
Entering Water Temperature (EWT)	220°F
Entering Air Temperature (EAT)	70°F

Step 1

- Refer to Table 3 hot water correction factor 220°F (EWT) and 70°F (EAT), factor is 1.235 .

Step 2

- Determine equivalent heat Capacity at Standard Condition(180°F EWT, 60°F EAT).
- Equiv.Heat Capacity=(Btu/hr)(Correction Factor)=95000/1.235=76900

Step 3

- Refer to Table 1 hot water unit heater standard specifications in this example UHA 060 is good select.
- Standard CFM from Table 1 is 1600 CFM

Step 4

- Refer to Table 4 air quantity (CFM) correction factors. CFM correction factor at 70°F entering air temperature =0.982
- CFM at 70°F=1600* 0.982=1571 cfm

Step 5

- Final Air Temperature=Inlet Air Temperature+(BTU/hr) (cfm at 70°F*1.085)
- Final Air Temp.=70°F+95000/(1571*1.085) =115°F

Example 2: Steam Unit Heater

Heating Capacity	160000 btu/hr
Steam pressure	2 psig
Inlet Air Temperature	50 F

Step 1

- Refer to Table 3 Steam Correction Factor at 2psig Steam Pressure and 50°F (EAT), Factor is 0.786

Step 2

- Determine equivalent heat capacity at standard condition (30 psig, 60°F EAT)
- Equiv.Heat Capacity=(Btu/hr)(Correction Factor)=160000/0.786=203600

Step 3

- Refer to Table 2 Steam Unit Heater Standard Specification in this example UHA 060 is good select.
- Standard CFM from Table 1 is 1600 CFM

Step 4

- Refer Table 4 Air Quantity (CFM) Correction Factors. CFM Correction Factor at 70°F entering air temperature=1.020
- CFM at 70 F=3000* 1.020=3060

Step 5

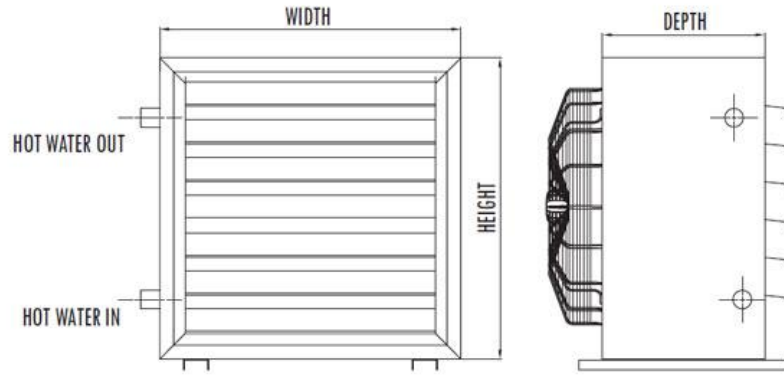
- Final Air Temperature=Inlet Air Temperature+(BTU/hr) (cfm at 50 F*1.085)
- Final Air Temp.=50 F+160000/(3060*1.085)=98 F

Step 6

- Determine the rate of condensate formation
- Latent heat of steam at 2psig=966
- Condensate (lb/hr)=160000/966=166 lb/hr

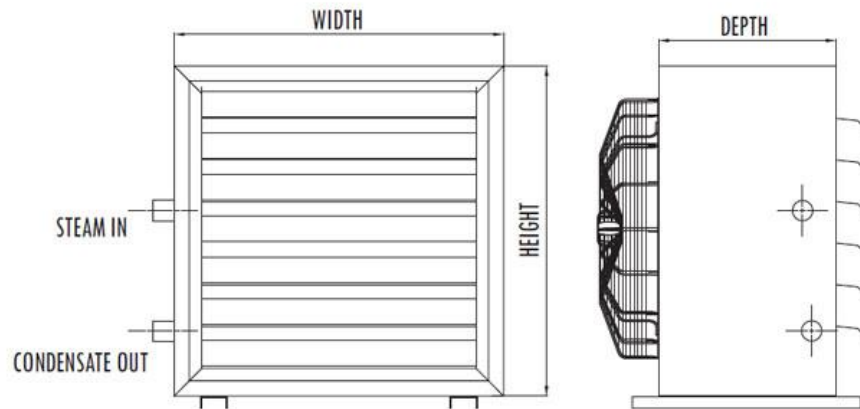
Dimensions

▪ HOT WATER



Note: Overall dimensions are in page 3

▪ STEAM



Note: Overall dimensions are in page 4