

GRADCO.

HVAC Systems Designing &
Manufacturing

AIR HANDLING UNIT



صنعت تهویه گراد
طراح ، تولید کننده و مجری سیستم های تهویه مطبوع



GRAD CO.

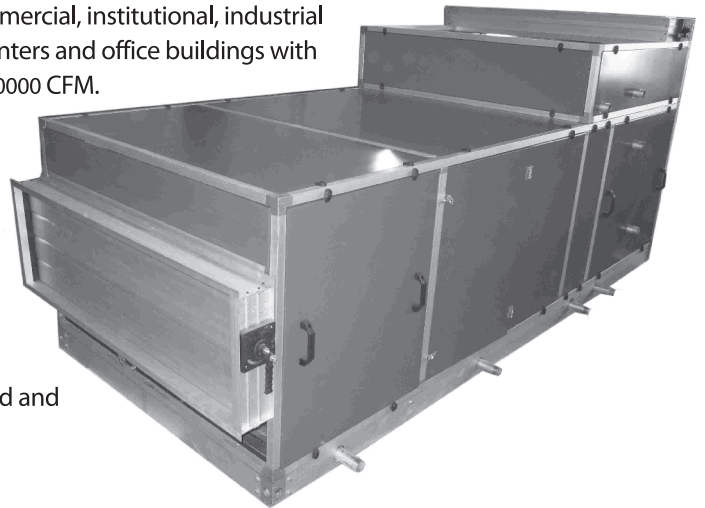
Air Handling Unit

Introduction:

GRAD air Handling Units are designed for variety of commercial, institutional, industrial and residential applications such as hospitals, shopping centers and office buildings with 37 different models and capacities ranging from 2500 to 130000 CFM.

The modular units can be combined with a complete array of accessories to adapt to every air conditioning and ventilation application.

GRAD also offers blow through **multizone** air handling units designed for applications where in temperature control is required for groups or zones of conditioned spaces at the air handling unit by mixing hot and cold air with individual pairs of control dampers located at the air handling unit. All internal components are factory furnished and installed.



Casing and Insulation:

GRAD air handling units are designed for indoor and outdoor installation. Casing's frame is constructed of extrude aluminum cast iron or galvanized profiles and corners. Panels are constructed from heavy gauge galvanized steel, aluminum, or stainless steel sheets (optional) with bolted connections for heavy duty applications and access door and removable panel for each section.

Mineral wool and polyurethane insulators are used in both single and double skin panels with different thicknesses and densities.

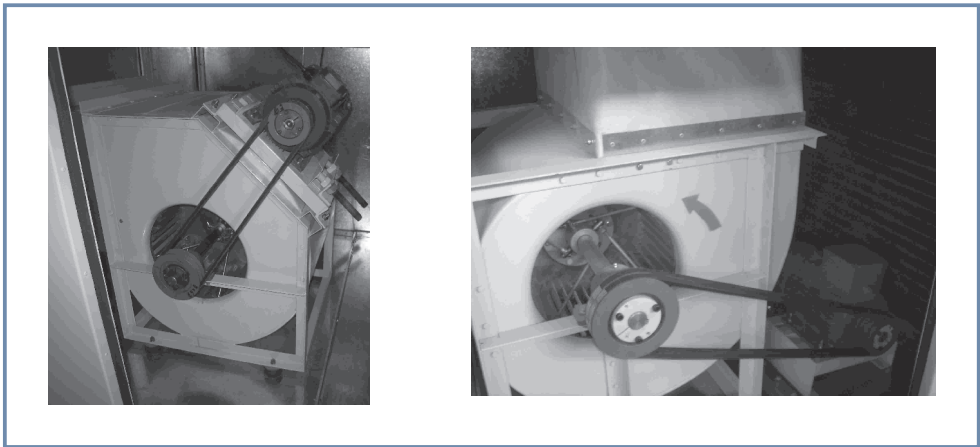
HYGIENIC: In hygienic applications it has been used internal round corners.





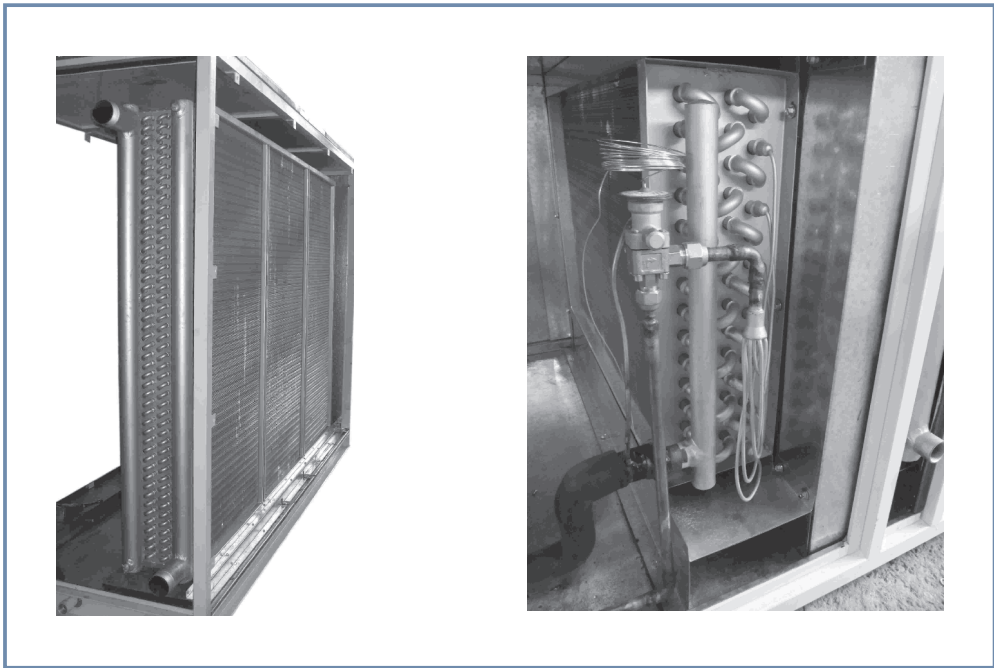
Fan and Motor:

Double - inlet centrifugal fan wheels with forward and backward (flat or airfoil) curved blades or plug fans are employed. The fans are statically and dynamically balanced for vibration free operation. The fans are belt or direct driven. (optional)
The positioning of electrical motors is inside the casing which ensures optimum motor cooling. The motors operate at 1450 or 900 rpm with 220,380 volts power supply. The motor stand is easily adjustable for optimum alignment.



Cooling and Heating coils:

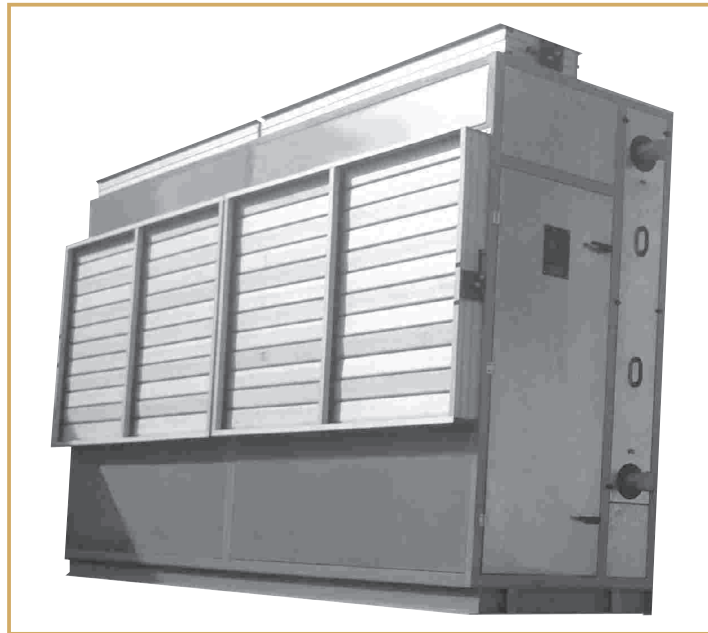
The cooling and heating coils are designed according to the latest ASHRAE and ARI standards. The drain pan for cooling coils is extended and sloped beyond the coil section which provides complete condensate drainage.
The coils are made from 5/8" or 3/8" copper tubes which are mechanically expanded into aluminum or copper fin plates for optimum heat transfer. Heating coils are recommended for applications with temperature not exceeding 260°F.





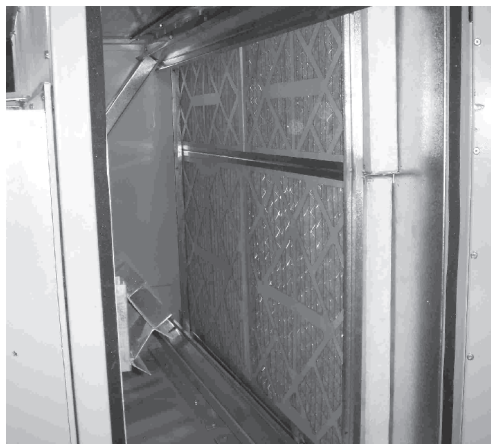
Mixing box and damper:

Mixing boxes are available in different configuration with manually or motorized in flat or airfoil profile in parallel or opposed operated dampers made of galvanized steel or extruded Aluminum blades.



Filters:

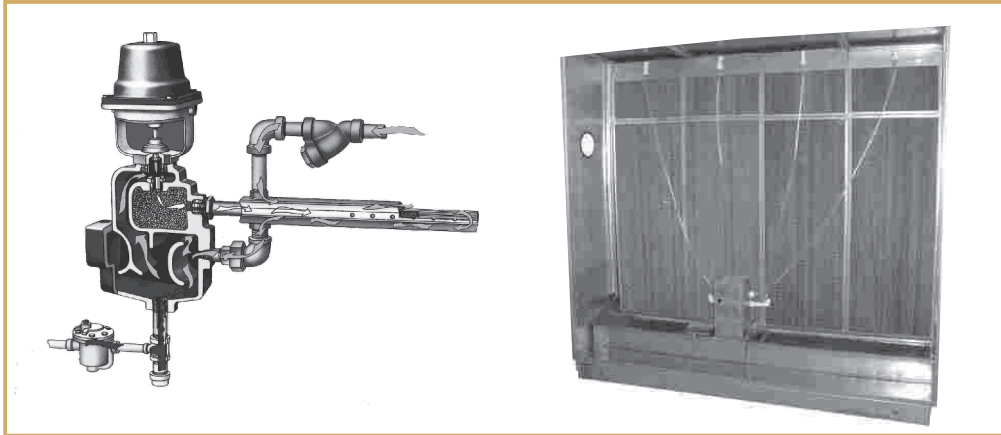
A wide range of filters (washable, pleated, bag, hepa, ulpa, activated carbon and etc.) are available in different efficiencies which designed for minimum air side pressure drop for different applications.





Humidifiers:

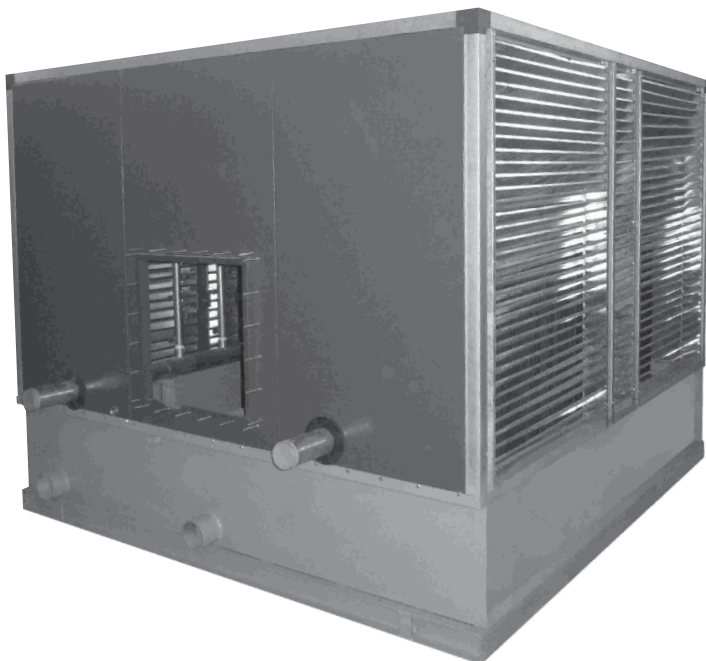
GRAD offers three types of humidifiers: 1. Water Spray 2. Hot Water Pan 3. Steam Grid Jacket. Humidifiers provide humidity for comfort or process applications. The selection of humidifier type depends upon the media available, amount of moisture that is required and accuracy of control that is necessary.



Air washer:

Single and double bank air washers are provided from 45% to 95% saturation efficiency.

- Headers and piping are from polypropylene or galvanized material.
- Centrifugal high efficiency nozzles are from polypropylene.
- Mist eliminators are from polypropylene or galvanized.
- Casing and pan material are from hot dip galvanized sheet, stainless steel or fiber glass material.





Hygienic:

Casing and components:

- Internal surface and walls are smooth and without open adsorption grooves.
- Inside panel surface made of plastic coated galvanized steel, stainless steel or sea- water resistant aluminium sheets (AIMG).
- Seal and gap filling materials are non- porous and not moisture absorbing.
- All parts and components of the unit, such as fans, motors, filters, coils (together with droplet separator and drain pan), etc. are resistant to commonly used cleaning and disinfecting agents.
- For units height up to 1.3 m, components could be pulled out for cleaning and disinfection purposes. For higher units, both sides of components are accessible from service side through dismountable front panel or service door.

Air humidifiers:

- Spray humidifiers, evaporative humidifiers or steam humidifiers could be installed.
- Steam humidifiers are dimensioned and designed to prevent water condensation.
- The section of units higher than 1.3 m is fitted with lighting and an 150 mm inspection glass.

Heat exchangers:

- Droplet separators, drip tubes and condensate pans are easily accessible for cleaning and disinfection perposes.
- Base pans below cooling coils are inclined and allow a free drainage of all condensed water, can be easily cleaned and disinfected and are made of stainless steel.
- Considering the pressures present, the siphon of the cooler base pan equipped with a return flow protection is dimensioned to enable the undisturbed water drainage.

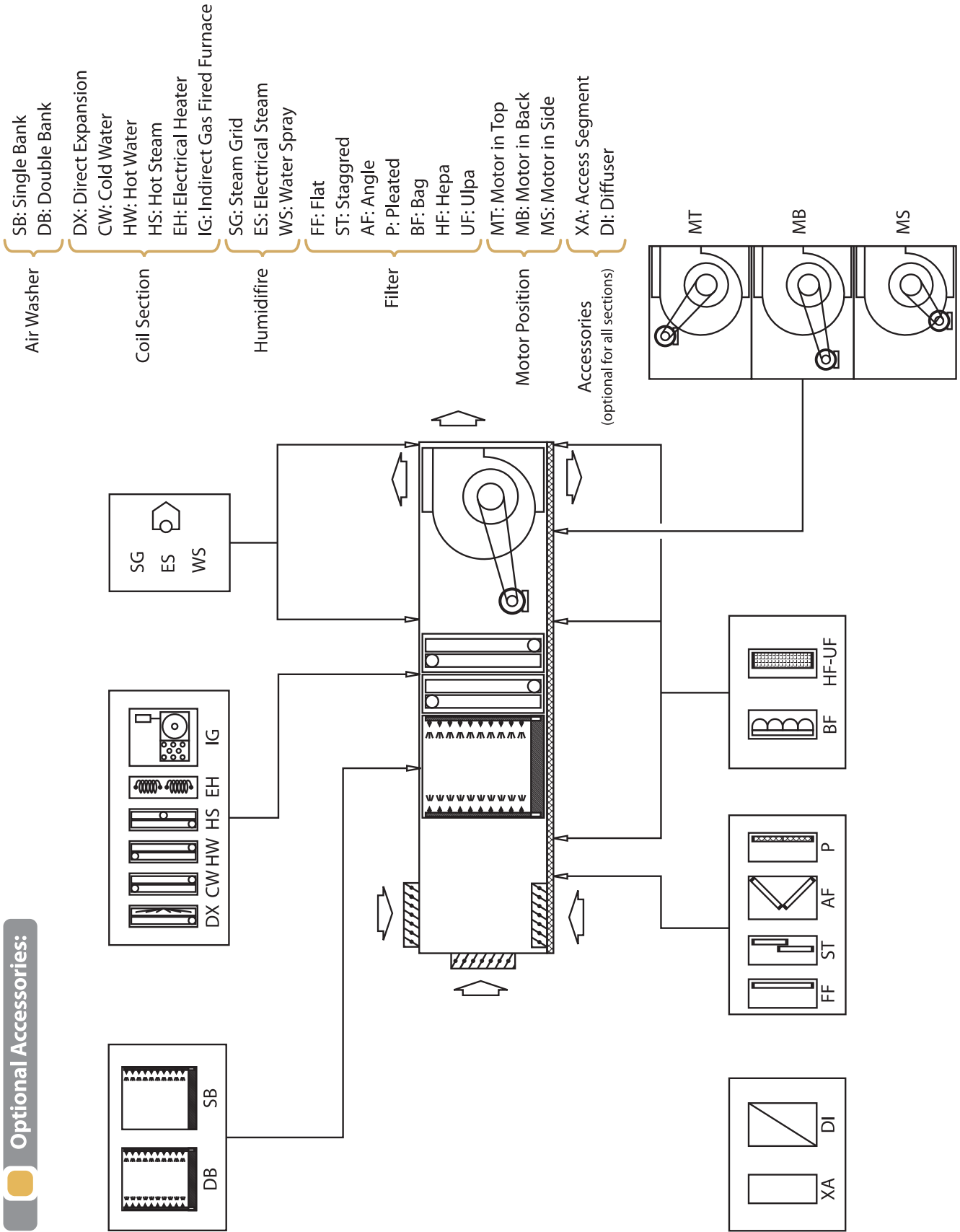
Fans:

- Fans are corrosion-protected. Fans with casing always contain a filter. For an easy cleaning the fans have backward curved blades and a condensate drainage on the bottom of the fan casing.
- Fan casing for nominal diameters exceeding 400 mm contains an inspection opening. For hygienic reasons, fans without casings are preferred.
- Fans and motors are mounted on sliding frame which may be easily pulled out for cleaning and disinfection purposes.



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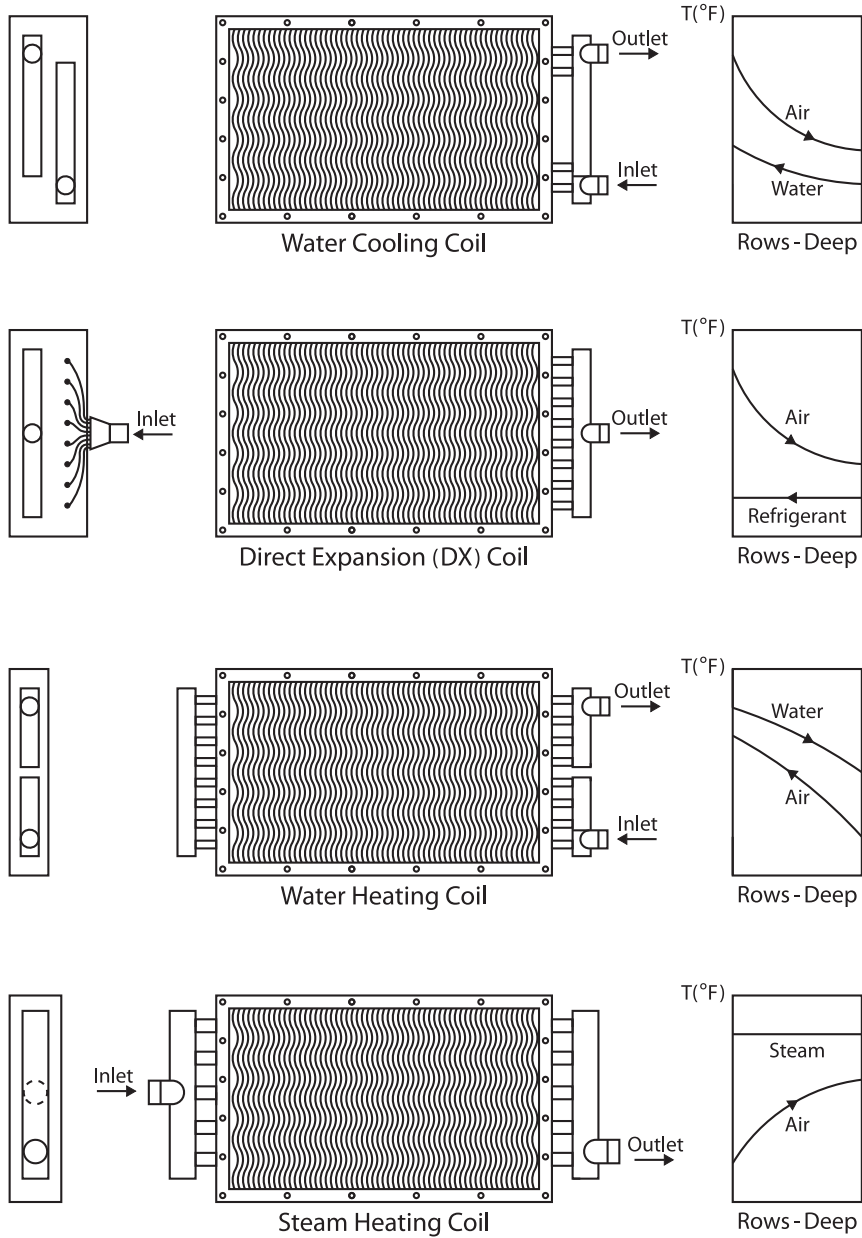
Air Handling Unit



Optional Accessories:



Coil Diagram and Circuiting Definitions:



Coil Type and Temperature Profiles Through The Coils

Coil Circuiting Definitions:

Circuiting	Symbol	Descriptions
Double (2)	D	All tubes in the first and last two rows are connected to the inlet and outlet headers respectively
Full (1)	F	All tubes in the first and last rows are connected to the inlet and outlet headers respectively
Half (1/2)	H	Half the tubes in the first and last rows are connected to the inlet and outlet headers respectively



Selection Example:

Example no: 1

Air flow rate: 13000 CFM
Altitude: sea level
Filter: AI (EU3) + Bag (EU6)
Fan: Backward
External static pressure: 1.54 Inwg

Summer design conditions:
Chilled Water Cooling
E.A.T: 90°F (D.B) / 72°F (W.B)
E.W.T: 46°F
L.W.T: 56°F
Total cooling load: 645 M.B.H

Winter design conditions:
Hot Water Heating
E.A.T: 50°F
E.W.T: 160°F
Total heating load: 580 MBH

1. Determine Unit Size:

According to the given air flow rate a G.AH.14 can be selected.

$$\text{Coil face area} = 14000/500 = 28 \text{ ft}^2$$

$$\text{Coil face velocity} = 13000/28 = 465 \text{ fpm}$$

From table (1) (page 17) for GAH.14 according to the entering conditions, a 6 rows, 8 fpi, full circuit coil with cooling capacity of 705 MBH can be selected. from table (4) (page 25) , a 2 rows, 8 fpi, full circuit coil with heating capacity of 657 MBH can be selected.

As 13000 CFM is 93% of the table CFM, so from table (12) (page30) the capacity corectin factor for cooling coil is 0.958 and for heating coil is 0.962.

According to the given conditions from table (13) (page 30) the chilled water correction factor is 0.96 and from table (15) (page 31) the hot water correction factor is 0.93.

Therefore actual cooling and heating capacities are determine as below:

$$\text{Cooling Capacity} = 705 \times 0.956 \times 0.96 \longrightarrow \text{Cooling Capacity} = \mathbf{648.4 \text{ MBH}}$$

$$\text{Heating Capacity} = 657 \times 0.962 \times 0.93 \longrightarrow \text{Heating Capacity} = \mathbf{587.8 \text{ MBH}}$$

- The selected coils can Thus be seen to adequately match the given loads.

2. Fan Selection:

After the coil selection the next step is the sizing and selection of the fan. Now we have to determine the Internal Static Pressure and total static pressure.

From table (19) the cooling coil air side pressure drop with 465 fpm face velocity is 0.52 Inwg. (page 33)

From table (19) the heating coil air side pressure drop with 465 fpm face velocity is 0.13 Inwg. (page 33)

From table (18) the air side pressure drop of EU3 for standard air velocity is 0.08 Inwg. (page 33)

From table (18) the air side pressure drop of EU6 for standard air velocity is 0.48 Inwg. (page 33)

From table (17) the air side pressure drop of mixing box for standard air velocity is 0.08 Inwg.(page 32)

From table (17) the air side pressure drop of basic unit for standard air velocity is 0.14 Inwg. (page 32)

From table (17) the air side pressure drop of parallel damper for standard air velocity is 0.03 Inwg.(page 32)

a: For more information about fan selection refer to GRAD fan catalogues.

Internal static pressure = $0.52 + 0.13 + 0.08 + 0.48 + 0.08 + 0.14 + 0.03 = 1.46$

Total static pressure = Internal static pressure + External static pressure

Total static pressure = $1.46 + 1.54 = 3 \text{ Inwg}$

From table (21) (page 35), with 3 Inwg static pressure and 13000 CFM, the fan with the following specifications is selected:

Fan size = 27" / Backward

Fan speed = 1079 rpm

BHP = 8.72

We have to add 20% to the BHP to determine the motor HP so:

$8.72 \times 1.2 = 10.5 \text{ HP}$ so with this HP, a **15 HP** Motor will be sufficient.

Example no: 2

Air flow rate: 20000 CFM

Altitude: sea level

Filter: Al(EU3) + hepa(EU9)

Fan: Forward

External static pressure: 0.36 Inwg

Summer design conditions:

DX Cooling

E.A.T: 80°F (D.B) / 67°F (W.B)

Suction temp.: 43°F

Total cooling load: 990 MBH

Winter design conditions:

Steam Heating

E.A.T : 80°F

Steam pressure : 15 psig

Total heating load : 1445 MBH

1. Determine Unit Size:

According to the given air flow rate a GAH.20 can be selected.

Coil face area = $20000/500 = 40 \text{ ft}^2$

Coil face velocity = $20000/40 = 500 \text{ fpm}$

From table (3) (page 24) for GAH.20 according to the entering conditions, 4 rows, 14 fpi coil with cooling capacity of 993 MBH can be selected. from table (6) (page 27), a 2 rows, 8 fpi coil with heating capacity of 1450 MBH can be selected.

According to the given conditions from table (14) (page 30) the DX coil correction factor is 1.06 and from table (16) (page 31) the steam correction factor is 1.04.

Therefore actual cooling and heating capacities are determined as below:

Cooling Capacity = 993×1.06 → Cooling Capacity = **1142 MBH**

Heating Capacity = 1450×1.04 → Heating Capacity = **1508 MBH**

The selected coils can thus be seen to adequately match the given loads.

2. Fan Selection:

After the coil selection the next step is the sizing and selection of the fan. Now we have to determine the Internal Static Pressure and total static pressure.

From table (19) the cooling coil air side pressure drop for standard air velocity is 0.43 Inwg. (page 33)

From table (19) the heating coil air side pressure drop for standard air velocity is 0.14 Inwg.(page 33)



From table (18) the air side pressure drop of EU3 for standard air velocity is 0.08 Inwg. (page 33)

From table (18) the air side pressure drop of EU9 for standard air velocity is 1.2 Inwg. (page 33)

From table (17) the air side pressure drop of mixing box for standard air velocity is 0.09 Inwg. (page 32)

From table (17) the air side pressure drop of basic unit for standard air velocity is 0.14 Inwg. (page 32)

From table (17) the air side pressure drop of opposed damper for standard air velocity is 0.06 Inwg. (page 32)

Internal static pressure = $0.43 + 0.14 + 0.08 + 1.2 + 0.09 + 0.14 + 0.06 = 2.14$

Total static pressure = Internal static pressure + External static pressure

Total static pressure = $2.14 + 0.36 = 2.5$ Inwg

From table (20) (page 34), with 3 Inwg static pressure and 20000 CFM, the fan with the following specifications is selected:

Fan size = 30" / Forward

Fan speed = 563 rpm

BHP = 14.62

We have to add 20% to the BHP to determine the motor HP so:

$14.62 \times 1.25 = 17.6$ HP so with this HP, a **20 HP** Motor will be sufficient.



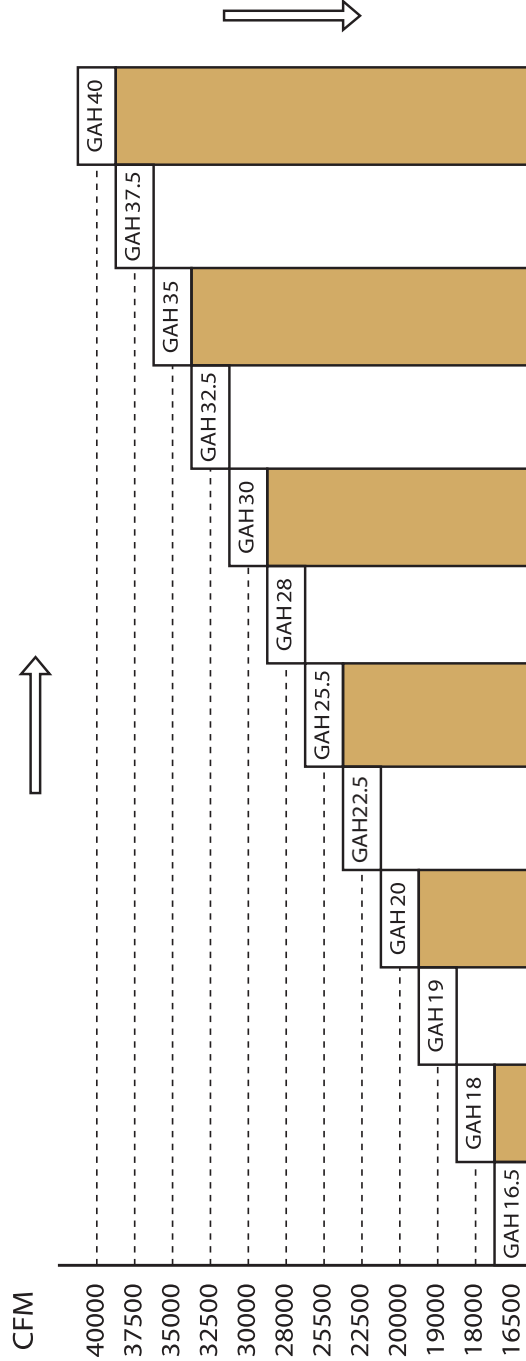
Overall information:

MODEL	Flow	Max Static Pressure	Forward Fan	Backward Fan	Coil Area	Heating range		Cooling range		Air Washer	
						Hot water	Steam	Cold water	DX	(60% - 70%)	(80% - 90%)
						(CFM)	(Inwg)	(In)	(In)	(ft ²)	(MBH)
GAH2.5	2500	3	12	15	5	64 - 183	106 - 177	17 - 90	66 - 87	12.5	25
GAH3.5	3500	3.5	13	16	7	90 - 257	155 - 250	26 - 123	94 - 125	17.5	35
GAH5	5000	4	15	18	10	129 - 368	221 - 358	43 - 189	141 - 184	25	50
GAH6	6000	4	16	20	12	154 - 442	257 - 430	59 - 231	168 - 224	30	60
GAH7	7000	4	16	22	14	180 - 516	310 - 505	85 - 270	188 - 250	35	70
GAH8	8000	5	18	22	16	206 - 589	343 - 574	90 - 319	227 - 300	40	80
GAH9	9000	4	18	24	18	231 - 663	383 - 639	104 - 354	253 - 332	45	90
GAH10	10000	5	20	24	20	257 - 737	427 - 730	124 - 402	270 - 357	50	100
GAH11	11000	6	22	24	22	283 - 810	480 - 802	140 - 449	294 - 392	55	110
GAH12.5	12500	4	22	27	25	322 - 921	557 - 898	160 - 513	323 - 433	62.5	125
GAH14	14000	4.5	24	27	28	360 - 1031	588 - 1021	192 - 578	349 - 489	70	140
GAH15.5	15500	3.5	24	30	31	399 - 1142	643 - 1078	204 - 622	397 - 530	77.5	155
GAH16.5	16500	4.5	27	30	33	425 - 1216	722 - 1205	233 - 694	441 - 585	82.5	165
GAH18	18000	5.5	27	30	36	463 - 1326	800 - 1300	254 - 751	465 - 630	90	180
GAH19	19000	4	30	33	38	490 - 1400	804 - 1384	275 - 791	517 - 663	95	190
GAH20	20000	4.5	30	33	40	515 - 1473	866 - 1450	290 - 841	530 - 702	100	200
GAH22.5	22500	5.5	30	33	45	1057 - 1655	1587	310 - 943	-----	112.5	225
GAH25.5	25500	6	30	36	51	1197 - 1879	1889	352 - 1071	-----	127.5	255
GAH28	28000	6	33	36	56	1315 - 2063	2020	379 - 1163	-----	140	280
GAH30	30000	6	33	36	60	1409 - 2207	2190	436 - 1270	-----	150	300
GAH32.5	32500	4.5	2*27	2*30	65	1526 - 2390	2345	475 - 1375	-----	162.5	325
GAH35	35000	5.5	2*27	2*30	70	1643 - 2575	2560	518 - 1490	-----	175	350
GAH37.5	37500	4	2*27	2*33	75	1761 - 2758	2719	568 - 1592	-----	187.5	375
GAH40	40000	5	2*30	2*33	80	1878 - 2943	2879	602 - 1702	-----	200	400
GAH42.5	42500	5.5	2*30	2*33	85	1996 - 3126	3093	657 - 1813	-----	212.5	425
GAH45	45000	6	2*30	2*33	90	2113 - 3310	3230	699 - 1928	-----	225	450
GAH47.5	47500	4	2*30	2*33	95	2230 - 3494	3467	773 - 2052	-----	237.5	475
GAH50	50000	5	2*33	2*36	100	2348 - 3678	3643	832 - 2165	-----	250	500
GAH56	56000	6	2*33	2*36	112	2630 - 4119	4081	931 - 2424	-----	280	560
GAH60	60000	6	2*33	2*36	120	2817 - 4414	4337	990 - 2610	-----	300	600
GAH70	70000	6	2*36	2*40	140	3287 - 5150	5025	1190 - 3037	-----	350	700
GAH80	80000	6	2*36	2*40	160	3757 - 5885	5813	1424 - 3497	-----	400	800
GAH90	90000	6	2*40	2*44	180	4226 - 6621	6564	1671 - 3975	-----	450	900
GAH100	100000	6	2*40	2*44	200	4696 - 7357	7226	1861 - 4427	-----	500	1000
GAH110	110000	6	3*36	3*40	220	5165 - 8092	8006	1902 - 4792	-----	550	1100
GAH120	120000	6	3*36	3*40	240	5635 - 8828	8757	2137 - 5244	-----	600	1200

● All ratings are based on 80° EDB and 76° EWB temperature.



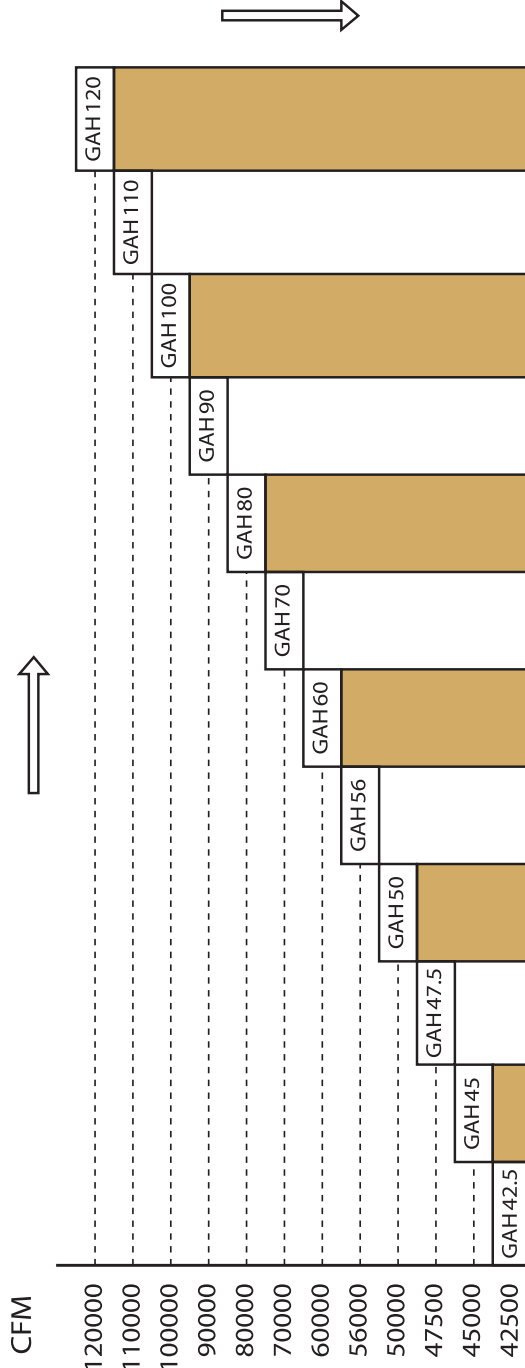
Quick Selection:



Static Pressure	(Inwg)	1-4.5	1-5.5	1-4	1-4.5	1-6	1-5.5	1-6	1-6	1-4.5	1-4.5	1-5.5	1-4	1-5
Forward Fan	(In)	27	27	30	30	30	30	33	33	2*27	2*27	2*27	2*27	2*30
Backward Fan	(In)	30	30	33	33	36	36	36	36	2*30	2*30	2*30	2*33	2*33
Coil Area	ft ²	33	36	38	40	45	51	56	60	65	70	75	80	80
AL Filter Area	ft ²	55	60	63.3	66.6	75	85	93	100	108.3	116.6	125	133.3	133.3
Bag Filter Area	ft ²	32	34.9	36.8	38.7	43.7	49.6	54.5	58.4	62.9	67.8	72.5	77.7	77.7
(60%-70%) Air Washer	(GPM)	83	90	95	100	113	128	140	150	163	175	188	200	200
(80%-90%) Air Washer	(GPM)	165	180	190	200	225	255	280	300	325	350	375	400	400



Quick Selection:



Static Pressure	(Inwg)	5.5	1-6	1-4	1-5	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6
Forward Fan	(In)	2*30	2*30	2*30	2*33	2*33	2*33	2*36	2*36	2*36	2*40	2*40	2*40	3*36
Backward Fan	(In)	2*33	2*33	2*33	2*36	2*36	2*36	2*40	2*40	2*40	2*44	2*44	2*44	3*40
Coil Area	ft ²	85	90	95	100	112	120	140	160	180	200	220	240	
AL Filter Area	ft ²	141.6	150	158.3	166.6	186.6	200	233.3	266.6	300	333.3	366.6	400	
Bag Filter Area	ft ²	82.5	87.2	91.9	96.7	108.3	116.1	135.4	154.7	174	193.4	212.7	232	
(60%-70%) Air Washer	(GPM)	213	225	238	250	280	300	350	400	450	500	550	600	
(80%-90%) Air Washer	(GPM)	425	450	475	500	560	600	700	800	900	1000	1100	1200	



Table Information:

- Table 1:** Cold water cooling coil rating (8 FPI)
- Table 2:** Cold water cooling coil ratings (14 FPI)
- Table 3:** DX cooling coil ratings
- Table 4:** Hot water heating coil ratings (8 FPI)
- Table 5:** Hot water heating coil ratings (14 FPI)
- Table 6:** Steam heating coil ratings
- Table 7:** Multi zone hot water coil rating (8 FPI)
- Table 8:** Multi zone hot water coil rating (14 FPI)
- Table 9:** Multizone steam heating coil ratings (8 FPI)
- Table 10:** Multizone steam heating coil ratings (14 FPI)
- Table 11:** Multizone coil face areas
- Table 12:** Capacity correction factor for other air flow rates
- Table 13:** Chilled water coil correction factor
- Table 14:** DX coil correction factor
- Table 15:** Hot water coil correction factor
- Table 16:** Steam coil correction factor
- Table 17:** Accessories air side pressure drop
- Table 18:** Filter specifications and air side pressure drop
- Table 19:** Coil air side pressure drop
- Table 20:** Forward fan ratings
- Table 21:** Backward fan ratings



Table 1: Cold Water Cooling Coil Ratings (8 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH2.5	80	67	F	17	3	71	64	50	10	61	59	74	15	56	55	90	18	52	52
			H	30	6	68	62	67	13	58	56	87	17	53	52	101	20	50	50
	90	72	F	31	6	75	68	80	16	63	60	109	22	56	55	128	26	52	52
			H	50	10	72	65	97	19	60	57	123	25	54	53	137	27	50	50
100	75	F	43	9	79	69	98	20	65	61	130	26	57	55	150	30	52	52	
		H	63	13	76	67	116	23	61	58	143	29	54	53	160	32	50	50	
GAH3.5	80	67	F	26	5	70	64	71	14	61	59	103	21	56	55	123	25	52	52
			H	43	9	67	62	91	18	58	56	119	24	53	52	136	27	50	50
	90	72	F	46	9	74	68	111	22	63	60	149	30	56	55	173	35	52	52
			H	70	14	72	65	131	26	60	57	165	33	54	53	184	37	50	50
100	75	F	62	12	78	69	137	27	65	61	177	35	57	55	203	41	52	52	
		H	87	17	76	67	157	31	60	58	193	39	54	53	214	43	50	50	
GAH5	80	67	F	43	9	70	64	115	23	61	59	159	32	56	55	189	38	52	51
			H	71	14	67	63	141	28	59	56	181	36	53	52	205	41	50	50
	90	72	F	79	16	74	67	174	35	62	60	229	46	56	55	262	52	52	51
			H	11	22	72	65	202	40	60	58	249	50	54	53	277	55	50	50
100	75	F	104	21	78	70	212	42	64	61	271	54	57	54	306	61	52	52	
		H	137	27	76	67	239	48	60	58	291	58	53	53	320	64	50	50	
GAH6	80	67	F	59	12	70	64	145	29	61	59	197	39	56	55	231	46	51	50
			H	90	18	67	63	174	35	59	56	220	44	53	52	249	50	49	49
	90	72	F	103	21	74	67	217	43	62	60	280	56	56	55	318	64	51	50
			H	139	28	72	65	246	49	60	58	303	61	54	53	334	67	49	49
100	75	F	133	27	78	70	262	52	64	61	331	66	57	54	371	74	51	50	
		H	194	39	76	67	291	58	60	58	352	70	54	53	386	77	49	49	
GAH7	80	67	F	85	17	70	63	171	34	60	57	231	46	54	53	270	54	50	50
			H	108	22	67	61	203	41	58	55	257	51	53	51	289	58	49	49
	90	72	F	125	25	73	66	257	51	61	58	331	66	56	53	376	75	50	50
			H	166	33	72	63	291	58	58	56	357	71	54	52	393	79	49	49
100	75	F	160	32	77	67	310	62	62	59	391	78	57	53	437	87	50	50	
		H	203	41	75	65	343	69	60	57	415	83	54	52	454	91	49	49	
GAH8	80	67	F	90	18	68	63	206	41	59	57	275	55	54	53	319	64	50	50
			H	130	26	66	61	241	48	58	55	303	61	52	51	339	68	49	49
	90	72	F	152	30	72	66	303	61	61	58	387	77	54	53	437	87	50	50
			H	196	39	71	63	339	68	58	56	413	83	52	52	455	91	49	49
100	75	F	192	38	77	67	363	73	62	59	455	91	55	53	507	101	50	50	
		H	238	48	75	65	400	80	60	57	480	96	53	52	525	105	49	49	
GAH9	80	67	F	104	21	68	62	230	46	59	57	307	61	54	53	354	71	50	50
			H	148	30	66	61	268	54	57	55	336	67	52	51	376	75	49	49
	90	72	F	175	35	72	65	337	67	60	58	430	86	54	53	483	97	50	50
			H	222	44	71	63	376	75	58	56	457	91	52	51	503	101	49	49
100	75	F	257	51	77	65	404	81	62	58	505	101	55	53	561	112	50	50	
		H	269	54	75	65	443	89	60	56	532	106	53	51	579	116	49	49	
GAH10	80	67	F	124	25	68	62	265	53	59	57	350	70	53	53	402	80	50	50
			H	170	34	66	61	305	61	57	55	381	76	52	51	425	85	49	49
	90	72	F	203	41	72	65	386	77	60	58	489	98	54	53	547	109	50	50
			H	254	51	71	63	426	85	58	56	518	104	52	51	568	114	49	49
100	75	F	255	51	73	65	462	92	62	58	574	115	54	53	635	127	50	50	
		H	307	61	75	65	502	100	60	56	603	121	51	51	655	131	49	49	
GAH11	80	67	F	140	28	68	62	296	59	59	57	393	79	53	52	449	90	50	50
			H	190	38	66	63	340	68	58	55	426	85	52	51	473	95	49	49
	90	72	F	230	46	72	64	433	87	61	58	545	109	54	53	609	122	50	50
			H	283	57	70	63	475	95	58	56	577	115	52	51	631	126	49	49
100	75	F	286	57	73	65	515	103	63	58	637	127	54	52	706	141	50	50	
		H	343	69	74	66	560	112	60	56	675	135	51	51	730	146	49	49	

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- All coil ratings are based on 500 FPM air flow velocity.



Table 1: Cold Water Cooling Coil Ratings (8 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH 12.5	80	67	F	160	32	67	62	343	86	58	56	447	112	53	52	513	128	50	50
			H	216	43	65	60	390	98	56	54	483	121	52	50	539	135	49	49
	90	72	F	259	52	72	65	496	124	60	57	621	155	54	53	696	174	50	50
			H	320	64	70	63	544	136	58	56	661	165	52	51	722	180	49	49
	100	75	F	323	65	76	67	591	148	61	58	730	183	54	53	809	202	50	50
			H	386	77	74	65	640	160	60	57	765	191	53	52	416	104	49	49
GAH 14	80	67	F	192	38	67	61	390	97	58	56	507	127	53	52	578	145	50	50
			H	254	51	64	60	442	110	56	54	548	137	52	50	609	152	49	49
	90	72	F	310	62	72	65	564	141	60	57	705	176	54	52	784	196	50	50
			H	373	75	70	62	615	154	58	56	742	185	52	50	810	202	49	49
	100	75	F	383	77	76	67	672	168	61	58	825	206	54	53	909	227	50	50
			H	449	90	73	65	722	180	60	57	861	215	53	52	932	233	49	49
GAH 15.5	80	67	F	204	41	67	62	421	105	59	56	536	134	53	52	622	155	50	50
			H	267	53	64	60	474	118	56	53	585	146	52	50	651	163	49	49
	90	72	F	323	65	72	65	605	151	60	57	754	188	54	52	841	210	50	50
			H	392	78	69	62	659	165	57	56	792	198	52	50	868	217	49	49
	100	75	F	403	81	76	67	720	180	60	58	882	220	54	52	974	243	50	50
			H	472	94	73	64	773	193	60	57	919	230	52	51	999	250	49	49
GAH 16.5	80	67	F	233	47	67	62	467	117	59	56	603	151	53	52	694	173	50	50
			H	301	60	64	60	522	130	56	54	647	162	52	50	718	180	49	49
	90	72	F	369	74	72	65	670	167	60	57	835	209	54	52	928	232	50	50
			H	442	88	69	62	728	182	57	56	877	219	52	51	957	239	49	49
	100	75	F	455	91	76	67	796	199	60	58	977	244	54	52	1076	269	50	50
			H	532	106	73	64	851	213	60	57	1017	254	52	51	1102	275	49	49
GAH 18	80	67	F	254	51	67	62	513	128	59	56	661	165	53	52	751	188	50	50
			H	325	65	64	60	573	143	56	53	706	177	52	50	785	196	49	49
	90	72	F	398	80	72	64	734	183	60	57	911	228	54	52	1014	253	49	49
			H	477	95	68	62	796	199	57	56	956	239	52	50	1044	261	49	49
	100	75	F	492	98	76	67	871	218	60	58	1065	266	54	51	1174	293	49	49
			H	573	115	73	63	932	233	58	57	1108	277	51	50	1202	300	49	49
GAH 19	80	67	F	275	55	67	61	541	135	58	56	698	175	53	52	791	198	50	49
			H	351	70	65	60	605	151	56	54	746	187	51	50	826	207	49	48
	90	72	F	436	87	71	64	777	194	59	56	966	242	53	52	1070	267	49	49
			H	515	103	69	62	841	210	57	55	1010	253	52	51	1097	274	49	49
	100	75	F	536	107	75	65	923	231	60	57	1129	282	53	52	1238	310	49	49
			H	617	123	73	64	986	247	59	56	1170	293	52	51	1268	317	49	49
GAH 20	80	67	F	290	58	67	61	577	144	58	56	741	185	52	52	841	210	50	49
			H	369	74	65	60	643	161	56	54	791	198	51	50	877	219	49	48
	90	72	F	452	90	71	64	824	206	59	57	1021	255	53	52	1135	284	49	49
			H	537	107	69	63	890	222	57	55	1070	267	52	51	1167	292	49	48
	100	75	F	558	112	75	66	979	245	60	57	1193	298	53	52	1313	328	49	49
			H	645	129	73	64	1045	261	59	56	1240	310	52	51	1344	336	49	49
GAH 22.5	80	67	F	310	62	70	62	637	159	58	56	831	208	52	52	943	236	49	49
			H	415	83	65	60	727	182	56	54	897	224	51	50	991	248	48	48
	90	72	F	487	97	71	64	908	227	59	57	1138	285	53	52	1266	317	49	49
			H	602	120	70	62	999	250	57	55	1267	317	51	50	13123	328	48	48
	100	75	F	602	120	75	66	1078	270	60	58	1330	332	53	52	1465	366	50	50
			H	723	145	73	64	1170	292	59	56	1393	348	52	51	1507	377	49	48
GAH 25.5	80	67	F	352	70	70	62	726	182	58	56	943	236	52	52	1071	268	49	49
			H	472	94	65	60	824	206	56	54	1020	255	51	50	1126	282	48	48
	90	72	F	553	111	71	64	1033	258	59	57	1295	324	53	52	1439	360	49	49
			H	685	137	70	62	1136	284	57	55	1368	342	51	50	1489	372	48	48
	100	75	F	685	137	75	66	1224	306	60	58	1510	377	53	52	1663	416	50	50
			H	821	164	73	64	1329	332	59	56	1582	395	52	51	1710	428	49	48

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Table 1: Cold Water Cooling Coil Ratings (8 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH 28	80	67	F	379	95	67	62	790	197	58	56	1023	256	52	52	1163	291	50	49
			H	504	126	65	60	897	224	56	54	1103	276	51	50	1219	305	48	48
	90	72	F	477	119	76	66	1123	281	60	57	1401	350	53	52	1559	390	49	49
			H	734	183	70	63	1231	308	57	55	1478	370	51	50	1610	403	48	48
100	75	F	737	184	75	66	1329	332	61	57	1635	409	53	52	1802	450	49	49	
		H	880	220	73	64	1440	360	59	56	1710	427	52	51	1851	463	49	48	
GAH 30	80	67	F	436	109	67	62	870	217	58	56	1123	281	52	52	1270	317	50	49
			H	571	143	65	60	984	246	56	54	1207	302	51	50	1331	333	48	48
	90	72	F	682	170	76	66	1238	310	60	57	1537	384	53	52	1704	426	49	49
			H	823	206	70	63	1346	337	57	55	1617	404	51	50	1757	439	48	48
100	75	F	838	210	75	66	1464	366	61	57	1791	448	53	52	1965	491	49	49	
		H	983	246	73	64	1571	393	59	56	1857	464	52	51	2017	504	49	48	
GAH 32.5	80	67	F	475	119	67	62	953	238	57	56	1221	305	52	52	1375	344	49	49
			H	613	153	65	60	1069	267	55	54	1306	327	51	50	1442	360	48	48
	90	72	F	734	183	74	65	1346	337	60	56	1667	417	53	52	1847	462	49	49
			H	883	221	70	62	1461	365	57	55	1750	437	51	50	1902	475	48	48
100	75	F	904	226	75	65	1590	397	60	57	1941	485	53	52	2129	532	49	49	
		H	1057	264	73	64	1708	427	59	56	2021	505	52	51	2183	546	48	48	
GAH 35	80	67	F	518	130	67	61	1026	257	57	55	1318	330	52	52	1490	373	49	49
			H	672	168	65	60	1151	288	55	54	1412	353	51	50	1558	390	48	48
	90	72	F	800	200	72	65	1450	363	59	56	1801	450	53	52	1991	498	49	49
			H	965	241	70	62	1580	395	57	55	1893	473	51	50	2055	514	48	48
100	75	F	984	246	75	65	1716	429	60	57	2098	525	53	52	2299	575	49	49	
		H	1150	288	73	64	1843	461	58	56	2184	546	52	51	2358	590	48	48	
GAH 37.5	80	67	F	568	142	67	61	1106	277	57	55	1412	353	52	51	1592	398	49	49
			H	723	181	64	60	1235	309	55	54	1509	377	51	50	1659	415	48	48
	90	72	F	870	217	70	64	1556	389	59	56	1923	481	52	52	2127	532	49	49
			H	1037	259	69	62	1687	422	57	55	2017	504	51	50	2189	547	48	48
100	75	F	1064	266	75	65	1839	460	60	57	2241	560	53	52	2453	613	49	49	
		H	1237	309	73	64	1969	492	58	55	2330	582	52	51	2511	628	48	48	
GAH 40	80	67	F	602	150	66	61	1185	296	57	55	1511	378	52	51	1702	425	49	49
			H	764	191	64	60	1317	329	55	54	1610	402	50	50	1771	443	48	48
	90	72	F	1409	352	70	64	2157	539	59	56	2403	601	52	52	2494	623	49	49
			H	1690	422	69	62	2299	575	57	55	2470	617	51	50	2525	631	48	48
100	75	F	1127	282	75	65	1968	492	60	57	2390	597	53	52	2618	655	49	49	
		H	1311	328	73	64	2103	526	58	55	2483	621	52	51	2683	671	48	48	
GAH 42.5	80	67	F	657	164	66	61	1266	317	57	55	1613	403	52	51	1813	453	49	49
			H	832	208	64	60	1408	352	55	54	1717	429	50	50	1884	471	48	48
	90	72	F	1003	251	70	64	1782	445	59	56	2197	549	52	52	2417	604	49	49
			H	1186	297	69	62	1924	481	57	55	2297	574	51	50	2487	622	48	48
100	75	F	1223	306	75	65	2100	525	60	57	2554	638	53	52	2790	698	49	49	
		H	1416	354	73	64	2243	561	58	55	2651	663	52	51	2853	713	48	48	
GAH 45	80	67	F	699	175	66	61	1357	339	57	55	1716	429	52	51	1928	482	49	49
			H	875	219	65	60	1500	375	55	53	1821	455	50	50	2003	501	48	48
	90	72	F	1059	265	69	64	1899	475	59	56	2328	582	52	52	2570	643	49	49
			H	1249	312	69	62	2043	511	57	55	2430	607	51	50	2637	659	48	48
100	75	F	1289	322	75	65	2238	560	60	57	2706	677	53	52	2962	740	49	49	
		H	1485	371	73	64	2382	595	58	55	2802	700	52	51	3026	757	48	48	
GAH 47.5	80	67	F	773	193	66	61	1454	363	57	55	1835	459	52	51	2052	513	49	49
			H	955	239	64	59	1598	400	55	53	1941	485	50	50	2127	532	48	48
	90	72	F	1165	291	70	63	2029	507	58	56	2486	622	52	51	2731	683	49	49
			H	1311	328	68	62	2175	544	57	54	2587	647	51	50	2799	700	48	48
100	75	F	1414	353	74	65	2388	597	60	56	2886	722	52	51	3146	787	49	49	
		H	1610	403	72	63	2533	633	58	55	2984	746	51	50	3210	802	48	48	

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- All coil ratings are based on 500 FPM air flow velocity.



Table 1: Cold Water Cooling Coil Ratings (8 FPI):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH50	80	67	F	832	208	66	61	1542	385	56	54	1939	485	51	51	2165	541	49	49
			H	1012	253	64	60	1688	422	55	53	2045	511	50	50	2238	560	48	48
	90	72	F	1242	310	70	63	2147	537	58	56	2623	656	52	51	2878	720	49	49
			H	1435	359	68	62	2294	573	56	54	2724	681	51	50	2946	737	48	48
	100	75	F	1506	377	74	65	2523	631	60	56	3043	761	52	51	3313	828	49	49
			H	1357	339	72	63	2670	668	58	55	3142	785	51	50	3377	844	48	48
GAH56	80	67	F	931	233	66	61	1727	432	56	54	2170	543	51	51	2424	606	49	49
			H	1136	284	64	60	1891	473	55	53	2290	573	50	50	2509	627	48	48
	90	72	F	1388	347	70	63	2403	601	58	56	2938	735	52	51	3224	806	49	49
			H	1610	402	68	62	2570	642	56	54	3052	763	51	50	3300	825	48	48
	100	75	F	1685	421	74	65	2826	707	60	56	3408	852	52	51	3711	928	49	49
			H	1910	477	72	63	2990	748	58	55	3520	880	51	50	3783	946	48	48
GAH60	80	67	F	990	248	66	61	1861	465	56	54	2332	583	51	51	2610	652	49	49
			H	1208	302	64	59	2035	509	55	53	2460	615	50	50	2697	674	48	48
	90	72	F	1477	369	69	62	2589	647	58	56	3155	789	52	51	3467	867	49	49
			H	1710	428	68	62	2728	682	56	53	3277	819	51	50	3548	887	48	48
	100	75	F	1793	448	74	65	3043	761	60	56	3660	915	52	51	3991	998	49	49
			H	2030	507	72	62	3217	804	58	54	3777	944	51	50	4068	1017	48	48
GAH70	80	67	F	1190	297	66	60	2189	547	56	54	2725	681	51	51	3037	759	49	49
			H	1424	356	64	59	2375	594	55	53	2861	715	50	50	3130	783	48	48
	90	72	F	1758	440	70	63	3031	758	58	55	3676	919	52	51	4028	1007	49	49
			H	2009	502	68	62	3219	805	56	54	3806	952	51	50	4114	1028	48	48
	100	75	F	2123	531	74	65	3553	888	59	56	4257	1064	52	51	4632	1158	49	49
			H	2379	595	72	63	3743	936	58	55	4386	1097	51	50	4715	1179	48	48
GAH80	80	67	F	1424	356	65	60	2541	635	56	54	3154	788	51	51	3497	874	49	49
			H	1679	420	64	59	2739	685	55	53	3297	824	50	50	3597	899	48	48
	90	72	F	2087	522	70	63	3506	877	58	55	4242	1060	52	51	4629	1157	49	49
			H	2353	588	68	62	3704	926	56	54	4377	1094	51	50	4722	1180	48	48
	100	75	F	2510	628	74	65	4106	1027	59	56	3171	793	52	51	5322	1330	49	49
			H	2782	695	72	63	4308	1077	58	55	5045	1261	51	50	5411	1353	48	48
GAH90	80	67	F	1671	418	65	60	2919	730	56	54	3598	900	51	51	3975	994	49	49
			H	1930	483	64	59	3123	781	55	53	3743	936	50	50	4075	1019	48	48
	90	72	F	2421	605	70	63	4008	1002	58	55	4826	1207	52	51	5221	1305	49	49
			H	2700	675	68	62	4216	1054	56	54	4965	1241	51	50	5330	1333	48	48
	100	75	F	2901	725	74	65	4689	1172	59	56	5580	1395	52	51	5922	1480	49	49
			H	3183	796	72	63	4894	1223	58	55	5717	1429	51	50	6121	1530	48	48
GAH100	80	67	F	1861	465	65	60	3266	817	56	54	4007	1002	51	51	4427	1107	49	48
			H	2142	535	64	59	3483	871	55	53	4162	1040	50	50	4534	1133	48	48
	90	72	F	2690	673	70	63	4477	1119	58	55	5369	1342	52	51	5848	1462	48	48
			H	2985	746	68	62	4697	1174	56	54	5517	1379	51	50	5945	1486	48	48
	100	75	F	3219	805	73	64	5233	1308	59	56	6206	1552	52	51	6714	1678	49	48
			H	3520	880	72	63	5450	1362	58	55	6350	1587	51	50	6806	1702	48	48
GAH110	80	67	F	1902	475	65	60	3451	863	56	54	4310	1078	51	51	4792	1198	49	48
			H	2278	570	64	59	3747	937	55	53	4523	1131	50	50	4941	1235	48	48
	90	72	F	2815	704	70	63	4782	1195	58	55	5807	1452	52	51	6355	1589	48	48
			H	3209	802	68	62	5079	1270	56	54	6015	1504	51	50	6493	1623	48	48
	100	75	F	3397	849	73	64	5612	1403	59	56	6734	1683	52	51	7311	1828	49	48
			H	3798	950	72	63	5907	1477	58	55	6931	1733	51	50	7439	1860	48	48
GAH120	80	67	F	2137	534	65	60	3811	953	56	54	4728	1182	51	50	5244	1311	49	48
			H	2520	630	64	59	4110	1027	55	53	4947	1237	50	50	5392	1348	48	48
	90	72	F	3130	783	70	63	5259	1315	58	55	6363	1591	51	51	6942	1735	48	48
			H	3530	882	68	62	5557	1389	56	54	6566	1642	51	50	7083	1771	48	48
	100	75	F	3764	941	73	64	6159	1540	59	56	7364	1841	52	51	7983	1996	49	48
			H	4171	1043	72	63	6457	1614	58	55	7568	1892	51	50	8116	2029	48	48

- All ratings are based on 45°F (EWT) and 55°F (LWT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 2: Cold Water Cooling Coil Ratings (14 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH2.5	80	67	F	26	5	67	63	67	13	56	56	92	18	52	52	103	21	49	49
			H	46	9	62	60	90	18	52	52	107	21	49	49	106	21	47	47
	90	72	F	44	9	68	66	106	21	56	56	132	26	51	51	150	30	47	47
			H	76	15	63	61	128	26	52	52	146	29	48	48	152	30	46	46
	100	75	F	62	12	70	67	130	26	56	56	157	31	50	50	170	34	47	47
			H	96	19	65	61	150	30	52	51	169	34	48	48	176	35	46	46
GAH3.5	80	67	F	38	8	65	63	96	19	56	55	127	25	51	51	143	29	48	48
			H	66	13	61	60	123	25	52	52	144	29	48	48	155	31	47	47
	90	72	F	68	14	67	65	147	29	55	55	180	36	50	50	197	39	47	47
			H	107	21	62	60	173	35	51	51	196	39	48	48	205	41	46	46
	100	75	F	91	18	69	66	178	36	55	55	212	42	50	50	227	45	47	47
			H	133	27	64	61	203	41	51	51	226	45	47	47	235	47	46	46
GAH5	80	67	F	65	13	64	62	157	31	54	54	199	40	50	50	222	44	48	48
			H	111	22	60	58	191	38	51	51	222	44	48	48	235	47	46	47
	90	72	F	138	28	64	62	245	49	53	53	285	57	49	49	303	61	47	47
			H	173	35	61	60	266	53	51	50	297	59	47	47	309	62	46	46
	100	75	F	157	31	67	64	280	56	54	53	325	65	49	49	344	69	47	47
			H	212	42	62	60	311	62	50	50	342	68	47	47	352	70	46	46
GAH6	80	67	F	90	18	63	61	199	40	54	53	248	50	49	49	272	54	48	48
			H	143	29	59	58	237	47	50	50	271	54	47	47	286	57	46	47
	90	72	F	160	32	65	62	291	58	53	53	342	68	49	49	364	73	47	47
			H	219	44	61	59	327	65	50	50	361	72	47	47	375	75	46	46
	100	75	F	204	41	66	63	347	69	53	53	398	80	49	48	418	84	47	46
			H	266	53	62	59	381	76	50	50	416	83	47	47	427	85	46	46
GAH7	80	67	F	112	22	63	61	238	48	54	53	295	59	49	49	321	64	48	48
			H	172	34	59	58	279	56	50	50	319	64	47	47	336	67	46	47
	90	72	F	194	39	64	62	346	69	53	53	403	81	49	49	429	86	47	47
			H	261	52	61	59	385	77	50	50	424	85	47	47	439	88	46	46
	100	75	F	248	50	66	63	411	82	53	53	470	94	49	48	492	98	47	46
			H	317	63	62	59	449	90	50	50	488	98	47	47	502	100	46	46
GAH8	80	67	F	134	27	63	61	276	55	54	53	337	67	49	49	366	73	48	48
			H	202	40	60	58	321	64	50	50	364	73	47	47	383	77	46	47
	90	72	F	230	46	64	62	399	80	53	53	462	92	49	49	488	98	47	47
			H	303	61	61	59	440	88	50	50	483	97	47	47	500	100	46	46
	100	75	F	271	54	66	62	447	89	53	53	508	102	49	48	532	106	47	46
			H	518	104	61	59	486	97	50	50	528	106	47	47	542	108	46	45
GAH9	80	67	F	164	33	63	61	319	64	54	53	386	77	49	49	417	83	48	47
			H	237	47	59	58	367	73	50	49	414	83	47	47	434	87	46	47
	90	72	F	275	55	64	61	457	91	52	52	526	105	49	49	554	111	47	47
			H	352	70	61	59	501	100	50	49	549	110	47	47	566	113	46	46
	100	75	F	345	69	65	62	542	108	52	52	610	122	49	48	636	127	46	46
			H	424	85	61	58	583	117	50	50	630	126	47	46	645	129	46	45
GAH10	80	67	F	187	37	62	60	355	71	54	53	427	85	49	49	460	92	48	47
			H	265	53	59	58	405	81	50	49	457	91	47	47	477	95	46	47
	90	72	F	309	62	64	61	507	101	52	52	581	116	49	49	610	122	47	47
			H	391	78	60	59	553	111	50	49	604	121	47	47	622	124	46	45
	100	75	F	374	75	65	62	583	117	52	52	654	131	49	48	681	136	46	46
			H	457	91	60	58	625	125	50	50	675	135	46	46	691	138	45	45
GAH11	80	67	F	211	42	62	60	397	79	54	53	477	95	49	49	512	102	47	46
			H	297	59	59	58	451	90	50	49	508	102	47	47	530	106	46	46
	90	72	F	348	70	64	61	565	113	52	51	646	129	49	49	678	136	47	47
			H	437	87	60	59	616	123	50	49	672	134	47	47	691	138	46	45
	100	75	F	434	87	65	62	668	134	52	51	748	150	49	48	777	155	46	46
			H	524	105	60	58	715	143	50	49	770	154	46	46	788	158	45	45

- All ratings are based on 45°F (EWT) and 55°F (LWT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 2: Cold Water Cooling Coil Ratings (14 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH 12.5	80	67	F	241	48	61	60	458	92	52	52	546	109	50	50	586	117	47	47
			H	336	67	58	56	520	104	50	50	580	116	47	47	609	122	46	46
	90	72	F	469	94	63	51	650	130	52	52	739	148	48	48	776	155	46	46
			H	496	99	60	57	704	141	50	49	767	153	47	47	790	158	46	46
	100	75	F	497	99	64	61	767	153	52	51	856	171	48	48	887	177	46	46
			H	595	119	61	58	817	163	49	49	878	176	47	47	899	180	46	46
GAH 14	80	67	F	298	60	61	60	527	105	52	52	619	124	50	50	660	132	47	47
			H	397	79	58	56	586	117	50	50	653	131	47	47	679	136	46	46
	90	72	F	475	95	63	61	740	148	52	51	835	167	48	48	870	174	46	46
			H	577	115	60	57	795	159	50	49	862	172	47	47	883	177	46	46
	100	75	F	672	134	63	61	869	174	52	51	962	192	49	48	996	199	46	46
			H	688	138	61	58	922	184	49	49	987	197	47	47	1007	201	46	46
GAH 15.5	80	67	F	312	62	61	60	563	113	52	52	663	133	50	50	708	142	47	46
			H	418	84	58	57	629	126	50	50	700	140	47	47	729	146	46	46
	90	72	F	498	100	62	61	793	159	52	51	893	179	48	48	933	187	46	46
			H	610	122	60	58	852	170	50	49	923	185	47	47	955	191	46	45
	100	75	F	617	123	62	60	931	186	52	51	1030	206	49	48	1067	213	46	46
			H	728	146	60	58	987	197	49	49	1057	211	47	47	1079	216	45	45
GAH 16.5	80	67	F	357	71	61	60	626	125	52	51	734	147	50	49	783	157	47	46
			H	471	94	58	57	696	139	50	50	772	154	47	47	803	161	46	45
	90	72	F	565	113	62	60	877	175	52	51	986	197	49	48	1028	206	46	45
			H	683	137	60	57	940	188	50	50	1018	204	47	47	1060	212	46	45
	100	75	F	697	139	62	60	1030	206	52	51	1137	227	49	48	1177	235	46	46
			H	817	163	60	57	1090	218	49	49	1166	233	47	47	1190	238	45	45
GAH 18	80	67	F	388	78	61	60	686	137	51	51	801	160	49	49	854	171	47	46
			H	511	102	58	57	760	152	49	49	843	169	47	47	877	175	46	45
	90	72	F	613	123	61	60	961	192	51	51	1077	215	49	48	1123	225	46	45
			H	741	148	60	57	1028	206	49	50	1111	222	47	47	1140	228	46	45
	100	75	F	754	151	62	60	1126	225	51	51	1242	248	49	48	1285	257	46	45
			H	883	177	60	57	1190	238	49	49	1271	254	47	47	1297	259	45	45
GAH 19	80	67	F	428	86	60	59	728	146	51	51	849	170	348	48	902	180	47	46
			H	553	111	57	57	803	161	49	49	890	178	47	47	923	185	46	46
	90	72	F	668	134	61	60	1017	203	51	50	1139	228	47	47	1184	237	46	46
			H	797	159	58	57	1085	217	49	49	1172	234	46	46	1200	240	45	45
	100	75	F	819	164	62	60	1191	238	51	50	1311	262	47	47	1353	271	46	46
			H	948	190	59	57	1255	251	49	49	1341	268	46	46	1366	273	45	45
GAH 20	80	67	F	445	89	60	58	772	154	52	51	899	180	48	48	956	191	46	46
			H	577	115	57	55	852	170	49	49	943	189	47	47	979	196	46	46
	90	72	F	697	139	61	59	1078	216	51	50	1206	241	47	47	1256	251	46	46
			H	835	167	58	56	1150	230	49	49	1242	248	46	46	1273	255	45	45
	100	75	F	857	171	63	60	1264	253	51	50	1390	278	47	47	1436	287	46	46
			H	995	199	59	57	1330	266	49	49	1421	284	46	46	1448	290	45	45
GAH 22.5	80	67	F	463	93	61	58	845	169	52	51	999	200	48	48	1065	213	346	46
			H	640	128	57	56	950	190	49	49	1057	211	47	47	1097	219	46	46
	90	72	F	738	148	62	59	1183	237	51	51	1340	268	47	47	1400	280	46	46
			H	923	185	58	56	1281	256	49	49	1388	278	46	46	1423	285	45	45
	100	75	F	914	183	63	60	1389	278	51	50	1545	309	47	47	1600	320	46	46
			H	1100	220	60	57	1482	296	49	49	1588	318	46	46	1619	324	45	45
GAH 25.5	80	67	F	529	106	61	59	961	192	52	51	1135	227	48	48	1209	242	46	46
			H	728	146	57	56	1081	216	49	49	1200	240	47	47	1245	249	46	46
	90	72	F	841	168	61	60	1343	269	51	50	1520	304	47	47	1585	317	46	46
			H	1050	210	58	56	1454	291	49	49	1576	315	46	46	1610	322	45	45
	100	75	F	1040	208	62	61	1576	315	51	50	1754	351	47	47	1811	362	46	46
			H	1251	250	60	57	1683	337	49	49	1802	360	46	46	1837	367	45	45

- All ratings are based on 45°F (EWT) and 55°F (LWT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 2: Cold Water Cooling Coil Ratings (14 FPI) (Continued):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH 28	80	67	F	571	114	61	59	1045	209	51	51	1229	246	48	48	1309	262	46	46
			H	783	157	57	56	1172	234	49	49	1299	260	47	47	1348	270	46	46
	90	72	F	904	181	62	60	1461	292	51	51	1645	329	47	47	1719	344	46	46
			H	1128	226	59	57	1576	315	49	49	1704	341	46	46	1746	349	45	45
	100	75	F	1120	224	64	61	1711	342	51	51	1897	379	47	47	1966	393	46	46
			H	1346	269	60	57	1823	365	49	49	1949	390	46	46	1988	398	45	45
GAH 30	80	67	F	666	133	61	59	1158	232	51	51	1350	270	48	48	1430	286	46	46
			H	883	177	57	56	1288	258	49	49	1419	284	47	47	1468	294	46	46
	90	72	F	1033	207	62	60	1607	321	51	51	1802	360	47	47	1871	374	46	46
			H	1263	253	59	57	1723	345	49	49	1857	371	46	46	1899	380	45	45
	100	75	F	1270	254	64	61	1878	376	51	51	2073	415	47	47	2139	428	46	46
			H	1496	299	60	57	1990	398	49	49	2122	424	46	46	2160	432	45	45
GAH 32.5	80	67	F	720	144	60	59	1259	252	51	51	1464	293	48	47	1551	310	46	46
			H	953	191	57	56	1395	279	49	49	1537	307	47	47	1590	318	45	45
	90	72	F	1118	224	62	60	1746	349	51	51	1951	390	47	47	2029	406	46	46
			H	1360	272	58	57	1868	374	49	49	2010	402	46	46	2056	411	45	45
	100	75	F	1371	274	63	60	2041	408	51	50	2243	449	47	47	2317	463	46	46
			H	1614	323	59	57	2157	431	49	49	2296	459	46	46	2341	468	45	45
GAH 35	80	67	F	783	157	60	59	1357	271	51	51	1583	317	48	47	1673	335	46	46
			H	1037	207	57	55	1506	301	49	49	1659	332	47	47	1718	344	45	45
	90	72	F	1217	243	62	60	1882	376	51	51	2109	422	47	47	2190	438	46	46
			H	1477	295	58	56	2017	403	49	49	2173	435	46	46	2223	445	45	45
	100	75	F	1492	298	63	60	2203	441	50	50	2425	485	47	47	2504	501	46	46
			H	1754	351	59	56	2330	466	49	49	2484	497	46	46	2528	506	45	45
GAH 37.5	80	67	F	863	173	60	58	1461	292	51	51	1690	338	47	47	1786	357	46	46
			H	1120	224	56	55	1610	322	49	49	1770	354	46	46	1827	365	45	45
	90	72	F	1322	264	61	59	2017	403	50	50	2250	450	47	47	2334	467	46	46
			H	1583	317	58	56	2153	431	49	49	2314	463	46	46	2365	473	45	45
	100	75	F	1615	323	62	59	2355	471	50	50	2588	518	47	47	2664	533	46	46
			H	1882	376	59	56	2483	497	49	49	2643	529	46	46	2690	538	45	45
GAH 40	80	67	F	918	184	60	58	1564	313	51	50	1805	361	47	47	1906	381	46	46
			H	1190	238	56	55	1721	344	49	49	1889	378	46	46	1950	390	45	45
	90	72	F	1189	238	61	59	1665	333	50	50	2055	411	47	47	2271	454	46	46
			H	1099	220	58	56	1802	360	49	49	2150	430	46	46	2337	467	45	45
	100	75	F	1717	343	62	59	2517	503	50	50	2762	552	47	47	2844	569	46	46
			H	2000	400	59	56	2653	531	49	49	2821	564	46	46	2870	574	45	45
GAH 42.5	80	67	F	1003	201	60	58	1674	335	51	50	1931	386	47	47	2032	406	46	46
			H	1286	257	56	55	1837	367	49	49	2014	403	46	46	2077	415	45	45
	90	72	F	1527	305	61	59	2307	461	50	50	2563	513	47	47	2657	531	46	46
			H	1820	364	58	56	2453	491	49	49	2633	527	46	46	2689	538	45	45
	100	75	F	1858	372	62	59	2688	538	50	50	2947	589	47	47	3030	606	46	46
			H	2153	431	59	56	2829	566	49	48	3010	602	46	46	3058	612	45	45
GAH 45	80	67	F	1070	214	59	58	1790	358	50	50	2049	410	47	47	2157	431	46	46
			H	1357	271	56	55	1951	390	49	49	2134	427	46	46	2200	440	45	45
	90	72	F	1622	324	61	59	2456	491	50	50	2718	544	47	47	2813	563	46	46
			H	1920	384	58	56	2603	521	49	48	2786	557	46	46	2844	569	45	45
	100	75	F	1971	394	62	59	2860	572	50	50	3120	624	47	47	3210	642	46	46
			H	2273	455	59	56	3000	600	49	48	3183	637	46	46	3236	647	45	45
GAH 47.5	80	67	F	1184	237	59	57	1915	383	50	50	2183	437	47	47	2290	458	46	46
			H	1477	295	56	54	2077	415	49	48	2267	453	46	46	2333	467	45	45
	90	72	F	1777	355	60	58	2619	524	50	50	2890	578	47	47	2987	597	46	46
			H	2080	416	57	55	2768	554	49	48	2958	592	46	46	3017	603	45	45
	100	75	F	2150	430	61	59	3047	609	50	50	3317	663	47	47	3405	681	45	45
			H	2454	491	58	56	3188	638	49	48	3376	675	46	46	3430	686	45	45

- All ratings are based on 45°F (EWT) and 55°F (LWT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 2: Cold Water Cooling Coil Ratings (14 FPI):

MODEL	EDB	EWB	Circuit	2 Row				4 Row				6 Row				8 Row			
	°F	°F		MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB	MBH	GPM	LDB	LWB
GAH50	80	67	F	1274	255	58	57	2030	406	50	50	2303	461	47	47	2413	483	46	46
			H	1571	314	56	54	2191	438	48	48	2388	478	46	46	2455	491	45	45
	90	72	F	1897	379	60	58	2769	554	50	50	3047	609	49	49	3143	629	346	46
			H	2202	440	57	55	2918	584	48	48	3114	623	46	46	3172	634	45	45
	100	75	F	2290	458	61	58	3217	643	50	50	3494	699	47	47	3583	717	46	46
			H	2597	519	58	56	3357	671	48	48	3553	711	46	46	3606	721	45	45
GAH56	80	67	F	1424	285	58	57	2272	454	50	50	2577	515	47	47	2703	541	46	46
			H	1760	352	56	54	2457	491	48	48	2676	535	46	46	2750	550	45	45
	90	72	F	2123	425	60	58	3099	620	50	50	3413	683	49	49	3521	704	46	46
			H	2468	494	57	55	3268	654	48	48	3489	698	46	46	3554	711	45	45
	100	75	F	2563	513	61	58	3604	721	50	50	3913	783	47	47	4013	803	46	46
			H	2907	581	58	56	3761	752	48	48	3980	796	46	46	4041	808	45	45
GAH60	80	67	F	1518	304	58	57	2449	490	50	50	2775	555	47	47	2907	581	46	46
			H	1878	376	55	54	2643	529	48	48	2875	575	46	46	2957	591	45	45
	90	72	F	2267	453	60	58	3338	668	50	50	3668	734	48	48	3785	757	46	46
			H	2634	527	57	55	3514	703	48	48	3749	750	46	46	3820	764	45	45
	100	75	F	2737	547	61	58	3879	776	50	50	4205	841	47	47	4314	863	46	46
			H	3104	621	58	56	4043	809	48	48	4277	855	46	46	4341	868	45	45
GAH70	80	67	F	1831	366	58	57	2874	575	50	50	3233	647	47	47	3376	675	46	46
			H	2217	443	56	54	3078	616	48	48	3334	667	46	46	3426	685	45	45
	90	72	F	2697	539	60	58	3897	779	49	49	4262	852	47	47	4388	878	46	46
			H	3092	618	57	55	4085	817	48	48	4345	869	46	46	4423	885	45	45
	100	75	F	3240	648	60	58	4523	905	49	49	4883	977	47	46	4998	1000	46	46
			H	3637	727	58	56	4697	939	48	48	4955	991	46	46	5027	1005	45	45
GAH80	80	67	F	2192	438	58	56	3331	666	50	50	3728	746	47	47	3877	775	46	46
			H	2604	521	55	54	3548	710	48	48	3835	767	46	46	3929	786	45	45
	90	72	F	3193	639	60	58	4503	901	49	49	4899	980	47	47	5035	1007	46	46
			H	3610	722	57	55	4696	939	48	48	4988	998	46	46	5071	1014	45	45
	100	75	F	3820	764	61	58	5214	1043	49	49	5615	1123	47	46	5733	1147	46	45
			H	4237	847	58	56	5400	1080	48	48	5682	1136	46	46	5761	1152	45	45
GAH90	80	67	F	2577	515	58	56	3817	763	50	50	4237	847	47	47	4393	879	46	46
			H	3000	600	55	54	4036	807	48	48	4343	869	46	46	4443	889	45	45
	90	72	F	3710	742	60	58	5137	1027	49	49	5557	1111	47	47	5696	1139	46	46
			H	4137	827	57	55	5332	1066	48	48	5643	1129	46	46	5729	1146	45	45
	100	75	F	4419	884	61	58	5937	1187	49	49	6355	1271	47	46	6482	1296	45	45
			H	4845	969	58	56	6120	1224	48	48	6430	1286	46	46	6510	1302	35	45
GAH100	80	67	F	2883	577	58	56	4268	854	50	50	4725	945	47	47	4887	977	46	46
			H	3334	667	55	54	4497	899	48	48	4829	966	46	46	4939	988	45	45
	90	72	F	4136	827	60	58	5729	1146	49	49	6183	1237	47	46	6331	1266	46	46
			H	4594	919	57	55	5936	1187	48	48	6271	1254	46	46	6368	1274	45	45
	100	75	F	4920	984	60	57	6670	1334	49	49	7068	1414	47	46	7205	1441	45	45
			H	5375	1075	57	55	6810	1362	48	48	7145	1429	46	46	7234	1447	45	45
GAH110	80	67	F	2927	585	58	56	4536	907	50	50	5106	1021	47	47	5322	1064	46	46
			H	3532	706	55	54	4860	972	48	48	5268	1054	46	46	5406	1081	45	45
	90	72	F	4265	853	60	58	6154	1231	49	49	6730	1346	46	46	6924	1385	45	45
			H	4921	984	57	55	6447	1289	48	48	6859	1372	46	46	6980	1396	45	45
	100	75	F	5165	1033	60	57	7137	1427	49	49	7709	1542	46	46	7887	1577	45	45
			H	5783	1157	57	55	7411	1482	48	48	7822	1564	46	46	7932	1586	45	45
GAH120	80	67	F	3288	658	58	56	4993	999	50	50	5589	1118	47	47	5815	1163	46	46
			H	3905	781	55	54	5322	1064	48	48	5752	1150	46	46	5893	1179	45	45
	90	72	F	4790	958	60	58	6754	1351	49	49	7349	1470	46	46	7552	1510	45	45
			H	5416	1083	57	55	7043	1409	48	48	7482	1496	46	46	7607	1521	45	45
	100	75	F	5729	1146	60	57	7818	1564	49	49	8421	1684	46	46	8593	1719	45	45
			H	6355	1271	57	55	8092	1618	48	48	8523	1705	46	46	8640	1728	45	45

- All ratings are based on 45°F (EWT) and 55°F (LWT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 3: DX Cooling Coil Ratings:

MODEL	EDB	EWB	8 fpi						14 fpi					
			4 Row			6 Row			4 Row			6 Row		
			°F	°F	MBH	LDB	LWB	MBH	LDB	LWB	MBH	LDB	LWB	MBH
GAH 2.5	80	67	66	60	57	87	55	53	76	53	53	91	48	48
	90	72	77	63	59	102	57	55	105	53	53	126	48	48
	100	75	83	66	61	110	58	56	128	54	53	153	48	48
GAH 3.5	80	67	94	60	57	125	55	52	103	52	52	124	47	47
	90	72	110	63	59	143	57	54	164	52	52	178	47	47
	100	75	117	66	61	157	57	56	175	53	52	210	47	47
GAH 5	80	67	141	59	56	184	54	52	150	51	51	179	47	46
	90	72	163	63	59	214	56	53	206	51	51	247	46	46
	100	75	175	65	61	230	56	55	255	52	51	306	46	46
GAH 6	80	67	168	59	56	224	54	51	220	50	50	260	46	46
	90	72	178	62	59	238	55	53	303	51	51	358	46	46
	100	75	193	65	61	255	55	54	349	51	51	411	46	46
GAH 7	80	67	188	59	56	250	53	51	285	50	50	337	46	46
	90	72	219	62	59	291	54	52	363	51	51	428	46	46
	100	75	236	65	60	313	55	54	422	51	51	498	46	46
GAH 8	80	67	227	58	56	300	52	50	331	50	50	379	46	45
	90	72	266	62	58	346	53	51	420	51	51	481	46	46
	100	75	283	64	60	376	54	53	491	51	51	563	46	46
GAH 9	80	67	253	57	55	332	51	50	368	50	50	421	46	45
	90	72	293	61	58	372	52	51	477	51	51	547	46	46
	100	75	321	64	60	417	53	52	563	51	51	644	46	46
GAH 10	80	67	270	57	55	357	50	49	416	50	49	476	45	45
	90	72	317	61	58	422	51	51	540	51	50	618	46	46
	100	75	341	64	60	443	52	52	637	51	51	729	46	46
GAH 11	80	67	294	58	56	392	53	52	442	50	50	506	46	46
	90	72	344	61	58	455	55	54	595	50	50	681	46	46
	100	75	369	64	61	489	57	55	680	51	51	779	46	46
GAH 12.5	80	67	323	58	56	433	53	52	506	50	50	579	46	46
	90	72	348	61	58	497	55	54	653	50	50	748	46	46
	100	75	405	64	60	526	56	55	757	51	51	867	46	46
GAH 14	80	67	349	58	56	489	53	52	567	50	49	643	46	45
	90	72	393	61	58	543	55	54	717	50	50	813	46	46
	100	75	441	64	60	588	56	55	854	51	51	969	46	46
GAH 15.5	80	67	397	58	56	530	53	52	632	50	49	718	45	45
	90	72	457	61	57	616	55	54	774	50	50	878	46	46
	100	75	504	64	59	665	56	55	931	51	50	1057	46	46
GAH 16.5	80	67	441	58	55	585	53	52	732	49	49	831	45	45
	90	72	515	61	57	682	55	54	888	50	50	1008	46	45
	100	75	553	64	59	733	56	55	1030	51	50	1169	46	46
GAH 18	80	67	465	57	55	630	52	52	796	49	49	899	45	45
	90	72	530	61	57	709	54	54	977	50	50	1104	45	45
	100	75	592	63	59	776	56	55	1109	51	50	1253	46	45
GAH 19	80	67	517	57	55	663	52	52	899	49	49	1016	45	45
	90	72	577	61	57	776	54	53	1083	50	50	1223	45	45
	100	75	620	63	59	823	56	54	1203	51	50	1360	46	45
GAH 20	80	67	530	57	55	702	52	51	993	49	49	1122	45	45
	90	72	613	60	57	817	54	53	1141	50	50	1289	45	45
	100	75	663	63	59	880	56	54	1288	51	50	1455	45	45

- All ratings are based on 45°F evaporating temperature and full circuiting.
- All coil ratings are based on 500 FPM air flow velocity.



Table 4: Hot Water Heating Coil Ratings (8 fpi):

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH2.5	F	64	117	183
	H	71	126	189
GAH3.5	F	90	164	257
	H	99	176	265
GAH5	F	129	235	368
	H	142	251	379
GAH6	F	154	282	442
	H	169	301	455
GAH7	F	180	329	516
	H	198	352	531
GAH8	F	206	376	589
	H	227	402	606
GAH9	F	231	423	663
	H	254	452	682
GAH10	F	257	470	737
	H	283	502	759
GAH11	F	283	517	810
	H	306	542	827
GAH12.5	F	322	587	921
	H	347	616	939
GAH14	F	360	657	1031
	H	389	690	1052
GAH15.5	F	399	728	1142
	H	431	764	1165
GAH16.5	F	425	775	1216
	H	459	814	1240
GAH18	F	463	845	1326
	H	501	887	1353
GAH19	F	490	892	1400
	H	529	937	1428
GAH20	F	515	939	1473
	H	556	986	1503
GAH22.5	F		1057	1655
	H		1109	1688
GAH25.5	F		1197	1879
	H		1257	1917

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH28	F		1315	2063
	H		1354	2104
GAH30	F		1409	2207
	H		1451	2251
GAH32.5	F		1526	2390
	H		1572	2438
GAH35	F		1643	2575
	H		1693	2626
GAH37.5	F		1761	2758
	H		1814	2813
GAH40	F		1878	2943
	H		1935	3001
GAH42.5	F		1996	3126
	H		2056	3189
GAH45	F		2113	3310
	H		2176	3377
GAH47.5	F		2230	3494
	H		2297	3564
GAH50	F		2348	3678
	H		2418	3752
GAH56	F		2630	4119
	H		2708	4202
GAH60	F		2817	4414
	H		2902	4502
GAH70	F		3287	5150
	H		3386	5253
GAH80	F		3757	5885
	H		3869	6003
GAH90	F		4226	6621
	H		4353	6753
GAH100	F		4696	7357
	H		4837	7504
GAH110	F		5165	8092
	H		5320	8254
GAH120	F		5635	8828
	H		5804	9004

- All ratings are based on 180°F (EWT) and 60°F (EAT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 5: Hot Water Heating Coil Ratings (14 fpi):

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH2.5	F	97	153	222
	H	106	163	229
GAH3.5	F	135	214	311
	H	148	229	321
GAH5	F	193	305	445
	H	212	327	458
GAH6	F	231	366	535
	H	254	392	550
GAH7	F	270	427	624
	H	297	457	643
GAH8	F	310	489	712
	H	340	523	734
GAH9	F	347	550	802
	H	382	588	826
GAH10	F	386	610	891
	H	424	653	918
GAH11	F	425	671	981
	H	459	705	1000
GAH12.5	F	483	763	1114
	H	521	801	1137
GAH14	F	540	855	1261
	H	583	897	1273
GAH15.5	F	599	946	1382
	H	647	994	1410
GAH16.5	F	638	1007	1471
	H	689	1057	1500
GAH18	F	696	1099	1604
	H	750	1154	1637
GAH19	F	735	1160	1694
	H	793	1217	1728
GAH20	F	772	1221	1783
	H	834	1282	1818
GAH22.5	F		1374	2003
	H		1442	2043
GAH25.5	F		1557	2274
	H		1635	2319

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH28	F		1775	2475
	H		1828	2524
GAH30	F		1902	2649
	H		1959	2702
GAH32.5	F		2060	2869
	H		2122	2926
GAH35	F		2219	3090
	H		2285	3151
GAH37.5	F		2377	3310
	H		2449	3377
GAH40	F		2536	3531
	H		2611	3602
GAH42.5	F		2694	3751
	H		2775	3826
GAH45	F		2853	3972
	H		2938	4052
GAH47.5	F		3011	4193
	H		3102	4277
GAH50	F		3170	4414
	H		3264	4503
GAH56	F		3550	4943
	H		3657	5042
GAH60	F		3803	5297
	H		3917	5403
GAH70	F		4437	6179
	H		4570	6303
GAH80	F		5071	7063
	H		5223	7203
GAH90	F		5705	7945
	H		5877	8104
GAH100	F		6339	8828
	H		6530	9004
GAH110	F		6973	9710
	H		7183	9905
GAH120	F		7607	10593
	H		7835	10805

- All ratings are based on 180°F (EWT) and 60°F (EAT).
- All coil ratings are based on 500 FPM air flow velocity.



Table 6: Steam Heating Coil Ratings:

MODEL	8 fpi		14 fpi	
	1 Row	2 Row	1 Row	2 Row
	112°F LDB	146°F LDB	147°F LDB	186°F LDB
	MBH	MBH	MBH	MBH
GAH2.5	106	177	177	260
GAH3.5	155	250	256	364
GAH5	221	358	365	523
GAH6	257	430	428	628
GAH7	310	505	513	737
GAH8	343	574	570	837
GAH9	383	639	635	927
GAH10	427	730	712	1058
GAH11	480	802	797	1163
GAH12.5	557	898	922	1311
GAH14	588	1021	984	1480
GAH15.5	643	1078	1073	1574
GAH16.5	722	1205	1198	1749
GAH18	800	1300	1324	1893
GAH19	804	1384	1344	2008
GAH20	866	1450	1443	2114
GAH22.5		1587		2303
GAH25.5		1889		2740
GAH28		2020		2946
GAH30		2190		3171
GAH32.5		2345		3416
GAH35		2560		3715
GAH37.5		2719		3949
GAH40		2879		4190
GAH42.5		3093		4487
GAH45		3230		4705
GAH47.5		3467		5030
GAH50		3643		5288
GAH56		4081		5922
GAH60		4337		6324
GAH70		5025		7321
GAH80		5813		8437
GAH90		6564		9527
GAH100		7226		10523
GAH110		8006		11622
GAH120		8757		12710

- All ratings are based on full circuiting.
- All ratings are based on 60°F (EAT) and 2 psig steam pressure.
- All coil ratings are based on 500 FPM air flow velocity.



Multizone:

Table 7: Hot Water Coil Ratings (8FPI):

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH 10	F	230	423	664
	H	254	452	709
GAH 11	F	255	466	730
	H	274	488	765
GAH 12.5	F	289	529	829
	H	311	555	870
GAH 14	F	323	592	928
	H	349	622	974
GAH 15.5	F	358	656	1028
	H	387	688	1079
GAH 16.5	F	381	698	1094
	H	412	733	1149
GAH 18	F	415	761	1193
	H	449	799	1252
GAH 19	F	439	804	1259
	H	474	844	1323
GAH 20	F	462	846	1326
	H	499	888	1392
GAH 22.5	F	---	952	1492
	H	---	999	1566
GAH 25.5	F	---	1078	1690
	H	---	1132	1775
GAH 28	F	---	1185	1856
	H	---	1220	1912
GAH 30	F	---	1269	1989
	H	---	1307	2048
GAH 32.5	F	---	1375	2154
	H	---	1416	2219
GAH 35	F	---	1480	2320
	H	---	1525	2390
GAH 37.5	F	---	1586	2486
	H	---	1634	2561
GAH 40	F	---	1692	2651
	H	---	1743	2732

● 180°F (EWT) 20°F (WTD) 60°F (EDB).

Table 8: Hot Water Coil Ratings (14FPI):

MODEL	Circuit	1 Row	2 Row	4 Row
		MBH	MBH	MBH
GAH 10	F	323	572	863
	H	355	611	921
GAH 11	F	357	629	949
	H	384	659	995
GAH 12.5	F	404	714	1077
	H	436	749	1131
GAH 14	F	452	799	1206
	H	488	839	1266
GAH 15.5	F	501	885	1336
	H	541	929	1402
GAH 16.5	F	534	943	1422
	H	576	990	1494
GAH 18	F	581	1028	1551
	H	629	1079	1628
GAH 19	F	615	1085	1637
	H	664	1140	1720
GAH 20	F	647	1142	1723
	H	698	1199	1810
GAH 22.5	F	---	1286	1940
	H	---	1349	2035
GAH 25.5	F	---	1456	2197
	H	---	1529	2307
GAH 28	F	---	1599	2413
	H	---	1647	2485
GAH 30	F	---	1714	2586
	H	---	1765	2663
GAH 32.5	F	---	1856	2801
	H	---	1912	2885
GAH 35	F	---	1998	3015
	H	---	2059	3107
GAH 37.5	F	---	2142	3232
	H	---	2206	3329
GAH 40	F	---	2284	3447
	H	---	2353	3551

● 180°F (EWT) 20°F (WTD) 60°F (EDB).



Multizone:

Table 9: Steam Coil Ratings (8FPI):

MODEL	1 Row		2 Row	
	112°F	LDB	146°F	LDB
	MBH		MBH	
GAH 10	388		663	
GAH 11	436		729	
GAH 12.5	507		817	
GAH 14	534		928	
GAH 15.5	585		980	
GAH 16.5	656		1096	
GAH 18	727		1182	
GAH 19	731		1258	
GAH 20	787		1319	
GAH 22.5			1443	
GAH 25.5			1717	
GAH 28			1836	
GAH 30			1991	
GAH 32.5			2132	
GAH 35			2327	
GAH 37.5			2472	
GAH 40			2617	

60°F (EDB) 2 psig (SP).

Table 10: Steam Coil Ratings (14FPI):

MODEL	1 Row		2 Row	
	147°F	LDB	186°F	LDB
	MBH		MBH	
GAH 10	647		962	
GAH 11	724		1058	
GAH 12.5	838		1192	
GAH 14	895		1345	
GAH 15.5	975		1431	
GAH 16.5	1089		1590	
GAH 18	1204		1721	
GAH 19	1222		1825	
GAH 20	1312		1922	
GAH 22.5			2093	
GAH 25.5			2491	
GAH 28			2678	
GAH 30			2883	
GAH 32.5			3105	
GAH 35			3377	
GAH 37.5			3590	
GAH 40			3809	

60°F (EDB) 2 psig (SP).

Table 11: Coil Face Area:

MODEL	CFM	Cooling	Heating
		CoilFace Area (ft ²)	
GAH 10	10000	20	14
GAH 11	11000	22	16
GAH 12.5	12500	25	18
GAH 14	14000	28	20
GAH 15.5	15500	31	22
GAH 16.5	16500	33	23
GAH 18	18000	36	25
GAH 19	19000	38	27
GAH 20	20000	40	28
GAH 22.5	22500	45	31
GAH 25.5	25500	51	35
GAH 28	28000	56	38
GAH 30	30000	60	41
GAH 32.5	32500	65	44
GAH 35	35000	70	48
GAH 37.5	37500	75	51
GAH 40	40000	80	54



Table 12: Capacity Correction Factors For Other Air Flow Rates:

Coil Type	Coil Face Velocity						
	85 %	90 %	95 %	100 %	105 %	110 %	115 %
Cooling Coil	0.91	0.94	0.97	1	1.02	1.04	1.07
Heating Coil	0.89	0.95	0.96	1	1.01	1.02	1.03

Table 13: Chilled Water Coil Corection Factor:

E.D.B	E.W.T	E.W.B						
		59	63	67	72	75	79	83
80	35	1.00	1.20	1.40	1.60	1.80	2.00	2.20
	40	0.80	1.00	1.20	1.40	1.60	1.80	2.00
	45	0.60	0.80	1.00	1.20	1.40	1.60	1.80
	50	-	0.60	0.80	1.00	1.20	1.40	1.60
	55	-	0.40	0.60	0.80	1.00	1.20	1.40
90	35	-	1.00	1.20	1.40	1.60	1.80	2.00
	40	-	0.80	1.00	1.20	1.40	1.60	1.80
	45	-	0.60	0.80	1.00	1.20	1.40	1.60
	50	-	-	0.60	0.80	1.00	1.20	1.40
	55	-	-	0.40	0.60	0.80	1.00	1.20
100	35	-	-	1.00	1.20	1.40	1.60	1.80
	40	-	-	0.80	1.00	1.20	1.40	1.60
	45	-	-	0.60	0.80	1.00	1.20	1.40
	50	-	-	-	0.60	0.80	1.00	1.20
	55	-	-	-	0.40	0.60	0.80	1.00

Table 14: DX Coil Corection Factor:

E.D.B	Suction Temp.(°F)	E.W.B (°F)						
		62	65	67	72	75	78	82
80	40	0.91	1.12	1.15	1.57	1.73	1.87	1.92
	45	0.79	0.95	1.00	1.29	1.57	1.72	1.86
90	04	0.73	0.83	0.96	1.17	1.35	1.65	1.78
	45	0.65	0.79	0.90	1.00	1.18	1.32	1.64
100	40	0.73	0.80	0.88	1.05	1.22	1.41	1.69
	45	0.62	0.76	0.81	0.92	1.00	1.22	1.43



Correction Factors:

Table 15: Hot Water Correction Factors:

Entering Air Temperature (°F)	Entering Water Temperature (°F)										
	150	160	170	180	190	200	210	220	230	240	250
30	1.035	1.115	1.210	1.295	1.380	1.465	1.545	1.640	1.720	1.810	1.895
40	1.940	1.025	1.105	1.195	1.275	1.360	1.440	1.535	1.620	1.700	1.785
50	0.840	0.930	1.050	1.090	1.175	1.265	1.345	1.430	1.510	1.600	1.690
60	0.743	0.835	0.920	1.000	1.080	1.165	1.240	1.325	1.405	1.500	1.580
70	0.650	0.745	0.825	0.905	0.980	1.070	1.150	1.235	1.315	1.395	1.480
80	0.570	0.650	0.735	0.815	0.895	0.980	1.060	1.140	1.220	1.300	1.380
90	0.475	0.560	0.640	0.720	0.805	0.885	0.965	1.050	1.130	1.210	1.280
100	0.395	0.475	0.560	0.710	0.790	0.875	0.955	1.035	1.115	1.155	1.185

Table 16: Steam Correction Factors:

Steam Pressure (psig)	Entering Air Temperature (°F)											
	-10	0	10	20	30	40	50	60	70	80	90	100
2	-	-	-	-	-	1.16	1.08	1.00	0.93	0.85	0.78	0.71
5	1.64	1.55	1.46	1.37	1.29	1.21	1.13	1.05	0.97	0.90	0.83	0.76
10	1.73	1.64	1.55	1.46	1.38	1.29	1.21	1.13	1.06	0.98	0.91	0.84
15	1.80	1.71	1.61	1.53	1.44	1.34	1.28	1.19	1.12	1.04	0.97	0.90
20	1.86	1.77	1.68	1.58	1.50	1.42	1.33	1.25	1.17	1.10	1.02	0.95
30	1.97	1.87	1.78	1.68	1.60	1.51	1.43	1.35	1.27	1.19	1.12	1.04
40	2.06	1.96	1.86	1.77	1.68	1.60	1.51	1.43	1.35	1.27	1.19	1.12
50	2.13	2.04	1.94	1.85	1.76	1.67	1.58	1.50	1.42	1.34	1.26	1.19
60	2.20	2.09	2.00	1.90	1.81	1.73	1.64	1.56	1.47	1.39	1.31	1.24
70	2.26	2.16	2.06	1.96	1.87	1.78	1.70	1.61	1.53	1.45	1.37	1.29
75	2.28	2.18	2.09	1.99	1.90	1.81	1.72	1.64	1.55	1.47	1.40	1.32
80	2.31	2.21	2.11	2.02	1.93	1.84	1.75	1.66	1.58	1.50	1.42	1.34
90	2.36	2.26	2.16	2.06	1.97	1.88	1.79	1.71	1.62	1.54	1.46	1.38
100	2.41	2.31	2.20	2.11	2.02	1.93	1.84	1.75	1.66	1.58	1.50	1.42
125	2.51	2.41	2.31	2.21	2.11	2.02	1.93	1.84	1.76	1.68	1.59	1.51
150	2.60	2.50	2.40	2.30	2.20	2.11	2.02	1.93	1.84	1.76	1.67	1.59
200	2.75	2.65	2.55	2.45	2.35	2.25	2.16	2.07	1.98	1.89	1.81	1.72
250	2.87	2.77	2.67	2.57	2.46	2.36	2.27	2.18	2.09	2.01	1.92	1.81



Table 17: Accessories Air Side Pressure Drop (Inwg):

MODEL	Basic Unit	Damper		Mixing Box	Air Washer		Diffuser	Electrical Heater	Air Blender
		Parallel	Opposed		Class 6	class 8			
GAH2.5	.13	0.04	0.04	0.08	0.32	0.41	0.02	0.013	0.08
GAH3.5	.13	0.04	0.04	0.08	0.32	0.41	0.02	0.013	0.08
GAH5	.13	0.04	0.05	0.08	0.32	0.42	0.03	0.013	0.1
GAH6	.13	0.03	0.05	0.08	0.32	0.42	0.03	0.013	0.1
GAH7	.13	0.03	0.05	0.08	0.32	0.42	0.03	0.014	0.1
GAH8	.13	0.03	0.06	0.08	0.32	0.42	0.04	0.014	0.11
GAH9	.13	0.03	0.06	0.08	0.32	0.42	0.04	0.014	0.11
GAH10	.13	0.03	0.06	0.08	0.32	0.42	0.04	0.014	0.11
GAH11	.13	0.03	0.06	0.08	0.32	0.42	0.04	0.014	0.12
GAH12.5	.13	0.03	0.06	0.08	0.32	0.43	0.05	0.014	0.12
GAH14	.14	0.03	0.06	0.08	0.32	0.43	0.05	0.014	0.14
GAH15.5	.14	0.03	0.06	0.08	0.33	0.43	0.05	0.014	0.15
GAH16.5	.14	0.03	0.06	0.09	0.33	0.43	0.05	0.015	0.16
GAH18	.14	0.03	0.06	0.09	0.33	0.43	0.05	0.015	0.16
GAH19	.14	0.02	0.06	0.09	0.34	0.44	0.05	0.015	0.18
GAH20	.14	0.02	0.06	0.09	0.34	0.44	0.05	0.016	0.18
GAH22.5	.14	0.02	0.06	0.09	0.34	0.44	0.05	0.016	0.18
GAH25.5	.14	0.02	0.06	0.09	0.35	0.46	0.05	0.016	0.19
GAH28	.14	0.02	0.06	0.09	0.35	0.46	0.05	0.016	0.20
GAH30	.14	0.02	0.06	0.09	0.36	0.47	0.05	0.016	0.20
GAH32.5	.14	0.02	0.06	0.09	0.36	0.47	0.05	0.016	0.20
GAH35	.15	0.02	0.06	0.09	0.36	0.47	0.05	0.016	0.23
GAH37.5	.15	0.02	0.06	0.09	0.38	0.49	0.05	0.016	0.23
GAH40	.15	0.02	0.06	0.09	0.38	0.49	0.05	0.017	0.23
GAH42.5	.15	0.02	0.06	0.09	0.38	0.49	0.05	0.017	0.23
GAH45	.15	0.02	0.07	0.10	0.38	0.49	0.05	0.017	0.23
GAH47.5	.15	0.02	0.07	0.10	0.38	0.50	0.05	0.017	0.25
GAH50	.15	0.02	0.07	0.10	0.39	0.51	0.06	0.017	0.25
GAH56	.15	0.02	0.07	0.10	0.39	0.51	0.06	0.017	0.25
GAH60	.15	0.02	0.07	0.10	0.41	0.53	0.06	0.017	0.25
GAH70	.16	0.02	0.07	0.10	0.41	0.53	0.06	0.017	0.26
GAH80	.16	0.02	0.07	0.10	0.42	0.55	0.06	0.017	0.26
GAH90	.16	0.02	0.07	0.10	0.42	0.56	0.06	0.018	0.29
GAH100	.16	0.02	0.07	0.10	0.43	0.56	0.06	0.018	0.29
GAH110	.16	0.02	0.07	0.10	0.45	0.59	0.06	0.018	0.30
GAH120	.16	0.02	0.07	0.10	0.47	0.61	0.06	0.019	0.31

■ All ratings are based on 500 FPM air flow velocity.



Table 18: Filter Specifications And Air Side Pressure Drop:

Filter Type	Model	Efficiency	Velocity	Dimension	Pressure Drop	
		(%)	(fpm)	(cm)	(pascal)	(Inwg)
Aluminum	EU3	10-30%	300	60*60*60	20	0.08
Kafi Pleated	EU4	40-45%	500	60*60*50	30	0.12
Bag	EU5	55%	500	60*60*60	80	0.32
	EU6	65%	500	60*60*60	120	0.48
	EU7	85%	500	60*60*60	160	0.64
Lane Zanboori	EU7	80-85%	500	60*60*30	200	0.80
	EU9	95-98%	500	60*60*30	220	0.88
Hepa	EU9	99/99%	500	60*60*30	300	1.20

Table 19: Coil Air Side Pressure Drop:

fpi	Rows Deep	Coil Face Velocity (fpm)									
		400		450		500		550		600	
		Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
8	1	0.06	0.07	0.07	0.08	0.08	0.10	0.09	0.11	0.10	0.12
	2	0.10	0.13	0.12	0.16	0.14	0.19	0.16	0.22	0.18	0.25
	4	0.20	0.27	0.24	0.33	0.28	0.39	0.32	0.45	0.36	0.51
	6	0.29	0.41	0.36	0.49	0.42	0.58	0.48	0.67	0.55	0.75
	8	0.39	0.53	0.48	0.64	0.56	0.75	0.64	0.86	0.73	0.98
14	1	0.06	0.07	0.07	0.09	0.09	0.11	0.10	0.12	0.11	0.14
	2	0.11	0.15	0.13	0.18	0.15	0.21	0.18	0.24	0.20	0.27
	4	0.22	0.30	0.26	0.36	0.31	0.43	0.35	0.49	0.40	0.56
	6	0.32	0.45	0.39	0.54	0.46	0.64	0.53	0.73	0.60	0.83
	8	0.43	0.58	0.52	0.70	0.62	0.83	0.71	0.95	0.80	1.07



Table 20: Forward Fan Ratings:

MODEL	CFM	No. OF Fans	Fan Dia (In)	Total Static Pressure (Inwg)																							
				1		1.25		1.5		1.75		2		2.25		2.5		3		3.5		4					
				RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
GAH2.5	2500	1	12	872	0.74	957	0.90	1035	1.12	1104	1.29																
GAH3.5	3500	1	13	810	1.14	885	1.33	956	1.62	1016	1.81	1077	2.03	1135	2.30												
GAH5	5000	1	15	763	1.82	825	2.13	885	2.45	938	2.70	985	2.96	1035	3.32	1096	3.64	1186	4.39								
GAH6	6000	1	16	694	2.20	749	2.56	804	2.97	851	3.28	894	3.55	940	4.02	997	4.40	1078	5.30								
GAH7	7000	1	16	730	2.86	782	3.29	833	3.67	879	4.03	921	4.31	965	4.77	1013	5.17	1092	6.12	1168	7.01	1239	7.96				
GAH8	8000	1	18	643	3.14	685	3.56	729	4.03	771	4.41	814	4.84	857	5.36	903	5.95	986	7.20								
GAH9	9000	1	18	686	4.10	720	4.41	758	4.88	797	5.40	836	5.91	873	6.29	911	6.80	991	8.03	1066	9.39						
GAH10	10000	1	20	597	4.11	635	4.55	674	5.11	712	5.69	750	6.10	788	6.75	827	7.39	901	8.90								
GAH11	11000	1	22	507	3.90	546	4.57	585	5.03	625	5.70	665	6.41	701	7.25	737	8.09										
GAH12.5	12500	1	22	535	5.08	570	5.60	605	6.35	639	7.01	673	7.59	708	8.32	743	9.18	810	11.03								
GAH14	14000	1	24	470	5.21	504	5.99	537	6.71	570	7.40	605	8.24	638	9.20	671	10.23										
GAH15.5	15500	1	24	490	6.25	521	6.91	552	7.81	583	8.62	612	9.31	644	10.17	675	11.18	735	13.45								
GAH16.5	16500	1	27	414	5.70	447	6.52	477	7.30	508	8.15	542	9.41	580	10.76	618	12.19	684	14.90	739	17.57	791	20.30				
GAH18	18000	1	27	428	6.81	460	7.72	488	8.47	516	9.28	544	10.30	574	11.50	608	12.78	678	15.84	738	18.79	790	21.74				
GAH19	19000	1	30	368	6.20	398	7.05	428	8.01	461	9.28	498	10.81	534	12.49	566	14.11	622	17.09								
GAH20	20000	1	30	375	6.80	404	7.67	430	8.59	460	9.79	494	11.23	527	12.81	563	14.62	621	17.78								
GAH22.5	22500	1	30	395	8.84	421	9.90	448	10.85	472	11.86	497	13.00	522	14.30	551	15.91	613	19.65	670	23.49	718	27.03				
GAH25.5	25500	1	30	415	11.21	442	12.43	467	13.59	491	14.56	513	15.71	534	16.88	556	18.01	602	21.24	657	25.33	712	29.71				
GAH28	28000	1	33	360	10.90	386	12.10	408	13.35	430	14.54	452	15.91	475	17.46	500	19.31	556	23.79	609	28.49	652	32.86				
GAH30	30000	1	33	371	12.80	396	14.14	419	15.55	441	16.78	462	18.07	482	19.53	502	21.02	549	25.04	601	30.01	650	35.11				
GAH32.5	32500	2	27	410	5.40	441	6.00	472	6.81	506	7.78	546	9.10	586	10.42	622	11.83	684	14.31								
GAH35	35000	2	27	422	6.38	452	7.08	481	7.85	510	8.71	542	9.79	576	11.04	612	12.43	680	15.32	739	18.09	790	21.04				
GAH37.5	37500	2	27	435	7.42	466	8.31	495	9.15	522	10.04	548	10.84	575	11.96	606	13.20	673	16.23	737	19.51	790	22.48				
GAH40	40000	2	30	375	6.80	404	7.67	430	8.59	460	9.79	494	11.23	527	12.81	563	14.62	621	17.78								
GAH42.5	42500	2	30	383	7.51	411	8.42	437	9.35	463	10.41	492	11.70	525	13.29	559	15.04	621	18.57	671	21.83	718	25.18				
GAH45	45000	2	30	415	11.21	442	12.43	467	13.59	491	14.56	513	15.71	534	16.88	556	18.01	602	21.24	657	25.33	712	29.71				
GAH47.5	47500	2	30	400	9.60	428	10.63	453	11.61	478	12.65	501	13.74	524	15.01	550	16.45	608	20.09	667	24.11	717	27.98				
GAH50	50000	2	33	345	9.00	370	10.15	396	11.27	420	12.53	447	13.98	477	15.93	507	18.11	564	22.45								
GAH56	56000	2	33	336	7.61	362	8.63	387	9.61	419	11.22	452	13.13	485	15.19	515	17.10	565	20.68								
GAH60	60000	2	33	371	12.80	396	14.14	419	15.55	441	16.78	462	18.07	482	19.53	502	21.02	549	25.04	601	30.01	650	35.11				
GAH70	70000	2	36	311	12.52	336	14.42	360	16.05	384	17.66	405	19.85	425	21.78	444	23.96	482	27.31	517	31.45	551	35.21				
GAH80	80000	2	36	326	15.86	350	18.03	372	19.67	394	21.83	415	24.07	434	26.24	452	28.13	488	32.16	522	36.75	554	40.49				
GAH90	90000	2	40	288	16.63	310	19.01	331	21.09	352	23.31	371	25.83	388	28.45	405	30.86	439	35.24	470	40.61	501	45.22				
GAH100	100000	2	40	300	20.85	321	23.39	341	25.53	361	28.25	380	30.98	397	33.75	414	36.24	446	41.16	475	46.71	504	51.53				
GAH110	110000	3	36	318	13.60	342	15.62	365	17.29	388	19.09	409	21.11	428	23.29	447	25.30	484	28.96	518	33.35	552	37.11				
GAH120	120000	3	36	326	15.86	350	18.03	372	19.67	394	21.83	415	24.07	434	26.24	452	28.13	488	32.16	522	36.75	554	40.49				



Table 21: Backward Fan Ratings:

MODEL	CFM	No. OF Fans	Fan Dia (In)	Total Static Pressure (Inwg)																							
				1.5		2		2.5		3		3.5		4		4.5		5		5.5		4					
				RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP		
GAH2.5	2500	1	15	1374	0.97	1540	1.33	1701	1.73	1855	2.17																
GAH3.5	3500	1	16	1315	1.38	1445	1.83	1572	2.34	1705	2.87	1829	3.46														
GAH5	5000	1	18	1198	1.87	1310	2.39	1418	2.98	1520	3.60	1623	4.26	1718	4.90												
GAH6	6000	1	20	1084	2.20	1189	2.83	1288	3.52	1383	4.25	1475	5.01	1565	5.82												
GAH7	7000	1	22	953	2.52	1049	3.33	1142	4.18	1233	5.07	1319	5.99														
GAH8	8000	1	22	1022	3.20	1110	4.02	1192	4.91	1271	5.88	1350	6.81	1425	7.89	1499	8.91	1570	10.05								
GAH9	9000	1	24	885	3.35	979	4.40	1063	5.46	1137	6.50	1213	7.71	1285	8.83												
GAH10	10000	1	24	931	4.95	1010	4.92	1090	5.97	1164	7.12	1243	8.35	1308	9.56	1374	10.92	1436	12.36								
GAH11	11000	1	24	975	4.58	1056	5.61	1127	6.69	1195	7.95	1264	9.08	1326	10.36	1390	11.76	1452	13.26	1513	14.72	1568	16.23				
GAH12.5	12500	1	27	833	4.51	915	5.74	995	7.01	1071	8.35	1144	9.74	1214	11.16												
GAH14	14000	1	27	875	5.31	950	6.64	1025	8.05	1095	9.47	1164	10.94	1231	12.51	1295	14.03										
GAH15.5	15500	1	30	757	5.83	829	7.42	905	8.93	907	10.74	1034	12.53														
GAH16.5	16500	1	30	772	6.19	842	7.75	911	9.41	977	11.14	1040	12.91	1101	14.76	1160	16.64										
GAH18	18000	1	30	805	7.20	870	8.90	932	10.65	996	12.61	1058	14.49	1119	16.48	1174	18.50	1231	20.56	1284	22.65						
GAH19	19000	1	33	692	7.05	755	9.00	820	10.95	881	12.89	940	15.10	996	17.36												
GAH20	20000	1	33	702	7.56	768	9.36	829	11.54	890	13.71	947	15.84	1002	18.02	1056	20.40										
GAH22.5	22500	1	33	739	8.88	798	10.91	855	13.06	911	15.28	965	17.57	1018	19.95	1069	22.36	1119	24.85	1167	27.37						
GAH25.5	25500	1	36	675	10.25	725	12.56	773	15.20	820	18.01	862	20.50	910	23.89	950	26.54	997	29.21	1034	32.90	1073	35.98				
GAH28	28000	1	36	710	12.34	757	14.70	801	17.13	850	20.35	899	23.50	930	26.45	975	29.45	1015	32.85	1056	36.02	1092	39.24				
GAH30	30000	1	36	722	12.86	774	15.60	821	18.42	865	21.32	907	24.33	948	27.45	987	30.64	1025	33.92	1062	37.27	1099	40.68				
GAH32.5	32500	2	30	770	6.17	840	7.68	906	9.37	974	11.09	1037	12.85	1097	14.69	1155	16.58										
GAH35	35000	2	30	800	6.99	865	8.81	929	10.49	989	12.51	1052	14.32	1113	16.29	1170	18.30	1228	20.41	1280	22.51						
GAH37.5	37500	2	33	690	6.95	752	8.92	815	10.81	876	12.73	940	15.01	995	17.16												
GAH40	40000	2	33	702	7.56	768	9.36	829	11.54	890	13.71	947	15.84	1002	18.02	1056	20.40										
GAH42.5	42500	2	33	724	8.28	785	10.25	844	12.31	900	14.51	953	16.65	1011	19.01	1063	21.36	1113	23.79								
GAH45	45000	2	33	739	8.88	798	10.91	855	13.06	911	15.28	965	17.57	1018	19.95	1069	22.36	1119	24.85	1167	27.37						
GAH47.5	47500	2	33	770	9.68	820	12.10	877	14.05	932	16.41	984	18.85	1036	21.38	1086	24.03	1132	26.21	1180	28.94	1227	31.84				
GAH50	50000	2	36	666	9.56	715	12.64	768	14.23	814	17.24	862	20.13	905	23.01	948	26.12	990	29.04	1031	31.90	1071	35.26				
GAH56	56000	2	36	710	12.34	757	14.70	801	17.13	850	20.35	899	23.50	930	26.45	975	29.45	1015	32.85	1056	36.02	1092	39.24				
GAH60	60000	2	36	722	12.86	774	15.60	821	18.42	865	21.32	907	24.33	948	27.45	987	30.64	1025	33.92	1062	37.27	1099	40.68				
GAH70	70000	2	40	642	14.89	695	18.42	740	21.65	778	25.86	810	29.43	853	32.94	920	41.32	954	45.73	985	50.06	1018	54.82				
GAH80	80000	2	40	695	19.20	740	22.91	783	26.62	824	30.46	860	34.39	893	38.43	927	42.60	960	46.80	990	51.17	1020	55.60				
GAH90	90000	2	44	600	20.00	645	24.89	680	28.64	719	33.03	750	37.95	780	42.41	817	47.15	874	58.64	901	63.98	933	68.97				
GAH100	100000	2	44	640	25.18	680	29.76	720	34.01	750	38.97	783	43.87	817	48.96	845	53.96	875	59.03	889	64.67	930	69.78				
GAH110	110000	3	40	660	16.03	707	19.39	750	22.85	789	26.42	827	30.12	863	33.92	899	37.84	933	41.85	967	45.96	1000	50.17				
GAH120	120000	3	40	695	19.20	740	22.91	783	26.62	824	30.46	860	34.39	893	38.43	927	42.60	960	46.80	990	51.17	1020	55.60				



Dimensions:

Horizontal:

MODEL		L	W	H	E	F	M	N	H1
		cm	cm	cm	cm	cm	cm	cm	cm
GAH	3	270	110	80	55	35	110	25	4
GAH	4	290	125	85	60	40	125	30	4
GAH	5	330	140	100	65	45	140	40	6
GAH	6	350	150	110	70	45	150	45	6
GAH	7	360	160	120	70	45	160	50	6
GAH	8	390	170	125	70	50	170	50	8
GAH	9	400	180	130	70	50	180	55	8
GAH	10	420	190	135	80	55	190	60	8
GAH	11	460	195	150	85	60	195	65	8
GAH	13	460	210	155	85	60	90	65	8
GAH	14	480	220	165	95	65	90	70	8
GAH	16	480	220	170	95	65	90	80	10
GAH	17	490	230	180	105	75	100	80	10
GAH	18	490	240	185	105	75	100	85	12
GAH	19	520	240	195	110	85	100	90	12
GAH	20	560	240	200	110	85	100	95	12
GAH	23	560	310	195	110	85	140	80	12
GAH	26	570	330	210	110	85	150	85	12
GAH	28	590	340	215	130	90	150	95	12
GAH	30	600	350	225	130	90	160	95	14
GAH	33	530	360	230	105	75	160	100	14
GAH	35	580	355	255	105	75	160	110	14
GAH	38	550	370	255	105	75	170	115	14
GAH	40	610	380	260	110	85	170	120	14
GAH	43	620	390	270	110	85	180	125	14
GAH	45	610	415	280	110	85	190	125	14
GAH	48	620	420	295	110	85	190	130	14
GAH	50	630	440	295	130	90	200	130	16
GAH	56	650	450	315	130	90	210	140	16
GAH	60	650	460	330	130	90	210	150	16
GAH	70	700	490	350	130	100	230	165	16
GAH	80	710	530	360	130	100	250	175	16
GAH	90	730	590	360	140	110	280	175	18
GAH	100	730	630	375	140	110	300	180	18
GAH	110	700	725	360	130	100	340	175	18
GAH	120	700	785	360	130	100	370	175	18
GAH	130	720	845	360	140	110	400	175	18



GRAO CO.

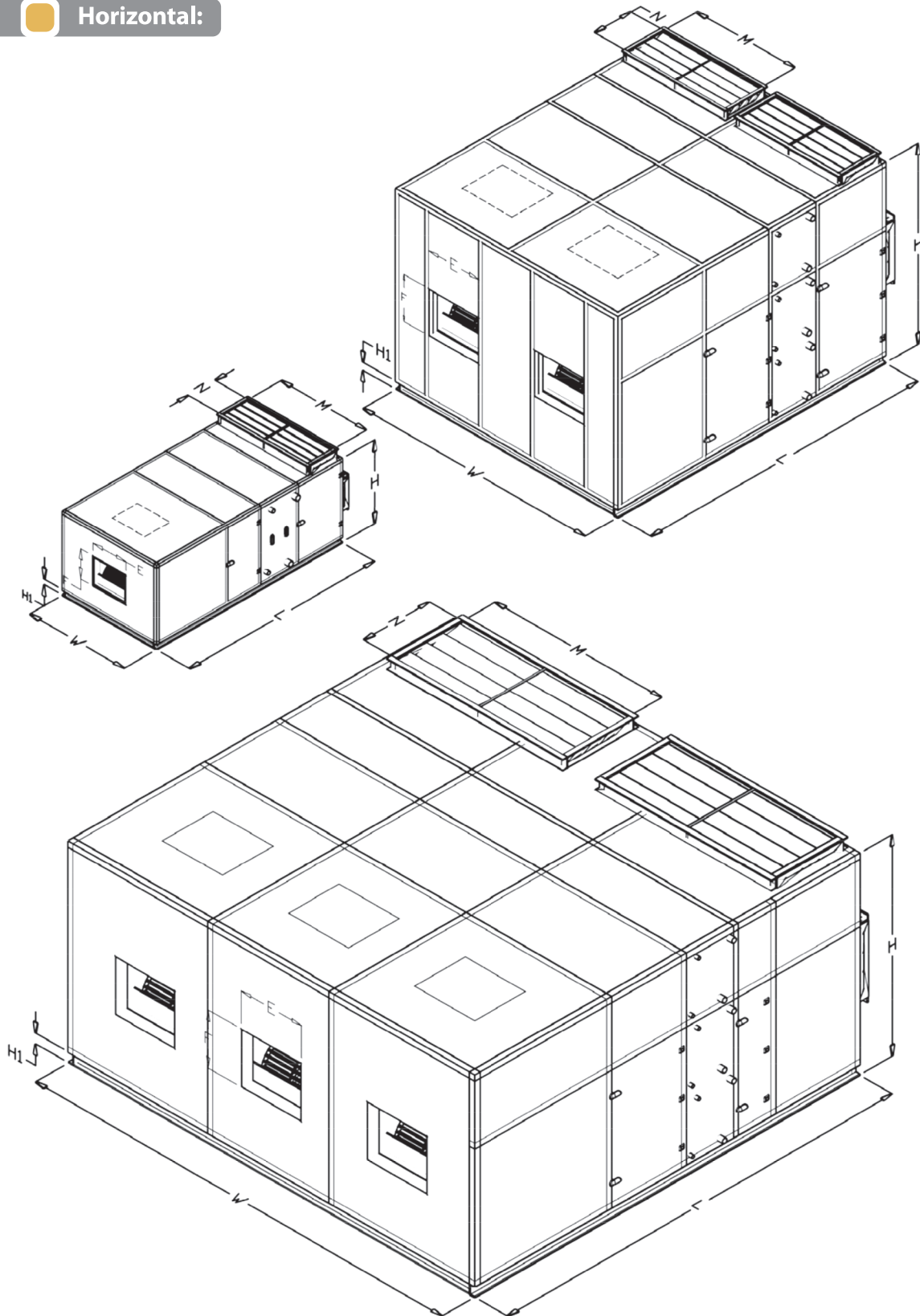
Air Handling Unit



Dimensions:



Horizontal:



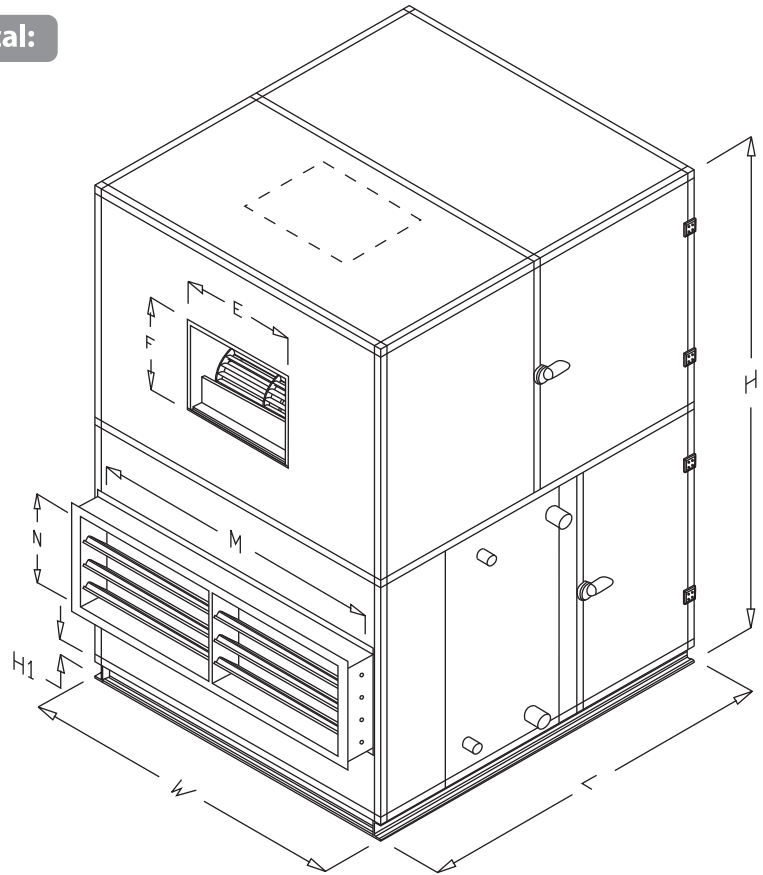


GRAO CO.

Air Handling Unit

Dimensions:

Vertical:



MODEL	L	W	H	E	F	M	N	H1
	cm	cm	cm	cm	cm	cm	cm	cm
GAHV 3	175	100	165	35	55	90	25	6
GAHV 4	190	125	175	40	60	115	30	6
GAHV 5	210	145	190	45	65	135	40	6
GAHV 6	230	150	215	45	70	140	45	8
GAHV 7	235	170	215	45	70	160	45	8
GAHV 8	270	155	250	50	70	145	55	8
GAHV 9	270	175	250	50	70	165	55	8
GAHV 10	285	185	270	55	80	175	60	8
GAHV 11	320	200	280	60	85	190	60	8
GAHV 13	325	215	285	60	85	80	65	8
GAHV 14	325	245	295	65	95	100	65	8
GAHV 16	330	255	305	65	95	100	70	8
GAHV 17	340	275	325	75	105	110	65	10
GAHV 18	370	220	375	75	105	90	95	10
GAHV 19	390	230	390	85	110	90	95	10
GAHV 20	415	255	390	85	110	100	90	14



GRAO CO.

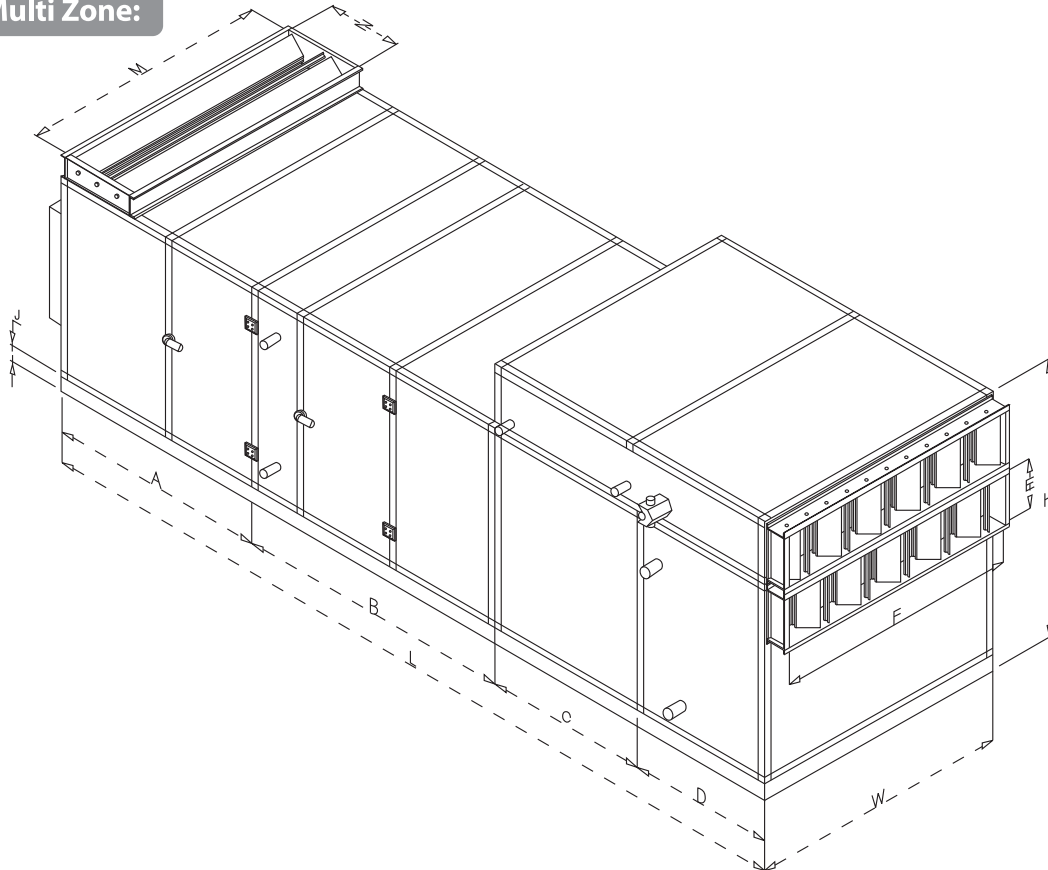
Air Handling Unit



Dimensions:



Multi Zone:

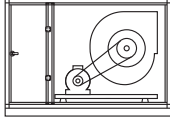
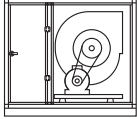

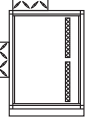
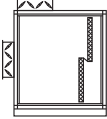
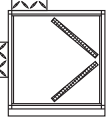


MODEL		A	B	C	D	L	W	H	Outlet Damper			Inlet Damper			J
									E	F	No.	M	N	No.	
									cm	cm		cm	cm		
GMZ	10	115	200	95	105	510	185	215	50	175	1	175	60	1	8
GMZ	11	120	225	95	105	540	200	215	50	190	1	190	60	1	8
GMZ	13	130	235	100	105	570	215	220	50	205	1	80	65	2	8
GMZ	14	115	235	95	105	550	245	230	50	235	1	100	65	2	8
GMZ	16	110	245	100	110	560	255	240	50	245	1	100	70	2	8
GMZ	17	100	245	95	110	550	275	245	50	265	1	110	65	2	10
GMZ	18	150	285	135	130	700	220	315	70	210	1	90	95	2	10
GMZ	19	150	295	135	130	710	230	325	80	220	1	90	95	2	10
GMZ	20	135	320	125	125	700	255	315	70	240	1	100	90	2	14
GMZ	23	155	320	130	130	730	265	335	80	250	1	110	95	2	14
GMZ	26	155	335	130	130	750	300	335	80	285	1	120	95	2	14
GMZ	28	160	335	135	135	760	320	340	80	305	1	130	100	2	14
GMZ	30	160	335	135	135	760	340	345	80	325	1	140	100	2	14
GMZ	33	170	270	145	140	720	340	360	90	325	1	140	110	2	14
GMZ	35	120	310	250	125	800	440	325	70	425	1	190	90	2	14
GMZ	38	140	285	265	130	820	445	340	80	430	1	200	95	2	14
GMZ	40	160	320	320	145	940	405	390	90	390	1	180	110	2	14



Dimensions:


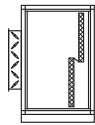
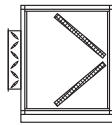

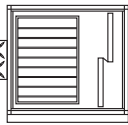
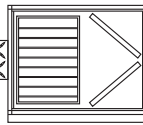
Sections: (Continued):

MODEL	Fan Section		Mixing Box			
	Motor Back	Motor Side	Without Filter	Flat Filter	Staggered Filter	V Type Filter
						
GAH3	135	115	45	65	85	95
GAH4	145	120	50	70	90	105
GAH5	160	125	55	75	95	100
GAH6	170	135	65	85	105	110
GAH7	180	145	65	85	105	115
GAH8	195	165	75	95	115	135
GAH9	205	175	75	95	115	135
GAH10	205	180	80	100	120	145
GAH11	205	180	80	100	120	150
GAH13	215	190	85	105	125	155
GAH14	215	190	85	105	125	150
GAH16	230	200	85	105	125	135
GAH17	230	200	85	105	125	135
GAH18	265	200	110	130	150	170
GAH19	280	215	110	130	150	175
GAH20	280	225	110	130	150	170
GAH23	280	225	115	135	155	180
GAH26	295	240	115	135	155	180
GAH28	295	240	115	135	155	185
GAH30	295	240	115	135	155	185
GAH33	230	215	125	145	165	180
GAH35	270	215	105	125	145	150
GAH38	245	225	110	130	150	160
GAH40	280	225	125	145	165	180
GAH43	290	235	135	155	175	185
GAH45	290	235	130	150	170	180
GAH48	290	235	135	155	175	190
GAH50	305	250	130	150	170	185
GAH56	305	250	135	155	175	190
GAH60	305	250	140	160	180	190
GAH70	320	265	145	165	185	200
GAH80	320	265	145	165	185	195
GAH90	335	280	155	175	195	210
GAH100	335	280	165	185	205	215
GAH110	320	265	170	190	210	225
GAH120	320	265	165	185	205	215
GAH130	335	280	165	185	205	220



Dimensions:

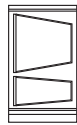


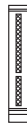

Sections: (Continued):

MODEL	Full Fresh Or Full Return			Side Damper Mixing Box		
	Flat Filter	Staggered Filter	V Type Filter	Flat Filter	Staggered Filter	V Type Filter
						
GAH3	55	75	95	80	100	125
GAH4	55	75	105	90	110	145
GAH5	55	75	90	105	125	140
GAH6	55	75	95	105	125	145
GAH7	55	75	100	115	135	160
GAH8	55	75	110	110	130	165
GAH9	55	75	115	115	135	175
GAH10	55	75	120	125	145	190
GAH11	55	75	125	135	155	200
GAH13	55	75	125	135	155	205
GAH14	55	75	125	150	170	220
GAH16	55	75	105	155	175	200
GAH17	55	75	100	160	180	205
GAH18	75	95	140	135	155	200
GAH19	75	95	140	140	160	205
GAH20	80	100	140	155	175	215
GAH23	80	100	145	165	185	230
GAH26	80	100	145	180	200	245
GAH28	80	100	150	185	205	250
GAH30	80	100	150	195	215	260
GAH33	80	100	135	195	215	255
GAH35	80	100	120	225	245	265
GAH38	80	100	125	230	250	275
GAH40	80	100	130	210	230	260
GAH43	85	105	135	220	240	270
GAH45	85	105	135	240	260	290
GAH48	85	105	140	240	260	290
GAH50	85	105	140	260	280	310
GAH56	85	105	140	265	285	320
GAH60	85	105	130	280	300	325
GAH70	85	105	135	315	335	360
GAH80	85	105	135	355	375	405
GAH90	85	105	140	360	380	415
GAH100	85	105	135	355	375	405
GAH110	85	105	140	385	405	440
GAH120	85	105	135	415	435	465
GAH130	85	105	135	445	465	495



Dimensions:


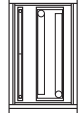
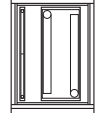
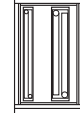
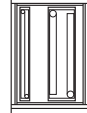
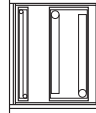
Sections: (Continued):

MODEL	Bag Filter			Carbon Active Filter	Pleated Filter	Hepa Or Ulpa Filter	
	600 mm Dept	400 mm Dept	300 mm Dept			Behind Of Fan	Front Of Fan
							
GAH3	70	50	40	15	15	55	110
GAH4	70	50	40	15	15	55	115
GAH5	70	50	40	15	15	55	120
GAH6	70	50	40	20	20	55	130
GAH7	70	50	40	20	20	55	135
GAH8	70	50	40	20	20	55	135
GAH9	70	50	40	20	20	55	145
GAH10	70	50	40	20	20	55	145
GAH11	70	50	40	20	20	55	145
GAH13	70	50	40	20	20	55	155
GAH14	70	50	40	20	20	55	155
GAH16	70	50	40	20	20	55	170
GAH17	70	50	40	20	20	55	170
GAH18	70	50	40	20	20	55	170
GAH19	70	50	40	20	20	55	180
GAH20	75	55	45	25	25	60	180
GAH23	75	55	45	25	25	60	180
GAH26	75	55	45	25	25	60	195
GAH28	75	55	45	25	25	60	195
GAH30	75	55	45	25	25	60	195
GAH33	75	55	45	25	25	60	170
GAH35	75	55	45	25	25	60	170
GAH38	75	55	45	25	25	60	180
GAH40	75	55	45	25	25	60	180
GAH43	75	55	45	25	25	60	185
GAH45	75	55	45	25	25	60	185
GAH48	75	55	45	25	25	60	185
GAH50	75	55	45	25	25	60	195
GAH56	75	55	45	25	25	60	195
GAH60	75	55	45	25	25	60	195
GAH70	75	55	45	25	25	60	210
GAH80	75	55	45	25	25	60	210
GAH90	75	55	45	25	25	60	225
GAH100	75	55	45	25	25	60	225
GAH110	75	55	45	25	25	60	210
GAH120	75	55	45	25	25	60	210
GAH130	75	55	45	25	25	60	225



Dimensions:


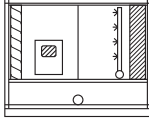
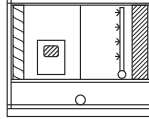
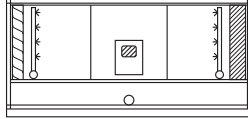
Sections: (Continued):

MODEL	1 Row Heating			2 Row Heating		
	4 Row Cooling	6 Row cooling	8 Row Cooling	4 Row Cooling	6 Row cooling	8 Row Cooling
						
GAH3	70	80	100	80	90	110
GAH4	70	80	100	80	90	110
GAH5	70	80	100	80	90	110
GAH6	75	85	100	85	95	110
GAH7	75	85	100	85	95	110
GAH8	75	85	100	85	95	110
GAH9	75	85	100	85	95	110
GAH10	75	85	100	85	95	110
GAH11	75	85	100	85	95	110
GAH13	75	85	100	85	95	110
GAH14	75	85	100	85	95	110
GAH16	75	85	100	85	95	110
GAH17	75	85	100	85	95	110
GAH18	75	85	100	85	95	110
GAH19	75	85	100	85	95	110
GAH20	80	90	105	90	100	115
GAH23	80	90	105	90	100	115
GAH26	80	90	105	90	100	115
GAH28	80	90	105	90	100	115
GAH30	80	90	105	90	100	115
GAH33	80	90	105	90	100	115
GAH35	80	90	105	90	100	115
GAH38	80	90	105	90	100	115
GAH40	115	125	135	125	135	145
GAH43	120	130	140	130	140	150
GAH45	120	130	140	130	140	150
GAH48	120	130	140	130	140	150
GAH50	120	130	140	130	140	150
GAH56	120	130	140	130	140	150
GAH60	120	130	140	130	140	150
GAH70	120	130	140	130	140	150
GAH80	120	130	140	130	140	150
GAH90	120	130	140	130	140	150
GAH100	120	130	140	130	140	150
GAH110	120	130	140	130	140	150
GAH120	120	130	140	130	140	150
GAH130	120	130	140	130	140	150

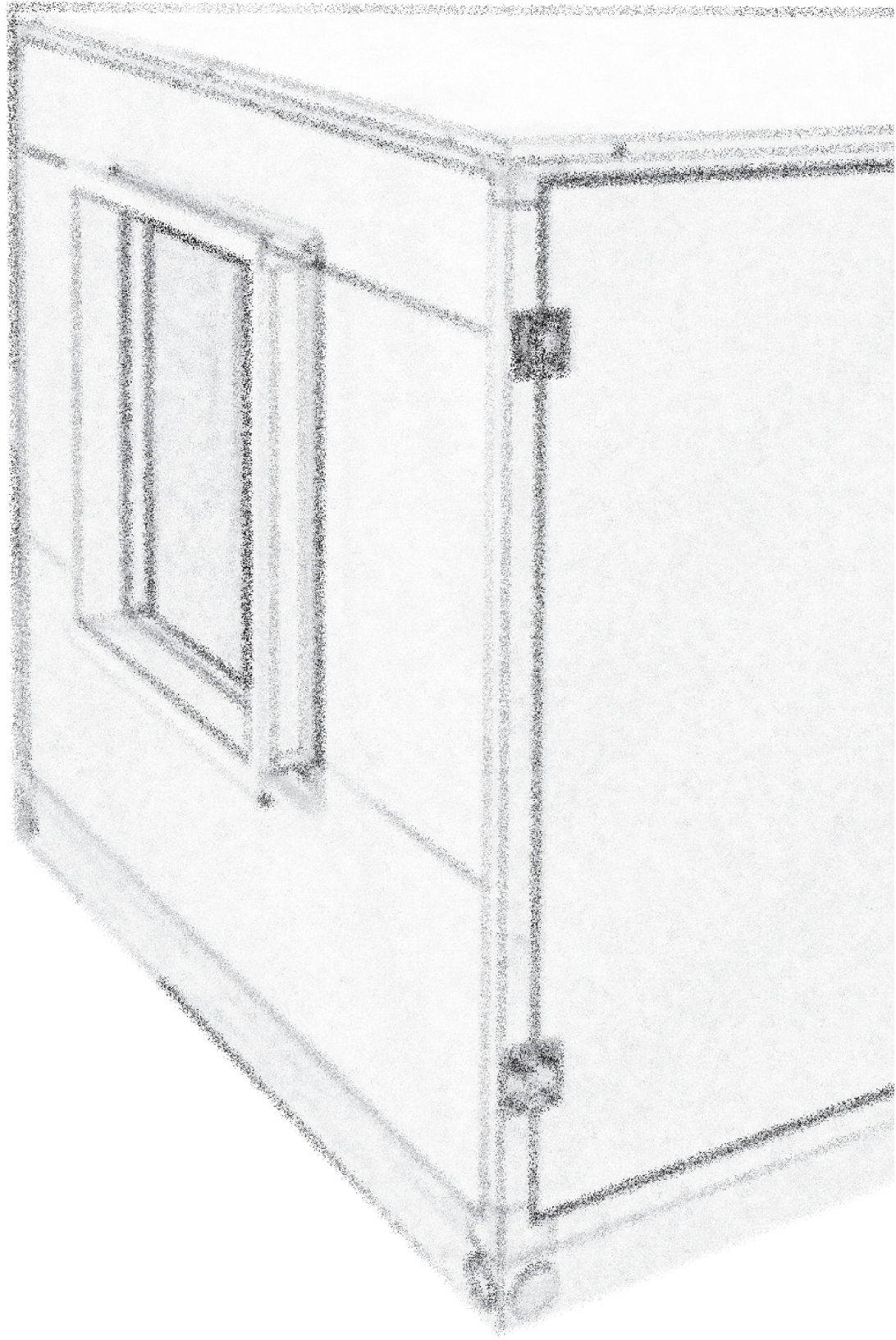


Dimensions:

Sections: (Continued):

MODEL	Access Section	Air Washer		
		Class 4	Class 6	Class 8
				
GAH3	50	140	150	250
GAH4	50	140	150	250
GAH5	60	140	150	250
GAH6	65	140	150	250
GAH7	65	140	150	250
GAH8	65	140	150	250
GAH9	65	140	150	250
GAH10	65	140	150	250
GAH11	65	140	150	250
GAH13	65	140	150	250
GAH14	65	140	150	250
GAH16	65	140	150	250
GAH17	65	140	150	250
GAH18	65	140	150	250
GAH19	65	140	150	250
GAH20	80	140	150	250
GAH23	80	140	150	250
GAH26	80	140	150	250
GAH28	80	140	150	250
GAH30	80	140	150	250
GAH33	80	140	150	250
GAH35	80	140	150	250
GAH38	80	140	150	250
GAH40	80	140	150	250
GAH43	85	140	150	250
GAH45	85	140	150	250
GAH48	85	140	150	250
GAH50	85	140	150	250
GAH56	85	140	150	250
GAH60	85	140	150	250
GAH70	85	140	150	250
GAH80	85	140	150	250
GAH90	85	140	150	250
GAH100	85	140	150	250
GAH110	85	140	150	250
GAH120	85	140	150	250
GAH130	85	140	150	250

H V A C



تلفن / فکس : ۸۸ ۹۶۶ ۱۲۲ – ۸۸ ۹۶۶ ۱۲۳
وب سایت : www.grad-hvac.com
پست الکترونیک : info@grad-hvac.com