

High Efficiency Series

HEU1/HEC1 Direct Expansion Cooling/Electric Heating
HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
HEU3/HEC3 Chilled Water Cooling/Electric Heating
HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

Description:

The High Efficiency Series air handlers are engineered to achieve or exceed today's demanding energy rating requirements. Specifically designed for horizontal mounting into a furred down ceiling. Advanced engineering allows these units to efficiently handle up to 1200 CFM and up to 3 tons of cooling with a DX cooling coil, heat pump coil or Chilled Water coil. These units are available with up to 10 KW of electric heat or up to 51,000 MBTUH of hot water heating capacity. For DX cooling requirements, these air handlers can be matched with most manufacturer's condensing units and heat pumps that are designed for R-32 or R-454B refrigerants.

The "HEC" series air handlers are equipped with an insulated cabinet over the top and sides. The bottom of the case is open to accommodate a solid or louvered filtered access panel. Cased units meet ASHRAE Standard 193 to not exceed 2% air leak loss. The cased units have a knock-out for rear return air. Return air duct flanges and filter racks are field supplied.

Standard Features:

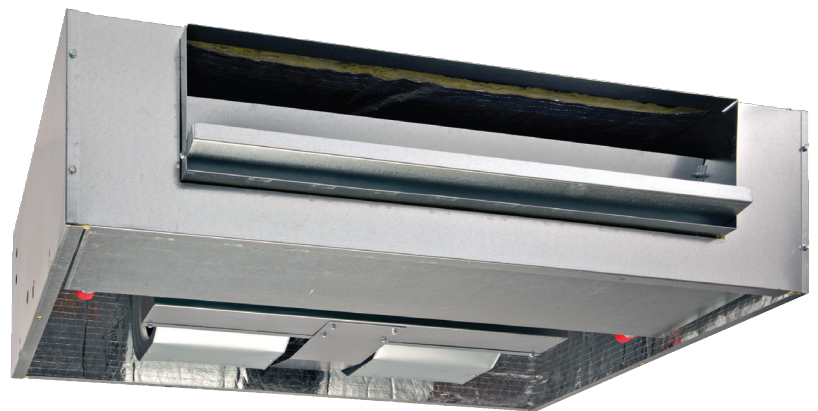
- Advanced Engineered High Efficiency "A" Coil Design
- Constant Torque ECM Motor
- High Performance Blower Housings
- Electric heat models are 208/240V-1ph-60Hz.
- Hot water heat models are 115V-1ph-60Hz.
- Water circulating pump is factory installed on hot water heat models.
- Refrigerant leak detection system.
- Space saving design.
- Galvanized steel blower wheels.
- Pre-wired for cooling and heating.
- Control transformer.
- Primary and secondary drain connections.
- Easy access for service and maintenance.
- High efficiency copper tube aluminum fin coils.

Field Installed Options:

- Louvered or non-louvered ceiling access panels.
- Time delay relay.

Factory Installed:

- Thermostatic expansion valve suitable for AC and heat pump applications.

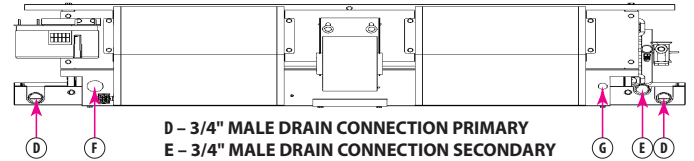
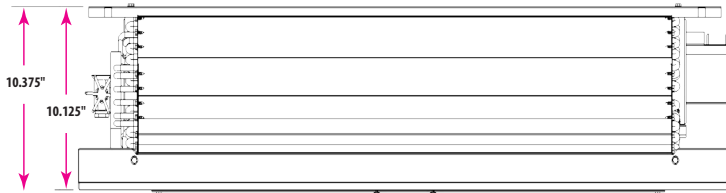


High Efficiency Series

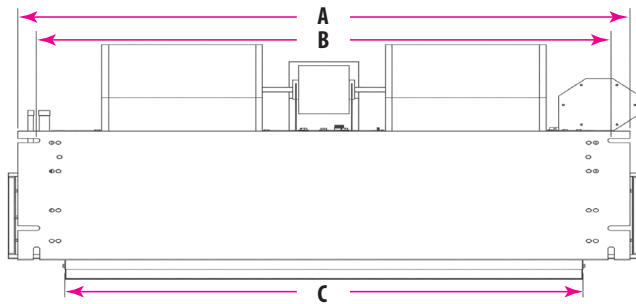
HEU1/HEC1 Direct Expansion Cooling/Electric Heating
 HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
 HEU3/HEC3 Chilled Water Cooling/Electric Heating
 HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

Cased Air Handler Dimensions

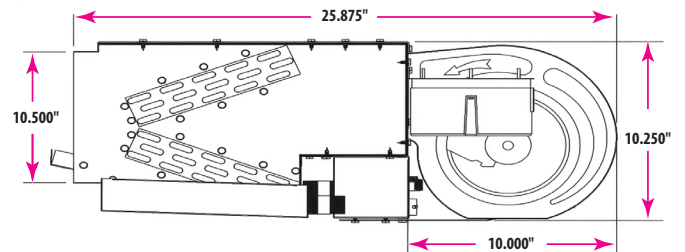
FRONT VIEW



TOP VIEW



SIDE VIEW

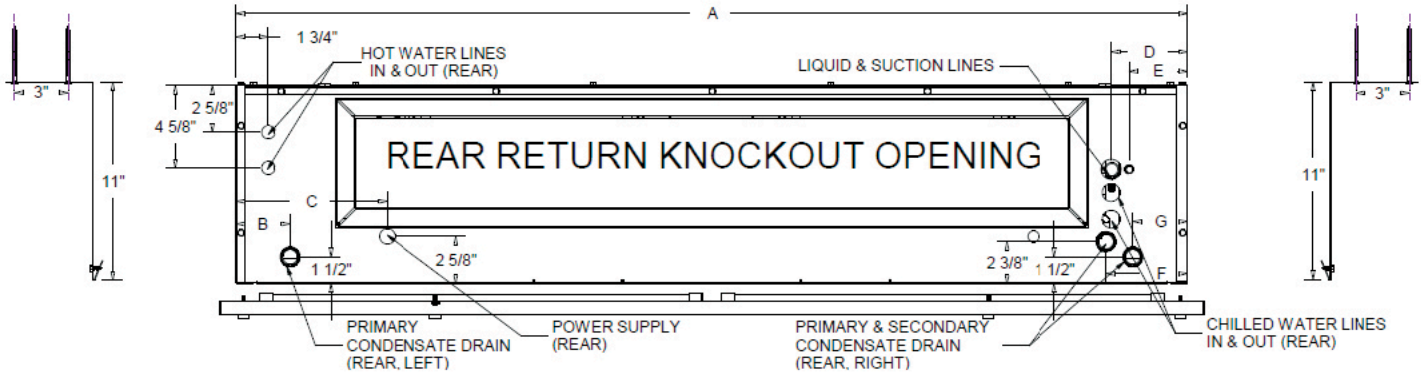


MODEL NUMBER	LIQUID LINE	SUCTION LINE	WATER LINE	A	B	C
HEUX-X-X-X-A	3/8"	3/4"	(2) 5/8"	37	34.25	30
HEUX-X-X-X-B	3/8"	3/4"	(2) 5/8"	45	42.25	38
HEUX-X-X-X-C	3/8"	3/4"	(2) 5/8"	49	46.25	42
HEUX-X-X-X-D	3/8"	3/4"	(2) 5/8"	56	53.25	49

Model	Discharge Opening
HEC/HEU*- **- *- AC	30 1/4" X 7 1/2"
HEC/HEU*- **- *- BC	38 1/4" X 7 1/2"

Model	Discharge Opening
HEC/HEU*- ***- *- CC	42 1/4" X 7 1/2"
HEC/HEU*- ***- *- DC	49 1/4" X 7 1/2"

Cased Air Handler Dimensions

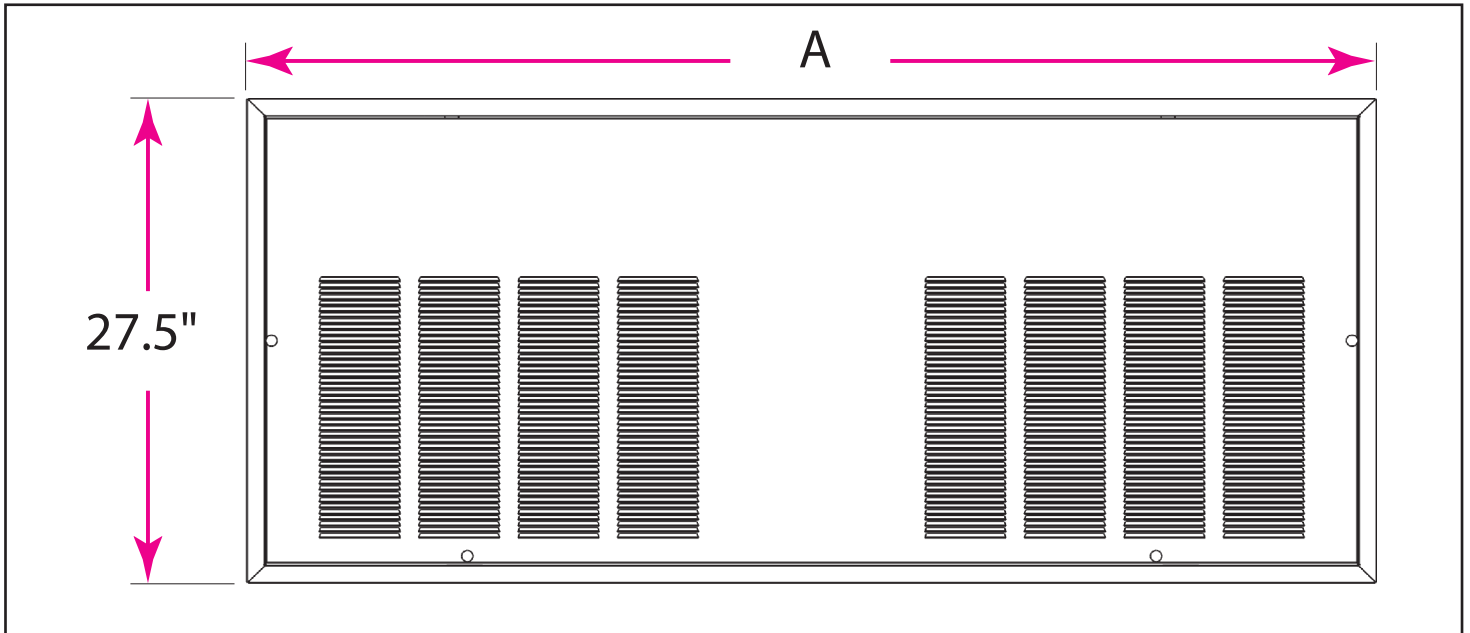


PHYSICAL DIMENSIONS							
Model	A	B	C	D	E	F	G
HEC*-**-*-A	41"	2 ³ / ₄ "	7 ⁷ / ₈ "	4"	3"	4 ³ / ₈ "	2 ⁷ / ₈ "
HEC*-**-*-B	47"	1 ⁷ / ₈ "	6"	3"	2"	3 ³ / ₈ "	1 ⁷ / ₈ "
HEC*-**-*-C	53 ¹ / ₂ "	3"	8 ¹ / ₂ "	4 ¹ / ₄ "	3 ¹ / ₄ "	4 ¹ / ₂ "	3"
HEC*-**-*-D	60 ¹ / ₂ "	3"	12"	4 ¹ / ₄ "	3 ¹ / ₄ "	4 ¹ / ₂ "	3"

MODEL	DISCHARGE AIR
HEC*-**-*-A	30 ¹ / ₄ " * 7 ⁵ / ₈ "
HEC*-**-*-B	38 ¹ / ₄ " * 7 ⁵ / ₈ "
HEC*-**-*-C	42 ¹ / ₄ " * 7 ⁵ / ₈ "
HEC*-**-*-D	49 ¹ / ₄ " * 7 ⁵ / ₈ "

Field Connections
3/4" Male Drain Connection - Primary
3/4" Male Drain Connection - Secondary
7/8" Power Connection
9/16" Thermostat Cable Connection
3/8" Liquid Line Connection
3/4" Suction Line Connection
(2) 5/8" Water Line Connections

HE* Access Frame and Panel Dimensions



PHYSICAL DIMENSIONS	
Model	"A" Dimension
HPNL-1	43"
HPNL-2	49"
HPNL-3	55-1/2"
HPNL-4	62-1/2"

Electrical Data

	ELECTRIC HEAT FAN COIL MODELS																	
	HE*1/HE*3-**-*-AC						HE*1/HE*3**-*-BC						HE*1/HE*3**-*-BC					
3 Kw Heater Amps - 208 / 240 VAC	10.83 / 12.50						10.83 / 12.50						10.83 / 12.50					
5 Kw Heater Amps - 208 / 240 VAC	18.06 / 20.83						18.06 / 20.83						18.06 / 20.83					
6 Kw Heater Amps - 20 / 240 VAC	21.67 / 25.00						21.67 / 25.00						21.67 / 25.00					
8 Kw Heater Amps - 208 / 240 VAC	28.89 / 33.33						28.89 / 33.33						28.89 / 33.33					
10 Kw Heater Amps - 208 / 240 VAC	36.11 / 41.67						36.11 / 41.67						36.11 / 41.67					
Indoor Blower Motor Code	*J						*K						*L					
Indoor Motor HP and Type	1/3 HP Constant Torque						1/3 HP Constant Torque						1/2 HP Constant Torque					
Indoor Blower Amps - 208 / 240 VAC	0.87 / 0.75						0.78 / 0.68						1.63 / 1.41					
Heater - kW	0	3	5	6	8	10	0	3	5	6	8	10	0	3	5	6	8	10
Minimum Circuit Ampacity - 240 VAC	0.94	16.56	26.98	32.19	42.60	53.02	0.85	16.48	26.89	32.10	42.52	52.93	1.76	17.39	27.80	33.01	43.43	53.85
Maximum Overcurrent Protection - 240 VAC	15	20	30	35	45	60	15	20	30	35	45	60	15	20	30	35	45	60

	ELECTRIC HEAT FAN COIL MODELS																	
	HE*1/HE*3**-*-CC									HE*1/HE*3**-*-DC								
3 Kw Heater Amps - 208 / 240 VAC	10.83 / 12.50									10.83 / 12.50								
5 Kw Heater Amps - 208 / 240 VAC	18.06 / 20.83									18.06 / 20.83								
6 Kw Heater Amps - 20 / 240 VAC	21.67 / 25.00									21.67 / 25.00								
8 Kw Heater Amps - 208 / 240 VAC	28.89 / 33.33									28.89 / 33.33								
10 Kw Heater Amps - 208 / 240 VAC	36.11 / 41.67									36.11 / 41.67								
Indoor Blower Motor Code	*M									*M								
Indoor Motor HP and Type	1/2 HP Constant Torque									1/2 HP Constant Torque								
Indoor Blower Amps - 208 / 240 VAC	1.30 / 1.13									2.00 / 1.73								
Heater - kW	0	3	5	6	8	10	0	3	5	6	8	10	0	3	5	6	8	10
Minimum Circuit Ampacity - 240 VAC	1.41	17.04	27.45	32.66	43.08	53.50	2.16	17.79	28.20	33.41	43.83	54.25	28.20	33.41	43.83	54.25	54.25	54.25
Maximum Overcurrent Protection - 240 VAC	15	20	30	35	45	60	15	20	30	35	45	60	30	35	45	60	60	60

	HYDRONIC HEAT FAN COIL MODELS									
	HE*2/HE*4-**-*-AA	HE*2/HE*4-**-*-BA	HE*2/HE*4-**-*-BA	HE*2/HE*4-**-*-CA	HE*2/HE*4-**-*-DA					
Indoor Blower Motor Code	*N	*O	*R	*R	*R					
Indoor Motor HP and Type	1/3 HP C.T.	1/3 HP C.T.	1/2 HP C.T.	1/2 HP C.T.	1/2 HP C.T.					
Indoor Blower Amps - 115VAC	1.63	1.67	3.64	3.25	3.02					
Water Pump Amps	0.52	0.52	0.52	0.52	0.52					
Minimum Circuit Ampacity - 115 VAC	2.69	2.74	5.20	4.71	4.43					
Maximum Overcurrent Protection - 115 VAC	15	15	15	15	15					

+ Refer to the National Electrical Code Table 250-95 for Non-Sheathed Conductor Ground Wire.

* Ground conductor must be the same size and temperature rating as the other conductors listed in Table 18.

** Circuit breakers must be HACR type.



All Technical Information Subject To Change Without Notice

For more information contact Customer Service 817-624-0820
 or your SunTherm Representative.

501 Terminal Road Fort Worth, Texas 76106 Ph. 817-624-0820 Fx. 817-624-8581

High Efficiency Series

HEU1/HEC1 Direct Expansion Cooling/Electric Heating
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BLOWER PERFORMANCE "CONSTANT TORQUE" MOTOR AIR FLOW

Model No.	Nominal Cooling Tons	Blower Motor		Motor Code	Blower Wheel Size	Motor Speed Tap	CFM@ 0.10" W.C.	CFM@ 0.20" W.C.	CFM@ 0.30" W.C.	CFM@ 0.40" W.C.	CFM@ 0.50" W.C.
		HP	Volts								
HE*1-**-*-AC Electric	1.5 - 2.0	0.33	240	*J	(2) 7 x 8	1	0.28	0.30	0.33	0.36	0.38
						2	0.36	0.39	0.43	0.45	0.48
						3	0.47	0.50	0.53	0.56	0.59
						4	0.62	0.64	0.67	0.70	0.74
						5	0.69	0.72	0.75	0.78	0.81
HE*1-**-*-BC Electric	1.5 - 2.5	0.33	240	*K	(2) 7 x 9	1	0.27	0.30	0.33	0.35	0.37
						2	0.35	0.38	0.41	0.44	0.47
						3	0.44	0.47	0.50	0.53	0.56
						4	0.55	0.59	0.62	0.66	0.69
						5	0.62	0.65	0.68	0.72	0.75
HE*1-**-*-BC Electric	1.5 - 2.5	0.5	240	*M	(2) 7 x 9	1	0.61	0.65	0.66	0.68	0.71
						2	0.74	0.78	0.81	0.83	0.86
						3	0.87	0.92	0.95	0.97	0.99
						4	1.08	1.11	1.13	1.16	1.20
						5	1.33	1.36	1.41	1.43	1.46
HE*1-**-*-CC Electric	1.5 - 3.0	0.5	240	*M	(2) 7 x 9	1	0.51	0.54	0.57	0.61	0.64
						2	0.62	0.66	0.70	0.72	0.76
						3	0.75	0.78	0.82	0.85	0.88
						4	0.88	0.92	0.96	0.98	1.04
						5	1.08	1.12	1.13	1.16	1.21
HE*1-**-*-DC Electric	1.5 - 3.0	0.5	240	*M	(2) 7 x 9	1	0.75	0.78	0.81	0.85	0.88
						2	0.90	0.94	0.95	1.00	1.03
						3	1.10	1.13	1.16	1.16	1.20
						4	1.35	1.38	1.42	1.46	1.50
						5	1.66	1.70	1.73	1.77	1.80

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HEU1/HEC1 Direct Expansion Cooling/Electric Heating
 HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
 HEU3/HEC3 Chilled Water Cooling/Electric Heating
 HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

Performance Data - Hot Water Slab Coils																			
HEATING PERFORMANCE DATA:																			
HOT WATER SLAB-COIL MODEL	HOT WATER CAPACITIES @70°F ENTERING AIR TEMPERATURE									PRESS. DROP WATER		PRESS. DROP AIR							
	ENTERING WATER TEMPERATURE									CFM	GPM	(FT-WTR)	(IW C)						
100°F	110°F	120°F	130°F	140°F	150°F	160°F	170°F	180°F											
HE*2***A	6,516	8,735	10,974	13,228	15,496	17,777	20,067	23,367	24,674	480	2.0	0.78	0.10						
	6,987	9,357	11,742	14,141	16,550	18,970	21,399	23,835	26,277		3.0*	1.61							
	7,253	9,706	12,174	14,651	17,138	19,634	22,137	24,647	27,162		4.0	2.68							
	7,425	9,932	12,450	14,979	17,515	20,059	22,609	25,165	27,726		5.0	3.97							
	7,547	10,090	12,644	15,208	17,779	20,356	22,938	25,526	28,118	6.0	5.49	590	2.0	0.78	0.15				
	7,280	9,682	12,170	14,677	17,201	19,740	22,293	24,856	27,428	3.0*	1.61								
	7,812	10,467	13,141	15,832	18,537	21,255	23,984	26,722	29,469	4.0	2.68								
	8,152	10,914	13,694	16,487	19,292	22,108	24,935	27,768	30,610	5.0	3.97								
	8,374	11,205	14,052	16,911	19,780	22,659	25,547	28,441	31,342	6.0	5.49	695	2.0	0.78	0.20				
	8,531	11,410	14,304	17,209	20,123	23,045	25,976	28,912	31,854	3.0*	1.61								
	7,791	10,456	13,147	15,862	18,597	21,349	24,116	26,897	29,689	4.0	2.68								
	8,497	11,390	14,305	17,240	20,193	23,160	26,141	29,133	32,134	5.0	3.97								
	8,906	11,929	14,371	18,030	21,105	24,192	27,291	30,400	33,517	6.0	5.49	800	2.0	0.78	0.25				
	9,175	12,281	15,406	18,546	21,698	24,862	28,036	31,219	34,410	3.0*	1.61								
	9,366	12,531	15,714	18,910	22,117	25,334	28,561	31,795	35,036	4.0	2.68								
	8,291	11,131	14,002	16,899	19,819	22,758	25,714	28,686	31,670	5.0	3.97								
	9,105	12,208	15,339	18,491	21,664	24,854	28,060	31,278	34,508	6.0	5.49	850	2.0	0.78	0.28				
	9,581	12,837	16,115	19,413	22,730	26,061	29,405	32,761	36,127	3.0*	1.61								
	9,895	13,250	16,626	20,018	23,427	26,849	30,282	33,726	37,179	4.0	2.68								
	10,120	13,544	16,988	20,448	23,921	27,406	30,902	34,402	37,920	5.0	3.97								
	8,508	11,425	14,373	17,350	20,350	23,371	26,410	29,465	32,533	6.0	5.49	850	2.0	0.78	0.28				
	9,372	12,568	15,792	19,041	22,311	25,599	28,904	32,222	35,552	3.0*	1.61								
	9,878	13,238	16,621	20,025	23,448	26,887	30,340	33,806	37,282	4.0	2.68								
	10,215	13,680	17,167	20,672	24,194	27,730	31,280	34,839	38,409	5.0	3.97								
10,455	13,995	17,555	21,132	24,723	28,328	31,944	35,570	39,204	6.0	5.49	480	2.0	0.96	0.06					
7,165	9,597	10,046	14,509	16,984	19,470	21,965	24,468	26,977	3.0*	1.96									
7,665	10,258	12,863	15,481	18,109	20,746	23,390	26,040	28,696	4.0	3.27									
7,943	10,624	13,316	16,018	18,728	21,446	24,170	26,900	29,635	5.0	4.86									
8,122	10,858	13,604	16,360	19,122	21,891	24,665	27,445	30,228	6.0	6.71	590	2.0	0.96	0.09					
8,247	11,021	13,805	16,597	19,396	22,200	25,009	27,822	30,639	3.0*	1.96									
7,974	10,686	13,419	16,170	18,935	21,715	24,505	27,304	30,113	4.0	3.27									
8,614	11,532	14,467	17,418	20,381	23,356	26,340	29,332	32,332	5.0	4.86									
8,974	12,008	15,055	18,116	21,188	24,269	27,359	30,456	33,559	6.0	6.71	695	2.0	0.96	0.12					
9,208	12,314	15,434	18,564	21,705	24,854	28,010	31,173	34,340	3.0*	1.96									
9,372	12,529	15,698	18,878	22,066	25,261	28,463	31,671	34,884	4.0	3.27									
8,637	11,579	14,545	17,533	20,538	23,559	26,593	29,638	32,693	5.0	4.86									
9,406	12,596	15,808	19,037	22,283	25,542	28,812	32,092	35,980	6.0	6.71	800	2.0	0.96	0.16					
9,845	13,176	16,525	19,890	23,268	26,658	30,058	33,467	36,883	3.0*	1.96									
10,130	13,552	16,990	20,441	23,904	27,377	30,859	34,350	37,847	4.0	3.27									
10,332	13,816	17,316	20,827	24,349	27,881	31,420	34,967	38,519	5.0	4.86									
9,217	12,361	15,533	18,728	21,944	25,178	28,426	31,688	34,960	6.0	6.71	850	2.0	0.96	0.18					
10,110	13,544	17,002	20,482	23,979	27,492	31,019	34,556	38,104	3.0*	1.96									
10,626	14,226	17,846	21,485	25,140	28,809	32,489	36,180	39,879	4.0	3.27									
10,964	14,672	18,397	22,138	25,894	29,662	33,441	37,229	40,024	5.0	4.86									
11,203	14,985	18,785	22,599	26,425	30,262	34,109	37,965	41,827	6.0	6.71	850	2.0	0.96	0.18					
9,469	12,701	15,962	19,249	22,557	25,883	29,225	32,581	35,948	3.0*	1.96									
10,420	13,961	17,528	21,118	24,726	28,351	31,991	35,643	39,304	4.0	3.27									
10,972	14,690	18,432	22,192	25,970	29,763	33,568	37,384	41,208	5.0	4.86									
11,334	15,169	19,022	22,893	26,780	30,679	34,590	38,511	42,440	6.0	6.71	11,592	15,507	19,440	23,389	27,351	31,325	35,310	39,303	43,304

Note: "3*" = Optional factory installed hot water circulating pump flow rate.

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	ENTERING WATER TEMPERATURE									CFM	GPM	(FT-WTR)	(IW C)		
100°F	110°F	120°F	130°F	140°F	150°F	160°F	170°F	180°F							
HE*2***A	9,217	12,361	15,533	18,728	21,944	25,178	28,246	31,688	34,960	800	2.0	0.96	0.16		
	10,110	13,544	17,002	20,482	23,979	27,492	31,019	34,556	38,104		3.0*	1.96			
	10,626	14,226	17,846	21,485	25,140	28,809	32,489	36,180	39,879		4.0	3.27			
	10,964	14,672	18,397	22,138	25,894	29,662	33,441	37,229	40,024		5.0	4.86			
	11,203	14,985	18,785	22,599	26,425	30,262	34,109	37,965	41,827	6.0	6.71	910	2.0	0.96	0.20
	9,754	13,086	16,448	19,837	23,249	26,681	30,129	33,592	37,067	3.0*	1.96				
	10,773	14,436	18,127	21,842	25,578	29,331	33,099	36,880	40,673	4.0	3.27				
	11,368	15,222	19,101	23,001	26,919	30,854	34,802	38,761	42,730	5.0	4.86				
	11,759	15,739	19,770	23,759	27,996	31,847	35,909	39,482	44,064	6.0	6.71	1,015	2.0	0.96	0.24
	12,038	16,105	20,193	24,296	28,415	32,547	36,690	40,842	45,002	3.0*	1.96				
	10,212	13,704	17,299	20,784	24,364	27,965	31,585	35,220	38,868	4.0	3.27				
	11,345	15,207	19,100	23,020	26,962	30,923	34,903	38,896	42,901	5.0	4.86				
	12,014	16,091	20,195	24,323	28,472	32,639	36,820	41,015	45,221	6.0	6.71	1,125	2.0	0.96	0.29
	12,455	16,675	20,917	25,181	29,464	33,763	38,075	42,399	46,733	3.0*	1.96				
	12,771	17,090	21,431	25,791	30,167	34,559	38,962	43,376	47,800	4.0	3.27				
	10,645	14,288	17,968	21,680	25,418	29,180	32,962	36,760	40,574	5.0	4.86				
	11,893	15,946	20,032	24,147	28,288	32,449	36,630	40,827	45,037	6.0	6.71	1,230	2.0	0.96	0.34
	12,636	16,928	21,250	25,599	29,970	34,361	38,769	43,192	47,626	3.0*	1.96				
	13,129	17,580	22,057	26,559	31,080	35,620	40,175	44,743	49,323	4.0	3.27				
	13,483	18,047	22,634	27,243	31,871	36,515	41,173	45,843	50,523	5.0	4.86				
	11,020	14,795	18,608	22,456	26,333	30,324	34,157	38,098	42,054	6.0	6.71	800	2.0	0.96	0.13
	12,394	16,593	20,849	25,137	29,452	33,790	38,148	42,524	46,914	3.0*	1.96				
	13,185	17,666	22,181	26,726	31,294	35,884	40,493	45,117	49,754	4.0	3.27				
	13,727	18,383	23,069	27,781	32,515	37,270	42,041	46,825	51,623	5.0	4.86				
14,116	18,898	23,705	28,536	33,388	38,257	43,142	48,040	52,950	6.0	6.71	910	2.0	1.04	0.17	
9,607	12,879	16,177	19,498	22,838	26,195	29,566	32,949	36,341	3.0*	2.14					
10,535	14,109	17,706	21,322	24,957	28,605	32,267	35,939	39,621	4.0	3.57					
11,069	14,814	18,579	22,362	26,160	29,971	33,793	37,625	41,465	5.0	5.30					
11,417	15,273	19,146	23,036	26,939	30,853	34,777	38,710	42,651	6.0	7.32	1,015	2.0	1.04	0.20	
11,662	15,596	19,546	23,510	27,485	31,472	35,467	39,470	43,480	3.0*	2.14					
10,177	13,647	17,146	20,671	24,217	27,782	31,363	34,956	38,561	4.0	3.57					
11,238	15,055	18,897	22,763	26,648	30,551	34,467	38,396	42,375	5.0	5.30					
11,856	15,870	19,908	23,967	28,044	32,135	36,239	40,554	44,478	6.0	7.32	1,125	2.0	1.04	0.24	
12,260	16,405	20,570	24,753	28,952	33,165	37,389	41,622	45,865	3.0*	2.14					
12,547	16,783	21,037	25,308	29,592	33,889	38,197	42,513	46,837	4.0	3.57					
10,633	14,301	17,973	21,672	25,395	29,138	32,899	36,673	40,460	5.0	5.30					
11,847	15,873	19,929	24,011	28,115	32,237	36,376	40,527	44,690	6.0	7.32	1,230	2.0	1.04	0.28	
12,542	16,792	21,069	25,370	29,690	34,027	38,377	42,741	47,114	3.0*	2.14					
13,000	17,398	21,819	26,261	30,720	35,195	39,683	44,182	48,690	4.0	3.57					
13,326	17,828	22,351	26,892	31,450	36,021	40,604	45,198	49,800	5.0	5.30					
11,122	14,921	18,755	22,619	26,510	30,421	34,352	38,299	42,258	6.0	7.32	800	2.0	1.04	0.13	
12,429	16,658	20,918	25,207	29,521	33,854	38,205	42,571	46,949	3.0*	2.14					
13,203	17,682	22,190	26,724	31,279	35,853	40,443	45,047	49,622	4.0	3.57					
13,716	18,360	23,030	27,723	32,436	37,166	41,910	46,667	51,434	5.0	5.30					
14,083	18,844	23,629	28,434	33,257	38,096	42,948	47,812	52,685	6.0	7.32	910	2.0	1.04	0.17	
11,520	15,458	19,433	23,441	27,477	31,536	35,614	39,710	43,819	3.0*	2.14					
12,940	17,345	21,786	26,258	30,755	35,275	39,813	44,368	48,937	4.0	3.57					
13,788	18,468	23,180	27,921	32,685	37,469	42,271	47,088	51,918	5.0	5.30					
14,353	19,215	24,106	29,022	33,960	38,917	43,890	48,876	53,874	6.0	7.32	1,015	2.0	1.04	0.20	
14,757	19,749	24,767	29,808	34,868	39,947	45,039	50,000	55,260	3.0*	2.14					

Note: "3*" = Optional factory installed hot water circulating pump flow rate.

High Efficiency Series

HEU1/HEC1 Direct Expansion Cooling/Electric Heating
 HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
 HEU3/HEC3 Chilled Water Cooling/Electric Heating
 HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

Performance Data - Hot Water Slab Coils													
HEATING PERFORMANCE DATA:													
HOT WATER SLAB-COIL MODEL	HOT WATER CAPACITIES @70°F ENTERING AIR TEMPERATURE										PRESS. DROP WATER		PRESS. DROP AIR
	ENTERING WATER TEMPERATURE										CFM	GPM	(FT-WTR)
	100°F	110°F	120°F	130°F	140°F	150°F	160°F	170°F	180°F				
HE*2***D	10,205	13,671	17,162	20,674	24,204	27,748	31,305	34,873	38,448	800	2.0	1.20	0.10
	11,188	14,975	18,784	22,612	26,455	30,313	34,181	38,058	41,944		3.0*	2.46	
	11,749	15,717	19,704	23,707	27,723	31,755	35,794	39,842	43,898		4.0	4.09	
	12,112	16,197	20,298	24,414	28,543	32,682	36,830	40,985	45,148		5.0	6.07	
	12,368	16,534	20,716	24,909	29,115	33,330	37,553	41,783	46,019		6.0	8.39	
	10,824	14,505	18,213	21,945	25,697	29,465	33,248	37,042	40,844	910	2.0	1.20	0.12
	11,954	16,005	20,281	24,178	28,294	32,424	36,567	40,721	44,884		3.0*	2.46	
	12,607	16,868	21,152	25,454	29,773	34,106	38,450	42,804	43,166		4.0	4.09	
	13,032	17,430	21,848	26,282	30,732	35,194	39,666	44,147	48,636		5.0	6.07	
	13,332	17,827	22,338	26,865	31,405	35,957	40,518	45,087	49,663		6.0	8.39	
	11,353	15,217	19,111	23,031	26,973	30,933	34,908	38,895	42,893	1,015	2.0	1.20	0.15
	12,619	16,898	21,206	25,537	29,888	34,257	38,640	43,034	47,439		3.0*	2.46	
	13,356	17,874	22,418	26,983	31,566	36,164	40,776	45,398	50,030		4.0	4.09	
	13,840	18,514	23,211	27,926	32,658	37,404	42,163	46,931	51,707		5.0	6.07	
	14,183	18,967	23,771	28,592	33,429	38,278	43,138	48,007	52,884		6.0	8.39	
	11,853	15,890	19,960	24,058	28,179	32,321	36,479	40,650	44,832	1,125	2.0	1.20	0.18
	13,255	17,754	22,284	26,840	31,418	36,015	40,628	45,254	49,891		3.0*	2.46	
	14,080	18,846	23,641	28,459	33,298	38,154	43,025	47,908	52,801		4.0	4.09	
	14,624	19,566	24,534	29,523	34,530	39,553	44,589	49,637	54,694		5.0	6.07	
	15,011	20,078	25,167	30,275	35,401	40,541	45,693	50,856	56,026		6.0	8.39	
	12,286	16,474	20,697	24,949	29,227	33,526	37,842	42,173	46,515	1,230	2.0	1.20	0.21
	13,814	18,506	23,231	27,985	32,763	37,561	42,377	47,206	52,048		3.0*	2.46	
	14,719	19,707	24,724	29,767	34,833	39,912	45,017	50,131	55,246		4.0	4.09	
	15,321	20,502	25,710	30,943	36,195	41,465	46,749	52,046	57,353		5.0	6.07	
	15,750	21,069	26,412	31,778	37,162	42,361	47,975	53,400	58,834		6.0	8.39	

Note: *3" = Optional factory installed hot water circulating pump flow rate.

Electric Heater Capacity Data						
		ELECTRIC HEATER SIZES				
		3 kW	5 kW	6 kW	8 kW	10 kW
240 VAC, 60 HZ, 1 PH	BTU	10,236	17,061	20,473	27,297	34,121
	Kw	3	5	6	8	10
230 VAC, 60 HZ, 1 PH	BTU	9,401	15,669	18,802	25,070	31,337
	Kw	2.76	4.59	5.51	7.35	9.18
220 VAC, 60 HZ, 1 PH	BTU	8,601	14,336	17,203	22,937	28,671
	Kw	2.52	4.20	5.04	6.72	8.40
HEATING ELEMENT CAPACITY	BTU	10,236	17,061	20,473	27,297	34,121
	Kw	3	5	6	8	10

High Efficiency Series

HEU1/HEC1 Direct Expansion Cooling/Electric Heating
 HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
 HEU3/HEC3 Chilled Water Cooling/Electric Heating
 HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

BLOWER PERFORMANCE "CONSTANT TORQUE" MOTOR AIR FLOW											
Model No.	Nominal Cooling Tons	Bower Motor		Motor Code	Blower Wheel Size	Motor Speed Tap	CFM@	CFM@	CFM@	CFM@	CFM@
		HP	Volts				0.10" W.C.	0.20" W.C.	0.30" W.C.	0.40" W.C.	0.50" W.C.
HE*2***A Hydronic Heat	1.5 - 2.0	0.33	115	*N	(2) 7 x 8	1	533	485	439	397	350
						2	629	589	546	508	457
						3	728	694	658	625	579
						4	832	801	761	727	680
						5	886	857	818	786	740
HE*2***B Hydronic Heat	1.5 - 2.5	0.33	115	*O	(2) 7 x 9	1	556	486	426	363	291
						2	646	593	541	476	423
						3	749	699	651	598	555
						4	844	798	749	704	657
						5	897	854	809	764	721
HE*2***B Hydronic Heat	1.5 - 2.5	0.50	115	*R	(2) 7 x 9	1	883	834	787	737	700
						2	978	926	885	834	791
						3	1075	1033	991	946	905
						4	1192	1149	1105	1071	1029
						5	1302	1253	1213	1176	1138
HE*2***C Hydronic Heat	1.5 - 3.0	0.50	115	*R	(2) 7 x 9	1	903	845	791	732	665
						2	1016	958	903	853	789
						3	1118	1065	1010	958	912
						4	1232	1179	1135	1089	1047
						5	1310	1261	1221	1180	1137
HE*2***D Hydronic Heat	1.5 - 3.0	0.50	115	*R	(2) 7 x 9	1	901	837	781	716	658
						2	992	939	876	823	753
						3	1090	1043	987	934	878
						4	1200	1152	1107	1061	1012
						5	1297	1252	1205	1161	1111

High Efficiency Series

HEU1/HEC1 Direct Expansion Cooling/Electric Heating
 HEU2/HEC2 Direct Expansion Cooling/Hot Water Heating
 HEU3/HEC3 Chilled Water Cooling/Electric Heating
 HEU4/HEC4 Chilled Water Cooling/Hot Water Heating

BLOWER PERFORMANCE "CONSTANT TORQUE" MOTOR AIR FLOW											
Model No.	Nominal Cooling Tons	Bower Motor		Motor Code	Blower Wheel Size	Motor Speed Tap	CFM@ 0.10" W.C.	CFM@ 0.20" W.C.	CFM@ 0.30" W.C.	CFM@ 0.40" W.C.	CFM@ 0.50" W.C.
		HP	Volts								
HEC2***A Hydronic Heat	1.5 - 2.0	0.33	115	*N	(2) 7 x 8	1	0.52	0.56	0.61	0.65	0.70
						2	0.75	0.79	0.84	0.88	0.92
						3	1.02	1.06	1.08	1.14	1.21
						4	1.30	1.36	1.42	1.46	1.50
						5	1.53	1.56	1.63	1.66	1.71
HEC2***B Hydronic Heat	1.5 - 2.5	0.33	115	*O	(2) 7 x 9	1	0.54	0.58	0.63	0.68	0.74
						2	0.71	0.76	0.81	0.88	0.94
						3	1.01	1.04	1.08	1.14	1.22
						4	1.32	1.37	1.45	1.49	1.54
						5	1.57	1.63	1.67	1.72	1.78
HEC2***B Hydronic Heat	1.5 - 2.5	0.50	115	*R	(2) 7 x 9	1	1.39	1.44	1.51	1.53	1.55
						2	1.72	1.76	1.82	1.88	1.93
						3	2.20	2.25	2.29	2.32	2.41
						4	2.77	2.90	2.94	3.04	3.02
						5	3.54	3.53	3.64	3.68	3.65
HEC2***C Hydronic Heat	1.5 - 3.0	0.50	115	*R	(2) 7 x 9	1	1.20	1.25	1.31	1.36	1.41
						2	1.59	1.62	1.68	1.71	1.76
						3	1.93	1.99	2.06	2.08	2.15
						4	2.52	2.57	2.61	2.66	2.74
						5	3.15	3.19	3.25	3.29	3.35
HEC2***D Hydronic Heat	1.5 - 3.0	0.50	115	*R	(2) 7 x 9	1	1.21	1.29	1.32	1.38	1.44
						2	1.47	1.53	1.63	1.66	1.68
						3	1.89	1.93	2.01	2.04	2.08
						4	2.40	2.45	2.52	2.54	2.60
						5	2.86	2.96	3.02	3.04	3.10