



ALPHA SERIES MULTI-STAGE RACK CHILLER UNITS 7-20 TONS

The Alpha Series Multi-Stage Rack Chiller Units are available in 2,3 and 4 stage models from 7 to 20 tons in capacity and in voltages from 230-1-60 to 380-3-50. Four and five ton (3.5 and 4.3 ton @ 50 Hz) Alpha series modules are manifolded together on both the seawater and chillwater circuits to form the units. The chillers and chillwater pump are then mounted on a common aluminum base for ease of installation. A remotely mounted electrical box provides for easy access to critical electrical components

Unit Features

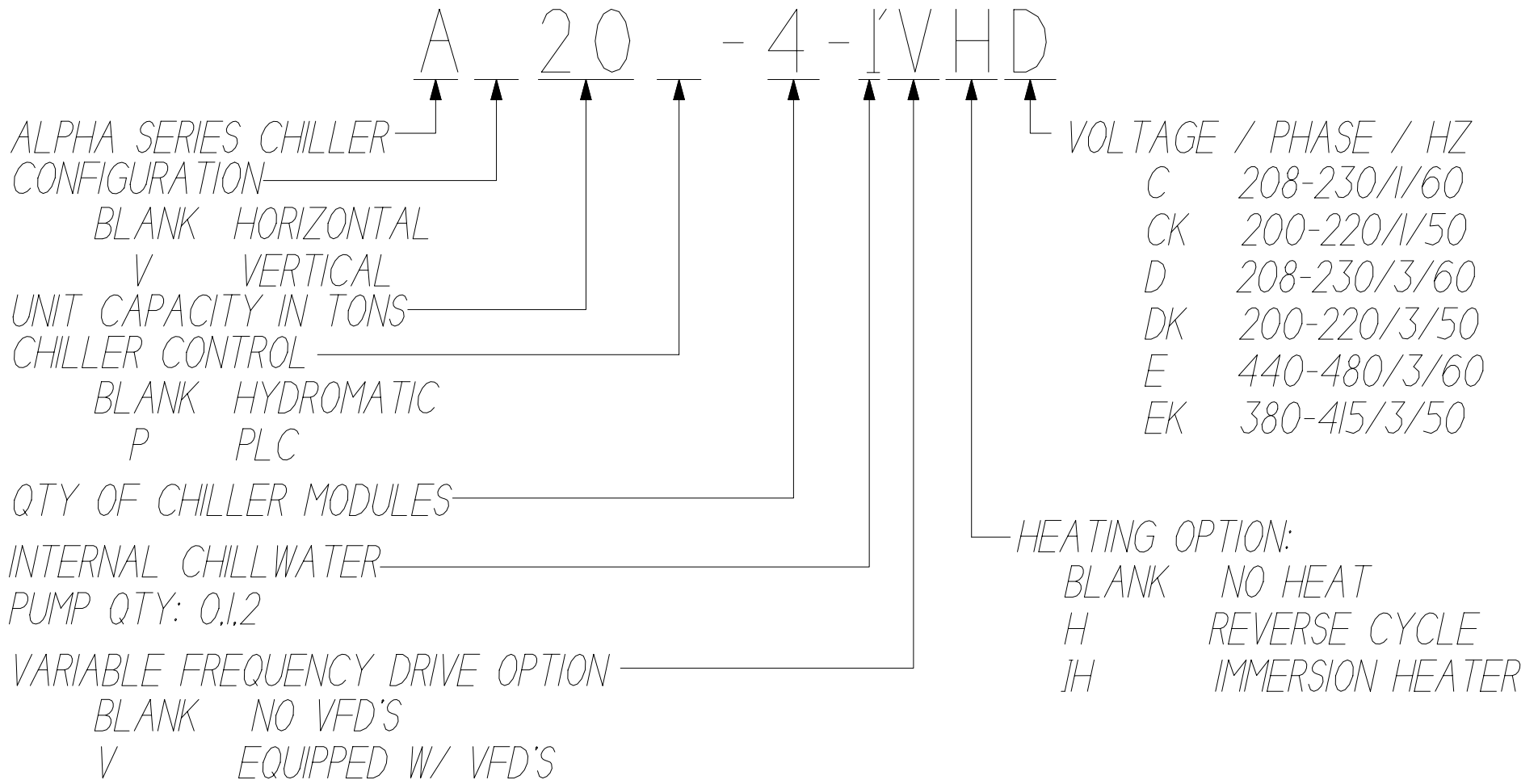
- Available in 8, 10, 12, 15, 16 and 20 ton capacities for 60 Hz applications and 7, 8.5, 10.5, 13, 14 and 17 ton capacities for 50 Hz applications.
- Available in 230-1, 230-3 and 460-3 for 60 Hz and 220-3 and 380-3 for 50 Hz.
- Available in cooling only, reverse cycle and immersion heat models.
- Available in vertical 2 & 3 stage models.
- Available with Variable Frequency Drives (VFD's) to provide for surgeless compressor startup.
- Integral chillwater pump with ODP motor and drain pan to catch condensate from the pump head.
- Integral chillwater flow switch.
- Chiller unit freeze stats are located on each chiller module.
- Seawater condensers constructed of 90-10 cupronickel inner tube and copper outer shell for corrosion resistance
- Chiller modules constructed of stainless steel with stainless steel fasteners
- Chiller modules utilize high performance stainless steel plate heat exchangers
- Chillwater manifolds constructed of copper with 1/2" (13mm) wall insulation to prevent condensation. Manifolds are connected to the individual chiller modules through unions.
- High quality brass isolation ball valves are located on the inlet and outlet of the manifolds to allow isolation of the modules for repair purposes.
- Seawater manifolds are constructed of corrosion resistant Sch 80 PVC. Connections to the cupronickel condenser manifolds on the individual chiller modules is via a double braid hose connection.
- Aluminum frames that are primed and painted with Awlgrip Matterhorn White.
- Individual chiller modules are vibration mounted to the main frame. Mounting points (4-6) are available on the frame. Vibration mounts provided as standard.
- Remote mount electrical control panels featuring the Hydromatic Chiller Controller system
- Custom configurations are available. Contact the factory for engineering assistance.

80964.wpd

AQUA-AIR MANUFACTURING, division of the James D. Nall Co., Inc.
1050 East 9th Street, Hialeah, Florida 33010 U.S.A.
Ph. 305-884-8363 Fax 305-883-8549 E-mail sales@aquair.com

ALPHA SERIES RACK CHILLERS

MODEL NUMBER DESCRIPTION

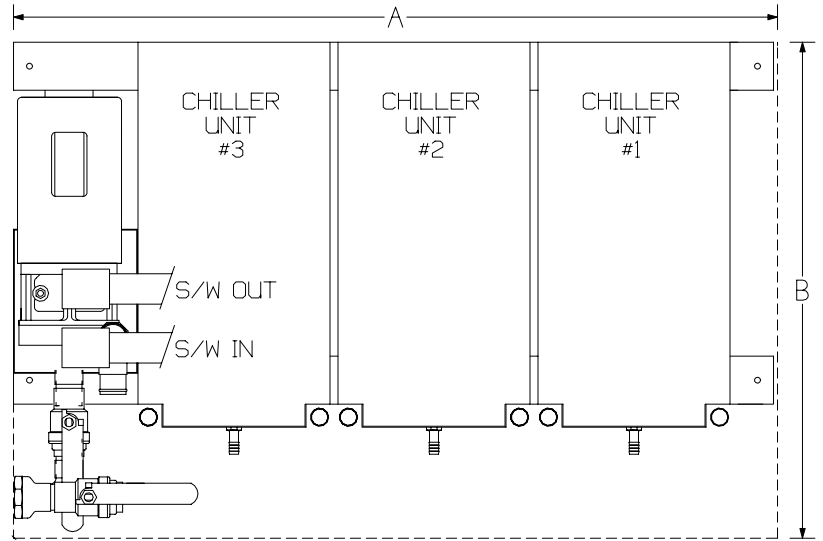


EXAMPLE: A20-4-IVHD 20 TON, HORIZONTAL RACK, 4 STAGE, I CHILLWATER PUMP, VARIABLE FREQUENCY DRIVES, REVERSE CYCLE HEATING, 208-230/3/60 POWER INPUT.

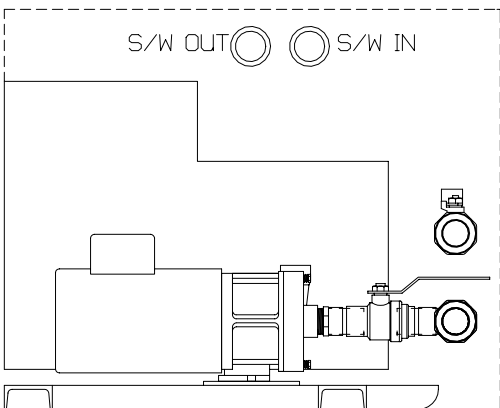
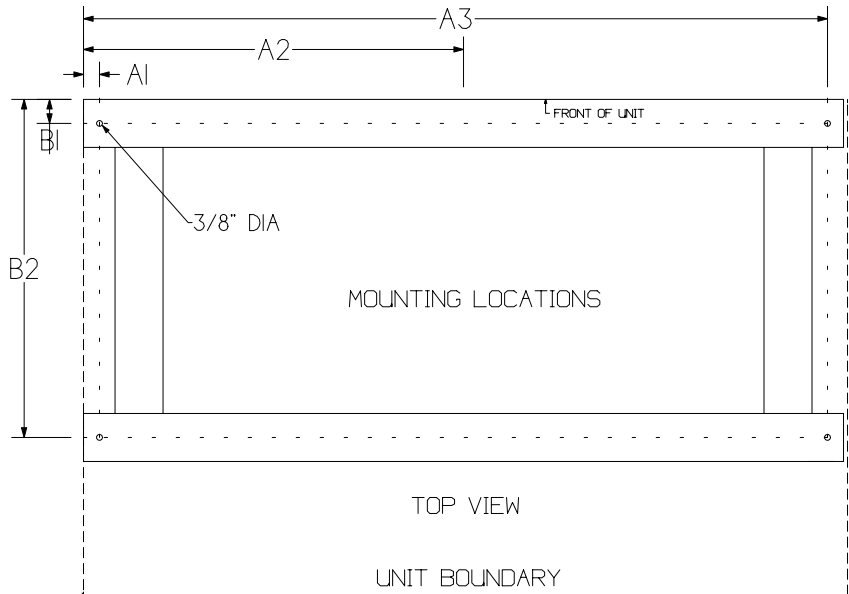
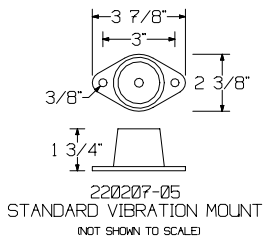
ALPHA SERIES MODULAR CHILLER RACKS

COOLING ONLY & REVERSE CYCLE SYSTEMS

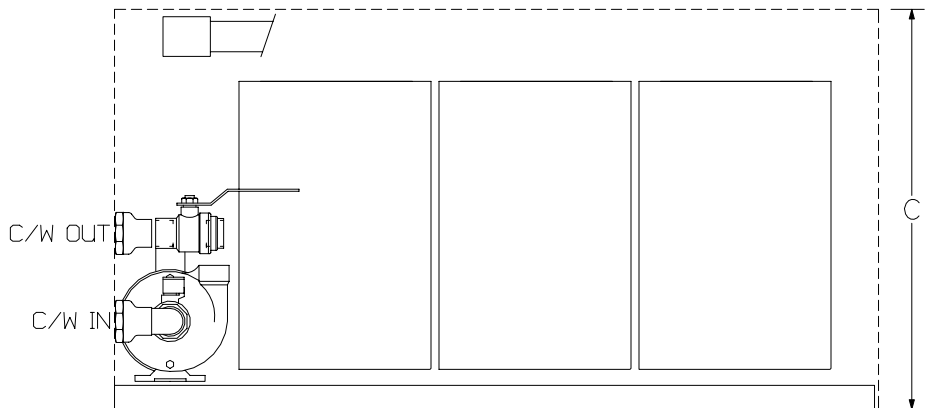
DIMENSIONS		A7-2-1 A8-2-1 A8.5-2-1 A10-2-1	A10.5-3-1 A12-3-1 A13-3-1 A15-3-1	A14-4-1 A16-4-1 A17-4-1 A20-4-1
A	inch mm	35-3/4" 908	47-3/4" 1213	60" 1524
B	inch mm	30" 762	31" 787	31" 787
C	inch mm	21" 533	25" 635	25" 635
A1	inch mm	1" 25	1" 25	1" 25
A2	inch mm	- -	- -	29-7/8" 759
A3	inch mm	34-1/2" 876	46-1/2" 1181	58-3/4" 1492
B1	inch mm	1-1/2" 38	1-1/2" 38	1-1/2" 38
B2	inch mm	21-1/8" 537	21-1/8" 537	21-1/8" 537
CHILLWATER INLET/OUTLET		1-1/4" FPT	2" FPT	2" FPT
SEAWATER INLET/OUTLET		1-1/4" FPT	1-1/2" FPT	2" FPT
WEIGHT	lbs	491	904	1154
w/o VFD's	kg	223	411	525
WEIGHT	lbs	540	979	1250
w/ VFD's	kg	245	445	568



TOP VIEW
A15-3-1 SHOWN



RIGHT SIDE VIEW

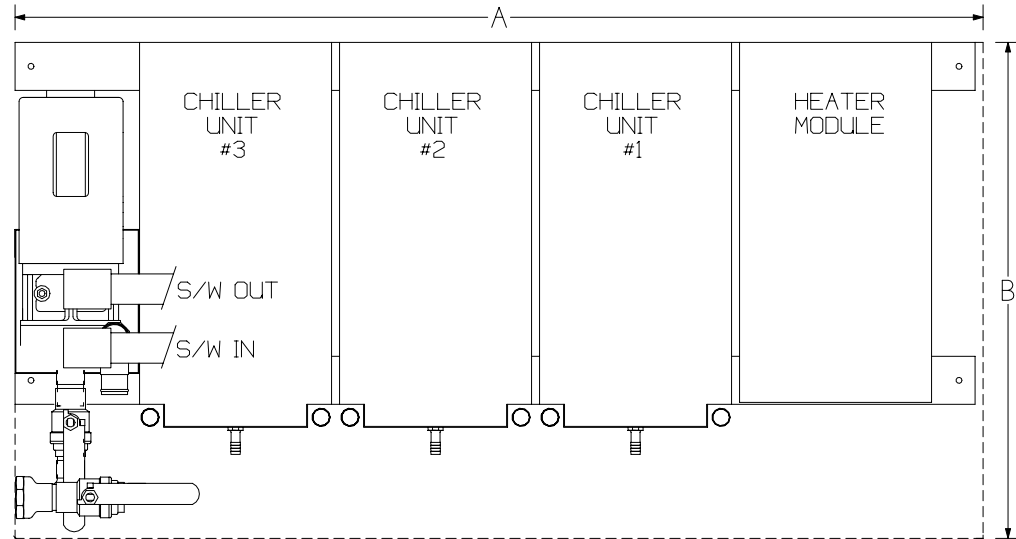


REAR VIEW

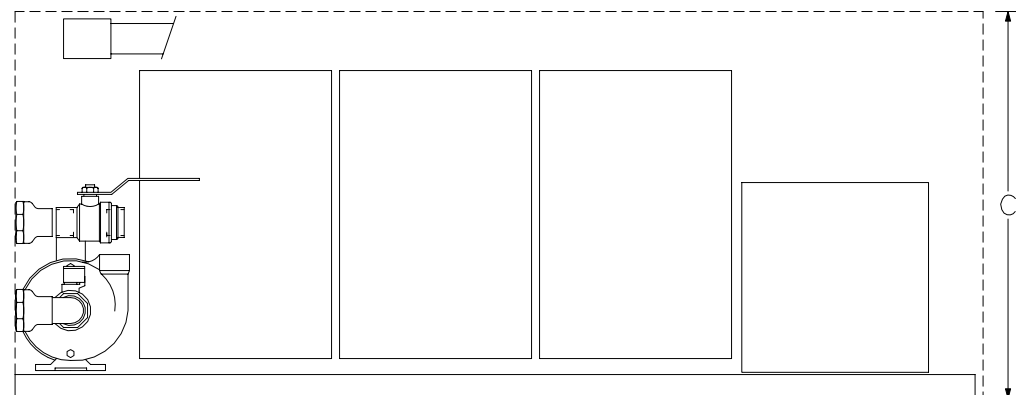
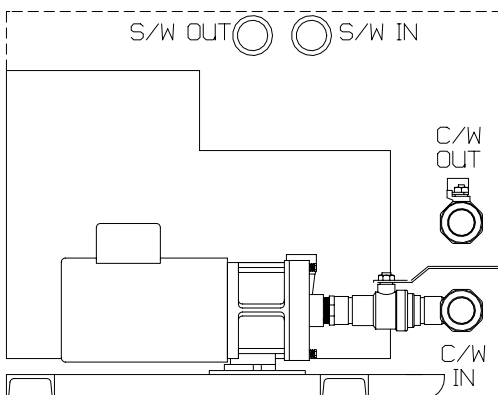
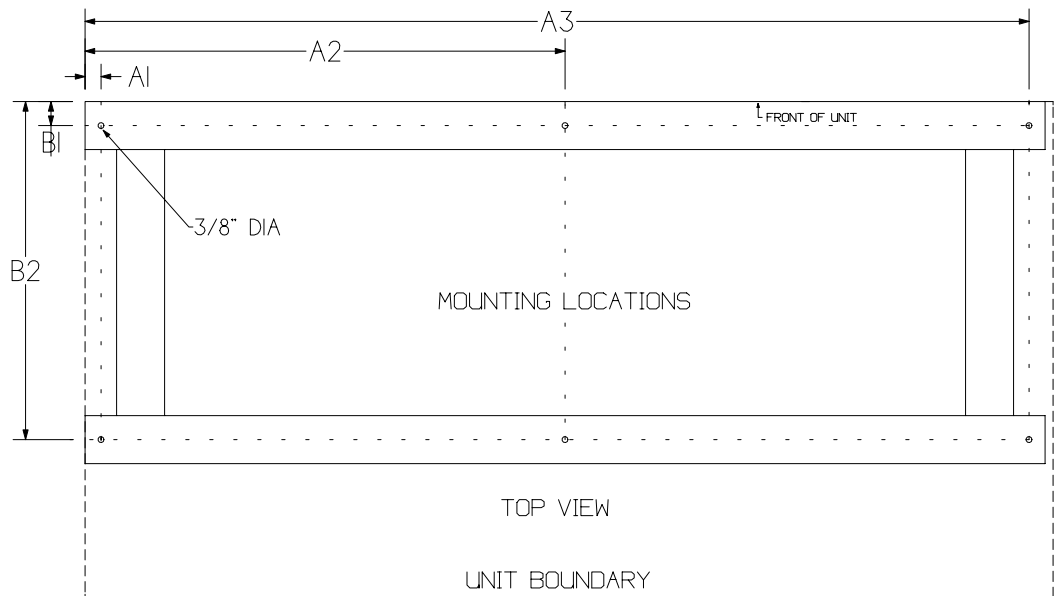
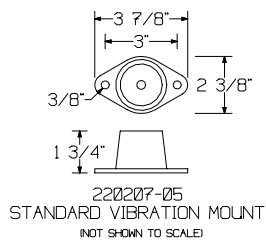
ALPHA SERIES MODULAR CHILLER RACKS

COOLING ONLY CHILLERS w/ IMMERSION HEAT

DIMENSIONS		A7-2-1IH A8-2-1IH A85-2-1IH A10-2-1IH	A105-3-1IH A12-3-1IH A13-3-1IH A15-3-1IH	A14-4-1IH A16-4-1IH A17-4-1IH A20-4-1IH
A	inch mm	49" 1245	60" 1524	73-1/2" 1867
B	inch mm	30" 762	31" 787	31" 787
C	inch mm	21" 533	25" 635	25" 635
A1	inch mm	1" 25	1" 25	1" 25
A2	inch mm	- -	30" 762	36-1/4" 921
A3	inch mm	47-1/2" 1207	59" 1499	71-1/2" 1816
B1	inch mm	1-1/2" 38	1-1/2" 38	1-1/2" 38
B2	inch mm	21-1/8" 537	21-1/8" 537	21-1/8" 537
CHILLWATER INLET/OUTLET		1-1/4" FPT	2" FPT	2" FPT
SEAWATER INLET/OUTLET		1-1/4" FPT	1-1/2" FPT	2" FPT
WEIGHT	lbs	586	999	1249
	kg	266	454	568
WEIGHT	lbs	635	1074	1345
	kg	289	488	611

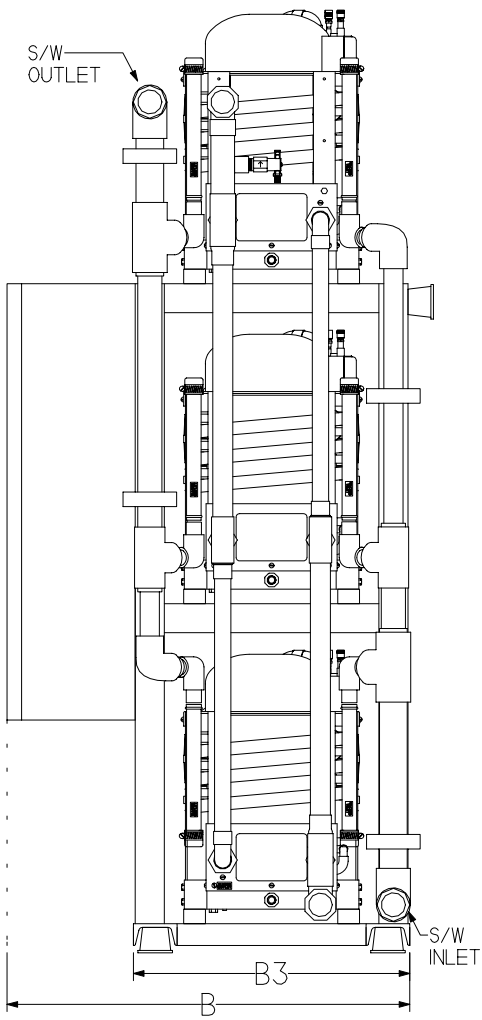


A15-3-1IH SHOWN

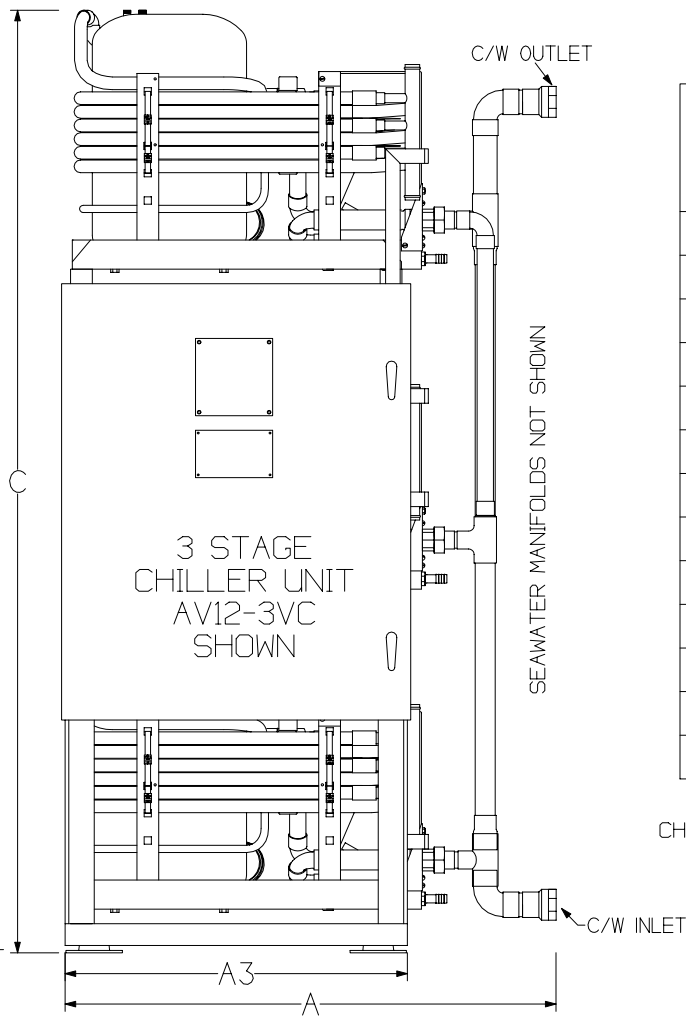


ALPHA SERIES VERTICAL MODULAR CHILLER RACKS

COOLING ONLY & REVERSE CYCLE CHILLERS



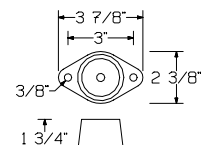
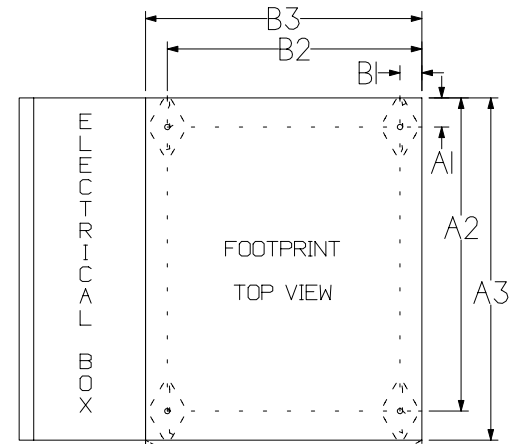
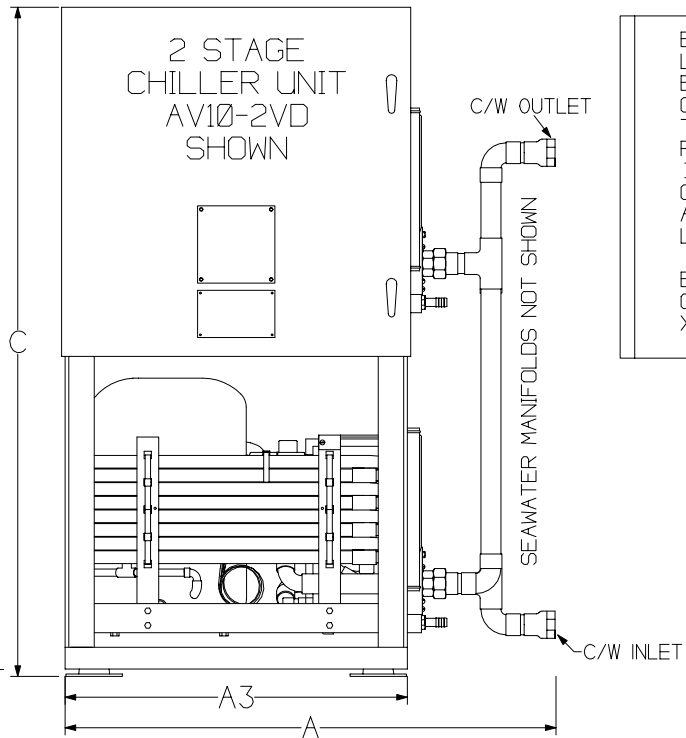
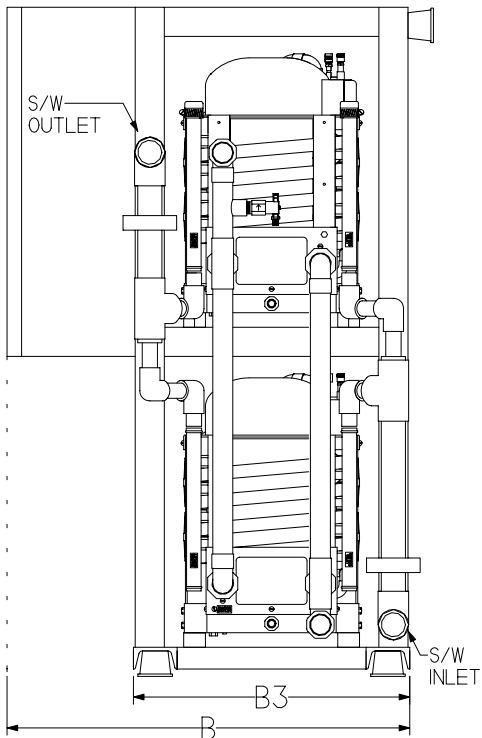
RIGHT VIEW



FRONT VIEW

		2 STAGE	3 STAGE
		AV7-2 AV8-2 AV8.5-2 AV10-2	AV10.5-3 AV12-3 AV13-3 AV15-3
DIMENSIONS	A	33-3/4"	
		857	
B	inch	27-3/4"	
	mm	705	
C	inch	46"	65"
	mm	1169	1651
A1	inch	2"	
	mm	51	
A2	inch	21-9/16"	
	mm	548	
A3	inch	23-9/16"	
	mm	598	
B1	inch	1-1/2"	
	mm	38	
B2	inch	17-1/2"	
	mm	445	
B3	inch	19"	
	mm	483	
CHILLWATER INLET/OUTLET		1-1/4" FPT	2" FPT
SEAWATER INLET/OUTLET		1-1/4" FPT	1-1/2" FPT
WEIGHT		lbs	kg
		461	867
w/o VFD's		210	394
WEIGHT		lbs	kg
		509	942
w/ VFD's		231	428

NOTE:
CHILLWATER PUMP IS REMOTELY MOUNTED
OPTIONAL REMOTE ELECTRICAL BOX



220207-05
STANDARD VIBRATION MOUNT
(NOT SHOWN TO SCALE)

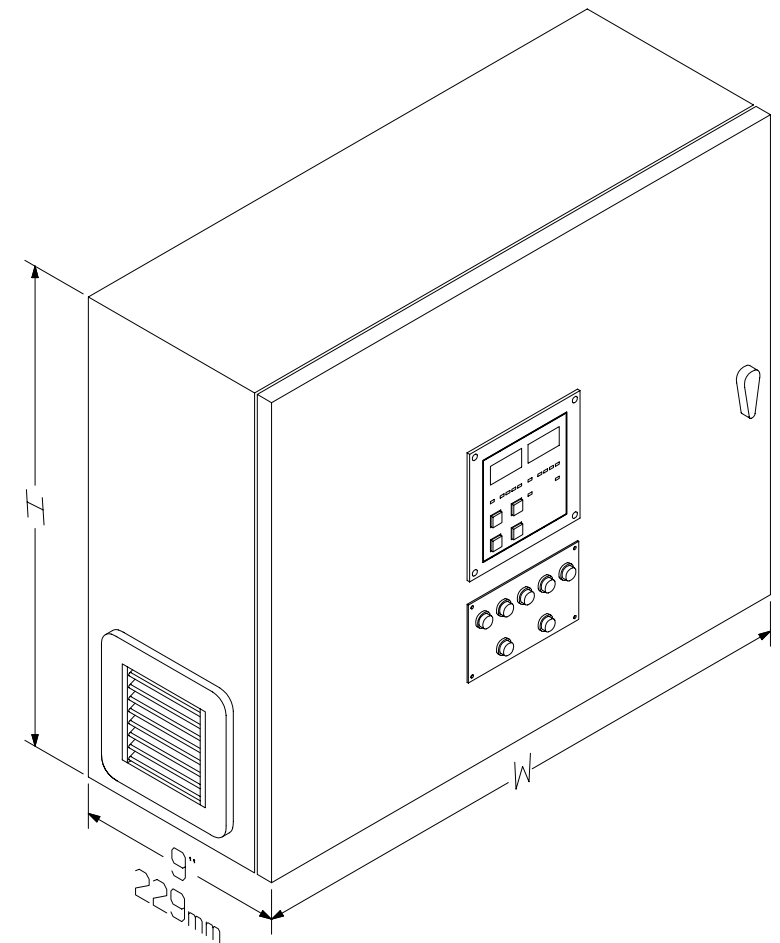
ALPHA SERIES MODULAR CHILLER REMOTE ELECTRICAL BOX

ELECTRICAL BOX DIMENSIONS

CHILLER UNIT
MODEL NUMBER

	16x16 (406x406)	20x20 (508x508)	24x24 (610x610)	30x30 (762x762)	36x36 (915x915)
2 STAGE					
C. HC. HCK. E. EK. HE. HEK			●		
IHC. IHE. IHEK			●		
VC. VHC. VE. VEK. VHE. VHEK				●	
VIHC				●	
D. DK. HD. HDK	●				
IHD. IHDK			●		
VD. VDK. VHD. VHDK				●	
VIHD. VIHDK. VIHE. VIHEK					●
3 STAGE					
C. HC. E. EK. HE. HEK			●		
IHC. IHE. IHEK. HCK				●	
VC. VHC. VE. VEK. VHE. VHEK					●
VIHE. VIHEK					●
VIHC				●	
D. DK. HD. HDK	●				
IHD. IHDK			●		
VD. VDK. VHD. VHDK				●	
VIHD. VIHDK				●	
4 STAGE					
C. HC. E. EK. HE. HEK				●	
HCK				●	
IHC. IHE. IHEK					●
VC. VHC					●
VIHC					●
D. DK. HD. HDK		●			
IHD. IHDK			●		
VD. VHD. VE. VHE					●
VIHD. VIHDK. VIHE. VIHEK					●

ALL DIMENSIONS WIDTH x HEIGHT (W x H)
DIMENSIONS IN INCHES (MILLIMETERS)



ALLOW 6" (150mm) ON THE LEFT, RIGHT &
BOTTOM OF THE ELECTRICAL BOX FOR
VENTILATION AND ACCESS TO THE
ELECTRICAL CONNECTIONS AND
GLAND PLATE

ALPHA SERIES RACK CHILLERS
8-20 TONS
230-1-60, 230-3-60 and 460-3-60



A8-2-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	96,000 BTU/H 8 TONS 24,192 KCAL/H	N/A	34	N/A	7328	N/A	63
D, VD	230-3-60			24		7293		40
E, VE	460-3-60			12		7293		20
HC, VHC	230-1-60		60,000 BTU/H 5 TONS 15120 KCAL/H	34	37	7328	8102	63
HD, VHD	230-3-60			24	26	7293	8061	40
HE, VHE	460-3-60		12	13	7293	8061	20	
IHC, VIHC	230-1-60		40,980 BTU/H 12 kW 10,327 KCAL/H	34	55	7328	12756	63
IHD, VIHD	230-3-60			24	32	7293	12781	40
IHE, VIHE	460-3-60			12	16	7293	12781	20

A10-2-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	120,000 BTU/H 10 TONS 30,240 KCAL/H	N/A	42	N/A	9084	N/A	70
D, VD	230-3-60			30		9031		63
E, VE	460-3-60			15		9031		32
HC, VHC	230-1-60		75,000 BTU/H 6.2 TONS 18,731 KCAL/H	42	46	9084	10064	70
HD, VHD	230-3-60			30	33	9031	10003	63
HE, VHE	460-3-60		15	17	9031	10003	32	
IHC, VIHC	230-1-60		51,225 BTU/H 15 kW 12,909 KCAL/H	42	68	9084	15756	80
IHD, VIHD	230-3-60			30	39	9031	15781	63
IHE, VIHE	460-3-60			15	20	9031	15781	32

A12-3-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	144,000 BTU/H 12 TONS 36,288 KCAL/H	N/A	51	N/A	11001	N/A	80
D, VD	230-3-60			35		10883		63
E, VE	460-3-60			18		10883		32
HC, VHC	230-1-60		90,000 BTU/H 7.5 TONS	51	56	11001	12162	80
HD, VHD	230-3-60		22,680 KCAL/H	35	39	10883	12035	63
HE, VHE	460-3-60		18	20	10883	12035	32	
IHC, VIHC	230-1-60		61,470 BTU/H	51	83	11001	19143	90
IHD, VIHD	230-3-60		18 kW	35	47	10883	19115	63
IHE, VIHE	460-3-60		15,490 KCAL/H	18	24	10883	19115	32

A15-3-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	180,000 BTU/H 15 TONS 45,360 KCAL/H	N/A	63	N/A	13635	N/A	100
D, VD	230-3-60			44		13490		70
E, VE	460-3-60			22		13490		40
HC, VHC	230-1-60		111,600 BTU/H 9.3 TONS	63	56	13635	15077	100
HD, VHD	230-3-60		28,123 KCAL/H	44	48	13490	14948	70
HE, VHE	460-3-60		22	24	13490	14948	40	
IHC, VIHC	230-1-60		71,715 BTU/H	63	96	13635	19143	100
IHD, VIHD	230-3-60		21 kW	44	55	13490	22115	70
IHE, VIHE	460-3-60		18,072 KCAL/H	22	28	13490	22115	40

A16-4-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	192,000 BTU/H 16 TONS 48,384 KCAL/H	N/A	68	N/A	14706	N/A	100
D, VD	230-3-60			47		14586		70
E, VE	460-3-60			24		14586		40
HC, VHC	230-1-60		120,000 BTU/H 10 TONS 30,240 KCAL/H	68	75	14706	16254	100
HD, VHD	230-3-60			47	52	14586	16122	70
HE, VHE	460-3-60		24	26	14586	16122	40	
IHC, VIHC	230-1-60		81,960 BTU/H 24 kW 20,654 KCAL/H	68	111	14706	25562	125
IHD, VIHD	230-3-60			47	63	14586	25562	70
IHE, VIHE	460-3-60			24	32	14586	25562	40

A20-4-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
C, VC	230-1-60	240,000 BTU/H 20 TONS 60,480 KCAL/H	N/A	84	N/A	18218	N/A	125
D, VD	230-3-60			59		18062		90
E, VE	460-3-60			30		18062		50
HC, VHC	230-1-60		144,000 BTU/H 12 TONS 36,288 KCAL/H	84	92	18218	20178	125
HD, VHD	230-3-60			59	64	18062	20006	90
HE, VHE	460-3-60		30	32	18062	20006	50	
IHC, VIHC	230-1-60		92,205 BTU/H 27 kW 23,236 KCAL/H	84	124	18218	28562	125
IHD, VIHD	230-3-60			59	71	18062	28562	90
IHE, VIHE	460-3-60			30	36	18062	28562	50

ALPHA SERIES RACK CHILLERS
7-17 TONS
220-3-50 and 380-3-50



A7-2-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	84,000 BTU/H 7 TONS 21,168 KCAL/H	N/A	23	N/A	6186	N/A	40
EK, VEK	380-3-50			12		6186		20
HDK, VHDK	220-3-50		50,752 BTU/H 4.2 TONS	23	25	6186	6838	40
HEK, VHEK	380-3-50		12,790 KCAL/H	12	12.5	6186	6838	20
IHDK, VIHDK	220-3-50		30,735 BTU/H 9 kW	23	26.3	6186	9650	40
IHEK, VIHEK	380-3-50		7,745 KCAL/H	12	15	6186	9650	20

A8.5-2-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	102,000 BTU/H 8.5 TONS 25,704 KCAL/H	N/A	26.2	N/A	7662	N/A	50
EK, VEK	380-3-50			14.1		7662		32
HDK, VHDK	220-3-50		63,000 BTU/H 5.2 TONS	26.2	28.3	7662	8488	50
HEK, VHEK	380-3-50		15,876 KCAL/H	14.1	15.5	7662	8488	32
IHDK, VIHDK	220-3-50		40,980 BTU/H 12 kW	26.2	34.2	7662	12650	50
IHEK, VIHEK	380-3-50		10,327 KCAL/H	14.1	15	7662	12650	32

A10.5-3-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	126,000 BTU/H 10.5 TONS 31,752 KCAL/H	N/A	34.2	N/A	9229	N/A	50
EK, VEK	380-3-50			18.9		9229		25
HDK, VHDK	220-3-50		76,000 BTU/H 6.3 TONS 19,152 KCAL/H	34.2	37.8	9229	10207	50
HEK, VHEK	380-3-50		18.9	18.7	9229	10207	25	
IHDK, VIHDK	220-3-50		51,225 BTU/H 15 kW 12,909 KCAL/H	34.2	43.3	9229	15925	50
IHEK, VIHEK	380-3-50		18.9	24.7	9229	15925	25	

A13-3-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	156,000 BTU/H 13 TONS 39,312 KCAL/H	N/A	38	N/A	11443	N/A	63
EK, VEK	380-3-50			21		11443		40
HDK, VHDK	220-3-50		95,000 BTU/H 7.9 TONS 23,940 KCAL/H	38	43	11443	12682	63
HEK, VHEK	380-3-50		21	24	11443	12682	40	
IHDK, VIHDK	220-3-50		61,470 BTU/H 18 kW 15,490 KCAL/H	38	51	11443	18925	63
IHEK, VIHEK	380-3-50		21	30	11443	18925	40	

A14-4-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	168,000 BTU/H 14 TONS 42,336 KCAL/H	N/A	45	N/A	12368	N/A	63
EK, VEK	380-3-50			23		12368		32
HDK, VHDK	220-3-50		102,000 BTU/H 8.5 TONS	45	50	12368	13672	63
HEK, VHEK	380-3-50		25,704 KCAL/H	23	25	12368	13672	32
IHDK, VIHDK	220-3-50		71,715 BTU/H 21 kW	45	60	12368	21296	63
IHEK, VIHEK	380-3-50		18,072 KCAL/H	23	34	12368	21296	32

A17-4-1 Series								
MODELS	POWER SUPPLY	CAPACITY		AMP DRAW		WATTAGE		MAIN BREAKER SIZE
		COOL	HEAT	COOL	HEAT	COOL	HEAT	
DK, VDK	220-3-50	204,000 BTU/H 17 TONS 51,408 KCAL/H	N/A	50	N/A	15320	N/A	80
EK, VEK	380-3-50			30		15320		50
HDK, VHDK	220-3-50		126,000 BTU/H 10.5 TONS	50	56	15320	16972	80
HEK, VHEK	380-3-50		31,752 KCAL/H	30	31	15320	16972	50
IHDK, VIHDK	220-3-50		81,960 BTU/H 24 kW	50	68	15320	25296	80
IHEK, VIHEK	380-3-50		20,654 KCAL/H	30	39	15320	25296	50

TYPICAL CHILLER UNIT PIPING

