

*TECHNICAL DATA SHEET*



# VHA FC

AIR COOLED CHILLER WITH  
SCROLL OR RECIPROCATING  
COMPRESSORS, AXIAL FANS  
AND FREE COOLING FOR  
OUTDOOR INSTALLATION



## VHA FC Range 18 - 1163 kW

### VHA FC Range

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation



Scroll compressors (R410A)  
Reciprocating compressors (R290 or HFO1234-ze)  
Dry expansion evaporator  
AC or EC axial fans both 630 and 800 mm  
Free Cooling



## General Description

Whenever it is required to maintain liquid cooling all year round, VHA FC chillers are clearly the best choice. The average yearly yield is much superior to that of traditional water chillers, and the initial investment costs are recovered in a very short time. These units are therefore indicated for conditioning systems for data processing centers or for the refrigeration of industrial processes and for all applications which require a production of chilled water even during the winter.

A free cooling refrigeration device consists in using finned exchangers positioned uphill to the condenser coils. The air crosses the coils before hitting the refrigeration condensers of the refrigerant. When the temperature of the outdoor air is below the temperature of the water inside the plant, it is possible to obtain either partial or total chilling of the water, thanks to the heat released due to the thermal exchange in the water chilling coils. The higher the difference of temperature between the circulating water and the outdoor air, the better the system will perform. VHA FC is available in LN (low noise) or LLN (low low noise) for installation in plant rooms where sound levels must be kept to a minimum.

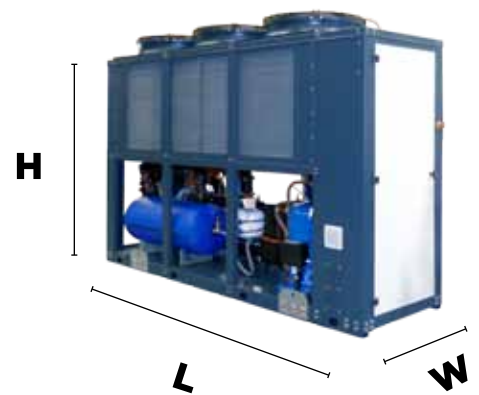
## Typical units dimensions

Length: from 1.360 to 12.910 mm

Width: from 1.050 to 2.250 mm

Height: from 2.330 to 2.790 mm

Operating Weight: from 932 kg to 13.070 kg



Length from from 1.360 to 12.910 mm. The bigger sizes are delivered in two sections.

# VHA FC with AC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 1090C AC FC-01	VHA 1105C AC FC-01	VHA 1120C AC FC-01	VHA 1140C AC FC-01	VHA 1161C AC FC-01	VHA 1184C AC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	18.36	21.3	25.24	29.01	30.8	37.24
Nominal power input	kW	6.98	8.58	8.78	10.38	12.08	13.36
E.E.R.	Coef.	2.63	2.48	2.87	2.79	2.55	2.79
Energy class		D	E	C	C	D	C
E.S.E.E.R.	Coef.	3.67	3.78	4.08	3.88	3.39	3.78
Noise Pressure Level	dB(A)	46	47	47	47	48	49
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	1	1	1	1	1	1
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	6.98	8	8.2	9.8	11.5	12.2
Total running current	A	14.7	17.9	18.1	20.6	22.5	28
Total max current	A	21.7	24.7	26.7	30.7	33.7	41.4
Total starting current	A	100.7	144.7	144.7	149.7	160.7	202.4
<b>DIMENSIONS</b>							
Length with cabinet	mm	1360	1360	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2330	2330	2730	2730	2730	2730
Shipping weight	kg	920	920	960	970	970	1020
Operating weight	kg	932	932	978	988	988	1038
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1182C AC FC-01	VHA 1195C AC FC-01	VHA 1210A AC FC-01	VHA 1212A AC FC-01	VHA 1230A AC FC-01	VHA 1242A AC FC-01	VHA 1240A AC FC-01	VHA 1260C AC FC-01	VHA 1281C AC FC-01	VHA 1282C AC FC-01	VHA 1301C AC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>37</b>	<b>39.56</b>	<b>44.03</b>	<b>44.84</b>	<b>47.36</b>	<b>48.96</b>	<b>49.07</b>	<b>52.91</b>	<b>56.32</b>	<b>56.86</b>	<b>59.32</b>
13.86	15.66	16.25	16.65	17.75	18.85	18.55	19.56	20.76	20.86	22.46
2.67	2.53	2.71	2.69	2.67	2.6	2.65	2.71	2.71	2.73	2.64
D	D	C	D	D	D	D	C	C	C	D
3.92	3.53	3.73	4.01	3.63	3.65	3.74	3.57	3.93	3.57	3.57
49	50	51	51	51	51	54	50	51	50	51
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
2	2	2	2	2	2	1	2	2	2	2
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
12.7	14.5	14.5	14.9	16	17.1	16.8	18.4	19.6	19.7	21.3
29.2	32.6	30.8	32.8	33.3	35.4	32.3	39.2	40.4	41.3	43.1
43.4	46.4	46.7	47.7	50.7	51.7	52.7	57.4	60.4	61.4	64.4
78.2	103.6	101.8	103.8	106.8	106.4	218.7	112.7	119.4	114.8	122.1
2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560
1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
2730	2730	2790	2790	2790	2790	2790	2730	2730	2730	2730
1070	1080	1030	1040	1030	1040	1020	1230	1240	1240	1240
1088	1098	1048	1058	1048	1058	1038	1259	1270	1270	1270

# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 1304C AC FC-01	VHA 1322C AC FC-01	VHA 1324C AC FC-01	VHA 1300A AC FC-01	VHA 1345A AC FC-01	VHA 1360A AC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
Total cooling capacity	kW	<b>60.22</b>	<b>61.6</b>	<b>63.11</b>	<b>62.66</b>	<b>68.53</b>	<b>72.58</b>
Nominal power input	kW	22.56	24.16	24.36	22.45	25.15	27.05
E.E.R.	Coef.	2.67	2.55	2.59	2.79	2.72	2.68
Energy class		D	D	D	C	C	D
E.S.E.E.R.	Coef.	3.75	3.75	3.55	4.02	3.85	3.61
Noise Pressure Level	dB(A)	51	51	51	54	51	55
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	2	2	2	1	2	2
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	21.4	23	23.2	20.7	23.4	25.3
Total running current	A	44.6	45	47.4	39	45.7	47.8
Total max current	A	65.4	67.4	69.4	61.7	70.7	71.7
Total starting current	A	143.1	124	145.9	263.7	144.2	132.8
<b>DIMENSIONS</b>							
Length with cabinet	mm	2560	2560	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2730	2730	2730	2790	2790	2790
Shipping weight	kg	1240	1240	1240	1220	1200	1300
Operating weight	kg	1270	1270	1270	1250	1230	1330
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with AC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1368A AC FC-01	VHA 1380A AC FC-01	VHA 1420A AC FC-01	VHA 1485A AC FC-01	VHA 1480A AC FC-01	VHA 1482A AC FC-01	VHA 1550A AC FC-01	VHA 1540A AC FC-01	VHA 1600A AC FC-01	VHA 1620A AC FC-01	VHA 1680A AC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>72.81</b>	<b>72.85</b>	<b>81.29</b>	<b>94.04</b>	<b>94.88</b>	<b>98.14</b>	<b>105.4</b>	<b>107.28</b>	<b>125.32</b>	<b>124.96</b>	<b>135.7</b>
26.85	27.95	33.15	36.6	38.7	37.1	43.1	43	44.8	45	50.2
2.71	2.61	2.45	2.57	2.45	2.65	2.45	2.49	2.8	2.78	2.7
C	D	E	D	E	D	E	E	C	C	C
4	3.55	3.41	3.46	3.4	3.59	3.5	3.62	3.69	3.98	3.83
52	55	56	60	57	57	57	57	58	58	58
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
2	1	2	1	2	2	3	2	2	2	2
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
25.1	26.2	31.4	33.1	35.2	33.6	39.6	39.5	41.3	41.5	46.7
49.7	49.2	57	63.9	67.2	64.7	75.7	74.1	78	79.7	88.1
75.7	75.7	86.7	96.4	99.4	105.4	109.4	114.4	123.4	128.4	137.4
148.2	323.7	164.5	420.4	197.2	172.2	200.7	204.1	208	239.7	248.1
2560	2560	2560	2560	2560	2560	2560	2560	2410	2410	2410
1050	1050	1050	1050	1050	1050	1050	1050	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
1200	1230	1310	1300	1410	1350	1490	1410	2090	2050	2100
1230	1261	1341	1331	1441	1381	1521	1441	2149	2109	2159

# VHA FC with AC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 1720A AC FC-01	VHA 1760A AC FC-01	VHA 1865A AC FC-01	VHA 1970A AC FC-01	VHA 1900A AC FC-01	VHA 1114A AC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	144.91	146.86	174.53	192.34	187.98	218.56
Nominal power input	kW	54.9	55.3	62.9	71.4	69	85.5
E.E.R.	Coef.	2.64	2.66	2.77	2.69	2.72	2.56
Energy class		D	D	C	D	C	D
E.S.E.E.R.	Coef.	3.79	3.89	4.02	3.81	4	3.69
Noise Pressure Level	dB(A)	58	58	61	61	59	60
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	3	2	2	2	3	3
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	51.4	51.8	55.9	64.4	62	78.5
Total running current	A	94.8	97.7	112.1	125	120.7	151.3
Total max current	A	154.4	151.4	175.8	192.8	188.8	230.8
Total starting current	A	253.9	257.7	318.6	331.5	313.3	394.5
<b>DIMENSIONS</b>							
Length with cabinet	mm	2410	2410	2410	2410	2410	2410
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	2120	2110	2220	2240	2380	2400
Operating weight	kg	2179	2169	2279	2299	2441	2461
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							



# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1145A AC FC-01	VHA 2182A AC FC-01	VHA 2195A AC FC-01	VHA 2210A AC FC-01	VHA 2212A AC FC-01	VHA 2230A AC FC-01	VHA 2242A AC FC-01	VHA 2260A AC FC-01	VHA 2281A AC FC-01	VHA 2282A AC FC-01	VHA 2301A AC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>290.63</b>	<b>72.28</b>	<b>77.88</b>	<b>85.4</b>	<b>90.3</b>	<b>94.72</b>	<b>97.92</b>	<b>104.18</b>	<b>109</b>	<b>110.22</b>	<b>124.26</b>
106.1	27.95	31.15	33.7	32.9	35.5	37.7	41.1	44.3	44.5	43.5
2.74	2.59	2.5	2.53	2.74	2.67	2.6	2.53	2.46	2.48	2.86
C	D	D	D	C	D	D	D	E	E	C
3.87	4.03	3.52	3.5	3.72	4.08	3.57	3.57	3.86	3.84	3.94
65	51	52	54	54	54	54	54	54	54	54
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
3	4	4	4	4	4	4	4	4	4	4
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
95.6	26.2	29.4	30.2	29.4	32	34.2	37.6	40.8	41	40
186.2	52.1	58.9	63.2	65.4	66.6	70.8	75.8	79.6	81.2	79.4
289.2	79.7	85.7	93.4	95.4	101.4	103.4	111.4	117.4	119.4	125.4
487.9	185.5	218.6	224.3	231.4	236.6	249	266.5	281.6	284	280.9
3460	2560	2560	2560	2560	2560	2560	2560	2560	2560	2410
2250	1050	1050	1050	1050	1050	1050	1050	1050	1050	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
3170	1340	1350	1400	1410	1400	1410	1410	1420	1420	2040
3255	1374	1384	1434	1444	1434	1444	1444	1454	1454	2096

# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 2304A AC FC-01	VHA 2322A AC FC-01	VHA 2324A AC FC-01	VHA 2345A AC FC-01	VHA 2360A AC FC-01	VHA 2368A AC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	124.22	129.4	132.2	137.06	145.16	153.32
Nominal power input	kW	44.7	46.5	47.1	50.3	54.1	54
E.E.R.	Coef.	2.78	2.78	2.81	2.72	2.68	2.84
Energy class		C	C	C	C	D	C
E.S.E.E.R.	Coef.	3.88	4.07	3.81	4.03	3.99	4.21
Noise Pressure Level	dB(A)	54	54	54	54	58	57
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	4	4	4	4	4	4
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	41.2	43	43.6	46.8	50.6	47
Total running current	A	83.8	82.8	88	91.4	95.6	102.8
Total max current	A	127.4	131.4	135.4	141.4	143.4	158.8
Total starting current	A	305	292	318.6	329.7	336.6	350.1
<b>DIMENSIONS</b>							
Length with cabinet	mm	2410	2410	2410	2410	2410	2410
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	2040	2040	2040	2050	2250	2150
Operating weight	kg	2096	2096	2096	2106	2306	2206
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with AC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 2420A AC FC-01	VHA 2480A AC FC-01	VHA 2482A AC FC-01	VHA 2550A AC FC-01	VHA 2540A AC FC-01	VHA 2600A AC FC-01	VHA 2620A AC FC-01	VHA 2680A AC FC-01	VHA 2720A AC FC-01	VHA 2760A AC FC-01	VHA 2865A AC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>174.68</b>	<b>195.98</b>	<b>196.28</b>	<b>214.3</b>	<b>218.06</b>	<b>254.44</b>	<b>253.64</b>	<b>275.58</b>	<b>294.42</b>	<b>296</b>	<b>331.18</b>
64	74.4	74.2	84.4	84.4	91.5	91.9	102.1	111.1	112.9	130.3
2.73	2.63	2.65	2.54	2.58	2.78	2.76	2.7	2.65	2.62	2.54
C	D	D	D	D	C	C	C	D	D	D
4.06	3.79	4.1	3.54	3.65	3.98	4.11	3.74	3.71	3.98	3.61
60	60	60	60	60	61	61	61	62	62	63
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
4	4	4	6	4	4	4	4	6	4	4
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
57	67.4	67.2	77.4	77.4	81	81.4	91.6	100.6	102.4	119.8
113.8	130.6	129.4	149.2	146	161.2	164.6	181.2	194	201.4	227.8
180.8	198.8	210.8	218.8	228.8	254.2	264.2	282.2	316.2	310.2	344.2
390.3	456.2	441	737.5	506.2	539	565	619	945.7	684.6	793.7
2410	2410	2410	2410	2410	3460	3460	3460	3460	3460	3460
2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
2360	2470	2360	2630	2470	3310	3220	3320	3370	3340	3370
2420	2530	2420	2690	2530	3398	3308	3408	3458	3428	3458

# VHA FC with AC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 2900A AC FC-01	VHA 2970A AC FC-01	VHA 2114A AC FC-01	VHA 2145A AC FC-01	VHA 3420A AC FC-01	VHA 3480A AC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	373.1	384.68	437.12	572.78	260.04	293.97
Nominal power input	kW	139.2	142.8	171	216	96.9	111.6
E.E.R.	Coef.	2.68	2.69	2.56	2.65	2.68	2.63
Energy class		D	D	D	D	D	D
E.S.E.E.R.	Coef.	3.82	3.92	3.65	3.81	3.79	3.79
Noise Pressure Level	dB(A)	62	64	63	68	62	62
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	6	4	6	6	6	6
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	S&T	S&T	S&T	S&T
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	125.2	128.8	157	195	86.4	101.1
Total running current	A	243	250	302.6	377.8	171.9	195.9
Total max current	A	377.6	385.6	461.6	578.4	271.2	298.2
Total starting current	A	1175.5	849.2	1493.4	1835.8	856.4	991.9
<b>DIMENSIONS</b>							
Length with cabinet	mm	4510	4510	4510	6610	3460	3460
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	4380	4110	4790	6370	3590	3750
Operating weight	kg	4490	4220	5013	6618	3751	3911
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazen Plate Heat Exchanger							

# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 3482A AC FC-01	VHA 3550A AC FC-01	VHA 3540A AC FC-01	VHA 3600A AC FC-01	VHA 3620A AC FC-01	VHA 3680A AC FC-01	VHA 3720A AC FC-01	VHA 3900A AC FC-01	VHA 3970A AC FC-01	VHA 3114A AC FC-01	VHA 3145A AC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>294.42</b>	<b>321.45</b>	<b>327.09</b>	<b>370.2</b>	<b>372.06</b>	<b>403.95</b>	<b>434.73</b>	<b>559.65</b>	<b>577.02</b>	<b>655.68</b>	<b>865.56</b>
111.3	126.6	126.6	140.6	140	155.6	168.2	208.8	214.2	256.5	321.3
2.65	2.54	2.58	2.63	2.66	2.6	2.58	2.68	2.69	2.56	2.69
D	D	D	D	D	D	D	D	D	D	D
3.89	3.82	3.72	4.11	3.74	4.09	3.9	4.09	3.95	3.91	4.08
62	62	62	63	63	63	64	64	65	65	70
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
6	9	6	6	6	6	9	9	6	9	9
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
100.8	116.1	116.1	126.6	126	141.6	154.2	187.8	193.2	235.5	289.8
194.1	223.8	219	244.7	248.3	273.5	291.8	364.5	375	453.9	562.5
316.2	328.2	343.2	377.6	392.6	419.6	470.6	566.4	578.4	692.4	867.6
974.8	1698.7	1115.1	1220.1	1249.3	1383.7	2209.4	2705.2	1876.4	3447	4189.9
3460	3460	3460	4510	4510	4510	4510	6610	6610	6610	9760
2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
3590	4010	3760	4620	4490	4670	4730	6740	6340	7040	9360
3751	4165	3915	4797	4667	4840	4900	7000	6600	7397	9769

# VHA FC with AC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 4720A AC FC-01	VHA 4900A AC FC-01	VHA 4114A AC FC-01	VHA 4145A AC FC-01		
<b>CHILLER PERFORMANCE</b>							
Refrigerant		<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>		
Total cooling capacity	kW	<b>593.36</b>	<b>751.92</b>	<b>901.6</b>	<b>1162.52</b>		
Nominal power input	kW	220.2	276	336.2	424.4		
E.E.R.	Coef.	2.69	2.72	2.68	2.74		
Energy class		D	C	D	C		
E.S.E.E.R.	Coef.	4.31	4.06	4.02	4.36		
Noise Pressure Level	dB(A)	65	65	66	71		
Distance	m	10	10	10	10		
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll		
Compressors number	n°	12	12	12	12		
Inlet water temp.	°C	12	12	12	12		
Outlet water temp.	°C	6	6	6	6		
Ambient temp.	°C	35	35	35	35		
Condenser coil type (*1)	Type	FC	FC	FC	FC		
Evaporator type (*2)	Type	S&T	S&T	S&T	S&T		
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50		
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50		
Total power input	kW	199.2	248	301.2	382.4		
Total running current	A	385.2	482.8	604	744.8		
Total max current	A	632.4	755.2	938	1156.8		
Total starting current	A	3896.3	4846.4	6063.2	7503.2		
<b>DIMENSIONS</b>							
Length with cabinet	mm	6610	8710	10810	12910		
Width	mm	2250	2250	2250	2250		
Height	mm	2790	2790	2790	2790		
Shipping weight	kg	6720	8950	10560	12480		
Operating weight	kg	6968	9352	10970	13070		
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1090C EC FC-01	VHA 1105C EC FC-01	VHA 1120C EC FC-01	VHA 1140C EC FC-01	VHA 1161C EC FC-01	VHA 1184C EC FC-01	VHA 1182C EC FC-01	VHA 1195C EC FC-01	VHA 1210A EC FC-01	VHA 1212A EC FC-01	VHA 1230A EC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>19.06</b>	<b>21.95</b>	<b>25.99</b>	<b>29.83</b>	<b>32.35</b>	<b>38.33</b>	<b>38.12</b>	<b>41.36</b>	<b>44.03</b>	<b>44.84</b>	<b>47.36</b>
7.09	8.69	8.89	10.49	11.79	13.68	14.18	15.58	16.25	16.65	17.75
2.69	2.53	2.92	2.84	2.74	2.8	2.69	2.65	2.71	2.69	2.67
D	D	B	C	C	C	D	D	C	D	D
3.59	3.71	3.88	4.12	3.59	3.63	3.69	3.5	3.59	3.56	3.63
48	48	48	48	49	51	51	51	51	51	51
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
1	1	1	1	1	1	2	2	2	2	2
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
6.1	7.7	7.9	9.5	10.8	11.7	12.2	13.6	14.5	14.9	16
13.2	16.4	16.6	19.1	20.5	25.2	26.4	29.4	29.9	31.9	32.4
20.6	23.6	25.6	29.6	32.6	39.2	41.2	44.2	45.8	46.8	49.8
99.6	143.6	143.6	148.6	159.6	200.2	75.4	100.4	100.9	102.9	105.9
1360	1360	2560	2560	2560	2560	2560	2560	2560	2560	2560
1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
2330	2330	2730	2730	2730	2730	2730	2730	2790	2790	2790
920	930	960	970	970	1020	1070	1080	1030	1040	1030
932	942	978	988	988	1038	1088	1098	1048	1058	1048

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 1242A EC FC-01	VHA 1240A EC FC-01	VHA 1260C EC FC-01	VHA 1281C EC FC-01	VHA 1282C EC FC-01	VHA 1301C EC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	48.96	49.07	55.31	58.09	58.55	61.2
Nominal power input	kW	18.85	18.55	19.28	20.78	20.88	22.38
E.E.R.	Coef.	2.6	2.65	2.87	2.8	2.8	2.73
Energy class		D	D	C	C	C	C
E.S.E.E.R.	Coef.	3.89	3.51	3.98	3.82	3.87	3.62
Noise Pressure Level	dB(A)	51	54	51	52	51	52
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	2	1	2	2	2	2
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	17.1	16.8	17.3	18.8	18.9	20.4
Total running current	A	34.5	31.4	35.7	37.2	38.1	39.8
Total max current	A	50.8	51.8	55.2	58.2	59.2	62.2
Total starting current	A	105.5	217.8	109.2	116.2	111.6	118.8
<b>DIMENSIONS</b>							
Length with cabinet	mm	2560	2560	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2790	2790	2730	2730	2730	2730
Shipping weight	kg	1040	1020	1230	1240	1240	1240
Operating weight	kg	1058	1038	1259	1270	1270	1270
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							



# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1304C EC FC-01	VHA 1322C EC FC-01	VHA 1324C EC FC-01	VHA 1300A EC FC-01	VHA 1345A EC FC-01	VHA 1360A EC FC-01	VHA 1368A EC FC-01	VHA 1380A EC FC-01	VHA 1420A EC FC-01	VHA 1485A EC FC-01	VHA 1480A EC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>62.11</b>	<b>64.7</b>	<b>65.11</b>	<b>62.66</b>	<b>68.53</b>	<b>71.43</b>	<b>72.24</b>	<b>72.85</b>	<b>81.29</b>	<b>94.04</b>	<b>94.88</b>
22.58	23.48	24.28	22.45	25.15	27.55	27.05	27.95	33.15	36.6	38.7
2.75	2.76	2.68	2.79	2.72	2.59	2.67	2.61	2.45	2.57	2.45
C	C	D	C	C	D	D	D	E	D	E
3.82	3.72	3.92	3.87	3.55	3.49	3.5	3.54	3.74	3.53	3.29
52	52	52	54	51	55	52	55	56	60	57
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
2	2	2	1	2	2	2	1	2	1	2
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
20.6	21.5	22.3	20.7	23.4	25.8	25.3	26.2	31.4	33.1	35.2
41.4	40.9	44	38.1	44.8	47.6	49.2	48.3	56.1	62.1	65.4
63.2	65.2	67.2	60.8	69.8	70.8	74.8	74.8	85.8	94.6	97.6
139.9	119.9	142.5	262.8	143.3	132.6	147.7	322.8	163.6	418.6	195.4
2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560
1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
2730	2730	2730	2790	2790	2790	2790	2790	2790	2790	2790
1240	1240	1240	1220	1200	1300	1200	1230	1310	1300	1410
1270	1270	1270	1250	1230	1330	1230	1261	1341	1331	1441

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 1482A EC FC-01	VHA 1550A EC FC-01	VHA 1540A EC FC-01	VHA 1600A EC FC-01	VHA 1620A EC FC-01	VHA 1680A EC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	98.14	105.4	107.28	125.32	124.96	135.7
Nominal power input	kW	37.1	43.1	43	44.8	45	50.2
E.E.R.	Coef.	2.65	2.45	2.49	2.8	2.78	2.7
Energy class		D	E	E	C	C	C
E.S.E.E.R.	Coef.	3.85	3.56	3.73	3.84	3.7	3.74
Noise Pressure Level	dB(A)	57	57	57	58	58	58
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	2	3	2	2	2	2
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	33.6	39.6	39.5	41.3	41.5	46.7
Total running current	A	62.9	73.9	72.3	76.2	77.9	86.3
Total max current	A	103.6	107.6	112.6	121.6	126.6	135.6
Total starting current	A	170.4	198.9	202.3	206.2	237.9	246.3
<b>DIMENSIONS</b>							
Length with cabinet	mm	2560	2560	2560	2410	2410	2410
Width	mm	1050	1050	1050	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	1350	1490	1410	2090	2050	2100
Operating weight	kg	1381	1521	1441	2149	2109	2159
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 1720A EC FC-01	VHA 1760A EC FC-01	VHA 1865A EC FC-01	VHA 1970A EC FC-01	VHA 1900A EC FC-01	VHA 1114A EC FC-01	VHA 1145A EC FC-01	VHA 2182A EC FC-01	VHA 2195A EC FC-01	VHA 2210A EC FC-01	VHA 2212A EC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>144.91</b>	<b>146.86</b>	<b>174.53</b>	<b>192.34</b>	<b>187.98</b>	<b>218.56</b>	<b>290.63</b>	<b>72.28</b>	<b>77.88</b>	<b>85.4</b>	<b>90.3</b>
54.9	55.3	62.9	71.4	69	85.5	106.1	27.95	31.15	33.7	32.9
2.64	2.66	2.77	2.69	2.72	2.56	2.74	2.59	2.5	2.53	2.74
D	D	C	D	C	D	C	D	D	D	C
3.79	3.49	3.7	3.53	3.63	3.44	3.74	4.01	3.53	3.55	3.72
58	58	61	61	59	60	65	51	52	54	54
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
3	2	2	2	3	3	3	4	4	4	4
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
51.4	51.8	55.9	64.4	62	78.5	95.6	26.2	29.4	30.2	29.4
93	95.9	108.5	121.4	117.1	147.7	180.8	51.2	58	61.4	63.6
152.6	149.6	172.2	189.2	185.2	227.2	283.8	78.8	84.8	91.6	93.6
252.1	255.9	315	327.9	309.7	390.9	482.5	184.6	217.7	222.5	229.6
2410	2410	2410	2410	2410	2410	3460	2560	2560	2560	2560
2250	2250	2250	2250	2250	2250	2250	1050	1050	1050	1050
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
2120	2110	2220	2240	2380	2400	3170	1340	1350	1400	1410
2179	2169	2279	2299	2441	2461	3255	1374	1384	1434	1444

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 2230A EC FC-01	VHA 2242A EC FC-01	VHA 2260A EC FC-01	VHA 2281A EC FC-01	VHA 2282A EC FC-01	VHA 2301A EC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	94.72	97.92	104.18	109	110.22	124.26
Nominal power input	kW	35.5	37.7	41.1	44.3	44.5	43.5
E.E.R.	Coef.	2.67	2.6	2.53	2.46	2.48	2.86
Energy class		D	D	D	E	E	C
E.S.E.E.R.	Coef.	4.08	3.97	3.62	3.75	3.51	3.86
Noise Pressure Level	dB(A)	54	54	54	54	54	54
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	4	4	4	4	4	4
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	32	34.2	37.6	40.8	41	40
Total running current	A	64.8	69	74	77.8	79.4	77.6
Total max current	A	99.6	101.6	109.6	115.6	117.6	123.6
Total starting current	A	234.8	247.2	264.7	279.8	282.2	279.1
<b>DIMENSIONS</b>							
Length with cabinet	mm	2560	2560	2560	2560	2560	2410
Width	mm	1050	1050	1050	1050	1050	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	1400	1410	1410	1420	1420	2040
Operating weight	kg	1434	1444	1444	1454	1454	2096
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 2304A EC FC-01	VHA 2322A EC FC-01	VHA 2324A EC FC-01	VHA 2345A EC FC-01	VHA 2360A EC FC-01	VHA 2368A EC FC-01	VHA 2420A EC FC-01	VHA 2480A EC FC-01	VHA 2482A EC FC-01	VHA 2550A EC FC-01	VHA 2540A EC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>124.22</b>	<b>129.4</b>	<b>132.2</b>	<b>137.06</b>	<b>145.16</b>	<b>153.32</b>	<b>174.68</b>	<b>195.98</b>	<b>196.28</b>	<b>214.3</b>	<b>218.06</b>
44.7	46.5	47.1	50.3	54.1	54	64	74.4	74.2	84.4	84.4
2.78	2.78	2.81	2.72	2.68	2.84	2.73	2.63	2.65	2.54	2.58
C	C	C	C	D	C	C	D	D	D	D
3.74	4.2	4.12	3.91	3.99	3.83	3.89	3.71	3.6	3.95	3.87
54	54	54	54	58	57	60	60	60	60	60
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
4	4	4	4	4	4	4	4	4	6	4
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
41.2	43	43.6	46.8	50.6	47	57	67.4	67.2	77.4	77.4
82	81	86.2	89.6	93.8	99.2	110.2	127	125.8	145.6	142.4
125.6	129.6	133.6	139.6	141.6	155.2	177.2	195.2	207.2	215.2	225.2
303.2	290.2	316.8	327.9	334.8	346.5	386.7	452.6	437.4	733.9	502.6
2410	2410	2410	2410	2410	2410	2410	2410	2410	2410	2410
2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
2040	2040	2040	2050	2250	2150	2360	2470	2360	2630	2470
2096	2096	2096	2106	2306	2206	2420	2530	2420	2690	2530

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

<b>Energymiser</b>		<b>VHA 2600A EC FC-01</b>	<b>VHA 2620A EC FC-01</b>	<b>VHA 2680A EC FC-01</b>	<b>VHA 2720A EC FC-01</b>	<b>VHA 2760A EC FC-01</b>	<b>VHA 2865A EC FC-01</b>
<b>CHILLER PERFORMANCE</b>							
Refrigerant		<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
Total cooling capacity	kW	<b>254.44</b>	<b>253.64</b>	<b>275.58</b>	<b>294.42</b>	<b>296</b>	<b>331.18</b>
Nominal power input	kW	91.5	91.9	102.1	111.1	112.9	130.3
E.E.R.	Coef.	2.78	2.76	2.7	2.65	2.62	2.54
Energy class		<b>C</b>	<b>C</b>	<b>C</b>	<b>D</b>	<b>D</b>	<b>D</b>
E.S.E.E.R.	Coef.	3.91	4.03	3.81	3.99	3.57	3.52
Noise Pressure Level	dB(A)	61	61	61	62	62	63
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	4	4	4	6	4	4
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	81	81.4	91.6	100.6	102.4	119.8
Total running current	A	155.8	159.2	175.8	188.6	196	222.4
Total max current	A	248.8	258.8	276.8	310.8	304.8	338.8
Total starting current	A	533.6	559.6	613.6	940.3	679.2	788.3
<b>DIMENSIONS</b>							
Length with cabinet	mm	3460	3460	3460	3460	3460	3460
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	3310	3220	3320	3370	3340	3370
Operating weight	kg	3398	3308	3408	3458	3428	3458
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 2900A EC FC-01	VHA 2970A EC FC-01	VHA 2114A EC FC-01	VHA 2145A EC FC-01	VHA 3420A EC FC-01	VHA 3480A EC FC-01	VHA 3482A EC FC-01	VHA 3550A EC FC-01	VHA 3540A EC FC-01	VHA 3600A EC FC-01	VHA 3620A EC FC-01
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>
<b>373.1</b>	<b>384.68</b>	<b>437.12</b>	<b>572.78</b>	<b>260.04</b>	<b>293.97</b>	<b>294.42</b>	<b>321.45</b>	<b>327.09</b>	<b>370.2</b>	<b>372.06</b>
139.2	142.8	171	216	96.9	111.6	111.3	126.6	126.6	140.6	140
2.68	2.69	2.56	2.65	2.68	2.63	2.65	2.54	2.58	2.63	2.66
D	D	D	D	D	D	D	D	D	D	D
3.79	3.66	3.68	3.96	3.77	4.1	3.9	3.87	3.81	4.08	3.99
62	64	63	68	62	62	62	62	62	63	63
10	10	10	10	10	10	10	10	10	10	10
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
6	4	6	6	6	6	6	9	6	6	6
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
125.2	128.8	157	195	86.4	101.1	100.8	116.1	116.1	126.6	126
235.8	242.8	295.4	367	166.5	190.5	188.7	218.4	213.6	237.5	241.1
370.4	378.4	454.4	567.6	265.8	292.8	310.8	322.8	337.8	370.4	385.4
1168.3	842	1486.2	1825	851	986.5	969.4	1693.3	1109.7	1212.9	1242.1
4510	4510	4510	6610	3460	3460	3460	3460	3460	4510	4510
2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
4380	4110	4790	6370	3590	3750	3590	4010	3760	4620	4490
4490	4220	5013	6618	3751	3911	3751	4165	3915	4797	4667

# VHA FC with EC fans

R410A

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Energymiser		VHA 3680A EC FC-01	VHA 3720A EC FC-01	VHA 3900A EC FC-01	VHA 3970A EC FC-01	VHA 3114A EC FC-01	VHA 3145A EC FC-01
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A
Total cooling capacity	kW	403.95	434.73	559.65	577.02	655.68	865.56
Nominal power input	kW	155.6	168.2	208.8	214.2	256.5	321.3
E.E.R.	Coef.	2.6	2.58	2.68	2.69	2.56	2.69
Energy class		D	D	D	D	D	D
E.S.E.E.R.	Coef.	3.99	3.72	4.09	3.98	3.8	3.99
Noise Pressure Level	dB(A)	63	64	64	65	65	70
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressors number	n°	6	9	9	6	9	9
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	S&T	S&T	S&T	S&T	S&T	S&T
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	141.6	154.2	187.8	193.2	235.5	289.8
Total running current	A	266.3	284.6	353.7	364.2	443.1	546.3
Total max current	A	412.4	463.4	555.6	567.6	681.6	851.4
Total starting current	A	1376.5	2202.2	2694.4	1865.6	3436.2	4173.7
<b>DIMENSIONS</b>							
Length with cabinet	mm	4510	4510	6610	6610	6610	9760
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	4670	4730	6740	6340	7040	9360
Operating weight	kg	4840	4900	7000	6600	7397	9769
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							



# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA 4720A EC FC-01	VHA 4900A EC FC-01	VHA 4114A EC FC-01	VHA 4145A EC FC-01							
<b>R410A</b>	<b>R410A</b>	<b>R410A</b>	<b>R410A</b>							
<b>593.36</b>	<b>751.92</b>	<b>901.6</b>	<b>1162.52</b>							
220.2	276	336.2	424.4							
2.69	2.72	2.68	2.74							
D	C	D	C							
4.14	4.12	4.26	4.34							
65	65	66	71							
10	10	10	10							
Scroll	Scroll	Scroll	Scroll							
12	12	12	12							
12	12	12	12							
6	6	6	6							
35	35	35	35							
FC	FC	FC	FC							
S&T	S&T	S&T	S&T							
400/3/50	400/3/50	400/3/50	400/3/50							
230/1/50	230/1/50	230/1/50	230/1/50							
199.2	248	301.2	382.4							
374.4	468.4	586	723.2							
621.6	740.8	920	1135.2							
3885.5	4832	6045.2	7481.6							
6610	8710	10810	12910							
2250	2250	2250	2250							
2790	2790	2790	2790							
6720	8950	10560	12480							
6968	9352	10970	13070							

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Greenmiser		VHA F1Q7C EC FC-290	VHA F1S7C EC FC-290	VHA F1S12C EC FC-290	VHA F1S15C EC FC-290	VHA F1S20A EC FC-290	VHA F1V25A EC FC-290
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R290	R290	R290	R290	R290	R290
Total cooling capacity	kW	19.38	22.82	28.75	34.09	39.81	49.05
Nominal power input	kW	7.19	8.19	9.89	12.19	13.95	17.05
E.E.R.	Coef.	2.7	2.79	2.91	2.8	2.85	2.88
Energy class		C	C	B	C	C	C
E.S.E.E.R.	Coef.	3.64	3.69	4.14	3.65	4.08	4.1
Noise Pressure Level	dB(A)	48	49	49	49	51	52
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Compressors number	n°	1	1	1	1	1	1
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	7.19	7.2	8.9	11.2	12.2	15.3
Total running current	A	13.2	15.2	18.3	22.5	25.7	31.5
Total max current	A	19	20.5	23.2	30.3	38.7	39.7
Total starting current	A	88.9	48.6	60.7	76.4	90.3	121.1
<b>DIMENSIONS</b>							
Length with cabinet	mm	1360	1360	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2330	2330	2730	2730	2790	2790
Shipping weight	kg	940	980	1020	1030	1030	1090
Operating weight	kg	952	992	1038	1048	1048	1108
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

R290

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA F1V30A EC FC-290	VHA F1V32A EC FC-290	VHA F1Z35A EC FC-290	VHA F1Z40A EC FC-290	VHA F1W40A EC FC-290	VHA F1Z50A EC FC-290	VHA F1W50A EC FC-290	VHA F1W60A EC FC-290	VHA F1W70A EC FC-290	VHA F1W75A EC FC-290	VHA F1W80A EC FC-290
<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>
<b>58.84</b>	<b>61.25</b>	<b>68.9</b>	<b>83.68</b>	<b>90.04</b>	<b>96.1</b>	<b>107.66</b>	<b>119.99</b>	<b>129.57</b>	<b>147.65</b>	<b>154.06</b>
18.95	21.25	23.65	29.3	32.9	35.2	38.9	43.9	47.8	53.9	56.7
3.11	2.88	2.91	2.86	2.74	2.73	2.77	2.73	2.71	2.74	2.72
A	C	B	C	C	C	C	C	C	C	C
4.05	4.05	3.8	3.97	3.64	4.02	3.66	3.77	3.97	3.69	3.62
53	53	53	55	56	55	57	59	59	61	62
10	10	10	10	10	10	10	10	10	10	10
Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
1	1	1	1	1	1	1	1	1	1	1
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
17.2	19.5	21.9	25.8	29.4	31.7	35.4	40.4	44.3	46.9	49.7
35.1	39.3	43.9	54	60.8	65	71.9	81.3	88.7	99.1	104.3
46.8	45.6	56.7	66.6	78.1	80.2	94.9	105.4	108.9	119.1	122.4
135.4	147.3	147.3	164.8	220.6	194.4	263.6	331.6	395.6	428.2	428.2
2560	2560	2560	2560	2560	2560	2410	2410	2410	2410	2410
1050	1050	1050	1050	1050	1050	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
1230	1240	1280	1340	1400	1350	2020	2040	2060	2150	2150
1259	1269	1309	1369	1429	1379	2072	2092	2113	2203	2203

# VHA FC with EC fans

R290

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Greenmiser		VHA F2Q7C EC FC-290	VHA F2S7C EC FC-290	VHA F2S12C EC FC-290	VHA F2S15A EC FC-290	VHA F2S20A EC FC-290	VHA F2V20A EC FC-290
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R290	R290	R290	R290	R290	R290
Total cooling capacity	kW	41.26	49.04	58.28	71.84	79.62	83.78
Nominal power input	kW	13.58	15.18	19.58	24.5	27.9	28.9
E.E.R.	Coef.	3.04	3.23	2.98	2.93	2.85	2.9
Energy class		B	A	B	B	C	B
E.S.E.E.R.	Coef.	4.16	4.57	4.4	4.14	3.86	3.96
Noise Pressure Level	dB(A)	51	52	52	53	54	55
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Compressors number	n°	2	2	2	2	2	2
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	11.6	13.2	17.6	21	24.4	25.4
Total running current	A	25	28	36.2	45	51.4	53
Total max current	A	38	41	46.4	63	77.4	66
Total starting current	A	79.6	63.9	82.3	102.1	118.1	130
<b>DIMENSIONS</b>							
Length with cabinet	mm	2560	2560	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2730	2730	2730	2790	2790	2790
Shipping weight	kg	1320	1410	1410	1430	1440	1540
Operating weight	kg	1358	1448	1448	1468	1478	1578
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA F2V30A EC FC-290	VHA F2V32A EC FC-290	VHA F2Z35A EC FC-290	VHA F2Z40A EC FC-290	VHA F2W40A EC FC-290	VHA F2Z50A EC FC-290	VHA F2W50A EC FC-290	VHA F2W60A EC FC-290	VHA F2W70A EC FC-290	VHA F2W75A EC FC-290	VHA F2W80A EC FC-290
<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>
<b>122.18</b>	<b>126.16</b>	<b>143.72</b>	<b>167.36</b>	<b>188.44</b>	<b>200.78</b>	<b>215.32</b>	<b>239.98</b>	<b>265.58</b>	<b>292.66</b>	<b>308.12</b>
39.8	44.2	48.4	58.6	64.7	70.1	81.3	91.3	99.6	108.8	113.4
3.07	2.85	2.97	2.86	2.91	2.86	2.65	2.63	2.67	2.69	2.72
B	C	B	C	B	C	D	D	D	D	C
4.25	4.29	4.19	3.88	3.94	3.96	3.7	3.74	4.08	3.92	3.71
58	58	58	58	59	59	61	63	63	64	65
10	10	10	10	10	10	10	10	10	10	10
Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
2	2	2	2	2	2	2	2	2	2	2
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
32.8	37.2	41.4	51.6	54.2	59.6	70.8	80.8	85.6	94.8	99.4
72.8	80.8	88.6	108	118.4	128.4	149.4	168.2	182.8	200	208.6
99.2	96.8	119	133.2	161.8	166	195.4	216.4	229	238.2	244.8
169.9	187.9	199.6	236	276.7	278.6	344.7	406.9	458	497.3	510.2
2410	2410	2410	2410	3460	3460	3460	3460	4510	4510	4510
2250	2250	2250	2250	2250	2250	2250	2250	2250	2250	2250
2790	2790	2790	2790	2790	2790	2790	2790	2790	2790	2790
2270	2280	2360	2400	3230	3110	3250	3280	4010	4050	4050
2331	2341	2423	2463	3316	3196	3336	3366	4118	4168	4168

# VHA FC with EC fans

Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Greenmiser		VHA F4V20A EC FC-290	VHA F4V30A EC FC-290	VHA F4V32A EC FC-290	VHA F4Z35A EC FC-290	VHA F4Z40A EC FC-290	VHA F4W40A EC FC-290
<b>CHILLER PERFORMANCE</b>							
Refrigerant		R290	R290	R290	R290	R290	R290
Total cooling capacity	kW	167.56	244.36	252.32	287.44	334.72	374.12
Nominal power input	kW	57.8	79.6	88.4	96.8	117.2	131
E.E.R.	Coef.	2.9	3.07	2.85	2.97	2.86	2.86
Energy class		B	B	C	B	C	C
E.S.E.E.R.	Coef.	4.41	4.54	4.05	4.31	4.17	4.35
Noise Pressure Level	dB(A)	58	61	61	61	61	62
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Compressors number	n°	4	4	4	4	4	4
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	50.8	65.6	74.4	82.8	103.2	110
Total running current	A	106	145.6	161.6	177.2	216	240
Total max current	A	132	198.4	193.6	238	266.4	323.6
Total starting current	A	393.4	517.6	580.5	639	788.2	861.4
<b>DIMENSIONS</b>							
Length with cabinet	mm	2410	4510	4510	4510	4510	6610
Width	mm	2250	2250	2250	2250	2250	2250
Height	mm	2790	2790	2790	2790	2790	2790
Shipping weight	kg	2690	4150	4170	4320	4390	6050
Operating weight	kg	2758	4263	4283	4433	4503	6208
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							

# VHA FC with EC fans



Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

VHA F4Z50A EC FC-290	VHA F4W50A EC FC-290	VHA F4W60A EC FC-290	VHA F4W70A EC FC-290	VHA F4W75A EC FC-290	VHA F4W80A EC FC-290					
<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>	<b>R290</b>					
<b>401.56</b>	<b>430.64</b>	<b>479.96</b>	<b>531.16</b>	<b>590.6</b>	<b>616.24</b>					
140.2	162.6	182.6	199.2	215.6	226.8					
2.86	2.65	2.63	2.67	2.74	2.72					
C	D	D	D	C	C					
4.35	4.25	4.03	4.05	4.07	3.99					
62	64	66	66	67	68					
10	10	10	10	10	10					
Recip.	Recip.	Recip.	Recip.	Recip.	Recip.					
4	4	4	4	4	4					
12	12	12	12	12	12					
6	6	6	6	6	6					
35	35	35	35	35	35					
FC	FC	FC	FC	FC	FC					
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE					
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50					
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50					
119.2	141.6	161.6	171.2	187.6	198.8					
256.8	298.8	336.4	365.6	396.4	417.2					
332	390.8	432.8	458	476.4	489.6					
917.8	1092.6	1250.6	1345.3	1467.6	1545.6					
6610	6610	6610	8710	8710	8710					
2250	2250	2250	2250	2250	2250					
2790	2790	2790	2790	2790	2790					
5810	6090	6140	7600	7600	7600					
5968	6248	6298	7803	7803	7803					

# VHA FC with EC fans



Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Greenmiser		VHA F1S10C EC FC-ZE	VHA F1S12C EC FC-ZE	VHA F1V15C EC FC-ZE	VHA F1V20C EC FC-ZE	VHA F1V25C EC FC-ZE	VHA F1Z30C EC FC-ZE
<b>CHILLER PERFORMANCE</b>							
Refrigerant		HFO1234ZE	HFO1234ZE	HFO1234ZE	HFO1234ZE	HFO1234ZE	HFO1234ZE
Total cooling capacity	kW	20.01	21.95	28.21	31.49	39.35	48.26
Nominal power input	kW	7.09	8.59	9.59	10.89	13.09	15.68
E.E.R.	Coef.	2.82	2.56	2.94	2.89	3.01	3.08
Energy class		C	D	B	C	B	B
E.S.E.E.R.	Coef.	3.96	3.51	4.2	3.72	3.98	3.91
Noise Pressure Level	dB(A)	49	50	50	52	53	54
Distance	m	10	10	10	10	10	10
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
Compressors number	n°	1	1	1	1	1	1
Inlet water temp.	°C	12	12	12	12	12	12
Outlet water temp.	°C	6	6	6	6	6	6
Ambient temp.	°C	35	35	35	35	35	35
Condenser coil type (*1)	Type	FC	FC	FC	FC	FC	FC
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
Total power input	kW	6.1	7.6	8.6	9.9	12.1	13.7
Total running current	A	13.1	15.8	17.6	20.1	24.2	28.9
Total max current	A	16.3	17.7	21.8	28.8	31.5	37
Total starting current	A	61.1	61.1	61.1	91.5	124.3	125.9
<b>DIMENSIONS</b>							
Length with cabinet	mm	1360	1360	2560	2560	2560	2560
Width	mm	1050	1050	1050	1050	1050	1050
Height	mm	2330	2330	2730	2730	2730	2730
Shipping weight	kg	990	1000	1090	1090	1260	1340
Operating weight	kg	1002	1012	1108	1108	1289	1369
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							



Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

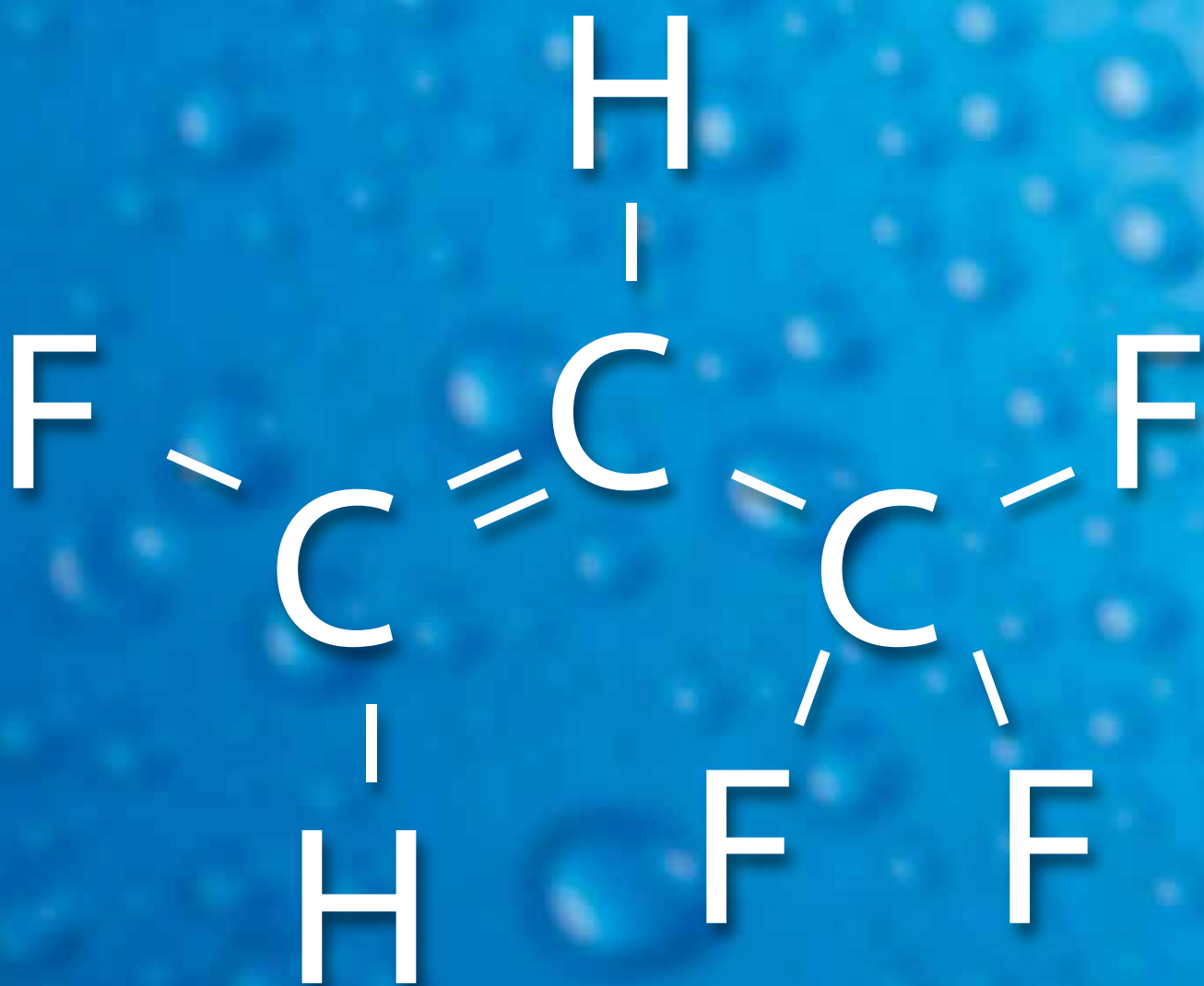
VHA F1Z40C EC FC-ZE	VHA F2S10C EC FC-ZE	VHA F2S12C EC FC-ZE	VHA F2V15C EC FC-ZE	VHA F2V20A EC FC-ZE	VHA F2V25A EC FC-ZE	VHA F2Z30A EC FC-ZE	VHA F2Z40A EC FC-ZE	VHA F4S10A EC FC-ZE	VHA F4S12A EC FC-ZE	VHA F4V15A EC FC-ZE
<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>	<b>HF01234ZE</b>
<b>57.09</b>	<b>41.92</b>	<b>46.32</b>	<b>56.42</b>	<b>65.82</b>	<b>79.94</b>	<b>92.64</b>	<b>114.18</b>	<b>83.32</b>	<b>92.64</b>	<b>112.84</b>
19.08	13.78	16.58	19.18	22.7	27.5	31.9	37.7	27.1	32.7	37.9
2.99	3.04	2.79	2.94	2.9	2.91	2.9	3.03	3.07	2.83	2.98
B	B	C	B	B	B	B	B	B	C	B
4.24	4.46	4.15	4.35	3.97	4.08	4.18	4.19	4.27	4.33	4.6
55	52	53	53	56	56	57	58	55	56	56
10	10	10	10	10	10	10	10	10	10	10
Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.	Recip.
1	2	2	2	2	2	2	2	4	4	4
12	12	12	12	12	12	12	12	12	12	12
6	6	6	6	6	6	6	6	6	6	6
35	35	35	35	35	35	35	35	35	35	35
FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE	BPHE
400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
17.1	11.8	14.6	17.2	19.2	24	28.4	34.2	23.6	29.2	34.4
35.3	25.2	30.4	35.2	41.6	50.4	59	69.8	50	60	69.6
44.3	32.6	35.4	43.6	60	65.4	73.2	87.8	64.4	70	86.4
147.7	66	73.8	81	104.6	134.2	147.1	174.2	187	224.5	260.5
2560	2560	2560	2560	2560	2560	2560	2410	2410	2410	2410
1050	1050	1050	1050	1050	1050	1050	2250	2250	2250	2250
2730	2730	2730	2730	2790	2790	2790	2790	2790	2790	2790
1350	1380	1400	1500	1520	1590	1650	2280	2360	2410	2610
1379	1414	1434	1534	1554	1627	1687	2340	2428	2478	2678

# VHA FC with EC fans



Air cooled chiller with scroll or reciprocating compressors, axial fans and Free Cooling for outdoor installation

Greenmiser		VHA F4V20A EC FC-ZE	VHA F4V25A EC FC-ZE	VHA F4Z30A EC FC-ZE	VHA F4Z40A EC FC-ZE		
<b>CHILLER PERFORMANCE</b>							
Refrigerant		HFO1234ZE	HFO1234ZE	HFO1234ZE	HFO1234ZE		
Total cooling capacity	kW	131.64	159.88	185.28	228.36		
Nominal power input	kW	45.4	55	63.8	75.4		
E.E.R.	Coef.	2.9	2.91	2.9	3.03		
Energy class		B	B	B	B		
E.S.E.E.R.	Coef.	4.33	4.49	4.24	4.57		
Noise Pressure Level	dB(A)	59	59	60	61		
Distance	m	10	10	10	10		
<b>WORKING CONDITIONS</b>							
Compressors type	Type	Recip.	Recip.	Recip.	Recip.		
Compressors number	n°	4	4	4	4		
Inlet water temp.	°C	12	12	12	12		
Outlet water temp.	°C	6	6	6	6		
Ambient temp.	°C	35	35	35	35		
Condenser coil type (*1)	Type	FC	FC	FC	FC		
Evaporator type (*2)	Type	BPHE	BPHE	BPHE	BPHE		
Power circuit voltage	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50		
Control circuit voltage	V/Ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50		
Total power input	kW	38.4	48	56.8	68.4		
Total running current	A	83.2	100.8	118	139.6		
Total max current	A	120	130.8	146.4	175.6		
Total starting current	A	303.7	377.9	442.4	528.8		
<b>DIMENSIONS</b>							
Length with cabinet	mm	2410	2410	2410	4510		
Width	mm	2250	2250	2250	2250		
Height	mm	2790	2790	2790	2790		
Shipping weight	kg	2730	2880	3000	4270		
Operating weight	kg	2798	2955	3075	4390		
(*1) FC: Finned Coils (*2) S&T or BPHE: Shell and Tube - Brazed Plate Heat Exchanger							



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