

# Liebert® HPC

*Freecooling Scroll Chillers for the Efficient Cooling of Data Centers*





## Liebert® HPC: Freecooling Solutions for Increased Data Center Efficiency and PUE of 1.1

Freecooling data center chillers are designed to remove server-generated heat by reducing the temperature of process water. The integrated Freecooling technology used by the Liebert® HPC, allows it to cool water when the external environmental temperatures remain inferior to the server outlet temperature, thus granting optimized operating costs without compromising the system availability.

The Liebert® HPC provides year-long cooling capacity, regardless of the environmental working conditions. The unit is equipped with the latest technology in terms of EC Fans qualified to exceed the requirements of the ERP 2015 Directive for energy efficiency, scroll compressors and iCOM® control system which

integrate the Freecooling Chiller with floor mount units.

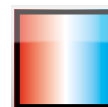
Additionally, coupling the floor mount cooling range with Liebert® PCW and Smart Aisle™ cold aisle containment (aisle containment configuration with a specific cooling capacity and airflow management), the Liebert® HPC Freecooling chillers are capable of achieving a mechanical PUE of 1.11. This configuration thus ensures that each watt of power is used to cool the servers, hence delivering maximum availability.

The Liebert® HPC Freecooling chiller with R410A refrigerant meets today's data center demands by enabling businesses to operate with maximized availability and efficiency.



### HIGH EFFICIENCY

Top Class energy efficient resulting from the use of a combination of the best technologies on the market. Up to 60% energy saving.



### FREECOOLING

Integrated freecooling section, delivers additional energy savings and greater reliability.



### REFRIGERANT

Optimized for R410A refrigerant.



### SCROLL COMPRESSOR

Liebert® HPC is equipped with scroll compressors to improve efficiency and reliability of performance.



### EC FANS

High efficiency motors guarantee a 25% reduction in energy consumption compared to traditional AC motors.



### ELECTRONIC EXPANSION VALVE

Stability and efficiency guaranteed in all conditions.



### iCOM®

Advanced unit and teamwork control to maximize energy efficiency. It operates at extreme ambient and water temperature conditions.



### EXTREMELY LOW NOISE

Audible noise is reduced to a minimum as a result of HyBlade EC Fans and special acoustic insulation.



### FAST START RAMP

Liebert® HPC, Fast Start Ramp ensures full restoration of chiller capacity after 100 seconds from power re-start.

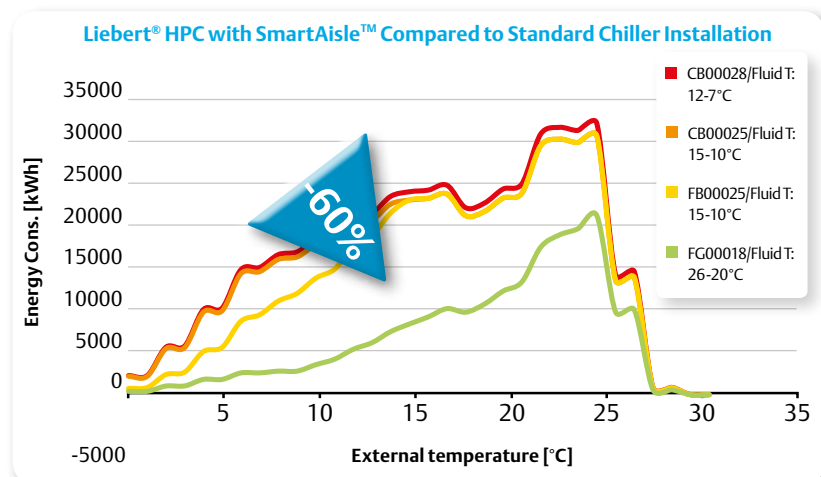
Liebert® HPC Scroll Freecooling  
Chillers deliver up to 60%  
even in mild climate regions.



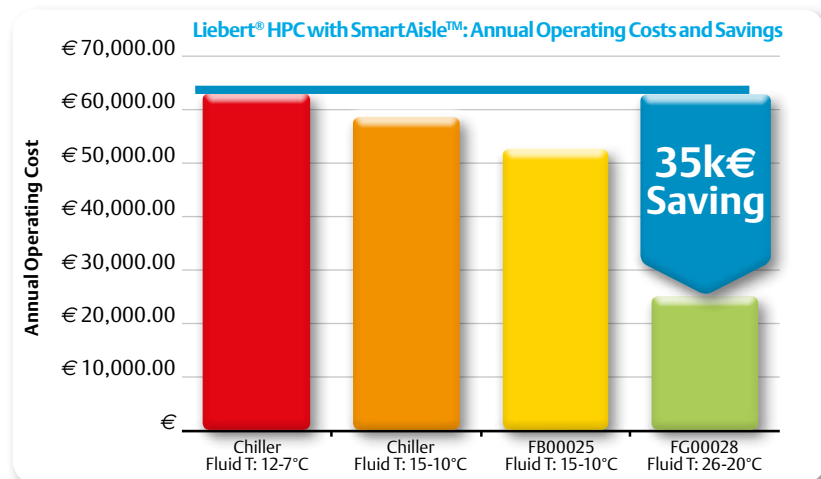
## Liebert® HPC: Achieve Business Goals Respecting The Environment

Today, environmental responsibility is becoming increasingly fundamental for many organizations.

Liebert® HPC guarantees customers increased efficiency while reducing environmental impact through its flexibility to work in Freecooling mode. This operation leverages the external environment conditions to cool water, thus requiring compressor operation only when the outside temperature exceeds the freecooling limits. Compressor operation is also used as partial back up during the mix freecooling mode. In addition, the freecooling chiller's iCOM® controls the EC fan, compressor and regulation valve components as well as operating modes (Freecooling, mix mode and backup mode with the mechanical cooling), ensuring energy savings up to 60% in yearly operations.



Istanbul profile 250 kW Load



Energy cost considered is €0.12/kWh

## Liebert® HPC Range - 2 Compressors Models

## Freecooling Aircooled Scroll Chiller

G Model		FG0006	FG0007	FG0009	FG0011	FG0014	FG0015	FG0018
High Efficiency Configuration								
Cooling Capacity <sup>1</sup>	kW	63.0	82.6	93.5	118.8	149.3	165.4	187.2
Freecooling Capacity <sup>2</sup>	kW	45.7	70.7	84.2	88.6	130.2	136.5	135.1
Total Power Input <sup>1</sup>	kW	18.8	24.3	28.1	36.7	45.3	51.7	58.2
Unit EER <sup>1</sup>	---	3.35	3.40	3.33	3.24	3.30	3.20	3.22
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	78.5	79.5	79.5	79.5	80	80	80
PWL (Sound Power Level) <sup>4</sup>	dB(A)	95.5	97.5	97.5	97.5	99	99	99
Dimensions	mm	2043 x 1201 x 1931	3043 x 1201 x 1931			4043 x 1201 x 1931		
Quiet Configuration								
Cooling Capacity <sup>1</sup>	kW	57.4	78.2	88.3	109.9	140.3	154.0	172.1
Freecooling Capacity <sup>2</sup>	kW	33.9	55.3	65.0	66.5	99.7	103.1	100.9
Total Power Input <sup>1</sup>	kW	19.3	22.0	26.4	36.7	43.3	51.0	59.1
Unit EER <sup>1</sup>	---	2.97	3.55	3.34	3.00	3.24	3.02	2.91
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	58	59	59	61	62	62	62
PWL (Sound Power Level) <sup>4</sup>	dB(A)	75	77	77	79	81	81	81
Dimensions	mm	2043 x 1201 x 1874	3043 x 1201 x 1874			4043 x 1201 x 1874		

B Model		FB0006	FB0007	FB0009	FB0011	FB0014	FB0015	FB0018	FB0019	FB0022
<b>Base Configuration</b>										
Cooling Capacity <sup>1</sup>	kW	61.4	73.7	91.1	116.3	138.5	151.6	182.8	199.7	223.7
Freecooling Capacity <sup>2</sup>	kW	45.1	44.9	70.2	87.8	87.6	89.7	133.8	137.8	133.9
Total Power Input <sup>1</sup>	kW	19.2	24.9	28.6	37.2	46.9	54.8	59.3	68.2	77.3
Unit EER <sup>1</sup>	---	3.20	2.96	3.19	3.13	2.95	2.77	3.08	2.93	2.89
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	75	75	76	76	76.5	76.5	77	77.5	78
PWL (Sound Power Level) <sup>4</sup>	dB(A)	92	92	94	94	94.5	94.5	96	96.5	97
<b>Low Noise Configuration</b>										
Cooling Capacity <sup>1</sup>	kW	59.9	71.3	89.7	114.0	134.9	147.2	178.9	194.8	217.4
Freecooling Capacity <sup>2</sup>	kW	41.6	41.0	65.2	81.1	80.5	82.2	123.3	126.7	122.9
Total Power Input <sup>1</sup>	kW	19.3	25.3	28.0	37.1	47.3	55.8	59.3	68.7	78.3
Unit EER <sup>1</sup>	---	3.10	2.82	3.20	3.07	2.85	2.64	3.02	2.84	2.78
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	63	63	64	66	66.5	66.5	67	67.5	68
PWL (Sound Power Level) <sup>4</sup>	dB(A)	80	80	82	84	84.5	84.5	86	86.5	87
Dimensions	mm	2043 x 1201 x 1902			3043 x 1201 x 1902			4043 x 1201 x 1902		

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 15/10°C; ethylene glycol 30%

2 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 5°C; coolant inlet temperature 15°C; ethylene glycol 30%

3 Measured at outdoor temperature of 35°C; 1m from the unit; free field conditions; according to ISO 3744

4 At outdoor temperature of 35°C; calculated according to ISO 3744

## Liebert® HPC Range - 2 Compressors Models

## Aircooled Scroll Chiller

G Model		CG0006	CG0007	CG0009	CG0011	CG0014	CG0015	CG0018
High Efficiency Configuration								
Cooling Capacity <sup>1</sup>	kW	59.6	77.8	89.1	113.3	142.2	158.3	178.6
Total Power Input <sup>1</sup>	kW	18.2	23.6	27.3	35.6	44.0	50.1	56.4
Unit EER <sup>1</sup>	---	3.27	3.30	3.27	3.18	3.23	3.16	3.17
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	78.5	79.5	79.5	79.5	80	80	80
PWL (Sound Power Level) <sup>3</sup>	dB(A)	95.5	97.5	97.5	97.5	99	99	99
Dimensions	mm	2043x1201x1931	3043 x 1201 x 1931			4043 x 1201 x 1931		
Quiet Configuration								
Cooling Capacity <sup>1</sup>	kW	54.3	73.9	84.2	104.7	133.8	147.4	164.3
Total Power Input <sup>1</sup>	kW	18.7	21.5	25.7	35.7	42.2	49.5	57.4
Unit EER <sup>1</sup>	---	2.91	3.44	3.28	2.93	3.17	2.98	2.86
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	58	59	59	61	62	62	62
PWL (Sound Power Level) <sup>3</sup>	dB(A)	75	77	77	79	81	81	81
Dimensions	mm	2043x1201x1874	3043 x 1201 x 1874			4043 x 1201 x 1874		

B Model		CB0006	CB0007	CB0009	CB0011	CB0014	CB0015	CB0018	CB0019	CB0022
<b>Base Configuration</b>										
Cooling Capacity <sup>1</sup>	kW	58.5	70.6	86.8	111.6	132.9	146.5	175.8	193.1	215.9
Total Power Input <sup>1</sup>	kW	18.5	23.9	28.0	35.9	45.2	52.7	57.1	65.5	74.3
Unit EER <sup>1</sup>	---	3.16	2.95	3.10	3.11	2.94	2.78	3.08	2.95	2.91
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	75	75	76	76	76.5	76.5	77	77.5	78
PWL (Sound Power Level) <sup>3</sup>	dB(A)	92	92	94	94	94.5	94.5	96	96.5	97
<b>Low Noise Configuration</b>										
Cooling Capacity <sup>1</sup>	kW	56.8	68.0	85.2	108.8	128.8	141.3	171.1	187.3	208.7
Total Power Input <sup>1</sup>	kW	18.6	24.4	27.3	35.8	45.8	53.8	57.2	66.2	75.4
Unit EER <sup>1</sup>	---	3.05	2.79	3.12	3.04	2.81	2.63	2.99	2.83	2.77
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	63	63	64	66	66.5	66.5	67	67.5	68
PWL (Sound Power Level) <sup>3</sup>	dB(A)	80	80	82	84	84.5	84.5	86	86.5	87
Dimensions	mm	2043 x 1201 x 1902			3043 x 1201 x 1902			4043 x 1201 x 1902		

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 12/7°C; ethylene glycol 0%

2 Measured at outdoor temperature of 35°C; 1m from the unit; free field conditions; according to ISO 3744

3 At outdoor temperature of 35°C; calculated according to ISO 3744

## Liebert® HPC Range - 4 Compressors Models

## Freecooling Aircooled Scroll Chiller

G Model		FG0017	FG0020	FG0023	FG0025	FG0028	FG0030
High Efficiency Configuration							
Cooling Capacity <sup>1</sup>	kW	171.8	189.4	224.4	242.7	281.5	312.9
Freecooling Capacity <sup>2</sup>	kW	105.5	102.1	139.6	134.6	179.5	173.5
Total Power Input <sup>1</sup>	kW	59.1	67.3	76.8	84.8	95.2	108.4
Unit EER <sup>1</sup>	---	2.91	2.81	2.92	2.86	2.96	2.89
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	78.5	78.5	79	79	79.5	79.5
PWL (Sound Power Level) <sup>4</sup>	dB(A)	97.5	97.5	98.5	98.5	99.5	99.5
Dimensions	mm	3750 x 1300 x 2529		4750 x 1300 x 2529		5750 x 1300 x 2529	
Quiet Configuration							
Cooling Capacity <sup>1</sup>	kW	157.7	174.4	206.8	224.7	259.5	288.5
Freecooling Capacity <sup>2</sup>	kW	81.2	81.4	107.6	107.6	137.7	137.9
Total Power Input <sup>1</sup>	kW	59.5	69.2	77.1	86.1	95.6	110.5
Unit EER <sup>1</sup>	---	2.65	2.52	2.68	2.61	2.71	2.61
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	65	65	65.5	65.5	66	66
PWL (Sound Power Level) <sup>4</sup>	dB(A)	84	84	85	85	86	86
Dimensions	mm	3750 x 1300 x 2472		4750 x 1300 x 2472		5750 x 1300 x 2472	

B Model		FB0017	FB0020	FB0023	FB0025	FB0028	FB0030	FB0032
<b>Base Configuration</b>								
Cooling Capacity <sup>1</sup>	kW	168.5	183.6	209.8	235.8	268.0	303.6	341.1
Freecooling Capacity <sup>2</sup>	kW	98.8	101.0	100.0	133.1	132.1	171.6	169.3
Total Power Input <sup>1</sup>	kW	59.5	69.3	80.0	86.9	97.4	111.3	125.6
Unit EER <sup>1</sup>	---	2.83	2.65	2.62	2.71	2.75	2.73	2.72
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	76	76	76	76.5	76.5	77	77
PWL (Sound Power Level) <sup>4</sup>	dB(A)	95	95	95	96	96	97	97
<b>Low Noise Configuration</b>								
Cooling Capacity <sup>1</sup>	kW	165.5	179.9	205.5	231.1	262.7	297.4	334.5
Freecooling Capacity <sup>2</sup>	kW	93.0	94.7	94.9	125.1	125.4	160.8	160.4
Total Power Input <sup>1</sup>	kW	59.0	69.3	80.1	86.7	97.3	111.2	125.8
Unit EER <sup>1</sup>	---	2.80	2.59	2.56	2.66	2.70	2.67	2.66
SPL (Sound Pressure Level) <sup>3</sup>	dB(A)	70.5	70.5	70.5	71	71	71.5	71.5
PWL (Sound Power Level) <sup>4</sup>	dB(A)	89.5	89.5	89.5	90.5	90.5	91.5	91.5
Dimensions	mm	3750x1300x2500			4750x1300x2500		5750x1300x2500	

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 15/10°C; ethylene glycol 30%

2 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 5°C; coolant inlet temperature 15°C; ethylene glycol 30%

3 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744

4 At outdoor temperature of 35°C; calculated according to ISO 3744

## Liebert® HPC Range - 4 Compressors Models

## Aircooled Scroll Chiller

G Model		CG0017	CG0020	CG0023	CG0025	CG0028	CG0030
High Efficiency Configuration							
Cooling Capacity <sup>1</sup>	kW	165.7	185.5	216.4	237.2	270.8	305.9
Total Power Input <sup>1</sup>	kW	56.9	63.7	74.1	80.5	91.8	102.8
Unit EER <sup>1</sup>	---	2.91	2.91	2.92	2.95	2.95	2.98
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	78.5	78.5	79	79	79.5	79.5
PWL (Sound Power Level) <sup>3</sup>	dB(A)	97.5	97.5	98.5	98.5	99.5	99.5
Dimensions	mm	3750 x 1300 x 2529		4750 x 1300 x 2529		5750 x 1300 x 2529	
Quiet Configuration							
Cooling Capacity <sup>1</sup>	kW	153.2	170.1	200.8	218.8	251.3	281.1
Total Power Input <sup>1</sup>	kW	56.8	65.6	73.7	81.8	91.3	105.0
Unit EER <sup>1</sup>	---	2.70	2.59	2.72	2.67	2.75	2.68
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	65	65	65.5	65.5	66	66
PWL (Sound Power Level) <sup>3</sup>	dB(A)	84	84	85	85	86	86
Dimensions	mm	3750 x 1300 x 2472		4750 x 1300 x 2472		5750 x 1300 x 2472	

B Model		CB0017	CB0020	CB0023	CB0025	CB0028	CB0030	CB0032
<b>Base Configuration</b>								
Cooling Capacity <sup>1</sup>	kW	163.3	178.5	205.8	228.9	261.4	294.6	333.6
Total Power Input <sup>1</sup>	kW	57.0	66.1	75.5	83.2	92.2	106.5	118.6
Unit EER <sup>1</sup>	---	2.86	2.70	2.72	2.75	2.83	2.77	2.81
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	76	76	76	76.5	76.5	77	77
PWL (Sound Power Level) <sup>3</sup>	dB(A)	95	95	95	96	96	97	97
<b>Low Noise Configuration</b>								
Cooling Capacity <sup>1</sup>	kW	159.9	174.4	200.5	224.0	255.4	287.9	325.4
Total Power Input <sup>1</sup>	kW	56.7	66.3	76.1	83.2	92.6	106.5	119.3
Unit EER <sup>1</sup>	---	2.82	2.63	2.63	2.69	2.76	2.70	2.73
SPL (Sound Pressure Level) <sup>2</sup>	dB(A)	70.5	70.5	70.5	71	71	71.5	71.5
PWL (Sound Power Level) <sup>3</sup>	dB(A)	89.5	89.5	89.5	90.5	90.5	91.5	91.5
Dimensions	mm	3750x1300x2500			4750x1300x2500		5750x1300x2500	

1 At the following standard conditions: power supply 400V/3ph/50Hz; outdoor temperature 35°C; water inlet/outlet temperature 12/7 °C; ethylene glycol 0%

2 Measured at outdoor temperature of 35 °C; 1m from the unit; free field conditions; according to ISO 3744

3 At outdoor temperature of 35°C; calculated according to ISO 3744



## Ensuring The High Availability Of Mission-Critical Data And Applications.

### About Emerson Network Power

Emerson Network Power, a business of Emerson (NYSE:EMR), delivers software, hardware and services that maximize availability, capacity and efficiency for data centers, healthcare and industrial facilities. A trusted industry leader in smart infrastructure technologies, Emerson Network Power provides innovative data center infrastructure management solutions that bridge the gap between IT and facility management and deliver efficiency and uncompromised availability regardless of capacity demands. Our solutions are supported globally by local Emerson Network Power service technicians.

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MKA4L0UKHPCS Rev.3-05/2015

**[EmersonNetworkPower.eu](http://EmersonNetworkPower.eu)**

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