

# HCB-F

## AIR CONDENSED CHILLERS WITH INVERTER DRIVEN SCREW COMPRESSORS - FREE-COOLING VERSION

299.8-1199.4 kW



 MULTI-PROTOCOL COMMUNICATION INTERFACE	 SCREW COMPRESSORS	 FAST RESTART	 AXIAL FANS
 CORROSION RESISTANT MATERIAL	 CLASS A	 INVERTER DRIVEN COMPRESSORS	 LOW GWP REFRIGERANT
 SPRAY FLOODED SHELL AND TUBE			

HCB ChillBatic sets a new standard for air cooled chillers, designed to ensure that processes are both energy-efficient and environment-friendly. Low environmental impact has been achieved by using **new HFO refrigerants** with low GWP (Global Warming Potential), while **higher efficiency/ footprint ratios** are reached thanks to the special V-configuration of the heat exchange coils and their sizing, the largest among the chillers currently available on the market. The Free-Cooling version - where heat exchange surface areas are double the market average - ensure outstanding performance. The high thermodynamic efficiency low Total Equivalent Warming Impact (TEWI) is combined with a special focus on maintainability and **easy accessibility of the compressors contained in the removable HiRail module** which reduces noise emissions.

### New refrigerant R1234ze

HCB range air condensed chillers use the **new HFO refrigerant with low GWP** (GWPR1234ze=6) as part of a wider Green Technology approach. (Also available in a version with R134a refrigerant).



### Inverter screw compressors

Inverter equipped with screw compressors combine the possibility of moving large volumes of refrigerant with **the guarantee of constant power modulation and high energy efficiency even at partial loads.**

- Refrigerant R1234ze and R515B
- Also available with R134a refrigerant
- Also available in Low-Noise silenced set-up with internal compartment lined with sound-absorbing material
- Capacity modulation: with slide valve or with inverters on both compressors or on one compressor only
- EC Fans
- Electronically controlled expansion valve
- HiNode Supervision
- Monitoring and limitation of the maximum absorbed power



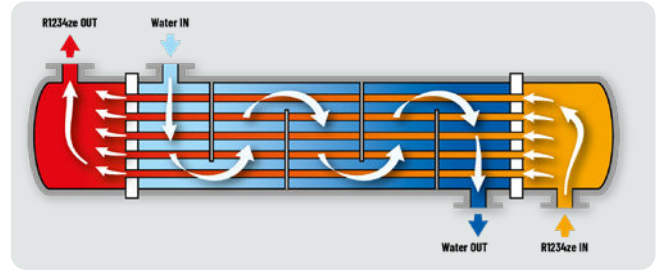
**Modular and efficient**

The configuration with very deep 'V' modular coils provides an extensive heat exchange surface area and therefore excellent thermal efficiency in relation to the unit footprint. The Free-Cooling version features heat exchangers sized in such a way as to allow a Total Free- Cooling Temperature (TFT) of 10°C (Data Center conditions with chilled water to 19/25 °C).



**Low noise and accessibility: HI-RAIL**

The compressor hoods dramatically reduce noise thanks to the use of special sound-absorbing materials. On request, sliding rails allow them to be removed effortlessly, making all maintenance tasks much easier. The compressors can also be removed by hooking from above and lifting with a crane.



**New concept of heat exchange: spray flooded shell and tube heat exchanger**

A spray flooded shell and tube construction guarantees effectiveness and efficiency thanks to the minimal approach temperature between refrigerant and water. It requires about 30% less refrigerant charge compared to traditional flooded shell and tube configurations: a solution that benefits the environment and results in costs savings, in terms of both CapEx and OpEx.



HCB-F	0311F	0331F	0361F	0381F	0421F	0451F	0481F	0531F	0581F	0621F	0661F	0721F	
<b>User water temperature 12/7°C 20% ethylene glycol, outside air 35°C, 40% R.H.</b>													
Cooling capacity	kW	299.8	316	342	362.1	402	423.7	445.4	478.7	517.8	553.6	589.1	654.1
Total absorbed power	kW	78.7	84.2	91	97.6	106.6	112.9	119.2	127.8	135.8	146	160.5	172.8
EER		3.81	3.75	3.76	3.71	3.77	3.75	3.74	3.75	3.81	3.79	3.67	3.79
Sound power	dB(A)	93	93	94	94	95	95	95	97	98	98	98	98
Sound power [Low noise]	dB(A)	88	88	89	89	90	90	90	92	93	93	93	93

Also available with 60 Hz power supply

HCB-F	0311F	0331F	0361F	0381F	0421F	0451F	0481F	0531F	0581F	0621F	0661F	0721F	
<b>Utility water temperature 12/7°C, ethylene glycol 20%</b>													
Full Free-Cooling temperature	°C	-0.8	-1.1	0	-0.3	0.3	0.1	-0.2	0.4	0	0.4	0.1	0.4
Sound power	dB(A)	93	93	94	94	95	95	95	97	98	98	98	98
Sound power [Low noise]	dB(A)	88	88	89	89	90	90	90	92	93	93	93	93

Also available with 60 Hz power supply

HCB-F	0381C	0401C	0421C	0451C	0481C	0531C	0581C	0621C	0661C	0721C	0801C	0831C	0901C	0971C	1041C	1101C	1161C	1231C	
<b>Cooling: User water values 12/7°C, 35°C outside air, 40% U.R.</b>																			
Cooling capacity	kW	369.7	398.5	417.3	442.2	477.9	519.2	565.1	614.8	652.2	705.6	773.6	815.5	880.5	938.5	1019.2	1067.7	1123.6	1199.4
Total absorbed power	kW	98.5	107.4	114.7	120.4	129.7	137.8	152.1	164.7	177.3	193.6	205.8	221	238	251.9	272.1	288.8	306	327.3
EER		3.75	3.71	3.64	3.67	3.68	3.77	3.72	3.73	3.68	3.65	3.76	3.69	3.7	3.73	3.75	3.7	3.67	3.66
Sound power	dB(A)	93	93	93	96	97	97	96	97	97	97	98	98	98	98	99	99	100	100
Sound power [Low noise]	dB(A)	88	88	88	91	92	92	91	92	92	92	93	93	93	93	94	94	95	95
Dimensions [LxHxD]	mm	5755x2652x2256					7405x2650x2256			8855x2650x2256			10700x2652x2256			13000x2652x2256			

Also available with 60 Hz power supply