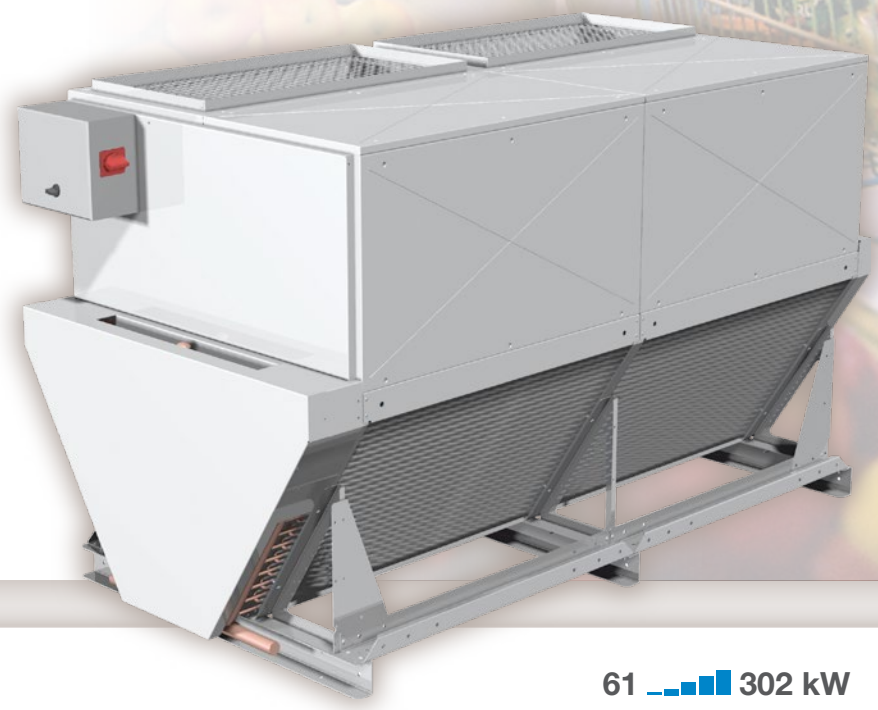
HEATCRAFT
Worldwide Refrigeration

Centrifugal fan condenser

E Solutions
Efficiency • Environment

Gamme CCV

- Totally removable, the CCV is specifically designed for use in tight spaces and difficult access zones.
- Reduced height and footprint.
- EC motors as standard offering optimum control for a low energy consumption.
- Low noise.
- Available air pressure of up to 200 Pa.



Energy efficiency
Low noise level

ErP COMPLIANT
Energy-related Products Directive 2009/125/EC
2015

61 302 kW

FRIGA-BOHN

HK REFRIGERATION

CCV - Centrifugal fan condenser

Market segments

FFS *Bars - Restaurants – Corner shops – Mini-markets*
FSM *Hard Discount - Supermarkets - Hypermarkets*

Designation

CCV 4(1) **V2**(2)

(1) Number of fans
(2) Air direction

Description

Casing

- The casing is made of galvanized sheet steel.
- Hairpins and collectors are protected with removable sheet metal.
- Easy access to all components for commissioning, maintenance and cleaning.
- For installations with difficult access, the condenser may be quickly removed (coil, casing, fans) and refitted on site.
- Possibility to modify the air outlet position (V1, V2, V3, V4, V1+V4) using interchangeable panels (for combination V1+V4, a second set of "air outlet" panels is required, to be stipulated on the order form).

Ventilation

- Centrifugal fans: available pressure of up to 200 Pascals, performance adapted.
- Three-phase motor, Ø 630 mm, IP 54, 380-480V/3/50-60 Hz, 2.9kW, 4.6A, 1,200 rpm.
- The fans are equipped with an electronic switching (EC) device.
- Electrical connections factory-wired to an easily accessible junction box.
- Each turbine is separated with a baffler to avoid air "by-pass".

Coil

- The condensers of the CCV range are equipped with two high efficiency “V” configuration coils composed of profiled aluminium fins spaced at 2.12 mm, crimped onto staggered copper tubes 3/8" (9.53 mm) to optimize the heat transfer coefficient.
- Two coils, but only one inlet and one outlet.

Environmental respect

Motor with electronic switching (EC):

- Optimum control of condensation pressure,
- Energy saving,
- Low noise level.

Advantages

Installation

Easy handling: the frame structure allows easy passage of the pallet truck for transport (1).

The CCV may be removed in 3 parts to allow easy passage of standard doors of 80 cm in width.

Compact unit, 2 coils in "V" configuration to optimize the footprint in the machine room.

The condenser may be installed on a refrigeration rack to limit the footprint.

Rapid commissioning: One inlet/outlet collector for both coils requiring only one connection. Left or right as required (2).

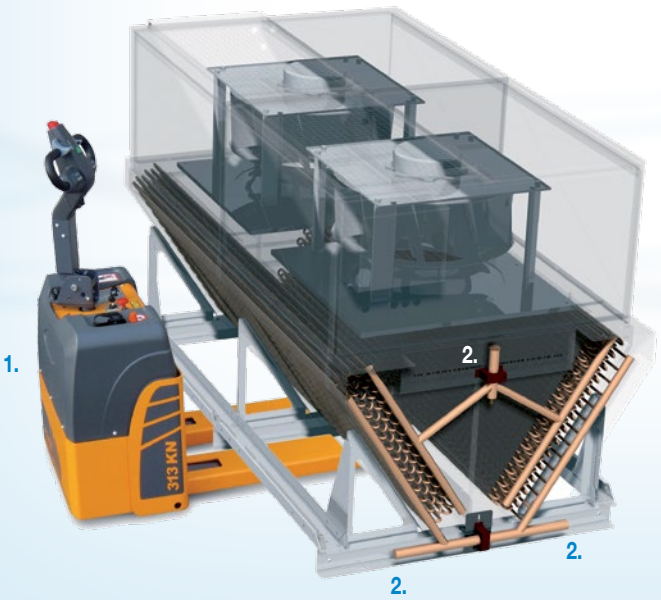
Interchangeable sheet metal panels, 5 air outlet combinations.

Servicing / Maintenance

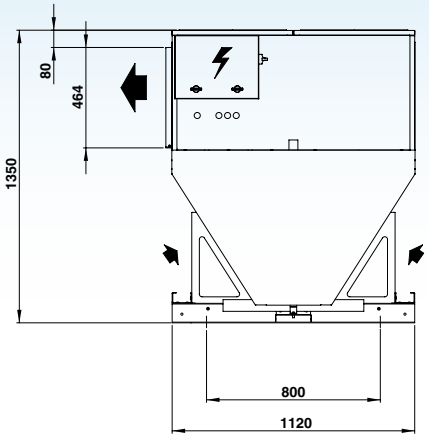
Easy maintenance and cleaning thanks to unimpeded access to components.

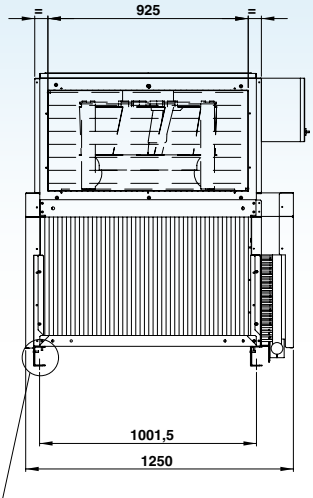
The coil becomes accessible for easy cleaning by simply removing the two panel elements.

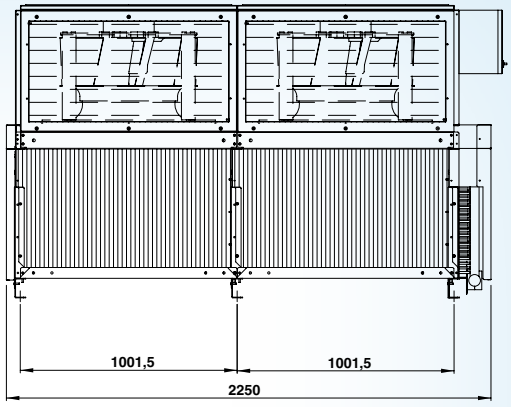
Certifications

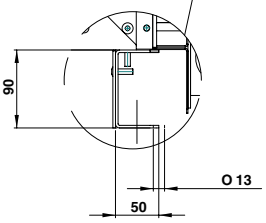


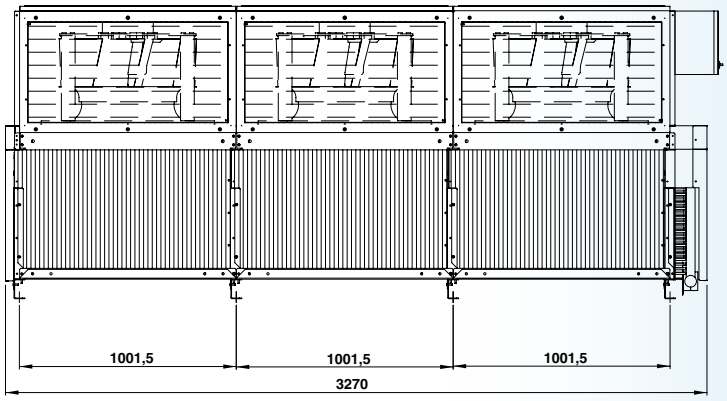
Kit	Factory	Options
		Casing
	PEI	Grey paint RAL 9002.
	IPH	Noise Insulation.
	ECB	Full crate packaging.
		Ventilation
VPS		Blower deflector vanes.
	CSC	Signal comparator.
PT1		Condensation pressure sensor (voltage 0-10V)
		Coil
	MCI	Multi-circuits.
	BAE	Protection of fins.
	BXT	Blygold Polual XT coil protection.
		Other options
		Please contact us for details.



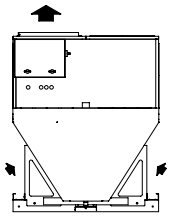




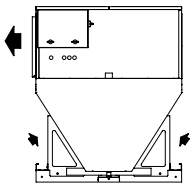




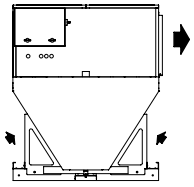
Air direction



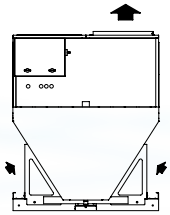
V1



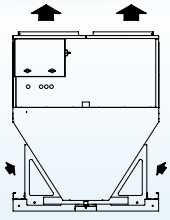
V2



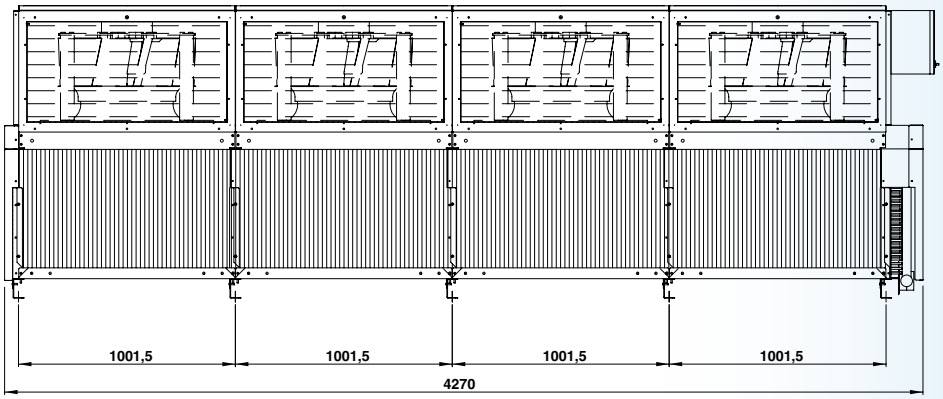
V3

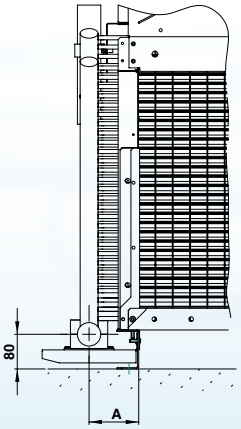


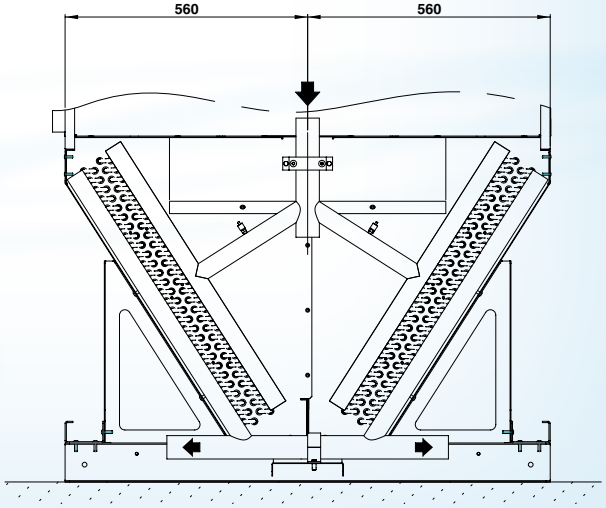
V4



V1+V4







CCV

Technical characteristics give for full speed (1,200 rpm)

		CCV ...	1			2			3			4		
Air direction			V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3
0 Pa (1) **DT1 = 15 K** (2) R404A	Capacity	**kW**	**65,1**	**69,1**	**71,6**	**130,0**	**137,6**	**143,7**	**194,5**	**205,8**	**215,0**	**261,3**	**276,8**	**286,8**
	Input power	**kW**	2,55	2,37	2,23	5,10	4,74	4,46	7,65	7,11	6,69	10,20	9,48	8,92
	Air flow	**m^3/h**	13800	14850	15700	27600	29700	31400	41400	44550	47100	55200	59400	62800
	Acoustic **Lp** (3)	**dB(A)**	54	55	56	57	58	59	59	60	61	60	61	62
	Acoustic **Lw**	**dB(A)**	86	87	88	89	90	91	91	92	93	92	93	94
50 Pa (1) **DT1 = 15 K** (2) R404A	Capacity	**kW**	**64,2**	**68,0**	**70,6**	**128,1**	**135,5**	**140,5**	**191,7**	**202,8**	**212,0**	**257,4**	**270,0**	**282,7**
	Input power	**kW**	2,59	2,43	2,29	5,18	4,86	4,58	7,77	7,29	6,87	10,36	9,72	9,16
	Air flow	**m^3/h**	13500	14500	15350	27000	29000	30700	40500	43500	46050	54000	58000	61400
	Acoustic **Lp** (3)	**dB(A)**	53	55	56	56	58	59	58	60	61	59	61	62
	Acoustic **Lw**	**dB(A)**	85	87	88	88	90	91	90	92	93	91	93	94
100 Pa (1) **DT1 = 15 K** (2) R404A	Capacity	**kW**	**63,0**	**66,2**	**69,4**	**125,8**	**132,1**	**138,2**	**188,3**	**199,6**	**206,7**	**250,3**	**265,7**	**278,0**
	Input power	**kW**	2,65	2,49	2,35	5,30	4,98	4,70	7,95	7,47	7,05	10,60	9,96	9,40
	Air flow	**m^3/h**	13150	14150	14950	26300	28300	29900	39450	42450	44850	52600	56600	59800
	Acoustic **Lp** (3)	**dB(A)**	53	55	55	56	58	58	58	60	60	59	61	61
	Acoustic **Lw**	**dB(A)**	85	87	87	88	90	90	90	92	92	91	93	93
150 Pa (1) **DT1 = 15 K** (2) R404A	Capacity	**kW**	**61,2**	**65,4**	**68,1**	**122,2**	**130,6**	**135,8**	**185,0**	**195,4**	**203,2**	**245,7**	**262,6**	**270,6**
	Input power	**kW**	2,71	2,53	2,42	5,42	5,06	4,84	8,13	7,59	7,26	10,84	10,12	9,68
	Air flow	**m^3/h**	12800	13900	14550	25600	27800	29100	38400	41700	43650	51200	55600	58200
	Acoustic **Lp** (3)	**dB(A)**	52	54	55	55	57	58	57	59	60	58	60	61
	Acoustic **Lw**	**dB(A)**	84	86	87	87	89	90	89	91	92	90	92	93
200 Pa (1) **DT1 = 15 K** (2) R404A	Capacity	**kW**	**59,6**	**64,4**	**66,2**	**119,4**	**128,7**	**132,1**	**178,5**	**192,6**	**199,6**	**239,8**	**258,7**	**265,7**
	Input power	**kW**	2,78	2,58	2,49	5,56	5,16	4,98	8,34	7,74	7,47	11,12	10,32	9,96
	Air flow	**m^3/h**	12350	13600	14150	24700	27200	28300	37050	40800	42450	49400	54400	56600
	Acoustic **Lp** (3)	**dB(A)**	52	53	55	55	56	58	57	58	60	58	59	61
	Acoustic **Lw**	**dB(A)**	84	85	87	87	88	90	89	90	92	90	91	93

		CCV ...	1			2			3			4		
Surface		**m^2**	206	206	206	412	412	412	618	618	618	824	824	824
Circuit volume		**dm^3**	19,7	19,7	19,7	38,2	38,2	38,2	56,7	56,7	56,7	75,2	75,2	75,2
Turbine		**Nb**	1	1	1	2	2	2	3	3	3	4	4	4
	380-480V 3/50-60 Hz	**W max / u**	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
		A max / u	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6	4,6
Net weight		**kg**	270	270	270	450	450	450	650	650	650	830	830	830
Dimensions	**Width**	**mm**	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120
	Height	**mm**	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
	Length	**mm**	1250	1250	1250	2250	2250	2250	3270	3270	3270	4270	4270	4270
	A	**mm**	104	104	104	108	108	108	111	111	111	117	117	117
Connections	Inlet	**Ø**	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"
	Outlet	**Ø**	1 1/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 3/8"	1 5/8"	1 5/8"	1 5/8"	2 1/8"	2 1/8"	2 1/8"

(1) Additional pressure available in Pascals.
(2) DT1 = difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(3) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.

Noise level given for various rotation speeds, for information only (for 0 Pa).

		CCV ...	1			2			3			4		
Air direction			V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3	V1 / V4	V1 + V4	V2 / V3
Acoustic (3)		**Lp à 10 m**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**	**dB(A)**
Rotation speed	**100 %**	1200 rpm	54	55	56	57	58	59	59	60	61	60	61	62
	75 %	900 rpm	47	48	49	50	51	52	52	53	54	53	54	55
	50 %	600 rpm	37	38	39	40	41	42	42	43	44	43	44	45

PEI	IPH	ECB	VPS	CSC	PT1	MCI	BAE	BXT
O	O	O	O	O	O	O	O	O