HUBBARD

a member of DAIKIN group

Transcritical CO_2

Semi-Hermetic Compressor Condensing Units

GCU1B-XB7/GCU2B-XB7/HCU1D-XB7



Minimal impact, high performance commercial refrigeration solutions

CO_2

Raising the bar on energy efficiency

Hubbard is invested in reducing the environmental impact of its refrigeration solutions. Innovative technology, combined with natural CO_2 refrigerant delivers the reliability and high performance essential for commercial / semi-industrial refrigeration applications. Easy to install and maintain, the Semi-Hermetic CCU range offers substantially improved energy efficiency, delivering direct benefits through lower running costs.



Benefits for customers

- Extended capacity range from 8kW to 50kW.
- EC fans enable low noise operation.
- Efficient part load operation.
- Choice of single or twin compressor configuration.
- Inverter drive compressors offer greater energy efficiency.
- Rigorously tested, incorporating quality components for maximum reliability.
- Oil separator and oil management system as standard.

Benefits for installers

- Fast, simple installation with plug and play connectivity.
- Easy access for maintenance or troubleshooting with hinged doors and external controls to electrical panel.
- Vertical liquid receivers.
- Compressor and gas cooler housed separately.
- Electrical panel with control unit.
- Flexible configuration with mirrored pipe connections.
- Front air inlets allowing flush siting against walls.

Meeting customer needs

The Hubbard Semi-Hermetic CCU range has been designed to support the refrigeration requirements of users across a diverse range of applications, both industrial and commercial.

Applications include:

- FOOD RETAIL
- CONVENIENCE RETAIL
- COLD STORAGE
- MEDICAL & SCIENCE
- FARM & BIO STORES
- WINE & BREWERIES

Natural Choice

Using natural CO_2 refrigerants ensures compliance with both current and future legislation.

By lowering the Total Equivalent Warming Impact, Hubbard Transcritical CO_2 solutions offer a more sustainable option for cold storage.



Tried and tested technology

Designed and developed with robust materials and high-quality components from leading brands to withstand the high pressure of transcritical CO_2 systems.

FREQUENCY INVERTER

- Constant evaporating temperatures, for improved product quality & efficiency.
- Simplified control of multiple evaporators on one compact condensing unit.

2-STAGE COMPRESSOR ON LT

- Lower discharge temperature with Improved reliability.
- Increased capacity and performance.
- Less wear & tear.

OIL SEPARATOR

- Multiple evaporator connection.
- Improved reliability.
- Longer pipe-runs for greater installation flexibility.

GAS AND INTERCOOLER ON LT

- Horizontal airflow gas cooler & 1st stage intercooler.
- Large surface area to enable stable operation up to +43°C.
- Enables reduced fan speeds for quieter operation.

EC FAN MOTORS

- Brushless Digital Motor delivering high efficiencies and quieter operation.
- Optimum gas cooler and control of discharge superheat.
- Efficient part load operation.

HIGH VOLUME RECEIVER

- High capacity supports longer pipe, runs giving greater installation flexibility.
- Large flash gas expansion aids high ambient operation.

OPERATION & RANGE

- Ambient temperature operation range: -20°C to 43°C.
- Temperature operation range: -35°C to 0°C.
- Nominal design. MT Tevap. -10°C, LT Tevap -35°C, Tamb +32°C, 10K Superheat.

CONSTRUCTION

- K65 Pipe work.
- 2 casing sizes.
- Hinged electrical panel, fan and compressor sections.
- Powder coated & backed weatherproof housings.
- Stainless steel screws, nuts and bolts used throughout.
- Made in UK.

Technical data - LT

LOW TEMP OPERATION
-35°C to -10°C

Energy Performance & COP at rated conditions

MT CCU Model:	HCU1D12XB7	HCU1D15XB7	HCU1D25XB7	HCU1D30XB7
Evaporating temp. Tevap [°C]	-35	-35	-35	-35
Energy Performance SEPR	1.55	1.75	1.79	1.75

Parameters at full load and ambient conditions 32°C

MT CCU Model:	HCU1D12XB7	HCU1D15XB7	HCU1D25XB7	HCU1D30XB7
Rated cooling capacity P_A [kW]	9.17	12.45	19.01	21.55
Rated power input D_A [kW]	8.12	9.96	15.21	17.38
Rated COP COP_A	1.13	1.25	1.25	1.24

Parameters at part load and ambient conditions 25°C

MT CCU Model:	HCU1D12XB7	HCU1D15XB7	HCU1D25XB7	HCU1D30XB7
Rated cooling capacity P_2 [kW]	8.69	11.80	18.02	20.43
Rated power input D_2 [kW]	7.69	8.25	12.34	14.39
Rated COP COP_2	1.13	1.43	1.46	1.42

Parameters at part load and ambient conditions 15°C

MT CCU Model:	HCU1D12XB7	HCU1D15XB7	HCU1D25XB7	HCU1D30XB7
Rated cooling capacity P_3 [kW]	8.02	10.88	16.62	18.84
Rated power input D_3 [kW]	5.38	6.67	9.95	11.56
Rated COP COP_3	1.49	1.63	1.67	1.63

Parameters at part load and ambient conditions 5°C

MT CCU Model:	HCU1D12XB7	HCU1D15XB7	HCU1D25XB7	HCU1D30XB7
Rated cooling capacity P_4 [kW]	7.34	9.96	15.21	17.24
Rated power input D_4 [kW]	3.99	4.91	7.31	8.41
Rated COP COP_4	1.84	2.03	2.08	2.05

Capacity control: Variable speed - Inverter operation

Coefficient Cd: 0.25 ➔ Coefficient of degradation for fixed and staged capacity units

Peace of mind

- Designed and formatted to Daikin quality standards and assurance.
- ABB frequency inverter.
- Carel pRack pR300T control.
- Ebmpapst EC fan motors.
- Bitzer/Dorin compressor.
- High/Intermediate pressure PRV.
- Electronic HP & LP cut-out.
- HP mechanical cut-out.



Technical data - MT Single Comp

Energy Performance & COP at rated conditions

MID TEMP OPERATION
-10°C to 0°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Evaporating temp. Tevap [°C]	-10	-10	-10	-10
Energy Performance SEPR	3.13	3.12	3.18	3.17

Parameters at full load and ambient conditions 32°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Rated cooling capacity P_A [kW]	16.54	22.00	30.70	43.40
Rated power input D_A [kW]	9.51	12.50	16.68	23.98
Rated COP COP_A	1.74	1.76	1.84	1.81

Parameters at part load and ambient conditions 25°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Rated cooling capacity P_2 [kW]	14.82	19.72	27.52	38.90
Rated power input D_2 [kW]	6.92	9.10	12.28	17.59
Rated COP COP_2	2.14	2.17	2.24	2.21

Parameters at part load and ambient conditions 15°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Rated cooling capacity P_3 [kW]	12.37	16.46	22.97	32.47
Rated power input D_3 [kW]	4.44	5.88	8.00	11.34
Rated COP COP_3	2.79	2.80	2.87	2.86

Parameters at part load and ambient conditions 5°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Rated cooling capacity P_4 [kW]	9.92	13.20	18.42	26.04
Rated power input D_4 [kW]	2.24	3.05	4.26	6.01
Rated COP COP_4	4.42	4.33	4.32	4.33

Parameters at full load and ambient conditions 43°C

MT CCU Model:	GCU1B07XB7	GCU1B10XB7	GCU1B15XB7	GCU1B20XB7
Rated cooling capacity P_5 [kW]	9.43	12.61	17.67	24.90
Rated power input D_5 [kW]	9.53	12.61	16.36	24.17
Rated COP COP_5	0.99	1.00	1.08	1.03

Capacity control: Variable speed - Inverter operation

Coefficient Cd: 0.25 ➔ Coefficient of degradation for fixed and staged capacity units

Technical Data - MT Twin Comp

Energy Performance & COP at rated conditions

MID TEMP OPERATION
-10°C to 0°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Evaporating temp. Tevap [°C]	-10	-10	-10	-10
Energy Performance SEPR	3.02	3.00	3.15	3.20

Parameters at full load and ambient conditions 32°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Rated cooling capacity P_A [kW]	22.20	30.00	45.70	52.90
Rated power input D_A [kW]	12.91	18.07	25.39	29.07
Rated COP COP_A	1.72	1.66	1.80	1.82

Parameters at part load and ambient conditions 25°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Rated cooling capacity P_2 [kW]	19.90	26.89	40.96	47.41
Rated power input D_2 [kW]	9.37	13.01	18.44	21.08
Rated COP COP_2	2.12	2.07	2.22	2.25

Parameters at part load and ambient conditions 15°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Rated cooling capacity P_3 [kW]	16.61	22.44	34.19	39.58
Rated power input D_3 [kW]	6.07	8.29	12.00	13.64
Rated COP COP_3	2.73	2.71	2.85	2.90

Parameters at part load and ambient conditions 5°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Rated cooling capacity P_4 [kW]	13.32	18.00	27.42	31.74
Rated power input D_4 [kW]	3.24	4.32	6.42	7.26
Rated COP COP_4	4.11	4.17	4.27	4.37

Parameters at full load and ambient conditions 43°C

MT CCU Model:	GCU2B07XB7	GCU2B10XB7	GCU2B15XB7	GCU2B20XB7
Rated cooling capacity P_5 [kW]	16.63	21.50	31.40	35.50
Rated power input D_5 [kW]	15.69	20.87	30.78	35.15
Rated COP COP_5	1.06	1.03	1.02	1.01

Capacity control: Variable speed - Inverter operation

Coefficient Cd: 0.25 ➔ Coefficient of degradation for fixed and staged capacity units

Now part of the global Daikin Group of companies, Hubbard Products is one of the UK's leading designers, manufacturers and suppliers of commercial cooling equipment with a reputation for its innovation and design skill as a specialist commercial refrigeration and heat recovery business, serving the retail and convenience sectors, food manufacturing, hospitality and cellar conditioning markets.

The company became part of the leading European refrigeration manufacturer, Zanotti in 2007 before being welcomed into the Daikin organisation in 2017, with the transfer of Daikin products and staff, most notably ConveniPack and ZEAS commercial systems, into the Hubbard products portfolio.

The completion of a new 7,500 m^2 factory, adding 60% more production space and new research and development facilities is set to drive progress in sustainable cooling over the coming years, further establishing Hubbard's lead in the commercial refrigeration market within the UK and Northern Europe.



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