



TRANE **CUBE**

*Air-Cooled Scroll Chillers
and Heat Pumps*

Model CGB

Cooling capacity 16 - 38 kW

Model CXB

Cooling capacity 15 - 33 kW

Heating capacity 17 - 43 kW



Air-Cooled Scroll Chillers and Heat Pumps



Range description

- **CGB** chillers with/without hydraulic module
- **CGB-A** chillers with hydraulic module and built in water tank
- **CXB** heat pumps with/without hydraulic module
- **CXB-A** heat pumps with hydraulic module and built in water tank

Unit description

- Tandem scroll compressors
- Electronic expansion valve
- Axial fans with 2 steps fan speed for condensing control.
- Micro-channel condenser coils (CGB)
- Brazed plate heat exchanger with pressure differential switch and antifreeze protection electric heater
- Air side heat exchanger with seamless copper tubes and aluminium fins (CXB)
- Microprocessor-based controller to manage unit on/off mode, operating mode setting, parameters setting, and error code display
- Electrical panel with main disconnect switch
- Casing and panels in galvanised and painted steel
- Conto Termico compliance (Italy)
- All CXB heat pumps A+ energy class

Options

- Low ambient temperature kit, in cooling mode down to -10°C
- Low ambient temperature kit, in heating mode down to -15°C
- 3-way valve for domestic hot water (power supply and control included)
- Compressors sound jackets (low noise version)
- Soft-starter
- Control panel electric heater with thermostat
- Phase failure protection relay
- Epoxy coated condensing coils (CXB)
- E-coated condensing coils (CGB)

Accessories

- Serial card with BACnet™ Protocol MS/TP or TCP/IP
- Gateway Modbus
- Remote control panel
- Serial card RS485
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges/gas gauges
- Rubber anti vibration mounts
- Automatic circuit breakers
- Power supply without neutral 400V/3Ph/50Hz

Advantages

All units are designed in compliance with Ecodesign directive ErP 2009/125/EC relating to products intended for cooling, heating and domestic hot water production. All CXB heat pumps are A+ energy efficiency class.



DYNAMIC LOGIC CONTROL manages the differential of the outlet water temperature in accordance to the speed variation. Thanks to the DLC the number of compressor starts decreases ensuring highest reliability and energy savings.



DYNAMIC SET POINT allows to change the set point simultaneously to always achieve the conditions of best comfort and, above all, maximum energy saving.



Operating range		CGB	CXB cooling	CXB heating
Operating outdoor air temperature range (min./max.)	(°C)	5 (-10)*/45	5 (-10)*/43	-5 (-15)**/20
Leaving water temperature range (min./max.)	(°C)	-8/18	-8/18	28/55
Power supply	(V/Ph/Hz)		400/3+n/50	

* Temperatures within parentheses () can be achieved with low ambient air temperature kit.

** With low ambient air temperature kit including iPro controller.

Chiller version

General data

CGB	Unit size	017	020	025	028	033	036	039
Cooling, according EN 14511 (1)								
Total cooling capacity	kW	16.4	19.0	24.6	28.3	32.5	35.5	38.1
Total power input	kW	5.6	6.7	7.9	9.2	11.0	12.8	14.1
Total EER		2.93	2.83	3.11	3.08	2.95	2.77	2.70
Eurovent class		B	C	A	B	B	C	C
Water flow	m ³ /h	2.82	3.26	4.23	4.87	5.59	6.10	6.56
Water pressure drop	kPa	15.1	19.6	31.3	23.1	29.6	34.7	39.6
Seasonal efficiency, according EN 14825 (2)								
P rated	kW	16.4	19.0	24.6	28.3	32	35	38
$\eta_{s, cooling}$		166%	165%	167%	168%	155%	150%	149%
SEER		4.22	4.20	4.24	4.28	3.96	3.83	3.79
Hydraulic module (optional)								
Available pump pressure	kPa	157	138	152	149	127	181	157
Water tank volume	l	100	100	100	100	100	100	100
Volume of expansion vessel	l	1	1	1	1	1	1	1
Compressors								
Number of compressors		2	2	2	2	2	2	2
Number of refrigerant circuits		1	1	1	1	1	1	1
Type of control / part load steps					Step control / 2 steps			
Minimum capacity step	%	50%	50%	50%	50%	50%	50%	50%
Refrigerant charge (3)	kg	5.7	5.7	5.7	6.5	6.5	6.5	6.5
Oil charge	kg	2.5	2.5	2.5	2.5	3.3	3.5	3.5
Fans								
Number of fans	n	1	1	2	2	2	2	2
Air flow	m ³ /h	6000	6000	10200	10800	10800	10800	10800
Power input for each fan	kW	0.235	0.235	0.235	0.235	0.235	0.235	0.235
Absorbed current for each fan	A	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Sound level (4)								
Sound pressure level at 10 m	db(A)	42	42	45	44	45	46	46
Sound pressure level at 10 m (low noise version)	db(A)	na	na	na	42	42	42	42
Dimensions and weight								
Length (A)	mm	1807	1807	1807	2061	2061	2061	2061
Width (B)	mm	779	779	779	779	779	779	779
Height (C)	mm	1687	1687	1687	1687	1687	1687	1687
Additional height for water tank	mm	381	381	381	381	381	381	381
Operating weight	kg	290	294	327	367	378	378	380
Operating weight (low noise version)	kg	na	na	na	374	385	385	387
Additional weight for water pump	kg	12	12	12	12	12	14	14
Additional weight for water tank	kg	190	190	190	195	195	195	195

(1) Cooling: outdoor air temperature 35°C and chilled water temperature 12°C/7°C.

(2) Ecodesign rating for comfort chiller - Fan coil application. Outdoor air temperature 35°C and chilled water temperature in/out: 12°C/7°C. $\eta_{s,c}$ /SEER as defined in Ecodesign requirements for Comfort Chillers with 2000 kW maximum capacity - REGULATION (EU) N° 2016/2281 of 20 December 2016.

(3) Refrigerant charge values are not binding, please check the effective quantity of refrigerant shown on unit nameplate.

(4) Sound data based on units without hydraulic module

Note: Performance data are tentative and may be changed without notice.



Standard unit controller



C

B

A

Heat Pump version



General data

CXB	Unit size	017	020	025	028	033	036	039
Cooling, according EN 14511 (1)								
Total cooling capacity	kW	15.1	17.0	22.0	25.2	28.5	31.1	33.3
Total power input	kW	5.8	6.9	8.4	9.9	11.9	14.0	15.5
Total EER		2.60	2.47	2.62	2.55	2.39	2.22	2.15
Water flow	m ³ /h	2.59	2.93	3.79	4.34	4.90	5.34	5.73
Water pressure drop	kPa	9.1	11.4	18.1	13.4	16.7	19.5	22.1
Heating, according EN 14511 (1)								
Total heating capacity	kW	17.4	20.1	26.5	31.0	35.7	39.6	42.5
Total power input	kW	5.4	6.1	8.0	9.1	10.5	12.0	12.9
Total COP		3.23	3.29	3.32	3.40	3.40	3.30	3.30
Water flow	m ³ /h	3.00	3.46	4.57	5.32	6.14	6.81	7.32
Water pressure drop	kPa	10.5	13.6	22.8	17.4	22.6	27.4	31.4
Seasonal efficiency, according EN 14825 (2)								
P rated	kW	15.0	18.0	23.0	27.0	31.0	35.0	37.0
η _s heating	%	146%	146%	145%	143%	148%	149%	148%
SCOP		3.73	3.73	3.70	3.65	3.78	3.80	3.78
Energy efficiency class		A+	A+	A+	A+	A+	A+	A+
Hydraulic module (optional)								
Available pump pressure	kPa	169	157	172	168	155	224	208
Water tank volume	l	100	100	100	100	100	100	100
Volume of expansion vessel	l	1	1	1	1	1	1	1
Compressors								
Number of compressors		2	2	2	2	2	2	2
Number of refrigerant circuits		1	1	1	1	1	1	1
Type of control / part load steps		Step control / 2 steps						
Minimum capacity step	%	50%	50%	50%	50%	50%	50%	50%
Refrigerant charge (3)	kg	13	13	13	15	15	15	15
Oil charge	kg	2.5	2.5	2.5	2.5	3.3	3.5	3.5
Fans								
Number of fans		1	1	2	2	2	2	2
Air flow	m ³ /h	6000	6000	9600	10400	10400	10400	10400
Power input for each fan (in chiller mode)	kW	0.235	0.235	0.235	0.235	0.235	0.235	0.235
Absorbed current for each fan	A	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Sound level (4)								
Sound pressure level at 10 m	db(A)	42	42	45	44	45	46	46
Sound pressure level at 10 m (low noise version)	db(A)	na	na	na	42	42	42	42
Dimensions and weight								
Length (A)	mm	1807	1807	1807	2061	2061	2061	2061
Width (B)	mm	779	779	779	779	779	779	779
Height (C)	mm	1687	1687	1687	1687	1687	1687	1687
Additional height for water tank	mm	381	381	381	381	381	381	381
Operating weight	kg	328	331	365	385	396	396	398
Operating weight (low noise version)	kg	na	na	na	392	403	403	405
Additional weight for water pump	kg	12	12	12	12	12	14	14
Additional weight for water tank	kg	190	190	190	195	195	195	195

(1) Cooling: outdoor air temperature 35°C and chilled water temperature 12°C/7°C. Heating: outdoor air temperature 7°C/90% RH and hot water 40/45°C

(2) Ecodesign rating at low temperature heating conditions. Outdoor temperature: 7°C dry bulb/6°C wet bulb and hot water temperature in/out: 30°C/35°C. η_s,h / SCOP as defined in Ecodesign requirements for Space heaters with Prated < 400kW - REGULATION (EU) N° 813/2013 of 2 August 2013.

(3) Refrigerant charge values are not binding, please check the effective quantity of refrigerant shown on unit nameplate.

(4) Sound data based on units without hydraulic module.

Note: Performance data are tentative and may be changed without notice



Trane® is a brand of Ingersoll Rand®. Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands—including Ingersoll Rand®, Trane®, Thermo King® and Club Car® — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a global business committed to a world of sustainable progress and enduring results.



trane.eu

ingersollrand.com