



Conquest air-cooled chillers and heat pumps

**Scroll compressor
Model CGAX/CXAX
42-160 kW**



CONQUEST

CG-PRC026A-E4

Introduction

Trane is a leader in the air-cooled chillers marketplace, thanks to excellence in design and manufacturing. This tradition of excellence is present in the Conquest air-cooled scroll compressor chillers range, a new generation of chillers and heat pumps, providing capacities from 41-160 kW.

Trane Quality

Trane is the designer and manufacturer of the core components applying modern market standards of quality in the finishing, a rigorous testing and manufacturing plan, a powerful service portfolio supporting the life cycle of the equipment.



Useful Efficiency

The cooling only chillers, model CGAX, are rated Class B (EER at full load at Eurovent conditions) and are optimized for the operation at seasonal part load efficiency (ESEER) to maximize energy savings during real life building demand, across all seasons.

The heat pump version, model CXAX, has been optimized in the same way. Full Load COP is class B as well, while the part load efficiency ratio SCOP is compliant with Ecodesign directive coming into force in 2015.

Acoustic Package

Two acoustical package options are available:

- Standard Noise (SN), with an average sound power of Lw 86 dB(A)
- Low Noise (LN), for sensitive environments with a sound reduction of an additional -6 dB(A)

The acoustical package does not bring any degradation on the performances: cooling capacity, operating map, or efficiency.

Smart Chillers

- The operating map of the chiller, allows in cooling mode, operation between -18°C up to 46°C ambient air temperature.
- In heating mode, CXAX units can deliver 40°C hot water, down to -15°C ambient air temperature.
- For industrial applications, with evaporator leaving water temperature down to -12°C is Ecodesign compliant (SEPR medium temperature > 2,8).
- The low profile of the Conquest units allows easy integration in buildings, thanks to the 1,5 m of height on most of the units.
- A plug & play integration is supported by the option of Hydraulic Module (with or without buffer tank).
- Chillers are provided with an Smart Controller, with a new generation of human interface, the Deluxe Touch Display.
- Full integrability capability thanks to available communication protocols: Modbus, BACnet, LonTalk and Trane BMS.

Table of Contents

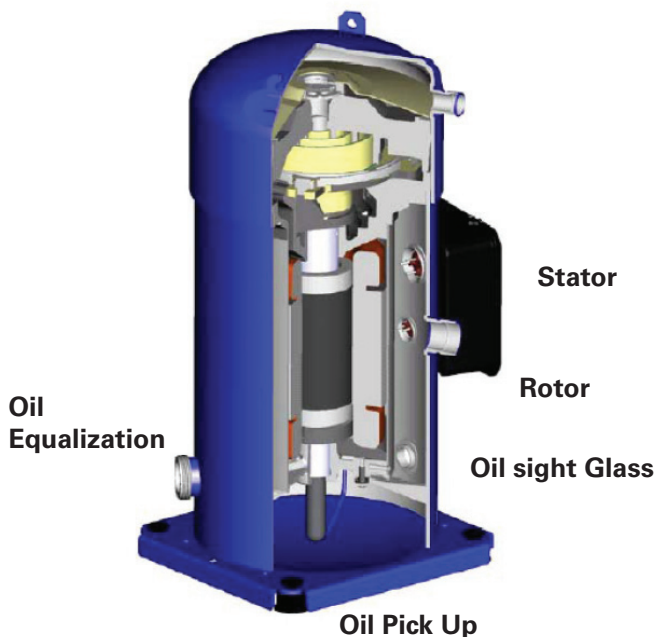
Introduction	2
Features and Benefits.....	4
Application Considerations	7
Unit Placement	10
Model Number Description	12
General Data	14
Dimensional Data	22
Electrical Data	28
Hydraulic Data.....	36
Sound Data	38
Typical Unit Schematics.....	41
Mechanical Specifications	44
Options	46
Notes	47

Features and Benefits

Reliability

A robust design of the compressor and refrigerant circuit has been confirmed by an extensive program of operational tests, in extreme conditions, to ensure reliability. Quality is verified during each and every step.

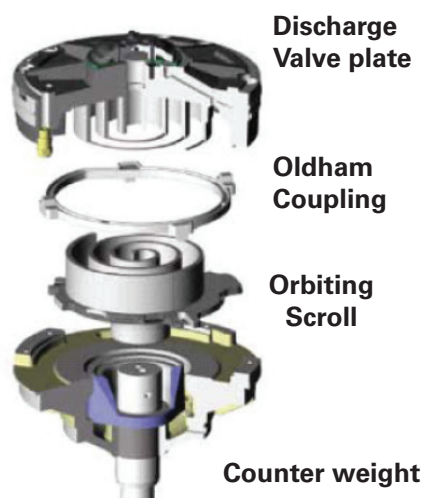
Figure 1 - Scroll compressor



Compressors

Direct drive, low speed, new generation of scroll compressor, with few moving parts, providing high efficiency, reliable operation and simplified maintenance. Suction gas cooled motor winding, maintaining uniform low temperature for extended motor life.

Fixed Scroll



Chiller controller

The Conquest chiller is equipped with the new generation of chiller control systems, providing improved control capabilities, and integrated safety protocols to protect both compressors and motors from electrical faults like thermal overload and phase reversal.

The LCD display with 6 navigation buttons shows clear messages in 15 available languages. It features a customer communication package consisting in: external chilled water setpoint, external demand limit, analog capacity output, programmable relays.

Figure 2 - Standard LCD user interface



A deluxe display is available as an option. It features an intuitive and user friendly color 7 inch touchscreen, able to display: Data trending, clear alarms logging, and TIS enable for remote monitoring.

Figure 3 - Optional deluxe user interface

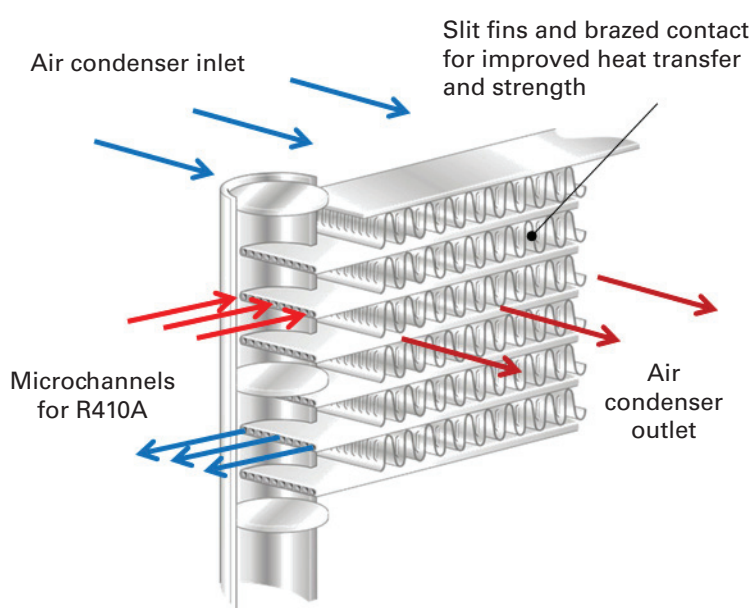


Features and Benefits

Microchannel condensing coils on cooling-only units

Conquest chillers are equipped with microchannel condensing coils allowing excellent heat transfer and a dramatic improvement of corrosion resistance versus conventional tubes in fins coils. Microchannel coils are 100% aluminum and galvanic corrosion which can occur on condensers made with copper tubes and aluminum fins is avoided. Microchannel coils are also well adapted for dirty environment thanks their small thickness and fins profile.

Figure 4 - Microchannel condensing coils



Heat pump units coils

The condenser coil is made of aluminum fins mechanically bonded to seamless copper tubing and includes integral subcooling circuit. The coils are factory leak tested at 5 Mpa. If the unit is to be installed in a corrosive environment, aluminum fins can be pre-coated with black epoxy, with minimum thickness of 8µm, in order to withstand 1000 hours of salt spray test according ISO 9227.

Electronic Expansion Valve

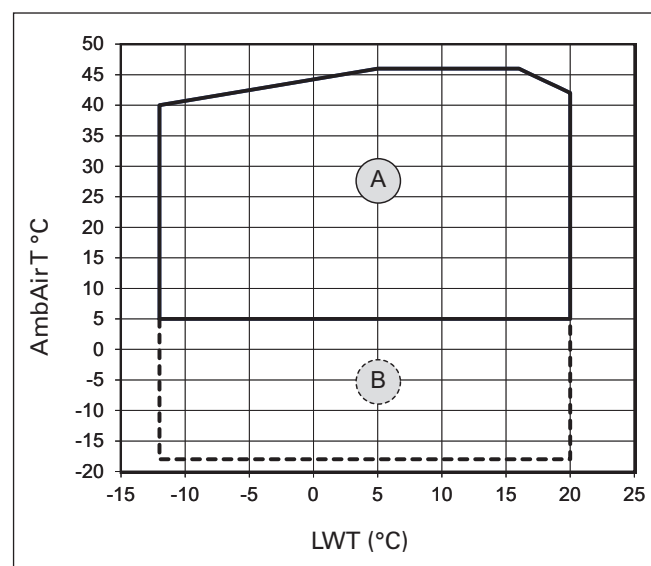
Electronic expansion valve enables tight chilled water temperature control and low superheat, resulting in more efficient full-load and part-load operation.

Application versatility

Extended operating map, allowing chiller operation in multiple applications:

- Industrial/low temperature process cooling with precise temperature control capability
- Optimal and reliable operation at high ambient temperatures.

Figure 5 - Operating map- Cooling-only Model CGAX



LWT = Leaving water temperature

Amb Air T = Ambient air temperature

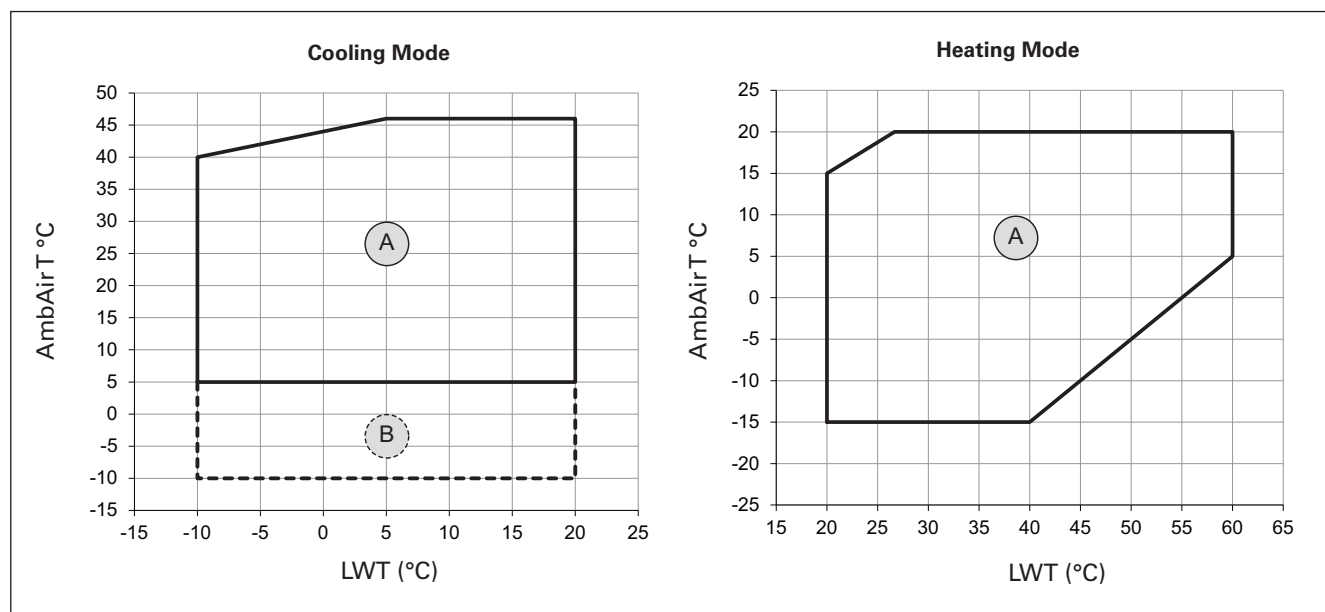
A = Standard operating map

B = Low ambient operating map (Variable air flow control)

Minimum start-up/operation ambient based on a 2.22 m/s (5mph) wind across the condenser

Features and Benefits

Figure 6 - Heat Pump Model CXAX operating map



LWT = Leaving water temperature

Amb Air T = Ambient air temperature

A = Standard operating map

B = Low ambient operating map (Variable air flow control)

Minimum start-up/operation ambient based on a
2.22 m/s (5mph) wind across the condenser

Improved Serviceability

- Main components, like compressors, refrigerant components... are close to the unit's edge to make them accessible. When unit are supplied with hydraulic module, service valves and strainer are located accessible and for easy service.
- Water connections are supplied up to the edge of the unit, for easy connection with system water piping.
- Optional pump package is designed for easy maintenance and service on site.
- Pressure transducers and temperature sensors, are supplied for easy identification of potential troubleshooting and eventually, replacement, without the need of refrigerant handling.
- Dead front panel and IP20 protection, allows for safe servicing.

Application Considerations

Certain applications constraints should be considered when sizing, selecting and installing Conquest air-cooled Scroll chillers. Unit and system reliability often depends upon proper and complete compliance with those considerations.

Unit Size

Unit oversizing is often not recommended since erratic unit operation and excessive compressor cycling are often a direct result of an oversized chiller. If oversizing is desired, consider the alternative of multiple units, splitting the total capacity.

Water Treatment

The use of untreated or improperly treated water in chillers may result in scaling, erosion, corrosion, and algae or slime buildup. This will adversely affect heat transfer between the water and system components. Proper water treatment must be determined locally and depends on the type of system and local water characteristics.

Neither salt nor brackish water is recommended for use in Trane air-cooled Conquest chiller. Use of either will lead to a shortened life. Trane encourages the employment of a qualified water treatment specialist, familiar with local water conditions, to assist in the establishment of a proper water treatment program.

Foreign matter in the chilled water system can also increase pressure drop and, consequently, reduce water flow. For this reason it is important to thoroughly flush all water piping to the unit before making the final piping connections to the unit.

Effect of the altitude on the cooling capacity

At elevations substantially above sea level, the decreased air density will decrease condenser capacity and, therefore, unit capacity and efficiency.

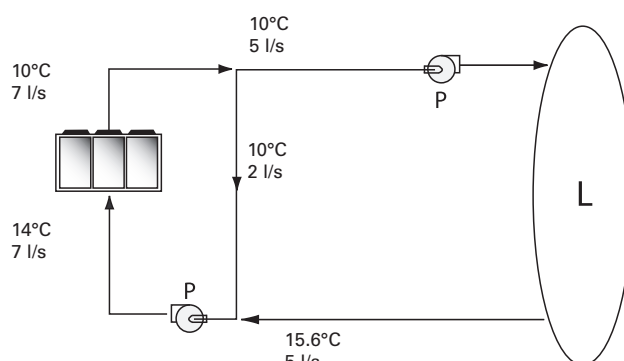
Water flow limits

The minimum water flow rates are given in the General Data section of this catalog. Evaporator flow rates below the tabulated values will result in laminar flow causing freeze-up problems, scaling, stratification and poor control. The maximum evaporator water flow rate is also given. Flow rates exceeding those listed may result in very high pressure drop across the evaporator.

Flow Rates Out of Range

Many process cooling jobs require flow rates that cannot be met with the minimum and maximum published values within the Conquest chiller evaporator. A simple piping change can alleviate this problem. For example: a plastic injection molding process requires 5.0 l/s of 10°C water and returns that water at 15.6°C. The selected chiller can operate at these temperatures, but has a minimum flow rate of 6.6 l/s. The system layout in Figure 1 can satisfy the process.

Figure 7 - Flow rate out of range systems solution



Flow Proving

Trane provides a factory-installed water flow switch monitored by chiller controller CH535 which protects the chiller from operating in loss of flow conditions.

Water Temperature

Leaving Water Temperature Limits

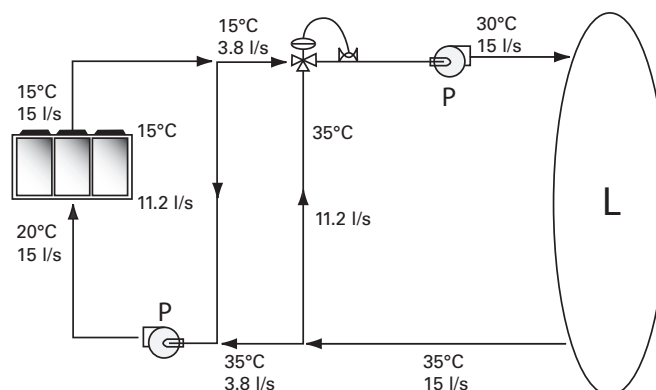
Trane air-cooled Conquest chillers have two distinct leaving water categories:

- standard, with a leaving solution range of 5.5 to 18°C
- low temperature process cooling, with leaving solution range of -12 to 18°C

Since the leaving solution temperature below 5.5°C results in suction temperature at or below the freezing point of water, a glycol solution is required for all low temperature.

Consult your local Trane sales engineer for applications or selections involving low temperature. The maximum water temperature that can be circulated through the CGAX evaporator when the unit is not operating is 51.7°C. For the model CXAX the water temperature limit is 60°C. Evaporator damage may result above this temperature.

Figure 8 - Temperature out of range system solution





Application Considerations

Supply Water Temperature Drop

Full load chilled water temperature drops from 3.3 to 10°C may be used as long as minimum and maximum water temperature and minimum and maximum flow rates are not violated.

Temperature drops outside this range at full load conditions are beyond the optimum range for control and may adversely affect the microcomputer's ability to maintain an acceptable supply water temperature range. Furthermore, full load temperature drops of less than 3.3°C may result in inadequate refrigerant superheat which is critical to long term efficient and reliable operation.

Sufficient superheat is always a primary concern in any refrigerant system and is especially important in a packaged chiller where the evaporator is closely coupled to the compressor.

Parameters which influence the water temperature stability:

- Ambient temperature and water temperature (modify cooling capacity)
- Number of capacity steps
- Minimum time between starts of a compressor
- Control dead band
- Water loop volume
- Load fluctuations
- Fluid type or percentage of glycol

Typical Water Piping

All building water piping must be flushed prior to making final connections to the chiller. To reduce heat loss and prevent condensation, insulation should be applied. Expansion tanks are also usually required so that chilled water volume changes can be accommodated.

Avoidance of Short Water Loops

Adequate chilled water system water volume is an important system design parameter because it provides for stable chilled water temperature control and helps limit unacceptable short cycling of chiller compressors.

The Conquest Air Cooled chiller's temperature control sensor is located in the supply (outlet) water connection or pipe. This location allows the building to act as a buffer to slow the rate of change of the system water temperature. If there is not a sufficient volume of water in the system to provide an adequate buffer, temperature control can suffer, resulting in erratic system operation and excessive compressor cycling.

Typically, a two-minute water loop circulation time is sufficient to prevent short water loop issues. Therefore, as a guideline, ensure the volume of water in the chilled water loop equals or exceeds two times the evaporator flow rate. For systems with a rapidly changing load profile the amount of volume should be increased.

If the installed system volume does not meet the above recommendations, the following items should be given careful consideration to increase the volume of water in the system and, therefore, reduce the rate of change of the return water temperature.

- A volume buffer tank located in the return water piping.
- Larger system supply and return header piping (which also reduces system pressure drop and pump energy use).

An optional factory-installed buffer tank is designed to meet the minimum two minute loop time without additional job site piping. The buffer tank can also be used on jobs that already meet or exceed the minimum loop time to further reduce the potential for compressor cycling, increasing the compressor life span, and reducing system temperature fluctuations.

Application Considerations

Minimum water volume for a process application

If a chiller is attached to an on/off load such as a process load, it may be difficult for the controller to respond quickly enough to the very rapid change in return solution temperature if the system has only the minimum water volume recommended. Such systems may cause chiller low temperature safety trips or in the extreme case evaporator freezing. In this case, it may be necessary to add or increase the size of the mixing tank in the return line or consider the optional factory-installed buffer tank with the chiller. Some guidance on calculating the minimum volume necessary for proper Scroll Compressors Chillers operation are given here, through a simplified formula, which does not take in account variations on chiller efficiency, compressor sequencing, evaporator inlet/outlet temperature.

Minimum recommendable volume on the hydraulic loop

V = Cc * T / (Sh * Db) where:

Cc * T = V * Db * Sh

V = Volume of the loop (l)

Cc = Cooling Capacity of the chiller biggest Stage (kW)

T = Compressor Time (min running time (s))

Db = Dead Band (K)

Sh = Brine Specific heat (kJ.K⁻¹.kg⁻¹)

Multiple Unit Operation

Whenever two or more units are used on one chilled water loop, Trane recommends that their operation be coordinated with a higher level system controller for best system efficiency and reliability. The Trane Tracer system has advanced chilled plant control capabilities designed to provide such operation.

Unit Placement

Setting The Unit

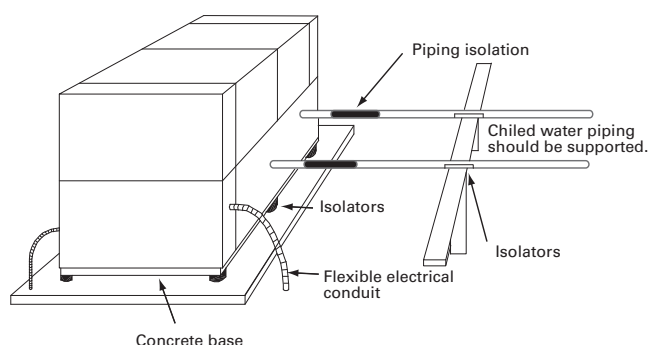
A base or foundation is not required if the selected unit location is level and strong enough to support the unit's operating weight (see "Weights" section of this catalog). For a detailed discussion of base and foundation construction, refer to the sound engineering bulletin or the unit IOM. Manuals are available through the local Trane office.

HVAC equipment must be located to minimize sound and vibration transmission to the occupied spaces of the building structure it serves. If the equipment must be located in close proximity to a building, it should be placed next to an unoccupied space such as a storage room, mechanical room, etc. It is not recommended to locate the equipment near occupied, sound sensitive areas of the building or near windows. Locating the equipment away from structures will also prevent sound reflection, which can increase sound levels at property lines or other sensitive points.

Isolation and Sound Emission

Structurally transmitted sound can be reduced by elastomeric vibration eliminators. Elastomeric isolators are generally effective in reducing vibratory noise generated by compressors, and therefore, are recommended for sound sensitive installations. An acoustical engineer should always be consulted in critical situations

Figure 9 - Installation example



For maximum isolation effect, water lines and electrical conduit should also be isolated. Wall sleeves and rubber isolated piping hangers can be used to reduce the sound transmitted through water piping. To reduce the sound transmitted through electrical conduit, use flexible electrical conduit.

Local codes on sound emissions should always be considered. Since the environment in which a sound source is located affects sound pressure, unit placement must be carefully evaluated. Sound power levels for chillers are available on request.

Servicing

Adequate clearance for evaporator and compressor servicing should be provided. Recommended minimum space envelopes for servicing are located in the dimensional data section and can serve as a guideline for providing adequate clearance. The minimum space envelopes also allow for control panel door swing and routine maintenance requirements. Local code requirements may take precedence.

Unit Location

General

Unobstructed flow of condenser air is essential to maintain chiller capacity and operating efficiency. When determining unit placement, careful consideration must be given to assure a sufficient flow of air across the condenser heat transfer surface. Two detrimental conditions are possible and must be avoided: warm air recirculation and coil starvation. Air recirculation occurs when discharge air from the condenser fans is recycled back to the condenser coil inlet. Coil starvation occurs when free airflow to the condenser is restricted.

Condenser coils and fan discharge must be kept free of snow or other obstructions to permit adequate airflow for satisfactory unit operation. Debris, trash, supplies, etc., should not be allowed to accumulate in the vicinity of the air-cooled chiller. Supply air movement may draw debris into the condenser coil, blocking spaces between coil fins and causing coil starvation.

Both warm air recirculation and coil starvation cause reductions in unit efficiency and capacity because of the higher head pressures associated with them. The air-cooled Conquest chiller offers an advantage over competitive equipment in these situations. Operation is minimally affected in many restricted air flow situations due to its advanced chiller controller.

Microprocessor which has the ability to understand the operating environment of the chiller and adapt to it by first optimizing its performance and then staying on line through abnormal conditions. For example, high ambient temperatures combined with a restricted air flow situation will generally not cause the air-cooled model CGAX chiller to shut down. Other chillers would typically shut down on a high pressure nuisance cut-out in these conditions.

Cross winds, those perpendicular to the condenser, tend to aid efficient operation in warmer ambient conditions. However, they tend to be detrimental to operation in lower ambients due to the accompanying loss of adequate head pressure. Special consideration should be given to low ambient units. As a result, it is advisable to protect air-cooled chillers from continuous direct winds exceeding 4.5 m/s in low ambient conditions.

Unit Placement

Provide Sufficient Unit-to-Unit Clearance

Units should be separated from each other by sufficient distance to prevent warm air recirculation or coil starvation. Doubling the recommended single unit air-cooled chiller clearances will generally prove to be adequate.

Walled Enclosure Installations

When the unit is placed in an enclosure or small depression, the top of the surrounding walls should be no higher than the top of the fans. The chiller should be completely open above the fan deck. There should be no roof or structure covering the top of the chiller. Ducting individual fans is not recommended.



Model Number Description

Digit 1-4 — Chiller Model

CGAX: Cooling-only unit

CXAX: Heat pump unit

Digit 5-7 — Unit Nominal Tonnage

015

017

020

023

026

030

036

039

045

035

040

046

052

060

Digit 8 — Unit Voltage

E: 400V/3ph/50Hz

Digit 9 — Manufacturing Plant

1 = Europe

Digit 10-11 — Design Sequence

A: Factory assigned

0: Factory assigned

Digit 12 — Efficiency Level

1: Standard Efficiency Class (B)

Digit 13 — Agency Listing

E: CE Certification

Digit 14 — Pressure Vessel Code

4: Pressure Equipment Directive (PED)

Digit 15 — Condenser Temperature Range

A: Standard operating map (5°C/46°C)

C: Low Ambient Cooling (CGAX -18°C/46°C;
CXAX -10°C/46°C)

Digit 16, 17 — Open for future options

Digit 18 — Freeze Protection (Factory-Installed Only)

X: Without freeze protection

2: With freeze protection by heaters

3: With freeze protection by pump activation

Digit 19, 20 — Open for future options

Digit 21 — Evaporator Application

A: Comfort application (5°C/20°C)

B: Process application (CGAX: -12°C/5°C;
CXAX: -10°C/5°C)

Digit 22 — Water Connection (Evaporator)

1: Grooved pipe

2: Grooved pipe, couplings and pipestub

Digit 23 — Condenser Fin Material

B: Standard aluminum fins on Heat Pumps

E: Black Epoxy aluminum fins on Heat Pumps

H: Microchannel (MCHE) on Cooling-only Units

J: E-coating on MCHE on Cooling-only units

Digit 24 — Condenser Heat Recovery

X: Without Heat Recovery

Digit 25 — Open for future options

Digit 26 — Starter Type

A: Across-the-line starter

B: Solid State Soft Starter

Digit 27, 28, 29 — Open for future options

Digit 30 — Human Interface

A: Standard display

B: Deluxe touch display

X: Without display

Digit 31 — Communication Options

X: Without remote communication

1: ModBus Interface

2: LonTalk Interface

4: BACnet Interface

Digit 32 — Customer Input/Output Options

X: None

A: With

Model Number Description

Digit 33 — Chiller Plant Control

X: None

Digit 34 — Open for future options**Digit 35 — Hydraulic Module/Pump package type**

X: Without contactors

2: Only contactors single pump

4: Only contactors twin pump

5: Single pump package low pressure

6: Single pump package high pressure

7: Twin pump package low pressure

8: Twin pump package high pressure

Digit 36 — Pump flow control

X: Constant flow

Digit 37 — Buffer Tank

X: No Tank

1: With Tank

Digit 38 — Open digit for future options**Digit 39 — Installation Accessories**

1: None

4: Neoprene pads

Digit 40 — Open digit for future options**Digit 41 — Acoustical options**

3: Standard

4: Low Noise

Digit 42 — Condenser Protection

X: Without

Digit 43 — Open digit for future options**Digit 44 — Literature Language**

B: Spanish

C: English

D: German

E: French

H: Dutch

J: Italian

M: Swedish

N: Turkish

P: Polish

T: Czech

U: Greek

V: Portuguese

Y: Romanian

3: Hungarian

Digit 45 — Under/Over Voltage Protection

X: None

1: With

Digit 46 — Open for future options**Digit 47 — Customer witness performance test**

X: None

Digit 48 — Open for future options**Digit 49 — Supplementary Heat Control**

X: None

Digit 50 — Special design

X: Standard

S: Special design

General Data

Table 1 - General data CGAX - Standard noise

		CGAX 015 SE-SN	CGAX 017 SE-SN	CGAX 020 SE-SN	CGAX 023 SE-SN	CGAX 026 SE-SN	CGAX 030 SE-SN	CGAX 036 SE-SN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	43	50	60	66	76	84	97
Total Power input in cooling	(kW)	15	17	19	22	26	29	33
EER		2.95	2.85	3.14	3.01	2.96	2.90	2.93
ESEER		3.96	4.01	3.90	3.90	4.04	3.96	4.05
Eurovent Efficiency Class cooling		B	C	A	B	B	B	B
Sound power level	(dBA)	83	83	85	85	85	86	84
Unit amps (2) (3)								
Unit rated amps	(A)	33	38	45	50	55	64	76
Unit start up amps	(A)	116	160	167	183	188	232	199
Power factor		0.84	0.84	0.83	0.85	0.87	0.84	0.83
Short Circuit Unit Capacity	(kA)	12	12	12	12	12	12	15
Disconnect switch size	(A)	80	80	100	100	100	100	250
Compressor								
Compressor Number per Circuit	#	2	2	2	2	2	2	3
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		7,5+7,5	7,5+10	10+10	10+13	13+13	15+15	12+12+12
Rated Amps Circuit1 / Circuit 2 (2)	(A)	15,28 / 15,28 / 0	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0	23,5 / 23,5 / 23,5
Motor RPM	(rpm)				2900			
Oil sump heater Circuit1 / Circuit 2	(W)	180	180	180	180	180	180	270
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P80x66	P80x92	P80x92	P80x92	P120Tx76	P120Tx76	P120Tx104
Evaporator Water Content volume	(l)	3.8	5.3	5.3	5.3	9.2	9.2	12.5
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	93	98	87	103	112	97	86
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	169	175	164	152	160	145	177
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	92	98	86	102	111	96	83
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	169	174	163	150	159	143	175
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Expansion Tank Volume	(l)	25	25	25	25	25	25	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	1450	1450	1450	1450	1450	1450	2000
Optionnal water Buffer tank volume	(l)	324	324	324	324	324	324	444
Max. Water-side Operating Pressure without pump package	(kPa)	10000						
Max. Water-side Operating Pressure with pump package	(kPa)	4000						
Condenser								
Type		Full aluminum Micro channel heat exchanger						
Quantity	#	1	1	1	1	1	1	2
Condenser Fan								
Quantity	#	1	1	2	2	2	2	2
Diameter	(mm)	800						
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	18822	13828	12362	12362	12370	12375	13827
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2346	2346	2346	2346	2346	2346	2327
Unit Width	(mm)	1285	1285	1285	1285	1285	1285	2250
Unit Height	(mm)	1524	1524	1524	1524	1524	1524	1524
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (3)	(kg)	519	531	574	579	608	621	853
Operating Weight (3)	(kg)	497	509	552	557	587	599	819
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	46	46	46	49	49	49	45
Single pump - High head pressure	(kg)	51	51	51	51	51	51	49
Twin pump - Standard head pressure	(kg)	70	70	70	75	75	75	71
Twin pump - High head pressure	(kg)	82	82	82	82	82	82	86
Water Buffer tank option	(kg)	319	319	319	319	319	319	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(2) Under 400V/3Ph/50Hz

(3) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 1 - General data CGAX - Standard noise (continued)

		CGAX 039 SE-SN	CGAX 045 SE-SN	CGAX 035 SE-SN	CGAX 040 SE-SN	CGAX 046 SE-SN	CGAX 052 SE-SN	CGAX 060 SE-SN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	110	126	98	117	130	146	164
Total Power input in cooling	(kW)	38	42	34	39	45	53	57
EER		2.92	2.99	2.85	3.00	2.85	2.74	2.86
ESEER		4.28	4.00	3.95	3.66	3.67	3.76	3.88
Eurovent Efficiency Class cooling		B	B	C	B	C	C	B
Sound power level	(dBA)	85	87	86	88	88	88	89
Unit amps (2) (3)								
Unit rated amps	(A)	81	100	76	91	101	111	127
Unit start up amps	(A)	214	268	198	212	233	243	295
Power factor		0.87	0.83	0.84	0.83	0.85	0.87	0.84
Short Circuit Unit Capacity	(kA)	15	15	15	15	15	15	15
Disconnect switch size	(A)	250	250	250	250	250	250	250
Compressor								
Compressor Number per Circuit	#	3	3	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		13+13+13	15+15+15	7,5+10 / 7,5+10	10+10 / 10+10	10+13 / 10+13	13+13 / 13+13	15+15 / 15+15
Rated Amps Circuit1 / Circuit 2 (2)	(A)	25,11 / 25,11 / 25,11	29,3 / 29,3 / 29,3	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0
Motor RPM	(rpm)	2900						
Oil sump heater Circuit1 / Circuit 2	(W)	270	270	180/180	180/180	180/180	180/180	180/180
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P120Tx104	P120Tx104	DP300x82	DP300x82	DP300x82	DP300x114	DP300x114
Evaporator Water Content volume	(l)	12.5	12.5	8.5	8.5	8.5	11.8	11.8
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	123	94	109	91	126	118	85
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	166	140	200	187	173	170	146
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	121	90	107	88	122	114	80
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	163	137	198	184	169	166	141
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Expansion Tank Volume	(l)	35	35	35	35	35	35	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	2000	2000	2000	2000	2000	2000	2000
Optionnal water Buffer tank volume	(l)	444	444	444	444	444	444	444
Max. Water-side Operating Pressure without pump package	(kPa)	10000						
Max. Water-side Operating Pressure with pump package	(kPa)	4000						
Condenser								
Type		Full aluminum Micro channel heat exchanger						
Quantity	#	2	2	2	2	2	2	2
Condenser Fan								
Quantity	#	2	3	2	4	4	4	4
Diameter	(mm)	800						
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	14690	13676	14687	12358	12363	12592	12374
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2327	2327	2327	2327	2327	2327	2327
Unit Width	(mm)	2250	2250	2250	2250	2250	2250	2250
Unit Height	(mm)	1524	1524	1524	1524	1524	1524	1524
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (3)	(kg)	858	912	917	1004	1014	1034	1060
Operating Weight (3)	(kg)	824	879	887	973	983	1004	1029
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	47	47	45	47	47	47	47
Single pump - High head pressure	(kg)	49	49	49	49	49	49	49
Twin pump - Standard head pressure	(kg)	75	75	75	75	75	75	75
Twin pump - High head pressure	(kg)	86	86	84	84	84	84	84
Water Buffer tank option	(kg)	425	425	425	425	425	425	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(2) Under 400V/3Ph/50Hz

(3) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 2 - General data CGAX - Low noise

		CGAX 015 SE-LN	CGAX 017 SE-LN	CGAX 020 SE-LN	CGAX 023 SE-LN	CGAX 026 SE-LN	CGAX 030 SE-LN	CGAX 036 SE-LN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	43	50	60	66	76	84	97
Total Power input in cooling	(kW)	15	17	19	22	26	29	33
EER		2.95	2.85	3.14	3.01	2.96	2.90	2.93
ESEER		3.96	4.01	3.90	3.90	4.04	3.96	4.05
Eurovent Efficiency class Cooling		B	C	A	B	B	B	B
Sound power level	(dBA)	77	77	79	79	79	80	79
Unit amps (4) (5)								
Unit rated amps	(A)	34	39	46	51	56	64	76
Unit start up amps	(A)	117	161	168	184	189	232	200
Power factor		0.86	0.86	0.85	0.87	0.88	0.85	0.84
Short Circuit Unit Capacity	(kA)	12	12	12	12	12	12	15
Disconnect switch size	(A)	80	80	100	100	100	100	250
Compressor								
Compressor Number per Circuit	#	2	2	2	2	2	2	3
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		7,5+7,5	7,5+10	10+10	10+13	13+13	15+15	12+12+12
Rated Amps Circuit1 / Circuit 2 (4)	(A)	15,28 / 15,28 / 0	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0	23,5 / 23,5 / 23,5
Motor RPM	(rpm)	2900						
Oil sump heater Circuit1 / Circuit 2	(W)	180	180	180	180	180	180	270
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P80x66	P80x92	P80x92	P80x92	P120Tx76	P120Tx76	P120Tx104
Evaporator Water Content volume	(l)	3.8	5.3	5.3	5.3	9.2	9.2	12.5
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	93	98	87	103	112	97	86
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	169	175	164	152	160	145	177
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	92	98	86	102	111	96	83
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	169	174	163	150	159	143	175
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Expansion Tank Volume	(l)	25	25	25	25	25	25	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	1450	1450	1450	1450	1450	1450	2000
Optionnal water Buffer tank volume	(l)	324	324	324	324	324	324	444
Max. Water-side Operating Pressure without pump package	(kPa)	10000						
Max. Water-side Operating Pressure with pump package	(kPa)	4000						
Condenser								
Type		Full aluminum Micro channel heat exchanger						
Quantity	#	1	1	1	1	1	1	2
Condenser Fan								
Quantity	#	1	1	2	2	2	2	2
Diameter	(mm)	800						
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	18822	13828	12362	12362	12370	12375	13827
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2346	2346	2346	2346	2346	2346	2327
Unit Width	(mm)	1285	1285	1285	1285	1285	1285	2250
Unit Height	(mm)	1747	1747	1747	1747	1747	1747	1747
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (5)	(kg)	519	531	574	579	608	621	853
Operating Weight (5)	(kg)	497	509	552	557	587	599	819
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	46	46	46	49	49	49	45
Single pump - High head pressure	(kg)	51	51	51	51	51	51	49
Twin pump - Standard head pressure	(kg)	70	70	70	75	75	75	71
Twin pump - High head pressure	(kg)	82	82	82	82	82	82	86
Water Buffer tank option	(kg)	319	319	319	319	319	319	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(4) Under 400V/3/50Hz

(5) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 2 - General data CGAX - Low noise (continued)

		CGAX 039 SE-LN	CGAX 045 SE-LN	CGAX 035 SE-LN	CGAX 040 SE-LN	CGAX 046 SE-LN	CGAX 052 SE-LN	CGAX 060 SE-LN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	110	126	98	117	130	146	164
Total Power input in cooling	(kW)	38	42	34	39	45	53	57
EER		2.92	2.99	2.85	3.00	2.85	2.74	2.86
ESEER		4.28	4.00	3.95	3.66	3.67	3.76	3.88
Eurovent Efficiency class Cooling		B	B	C	B	C	C	B
Sound power level	(dBA)	80	82	81	82	82	82	83
Unit amps (4) (5)								
Unit rated amps	(A)	81	101	77	92	102	112	128
Unit start up amps	(A)	214	269	199	213	234	244	296
Power factor		0.88	0.84	0.86	0.85	0.87	0.88	0.85
Short Circuit Unit Capacity	(kA)	15	15	15	15	15	15	15
Disconnect switch size	(A)	250	250	250	250	250	250	250
Compressor								
Compressor Number per Circuit	#	3	3	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		13+13+13	15+15+15	7,5+10 / 7,5+10	10+10 / 10+10	10+13 / 10+13	13+13 / 13+13	15+15 / 15+15
Rated Amps Circuit1 / Circuit 2 (4)	(A)	25,11 / 25,11 / 25,11	29,3 / 29,3 / 29,3	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0
Motor RPM	(rpm)				2900			
Oil sump heater Circuit1 / Circuit 2	(W)	270	270	180/180	180/180	180/180	180/180	180/180
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P120Tx104	P120Tx104	DP300x82	DP300x82	DP300x82	DP300x114	DP300x114
Evaporator Water Content volume	(l)	12.5	12.5	8.5	8.5	8.5	11.8	11.8
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	123	94	109	91	126	118	85
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	166	140	200	187	173	170	146
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	121	90	107	88	122	114	80
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	163	137	198	184	169	166	141
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Expansion Tank Volume	(l)	35	35	35	35	35	35	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	2000	2000	2000	2000	2000	2000	2000
Optionnal water Buffer tank volume	(l)	444	444	444	444	444	444	444
Max. Water-side Operating Pressure without pump package	(kPa)				10000			
Max. Water-side Operating Pressure with pump package	(kPa)				4000			
Condenser								
Type		Full aluminum Micro channel heat exchanger						
Quantity	#	2	2	2	2	2	2	2
Condenser Fan								
Quantity	#	2	3	2	4	4	4	4
Diameter	(mm)				800			
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	14690	13676	14687	12358	12363	12592	12374
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2327	2327	2327	2327	2327	2327	2327
Unit Width	(mm)	2250	2250	2250	2250	2250	2250	2250
Unit Height	(mm)	1747	1747	1747	1747	1747	1747	1747
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (5)	(kg)	858	912	917	1004	1014	1034	1060
Operating Weight (5)	(kg)	824	879	887	973	983	1004	1029
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	47	47	45	47	47	47	47
Single pump - High head pressure	(kg)	49	49	49	49	49	49	49
Twin pump - Standard head pressure	(kg)	75	75	75	75	75	75	75
Twin pump - High head pressure	(kg)	86	86	84	84	84	84	84
Water Buffer tank option	(kg)	425	425	425	425	425	425	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(4) Under 400V/3/50Hz

(5) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 3 - General data CXAX - Standard noise

		CXAX 015 SE-SN	CXAX 017 SE-SN	CXAX 020 SE-SN	CXAX 023 SE-SN	CXAX 026 SE-SN	CXAX 030 SE-SN	CXAX 036 SE-SN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	43	49	58	67	74	82	96
Total Power input in cooling	(kW)	14	17	20	22	25	29	32
EER		3.01	2.93	2.93	3.03	2.90	2.89	2.99
ESEER		4.14	4.14	4.28	4.09	4.04	4.00	4.37
Eurovent Efficiency class Cooling		B	B	B	B	B	C	B
Sound power level	(dBA)	84	84	84	85	85	86	86
Heating application data (2) (4)								
Net Heating Capacity	(kW)	40	47	53	63	68	78	95
Total Power input in heating	(kW)	14	16	17	21	23	26	30
COP		2.88	2.95	3.12	3.03	2.96	3.03	3.13
Eurovent Efficiency class Heating		C	C	B	B	C	B	B
SCOP		124	126	139	128	125	130	132
Unit amps (3) (4)								
Unit rated amps	(A)	34	39	44	51	56	65	77
Unit start up amps	(A)	117	161	165	184	189	233	200
Power factor		0.86	0.86	0.86	0.88	0.89	0.86	0.85
Short Circuit Unit Capacity	(kA)	12	12	12	12	12	12	15
Disconnect switch size	(A)	80	80	100	100	100	100	250
Compressor								
Compressor Number per Circuit	#	2	2	2	2	2	2	3
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		7,5+7,5	7,5+10	10+10	10+13	13+13	15+15	12+12+12
Rated Amps Circuit1 / Circuit 2 (3)	(A)	15,28 / 0	15,28 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 0	29,3 / 29,3 / 0	23,5 / 23,5 / 23,5
Motor RPM	(rpm)				2900			
Oil sump heater Circuit1 / Circuit 2	(W)	180	180	180	180	180	180	270
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type				Stainless steel	Copper	Brazed plate	Heat exchanger	
Evaporator model		P80x78	P80x78	P120Tx86	P120Tx86	P120Tx86	P120Tx86	P120Tx110
Evaporator Water Content volume	(l)	4.5	4.5	5.0	5.0	5.0	5.0	13.3
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	93	98	87	103	112	97	86
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	169	175	164	152	160	145	177
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	92	98	86	102	111	96	83
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	169	174	163	150	159	143	175
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Expansion Tank Volume	(l)	25	25	25	25	25	25	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	1450	1450	1450	1450	1450	1450	2000
Optional water Buffer tank volume	(l)	324	324	324	324	324	324	444
Max. Water-side Operating Pressure without pump package	(kPa)				10000			
Max. Water-side Operating Pressure with pump package	(kPa)				4000			
Condenser								
Type				Aluminum fins & copper tubes heat exchanger				
Quantity	#	1	1	1	1	1	1	2
Condenser Fan								
Quantity	#	1	1	1	2	2	2	2
Diameter	(mm)	800						
Fan / motor Type				Propeller fan / Fixed speed AC motor / Variable speed - EC motor				
Airflow per Fan	(m³/h)	14949	14960	14966	12721	12726	13352	14959
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2346	2346	2346	2346	2346	2346	2327
Unit Width	(mm)	1285	1285	1285	1285	1285	1285	2250
Unit Height	(mm)	1524	1524	1524	1524	1524	1724	1524
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (5)	(kg)	558	564	602	644	649	684	911
Operating Weight (5)	(kg)	539	545	582	624	630	665	881
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	46	46	46	49	49	49	45
Single pump - High head pressure	(kg)	51	51	51	51	51	51	49
Twin pump - Standard head pressure	(kg)	70	70	70	75	75	75	71
Twin pump - High head pressure	(kg)	82	82	82	82	82	82	86
Water Buffer tank option	(kg)	319	319	319	319	319	319	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(2) At Evaporator water temperature: 40°C / 45°C - Condenser air. DB/WB 7°C/6°C according to EN14511:2013

(3) Under 400V/3Ph/50Hz

(4) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 3 - General data CXAX - Standard noise (continued)

		CXAX 039 SE-SN	CXAX 045 SE-SN	CXAX 035 SE-SN	CXAX 040 SE-SN	CXAX 046 SE-SN	CXAX 052 SE-SN	CXAX 060 SE-SN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	109	121	98	111	131	145	161
Total Power input in cooling	(kW)	36	42	33	39	43	50	57
EER		3.06	2.87	2.96	2.86	3.03	2.91	2.85
ESEER		4.34	4.13	4.12	4.21	3.96	4.03	3.98
Eurovent Efficiency class Cooling		B	C	B	C	B	B	C
Sound power level	(dBA)	87	88	87	87	88	88	89
Heating application data (2) (4)								
Net Heating Capacity	(kW)	110	120	95	107	126	139	156
Total Power input in heating	(kW)	35	39	31	34	42	46	52
COP		3.11	3.06	3.08	3.11	3.00	3.00	3.00
Eurovent Efficiency class Heating		B	B	B	B	B	B	B
SCOP		129	129	131	137	125	129	129
Unit amps (3) (4)								
Unit rated amps	(A)	90	103	77	87	102	113	129
Unit start up amps	(A)	223	271	199	209	235	245	297
Power factor		0.89	0.87	0.86	0.86	0.88	0.89	0.86
Short Circuit Unit Capacity	(kA)	15	15	15	15	15	15	15
Disconnect switch size	(A)	250	250	250	250	250	250	250
Compressor								
Compressor Number per Circuit	#	3	3	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		13+13+13	15+15+15	7,5+10 / 7,5+10	10+10 / 10+10	10+13 / 10+13	13+13 / 13+13	15+15 / 15+15
Rated Amps Circuit1 / Circuit 2 (3)	(A)	25,11 / 25,11 / 25,11	29,3 / 29,3 / 29,3	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0
Motor RPM	(rpm)				2900			
Oil pump heater Circuit1 / Circuit 2	(W)	270	270	180/180	180/180	180/180	180/180	180/180
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P120Tx110	P120Tx110	DP300x82	DP300x114	DP300x82	DP300x114	DP300x114
Evaporator Water Content volume	(l)	13.3	13.3	8.5	11.8	8.5	11.8	11.8
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	123	94	109	91	126	118	85
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	166	140	200	187	173	170	146
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	121	90	107	88	122	114	80
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	163	137	198	184	169	166	141
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Expansion Tank Volume	(l)	35	35	35	35	35	35	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	2000	2000	2000	2000	2000	2000	2000
Optionnal water Buffer tank volume	(l)	444	444	444	444	444	444	444
Max. Water-side Operating Pressure without pump package	(kPa)				10000			
Max. Water-side Operating Pressure with pump package	(kPa)				4000			
Condenser								
Type		Aluminum fins & copper tubes heat exchanger						
Quantity	#	2	2	2	2	2	2	2
Condenser Fan								
Quantity	#	3	3	2	2	4	4	4
Diameter	(mm)							
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	13823	13828	14960	14964	12725	12725	13351
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2327	2327	2327	2327	2327	2327	2327
Unit Width	(mm)	2250	2250	2250	2250	2250	2250	2250
Unit Height	(mm)	1524	1524	1524	1524	1524	1524	1724
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (5)	(kg)	954	972	1000	1025	1098	1120	1190
Operating Weight (5)	(kg)	925	942	974	998	1072	1093	1163
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	47	47	45	47	47	47	47
Single pump - High head pressure	(kg)	49	49	49	49	49	49	49
Twin pump - Standard head pressure	(kg)	75	75	75	75	75	75	75
Twin pump - High head pressure	(kg)	86	86	84	84	84	84	84
Water Buffer tank option	(kg)	425	425	425	425	425	425	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(2) At Evaporator water temperature: 40°C / 45°C - Condenser air. DB/WB 7°C/6°C according to EN14511:2013

(3) Under 400V/3Ph/50Hz

(4) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 4 - General data CXAX - Low noise

		CXAX 015 SE-LN	CXAX 017 SE-LN	CXAX 020 SE-LN	CXAX 023 SE-LN	CXAX 026 SE-LN	CXAX 030 SE-LN	CXAX 036 SE-LN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	43	49	58	67	74	82	96
Total Power input in cooling	(kW)	14	17	20	22	25	29	32
EER		3.01	2.93	2.93	3.03	2.90	2.89	2.99
ESEER		4.14	4.14	4.28	4.09	4.04	4.00	4.37
Eurovent Efficiency class Cooling		B	B	B	B	B	C	B
Sound power level	(dBA)	78	78	78	80	80	81	80
Heating application data (2)								
Net Heating Capacity	(kW)	40	47	53	63	68	78	95
Total Power input in heating	(kW)	14	16	17	21	23	26	30
COP		2.88	2.95	3.12	3.03	2.96	3.03	3.13
Eurovent Efficiency class Heating		C	C	B	B	C	B	B
SCOP		124	126	139	128	125	130	132
Unit amps (3) (4)								
Unit rated amps	(A)	34	39	44	51	56	65	77
Unit start up amps	(A)	117	161	165	184	189	233	200
Power factor		0.86	0.86	0.86	0.88	0.89	0.86	0.85
Short Circuit Unit Capacity	(kA)	12	12	12	12	12	12	15
Disconnect switch size	(A)	80	80	100	100	100	100	250
Compressor								
Compressor Number per Circuit	#	2	2	2	2	2	2	3
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		7,5+7,5	7,5+10	10+10	10+13	13+13	15+15	12+12+12
Rated Amps Circuit1 / Circuit 2 (3)	(A)	15,28 / 15,28 / 0	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0	23,5 / 23,5 / 23,5
Motor RPM	(rpm)				2900			
Oil sump heater Circuit1 / Circuit 2	(W)	180	180	180	180	180	180	270
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P80x78	P80x78	P120Tx86	P120Tx86	P120Tx86	P120Tx86	P120Tx110
Evaporator Water Content volume	(l)	4.5	4.5	5.0	5.0	5.0	5.0	13.3
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	2" - 60,3	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	93	98	87	103	112	97	86
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	169	175	164	152	160	145	177
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	92	98	86	102	111	96	83
Motor Power	(kW)	1.20	1.20	1.20	1.50	1.50	1.50	1.50
Rated Amps	(A)	2.30	2.30	2.30	2.90	2.90	2.90	2.90
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	169	174	163	150	159	143	175
Motor Power	(kW)	2.30	2.30	2.30	2.30	2.30	2.30	3.00
Rated Amps	(A)	4.60	4.60	4.60	4.60	4.60	4.60	5.90
Expansion Tank Volume	(l)	25	25	25	25	25	25	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	1450	1450	1450	1450	1450	1450	2000
Optionnal water Buffer tank volume	(l)	324	324	324	324	324	324	444
Max. Water-side Operating Pressure without pump package	(kPa)				10000			
Max. Water-side Operating Pressure with pump package	(kPa)				4000			
Condenser								
Type		Aluminum fins & copper tubes heat exchanger						
Quantity	#	1	1	1	1	1	1	2
Condenser Fan								
Quantity	#	1	1	1	2	2	2	2
Diameter	(mm)				800			
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	14949	14960	14966	12721	12726	13352	14959
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2346	2346	2346	2346	2346	2346	2327
Unit Width	(mm)	1285	1285	1285	1285	1285	1285	2250
Unit Height	(mm)	1747	1747	1747	1747	1747	1947	1747
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (4)	(kg)	558	564	602	644	649	684	911
Operating Weight (4)	(kg)	539	545	582	624	630	665	881
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	46	46	46	49	49	49	45
Single pump - High head pressure	(kg)	51	51	51	51	51	51	49
Twin pump - Standard head pressure	(kg)	70	70	70	75	75	75	71
Twin pump - High head pressure	(kg)	82	82	82	82	82	82	86
Water Buffer tank option	(kg)	319	319	319	319	319	319	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

(2) At Evaporator water temperature: 40°C / 45°C - Condenser air: DB/WB 7°C/6°C according to EN14511:2013

(3) Under 400V/3Ph/50Hz

(4) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

General Data

Table 4 - General data CXAX - Low noise (continued)

		CXAX 039 SE-LN	CXAX 045 SE-LN	CXAX 035 SE-LN	CXAX 040 SE-LN	CXAX 046 SE-LN	CXAX 052 SE-LN	CXAX 060 SE-LN
Eurovent Performances (1)								
Net Cooling Capacity	(kW)	109	121	98	111	131	145	161
Total Power input in cooling	(kW)	36	42	33	39	43	50	57
EER		3.06	2.87	2.96	2.86	3.03	2.91	2.85
ESEER		4.34	4.13	4.12	4.21	3.96	4.03	3.98
Eurovent Efficiency class Cooling		B	C	B	C	B	B	C
Sound power level	(dBA)	81	82	81	81	83	83	84
Heating application data (2)								
Net Heating Capacity	(kW)	110	120	95	107	126	139	156
Total Power input in heating	(kW)	35	39	31	34	42	46	52
COP		3.11	3.06	3.08	3.11	3.00	3.00	3.00
Eurovent Efficiency class Heating		B	B	B	B	B	B	B
SCOP		129	129	131	137	125	129	129
Unit amps (3) (4)								
Unit rated amps	(A)	90	103	77	87	102	113	129
Unit start up amps	(A)	223	271	199	209	235	245	297
Power factor		0.89	0.87	0.86	0.86	0.88	0.89	0.86
Short Circuit Unit Capacity	(kA)	15	15	15	15	15	15	15
Disconnect switch size	(A)	250	250	250	250	250	250	250
Compressor								
Compressor Number per Circuit	#	3	3	2	2	2	2	2
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Model Circuit1 / Circuit 2		13+13+13	15+15+15	7,5+10 / 7,5+10	10+10 / 10+10	10+13 / 10+13	13+13 / 13+13	15+15 / 15+15
Rated Amps Circuit1 / Circuit 2 (3)	(A)	25,11 / 25,11 / 25,11	29,3 / 29,3 / 29,3	15,28 / 20,1 / 0	20,1 / 20,1 / 0	20,1 / 25,11 / 0	25,11 / 25,11 / 0	29,3 / 29,3 / 0
Motor RPM	(rpm)				2900			
Oil sump heater Circuit1 / Circuit 2	(W)	270	270	180/180	180/180	180/180	180/180	180/180
Evaporator								
Quantity	#	1	1	1	1	1	1	1
Type		Stainless steel Copper Brazed plate Heat exchanger						
Evaporator model		P120Tx110	P120Tx110	DP300x82	DP300x114	DP300x82	DP300x114	DP300x114
Evaporator Water Content volume	(l)	13.3	13.3	8.5	11.8	8.5	11.8	11.8
Nominal water connection size (Grooved coupling) - Without HYM	(in) - (mm)	2" - 60,3	2" - 60,3	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Nominal water connection size (Grooved coupling) - With HYM	(in) - (mm)	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1	3" OD - 76,1
Hydraulic Module Components								
Single pump - Standard head pressure option								
Max available Head Pressure	(kPa)	123	94	109	91	126	118	85
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Single pump - High head pressure option								
Max available Head Pressure	(kPa)	166	140	200	187	173	170	146
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Twin pump - Standard head pressure option								
Max available Head Pressure	(kPa)	121	90	107	88	122	114	80
Motor Power	(kW)	2.30	2.30	1.50	2.30	2.30	2.30	2.30
Rated Amps	(A)	4.60	4.60	2.90	4.60	4.60	4.60	4.60
Twin pump - High head pressure option								
Max available Head Pressure	(kPa)	163	137	198	184	169	166	141
Motor Power	(kW)	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Rated Amps	(A)	5.90	5.90	5.90	5.90	5.90	5.90	5.90
Expansion Tank Volume	(l)	35	35	35	35	35	35	35
Max User water loop Volume for factory mounted expansion tank (1)	(l)	2000	2000	2000	2000	2000	2000	2000
Optionnal water Buffer tank volume	(l)	444	444	444	444	444	444	444
Max. Water-side Operating Pressure without pump package	(kPa)				10000			
Max. Water-side Operating Pressure with pump package	(kPa)				4000			
Condenser								
Type		Aluminum fins & copper tubes heat exchanger						
Quantity	#	2	2	2	2	2	2	2
Condenser Fan								
Quantity	#	3	3	2	2	4	4	4
Diameter	(mm)				800			
Fan / motor Type		Propeller fan / Fixed speed AC motor / Variable speed - EC motor						
Airflow per Fan	(m³/h)	13823	13828	14960	14964	12725	12725	13351
Power per Motor	(kW)	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Rated Amps per Motor	(A)	2.37	2.37	2.37	2.37	2.37	2.37	2.37
Motor RPM	(rpm)	686	686	686	686	686	686	686
Dimensions								
Unit Length	(mm)	2327	2327	2327	2327	2327	2327	2327
Unit Width	(mm)	2250	2250	2250	2250	2250	2250	2250
Unit Height	(mm)	1747	1747	1747	1747	1747	1747	1947
Option Additional height								
Water Buffer tank option	(mm)	+330	+330	+330	+330	+330	+330	+330
Weights								
Shipping Weight (4)	(kg)	925	972	1000	1025	1098	1120	1190
Operating Weight (4)	(kg)	954	942	974	998	1072	1093	1163
Option Additional shipping weight								
Single pump - Standard head pressure	(kg)	47	47	45	47	47	47	47
Single pump - High head pressure	(kg)	49	49	49	49	49	49	49
Twin pump - Standard head pressure	(kg)	75	75	75	75	75	75	75
Twin pump - High head pressure	(kg)	86	86	84	84	84	84	84
Water Buffer tank option	(kg)	425	425	425	425	425	425	425

(1) At Evaporator water temperature: 12°C / 7°C - Condenser air temperature 35°C according to EN14511:2013

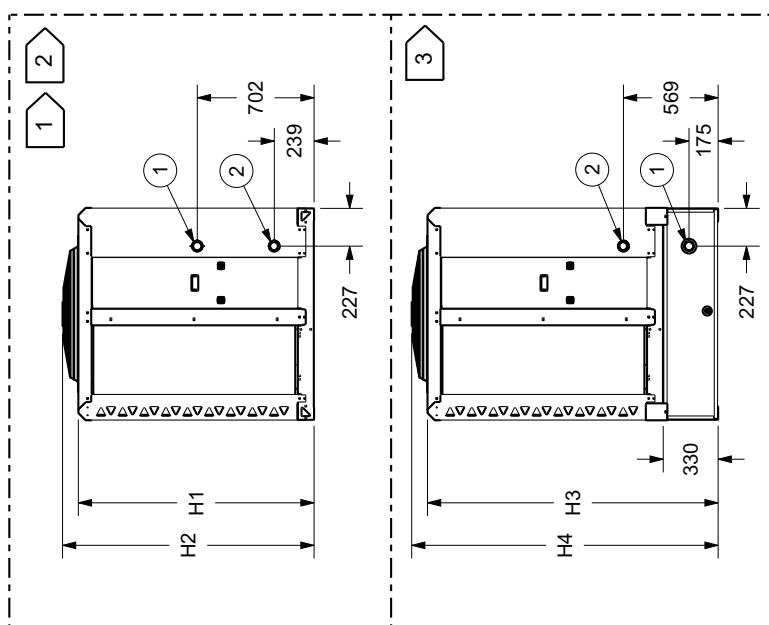
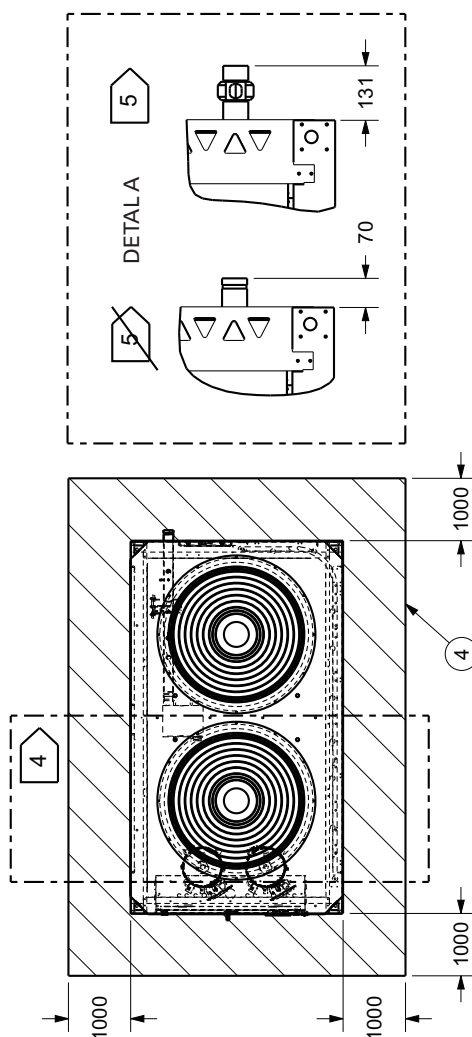
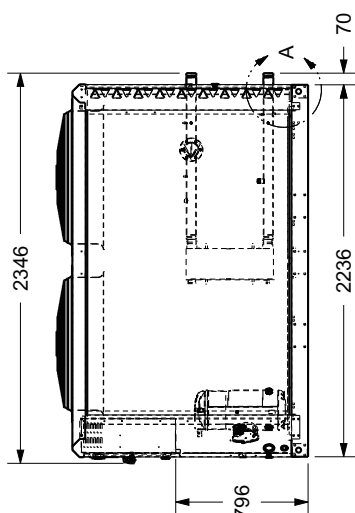
(2) At Evaporator water temperature: 40°C / 45°C - Condenser air. DB/WB 7°C/6°C according to EN14511:2013

(3) Under 400V/3Ph/50Hz

(4) Rated Condition without Pump Package

Electrical & system data are subject to change without notice. Please refer to unit nameplate data.

1 = Standard
2 = Hydraulic module
3 = Hydraulic module + buffer tank

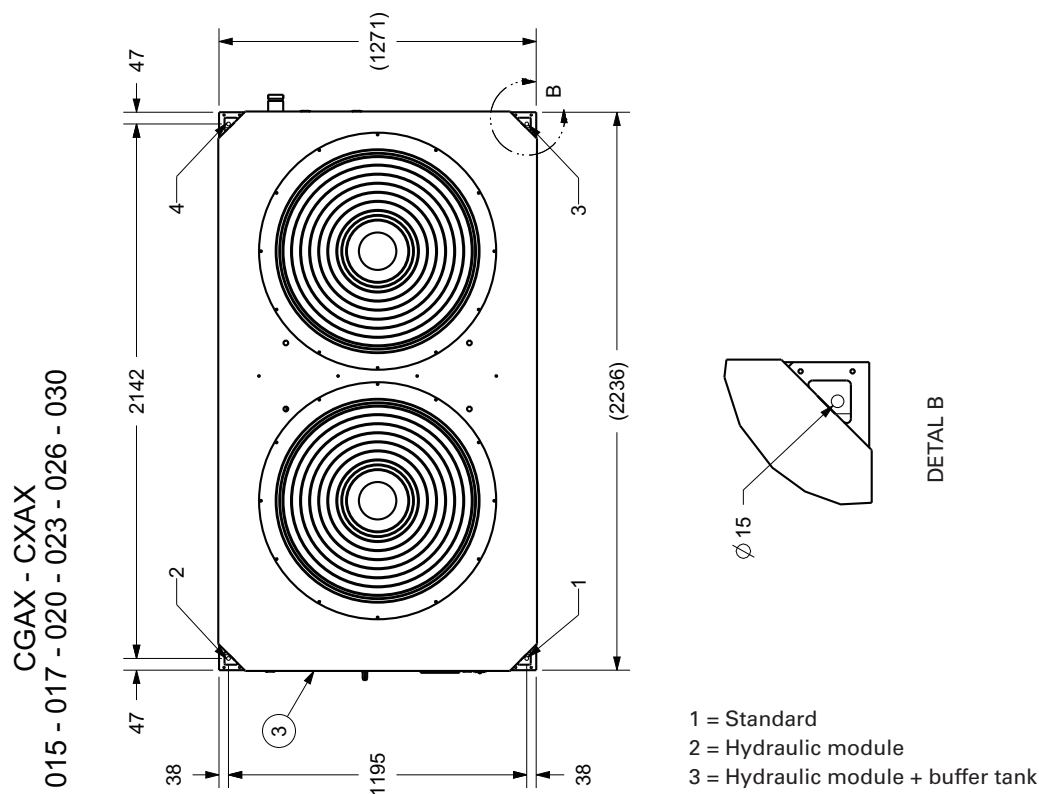


	1 2	1 2 3
$\varnothing 2''$ $(\varnothing 60,3\text{mm})$ VICTAULIC®		

		H1	H2	H3	H4
CGAX 015 ... 030	SN	1417	1524	1747	1854
	LN		1747		2077
CXAX 015 ... 026	SN	1621	1728	1951	2058
	LN		1951		2281

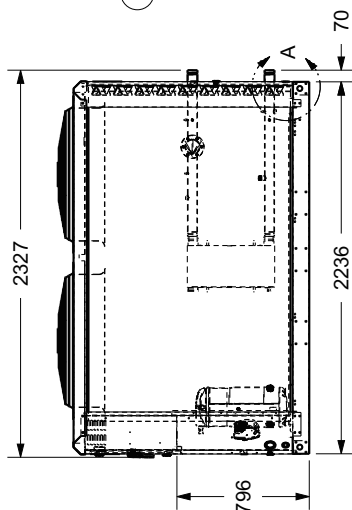
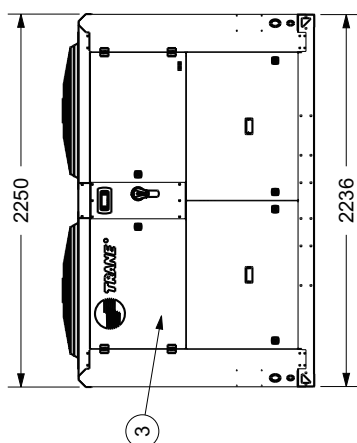
Dimensional Data

		kg (± 5%)				
		Total	Charge par points - Punklasten Point load - Carichi Puntuali Puntbelasting - Pesos en los puntos de soporte			
			1	2	3	4
CGAX	015	497	141	153	97	105
	017	509	145	158	98	107
	020	552	147	187	116	102
	023	557	149	190	116	102
	026	587	165	190	110	122
	030	599	185	181	97	136
	015	584	160	165	127	132
	017	596	149	185	143	119
	020	639	178	187	134	140
	023	644	180	190	134	140
	026	674	185	201	138	150
	030	686	190	206	139	150
CXAX	015	1227	318	323	290	295
	017	1239	322	329	291	298
	020	1282	304	377	327	274
	023	1287	306	380	327	274
	026	1316	341	360	301	314
	030	1329	347	366	302	314
	015	539	157	166	105	111
	017	545	160	169	105	112
	020	582	164	185	112	121
	023	624	194	185	103	141
	026	630	197	187	104	141
	030	665	196	210	124	134
CGAX - CXAX	015	626	178	175	137	135
	017	632	181	178	137	136
	020	669	187	192	143	146
	023	711	202	207	149	152
	026	717	205	210	149	153
	030	751	216	220	156	159
	015	1268	334	334	300	300
	017	1273	337	337	300	300
	020	1312	344	351	307	311
	023	1354	360	366	312	316
	026	1359	362	369	312	317
	030	1395	375	378	320	322



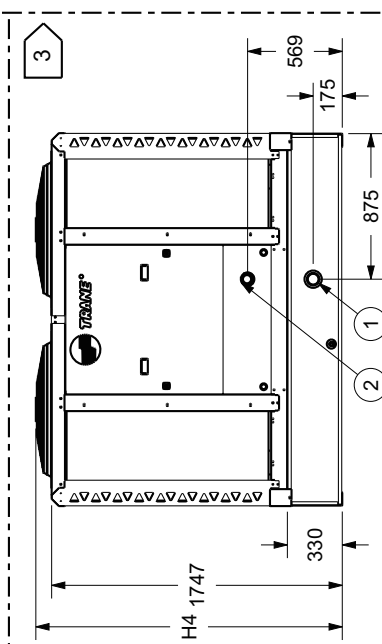
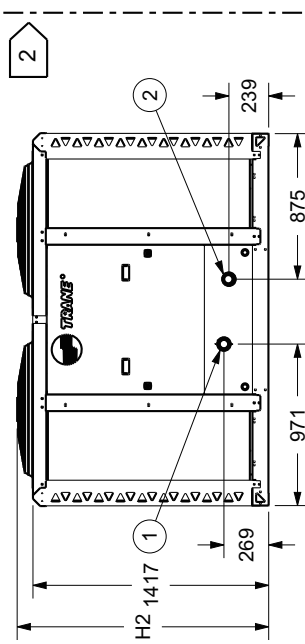
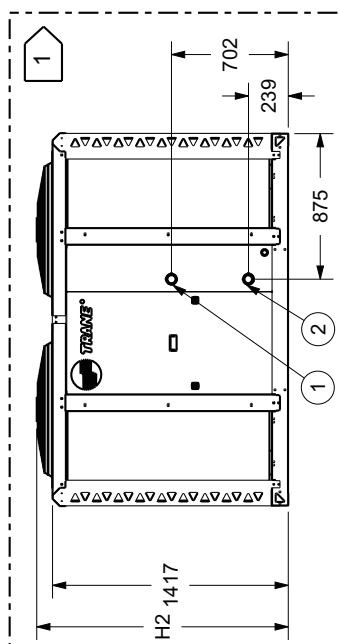
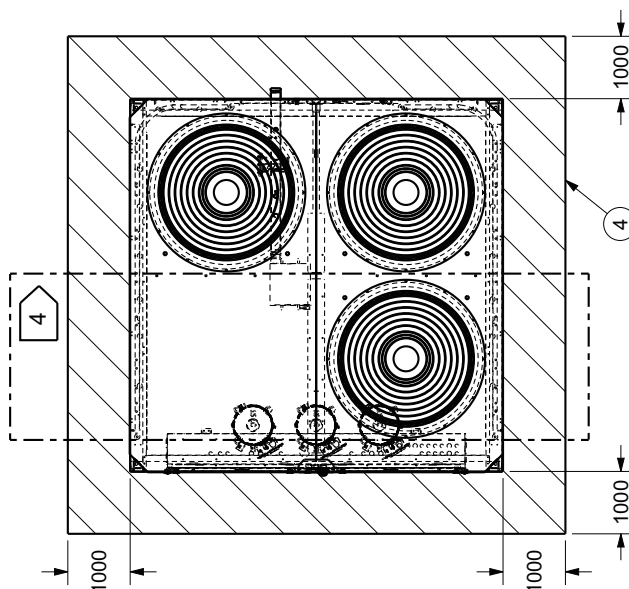
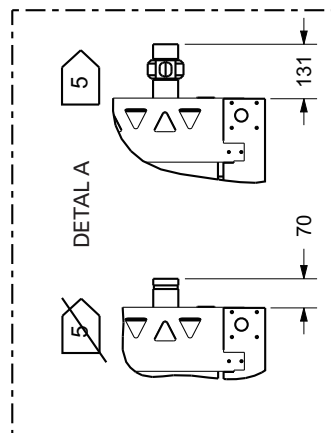
Dimensional Data

- 1 = Standard
2 = Hydraulic module
3 = Hydraulic module + buffer tank



	H2	H4
CGAX 036 ... 045 SN	1524	1854
CXAX 036 ... 045 LN	1747	2077

	1	2	3
CGAX 036 ... 045 SN	1	2	3
CXAX 036 ... 045 LN	1	2	3



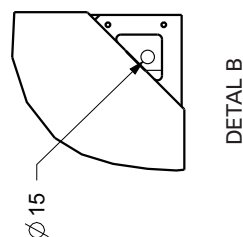
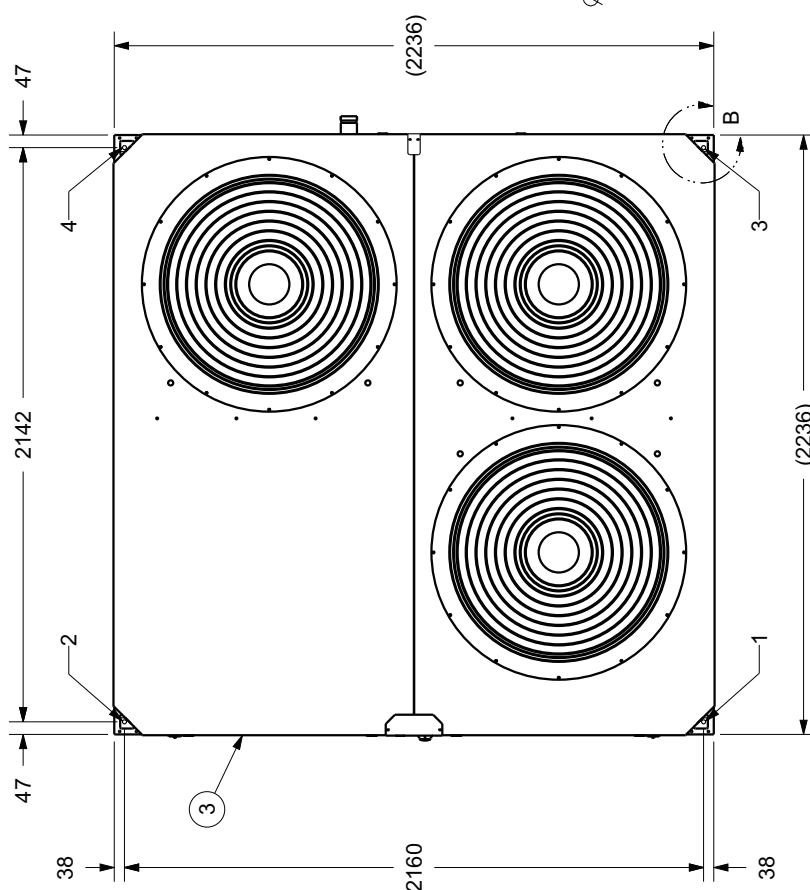
CGAX - CXAX
036 - 039 - 045

Dimensional Data

kg (± 5%)									
		Charge par points - Punklasten Point load - Carichi Puntuali Puntbelasting - Pesos en los puntos de soporte							
		Total		1	2	3	4		
CGAX	036	1	819	242	249	161	166		166
	039		824	230	266	176	152		152
	045		879	251	288	192	149		149
	036	2	920	269	265	195	191		191
CGAX	039	2	925	272	267	195	192		192
	045		980	298	283	205	194		194
	036		1790	483	479	416	412		412
	039	3	1794	485	481	416	412		412
CXAX	045	3	1849	545	464	392	448		448
	036		881	266	259	180	175		175
	039		925	288	270	190	177		177
	045	1	942	294	278	190	179		179
CXAX	036	2	982	293	275	214	200		200
	039		1026	315	285	224	202		202
	045		1044	322	293	224	204		204
	036	3	1851	507	490	435	419		419
	039		1894	561	465	411	456		456
	045		1912	569	474	411	458		458

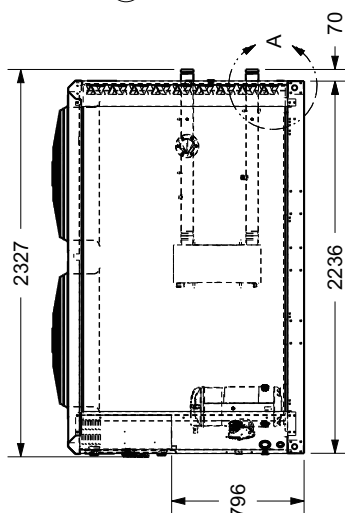
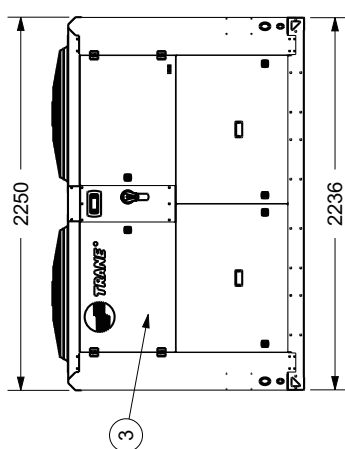
- 1 = Standard
2 = Hydraulic module
3 = Hydraulic module + buffer tank

CGAX - CXAX
036 - 039 - 045



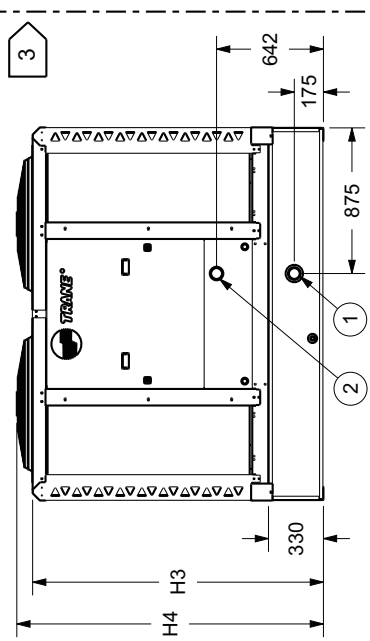
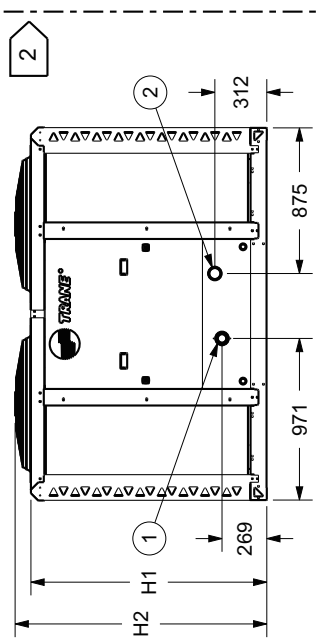
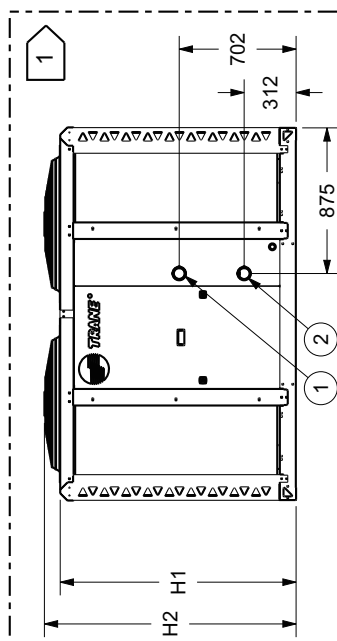
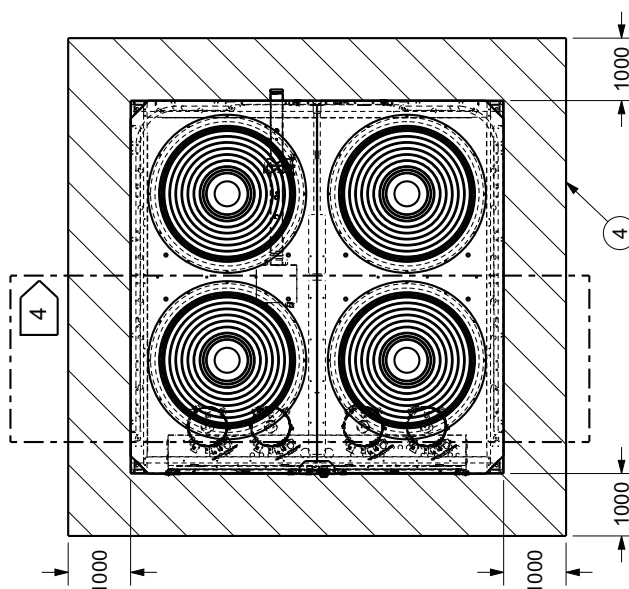
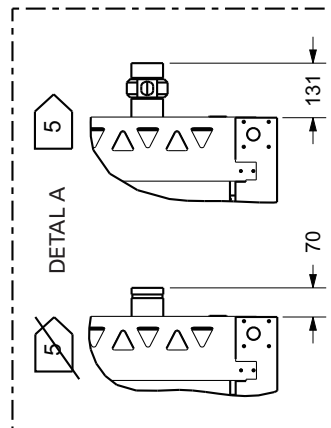
Dimensional Data

- 1 = Standard
2 = Hydraulic module
3 = Hydraulic module + buffer tank



	H1	H2	H3	H4
CGAX 035 ... 060	SN 1417	1524	1747	1854
CXAX 035 ... 052	LN 1747	1747	2077	2077
CXAX 060	SN 1621	1728	1951	2058
	LN 1951	1951	2281	2281

	1	2	3
CGAX 035 ... 060	SN 1417	1524	1747
CXAX 035 ... 052	LN 1747	1747	2077
CXAX 060	SN 1621	1728	1951
	LN 1951	1951	2281

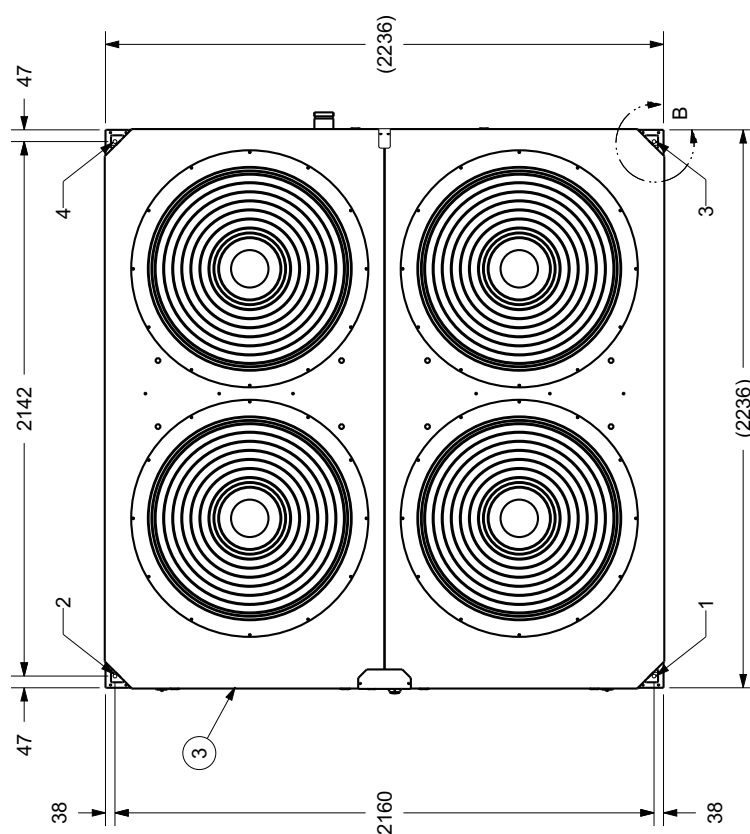


CGAX - CXAX
035 - 040 - 046 - 052 - 060

Dimensional Data

		kg (± 5%)				
		Total	Charge par points - Punklasten Point load - Carichi Puntuali Puntbelasting - Pesos en los puntos de soporte			
			1	2	3	4
CGAX	035	887	287	254	150	196
	040	973	296	306	182	190
	046	983	300	311	182	190
	052	1004	300	325	180	199
	060	1029	311	337	181	200
	035	981	293	289	201	198
	040	1067	322	321	213	212
	046	1081	327	324	214	216
	052	1098	327	340	211	220
	060	1123	311	377	239	196
CGAX	035	1849	507	503	421	417
	040	1936	537	534	433	431
	046	1946	541	538	434	433
	052	1967	541	554	431	441
	060	1992	551	565	433	443
	035	974	295	300	188	192
	040	998	301	309	191	197
	046	1072	330	336	201	205
	052	1093	309	370	230	184
	060	1163	357	367	217	222
CXAX	035	1068	322	313	220	214
	040	1093	327	323	223	220
	046	1166	357	348	233	229
	052	1187	363	357	234	232
	060	1257	385	379	248	245
	035	1936	535	527	439	434
	040	1961	542	537	443	439
	046	2034	570	562	454	448
	052	2056	576	571	456	453
	060	2127	600	594	468	464

CGAX - CXAX
035 - 040 - 046 - 052 - 060



- 1 = Standard
- 2 = Hydraulic module
- 3 = Hydraulic module + buffer tank

Electrical Data

Table 5 - Electrical Characteristics Cooling Only CGAX Standard Ambient Units

Unit Type		Base unit amps at 400V / 3Ph / 50Hz				Power Factor
		Max Power input (kW)	Max Amps (A)	Start up amp		
				Without soft starter (A)	With soft starter (A)	
CGAX	015 SE-SA	19.1	34	117	77	0.84
CGAX	017 SE-SA	22.0	39	161	104	0.84
CGAX	020 SE-SA	25.8	46	168	111	0.83
CGAX	023 SE-SA	29.3	51	184	121	0.85
CGAX	026 SE-SA	32.8	56	189	126	0.87
CGAX	030 SE-SA	36.8	64	232	153	0.84
CGAX	036 SE-SA	43.0	76	200	141	0.83
CGAX	039 SE-SA	48.1	81	214	151	0.87
CGAX	045 SE-SA	57.1	101	269	190	0.83
CGAX	035 SE-SA	43.9	77	199	142	0.84
CGAX	040 SE-SA	51.5	92	213	157	0.83
CGAX	046 SE-SA	58.5	102	234	171	0.85
CGAX	052 SE-SA	65.5	112	244	181	0.87
CGAX	060 SE-SA	73.5	128	296	217	0.84

Table 6 - Compressor electrical data Cooling Only CGAX Standard Ambient Units

Unit Type		Compressor					
		Circuit 1 (Compressor 1 / 2 / 3)			Circuit 2 (Compressor 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Start up amp (A)	Max Power input (kW)	Max Amps (A)	Start up amp (A)
CGAX	015 SE-SA	9,1 / 9,1 / 0	15,3 / 15,3 / 0	98 / 98 / 0	-	-	-
CGAX	017 SE-SA	9,1 / 11,9 / 0	15,3 / 20,1 / 0	98 / 142 / 0	-	-	-
CGAX	020 SE-SA	11,9 / 11,9 / 0	20,1 / 20,1 / 0	142 / 142 / 0	-	-	-
CGAX	023 SE-SA	11,9 / 15,4 / 0	20,1 / 25,1 / 0	142 / 158 / 0	-	-	-
CGAX	026 SE-SA	15,4 / 15,4 / 0	25,1 / 25,1 / 0	158 / 158 / 0	-	-	-
CGAX	030 SE-SA	17,4 / 17,4 / 0	29,3 / 29,3 / 0	197 / 197 / 0	-	-	-
CGAX	036 SE-SA	13,7 / 13,7 / 13,7	23,5 / 23,5 / 23,5	147 / 147 / 147	-	-	-
CGAX	039 SE-SA	15,4 / 15,4 / 15,4	25,11 / 25,11 / 25,11	158 / 158 / 158	-	-	-
CGAX	045 SE-SA	17,4 / 17,4 / 17,4	29,3 / 29,3 / 29,3	197 / 197 / 197	-	-	-
CGAX	035 SE-SA	9,1 / 11,9 / 0	15,3 / 20,1 / 0	98 / 142 / 0	9.1 / 11.9	15.3 / 20.1	98 / 142
CGAX	040 SE-SA	11,9 / 11,9 / 0	20,1 / 20,1 / 0	142 / 142 / 0	11.9 / 11.9	20.1 / 20.1	142 / 142
CGAX	046 SE-SA	11,9 / 15,4 / 0	20,1 / 25,1 / 0	142 / 158 / 0	11.9 / 15.4	20.1 / 25.1	142 / 158
CGAX	052 SE-SA	15,4 / 15,4 / 0	25,1 / 25,1 / 0	158 / 158 / 0	15.4 / 15.4	25.1 / 25.1	158 / 158
CGAX	060 SE-SA	17,4 / 17,4 / 0	29,3 / 29,3 / 0	197 / 197 / 0	17.4 / 17.4	29.3 / 29.3	197 / 197

Electrical Data

Table 7 - Condenser fan electrical data Cooling Only CGAX Standard Ambient Units

Unit Type		Condenser fan					
		Circuit 1 (Fan 1 / 2 / 3)			Circuit 2 (Fan 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)	Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)
CGAX	015 SE-SA	0,99 / 0 / 0	2,37 / 0 / 0	660 / 0 / 0	-	-	-
CGAX	017 SE-SA	0,99 / 0 / 0	2,37 / 0 / 0	660 / 0 / 0	-	-	-
CGAX	020 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	023 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	026 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	030 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	036 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	039 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	-	-	-
CGAX	045 SE-SA	0,99 / 1,98 / 1,98	2,37 / 4,74 / 4,74	660 / 660 / 660	-	-	-
CGAX	035 SE-SA	0,99 / 0 / 0	2,37 / 0 / 0	660 / 0 / 0	0,99 / 0	2,37 / 0	660 / 0
CGAX	040 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	0,99 / 0,99	2,37 / 2,37	660 / 660
CGAX	046 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	0,99 / 0,99	2,37 / 2,37	660 / 660
CGAX	052 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	0,99 / 0,99	2,37 / 2,37	660 / 660
CGAX	060 SE-SA	0,99 / 0,99 / 0	2,37 / 2,37 / 0	660 / 660 / 0	0,99 / 0,99	2,37 / 2,37	660 / 660

Table 8 - Options electrical data Cooling Only CGAX Standard Ambient Units

Unit Type		Disconnect switch option			Pump package				Heaters	
		Disconnect switch	Short Circuit Unit Capacity	Single & Twin pump Standard head pressure		Single & Twin pump High head pressure		Oil sump heater Circuit 1 / 2		
				Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)	
CGAX	015 SE-SA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	017 SE-SA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	020 SE-SA	100	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	023 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	026 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	030 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	036 SE-SA	250	150	15	1.5	2.9	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	039 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	045 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	035 SE-SA	250	150	15	1.5	2.9	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	040 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	046 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	052 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	060 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4

Electrical Data

Table 9 - Electrical Characteristics Cooling Only CGAX Low Ambient Units

Unit Type		Base unit amps at 400V / 3Ph / 50Hz				
		Max Power input (kW)	Max Amps (A)	Start up amp		Power Factor
				Without soft starter (A)	With soft starter (A)	
CGAX	015 SE-LA	20.0	34	117	77	0.86
CGAX	017 SE-LA	22.8	39	161	104	0.86
CGAX	020 SE-LA	26.6	46	168	111	0.85
CGAX	023 SE-LA	30.1	51	184	121	0.87
CGAX	026 SE-LA	33.6	56	189	126	0.88
CGAX	030 SE-LA	37.6	64	232	153	0.85
CGAX	036 SE-LA	43.9	76	200	141	0.84
CGAX	039 SE-LA	49.0	81	214	151	0.88
CGAX	045 SE-LA	58.0	101	269	190	0.84
CGAX	035 SE-LA	45.6	77	199	142	0.86
CGAX	040 SE-LA	53.2	92	213	157	0.85
CGAX	046 SE-LA	60.2	102	234	171	0.87
CGAX	052 SE-LA	67.2	112	244	181	0.88
CGAX	060 SE-LA	75.2	128	296	217	0.85

Table 10 - Compressor Electrical Characteristics Cooling Only CGAX Low Ambient Units

Unit Type		Compressor					
		Circuit 1 (Compressor 1 / 2 / 3)			Circuit 2 (Compressor 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Start up amp (A)	Max Power input (kW)	Max Amps (A)	Start up amp (A)
CGAX	015 SE-LA	9.1 / 9.1 / 0	15.3 / 15.3 / 0	98 / 98 / 0	-	-	-
CGAX	017 SE-LA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	-	-	-
CGAX	020 SE-LA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	-	-	-
CGAX	023 SE-LA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	-	-	-
CGAX	026 SE-LA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	-	-	-
CGAX	030 SE-LA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	-	-	-
CGAX	036 SE-LA	13.7 / 13.7 / 13.7	23.5 / 23.5 / 23.5	147 / 147 / 147	-	-	-
CGAX	039 SE-LA	15.4 / 15.4 / 15.4	25.1 / 25.1 / 25.1	158 / 158 / 158	-	-	-
CGAX	045 SE-LA	17.4 / 17.4 / 17.4	29.3 / 29.3 / 29.3	197 / 197 / 197	-	-	-
CGAX	035 SE-LA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	9.1 / 11.9	15.3 / 20.1	98 / 142
CGAX	040 SE-LA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	11.9 / 11.9	20.1 / 20.1	142 / 142
CGAX	046 SE-LA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	11.9 / 15.4	20.1 / 25.1	142 / 158
CGAX	052 SE-LA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	15.4 / 15.4	25.1 / 25.1	158 / 158
CGAX	060 SE-LA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	17.4 / 17.4	29.3 / 29.3	197 / 197

Electrical Data

Table 11 - Condenser Fan Electrical Characteristics Cooling Only CGAX Low Ambient Units

Unit Type		Condenser fan					
		Circuit 1 (Fan 1 / 2 / 3)			Circuit 2 (Fan 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)	Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)
CGAX	015 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CGAX	017 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CGAX	020 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	023 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	026 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	030 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	036 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	039 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	-	-	-
CGAX	045 SE-LA	1.85 / 1.98 / 1.98	2.85 / 4.74 / 4.74	925 / 660 / 660	-	-	-
CGAX	035 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	1.85 / 0	2.85 / 0	925 / 0
CGAX	040 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	1.85 / 0.99	2.85 / 2.37	925 / 660
CGAX	046 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	1.85 / 0.99	2.85 / 2.37	925 / 660
CGAX	052 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	1.85 / 0.99	2.85 / 2.37	925 / 660
CGAX	060 SE-LA	1.85 / 0.99 / 0	2.85 / 2.37 / 0	925 / 660 / 0	1.85 / 0.99	2.85 / 2.37	925 / 660

Table 12 - Options Electrical Characteristics Cooling Only CGAX Low Ambient Units

Unit Type		Disconnect switch option			Pump package				Heaters	
		Disconnect switch		Short Circuit Unit Capacity	Single & Twin pump Standard head pressure		Single & Twin pump High head pressure		Oil sump heater Circuit 1 / 2	
		Size (A)	Max (mm ²)	(kA)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)
CGAX	015 SE-LA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	017 SE-LA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	020 SE-LA	100	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	023 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	026 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	030 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CGAX	036 SE-LA	250	150	15	1.5	2.9	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	039 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	045 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CGAX	035 SE-LA	250	150	15	1.5	2.9	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	040 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	046 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	052 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CGAX	060 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4

Electrical Data

Table 13 - Electrical Characteristics Heat Pump CXAX Standard Ambient Units

Unit Type		Base unit amps at 400V / 3Ph / 50Hz				
		Max Power input (kW)	Max Amps (A)	Start up amp		Power Factor
				Without soft starter (A)	With soft starter (A)	
CXAX	015 SE-SA	20.0	34	117	77	0.86
CXAX	017 SE-SA	22.8	39	161	104	0.86
CXAX	020 SE-SA	25.6	46	168	111	0.86
CXAX	023 SE-SA	31.0	51	184	121	0.88
CXAX	026 SE-SA	34.5	56	189	126	0.89
CXAX	030 SE-SA	38.5	64	232	153	0.86
CXAX	036 SE-SA	44.8	76	200	141	0.85
CXAX	039 SE-SA	55.4	81	214	151	0.89
CXAX	045 SE-SA	61.4	101	269	190	0.87
CXAX	035 SE-SA	45.6	77	199	142	0.86
CXAX	040 SE-SA	51.3	92	213	157	0.86
CXAX	046 SE-SA	62.0	102	234	171	0.88
CXAX	052 SE-SA	68.9	112	244	181	0.89
CXAX	060 SE-SA	76.9	128	296	217	0.86

Table 14 - Compressor Electrical Characteristics Heat Pump CXAX Standard Ambient Units

Unit Type		Compressor					
		Circuit 1 (Compressor 1 / 2 / 3)			Circuit 2 (Compressor 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Start up amp (A)	Max Power input (kW)	Max Amps (A)	Start up amp (A)
CXAX	015 SE-SA	9.1 / 9.1 / 0	15.3 / 15.3 / 0	98 / 98 / 0	-	-	-
CXAX	017 SE-SA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	-	-	-
CXAX	020 SE-SA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	-	-	-
CXAX	023 SE-SA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	-	-	-
CXAX	026 SE-SA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	-	-	-
CXAX	030 SE-SA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	-	-	-
CXAX	036 SE-SA	13.7 / 13.7 / 13.7	23.5 / 23.5 / 23.5	147 / 147 / 147	-	-	-
CXAX	039 SE-SA	15.4 / 15.4 / 15.4	25.1 / 25.1 / 25.1	158 / 158 / 158	-	-	-
CXAX	045 SE-SA	17.4 / 17.4 / 17.4	29.3 / 29.3 / 29.3	197 / 197 / 197	-	-	-
CXAX	035 SE-SA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	9.1 / 11.9	15.3 / 20.1	98 / 142
CXAX	040 SE-SA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	11.9 / 11.9	20.1 / 20.1	142 / 142
CXAX	046 SE-SA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	11.9 / 15.4	20.1 / 25.1	142 / 158
CXAX	052 SE-SA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	15.4 / 15.4	25.1 / 25.1	158 / 158
CXAX	060 SE-SA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	17.4 / 17.4	29.3 / 29.3	197 / 197

Electrical Data

Table 15 - Condenser fan Electrical Characteristics Heat Pump CXAX Standard Ambient Units

Unit Type		Condenser fan					
		Circuit 1 (Fan 1 / 2 / 3)			Circuit 2 (Fan 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)	Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)
CXAX	015 SE-SA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	017 SE-SA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	020 SE-SA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	023 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	026 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	030 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	036 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	039 SE-SA	1.85 / 3.7 / 3.7	2.85 / 5.7 / 5.7	925 / 925 / 925	-	-	-
CXAX	045 SE-SA	1.85 / 3.7 / 3.7	2.85 / 5.7 / 5.7	925 / 925 / 925	-	-	-
CXAX	035 SE-SA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	1.85 / 0	2.85 / 0	925 / 0
CXAX	040 SE-SA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	1.85 / 0	2.85 / 0	925 / 0
CXAX	046 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925
CXAX	052 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925
CXAX	060 SE-SA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925

Table 16 - Options Electrical Characteristics Heat Pump CXAX Standard Ambient Units

Unit Type		Disconnect switch option			Pump package				Heaters	
		Disconnect switch		Short Circuit Unit Capacity	Single & Twin pump Standard head pressure		Single & Twin pump High head pressure		Oil sump heater Circuit 1 / 2	
		Size (A)	Max (mm ²)	(kA)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)
CXAX	015 SE-SA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	017 SE-SA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	020 SE-SA	100	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	023 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	026 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	030 SE-SA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	036 SE-SA	250	150	15	1.5	2.9	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	039 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	045 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	035 SE-SA	250	150	15	1.5	2.9	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	040 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	046 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	052 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	060 SE-SA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4

Electrical Data

Table 17 - Electrical Characteristics Heat Pump CXAX Low Ambient Units

Unit Type		Base unit amps at 400V / 3Ph / 50Hz				
		Max Power input (kW)	Max Amps (A)	Start up amp		Power Factor
				Without soft starter (A)	With soft starter (A)	
CXAX	015 SE-LA	20.0	34	117	77	0.86
CXAX	017 SE-LA	22.8	39	161	104	0.86
CXAX	020 SE-LA	25.6	46	168	111	0.86
CXAX	023 SE-LA	31.0	51	184	121	0.88
CXAX	026 SE-LA	34.5	56	189	126	0.89
CXAX	030 SE-LA	38.5	64	232	153	0.86
CXAX	036 SE-LA	44.8	76	200	141	0.85
CXAX	039 SE-LA	55.4	81	214	151	0.89
CXAX	045 SE-LA	61.4	101	269	190	0.87
CXAX	035 SE-LA	45.6	77	199	142	0.86
CXAX	040 SE-LA	51.3	92	213	157	0.86
CXAX	046 SE-LA	62.0	102	234	171	0.88
CXAX	052 SE-LA	68.9	112	244	181	0.89
CXAX	060 SE-LA	76.9	128	296	217	0.86

Table 18 - Compressor Electrical Characteristics Heat Pump CXAX Low Ambient Units

Unit Type		Compressor					
		Circuit 1 (Compressor 1 / 2 / 3)			Circuit 2 (Compressor 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Start up amp (A)	Max Power input (kW)	Max Amps (A)	Start up amp (A)
CXAX	015 SE-LA	9.1 / 9.1 / 0	15.3 / 15.3 / 0	98 / 98 / 0	-	-	-
CXAX	017 SE-LA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	-	-	-
CXAX	020 SE-LA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	-	-	-
CXAX	023 SE-LA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	-	-	-
CXAX	026 SE-LA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	-	-	-
CXAX	030 SE-LA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	-	-	-
CXAX	036 SE-LA	13.7 / 13.7 / 13.7	23.5 / 23.5 / 23.5	147 / 147 / 147	-	-	-
CXAX	039 SE-LA	15.4 / 15.4 / 15.4	25.1 / 25.1 / 25.1	158 / 158 / 158	-	-	-
CXAX	045 SE-LA	17.4 / 17.4 / 17.4	29.3 / 29.3 / 29.3	197 / 197 / 197	-	-	-
CXAX	035 SE-LA	9.1 / 11.9 / 0	15.3 / 20.1 / 0	98 / 142 / 0	9.1 / 11.9	15.3 / 20.1	98 / 142
CXAX	040 SE-LA	11.9 / 11.9 / 0	20.1 / 20.1 / 0	142 / 142 / 0	11.9 / 11.9	20.1 / 20.1	142 / 142
CXAX	046 SE-LA	11.9 / 15.4 / 0	20.1 / 25.1 / 0	142 / 158 / 0	11.9 / 15.4	20.1 / 25.1	142 / 158
CXAX	052 SE-LA	15.4 / 15.4 / 0	25.1 / 25.1 / 0	158 / 158 / 0	15.4 / 15.4	25.1 / 25.1	158 / 158
CXAX	060 SE-LA	17.4 / 17.4 / 0	29.3 / 29.3 / 0	197 / 197 / 0	17.4 / 17.4	29.3 / 29.3	197 / 197

Electrical Data

Table 19 - Condenser fan Electrical Characteristics Heat Pump CXAX Low Ambient Units

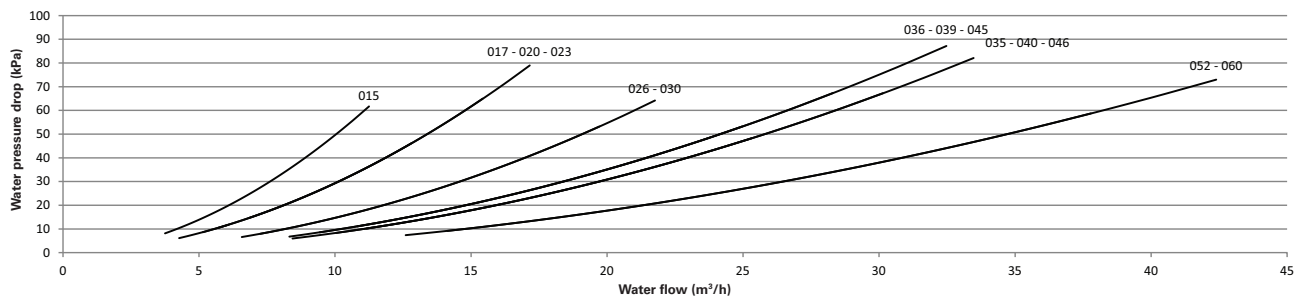
Unit Type		Condenser fan					
		Circuit 1 (Fan 1 / 2 / 3)			Circuit 2 (Fan 1 / 2)		
		Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)	Max Power input (kW)	Max Amps (A)	Motor RPM (rpm)
CXAX	015 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	017 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	020 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	-	-	-
CXAX	023 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	026 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	030 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	036 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	-	-	-
CXAX	039 SE-LA	1.85 / 3.7 / 3.7	2.85 / 5.7 / 5.7	925 / 925 / 925	-	-	-
CXAX	045 SE-LA	1.85 / 3.7 / 3.7	2.85 / 5.7 / 5.7	925 / 925 / 925	-	-	-
CXAX	035 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	1.85 / 0	2.85 / 0	925 / 0
CXAX	040 SE-LA	1.85 / 0 / 0	2.85 / 0 / 0	925 / 0 / 0	1.85 / 0	2.85 / 0	925 / 0
CXAX	046 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925
CXAX	052 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925
CXAX	060 SE-LA	1.85 / 1.85 / 0	2.85 / 2.85 / 0	925 / 925 / 0	1.85 / 1.85	2.85 / 2.85	925 / 925

Table 20 - Options Electrical Characteristics Heat Pump CXAX Low Ambient Units

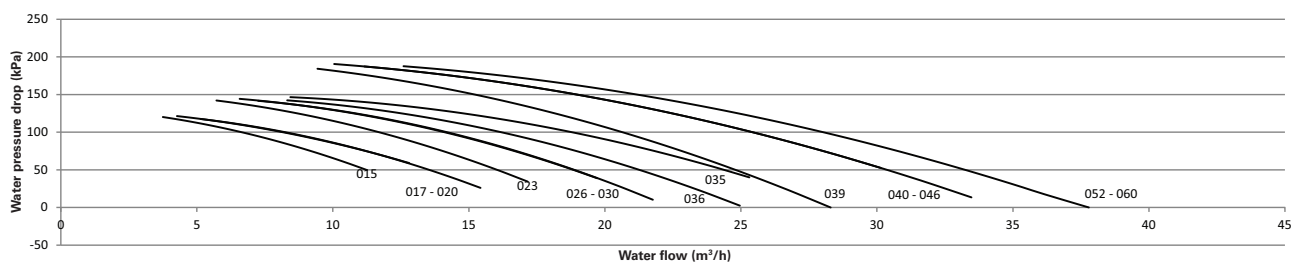
Unit Type		Disconnect switch option			Pump package				Heaters	
		Disconnect switch		Short Circuit Unit Capacity	Single & Twin pump Standard head pressure		Single & Twin pump High head pressure		Oil sump heater Circuit 1 / 2	
		Size (A)	Max (mm ²)	(kA)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)	Max Power input (kW)	Max Amps (A)
CXAX	015 SE-LA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	017 SE-LA	80	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	020 SE-LA	100	35	12	1.2	2.3	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	023 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	026 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	030 SE-LA	100	35	12	1.5	2.9	2.3	4.6	0.17 / 0	0.42 / 0
CXAX	036 SE-LA	250	150	15	1.5	2.9	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	039 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	045 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.25 / 0	0.63 / 0
CXAX	035 SE-LA	250	150	15	1.5	2.9	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	040 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	046 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	052 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4
CXAX	060 SE-LA	250	150	15	2.3	4.6	3.0	5.9	0.17 / 0.17	0.4 / 0.4

Hydraulic Data

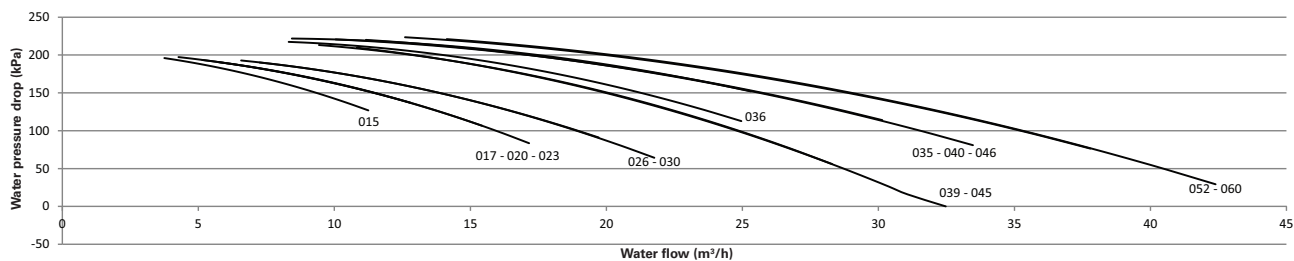
**CGAX Unit without pump package
(Pressure drop)**



**CGAX Single/Twin pump - Standard head pressure
(Avail. pressure)**

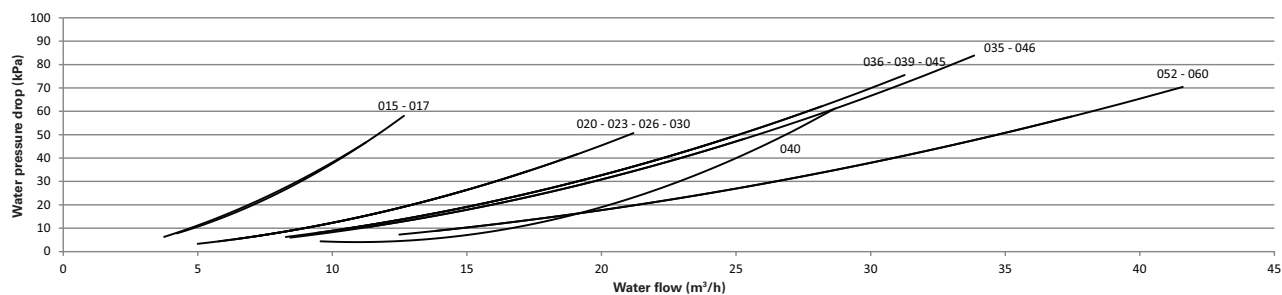


**CGAX Single/Twin pump - High head pressure
(Avail. pressure)**

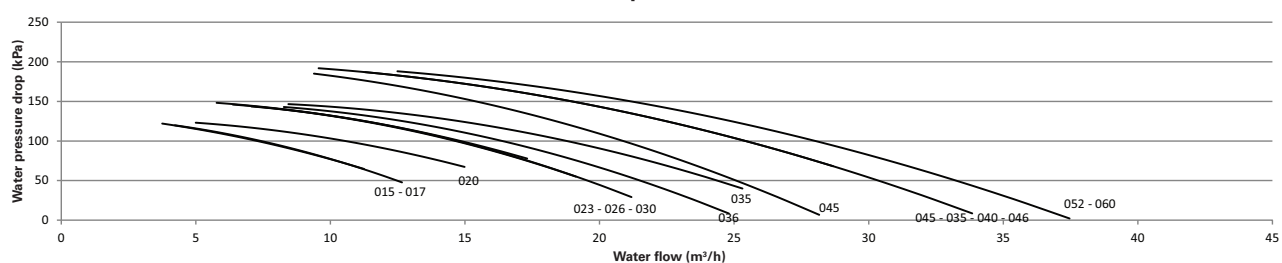


Hydraulic Data

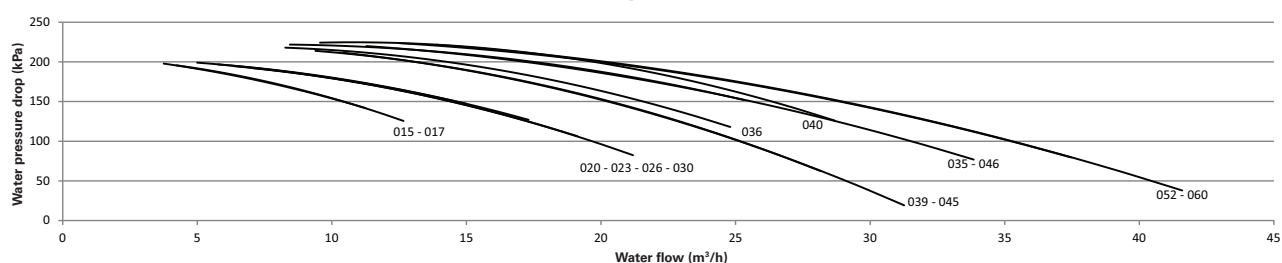
**CXAX Unit without pump package
(Pressure drop)**



**CXAX Single/Twin pump - Standard head pressure
(Avail. pressure)**



**CXAX Single/Twin pump - High head pressure
(Avail. pressure)**



Sound Data

Table 21 - Overall Sound Power Level at full load and 35°C ambient temperature

Unit Type		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Global dBA
CGAX	015 SE-SN	75 dB	80 dB	80 dB	78 dB	79 dB	75 dB	69 dB	55 dB	83 dBA
CGAX	017 SE-SN	75 dB	80 dB	80 dB	78 dB	79 dB	75 dB	69 dB	55 dB	83 dBA
CGAX	020 SE-SN	75 dB	88 dB	84 dB	81 dB	81 dB	76 dB	71 dB	60 dB	85 dBA
CGAX	023 SE-SN	72 dB	88 dB	84 dB	81 dB	81 dB	76 dB	69 dB	61 dB	85 dBA
CGAX	026 SE-SN	66 dB	88 dB	84 dB	81 dB	81 dB	76 dB	68 dB	62 dB	85 dBA
CGAX	030 SE-SN	66 dB	88 dB	84 dB	83 dB	81 dB	78 dB	72 dB	60 dB	86 dBA
CGAX	036 SE-SN	67 dB	83 dB	82 dB	80 dB	81 dB	77 dB	68 dB	61 dB	84 dBA
CGAX	039 SE-SN	67 dB	84 dB	81 dB	80 dB	82 dB	77 dB	68 dB	62 dB	85 dBA
CGAX	045 SE-SN	68 dB	88 dB	85 dB	84 dB	83 dB	80 dB	73 dB	62 dB	87 dBA
CGAX	035 SE-SN	78 dB	84 dB	82 dB	80 dB	83 dB	78 dB	73 dB	60 dB	86 dBA
CGAX	040 SE-SN	78 dB	91 dB	88 dB	84 dB	84 dB	79 dB	74 dB	63 dB	88 dBA
CGAX	046 SE-SN	75 dB	91 dB	87 dB	84 dB	84 dB	79 dB	72 dB	64 dB	88 dBA
CGAX	052 SE-SN	69 dB	91 dB	87 dB	84 dB	84 dB	79 dB	71 dB	65 dB	88 dBA
CGAX	060 SE-SN	69 dB	91 dB	87 dB	86 dB	84 dB	81 dB	75 dB	63 dB	89 dBA
CGAX	015 SE-LN	77 dB	81 dB	74 dB	71 dB	74 dB	70 dB	62 dB	51 dB	77 dBA
CGAX	017 SE-LN	77 dB	81 dB	74 dB	71 dB	74 dB	70 dB	62 dB	51 dB	77 dBA
CGAX	020 SE-LN	77 dB	80 dB	76 dB	75 dB	76 dB	71 dB	64 dB	56 dB	79 dBA
CGAX	023 SE-LN	75 dB	80 dB	76 dB	75 dB	75 dB	71 dB	63 dB	57 dB	79 dBA
CGAX	026 SE-LN	68 dB	80 dB	75 dB	75 dB	75 dB	71 dB	62 dB	58 dB	79 dBA
CGAX	030 SE-LN	66 dB	80 dB	76 dB	77 dB	75 dB	73 dB	65 dB	56 dB	80 dBA
CGAX	036 SE-LN	70 dB	84 dB	75 dB	74 dB	76 dB	72 dB	61 dB	57 dB	79 dBA
CGAX	039 SE-LN	70 dB	83 dB	76 dB	75 dB	76 dB	72 dB	62 dB	58 dB	80 dBA
CGAX	045 SE-LN	68 dB	83 dB	77 dB	78 dB	77 dB	75 dB	66 dB	58 dB	82 dBA
CGAX	035 SE-LN	80 dB	83 dB	78 dB	75 dB	78 dB	73 dB	66 dB	56 dB	81 dBA
CGAX	040 SE-LN	80 dB	83 dB	79 dB	78 dB	79 dB	74 dB	67 dB	59 dB	82 dBA
CGAX	046 SE-LN	78 dB	83 dB	79 dB	78 dB	78 dB	74 dB	66 dB	60 dB	82 dBA
CGAX	052 SE-LN	71 dB	83 dB	78 dB	78 dB	78 dB	74 dB	65 dB	61 dB	82 dBA
CGAX	060 SE-LN	69 dB	83 dB	79 dB	80 dB	78 dB	76 dB	68 dB	59 dB	83 dBA
CXAX	015 SE-SN	75 dB	82 dB	80 dB	79 dB	81 dB	76 dB	70 dB	57 dB	84 dBA
CXAX	017 SE-SN	75 dB	82 dB	80 dB	79 dB	81 dB	76 dB	70 dB	57 dB	84 dBA
CXAX	020 SE-SN	75 dB	82 dB	80 dB	79 dB	81 dB	76 dB	70 dB	57 dB	84 dBA
CXAX	023 SE-SN	72 dB	88 dB	85 dB	82 dB	81 dB	77 dB	70 dB	61 dB	85 dBA
CXAX	026 SE-SN	66 dB	88 dB	85 dB	82 dB	81 dB	77 dB	69 dB	62 dB	85 dBA
CXAX	030 SE-SN	66 dB	88 dB	85 dB	83 dB	81 dB	78 dB	72 dB	60 dB	86 dBA
CXAX	036 SE-SN	67 dB	85 dB	82 dB	82 dB	83 dB	78 dB	69 dB	63 dB	86 dBA
CXAX	039 SE-SN	67 dB	89 dB	86 dB	84 dB	84 dB	78 dB	70 dB	64 dB	87 dBA
CXAX	045 SE-SN	68 dB	89 dB	86 dB	85 dB	83 dB	80 dB	74 dB	62 dB	88 dBA
CXAX	035 SE-SN	78 dB	85 dB	83 dB	82 dB	84 dB	79 dB	73 dB	60 dB	87 dBA
CXAX	040 SE-SN	78 dB	85 dB	83 dB	82 dB	84 dB	79 dB	73 dB	60 dB	87 dBA
CXAX	046 SE-SN	75 dB	91 dB	88 dB	85 dB	84 dB	80 dB	73 dB	64 dB	88 dBA
CXAX	052 SE-SN	69 dB	91 dB	88 dB	85 dB	84 dB	80 dB	72 dB	65 dB	88 dBA
CXAX	060 SE-SN	69 dB	91 dB	88 dB	86 dB	84 dB	81 dB	75 dB	63 dB	89 dBA

Sound Data

Unit Type		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Global dBA
CXAX	015 SE-LN	77 dB	84 dB	75 dB	71 dB	74 dB	70 dB	62 dB	51 dB	78 dBA
CXAX	017 SE-LN	77 dB	84 dB	75 dB	71 dB	74 dB	70 dB	62 dB	51 dB	78 dBA
CXAX	020 SE-LN	77 dB	84 dB	75 dB	71 dB	74 dB	70 dB	62 dB	51 dB	78 dBA
CXAX	023 SE-LN	75 dB	82 dB	77 dB	76 dB	76 dB	73 dB	66 dB	57 dB	80 dBA
CXAX	026 SE-LN	68 dB	82 dB	77 dB	76 dB	76 dB	73 dB	65 dB	58 dB	80 dBA
CXAX	030 SE-LN	66 dB	82 dB	77 dB	77 dB	76 dB	75 dB	67 dB	57 dB	81 dBA
CXAX	036 SE-LN	70 dB	87 dB	76 dB	74 dB	76 dB	72 dB	61 dB	57 dB	80 dBA
CXAX	039 SE-LN	70 dB	87 dB	78 dB	77 dB	77 dB	74 dB	66 dB	59 dB	81 dBA
CXAX	045 SE-LN	68 dB	86 dB	78 dB	78 dB	77 dB	76 dB	68 dB	58 dB	82 dBA
CXAX	035 SE-LN	80 dB	87 dB	78 dB	74 dB	77 dB	73 dB	65 dB	54 dB	81 dBA
CXAX	040 SE-LN	80 dB	87 dB	78 dB	74 dB	77 dB	73 dB	65 dB	54 dB	81 dBA
CXAX	046 SE-LN	78 dB	85 dB	80 dB	79 dB	79 dB	76 dB	69 dB	60 dB	83 dBA
CXAX	052 SE-LN	71 dB	85 dB	80 dB	79 dB	79 dB	76 dB	68 dB	61 dB	83 dBA
CXAX	060 SE-LN	69 dB	85 dB	80 dB	80 dB	79 dB	78 dB	70 dB	60 dB	84 dBA

Table 22 - Overall Sound pressure level at 10m

Unit Type		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Global dBA
CGAX	015 SE-SN	45 dB	50 dB	50 dB	47 dB	49 dB	45 dB	39 dB	25 dB	53 dBA
CGAX	017 SE-SN	45 dB	50 dB	50 dB	47 dB	49 dB	45 dB	39 dB	25 dB	53 dBA
CGAX	020 SE-SN	45 dB	58 dB	54 dB	51 dB	51 dB	46 dB	40 dB	30 dB	55 dBA
CGAX	023 SE-SN	42 dB	58 dB	54 dB	51 dB	51 dB	46 dB	39 dB	31 dB	55 dBA
CGAX	026 SE-SN	36 dB	58 dB	54 dB	51 dB	51 dB	46 dB	38 dB	32 dB	55 dBA
CGAX	030 SE-SN	36 dB	58 dB	54 dB	52 dB	51 dB	48 dB	42 dB	30 dB	55 dBA
CGAX	036 SE-SN	37 dB	53 dB	51 dB	49 dB	50 dB	46 dB	37 dB	30 dB	54 dBA
CGAX	039 SE-SN	37 dB	53 dB	50 dB	49 dB	51 dB	46 dB	38 dB	31 dB	54 dBA
CGAX	045 SE-SN	37 dB	58 dB	54 dB	53 dB	52 dB	49 dB	43 dB	31 dB	56 dBA
CGAX	035 SE-SN	47 dB	53 dB	51 dB	50 dB	52 dB	48 dB	42 dB	29 dB	55 dBA
CGAX	040 SE-SN	47 dB	60 dB	57 dB	54 dB	54 dB	49 dB	43 dB	33 dB	57 dBA
CGAX	046 SE-SN	45 dB	60 dB	57 dB	54 dB	53 dB	48 dB	42 dB	33 dB	57 dBA
CGAX	052 SE-SN	38 dB	60 dB	57 dB	54 dB	53 dB	48 dB	40 dB	34 dB	57 dBA
CGAX	060 SE-SN	38 dB	60 dB	57 dB	55 dB	53 dB	50 dB	44 dB	33 dB	58 dBA
CGAX	015 SE-LN	47 dB	51 dB	44 dB	41 dB	44 dB	40 dB	32 dB	21 dB	47 dBA
CGAX	017 SE-LN	47 dB	51 dB	44 dB	41 dB	44 dB	40 dB	32 dB	21 dB	47 dBA
CGAX	020 SE-LN	47 dB	50 dB	46 dB	45 dB	45 dB	41 dB	34 dB	26 dB	49 dBA
CGAX	023 SE-LN	44 dB	50 dB	46 dB	45 dB	45 dB	41 dB	33 dB	27 dB	49 dBA
CGAX	026 SE-LN	38 dB	50 dB	45 dB	45 dB	45 dB	41 dB	32 dB	28 dB	49 dBA
CGAX	030 SE-LN	36 dB	50 dB	45 dB	46 dB	45 dB	43 dB	34 dB	26 dB	50 dBA
CGAX	036 SE-LN	39 dB	53 dB	44 dB	43 dB	45 dB	41 dB	30 dB	26 dB	48 dBA
CGAX	039 SE-LN	39 dB	52 dB	45 dB	44 dB	45 dB	41 dB	31 dB	27 dB	49 dBA
CGAX	045 SE-LN	37 dB	52 dB	46 dB	47 dB	46 dB	44 dB	35 dB	27 dB	51 dBA
CGAX	035 SE-LN	49 dB	52 dB	47 dB	44 dB	47 dB	42 dB	35 dB	25 dB	50 dBA
CGAX	040 SE-LN	49 dB	52 dB	48 dB	47 dB	48 dB	43 dB	36 dB	28 dB	51 dBA
CGAX	046 SE-LN	47 dB	52 dB	48 dB	47 dB	47 dB	43 dB	35 dB	29 dB	51 dBA
CGAX	052 SE-LN	40 dB	52 dB	47 dB	47 dB	47 dB	43 dB	34 dB	30 dB	51 dBA
CGAX	060 SE-LN	38 dB	52 dB	48 dB	49 dB	47 dB	45 dB	37 dB	28 dB	52 dBA

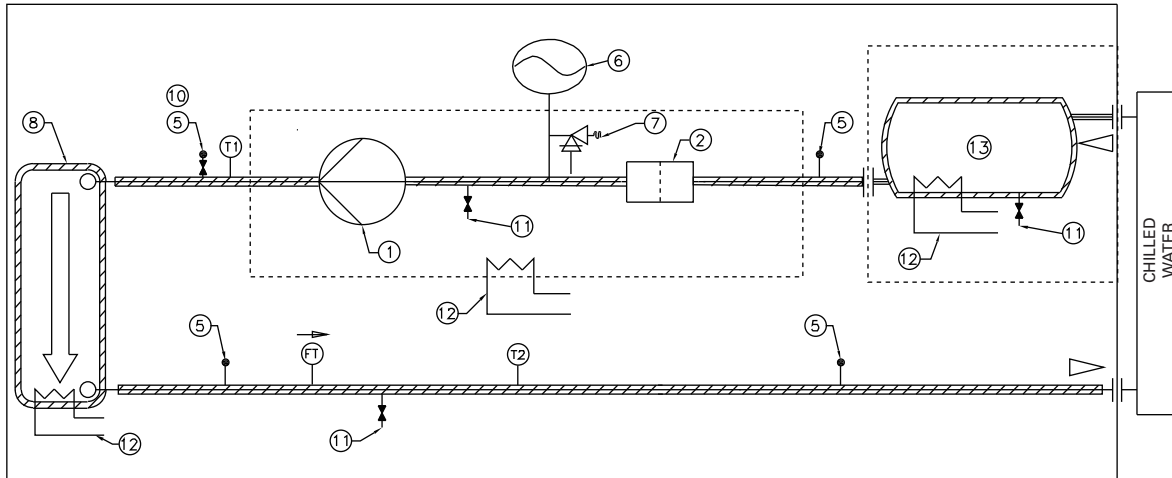
Sound Data

Sound pressure level at 10m

Unit Type		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Global dBA
CXAX	015 SE-SN	45 dB	52 dB	50 dB	49 dB	51 dB	46 dB	40 dB	27 dB	54 dBA
CXAX	017 SE-SN	45 dB	52 dB	50 dB	49 dB	51 dB	46 dB	40 dB	27 dB	54 dBA
CXAX	020 SE-SN	45 dB	52 dB	50 dB	49 dB	51 dB	46 dB	40 dB	27 dB	54 dBA
CXAX	023 SE-SN	42 dB	58 dB	55 dB	52 dB	51 dB	47 dB	40 dB	31 dB	55 dBA
CXAX	026 SE-SN	36 dB	58 dB	55 dB	52 dB	51 dB	46 dB	39 dB	32 dB	55 dBA
CXAX	030 SE-SN	36 dB	57 dB	54 dB	53 dB	51 dB	48 dB	42 dB	30 dB	56 dBA
CXAX	036 SE-SN	37 dB	54 dB	51 dB	51 dB	53 dB	47 dB	38 dB	32 dB	55 dBA
CXAX	039 SE-SN	37 dB	58 dB	55 dB	53 dB	53 dB	48 dB	39 dB	33 dB	56 dBA
CXAX	045 SE-SN	37 dB	58 dB	55 dB	54 dB	53 dB	49 dB	43 dB	31 dB	57 dBA
CXAX	035 SE-SN	47 dB	54 dB	52 dB	51 dB	53 dB	48 dB	42 dB	30 dB	56 dBA
CXAX	040 SE-SN	47 dB	54 dB	52 dB	51 dB	53 dB	48 dB	42 dB	30 dB	56 dBA
CXAX	046 SE-SN	45 dB	60 dB	57 dB	54 dB	54 dB	49 dB	42 dB	33 dB	58 dBA
CXAX	052 SE-SN	38 dB	60 dB	57 dB	54 dB	54 dB	49 dB	41 dB	34 dB	57 dBA
CXAX	060 SE-SN	38 dB	60 dB	57 dB	55 dB	53 dB	50 dB	44 dB	32 dB	58 dBA
CXAX	015 SE-LN	47 dB	54 dB	45 dB	41 dB	44 dB	40 dB	32 dB	20 dB	47 dBA
CXAX	017 SE-LN	47 dB	54 dB	45 dB	41 dB	44 dB	40 dB	32 dB	20 dB	47 dBA
CXAX	020 SE-LN	47 dB	54 dB	45 dB	41 dB	44 dB	40 dB	32 dB	20 dB	47 dBA
CXAX	023 SE-LN	44 dB	52 dB	47 dB	46 dB	46 dB	43 dB	35 dB	27 dB	50 dBA
CXAX	026 SE-LN	38 dB	52 dB	46 dB	46 dB	46 dB	43 dB	35 dB	28 dB	50 dBA
CXAX	030 SE-LN	36 dB	52 dB	46 dB	47 dB	45 dB	44 dB	36 dB	26 dB	50 dBA
CXAX	036 SE-LN	39 dB	56 dB	45 dB	43 dB	45 dB	41 dB	30 dB	26 dB	49 dBA
CXAX	039 SE-LN	39 dB	55 dB	47 dB	46 dB	46 dB	43 dB	35 dB	28 dB	50 dBA
CXAX	045 SE-LN	37 dB	55 dB	47 dB	47 dB	46 dB	45 dB	37 dB	27 dB	51 dBA
CXAX	035 SE-LN	49 dB	56 dB	47 dB	43 dB	46 dB	42 dB	34 dB	23 dB	50 dBA
CXAX	040 SE-LN	49 dB	56 dB	47 dB	43 dB	46 dB	42 dB	34 dB	23 dB	50 dBA
CXAX	046 SE-LN	47 dB	54 dB	49 dB	48 dB	48 dB	45 dB	38 dB	29 dB	52 dBA
CXAX	052 SE-LN	40 dB	54 dB	49 dB	48 dB	48 dB	45 dB	37 dB	30 dB	52 dBA
CXAX	060 SE-LN	38 dB	54 dB	49 dB	49 dB	48 dB	46 dB	39 dB	28 dB	53 dBA

Typical Unit Schematics

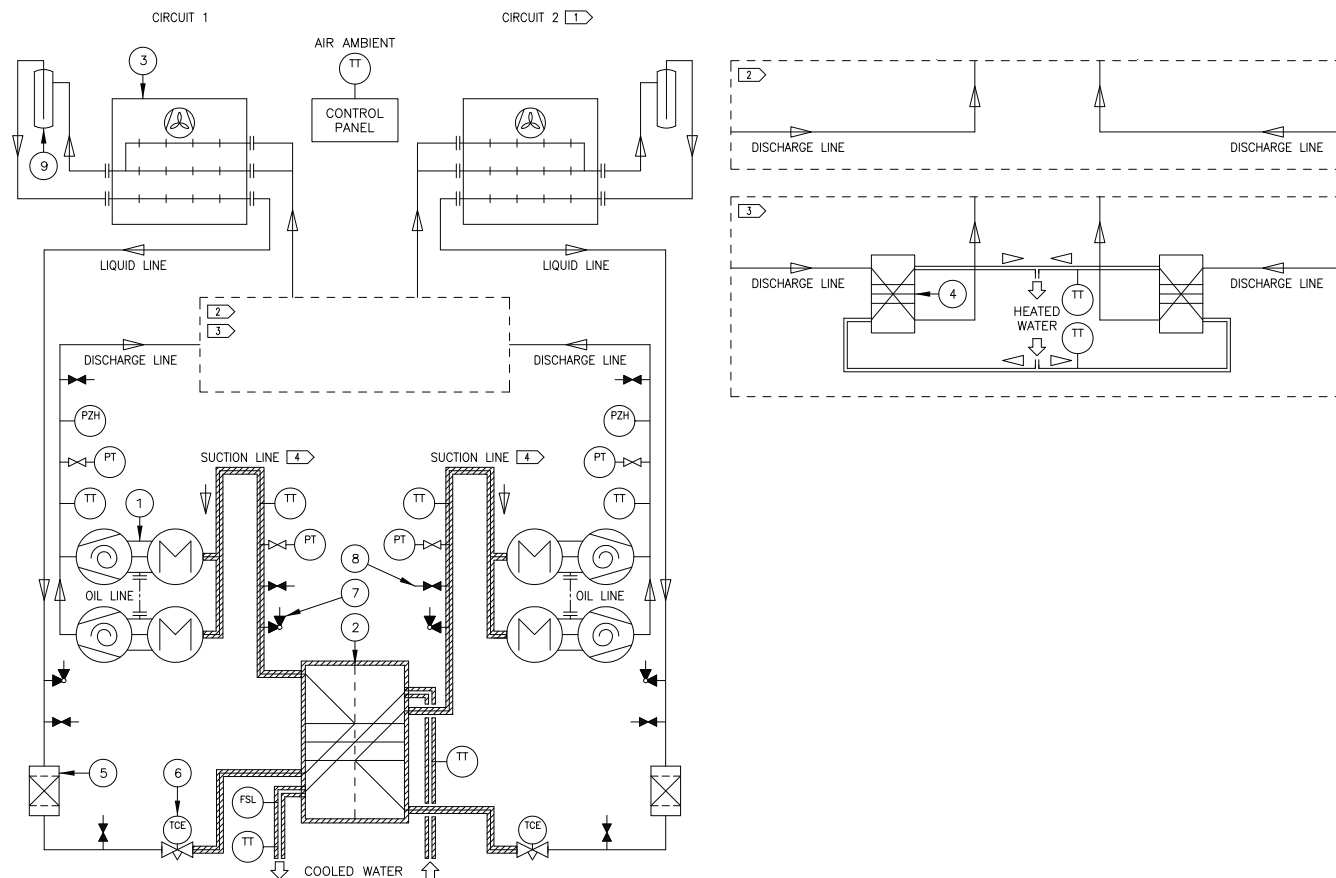
Figure 10 - Hydraulic Module water chart



- 1 - Single or Dual Pump
- 2 - Water Strainer
- 5 - Valve for pressure point
- 6 - Expansion tank
- 7 - Water pressure point
- 8 - Brazed Plate Heat Exchanger
- 10 - Manual air bleed
- 11 - Drain valve
- 12 - Optional Freeze protection
- 13 - Optional buffer tank
- FT - Water flow switch
- T1 - Water inlet temperature sensor
- T2 - Water outlet temperature sensor

Typical Unit Schematics

Figure 11 - Refrigerant Chart Cooling-only Units



ITEM	DESIGNATION
1	SCROLL COMPRESSOR
2	EVAPORATOR (PLATE HEAT EXCHANGER)
3	CONDENSER (MICRO CHANNEL HEAT EXCHANGER)
4	HEAT RECOVERY EXCHANGER (PLATE HEAT EXCHANGER)
5	FILTER DRIER
6	ELECTRIC EXPANSION VALVE
7	SERVICE VALVE
8	SCHRAEDER VALVE
9	RECEIVER

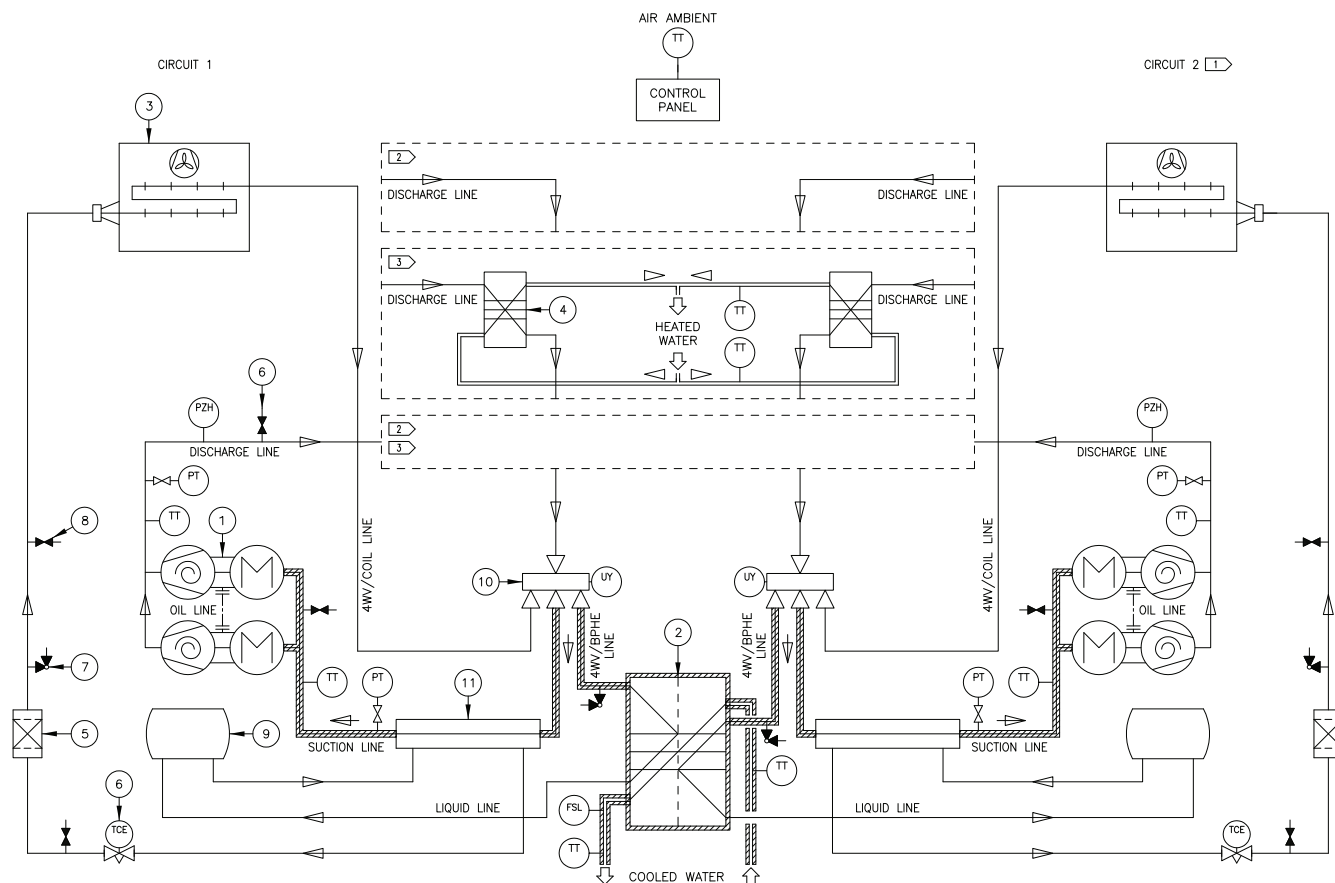
ITEM	DESIGNATION
PT	PRESSURE TRANSDUCER
PZH	HIGH PRESSURE SWITCH
TT	TEMPERATURE SENSOR
TCE	ELECTRIC EXPANSION VALVE
FSL	EVAPORATOR WATER FLOW SWITCH

— — — — —	REFRIGERANT LINE
- - - - -	OIL LINE
=====	CHILLED / HEATED WATER LINE
	INSULATION

- 1 ONLY FOR CGAX 035-040-046-052-060.
CGAX 015-017-020-023-026-030 GET ONLY ONE REFRIGERANT CIRCUIT
- 2 COOLING ONLY UNIT
- 3 PARTIAL HEAT RECOVERY OPTION
- 4 INSULATION ON SUCTION LINES ONLY WHEN EVAPORATOR WATER OUTLET IS BELOW 5°C

Typical Unit Schematics

Figure 12 - Refrigerant Chart Heat Pump Units



ITEM	DESIGNATION
1	SCROLL COMPRESSOR
2	EVAPORATOR (PLATE HEAT EXCHANGER)
3	CONDENSER (FINS & TUBES HEAT EXCHANGER)
4	HEAT RECOVERY EXCHANGER (PLATE HEAT EXCHANGER)
5	BIFLOW FILTER DRIER
6	ELECTRIC EXPANSION VALVE
7	SERVICE VALVE
8	SCHRAEDER VALVE
9	RECEIVER
10	4 WAY REVERSING VALVE
11	SUCTION/LIQUID HEAT EXCHANGER (TUBE IN TUBE EXCHANGER)

ITEM	DESIGNATION
PT	PRESSURE TRANSDUCER
PZH	HIGH PRESSURE SWITCH
TT	TEMPERATURE SENSOR
TCE	ELECTRIC EXPANSION VALVE
FSL	EVAPORATOR WATER FLOW SWITCH
UY	SOLENOID

— — — — —	REFRIGERANT LINE
- - - - -	OIL LINE
=====	CHILLED / HEATED WATER LINE
	INSULATION

- 1 ONLY FOR CXAX 035-040-046-052-060.
CXAX 015-017-020-023-026-030 GET ONLY ONE REFRIGERANT CIRCUIT
- 2 HEAT PUMP ONLY UNIT
- 3 PARTIAL HEAT RECOVERY OPTION
- 4 INSULATION ON SUCTION LINES ONLY WHEN EVAPORATOR WATER OUTLET IS BELOW 5°C

REFRIGERANT FLOW DIRECTION IS SHOWN FOR HEATING MODE

Mechanical Specifications

General

Chiller is designed for outdoor application strictly in accordance with specifications and it will be shipped with a full operating charge of R410A refrigerant and lubrication oil scroll compressors and electronic expansion valve.

Quality assurance

Chiller is designed and manufactured under a quality assurance system and environmental management system certified in accordance with standard ISO 9001:2008 and ISO14001.

All chillers follow a production quality plan to ensure proper construction and operation including electrical sequence running test.

Unit construction is in accordance with the following European directives:

- Machinery Directive (MD) 2006/42/CE
- Low Voltage Directive (LV) 2006/95/CE
- ElectroMagnetic Compatibility Directive (EMC) 2004/108/CE
- Electrical Machinery Safety Standard EN 60204-1

Construction characteristics

Chiller casing and electrical panels are made of galvanized steel of 1.5 mm thickness mounted on a riveted structural steel entirely painted base. Unit panels frames and exposed steel surfaces are painted and have a corrosion resistance of 1500 hours to salt spray test according ISO 9227. Electrical panel is rated as minimum. IP54 fully factory mounted and wired with access door clearly visible from outside with power on/off indication.

Compressors and Motors

Chiller are provided with hermetic Scroll compressors:

- Direct drive 2900 rpm
 - Suction gas cooled hermetic motor
 - Built-in centrifugal oil pump
 - Built-in oil level sight glass and oil charging valve
- Compressor motors have a voltage utilization range of $\pm 10\%$ on nameplate voltage internal temperature and current-sensitive motor overload is included for maximum protection.

Evaporator

The evaporator is a single brazed plate heat exchanger made of stainless steel 316 L and copper brazing designed to operate properly and efficiently with a refrigerant charge.

Maximum operating pressure on water side does not exceed 1MPa. The evaporator is fully insulated with appropriate thickness and close cell type insulation protected against freezing either with a control activated heater either with a pump activation sequence whenever the ambient temperature will be below 3°C. It has only one entering and only one leaving water connection.

Chiller is able to supply water temperature leaving the evaporator:

- For comfort application: between 5°C / 20°C
- For process application:
 - o Between -12°C and 5°C on cooling only units (CGAX)
 - o Between -10°C and 5°C on heat pump units (CXAX)

Condenser coil and fans

Ambient temperature operating map is as minimum:

- Cooling only: 5°C (-18°C with Low Ambient Option) up to 46°C
- Heating mode: -15°C up to 20°C

Cooling-only units coils

Condenser coil is Microchannel type made in aluminum brazed fin construction; coils will consist of three main components: flat microchannel tube fins in between the microchannel tubes and two refrigerant manifolds. Coil are cleanable using a high pressure water stream. Condenser coil includes an integral subcooling circuit. An option for E-coating or complete coil coating shall be available.

Heat pump units coils

Condenser coil is made of aluminum fins mechanically bonded to seamless copper tubing and includes integral subcooling circuit. Coils are factory leak tested at 3.2Mpa under water. If unit will be installed on corrosive environment aluminum fins are pre-coated with black epoxy with minimum thickness of 8µm in order to withstand 1000 hours of salt spray test according ISO 9227.

Chillers are equipped with axial condenser fan and motors with permanently lubricated ball bearings and external overload protection shall be provided. Fans motors are class F, powered through an IP55 electrical box.

Refrigerant Circuit

Each refrigerant circuit includes compressor(s) high and low pressure transducer permanent liquid filter drier electronic expansion valve pressure port on each refrigerant line full operating charge of R410A and POE oil as long as high pressure side pressostat.

Oil Management

The chiller is equipped with an oil management system consisting of an oil pump integrated on the compressor to ensure proper oil circulation throughout the unit and a crankcase heater integrated in the compressor to avoid startup with low oil temperature. Unit is delivered with operating oil charge factory supplied and checked (Trane recommended oil OIL 0057E or OIL 0058E).

Mechanical Specifications

Electrical panel

Unit is provided with a weatherproof control and IP54 power panel with a single point connection with disconnect switch. The disconnect switch is mechanically interlocked to disconnect line power from power panel accessible from the outside the chiller. All components and control cables are numbered in accordance with CEI 60750. The unit is equipped with a control power transformer with two secondary control circuits:

- 230 V single phase connection for evaporator freeze protection heaters and control board
- 24 V single phase connection for the human interface control.

Each compressor is provided with a direct on line starter factory mounted wired and tested. Soft Starter is available as an option.

Hydraulic module (option)

Hydraulic module is integrated within the chiller frame field pipe connection is Victaulic and is outside of the unit casing. Hydraulic kit has the following factory mounted components:

- Single or double pump (in this case manifolded in parallel one pump working as redundancy of the other) factory mounted wired and tested with check valve in the discharge. Options for standard and high pressure shall be available.
- Pump crankcase shall be in polyamid impeller in propylene dynamically balanced. Pump rated for 1MPa working pressure.
- Pre-charged expansion tank.
- Flow switch.
- Water strainer able to retain particles above 1mm of diameter.
- Water pressure relief valve.
- Electrical heater for freezing protection up to -10°C.
- Cold critical parts such the brazed plate evaporator will be insulated with a closed cell foam insulation against condensation of minimum 13 mm.
- Freeze protection shall be made by pump activation as standard.
- As an option unit shall include a water buffer tank insulated with closed cell foam of 13mm with antifreezing protection. Buffer tank will fit into the chiller to minimize the system footprint.

Chiller Control System CH535

Chilled water temperature control is fulfilled through a microprocessor based controller monitoring water and refrigerant temperature as long as refrigerant pressure. Controller is able to generate adequate operational diagnostics.

The Microprocessor based controller is supplied factory mounted fully wired configured and tested in factory and it ensures compressor and fan sequence (load control) fault detection diagnostic and supervision.

The following features are present on the chiller operational control

- High and low refrigerant pressure protection
- Load limit control to limit compressor loading on high return water temperature
- Condenser fan sequencing with automatically cycling in response to ambient condensing pressure.
- Compressors anti-short cycle timer protection adjustable
- Automatic compressor lead-lag to even out run hours and compressors starts
- Phase reversal/single phasing protection
- Low ambient lockout control with adjustable set point
- Integrated RS485 serial port to allow BMS connectivity
- Options for communication protocols: ModBus, LonTalk and BACnet should be available

User display interface are provided on the external wall of the chiller allowing complete graphic management through icons and touchscreen display:

- Leaving chilled water setpoint adjustment
- Entering and leaving water temperatures display
- Condenser pressure per circuit
- Suction pressure per circuit
- Air ambient temperature
- Condensing temperature per circuit
- Suction temperature per circuit

Safety control readouts on the user display:

- Low chilled water temperature detection
- High refrigerant pressure
- Loss of chilled water flow
- Contact to external shut-down per circuit
- Motor current overload
- Phase reversal/unbalance/single phasing
- Failure of leaving water temperature sensor used to drive the set point
- Compressor status (on/off)



Options

Application options

Low ambient option

The low ambient option permits unit controls to allow start and operation down to ambient temperatures of -18°C (-0.4°F) if there is sufficient glycol in the evaporator to prevent freezing. High side of ambient range remains at 46°C (115°F).

Low noise sound level option

Low noise units are equipped with a jacket encapsulating each compressor for sound reduction.

Communication options

BACnet™ communication interface

Allows the user to easily interface with BACnet via a single twisted pair wiring to a factory installed and tested communication board.

LonTalk™ communication interface

Allows the user to easily interface with LonTalk via a single twisted pair wiring to a factory installed and tested communication board.

ModBus™ communication interface

Allows the user to easily interface with ModBus via a single twisted pair wiring to a factory installed and tested communication board.

Other options

Coated condensing coils

For cooling only units (CGAX) a complete coating on microchannel condenser coils shall be available.

For Heat Pump units (CXAX) pre-coated aluminium black epoxy fins shall be available.

Compressors soft starters

Electronic solid state soft starter shall be available.

Deluxe display

For a remote display type Deluxe is available.



Notes



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