TRANE

LYRA

Indoor Air-Cooled Chillers and Heat Pumps

Model CGCN

Cooling capacity 50 - 245 kW

Model CXCN

Cooling capacity 50 - 245 kW

Heating capacity 55 - 270 kW

Ingersoll Rand

Indoor Air-Cooled Chillers and Heat Pumps

LYRA

Air/water chillers and heat pumps with EC plug fans and scroll compressors

Range description

Designed for indoor installation in buildings with ducted air intake and discharge. Vertical or horizontal air discharge.

- **CGCN** chillers with/without hydraulic module
- **CXCN** heat pumps with/without hydraulic module
- Hydraulic modules (option) available with on/off or inverter driven pumps

Unit description

- Hermetic scroll compressors, low vibration and low sound level
- EC plug fans for improved capacity modulation and energy savings. Fan external static pressure up to 300 Pa
- Water side plate heat exchanger with differential pressure switch and antifreeze protection electric heater
- Full aluminum microchannel condensers (CGCN only)
- Microprocessor-based controller to manage unit on/off mode, operating mode setting and parameters setting
- Electronic expansion valve (CXCN)
- Casing and panels in galvanised and painted steel

Options

- Partial heat recovery/total heat recovery (CGCN only)
- Compressors sound jackets
- Soft - starter
- Serial communication card RS 485
- Electronic expansion valve (CGCN)
- Power factor correction to cosphi = 0.91
- Automatic circuit breakers
- Desuperheater
- Over/under voltage + phase failure protection relay
- Epoxy coated condensing coils
- Pre-painted condensing coils
- Copper/copper condensing coils
- Advanced iPro microprocessor controller with BACnet™ or Modbus LonTalk™ serial card option

Accessories

- G4-EU4 condenser inlet air filters
- Remote control panel
- Flow switch
- Automatic water filling
- Water strainer
- Water gauges
- Gas gauges
- Rubber or spring anti-vibration mounts

Advantages

- Microchannel condenser coils for superior efficiency and lower refrigerant charge.
- Compact dimensions allow for flexible installations in both new and existing buildings.
- The solution for buildings with limited roof space, like in old city centers, or in a noise sensitive area.
- High efficiency EC plug fans for indoor installation with ducted air intake and discharge.
- EC plug fans for external static pressure up to 300 Pa.

ErP Compliant

DIGITAL DEFROST

dLC DYNAMIC LOGIC CONTROL

DSP DYNAMIC SET POINT

Operating range		CGCN	CXCN cooling	CXCN heating
Outdoor air temperature range (min./max.)	(°C)	5 / 45	5 / 45	-10 / 35
Leaving water temperature range (min./max.)	(°C)	-6 / 18	-6 / 18	26 / 55
Power supply	(V/Ph/Hz)		400/3+n/50	

Chiller Version

General data

CGCN	Unit size	50	65	80	95	105	120	135	150	160	185	205	225	245
Cooling EN 14511 value (1)														
Total cooling capacity	kW	52.2	65.7	81.9	92.7	105.9	120.5	133.3	147.7	160.2	184.7	203.3	224.3	244.7
Total power input	kW	19.5	25.9	30.5	36.5	40.0	46.0	53.2	56.3	63.4	71.3	81.1	95.3	109.7
Total EER		2.67	2.54	2.68	2.54	2.65	2.62	2.51	2.62	2.53	2.59	2.51	2.35	2.23
ESEER		3.90	3.79	3.90	3.88	4.04	4.01	3.96	3.75	3.68	3.73	3.69	3.75	3.72
Cooling gross value (1)														
Total cooling capacity	(kW)	52.3	65.9	82.1	92.9	106.4	120.7	133.6	148.0	160.6	185.2	203.9	225.2	245.8
Total power input	(kW)	19.4	25.7	30.4	36.2	39.6	45.7	52.9	56.0	63.0	70.7	80.3	94.5	108.2
Total EER		2.69	2.56	2.70	2.57	2.68	2.64	2.53	2.64	2.55	2.62	2.54	2.38	2.27
Seasonal efficiency in cooling according to EN14825 (2)														
P rated	(kW)	52.2	65.7	81.9	92.7	105.9	120.5	133.3	147.7	160.2	184.7	203.3	224.3	244.7
$\eta_{s,c}$	(%)	152%	149%	152%	149%	153%	152%	149%	153%	149%	151%	149%	153%	149%
SEER		3.88	3.80	3.87	3.80	3.90	3.87	3.80	3.90	3.80	3.85	3.80	3.90	3.80
Compressors														
Number of compressors		2	2	2	2	2	2	2	2	2	2	2	4	4
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1	2	2
Total refrigerant charge (3)	(kg)	8.2	8.6	12.5	12.5	16.2	17.2	17.2	20.9	20.9	24.9	24.9	25.6	25.6
Sound levels														
Sound pressure level at 10 m - standard noise	(db(A))	59	59	61	61	62	63	63	63	63	65	65	64	64
Sound power level (ISO 9614) - standard noise	(db(A))	91	91	93	93	95	95	95	96	96	97	98	97	97

Dimensions and weights

CGCN	Unit size	50	65	80	95	105	120	135	150	160	185	205	225	245
Length	(mm)	2350	2350	3346	3346	4456	4456	4456	5456	5456	6676	6676	6676	6676
Width	(mm)	1106	1106	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
Height	(mm)	2095	2095	2095	2095	2145	2145	2145	2145	2145	2145	2145	2145	2145
Shipping weight - standard noise	(kg)	912	950	1403	1430	1807	1802	1827	2110	2135	2388	2392	2562	2613

(1) Outdoor air temperature 35°C and chilled water temperature 12/7°C
(2) Ecodesign rating for comfort chiller. Outdoor air temperature 35°C and chilled water temperature in/out: 12°C/7°. The ηs,c / SEER in accordance to EU Commission Regulation (EU) N° 2016/2281, dated 20 December 2016.
(3) Not binding. Refer to the effective quantity of refrigerant shown on unit nameplate

Controller in single circuit CGCN/CXCN units

Controller in dual circuit CGCN/CXCN units

Heat Pump Version

General data

CXCN	Unit size	55	70	90	100	115	130	145	160	170	190	210	245	270
Cooling EN 14511 value (1)														
Total cooling capacity	kW	51.7	65	81.1	91.8	105	119	132	146	159	183	201	222	242
Total power input	kW	19.5	25.9	30.5	36.5	40.0	46.0	53.2	56.3	63.4	71.3	81.1	95.3	109.7
Total EER		2.65	2.51	2.66	2.51	2.63	2.59	2.48	2.60	2.50	2.56	2.48	2.33	2.21
ESEER		3.86	3.75	3.86	3.84	4.00	3.97	3.92	3.71	3.65	3.70	3.66	3.71	3.69
Cooling gross value (1)														
Total cooling capacity	(kW)	51.8	65.2	81.3	92	105.3	119.5	132.3	146.5	159	183.4	201.9	223	243.4
Total power input	(kW)	19.4	25.7	30.4	36.2	39.6	45.7	52.9	56.0	63.0	70.7	80.3	94.5	108.2
Total EER		2.67	2.53	2.68	2.54	2.66	2.62	2.50	2.62	2.52	2.60	2.51	2.36	2.25
Heating EN 14511 value (2)														
Total heating capacity	(kW)	56.0	69.8	87.0	100	115	128	142	155	170	191	210	243	268
Total power input	(kW)	17.3	21.9	26.6	31.7	36.2	39.4	45.1	49.5	55.2	62.9	70.6	78.7	89.8
Total COP		3.23	3.19	3.28	3.15	3.17	3.25	3.15	3.14	3.07	3.04	2.97	3.09	2.99
Heating gross value (2)														
Total heating capacity	(kW)	55.8	69.6	86.8	99.7	115	128	142	155	169	191	209	242	267
Total power input	(kW)	17.2	21.6	26.4	31.4	35.9	39.2	44.7	49.1	54.7	62.5	70.2	77.9	88.5
Total COP		3.25	3.22	3.29	3.17	3.19	3.27	3.17	3.16	3.09	3.05	2.98	3.11	3.02
Seasonal efficiency in cooling according to EN14825 (3)														
P rated	(kW)	41.9	52.5	63.6	75.0	85.6	96.3	107	117	128	146	160	183	204
$\eta_{s,c}$	(%)	125	128	125	127	125	130	129	127	125	125	125	130	125
SCOP		3.21	3.27	3.20	3.25	3.20	3.32	3.31	3.26	3.20	3.20	3.20	3.33	3.20
Energy efficiency class		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Compressors														
Number of compressors		2	2	2	2	2	2	2	2	2	2	2	4	4
Number of refrigerant circuits		1	1	1	1	1	1	1	1	1	1	1	2	2
Refrigerant charge (4)	(kg)	23.5	23.8	34.2	34.2	46.7	47.6	47.6	57.9	57.9	70.7	70.7	70.0	70.0
Sound levels														
Sound power level (ISO 9614) - standard noise	(db(A))	91	91	93	93	95	95	95	96	96	97	98	97	97
Sound pressure level at 10 m - standard noise	(db(A))	59	59	61	61	62	63	63	63	63	65	65	64	64

Dimensions and weights

CXCN	Unit size	55	70	90	100	115	130	145	160	170	190	210	245	270
Length	(mm)	2350	2350	3346	3346	4456	4456	4456	5456	5456	6676	6676	6676	6676
Width	(mm)	1106	1106	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306	1306
Height	(mm)	2095	2095	2095	2095	2145	2145	2145	2145	2145	2145	2145	2145	2145
Shipping weight - standard noise	(kg)	1019	1053	1549	1567	2010	2036	2061	2397	2423	2742	2746	2751	2801

(1) Outdoor air temperature 35°C and chilled water temperature 12/7°C.
(2) Outdoor air temperature 7°C with 90% RH and leaving hot water temperature 45°C.
(3) Ecodesign rating at low temperature conditions. Outdoor air temperature 7°C dry bulb/6°C wet bulb and hot water temperature 30°C/35°C (in/out) ηs,h / SCOP as defined in Ecodesign Regulation (EU) N° 813/2013, dated 2.August 2013, for space heaters and combination heaters with Prated <400 kW
(4) Not binding. Refer to the effective quantity of refrigerant shown on unit nameplate.

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