TRANE®

CGWN/CCUN

Water-Cooled Chillers and Heat Pumps

The compact AquaStream²® solution

AquaStream²®

Ingersoll Rand®

'Plug and Play' for unparalleled benefits

Certified Performance: Eurovent Certification provides capacity and efficiency compliance, thus confirming and protecting your investment and guaranteeing peace of mind.

Trane AquaStream²® 180-500 kW water-cooled CGWN chiller and heat pumps and condenserless CCUN indoor chillers range combines the latest technologies available to offer an optimum answer for today's air conditioning and process cooling applications, even if very demanding.
Its design follows the 'Plug and Play' concept to offer easy installation and to save space and time on the jobsite. This can be particularly appreciable on fast turnaround projects.

Far beyond effective cooling, the AquaStream²® chillers and heat pumps provide unparalleled benefits in terms of:

- Versatility
- Reliability
- Substantial energy savings

Reduced footprint

Trane has designed the indoor AquaStream²® range to make the most efficient use of the available installation space. The chiller or heat pump is smaller than most units it might replace, and easier to fit into existing buildings. All units fit through a standard single door. This makes them an excellent choice for any retrofit or replacement job.

Energy Efficiency

The use of advanced heat-transfer technology in conjunction with the most advanced controls has allowed the AquaStream²® chillers to achieve superior energy efficiency levels. Reducing energy consumptions thanks to increased efficiency contributes directly to the greenhouse warming effect reduction.

The Trane AquaStream²® range

1. Smart controls keep the chiller online - Trane's Adaptive Control™ CH530 microprocessor is the most advanced chiller controller available in the air conditioning industry. It offers internal control logic that monitors the chiller's operation and keeps it running during extreme operating conditions. While controls on other chillers will shut down machine operation, the Trane AquaStream²® will modulate system components to keep the chiller operating and producing chilled water, meanwhile continuing to optimize chiller performance. CGWN/CCUN units feature an LCD display for user-friendly monitoring at the local level and various communication interfaces (LonTalk®, BACnet® and Modbus) for easy integration into a BMS.

2. Reliable scroll compressor - tens of thousands of Trane scroll units have been successfully deployed across the globe and our field service engineers have helped us to constantly identify, fine-tune and improve reliability in genuine realistic conditions.

3. High efficiency brazed plate heat exchangers used on both cooling and heating water loops, allow for a compact heat pump design with limited refrigerant charge and significant savings on its operating costs.

4. Various configurations of integrated hydraulic modules to match all applications and water loop designs for an easier and less costly installation, including:

- Single or dual evaporator pump, including easily cleanable water strainer and pressure tabs.
- Speed inverter condenser pumps, including flow control, easily cleanable water strainer and pressure tabs, to optimize pumping energy cost.

5. Separate sections for control box (top) and power supply (bottom).

Testing before leaving the factory leads to faster commissioning on-site.
Units come factory-charged with refrigerant and oil (holding charge in CCUN).

Benefit from faster installation and reduced installation costs. Installation costs are reduced and installation is simplified because you only need to bring main power and water supply to the chiller or heat pump: the 'Plug and Play' concept. The integrated hydraulic module features all necessary components.

6 High efficiency condenser brazed plate heat exchanger, allowing significant savings on operating costs. It also helps to keep overall unit size to a minimum.

7 Evaporator hydraulic package (pump and buffer tank).

8 Trane TR Series variable frequency drives - available for condenser water pumps - allow for reduced pumping costs and pump wear, better cooling tower water temperature control.

9 Condenser hydraulic pump.

10 Easily removable water strainer to allow fast maintenance and easy cleaning.

Reliable and highly efficient scroll compressors.

The integrated hydraulic package features all the necessary components: evaporator and condenser pumps, buffer tank, and easily removeable water strainers.

Ideal in heat pumps applications

Trane AquaStream²® CGWN water-to-water heat pumps combine the latest technologies on the 200 to 600 kW heating segment to perfectly address the market needs for most heat pump applications, including geothermal applications.

One of the most versatile, energy efficient and reliable heat pumps you can find on the market, thanks to:

- its capability to produce hot water up to 60°C
- its high level of performances (COP up to 4.5 at 45°C)
- its maximum outlet temperature of 64°C compared to 55°C or 60°C for models of the previous generation
- its 'Plug and Play' compact design including different levels of hydraulic module packages

The technologies built into Trane's CGWN heat pump make it well-suited to geothermal applications.

Smart controls

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Touchscreen LCD display allowing easy navigation through various menus.

General Data

Condenser leaving water temperature	(°C)	25 / 60
Evaporator leaving water temperature	(°C)	-12 / + 15
Power supply	(V/Ph/Hz)	400/3/50

		205 SE	205 HE	206 SE	206 HE	207 SE	207 HE	208 SE	209 SE	210 SE	211 SE	212 SE	213 SE	214 SE	215 SE
Cooling mode (1)															
Net cooling capacity	(kW)	182.0	193.0	216.0	227.0	251.0	262.0	283.1	282.0	311.0	341.0	411.0	444.0	477.0	506.0
Total power input	(kW)	44.7	41.5	52.8	49.8	60.5	57.8	61.5	64.0	72.8	81.8	93.9	102.8	110.9	117.9
Net EER		4.07	4.65	4.09	4.56	4.15	4.53	4.60	4.41	4.27	4.17	4.38	4.32	4.31	4.29
Net ESEER		5.12	5.78	5.13	5.63	5.24	5.71	5.71	5.53	5.17	5.05	5.45	5.30	5.28	5.29
Heating mode (2)															
Net heating capacity	(kW)	214.0	221.1	254.8	262.0	296.2	303.2	329.1	362.0	400.8	441.8	478.9	518.1	557.3	591.2
Total power input	(kW)	52.2	49.7	62.0	60.0	72.2	69.7	76.8	86.6	96.9	105.8	112.7	122.4	131.6	139.6
Net COP		4.10	4.45	4.11	4.37	4.10	4.35	4.29	4.18	4.14	4.18	4.25	4.23	4.23	4.24
P Rated (heating) (4)	(kW)	204	210	264	273	307	315	348	379	381	342	340	370	401	-
ηs / SCOP (4)	(%)	164	183	189	197	188	211	211	196	120	160	146	149	142	-
Refrigerant / number of circuits		R410A/2													
Number of compressors / capacity steps		4										6			
Sound power level (4)	(dB(A))	82	82	82	82	83	83	83	84	84	84	87	88	88	90
Weights and dimensions (operating) (5)															
Length	(mm)	2545	2545	2545	2545	2545	2545	2545	2545	2545	2545	2808	2808	2808	2808
Width	(mm)	880	880	880	880	880	880	880	880	880	880	878	878	878	878
Height	(mm)	1842	1842	1842	1842	1842	1842	1842	1842	1842	1842	1950	1950	1950	1950
Weight	(kg)	1360	1460	1300	1450	1420	1470	1500	1650	1710	1790	2232	2442	2525	2640
Electrical data															
Nominal amps	(A)	131	144	146	163	161	187	182	203	219	235	262	282	303	319
Start-up amps	(A)	259	274	321	338	336	395	392	413	481	497	472	492	513	581

(1) Evaporator 12°C/7°C and condenser at 30/35°C. Net performance calculated as per EN 14511-2011.
(2) Evaporator 12°C/7°C and condenser 45°C saturating subcooling 5K.
(3) ηs/SCOP as defined in Directive 2009/125/EC of the European Parliament and of the Council with regard to EcoDesign requirements for space heaters and combination heaters with P rated <400 kW - COMMISSION REGULATION (EU) No 813/2013 of 2 August 2013: Med. temp. application 10/7°C.
(4) At full load and in accordance with ISO9614 and without compressor enclosure.
(5) Without hydraulic module.

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