



Innovative and Efficient Solutions for You



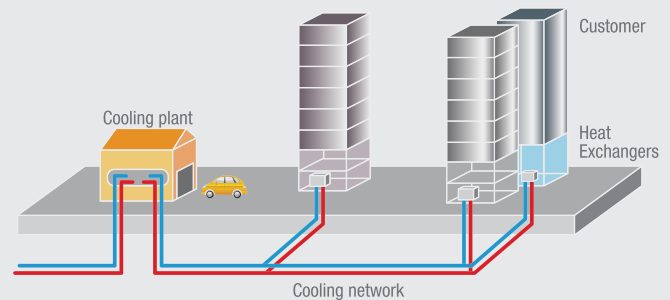
Quality • Service •
Commitment



6,000 TON CENTRIFUGAL, WATER COOLED CHILLER, WCT SERIES
FOR DISTRICT COOLING APPLICATIONS

DISTRICT COOLING APPLICATIONS

CENTRALIZED PRODUCTION AND DISTRIBUTION OF COOLING ENERGY. CHILLED WATER IS DELIVERED VIA AN UNDERGROUND INSULATED PIPELINE TO OFFICES, INDUSTRIAL AND RESIDENTIAL BUILDINGS TO COOL THE INDOOR AIR OF THE BUILDINGS WITHIN A DISTRICT.



...OUR SOLUTION

Two two-stage compressor centrifugal chillers arranged in series counterflow.

Two-of-everything' design (two compressors, two economizers, two expansion valves, for each unit in the system) provides built-in redundancy resulting in added reliability.

Series-counterflow arrangement provides the advantage of having a compact package, without the need for extra components such as pipings, valves, pumps,... The result is lower installed cost and less space required.

WCT chillers provide industry-leading efficiency, resulting in low operating cost and excellent return of investment. Two efficiency versions are available:

Standard efficiency	0.648 kW/ton*
Premium efficiency	0.616 kW/ton*

*data refer to 6,000 ton rated at 54/44F evaporator water and 95/105 condenser water

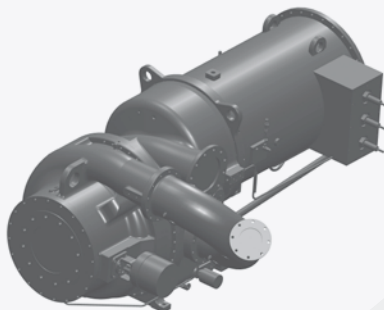


WCT CHILLERS ARE THE IDEAL SOLUTION TO ENSURE THE LOWEST TOTAL COST OF OWNERSHIP IN LARGE SIZE COOLING PLANTS

UNIQUE DESIGN

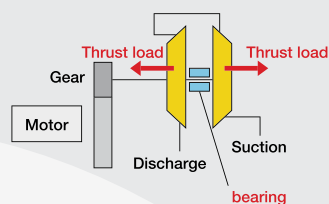
COMPRESSOR

Two-stage centrifugal compressor with interstage flash economizer to improve compressor efficiency.

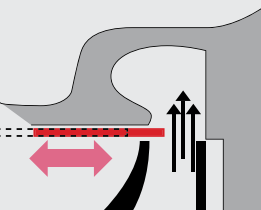


Unique innovative ‘back-to-back’ impeller design, resulting in:

- thrust load reduction by 67%
- improved reliability
- longer bearing life



Unique **diffuser control** to avoid surging, resulting in 10% efficiency increase at part loads vs hot gas by-pass.



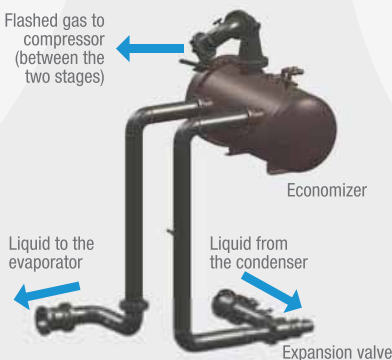
HEAT EXCHANGERS

Flooded type shell & tube evaporator and condenser, including two separate refrigerant circuits.

EXPANSION PROCESS

Expansion process happens through two steps.

- First expansion through the **electronic expansion valve** (standard) before the economizer;
- Second expansion through the flash economizer

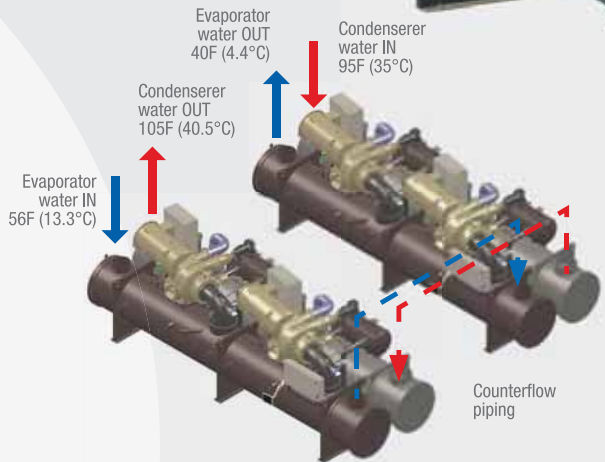


CONTROL

- **Microtech smart controller** constantly monitors chiller status and automatically takes proactive measures to correct unusual conditions.
- Onboard **USB port** to download historic trend data (including alarm informations).
- User-friendly **touch screen display**



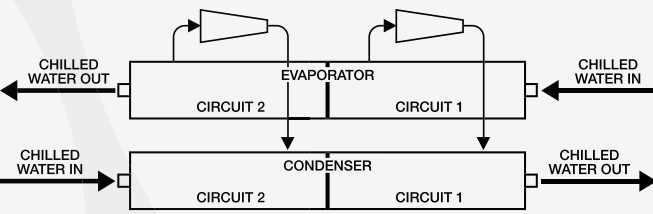
Total Cooling Capacity 6,000 ton



SYSTEM WITH TWO SERIES-COUNTERFLOW CHILLERS

WCT chillers are suitable to be arranged in pairs **in series-counterflow** to reach the high lift required by the typical applications

- Evaporators are placed in series with the chilled water flowing from upstream to the downstream evaporator
- Condenser water is put all through the condenser of the downstream chiller (producing the coldest evaporator water) and then through the upstream chiller (seeing the warmest inlet evaporator water)



CHILLER SERIES-COUNTERFLOW ARRANGEMENT

Each chiller of a 6,000 ton system has a separate refrigerant circuit for each compressor: this provides the full load efficiency advantage of two separate chillers arranged for counterflow operation in a single compact unit. The **series-counterflow arrangement** allows indeed each compressor to operate at a lower head, increasing the energy performance at full load.

CERTIFIED PERFORMANCE

**WCT CHILLERS ARE TESTED
IN COMPLIANCE
WITH AHRI STANDARD 550/590
AND PROVIDE CERTIFIED
PERFORMANCE**



SELECTION FLEXIBILITY

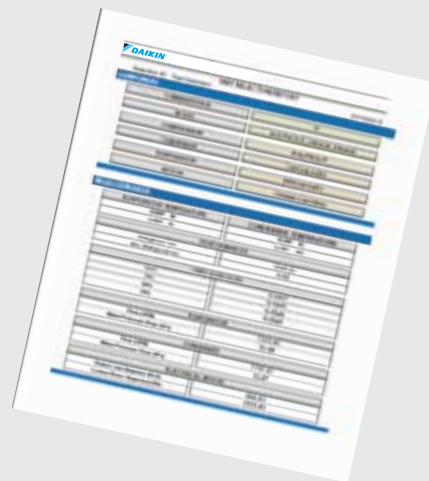
**SELECTIONS OF WCT CHILLERS ARE PERFORMED THROUGH
MANY TOOLS.**

Many different combinations of the main components as

- Compressor
- Heat exchangers
- Electric motor
- Starter

can be selected to customize the unit in accordance
with job requirements.

A wide motor voltage range is available to get compatibility with most of
power systems at medium voltage, from 3,000 to 13,800V and 50/60 Hz.



OPTIONS

**A WIDE PORTFOLIO OF OPTIONS IS AVAILABLE ON REQUEST TO FURTHER SUITE THE UNIT TO
JOB REQUIREMENTS, INCLUDING FLANGED CONNECTIONS, COPPER-NICKEL OR TITANIUM TUBE
MATERIAL, 0.028 OR 0.035 IN. TUBE WALL THICKNESS, ETC.**

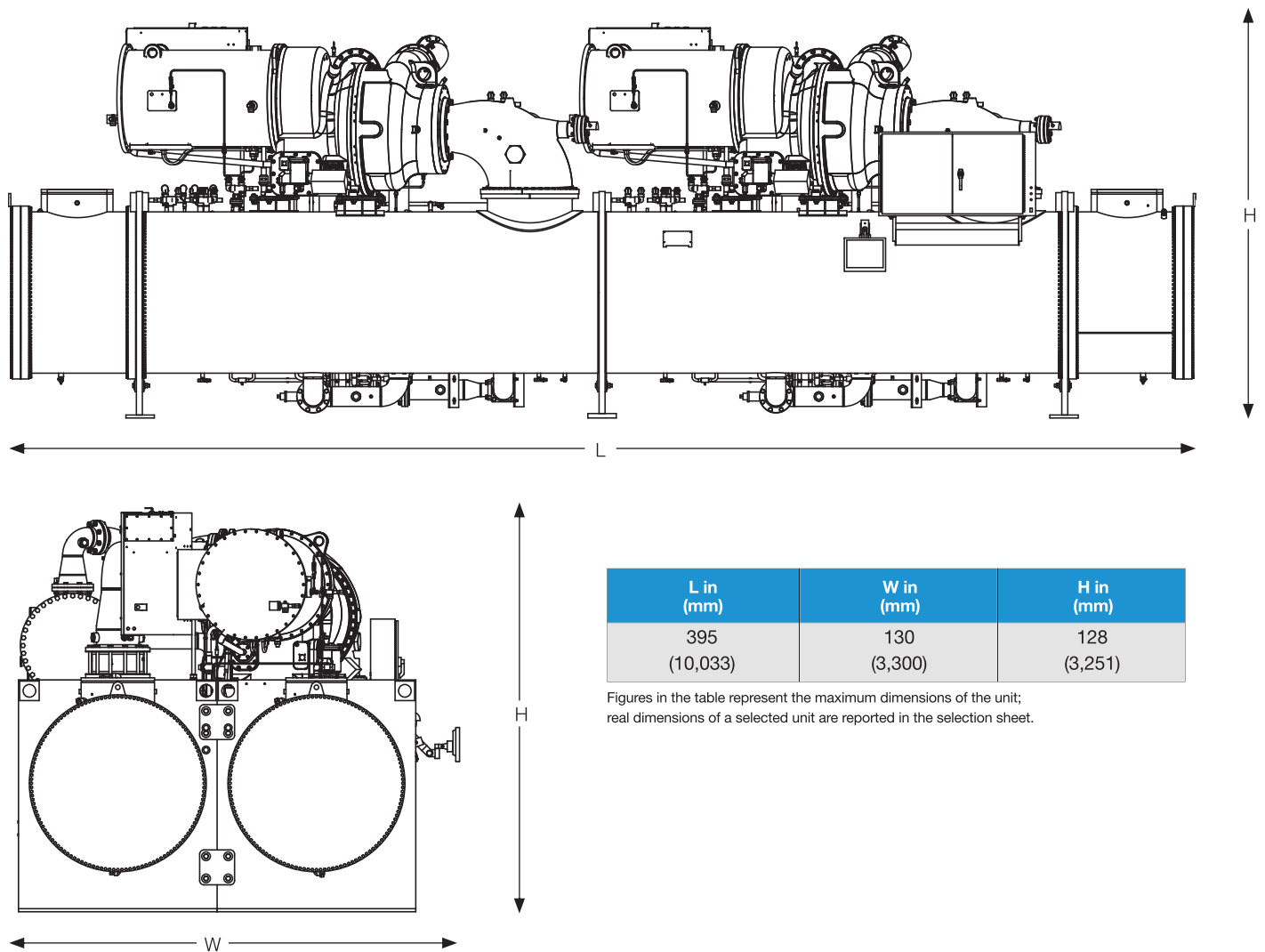
6,000 ton WCT WATER COOLED CHILLER

TECHNICAL DATA

WCT		STANDARD EFFICIENCY	PREMIUM EFFICIENCY
Cooling Capacity ¹	ton (MW)	6,000 (21) 2 X 3,000 (10,5)	6,000 (21) 2 X 3,000 (10,5)
Full load efficiency	kW/ton	0.648	0.595
Evaporator water temperature	F	56/40	56/40
Condenser water temperature	F	95/105	95/105

(1) All the figures in the table are indicative: real data are available in details in the unit selection sheet.

TYPICAL DIMENSIONS



DAIKIN MIDDLE EAST & AFRICA

P.O. Box 18674, Jebel Ali Free Zone, Dubai - U.A.E., Tel: +971 (0) 4 8159 300, Fax: +971 (0) 4 8159 311

Website : www.daikinmea.com Email : info@daikinmea.com