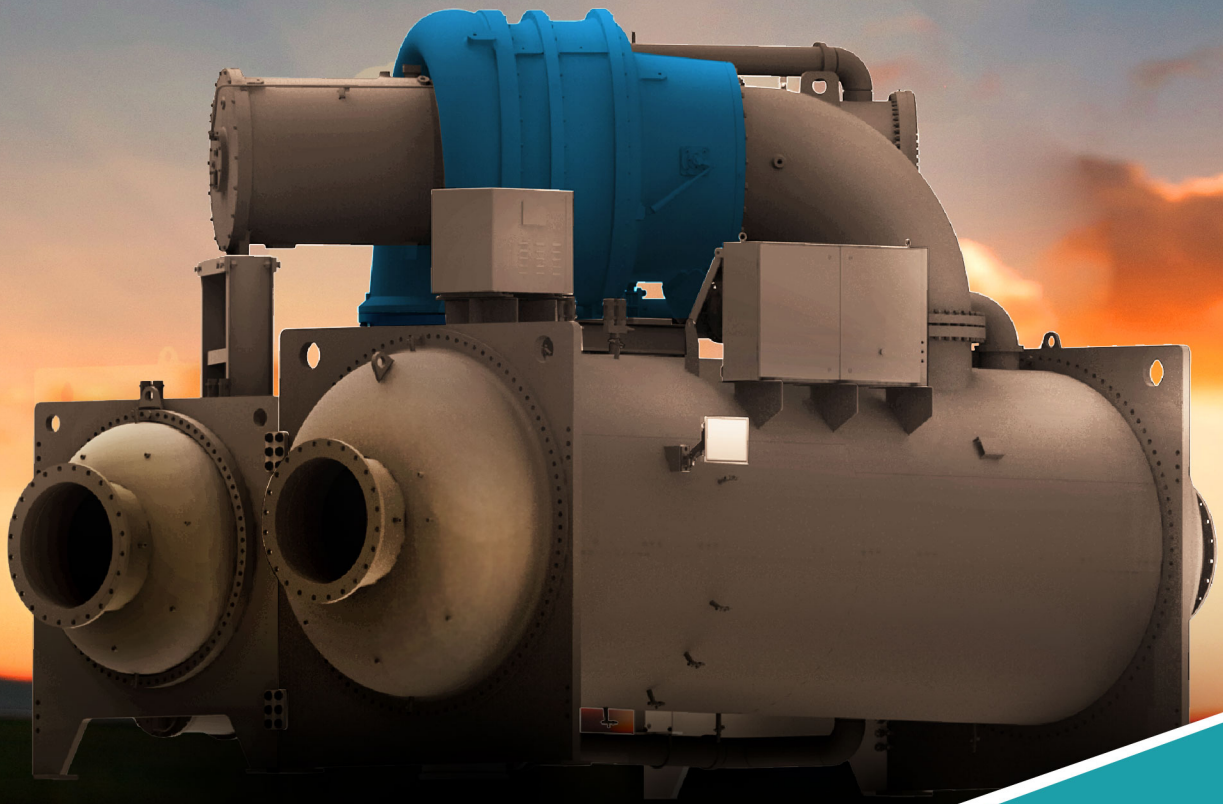
DAIKIN

WLT

A BALANCE PERSPECTIVE

HFO-R1233zd(E)

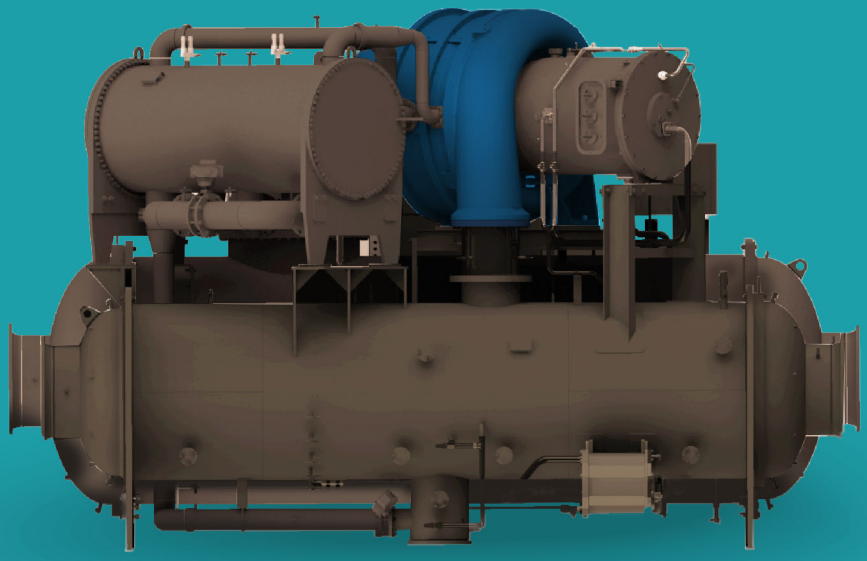
WATER COOLED MULTI-STAGE CENTRIFUGAL CHILLER



LOW CARBON FOOTPRINT, LARGE COOLING CAPACITY

Next-Generation Refrigerant : HFO-R1233zd(E)

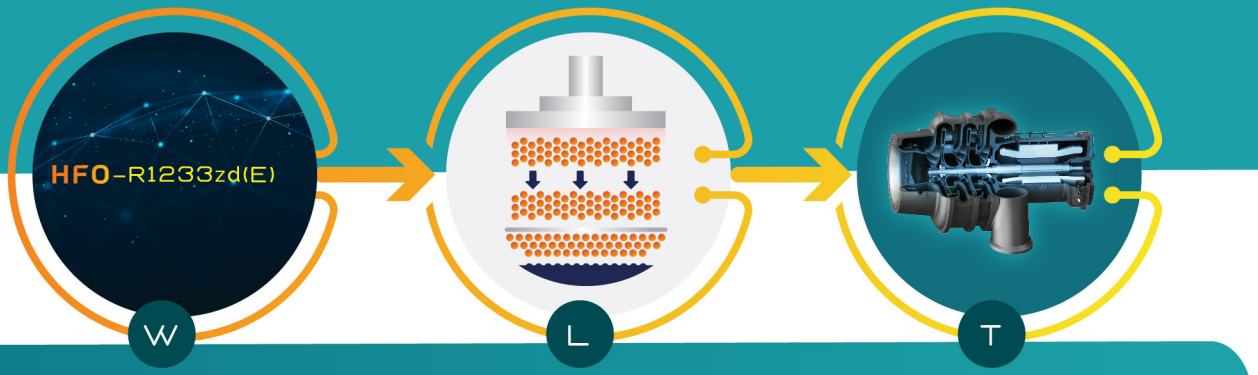
LOW CARBON FOOTPRINT, LARGE COOLING CAPACITY WITH HFO-R1233zd(E)



COP* UP TO **7.07** W/W

IPLV* **9.5** W/W

*Performance based on AHRI condition



WATER COOLED CHILLER WITH A DIFFERENCE

LARGE COOLING CAPACITY

TECHNOLOGY INNOVATION

LOW GLOBAL WARMING POTENTIAL

The WLT chiller is the total solution for a full-blown HFO chiller with initial investment cost and long term energy savings. By utilizing the HFO-R1233zd(E) refrigerant, it strikes a perfect balance between ecological friendly and smart investment compared to conventional low-GWP chilers that are either HFO-refrigerant base chillers or HFO blend that are good only in the transition period into full HFO refrigerant.

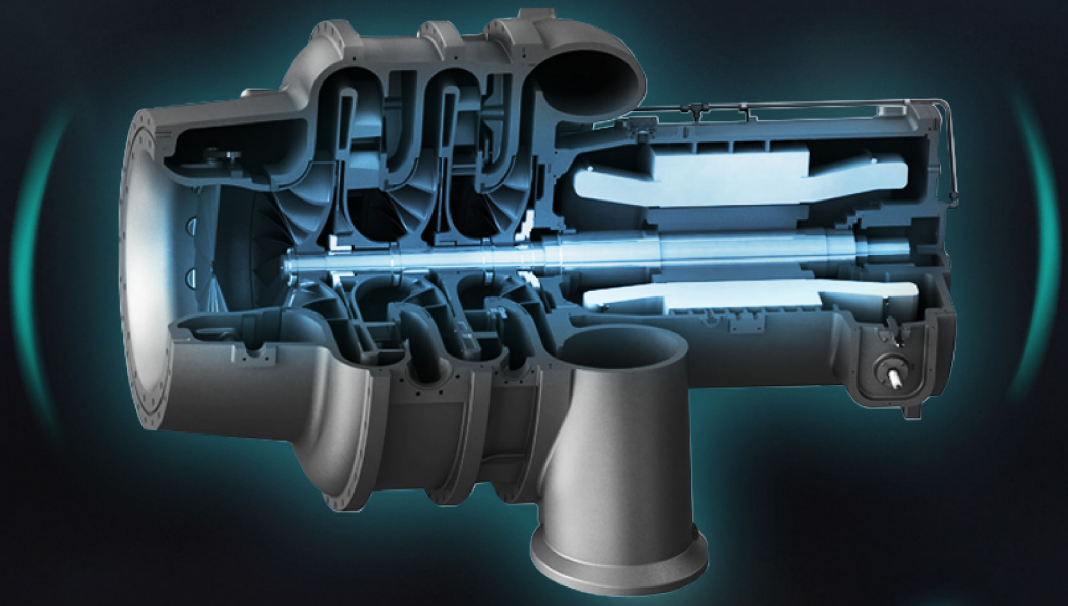
WITH FALLING FILM EVAPORATOR

Falling Film heat exchange evaporator is utilized in the WLT chiller that is proven to be efficient and uses less refrigerant charge compares to a flooded or DX type design. The chiller can be arranged in series counter flow configuration that allows the system to achieve up to 4000RT of cooling capacity. The WLT chiller is the total solution for low carbon footprint and large cooling capacity tonnage demand in the market with low intitial investment cost.

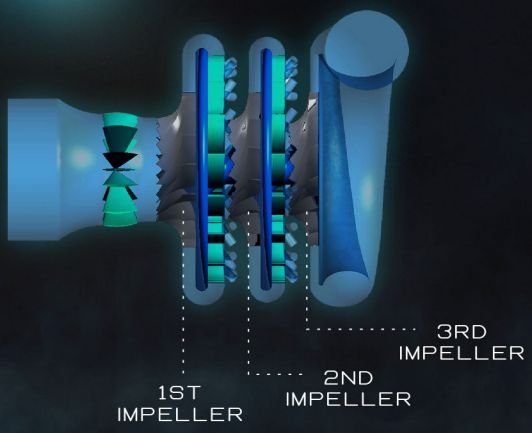
MULTI-STAGE IMPELLER

Industrial-proven technology of multi-stage in-line impeller comes with IGV, running on the AC Induction motor. The Daikin own compressor was engineered for performance and durability. Besides being efficienct, it is also a cost effective solution for customer who is looking for long term investment chiller.

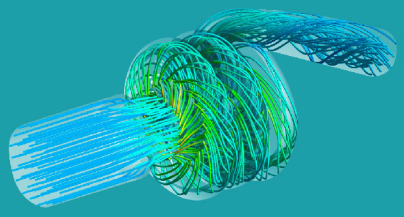
ENGINEERED *for* PERFORMANCE



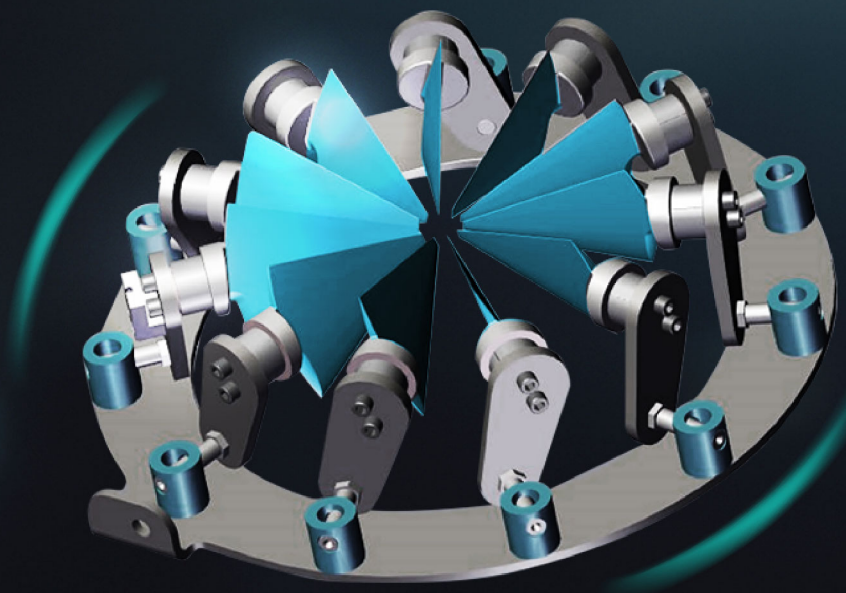
MULTI-STAGE IMPELLER WITH HFO-R1233zd(E)



- The WLT chiller is designed with industrial proven multi-stage in-line impellers that was engineered for performance and reliablity. The impellers rotate at high speed, increases the pressure of the refrigerant gas, then drives the refrigerant into the diffuser. Each impeller is desiged with precision to ensure the performance delivered is always on the high level.



THE MULTIPLE STAGE IMPELLERS ALLOWS FOR HIGHER PRESSURE COMPRESSION, IMPROVES VOLUMETRIC EFFICIENCY, AND IMPROVES THE RELIABILITY WHEN RUNNING AT HIGH TONNAGE CAPACITY. THE COMPRESSOR IS EQUIPPED WITH AN AC INDUCTION MOTOR TO ROTATE THE IMPELLER.



DESIGNED for FLEXIBILITY

INLET GUIDE VANES + *VARIABLE SPEED DRIVE

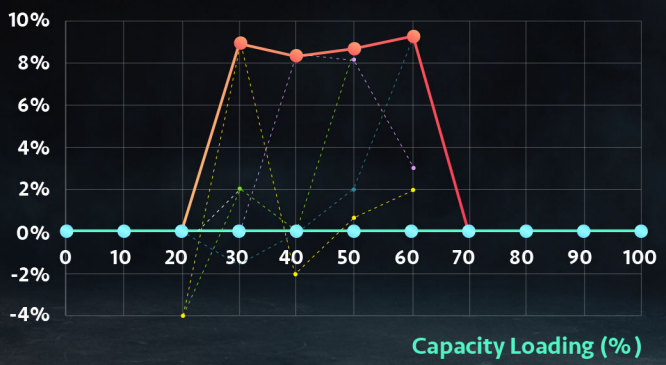
- **Inlet Guid Vanes (IGV)**

  An Inlet Guide Vane (IGV) is located at each of the multi stage impellers. The flexibility to optimally control the flow of gas efficiently into the eye of the impeller provide the most accurate cooling and optimized part load efficiency for the chiller.

- *** Variable Speed Drive**

  Variable Speed Drive (VSD) can be offered as an optional starter. The VSD is designed to regulate the compressor motor speed efficiently by matching with the cooling capacity needs.

Performance Improvement From Baseline



Controlled RPM and Optimized IGV positions reduces surging and improves part-load efficiency close to 10% compared to the baseline of fix position IGV Optimization of IGV position obtained from Daikin's extensive in-house testing.

* VARIABLE SPEED DRIVE (VSD)

THE VARIABLE SPEED DRIVE (VSD) IS AN OPTIONAL OFFERING AND IT WILL BE ON A FREE STANDING CONFIGURATION. THE STANDARD UNIT WILL COME WITH DIRECT ON-LINE STARTER. OTHER STARTER OPTIONS INCLUDES SOLID STATE, PRIMARY RESISTOR AND AUTO TRANSFORMER.

ONE OF A KIND

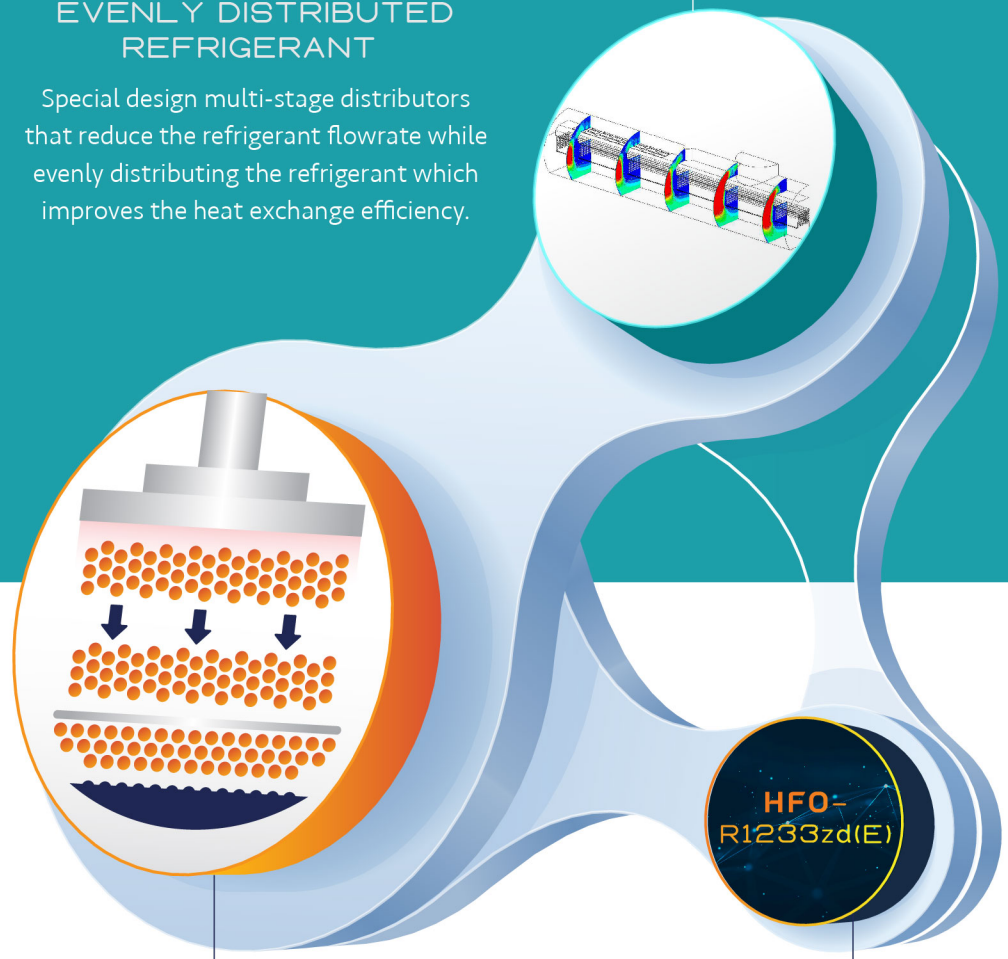
DAIKIN PATENTED FALLING FILM EVAPORATOR

High Tonnage & Enhance Heat Exchange Technology of Falling Film Evaporator that caters up to 2000RT cooling capacity for a single chiller. One of a kind compares to others competitors who is using the flooded type evaporator at this capacity.

LIQUID DISTRIBUTION

EVENLY DISTRIBUTED REFRIGERANT

Special design multi-stage distributors that reduce the refrigerant flowrate while evenly distributing the refrigerant which improves the heat exchange efficiency.



ENHANCE HEAT EXCHANGE

GREATER APPROACH

Reduce the cooler approached hence improves full load efficiency.

LOWER REFRIGERANT CHARGE

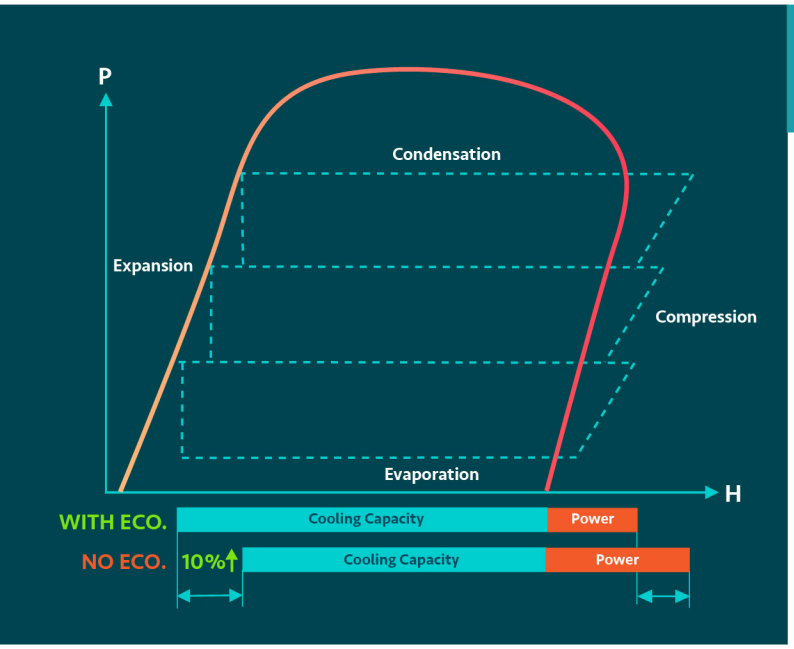
SAVE REFRIGERANT COST

Falling film design reduce up to 40% refrigerant charge and gives better efficiency compares to flooded design.

ENHANCED PERFORMANCE & EFFICIENCY

DAIKIN PATENTED FLASH TANK ECONOMIZER

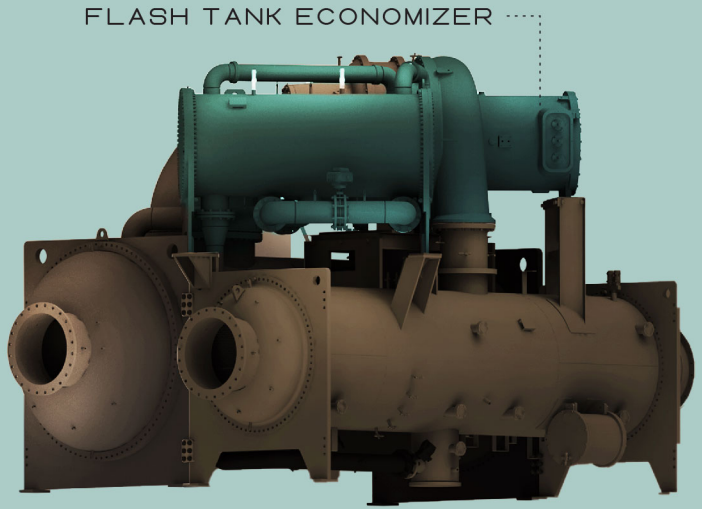
The Daikin patented flash tank economizer is specially designed for multi stage compressor to improve the efficiency. In this tank, the refrigerant from the condenser will flow to two different path: the flash gas flow into the compressor stages and been compressed again, while the liquid go through the float valve to reduce its temperature and then flow into evaporator to cool the chilled water.



EFFICIENT & EFFECTIVE

BETTER FLASH GAS SEPARATION

Proven patented technology used in Daikin's water cooled centrifugal chiller. Provides better liquid and gas extraction which enhance reliability and efficiency.



RELIABLE & COST EFFECTIVE

PREVENTS LIQUID CARRY-OVER

Less refrigerant charge compares to conventional economizer. Also enables the reduction in overall footprint.

GREEN ENERGY TECHNOLOGY

NEW ECONOMIZER

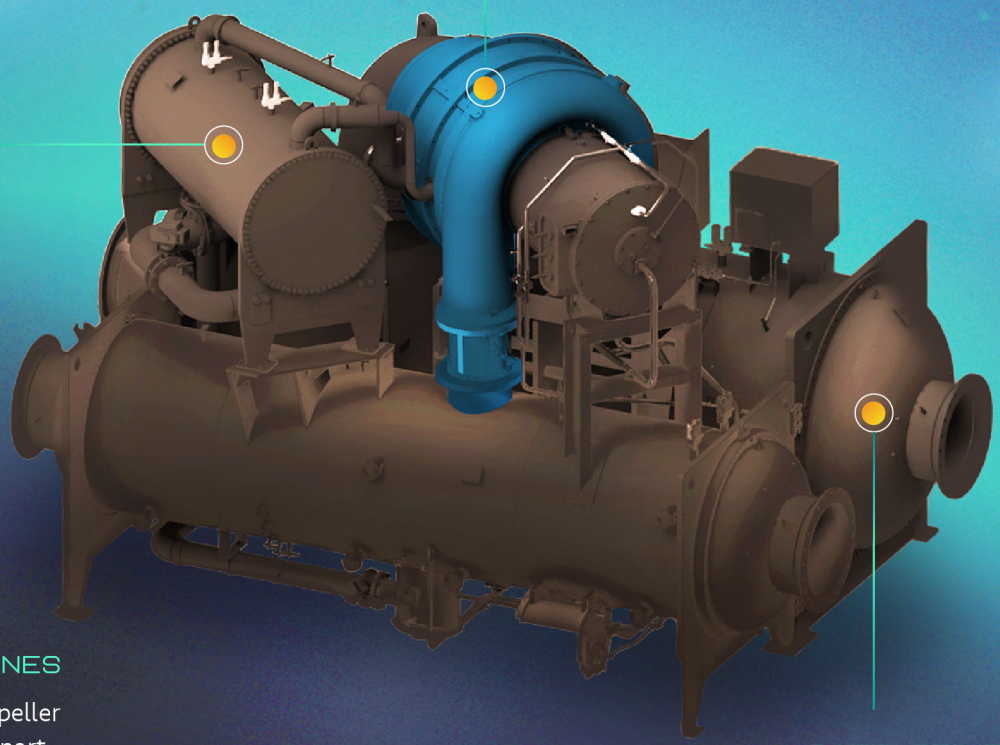
New horizontal economizer specially design for multi stage chiller system.

WLT COMPRESSOR

Multi Stage Impeller with Multi Stage Moveable Inlet Guide Vane at each impeller.

CONTROL PANEL

- PCO 5+ Controller
- Direct On-line (DOL) starter comes as standard, with Solid State, Auto Transormer, Primary Reactor and Variable Speed Drive (VSD) starter as Optional.



INLET GUIDE VANES

Equipped on each impeller that gives optimized part load efficiency.

R1233zd(E) REFRIGERANT

- Low Global Warming Potential, GWP = 1
- Zero Ozone Depletion Potential, ODP = 0
- Non Toxic & Non Flammable (A1)

PATENTED FALLING FILM EVAPORATOR

- Reduce refrigerant charge
- Enhance heat exchange efficiency

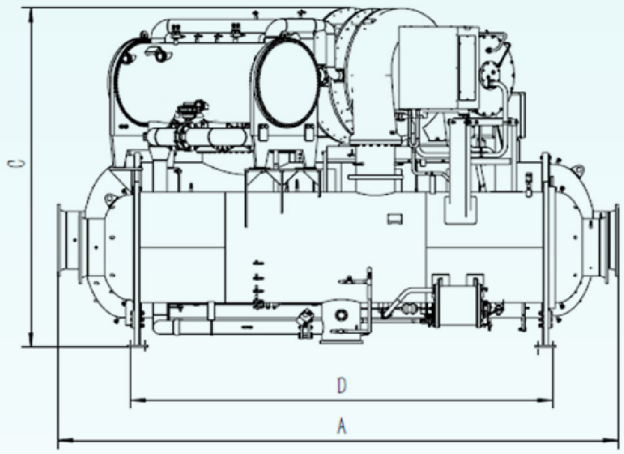
* TECHNICAL DATA

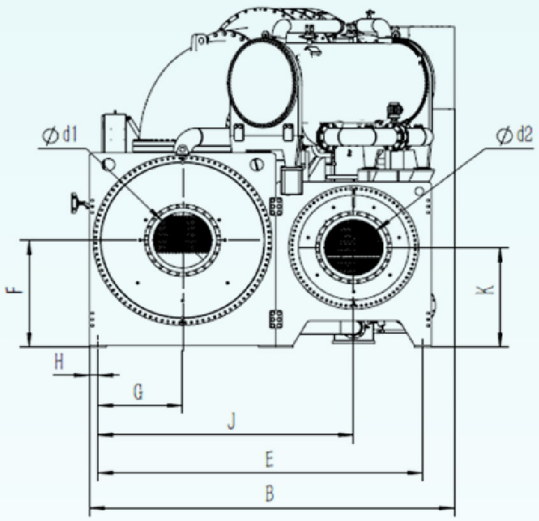
Model	Cooling Capacity		Power Consumption	Efficiency		Evaporator		Condenser		Rated Load Amps
						Flow Rate	Pressure Drop	Flow Rate	Pressure Drop	
	Rton	kW	kW	kW/RTon	COP	L/s	kPa	L/s	kPa	A
WLTC/F7616-1/C5416-1	4000	14,064	2,019	0.505	6.967	610.9	86.0	700.3	65.2	211.6

Note:

1. Above chiller is rated accordance to AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).
2. Table of chiller performance above is rated based on a typical district cooling design condition:
   - ELWT: 5°C, EEWT: 10.5°C; CEWT: 29.5°C, CLWT: 35°C
   - Evaporator/Condenser water side fouling factor: 0.0176/ 0.0440 °C.m2/kW
   - Power Supply: 6600V/50Hz/3ph
3. Above chiller is based on 1 pass evaporator and 1 pass condenser vessel configuration.
4. Please contact our sales representative for other design condition requirement.

DIMENSIONS





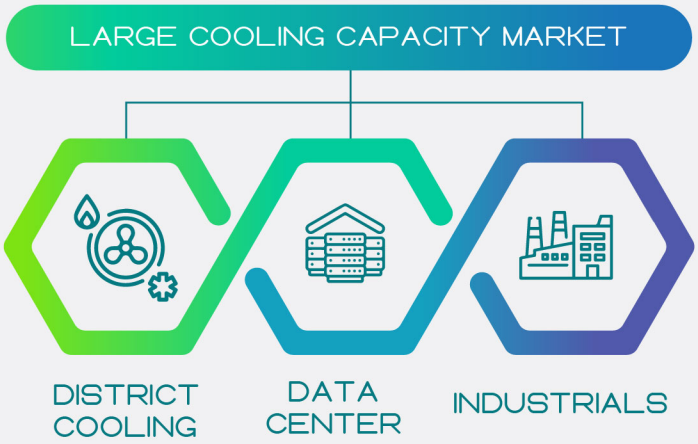
Model	Dimensions (mm)					Locating size of evaporator connection (mm)				Locating size of condenser connection (mm)			Shipping weight (kg)	Operating weight (kg)
	A	B	C	D	E	F	G	H	d1	J	K	d2		
WLTC/F7616-1/C5416-1	6,604	4,302	4,206	4,973	3,829	1,325	999	102	689	3,015	1,235	689	41,361	48,361

Note:

1. A, B, C dimension deviates by ± 13mm.
2. The dimension include 20mm insulation for the evaporator.
3. Above dimension is based on 1 pass water flow and single chiller configuration.
4. Please contact our sales representative for other design configuration, e.g. marine water box, different passes, series counter flow arrangement and etc.

LOWER CARBON FOOT PRINT FOR LARGE COOLING CAPACITY DEMAND

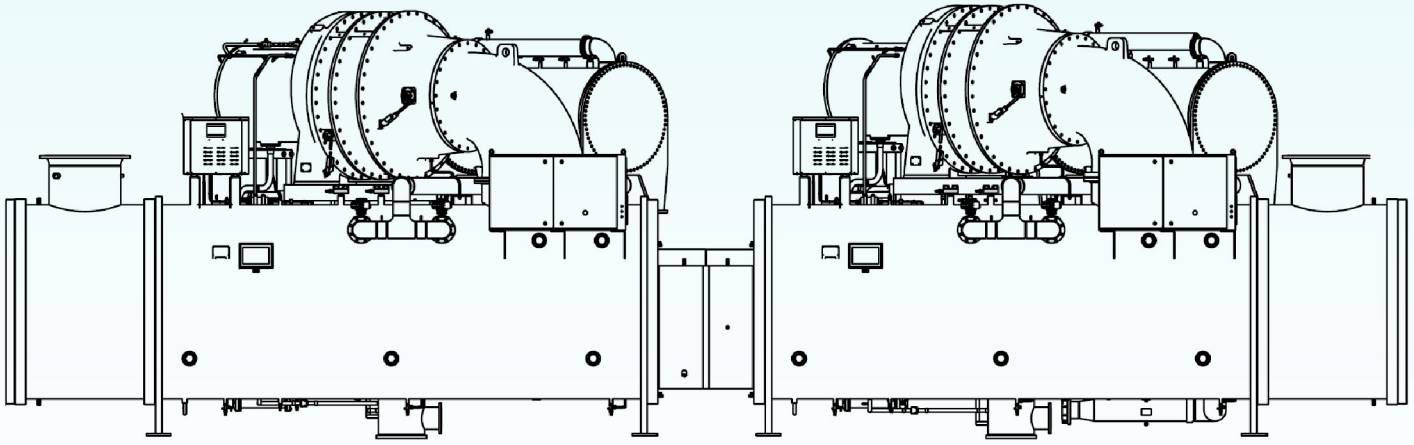
CHILLER APPLICATION



The large tonnage cooling capacity market has been rapidly increased in these few years with sectors such as District Cooling, Data Center and Industrials which among the others demand for a high tonnage cooling capacity. And with the international agreement to gradually reduce the consumption and production of hydrofluorocarbons (HFCs) by the Kigali Amendment to the Montreal Protocol, the search for a high tonnage chiller with low global warming potential refrigerant is gruelling.

In line with the global's green vision, Daikin has crafted the the optimal solution to this rising large cooling capacity market with the WLT series chiller that provides high cooling capacity chiller up to 2000RT that utilize the low GWP of the HFO-R1233zd(E).

FLEXIBILITY IN DESIGN



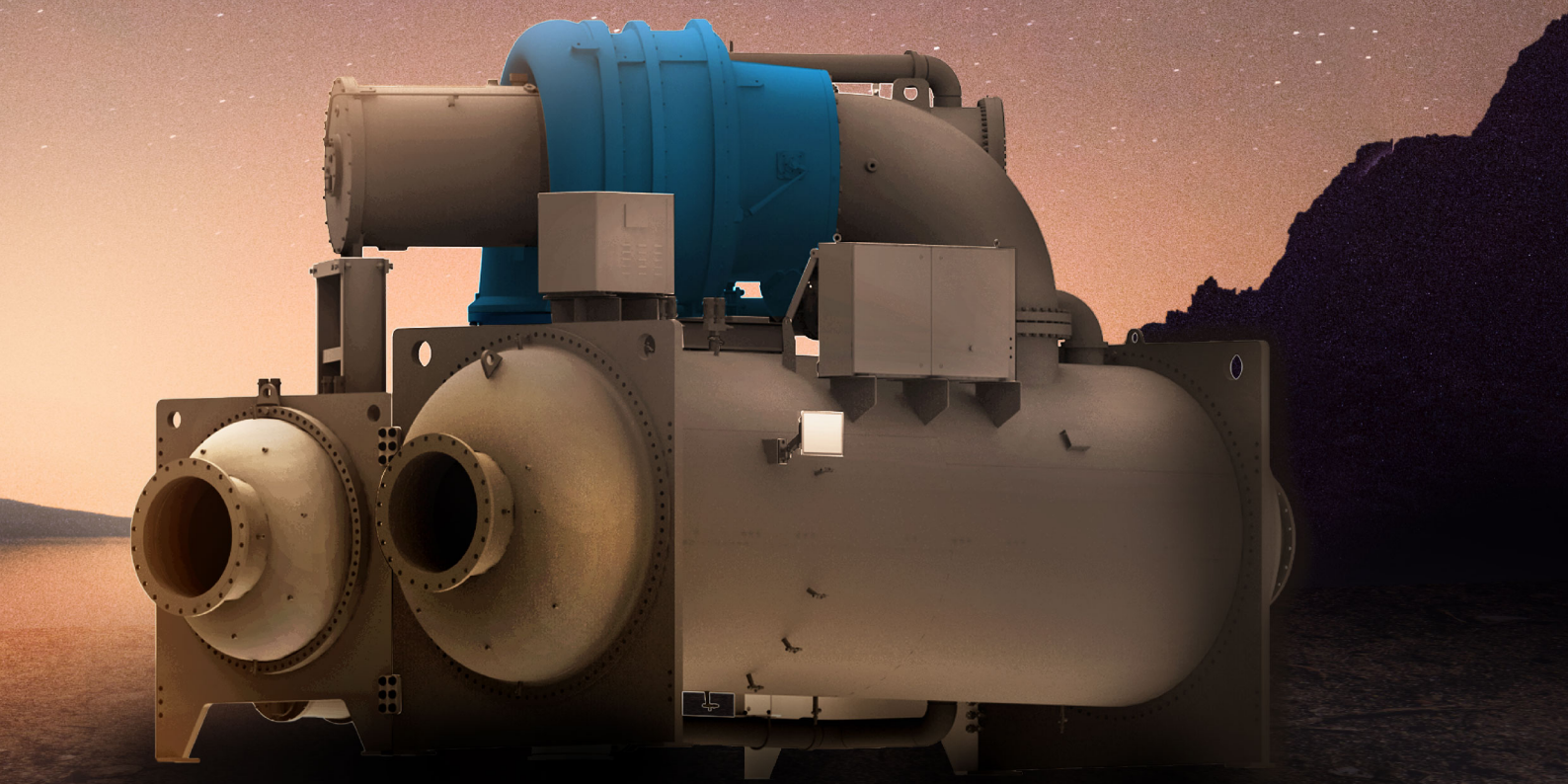
Designed with flexibility, the WLT chiller can achieve up to 4000RT cooling capacity with Series Counterflow (SCF) arrangement. 2 units of WLT chiller can be combined into a system and can be connected via one command signal. With SCF arrangement, the chillers efficiency will improves significantly at full load and part load conditions as it will greatly minimize the work done (lift) by each compressor. A SCF chiller is more efficient than a single chiller at design conditions by 5 to 7% and save chiller energy annually up to 20%.

ABOUT DAIKIN

Daikin as the world leader in the HVAC industry has always been devoted on reducing the carbon footprint and moving towards sustainability. Daikin goals to achieve net-zero carbon by reducing greenhouse emissions will be successfully achieved by making conscious changes in its entire value chain; life cylce of products, manufacturing, work proces and innovative technologies. The ultimate goal than is to contribute towards a cleaner, safer environement to combat climate change issues and move towards a sustainable future.

Today, Daikin introduce the all new chiller into their HFO offering line up with the WLT series, Water Cooled Oil Centrifugal Chiller that utilizes the low global warming potential refrigerant of the HFO-R1233zd(E). The WLT series offer green energy solutions to the large cooling capacity demands.

The WLT chiller utilizes Daikin's own compressor that is designed and manufactured by our experience research and development team. The compressor utilize the semi-hermetic multi-stage impeller with moveable Inlet Guide Vanes on each impeller. The machine is engineered for flexibility and suitable for large tonnage market segment such as district cooling, commercial and industrial vertical market.



** The compressor colour is for illustrative purposes only and is not a representation of the actual product.*