We are there for you, right where you need us.

Skill and innovation around industry construction.
For more than 130 years.
Skill, experience, innovation and superb quality: The name of Wilhelm Toelke has been well known for more than 130 years. Since the beginning our customers and business partners have always valued our reliability, our attention to detail and flexibility. This of course applies not only to our specialization, but across our portfolio of service for industry of all kinds. We always set the standard with advanced installation and construction techniques. And with a drive to innovate which has set us apart since 1882.

Beside in head office in Nuremberg we have a subsidiaries in Vienna, But as a leading company in this area we are at home anywhere experts are needed. We want you to be able to check at all times whether to measure up to our own quality standards.

That is why we aim for far more than just a technically correct, problem-free fulfilment of your order. We are aware of our responsibility to the people who work for us. Continuous and organized vocational training leading to qualifications is therefore as a much part of our business principles as health and safety and protection of the environment. That is why we apply extensive measures-not least of which is a certified quality and safety management programme with regular internal audits.

As a result, Toelke has been certified under DIN EN ISO 9001:2008 and SCC:2011. In addition to this we comply strictly with the Dangerous Substance Regulation (Gefstoffv).
The open self-supporting frame of the TCLB series makes easy service and maintenance available when needed. In basic models, the structure is made from galvanized steel with polyester powder coating to protect the structure from corrosion and damage to condenser. It is also available to use stainless steel sheets for special applications based on project conditions. A protective grid is installed to prevent harm to condenser coils. Placement of the major components is efficiently designed to make them easy to inspect and repair.

- The TCLB series adopts high-efficiency Hermetic scroll compressors to ensure quality and reliability of the system.
- It is equipped with thermal motor protection switch, crankcase heater, oil level switch, and safety thermostat.
- Designing the system with Tandem or Trio compressor quantities to ensure the reliability of the system in case of failure.

**Up to 3% higher full-load efficiency**

**Up to 5% better ESSER**
**CONDENSER**

- The \( W \) type condensers have high energy efficiency while retaining small dimensions. Using aluminum fins with extended heat exchange surface improving heat rejection of the unit and total cooling capacity.
- Changing condenser type to micro channel is also available to retain even higher efficiency and more compact design.

**SHELL AND TUBE EVAPORATOR**

The standard type shell & tube evaporator designed with small diameter copper tubes inside and an external steel jacket. The water flow pass is designed counter-flow to achieved high efficiencies and increasing heat exchange efficiency.

**FAN**

The TCLA models use axial type EC fan connected to the controller to assure reading the best condensation temperature. All fans equipped with variable speed motors from \( \%20 - \%100 \) to regulate condensing pressure within normal operating range.

**AC Axial Fan**
Asynchronous motor / AC Motor
External Voltage Control, 3~400V

**EC Axial Fan**
Permanent Magnet motor / EC Motor
Integrated Frequency Inverter Control, 1~230V

Comparison: 15,800 m\(^3\)/h
@ 30 Pa and Partial-load Operation

The Following Figure Provides The View Over A Longer Period. Here, The Annual Operating Costs Of Both Fan Concepts Are Added Up Over The Years. The Load Profile Shown Also Served As The Basis For The Calculation Here. The Energy Costs Have Been Set at 0.10 EUR per kWh.
The electronic expansion valve is used to precisely control refrigerant flow in evaporator. It uses a -600 step motor with electronically pressure and temperature sensor for accurate refrigerant control to achieve high efficiency and also a protection of compressor, drawing in refrigerant.

E.V.V

The TCLA series uses microcomputer controller specially designed for chiller to achieve best efficiency and performance. Using a 7” touch screen LCD, it can control numerous functions and check the operating hour, functional status and full alarms and errors history. It allows to connect several chillers to work as a single module and to switch to another chiller if one fails to ensure uninterrupted operation. It is also available as an option to connect to chiller via RS485, Bacnet or Lonwork protocols.

CONTROLLER

The electrical cabinet contains all components to control the entire functional range of the chiller. It has two or three doors based on the design and it is ventilated and equipped with an energy power switch and a display for the controller. All components and design the requirement of EN40-2-60355 and EMC Directive (30/2014/EU) and it is IP54 protection certified.

HIGH EFFICIENCY

Attaining high efficiency is always a goal for TOELKE Klimatechnik. Our chillers are designed and developed to reach the goal. We use latest components and methods to always increase energy efficiency. We use improved compressor and motor design, new refrigerant and micro-processor controls to mostly adapt to ASHRAE standard 2001-90.1.

OPTIONS

- Micro channel heat exchanger
- Free cooling mode
- Compressor soft start
- Anti-vibration mounting
- Plate type heat exchanger
- Economizer
- Bacnet, Lonwork compatibility
- Low noise version
- Flooded evaporator
APPLICATION

Hotels

Hospitals

Process cooling

Clean rooms

Offices and buildings

Data center and IT

Petroleum and Petrochemical

Shopping Malls

Pharmaceutical industry
### TABLE

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*** Cooling capacities are based on following conditions: Chilled water inlet/outlet temperature 12/7°C, Ambient dry bulb temperature 35°C; If you need low ambient temperature cooling function, please contact with sales representatives. TOELKE reserves the right to make changes in design and construction at any time without notice.***

### NOMENCLATURE

- **COMPANY**
  - 1
- **PRODUCT**
  - 2
- **REFRIGERANT**
  - G
  - P
- **CONDENSER TYPE**
  - 1
  - L
  - W
- **COOLING CAPACITY**
  - 3
- **NUMBER OF CIRCUITS**
  - 4
- **OIL FREE RECIPROCATING CENTRIFUGAL SCROLL COMpressor**
- **DIMENTION**

![Diagram of the model-TCLB](attachment://model-tclb.png)