



Standard Chillers  
for Production Processes



*the smart way of cooling!*



The smart way of cooling.



**ef cooling** is one of the world's leading manufacturers of cooling systems for industrial processes. Since 1964, the company has been designing, building, and installing individual chillers for water and oil as well as large systems with cooling capacities of up to 4 MW and more.

**In addition, one very prominent line of products consists of our standard chillers: These are machines with cooling capacities of up to about 400 kW for water, oil, and emulsions — our basic line standard product series.**

Manufactured with the proverbial Swiss precision, this product series features compact dimensions and extremely energy-efficient design.

The power consumption of the standard series has been reduced significantly thanks to appropriate selection of components in the water and cooling cycle.

**On top of that, we can also deploy our compact ECOBOX system to further reduction electricity costs by up to 60 percent using “free cooling”.**

This is accomplished by using cold ambient air to cool the liquid as long as it is sufficient to guarantee the desired outlet temperature. Decades of experience and the very best engineering are available to implement these solutions.

The systematic modular construction makes it possible to produce the units cost-efficiently. At the same time, the standard basic line product range is offered with a variety of additional options that allow an extensive range of accessory equipment — to satisfy the requirements of production workflows in any particular field.



*A few examples of units from our standard product range. Visit our home page for more information: [www.efcooling.com](http://www.efcooling.com). We would also be happy to send additional details on request.*



Hard facts in a smart concept.



## The basic series in a nutshell:

### Water chiller — product range CHW

Compact units for indoor and outdoor operation, complete with buffer tank and pump.

Cooling capacity	1–400 kW
Coolant	Water or water/glycol
Temperature range	0°C to + 25°C (min./max.)
Ambient temperature	+15°C to 40°C (min./max.)
Flow rate	5 to 1500 l/min.
Pump pressure	2 bar, 4 bar and 6 bar
Compressor	Reciprocating / scroll
Refrigerant	R 407C and R 134a

### Oil cooler — product range CHO

Compact units for indoor and outdoor operation, complete with buffer tank and pump.

Cooling capacity	2–14 kW
Coolant	Oil (type ISO VG 32)
Temperature range	+20°C to + 30°C (min./max.)
Ambient temperature	+2°C to + 40°C (min./max.)
Flow rate	10 to 140 l/min.
Pump pressure	Up to 6 bar
Compressor	Reciprocating / scroll
Refrigerant	R 134a and R 407C

### Chiller for water / glycol — product range CHG

Units for low outlet temperatures, complete with buffer tank and pump.

Cooling capacity	1–40 kW
Coolant	Water / glycol
Temperature range	-20°C to ± 0°C (min./max.)
Ambient temperature	+2°C to + 40°C (min./max.)
Flow rate	5 to 300 l/min.
Pump pressure	2 bar, 4 bar and 6 bar
Compressor	Reciprocating
Refrigerant	R 404A

### Water chiller — product range CHR

Units without refrigeration circuit as passive cooler, complete with buffer tank and pump.

Cooling capacity	1–180kW
Coolant	Water
Temperature range	+5°C to + 55°C (min./max.)
Ambient temperature	+2°C to + 40°C (min./max.)
Flow rate	0 to 42 l/min.
Pump pressure	2 bar, 4 bar and 6 bar
Coolant outlet	5 Kelvin higher than ambient temperature

A solid basic line — effective and economical.





Smart basics, high efficiency.



The basic technology — fully enclosed units, tested for function and performance.

#### Refrigeration circuits in series CHW, CHG, CHO

- World-famous manufacturers' compressors
- Air-cooled condenser with axial fan and protective grid
- Evaporator insulated against condensation
- Expansion valve (capillary tube injection)
- Refrigerant line system with all required fittings and components
- Environmentally friendly refrigerant

#### Electrical engineering of all series

- Microprocessor-based controller with status and fault messages
- Voltage / frequency 230 V (smaller units) or 400 / 3 / 50
- Remote power on

#### Water circuit of all series

- Integrated buffer tank
- Pump made of non-corrosive material
- Overflow valve (not CHR)
- Flow control
- Pressure gauge

#### Options and accessory equipment:

A large package of options with variable equipment enables deployments in many commercial and industrial applications.

Major reduction in energy costs through combination with ECOBOX from ef cooling.

## A few benefits of our chillers

- Outstanding industrial quality
- Perfect price / performance ratio
- Efficiency on all fronts

#### Technology

Small footprint  
Low energy consumption  
Low sound emissions  
Sturdy housing  
Many and diverse options

#### Quality

Certified production  
Perfect testing procedures  
First-class components from world-famous manufacturers

#### Price / performance

Cost effective serial production  
Modular design  
Modern logistics

Tell us about your cooling tasks  
and we'll configure the appropriate chillers for you!



Wide range of smart solutions.



Our standard basic line product series is used in process engineering around the world. Thermally stable conditions ensure maximum performance, thereby optimizing production results and reducing rejects in all applications, including highly sensitive areas.

**The units consistently guarantee precise outlet temperatures and water pressures, low noise levels, and low power consumption.**

## Sample applications:



### Laser industry

Industrial lasers are now used for processing nearly any sort of material, whether in welding, cutting, soldering, labeling and inscribing, tempering, engraving, plating, or general surface finishing.

Cooling systems are used for CO<sub>2</sub> lasers, solid state lasers, diode lasers or fiber lasers. The objective here is to cool with air or water. With precise outlet temperatures, exact water pressures, and according to the laser power in any particular performance.



### Plastics industry

Cooling systems are used for all machines, e.g., injection molding machines, extruders, blow molding machines, and thermoforming machines. Tools and hydraulic systems are cooled, and this is quite frequently complemented with energy-saving measures too. The objective of this is to lower power consumption levels and thereby increase productivity and economic efficiency.



### Machine tools

Thermal stabilization of numerically controlled boring machines, turning and milling machines, deep-hole drilling machines, and much more.



### Chemical and pharmaceutical industry

Cooling of blending tanks, reactors, incubators, blister packaging machines, thermoforming machines.



### Food industry

There are applications in the meat industry, candy industry, beverages industry, and milk-processing industry, as well as wine refrigeration and process cooling in packaging production.



### Graphics industry

Cooling of lasers in pre-press work, temperature control of printing rollers, and cooling of UV lamps for labeling machines.



### Packaging industry

Cooling during production of PET bottles, blister packaging, films, cans, and much more.



Smart service worldwide.



Our standard basic line was designed from the bottom up to be exceptionally easy to service. First-class components built by renowned manufacturers and available around the world guarantee top quality, low maintenance, and above all rapid replacement, if that ever becomes necessary.

Together with our global team of service partners, we perform installations, initial start-up, repairs, and maintenance.



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