Product range

**VWK/1** - Water chiller with a cooling capacity of 2 to 70 kW, with tank and pump. Compact design with high temperature accuracy.

**TRK** - Immersion chiller for cooling lubricants with a cooling capacity of 2 to 75 kW. Service-friendly in maintenance and cleaning.

**LWK** - Air-type water recooler without refrigeration system with a cooling capacity of 2 to 2.5 kW, with tank and pump. The low-cost alternative for applications with higher water operating temperatures.

**CHILLY** - Cooling-water chiller with a cooling capacity of 0.8 to 4.5 kW, with tank and pump. Space-saving and reliable.

In addition to our standard product range, we offer you solutions for liquid cooling in all industrial applications. Our systems are available in compact or split design, air or water cooled. Continuous-flow recooters and expansions with cleanable plate-type heat exchangers are just as available as versions with special voltages. Our sales team of engineers and technicians is always available to you for comprehensive consultation. Do not hesitate in contacting us.

**HYFRA Industrieühlanlagen GmbH**
Industriepark 54 · D-56593 Krunkel
Phone: +49 (0) 26 87 / 8 98-0 · Fax: +49 (0) 26 87 / 8 98-25 · E-mail: info@hyfra-pedia.com
www.hyfra-pedia.com

**SVK Water Chiller**
Plug-in water chillers. Cooling capacity from 15 to 130 kW.
SVK water chiller

Standard equipment:
- Stainless steel frame
- Coaxial evaporator
- High tech scroll compressor / low noise
- High efficiency air cooled condenser
- Digital thermostat hysteresis +/- 1 K
- Refrigerant circuit with TÜV approved low and high pressure switch
- Chiller IP 54
- Operating temp. 42°C max. ambient
- Default light - control circuit
- Common alarm (potential free)
- Drain valve for tank
- Anti frost thermostat
- Water manometer
- By-Pass valve
- Water level switch
- External pump's start-up on main-switch
- Low noise level (star-delta)
- CH-pump with carbide / carbide shaft seal

Options:
- DC voltage - control circuit
- Winter start up regulation (0-50-100%)
- Hand shut off valve between tank and pump
- Wire labelling
- Harting connectors / plugs
- Refrigerant R 134 A
- Non return valve + magnetic valve (outside)
- Hysteresis +/- 0.3 K
- Air filter
- Stop process with low/high temperature alarm
- CR-pump for pressure above 3 bar with carbide / carbide shaft seal
- Stainless steel piping

Cooling capacities

<table>
<thead>
<tr>
<th>Temperatures</th>
<th>Air</th>
<th>Water</th>
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</thead>
<tbody>
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Specifications

- Compressor type (number):
- Power consumption compressor kW
- Power consumption max. kW
- Current max. A
- Air flow rate max. m³/h
- Water tank volume l
- Water pressure bar
- Water connections
- Water connections feed
- Length (L) mm
- Width (B) mm
- Height (H) mm
- Weight (approx.) kg

Technical data
In addition to our standard product range, we offer you solutions for liquid cooling in all industrial applications. Our systems are available in compact or split design, air or water cooled. Continuous-flow recorders and expansions with cleanable plate-type heat exchangers are just as available as versions with special voltages. Our sales team of engineers and technicians is always available to you for comprehensive consultation. Do not hesitate, we are awaiting your enquiry!
TRK immersion recooler

Standard equipment:
- Agitator for better heat transfer
- Stainless steel frame
- Stainless steel coil evaporator
- Chiller IP 54
- Operating temperature max. 37°C ambient
- High tech, scroll compressor / low noise
- High efficiency air cooled condenser
- Digital thermostat with hysteresis +/- 1,0 K
- Refrigerant circuit with TÜV approved high pressure switch
- Environment friendly refrigerant R407C
- CE-Standard / ISO 9001 / EN 60204
- Air filter
- All systems with control transformer, no neutral required

Options:
- DC-voltage - control circuit
- Winter start up regulation (0-50-100%)
- Common alarm (potentail free)
- Special voltage
- Mediumtemperature max +40°C
- Wire labelling
- Harthing connectors / plugs
- Refrigerant R 134 A
- Hysteresis +/- 0,3 K
- Stop process with low/high temperature alarm
- Fat evaporator for low medium level
- Gear agitator for oil
- Operating temperature ≥ 37°C ambient
- Water cooled condensor
- Centrifugal fan for ≤ 150 Pa ext. pressure
- Differential control of the cooling-lubricant temperature dependent on ambient or machine bed temperature

Basket evaporator

### Technical data

#### Specifications for emulsion

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<th>TRK 50</th>
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<th>TRK 150</th>
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#### Specifications for oil

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### Cooling capacities

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<tr>
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<td>10,0</td>
<td>12,0</td>
<td>14,0</td>
<td>16,0</td>
</tr>
</tbody>
</table>

### Additional information

- Power supply: 380/400 V 50 Hz.
- Control voltage 24 V AC.
- All technical data are valid for machines with a maximum ambient temperature of ±40°C.
- Specifications subject to change.
Product range

SVK - Water chiller with a cooling capacity of 15 to 70 kW, with tank and pump. Compact design with high temperature accuracy.

TRK - Immersion chiller for cooling lubricants with a cooling capacity of 2 to 70 kW. Service-friendly in maintenance and cleaning.

LWK - Air-type water recooler without refrigeration system with a cooling capacity of 2 to 2.5 kW, with tank and pump. The low-cost alternative for applications with higher water operating temperatures.

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www.hyfra-pedia.com
**VWK water chiller**

**Standard equipment:**
- Water control
- Stainless steel frame
- Stainless steel coil evaporator
- Chiller IP 54
- Operating temp. 37°C max. ambient
- High tech scroll compressor / low noise
- High efficiency air cooled condensator
- Digital thermostat hysteresis +/- 1,0 K
- Refrigerant circuit with TÜV approved low and high pressure switch
- By-Pass valve
- Draining through water level control
- All systems with control transformer. no neutral required
- Environment friendly refrigerant R407C
- CH-pump with carbide / carbide shaft seal
- Panels in RAL colour on request

**Options:**
- DC voltage - control circuit
- Drain valve for tank
- Water outlet manometer
- Water level switch for pump-protection
- Winter start up regulation (0-50-100%)
- Common alarm (potential free)
- Special voltage
- Flow switch
- Computer alarm (potential free)
- Water set point +40°C max.
- Hand shut off valve between tank and pump
- Wire labelling
- Harting connectors / plugs
- Refrigerant R 134 A
- Non return valve + magnetic valve
- Hysteresis +/- 0,3 K
- Air filter
- Stop process with low/high temperature alarm
- CR-pump for pressure above 3 bar with carbide / carbide shaft seal
- Stainless steel piping
- Operating temperature > 37°C ambient

---

**Technical data**

**Cooling capacities**

<table>
<thead>
<tr>
<th>Temperatures</th>
<th>VWK 20/1</th>
<th>VWK 30/1</th>
<th>VWK 50/1</th>
<th>VWK 70/1</th>
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**Specifications**

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<td>Width (B) mm</td>
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<tr>
<td>Weight [approx.] kg</td>
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</table>

All standard machines are specified for a maximum ambient temperature of + 37°C. *1 Machines for + 42°C maximum ambient temperature are available at extra cost. Machine sizes will not change.

Power supply: 3/PE/400 V/50 Hz. Control voltage 24 V AC. All technical data is valid for machines with a maximum ambient temperature of + 42°C. Specifications subject to change.
VWK-D
Shell & Tubes Chiller
Plug-in plug-out water chiller
Cooling capacity from 2 to 70 kW

In addition to our standard product range, we offer you solutions for liquid cooling in all industrial applications. Our systems are available in compact or split design, air or water cooled. Continuous-flow recoders and expansions with cleanable plate-type heat exchangers are just as available as versions with special voltages. Our sales team of engineers and technicians is always available to you for comprehensive consultation. Do not hesitate, we are awaiting your enquiry!

SVK - Water chiller with a cooling capacity of 15 to 130 kW, with tank and pump. Compact design with high temperature accuracy.

TRK - Immersion chiller for cooling lubricants with a cooling capacity of 2 to 70 kW. Service-friendly in maintenance and cleaning.

LWK - Air-type water recooler without refrigeration system with a cooling capacity of 2 to 2.5 kW, with tank and pump. The low-cost alternative for applications with higher water operating temperatures.

CHILLY - cooling-water chiller with a cooling capacity of 0.8 to 4.5 kW, with tank and pump. Space-saving and reliable.

HYFRA Industriekühlanlagen GmbH
Industriepark 54 · D-56593 Krunkel
Phone: +49 (0) 26 87 / 8 98-0 · Fax: +49 (0) 26 87 / 8 98-25 · eMail: info@hyfra-pedia.de
www.hyfra-pedia.com
VWK Shell & Tubes Chiller

Standard equipment:
- Emulsion / oil cooling
- Stainless steel frame
- Copper-nickel plated evaporator
- Chiller IP 54
- Operating temp. 37°C ambient
- High tech scroll compressor / low noise
- High efficiency air cooled condenser
- Digital thermostat hysteresis +/- 1.0 K
- Refrigerant circuit with TÜV approved low and high pressure switch
- All systems with control transformer, no neutral required
- Environment friendly refrigerant R407C
- CH-pump with carbide / carbide shaft seal
- CR-pump with carbide / carbide shaft seal for oil
- Panels in RAL paint upon request
- Flow switch
- Antifreeze thermostat
- Easy cleanable evaporator

Options:
- DC voltage - control circuit
- Fluid outlet manometer
- Winter start up regulation (0-50-100%)
- Special voltage
- By-Pass valve
- Centrifugal fan for high air pressure
- Common alarm (potential free)
- Fluid set point +40°C max.
- Shut off valves (inlet/outlet)
- Wire labeling
- Harting connectors / plugs
- Refrigerant R 134 A
- Hysteresis +/- 0.3 K
- Air filter
- Step process with low/high temperature alarm
- Operating temperature > 37°C ambient
- Gear pump

Technical data

Cooled capacities

<table>
<thead>
<tr>
<th>Temperature</th>
<th>VWK 20-D</th>
<th>VWK 30-D</th>
<th>VWK 50-D</th>
<th>VWK 70-D</th>
<th>VWK 100-D</th>
<th>VWK 140-D</th>
<th>VWK 180-D</th>
<th>VWK 220-D</th>
<th>VWK 300-D</th>
<th>VWK 440-D</th>
<th>VWK 540-D</th>
<th>VWK 640-D</th>
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</tbody>
</table>

All standard machines are specified for a maximum ambient temperature of +37°C. *Machine sizes will not change.

Specification of the controls:

- Air flow rate max. m³/h 2200 2600 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000 10500 11000 11500 12000

Emulsion / oil cooling capacities in kW

<table>
<thead>
<tr>
<th>Temperature</th>
<th>VWK 20-D</th>
<th>VWK 30-D</th>
<th>VWK 50-D</th>
<th>VWK 70-D</th>
<th>VWK 100-D</th>
<th>VWK 140-D</th>
<th>VWK 180-D</th>
<th>VWK 220-D</th>
<th>VWK 300-D</th>
<th>VWK 440-D</th>
<th>VWK 540-D</th>
<th>VWK 640-D</th>
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<tbody>
<tr>
<td>Ambient air</td>
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<td>VWK 100-D</td>
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</tbody>
</table>

All standard machines are specified for a maximum ambient temperature of +42°C. *Machine sizes will not change.

Specification for oil

- Power supply 3/-3/0 V/30 Hz. Control voltage 24 V /AC. All technical data is valid for machines with a maximum ambient temperature of +42°C.
- Specifications subject to change.
- Voltage max. 100 mm²/"
Product range

**SVK** - Water chiller with a cooling capacity of 15 to 70 kW, with tank and pump. Compact design with high temperature accuracy.

**VWK** - Water chiller with a cooling capacity of 2 to 15 kW, with tank and pump. Compact design with high temperature accuracy.

**LWK** - Air-type water recooler without refrigeration system with a cooling capacity of 2 to 2.5 kW, with tank and pump. The low-cost alternative for applications with higher water operating temperatures.

**TRK** - Immersion chiller for cooling lubricants with a cooling capacity of 2 to 75 kW. Service-friendly in maintenance and cleaning.

In addition to our standard product range, we offer you solutions for liquid cooling in all industrial applications. Our systems are available in compact or split design, air or water cooled. Continuous-flow recookers and expansions with cleanable plate-type heat exchangers are just as available as versions with special voltages.

Our sales team of engineers and technicians is always available to you for comprehensive consultation. Do not hesitate, we are awaiting your enquiry!
CHILLY Compact Water Chiller

Standard equipment:
- Waterlevel control outside
- Stainless steel coil evaporator
- High tech. scroll compressor / low noise
- High efficiency air cooled condensor
- Digital thermostat hysteresis +/- 1,0 K
- Refrigerant circuit with TÜV approved high pressure switch
- Chiller IP 44
- Operating temperature max. 42° C ambient
- Plastic water tank
- Draining through water level control
- Environment friendly refrigerant R 407 c
- Internal by-pass for pump protection
- Non ferrous water circuit
- CE-Standard / ISO 9001 / EN 60204
- Grundfos/Spexc pumps
- Water connection quick cuppling

Options:
- Water outlet manometer
- Waterlevel switch for pump-protection
- Common alarm (potetial free)
- 2 x water inlet / outlet
- Special voltage
- Flow switch
- Autom. fresh water supply
- By-Pass valve
- Non return valve + magnetic valve

Technical data

### Chilly 08 Chilly 15 Chilly 25 Chilly 35 Chilly 45

<table>
<thead>
<tr>
<th>Temperatures</th>
<th>Ambient air</th>
<th>Water</th>
<th>Chilling capacities in Watt</th>
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<td>32° C</td>
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Specifications

<table>
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<th>Chilly 08</th>
<th>Chilly 15</th>
<th>Chilly 25</th>
<th>Chilly 35</th>
<th>Chilly 45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerant</td>
<td>R 407 c environment friendly</td>
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<td>Power consumption compressor max. kW</td>
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<td>2300</td>
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<td>Weight (approx.) kg</td>
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</tbody>
</table>

(1) Freefield measurement at 1.0 m distance
Specifications subject to change
Operating instructions

Hyfra-Industriekühlanlagen
Industriepark 54
56593 Krunkel

Machine identification
Type: LWK

Important:
These operating instructions have to be read carefully before putting the refrigerating plant into operation. The manufacturer can’t undertake any liability for damage or operating trouble resulting from the non-observance of these operating instructions. All rights for technical modification required for further development are reserved.

Proper use of the refrigerating plant
The refrigerating plant is designed for the cooling of water. In case you intend to use other agents (e.g. deionised water) please contact the manufacturer. Limits indicated in the technical data must not be exceeded. Use of the plant to cool flammable or explosive substances is prohibited.

Please keep these operating instructions for further use!
Table of contents:

<table>
<thead>
<tr>
<th>Chapters</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAFETY/ PREVENTION OF ACCIDENTS</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>TRANSPORT</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>INSTALLATION AND INITIAL OPERATION</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>MAINTENANCE</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>STRUCTURE AND OPERATION</td>
<td>9</td>
</tr>
</tbody>
</table>
1 Safety / Prevention of accidents

1.1 General information

This manual contains basic information which has to be observed during initial start, operation and maintenance. Therefore these operating instructions are to be read by the installer or personnel in charge before putting the plant into operation. This manual must be available wherever the plant is operated.

Any general safety instructions mentioned in this chapter as well as those given in other sections of this manual have to be observed.

1.2 Qualification of personnel and training

Operating, maintenance, inspection and installation personnel must be properly qualified for their work. Range of possibility, competence and supervision of the personnel must be determined by the operator.

1.3 Danger due to non-observance of safety instructions

Non-observance of safety instructions may cause injuries, endanger the environment or damage the unit. Non-observance of safety instructions will result in the loss of right to claim for any damages.

1.4 Safe performance of work

Any safety instructions given in this manual, including national regulations on accident prevention as well as any possible internal working, operating and safety instructions have to be observed.

1.5 Safety instructions for plant and operator

Protective guards that have been installed to prevent contact with moving parts may not be removed when the unit is being operated. Danger from electric energy must be excluded. (→ See VDE regulations of the local power supply companies for detailed information)

1.6 Safety instructions on maintenance, inspection and installation work

Basically non of the cleaning or maintenance tasks may be performed until the unit has come to a complete stop. The shutdown procedure as described in this manual must be observed. As soon as this work has been carried out, all safety devices and protective equipment must be mounted or installed according to their proper function.

1.7 Arbitrary modification and production of spare parts

The unit may be converted only if an agreement with the manufacturer has been reached. Original spare parts and accessories accepted by the manufacturer serve as safety devices. In case any other parts are used the liability for therefrom resulting trouble may be canceled.

1.8 Unacceptable operating methods

The operational safety of the delivered unit is guaranteed only if the unit is properly used as intended. Limits indicated in the technical data must not be exceeded.
1.9 Safety symbols

1.9.1 Warning

⚠️ This symbol is included next to all the safety instructions involving work that may result in serious injuries. Observe these instructions and act with extreme caution in such instances. Inform all other users as well. In addition to the instructions included in this manual the general safety and accident prevention regulations must also be taken into account.

1.9.2 Attention

← This symbol is included next to the items in this manual that must be strictly observed to ensure proper application of the guidelines, regulations, instructions and procedure of tasks and that the machine or other parts are not damaged or destroyed.

1.9.3 Note

⇌ This refrigerating plant is designed according to state-of-the-art technology and is operationally reliable. Dangerous situations may, however, arise if the unit is used by personnel without proper training or if it is not used correctly according to its intended purpose. Accordingly, this may affect efficient operation of the unit.
2 Transport

The refrigerating plant may only be transported in the original packaging to the site of initial operation. In case of damage supplier must be informed immediately. If the unit is moved to another location within a factory, all connections must be disconnected from the unit. Moving the unit to another location must be checked by an expert and repaired as required before it is put into operation again.

⚠️ When transporting the unit, consider the weight indicated in the technical data. Use means of transportation with the corresponding minimum load capacity.
3 Installation and initial start

3.1 Set up

When setting up the refrigerating plant please observe strictly the following points:

- Assure that the required cooling air can be sucked in (see technical data).
- The distance to buildings hindering the air inlet or outlet has to be at least 0.5 m.
- The unit must not be set up next to a heater.
- Due to intensive generation of heat, the unit must not be set up in the immediate reach of a workplace.
- The unit must be set up on level, solid surfaces only, so that stability is ensured.

3.2 Electric supply

The refrigerating plants of series LWK are equipped with a mains plug. Mains voltage is 1/N/PE AC 50 Hz 230 V +6/-10 %.

3.3 Connection of the consumer

The unit to be cooled must be connected with the water-cooled air cooler by means of hose pipes. Out- Inlet are to be installed according to their marking.

Before starting up the pump must be filled with the pumping medium and deaerated.

3.4 Refill of the store tank

A filler neck is provided at the casing box.

3.5 Putting the refrigerating plant into operation

After the tank has been filled with water the unit can be put into operation by means of the plug.
The water-cooled air cooler must be switched on before the unit to be cooled. In this manner any non-permissible rise in temperature of the medium is avoided.

Switching on the pump for the first time makes water level in tank sink. Any loss in water must be refilled.

The operator has to ensure that only authorized personnel works at the refrigerating plant.

3.6 Non permissible operating states and working methods

Since the pump of series LWK is not protected by a bypass valve, the flowing-through on the consumer’s side must not be throttled on zero.

The water level of the tank can be lowered after some time according to possible leaks. Dry-running of the pump can damage the pump. Therefore the water level of the tank has to be checked everyday and water refilled if necessary.

Non-observance of these instructions may lead to premature defect of the pump.
4 Maintenance

4.1 Inspection

4.1.1 General information
In case of irregularities during operation of mechanically-working aggregates or extraneous noise the refrigerating plant must be switched off.

4.1.2 Medium to be cooled
- Cleanliness control of the medium to be cooled must be checked everyday. In case of need let off the medium, rinse and refill the cooling circuit. The pump has to be cleaned in this case.
- Check water level of the tank daily and refill water if necessary.

4.2 Cleaning of condenser
- Make sure that lamellas of the condenser remain clean in order to guarantee required heat exchange. As demanded by ambience conditions lamellas of condenser should be cleaned in determined time intervals. Dust and fluffing e.g. may be removed by means of compressed air.

4.3 Standstill for prolonged period
In case of longer standstill of the refrigerating plant, it is advisable to empty water circuit completely. For renewed start-up of refrigerating plant make the same controls as for the initial start-up.
5 Structure and operation

The cooling water is sucked out of the tank (4) by means of the pump (1) and transported to the consumers. Warm water flowing back from the consumers is cooled in the heat exchanger (3). The plants of series LWK are air-cooled water coolers which means that the temperature of water flowing back into the tank is about 10 °C above ambient temperature.

Pump (6) and paddle (7) are run by the same engine.
Netz: 1/N/PE 50/60Hz 230V
max. Vorsicherung: 10A
max. fusse: 10A
Anschlussleistung: 0,35kW
max. Betriebsstrom: 3,1A

Einspeisung

Pumpe

Hauptstromkreise

Main circuit

Zust. Änderung Datum Name Norm Ursp. Ers. f. Ers. d.
Datum Bearb. Bruchhof Sop. Lacher

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10.6.2005 Lacher