

*Chiller for Liquids* **Chiller for liquids FKS-KWS**

# Chiller for liquids **FKS-KWS**

**BARTEC BENKE**

YOUR competent  
partner for  
safe plants



The specialists  
from BARTEC  
BENKE have  
many years  
of experience in  
plant safety.  
They create  
solutions which  
you can rely on:  
economical,  
reliable and  
for the future.

## Application

The BARTEC BENKE closed loop chillers consist of an air-cooled high performance condenser combined with an encapsulated compressor and are suitable for the installation in explosive gas atmospheres defined as zone 1. The electrical control system is supplied with its own Ex d housing. Optionally, with a BARTEC BENKE analyzer, the control system can be placed inside the Ex p housing of the analyzer.

Problems on site where utilities supplying cooling water is of a lower quality or special requirements of cooling water are needed, BARTEC BENKE closed loop chillers can be supplied to meet these applications. The chillers can be supplied with diverse refrigerating capacities which allow the chillers to be used on single analyzers up to complete analyzer houses, peltier elements and heat exchangers. They can be supplied suitable for indoor or outdoor use. Depending on the flow rate required, different pump capacities are also available.

## Special Features

- Compact design
- ATEX/CSA certified
- Ambient temperature range of -20 to 55°C (-4 to 131 °F)
- Various refrigerating capacities

Air →

Make your decision for a strong partner!

**Choose BARTEC BENKE** also for

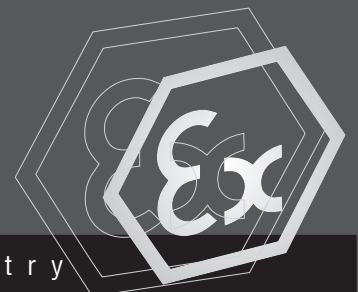
- Air Conditioning Systems/HVAC
- Physical Property Analyzers
- Fast Loop Systems
- Sample Conditioning Systems
- Validation Systems
- Recovery Systems
- Pre Commissioned Analyzer Shelters/Turn-Key Solutions







Coolant  
Backward

Note: Illustrations of this brochure show a typical closed loop chiller.



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### Explosion protection

**Ex protection type** (Europe)  II 2G Ex px mb e II C T3 or T4 (chiller)  
 II 2G Ex de [ia] II C T4 (control unit)

**Certification** TÜV 06 ATEX 2958

**Optional available classification** (USA)  
 Ex px mb de IIC T3 or T4 (chiller)  
 Ex de [ia] IIC T4 (control unit)  
 Class I, Division 2, Groups B, C and D

AEx px mb de IIC T3 or T4 (chiller)  
 Ex de [ia] IIC T4 (control unit)  
 Class I, Zone 1, Gas Group IIC  
 Class I, Division 2, Groups B, C and D

**CSA certificate no.** 2066361

### Technical Data

**Ambient temperature** Standard: 5 to 40 °C (41 to 104°F)  
 Option: -20 to 55 °C (-4 to 131 °F)  
 alternative temperature on request

**Protection class** IP 54 (electrical)/NEMA 7  
 (NEMA 12 and NEMA 3 on request)

**Refrigerating capacity at coolant temperature**  
 FKS 0.5–KWS  
 typical 500 W at -35 °C (-31 °F)  
 FKS 1.4–KWS  
 typical 1.4 kW at 10 °C (50 °F)  
 FKS 2.4–KWS  
 typical 2.4 kW at 10 °C (50 °F)  
 FKS 4–KWS  
 typical 4 kW at 10 °C (50 °F)  
 FKS 6–KWS  
 typical 6 kW at 10 °C (50 °F)  
 FKS 10–KWS  
 typical 10 kW at 10 °C (50 °F)

**Refrigerant** R134a or R404

**Coolant** Temper/water/glycol  
 (depending on application)

**Coolant temperature range**  
 FKS 0.5–KWS  
 -35 to +10 °C (-31 to +50 °F)  
 FKS 1.4-KWS – FKS 10-KWS  
 -5 to +28 °C (23 to 82 °F)

**Circulation pump**  
 FKS 0.5–KWS 360 l/h, 2 to 4 bar  
 FKS 1.4–KWS 360 l/h, 2 to 4 bar  
 FKS 2.4–KWS 450 l/h, 2 to 4 bar  
 FKS 4–KWS 600 l/h, 2 to 4 bar  
 FKS 6–KWS 1000 l/h, 2 to 4 bar  
 FKS 10–KWS 1500 l/h, 2 to 4 bar

**Nominal voltage**  
 FKS 0.5-KWS – FKS 1.4-KWS  
 1 phs. AC 230 V or  
 3 phs. AC 400 V 50Hz/AC 440 V 60Hz  
 other ratings on request  
 FKS 1.4-KWS – FKS 10-KWS  
 3 phs. AC 400 V 50Hz/AC 440 V 60Hz  
 other ratings on request

**Power consumption**  
 FKS 0.5–KWS 1.8 kW  
 FKS 1.4–KWS 1.8 kW  
 FKS 2.4–KWS 2.3 kW  
 FKS 4–KWS 3.2 kW  
 FKS 6–KWS 4.3 kW  
 FKS 10–KWS 6.5 kW

**General alarm/fault indication** Potential – free contact (1 NC + 1 NO)

**Tube fittings**  
 FKS 0.5-KWS – FKS 2.4-KWS  
 ½" NPT  
 FKS 4-KWS – FKS 10-KWS  
 depending on application

**Cable connectors** M25 mains supply,  
 M20 fault message or conduit

**Dimensions (H x W x D)**  
**Weight**  
 FKS 0.5–KWS 500 x 960 x 530 mm 150 kg  
 FKS 1.4–KWS 500 x 960 x 530 mm 150 kg  
 FKS 2.4–KWS 600 x 960 x 530 mm 160 kg  
 FKS 4–KWS 1200 x 1100 x 600 mm 260 kg  
 FKS 6–KWS 1200 x 1100 x 700 mm 290 kg  
 FKS 10–KWS 1200 x 1100 x 700 mm 310 kg

**Important Notice** Chillers are subjects to continuous product improvement; specifications may be subject to change without notice.