



mess  
kontrollieren  
analysieren

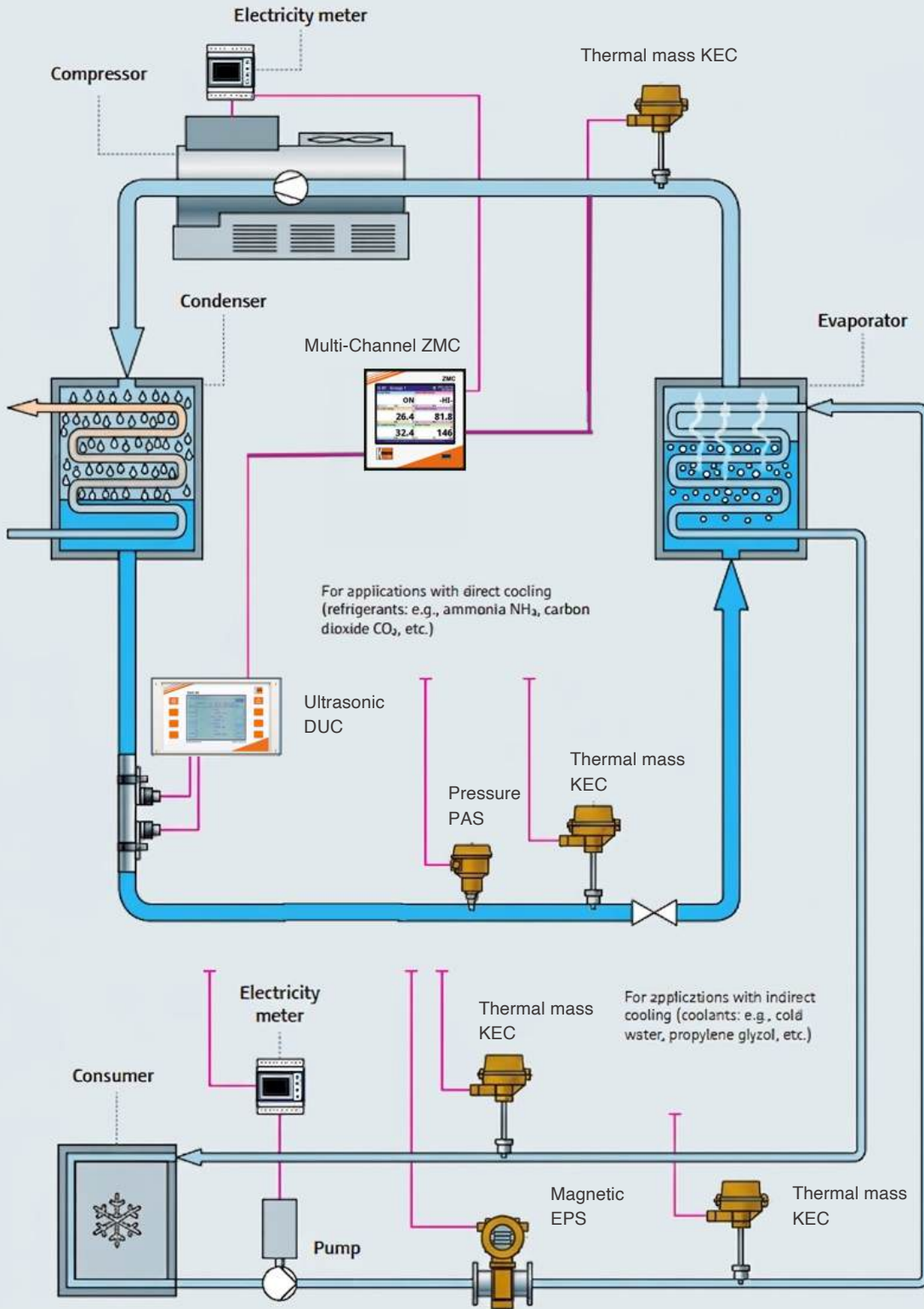


Reduce your energy costs in utilities stems 1

## Cooling systems



Energy management in cooling systems



## Kobold solution for Cooling systems



### Flow measurement for refrigerants Model: Ultrasonic Flow Meter DUC

- Media: ultrasonic conducting liquids
- Temperature measuring range: -40 ... 150 °C
- Accuracy: up to 1%
- Flow velocities: 0 ... ±30 m/s
- Pipe sizes: DN 10 ... DN 6000
- No pressure loss
- Heat quantity measurement



### Flow measurement for liquids, air and steam (refrigerants) Model: Vortex flow meter DVH

- Energy consumption (monitoring)
- $p_{\max}$ : 100 bar abs;  $t_{\max}$ : 400°C
- Connection: ANSI ½" ... ANSI 8", DN15...DN200
- Output: 4 - 20 mA, HART® Protocol, Modbus
- Integrated temperature and pressure measurement
- Measurement of mass and density possible
- ATEX, IECEx



### Flow measurement for coolants Model: Magnetic flow meter EPS

- High accuracy: 0.3 % of actual flow
- Maintenance-free
- No pressure drop
- Numerous lining materials
- Numerous electrode materials
- Low-cost grounding electrode instead of earthing rings, also available in special materials e.g. tantalum



### Pressure measurement of refrigerants and coolants

#### Model: PAS / Ceramic sensor SEN-96

- Data configuration with HART® configurator
- Measuring of gauge and absolute pressure
- Self-diagnostic function: sensor, memory A/D converter
- Digital communication with HART® protocol
- ATEX-approval



### Flow measurement for feed/return line

#### Model: Thermal mass KEC

- Direct mass flow rate measurement of gases
- Measuring accuracy:  $\pm 1.0\%$  of reading (on request)
- $p_{\max}$  100 bar,  $t_{\max}$  180 °C
- Fast response time
- No moving parts
- Analogue output, Modbus RTU and impulse output
- ATEX approval



### Data Logger

#### Model: Multi-Channel ZMC

- Multi-Channel controller
- Communication: RS-485/232, USB Host, Ethernet
- Protocol: Modbus RTU Master or Slave, Modbus TCP Server
- Display: graphic TFT 3,5" or 5,7", touchscreen
- Data memory: 4 GB