

## **PumpDrive R**

Self-cooling frequency inverter enabling continuously variable speed control of asynchronous and synchronous motors

Customer-specific versions with additional options available on request

### **Mounting options:**

Wall-mounted or cabinet-mounted

### **Protective functions:**

- Full protection by means of overcurrent limitation and PTC thermistor monitoring
- Automatic speed reduction in the event of excessively high loads and temperatures, protection against phase failure, motor-end short-circuit monitoring, overvoltage/undervoltage monitoring
- Suppression of resonant frequencies
- Cable integrity monitoring (live zero)
- Protection against dry running or hydraulic blockage
- Characteristic curve control
- Emergency operation at reduced speed in the event of excessive temperature, undervoltage or mains phase failure

### **Open/closed-loop control:**

- Open-loop operation via set point setting (analog and digital input, display, field bus)
- User-definable speed (0 to 590 Hz)
- Closed-loop control via integrated PID controller
- Controlled variables: pressure, temperature, fluid level, flow rate
- Sensorless differential pressure control
- Sensorless flow rate control
- Sensorless dynamic pressure compensation for pipe friction losses (DFS curve), enabling higher energy savings
- Flow rate estimation
- Alternative setpoint
- Operation check run of the pump
- Smart logic function with 10 actions for simple drive tasks

### **Operation and display:**

- Display of measured values and alerts and for setting parameters, incl. fault history, operating hours counter (motor, frequency inverter)
- Indication of operating point (Q, H)
- Energy savings counter
- Service interface for connection to computer software
- Quick menu for quick start-up/commissioning

### **PumpDrive functions**

- Programmable start and stop ramps
- Vector control with selectable motor control method (ASM, SuPremE)
- Automatic motor adaptation, overwritable by parameterisation
- Manual-0-automatic operation
- Stand-by mode (sleep mode)
- Deragging function

### **Optional components:**

- Field bus modules:
  - Standard: Modbus RTU
  - Optional: Profibus DP, Modbus TCP, ProfiNet, Ethernet IP; Device Net
- Integrated fuse and master switch (optional)
- Connection to PumpMeter possible
- I/O extension board

### **Interference suppression class:**

≤ 90 kW: EN 61800-3 C1 to EN 61800-3

≥ 110 kW: EN 61800-3 C2 to EN 61800-3

### **Housing:**

- Selection between IP 55/IP54 for wall mounting and IP20 for cabinet mounting

**Design:**

- Mains voltage 3~380 V AC -10 % to 480 V AC +10 %
  - (Extended mains voltage range on request: 3~200 -240V or 3~525 -690V)
- Mains frequency: 50 - 60 Hz  $\pm$  2
- Ambient temperature: -10 °C to +50 °C (power derating not included)
- Relative humidity in operation: 5 % to 95 %, non-condensing
- Analog input: 2x -10 V to +10 V, 0/4 - 20 mA
- Analog output: 1x 0/4 - 20mA
- Digital input : 4x, 24 V logic, selection of H-enabled or L-enabled, programmable
- Relay output: 2 changeover contacts, parameterisable

**Purchase order information:**

- Make: KSB
- Type series: PumpDrive R
- Material price group: 52
- Weight:

**Material number:****Typical tender for PumpDrive R****4073.521/01-EN****Subject to technical modification without prior notice****27 October 2021**