

## **Calio High-efficiency Circulator Pump**

Maintenance-free high-efficiency glandless pump, non-overloading synchronous motor with ECM technology, integrated continuously variable differential pressure control. Energy efficiency index (EEI) exceeds the ErP 2015 requirements. For heating and air-conditioning applications. Two-piece thermal insulation shell to EnEV (German energy saving regulations) included in the scope of supply.

### **Operating modes:**

- Constant-pressure control
- Proportional-pressure control
- Eco Mode with dynamic differential pressure setpoint adjustment
- Boost Mode (open-loop control)
- Temperature-governed differential pressure control

### **Functions:**

- Operating mode set manually or via Modbus
- Setpoint settings 0 - 100 % in increments of 1 %
- Setpoint for differential pressure set manually or via external 0 - 10 V DC analog signal or via Modbus
- Setpoint for rotational speed (open-loop control) set manually or via external 0 - 10 V DC analog signal or via Modbus
- Remote monitoring and control of pump via Modbus
- Control panel with integrated symbols, showing the operating mode and, in alternation, the electrical input power, flow rate and head
- Error codes indicated on the display
- Automatic setback operation, can be disabled
- Automatic vent function
- Soft start with limitation of starting current
- Deblocking function
- Integrated motor protection function
- Characteristic curve monitoring by means of max./min. flow limit
- Energy meter / flow rate meter

### **Communication interfaces integrated in the pump:**

- Terminal pair for Modbus RTU interface
- Terminal pair for external analog 0 - 10 V DC signal
- Terminal pair for external ON/OFF of the pump
- Terminal pair for Dual-pump Operation
- Configurable general fault message relay (changeover contact)
- Configurable "in operation" message relay (changeover contact)

### **Operating data**

Fluid handled:

Flow rate:

Head:

Fluid temperature:

Permissible fluid temperature min./max.: -10 to 110 °C

Maximum operating pressure:

Max. ambient temperature: 40 °C

### **Motor/electronics**

Energy efficiency index (EEI):

Electromagnetic compatibility:

Interference emissions EN 61000-6-3

Interference immunity EN 61000-6-1

Mains connection: 1~ 230 V AC +/- 10 %, 50/60 Hz

Power input P1:

Speed min. ... max.:

Current input max.:

Enclosure IPX4D

**Materials**

Pump casing: grey cast iron with cathodic electrocoating (EN-GJL-200)

Impeller: plastic with glass fibre content (PSU-GF30)

Pump shaft: stainless steel 1.4034

Bearings: ceramics/carbon

**Mating dimensions**

Pipe connection:

Overall length:

**Purchase order information**

Approx. net weight:

Make: KSB

Type: Calio

Material price group: 54

**Material number****Accessories**

BACnet MS/TP communication module

Spacers

Pipe unions

**Calio Typical Tender**

**1157.521/07-EN**

**Subject to technical modification without prior notice.**

**16 March 2018**