

PEEK Pump EWOC 1080-2

Article-No.: Z-P 2000 0073



| Design | |
|-----------------|---------------------|
| Mass | 800 g |
| Material pump | PEEK |
| Electric power | 250 W |
| Hydraulic power | 1080 l/h at 2.0 bar |
| Voltage range | 10-16 VDC |
| Motor | BLDC |

Main characteristics

Electric powered high-performance pump for water/glycol or KERS-oil with BLDC-motor and intelligent control electronics (Electric Water and Oil Cooling = EWOC pump)

Coolant pump especially for hybrid systems; pump made of PEEK to avoid metallic abrasion / gerotor outrunner made of TECA PEEK

Power control: Depending on load status, processor temperature and ambient/medium temperature

Performance data at 50°C medium / 50°C ambient temperature: 1080l/h at 2.0 bar

Function

Pump: Displacement pump (gerotor) with integrated bypass valve

Bypass valve: opening pressures according to customer requirements (max. 3,1 bar)

Motor: BLDC external rotor

Control electronics:

- Standard ON/OFF with intelligent performance control depending on load status, processor temperature and ambient/medium temperature
- Customer-specific interfaces (CAN, LIN etc.) available

Measures

- Length 127 mm
- Width 92 mm
- Height 106 mm
- Hydraulic connections: -08 Wiggins tube connectors (other connections, e.g. JIC available)
- Electric connections: Souriau 8STA0 12-26 PN, on vehicle side 8STA6 12-26 SN
- Mounting: 3 screws M5

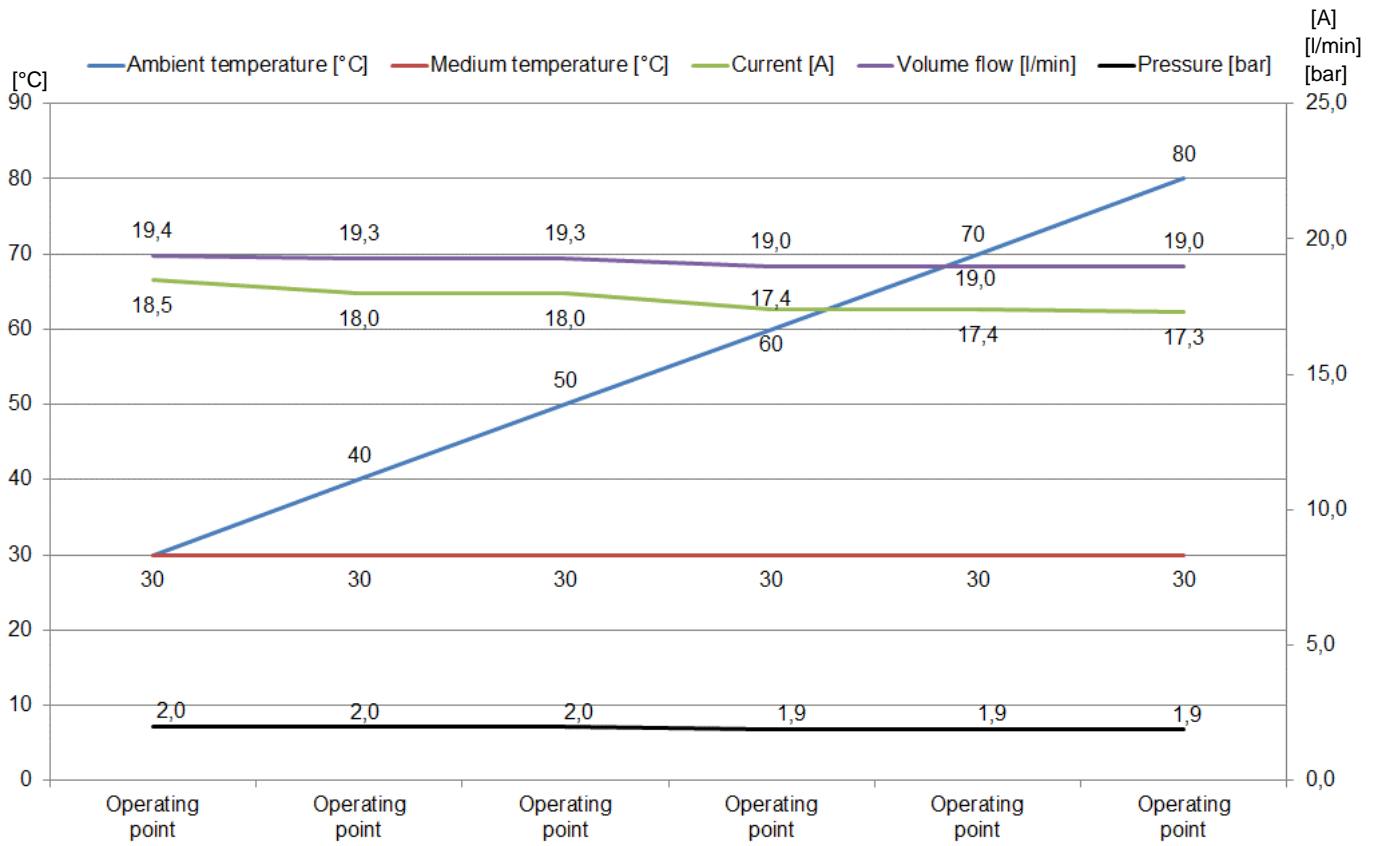
Material characteristics / Technical data pump

Polyetheretherketon / PEEK extruded

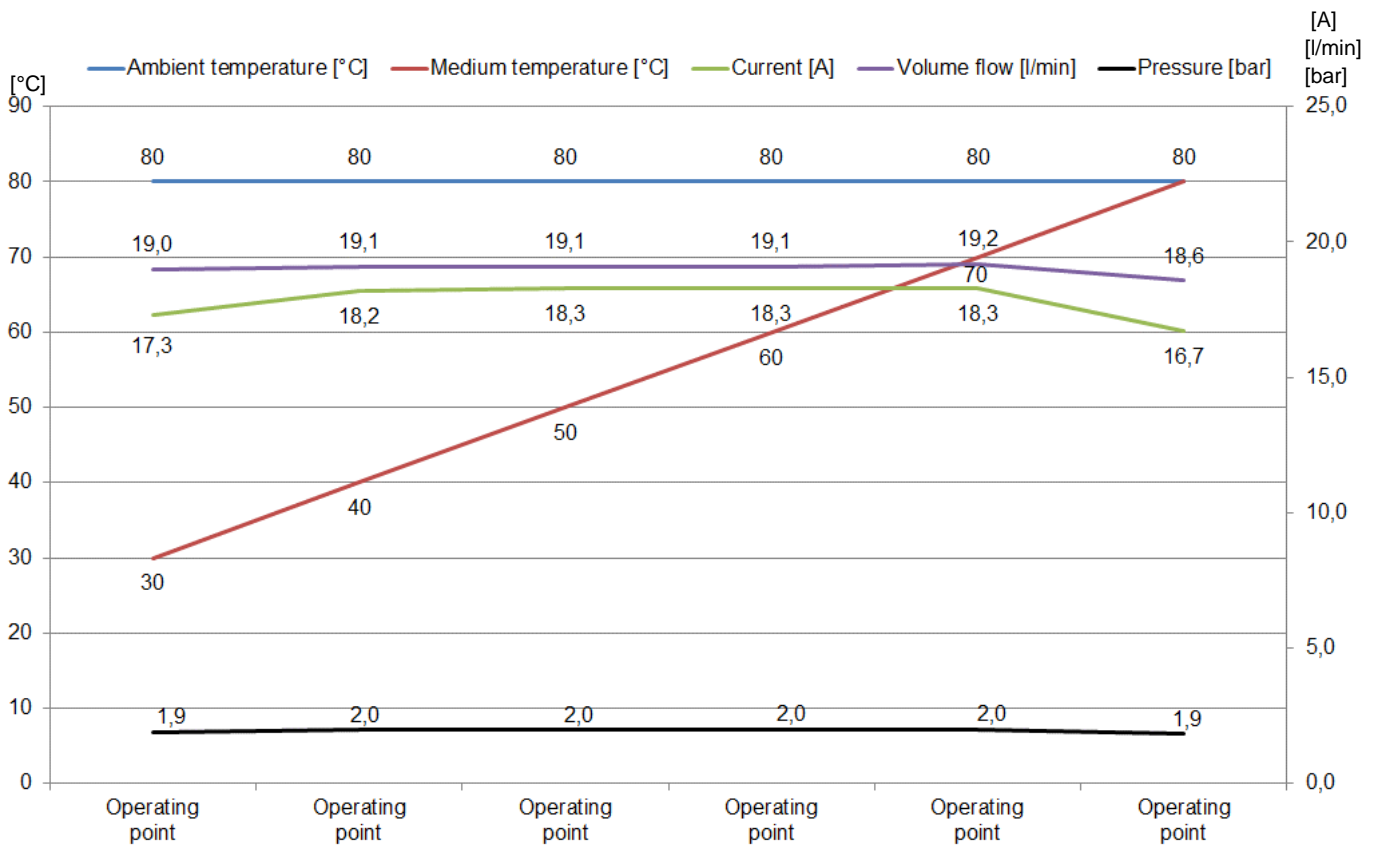
| General properties | Value | Measuring unit | Test method /Standard |
|---|----------------------|----------------------------------|-----------------------|
| Density | 1,31 | g/cm ³ | DIN EN ISO 1183-1 |
| Flammability | V0/V0 | 3mm/6mm | UL 94 |
| Moisture absorption | 0,2 | % | DIN EN ISO 62 |
| Mechanical properties | | | |
| Yield stress/mechanical resistance | 110 | MPa | DIN EN ISO 527 |
| Elongation at break | 20 | % | DIN EN ISO 527 |
| Elastic modulus/tensile stiffness | 4000 | MPa | DIN EN ISO 527 |
| Notch impact strength | 5 | kJ/m ² | DIN EN ISO 179 |
| Ball impression hardness | 230 | MPa | DIN EN ISO 2039-1 |
| Shore hardness | 88 | Skala D | DIN EN ISO 868 |
| Thermal properties | | | |
| Melting temperature | 343 | °C | ISO 11357-3 |
| Thermal conductivity | 0,25 | W/(m*K) | DIN 52612-1 |
| Specific heat capacity | 1,34 | kJ/(kg*K) | DIN 52612 |
| Linear thermal coefficient of expansion | 50 | 10 ⁻⁶ K ⁻¹ | DIN 53752 |
| Operating temperature long-term | -60 / +250 | °C | |
| Operating temperature short-term | 310 | °C | |
| Heat resistance | 152 | °C | DIN EN ISO 75 Verf. A |
| Electric properties | | | |
| Dielectric constant | 3,2 | | DIN IEC 60250 |
| Dissipation factor | 0,001 | | DIN IEC 60250 |
| Dielectric resistance | 4,9*10 ¹⁶ | Ω*cm | DIN IEC 60093 |
| Surface resistance | 10 ¹⁸ | Ω | DIN EN 60093 |
| Dielectric strength | 20 | kV/mm | DIN EN 60243 |

The short-term maximum application temperature applies only to applications with very low mechanical load over a few hours. The long-term maximum application temperature is based on the thermal aging of the plastics by oxidation, which results in a decrease of mechanical properties. The temperatures indicated are those which cause a decrease in the tensile strength (measured at room temperature) of 50% compared to the initial value after a time of at least 5,000 hours. This value does not provide any information on the mechanical strength of the material at high application temperatures. In the case of thick-walled parts, only the surface layer, which can be better protected by the addition of antioxidants, is affected by the oxidation at high temperatures. Nevertheless, the core area of the parts remains undamaged. The minimum application temperature is decisively determined by a possible impact. The values given refer to low impact stress. The electrical characteristics were measured on natural, dry material.

Measurement data – Operating points



U = 13,5 V



U = 13,5 V

Measurement data – Operating points

