

## PEEK Pump EWOC 1080-2

Article-No.: Z-P 2000 0073



Design	
Mass	800 g
Material pump	PEEK
Motor control	Sensored or self-sensing
Hydraulic power	1080 l/h at 2.0 bar
Voltage range	10-60 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

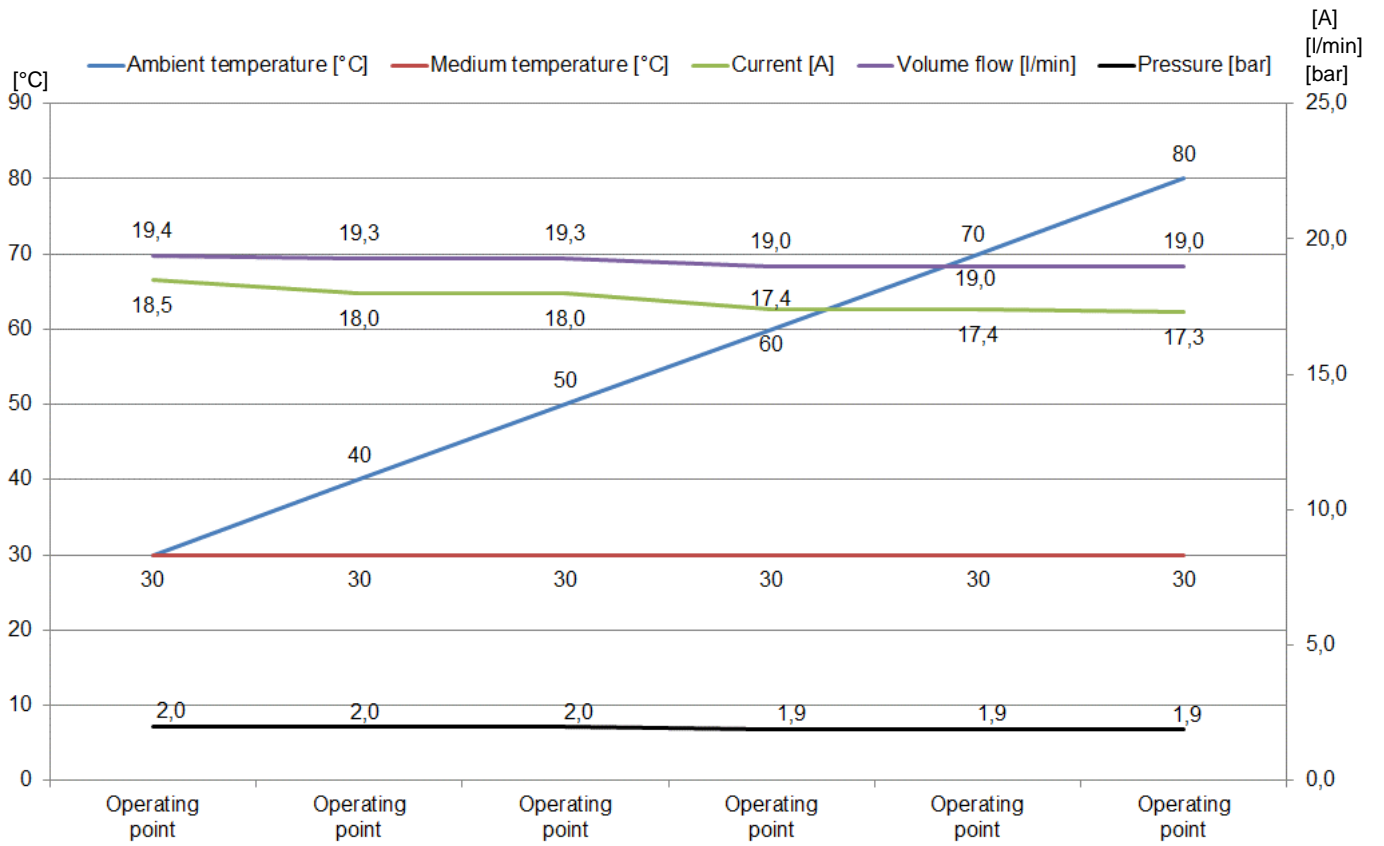
## Material characteristics / Technical data pump

## Polyetheretherketon / PEEK extruded

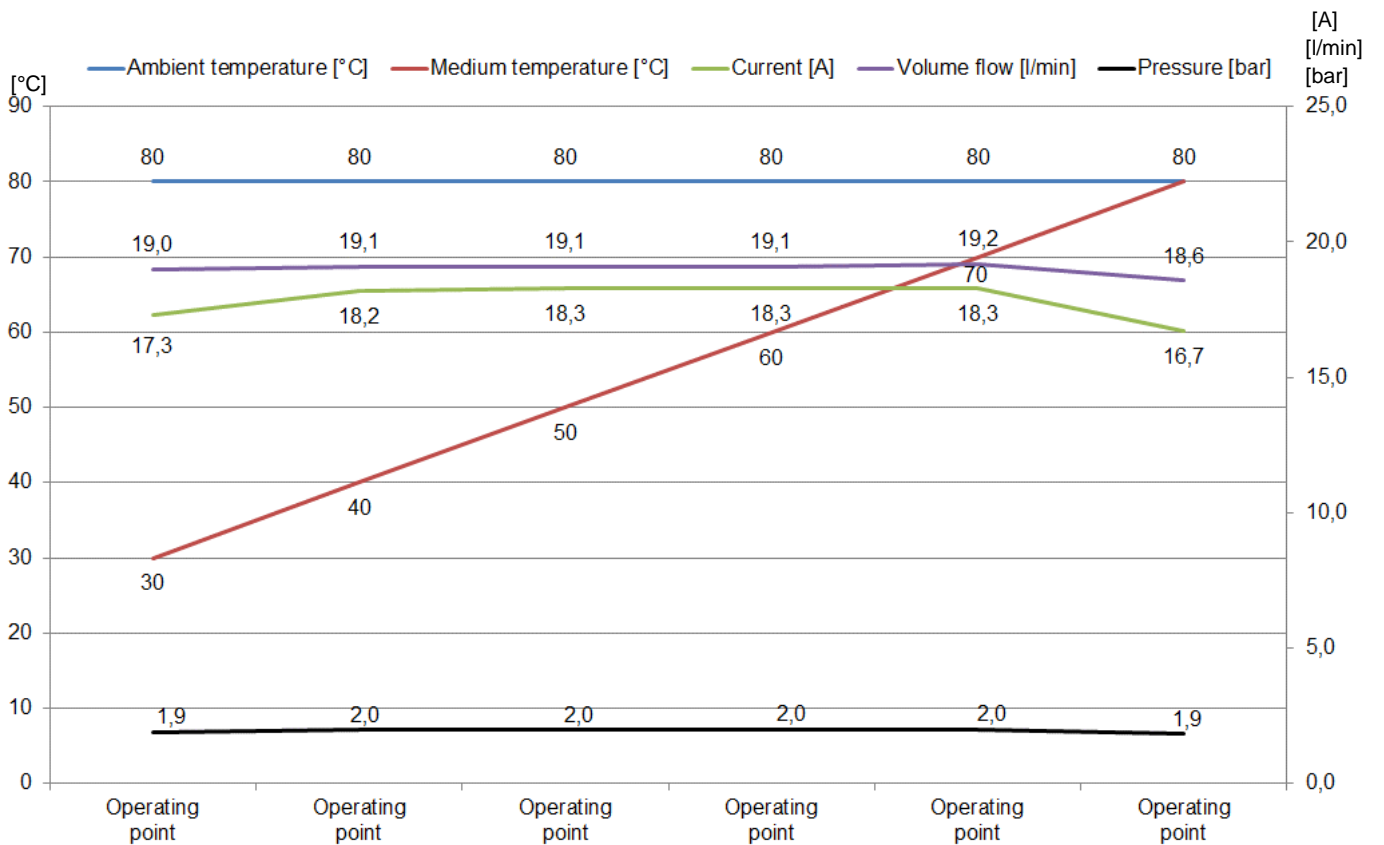
General properties	Value	Measuring unit	Test method /Standard
Density	1,31	g/cm <sup>3</sup>	DIN EN ISO 1183-1
Flammability	V0/V0	3mm/6mm	UL 94
Moisture absorption	0,2	%	DIN EN ISO 62
Mechanical properties			
Yield stress/mechanical resistance	110	MPa	DIN EN ISO 527
Elongation at break	20	%	DIN EN ISO 527
Elastic modulus/tensile stiffness	4000	MPa	DIN EN ISO 527
Notch impact strength	5	kJ/m <sup>2</sup>	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 <sup>-6</sup> K <sup>-1</sup>	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 <sup>16</sup>	Ω*cm	DIN IEC 60093
Surface resistance	10 <sup>18</sup>	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

