

Technical Data

FCH – Forced Circulation Heater

Function: Hose installed heater, designed to pre-heat Applications such as coolant circuits etc.
Pump forced circulation (230V). PTC heating element and overheating protection.



1. General technical data			
Main supply	230 VAC 50-60 Hz		
Coolant pressure	~ 3 bar		
Coolant flow	~ 4 l/min		
Power (-20° C)	550 W (+5% / -10%)		
2. PTC element			
Operating voltage	230 VAC 50-60 Hz		
Inrush current	≤ 5 A		230 VAC
3. Pump			
Voltage	230 V / 50 Hz		
4. Thermostat			
Nominal open temperature thermostat	+110°C		
Nominal closing temperature thermostat	+80°C		
Electrical rating (ENEC)	10 000 cycles	250 VAC 7 A	DEKRA EN2014531.17
5. Dimension			
Length x width x height	107 x 85 x 113 mm		
Weight	0,4 kg		
6. Temperature range			
Operating temperature	-40°C to +110°C		
Storage temperature	-40°C to +125°C		
7. Climate environment tests			
High temperature	150°C, 2 hours		
Thermal shock	10 cycles of -20° & 150°C alt, 30 min		
Low temperature	-20° C, 24 h		
Damp heat	+40°C, 90~% RH		
8. Vibration			
Vibration	Amplitude 1,5 mm, freq 10-55Hz, 2 h		Intertek SE-S-2100178
9. Degree of protection (IEC 60529)			
Degree of protection	IEC 60 529:2014, IP46		Intertek 2019382STO-201
10. Certification			
Electrical safety	EN 60 335-1:2012		Intertek SE-S-2100178
Engine pre heater	SS 433 07 90		Intertek SE-S-2100178

Issued by
AC

Date
2020-06-10

Approved
PB

Revision
S3

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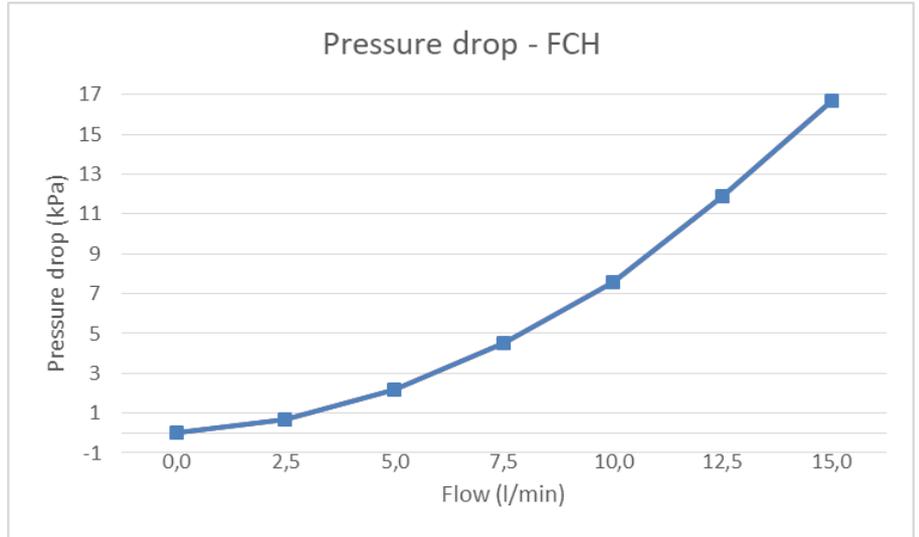
11. Durability

	9000h	Calix TM 18-047
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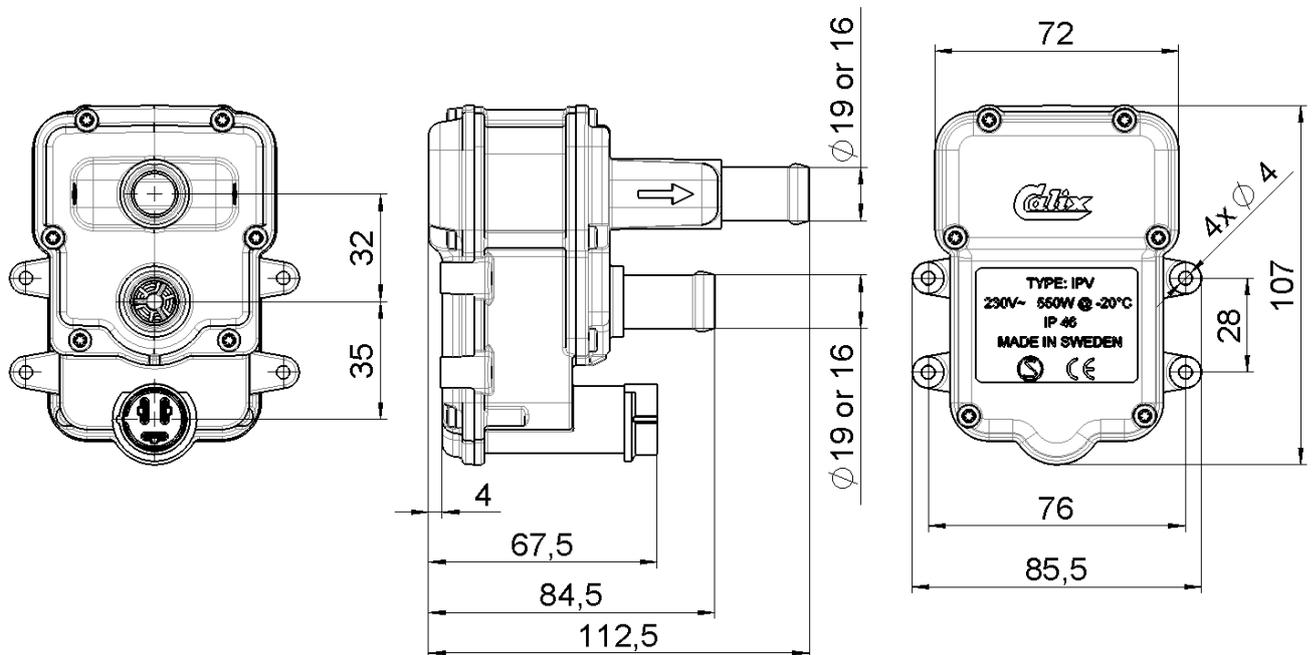
12. Pressure drop

Pressure drop in FCH	See table and curve below	All measurements were performed with glycol/water-mix 50/50%, at an ambient temperature of 25°C.
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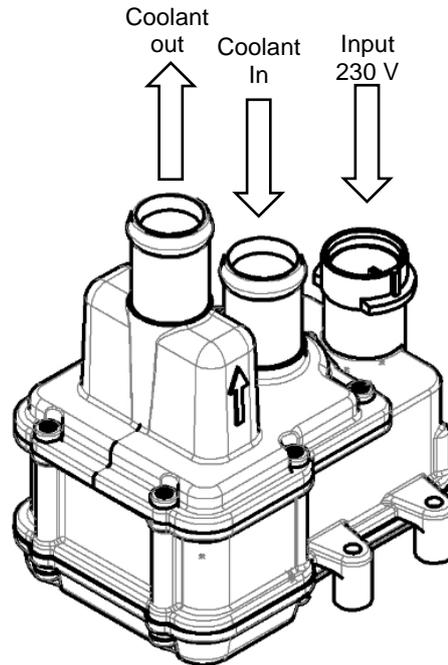
Flow q (L/min)	Pressure drop p (kPa)
0,0	0
2,5	0,7
5,0	2,2
7,5	4,5
10,0	7,6
12,5	11,9
15,0	16,7



13. Dimensional data



14. Function description



The integrated pump heater is heating the liquid with the PTC element. The upper temperature limit of the thermostat is +110°C and the thermostat is opening the electrical connection. The thermostat is closing the connection again when the temperature decreases to +80°C.

15. Doc. change record

Date	Change description	Sign	Rev
2022-01-19	Document reworked	LL	S2
2022-04-06	Durability 9000h	RE	S3

We reserve the right to change technical data without prior notice.