Technical Datasheet

Fuel Heater

LKH

Fuel heater for preheating in fuel systems Subject to change without notice.

1 Functions

The fuel heater can be used for preheating in fuel systems.

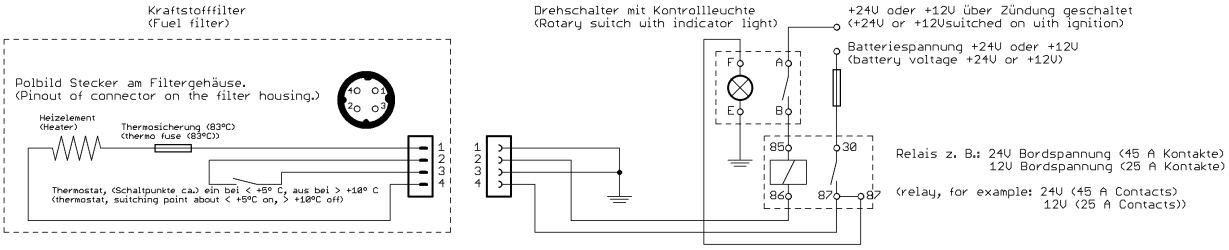
1.1 System connections

The fuel heater is equipped with quick-coupling connections in both the fuel inlet and the fuel outlet. The dimensions of these connections can be seen in the sketch from chapter 4.

1.2 Electrical connection

The connection of the LKH to the vehicle electrical system is made via a 4 pole plug with the following pin assignment:

Pin 4	Ub via external relay for 400 Watt heating power (external fuse required, see remark in table chap 2)
Pin 1, 3	GND
Pin 2	Bimetal contact, closed at temperatures < 5 °C, open at temperatures >10 °C



A

Alternativ kann ein Schalter mit LED verwendet werden.
Achtung, Polarität der LED beachten!
(Alternatively, a switch with LED can be used.
Attention, note polarity of the LED!)

B

Der Heizungsstrom darf niemals direkt mit dem Thermostat geschaltet werden! Der Thermostat ist für diese hohe Belastung nicht ausgelegt. Um den Heizungsstrom, vom Thermostat gesteuert, schalten zu können, ist immer ein zusätzliches Relais erforderlich, das nach obigem Schema angeschlossen werden muss. Die verwendeten Kabel müssen einen ausreichenden Querschnitt aufweisen (empfohlen 2,5mm²).

(The current for the heater must never be switched directly via the thermostat! The thermostat is not designed to handle this high load. To switch the current for the heater, an additional relay is always required, which must be connected according to the above scheme. The cables used must have a sufficient cross-section (recommended 2.5 mm².))

1.3 Heating

The fuel heater is installed upstream of the filter. The rated heating power at 24 V can be 200 watts, 400 watts, or 600 watts, depending on the wiring of pins 3, 4, and 5. At 12 V supply voltage, the nominal power is 50 wattts, 100 watts or 150 watts.

1.4 Safety functions

The LKH is protected against malfunction of the relay control by a temperature fuse against overheating.

1.5 Installation and venting

The fuel heater operates independently of the installation position. Further measures for venting are not required.

1.6 Labeling

The fuel heater is clearly labelled and therefore tamper-proof. The marking is carried out by a RFID tag in the electronics area, which can also be read if the housing is dirty or overpainted. The position of the RFID tag can be seen in the sketch on page 4.

1.7 Cleaning

The LKH fuel heater can be cleaned with a commercially available, alcohol-free cleaning agent.

1.8 Maintenance

The fuel heater is maintenance free.

2 Technical data fuel heater

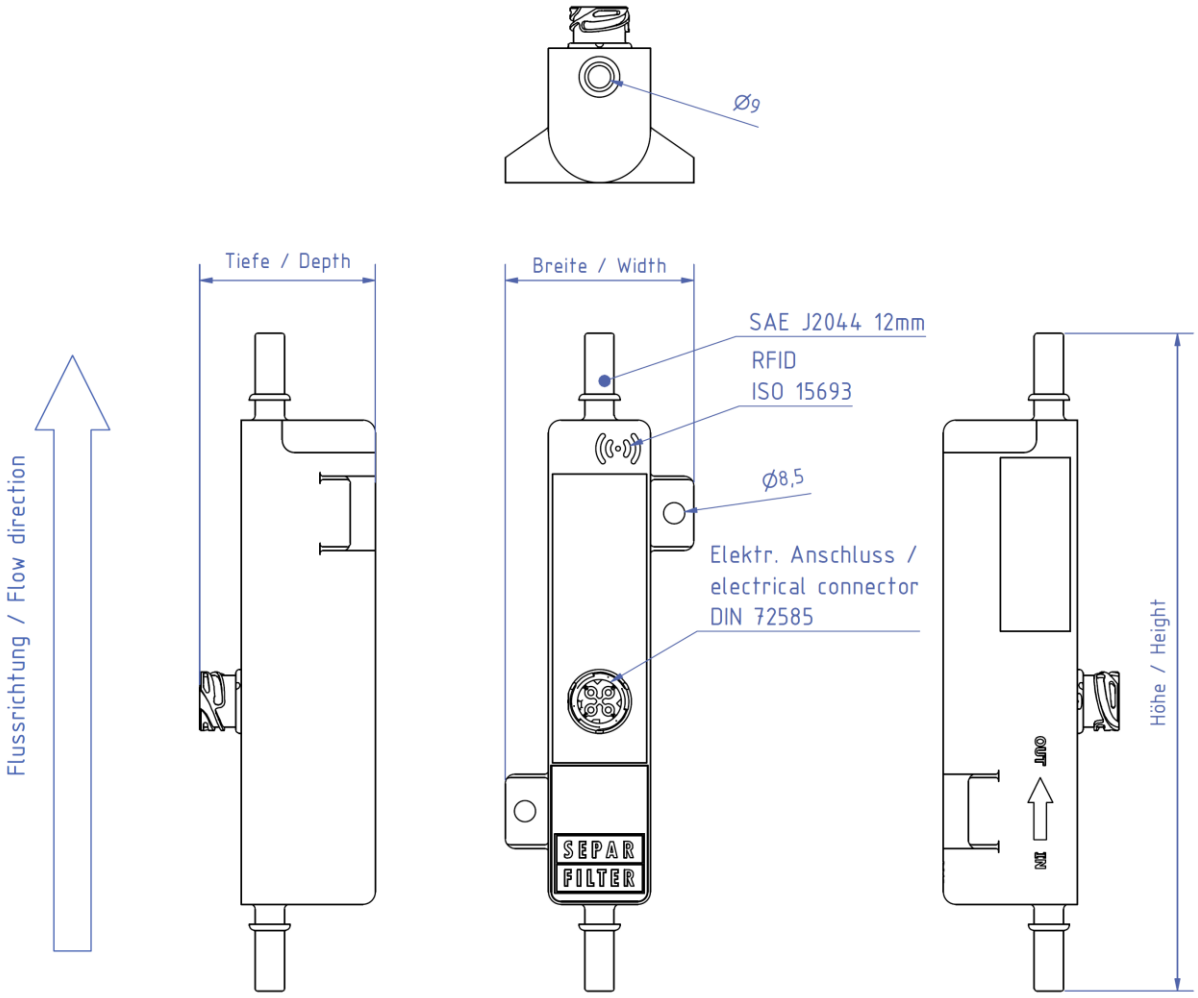
range of application	preheating of fuels		remark
permitted fuels	diesel fuels	flash point > 55 °C boiling point > 160 °C	Lösing document nr.: D10143.EN.XX XX = current revision
flow rate		max. 10 l/min	
supply voltage	nominal voltage	12 VDC to 24 VDC	
	max. voltage	3 VDC	
heating capacity	at 12 VDC	50 W, 100 W or 150 W	External fuse: 22 A for 150 W operation
	at 24 VDC	200 W, 400 W or 600 W	External fuse: 45 A for 600 W operation
switching ranges temperature control	switch-on range switch-off range	< 5 °C > 10 °C	
Abmessungen	width	approx. 76 mm	
	depth	approx. 71 mm	Without connector
	height	approx. 265 mm	Without quick coupling
required installation height	height		Depending on quick couplings used
weight		< 0,8 kg	Without connectors
housing material			PA 12
temperature ranges	operation	-40 °C … +80 °C	
	storage	-40 °C … +60 °C	
operating pressure range	permanent	-800 mbar … 5000 mbar	
	short-term	< 6000 mbar	maximum 15 seconds
mounting		2 x M8	Screw length as required
pipe connections		SAE J2044	2 x quick coupling 12 mm
labeling	RFID	ISO 15693	

3 Accessories

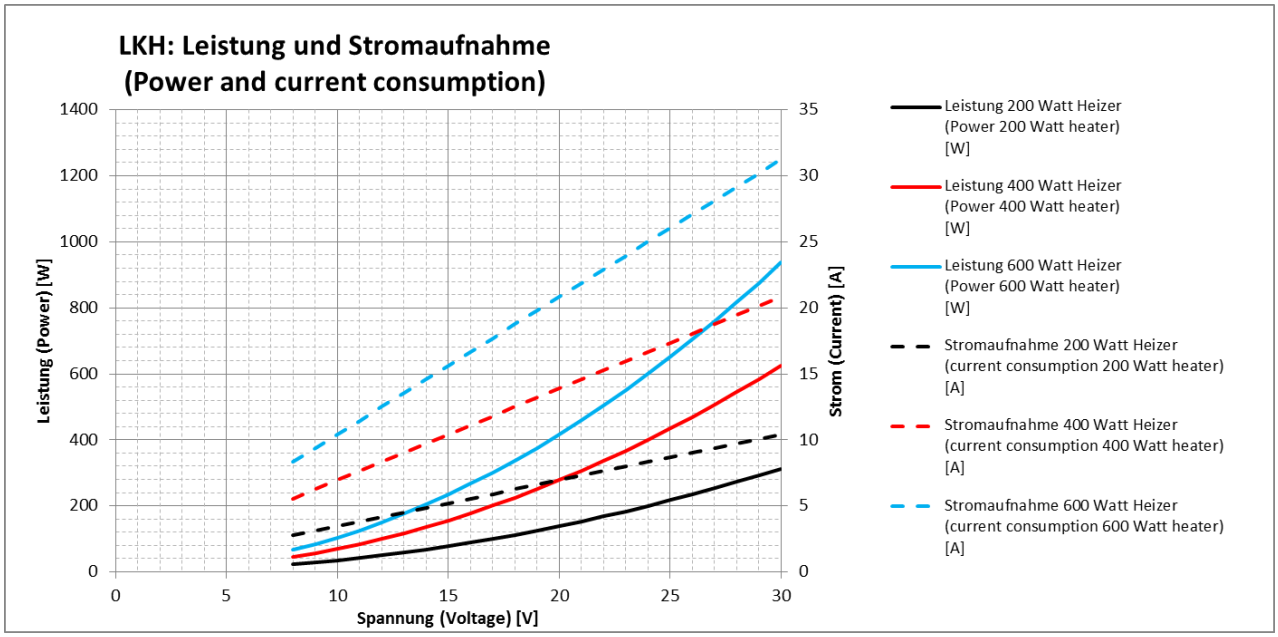
3.1 Quick coupling according to SAE J2044

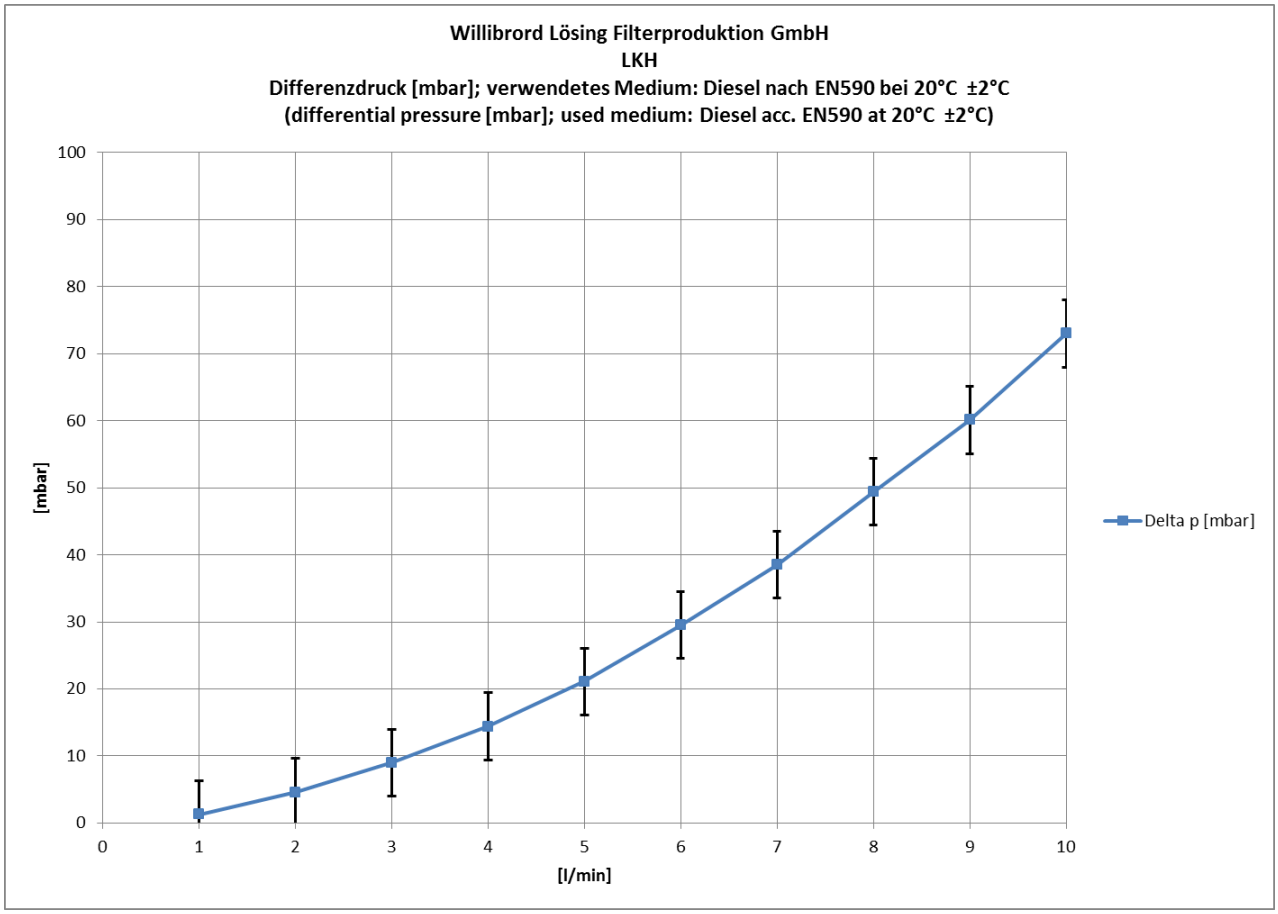
Straight or angled quick couplings in accordance with SAE J2044 can be used for the hydraulic connections. So that the flow resistance is not unnecessarily increased, the internal diameter of the quick coupling should not be less than 9 mm.

4 Sketch fuel heater



5 Electrical and mechanical properties





6 Thermal performances in comparison