



## Technical Datasheet

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### LKF Coalescence Filter

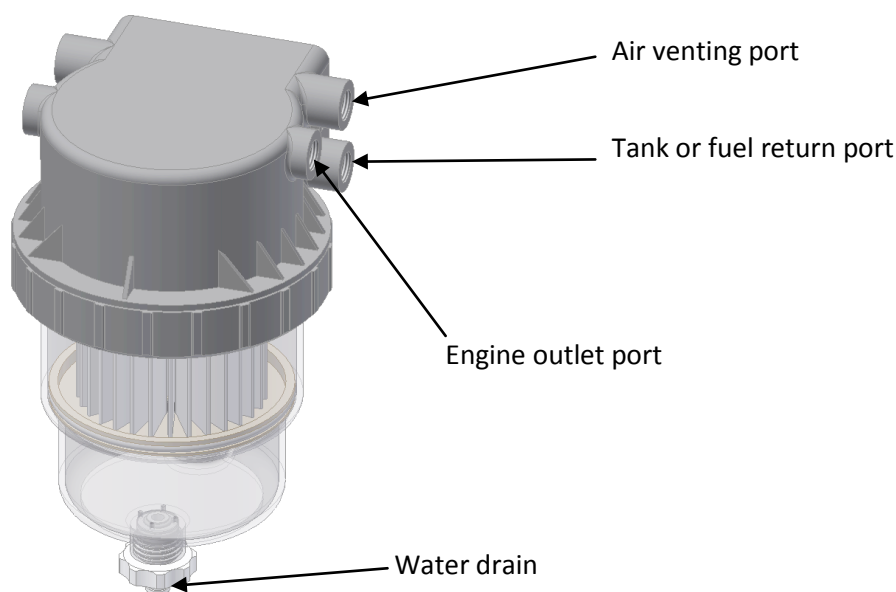
We reserve the right to make technical changes without prior notice.

## 1 Filter functions

All filters of the LKF Series indicate the same function scope.

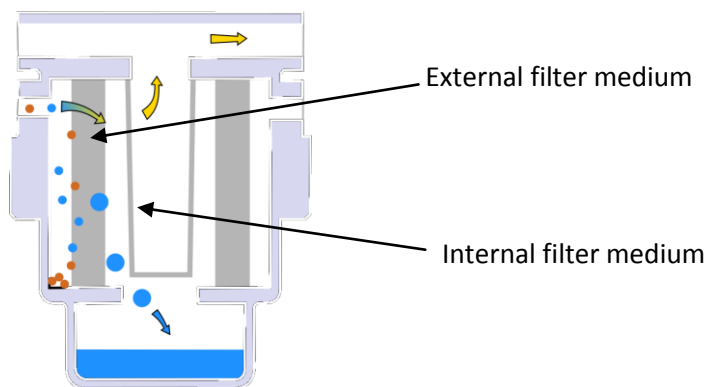
### 1.1 System connections

The filter has three connections to the left and right in each case. The function of these connections can be seen in the following sketch. The draining off of the separated water is implemented through a special drain plug below on the filter.



### 1.2 Filtering

The standard filter elements are equipped with two different filter media. With the external filter medium, it involves a special coalescence medium through which the water droplets are enlarged with transition to such an extent that they can be securely separated on the inner, hydrophobic filter medium. The separated water collects in the lower part of the filter bowl (see sketch below).



The fuel circulation quantity in case of modern engines is far higher than the actual fuel consumption of the engine itself. The service life of the filter element can be significantly increased with the

connection of the fuel return-routing to the filter, since the already cleaned fuel is injected again into the circuit and only small quantities of fresh fuel are required from the tank.

### 1.3 Heating

All filters can be equipped with an external, electrical filter heating. This heating is employed upstream of the filter in the direction of flow. The heating capacity can be up to 400 W.

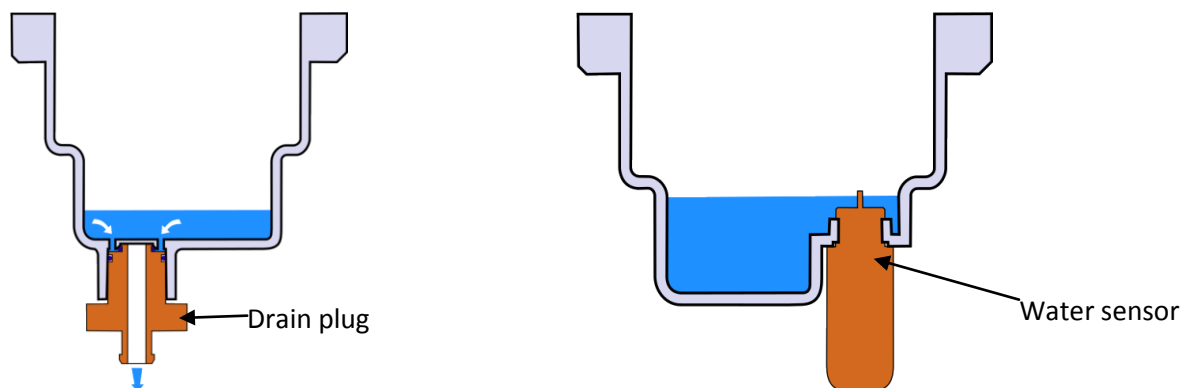
The fuel conveyed back from the engine is usually far warmer than the fuel from the tank. The available heat here, which is significantly above the heat quantity of an external heating, can be used for the heating of the filter. For this purpose, the fuel return flow line is connected to the filter, exactly as described under the point Filtering.

### 1.4 Air venting

The air dissolved in the fuel can escape at sharp edges and pressure variations result from this. If these air bubbles occur in the filter, they collect at the highest point in the filter. From here, the air can be pumped out during operation through one of the air venting connections. For this, a corresponding pump-off device is necessary.

### 1.5 Water drainage

The separated water is easily identifiable through the transparent bowl of the filter. Optionally, a water sensor can also be employed for signalling to the vehicle.



The routing away of the separated water can be implemented simply and cleanly through the special drain plug.

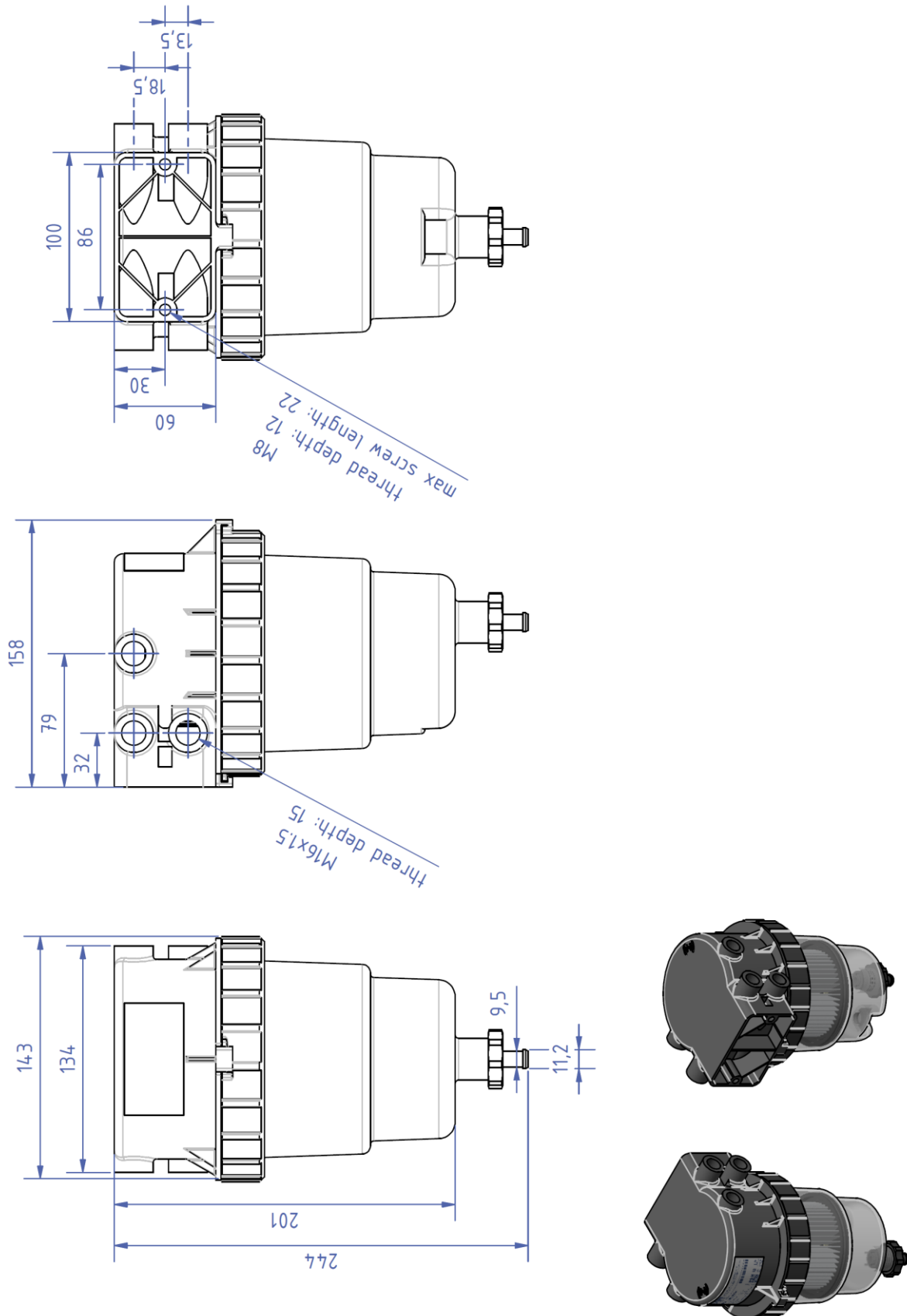
### 1.6 Identification

Every filter is identified unambiguously and thus secure against forgery. The identification is implemented by means of a transponder in the filter top, which can also be read out with soiled or painted-over filter.

## 2 Technical data LKF-Industrial

Areas of application	Diesel fuels, separation of water and fuel		Diesel fuels: EN 590, B20, B30
Flowrate		approx. 8 l/min	
Separation process	Water		Coalescence medium + hydrophobic water blocking
	Solid matter		Mechanical over filter medium and sedimentation upstream of the filter element
Filter surface area		approx. 29 dm <sup>2</sup>	
Filter pore size		10 µm	Insert separately changeable
		6 µm	Insert separately changeable
		3 µm	Insert separately changeable
Degree of water separation		> 95%	ISO/TS 16332
Differential pressure on the filter		< 50 mbar	At 8 l/min and 20°C fuel temperature Fuel according to EN 590
Dimensions	Width	< 150 mm	
	Depth	< 150 mm	
	Height	< 250 mm	
Necessary installation height	Height	< 330 mm	Including space for water drain and filter withdrawal
Weight	Plastic design	< 0.8 kg	Glass-fibre-reinforced PA
Temperature ranges	Operation	-40 °C ... +85 °C	
	Storage	-40 °C ... +85 °C	
operating pressure range	Permanent	-800 mbar ... 1500 mbar	
	Short term	< 2000 mbar	Maximum 15 seconds
Fixing		2 x M8 Length: 12 mm ... 22 mm	
Pipe connections	Standard thread	6 x M16 x 1.5	
Fuel heating	Internal		Use of the waste heat from fuel return flow
	External (optional)		Separate, controlled fuel heater to 400 W
Water separation capacity		ca. 200 ml	
Water alarm at		ca. 160 ml	
Sensor technology (optional)	Water detection		Separate sensor
	Filter wear		Separate sensor
	Temperature monitor		Separate sensor

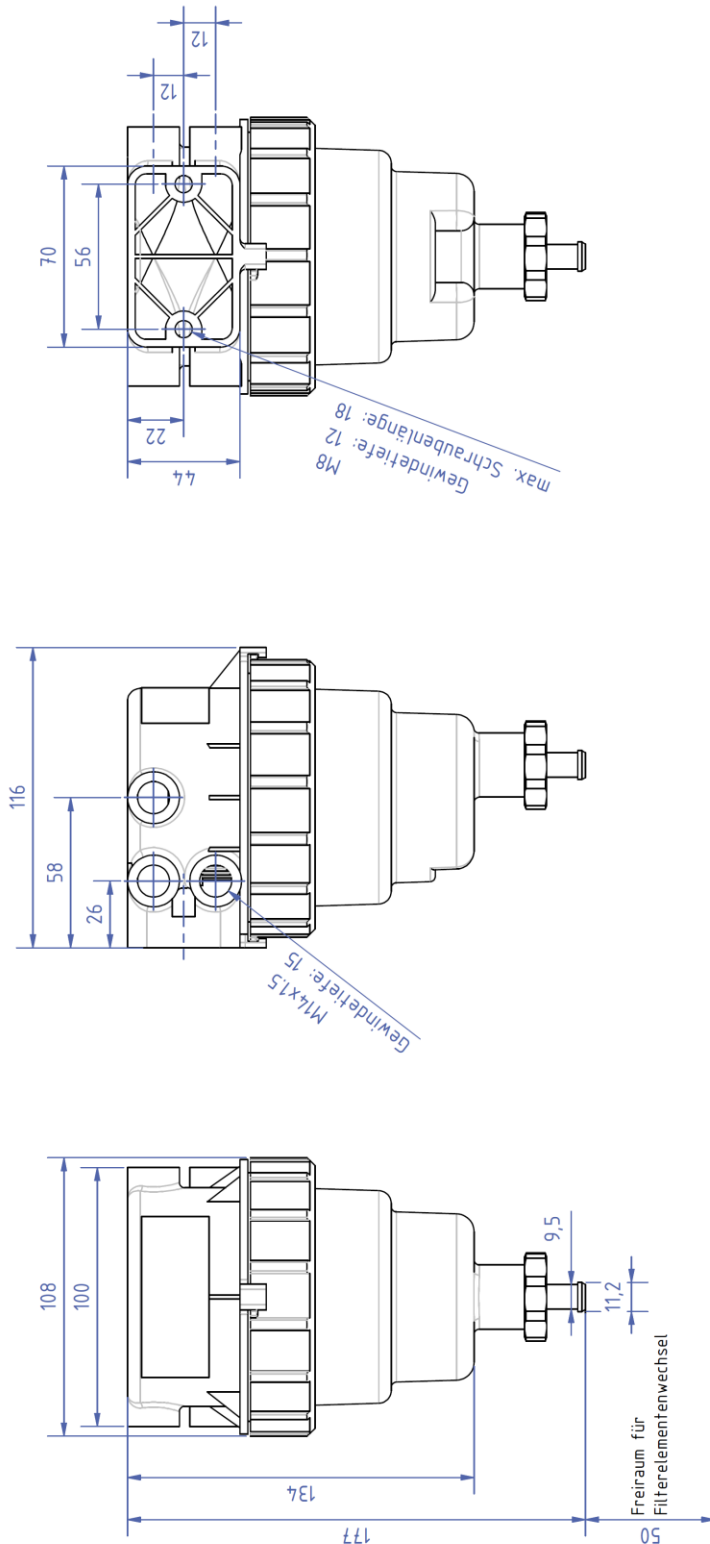
Sketch: LKF-Industrial



### 3 Technical data LKF-Automotive

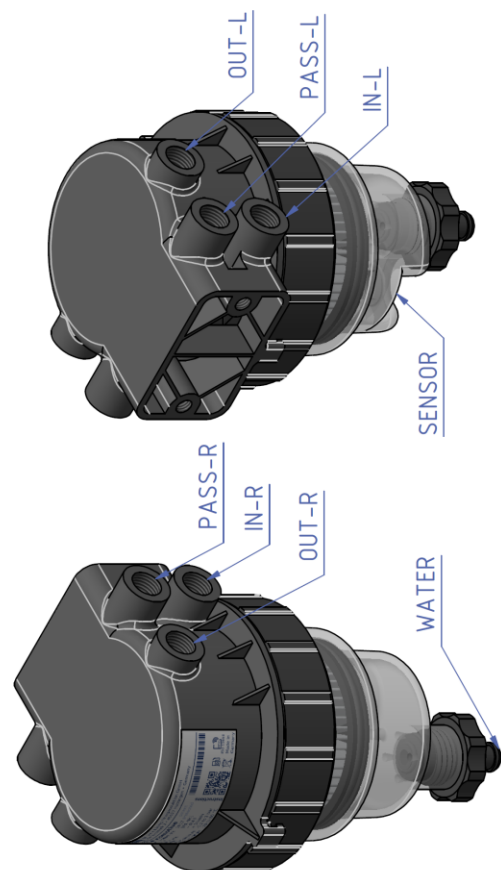
Areas of application	Diesel fuels, separation of water and fuel		Diesel fuels: EN 590, B20, B30
Flowrate		approx. 3 l/min	
Separation process	Water		Coalescence medium + hydrophobic water blocking
	Solid matter		Mechanical over filter medium and sedimentation upstream of the filter element
Filter surface area		approx. 10 dm <sup>2</sup>	
Filter pore size		10 µm	Insert separately changeable
		6 µm	Insert separately changeable
		3 µm	Insert separately changeable
Degree of water separation		> 95%	ISO/TS 16332
Differential pressure on the filter		< 50 mbar	At 8 l/min and 20°C fuel temperature Fuel according to EN 590
Dimensions	Width	< 110 mm	
	Depth	< 160 mm	
	Height	< 180 mm	
Necessary installation height	Height	< 240 mm	Including space for water drain and filter withdrawal
Weight	Plastic design	< 0.5 kg	Glass-fibre-reinforced PA
Temperature ranges	Operation	-40 °C ... +80 °C	
	Storage	-40 °C ... +80 °C	
operating pressure range	Permanent	-800 mbar ... 5000 mbar	
	Short term	< 6000 mbar	Maximum 15 seconds
Fixing		2 x M8 Length: 12 mm ... 22 mm	
Pipe connections	Standard thread	6 x M14 x 1.5	
Fuel heating	Internal		Use of the waste heat from fuel return flow
	External (optional)		Separate, controlled fuel heater to 400 W
Water separation capacity		ca. 70 ml	
Water alarm at		ca. 60 ml	
Sensor technology (optional)	Water detection		Separate sensor
	Filter wear		Separate sensor
	Temperature monitor		Separate sensor

Sketch: LKF-Automotive

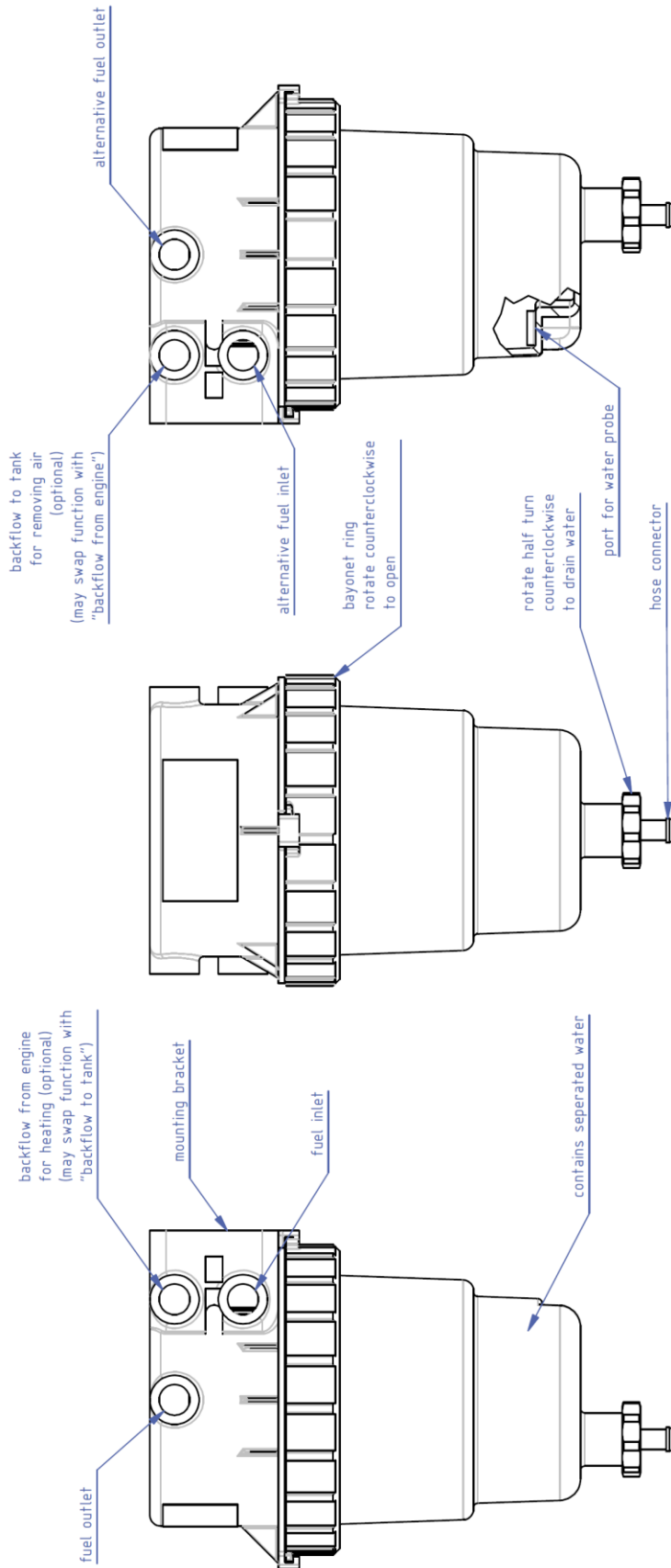


## Anschlüsse

**IN:** Diesel Einlass. Ein Anschluss kann für die Kraftstoffzufuhr verwendet werden, während der Andere verschlossen bleibt.  
**OUT:** Diesel Auslass. Ein Anschluss kann für den zum Motor fließenden sauberen Kraftstoff verwendet werden, während der Andere verschlossen bleibt.  
**PASS:** Ein Anschluss ist für den Rücklauf warmen Diesels (< 80 °C) vom Motor vorgesehen. Der jeweils Andere steht als Rückfluss zum Tank zur Verfügung, um sich ansammelnde Luft zu entfernen. Die Anschlüsse können unabhängig voneinander verwendet oder verschlossen werden.  
**SENSOR:** Der Anschluss steht zur Verfügung, um optional einen Lösing Wassersensor (WSA) zur Detection des abgeschiedenen Wassers anzuschließen.  
**WATER:** Schlauchanschluss für das Abführen abgeschiedenen Wassers.



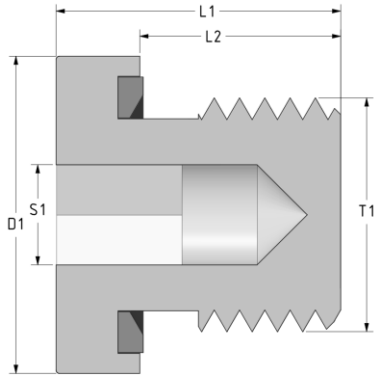
Functions: LKF-Industrial and LKF-Automotive





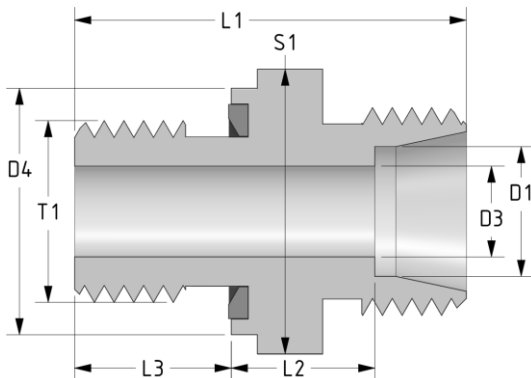
## 4 Accessories

### 4.1 Blanking plug for ports



Male metric thred T1	D1 [mm]	L1 [mm]	L2 [mm]	S1 [mm]	Manufacturer order code (example: Parker)
M14x1.5	19.0	17.0	12	6	VSTI14X1.5EDCF
M16x1.5	22.0	17.0	12	8	VSTI16X1.5EDCF

### 4.2 Male stud connenctor



Male metric thred T1	D1 [mm]	D3 [mm]	D4 [mm]	L1 [mm]	L2 [mm]	L3 [mm]	S1 [mm]	Manufacturer order code (example: Parker)
M14x1.5	12	7	19	30.0	11.0	12	19	GE12LM14x1.5EDOMDCF
M16x1.5	12	9	22	31.5	12.5	12	22	GE12LMEDOMDCF