



Determination

This description is valid for the whole series (all types) of FG 10 Filters, i.e. for basic type FG 10 M 10 without clogging indicator and its variants FG 10 M 10 V with mechanical (visual) indicator as well as FG 10 M 10 E with electrical indicator.

Filter is delivered with filter element FE 10- M 10.

Description

Filter consists of bowl, head, pressure relief valve and filter element. In filters with clogging indicator, a mechanical or electrical indicator Mahle is mounted.

The bowl and head are made of high strength light metal. Pressure relief valve protects the filter element against overrunning the permitted pressure difference. The flow direction is marked by an arrow on the head top.

The filter element consists of a perforated inner pipe, caps and a star pleat. The star pleat consists of the fine and coarse fiber-glass fabric, protective fleece and two layers of support fabric (wire-mesh).

Function

Hydraulic fluid enters the filter through inlet port, flows into filter element from outside to inside, further through the centre boring in the head to outlet port. The filter element is clogged during operation with contaminants and therefore the pressure difference on the filter element rises. If the pressure difference on the filter element exceeds the set up value of clogging indicator (in the filter with an indicator) relief valve opens and most fluid flows directly from the inlet to the outlet port without being filtered.

Installation

The filters are designed for pipeline installation. Filter should be installed in approximately vertical position, with its head upwards. The flow direction through the filter is marked with an arrow on filter head. Two threaded borings in the filter head serve for fastening the filter in a machine.

It is necessary to let some free space under the filter bowl for changing the filter element.

Technical data

| | | |
|----------------------------|--|----------------------------------|
| Nominal size | | 10 mm |
| Pressure | nominal | 120 bar |
| | maximum | 160 bar |
| Pressure difference | opening the pressure relief valve | $0,8 \pm 1$ bar |
| | signalling of clogging indicator (in filters with indicator) | 5 - 0,5 bar |
| Flow | nominal | $25 \text{ dm}^3\text{min}^{-1}$ |
| | maximum | $40 \text{ dm}^3\text{min}^{-1}$ |
| Fluid | mineral hydraulic oils | |
| Temperature of | working fluid | - 20 °C to 80 °C |
| | ambient | - 20 °C to 60 °C |

Hydraulic Filters of FG 10 series

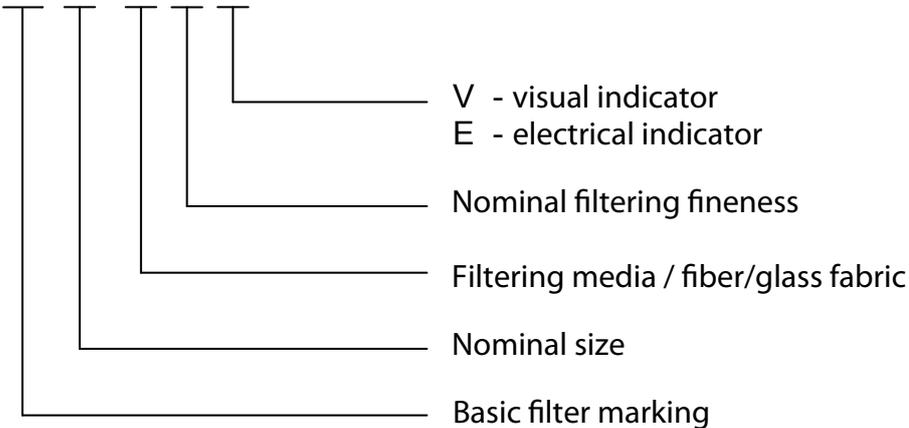
| | | |
|-----------------|---------------------|---|
| Fluid viscosity | - recommended range | (20 to 65).10 ⁻⁶ m ² s ⁻¹ (20 to 60 cSt) |
| | - minimum | 8.10 ⁻⁶ m ² s ⁻¹ (8 cSt) |
| | - maximum | 400.10 ⁻⁶ m ² s ⁻¹ (400 cSt) |
| Mass (weight) | | 1,3 kg |
| Filter element | | FE 10 M 10 |

Filter element technical data:

| | | |
|---|-------------------|-------------------------------|
| Pressure difference on the filter element | | |
| | - maximum working | 6 bar |
| | - maximum | 10 bar |
| | - collapse | 20 bar |
| Filtering fineness (capacity) | | 10 µm (β ₁₀ > 75) |
| Clogging indicator | | |
| V - visual | | MAHLE type PIS 3098 |
| E - electric | | MAHLE type PIS 3097 |
| electrical date: | max. voltage | 230 V DC / AC |
| | max. current | 2,5 A |
| | switching power | 60 VA/ 40W |
| | protection class | IP 65 |
| | function | switch on or switch off |

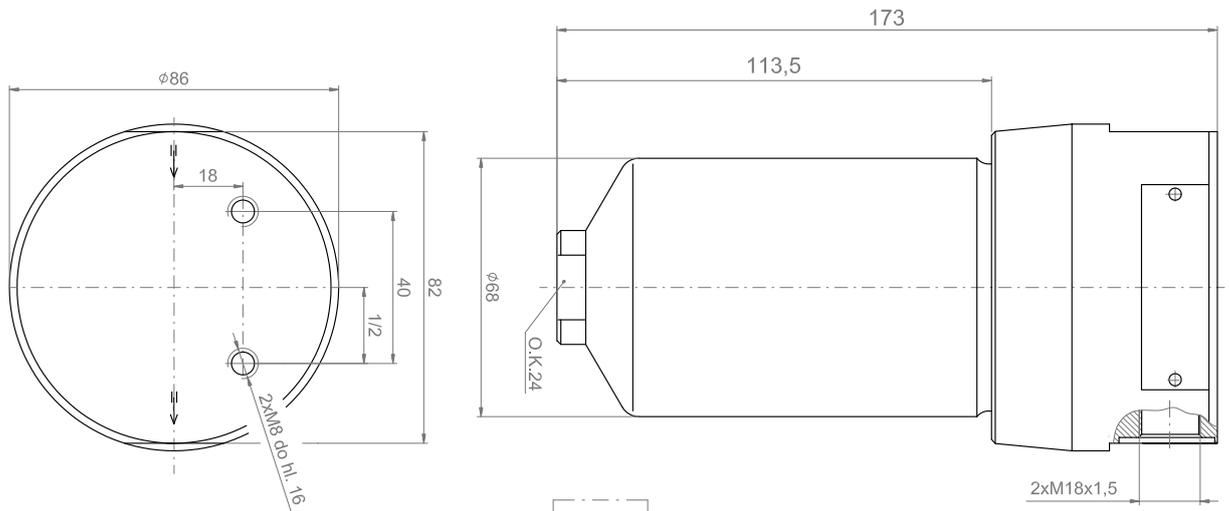
Specification for order:

FG 10 M 10 x

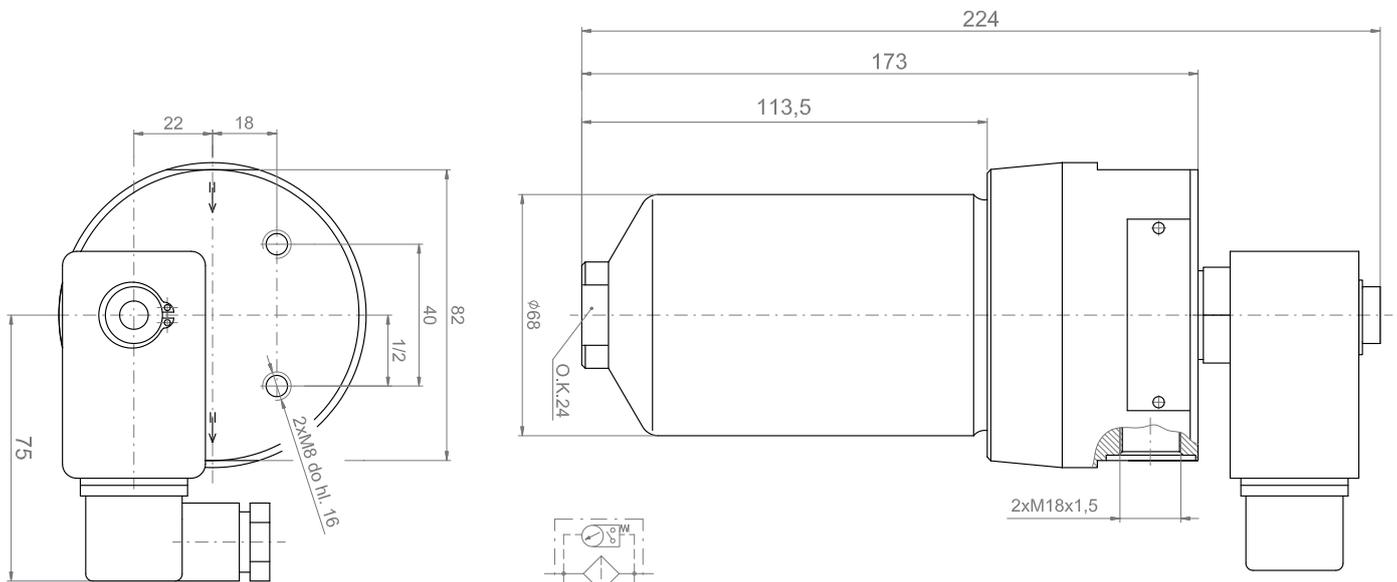
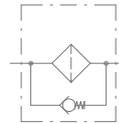


Conditions to operation

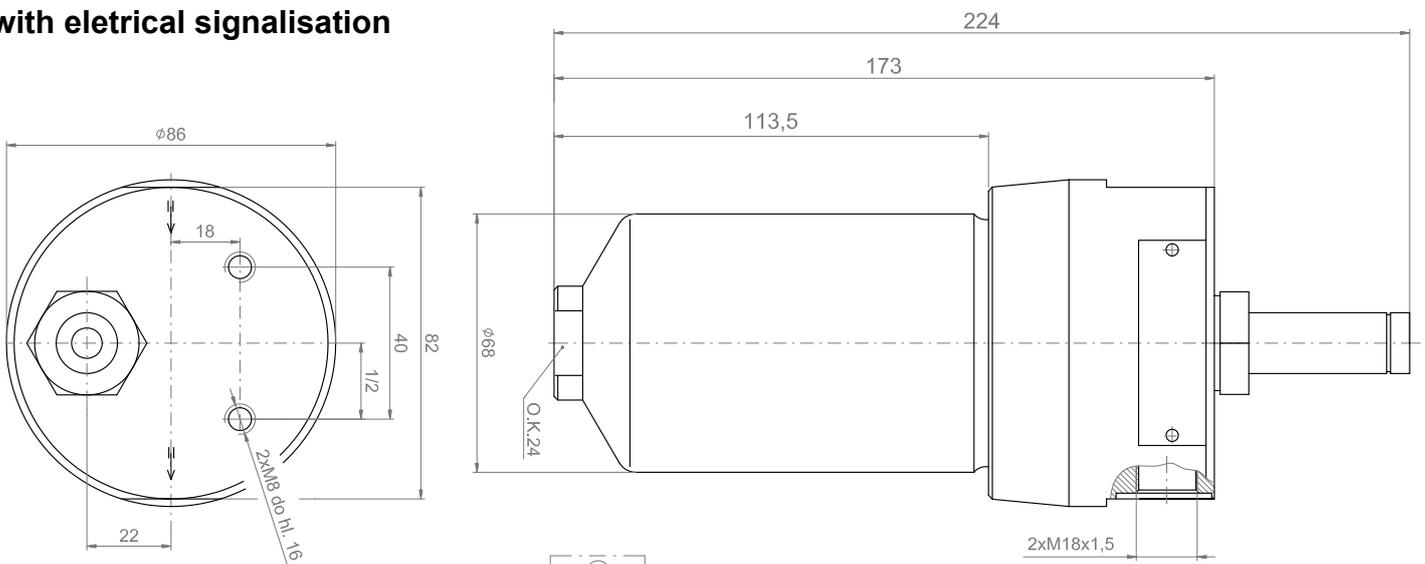
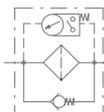
No service of the filter is needed. The only service work is a change of filter element after the maximum working pressure is reached. This change should be made either in correspondence with the clogging indicator signal or in regular service intervals given by the user (when the filter has not an indicator).



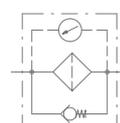
FILTER FG10M10



**FILTER FG10M10 E
with electrical signalisation**



**FILTER FG10M10 V
with visual signalisation**



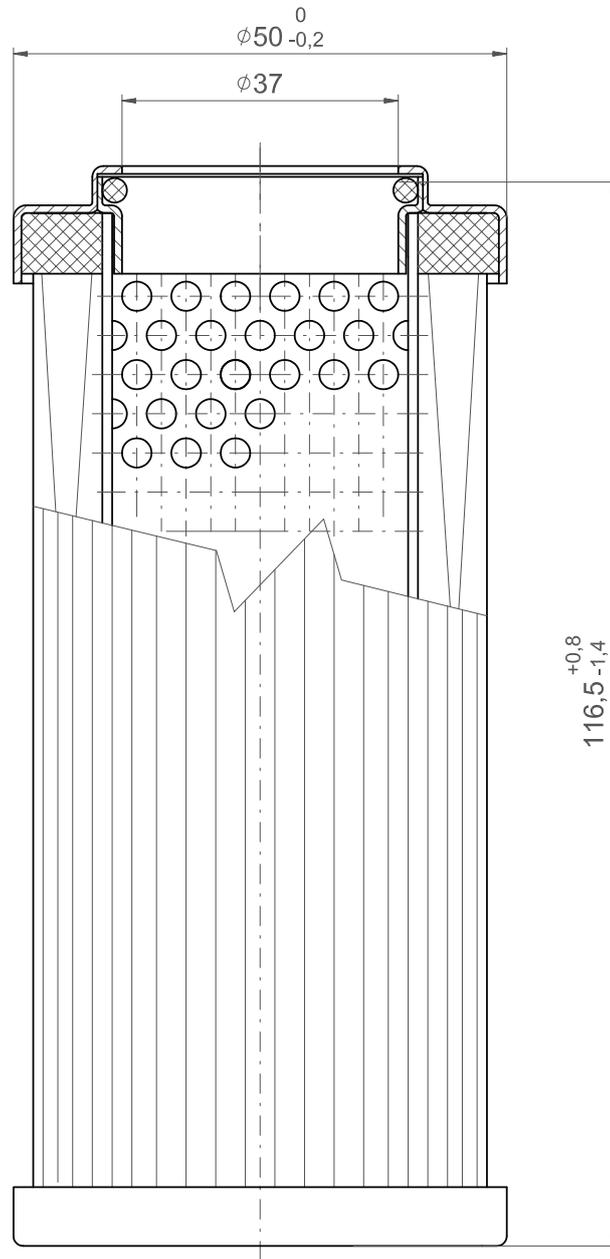
Filter element FE 10 M 10

Technical Data:

| | |
|---------------------------------------|--------------------------------------|
| Filtering area | 520 cm ² |
| Filter fineness (rating) | 10 μm ; β ₁₀ > 200 |
| Pressure difference - working maximum | 10 bar |
| - collapse | 20 bar |
| Flow - nominal | 20 dm ³ min ⁻¹ |
| - maximum | 40 dm ³ min ⁻¹ |
| Working temperature | - 20 °C to + 80 °C |

Note: this filter element can replace filter elements FG 33-10 and FPS 10B10

Filter media - micro glass fiber protected with fleece, supported with fabric from both sides



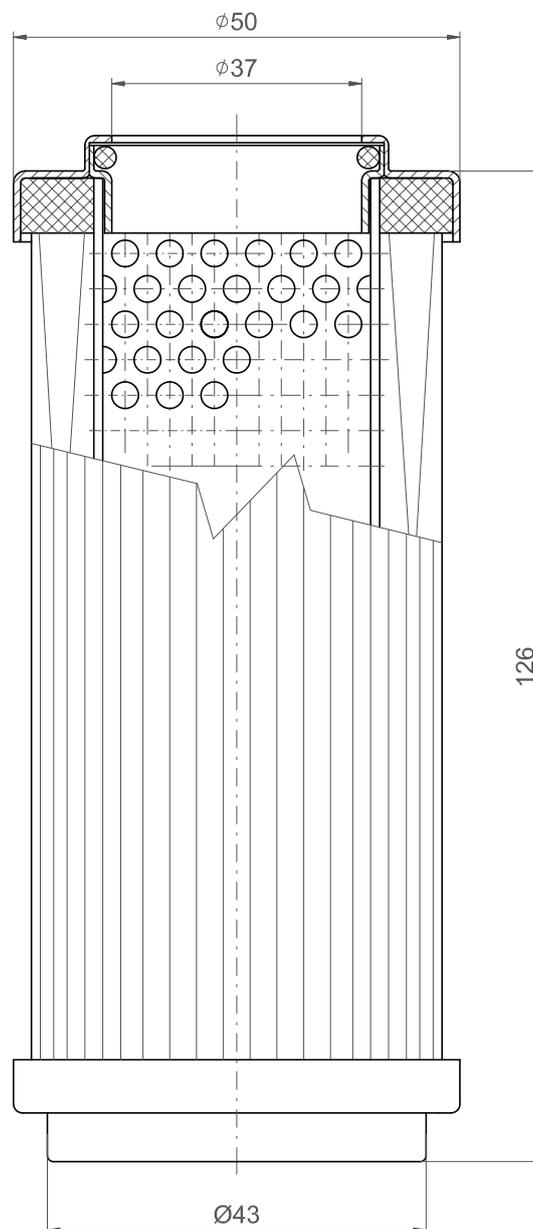
Filter element FG 33-10 A

Technical Data:

| | | |
|--------------------------|-------------------|--------------------------------------|
| Filtering area | | 520 cm ² |
| Filter fineness (rating) | | 10 μm ; β ₁₀ > 200 |
| Pressure difference | - working maximum | 10 bar |
| | - collapse | 20 bar |
| Flow | - nominal | 20 dm ³ min ⁻¹ |
| | - maximum | 40 dm ³ min ⁻¹ |
| Working temperature | | -20 °C to + 85 °C |

Note: this filter element can replace filter elements FG 33-10

Filter media - micro glass fiber protected with fleece, supported with fabric from both sides



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