

# SKF Safeflow oil flowmeter

For easy and accurate flow monitoring



# A rugged oil flowmeter for demanding

SKF Safeflow oil flowmeters are used for controlling and measuring the flow rate of lubricants in oil circulation lubrication systems. The SKF Safeflow oil flowmeters can be banked (up to 10 units wide) to reduce piping and simplify installation.

The base is made of durable aluminium and the flow tube is made of glass, therefore high temperatures and the use of mineral and synthetic oils should present no problems.

## Durable metallic frame

The frame of the flowmeters is made of durable aluminium, rather than plastic. This allows for tight connections for all tube fittings and reduces the chance of breakage.

## Excellent readability

It is easy to read the flowmeter even when using the dark oil or high oil flows. This is possible because the operating principle of the SKF Safeflow flowmeter is quite different from that of the ordinary conical flowmeter.

The SKF Safeflow flowmeter has a straight glass flow tube with an internal calibration cone, extending along its vertical axis. The float is cylindrical in shape and the O.D. is slightly smaller than the I.D. of the flow tube.

In operation, the calibrated cone extends through the annular opening in the float, creating the variable orifice needed for

measurement as the float moves with flow changes. Because the oil flows through the float rather than around it in an ordinary flowmeter, the float is always clearly visible. A white PTFE ring on the float marks the reading point.

The flowmeter can be field calibrated so that when the desired oil flow is properly adjusted, the white ring will line up with a predetermined mark. This makes it easy to monitor banks of flowmeters with different required flows, because all floats will be visible at the same level and it will not be necessary to remember the correct flow to each bearing.

## Easy calibration

Flowmeters can be individually calibrated according to the oil viscosity and desired flow.

The calibration is done by adjusting the position of the calibration cone in accordance with a graph furnished by SKF. Should there

be a change in the oil viscosity or the desired flow, the flowmeter can be recalibrated without removing it from service.

## Improved flow adjusting valve

The design of the adjusting valve has been improved by utilizing a cylindrical spindle with an elliptical shape bevelled on the metering end. This construction allows larger particles to pass through the valve than the ordinary needle valve arrangement, and does not block as easily as a needle valve. The oil flow through each flowmeter can be adjusted individually.

All the materials used in the SKF Safeflow flowmeters, aluminium frame, glass tube, and FPM rubber seals, are compatible with the use of mineral and synthetic oils.

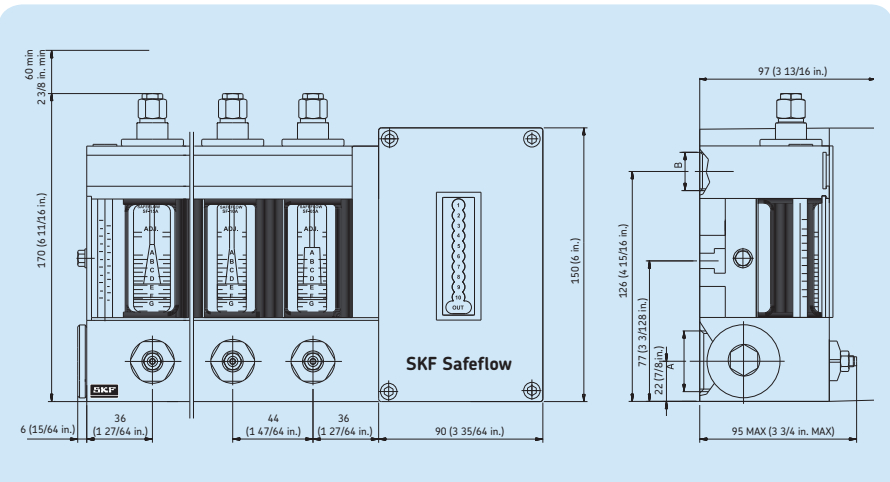


# use

## Optional flow change alarm system

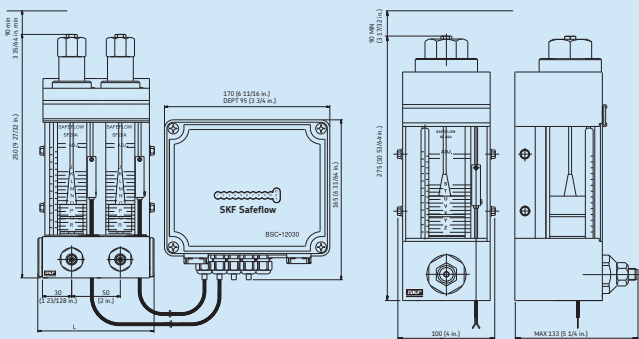
The oil flow through each SKF Safeflow flowmeter can be remotely and continuously monitored.

The alarm system consists of one alarm sensor for each flow tube and one monitoring unit configured with one (1) to ten (10) alarm sensors. The alarm sensor is an inductive proximity switch, which identifies the location of a metal float in the tube. The monitoring unit contains the terminals and the power supply for ten sensors. The system transmits either a single alarm from each bank of meters or a separate signal from each flow tube. The alarm delay can be selected.



	SF05A	SF10A	SF15A
Flow rate 100 cSt (460 SSU)	0,1–0,7 l/min 0,2–1,5 pints/min	0,1–3,0 l/min 0,2–6,3 pints/min	0,3–7,2 l/min 0,6–15,2 pints/min
220 cSt (1 000 SSU)	0,04–0,35 l/min 0,08–0,74 pints/min	0,1–1,7 l/min 0,2–3,6 pints/min	0,2–4,4 l/min 0,4–9,3 pints/min
Number of flowmeters (tubes, pcs)	1, 2, 4, 6, 8, 10	1, 2, 4, 6, 8, 10	1, 2, 4, 6, 8, 10
Connections			
A & B GS1 <sup>1)</sup>	R 1/2 in. (NPT 1/2 in.)	R 1/2 in. (NPT 1/2 in.)	R 1/2 in. (NPT 1/2 in.)
A <sup>1)</sup> GS 2–10	R 1 in. (NPT 1")	R 1 in. (NPT 1 in.)	R 1 in. (NPT 1 in.)
B <sup>1)</sup> GS 2–10	R 1/2 in. (NPT 1/2 in.)	R 1/2 in. (NPT 1/2 in.)	R 1/2 in. (NPT 1/2 in.)

<sup>1)</sup> GS = Group size, A = inlet, B = outlet  
Both SF05 and SF10A together and SF10A and SF15A together can be combined in the same bank.



	SF20A	SF30A
Flow rate 100 cSt (460 SSU)	1,3–17,0 l/min 2,7–36,0 pints/min	5,0–56,0 l/min 10,6–118,3 pints/min
220 cSt (1 000 SSU)	0,6–10,6 l/min 1,3–22,4 pints/min	2,5–44,0 l/min 5,3–93,0 pints/min
Number of flowmeters (tubes, pcs)	1, 2, 4, 6	1
Length (L)		
Group size 1	74 mm (3 45/64 in.)	
Group size 2	124 mm (5 43/64 in.)	
Group size 4	224 mm (9 5/8 in.)	
Group size 6	324 mm (13 35/64 in.)	
Connections		
A & B <sup>1)</sup> GS1 <sup>1)</sup>	R 3/4 in. (NPT 3/4 in.)	R 1 1/4 in. (NPT 1 1/4 in.)
A <sup>1)</sup> GS 2–6	R 1 in. (NPT 1 in.)	
B <sup>1)</sup> GS 2–6	R 3/4 in. (NPT 3/4 in.)	

<sup>1)</sup> GS = Group size, A = inlet, B = outlet

## Designation system for SKF Safeflow oil flowmeters

Example: SF-10-A-10-R-A-BSC

SF - 10 - A - 10 - R - A - BSC

### Identification of product design

SF SKF Safeflow

### Identification of size

05 Size 05  
10 Size 10  
15 Size 15  
20 Size 20  
30 Size 30

### Identification of adjustable cone

A Adjustable cone

### Identification of number of flowmeters (tubes)

R BSP-P (parallel)  
U NPT (tapered)

### Identification of electrical alarm

X No alarm  
A With electrical alarm

### Identification of alarm type

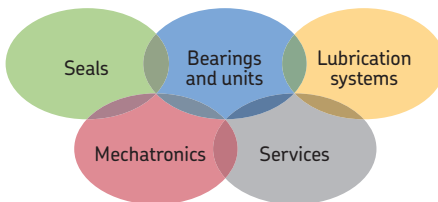
BSC Common alarm  
BSS Individual alarm

### Alarm units for SF20A and SF30A must be ordered separately

BSC-12030 Common alarm  
BSS-12030 Individual alarm

## Product information

<b>Power supply</b>	24V DC (22–36 V DC) or 24V AC (18–27 V AC RMS) Power consumption 150 mA max.
<b>Max. operating temperature</b>	70 °C (158 °F)
<b>Alarm output</b>	Dry contact relay output Max. load 50 V AC/DC, 1 A
<b>Delays</b>	0 s, 10 s, 50 s or 10 0s (selectable)



### The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide.

These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems.

A global presence provides SKF customers uniform quality standards and universal product availability.

### SKF lubrication systems

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