Pulse Generator
SP/SFE 30/5, SP/SFE 30/6 GL
for total-loss oil and grease lubrication systems

General remarks

Group SP/SFE30 pulse generators are used to monitor oil and grease volumetric flow rates of 0,1 to 50 ccm/min at a maximum permissible operating pressure of 600 bars.

Group SP/SFE30 pulse generators are mainly used on metal-forming machines and for the lubrication of cylinders and compressors.

The SP/SFE30/6GL pulse generator has been approved by Germanischer Lloyd for use on ships.

The pulses from the pulse generator are evaluated by a downstream pulse evaluator.

How it works

See important product usage information the on back cover.

(**See Fig. 1**) The lubricant flows from the inlet port through duct K_R into outlet chamber D_4. Piston K_1 moves to the left. The control bolt with balls E_1 locks piston K_2. The lubricant in outlet chamber D_1 is pressed through the right-hand annular groove of piston K_2 to the outlet port. When piston K_1 reaches the end position on the left, the locking of piston K_2 is terminated.

(**See Fig. 2**) The lubricant flows from the inlet port through duct K_{ML} into outlet chamber D_2. Piston K_2 moves to the right. The control bolt with balls E_1 locks piston K_1. The lubricant in outlet chamber D3 is pressed through the right-hand annular groove of piston K_1 to the outlet port. When piston K_2 reaches the end position on the right, the locking of piston K_1 is terminated.

The lubricant flows from the inlet port through duct K_L into outlet chamber D_1. Piston K_1 moves to the right. The control bolt with balls E_1 locks piston K_2. The lubricant in outlet chamber D_4 is pressed through the left-hand annular groove of piston K_2 to the outlet port. When piston K_1 reaches the end position on the right, the locking of piston K_2 is terminated.

(**See Fig. 1, position K_1, right hand**) The lubricant flows from the inlet port through duct K_{MR} into outlet chamber D_3. Piston K_2 moves to the left. The control bolt with balls E_1 locks piston K_1. The lubricant in outlet chamber D_2 is pressed through the left-hand annular groove of piston K_1 to the outlet port.

The sequence described above is repeated as long as the lubricant flows.

After the procedure described above is completed, reed contact S_1 in the switch part is closed once and opened once by the ring magnet affixed to piston K_1. The switching pulses are generated at a rate proportional to the volumetric flow. They are fed to the connected pulse evaluator and monitored by the built-in timer. If the switching period is longer than the set monitoring time, a fault is signaled.

Fig. 1

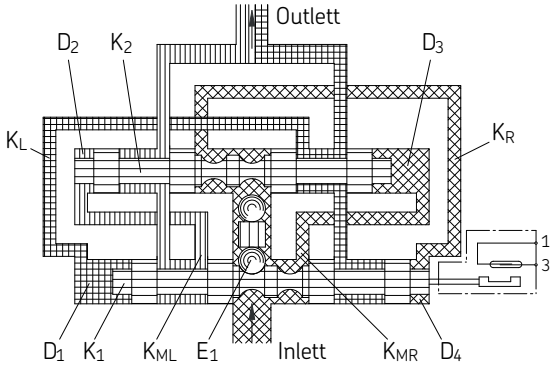
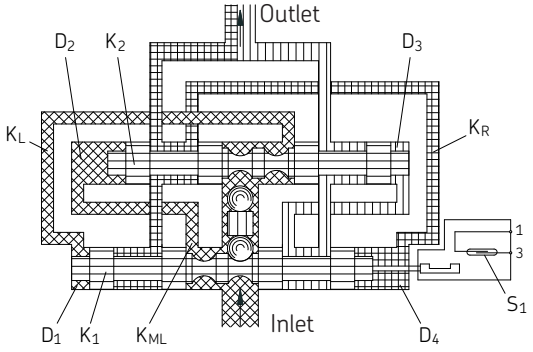
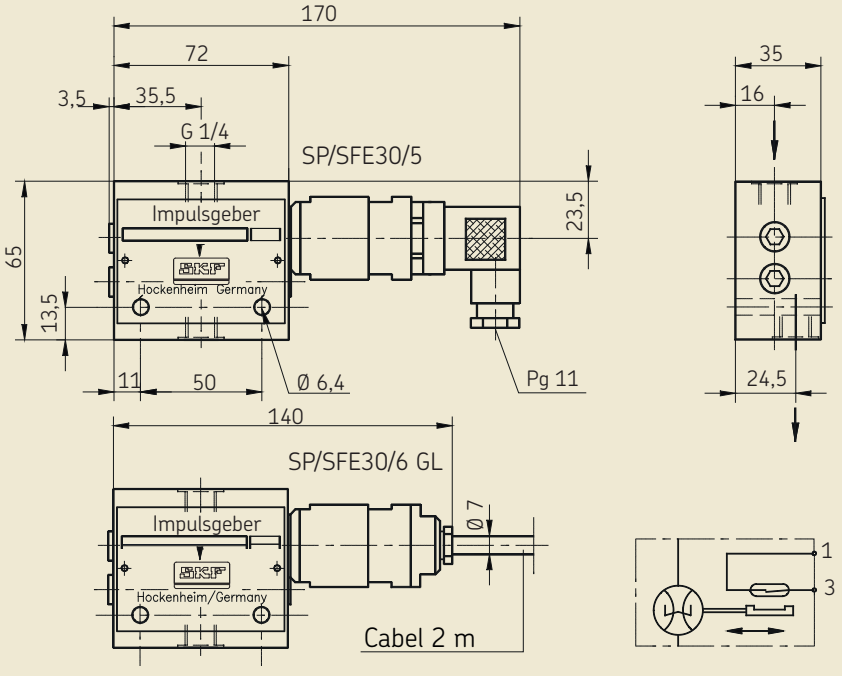


Fig. 2



Dimension drawing of pulse generator SP/SFE 30/5/30/6 Fig. 3



Technical data

General information

Mounting position	any
Ambient and lubricant temperature range	-15 to +70 °C
Vibration resistance	4 x g
Weight	1,1 kg

Hydraulic system

Operating pressure	4 to 600 bars
Control pressure loss	approx. 4 bars
Lubricant	mineral, synthetic and ecofriendly oils, grease based on mineral oil
Service viscosity	> 12 mm^2/s
Worked penetration	> 260 $^1/_{10}$ mm
Volumetric flow range	0,1 to 50 ccm/min
Volume/pulses	0,34 ccm [1] [2]

Electrical system

Type of contact	reed contact
Switching capacity	10 W with AC/DC
Switched voltage	24 V/48V
Switched current [3]	216 mA at 24 V, 208 mA at 48 V
Type of enclosure	IP 65
Switching rate	> 10^7

Connection

Type of connection	
SP/SFE 30/5	plug, DIN 43 650
SP/SFE 30/6 GL	cable (2 m)
Plug	3 +PE
Cable diameter	12 mm
Conductor size	1,5 mm^2

1) One pulse comprises the opening or closing of the reed contact.
2) Volume/pulse = 0,68 ccm when a pulse monitoring unit is used (opening till reopening or closing to reclosing of reed contact).
3) Adequate spark quenching presupposed.

Order No.

Designation	Order No.
SP/SFE 30/5 pulse generator	**24-2583-2516**
SP/SFE 30/6 GL pulse generator with 2 m connecting cable (approved by Germanischer Lloyd)	**24-2583-2517**

Accessories

Designation	Order No.
Straight connector G1/4 for Ø 6 mm tubing	**406-411**
Straight connector G 1/4 for Ø 8 mm tubing	**96-1108-0058**

Order No. 1-3009-EN
Subject to change without notice! (07/2014)

Important product usage information
All products from SKF may be used only for their intended purpose as described in this brochure and in any instructions. If operating instructions are supplied with the products, they must be read and followed.
Not all lubricants are suitable for use in centralized lubrication systems. SKF does offer an inspection service to test customer supplied lubricant to determine if it can be used in a centralized system. SKF lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1013 mbars) by more than 0.5 bar at their maximum permissible temperature.
Hazardous materials of any kind, especially the materials classified as hazardous by European Community Directive EC 67/548/EEC, Article 2, Par. 2, may only be used to fill SKF centralized lubrication systems and components and delivered and/or distributed with the same after consulting with and receiving written approval from SKF.

Further brochures

1-3018-EN	Pulse generator SP/SFE 30/3003 according to ATEX Directive 94/9/EC
1-3012-EN	Pulse generator SP/SFE30/3002
1-1700-5-EN	Pulse monitoring unit

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