

Manually or pneumatically actuated Piston pumps

For oil and fluid grease
For use in SKF MonoFlex single-line centralized lubrication systems



These manually or pneumatically actuated piston pumps were designed for intermittently operated single-line centralized lubrication systems with piston distributors.

They contain the valve set required for pressure relief and limitation.



Pump overview

| Order No. | Lubricant | | Displacement [cm ³ /stroke] | Reservoir capacity [liter] | Drive | | Fill level switch | Page |
|--------------------|-----------|--------------|---|-------------------------------|--------|-----------|-------------------|------|
| | Oil | Fluid grease | | | manual | pneumatic | | |
| POE-15-0.5 | • | | 15 | 0,5 | • | | | 4 |
| POE-15-1.0 | • | | 15 | 1,0 | • | | | 4 |
| POE-15-1.0W | • | | 15 | 1,0 | • | | • | 4 |
| POE-15-1.7 | • | | 15 | 1,7 | • | | | 4 |
| POE-15-1.7W | • | | 15 | 1,7 | • | | • | 4 |
| POEP-15-0.5 | • | | 15 | 0,5 | | • | | 4 |
| POEP-15-1.0 | • | | 15 | 1,0 | | • | | 4 |
| POEP-15-1.0W | • | | 15 | 1,0 | | • | • | 4 |
| POEP-15-1.7 | • | | 15 | 1,7 | | • | | 4 |
| POEP-15-1.7W | • | | 15 | 1,7 | | • | • | 4 |
| P-289 | • | | 10 | 1,5 | | • | | 8 |
| PW-289 | • | | 10 | 1,5 | | • | • | 8 |
| PEU-99-S3 | • | | 50 | 3 | | • | | 10 |
| PFE-15-0.5 | | • | 15 | 0,5 | • | | | 6 |
| PFE-15-1.0 | | • | 15 | 1,0 | • | | | 6 |
| PFE-15-1.0W2 | | • | 15 | 1,0 | • | | • | 6 |
| PFE-15-1.7 | | • | 15 | 1,7 | • | | | 6 |
| PFE-15-1.7W2 | | • | 15 | 1,7 | • | | • | 6 |
| PFEP-15-0.5 | | • | 15 | 0,5 | | • | | 6 |
| PFEP-15-1.0 | | • | 15 | 1,0 | | • | | 6 |
| PFEP-15-1.0W2 | | • | 15 | 1,0 | | • | • | 6 |
| PFEP-15-1.7 | | • | 15 | 1,7 | | • | | 6 |
| PFEP-15-1.7W2 | | • | 15 | 1,7 | | • | • | 6 |
| PF-289 | | • | 10 | 1,5 | | • | | 8 |
| PFW-289 | | • | 10 | 1,5 | | • | • | 8 |
| PEF-99W(-S1/S2/S3) | | • | 50 | 3 | | • | • | 10 |
| PEF-90 | • | • | 48 | 3 | | • | | 10 |
| PEU-99(-S2) | • | • | 50 | 3 | | • | | 10 |

Commissioning

To commission the product, fill the reservoir with lubricant and actuate the pump at intervals of 5 – 10 seconds until lubricant discharges at all lubrication points. A properly installed system will ventilate itself without operator intervention. The venting process is facilitated by:

- Opening the ends of the main pipes until bubble-free oil or fluid grease discharges from the ends.
- Filling long lubrication point lines, especially for distributor ports with low metering volumes, before connecting to the lubrication points.

Maintenance

- 1 Check the oil/grease level and fill the oil reservoir in time. Use the lubricant in accordance with the information provided by the manufacturer. Always use a screen filter when refilling oil.
- 2 After using the machine for an extended period of time, inspect all pipe connections for leakage and actuate the pump to check whether lubricant discharges at all lubrication points.

Only use original SKF spare parts.

CAUTION

The important information on product usage located on the back cover applies to all systems described in this brochure.

Pump overview



POE/PFE piston pumps

Lubricant **Oil** Page 4–5
Fluid grease Page 6–7

Actuation **manual**
 Fill level monitoring **optional**
 Reservoir capacity **0,5; 1,0 or 1,7 liters**
 Displacement **15 cm³/stroke**



POEP/PFEP piston pumps

Lubricant **Oil** Page 4–5
Fluid grease Page 6–7

Actuation **pneumatic**
 Fill level monitoring **optional**
 Reservoir capacity **0,5; 1,0 or 1,7 liters**
 Displacement **15 cm³/stroke**



P/PF/PW/PFW piston pumps

Lubricant **Oil** Page 8
Fluid grease Page 8

Actuation **pneumatic**
 Fill level monitoring **optional**
 Reservoir capacity **1,5 liters**
 Displacement **10 cm³/stroke**
15 cm³/stroke



PEF/PEU piston pumps

Lubricant **Oil** Page 10
Fluid grease Page 10

Actuation **pneumatic**
 Reservoir capacity **3 liters**
 Displacement **48 cm³/stroke**
50 cm³/stroke

POE(P) piston pumps for oil, manually or pneumatically actuated

Manually actuated



Pneumatically actuated



Order No. Overview

| Order No. | Reservoir capacity [liter] | Drive | | Fill level switch |
|--------------|----------------------------|--------|-----------|-------------------|
| | | manual | pneumatic | |
| POE-15-0.5 | 0,5 | • | | |
| POE-15-1.0 | 1,0 | • | | |
| POE-15-1.0W | 1,0 | • | | • |
| POE-15-1.7 | 1,7 | • | | |
| POE-15-1.7W | 1,7 | • | | • |
| POEP-15-0.5 | 0,5 | | • | |
| POEP-15-1.0 | 1,0 | | • | |
| POEP-15-1.0W | 1,0 | | • | • |
| POEP-15-1.7 | 1,7 | | • | |
| POEP-15-1.7W | 1,7 | | • | • |

Technical data

Pump

| | |
|-------------------------------------|---|
| Drive | manual or pneumatic |
| Reservoir capacity | 0,5; 1,0 and 1,7 liters |
| Reservoir material | Plastic (PP), transparent |
| Outlets | G ¹ / ₄ , on left or right |
| Compressed air connection | G ¹ / ₄ (on pump bottom) |
| Operating pressure, max. | 30 bar (manual. actuated) 60 bar (pneum. actuated) |
| Displacement per stroke | 15 cm ³ |
| Transmission ratio for pneum. pumps | 10:1 |

Ambient temperature 0 to +60 °C

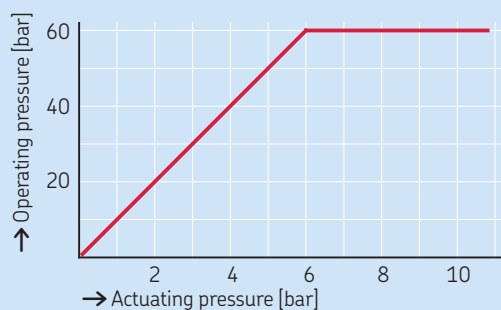
Lubricant Mineral, synthetic, and environmentally compatible oils, operating viscosity 20 to 1500 mm²/s

Fill level switch for monitoring the min. oil level

| | |
|--------------------------|---------------------------------------|
| Function | Contact opens at minimum fill level |
| Switching voltage, max. | 42 V DC |
| Switching capacity, max. | 50 W |
| Plug | 4-pin M12x1 circular plug |
| Mounting position | 1, 2 or 3 possible (2 on delivery) |

Diagram 1

Pressure diagram for pneumatic drive



Note

For a hydraulic system pressure of >45 bar, use cutting-sleeve screw unions conforming to DIN 2353 or plug connectors as connection fittings.

For fittings and accessories, see brochure 1-0103-EN; for connector systems, see brochure 1-0103-1-EN.

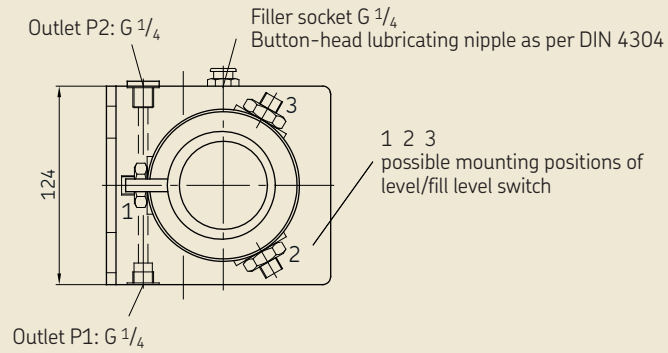
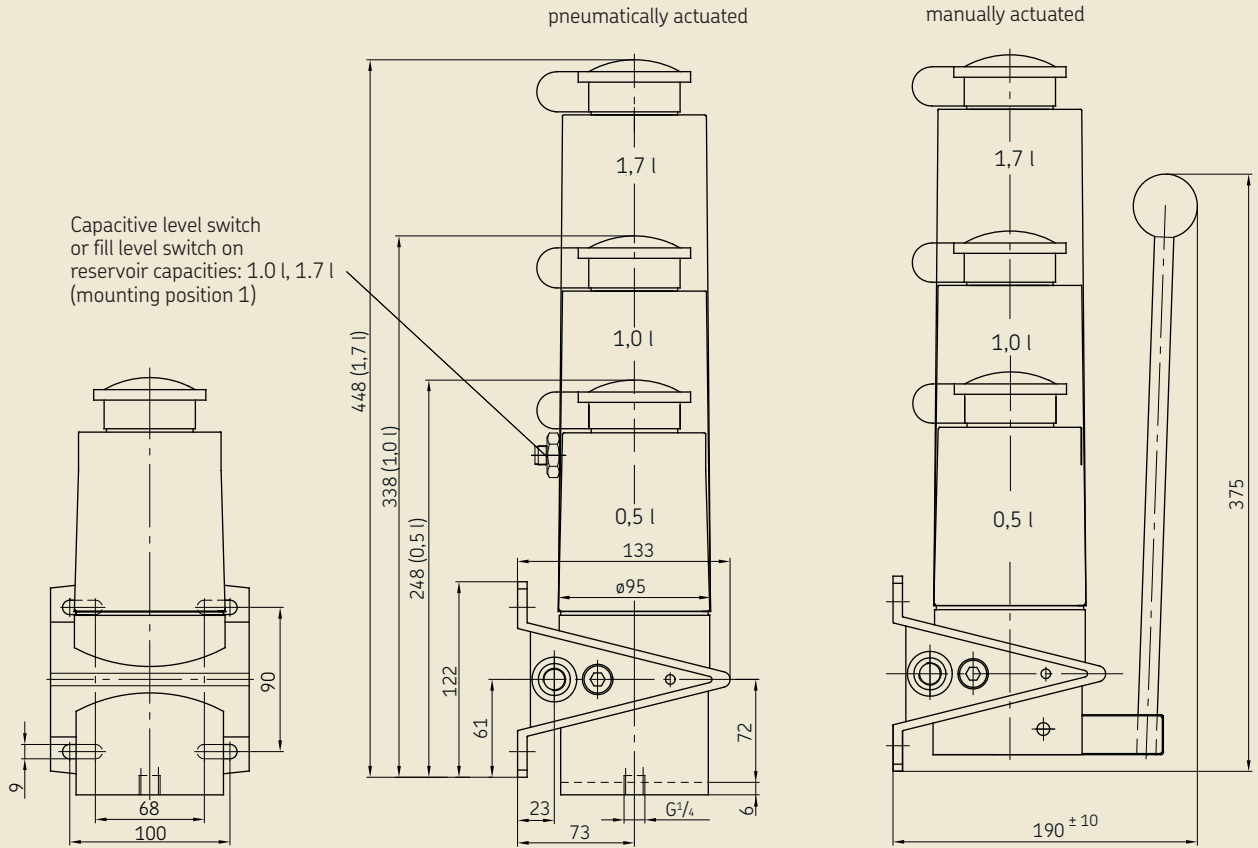


Fig. 2

Hydraulic layout for POE (manual)

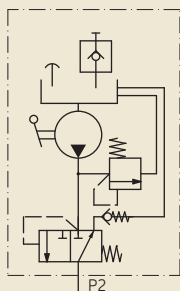


Fig. 3

Hydraulic layout for POEP (pneumatic)

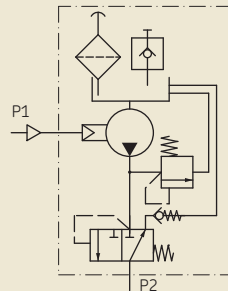
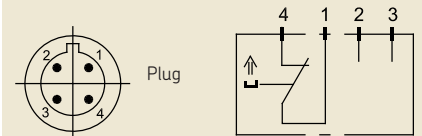


Fig. 4

Wiring diagram for fill level monitoring



PFE/PFEP piston pumps for fluid grease, manually or pneumatically actuated



Order No. Overview

| Order No. | Reservoir capacity [liter] | Drive | | Fill level switch |
|-----------------------------|----------------------------|--------|-----------|-------------------|
| | | manual | pneumatic | |
| PFE-15-0.5 | 0,5 | • | | |
| PFE-15-1.0 | 1,0 | • | | |
| PFE-15-1.0W2 ¹⁾ | 1,0 | • | | • |
| PFE-15-1.7 | 1,7 | • | | |
| PFE-15-1.7W2 ¹⁾ | 1,7 | • | | • |
| PFEP-15-0.5 | 0,5 | | • | |
| PFEP-15-1.0 | 1,0 | | • | |
| PFEP-15-1.0W2 ¹⁾ | 1,0 | | • | • |
| PFEP-15-1.7 | 1,7 | | • | |
| PFEP-15-1.7W2 ¹⁾ | 1,7 | | • | • |

¹⁾ Level switch connection, 4-pin M8x1 circular plug, plug with 5 m cable, order No. 179-990-762

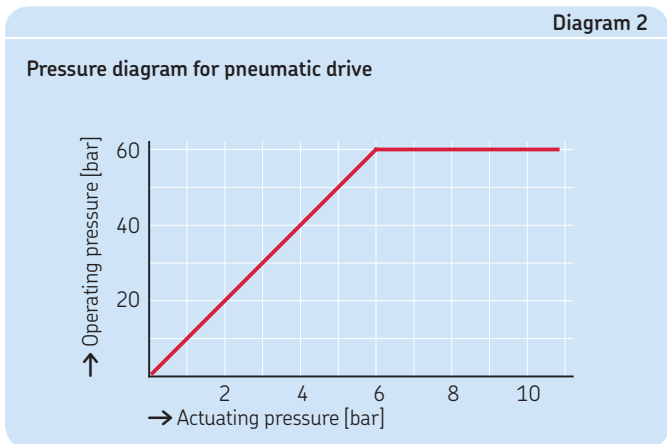
Technical data

Pump

| | |
|-------------------------------------|---|
| Drive | Manual or pneumatic |
| Reservoir capacity | 0.5; 1.0 and 1.7 liters |
| Reservoir material | Plastic (PP), transparent |
| Outlets | G ¹ / ₄ , on left or right |
| Compressed air connection | G ¹ / ₄ (on pump bottom) |
| Operating pressure, max. | 30 bar (manual. actuated) 60 bar (pneum. actuated) |
| Displacement per stroke | 15 cm ³ |
| Transmission ratio for pneum. pumps | 10:1 |
| Ambient temperature | 0 to +60 °C |
| Lubricant | Fluid grease, NLGI Grade 000, 00 |

Fill level switch for monitoring the min. grease level

| | |
|---------------------------------------|---|
| Function | NPN, PNP/NO-contact - NC contact |
| Switching voltage, max. | 10 to 36 V DC |
| Operating current at switching output | max. 150 mA |
| Protection class | IP 67 |
| Connection | 2 m PVC cable or 4-pin M8x1 circular plug |
| Mounting position | 1, 2 or 3 possible (2 on delivery) |



Note

For a hydraulic system pressure of >45 bar, use cutting-sleeve screw unions conforming to DIN 2353 or plug connectors as connection fittings. For fittings and accessories, see brochure 1-0103-EN.

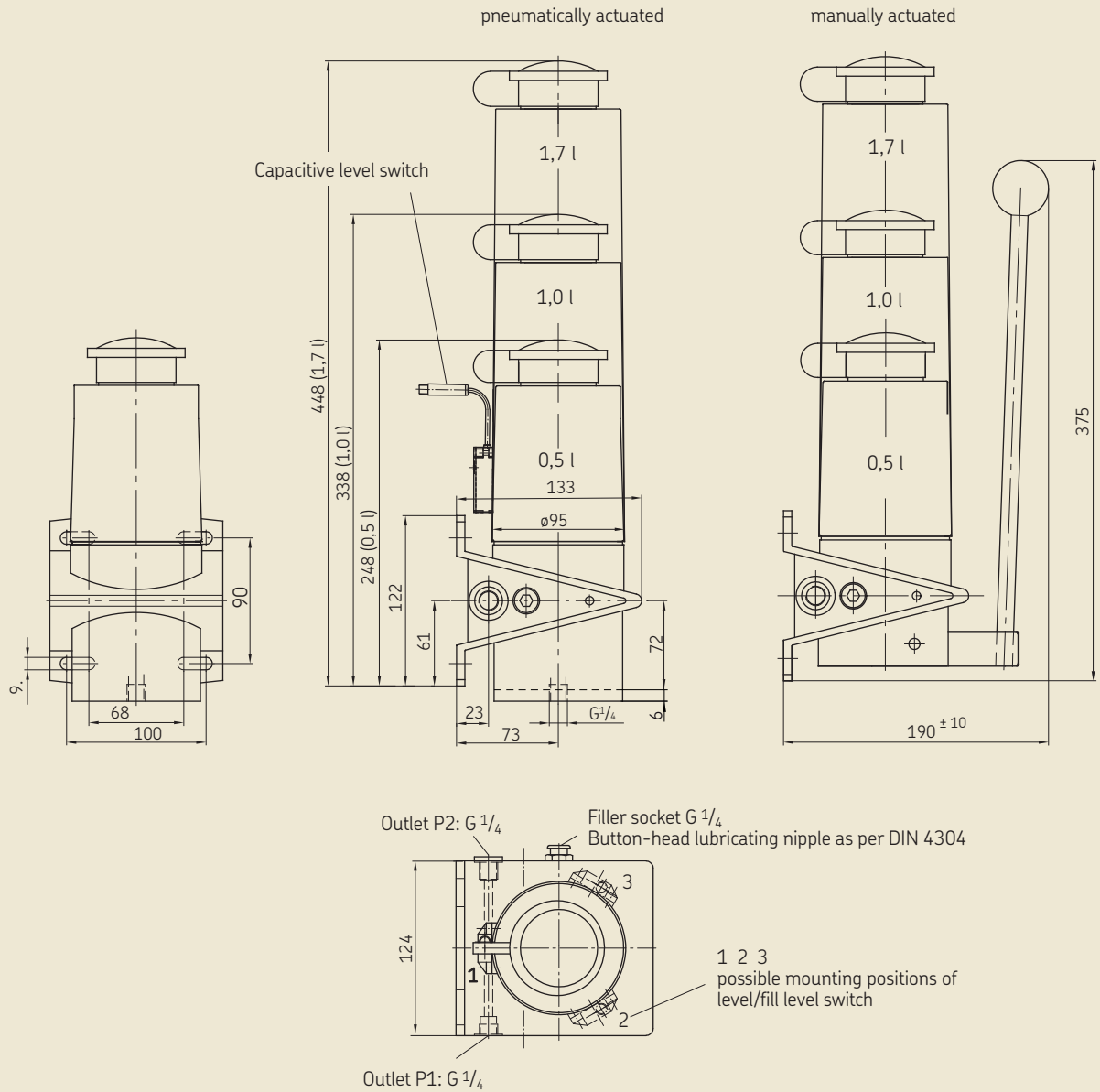


Fig. 6

Hydraulic layout for PFE (manual)

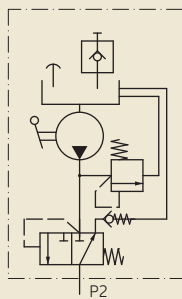


Fig. 7

Hydraulic layout for PFEP (pneumatic)

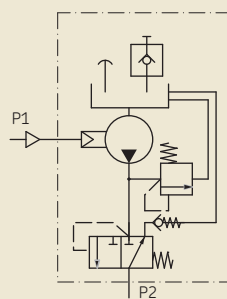
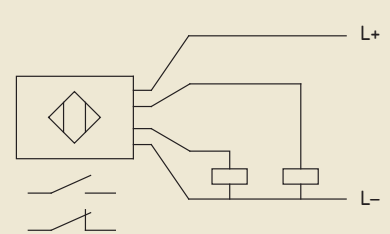


Fig. 8

Wiring diagram for fill level monitoring



P(F)(W)-289 piston pump for oil or fluid grease, pneumatically actuated



Order No. Overview

| Order No. | Lubricant | | Fill level switch | Fig. |
|-----------|-----------|--------------|-------------------|------|
| | Oil | Fluid grease | | |
| P-289 | • | | | 9 |
| PW-289 | • | | • | 11 |
| PF-289 | | • | | 9 |
| PFW-289 | | • | • | 11 |

A pressure regulating valve, e.g. WVN200-6B40, with a cracking pressure of 40 bar must be used to protect the system.

Technical data

Pump

| | |
|--------------------------|--------------------|
| Drive | pneumatic |
| Reservoir capacity | 1.5 liters |
| Operating pressure, max. | 3.5 to 10 bar |
| Displacement per stroke | 10 cm ³ |

Ambient temperature +10 to 40 °C
 Type of enclosure IP 54
 Lubricant Mineral, synthetic, and environmentally compatible oils, operating viscosity 20 to 1500 mm²/s or fluid grease, NLGI grades 000, 00

Fill level switch for monitoring the min. grease level

| | |
|-------------------------|------------------------|
| Function | 1 changeover |
| Switching voltage, max. | 230 V AC 230 V DC |
| Switching current max. | 1.0 A 1.0 A |
| Breaking capacity max. | 60 VA 40 W |
| Cable gland | PG11 |

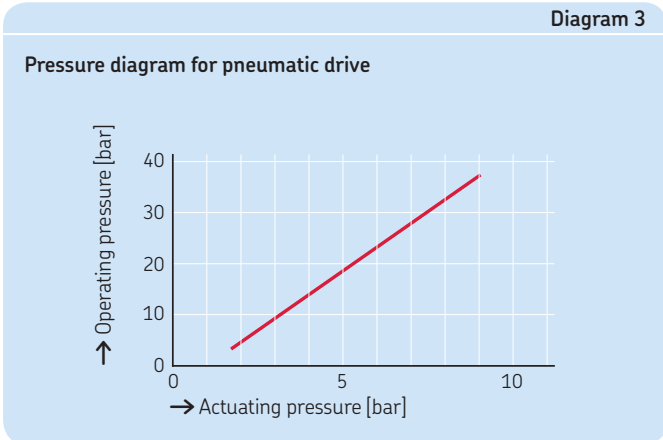
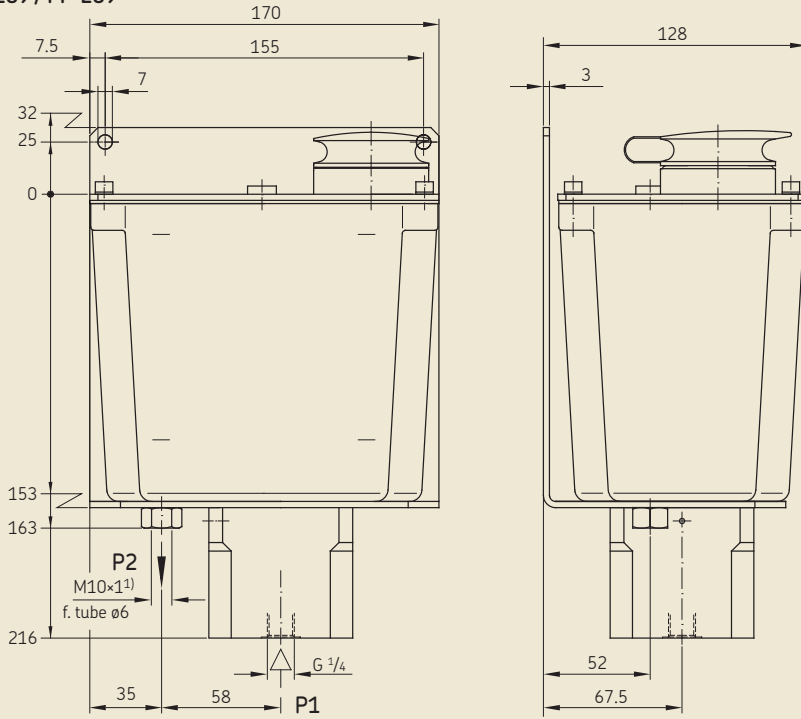


Fig. 9

P-289 / PF-289



P1 = Compressed air connection
 P2 = Compressed air connection to system
 1) Anschluss mit Senkung für lötlöse Rohrverschraubung für Rohr ø6

Fig. 10

Hydraulic layout for PF-289

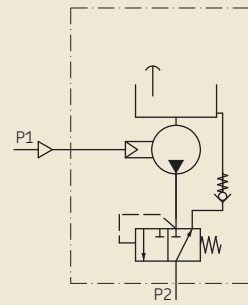
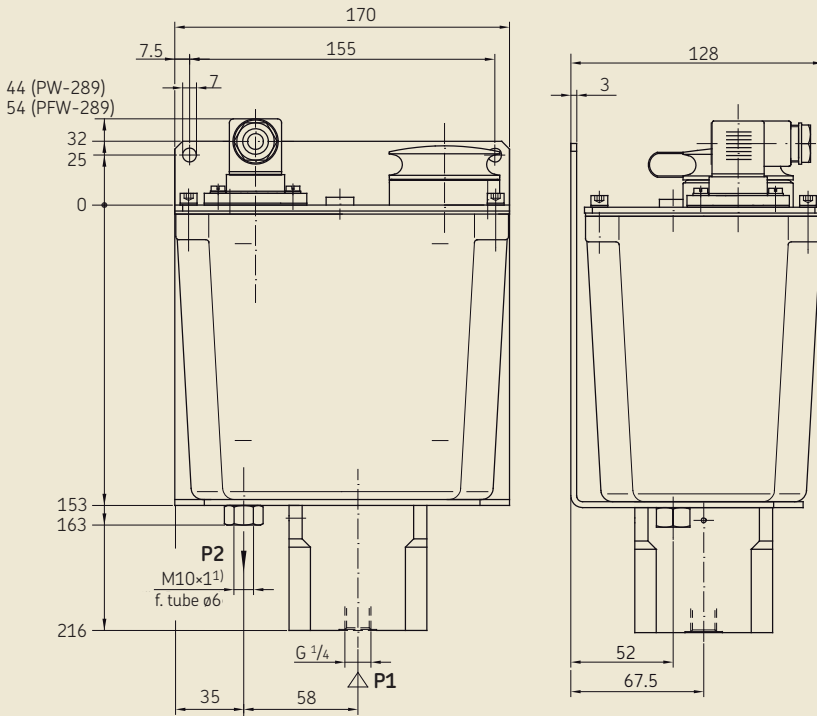


Fig. 11

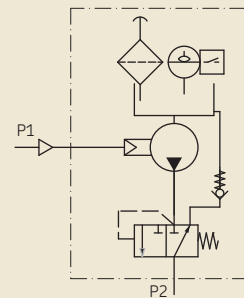
PW-289 / PFW-289



P1 = Compressed air connection
 P2 = Compressed air connection to system
 1) Anschluss mit Senkung für lötlöse Rohrverschraubung für Rohr ø6

Fig. 12

Hydraulic layout for PW-289



PEF-90 / PEF-99W / PEU-99 piston pump for oil or fluid grease, pneumatically actuated



Order No. Overview

| Order No. | Lubricant | | | Fig. |
|------------|-----------|--------------|-------------------|------|
| | Oil | Fluid grease | Fill level switch | |
| PEF-90 | • | • | | 13 |
| PEF-99W | | | • | 16 |
| PEF-99W-S1 | • | | • | 16 |
| PEF-99W-S2 | • | | • | 16 |
| PEF-99W-S3 | • | | • | 16 |
| PEU-99 | • | • | | 16 |
| PEU-99-S2 | • | • | | 16 |
| PEU-99-S3 | • | | | 16 |

Technical data

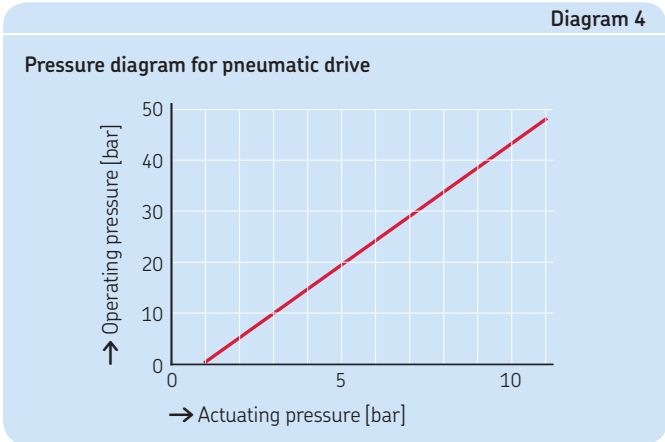
Pump

| | |
|--------------------------|--------------------------|
| Drive | pneumatic |
| Reservoir capacity | 3 litres |
| Operating pressure, max. | 10 bar |
| Displacement per stroke | 48 or 50 cm ³ |

Ambient temperature -25 to +80 °C
 Type of enclosure IP 54
 Lubricant Mineral, synthetic, and environmentally compatible oils, operating viscosity 20 to 1500 mm²/s or fluid grease, NLGI grades 000, 00

Fill level switch for monitoring the min. grease level

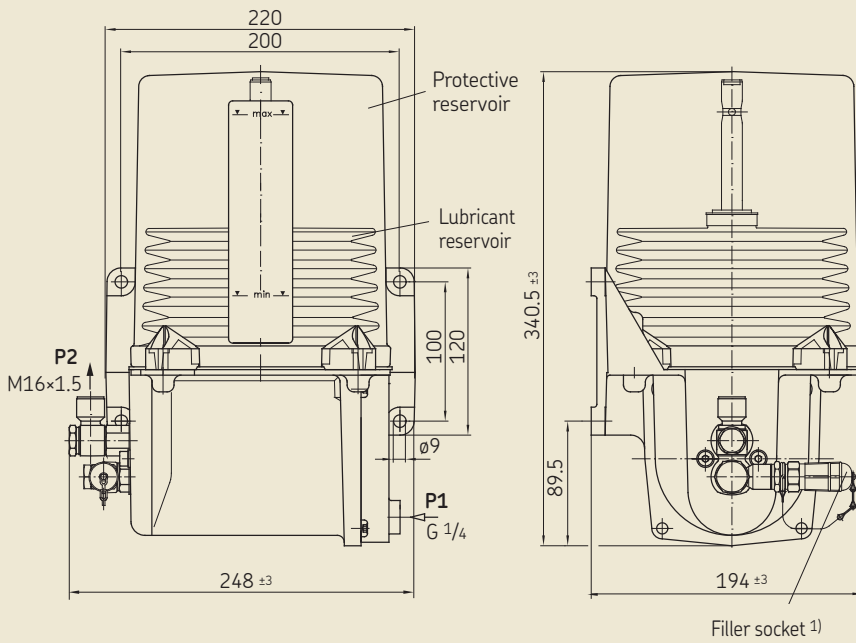
| | |
|-------------------------|---------------|
| Function | No-contact |
| Switching voltage, max. | 10 to 35 V DC |
| Capacity | 15 mA |
| Output current | 400 mA |



Note
 For fittings and accessories, see brochure 1-0103-EN.

Fig. 13

PEF-90



P1 = for air main of compressed air reservoir
 P2 = for main line to system

1) Lubricant is filled via the filler socket using an external topping-up pump.
 The connecting cable of the topping-up pump must be equipped with a coupling socket, 995-001-500.
 Topping-up pump is available on request.

Fig. 14

Hydraulic layout for PEF-90

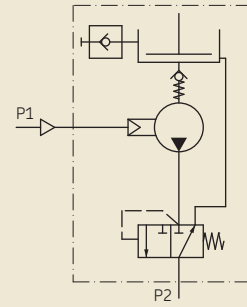
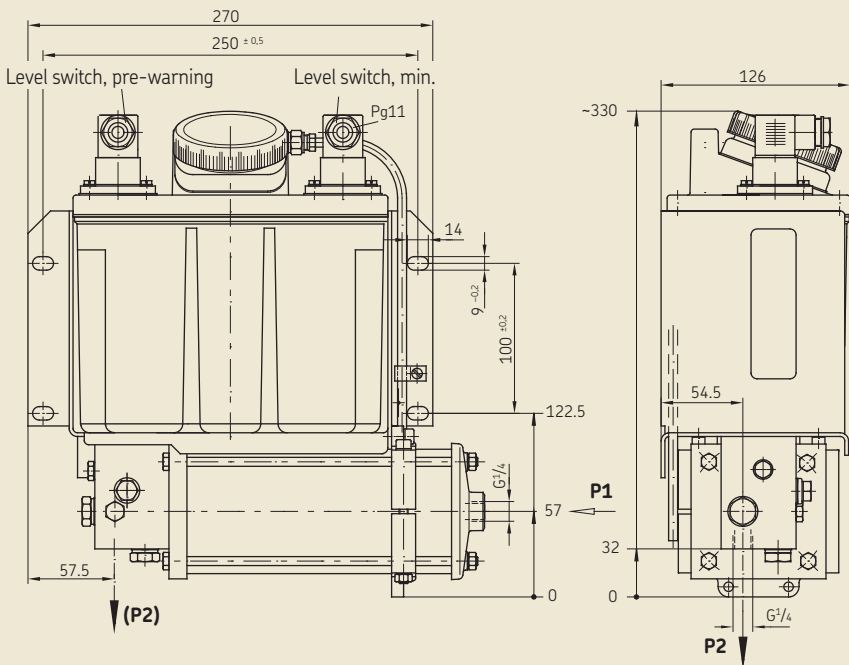


Fig. 16

PEF-99W-S3

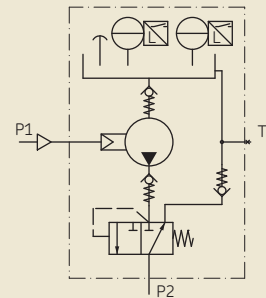


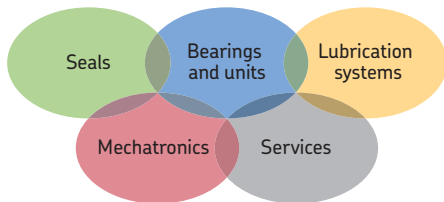
P1 = for air main of compressed air reservoir
 P2 = for main line to system

Pipe thread with counterbore for solderless pipe unions.

Fig. 15

Hydraulic layout for PEF-99W-S3





The Power of Knowledge Engineering

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

! Important information on product usage

All products from SKF may be used only for their intended purpose as described in this brochure and the operating instructions. If operating instructions are supplied together with the products, they must be read and followed.

Not all lubricants can be fed using centralized lubrication systems. SKF can, on request, inspect the feedability of the lubricant selected by the user in centralized lubrication systems. Lubrication systems and their components manufactured by SKF are not approved for use in conjunction with gases, liquefied gases, pressurized gases in solution, vapors or such fluids whose vapor pressure exceeds normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

In particular, we call your attention to the fact that hazardous materials of any kind, especially the materials classified as hazardous by EC Directive 67/548/EEC, Article 2, Para. 2, may only be filled into SKF centralized lubrication systems and components and delivered and/or distributed with the same after consultation with and written approval from SKF.

Further brochures

1-0103-EN *Fittings and Accessories*
 1-9201-EN *Transport of Lubricants in Centralized Lubrication Systems*

SKF Lubrication Systems Germany AG

Motzener Strasse 35/37
 12277 Berlin · Germany
 PO Box 970444 · 12704 Berlin · Germany

Tel. +49 (0)30 72002-0
 Fax +49 (0)30 72002-111

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PUB LS/P2 11218 EN · August 2011 · 1-1110-EN

This publication supersedes publication 1-0015-EN · 1-1111-EN

