Electric Compact Pump ECP

For reliable lubrication of entry-level, single-line lubrication systems for oil and fluid grease

- Oil or fluid grease
- 38 bar (552 psi)
- +10 to 50 °C (+50 to 122 °F)
- Small- to medium-sized machines
Flexibility to meet your needs

The ECP is designed to lubricate bearings and linear guides with oil or fluid grease in systems of up to 20 lubrication points and a main line length of approximately 15 meters. It includes an integrated pressure-relief valve that enables its use in SKF single-line automatic lubrication systems. The ECP is available with pre-filled lubricant cartridges or with a choice of three sizes of plastic reservoirs for oil or fluid grease.

Plastic reservoirs for easy refilling

Users preferring flexible reservoir sizes and easy refilling processes should select the ECP versions with transparent, plastic reservoirs.

To meet certain requirements, these reservoirs are offered with capacities of 0.5; 1.0 or 1.7 liters. Oil reservoirs include standard filling filters. Pump versions with reservoir capacities of 1.0 and 1.7 liters can be equipped with a fill-level monitor.

Benefits:
- For either oil or fluid grease
- Reservoir offers flexibility and easy filling processes
- Different reservoir sizes available
- Extended maintenance and refilling intervals
- Venting necessary only during system start-up, not during reservoir refilling

Pre-filled cartridges

To eliminate the risk of lubricant contamination, SKF recommends the ECP version that utilizes easy-to-exchange 380 ml cartridges. The cartridge pump version is available with an optional, integrated level switch to monitor fill level. The standard cartridge is pre-filled with fluid grease type 00.

Benefits:
- Minimized risk of using wrong or contaminated lubricant
- Increased safety and cleaner work environment, less lubricant spillage on the floor
- Inventory management can be rationalized and simplified
- Safe and clean cartridge exchange without removing cap
- Standard cartridge filling with SKF-recommended fluid grease, other lubricants can be provided on demand

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Diagram:

- 1.7 liter reservoir
- 1.0 liter reservoir
- 0.5 liter reservoir
- 380 ml cartridge
- Filling filter
- Fill-level monitor
- Venting screw
- Two lubricant outlets
- Mounting plate
- Fill-level monitor
- Power connection
- Connection to PLC
- Manual push button
Cost-effective and reliable solution

Setting new standards in design and flexibility, the ECP is a cost-effective and simple-to-operate lubrication pump. It is designed for use with SKF single-line metering devices in small- to medium-sized machinery.

Control and monitoring options

Independent from the utilized reservoir, the ECP operates at 24 V DC and can be controlled by an external programmable logic controller (PLC) for convenience. In addition, the pump is capable of manually activating a lubrication cycle.

An easy-to-access venting screw enables simple installation and operational start-up.

Features:

- Optional reservoir or cartridge
- Up to 2 lubricant outlets
- Fill-level monitoring with pre-warning functionality
- Operating voltage 24 V DC
- Controllable by external PLC
- Six optional mounting bores offer variety of installation possibilities
- Manual lubrication push button for easy system start-up or venting
- Venting screw for simple venting during system start-up or after cartridge exchange
- For indoor use

Benefits:

- Cost-effective, reliable solution
- Simple to operate
- Extended lifetime of bearings and linear guides
- Increased machine uptime
- Precise and reliable system performance
- System can be expanded with more lubrication points, considering limitations of the system design

Applications:

- Automation
- Machine tools
- Material handling
- Plastic-injection-molding machinery and processes
## Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>max. 38 bar / max. 552 psi</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>+10 to +50 °C / 50 to 122 °F</td>
</tr>
<tr>
<td>Delivery volume</td>
<td>Fluid grease: 10 cm³/min / 0.61 in.³/min</td>
</tr>
<tr>
<td></td>
<td>Oil: 0.01 l/min / 0.021 fl.oz./min</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP 54</td>
</tr>
<tr>
<td>Number of outlets</td>
<td>1 or 2 (front and/or bottom)</td>
</tr>
<tr>
<td>Lubricants</td>
<td>Oil: Viscosity 20 to 1500 mm²/s (cSt)</td>
</tr>
<tr>
<td></td>
<td>SKF standard cartridge</td>
</tr>
<tr>
<td></td>
<td>Fluid grease: NLGI 00, 000</td>
</tr>
<tr>
<td></td>
<td>Zeller Gmelin Divinol Fluid Grease Type 00</td>
</tr>
<tr>
<td></td>
<td>work stable lithium soap lubricating grease, based on synthetic ester</td>
</tr>
<tr>
<td></td>
<td>water resistant; oxidation and corrosion resistant</td>
</tr>
<tr>
<td>Capacity of the Cartridges</td>
<td>380 ml</td>
</tr>
<tr>
<td>Plastic reservoirs</td>
<td>0.5; 1.0; 1.7 l</td>
</tr>
<tr>
<td>Mounting position</td>
<td>upright</td>
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</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-filled standard cartridge, 380 ml</td>
<td></td>
</tr>
<tr>
<td>Lubricant</td>
<td></td>
</tr>
<tr>
<td>Zeller Gmelin Divinol Lithogrease 00</td>
<td></td>
</tr>
<tr>
<td>Package</td>
<td>10 pcs</td>
</tr>
<tr>
<td>Order code</td>
<td>LF001/MR380</td>
</tr>
</tbody>
</table>

#### Main line connectors
- Connection thread M10x1: 898-110-120
- Quick connector Ø6 mm: 406-004-V5
- Banjo fitting Ø6 mm: 506-140-V5
- Quick connector Ø8 mm: 408-0074-V5
- Closing plug: 466-431-001

#### Electrical connectors
- Rectangular connectors: 179-990-033 / 147
- Circular plug M12x1, straight: 179-990-371 / 381
- Circular plug M12x1, angled: 179-990-372 / 382

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall bracket</td>
<td>995-901-065</td>
</tr>
<tr>
<td>Spare parts kit of gasket, adhesive</td>
<td>541-34901-5</td>
</tr>
<tr>
<td>Closure screw (ECP cartridge port)</td>
<td>541-34901-4</td>
</tr>
</tbody>
</table>

#### Pressure-relief valves 60 bar for use in main line
- Pressure-relief valve Ø6 mm: 451-006-060
- Pressure-relief valve Ø8 mm: 451-008-060

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**Dimensional drawing**

Minimum mounting dimensions:
- Height: A-1 = 440 mm
- Width: B = 240 mm
- Depth: C = 210 mm

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**SKF**
# How to order

## Order code

<table>
<thead>
<tr>
<th>Order code</th>
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<tbody>
<tr>
<td>ECP1-1A-</td>
</tr>
</tbody>
</table>

- **Pump type**
  - Electric Compact Pump

- **Delivery volume**
  - 1 = 10 cm³/min / 0,01 l/min

- **Operating pressure**
  - 1 = 38 bar

- **Warning switch for minimum filling level**
  - W = Warning level (pre-warning empty) *
  - 0 = No warning switch

- **Wall bracket**
  - A = With standard bracket
  - 0 = Without

- **Electric connection**
  - A = Square plug following DIN EN 175301-803-A

- **Main line connection**
  - 1 = Connection thread M10x1
  - 2 = Quick connector Ø6 mm
  - 3 = Banjo fitting Ø6 mm
  - 4 = Quick connector Ø8 mm
  - X = Closed

- **Cartridge version** *(Cartridge, 380 ml, with lubricant)*
  - 00000 = without cartridge
  - F00138 = Zeller+Gmelin Divinol Lithogrease 00

- **Reservoir version**
  - 1 = Plastic refillable reservoir version

- **Lubricant**
  - U = Oil (reservoir with filter)
  - F = Fluid grease (reservoir without filter)

- **Reservoir size**
  - 0500 = 0,5 l *
  - 1000 = 1,0 l
  - 1700 = 1,7 l

* **NOTE:** The 0,5 liter version can not be ordered with warning switch and/or oil filling filter.

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**Example: ECP1-1WAA22-1F1000**
- Electric compact pump
- Output volume 10 cm³/min
- Operating pressure 38 bar
- With warning switch (1)
- With standard wall bracket (2)
- With electric connector square plug (3)
- With quick connector Ø6 mm, front (4)
- With quick connector Ø6 mm, bottom (5)
- Reservoir version
- Fluid grease
- 1,0 liter reservoir
ECP and series 310 metering devices make ideal pair

The compact, electrically driven pump ECP, combined with the industry’s first non-metallic metering device, offers you an efficient, reliable and flexible single-line lubrication system that is adjustable to your needs. Both the pump and metering device are designed to operate together in one system.

Entry-level, single-line system

This entry-level system reliably supplies oil or fluid grease to bearings and linear guides.

Combining the different reservoir variants of the ECP pump with SKF’s precise 310 metering devices provides you with maximum flexibility and cost efficiency.

The non-metallic metering device series 310 is simple to install utilizing plastic or metallic lines and can be mounted in either an upright or inverted position. It also features easily identifiable dosing elements to meet various lubrication requirements.

Reliable operation

Single-line lubrication systems with ECP pumps and 310 metering devices operate within a wide temperature range and at a pressure of 38 bar (552 psi), supporting a minimum lubrication interval of 10 minutes and a main line length of 15 meters*.

These systems are suitable for indoor use on small- to medium-sized machines with a maximum of 20 lubrication points*.

* Maximum main line length and number of lubrication points depend on the application and environment. Please contact your SKF partner for more information.

For more information on 310 metering devices, see:
- www.skf.com/310
- brochure PUB LS/P2 17505 EN
Choose the right lubricant for your application

SKF single-line systems are available for all types of lubricants: oil, fluid and hard grease. Selecting the right lubricant for your application can be a differentiator in terms of productivity and environmental impact. The ECP and 310 metering devices are designed for use with either oil or fluid grease. Both lubricant types prevent crush and excessive abrasion on linear guides or bearings.

**Lubricants suitable for lubrication systems**

- **Oil**: Oils are measured in viscosity. The viscosity is an expression of a fluid’s internal friction. Oils are classified in ISO VG viscosity classes from 2 to 3200. Different types of oils are available, including mineral oils, organic oils and synthetic oils. A compatibility check is recommended prior to using any oil with SKF lubrication systems.

  **Features:**
  - Removal of waste, pollution, abrasive wear
  - Oil distribution at low pressures possible, lower system pressures required
  - Eligible for high rotating speeds
  - Damping of vibrations
  - Cooling effect (heat dissipation) at the lubrication points
  - Removal of condensate and process water
  - Protection against corrosion
  - No solidification

- **Fluid grease**: Greases are more consistent lubricants measured in NLGI classes. Fluid greases are softer greases in NLGI class 000, 00 and 0. Fluid greases are a mixture of a base oil as lubricating fluid, a thickening agent and additives. A compatibility check is recommended prior to using any fluid grease with SKF lubrication systems.

  **Features:**
  - Creates better sealing effect of the bearing against external influences
  - For use with lower rotating speeds
  - No dripping of lubricant, good adherent properties, less lubricant waste
  - Longer maintenance of lubrication film, therefore less lubricant usage
  - Longer machine coolant lifetime, due to less contamination through lubricant
  - Less lubricant spillage helps to increase worker safety by reducing risk of slips and falls
  - Higher protection against corrosion

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**Lubricant expertise**

Selecting the right lubricant can be a delicate process. Production processes and raw materials greatly influence lubricant properties and performance. It is virtually impossible to select or compare lubricants based only on their composition. Therefore, performance tests are needed to provide crucial information. In its 100-plus years, SKF has accrued vast knowledge about the interaction of lubricants, materials and surfaces. For more information, contact your local SKF partner.

As pioneers in automatic lubrication systems and with its extensive experience in the machine tool industry, SKF has selected Zeller+Gmelin Divinol Fluid Grease 00 as the standard medium for ECP cartridges. A proven medium for the machine tool industry, this fluid grease fulfills the requirements of automotive industry standards (e.g. Daimler DBL 6833).