Automatic Lubricators
»Compact« and »Champion« Motion Guard
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Reliable and economic lubrication for a long bearing life

Rolling bearings are reliable machine elements with a long service life. The most common cause of failure is insufficient or incorrect lubrication. About 90% of all bearings are lubricated with grease. A reliable supply of a suitable grease is therefore particularly important.

A sufficient amount of fresh grease is being constantly supplied to the contact areas of the rolling bearings by an automatic lubricator. The bearing service life is far longer as a result. The reliable and cost-effective devices extend lubrication and maintenance intervals and eliminate the risk of supplying too little or too much grease. The plant downtimes are shorter and maintenance costs less. The use of economical and environmentally friendly lubricants contributes towards greater operational efficiency.

The FAG lubricators, COMPACT and CHAMPION Motion Guard are individually adjusted to the bearing area and make costly central lubrication plants superfluous. They can be used everywhere: pumps, compressors and fans, conveyor plants, vehicles, etc. 8 and 14 Arcanol greases can be discharged with COMPACT and CHAMPION Motion Guard respectively (see page 11 for data).

Advantages

- Individual and precise supply to each bearing location immediately after setting into operation
- Fully automatic, maintenance-free operation
- Cuts staff costs in comparison to manual relubrication
- 4 adjustable discharge periods (1, 3, 6 or 12 months)
- No danger of mixing up lubricants
- Builds up pressure to 4 bar, (CHAMPION 5 bar) thus overcoming any hindrance
- Extensive accessory programme

Each lubricator is delivered with detailed operating instructions.

The MOTION GUARD SELECT MANAGER software makes it easier to select a suitable design and lubricating greases (see also Publ. No. WL 81 116 for Arcanol greases).
**MOTION GUARD SELECT MANAGER SOFTWARE**

**Selection software for lubricators**

Taking the selected bearing type, its dimensions and the application conditions into consideration the MOTION GUARD SELECT MANAGER software allows the following with just a few mouse clicks:

- Selection of CHAMPION and COMPACT lubricators
- Determination of discharge periods / replenishment quantities
- Selection of suitable / preferred Arcanol lubricating greases
- Updated lubricating and maintenance plan

The program is available under www.fis-services.com from the Internet or it can be ordered directly from FAG as CD.
**COMPACT MOTION GUARD**

**Features and Design**

**Features and design of COMPACT Motion Guard**

The automatic FAG COMPACT motion guard lubricator is electrochemically driven. Electrolyte is environmentally friendly citric acid.

The metal housing is filled with 120 cm³ FAG lubricating grease.

The device can build pressure up to 4 bar.

The automatic FAG COMPACT motion guard lubricator is suitable for the following FAG rolling bearing greases Arcanol: MULTITOP*, MULTI2*, TEMP90, TEMP120, TEMP200, LOAD400, LOAD1000 and FOOD2.

*) only for discharge periods 1, 3 and 6 months

The suitable rolling bearing grease and the discharge period are selected with the MOTION GUARD SELECT MANAGER program (see page 2).

The discharge period is set with differently coloured activating screws:
- yellow = 1 month,
- green = 3 months,
- red = 6 months,
- grey = 12 months.

The chart, above right, shows the discharge periods and their volumes.

The empty units can be environmentally friendly disposed.

<table>
<thead>
<tr>
<th>Discharge period (Screw colors)</th>
<th>Discharge volume cm³/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month (yellow)</td>
<td>4</td>
</tr>
<tr>
<td>3 months (green)</td>
<td>1.33</td>
</tr>
<tr>
<td>6 months (red)</td>
<td>0.67</td>
</tr>
<tr>
<td>12 months (grey)</td>
<td>0.33</td>
</tr>
</tbody>
</table>

**Activating screws**

- Seal
- Activating pellet
- Electrolyte liquid
- Piston
- Lubricant
- Connection thread
- R ¼
COMPACT MOTION GUARD

Order designations · Technical data

Lubricator Set
consists of:
housing filled with 120 cm³ grease
includes activating screw
Mass: (ready-to-use): ca. 260 g

Ordering examples:

**ARCA.LUB.TEMP90.1M**
(Filled with TEMP90, activating screw for one month)

**ARCA.LUB.TEMP120.3M**
(Filled with TEMP120, activating screw for 3 months)

**ARCA.LUB.TEMP200.6M**
(Filled with TEMP200, activating screw for 6 months)

**ARCA.LUB.TEMP200.6M**
(Filled with LOAD1000, activating screw for 1 month)

**ARCA.LUB.LOAD400.12M**
(Filled with LOAD400, activating screw for 12 months)

**ARCA.LUB.FOOD2.3M**
(Filled with FOOD2, activating screw for 3 months)

Activating screws
for 1 month (yellow)
order designation:
**ARCA.LUB.ACTIVE.1M**
for 6 months (red)
order designation:
**ARCA.LUB.ACTIVE.6M**
for 3 months (green)
order designation:
**ARCA.LUB.ACTIVE.3M**
for 12 months (grey)
order designation:
**ARCA.LUB.ACTIVE.12M**

Technical data
Discharge period: 1, 3, 6 or 12 months
Discharge volumes: 120 cm³
Lubricant: FAG rolling bearing greases
Arcanol:
MULTITOP*, MULTI2*, TEMP90, TEMP120, TEMP200,
LOAD400, LOAD1000 or FOOD2
*) only for 1M, 3M and 6M
 Operating pressure: max. 4 bar
Temp. of application: 0 to +40 °C
Explosion-proof
Connection thread R 1/4
Use within: 2 years after filling
Storage period: 1 year
Features and Design of CHAMPION Motion Guard

The automatic FAG lubricator, CHAMPION Motion Guard is driven electromechanically. The robust electronically controlled back-gearved motor can be reused. The battery set can be exchanged but not recharged.

The LC-unit (Lubricant Canister) screwed to the drive unit has a volume of 120 or 250 cm³. It can be delivered – like the complete sets – filled with FAG lubricating grease or a special grease or even empty, see ordering examples on page 6/7.

The device can build pressure up to 5 bar. After a few start up attempts the system automatically shuts off at this maximum pressure.

The CHAMPION Motion Guard lubricator is suitable for all the Arcanol lubricating greases listed on page 11.

The suitable rolling bearing grease and the discharge period are selected with the MOTION GUARD SELECT MANAGER program (see page 2).

The discharge period is set at 1, 3, 6 or 12 months at the operating end. The chart, above right, shows the discharge periods and their volumes.

The lubricator is attached to the lubrication point (connection thread G¹/₄) via an adapter (included in delivery).
**CHAMPION MOTION GUARD**

**Order designations • Technical data**

**Lubricator Set**  
consists of:  
LC-unit 120 cm³ with set of batteries  
Drive  
Supporting adapter  
Mass (ready-to-use):  
ca. 555 g  

Ordering example:  
**ARCA.LUB.MULTITOP.LC120.SET**  
(swop MULTITOP with appropriate designation when filling with another Arcanol grease; designation unfilled: **ARCA.LUB.EMPTY.LC120.SET**)  

**Lubricator Set**  
consists of:  
LC-unit 250 cm³ with set of batteries  
Drive  
Supporting adapter  
Mass (ready-to-use):  
ca. 720 g  

Ordering example:  
**ARCA.LUB.MULTITOP.LC250.SET**  
(swop MULTITOP with appropriate designation when filling with another Arcanol grease; designation unfilled: **ARCA.LUB.EMPTY.LC250.SET**)  

**Technical data**

<table>
<thead>
<tr>
<th>Application temperature</th>
<th>3x1.5 V batteries (set)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>IP 65</td>
</tr>
<tr>
<td>Protection class:</td>
<td>R 1/4</td>
</tr>
<tr>
<td>Connection thread:</td>
<td>2 years after filling the LC-unit</td>
</tr>
<tr>
<td>Use within:</td>
<td>1 year (LC-unit and batteries at +20 °C), Unlimited drive</td>
</tr>
<tr>
<td>Storage period:</td>
<td></td>
</tr>
</tbody>
</table>

Discharge period: 1, 3, 6 or 12 months  
Discharge volumes: 120 or 250 cm³  
Lubricant: FAG rolling bearing greases  
Arcanol as listed on page 11  
Operating pressure: max. 5 bar
Spare Parts

LC-unit 120 cm³
with set of batteries
Mass (full): ca. 275 g
Ordering example:
ARCA.LUB.MULTITOP.LC120
(swap MULTITOP with appropriate designation when filling with another Arcanol grease;
designation unfilled:
ARCA.LUB.EMPTY.LC120)

LC-unit 250 cm³
with set of batteries
Mass (full): ca. 435 g
Ordering example:
ARCA.LUB.MULTITOP.LC250
(swap MULTITOP with appropriate designation when filling with another Arcanol grease;
designation unfilled:
ARCA.LUB.EMPTY.LC250)

Drive unit
Mass: ca. 210 g
Order designation:
ARCA.LUB.DRIVE

Supporting adapter
Mass: ca. 54 g
Order designation:
ARCA.LUB.ADAPTER
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Accessories

Reduction pieces

Order designation | Design | Dimensions | Mass |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>d₁ (mm)</td>
<td>d₀ (mm)</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M6</td>
<td>A</td>
<td>M6</td>
<td>2.5</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M8</td>
<td>A</td>
<td>M8</td>
<td>4</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M8X1</td>
<td>A</td>
<td>M8x1</td>
<td>4</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M10</td>
<td>A</td>
<td>M10</td>
<td>5</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M10X1</td>
<td>A</td>
<td>M10x1</td>
<td>5</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M12</td>
<td>A</td>
<td>M12</td>
<td>6</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.M12X1.5</td>
<td>A</td>
<td>M12x1.5</td>
<td>6</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.G1/4</td>
<td>A</td>
<td>G1/4</td>
<td>5</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.G3/8</td>
<td>B</td>
<td>G3/8</td>
<td>-</td>
</tr>
<tr>
<td>ARCA.LUB.NIPPLE.G1/2</td>
<td>B</td>
<td>G1/2</td>
<td>-</td>
</tr>
</tbody>
</table>

Extensions

Order designation | Dimensions | Mass |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>l (mm)</td>
<td>L (mm)</td>
</tr>
<tr>
<td>ARCA.LUB.PIPE.30</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>ARCA.LUB.PIPE.45</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>ARCA.LUB.PIPE.75</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>ARCA.LUB.PIPE.115</td>
<td>115</td>
<td>125</td>
</tr>
</tbody>
</table>
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Accessories

Angle piece 45°
Mass: ca. 30 g
Order designation:
ARCA.LUB.ANGLE.45

Angle piece 90°
Mass: ca. 35 g
Order designation:
ARCA.LUB.ANGLE.90

Holding clip
Mass: ca. 15 g
Order designation:
ARCA.LUB.CLIP
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Accessories

Mounting angle
Mass: ca. 100 g

Order designation:
ARCA.LUB.MOUNTINGANGLE

Tube with connections
3 m long, G 1/4
Mass: ca. 100 g

Order designation:
ARCA.LUB.TUBE
### ARCANOL ROLLING BEARING GREASES

<table>
<thead>
<tr>
<th>Arcanol</th>
<th>Thickener Base oil</th>
<th>Viscosity of base oil at 40°C mm²/s</th>
<th>Consistency NLGI class</th>
<th>Temp. range °C</th>
<th>Main characteristics</th>
<th>Typical applications</th>
<th>Suitable for</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MULTITOP</strong> (L135V)</td>
<td>Lithium soap with EP additives Mineral oil</td>
<td>85</td>
<td>2</td>
<td>-40 to +150</td>
<td>Universal grease for ball and roller bearings, high stress, increased speed, low and high temperatures</td>
<td>Rolling mills, construction machinery, motor vehicles, spinning and grinding spindles</td>
<td>CHAMPION (COMPACT: 1M, 3M, 6M)</td>
</tr>
<tr>
<td><strong>MULTI2</strong> (L78V)</td>
<td>Lithium soap Mineral oil</td>
<td>ISO VG 100</td>
<td>2</td>
<td>-30 to +140</td>
<td>Universal grease, especially for ball bearings with O. D. ≤ 62 mm</td>
<td>Small electric motors, agricultural and construction machinery, household equipment</td>
<td>CHAMPION (COMPACT: 1M, 3M, 6M)</td>
</tr>
<tr>
<td><strong>MULTI3</strong> (L71V)</td>
<td>Lithium soap Mineral oil</td>
<td>80</td>
<td>3</td>
<td>-30 to +140</td>
<td>Universal grease, especially for ball bearings with O. D. &gt; 62 mm</td>
<td>Large electric motors, agricultural and construction machinery, fans</td>
<td>CHAMPION</td>
</tr>
<tr>
<td><strong>LOAD220</strong> (L215V)</td>
<td>Lithium/calcium soap with EP additives Mineral oil</td>
<td>ISO VG 220</td>
<td>2</td>
<td>-20 to +140</td>
<td>Special grease for ball and roller bearings, high stress, large speed range, extremely moist conditions</td>
<td>Rolling mill bearings, rail-bound vehicles</td>
<td>CHAMPION</td>
</tr>
<tr>
<td><strong>LOAD400</strong> (L186V)</td>
<td>Lithium/calcium soap with EP additives Mineral oil</td>
<td>400</td>
<td>2</td>
<td>-25 to +140</td>
<td>Special grease for ball and roller bearings, high stress, medium speed, medium temperatures</td>
<td>Mining machines, construction machinery</td>
<td>CHAMPION (COMPACT)</td>
</tr>
<tr>
<td><strong>LOAD1000</strong> (L223V)</td>
<td>Lithium/calcium soap with EP additives Mineral oil</td>
<td>ISO VG 1000</td>
<td>2</td>
<td>-20 to +140</td>
<td>Special grease for ball and roller bearings, high stress, slow speed, medium temperatures</td>
<td>Mining machines, construction machinery, preferably for impact load and large bearings</td>
<td>CHAMPION (COMPACT)</td>
</tr>
<tr>
<td><strong>TEMP90</strong> (L12V)</td>
<td>Calcium-polyurea with EP additives PAO</td>
<td>130</td>
<td>2</td>
<td>-40 to +160</td>
<td>Special grease for ball and roller bearings, high temperatures and high loads</td>
<td>Couplings, electric motors, motor vehicles</td>
<td>CHAMPION (COMPACT)</td>
</tr>
<tr>
<td><strong>TEMP110</strong> (L30V)</td>
<td>Lithium-complex soap Ester oil</td>
<td>ISO VG 150</td>
<td>2</td>
<td>-40 to +160</td>
<td>Special grease for ball and roller bearings, high temperatures, high speed</td>
<td>Electric machines, motor vehicles</td>
<td>CHAMPION</td>
</tr>
<tr>
<td><strong>TEMP120</strong> (L195V)</td>
<td>Polyurea with EP additives PAO/ester oil</td>
<td>ISO VG 460</td>
<td>2</td>
<td>-35 to +180</td>
<td>Special grease for ball and roller bearings, high temperatures, high load</td>
<td>Continuous casting mills</td>
<td>CHAMPION (COMPACT)</td>
</tr>
<tr>
<td><strong>TEMP200</strong> (L79V)</td>
<td>PTFE Fluorinated polyether oil</td>
<td>400</td>
<td>2</td>
<td>-40 to +260</td>
<td>Special grease for ball and roller bearings, top temperatures, chemically aggressive environment</td>
<td>Support rollers in baking machines, piston pins in compressors, furnace carriages, chemical plants</td>
<td>CHAMPION (COMPACT)</td>
</tr>
<tr>
<td><strong>SPEED2,6</strong> (L75)</td>
<td>Polyurea PAO/ester oil</td>
<td>ISO VG 22</td>
<td>2-3</td>
<td>-50 to +120</td>
<td>Special grease for ball bearings, top speeds, low temperatures</td>
<td>Machine tools, instruments</td>
<td>CHAMPION</td>
</tr>
<tr>
<td><strong>VIB3</strong> (L166V)</td>
<td>Lithium-complex soap with EP additives Mineral oil</td>
<td>170</td>
<td>3</td>
<td>-30 to +150</td>
<td>Special grease for ball and roller bearings, high temperatures, high stress, oscillating movements</td>
<td>Rotor blade adjustment in wind power stations, packaging equipment</td>
<td>CHAMPION</td>
</tr>
<tr>
<td><strong>BIO2</strong></td>
<td>Lithium- calcium soap Ester oil</td>
<td>ISO VG 58</td>
<td>2</td>
<td>-30 to +120</td>
<td>Special grease for ball and roller bearings in environmentally-dangerous applications</td>
<td>CHAMPION</td>
<td></td>
</tr>
<tr>
<td><strong>FOOD2</strong></td>
<td>Aluminium-complex soap White oil</td>
<td>ISO VG 192</td>
<td>2</td>
<td>-30 to +120</td>
<td>Special grease for ball and roller bearings in applications with foodstuff contact, H1 according to USDA</td>
<td>CHAMPION (COMPACT)</td>
<td></td>
</tr>
</tbody>
</table>
FAG HOUSINGS WITH LUBRICATOR

FAG housings with lubricator

FAG housings are also available in complete with one of the two lubricators. The LUB Technical Specification insures that the lubricator selected can be connected directly to the housing ordered without any extra work. An adapter is supplied with the set when the threads of the lubricating hole and the lubricator differ.

The escape of excess grease should be insured when relubricating.

<table>
<thead>
<tr>
<th>LUB Technical Specification for Motion Guard CHAMPION and COMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st recognition letter</strong></td>
</tr>
<tr>
<td>Grease type</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
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<tr>
<td>M</td>
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<tr>
<td>N</td>
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<td></td>
</tr>
</tbody>
</table>

| **2nd recognition letter** |
| LC-unit (lubricant canister) filled with |
| 120 or 250 cm³ for CHAMPION | Activating screw for 1, 3, 6 or 12 months for COMPACT |
| A | ARCA.LUB.Fett.LC120.SET | ARCA.LUB.Fett.1M |
| B | ARCA.LUB.Fett.LC250.SET | ARCA.LUB.Fett.3M |
| C | ARCA.LUB.Fett.LC120.SET | ARCA.LUB.Fett.6M |
| D | ARCA.LUB.Fett.LC250.SET | ARCA.LUB.Fett.12M |
| „Fett“ means one of the suitable greases (see 1st recognition letter). |

Ordering examples for lubricators

<table>
<thead>
<tr>
<th>SD3140TSA.LUB.AB</th>
<th>SD3140TSA.LUB.FD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAMPION with LC-unit 250 cm³</td>
<td>COMPACT with activating screw 3M</td>
</tr>
<tr>
<td>Arcanol MULTITOP</td>
<td>Arcanol LOAD1000</td>
</tr>
<tr>
<td>Lubricator</td>
<td>Lubricator</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SNV100.LUB.AA</th>
<th>SNV100.LUB.EE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAMPION with LC-unit 120 cm³</td>
<td>COMPACT with activating screw 6M</td>
</tr>
<tr>
<td>Arcanol LOAD400</td>
<td>Arcanol TEMP200</td>
</tr>
<tr>
<td>Lubricator</td>
<td>Lubricator</td>
</tr>
</tbody>
</table>
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