

# FAG

## **AUTOMATIC LUBRICATORS »COMPACT« AND »CHAMPION« MOTION GUARD**



# CONTENTS

<b>Reliable and economic lubrication</b>		<b>P. 1</b>
Advantages	<u>P. 1</u>	
<b>SELECT MANAGER SOFTWARE for selecting lubricators</b>		<b>P. 2</b>
<b>COMPACT Motion Guard</b>		<b>P. 3</b>
Features and Design	<u>P. 3</u>	
Order designations, Technical data	<u>P. 4</u>	
<b>CHAMPION Motion Guard</b>		<b>P. 5</b>
Features and Design	<u>P. 5</u>	
Order designations, Technical data	<u>P. 6</u>	
Spare parts	<u>P. 7</u>	
<b>COMPACT and CHAMPION</b>		<b>P. 8</b>
Accessories	<u>P. 8</u>	
<b>Arcanol rolling bearing greases</b>		<b>P. 11</b>
<b>FAG housings with lubricator</b>		<b>P. 12</b>

## RELIABLE AND ECONOMIC LUBRICATION • ADVANTAGES

### 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. 6 or 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

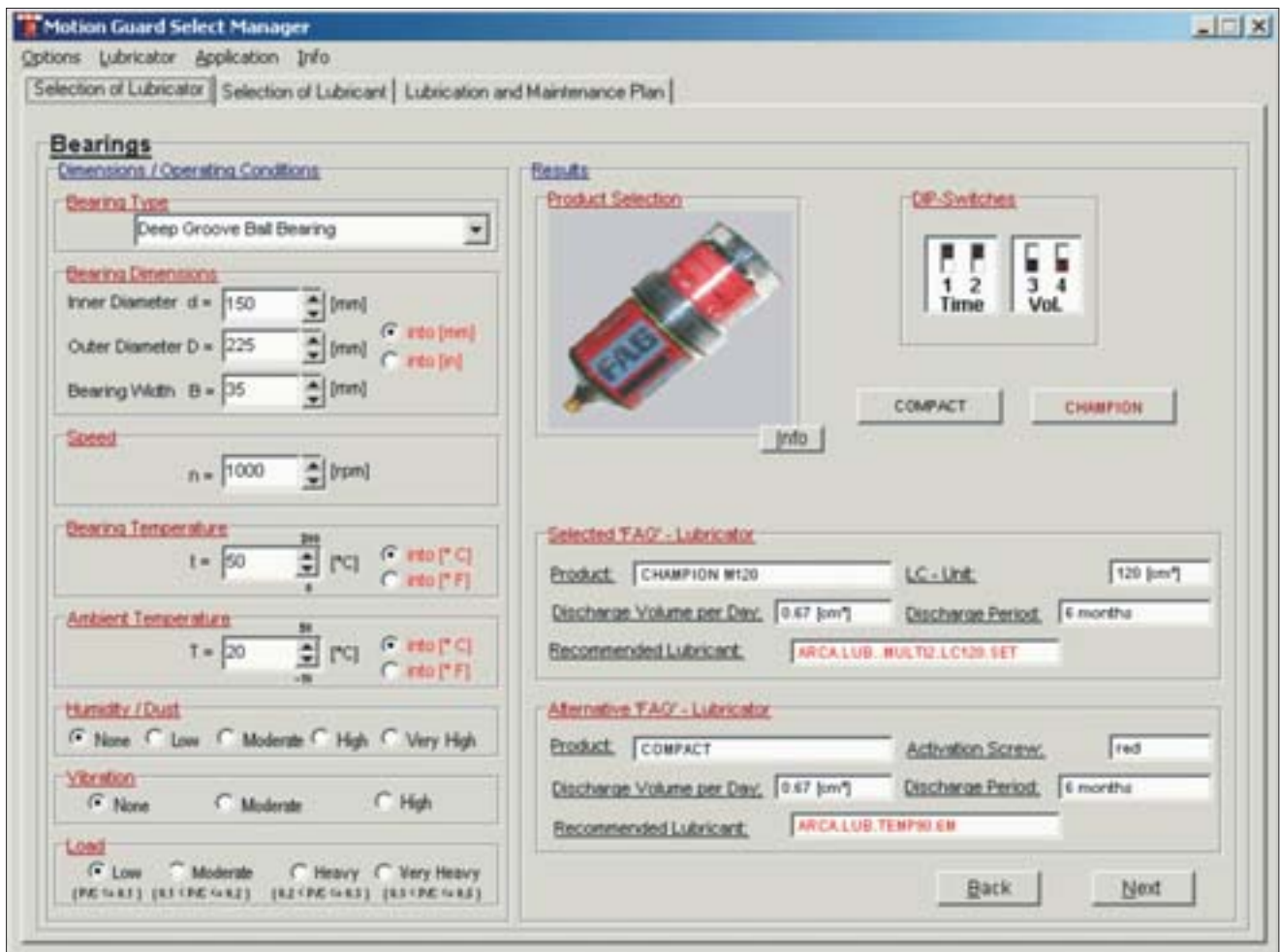
Taking the selected bearing type, its dimensions and the application conditions into consideration the MOTION GUARD SELECT MANAGER software allows the following with just a few mouse clicks:

- 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 as a downloaded version from the Internet or it can be ordered directly from FAG as CD.

Order designation (selection software in English):

**ARCA.LUB.SOFTWARE.E**



MOTION GUARD SELECT MANAGER Program

# COMPACT MOTION GUARD

## Features and Design

### Features and design of COMPACT Motion Guard

The automatic FAG COMPACT motion guard lubricator is electro-chemically driven. Electrolyte is environmentally friendly citric acid.

The metal housing is filled with 120 cm<sup>3</sup> FAG lubricating grease.

The device can build pressure up to 4 bar. After a few start up attempts the system automatically shuts off at this maximum pressure.

The automatic FAG COMPACT motion guard lubricator is suitable for the following FAG rolling bearing greases Arcanol:

TEMP90, TEMP120, TEMP200, LOAD400, LOAD1000 and FOOD2.

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 bolts:

- yellow = 1 month,
- green = 3 months,
- red = 6 months,
- grey = 12 months.

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

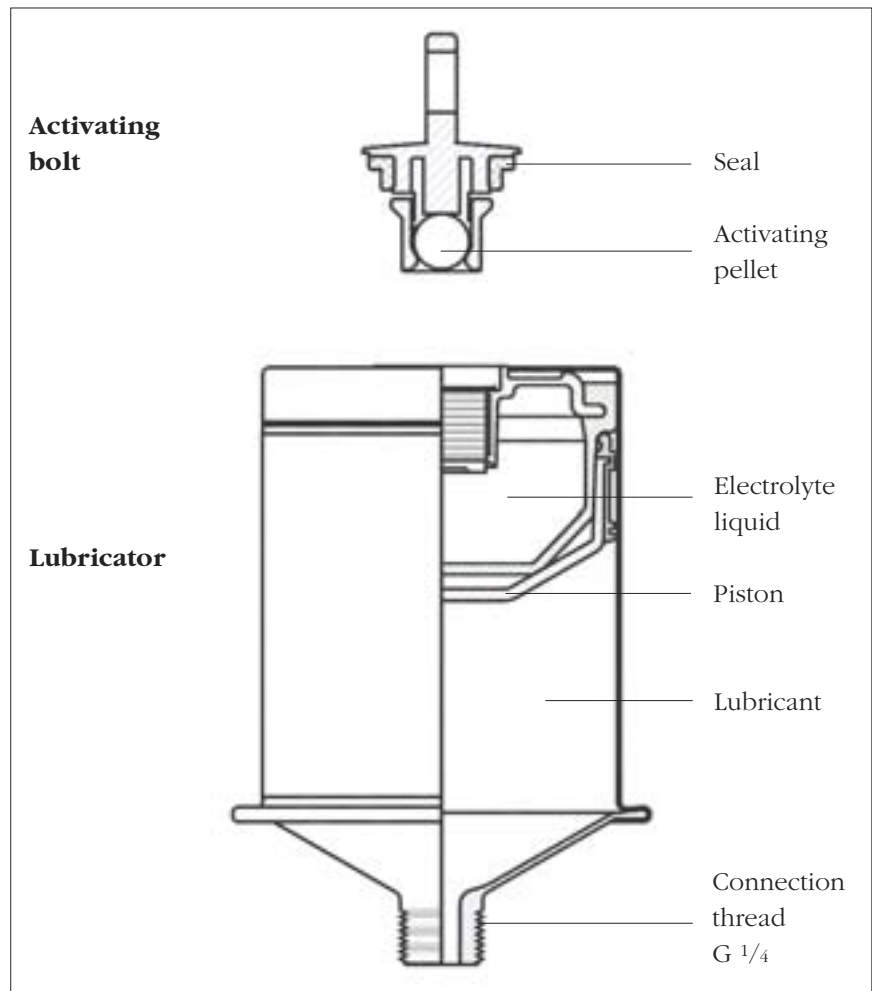
The empty units can be environmentally friendly disposed.

Discharge period (Bolt colors)	Discharge volume cm <sup>3</sup> /day
1 month (yellow)	4
3 months (green)	1.33
6 months (red)	0.67
12 months (grey)	0.33



Discharge periods and volumes

Activating bolts



# COMPACT MOTION GUARD

## Order designations • Technical data

### Lubricator Set

consists of:  
 housing filled with 120 cm<sup>3</sup> grease  
 includes activating bolt  
 Mass: (ready-to-use): ca. 260 g

Ordering examples:

#### ARCA.LUB.TEMP90.1M

(Filled with TEMP90, activating bolt for one month)

#### ARCA.LUB.TEMP120.3M

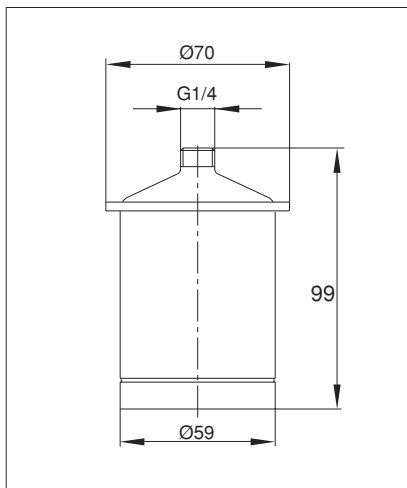
(Filled with TEMP120, activating bolt for 3 months)

#### ARCA.LUB.TEMP200.6M

(Filled with TEMP200, activating bolt for 6 months)

#### ARCA.LUB.LOAD400.12M

(Filled with LOAD400, activating bolt for 12 months)



**ARCA.LUB.TEMP200.6M**

#### ARCA.LUB.LOAD1000.1M

(Filled with LOAD1000, activating bolt for 1 month)

#### ARCA.LUB.FOOD2.3M

(Filled with FOOD2, activating bolt for 3 months)

### Activating bolts

for 1 month (yellow)

order designation:

#### ARCA.LUB.ACTIVE.1M

for 3 months (green)

order designation:

#### ARCA.LUB.ACTIVE.3M

for 6 months (red)

order designation:

#### ARCA.LUB.ACTIVE.6M

for 12 months (grey)

order designation:

#### ARCA.LUB.ACTIVE.12M



### Technical data

Discharge period: 1, 3, 6 or 12 months

Discharge volumes: 120 cm<sup>3</sup>

Lubricant: FAG rolling bearing greases  
 Arcanol:  
 TEMP90, TEMP120, TEMP200,  
 LOAD400, LOAD1000 or  
 FOOD2

Operating pressure: max. 4 bar

Temp. of application: 0 to +40 °C

Explosion-proof

Connection thread G 1/4

Use within: 2 years after filling

Storage period: 1 year

# CHAMPION MOTION GUARD

## Features and Design

### Features and Design of CHAMPION Motion Guard

The automatic FAG lubricator, CHAMPION Motion Guard is driven electromechanically. The robust electronically controlled back-gearred motor can be reused. The battery set can be exchanged but not recharged. The LC-unit (Lubricant Canister) screwed to the drive unit is filled with 120 or 250 cm<sup>3</sup> FAG lubricating grease.

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 G 1/4) via an adapter (included in delivery).

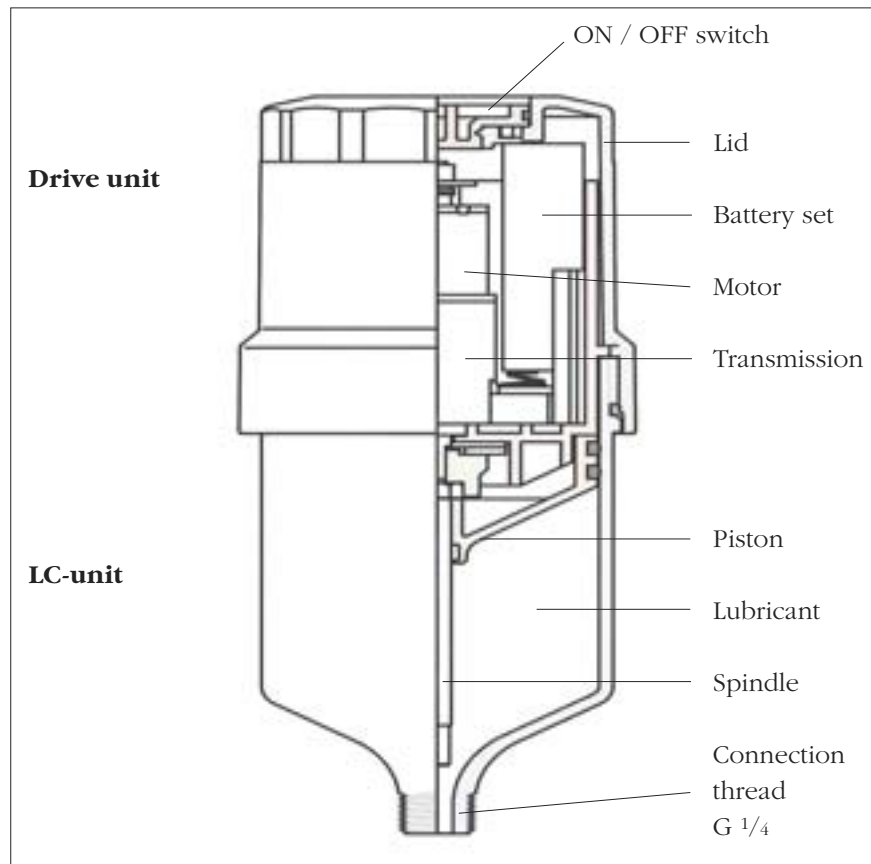
The empty LC-unit cannot be re-filled.

Function displays on the drive unit:

- Green flash (every 15 seconds): OK
- Red flash (every 8 seconds): Malfunction
- Green/red flash (every 3 seconds): LC-unit empty
- Permanently red: discharge process

Dis-charge period	Discharge volumes			
	LC-unit 120 cm <sup>3</sup>		LC-unit 250 cm <sup>3</sup>	
	cm <sup>3</sup> / day	cm <sup>3</sup> / week	cm <sup>3</sup> / day	cm <sup>3</sup> / week
1 month	4	28	8.33	58.33
3 months	1.33	9.33	2.78	19.44
6 months	0.67	4.67	1.39	9.72
12 months	0.33	2.33	0.69	4.86

**Discharge periods and volumes**



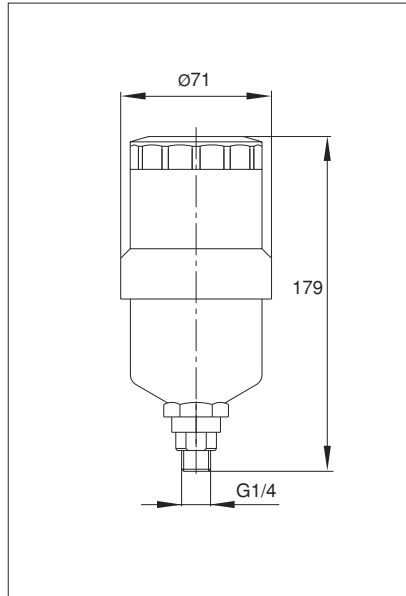
# CHAMPION MOTION GUARD

## Order designations • Technical data

### Lubricator Set

consists of:  
 LC-unit 120 cm<sup>3</sup> with set of batteries  
 Drive  
 Supporting adapter  
 Mass (ready-to-use):  
 ca. 555 g

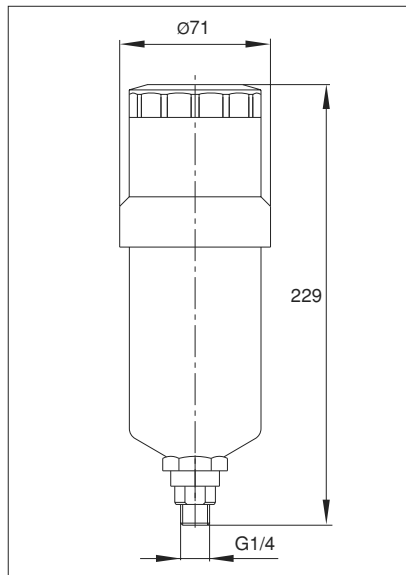
Ordering example:  
**ARCA.LUB.MULTITOP.LC120.SET**  
 (swop MULTITOP with appropriate designation when filling with another Arcanol grease)



### Lubricator Set

consists of:  
 LC-unit 250 cm<sup>3</sup> 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)



### Technical data

Discharge period: 1, 3, 6 or 12 months  
 Discharge volumes: 120 or 250 cm<sup>3</sup>  
 Lubricant FAG rolling bearing greases  
 Arcanol as listed on page 11  
 Operating pressure max. 5 bar

Application temperature  
 Power supply  
 Protection class:  
 Connection thread:  
 Use within:  
 Storage period:

-10 to +50 °C  
 3x1.5 V batteries (set)  
 IP 65  
 G 1/4  
 2 years after filling the LC-unit  
 1 year (LC-unit and batteries at +20 °C), Unlimited drive

# CHAMPION MOTION GUARD

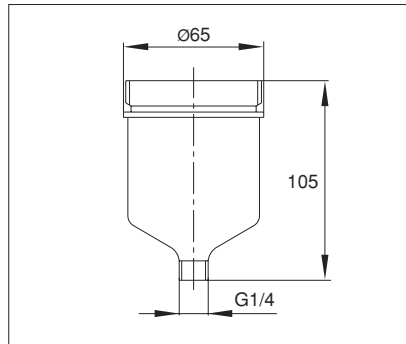
## Spare Parts

### LC-unit 120 cm<sup>3</sup>

with set of batteries  
Mass (full): ca. 275 g

Ordering example:

**ARCA.LUB.MULTITOP.LC120**  
(swop MULTITOP with appropriate designation when filling with another Arcanol grease)

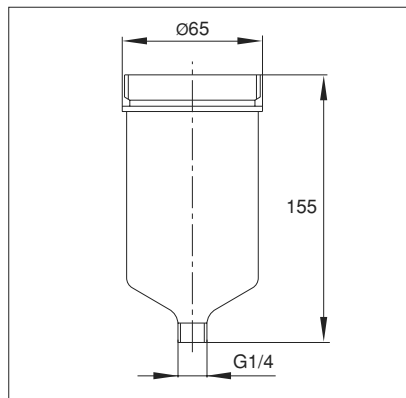


### LC-unit 250 cm<sup>3</sup>

with set of batteries  
Mass (full): ca. 435 g

Ordering example:

**ARCA.LUB.MULTITOP.LC250**  
(swop MULTITOP with appropriate designation when filling with another Arcanol grease)

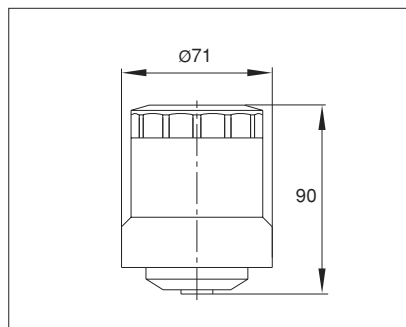


### Drive unit

Mass: ca. 210 g

Order designation:

**ARCA.LUB.DRIVE**

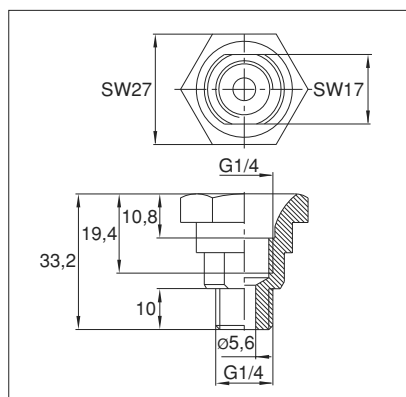


### Supporting adapter

Mass: ca. 54 g

Order designation:

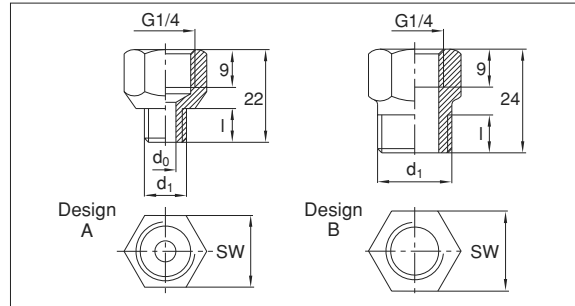
**ARCA.LUB.ADAPTER**



# COMPACT AND CHAMPION MOTION GUARD

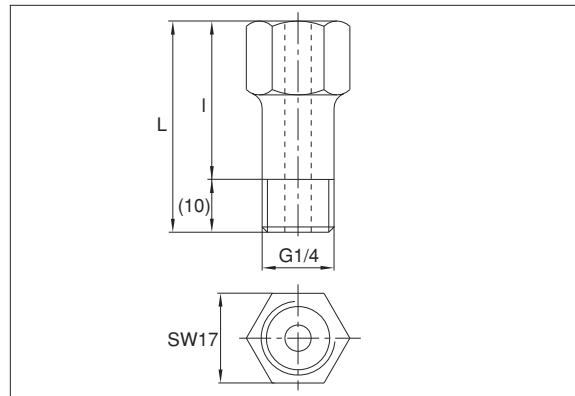
## Accessories

### Reduction pieces



Order designation	Design	Dimensions		l	SW	Mass ≈ g
		d <sub>1</sub> mm	d <sub>0</sub>			
ARCA.LUB.NIPPLE.M6	A	M6	2.5	7	17	14
ARCA.LUB.NIPPLE.M8	A	M8	4	8	17	15
ARCA.LUB.NIPPLE.M8X1	A	M8x1	4	8	17	15
ARCA.LUB.NIPPLE.M10	A	M10	5	8	17	17
ARCA.LUB.NIPPLE.M10X1	A	M10x1	5	8	17	17
ARCA.LUB.NIPPLE.M12	A	M12	6	8	17	19
ARCA.LUB.NIPPLE.M12X1,5	A	M12x1,5	6	8	17	19
ARCA.LUB.NIPPLE.G <sup>1</sup> / <sub>8</sub>	A	G <sup>1</sup> / <sub>8</sub>	5	8	17	17
ARCA.LUB.NIPPLE.G <sup>3</sup> / <sub>8</sub>	B	G <sup>3</sup> / <sub>8</sub>	-	9	19	21
ARCA.LUB.NIPPLE.G <sup>1</sup> / <sub>2</sub>	B	G <sup>1</sup> / <sub>2</sub>	-	10	22	25

### Extensions



Order designation	Dimensions		Mass
	l mm	L	≈ g
ARCA.LUB.PIPE.30	30	40	28
ARCA.LUB.PIPE.45	45	55	47
ARCA.LUB.PIPE.75	75	85	74
ARCA.LUB.PIPE.115	115	125	104

# COMPACT AND CHAMPION MOTION GUARD

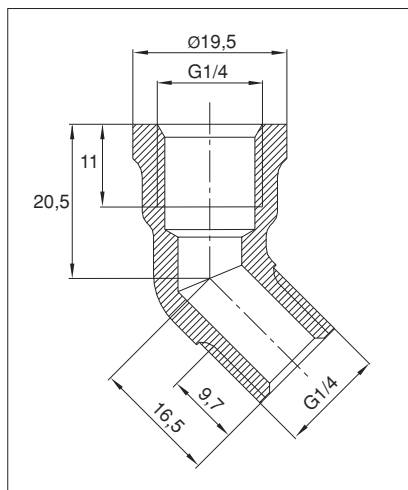
## Accessories

### Angle piece 45°

Mass: ca. 30 g

Order designation:

**ARCA.LUB.ANGLE.45**

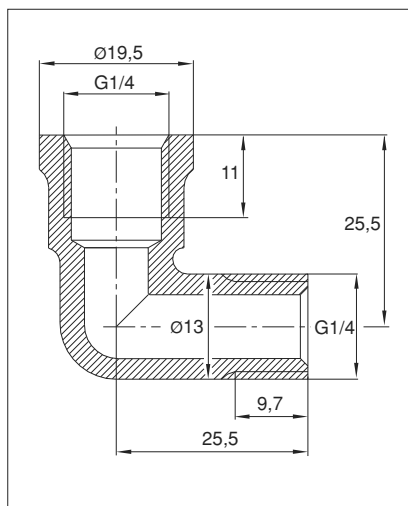


### Angle piece 90°

Mass: ca. 35 g

Order designation:

**ARCA.LUB. ANGLE.90**

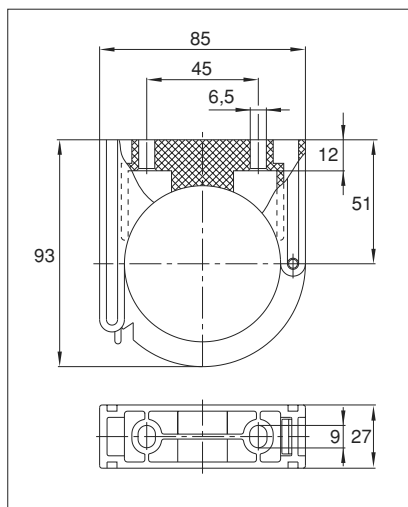


### Holding clip

Mass: ca. 15 g

Order designation:

**ARCA.LUB.CLIP**



# COMPACT AND CHAMPION MOTION GUARD

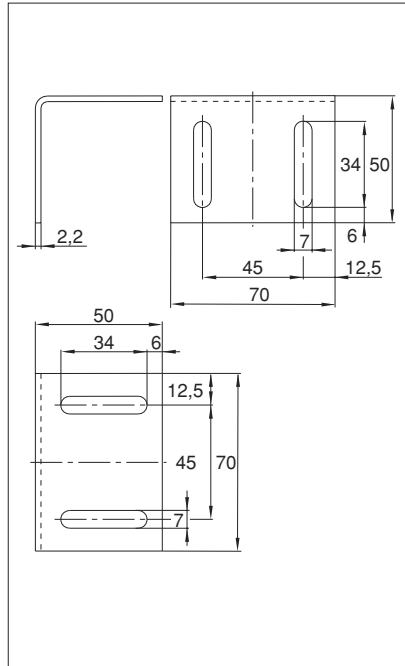
## Accessories

### Mounting angle

Mass: ca. 100 g

Order designation:

**ARCA.LUB.MOUNTINGANGLE**



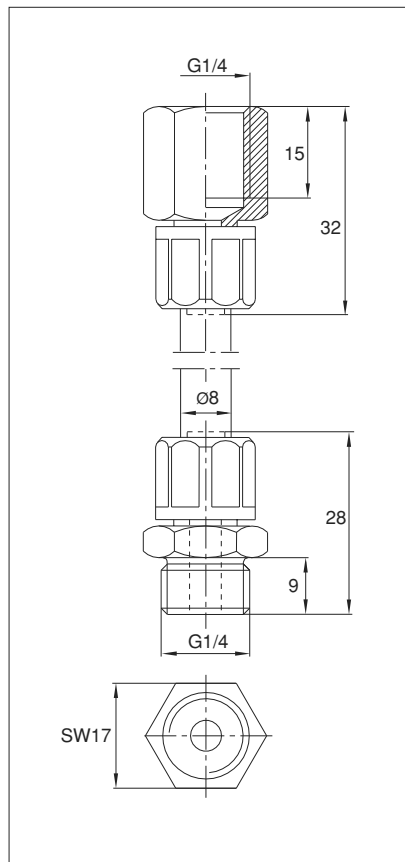
### Tube with connections

3 m long, G 1/4

Mass: ca. 100 g

Order designation:

**ARCA.LUB.TUBE**



# ARCANOL ROLLING BEARING GREASES

Arcanol (former designation)	Thickener Base oil	Viscosity of base oil at 40° C mm <sup>2</sup> /s	Consistency NLGI class DIN 51818	Temp. range °C	Main characteristics Typical applications	Suitable for
<b>MULTITOP</b> (L135V)	Lithium soap with EP additives Mineral oil	85	2	-40...+150	Universal grease for ball and roller bearings, for high stress, increased speed, low and high temperatures Rolling mills, construction machinery, motor vehicles, spinning and grinding spindles	CHAMPION
<b>MULTI2</b> (L78V)	Lithium soap Mineral oil	ISO VG 100	2	-30...+140	Universal grease, especially for ball bearings with O. D. ≤ 62 mm Small electric motors, agricultural and construction machinery, household equipment	CHAMPION
<b>MULTI3</b> (L71V)	Lithium soap Mineral oil	80	3	-30...+140	Universal grease, especially for ball bearings with O. D. > 62 mm Large electric motors, agricultural and construction machinery, fans	CHAMPION
<b>LOAD220</b> (L215V)	Lithium/calcium soap with EP additives Mineral oil	ISO VG 220	2	-20...+140	Special grease for ball and roller bearings, for high stress, large speed range, extremely moist conditions Rolling mill bearings, rail-bound vehicles	CHAMPION
<b>LOAD400</b> (L186V)	Lithium/calcium soap with EP additives Mineral oil	400	2	-25...+140	Special grease for ball and roller bearings, for high stress, medium speed, medium temperatures  Mining machines, construction machinery	CHAMPION COMPACT
<b>LOAD1000</b> (L223V)	Lithium/calcium soap with EP additives Mineral oil	ISO VG 1000	2	-20...+140	Special grease for ball and roller bearings, for high stress, slow speed, medium temperatures Mining machines, construction machinery, preferably for impact load and large bearings	CHAMPION COMPACT
<b>TEMP90</b> (L12V)	Calcium- polyurea with EP additives PAO	130	2	-40...+160	Special grease for ball and roller bearings, for high temperatures and high loads  Couplings, electric motors, motor vehicles	CHAMPION COMPACT
<b>TEMP110</b> (L30V)	Lithium- complex soap Ester oil	ISO VG 150	2	-40...+160	Special grease for ball and roller bearings, for high temperatures, high speed Electric machines, motor vehicles	CHAMPION
<b>TEMP120</b> (L195V)	Polyurea with EP additives PAO/ester oil	ISO VG 460	2	-35...+180	Special grease for ball and roller bearings, for high temperatures, high load  Continuous casting mills	CHAMPION COMPACT
<b>TEMP200</b> (L79V)	PTFE Fluorinated polyether oil	400	2	-40...+260	Special grease for ball and roller bearings, for top temperatures, chemically aggressive environment  Support rollers in baking machines, piston pins in compressors, furnace carriages, chemical plants	CHAMPION COMPACT
<b>SPEED2,6</b> (L75)	Polyurea PAO/ester oil	ISO VG 22	2-3	-50...+120	Special grease for ball bearings, for top speeds, low temperatures  Machine tools, instruments	CHAMPION
<b>VIB3</b> (L166V)	Lithium- complex soap with EP additives Mineral oil	170	3	-30...+150	Special grease for ball and roller bearings for high temperatures, high stress, oscillating movements  Rotor blade adjustment in wind power stations, packaging equipment	CHAMPION
<b>BIO2</b>	Lithium-/ calcium soap Ester oil	58	2	-30...+140	Special grease for ball and roller bearings in environmentally-dangerous applications	CHAMPION
<b>FOOD2</b>	Aluminium- complex soap White oil	192	2	-30...+120	Special grease for ball and roller bearings in applications with foodstuff contact, H1 according to USDA	CHAMPION COMPACT

## FAG HOUSINGS WITH LUBRICATOR

FAG housings are also available in complete with one of the two lubricators.

The **G960** Technical Specification provides the grease type, the reduction piece required depending on the lubricating hole, and the LC-unit for the CHAMPION.

The **G961** Technical Specification provides the grease type, the reduction piece, and the activating bolt for the COMPACT.

### G960 Technical Specification for CHAMPION Motion Guard

#### 1. Recognition letter

	Grease type
A	MULTITOP
B	MULTI2
C	MULTI3
D	LOAD220
E	LOAD400
F	LOAD1000
G	TEMP90
H	TEMP110
I	TEMP120
J	TEMP200
K	SPEED2,6
L	VIB3
M	BIO2
N	FOOD2

#### 2. Recognition letter

	LC-unit	Reduction piece
A	ARCA.LUB.Fett.LC120.SET	without (G 1/4 = Standard)
B	ARCA.LUB.Fett.LC120.SET	ARCA.LUB.NIPPLE.M6
C	ARCA.LUB.Fett.LC120.SET	ARCA.LUB.NIPPLE.M10x1
D	ARCA.LUB.Fett.LC120.SET	ARCA.LUB.NIPPLE.G 1/8
E	ARCA.LUB.Fett.LC120.SET	ARCA.LUB.NIPPLE.G 1/2
G	ARCA.LUB.Fett.LC250.SET	without (G 1/4 = Standard)
H	ARCA.LUB.Fett.LC250.SET	ARCA.LUB.NIPPLE.M6
I	ARCA.LUB.Fett.LC250.SET	ARCA.LUB.NIPPLE.M10x1
J	ARCA.LUB.Fett.LC250.SET	ARCA.LUB.NIPPLE.G 1/8
K	ARCA.LUB.Fett.LC250.SET	ARCA.LUB.NIPPLE.G 1/2

“Fett” stands for grease type (see pos. 1)

### G961 Technical Specification for COMPACT Motion Guard

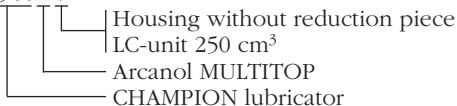
#### 1. Recognition letter

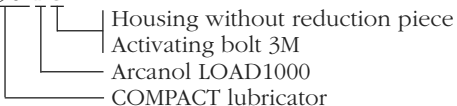
	Grease type
E	LOAD400
F	LOAD1000
G	TEMP90
I	TEMP120
J	TEMP200
N	FOOD2

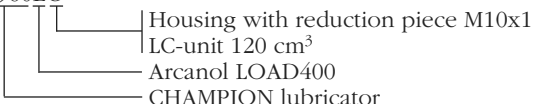
#### 2. Recognition letter

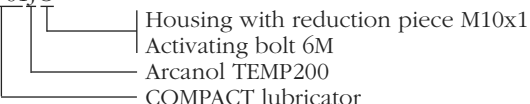
	Activating bolt	Reduction piece
A	1M	without (G 1/4 = Standard)
B	1M	ARCA.LUB.NIPPLE.M6
C	1M	ARCA.LUB.NIPPLE.M10x1
D	1M	ARCA.LUB.NIPPLE.G 1/8
E	1M	ARCA.LUB.NIPPLE.G 1/2
G	3M	without (G 1/4 = Standard)
H	3M	ARCA.LUB.NIPPLE.M6
I	3M	ARCA.LUB.NIPPLE.M10x1
J	3M	ARCA.LUB.NIPPLE.G 1/8
K	3M	ARCA.LUB.NIPPLE.G 1/2
M	6M	without (G 1/4 = Standard)
N	6M	ARCA.LUB.NIPPLE.M6
O	6M	ARCA.LUB.NIPPLE.M10x1
P	6M	ARCA.LUB.NIPPLE.G 1/8
Q	6M	ARCA.LUB.NIPPLE.G 1/2
S	12M	without (G 1/4 = Standard)
T	12M	ARCA.LUB.NIPPLE.M6
U	12M	ARCA.LUB.NIPPLE.M10x1
V	12M	ARCA.LUB.NIPPLE.G 1/8
W	12M	ARCA.LUB.NIPPLE.G 1/2

### Examples for ordering

SD3140TSA.G960AG  


SD3140TSA.G961FG  


SNV100.G960EC  


SNV100.G961JO  


## **FAG Industrial Services**

Postfach 1260 · D-97419 Schweinfurt  
Georg-Schäfer-Straße 30 · D-97421 Schweinfurt  
Service-Hotline:  
Tel.: +49 2407 9149-99  
E-mail: [support@fis-services.de](mailto:support@fis-services.de)  
[www.fis-services.com](http://www.fis-services.com)

Every care has been taken to ensure the correctness of the information contained in this publication but no liability can be accepted for any errors or omissions. We reserve the right to make changes in the interest of technical progress.  
© by FAG 2002. This publication or parts thereof may not be reproduced without our permission.