

**Product description**  
**Electrical**  
**Pump**  
**FZA**

## **DESCRIPTION**

The FZA type lubricator is a central plunger grease pump which is operating without valves and springs. The FZA type grease lubricator is intended mainly for multiple systems, i.e, in systems with up to a maximum of 12 lubrication points no additional distributor is required. The numerous ratios available within the range 3: 1 to 2880: 1 which are between the speed of a drive shaft on machine to be lubricated and the number of strokes of the delivery plunger, ensure universal application of the lubricator so that it can be adapted to any system having a small to medium number of lubrication point.



## **OPERATION**

### **Overview:**

The alternate integral operating circuit between suction stroke operates enforced. The grease lubrication pump FZA has a pump body with 6 or 12 single outlets. The maximum delivery of single outlets is 0.1 cc per rotation of the plunger. The lubricator generates the necessary lubricant pressure and meters the quantity of grease which is adjustable.

For the pump with 8, 10, and 12 lubrication points the quantity of grease is set for two outlets in each case, one above the other. If metered quantities of grease have to be delivered to more lubrication points than the lubricator has outlets, then progressive distributors must be to one or more of the outlets (distributors, type E 4, ZPA, ZPB or PVB).

Due to the good adaptability of the pump to different available driving speeds of the machine to be lubricated one can do without an additional control. Because of the positive mechanical connection or electrical interlocking between the lubricator and the machine being lubricated, grease is delivered only when the machine is switched on.

All pumps are suitable for clockwise or anti-clockwise rotation as required, without modification and giving the same delivery. The drive can be effected in different ways, please refer to the possibilities illustrated " KINDS OF DRIVE".

On lubricators with mounted electric motor the coupling is located in the housing flange between the lubricator and the electric motor so that is dust, dirt and splash proof and guarded, eliminating the risk of accidents. The rotating parts of the drive are supported by roller-bearings.

All lubricators are attached to the machine with which they are to be used, or to a foundation, by means or two bolts only.

### **Advantages:**

- Best adaption possibility to different driving speed and to the machine to be lubricated.
- Additional control can be omitted.
- Use for anticlockwise and clockwise rotation is possible without modifications.
- Forced control by valves springs.
- Rugged, consequently minimal expenditure of maintenance and repair works.
- Explosion protection according to ATEX guideline 94/9/EG



## CHARACTERISTICS

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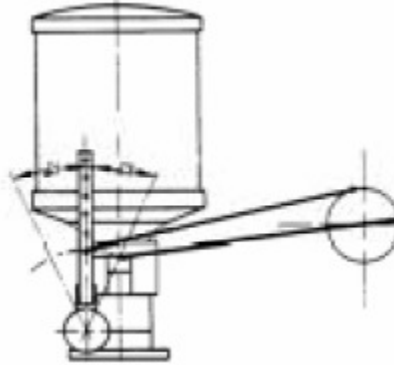
<b>Permissible feed pressure :</b>	200 bar, until 250 bar for short period only.
<b>Delivery volume per outlet and pump plunger rotation :</b>	maximum 0.1 ccm
<b>Delivery volume per outlet and hours:</b>	maximum 60 ccm, pendulum lever maximum 36 cc. Delivery volume from all outlets can be reduced by selecting a lower driving speed or higher gear ratio so that the pump plunger rotates at less than 10 min <sup>-1</sup> resp. 6 min <sup>-1</sup> in case higher speed or less than 1 and less than < 1 is requested and also when distributors ZPA, ZPB, PVB or E4 are installed downflow, ask producer.
<b>Adjustment of volume rate:</b>	The figures 0-4 are stamped on the exagons on the adjusting spindle (see page below). The maximum delivery (0.1 cc) is obtained in position 4. The quantity delivered is reduced by turning the adjusting spindle clockwise. To ensure reliable operation of the lubricator, delivery should not be less than ¼ of the maximum rating. In case pumps with 12 outlets are installed, the output rate of two outlets located one upon another is adjustable by one adjusting spindle.
<b>Number of outlets:</b>	FZA: 1 to 6, 8, 10 and 12 outlets.
<b>Outlet bore:</b>	G ¼ female pipe thread, cylindric.
<b>Kinds of drive and gear ratio :</b>	Pendulum lever: 3:1, 12:1, 25:1, 50,1 Shaft end free: 3:1, 12:1, 25:1, 50,1 Step-down gear: 95:1, 215:1, 345:1, 710:1 Step-down gear and motor 215:1 Motor according to DIN 42677 345:1 Speed n = 1500 min <sup>-1</sup> 710:1 Design B14, small flange size 63 1420:1 Rated output 0.18 KW 2880:1 Voltage and frequency to be specified at time of ordering
<b>Rotational direction of drive shaft:</b>	optional.
<b>Reservoir volume:</b>	2.5, 8, 15 and 30 litres.
<b>Usable lubricants:</b>	greases based of mineral oils to NLGI-class 2, DIN 51818. Oils: on request. Synthetic greases: on request.
<b>Operating temperature:</b>	- 20°C up to + 80°C. Depending on the lubricant used, restrictions to the service temperature are possible.



## CHARACTERISTICS (continuation)

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In case that higher speed or less than 1 is requested, and also when progressive distributors are installed downstream, ask manufacturer.



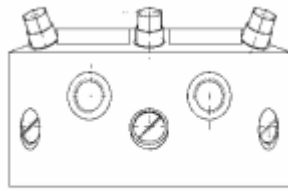
In case of using the oscillating lever drive, the lever rod should be installed in such way that the amplitude of the oscillating lever is the same in both directions :  $\alpha_1 = \alpha_2 = \text{maxi } 50^\circ$ .

**Lever amplitude max:** 100°  
**Lever amplitude min:** 10°

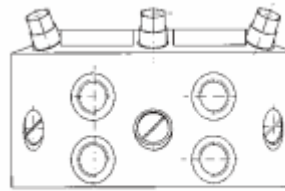


## MECHANICAL DRAWING

### Pump body



for 1 - 6 outlets,



for 8, 10 and 12 outlets

Number of outlets	Code
1	01
2	02
3	03
4	04
5	05
6	06
8	08
10	10
12	12

## KINDS OF DRIVE

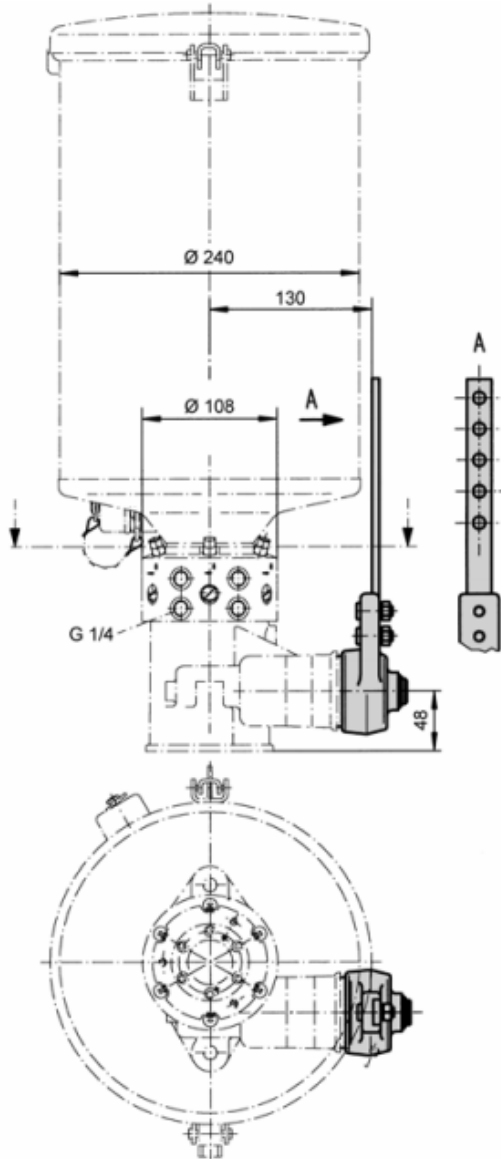
Pendulum lever	
Gear ratio	Code
3: 1	01
12: 1	02
25: 1	03
50: 1	04

Shaft end free	
Gear ratio	Code
3: 1	05
12: 1	06
25: 1	07
50: 1	08

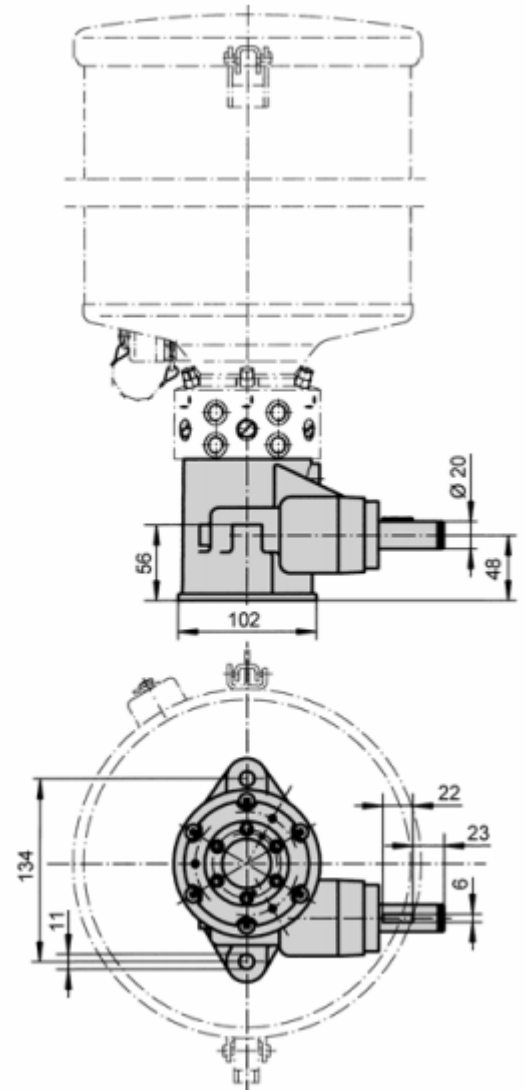
Step-down gear	
Gear ratio	Code
95: 1	09
215: 1	10
345: 1	11
710: 1	31



**KINDS OF DRIVE (continuation)**



**Drive with pendulum lever**



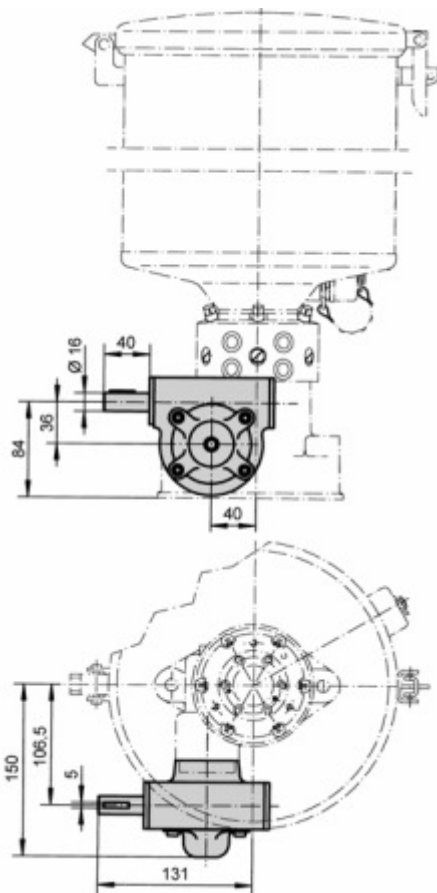
**Drive with shaft end free**



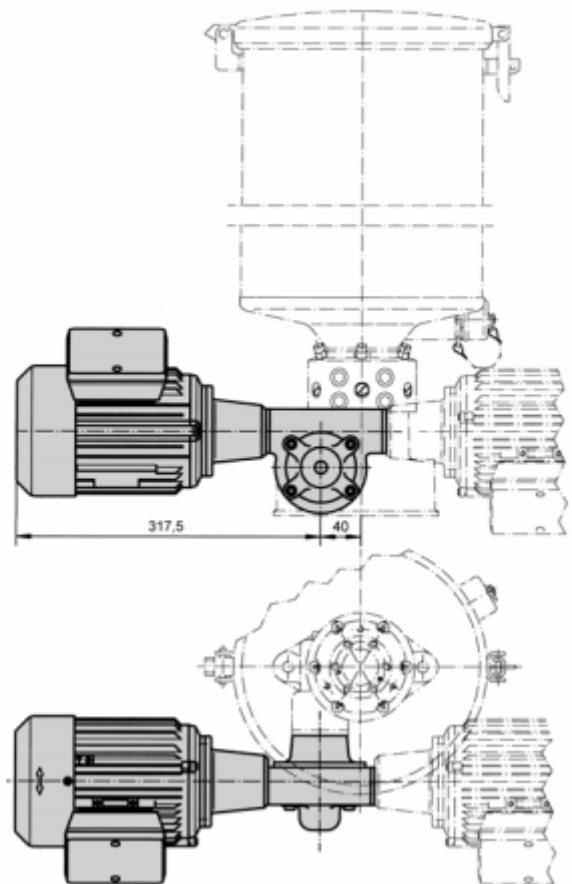
**KINDS OF DRIVE (continuation)**

Step-down gear and motor		
Motor	Gear ratio	Code
230-260V / 400-460V / 50/60Hz	215:1	12
230-260V / 400-460V / 50/60Hz	345:1	13
230-260V / 400-460V / 50/60Hz	710:1	14
230-260V / 400-460V / 50/60Hz	1420:1	15
230-260V / 400-460V / 50/60Hz	2880:1	16
500V / 50Hz	215:1	17
500V / 50Hz	345:1	18
500V / 50Hz	710:1	19
500V / 50Hz	1420:1	20
500V / 50Hz	2880:1	21

Other voltage, please contact us.



**Drive with step-down gear**

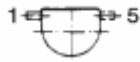


**Drive with step-down gear and flange motor**



## POSITION OF DRIVE

Without  
Position 1 on the left  
Position 5 on the right



### Code:

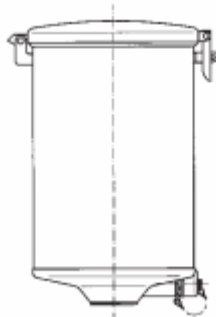
0  
A  
E

## RESERVOIR

2,5 litres rotational direction clockwise / anticlockwise.  
8.0 litres rotational direction clockwise / anticlockwise.  
15.0 litres rotational direction clockwise / anticlockwise (without support).  
30.0 litres rotational direction clockwise / anticlockwise (without support).

### Code:

D  
A  
B  
C



## ACCESSORIES

Without  
Level switch  
Filling valve  
Level switch and filling valve  
1 x pressure control 160 bar, diam. = 10 mm  
2 x pressure control 160 bar, diam. = 10 mm  
3 x pressure control 160 bar, diam. = 10 mm  
4 x pressure control 160 bar, diam. = 10 mm  
5 x pressure control 160 bar, diam. = 10 mm  
6 x pressure control 160 bar, diam. = 10 mm  
8 x pressure control 160 bar, diam. = 10 mm  
10 x pressure control 160 bar, diam. = 10 mm  
12 x pressure control 160 bar, diam. = 10 mm  
1 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
2 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
3 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
4 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
5 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
6 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
8 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
10 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve  
12 x pressure control 160 bar, diam. = 10 mm, level switch and filling valve

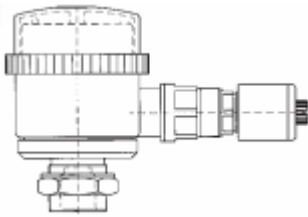
### Code:

00  
01  
02  
03  
20  
21  
22  
23  
24  
25  
26  
27  
04  
28  
29  
30  
31  
32  
33  
34  
35  
05

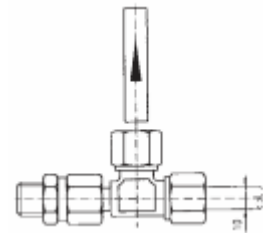


**ACCESSORIES (continuation)**

	<b>Code:</b>
1 x pressure control 200 bar, diam = 10 mm	36
2 x pressure control 200 bar, diam = 10 mm	37
3 x pressure control 200 bar, diam = 10 mm	38
4 x pressure control 200 bar, diam = 10 mm	39
5 x pressure control 200 bar, diam = 10 mm	40
6 x pressure control 200 bar, diam = 10 mm	41
8 x pressure control 200 bar, diam = 10 mm	42
10 x pressure control 200 bar, diam = 10 mm	43
12 x pressure control 200 bar, diam = 10 mm	06
1 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	44
2 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	45
3 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	46
4 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	47
5 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	48
6 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	49
8 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	50
10 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	51
12 x pressure control 200 bar, diam = 10 mm, level switch and filling valve	07



Level switch  
Data sheet BA\_2005\_1\_GB\_76951\_6011



Pressure control  
Data sheet PB\_2005\_1\_GB\_38132





## HOW TO ORDER

Define the correct reference using the code below :

Example :

<b><u>Pump code</u></b>	<b>FZA</b>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<b><u>Number of outlets</u></b>		
<input type="text" value="06"/>	6 outlets	
<b><u>Revision</u></b>		
<input type="text" value="A"/>	Status A	
<b><u>Kinds of drive</u></b>		
<input type="text" value="12"/>	Step-down gear and motor : 230 -260 V / 400 - 460 V / 50 / 60 Hz, Gear ratio: 215 : 1	
<b><u>Position of drive</u></b>		
<input type="text" value="0"/>	Without	
<b><u>Reservoir</u></b>		
<input type="text" value="A"/>	8,0 litres, rotational direction, clockwise / anticlockwise	
<b><u>Accessories</u></b>		
<input type="text" value="01"/>	Level switch for reservoir 8 litres	

