WIEJELO BRAVO AUTOMATIC GREASE PUMP

Wiejelo equipment

www.wiejelo.com

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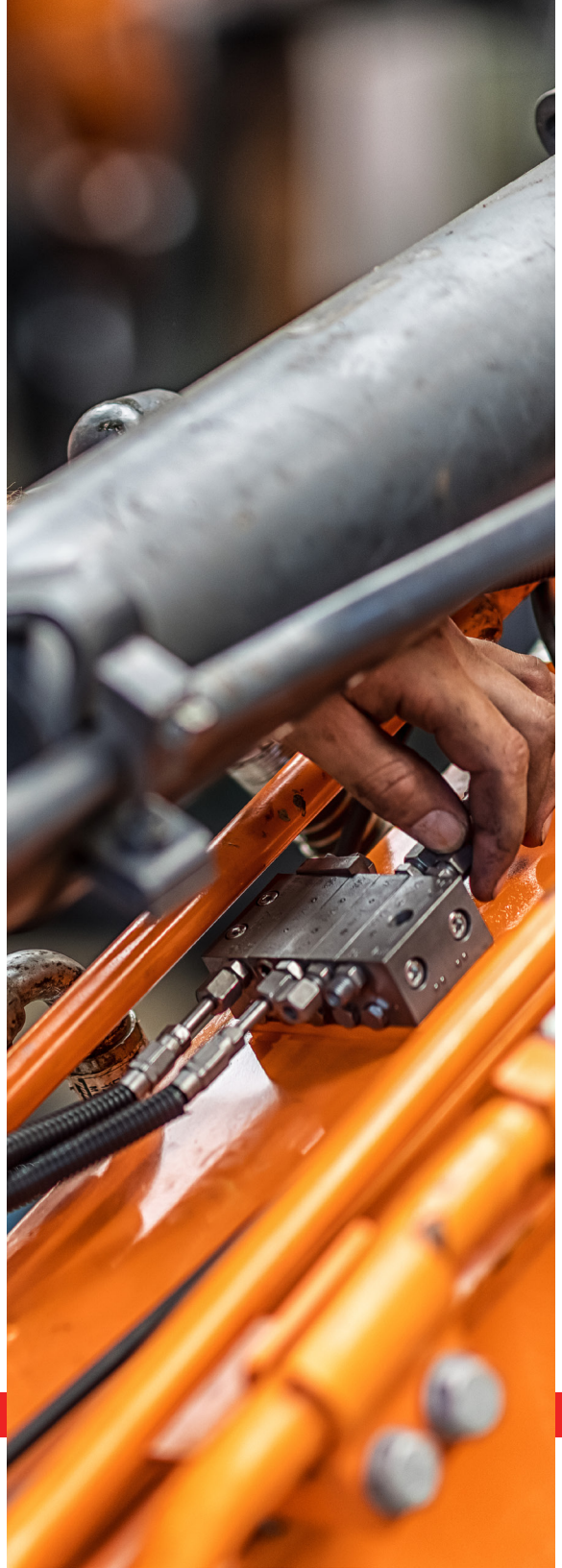


V1.2

General information

This is a general manual for the automatic lubrication system Wiejelo BRAVO with a 3, 5 or 8 kg reservoir. An automatic lubrication system from Wiejelo lubricates your machine or vehicle with the right amount of grease. This happens while you are using the machine or vehicle. The only action you have to perform manually is filling the grease reservoir.

For the durability of the automatic greasing system it is important that you follow the rules below:

- Install the components correctly.
- Use the correct grease.
- Check the greasing system regularly.

What happens when you don't follow the guidelines:

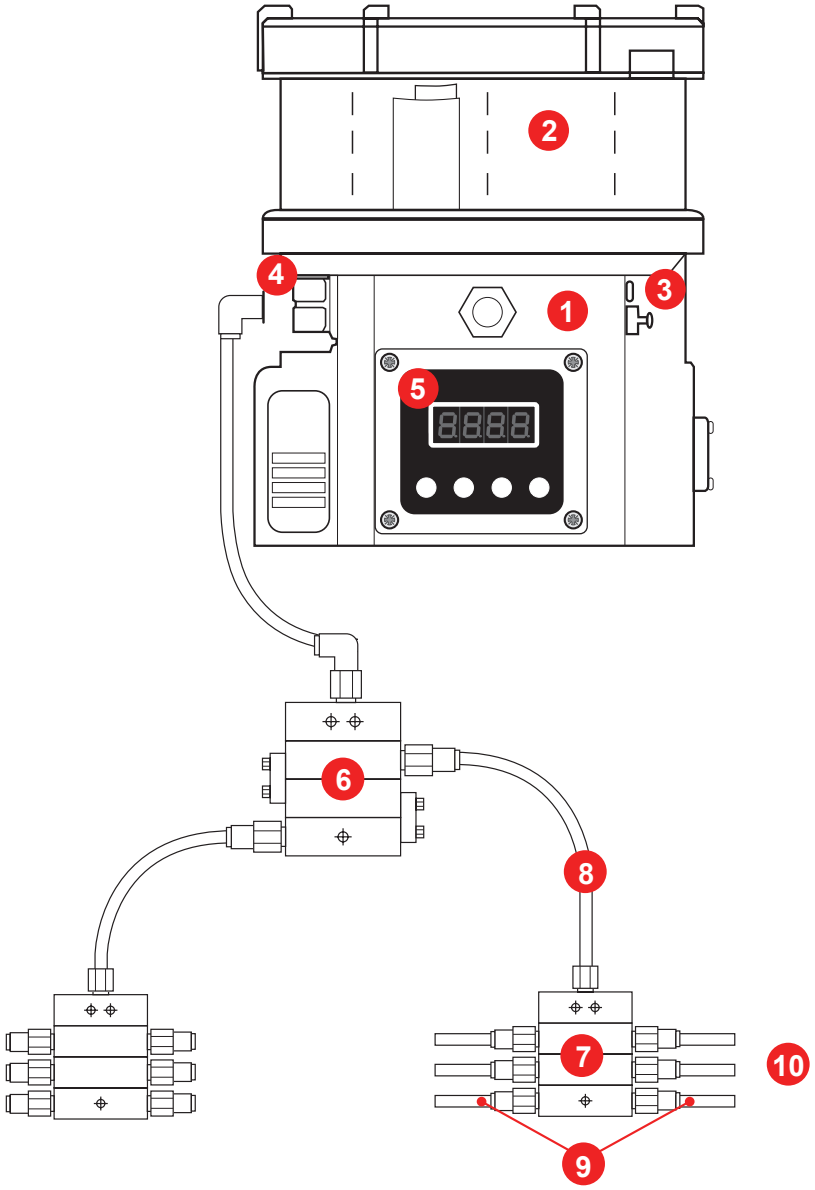
When there is not enough grease in the pump or you don't refill the pump regularly, the machine or vehicle may be damaged. Wiejelo Equipment is not liable if damage occurs.

Do you use wrong or contaminated lubricants, do you change essentials parts yourself or do you not use the correct parts for a repair? Then the guarantee expires.

For your safety

For your own safety, you must adhere to one important rule: Turn off the device completely during maintenance or repair work.

1. What does the Wiejelo BRAVO pump look like?



1. Electric grease pump
2. Transparent reservoir
3. Nipple for filling the reservoir
4. Pump element
5. Integrated timer
6. Progressive main divider
7. Progressive secondary divider
8. Main line
9. Secondary line
10. Greasing points

2. How does the Wiejelo BRAVO pump work?

The electric pump pumps the grease to the progressive main distributor. This main distributor distributes the grease in the right quantities across the different lubrication points or secondary distributors. Pistons force the grease in a certain direction, so that it will not take the path of least resistance. This ensures good control over the entire lubrication system. The control panel allows you to control the amount of lubrication and set the timer so that your machine or vehicle is lubricated optimally.

3. The Wiejelo BRAVO grease pump

The Wiejelo BRAVO grease pump is driven by an electric motor. It is available with a 12VDC, 24VDC or 230VAC electrical motor. An eccentric disc is mounted to this electric motor. The eccentric movement of this disk pushes the piston from the pump element back and forth. The electric motor is controlled by an internal or external control/timer.

4. The fixed pump element

The pump element is a crucial part of the automatic lubrication system. Because the pump element builds up the pressure in the greasing lines. The eccentric disk pushes against the piston of the pump element with every rotation. Which forces grease into the greasing lines. When the eccentric disc is not pushing against the plunger, the chamber of the pump element is filled with grease. Repeating this several times creates a pumping effect.

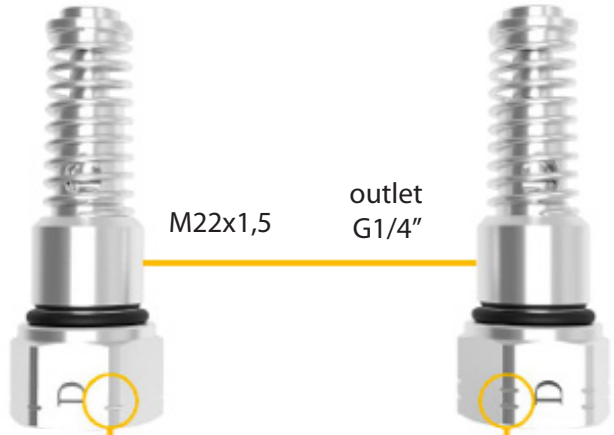
The pump element is fitted with an optional pressure relief valve. When one of the lubrication points is blocked, the pressure within the system will start to build up. Any additional pressure will automatically be relieved by releasing grease from the pressure relief valve. This makes it easy to see if something is wrong with the lubrication system. The pump will also give an electronic warning when the overflow is triggered.

The pump element will wear during the use the pump. If this is the case and the grease level does not change over a period of time, you must replace the pump element.

The Wiejelo BRAVO pump comes by default with a pumping element with an output of 0.14cm3 per stroke.

To install the pumping element:

1. Unscrew and remove the plastic plug with the O-Ring that is installed on the standard product.
2. Insert and screw in the pump element until it is fixed in position.
3. Use 20Nm torque to secure the element.



1 notch
0,14cm³/stroke
[0.0085 in³/rev]

2 notches
0,26cm³/stroke
[0.015 in³/rev]

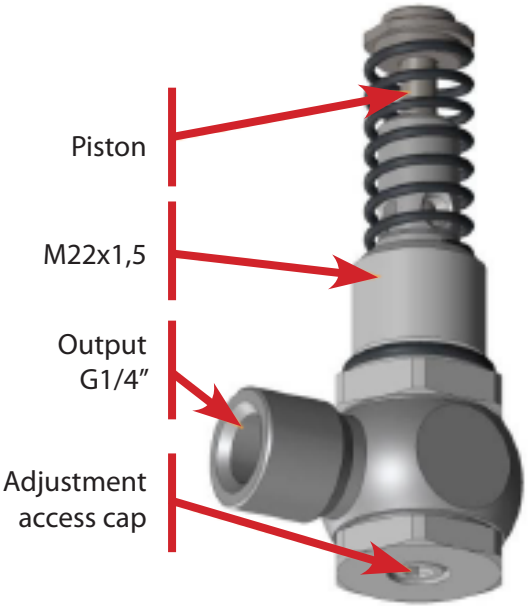
5. Adjustable pumping element

An adjustable pump element can be added to one of the outlets of the pump. This wil help to setup the exact output of the pump element or the output of a pump without a controller.

Follow these steps to configure the adjustable pump element:

- Ensure there is no residual pressure in the grease line.
- Remove the adjustment access cap using a 4 mm Allen wrench.
- Insert the Allan wrench in the exposed grub screw.
- Rotate the screw clockwise until it can't go further.
- Rotate the screw counterclockwise to reduce the output.
- Every rotation equates to 0.6 cc/min.

  With four possible rotations the minimum amount is 0.4 cc/min and the maximum is 2.8 cc/min.
- Check if the copper gasket is present and in good order and replace if necessary.
- Reinstall the access cap using a 4 mm Allen wrench.



6. Filling the reservoir

The grease reservoir can be filled in different ways:

- Manually
- Pneumatic
- Electrical

For manual filling of the grease reservoir with the manual filling syringe, the following steps must be followed.

Note:
The filling of the grease reservoir can also be done through a filling nipple on the side of the pump.

Step 1

Unscrew the red plug.

Step 2

Press the grease filling syringe firmly in the connector and empty it.

Step 3

Reinstall the red plug.

7. Electrical connections

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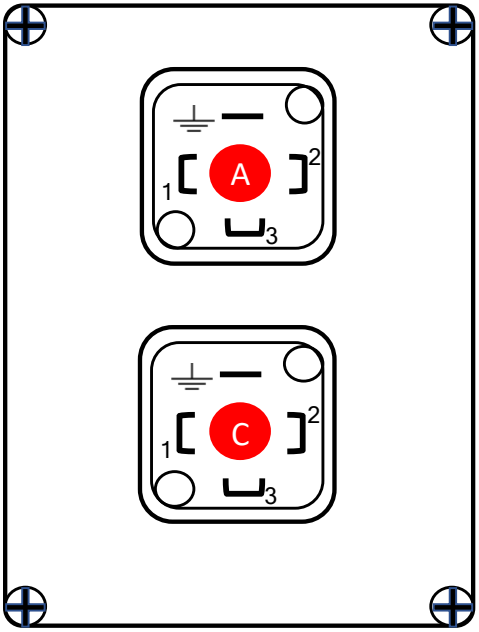

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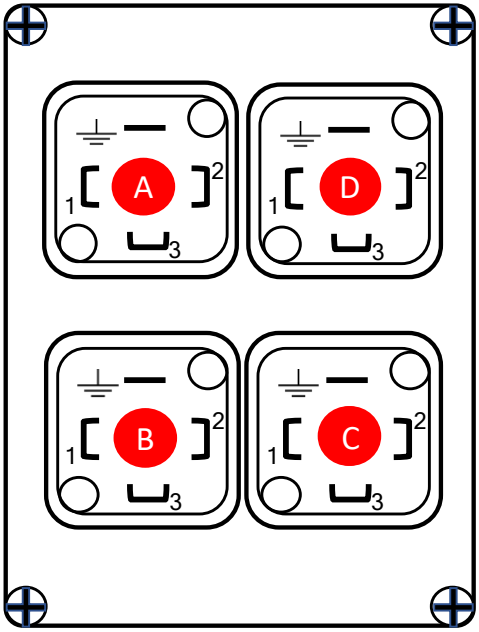


A Power

Pin	
1	EARTH in
2	GND

B Cycle sensor

Pin	Function
1	VS (12-24V) out (+)
2	SENSOR in (pause)
3	GND out (-)
4/Gnd	SENSOR in (cycle)

C Minimum level

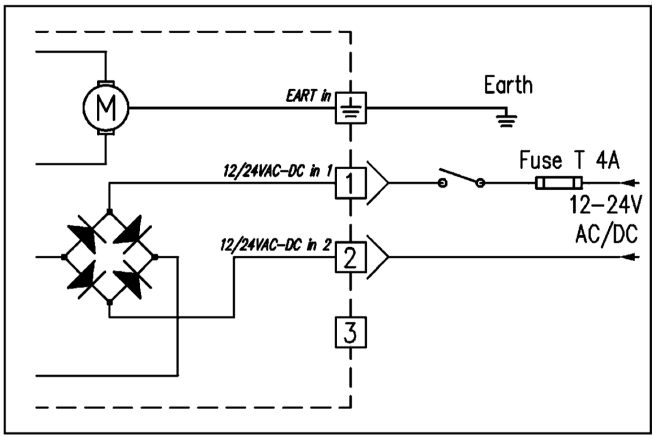
Pin	Automatic version	Manual version
1	Alarm COM out	Alarm COM out
2	Alarm NC out	-
3	Alarm NO out	Alarm NC

D Remote control

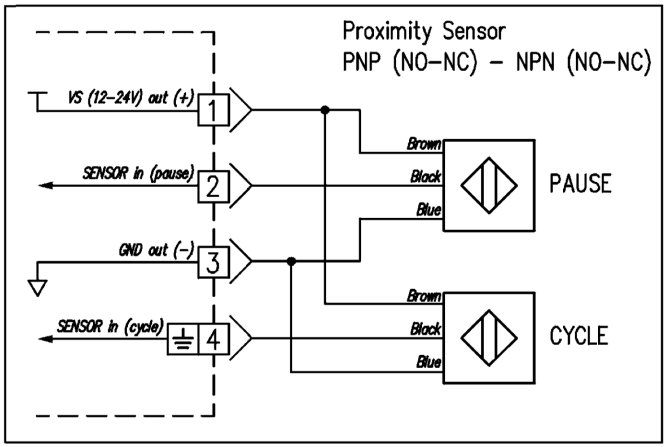
Pin	Function
1	External lubrication button
2	Lamp signal
3	GND

7. Electrical connections

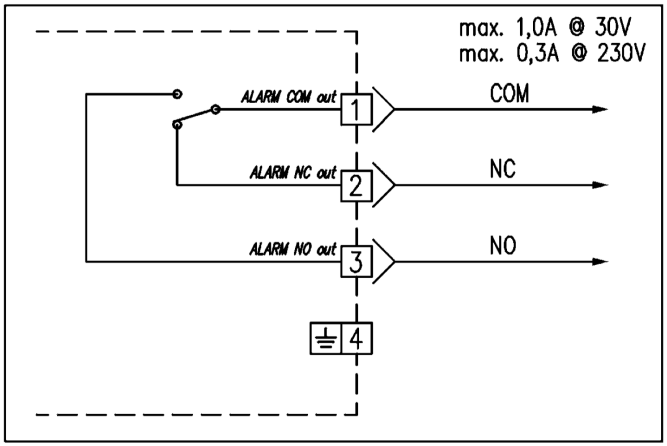
A Power



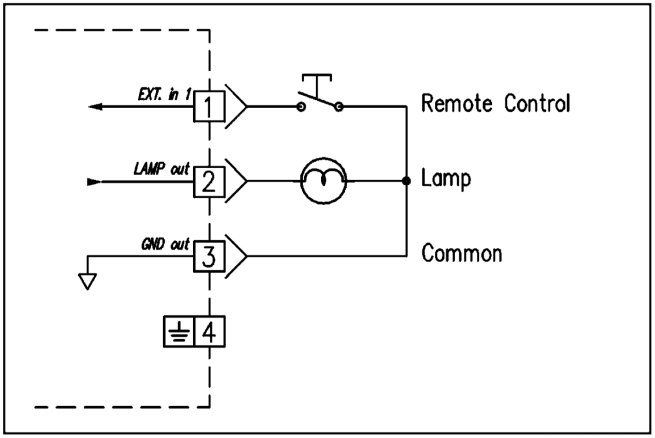
B Cycle sensor



C Minimum level



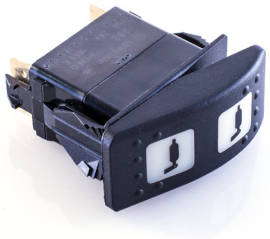
D Remote control

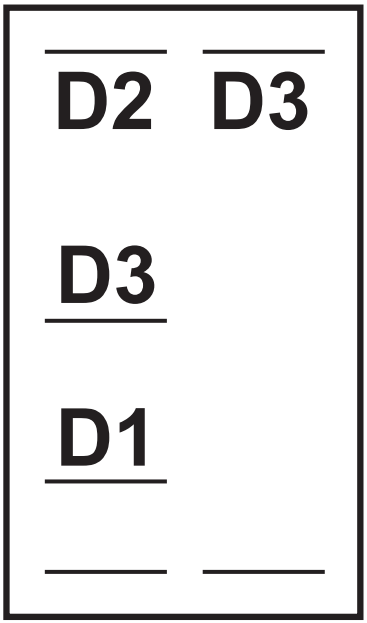


7. Electrical connections

Wiring control lamp/cycle switch

Connect to plug D





2

Green LED lights up during lube cycle

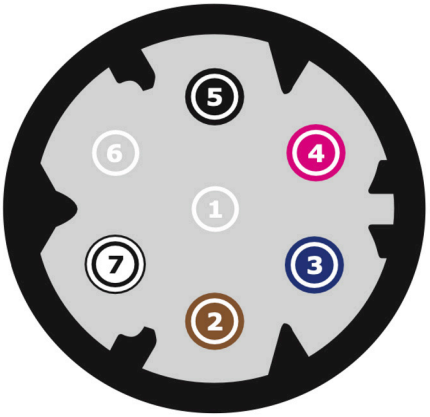
1

Switch for extra lube cycle also error reset

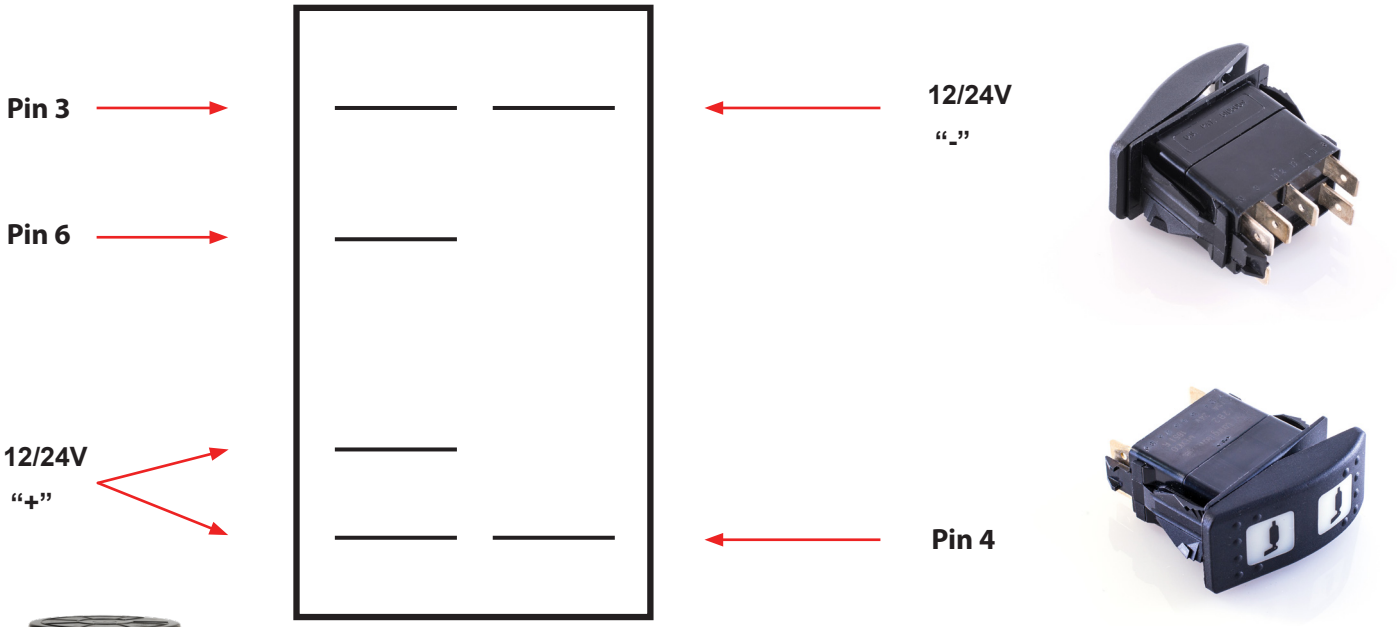
Beware:

- NCYC should be set to 1 (default value)
- The green LED flashes during the lubrication cycle and shows the error codes (page 18)

7. Electrical connections



Pin	Function
1	12V – 24V "+"
2	Mass "-"
3	Light - signal
4	Light – error message
5	Mass
6	External lubrication button
7	Incoming pulse (pause)



8. Setting the integrated timer

Automatic version
Control panel layout

DISPLAY
Indicates the parameter being programmed and the set value

OK
Confirms the value shown on the display

UP ARROW
Allows the user to increase the setting value shown on the display

DOWN ARROW
Allows the user to decrease the value shown on the display

RESET
Resets the current lube cycle, cancels any alarms and restarts the program.

8. Setting the integrated timer

Programming sequence		
Step	**Button**	**Operation**
1	OK *hold for 5 seconds*	Enter programming mode
2	▲ ▼ *Alarm NO out*	Select the parameter that needs to be changed
3	OK	Confirm the selection and view the current value
4	▲ ▼	Increase or decrease the value/setting of the parameter
5	OK	Confirm value/setting and return to menu
6	OK *Hold for 2,5 seconds*	The settings are saved an the display shows “SAVE”. Afterwards you will automatically leave the menu.

Operational parameters					
Display	Description	MODE	DEFAULT	RANGE	NOTES
MODE	CYCL PULS OFF	CYCLE PULSE OFF			Cycle 100%
PHou	*PAUSE TIMER: SET Hours and Minutes*	CYCLE	10 min	0 min / 99 hour	Both
SM,n	*TIMER to suspend the cycle*	PULSE	0 sec	0 sec / 99 min	
P,Cou	*PAUSE COUNTER: number of divider switch cycles to wait in pause*	CYCLE PULSE	1 cycle	0 / 60000	Complete cycle
C,Mn	*CYCLE TIMER:* *if timed cycle it indicates the duration;* *if cycle with control impulses, indicates the waited maximum time of the single impulse before alarm*	CYCLE PULSE	1 min	99 min / 1 sec	
C,Cou	*CYCLE COUNTER: number of divider switch cycles per lubrication cycle. input used:* *- Sensor Cycle if Cycle Mode* *- Sensor Pause if Pulse mode*	CYCLE PULSE	1 cycle	0 / 60000	Complete cycle
Pr-EL	*PRELUBE: Start - controller in Lubrication mode when powered on.*	CYCLE PULSE	OFF	ON-OFF	
n,CYC	*Number of cycles given from the manual input (it allows eventual filling system)*	CYCLE PULSE	1	0 / 9999	
PTOR	*If OFF, to expiring of the pause time, stars the lubrication cycle* *If ON, to expiring of the pause time, gives Pause Time Overrun alarm.*	CYCLE	OFF	ON-OFF	
LEV	*If OFF, the minimum level is excluded*	CYCLE PULSE OFF	ON	ON-OFF	

8. Setting the integrated timer

Special functions and parameters		
Buttons	**Display**	**Description**
OK + ▲	LOC	Lock keyboard.
OK + ▼	Fr-EE	Unlock keyboard
▲ + ▼ + Reset *Release* Reset	dEFA	Reset the default values in the active operating mode
▼ + Reset *Release* Reset	C,dAY	Display total days in working state
	C,Min	Display total minutes in working state
	P,dAY	Display total days in pause state
	P,Min	Display total minutes in pause state
	F,dAY	Display total days in alarm state
	F,Min	Display total minutes in alarm state

9. Faults

Alarm codes			
Message display	**LED on button**	**Alarm**	
A LL	*1 Flash*	Low lubricant level in reservoir	Refill with clean lubricant.
R CS	*2 Flashes*	Cycle Sensor overrun	The cycle signal was not received within the specified time. Ensure Timer timeout is set to approriate value and that there is no problem on the lubrication circuit.
A TO	*3 Flashes*	Pause timer overrun	Verify input pause sensor
A LP	*4 Flashes*	Pump Motor Blocked	Replace the motor unit
R OL	*5 Flashes*	Pump Motor Over-Load	Allow system to cool, if the problem persists, replace the motor unit.
A CO	*6 Flashes*	C. COU pulses counter in Pulse Mode	Modify C. COU parameter
A EE	*7 Flashes*	Eprom Error	Electronic Board memory error. Board requires replacement.

NOTE: To cancel alarm message push buttons and together.

9. Faults

Problem	Possible cause	Solution
Pump motor does not operate	No power	*Check the power lines*
	Electronic controller does not function	*Replace electronics boards*
	Motor does not work	*Replace gear motor assembly*
The display is not lid	Incorrect power/voltage	*Check power and voltage.* *Ensure proper power supply to pump*
The pump starts the lubrication cycle but then immediately stops	Defective or blocked pump motor	*Allow the pump to cool. Retry lubrication cycle. Resolve blockage of motor.*
No lubricant from pump	Reservoir is empty	*Refill, and verify any low level alarms*
	Incompatible lubricant	*Some lubricants are not suitable for automatic pumping systems. Replace the grease.*
	Blocked pumping element	*Dismantle the pumping element and check for contamination. Clean and reinstall or replace*
	Worn pump element	*Replace pump element*

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