

Lubrication systems for injection pistons

MicroLub 2s



Lubrication by **MicroLub 2s**



Classic lubrication



The optimal solutions to lubricate injection pistons



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1. Introduction Top

General information

This manual contains information regarding the use, maintenance of the microdosing system **MicroLub 2s**, which is an integrated part of this product.

The instructions contained in this manual represent the general conditions of operating the microdosing system **MicroLub 2s**, for which VGA Die Cast Solutions reserves its rights to bring modifications in the purpose of further improvement of quality.

THE DEALER WILL BE RELIEVED OF ANY RESPONSIBILITY IN THE FOLLOWING CASES:

- bad operation of the machine
- operation which is against the specific legislation
- incorrect installation
- power supply defects
- serious maintenance faults
- modifications and interventions which are not authorised or supervised by the producer
- using spare parts which are non-original or unauthorised by the machine supplier – full or partial violation of instructions
- in exceptional situations

GENERAL INFORMATION REGARDING THE SAFE USE OF THE **MicroLub 2s** DOSER

Read carefully the manual and do not start the installation when you notice malfunctions.

The producer reserves its right to improve the products without bearing the obligation to inform the users about the equipment supplied previously.



For assistance regarding the exploitation of **MicroLub 2s**, during or after the warranty period, please contact us by email at service@vgadiecastsolutions.com

Thank you!

2. Presentation



General features

MicroLub 2s has been designed and built to operate with dry and degassed compressed air, according to ISO 8573-1. The volumetric pump has been designed for different lubricants. The maximum admitted viscosity is 100.000 cSt.

The lubricants or the used liquids must not be aggressive towards the materials which the pump is made of (aluminum and NBR) and must not generate toxic steam which may harm people's health or may be a fire hazard.

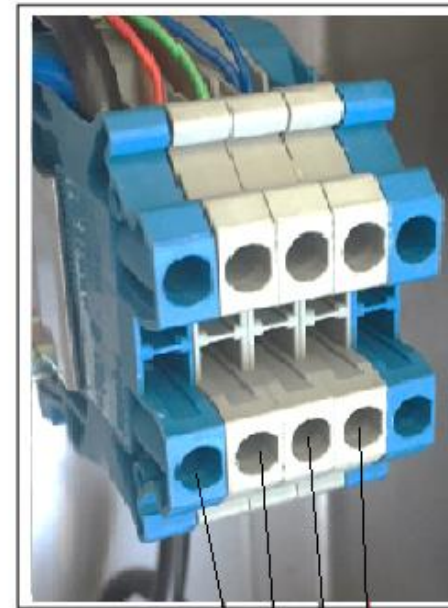
If substances which do not follow these requirements are used, one must adopt the adequate solutions, depending on every particular case, with the approval of the producer.

The machine must be operated by the staff which had been previously trained in the features of the machine and is well aware of the contents of this manual.

3. Installation



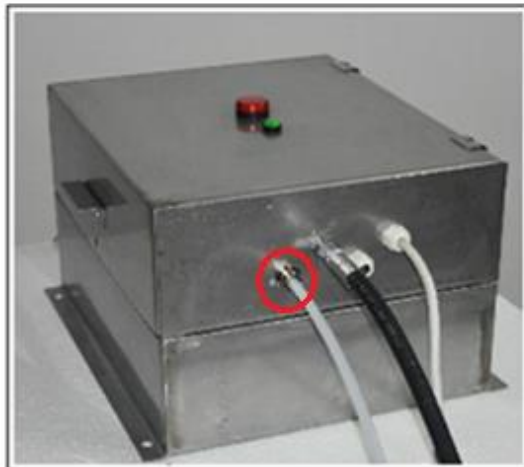
3.1 The electric connexions of the MicroLub 2s doser



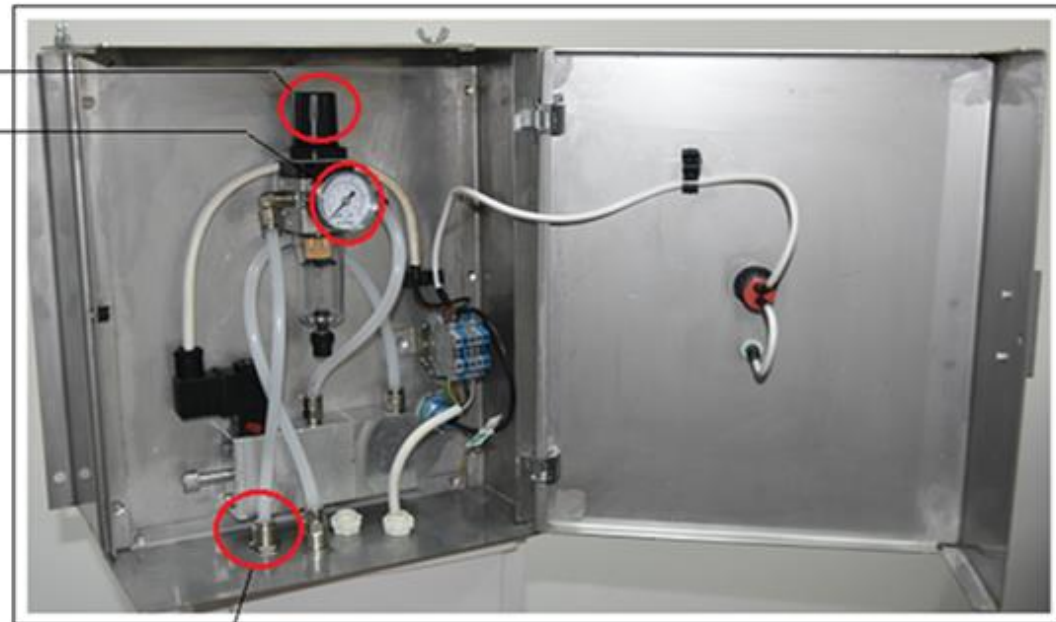
- 1 Ground
- 2 +24V
- 3 The command to actuate the volumetric pump
- 4 The signal for turning off the machine

3.2 Pneumatic connections and regulator pressure adjustment Top

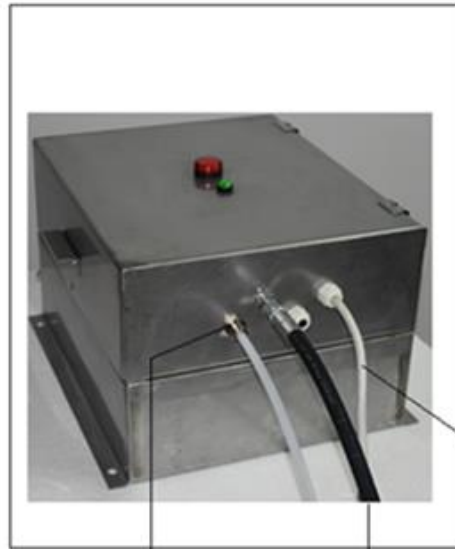
By turning the regulator pressure button you will get the nominal work pressure of the volumetric pump, which has to be between 3.5 and 4.5 bars, value displayed on the installed manometer's gauge.



The microdoser Microlub 2s connects to the compressed air installation by a ¼ hose fitting, the necessary pressure at the box inlet is between 4 and 8 bars.



3.3 The installation and fill-up of the lubricant system Top



Connecting the outlet hose of the lubricant doses.

Connecting to the compressed air network.

Power supply of 24V, connecting command for lubrication and output for turning off the machine at low-level of lubricant.

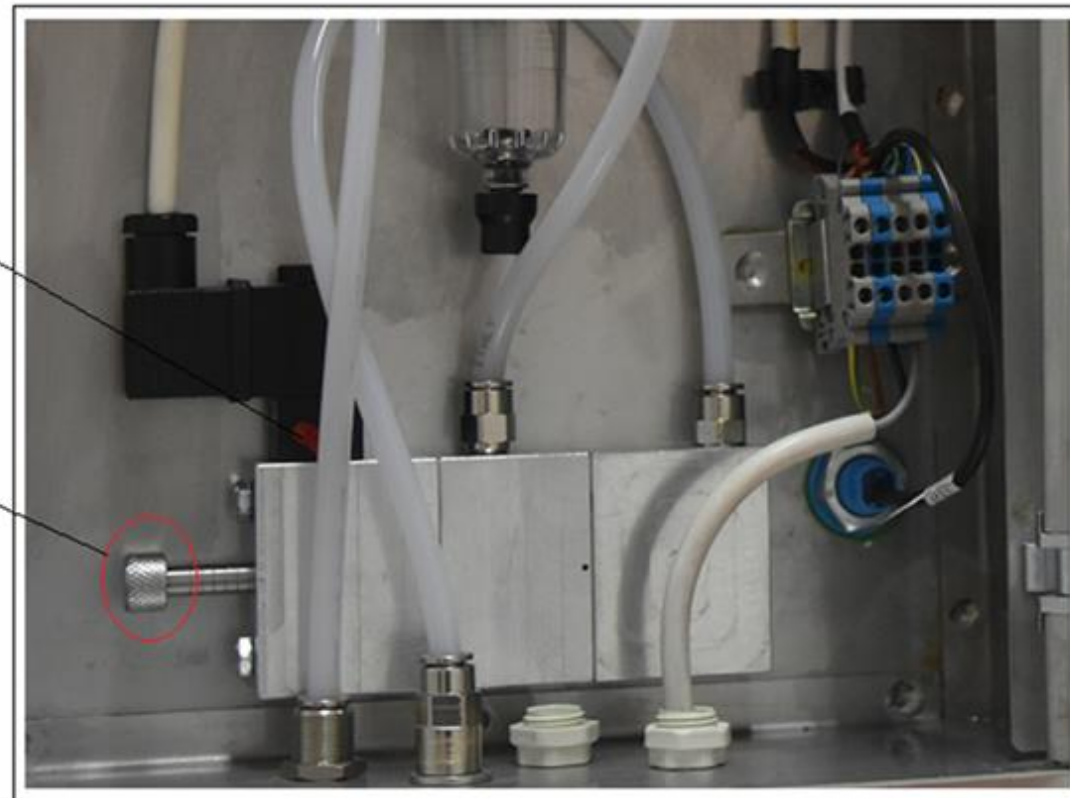


Lubricant tank fill-up

3.4 Lubricant dose adjustment Top

The click for the manual actuation of the electrovalve. For starting the electrovalve one can use the click if the electric signal for actuation cannot be generated manually

The screw for adjusting the lubricant dose per cycle. By turning the adjustment screw, each gradation increases/decreases the dose of lubricating agent by cca. 0.25 grams.



4. TECHNICAL SPECIFICATIONS **Top**

Size		
Height	355 mm	
Width	330 mm	
Depth	225 mm	
Unladen weight	9 kg	
Tank capacity	10 Lt	
Supply voltage	24 Vcc	contact 2 and ground wire contact 1
Maximum current draw	0,35 A	
Air pressure necessary at box inlet	Min 4 bar; Max 8 bar	
Work pressure of the volumetric pump	3,5 – 4,5 bari	
Command to turn off machine when tank is empty	Yes	
Output signal values for turning off the machine	+24 V Stop machine, 0V machine is on	contact 4 and ground wire contact 1
Optical Indicator for pump ON	Yes	intense green light
Optical indicator for no lubricant	Yes	
Indicator for level of lubricant in the tank	Yes	tube rilsan
Optical indicator for activation of the signal STOP machine	Yes	red light
Indicator supply voltage 24 Vcc	Yes	normal green light
Air pressure regulator for pump inlet	Yes	
Volumetric doser with linear adjustment of quantity	Yes	
Range of doser adjustment	Min 0,25 cc Max 2 cc	1 gradation = 0,25 grame
Anti-corosive protection for the tank	Yes	stainless steel

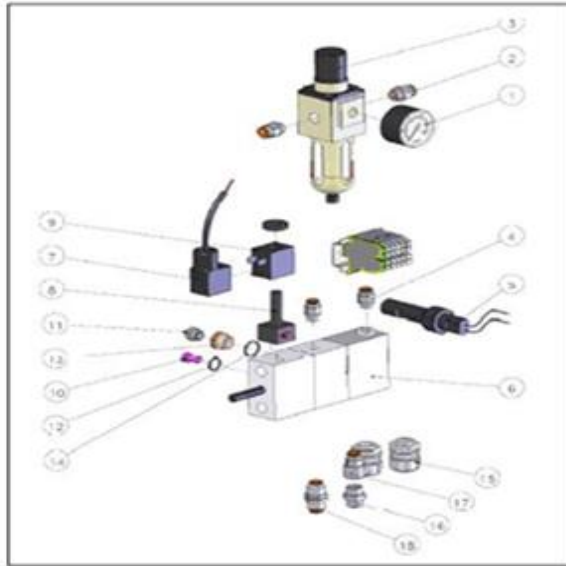
5. Maintenance work Top

We recommend the following actions so that the MicroLub 2s system runs smoothly:

- Periodic check and removal (if necessary) of lumps or particulate matter from the lubricant tank .
- The lubricant level in the tank is to be checked by observing the indicator on one side. If needed, add some lubricating agent.
- Check/Adjust the pressure indicated by the built-in manometer, which has to be between 3.5 and maximum 4.5 bars.
- The dosage is to be checked and if needed proceed to adjusting the quantity of lubricant by adjusting the volumetric pump.
- Check the control green light, which indicates the machine power supply with 24V. If no such voltage then the stop signal cannot be transmitted in case the lubricant level in the tank is under the safety limit.
- Check the receipt of the “start lubricating” signal, which is signalled by increasing the intensity of the green light, on the front panel.
- Check if the Rilsan tubing is connected/sealed correctly inside the MicroLub 2s.

In certain cases. the turning off functionality of the system can be tested. For this. you empty the lubricating agent tank, to the minimum, which will switch on the red light on the front panel and transmit the signal to turn off the die casting machine.

6. Components Top



- 01. Manometer
- 02. 1/4" Hose
- 03. Pressure regulator
- 04. 1/8" Hose
- 045 Minimum level detector
- 06. Volumetric pump
- 07. Connector solenoid valve coil
- 08. Solenoid valve
- 09. Solenoid valve's coil
- 10. Screw for tank fixing
- 11. Impurities filter
- 12. O-ring for sealing
- 13. 1/4, 1/8 grease fitting (grease nipple)
- 14. O-ring for sealing
- 15. Gland hose
- 16. 1/4, 1/4 Grease fitting
- 17. 1/4 Hose
- 18. Hose
- 19. Screw to block the door
- 20. Turn off machine alarm. Insufficient lubricant level
- 21. Hose with protection for transmitting the lubricant doses
- 22. 1/4 Tube hose
- 23. Metal shaft
- 24. Nut for fixing the tank lid
- 25. Screw for fixing the tank lid
- 26. Green light for signalling presence of +24V
- 27. Indicator for lubricant level in the tank



7. Troubleshooting Top

The doser does not release lubricating agent through the metal shaft

- check the level of the lubricant in the machine
- check the lubricant supply tube
- check the metal shaft and reposition it if necessary

The doser does not send lubricant agent doses (the piston does not move)

- check the voltage and the length of the command impulse
- check the fuse from the distributor
- check the inlet air pressure

↖ Top

 <p>The image shows the MicroLub 2s lubrication system. On the left is a closed grey metal control box with a red emergency stop button and a green start button. Below it is a coiled grey hose. In the center is the open control box, revealing the internal components: a pressure gauge, a pump, and various hoses and valves. On the right side of the open box, there are two electrical outlets with red and black caps.</p>	<p>SC VGA Die Cast Solutions SRL</p> <p>51 Magnoliei Street, 440198 Satu Mare, Romania</p> <p>CUI RO 36132916</p>
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MicroLub 2s

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