Metering Pumps

for minimal quantity metering









Injection oiler



Sectional view of injection oiler



Metering pumps deliver and meter out lubricants.

They can be separately actuated and are driven electrically or pneumatically. The lubricant's metering rate is partially adjustable.

Possible applications: spot, brush lubrication:

- Air oiling (assembly tools)
- Greasing of small parts (assembly support)
- Chain lubrication

Main features of magnetic piston pumps

- 2-6 outlet ports
- Electric drive with AC and DC voltage
- Compact design ٠

Main features of injection oilers, micropumps

- Optimal metering of every lube point regardless of line lengths and cross sections
- Lubricant supplied from one central reservoir, a standalone reservoir, also by a central pressurized oil line in the case of injection oilers
- Metering elements can be actuated individually or in groups
- Splash lubrication through high oil acceleration (injection oiler) •
- Fast sequence of pulses: • up to 120 pulses per minute (injection oiler)
 - up to 180 pulses per minute (micropump)
- Space-saving design •
- Ecofriendly: no oil in the exhaust air



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ø30

38.5

80

ø28

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~123

Magnetic piston pump



injectionnozzles

Order No. PE-4-40-02

The magnetic piston pump is an electrically actuated positivedisplacement micropump. A solenoid actuator moves the delivery piston inside the pump's

body. The return stroke takes place with spring force. The oil is fed from a gravity oil reservoir. Pumps with up to six outlet ports and three different delivery rates can be chosen from.

Chain lubrication application

A typical application is chain lubrication. Due to the frequency and small delivery rate, the friction points of a chain can be targeted directly and with pinpoint accuracy while it's running. A proximity sensor detects the chain studs and activates the corresponding control system for the magnetic piston pump with the electric input signal.

Technical data

2×ø8,5

(102)

176

2×ø8,5

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ø2,5×4

S -----

10

(9)

18

4C

Number of outlet ports
Delivery rate
Voltage / frequency
Power
Power consumption 1.1 A at 115 V,
0.55 A at 230 V
ON time
Max. frequency
Operating temperature` +10 to +60 °C
Max. delivery pressure



Chain lubrication unit

Order No.

UC.DES.135D

Setting sleeves

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501 301 000

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501 303 000

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G 1/8-

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Injection oiler

1- and 3-port types



501-303-000

Setting sleeves

- a Setting sleeve for adjust ment of quantity and manu al actuation for additional triggering of a lube pulse
- **b** Indicator pin for function display
- c Guard cap

NB: direction of rotation

- turn to the left
- + turn to the right

Technical data

Ambient temperature	-20 °C to +80 °C
Actuating medium	compressed air (Z),
	max. 6 bars, max. flow 200 l/min
Lubricant	oil at 10-1100 mm ² /s

Footnotes to above illustration

- 1) Port tapped for solderless tube connection (for 2.5 mm diam. tubing)
- 2) Through-hole (ø 6.7) for wall mounting (M6x30 screws)

Other media on request. When grease is used, the
priming process must be supported with priming pressure
Please inquire!

Version	Output (ccm/stroke)	Order No.	for tubing diam.	Lateral connec- tions for sensor Z S	Seal material	Features, application	
1-port	0.003 - 0.03	501-301-000	2.5	no	NBR	individual use, can be coupled to	o further
type		501-301-008	2.5	no	FKM	1- and 3-port-injection oilers.	
		501-301-024	4	no	NBR	Basic unit for injection oilers with	n reservoir.
		501-301-001	2.5	yes	NBR	basic unit for injection oiler	internal oil discharge
		501-301-002 *)	2.5	yes	NBR	(combined oiler)	external oil discharge
3-port	0.003 - 0.03	501-303-000	2.5	no	NBR	group actuation	
type		501-303-008	2.5	no	FKM	group actuation	
		501-303-003	2.5	no	NBR	individual actuation	
		501-303-024	4	no	NBR	group actuation	

-21

coupling set order No. 995-900-100 (including 2 O-rings WVN501-9x3)

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-| 10,5 28,5

threads only

Z3 ⇒

Z2 =⇒

Z1 =⇒

Illustration: oiler for group actuation

in case of oiler for 2

individual actuation

S = oil feed

P = oil outlet port

Z = compressed air port

25

M6 × 0.75

22

*) yes, but internal oil path covered by gasket 818-100-007





Injection oiler, 3-port type individual actuation



Air flow with individual actuation



Injection oiler, 3-port type group actuation



Air flow with group actuation





Injection oiler

with reservoir





1) Port tapped for solderless tube connection

The injection oiler is combined with a reservoir of transparent material when used with only a few lube points.

Applications

• tool lubrication

Order No.	Seal material			
501-301-011	NBR	Mounting position as shown		
501-301-028	FKM	See page 3 for technical data		
501-303-011	NBR			
Reservoir capacity	0.25 liter			
Reservoir material	PA6-3-T			



Further injection oilers can be hooked up. The individual metering pumps can in turn be actuated individually or in groups. If the lubrication frequency has to be scaled down, the injection oiler can be coupled to a counting stage.

We recommend that a venting line be laid for automatic venting of the oil-conducting chambers and bores (cf. illus.).

Grease metering



Injection oiler with grease cartridge and monitoring

Order No. 501-301-094

Seal material NBR

Applications

- Greasing small parts (assembly support)
- Selective splash lubrication of chain friction points

Spring pressure is used to deposit the lubricant from the grease cartridge. When the injection oiler is actuated, the adjusted output (0.003 to 0.03 ccm) is ejected. The proximity switch monitors the motion of the metering piston.

G1/8

Z (Luft/air)

108

68

Large distances can be selectively wetted with VOGEL spray nozzles (leaflet 1-5012-5-US). Steel tubing (ø4 mm) with a max. length of 500 mm should be used for this purpose. The grease cartridge (order No. M-Dosapoint) is exchangeable; reservoirs for greater grease demand on request. To suit the respective application it is possible to operate the injection oiler with oil or fluid grease

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91

M12×1 DIN-EN 60947/IEC947

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1) Port tapped for solderless 8 mm diam. tube connection



Order No. 501-301-056

Micropump



2-port type on baseplate

The micropump is a pneumatically actuated, miniature piston pump. The compressed air controlled by a 3/2-way valve actuates the delivery piston, which discharges the respective output on the basis of its displacement. The travel of the stroke, and thus the metering of the delivery rate, is increased or decreased with setting rings.

Care must be taken to make sure that the compressed-air line leading to the pump is relieved of pressure after each actuation so that the delivery piston can return to its initial position.

stroke





Baseplate

The micropump is specially designed for minimal quantity lubrication, and, namely, only for cases in which oil is to be sprayed on with compressed air. The necessary accessories are documented in leaflet 1-5012-5-US.

Technical data

Order No	PVR-003
	metering rate adjustable
	from 0-30 mm ³
Order No	PV-003
	fixed metering rates with
	setting ring:
	3; 5; 10 and 30 mm ³
Air pressure	4-8 bars
Frequency	max.3 Hz
Operating temperature	+10 to +70 °C
Max. delivery pressure`	35 bars
Lubricant	mineral oils without additives,
	max. viscosity 100 mm ² /s
Oil feed	gravity oil reservoir

Order No.	Number of pumps	
PV.1641	1	
PV.1642	2	
PV.1643	3	
PV.1644	4	

1-5012-4-US 7



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