

Piston pump TB-D pneumatic

Pneumatically operated piston pump for progressive, single-line and multi-line systems

General

The pneumatically operated piston pump TB-D has been developed for use in progressive, single-line and multi-line systems.

Progressive system: The pump supplies the total delivery quantity of 4.50 cm³ to the progressive distributor via outlet X.

Multi-line system: The pump has 9 separate outlets (1-9). Each outlet supplies 0.5 cm³ to the lubrication point one after the other. If a higher metered volume is required at a lubrication point, then the outlets can be connected to one another externally.

Single-line system: If a pump is used in a single-line system with volumetric piston distributors, systems with a maximum total metered volume of 1.5 cm³ can be supplied. The delivery volume of 4.5 cm³ is supplied to the distributors via outlet X. Discharge is performed via connection Y.

Function description

The delivery piston in the pump is actuated by the impact of compressed air. As the first step, the intake borehole to the tank is closed, and the delivery quantity supplied at the individual outlets 1-9 or the shared outlet X. If the air pressure line is depressurised, the piston moves back to the starting position by spring pressure, and the dosing chamber fills up for the new lubrication cycle. For use in a single-line system, the relief borehole Y is opened and the pressure in the main line drops. The fill level in the tank can be monitored using an optional float switch (oil) or level switch (grease).



Technical Data

Pumping medium:	Oil viscosity range	20-1500 cSt at operating temperature
	Grease	NLGI class 000-2, DIN 51818
Operating temperature		- 20 °C to + 80 °C
Number of outlets	Optional	1, 2, 3, 4, 5, 6, 7, 8 or 9
Delivery quantity/stroke	Outlets 1-9	0.5 cm ³
	Outlet X	4.5 cm ³
Tank size	Metal	1.6 and 4.0 litres
	Plastic	2.0 and 4.0 litres
Air pressure	Min.	2 bar
	Max.	6.5 bar
ATTENTION! In single-line systems, the maximum permissible pressure for the distributors must be taken into account.		
Transmission ratio		16 : 1
Thread	Output	M 10 x 1
	Inlet air	G 1/4
Filling	Grease	Flat-type lubricating nipple DIN 3404
	Oil	Filling spigot with screen on the lid
Material	Pneumatic cylinder	Painted steel
	Seals	NBR / FKM
	Pump body	Galvanized steel
	Tank - metal	Painted steel
	Tank - plastic	Acrylic glass XT colourless/UV resistant

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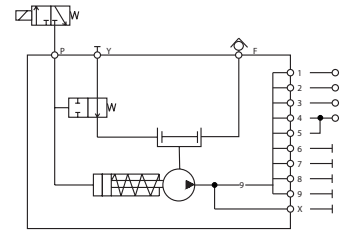
System description

Multi-line system:

With one lubrication cycle, each of the 9 outlets delivers 0.5 cm^3 of lubricant one after the other, starting with 1. Figure 1 shows a system with 5 pump outlets.

2 outlets have been combined externally. As a result, 3 lubrication points receive 0.5 cm^3 of lubricant and 1 lubrication point receives 1.0 cm^3 of lubricant.

The number of outlets must be specified when ordering. The number of outlets can only be changed retroactively via the manufacturer.



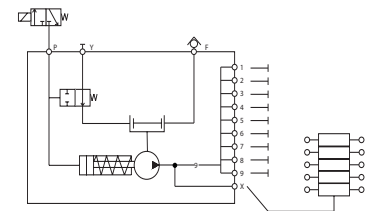
Progressive system:

Outlets 1-9 are connected in this system. The main line is connected at outlet X. Outlet X supplies the progressive distributors with 4.5 cm^3 of lubricant per pump stroke. The system can be monitored via a monitoring switch on the progressive distributor.

With a progressive system, lubrication points can also be supplied with less than 0.5 cm^3 of lubricant. More customised distribution can be set up.

The following progressive distributors can be used with the TB-D:

- ZP-A
- PV-B
- PV-E
- M2500

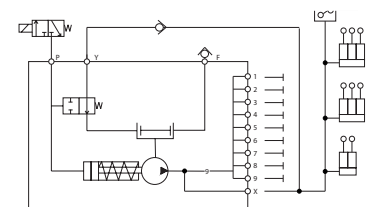


Single-line system:

Outlets 1-9 are connected in this system. The main line is connected at outlet X. As a single-line system requires pressure relief in the main line, the main line must also be connected to the pump's Y connection. In order to prevent the main line from running dry during the relief phase, a non-return valve must be fitted upstream of connection Y. The maximum metered volume for all distributors must not exceed 1.5 cm^3 . A main line tension loss of 3.0 cm^3 must be estimated. The main line must be limited to 5 m. If possible, the main line must be laid in a steel tube in order to keep the tension loss to a minimum.

The following single-line distributors can be used with the TB-D:

- ZE-C
- FL32
- FL33
- FL42
- FL43



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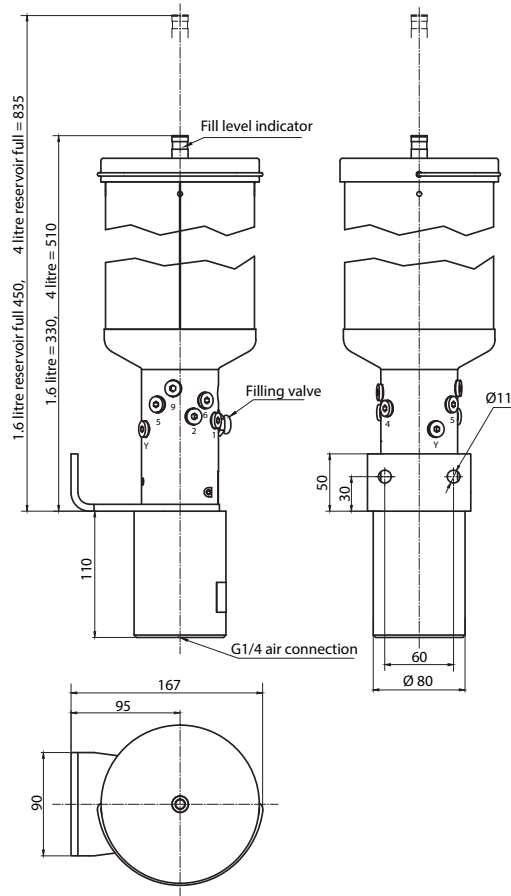
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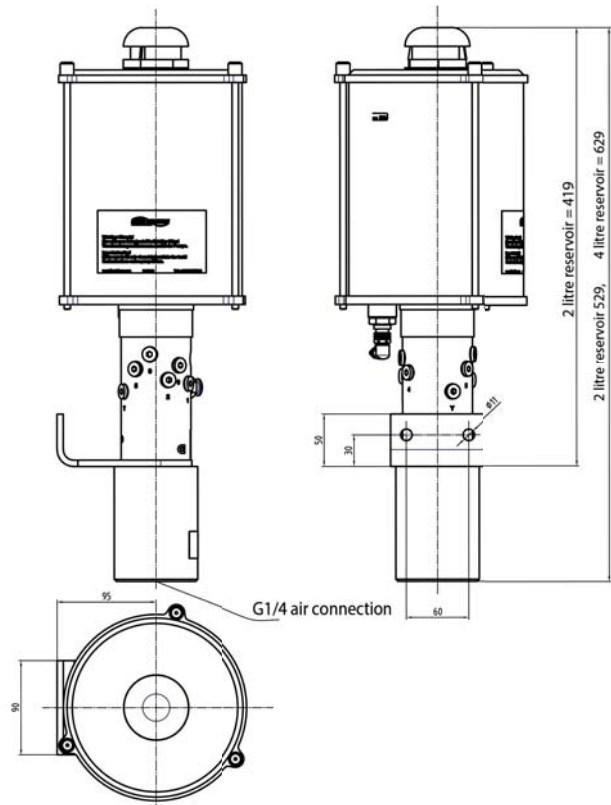
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Dimensions (mm)



Metal reservoir



Plastic reservoir

How to order

Pump type

TB-D pneumatically operated

Number of outlets

- 1 outlet (0.5 cm³)
- 2 outlets
- 3 outlets
- 4 outlets
- 5 outlets
- 6 outlets
- 7 outlets
- 8 outlets
- 9 outlets
- 1 outlet X (4.5 cm³)

Revision

Status

Mode of operation

Pneumatic

Drive position

without

Outlet coding

- 1.6 litre / oil / grease / with follower piston / metal reservoir with visual fill level monitoring
- 4.0 litre / oil / grease / with follower piston / metal reservoir with visual fill level monitoring
- 2.0 litre / oil / plastic reservoir without fill level monitoring
- 2.0 litre / oil / plastic reservoir with electric fill level monitoring
- 4.0 litre / oil / plastic reservoir without fill level monitoring
- 4.0 litre / oil / plastic reservoir with electric fill level monitoring
- 2.0 litre / grease / with follower piston / plastic reservoir without fill level monitoring
- 2.0 litre / grease / with follower piston / plastic reservoir with electric fill level monitoring
- 4.0 litre / grease / with follower piston / plastic reservoir without fill level monitoring
- 4.0 litre / grease / with follower piston / plastic reservoir with electric fill level monitoring
- 2.0 litre / semi-fluid grease / plastic reservoir without fill level monitoring
- 2.0 litre / semi-fluid grease / plastic reservoir with electric fill level monitoring
- 4.0 litre / semi-fluid grease / plastic reservoir without fill level monitoring
- 4.0 litre / semi-fluid grease / plastic reservoir with electric fill level monitoring

Accessories

without

Code						
TBP		A	01	0		00

Example of order:

TBP 10 A 01 0 H 00

Pneumatic piston pump TBD,
1 outlet X (4.5 cm³), 4 litre tank,
pumping medium oil, electric fill
level monitoring

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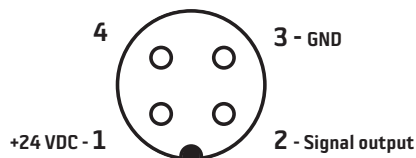
Accessories

Figure	Designation	Item no.
	3/2-way valve for air 24V	38152M029
	GE screw connection GE 06 LL, M 6 x 1 keg CF	734421203
	GE screw connection GE 06 LL, M 8 x 1 keg CF	734421143
	GE screw connection GE 06 LL, M 10 x 1 CF	734421164
	GE screw connection GE 06 LR, R 1/8 keg CF	734420734
	GE screw connection GE 06 LR, R 1/4 keg CF	73442V251
	WE screw connection GE 06 LL, M 6 x 1 CF	734451193
	WE screw connection GE 06 LL, M 8 x 1 CF	734451163
	WE screw connection GE 06 LL, M 10 x 1 CF	734431293
	WE screw connection GE 06 LR, R 1/8 CF	734431214
	WE screw connection GE 06 LR, R 1/4 CF	734431823
	S screw connection WH 06 L, M 10 x 1 CF	734427023
	S screw connection WH 06 LL, R 1/8 CF	734427023
	High-pressure hose DN 04 - 2KT	733121273
	Screw sleeve NW 4 for DN 04 - 2KT	733913443
	Pipe bracket, straight, long, 6 mm	733913513
	Pipe bracket, straight, short, 6 mm	73391S039
	Pipe bracket, 90°, long, 6 mm	733912513
	Pipe bracket, 90°, short, 6 mm	733912831
	Plastic pipe 6 x 1 for air supply	731002183

Cable socket with cable

Designation	2 m cable	5 m cable	10 m cable
M 12 x 1 - straight	M124S02U34	M124S05U34	M124S10U34
M 12 x 1 - 90° angled	M124A02U34	M124A05U34	M124A10U34

Device plug M 12x1 4-pin (A-code)



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