

DP5 Pump

5:1, Air-operated, Heavy Duty, Oil

General

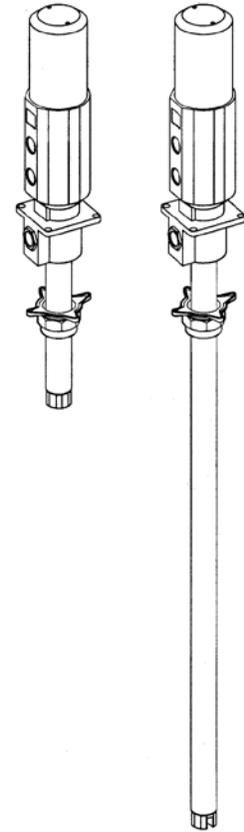
The DP5 Pump is a compressed air-operated reciprocating piston medium pressure pump. These pumps are suitable for distribution of all types of light and heavy viscosity oil through pipe lines, hose reels and meters. High output allows simultaneous operation when used with multiple outlet systems. These pumps can be supplied as separate components systems with all elements necessary for its installation. Pumps may be mounted on drums, tanks or the wall, using the appropriate accessories.

Operation

This pump is self-priming. To prime it the first time, connect the air supply to the pump and slowly increase the air pressure from 0 to the desired pressure using a pressure regulator, while keeping the outlet valve opened. Once oil begins to flow through the oil gun/guns, the pump is primed. *(Note: It is important that the foot valve of the pump does not come into contact with contaminated surfaces, such as a workshop floor, as it may become contaminated with dirt or foreign particles that can damage the seals.)*

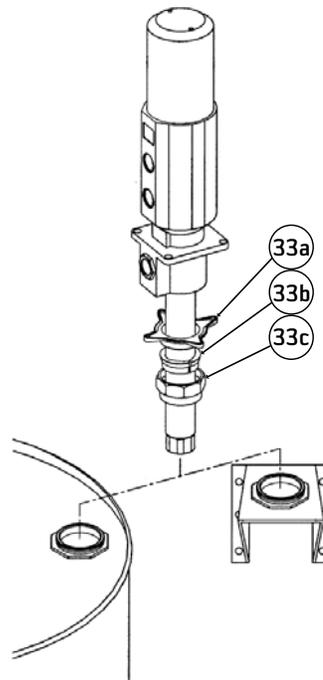
Technical Data

Maximum Air Pressure	140 psi (10 bar)
Minimum Air Pressure	40 psi (3 bar)
Maximum Delivery	10 GPM (37 liter/min)
Air Inlet Thread	3/8" NPT (F)
Oil Outlet Thread	1" NPT (F)
Air Piston Diameter	~4" (90mm)
Air Piston Stroke	4" (100mm)



Installation

These pumps can be mounted directly on a drums, tanks or on a wall bracket fitted with a 2" bung. Loosen the star nut (33a) of the bung adapter to remove the inferior nut (33c) and screw this into the 2" bung opening of the drum or bracket. Place the star nut (33a) and the inside part (33b) on the suction tube. Introduce the pump through the opening and fasten the assembly at the desired height by tightening the star nut (33a).



ATTENTION
Always keep fingers and hands away from moving parts. Do not dent or damage the riser tube.



ATTENTION
Ensure that the mounting surface and attachments are strong enough to support the lift and pump assembly during operation.

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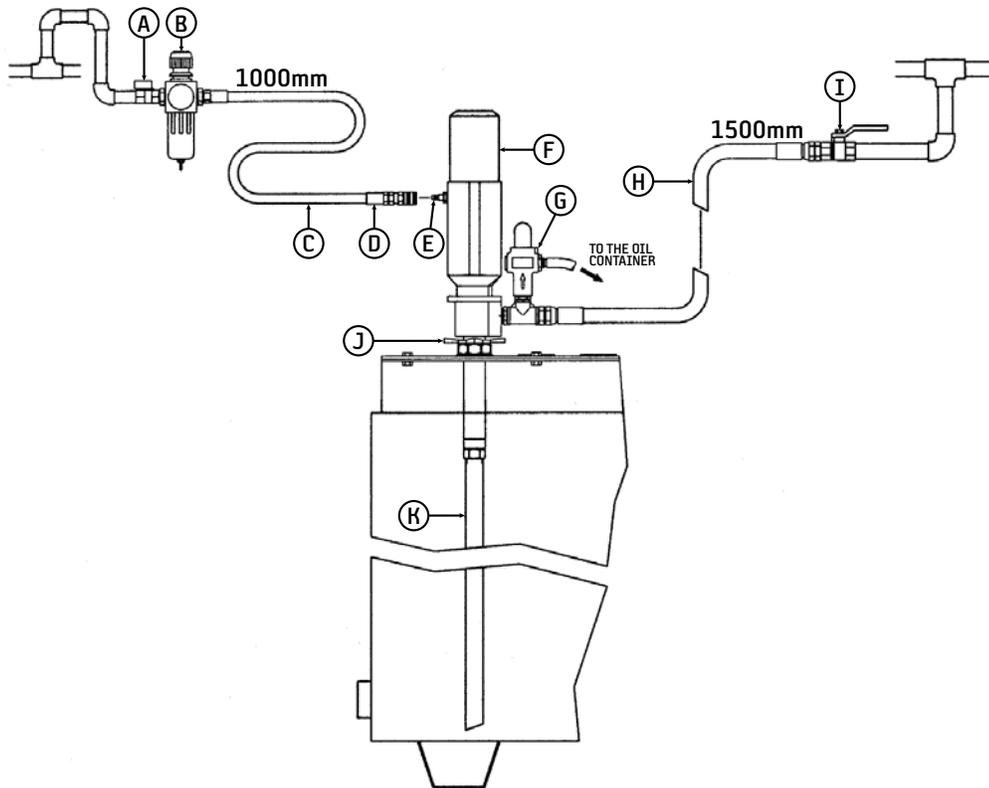
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Typical Layout

See drawing below for typical layout with all the recommended accessories for the pump to operate correctly. The compressed air supply must be between 40 and 140 psi (3 and 10 bar), 90 psi (6 bar) is the recommended pressure. An air shut-off valve must be installed to be able to close the compressed air line at the end of the day (if the air inlet is not closed and there is leakage in some point of the grease outlet circuit, the pump will start automatically, emptying the container).



Item	Description
A	Air shut-off valve
B	Filter regulator
C	Air hose
D	Quick coupler
E	Air nipple
F	55:1 Pump (stub)
G	Pressure relief valve
H	Oil hose
I	Oil shut off valve
J	Bung bushing adapter

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Maintenance

Separate the Air Motor from the Pump

1. Secure the pump in a vice in the horizontal position, tightening the jaws on the provided pads along the air motor body (14).
2. Gently strike the body base (31) a few times with a plastic hammer. To unscrew the suction tube (32) from the air motor body (14), use a 40mm wrench on the hex of the foot valve body (37). Pull clockwise first to break the seal, and then counter clockwise to loosen and remove the tube assembly, including the body base (31).
3. Remove the upper roll pin (21) located in the upper part of the connecting rod (20) and unscrew the rod from the air piston (9). (See drawing on right.)

Foot Valve

1. Gently attach the suction tube assembly to the vice and unscrew the foot valve body (37) from the suction tube (32).
2. Remove the roll pin (38) and clean the check ball (36), the check spring (35) and the ball seat. Replace any if damaged. Assemble pump following previous instructions, reversing each step.

Upper Valve

1. Unscrew the valve seat (29) from the valve body (23) and remove the washer (28), the oil plunger seal (27), the washer (26), the check ball (25) and the check spring (24).
2. Clean these parts carefully. If any damage is found, replace the affected parts.
3. Assemble the pump following the previous instructions, reversing each step.

Inverting Set and Air Motor

1. Secure the air motor body (14) in a vice and unscrew the air motor cylinder (1) using a spanner wrench in the holes on the top of the air motor dolly.
2. Check the upper spring (2) and the spring stop (3) inside the air motor cylinder (1). Replace if damaged.
3. Remove the lower circlip (16) and muffler (15) and pull up the air motor assembly (4) until the hole in the pump piston (9) becomes visible in the opening where the muffler was removed. Insert a steel rod (8mm) in the hole to lock the piston and prevent rotation.
4. Use a prepared 17mm wrench to remove the air motor assembly (4). (See drawing on right.)
5. Remove the air piston (9) and disassemble the upper circlip (11), the washer (12) and the air piston seal (13). Check the piston for scratches and replace damaged parts.
6. Assemble the pump following the previous instructions, reversing each step. Use Loctite Blue #242 (or equivalent) on the threads of the air-motor stem.

Packing Set

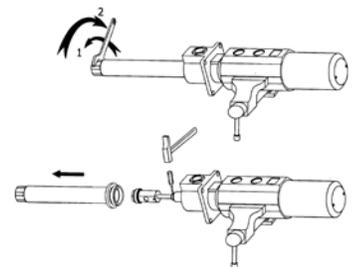
1. Follow the procedure for the air motor until the air piston (9) has been removed from the air motor body (14).
2. Remove the circlip (19) and the packing set (18) from the air motor body (14). Replace if damaged.
3. Assemble the pump following the previous instructions, reversing each step. *(Note: The packing set is directional. It is not marked and must be installed correctly or it will leak. Look carefully at the inside diameter of the seal, you will see three components. The middle black ring that is split is a bearing. Above and below it are the brownish Turcite® seals, these are made with a step, and the step faces the oil. Confirm this by looking into the seal from both directions, from one side you will not see the steps, and from the other you will; this is the side that faces the oil.)*

ATTENTION

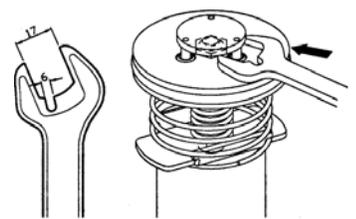
Refer to page 5 for parts reference.

WARNING

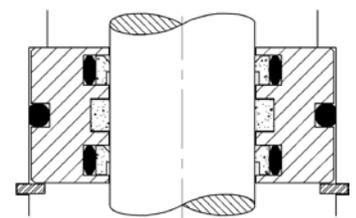
Before starting any kind of maintenance or repair, disconnect the compressed air supply and open a downstream valve to relieve the grease pressure.



Unscrew suction tube, remove rod



Remove inverting set with 17mm wrench



Packing set installation

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Troubleshooting

Symptom	Possible Cause	Remedy
The pump is not working or there is no oil delivery.	Not enough air supply pressure.	Slowly increase the air supply pressure.
	Some outlet line component is clogged or closed.	Clean or open the outlet circuit.
The pump begins to operate very fast and no oil is being delivered at the gun.	The drum is empty or the oil level is beneath the suction tube inlet.	Replace the drum or lower the suction tube until the inlet reaches below the oil level.
The pump runs on continuously after the oil outlet is closed.	There is an oil leak in some point of the outlet circuit.	Verify and tighten or repair.
	Contamination in the upper valve (23-28) or in the foot valve (31-35).	Disassemble and clean. Replace damaged components.
Oil is leaking through the exhaust muffler.	Oil has by-passed to the air motor caused by worn or damaged packing set (17).	Replace the packing set.
Air is leaking through the exhaust muffler.	The upper circlip (11) is worn or damaged.	Disassemble and clean. Replace damaged components.
	The air motor cylinder (1) is scored.	Replace air motor dolly.
	The air piston rod (9) is scored.	Replace the air piston rod.
	The air motor assembly (4) is worn or damaged.	Replace the air motor assembly.
The oil delivery has diminished or the flow is uneven.	Contamination in the upper valve (23-28) or in the foot valve (31-35).	Disassemble and clean. Replace damaged components.
The pump operates only one cycle and then stops.	The upper spring (2) is damaged.	Replace the upper spring.

ATTENTION

Refer to page 5 for parts reference.

How to Order

Name	Drum Size	Part #
DP5 Pump	Stub Pump	F400
	16 gallon	F406
	55 gallon	F408

When ordering, specify by name, description and part number, e.g. DP5 Pump, 16 Gallon Drum, Part #F406.

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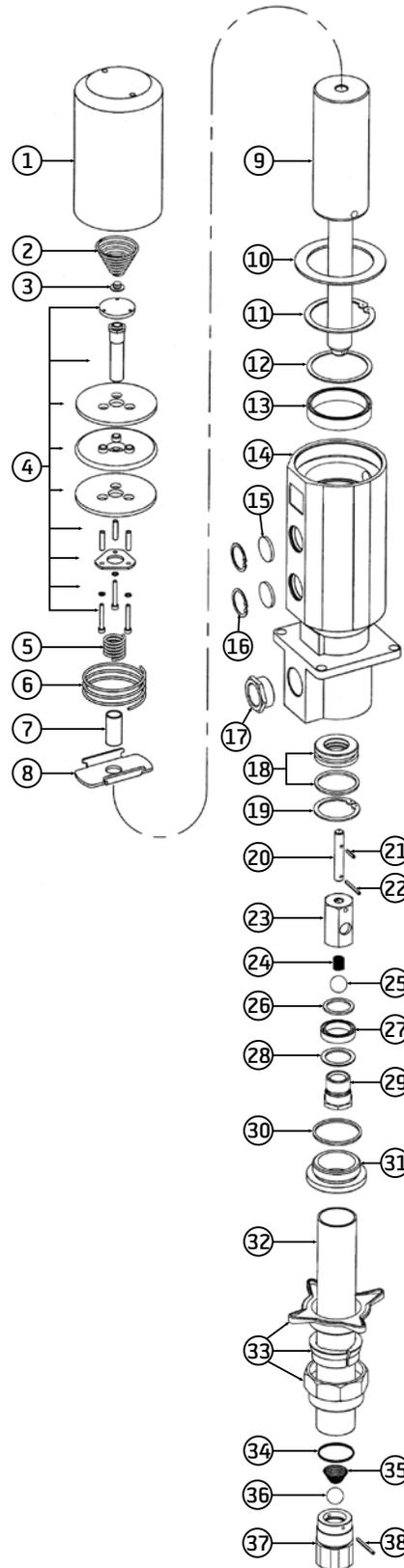
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Service Parts

Item	Description	Part #
1	Air motor cylinder	F734101
9	Air piston (5:1)	F734619
12	Washer	F734612
14	Air motor body	F734102
15	Muffler	F835400
16	Lower circlip	F942730
17	Packing set	---
20	Connecting rod	F735410
31	Body base adapter (5:1)	F734605
32	Suction tube (5:1)	F734604
33	Bung adapter (5:1)	F2031
---	Air motor kit	FAHK-1
	Upper spring (2)	---
	Spring stop (3)	---
	Air motor assembly (4)	---
	Lower inner spring (5)	---
	Lower outer spring (6)	---
	Air piston spacer (7)	---
	Lower spring carrier (8)	---
	Square cut seal (10)	---
	Body base O-ring (30)	---
---	Packing set & seals kit	FAHK-2
	Square cut seal (10)	---
	Upper circlip (11)	---
	Air piston seal (13)	---
	Throat seal assembly (18)	---
	Lower circlip (19)	---
	Upper roll pin (21)	---
	Lower roll pin (22)	---
	Oil plunger seal (27)	---
---	Lower end kit	FAHK-3
	Upper roll pin (21)	---
	Lower roll pin (22)	---
	Oil plunger body (23)	---
	Check spring (24)	---
	Check ball (25)	---
	Upper washer (26)	---
	Oil plunger seal (27)	---
	Lower washer (28)	---
	Valve seat (29)	---



ATTENTION

Service parts continue on page 6.

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Service Parts (Cont.)

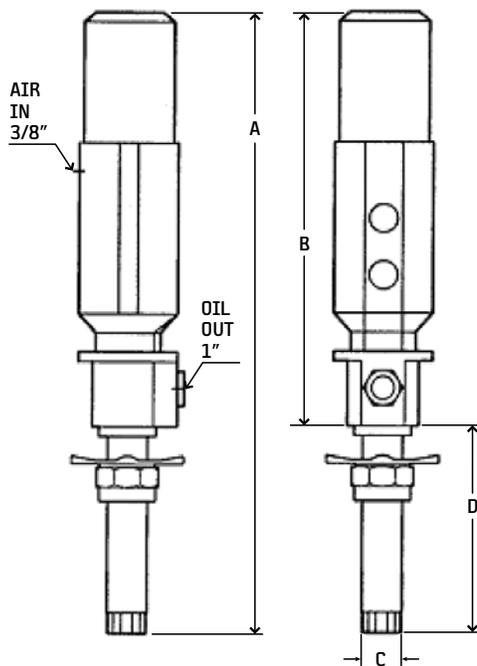
Item	Description	Part #
---	Foot valve kit	FFV-51
	Foot valve O-ring (34)	---
	Foot valve check spring (35)	---
	Check ball (36)	---
	Foot valve body (37)	---
	Foot valve roll pin (38)	---

ATTENTION

See reference image on page 5.

Measurements shown in millimeters.

Dimensional Schematics



Part #	A	B	C	D
F400	720mm (28.3")	440mm (17.3")	42mm (1.65")	280mm (11")
F408	1355mm (53.3")	440mm (17.3")	42mm (1.65")	915mm (36")

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