SMG HPAC Double Acting Hydraulic Pump Power Pack

Operation Manual

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ELECTRIC OIL PUMP OVERVIEW

The electric oil pump is a high-pressure system consisting of a single-phase asynchronous motor, a magnetic valve, a high-pressure oil pump, and an integrated fuel tank. Designed for efficiency and ease of use, the pump features a compact and lightweight structure, offering high-pressure performance and simplified operation.

Key Features

- High Pressure and Simple Operation: Delivers reliable high-pressure output with a straightforward design.
- Remote Control Options: Includes a wired remote control for enhanced convenience during operation.
- Pressure Monitoring: Equipped with a built-in pressure gauge for real-time observation of pressure changes.
- Customizable Control: Optional manual or foot control switch available based on user requirements.

This versatile pump is engineered for efficient performance and user adaptability in various industrial applications.

TECHNICAL PARAMETERS

Model	SMG HPAC-1500B	SMG HPAC-3000B
High-voltage pressure	**70Mpa**	**70Mpa**
High-voltage flow	**1.7L/min**	**2.8L/min**
Low-voltage pressure	10Mpa	10Mpa
Low-voltage flow	**7.9L/min**	**14L/min**
Motor power	**1.5Kw**	**3Kw**

Frequency	**50Hz-60Hz**	**50Hz**
Oil storing quantity	**30L (Customizable)**	**80L (Customizable)**
Voltage	**110V - 380V**	**380V/6.8A**
Rotating speed	**1400r/min**	**1400r/min**
Oil Specification	**15#antiwear**	**15#antiwear**

APPLICATION

The hydraulic pump is designed to supply power to a variety of hydraulic equipment. When used with compatible hydraulic tools, it is suitable for operations such as lifting, shaping, pipe bending, panel bending, straightening, cutting, assembly, and disassembly. These applications reduce manual effort and enhance work efficiency.

OPERATING INSTRUCTIONS

1. Preparation

- Fill the hydraulic tank with the appropriate oil.
- Connect the quick coupling to the designated hydraulic equipment.

2. Operation:

- Plug in the power supply and switch on the pump.
- During operation, the pump will build hydraulic pressure up to 70 MPa as required.

3. Pressure Release:

- To release pressure, turn the handle of the manual valve and press the pressure relief switch on the solenoid valve.

4. Completion:

- Once the task is complete, disconnect the power supply and detach the quick coupling.

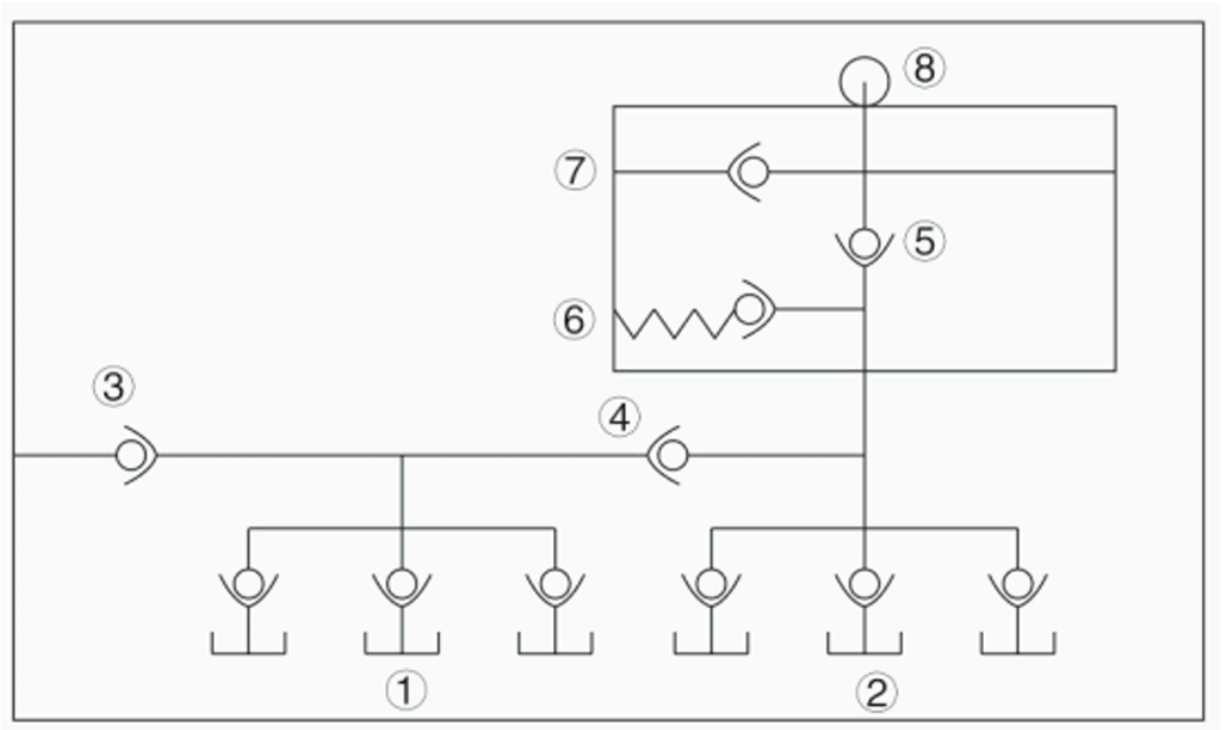
WORKING PRINCIPLE

The pump operates with a dual-plunger system for high and low pressure:

- At output pressures below 7 MPa, both high-pressure and low-pressure plungers discharge oil.
- When the output pressure exceeds 7 MPa, the low-pressure flow is released externally, while the high-pressure flow continues to build, reaching up to 70 MPa.

This mechanism ensures efficient delivery of hydraulic power across a wide range of applications.

OIL CIRCUIT SYSTEM DIAGRAM



1 Low-pressure pump

2 High-pressure pump

3 Pressure relief valve

4 One-way valve

5 Pressure retaining valve

6 Overflow valve

7 Electronic magnetic oil return valve

8 Pressure gauge

MAINTENANCE NOTES

1. Maintenance Guidelines
2. Utilize #15-46 anti-wear hydraulic oil for optimal pump performance.
3. Replace hydraulic oil every three months to maintain smooth operation.
4. Ensure the operating oil temperature is maintained within the range of 10°C to 50°C.
5. For initial operation, run the pump under no-load conditions to allow proper system acclimatization.
6. The pump is pre-calibrated at the factory. Adjustments must only be performed by qualified professionals.
7. Perform a comprehensive cleaning of the pump every six months to ensure long-term efficiency.

TROUBLESHOOTING GUIDE

Issue	Possible Cause	Recommended Solution
Motor Malfunction		
Motor does not run	Power supply or switch issue	Check power connection and ensure the switch is functional
Slow motor speed	Loose wiring or faulty components	Inspect and secure wiring in the junction box, check capacitor condition, and confirm the three-phase motor is not experiencing phase loss
Pressure Abnormality		
High-pressure overflow	Faulty relief valve	Adjust or reset the high-pressure relief valve

Oil leakage at solenoid valve	Contamination in valve assembly	Clean the valve block and solenoid core
Worn plunger	Mechanical wear	Replace the plunger
Leakage from pump seal bolts	Loose bolts or damaged gasket	Tighten bolts or replace the gasket
Insufficient Flow		
Inoperative plunger section	Blockage or internal contamination	Clean the pump
Excessive oil viscosity	Hydraulic oil too thick	Replace with hydraulic oil of correct specification
Leakage at dispensing valve	Worn valve or poor sealing	Regrind valve surface and replace valve spool if needed