2” ELECTRIC DRIVE ROTARY VEIN PUMP

124 DETP0871



USER MANUAL

V1.0 2026

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INTRODUCTION

The 2” Electric Drive Rotary Vein pump is manufactured using materials selected to provide the required performance, provided that the pump is installed, operated and maintained correctly and receives regular attention as described in this manual. The product is covered by a one-year warranty.

This machine is a self-priming rotary electric pump (positive-displacement type with blades), fitted with a bypass valve, suction filter and self-ventilating motor, all mounted on the pump body.

These pumps are reliable, have excellent self-priming capability, are easy to clean and are designed for continuous operation, even where high counter-pressure is present. They are suitable for use with low-viscosity oils and are intended for applications where corrosive substances are not present.

The purpose of this manual is to provide the safety information and operating instructions necessary to prevent injury, environmental damage and damage to the equipment. Safety depends not only on reading and following this manual, but also on correct installation, regular maintenance and proper operation of the pump.

The pump is supplied in sturdy protective packaging together with this instruction manual and is ready for installation. After removing the pump from its packaging, inspect it carefully to ensure that it has not been damaged during transport. If you find any damage or irregularity, contact the supplier immediately and provide details of the nature of the damage.

Before installing or operating the pump, carefully read all instructions in this manual. Installation and operation must comply with the applicable safety regulations and laws of the country in which the pump is installed.

The pump must be installed correctly. Failure to comply with the required safety procedures may result in dangerous situations, injury to personnel or damage to the equipment, and may void the warranty.

This manual must be read by everyone who will install, operate or maintain the pump. Keep this manual in a safe and accessible location near the pump for the entire service life of the equipment.

MAIN COMPONENTS

Component	Function
Electric Engine	It turns the mechanical energy into electrical energy
Pump	Transfers the liquid, in this case diesel fuel.
Suction and delivery connections	Allow the pump to be connected to the fuel supply and delivery hose.
Filter	Filters the incoming diesel fuel to help prevent contaminants from entering the pump.







INTENDED USE

The diesel fuel transfer pump is designed for above-ground use only. It must not be submerged or operated with the engine or pump under the liquid being transferred. The pump can be hazardous if used without proper supervision. Children and people who require assistance must not operate the pump or be left unsupervised while it is in use. The pump is designed only for transferring low-viscosity diesel fuel (less than 5 cSt) with a flash point of at least 60°C. The liquid must be non-corrosive and clean, or contain no more than 2.3% solid particles. Excessive solid particles may cause premature wear to the internal pump components. If the fuel may contain a higher level of contaminants, use a suitable heavy-duty filter on the suction line (not supplied with the pump).

OPERATING ENVIRONMENT

Do not use the pump in corrosive or explosive environments, including areas containing flammable dust, vapours or gases. The engine is **not flameproof**. To ensure safe and reliable operation, use the pump only in environments with:

- Ambient temperature between **5°C and 40°C**
- Relative humidity of **90% or less**

The engine is designed for continuous operation. However, operation through the bypass should be limited to a few minutes at a time.

⚠ **WARNING**
Do not use this pump with:

- **Solvents**
- **Highly flammable fuels or liquids**
- **Thick or high-viscosity liquids**
- **Corrosive fluids**
- **Water**
- **Food or other liquids intended for consumption**

SAFETY INSTRUCTIONS

Read this manual carefully before installing or operating the pump.

Only use the pump to transfer liquids specified under Intended Use. Do not use it for any other liquids or applications. Before starting the transfer:

- Make sure the diesel fuel is being discharged into a suitable and approved container.
- Never direct the fuel flow towards people, objects, electrical switchboards or live electrical components.
- Position the pump so the on/off switch cannot be accidentally activated.
- Disconnect the power supply after every use.
- Do not modify or alter any part of the pump. Unauthorised modifications may affect its operation, compromise safety and void the warranty.
- If a component fails or breaks, make sure diesel fuel does not leak or spill into the environment.
- Any replacement parts must be genuine original parts.
- For safety reasons, the pump must be inspected and serviced regularly. Repairs and replacement of components should only be carried out by an authorised service centre. Attempting repairs yourself may be dangerous and may void the warranty.

⚠ **WARNING**
Before carrying out any work or maintenance on the pump, switch it off and disconnect the power supply.

If you are unsure about the safe operation, installation or maintenance of the pump, do not use it. Contact an authorised service centre for assistance.

POWER SUPPLY

Depending on the model of the electric pump, the required power supply is specified in the “Technical Data” section. The supply voltage may vary by **±5%** from the rated voltage, while the supply frequency may vary by **±2%.** Each electric pump is fitted with a start/stop push-button located on top of the electric motor and enclosed in a robust protective housing. The pump is switched on and off using the two positions of the switch:

Position 0 – OFF: open circuit; the pump is switched off.
Position 1 – ON: closed circuit; the pump is operating and gas oil is delivered through the **outlet (OUT).**

Do not operate the ON/OFF switch with wet or damp hands, as this may result in an electric shock. If the pump stops operating during use, disconnect the power supply before carrying out any inspection or other intervention.

⚠ **WARNING! Using a power supply with voltage or frequency values outside those specified may damage the electrical components of the pump.**

SELECTION AND CONNECTION OF THE POWER LEAD

- Use a power lead with a minimum conductor cross-sectional area of 3 × 1 mm².
- Use a high-quality power lead, such as H05-VVF or an equivalent type.
- Do not drive over or place machinery or other equipment on the power lead, as this may damage it.
- Do not place the power lead on wet or damp surfaces.

The power lead must be inspected before each use of the electric pump. If the lead shows any signs of wear, abrasion or damage, arrange for it to be inspected or replaced by authorised personnel.

⚠ **WARNING! The power lead may only be replaced by the manufacturer or by personnel authorised by the supplier.**

ELECTRICAL CONNECTION

- Before connecting the power lead, check that the mains voltage matches the voltage specified on the pump's rating plate.
- Connect the pump only to a suitable mains power outlet that complies with all applicable electrical safety requirements.

The single-phase motor of the gas oil electric pump is protected against overload by a thermal protection device and is supplied with a power lead fitted with a Schuko plug.

⚠ **WARNING! The pump must be connected to the electrical supply in accordance with all applicable safety requirements and local legislation. Electrical connections and installation work must be carried out by appropriately qualified and licensed personnel.**

INSTALLATION, STARTING AND SELF-PRIMING

During installation and maintenance, ensure that the pump is disconnected from the electrical supply. Before connecting the pump, clean the suction and delivery connections and remove any swarf, thread remnants, dirt or dust. Connect the hoses to the electric pump and complete the installation in preparation for initial start-up. Do not use tapered-thread fittings, as these may damage the threaded connections on the pump. Refer to the “Technical Specifications” section for the correct connection sizes and specifications.Before starting the pump, assist the self-priming process by ensuring that the suction hose and pump body are filled with gas oil. Start the pump. If the pump has not primed within 30 seconds, switch it off and check the suction line for air leaks. Always check that all connections are properly tightened and that the hose clamps are secure. The suction hose must be rigid or reinforced with a spiral. A non-reinforced hose may collapse under the vacuum created during pump operation, restricting or preventing the flow of gas oil. If the suction height exceeds 3 metres, a foot valve and/or non-return valve (check valve) must be fitted. During operation, position the pump as close as practicable to the gas oil tank. Optimum performance is achieved by minimising suction-side pressure losses. Avoid unnecessary bends and reductions in hose diameter, use a suction hose of adequate diameter, and keep the suction filter clean. Never operate the pump dry. The pump must not be operated without gas oil inside the pump body. The electric pump may be installed in either a vertical or horizontal position. Ensure that it is securely mounted to a suitable support surface using bolts appropriate for the mounting holes provided in the motor base.

⚠ **WARNING! Before operating the pump, inspect the suction hose and ensure that it is free from obstructions, is not crushed or kinked, and is fully immersed in the gas oil.**

HANDLING

The electric pump does not require any special precautions for transport or storage, as its weight and dimensions are relatively small. Nevertheless, always handle the pump carefully to prevent damage. The pump is supplied pre-assembled, ready for use and securely packaged to prevent damage to its components during transport. Packaging materials are non-hazardous and non-polluting. They must not be discarded into the environment and should be disposed of at an appropriate recycling or waste collection facility in accordance with local requirements.

If the pump needs to be stored or transported after use, completely drain the pump body and suction hose before doing so. When operating or handling the electric pump, always wear appropriate protective gloves and safety footwear, and follow all applicable safety procedures. Any liquids removed or drained during the transfer operation must be collected in suitable containers and disposed of in accordance with local laws and regulations.

MAINTENANCE

The pump's moving parts are **pre-lubricated during manufacture.** Do not add oil or grease to the moving parts, as this may damage the pump. For safety and reliable operation, only use **genuine spare parts and accessories approved by the manufacturer.** Unauthorised modifications to the pump may affect its safety and performance and will void the manufacturer's responsibility for any resulting damage.

The pump is designed to require minimal maintenance. However, we recommend:

- **Weekly:** Check all hose and connection points for leaks or loose fittings.
- **Monthly:** Clean and inspect the filter and pump body to maintain performance and efficiency.
- Follow the **engine manufacturer's maintenance schedule** provided in the separate engine manual.

If the pump will not be used for an extended period, store it in a **dry, covered location protected from moisture, rain and other weather conditions.** When the pump reaches the end of its service life, do not dispose of its components in the environment. Contact an **appropriate recycling or waste facility** for correct disposal.

TROUBLESHOOTING

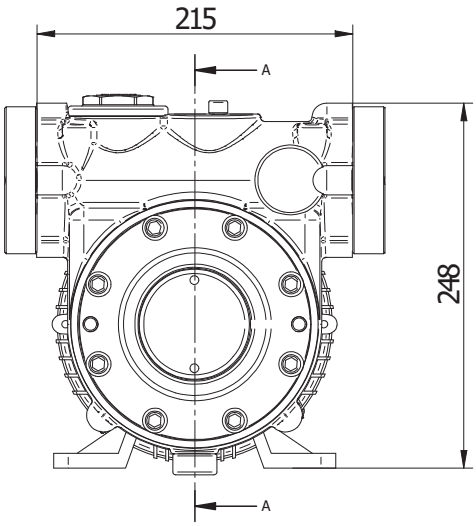
Problem	Possible Cause	Solution
Engine does not start or runs very slowly	No power supply	Check the circuit protection devices and mains voltage.
	Rotor is seized or blocked	Remove the cover and inspect and/or clean the rotor.
	Capacitor is faulty	Replace the capacitor.
	Low mains voltage	Check the power supply and restore power.
Engine runs but there is little or no fuel flow	Filter is blocked	Clean the filter.
	Foot valve is blocked	Clean or replace the foot valve.
	Suction hose is blocked	Clean or replace the suction hose.
	Suction height is too high	Position the pump closer to the static level of the gas oil.
	Air is entering the suction line	Check and tighten all suction side connections.
	Pump is operating in bypass	Reduce pressure losses in the system.
	Bypass valve is stuck or blocked	Free, clean or replace the bypass valve.
	Suction hose is collapsing	Use a suitable reinforced suction hose that will not collapse.
	Rotor or pump body is blocked	Clean the rotor and pump body.
	The electric motor is overheating	Check the supply voltage and ensure adequate ventilation.
	The gas oil being pumped is too viscous	Ensure gas oil meets the specified viscosity requirements.
The thermal protection device trips.	The rotor is seized or blocked	Free the rotor and clean the pump body.
	The electric motor is damaged	Contact an authorised service centre for repairs.
Pump is leaking diesel fuel	Damaged seals	Replace the seals.

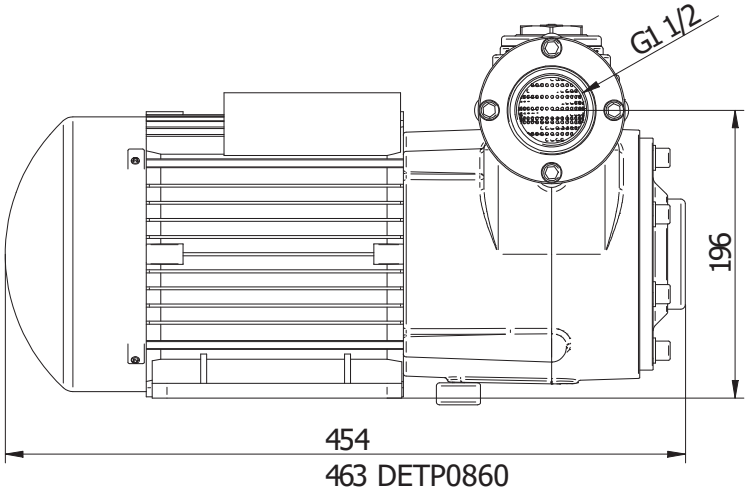
IF THE PROBLEM PERSISTS
If the problem continues after carrying out the recommended checks, contact the manufacturer or your authorised local dealer for assistance.

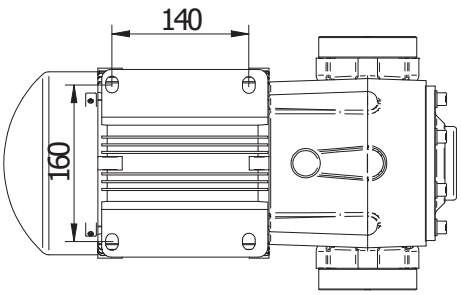
TECHNICAL SPECIFICATIONS

Specification	Details
Model	124 DETP0871
Inlet / Outlet Connections	2”
Flow Rate	292 L/min
Maximum Head	30 m
Maximum Suction Height	3 m
Required Power	3 hp
Engine Speed	1400 rpm
Engine Protection Type	IP 54
Net Voltage/Frequency	230 mono / 50 Hz
Condenser	60 µF / 450 V
Noise Level	< 80 dBA
Minimum Operating Temp	+5°C
Maximum Operating Temp	+35°C

DIMENSIONS



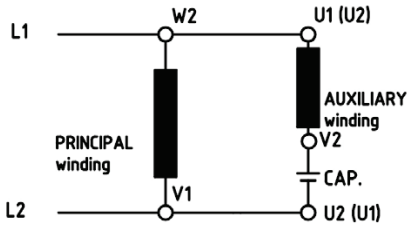




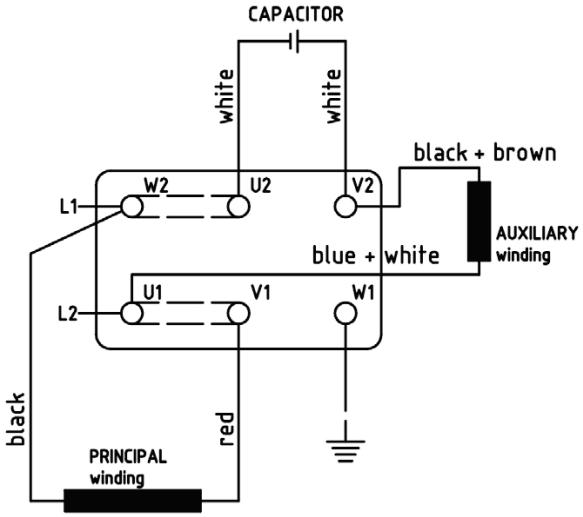
ELECTRICAL SCHEME

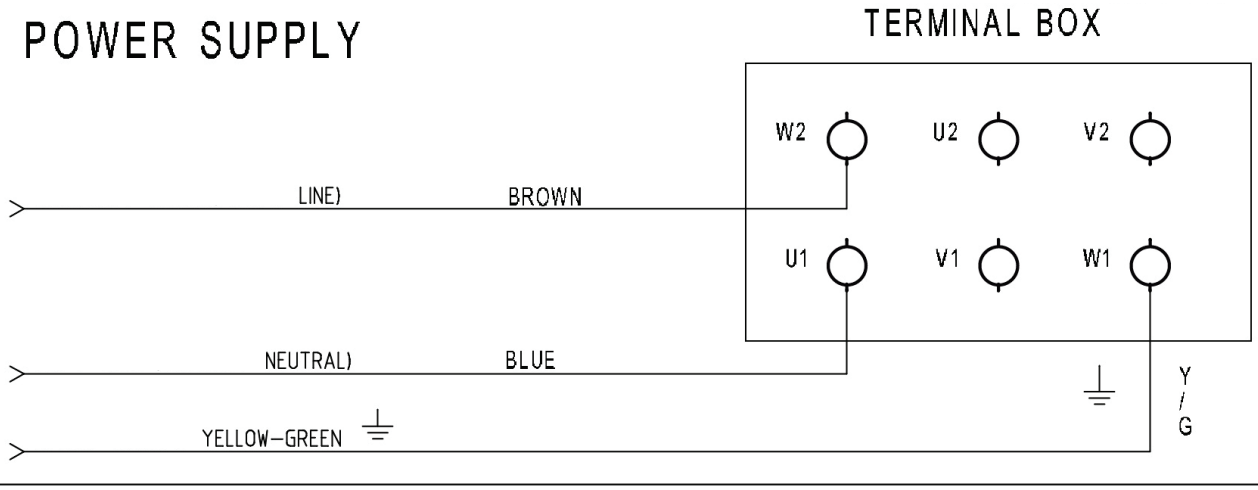
single-phase motor connection circuit diagram

principle diagram



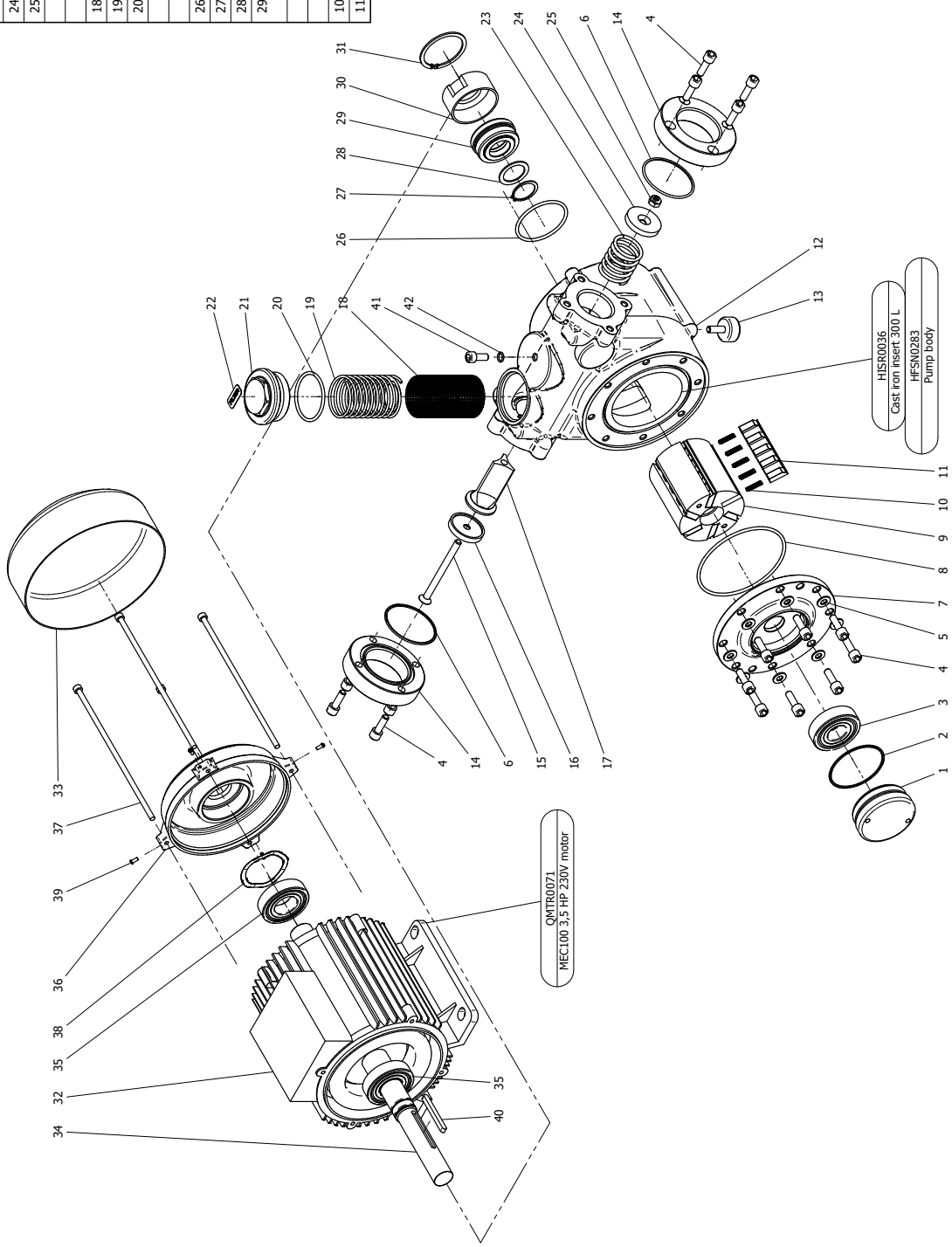
connection to the terminal board





PARTS LIST

#	code	name	Q.ty
	RBYP0030	**BY-PASS KIT**	
15	HVTE0312	M08x100 TSEI screw	1
16	HBYP0007	8,5 mm twin pumps washer	1
17	HBYP0008	Elephant 300 L bypass	1
23	HMOL0079	Elephant bypass spring	1
24	HBYP0003	8,5 mm Elephant washer	1
25	HDDO0061	M8 self-locking nut	1
	RFLR0029	**FILTER KIT**	
18	HFLR0160	Mesh filter	1
19	HMOL0112	Elephant filter support spring	1
20	HGRZ0432	O-ring 158	1
	RGRZ0049	**SEAL KIT**	
26	HGRZ0243	O-ring 165	1
27	HANL0070	Circlip 28 DIN471	1
28	HRDL0173	39x28,5 H.1,5 SS washer	1
29	HGRZ0383 HGRZ0382	BT PF C 57X32X10 VP-BT PR AR 28 BPGG	1
	RPAL0020	**VANE KIT**	
10	HMOL0111	Elephant pump vane spring	30
11	HPTA0286	300 L PPS vane	6



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