



ELECTRIC DRIVE UNIT

DE15S - DE22S - DE22T - DE40T

OPERATING INSTRUCTIONS



WARNING

To reduce the risk of injury, all operators and maintenance personnel must read and understand these instructions before operating, changing accessories, or performing maintenance on this power equipment. All possible situations cannot be covered in these instructions. However care must be exercised by everyone using, maintaining or working near this equipment.

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INTRODUCTION

Thank you for your selection of Parchem equipment. Parchem have specialised in the design and manufacture of quality products since 1951. We have taken care in the design, manufacture and testing of this product. Should service or spare parts be required, prompt and efficient service is available from our branches.

It is essential that the operator takes particular care to use the machine properly and minimise any potential hazards to himself or others. We recommend that all operators and service personnel read, understand and follow this manual.

APPLICATIONS

- All heavy duty vibrators
- All submersible pumps

FUNCTION

This portable drive unit is designed to power flexshaft drive submersible pumps and model VP (pendulum) vibrators.

A quick action 60 mm diameter flexible shaft coupling with aluminium alloy housing, rotary trigger latch and hardened 45 mm 3-tooth dog drive enable ease of use by allowing the operator to simply engage or disengage the flexible shaft coupling, to facilitate either a change of position or a change of flexshaft driven device.

FUNCTION AND CONTROLS

BELL HOUSING / ROTARY TRIGGER

Is mounted directly to the motor and enables quick connection between the coupling and the 3-tooth dog drive mounted to the motor shaft. The rotary trigger latch assures a positive engagement between drive dogs.

POWER SUPPLY

Electrical power is controlled by an on/off switch or push button which is mounted on the motor. A thermal over-load protection device is fitted to the DE22S single phase motor. It is located below the switch. If the motor stops, switch the machine OFF, determine the cause of the problem, allow the motor to cool, then press the reset button. If the motor fails to start, check the power supply, fuses or circuit breaker and leads.

HAZARDS AND RISKS

NEVER allow any person to operate machine without adequate instruction.

ENSURE all operators read, understand and follow the operating instructions.

SERIOUS INJURY may result from improper or careless use of this machine

! MECHANICAL HAZARDS

DO NOT operate the machine unless all protective guards are in place KEEP hands and feet clear of rotating and moving parts as they will cause injury if contacted.

ENSURE that the electricity supply to the motor is dis-connected/ isolated before removing guards or making adjustments. ENSURE both the machine and the operator are stable by setting up on level terrain and the machine will not move or fall while in operation or unattended. DO NOT leave the machine in operation while it is unat-tended. KEEP bystanders and animals clear of the work area.

! ELECTRICAL HAZARDS

THE RISK OF SERIOUS OR LETHAL INJURY FROM ELECTRICAL SHOCK may arise from the combination of electricity and moisture.

ELECTRICAL HAZARDS may be high due to the care-less use of equipment and extension leads.

USE AN ELECTRICAL SUPPLY EQUIPPED WITH A RESIDUAL CURRENT DEVICE (RCD) for protection against electrocution. A RCD is an electronic protection device that is available for connection between the power source and the equipment. It is designed to mon-itor the balance of the current flow in the active and neu-tral wires of the plugged-in equipment and immediately trips before a fatal amount of power can pass through the operator.

The RCD can be permanently wired at the supply switchboard or inserted as a removable plug-in device in the electric cable, in which case it should be located as close to the supply as possible with the RCD located before any extension leads.

ONLY use the motor with a correctly grounded outlet.

INSPECT electrical leads, plugs and sockets regularly for damage.

DO NOT operate the machine using coiled or tangled extension leads. ENSURE that repairs to the electric motor and wiring are carried out immediately by QUALIFIED personnel.

DO NOT hose the machine while the electrical supply is connected.

! NOISE HAZARDS

EXCESSIVE NOISE can lead to temporary or perma-nent loss of hearing. WEAR an approved hearing protection device to limit noise exposure, As required by Occupational Health and Safety regulations. !

ADDITIONAL HAZARDS

Slip/Trip/Fall is a major cause of serious injury or death. Beware of power leads, excess hose, the flexible shaft and water left on the walking or work surface.

DO NOT allow waste water to accumulate under fool. Exercise caution and ensure that the perimeter of ele-vated formwork or platforms is protected. Exercise care when working in the vicinity of unprotect-ed holes or excavations

INSTALLATION

It is essential that the model DE22S, 2.2 kW electric drive unit is installed correctly in accordance with operating instructions and the following guidelines.

The motor should be permanently wired to the electrical supply by a qualified electrician. (It is for this reason that it is supplied without a cable and plug-top.) The electric supply should incorporate a current over-load protection device that is adjustable and set at no more than 13.5 amp. (This is to provide additional protection in the event of failure of the built-in thermal over-load.)

After completion the installation should be checked by the electrician. Ensure that when the pump is operating under typical conditions at maximum discharge / minimum head conditions, the 13.5 amp current rating of the motor is not exceeded. (If the current exceeds the nameplate rating install a valve in the discharge outlet and reduce the flow rate until the current is within the motor rating.)

OPERATION

DO NOT engage or disengage the drive coupling in a motor that is already running. Before using the motor after an electrical repair or if using a three phase reversible motor, check the direction of rotation as shown by the direction arrow on the bell housing before engaging the drive coupling. (Rotation should be anti-clockwise when viewing the drive dog front on.)

A 240 volt single phase electric motor can run in reverse due to incorrect internal connection of the motor winding when repaired. A 415 volt three phase electric motor can run in reverse if operated from a power connection with incorrect phase rotation.

To engage the flexible shaft with the drive unit, turn the bell housing trigger 180 degrees. Insert the flexshaft coupling fully into the housing of the drive unit and release the trigger.

Push the coupling into the housing and twist the flexible shaft until the drive dogs are fully engaged and the trigger returns to the horizontal position. When an extension lead is used, select the shortest length and heaviest conductor size available to minimise voltage drop and prevent motor "burn out".

Start the electric motor by turning/pushing the on/off switch mounted on the motor to ON.

Drive units should be operated on a level surface. If the surface is not level the drive unit should be restrained to ensure that it does not move due to vibration or the weight of the pump and the hose.

CARE AND MAINTENANCE

Check the electric motor switch and if fitted, capacitor covers for damage and "water tightness" each week.

Check the condition of the drive dog regularly and that the three tooth drive dogs are fully meshed. The position of the drive dog on the spindle is critical and should also be checked. The correct distance from the face of the teeth to the face of the bell housing is 73 mm (2.7/8 inches).

Worn and poorly operating triggers together with worn grooves in the shaft coupling will lead to a shorter operating life and should be replaced before they have worn excessively.

CLEANING AND STORAGE

Keep the unit clean and free of concrete residue.

Ensure the cooling fins on the motor are kept unobstructed.

SPECIFICATIONS

ELECTRICAL SUPPLY VOLTAGE

DE15S -	240 Volt AC, 50 Hz
DE22S -	240 Volt AC, 50 Hz
DE22T -	415 Volt AC, 50 Hz
DE40T -	415 Volt AC, 50 Hz

CURRENT

DE15S -	8.7 amp
DE22S -	13.5 amp
DE22T -	4.6 amp
DE40T -	8.0 amp

MOTOR

DE15S -	1.50kW (2.0 HP) output
DE22S -	2.22kW (3.0 HP) output
DE22T -	2.22kW (2.0 HP) output
DE40T -	4.0kW (5.4 HP) output

WEIGHT

DE15S -	32 kg
DE22S -	33 kg
DE22T -	31 kg
DE40T -	52kg

SHIPPING

SIZE (L X W X H)

DE15S -	580 x 300 x 320 mm
DE22S -	580 x 300 x 320 mm
DE22T -	500 x 350 x 390 mm
DE40T -	500 x 350 x 390 mm

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES AND CORRECTION
Motor will not start	<ul style="list-style-type: none">■ Check the ON/OFF switch to ensure that it is switched 'ON'.■ Check the power supply and fuse or circuit breaker.
Motor stops	<ul style="list-style-type: none">■ Thermal overload has tripped. (Single phase only) - switch power supply OFF and reset the thermal overload after the motor has cooled.
Electric Motor lacks power	<ul style="list-style-type: none">■ Check the local power supply for voltage drop.■ Use a shorter or heavy duty extension lead.



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