DISCO Drives (King's Lynn) Ltd.
Geared for the future.

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DISCO MECHANICAL VARIABLE SPEED DRIVE UNIT STORAGE, INSTALLATION, MAINTENANCE, LUBRICATION AND OPERATION OF DISCOS

1. Storage

1.1 In all instances the units are to be kept in an environment free from vibration, excessive humidity, dust and extremes of temperature.

1.2 Before dispatch all units suitable for oil lubrication will have been flushed with a rust preventative oil. This will give adequate protection for **12 months** under the conditions given in 1.1 In order to redistribute oil and prevent adhesion of the oil seals to the shafts, it is necessary to rotate the unit either by hand or under power at least every three months. After every **12 months** the unit must be re-flushed with a suitable rust preventative oil such as **SHELL ENSIS N**.

1.3 If the unit is installed and is to be run intermittently for commissioning purposes, it should be filled with the TELLUS 32, or equivalent (Table 1), to the correct level, and run at full speed for approximately 5 minutes once every **3 months**.

1.4 Where units are exposed to fluctuations in temperature that may result in internal condensation, units may be completely filled with oil. The oil should be drained and replaced every **12 months**. Where this is impractical the installation of heaters inside the unit may be necessary. Consult the manufacturer for suitable wattage.

2. Installation

2.1 Installation and connection should be carried out by a competent Mechanical Engineer.

2.2 The units should be firmly fixed to a rigid surface and correctly aligned to avoid distortion of the housing and localized stresses. Hollow shaft mounted units require an **h6** or **j6** tolerance shaft and must be located by gearbox shaft only.

2.3 Any coupling, pulley or sprocket must be fitted by screw pressure or heat shrinking to the shaft and not pressed or hammered on. Recommended bore sizes is **H7** or **K7** where high radial loads are transmitted. The mounting faces should be given a light coat of suitable grease or copper anti-seize compound before fitting. Always fit pulleys and sprockets as close as possible to the housing in order to reduce the overhung loads acting on the output shaft and bearings. Never use rigid couplings except on free end shafts, i.e. mixers and aerators. Ensure coupling run out does not exceed manufacturer's recommendations and that flat or V belts are correctly aligned and not over tightened. Where there is a risk of jamming, a slip or Torque limiting coupling is recommended to prevent damage to the gearbox.

2.4 Units are generally supplied without oil. Fill to correct level with correct grade lubricant. Ensure Breather plug if supplied is fitted at highest point of unit.

2.5 When unit is fitted with an electric motor ensure adequate clearance is allowed at fan end and do not obstruct air flow path. Motor should only be connected by a competent Electrician. For full load current and voltages see motor nameplate. A connection diagram should be supplied with the motor.

3. Maintenance

3.1 Regularly check oil level via solid level plug or transparent level plug and top up if required. Ensure Breather plugs if fitted are functioning to prevent pressure build up which can cause leaks. Under normal operating conditions the only maintenance necessary is to periodically renew the lubricant and replace bearings and seals when signs of wear become evident. Gear life will be dependent on operating conditions and a minimum life of **10,000 hours** can be expected although actual life may exceed this by many times. Internal components should be replaced as necessary when indicated by loss of performance or increase in noise and vibration level.

3.2 Electric motors and Brakes should be maintained in accordance with manufacturer's instructions. Isolate power supply to motor before commencing any routine cleaning or maintenance work.

4. Oil Lubrication

4.1 Discos are normally supplied with no oil and must be filled to the correct level before use. An oil level glass or marked plug is fitted in the appropriate position. If no mounting position is stated on order, unit will be supplied with level plug and breather positioned for B3 or V1 mounting. To prevent pressure build up units are normally supplied with breather plugs which must be kept clear and in uppermost position. Overfilling, high input speeds or incorrect lubricant may cause leakage through breather. Alternative breathers are available if required. Oil in a new unit should be drained and replaced after first **500** hours of operation. Subsequent oil changes are recommended at **5000** hour or at **24** month intervals. Oil should be drained when warm and use of flushing oil is recommended especially at first oil change. A suitable flushing oil is **SHELL VITREA 22**. This applies for an ambient temperature range of **0° to 40°C**. Where ambient temperature is outside this range please refer to manufacturer.

4.2 For high ambient temperatures, +30°C to +43°C, Shell Tellus 46 is recommended with a reduced oil change frequency of 700 running hrs.

4.3 PLEASE NOTE DISCO LONG LIFE OIL IS NO LONGER AVAILABLE.

Table 1

Grade	Shell	BP	Castrol	Exxon Mobil	Avin
Industrial	Tellus 32	Energol HLP-HM 32	Hyspin AWS 32	Hydraulic Oil 32	Hydrol Oil ISO 32
Food	Cassida Fluid HF 32			DTE FM 32	

5. Disco Operation

5.1 Only operate hand wheel once moving/running
5.2 Do **NOT** change direction of motor until unit output shaft has ceased rotating.
5.3 Do **NOT** alter maximum/minimum speed settings in unit. (dead stops located within the unit itself)
5.4 Use only approved oil; Shell Tellus 32. (see table 1)
5.5 Regularly check oil state for debris. Discoloration is allowed as these units operate at higher temperatures.