

Information Sheet



BROWN EUROPE

It is essential to read these instructions before commissioning the drive

FR HELICAL GEARED MOTORS

GENERAL INFORMATION

Modifications to the entire drive must be agreed with us in advance, as no guarantee can otherwise be provided.

TECHNICAL DATA

The technical data of the drive is as shown on the nameplate

DIMENSIONS

Dimensions may be obtained by referring to the Brown Group catalogue or data sheets.

SAFETY - CORRECT USE OF THE DRIVE

FR gearboxes and geared motors are designed for the output torques and loads as specified in the catalogue. For reasons of safety the geared units may only be used for the applications in which they were designed, making allowance for all the service factors as stated in the catalogue.

SPECIAL ATTENTION FOR LIFTING APPLICATIONS

The gearbox is not self-locking. Where a brake motor or braking device is an integral part of the gear unit special care must be taken at assembly and during maintenance as releasing the brake will allow any load on the output shaft to drop.

MOUNTING BASES AND VENTILATION

It is assumed that skilled labour will be used for assembly, installation, start-up, service and repair and that care will be taken in the transport of gearboxes to and from site.

Please ensure that the mounting frame or base for the gearbox is of adequate size and stability to be vibration proof in duty. Ensure that sufficient ventilation is available to prevent overheating.

OUTPUT SHAFT DETAILS

The shafts are coated with a protective varnish which must be completely removed before installation. **Attention** - If it is necessary to use solvents, take care that the lips of the oil seals are not touched. Make use of the tapped hole in the shaft end to secure components carried on the output shaft. Shafts are produced up to diameter 55 mm according to ISO k6 and above 55 mm according to ISO m6. Avoid hammering couplings, pulleys, etc. onto shaft, as this will cause bearing damage.

FLEXIBLE COUPLINGS

Use Brown Group RX flexible couplings between output shaft and driven machine.

GUARDING OF MOVING PARTS

Ensure that moving parts are suitably guarded.

ELECTRIC MOTOR CONNECTION

Connect motor according to diagram in terminal box cover (this work should be undertaken by a qualified electrician), paying careful attention to the need for solid earthing of the casing and the supply earth connection, to ensure compliance with the EU Directive on Electro-Magnetic Compatibility (89/336/EEC). Screened cables should be used wherever electronic control devices are used (e.g. inverters).

Check that electric supply corresponds to that stated on the nameplate i.e. voltage / frequency.

To reverse direction of rotation refer to wiring diagram.

Ensure that protective devices are installed in the starter or motor windings.

Set motor protection to Full Load Current (FLC) plus 10%.

CAUTION

In the event of abnormal current, temperature, vibration, noise etc. or in the event of any protective device operating, responsible maintenance must be carried out immediately to prevent possible damage to equipment or personal injury.

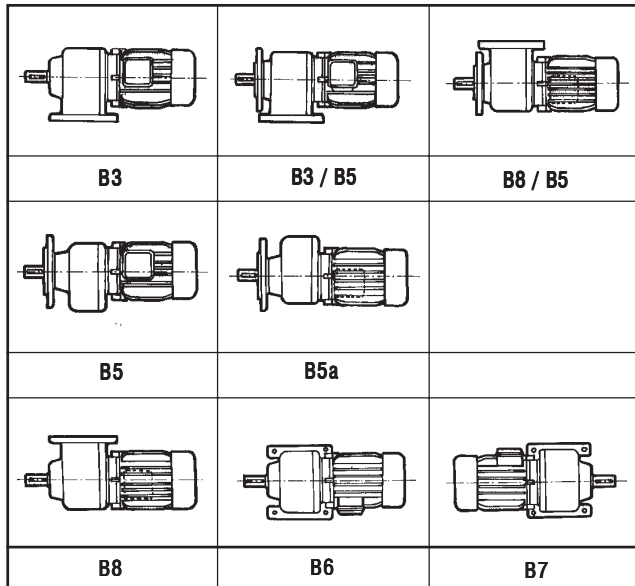
LUBRICATION

Before delivery the gear units/geared motors will be filled with the necessary lubricant and be ready for use. The quantity of lubricant is dependant upon the mounting position and it is therefore important the units are mounted in the position on the nameplate.

VENT PLUGS

Ventilation valves are supplied as standard, when commissioning, the ventilation valve must be opened to avoid pressure build-up within the gear case which might cause leakage.

MOUNTING POSITIONS - HORIZONTAL



PRODUCT USAGE

In any application of products where breakage, excessive wear or any other malfunction of a drive train component could result in personal injury, or property damage, a fail safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the train drive.

CE MARKING

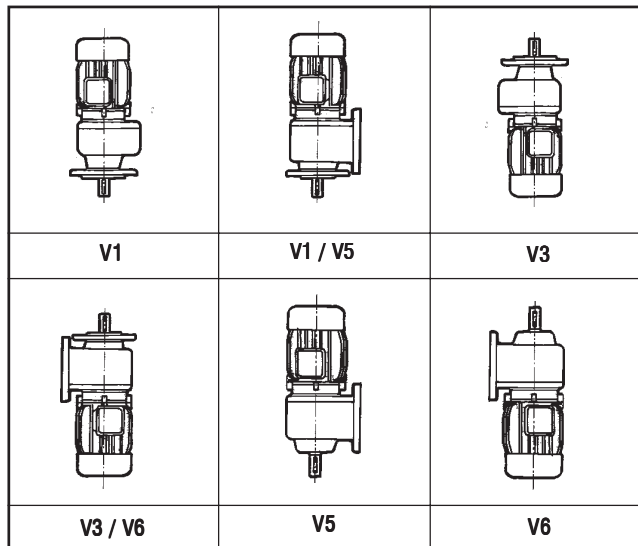
Notice is hereby issued of compliance with the Supply of Machinery (Safety) Regulations (S1 992/3073) in respect of the goods detailed on the Delivery Note. These goods must not be put into service until the machinery into which they are to be incorporated has been declared in conformity with the provision of the Directive - Safety of Machinery 89/392/EEC and Amendments to 91/368/EEC, 93/44/EEC and 93/68/EEC. Electric motors carry the CE Mark to indicate compliance with the Low Voltage Directive - 73/23/EEC.

CARRIAGE STORAGE AND PRESERVATION

CARRIAGE - The drive has been tested at the factory and then correctly packed. The consignment must be checked for completeness immediately after receipt and the gearbox and its accessories examined for damage which may have occurred during transit. Any claims must be registered with the Carrier immediately.

STORAGE AND PRESERVATION - Condensation within the gearbox will cause rust to form. It is imperative that this is avoided. The intensity of this process depends on the relative humidity, variations of temperature and the duration of the storage. If long term storage is anticipated, the gearbox must be completely filled with lubricant. Before commissioning takes place the gearbox must be emptied and re-filled with the correct amount of lubricant according to the mounting position (see above). The bare parts of the gear unit must be protected.

MOUNTING POSITIONS - VERTICAL



LUBRICATION

All gearboxes are supplied filled with mineral base semi-fluid gear grease and are ready for operation at normal ambient temperatures. For extreme conditions, alternative synthetic lubricants are available at extra charge.

Ambient Temperature C	Lubricant Type	BP	Esso	Shell
-20 ... +50 (Normal)	Fluid Grease	HT-EP-00 FG-00-EP	FIBRAX EP370	EP-00
-35 ... +60	Synthetic Fluid Grease	ENERGREASE GSF	EGL 3818A	TIVELA A

NOTE: Synthetic and mineral lubricants must not be mixed together.

MAINTENANCE

The lubricant should be changed every 10,000 service hours, or after two years. For synthetic products, these times are doubled. In the case of extreme operating conditions, e.g. high humidity, aggressive environment and large temperature variations, shorter intervals between changes are recommended. It is advisable to combine the lubricant change with thorough cleaning of the gear unit.

LUBRICATION - Litres

	B3	B6	B7	B8	V1	V3
FR32	Grease					
FR42	0.3	0.6	0.6	0.6	1	1
FR43	0.3	0.6	0.6	0.6	1	1
FR62	0.6	1.2	1.3	1.1	2	1.9
FR63	0.6	1.2	1.3	1.1	2	1.9
FR72	1.3	2.2	2.3	2.1	3.7	3.5
FR73	1.3	2.2	2.3	2.1	3.7	3.5
FR82	2.8	4.5	4.8	4.1	8	7.5
FR83	2.8	4.5	4.8	4.1	8	7.5
FR92	4.8	7.6	8.3	7.5	13	12.3
FR93	4.8	7.6	8.3	7.5	13	12.3
FR102	6.7	11.6	12.6	11.2	20.5	18.7
FR103	6.7	11.6	12.6	11.2	20.5	18.7



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