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Type L / V / VS / VL / VLM / S / SL / SLM

This Operating Manual is intended to commission the ATEK transmission in accordance with the valid regulations. Observance of these instructions is a pre-requisite for the assured properties of our transmissions and the fulfillment of any warranty claims.

If our transmissions are installed in a machine which is subject to Machinery Directive 2006/42/EC, commissioning of the transmissions is prohibited until compliance of the machine with this Machinery Directive is established.

Please inspect the transmission before commissioning for possible transport damage and report complaints to the freight forwarder immediately.

If the transmission is not installed immediately, ensure correct storage in a dry room without major fluctuations in temperature.

Work relating to transport, storage, installation/assembly, commissioning, maintenance and service may only be carried out by qualified, specialist personnel.

Lubrication

Please refer to the information given on the identification plate on the transmission!

Transmissions with lifetime lubrication have been factory fitted with the necessary amounts of lubricants. Subsequent lubrication is only necessary when a substantial amount of lubricant has escaped due to leakage. The type and viscosity of lubricant to be added must be obtained from the manufacturer whilst stating the serial number of the transmission. Transmissions for oil change lubrication are delivered without lubricant and must be filled before commissioning with an oil or grease in accordance with our lubricant recommendation.

Assembly

The transmissions should always be installed according to the fitting position that has been ordered. The gear unit should be set up on appropriate solid foundations or mounted as a flange drive directly on the machine to be driven. The shaft ends have to be aligned very carefully for quiet running and safety during operation. To compensate for minor mounting inaccuracies we recommend the use of elastic couplings. The couplings must be warm or must be mounted with the aid of D-centring and a screw. Do not hammer! This will avoid damage to the tooth profile, rolling bearings and locking rings. Plug-in transmissions can be fitted directly onto the shaft of the driven machine. For flange gears it is important that the attachment surface is at exact right angles to the machine shaft's axis. Otherwise the bearings will suffer too much stress and might be damaged. The reaction torque corresponding to the output torque can be supported with a torque converter bearing. The bar should be mounted on the gears' machine side in order to prevent additional bending stresses. Do not mount the gears directly on a foundation plate when the machine shaft is bedded near the gears. For hollow shafts with a shrunk-on flange, please additionally refer to our assembly instructions for shaft-hubconnections.

Commissioning

Where ventilation of the transmission is desired, the vent hole is sealed for transport. To prevent excess pressure in the transmission and hence leakage the locking screw must be removed and replaced by the provided venting filter before setting the gear in motion. If the temperature of the gear box housing does not exceed 50° C during operation, the vent filter must not be fitted.

Maintenance

All ATEK drives require only a minimum of maintenance. For drives with lifetime lubrication this is reduced to regular checks of the transmission for lubricant loss through leakage.

Type LL / VL / VLM / SL / SLM

Caution: You may only install the motor once you have carefully read and understood the installation instructions overleaf, and have the necessary authorisation and qualifications to carry out the installation!

Commercially available 3-phase AC standard motors to IEC 72-2 / DIN 42677 unfortunately do not always conform to the current industrial standards. Check the motor for radial run-out of the shaft and for coaxial and axial run-out of the flange before installation. We recommend the following values from DIN 42955 R as target values. Larger deviations result in increased loads on the bearings and gears and can result in premature gearbox failure.

1. Checking the motor tolerances

1.1 Radial run-out of the shaft end

Table 1 (DIN 42955)

| Diameter of the cylindrical shaft end d | Radial run-out tolerance | |
|---|--------------------------|-------------|
| | N (normal) | R (reduced) |
| up to 10 | 0,03 | 0,015 |
| above 10 to 18 | 0,035 | 0,018 |
| above 18 to 30 | 0,04 | 0,021 |
| above 30 to 50 | 0,05 | 0,025 |
| above 50 to 80 | 0,06 | 0,03 |

1.2 Coaxial tolerance of the centering edge

Table 2 (DIN 42955)

| Mounting flange centering diameter b1 | Coaxial and axial run-out tolerance | |
|---------------------------------------|-------------------------------------|-------------|
| | N (normal) | R (reduced) |
| 40 to 100 | 0,08 | 0,04 |
| above 100 to 230 | 0,1 | 0,05 |
| above 230 to 450 | 0,125 | 0,063 |

1.3 Axial run-out tolerance of the flange surface to the axis of the shaft end

We recommend that measurement is performed with the shaft in a vertical position in order to eliminate influence due to direction of gravity on the measuring equipment.

1.4 Axial run-out

The measurement is performed on the radius of half the sum of the outside diameter, the pitch circle diameter and the bolt holes. In order to eliminate the influence of an axial movement of the shaft, repeat the measurement after turning the hinged arm 180° relative to the shaft. The mean of the two measurements is the value to be used for determining the accuracy. We recommend that measurement is performed with the shaft in a vertical position in order to eliminate axial bearing play.

2. Motor installation

Clean the motor and gearbox shafts before installation. Measure the installation height and width of the parallel keys of the motor and compare with the dimensions of the hollow bored drive shaft. Deformations of the motor shaft, the flanges or the parallel key must be re-machined.

Coat the motor shaft and gearbox shaft with a separating agent to prevent fretting corrosion. The position of the parallel key / parallel keyway must be adjusted so that the bores of the mounting flanges are aligned. Position the motor or gearbox vertically, using a hoist if necessary. It should be possible to fit the parallel key into the parallel keyway without any significant resistance. Tilting or impacts on either of the two drive elements is not permitted and will result in premature gearbox failure. Align the mounting bores of the two connecting flanges. In order to simplify installation, for larger drives we recommend that the motor brake is released. Before tightening the bolts of the flange connection, check whether the two flange surfaces are in contact around their whole circumference using a feeler gauge. Then finally tighten the connecting bolts crosswise.

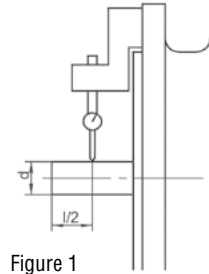


Figure 1

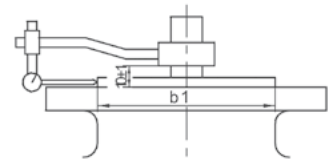


Figure 2

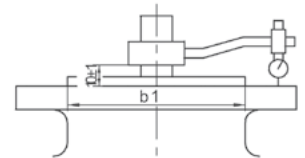


Figure 3