

Introduction

General assembly and maintenance instructions, are established for standard Lovejoy gear couplings. In case of use in potentially explosive atmospheres the specific measures described in this attachment must be taken.

Coupling Selection

The coupling must be selected according to the selection criteria contained within the gear coupling catalogue section.

With ATEX applications, the following rules apply:

- A Minimum Application Service Factor of 2 must be applied on the max torque values on the catalogue charts.
- A Minimum Application Service Factor of 2 must be applied on the nominal torque values on the catalogue charts.
- Maximum misalignment (combination of angular and offset) must not exceed 0.5° per gear mesh.

Use of the Coupling

The coupling is dedicated for use in potentially explosive atmospheres according to European Directive 94/9/EC. Coupling is classified in equipment group II intended for use in areas in which explosive atmospheres caused by gases, vapours, mists of air/dust mixtures are likely to occur.

The coupling is marked as follows:



II 2G c IIC T6, T5, T4 X
-30°C ≤ Ta ≤ +65°C, +80°C, +90°C



II 2D c T 110°C X
-30°C ≤ Ta ≤ +90°C



I M2 c X
-30°C ≤ Ta ≤ +90°C

Warnings

The warnings mentioned in the general assembly and maintenance instructions always apply.

In explosive atmosphere, the following specific warnings must apply:

- Complete machining of the coupling parts (bores, keyways, spacers, floating shafts etc.) must be performed by Lovejoy. No modifications shall be made on the supplied and marked product without the agreement of Lovejoy Inc.
- In case of supply by Lovejoy of couplings with a rough stock bore or a solid bore, the solely permitted operation that can be performed by the customer is the boring and keying of coupling hubs. When machining the bore and the keyway, the following instructions must be followed:
 - This job must be performed by an authorised, trained and proficient operator.
 - The bore and keyway tolerances must be selected to insure the proper fit between shaft and bore.
 - The max bore may not exceed the value stated in the catalogue.

Before assembling, operating or any maintenance operation is performed on the coupling, make sure that the necessary measures have been taken to ensure safety, such as but not limited to:

- Proper ventilation of the area
- Proper lightening and electrical tools.
- If hub must be heated for assembly on the shaft, make sure heating source and surface temperature will not affect the safety of the working area.
- It is recommended to have a coupling guard, preferably in an adequate grade of steel with openings (if any) smaller than the smallest component (grease plug). The coupling guard is intended to protect the environment from the introduction of any rotating part and the coupling from any falling part. To limit ventilation effects, distance between cover and coupling outside surface should be at least 25 mm.



Gear Coupling Installation Instruction ATEX Appendix

Assembly

The general assembly and maintenance instructions always apply.

With ATEX applications, the following specific instructions apply:

- Alignment of the machine in cold condition must take into account the possible heat expansion to make sure that in continuous running conditions the allowable maximum misalignment will not be exceeded.
- Max misalignment may never exceed 0.5° per gear mesh.
- To improve the coefficient of friction and the leakage resistance, use a lubricant dedicated for gear couplings.

Operation

The general assembly and maintenance instructions always apply.

With ATEX applications, the following specific instructions apply:

- Before Start-up
 - Make sure coupling is aligned within tolerances and clean.
 - Make sure, screws, nuts and plugs are properly tightened.
 - Coupling guard must be properly installed and mounted.
 - Monitoring system, if any, must be tested to verify its effectiveness.
- During start up
 - Check for any leakage. In case of abnormal leakage, immediate stop is recommended.
 - Check for any abnormal noise and/or vibration. If any, immediate stop is recommended.
- Inspection intervals
 - After the first 2000 hours or 6 months inspect for:
 - Leakage, noise, vibration and loss of parts.
 - Free axial movement of the sleeves with respect to the hubs.
 - After 4000 hours or one year inspect for:
 - Leakage, noise, vibration and loss of parts.
 - Free axial movement of the sleeves in regard of the hubs.
- Continuous checking
 - Immediately stop the machine if noise, vibrations or other abnormal phenomena are detected during operation.
 - If a direct inspection is not possible for access or safety reasons, a proper monitoring system has to be installed to verify the couplings operation.

Maintenance

The general assembly and maintenance instructions always apply.

The following additional instructions apply:

- Every 6.000 hours or 1.5 year:
 - Dismount the coupling and inspect.
 - Reassemble the coupling as specified in section 5