

ATEX Certified: Para-Flex Couplings and D-Flex Couplings Instruction Manual

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see dodgeindustrial.com for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

PREFACE

The products described in this manual are manufactured by Dodge Industrial, Inc., 1061 Holland Road, Simpsonville, SC 29681.

This manual, combined with Installation Instruction Manuals listed below, is intended to provide basic information on the safe operation and maintenance of ATEX certified elastomeric couplings marketed under the following designs:

PARA-FLEX AND D-FLEX

- Para-Flex Installation Instruction Manual
- D-Flex Installation Instruction Manual

These instructions do not cover all details or variations in equipment nor provide every possible contingency or hazard to be met in connection with installation, operation, and maintenance. Should further information be desired or should particular problems arise which are not covered in these manuals, the matter should be referred to your local representative.

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Dodge® nor are the responsibility of Dodge. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

Elastomeric couplings are manufactured under the guidelines of the ATEX directive 2014/34/EU. Compliance with this declaration and certification requires selection of the EPDM or neoprene element for D-Flex couplings. These elements can be identified by their black color and are additionally provided with the ATEX marking on a label attached to the product. Hytrel D-Flex coupling elements are not ATEX certified. Hytrel elements are identified by their bright orange color. ATEX certification applies to all elements available for Para-Flex couplings.

The couplings have been assessed against the applicable sections of the following standards:

- EN ISO 80079-36:2016 Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements
- EN ISO 80079-37:2016 Explosive atmospheres - Part 37: Non-electrical type of protection constructional safety 'c', control of ignition sources 'b', liquid immersion 'k'

Elastomeric couplings are suitable for use in ATEX mining and surface locations where the auto ignition temperature of the combustible material exceeds +100 °C.

The couplings are suitable for use in the following ATEX categories:

- I M2
- II 2 G D

The following ATEX markings are included on the product:

- Ex h I Mb
- Ex h IIC T5 Gb
- Ex h IIIC T100 °C Db
- Tamb -30 °C to + 50 °C
- SIRA 04 ATEX 9358
- MFG by Dodge Industrial, Inc.
- 1061 Holland Road, Simpsonville, SC 29681 USA

Products manufactured prior to November 2021 may be marked as ABB Motors and Mechanical, Inc., Baldor, Reliance, etc.

HAZARDOUS AREA USE

For hazardous area use, the following potential ignition hazards have been identified.

- Impact to outer enclosures
- Buildup of electrical charge in the elastomeric element
- Heat generation
- Contact with stationery parts either by coupling failure or incorrect installation

These potential hazards have been addressed by the materials and design of the coupling and rely on correct installation and maintenance, as detailed in the equipment instructions.

WARNING: These couplings are designed to operate with surface temperatures below 100°C when properly installed and selected. Excessive temperatures greater than 80°C is a result of an abnormal operating condition caused by:

- a. **Improper installation - refer to installation manual for proper procedures**
- b. **Excessive misalignment - re-align coupling / shaft**
- c. **Failure if the coupling element - replace elastomeric element**
- d. **Excessive speed - re-evaluate application and selection**
- e. **Excessive vibration - determine source, re-evaluate application**

If applied in a Division 1 or Zone 1 environment this excessive temperature may cause ignition of hazardous materials.

In hazardous environments, elastomeric couplings should not be considered as fail safe or “break-away” power transmission devices. Overloads imposed to these devices could cause irreparable damage, shall be considered an explosive hazard, could create projectiles, and / or could cause torque transmission interruptions. The coupling shall be sized and used to the stated torque capabilities of the unit as published in the PT Components Engineering Catalog. Any assistance needed in selection shall be referred to a representative.

ADDITIONAL INSTRUCTIONS FOR SAFE INSTALLATION AND USE

- All rotating parts should be guarded to prevent contact with foreign objects which could result in sparks, ignition, and/or damage to the bearing.
- Couplings should be periodically inspected for normal wear, dust/dirt buildup or any similar scenario that would impeded heat dissipation.
- Increasing levels of vibration and noise could indicate the need for inspection, repair or replacement of the coupling or element.
- Electrical sparks are a source of ignition. To reduce this risk, proper electrical bonding and grounding is required.
- Overloading may result in breakage or damage to the coupling or other equipment. As a result, the coupling could become an explosion hazard. Damaged coupling components or elements must not be operated in a hazardous environment.
- If thrust loading or axial movement is anticipated, the Para-Flex coupling is the desired unit for use as it has the design capability of accepting this movement up to 5/16". Couplings are not intended to be used as thrust bearing members.
- Coupling guards should have minimum of 3/4" clearance over D-Flex type couplings and 2" clearance over Para-Flex style couplings. (3" clearance for Para-flex style couplings greater than 16" outside diameter).

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