

INSTALLATION and REMOVAL INSTRUCTIONS

RIGID COUPLING MAV 1004



GENERAL RECOMMENDATIONS and WARNINGS

- **Before installing or handling this product, read instructions carefully and completely. Due to possible danger to persons or machinery resulting from improper use of this product, it is very important to follow correct procedures. Proper installation, maintenance and operation procedures must be observed. All instructions included in this manual must be followed carefully. Handling, installation and removal of this product must be done by skilled personnel, familiar with the product, the application and all hazards involved.**
- **Suitable safety devices should be provided and applicable safety rules should be observed as specified in safety codes. Those are neither the responsibility of MAV S.p.A., nor are provided by MAV S.p.A.**
- **Contravention of install and safety instructions will void all claims under warranty.**
- **During storage or handling operations, use only tested and approved handling and/or lifting tools. Make always sure that components of the Rigid Coupling are secured against slipping, falling or rolling.**
- **Prior to initiating installation or removal procedures, check to ensure that no loads are acting on Rigid Coupling, shaft or any connected component. Motor and drive train must be switched off and secured against accidental activation.**

GENERAL INFORMATION

- Rigid Couplings MAV 1004 MAV are external locking devices, which provide a rigid, zero-backlash frictional connection between two shafts.
Rigid Couplings are suited for transmitting torque, axial load and bending moment, separately or in combination. Applied loads are transmitted via pressure and friction between the fitting surfaces of the shafts. In tightened condition, Rigid Couplings exert high radial pressure on shafts.
- Rigid Couplings MAV 1004 are supplied ready for installation. They are composed of (fig. 1):
 - one inner ring (slotted)
 - one front outer ring with clearance holes
 - one rear outer ring with threaded holes
 - one set of socket head cap screws ISO 4762 grade 12.9
- Lubrication. Functional values are rated with **screws, locking rings and shafts contact areas coated with a film of mineral or synthetic-base oil** with low content of additives (specific corrosion-protection purpose products as well as products used to release oxidized connections are not recommended). **DON'T USE low friction lubricants** based on molybdenum disulphide, graphite, copper and other similar compounds (e.g., Molykote®, Never-Seeze® or similar products).
- Recommended shafts tolerance: h9 max. Tolerances of the two shafts should be similar.
- Recommended shafts surface finish: $0.8 \leq Ra \leq 3.2 \mu\text{m}$
- Tightening torque. Functional values in the catalog are based on specified tightening torque (Ma). Reduced tightening torque leads to lower functional values.
- After installation is completed, it is usually not necessary to re-check tightening torque after equipment has been in operation. However, loosening of the screws may occur in connections subject to severe operating conditions. In these instances, periodic check of screws tightening torque is recommended.

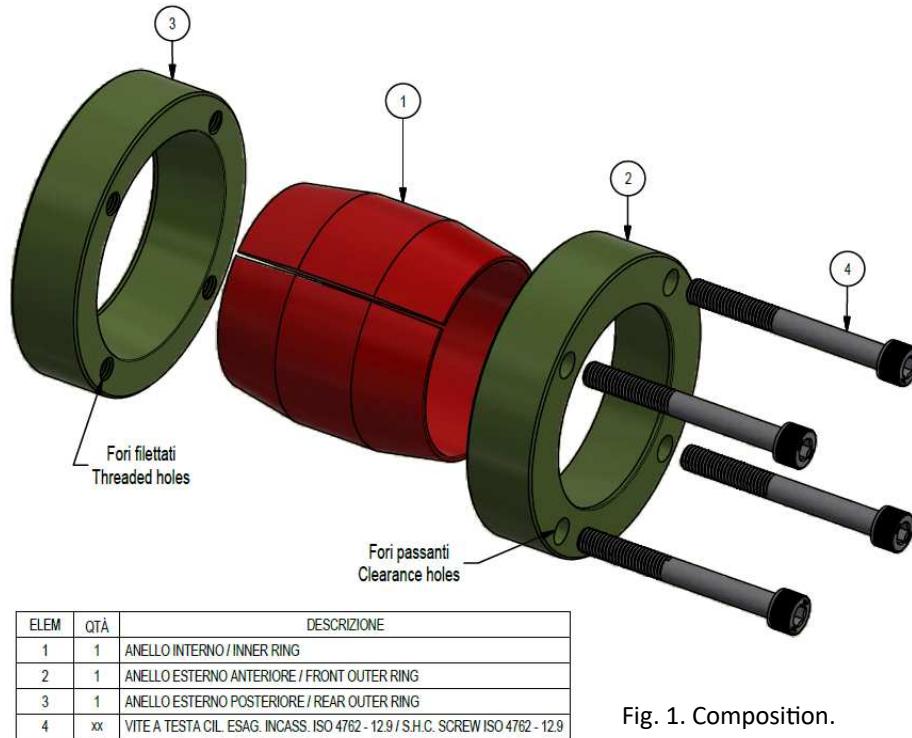


Fig. 1. Composition.

INSTALLATION



SAFETY NOTICE

Prior to initiating the installation procedure, check to ensure that no loads are acting on Coupling, shafts or any connected component. Motor and drive train must be switched off and secured against accidental activation.

Rigid Couplings MAV 1004 are supplied ready for installation.

Never tighten the screws prior to mounting the Coupling onto the shafts, as inner ring might remain permanently contracted even at relatively low tightening torques.

1. Make sure that screws, locking rings and shafts contact areas are clean and coated with a film of oil.
2. Move the Coupling onto the shafts, making sure that they are aligned. **Shaft engagement shall be equal for both ends; distance between shaft ends shall not exceed 5% of shaft diameter (fig. 2). Hand-tighten three or four evenly spaced screws (fig. 3) and make sure that outer rings are parallel; then hand-tighten remaining screws.**
At the end of this stage, a light connection is achieved.

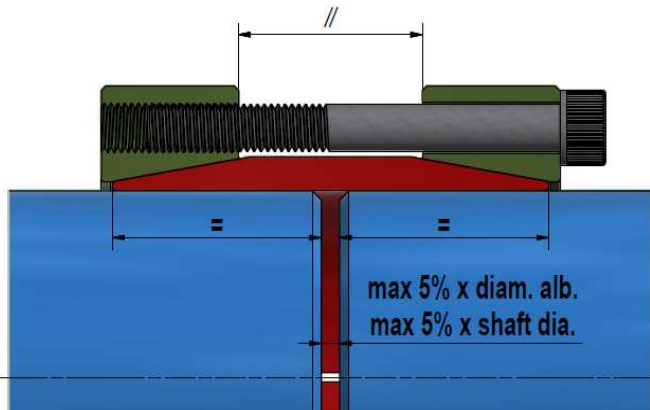


Fig. 2. Positioning of Rigid Coupling.

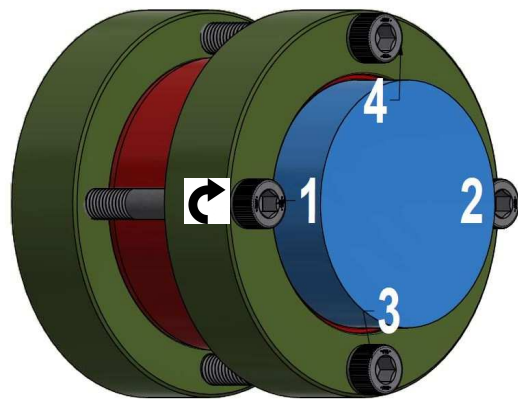


Fig. 3. Pre-tightening.

3. Use a torque wrench set approx. 5% higher than specified tightening torque (Ma). **Progressively tighten the screws in either a clockwise or counterclockwise sequence, using approx. ¼ turns for several passes until ¼ turns can no longer be achieved (fig. 4).**
4. Still apply overtorque for a few more passes. This is required to compensate for a system-related relaxation of the screws since tightening of a given screw will always relax adjacent screws. Without overtorquing, a very large number of passes would be needed to reach the specified tightening torque.
5. Reset the torque wrench to specified tightening torque (Ma) and check all screws in either a clockwise or counterclockwise sequence. The installation is completed as long as no screw can be turned further, otherwise repeat step 4.

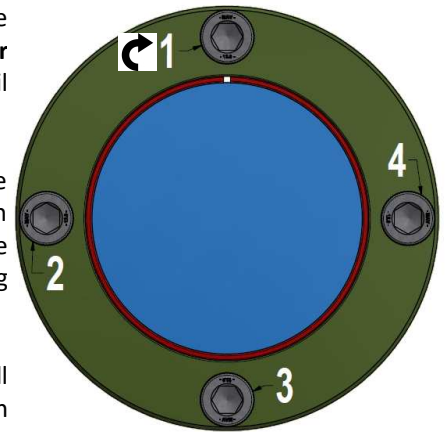


Fig. 4. Example of tightening pattern.

REMOVAL



SAFETY NOTICE

Prior to initiating the removal procedure, check to ensure that no loads are acting on Coupling, shafts or any connected component. Motor and drive train must be switched off and secured against accidental activation.



SAFETY NOTICE

DO NOT completely remove the screws before outer rings are disengaged. Sudden separation of the rings may occur and involve high separation forces that may result in permanent injury or death. Be certain that the rings are disengaged before completely removing the screws.

1. **Progressively loosen all screws in either a clockwise or counterclockwise sequence, using approx. ½ turns for several passes and release the outer rings with light hammering (lightly self-locking tapers).**
2. Move the Coupling away until separation of the shafts is possible.

REUSE of USED RIGID COUPLINGS

1. **Disassemble, thoroughly clean and inspect all parts** of the Coupling. Permanent deformations, ovalizations, dents, corroded areas, are not admitted. In case of doubts, contact MAV S.p.A. for advice.
2. **Re-lubricate** the Rigid Coupling with a film of mineral or synthetic-base oil with low content of additives.
3. Re-assemble all parts as originally supplied.