

1 - General information

This document provides information about handling, installation and maintenance of helical and bevel helical gear reducers and gearmotors (G series).

All the people involved in these activities will carefully read and follow all present instructions.

Information and data contained in this document correspond to the technical level reached at the moment the catalog is printed. Rossi reserves the right to introduce, without notice, the necessary changes to improve efficiency and safety of its products.

1.1 - Decommissioning, Disposal and Recycling



Before decommissioning any gear reducer or gearmotor, it must be made inactive by disconnecting any electrical contacts and emptying it from lubricant, keeping in mind that waste oil has a strong environmental impact and therefore should not be dispersed into soil or surface water.

Decommissioning must be carried out by trained and experienced operators, in compliance with applicable occupational health, safety and environmental protection laws.

All gear reducer or gearmotor parts must be disposed of at authorized collection sites for waste treatment, recycling and disposal, according to the regulations in force in the country where the disposal will take place

Component	Material
Cylindrical gears with external (pinions and gearwheels) and internal (planetary gears) toothing Bevel gears Worm gears Shafts Roller bearings Keys Shrink discs and locking rings	Case hardened or through hardened steel
Drive Unit swing bases	Carbon steel
Fan covers	Steel sheets
Fans	Aluminum or technopolymers
Torque arms	Carbon steel or cast iron
Gear reducer housings, covers, flanges (input and output type) – Satellite carrier (planetary gear reducers)	Gray or spheroidal cast iron
Worm gears: worm wheels	Bronze and spheroidal cast iron
Seal rings O-ring V-ring Protection caps	Elastomers and steel
Couplings	Elastomers and steel
Lubricants Cooling coil	EP additive mineral oil Synthetic PAG-based oil (factory supply) Synthetic PAO-based oil Synthetic grease for bearings, gears and seals Copper or aluminum
Forced lubrication circuit: pipes and fittings	Steel or copper

Motor component	Material
Housing - Endshields - Flanges Stator Rotor Roller bearings Seal rings Brake	Aluminum or cast iron Steel and copper Steel and aluminum Steel Elastomer and steel Steel, copper, plastics, elastomers

1.1.1 - Disposal of packaging materials

The materials that compose the packaging should be disposed of at authorized collection centers, giving preference to separate collection and recycling, according to the legal provisions in force in the country where the disposal will take place; reference should also be made to the information contained on the environmental labeling, if any, on the packaging or available on digital channels (e.g.: APPs, QR codes, websites);

Type of packaging	Material
Wooden cases, pallets, beams, ...	Wooden packaging
Cardboard packaging and boxes, cardboard and corrugated paper sheets, curled paper, ...	Paper and cardboard packaging
Plastic packaging, barrier sacks, bubble wraps, performed ...	Plastic packaging

For information on the proper disposal of the gearbox or gearmotor, its components and packing material, or on the nearest authorized collection centers for treatment, recycling and disposal, contact your local Rossi subsidiary.

1.2 - Safety

The paragraphs marked with symbols shown below contain dispositions to be strictly respected in order to assure personal **safety** and to avoid any heavy **damages** to the machine or to the system.

(Electric or mechanical) danger, such as:

- live parts;
- temperature higher than 50 °C;
- components rotating during operation;
- suspended loads (lifting and transport);
- eventual high sound level (> 85 dB(A)).



Lifting instructions

IMPORTANT: gear reducers and gearmotors supplied by Rossi are **partly completed machinery** to be incorporated into machinery and **should not be commissioned before the machinery in which the components have been incorporated conforms to:**

- **Machinery directive 2006/42/EC and subsequent updatings; in particular, possible safety guards for shaft ends not being used for eventually accessible fan cover passages (or other) are the Buyer's responsibility;**

- **«Electromagnetic compatibility (EMC)» 2004/108/EC and subsequent updatings.**



Attention! It is recommended to pay attention to all instructions of present handbook, all standards concerning correct installation and all existing safety laws. Whenever personal injury or property damage may occur, foresee adequate supplementary protection devices against:

- **release or breakage of fastening screws;**
- **rotation or unthreading of the gear reducer from shaft end of driven machine following to accidental breakage of the reaction arrangement;**
- **accidental breakage of shaft end of driven machine.**

If deviations from normal operation occur (temperature increase, unusual noise, etc.) immediately switch off the machine.

Installation

An incorrect installation, an improper use, the removing or disconnection of protection devices, the lack of inspections and maintenance, improper connections may cause severe personal injury or property damage. Therefore the component must be moved, installed, commissioned, handled, controlled, serviced and re-paired **exclusively by responsible qualified personnel.**

The qualified personnel must be **specifically instructed** and have the experience necessary to **recognize** and prevent **dangers** (see table 1.2.1 - Residual dangers) connected to present products avoiding all possible emergencies.

Gear reducers and gearmotors of present handbook are normally suitable for installations in **industrial areas:** additional protection measures, if necessary, must be adopted and assured by the personnel responsible for the installation.



Attention! Components in non-standard design or with special executions or with constructive variations may differ in the details from the ones described here following and may require additional information.

Attention! For the installation, use and maintenance of the **electric motor** (standard, brake or non-standard motor) or of the eventual motor variator and/or electric supply device (frequency converter, soft-start etc.), and/or optional electric devices (e.g.: independent cooling unit, etc.), consult the attached specific documentation. If necessary, require it.

Maintenance

When operating on gear reducer or on components connected to it the **machine** must be **at rest and cold**: disconnect motor (including auxiliary equipments) from power supply, gear reducer from load, be sure that safety systems are on against any accidental starting and, if necessary, pre-arrange mechanical locking devices (to be removed before commissioning).



Attention! During the running the gear reducers could have **hot surfaces**; always wait that the gear reducer or the gearmotor to cool before carrying out any operations.

Please download further technical documentation (e.g.: catalogs) from our website www.rossi-group.com or contact Rossi. For any clarification and/or additional information consult Rossi and specify all name plate data.

Do not reuse parts or components that have been replaced as a result of maintenance or repair work but which may nevertheless appear to still be intact and fit for use; this could result in a serious loss of product functionality and safety.

Tab. 1.2.1 - Residual risks

The products supplied by Rossi S.p.A. have been designed and manufactured according to the essential health and safety requirements provided for by the Machine Directive 2006/42/EC - Annex I. The following table lists the residual risks that the user must deal with in compliance with the instructions contained in this document and in those eventually attached to the shipment.

Nature/Cause of Risk	Countermeasures
Installation and maintenance operations	<p>The component must be handled, installed, commissioned, operated, inspected, maintained, and repaired only by qualified, responsible personnel who must carefully read and strictly follow all instructions in this document, including any instructions enclosed with the shipment. They shall also be specifically instructed and have the necessary experience to recognize the hazards and potential hazards (electrical or mechanical) associated with these products, such as, but not limited to:</p> <ul style="list-style-type: none"> - presence of electrical voltage; - presence of temperature higher than 50 °C; - presence of moving parts during operation; - presence of suspended loads; - presence of possible high sound level (> 85 dB (A)). <p>It must be equipped with appropriate personal protective equipment (PPE) and be familiar with and comply with all applicable regulations regarding proper installation and current safety laws in order to ensure the safety of persons and avoid significant damage to the machine or system.</p>
Falling or projecting objects	<p>For gearboxes equipped with a backstop, provide a protection system against the projection of objects resulting from the breaking of the backstop.</p> <p>For gearboxes fitted with a coupling (fast and/or slow shaft), provide protection against the projection of objects resulting from breakage of the coupling itself.</p> <p>For shaft-mounted gear units, provide appropriate safety devices against</p> <ul style="list-style-type: none"> - Loosening or breaking of the mounting screws; - Rotation or loosening of the gear unit from the machine pin due to accidental breakage of the reaction constraint; - accidental breakage of the machine pin.
Movable elements	<p>Provide safety guards for unused shaft ends and accessible fan cover passages (or other).</p> <p>Any work on the gearbox or gearmotor must be carried out with the machine stopped and disconnected from the power supply and the gearbox or gearmotor cold.</p>
Extreme Temperatures	<p>During operation, the gearboxes may have hot surfaces (> 50 °C); before starting any operation, always wait for the gearbox or gearmotor to cool down (wait about 1 to 3 hours depending on the size); if necessary, carry out a temperature measurement on the surface of the gearbox or gearmotor near the fast shaft. The same applies to the hydraulic coupling, if present.</p> <p>After a period of operation, the gearbox is subjected to a slight internal overpressure that can result in the leakage of burning fluid.</p> <p>Therefore, before loosening the caps (of any kind) wait for the gearbox to cool down; otherwise, use appropriate protection (PPE) against burns resulting from accidental contact with hot oil.</p> <p>In any case, always proceed with the utmost caution.</p>
Noise	<p>Depending on the size, gear ratio, gearbox, type of service, and mounting system of the gearbox or gearmotor, the noise emission level may exceed 85 dB(A). Perform field measurements and, if necessary, equip the personnel concerned with appropriate personal protective equipment (PPE).</p>
Changes that may affect the safety of the equipment	<p>Do not make any structural modification to the products supplied by Rossi (reducers, gearmotors, control group, etc.) without prior approval by Rossi S.p.A.</p>
Use of substitute components with characteristics not suitable for the application	<p>Spare parts must be those authorized by Rossi S.p.A.</p>