

USE AND MAINTENANCE MANUAL

IDENTIFICATION OF SUPPLIED COMPONENTS	
SKID AND PALLET ROLLERS FOR AUTOMOTIVE INDUSTRY	
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1) REGULATIONS AND GENERAL INFORMATION



DANGER / ATTENTION

This symbol is used to identify operations which require particular attention.

Thus information alongside this symbol must be respected before proceeding to the above-mentioned operations.



CAUTION / WARNING

This symbol is used to provide useful indications in the execution of some operations or interesting information.

It is recommended that the indications provided be followed before proceeding to the above-mentioned operations.

1.1 “INSTRUCTION MANUAL” document identification

The instruction manual is a document which is issued by the DUGOMRULLI SpA company and is an integral part of the supply of rollers. It is unequivocally identifiable so as to allow the traceability and any necessary future references.

All reproduction and diffusion rights of the present manual and related cited or attached documentation are confidential.

1.2 Document aims

The aim of this instruction manual is to provide the client and staff who will install Dugom “SKID AND PALLET ROLLERS FOR AUTOMOTIVE INDUSTRY” and who will be responsible for the maintenance of the conveyors, with the information required for the correct installation and the best condition maintenance.



Ensure that the safety precautions have been read, understood and followed by all the staff responsible for the Dugom conveyor rollers installation and conveyor maintenance.

1.3) General precautions and manufacturer responsibility limits

Every interaction between the worker and the Dugom “SKID AND PALLET ROLLERS FOR AUTOMOTIVE INDUSTRY”, in terms of the expected use and the entire lifecycle of the roller, has been thoroughly and exhaustively analysed by the company during the design, construction and writing of the instruction manual phases. Despite this, clearly nothing can substitute experience, appropriate training and “common sense” of those who install the rollers and/or maintain the conveyors.

Not following the precautions or specific warnings in this manual, the improper use of all or part of the goods or the use of unauthorised spare parts, violate all safety regulations in relation to the design, construction and expected use of the goods and relieve DUGOMRULLI from any responsibility in the case of damage to persons or things. DUGOMRULLI is therefore not responsible for the failure of the user in not observing the safety precautions outlined in this manual.

Instruction manual safekeeping.

This document is an integral part of the supply and must be downloaded from the DugomRulli web site www.dugomrulli.it, kept and used for all the operative life of the product even if conceded to third parties.

1.4) Manufacturer identification information

The identification of the DUGOMRULLI SpA company as the manufacturer of the Dugom “skid and pallet rollers for automotive industry” is in accordance with the legislation in force via the following acts:


- Branding plate of the rollers themselves.
- Instruction manual

2) OBLIGATIONS AND DUTIES

2.1) Employer duties

The employer is responsible for the diffusion of the present document to all staff who interact with the Dugom “skid and pallet rollers for automotive industry”.


2.2) Obligations in case of intervention

 Workers who are called upon to interact with the Dugom “skid and pallet rollers for automotive industry” must read and learn the present manual before carrying out any intervention, and adopt the relative specific safety instructions.

2.3) Regulation abidance obligations

Workers must, however, necessarily adopt and abide by general work injury prevention regulations prescribed by the destination country’s instructions and legislation.


2.4) Obligations in case of malfunction and potential dangers

 Workers must notify their direct superiors of any malfunction or circumstance which could generate any possible risk to workers or facilities.

2.5) Conveyor's manufacturer obligations

- 2.5.1) OVERHEAD ROLLER CONVEYORS:
The assembly must also include all suitable protection, requested by the laws, to prevent any fall of the loads carried or parts of the conveyor, including the rollers, to prevent damage to workers or equipment located in the area beneath.
- 2.5.2) CHAIN AND BEL DRIVEN ROLLER CONVEYORS
 - a) Chains and belts which transmit the movement to the rollers must be suitably protected, in order to avoid any damage to operators.

2.6) User obligations

 The user must inform the conveyor supplier in reasonable time, or, in the case of direct supply, DUGOMRULLI SpA, of any anomalous situation observed during the functioning of the rollers.
It is severely forbidden for the user and/or third parties to make changes of any type to the present technical document.
DUGOMRULLI SpA is not responsible for the malfunction and/or dangers due to the failure to observe what is mentioned above.

3) GENERAL WORK INJURY PREVENTION INSTRUCTIONS

Users and workers are obliged to respect work injury prevention regulations, both at legal and company level, and in particular must respect the following points:



All the operational staff must not be under the influence of sedatives, drugs or alcohol.



All the operational staff must wear individual protective devices.

4) PRODUCT DESCRIPTION

Terminology

The rollers are the essential support of the unit loads handled on the conveyors, whose movement is made by the rollers themselves in case of belt/chain driven roller conveyors.

The rollers are installed on a conveyor frame, which is not part of DUGOMRULLI supply.
The rollers are made to rotate by means of chains or toothed belts.

DESCRIPTION AND USE

Permanently lubricated Dugom “skid and pallet rollers for automotive industry” are manufactured expressly for use in Automotive industry, typically in body welding and painting systems..

Normal expected functioning temperature ranges from -10°C to +90°C (-10°C to +90°C for polyurethane coated rollers). Working temperatures different from those indicated must be notified in the ordering phase.



Dugom “skid and pallet rollers for automotive industry”, can be entirely made of steel or with polyurethane coating. The latter ones aren't conductors and do not allow the loading on the conveyors frame of electrostatic loads.

5) STORAGE AND INSTALLATION

STORAGE BEFORE INSTALLATION

The conveyors are often installed on the worksite. In this case, the rollers must be kept in the original packaging for the whole storage period.

The packaging has been designed in order to prevent oxidation and damage during the sea/air transportation, and in order to prevent any damage to the workers when opening.



The packaging is not stackable.



Packages should be kept indoors during transport and subsequent storage.

ROLLERS STORAGE

In order to preserve rollers against rust damages, rollers should be kept in the original packaging: they should be stored into the antirust plastic bag and the bag must be closed properly. In this way, rollers can be stored also in environmental conditions with high relative humidity.

In the storage areas (i.e. warehouse, etc.) temperature range should be from -10°C up to +40°C and relative humidity should not exceed 50%.

In case of long term storage, rollers must be protected with silicon free antirust oil, as Tectyl; pulleys and coatings, urethane or rubber based, must not be contaminated with antirust oil.



Prolonged contact between coated surfaces, urethane or rubber based, and antirust oil could cause surface features modifications and/or damage.



Pulley contamination could cause the resulting contamination of belt: it could undermine the belt life and/or transmission performances.



Antirust oil based products applied on the rollers must be silicon free.

ROLLERS ASSEMBLY

Assembly does not require special tools. One must avoid causing permanent deformation, especially to the drive roller shafts

Most rollers are inserted in the slots of the frame (drop in) and then fixed by bolts. Others are only fixed by bolts.



Disassembly too does not require the use of any special tools and must always be done when the rollers are stationary and the motor is shut-off.

ATTENTION



Workers who carry out the installation must wear individual protective devices.

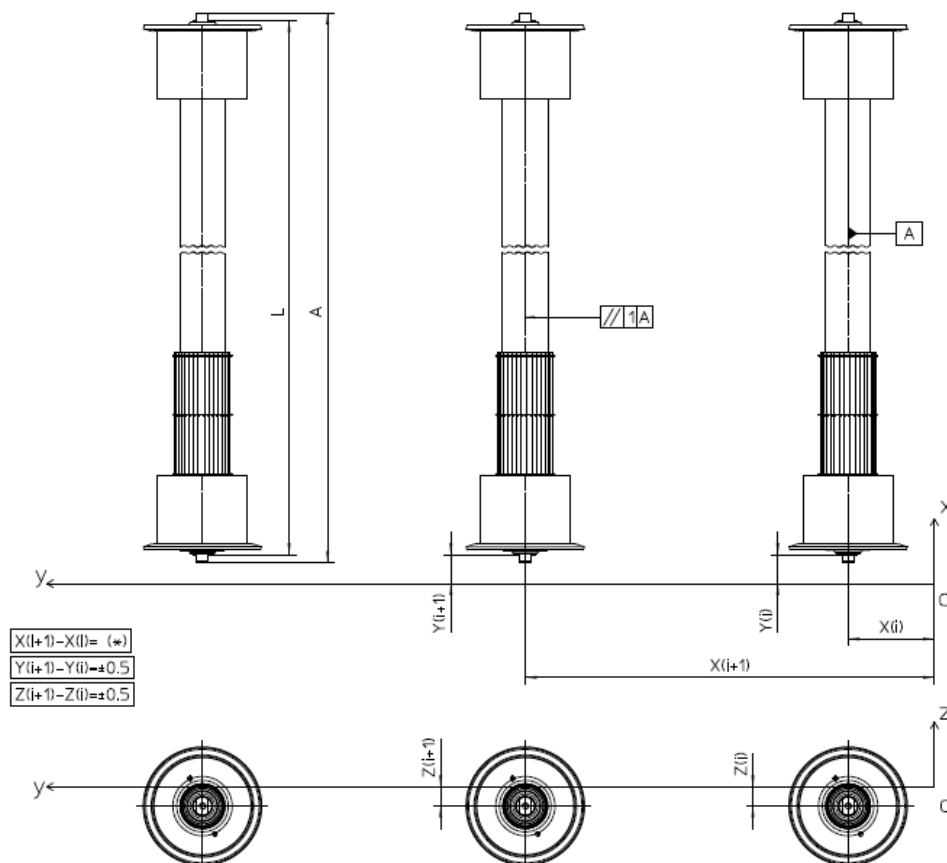


The belts or the chains driving the rollers should always be protected with appropriate covers to prevent any damage to the workers whenever the conveyors are accessible.

ASSEMBLY TOLERANCE ON ROLLER TABLES

Correct alignment is essential for the rollers to operate properly, and their performance depends on the construction precision of the conveyors' framework.

Hereunder are the recommended tolerances:



Notes:

The system's designer is responsible to check the adequate clearance between the roller flanges and loading unit.

(*) The tolerance must be compatible with what is requested by the supplier of belts and with the design's pre-loading values.

6) Ordinary maintenance

The rollers are permanently lubricated and cannot be re-lubricated.

The free rotation of the rollers can be made difficult by

- the interposition of material, in particular between the rollers and their support, which prevents or slows down the rotation.
- the seizure/breakage of the bearings.

It is the role of the maintenance service to regularly inspect the system, and in particular, to:

- a) ensure that there is no accumulation of material which prevents the rotation of the rollers.
- b) Check the state of wear and tear of the rollers (bearings and polyurethane coating) while considering the following:
 - b1) The rollers were chosen according to the project duration and the working conditions indicated by the supplier of the conveyor.
 - b2) Abnormal working conditions, even short ones, can cause the deterioration of the polyurethane coating.
 - b3) The rollers whose bearings begin to deteriorate lose smoothness and show anomalous wear and tear of the polyurethane coating which can be seen by the naked eye (first sign).
 - b4) Damaged bearings are noisy and this noise can be heard by the maintenance worker (second sign).

Rollers which are apparently damaged must be disassembled while the system is stationary (see above) and replaced.



Special construction does not allow for the restoring of the product.

Any repair work is therefore out of the question, as the original features of the roller cannot be reset.