MANUFACTURING COMPONENTS FOR
CRANES AND LIFTING EQUIPMENT

COSTRUZIONE COMPONENTI
PER APPARECCHI DI SOLLEVAMENTO

Reg. No: 9940
UNI EN ISO 9001:2008
BS OHSAS 18001:2007

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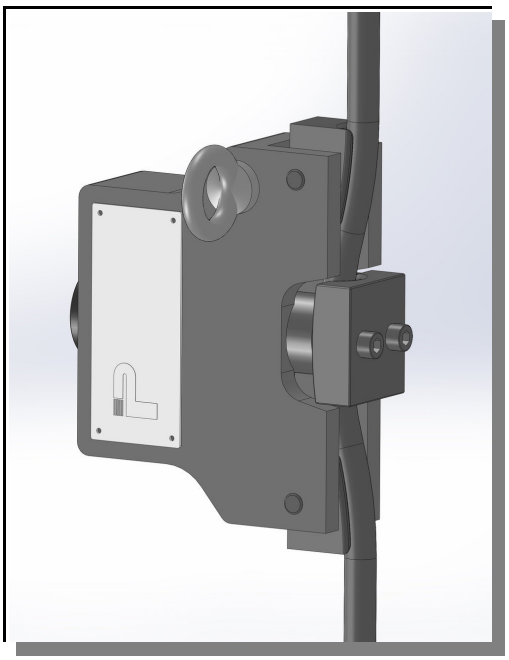
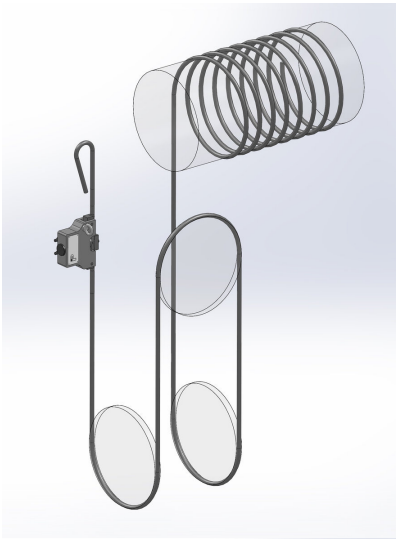
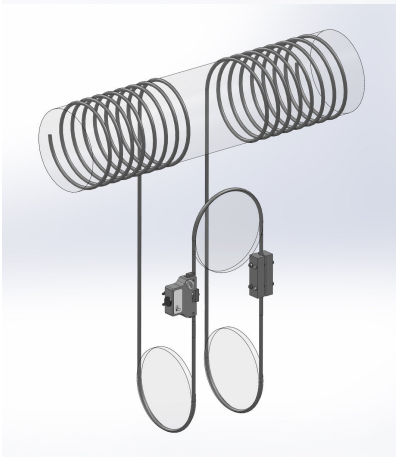
LIFTING FORCE LIMITER **COG 120 COG 200**

Instruction manual - Rev. 11







PIZZAMIGLIO SRL
- MANUFACTURERS OF LIFTING DEVICE COMPONENTS -

Company introduction

Our surplus values are experience and the passion for the prestige of quality.

We look forward to measuring against the market and test what we are able to do. Our yen for growing is evident through our courage not to choose the easiest way, but rather to pursue ambitious goals.

Pizzamiglio company was born to answer the need for bridge crane components already present on the market, moreover it aims at developing them and improving their quality.

Our organization blends together the founder's experience and the enthusiasm of the new generation in a dynamic team. We boast an exiguous staff turnover and our youngest workers are always supported so they can get to know the secrets of mechanics, a field which is constantly improving. In this way, they have the opportunity to learn to spot the faults and think about possible remedies; understand the problems and invent new solutions. The result is the creation of products manufactured following tradition, but with the care and flexibility of an agile modern business.

Our mission is to fully satisfy the customer providing high quality products and customized solutions in a fast and flexible way through our professionally fulfilled workers.

The result is the good repute of a business which is at the leading edge in its sector and invests its one-off experience legacy in the new generation.

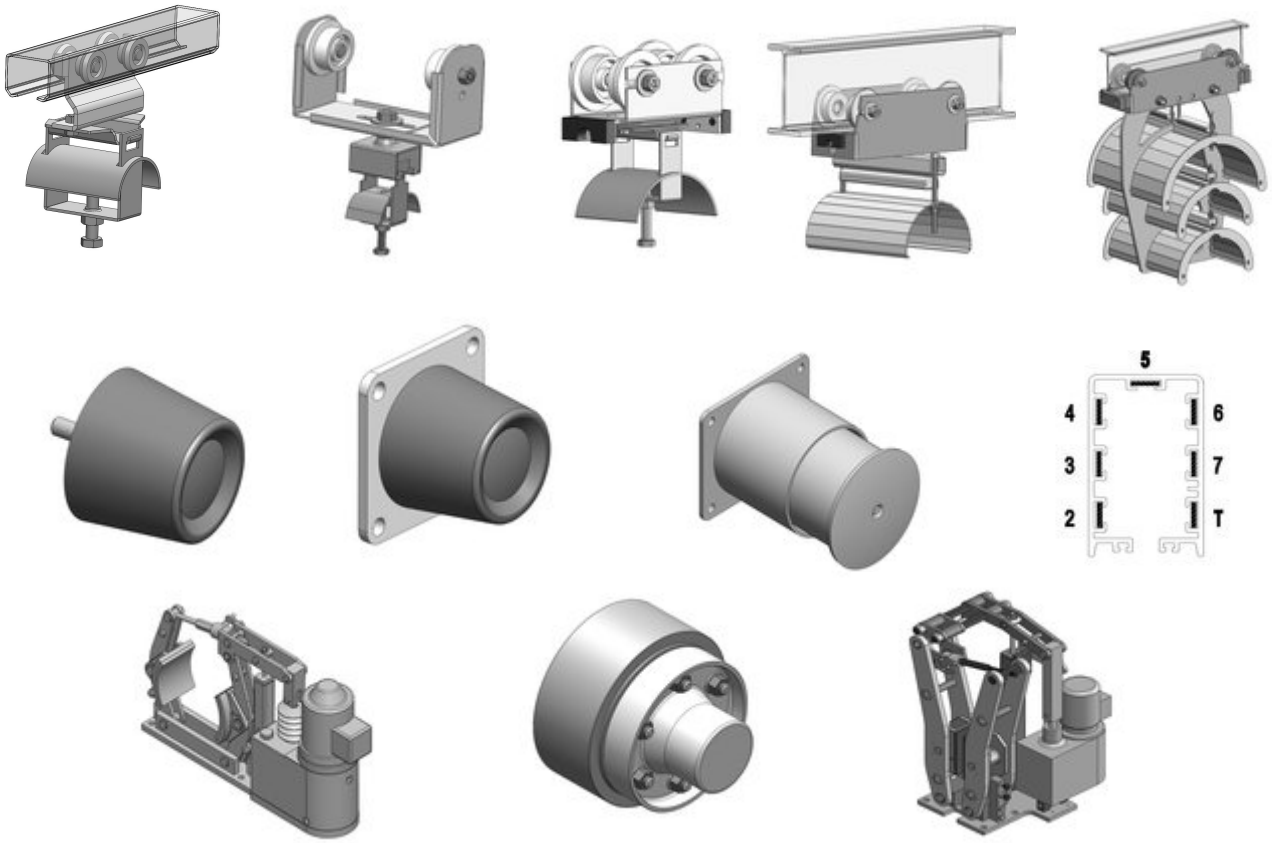
Our business makes use of the most advanced technologies and equipment both in design and production. Pizzamiglio products are widely appreciated especially for their quality and reliability and their use is therefore widespread in the national market.

Our manufacturing plant in Valeggio, province of Verona, in the North-East of Italy, is the tangible and gratifying fruit of an unique constant growth path: a spacious indoor area which includes the workshop

and well-provided and rationally organized warehouse. Next to these facilities, a bright building houses the counting house, the administrative office and the technical department.

Production range:

- Feeding festoon system "Olivares" for bridge-cranes, and similar.;
- Electro-hydraulic drum brakes according DIN 15435 standard;
- **Lifting force limiters**;
- Telescopic limit switch for bridge-cranes;
- Metal bumpers;
- Rubber bumpers;
- Bus-bar system "Trolley AQ" for bridge-cranes.



Contents

Chapter

1

Introduction/foreword

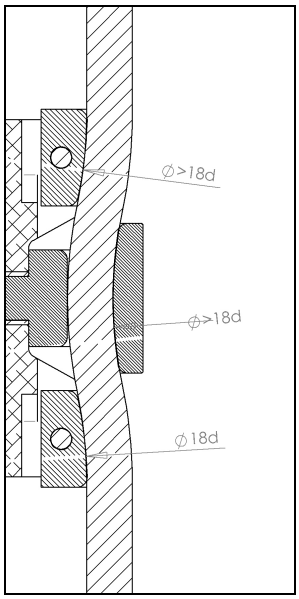
This manual has been arranged to help installers and maintenance operators of lifting force limiters COG 120 and COG 200 produced by Pizzamiglio srl company. It contains indications and warnings for correct installation and setting of the device for a product's long time life and safety use by the final user.

Carefully read this manual before install this device and observe all the rules

Pictures are been extracted from a solid drawing software so colors do not respect the true aspect of the product but are been chosen to bring in evidence the singles components.

Updates compared to previous revisions of the manual

Differently by the previous versions of this product and others similar goods existent in this device there are not two pulleys but two sectors of contrast with wide radius. Similarly the clamp keep a wide surface of contact with the rope in the stretch where the rope is diverted. Those three components, in each size of the product, respect a ratio 1:18. This innovation preserve the convenience of the small dimension giving obvious benefits in reduction of stress of the rope. Especially because the rope is led along the first sector, the clamp and the second sector in each inversion of bending that are required by the functioning principle.



That characteristic is present only in load limiter devices made by Pizzamiglio and the invention is protect by a patent pending.

Chapter

2

Company and product data

Company data:

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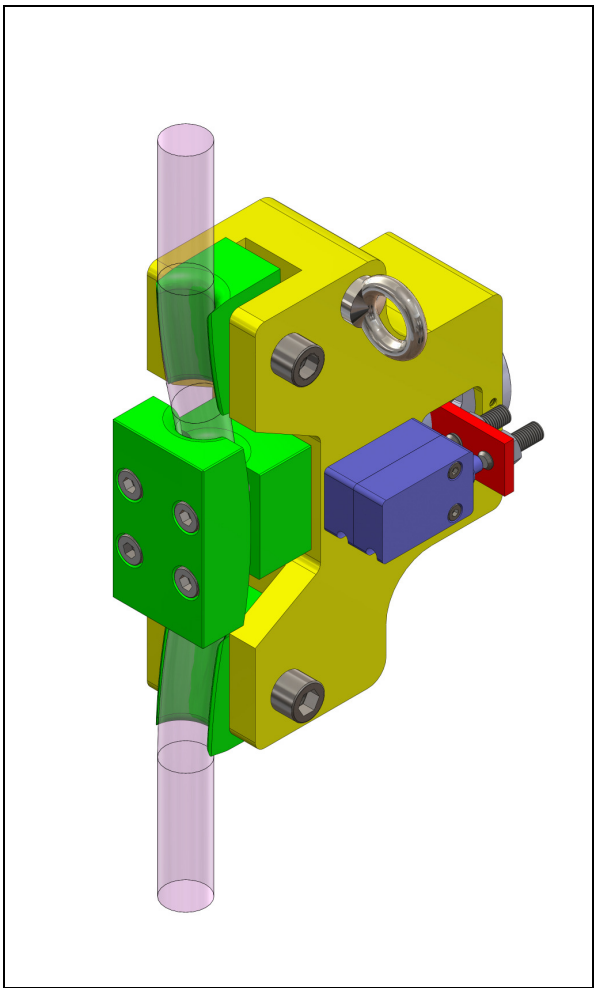


Product data:

Name of the product:

Lifting force limiter **COG 120** and **COG 200**

Chapter

3

Product descriptions

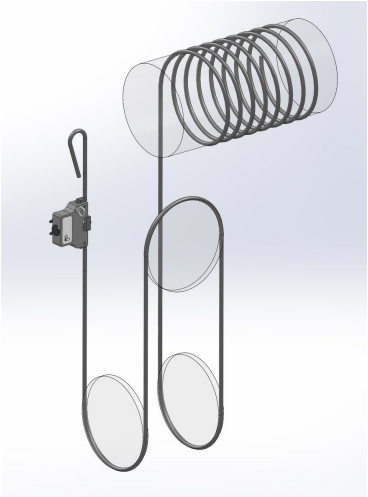
Overload guard COG 120 and COG 200 is an automatic device that prevents the crane to carry loads more heavy than the nominal capacity in consideration of dynamical effects during normal use.

This device is suitable for winches provided with one fixed-cape or with a compensating pulley. The overload guard have to be applied to the rope nearby the fixed-cape or on a branch of rope near the compensating pulley.

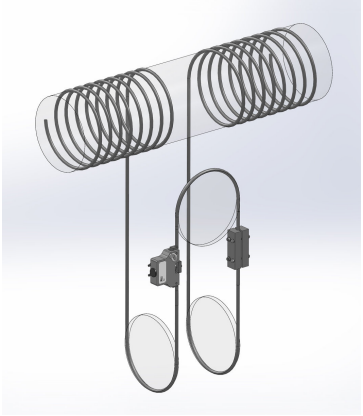
The appliance give one or more electrical contacts NO-NC that commutes when the load exceed in weight the settled value. Every contacts can commute simultaneously or at different values of weight in according to installer exigencies. Pay attention that each switch have a NO-NC contacts but them do not commute in the same position (value of force). By default we make the settings on the contact NC.

The body of the overload guard is an aluminium fusion that involves a set of conned-disk springs and a pivot that mast be fixed on the rope. The device checks constantly the tension of the rope. A cursor fixed on the pivot press the micro-switch when the force is higher than the settled.

COG 120 and COG 200 are sold factory-settled under costumer demand. Installer have to make a final setting with real load if necessary. This is a mechanical-device so the absence of electrical feed can't modify or change the setting.



Winch or hoist with fixed-cape



Winch or hoist with compensating pulley (or balancer)

Ambient: the device is fit both for indoors or outdoors installation because the switches has a protection grade IP67..

Warning: Do not install never these standard devices in explosive atmospheres.

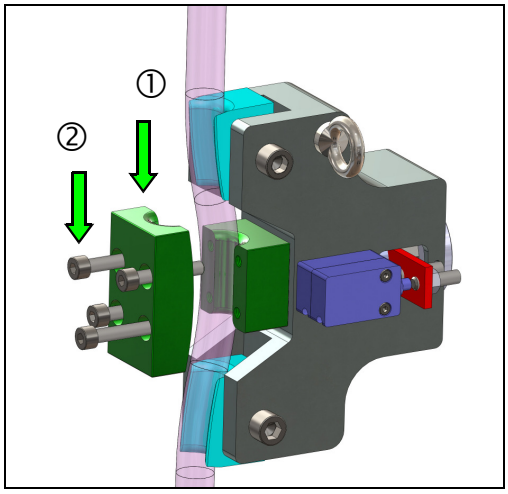
Types: Overload guard devices COG series are produced in different configurations for size of rope and number of switches (switching threshold).

Installation

Chapter 4

Overload guard device mast be fixed to the wire rope nearby the fixed-cape.

MECHANICAL INSTALLATION



1. Open the clamp ① by loosening the screws ②.
2. Install the device on the rope near the fixed-cape nearby the winch in tightening the screws. The wire rope have to stay between two wheels. The cable outlet have to be oriented on the low side.
3. If necessary set the hoist limit switch to prevent that the hook do not reach the device.
4. Check and set the hoist limit-switch of the winch: the hook haven't to bump the device!
5. Connect the cables on the electrical circuit. (see above)
6. Make to the final setting.

ELECTRICAL CONNECTION

The electrical connection of the overload guard type COG can be realized as indicated:

System A The contact can be connected to give the assent to lifting function contactor (or to an auxiliary contact to active lighting or acoustic disposals). Sometimes, when the load is NEAR the limit-set, this system can give an uncertain lifting function caused by beam swing. System B Interpose an auxiliary contact between the device's electrical contacts and the main contactor of the lifting function. This system removes the troublesome caused by beam swing.

SCHEMA DI COLLEGAMENTO LIMITATORE DI CARICO COG

LC1	contatto limitatore di carico
LC2	contatto limitatore di carico di sicurezza
1KA 1	relè ausiliario
1KM 22	contattore salita
1KM 21	contattore discesa
P.S.	pulsante salita
P.D	pulsante discesa
FCS	finecorsa salita
FCD	finecorsa discesa

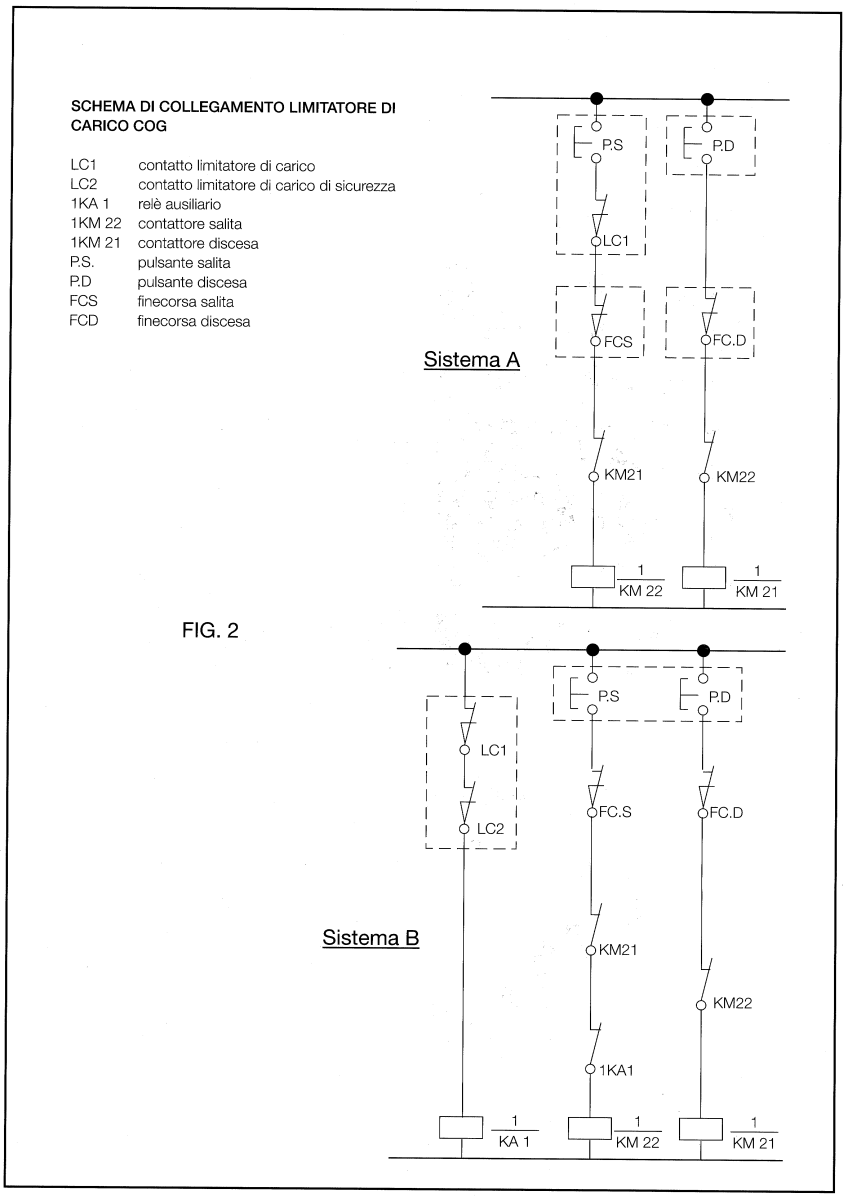


FIG. 2

WARNING

DON'T TOUCH ELECTRICAL COMPONENTS IN TENSION

SETTING (HOW TO MODIFY THE ORIGINAL SETTING)

The overload guard made by Pizzamiglio srl is adjusted in factory with a static test but and data setting are indicated in the CE declaration document however may be that the installer have to make a final setting with a real load in attending these instructions. The final setting is the choice of the exact point of commutation of the micro-switch.

INSTRUCTIONS FOR THE ADJUSTMENT

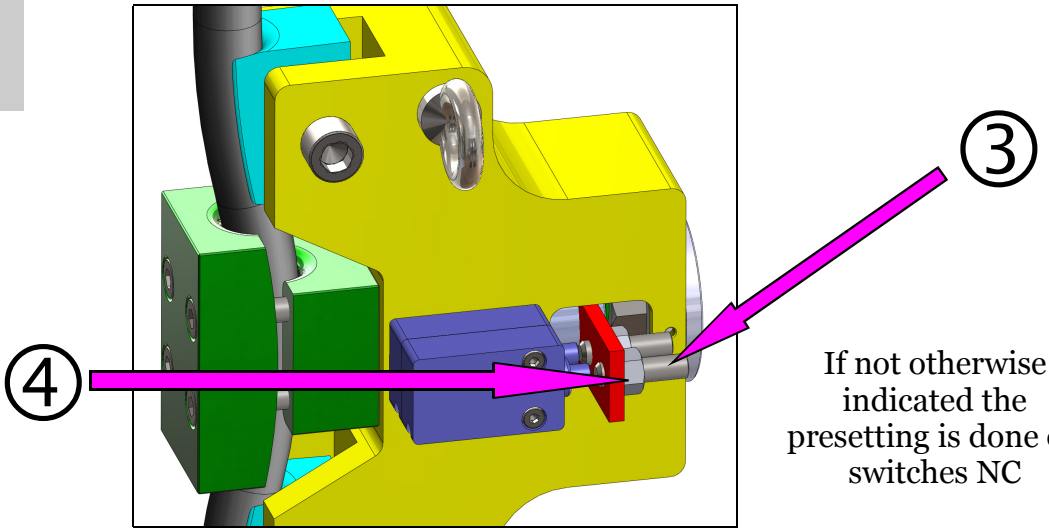
Suite the connection of the device press the slow hoist function.

If the motor don't starts release the button, lose the nut ④, lose the screw ③ until the motor starts.

Be sure of the setting by trying more times the right operation of the overload guard device.

Try to lift a load more heavy of 15% of the nominal capacity. The motor mast not to start.

Repeat again the test with a weight equal to the nominal capacity and it the motor work regularly tighten the nut ④.



If not otherwise indicated the presetting is done on switches NC

Note

The set of overload guard device at 10% over the nominal capacity let the crane operate correctly also in consideration of swinging of the load and inertial forces. Winch capacity / number of ropes. **To guarantee the manufacturer setting there is a red seal whether in setting screw and nuts. The alteration of the seal entails the decline of the validity of the setting certificate.**.

Chapter

5

Technical features

Overload guard COG series are particularly resistant to heavy stress, can be installed within few minutes without cutting or unloading the wire rope. Ambient temperature limits: -25 / +70°C.

Available for ropes size from 6 to 26mm equipped with 1, or 2 micro-switch IP67 with cable 2m length (On demand can be arrange devices equipped with cable 5m length).

Rated capacity from 1000 to 8300 daN with ± 1% accuracy on the value of max capacity.

Type	Electrical characteristic	Diameter of the rope (mm)	Maximum Load	Number of thresholds	sprin gsize	Setting range	
						Min	Max
COG 120 ST	240V ac 1,5 A IP 67 nc/no	6 ÷ 12	2800 daN	1 or 2	A	310 daN	1100 daN
					B	620 daN	2200 daN
					C	930 daN	2800 daN
COG 200 ST	240V ac 1,5 A IP 67 nc/no	13 ÷ 26	8300 daN	1 or 2	A	850 daN	3100 daN
					B	1700 daN	6200 daN
					C	2550 daN	8300 daN

Data contained in this publication are to be considered as indicative only. The manufacturer reserves the right to modify data without prior notice. For the electrical characteristics of the switches verify the data marked on the switch by the manufacturer.

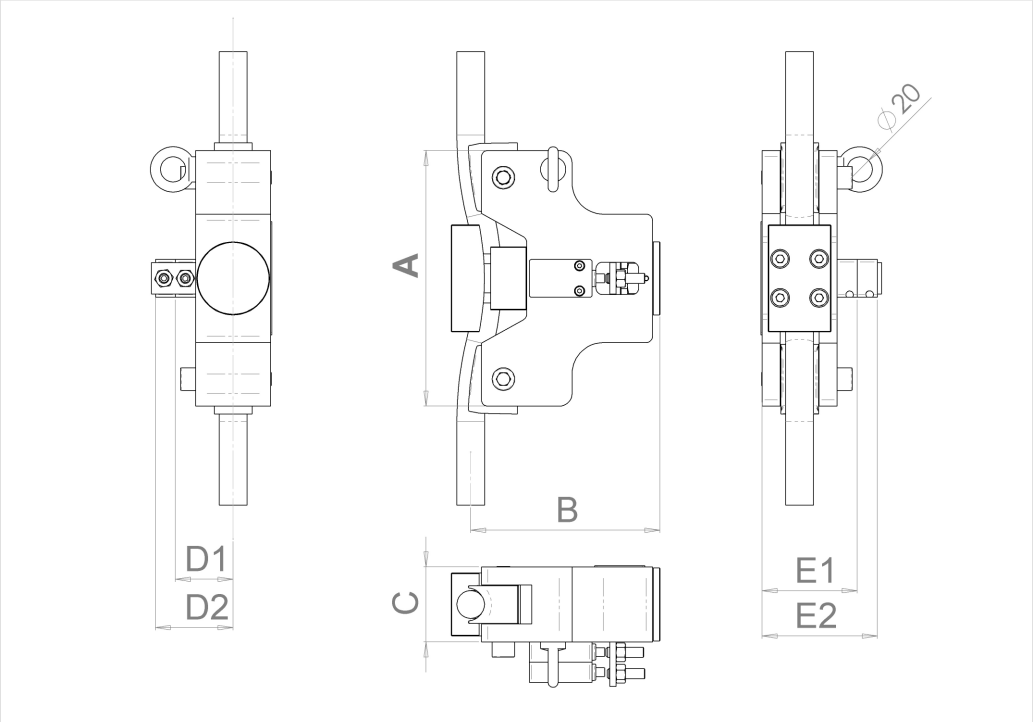
Micro-switch have a commutation point NC and NO in different positions. Rules impose that load limiter utilized as safety devices must be connected on NC switches, so excepting express request, the presetting will be made on the contact "normally close": at the exceeding of the threshold the contact opens.

Note

In the order you have to indicate the size of rope, number of thresholds and setting force required. If you are installing the device on a winch where the fixed cape is a pulley, may be that you have to install also a counterbalance. Our technicians can help you in the choice fell free to contact-us for more details.

Overload guard device type COG 120 – COG 200

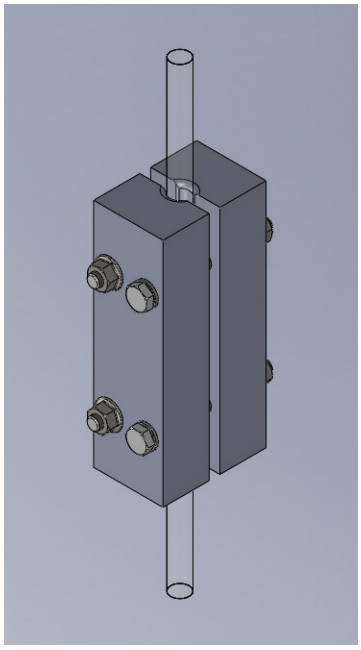
Protection degree IP67



Type	Threshold	Mass [kg]	Dimensions [mm]						
			A	B	C	D1	D2	E1	E2
COG 120 1C ST	1	~ 3,5	160	115	40	36	-	55	-
COG 120 2C ST	2	~ 3,5	160	115	40	-	52	-	71
COG 200 1C ST	1	~ 7	215	150	60	46	-	76	-
COG 200 2C ST	2	~ 7	215	150	60	-	62	-	92

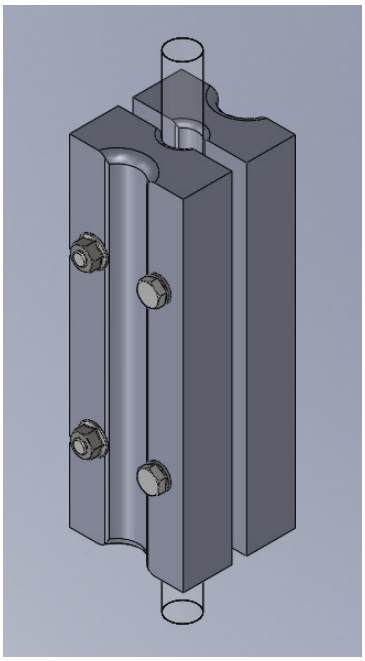
COUNTERBALANCES

If you install the load limiter on one of a branch of rope near the compensating pulley may be that you have to install a counterbalance on .the opposite branch in order to prevent that the hook block reeving appear a bit sloping.

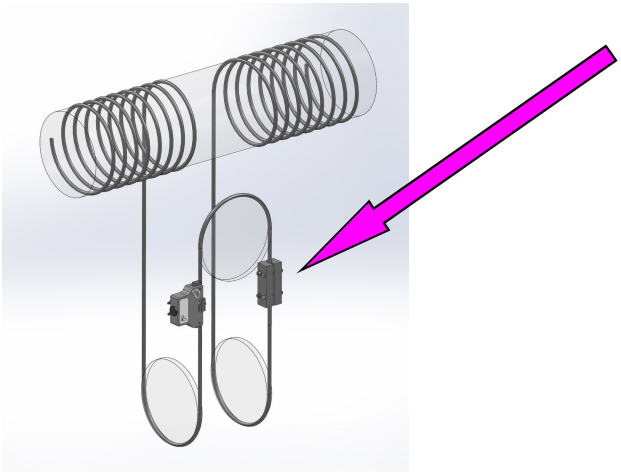


There are two sizes of counterbalances fit to balance the mass of the two types of load limiters. During the installation be sure to lock screws and nuts. The bigger type is fit for ropes from 13 o 19mm of diameter on one side and from 20 to 26mm on the other side. Instead the smaller type there is only one side fit for ropes from 6 to 12mm in diameter

Both the counterbalances are made in galvanized steel. Screw and nuts also are galvanized. Dimensions of the counterbalances are the same of the correspondent size of load limiter

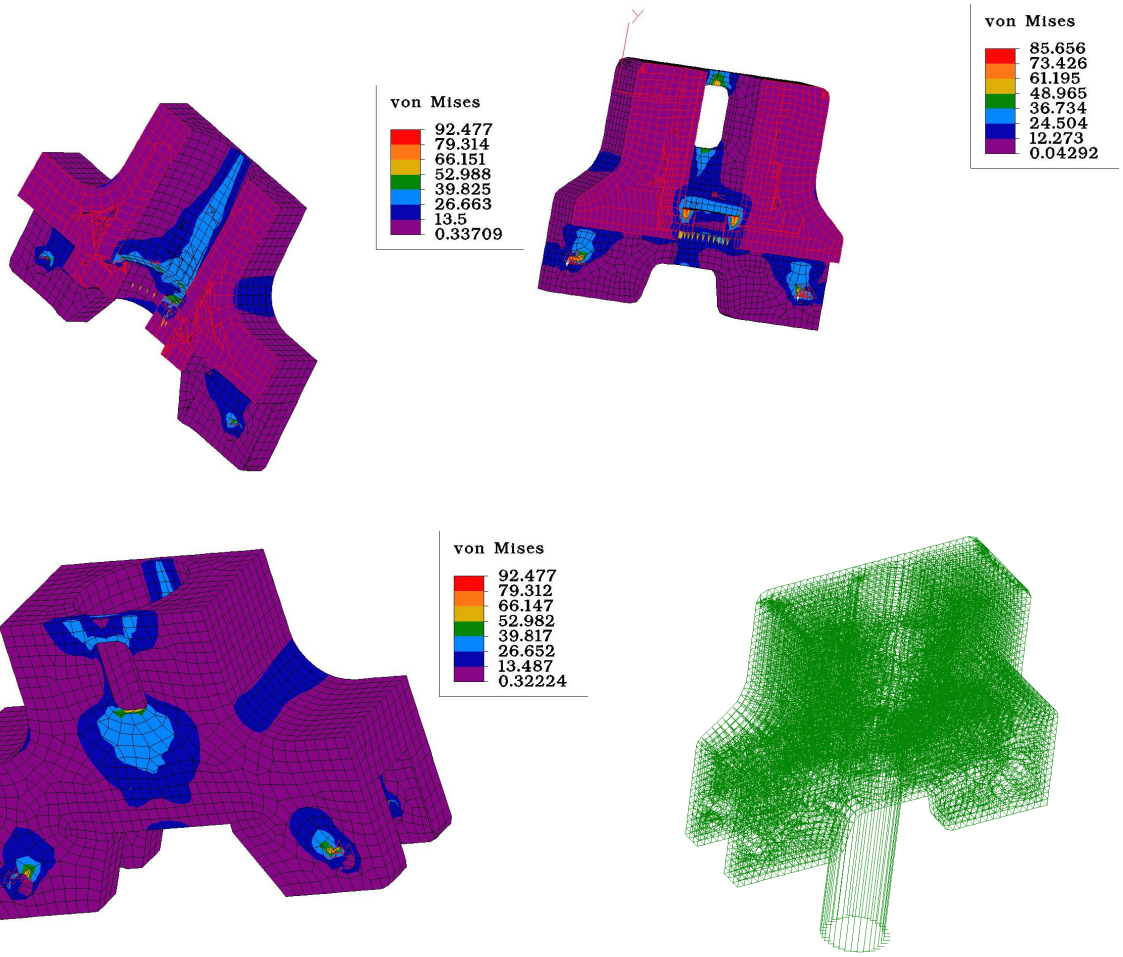


Type	Mass [kg]	Steel rope [mm]
COG CONTR 120	~3,5	Ø 6 ÷ 12
COG CONTR 200	~ 7	Ø 13 ÷ 20 Ø 21 ÷ 26



MATERIALS

Overload guard device type COG 120 and COG 200 have been engineered in considering all the forces. Of the system. The body is a whole aluminium fusion and the force is rated 160% more of nominal value. The body involves a set of conned-disc made in special steel. All pivots and sectors of contrast are galvanized. Main pivot works on a bronze ringlet.



Chapter

6

Safety features

The installer have to choice an overload guard device suitable with the crane use in considering the ambient, weather, air humidity, capacity of the crane (force on the single rope), electromagnetic compatibility.

Warnings for installers and maintenance operators

Operate according your safety plan. Particularly use only certified ladders and scaffolds; use individual protection disposals and wear safety wear and shoes. Keep attention in your activity to safety of all persons around you. Recycle or sell-off the packaging materials in according to country laws.

Residual hazards

Some hazards are typical of installation or maintenance activity dues to electrical tension, altitude and hazards introduced from others operators' activities. Make attention!

Electric shock: don't touch components in tension.

Fall: use certified ladder, scaffolds and safety belts.

Instructions to the final user

The installer have to instruct the final user to don't make his-self maintenance if not expert in cranes maintenance, particularly don't modify setting of the device and not paint device's pivots because this operation can compromise the functionality of the overload guard. **Include the check of the functionality of the overload guard among the periodically checks of the crane. Particularly pay attention in checking also the stretch of rope near the limiting device also in opening the clamp.**

Chapter

7

Declaration of conformity

PIZZAMIGLIO SRL
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Capitale sociale Euro 40.000,00 i.v.

DECLARATION CE OF CONFORMITY

SAFETY OF MACHINERY 2006/42/CE

THE **PIZZAMIGLIO SRL** COMPANY

DECLARE, UNDER HIS OWN RESPONSIBILITY THAD THE FOLLOWING PRODUCT, IF CORRECTLY INSTALLED AND MAINTAINED FOR ITS INTENDED PURPOSE, ACCORDING TO THE CURRENT LOWS AND TO THE MANUFACTURER'S INSTRUCTIONS, COMPLIES WITH PROVISIONS OF EUROPEAN DIRECTIVES AND WITH THE TECHNICAL NORMS FOLLOWING INDICATED.

"LIMITATORE DI CARICO TIPO COG 120/200" / "LIFTING FORCE LIMITER TYPE COG 120/200"
(ELECTROMECHANICAL COMPONENT THAT PREVENTS THE A CRANE LIFTS HIGHER WEIGHT THAT THE ESTABLISHED)
THE PRODUCT ABOVE IDENTIFIED COMPLIES WHERE APPLICABLE

TYPE	SERIAL N.	YEAR
COG[illegible] ST	XXXXXXX	XXXX

FORCE LIMITER PRE-SETTING			
MIN.	MAX.		
XXX daN	XXX daN	1st SWITCHING THRESHOLD	XXX daN
		2nd SWITCHING THRESHOLD	XXX daN

THE PRESETTING IS DONE STATICALLY SO, DURING THE INSTALLATION, THE OPERATOR CAN CHANGE SETTING BETWEEN THE MINIMUM AND MAXIMUM VALUES HEREINDICATED IN OPERATING IN SCREW (1) AND NUT (2).

ELECTRICAL CHARACTERISTICS: AC15 240V 1,5A IP67 IEC/EN 60947-5-1

THE LIMITSWITCH TELEMECANIQUE ZCMD25 COMPLIES WITH THE FOLLOWING STANDARDS:
CSA-C22.2 No.14-95 Industrial Control Equipment
CSA-C22.2 No.94-M91 Special Purpose Enclosures
CSA-C22.2 No. 0.17-00 Evalutation of Proprieties of Polymeric Materials

WITH PROVISIONS OF THE FOLLOWING EUROPEAN DIRECTIVES:

- EUROPEAN DIRECTIVE 2006/42/CE "SAFETY OF MACHINERY" AS "SAFETY COMPONENT" ARTICLE 2 LETTER C – ENCLOSED IN ANNEX 5 POS.8

THE PRODUCT ALSO COMPLIES WITH PROVISIONSOF THE FOLLOWING TECHNICAL NORMS:

- UNI EN 12077-2 "CRANES SAFETY, REQUIREMENTS FOR HEALTH AND SAFETY, PART 2: LIMITING AND INDICATING DEVICES" ED. JULY 2008
- FEM 9.761 "LIFTING FORCE LIMITERS FOR CONTROLLING THE LOADING OF MOTORIZED SERIES HOIST MECHANISM" EDITION 01.1995

VALEGGIO SUL MINCIO - ITALI, XX.XX.XXXX

PIZZAMIGLIO SRL
Chief Executive Officer

Rev. 13

Chapter

8

FAQ - Questions and answers

Q. Is it possible to install the overload guard on cranes yet installed?

A. Yes, without cutting or unloading the rope.

Q. Is it possible to change factory setting?

A. Yes, but only between min. and max. values indicated on the certificate.

Q. When is necessary to install the counterbalance?

A. When the fixed-cape is a pulley, the weight of the device can put out axis. A counterbalance (of the same weight of the overload guard) solves the trouble.

Chapter

9

Maintenance

Our overload guard COG series usually do not need maintenance. However check yearly the functionality of the device trying to lift a load exceeding the nominal capacity of the switching threshold; the lifting motor mast not to start. Verify also all the screws are closed. Concerning the rope: is necessary to check the rope near the limiting device also in opening the clamp because the stretch of the rope that crosses the device is stressed like the one that wind round a pulley. To make this check open the clamp and afterward re-establish the system. During this operation if are not removed the setting screws and the ones that fasten the limit switches, the setting remains unchanged.

Spare parts

There are not spare parts resalable separately. Please contact-us for more information.

Chapter

10

Warranty

We guarantee our products for 12 months from the delivery. The warranty applies only in reparation or change of parts that we recognize as faulty and excludes incidental o direct damages and cover only material fault. Warranty do not covers any defect that occurs due to careless or improper storage such as keeping the product under conditions of high temperature and humidity o improper maintenance or tempering.

Factory setting is not binding for Pizzamiglio srl company and may be changed by the installer between min and max limits. Parts or whole devices mast be returned carriage free. For any other commercial condition make reference to the sale contract.

Storage: store indoor at temperature between –25 and +70°C.

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