italkrane

THE HIGHEST LEVEL OF EXPLOSION PROTECTION

ELECTRIC WIRE ROPE HOISTS GOUP SERIES

INTRODUCTION

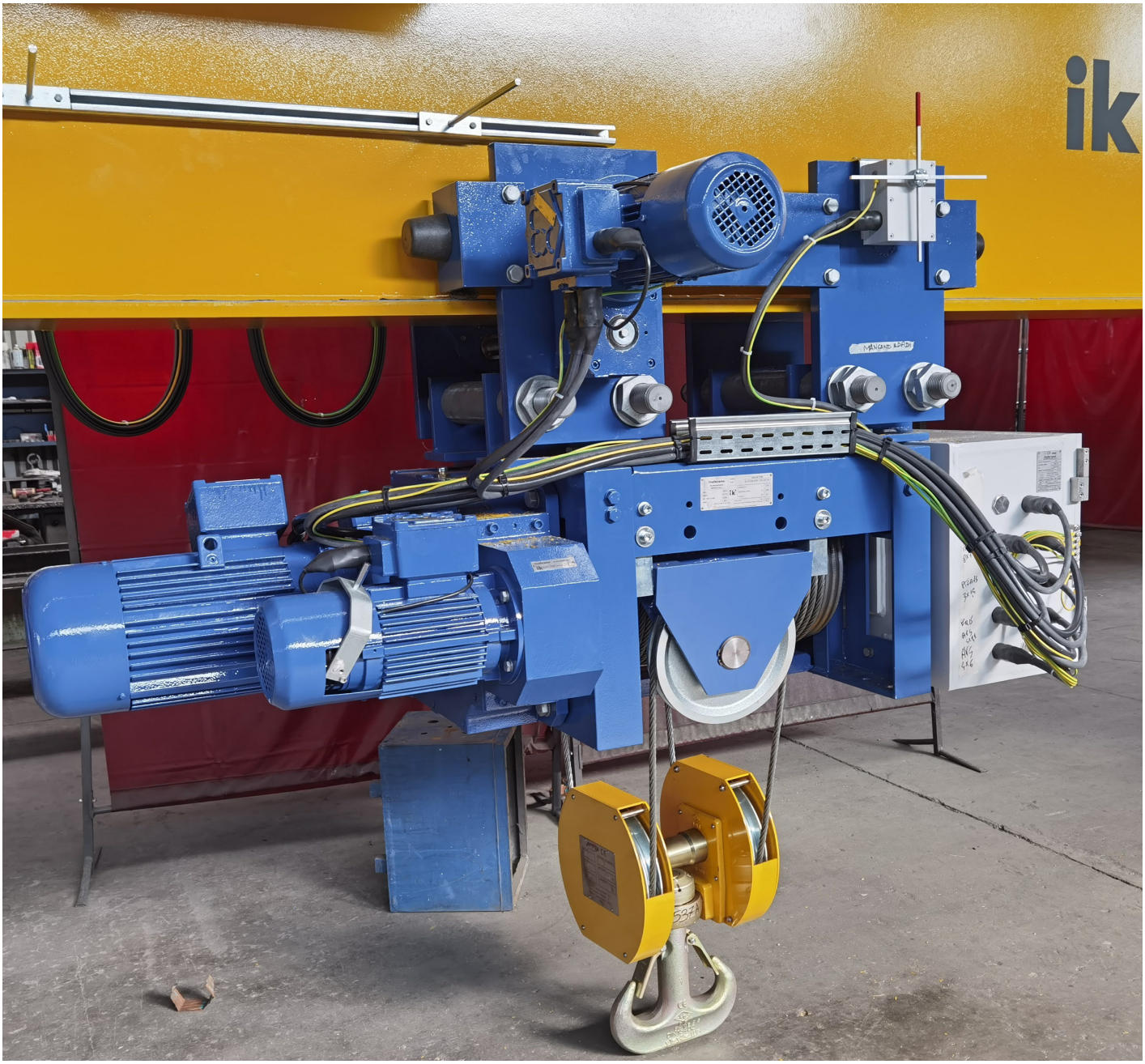
Italkrane was founded in Milan in 1962 by Enzo Banfi and Giovanni Penati who were until 2015 respectively the Managing Director and the Chairman of the Company. The object of the company is the design, construction and commercialisation of lifting and transport equipment. The founding members of the company already had a vast technical and commercial experience acquired during many years at responsible levels in a company at the time market leader in the sector. The founding members wanted to establish a factory which would be able to revolutionise the then currently out-dated techniques of production of bridge cranes and electric hoists and to make innovative, scrupulously designed machinery and equipment using new and advanced technologies. At the beginning, priority was given to the construction of electromechanical parts only with consulting services enabling the client himself to build the supporting metal structures in such a way that modern and efficient plant could be made. After five years, the company transferred its offices to a site outside Milan, where facilities were available for metal carpentry work and complete equipment could be supplied. The site in Bussero (15 Km east of Milan) comprises a modern factory and separate office-building studied to-give the greatest pleasure from an ecological point of view and to be perfectly in harmony with the surrounding habitat. Since 1962, Italkrane supports customers in every phase of the development and construction of machines through a team of experienced technicians and engineers able to solve any problem. Our experience, gained in over half a century of activity, is a guarantee of reliability and competence. Italkrane also supplies all the components necessary to produce the crane with the exception of the relative structures (available, on request, the technical drawings for the construction of the structures).

Italkrane elaborates and realizes customized projects to satisfy every customer need with efficient solutions.

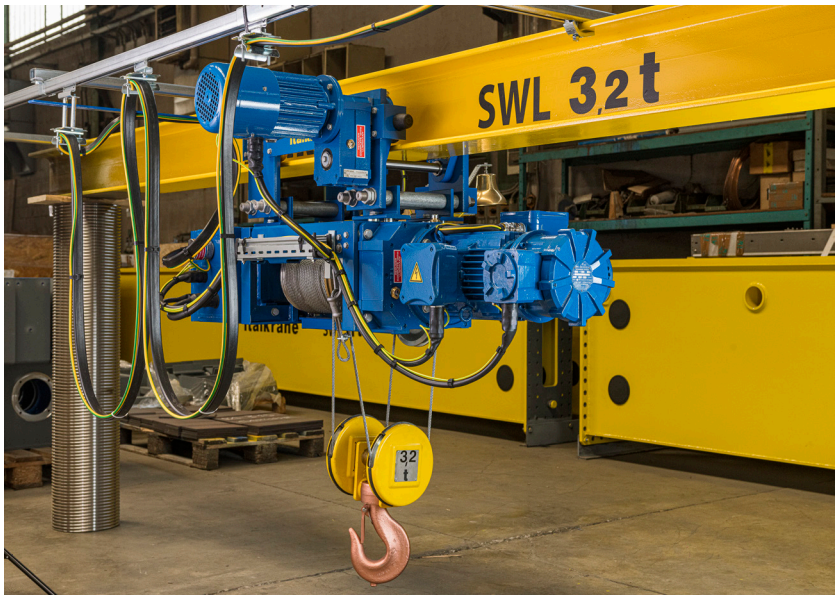
ELECTRIC WIRE ROPE HOISTS GOUP SERIES

The electric wire rope hoists of the GOUP series represent a solid point of reference in the world panorama of the handling of loads. Italkrane has always stood out thanks to technologically advanced solutions and is a point of reference in the supply of lifting equipment. The GOUP series is characterized by the use of lifting gearboxes equipped with differential, advanced motors and controls, superior performance to move loads with ease. All contained in small dimensions, thanks to the ergonomic study of the parts. The hoists of the GOUP series therefore represent the best return on investment, in every field of use: industrial cranes, special cranes, monorail systems, applications of single hoists, modernization of systems, updating of existing movements.

Italkrane, thanks to a history made of passion, dedication and progress, offers hoists designed ad hoc for productivity and productivity, with an eye to the safety and maintainability of the products.



GOUP, FOR EVERY HANDLING NEED



SINGLE GIRDER TROLLEY

EIK

Solution mainly used in single girder cranes or monorails, straight or curved

COMPACT SINGLE GIRDER TROLLEY

ZIK

Solution mainly used in single girder cranes or monorails, where the priority is the maximum utilization of building volumes

DOUBLE BEAM TROLLEY

BIK

Solution mainly used in double girder cranes

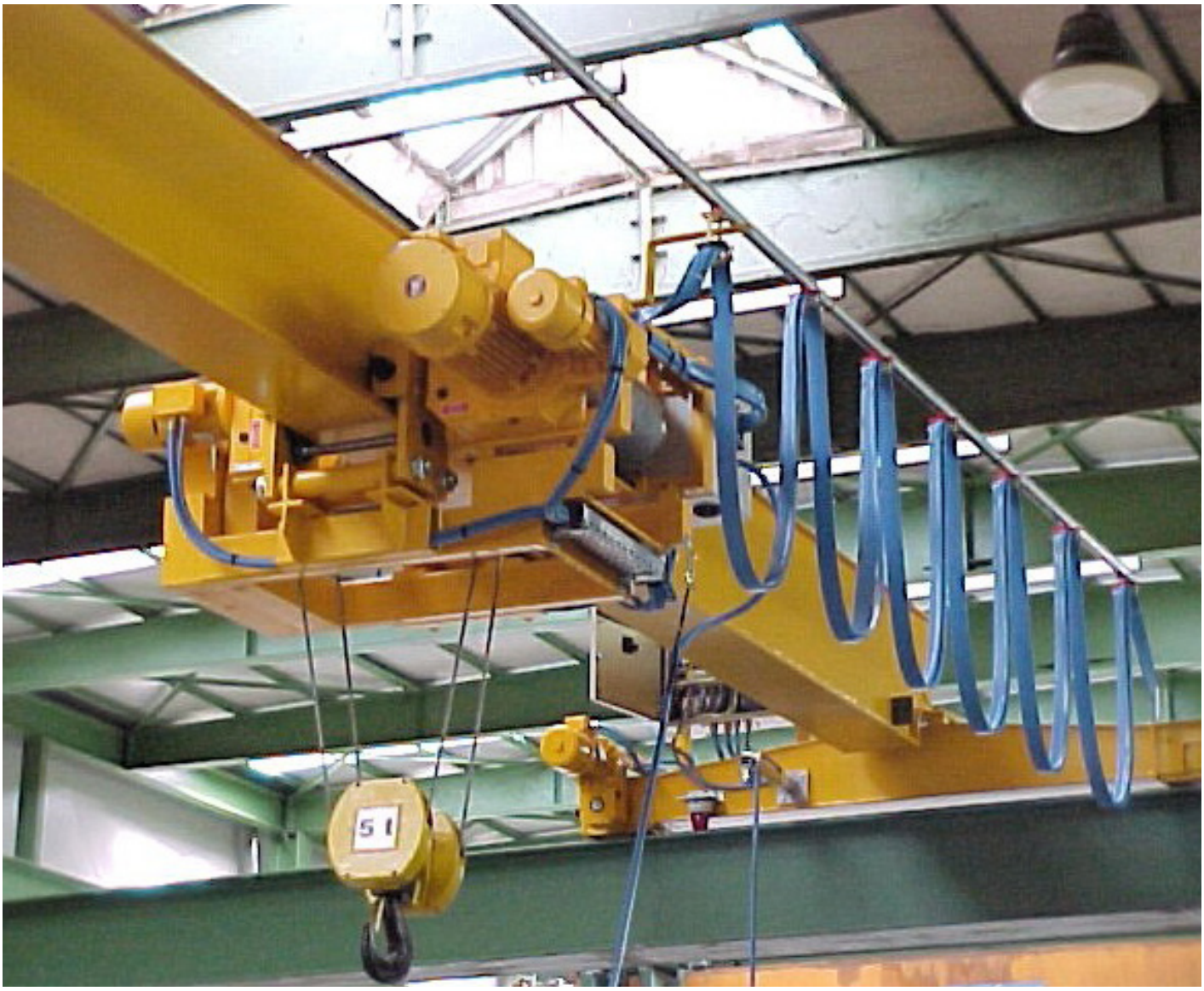
STRENGHTS OF ITALKRANE ELECTRIC WIRE ROPE HOISTS

Easy, intuitive and efficient load handling

GOUP electric wire rope hoists offer surprisingly smooth movement and fast load positioning. They are supplied on request with inverters on the trolley translation, to reduce the swinging of the load. The design choice of using large diameter rope-winding drums allows for a minimum lateral deviation of the hook during lifting maneuvers and reduced exit angles, which reduce the harmful effects of bending on the rope, increasing its useful life.

Excellent performance

The lifting motor is one of the key elements in determining the performance of a hoist. For the GOUP range, Italkrane has developed by its partners, based on its long experience in lifting, specific high performance motors that combine power and high efficiency. These motors, with an intermittence ratio of 40%, not only guarantee the higher performance required by peak usage, but also increase the reliability of the entire lifting machine.



Original design choices

The lifting gearbox of the GOUP series provides, in the case of double speed, a second stage that incorporates a differential system, a true hallmark of Italkrane, which allows the application of a second self-braking motor of adequate power to obtain slow speed with a ratio of 1/10 compared to the high speed much appreciated by operators as it allows precise and safe positioning of loads. With this system, contrary to what happens with the use of double polarity motors, it is possible to vary the speed with the load in motion and suspended. Furthermore, if one motor fails it would always be possible to work with the second one, avoiding production losses, shortening handling times and increasing productivity.

Superior safety and long-lasting reliability

Safety and reliability are characteristics of all Italkrane hoists and those of the GOUP series are no exception. The application of the most advanced technologies used in the design, choice of materials and production methods, combined with over 60 years of experience in lifting, represent the best guarantee of having an excellent product. Safety and reliability are further guaranteed and increased thanks to the braking and power transmission system used in the GOUP electric wire rope hoists. The highly efficient brakes, subject to very limited maintenance, are totally protected against atmospheric agents, ensuring their perfect functionality for the entire life of the hoist. The reducers used for GOUP hoists are produced with the utmost care; this, associated with the high degree of precision placed in the machining of the gears, guarantees high efficiency values and trouble-free operation even after many years of intense use.

STANDARD FEATURES

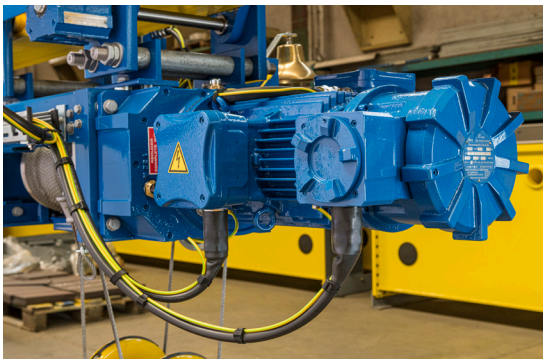
GOUP hoists are the best solution to meet every type of need

To make Italkrane's work unique there are a series of high-level standard features, designed to guarantee a great variety of applications, without ever having to give up performance, reliability and durability. The following are the standard features present, as standard, in our products:

- Second lifting speed obtained by means of a differential gear (1/10 ratio) which includes two motors and two brakes. In this case the reducer includes the addition of a second stage and incorporates a differential system that allows the application of a second self-braking motor of adequate power to obtain the slow speed. The speeds obtained are totally four since, due to the differential effect, the basic speeds can algebraically be added to the simultaneous action of the respective control buttons. With this system, contrary to what happens with the use of double polarity motors, it is possible to vary the speed with the load in motion and suspended. Furthermore, if one motor fails, it would always be possible to work with the second one, avoiding production losses. The lifting and translation reducers of GOUP hoists are designed and produced internally to ensure the highest quality and reliability. All gearboxes are totally closed, oil bath lubricated to ensure long life, equipped with separate inlet, drain plugs and oil level indicator to facilitate inspection and maintenance.

- Three phase squirrel cage AC induction type electric motors with cylindrical rotor, designed for heavy duty with reliable starting even under voltage. The motor windings complies with Insulation Class F with temperature rise limited to Class B. The motors are designed for heavy duty S4 intermittent 40%, 240 starts / hour. In the case of 2-speed hoists, both motors are suitable for S4 intermittent duty 40%, 240 starts / hour. Thermal protection by relay.

- The brakes are electromagnetic disc negative type (Fail-safe), specifically developed and produced internally for the lifting service, with torque equal to 2 times the torque of the motor and suitable for heavy use. The lifting brake is provided with multiple discs (from 2 to 4 according to the size selected) ensuring greater safety and a longer operating life, even in heavy duty, both in the Safe Area or Atex -IEC Ex version. In emergency situations it is always possible to manually release the brake and lower the load in safety conditions.



- Coating cycle of corrosivity class C3 (Medium) according to ISO 12944: 2018 and high durability (H) (> 15-20 years) Dry film thickness (dft) min = 180 µm. Standard finish colour RAL 5010.

- Standard screws protected by GEOMET® 321 grade B anti-corrosion coating. GEOMET® 321 is used to protect fasteners and all metal parts (zinc flake technology.) The higher corrosion resistance is guaranteed: salt spray test according to IS0 9227 / ASTM B117, cyclic tests> 240 hours without white rust> 720 hours without red rust.

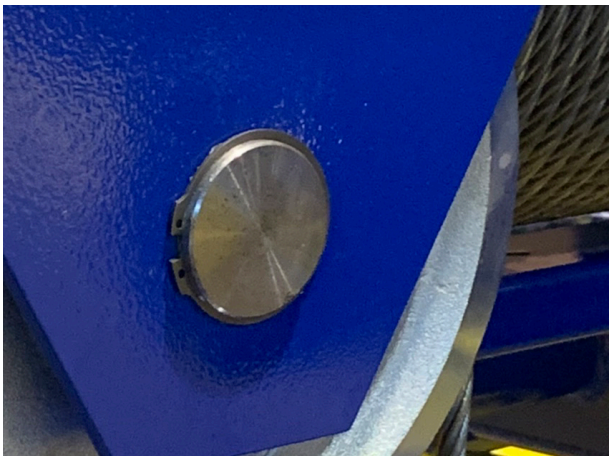
- Screws <M10 in grade A2 70 stainless steel.

- Watt-metric electronic load limiter designed for specific lifting needs. It detects the changing of the load using the power absorbed by the motor as a reference parameter. Thanks to the linear trend of the power (P), for the entire application range of the motor, it is possible to detect any load variation (resistant torque) by means of a watt metric relay.

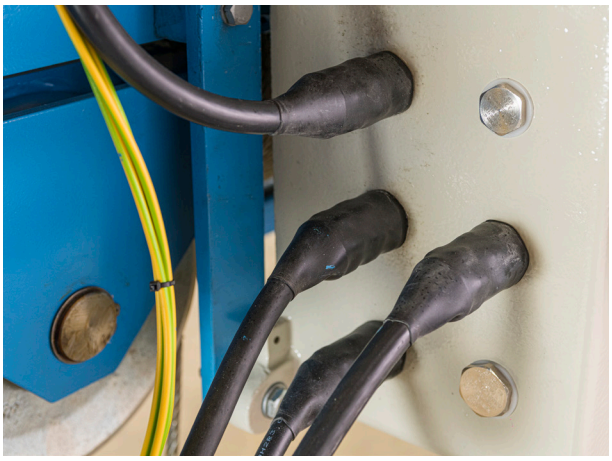
- Gearboxes slow shafts made with a DIN 32711 polygonal profile which avoids the harmful notches caused by key or splined shaft as well as making uncoupling easy, even after years of work.

- All the external pins (of the wheels, pulleys, etc.) are protected from corrosion by deposition of nickel / chromium. (Resistance test to neutral salt spray> 1000 h according to EN-ISO 9227).

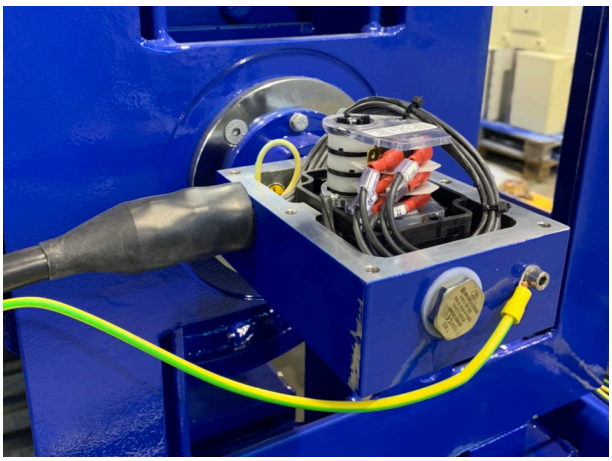
- Sealing rings (Circlip) exposed to atmospheric agents in stainless steel A2.



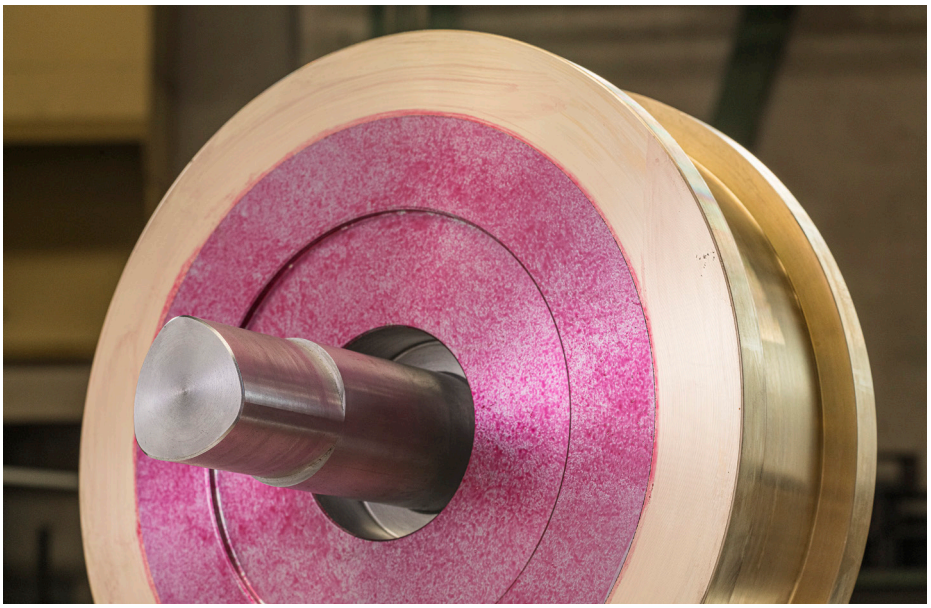
- All cable glands for round cables, used in Ex machines, are of the double seal type made of chromed brass and further protected by PVC sheaths (shroud). Specific Ex cable glands are provided for flat cables. Benefits and features of sheath application: reduction of the collection of foreign substances and dust, ideal choice of protection when high levels of fluid are present, minimization of the risk of accumulation of dirt or foreign substances on the cable body, additional protection and IP improvement, effectiveness in protection from atmospheric agents and corrosion.

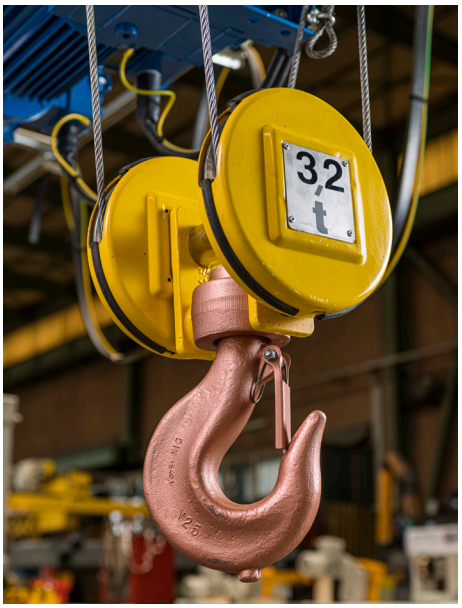


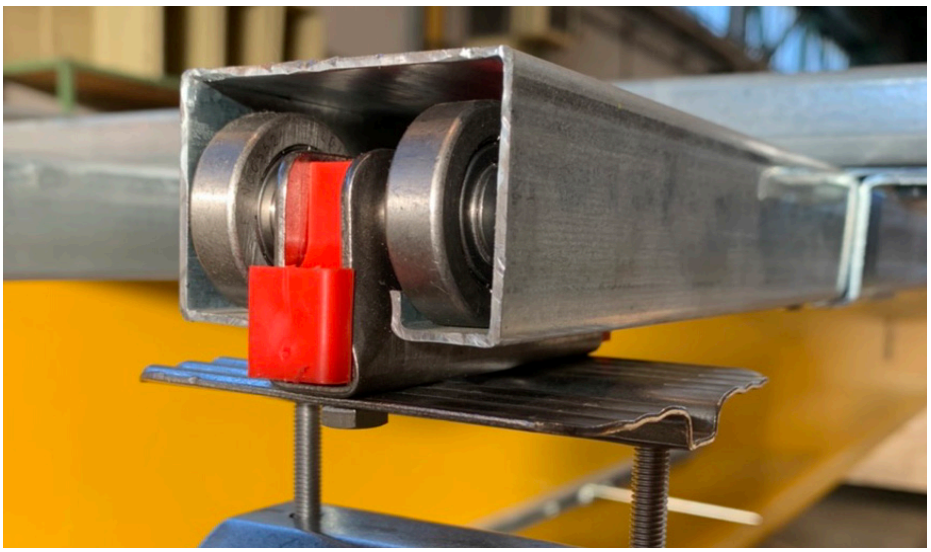
- Multi-core power and control cables, for Ex machines, shielded type with XLPE insulation and sheath in EPDM (Ethylene Propylene Diene Monomer), a halogen-free and fire retardant synthetic rubber that does not propagate fire. Reduced emission of toxic / corrosive gases and opaque fumes in case of fire. Specifically designed for our lifting equipment. For hoists intended to operate in Safe Area, the multipolar power and control cables have XLPE insulation and PVC sheath. Cable construction: flexible wire conductor in annealed electrolytic red copper; XLPE insulation; red copper braid screen; external sheath in thermoplastic rubber type EPDM - resistant to UV rays (Ex) or PVC (Safe area).



- All the wheels of the trolleys used in the festoons of Ex machines made of AISI 304.
- Wheels in Ex/anti-spark execution, made with a bronze/aluminium alloy rolling band of high thickness and wear resistance.
- Bronzed hooks for Ex equipment.
- Lifting limit switch, both for Ex hoists and for those in Safe Area, equipped with upward safety contact (redundancy).
- Class F motor insulation with class B delta. S4 service. 40% intermittence for heavy duty.
- Mechanical protection degree IP 55.
- Relay for control, sequence and lack of phases.
- Two-position carriage travel limit switch.





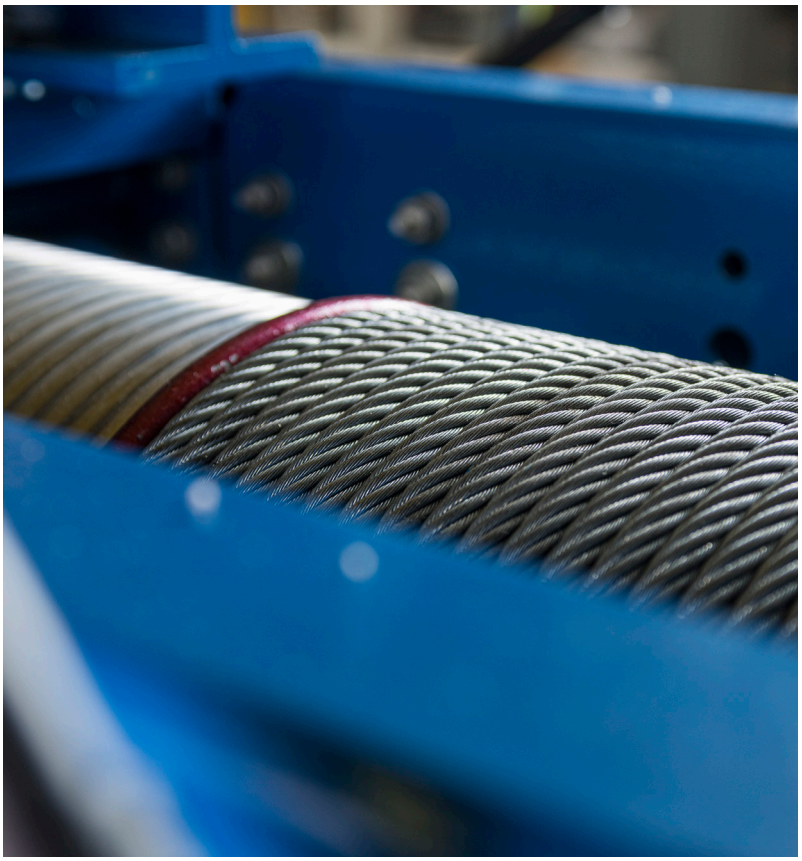


- Hinges of Ex-IIB enclosures made of AISI 304.
- Grooved, seamless, oversized drum for longer rope life. The rope guide is provided as standard, suitable for guaranteeing a regular guide of the rope during its unwinding and with a bronze anti-friction sector, both in the EX and Safe Area versions.
- Anti-condensation heaters in the control panels, both for the Ex and Safe Area execution.
- Safety coefficient of the rope ≥ 5.
- Galvanized ropes.
- Ambient temperature range for Atex / IECex certification: - 50 / + 55 °C.
- Ex protection method for motors, brakes, enclosures, main disconnectors, push-button panel, cable glands: Ex db IIB T3/T4.
- Ex ATEX / IECex certification.
- Identification / marking of each individual conductor.
- Low headroom hook block, despite the extremely robust, over-sized, high-strength forged hook.
- Bumpers for trolleys in high strength polymers.
- Before being shipped, all hoists are subjected to functional tests at nominal load and with an overload of 10%.

TO STANDARD FEATURES YES

COMBINE SOLUTIONS ON REQUEST

SPECIFICATIONS FOR EVERY NEED OF HANDLING.

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OPTIONAL

In addition to the standard features, the GOUP series hoists add a long list of options designed to meet every need. The main ones are listed below, available both for appliances installed in “Safe area” and in Ex classified areas.

- Control with radio remote control
- VFD (inverter) for lifting and trolley movement available for both Ex and Safe Area machines
- IP66 protection for motors and electric control equipment
- Anti-derailment devices for double girder trolleys. Standard feature for single girder trolleys
- Heaters for motors
- Motors with PTC or PT100 thermistors
- Motors supplied with anti-condensation drain valves
- Hoists suitable for operation at low temperatures (-50°C).
- TR-CU certification.
- Class H insulation.
- Rail cleaning brushes.
- Double threaded drum, equipped with rope guide, for true vertical lifting.
- Trolleys for curvilinear paths.
- Hook rotation locking system.
- Collision avoidance systems.
- Feeding systems for double girder trolleys made with cable-carrying chains.
- Counters for the number of starts/hours of operation.
- For outdoor installations, protective cover and anti-condensation heaters for motors.
- Cases in stainless steel AISI 304, 316 or in aluminium alloy, resistant to the marine environment.
- Power lines entirely in AISI 304 or 316 stainless steel.
- Special painting cycles for higher corrosion category (eg C5-M 310 Dry Film Thickness) Standard finish color RAL 5010.
- Hoist designed according to customer specifications.

ITALKRANE lifting equipment

Bridge cranes

Electric wire rope hoists

Winches

Special cranes

Chain hoists

Crane kit

Components

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