italkrane

THE HIGHEST LEVEL OF EXPLOSION PROTECTION

ROPE WINCHES
“ARG” SERIES

italkrane s.r.l.

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.


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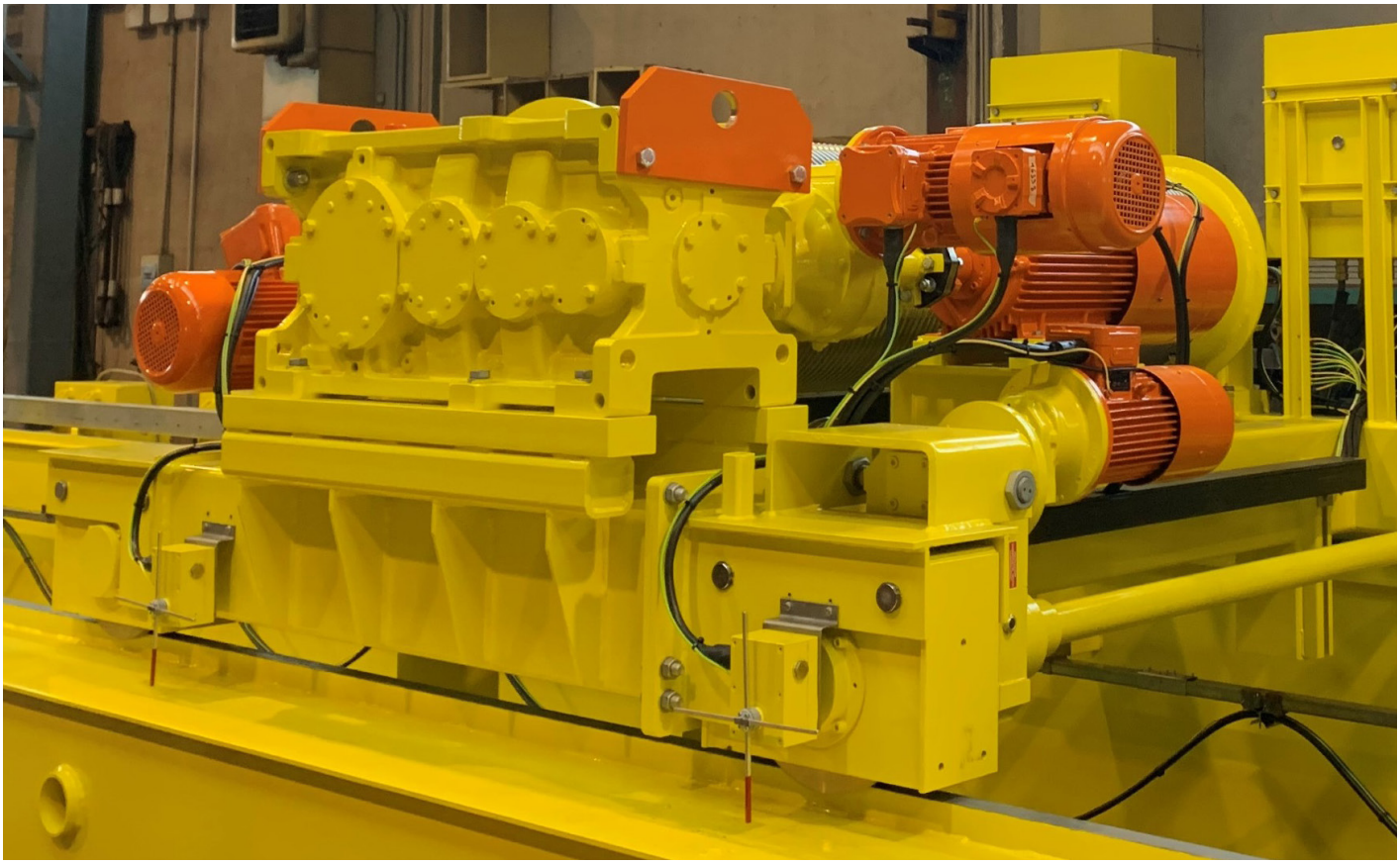


ARG Series rope winches set a benchmark in lifting equipment, thanks to a unique configuration in the world of lifting appliances, using lifting gears with differential unit, combined with the latest technology in motors and controls.

ARG series winches offer superior performances, in term of ease of load handling, high safety, ergonomics, and compact dimensions.

ARG winches represent the best return on investment, whether it is for industrial cranes, special cranes, or modernization or upgrading of existing installations.

ARG rope winches excellence in lifting

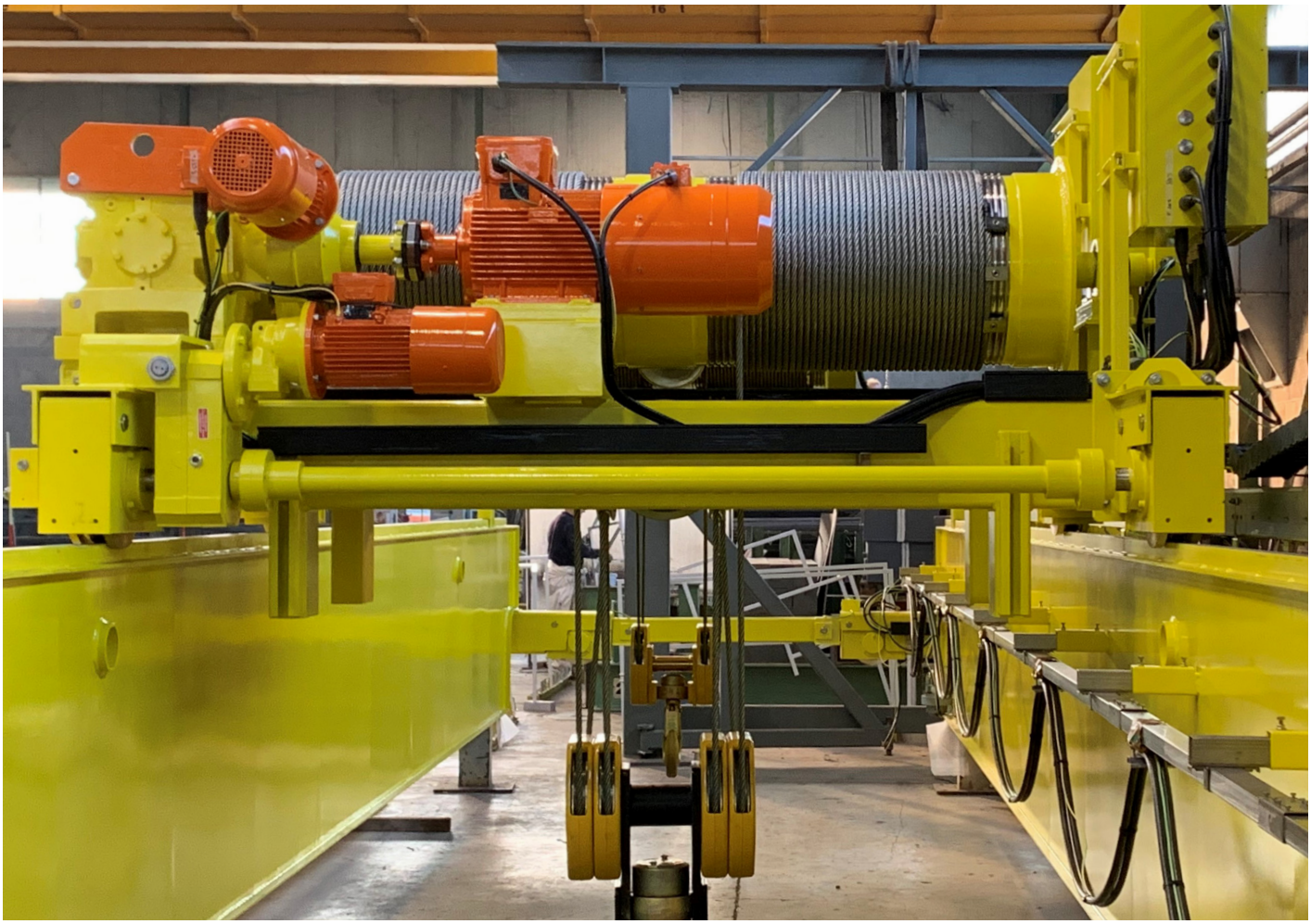
ARG series rope winches offer unique benefits in new crane installations or as replacement winches on existing cranes. Choosing ARG winches is an excellent solution for increasing performance and productivity, with the added benefits of increased safety and maintainability.

Easy, intuitive, and efficient load handling

ARG series winches offer surprisingly smooth movements and fast, precise load positioning. They are optionally supplied with an inverter on the trolley drive to reduce load sway. The use of large-diameter rope drums allows for small rope exit angles, which reduce the harmful effects of bending on the rope and increase its service life.

Excellent performance

The lifting motor is one of the key elements in determining the performance of a lifting device. For the ARG range, Italkrane has had its partners, based on its extensive experience in lifting, develop specific high-performance motors that combine high torque, power and efficiency values. These motors, with an intermittency ratio of 40%, guarantee not only the increased performance required for peak usage, but also increase the reliability of the entire lifting machine.



Original design choices

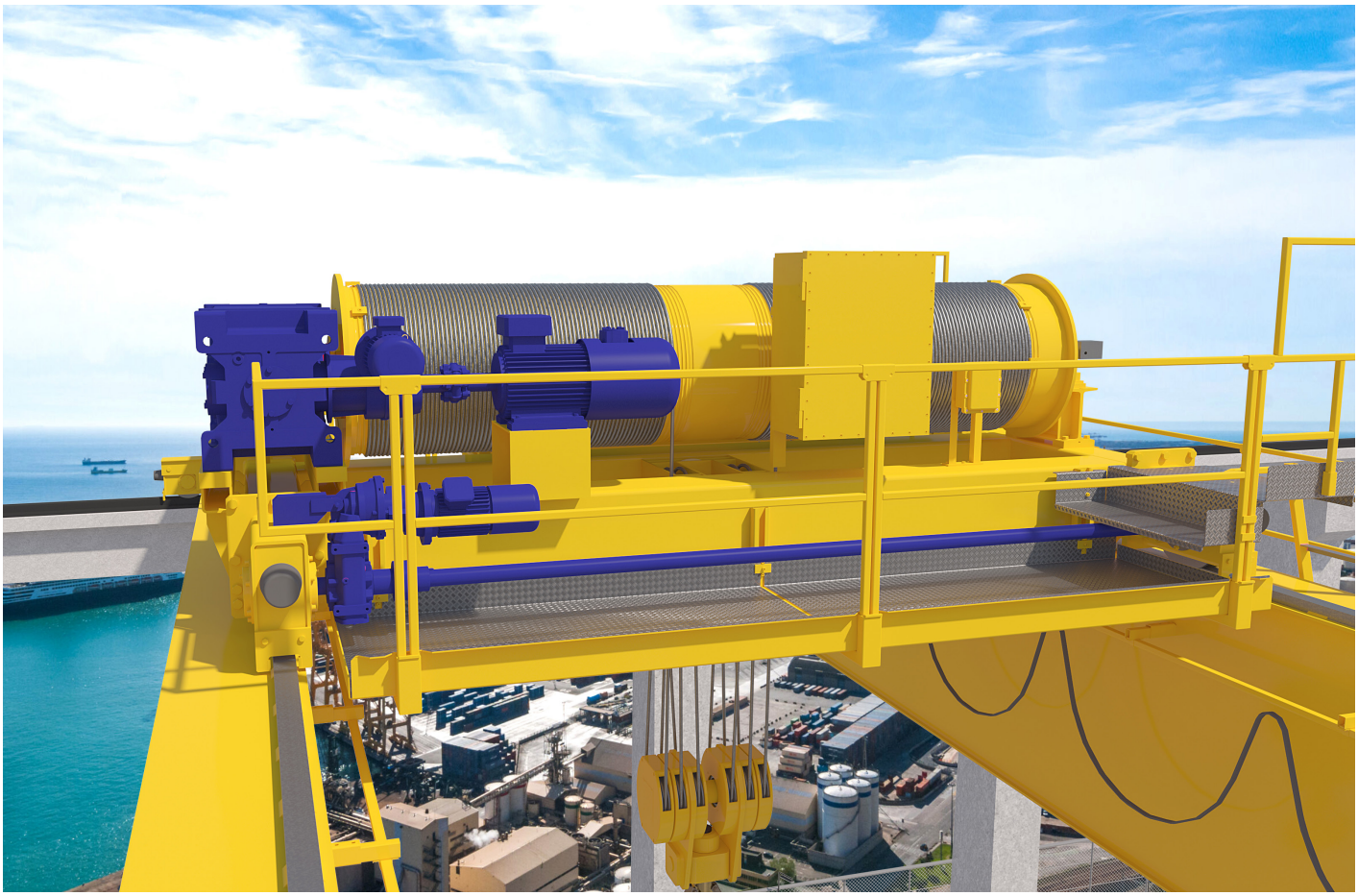
In the case of double speed, the lifting gearbox of the ARG series has a second stage incorporating a differential system, a true hallmark of Italkrane, which allows the application of a second self-braking motor of adequate power to obtain the slow speed with a 1/10 ratio compared to the high speed, much appreciated by operators as it allows precise and safe positioning of loads. With this system, contrary to the use of dual-polarity motors, it is possible to vary the speed with the load in motion and suspended. Furthermore, should one motor fail, it would always be possible to work with the second, avoiding production losses, shortening idle time and increasing productivity.

Superior safety and long-lasting reliability

Safety and reliability are hallmarks of all ARG winches. The application of the most advanced technologies used in design, choice of materials and production methods, combined with over 60 years' experience in hoisting, is the best guarantee of an excellent product.

Safety and reliability are further guaranteed and increased by the braking and power transmission system used. The highly efficient brakes, which are subject to truly little maintenance, are fully protected against atmospheric agents, guaranteeing their functionality and efficiency for the entire service life of the winch.

The gearboxes used for the ARG series winches are manufactured with the utmost care, which, combined with the high degree of precision in the machining of the gears, guarantees high efficiency values and trouble-free operation even after many years of intensive use.



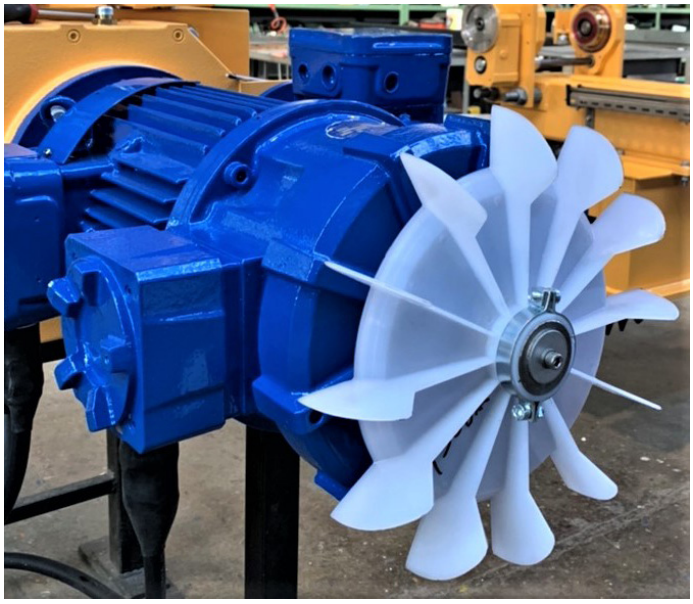
ARG rope winches: a solution for all your handling needs

The ARG series of winches can fulfill a very wide variety of applications. With a wide range of load capacities, trolley speeds and unique features supplied as standard, it is a safe and reliable choice for every handling requirement. Specially designed solutions are available on request to meet your every need, even the most specific.

		Classification of mechanisms according to ISO 4301/1					
		M3	**M4**	**M5**	**M6**	**M7**	**M8**
ARG 108							
Capacity (t)		-	50	40	32	25	20
N° load ropes	8						
N° pulling ropes	2						
Φ rope (mm)	20						
Vs (m/1') - kW	3		30,0	30,0	22,0	15,0	12,0
Vs (m/1') - kW	2		22,0	18,5	15,0	12,0	9,0
ARG 112							
Capacity (t)		-	80	63	50	40	32
N° load ropes	12						
N° pulling ropes	2						
Φ ropes (mm)	20						
Vs (m/1') - kW	2		30,0	30,0	22,0	15,0	12,0
Vs (m/1') - kW	1,4		22,0	18,5	15,0	12,0	9,0
ARG 208							
Capacity (t)		80	63	50	40	32	25
N° load ropes	8						
N° pulling ropes	2						
Φ ropes (mm)	22						
Vs (m/1') - kW	1,8	30,0	22,0	18,0	15,0	12,0	9,0
ARG 212							
Capacity (t)		125	100	80	63	50	40
N° load ropes	12						
N° pulling ropes	2						
Φ ropes (mm)	22						
Vs (m/1') - kW	1,2	30,0	22,0	18,5	15,0	12,0	9,0
ARG 216							
Capacity (t)		160	125	100	80	63	50
N° load ropes	16						
N° pulling ropes	2						
Φ ropes (mm)	22						
Vs (m/1') - kW	1	30,0	30,0	18,5	15,0	12,0	12,0

STANDARD FEATURES

- Second lifting speed obtained by a differential system (1/10 ratio) involving two motors and two brakes. In this case the gearbox includes the addition of a second stage and incorporates a differential system which allows the application of a second self-braking motor of adequate power to obtain the slow speed. The speeds obtained are four in number since, by differential effect, the basic speeds can algebraically add up to the simultaneous action of the respective control buttons. With this system, contrary to the use of motors with dual polarity, it is possible to vary the speed with the load in motion and suspended. Furthermore, should one motor fail, it would always be possible to work with the second, avoiding production losses. All gearboxes are lubricated in an oil bath.

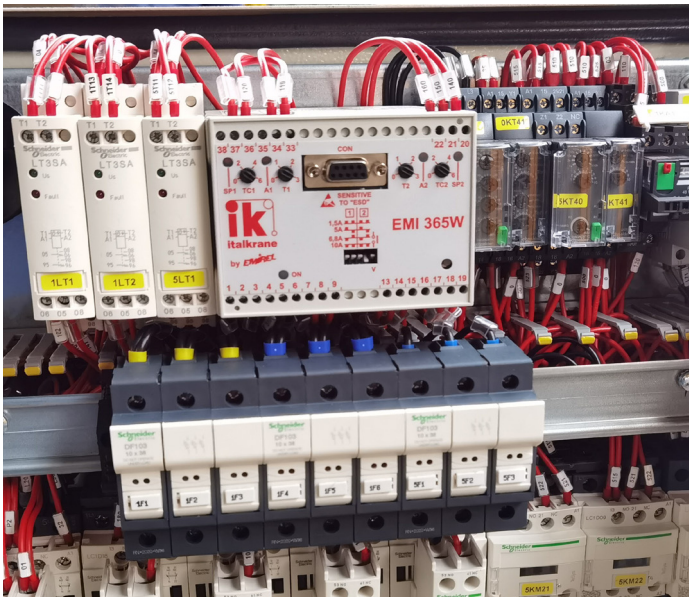


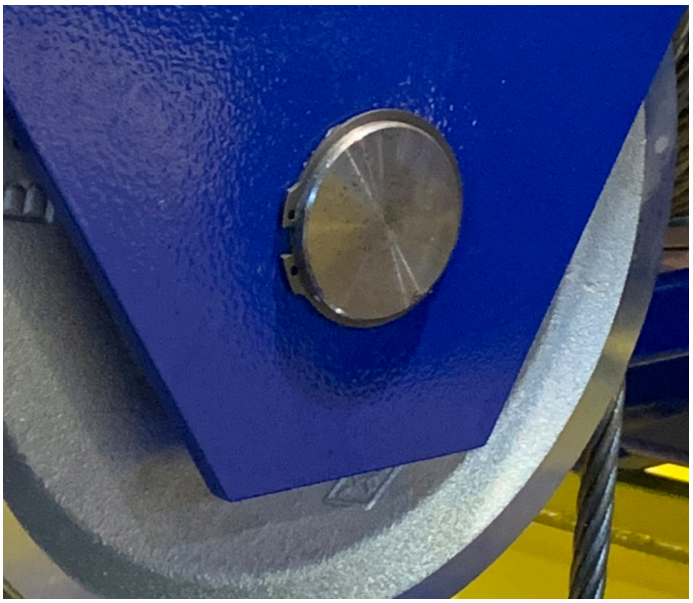
- Symmetrical pull (True Vertical Lift) with double rope output from the drum and 2 to 16 pulls on the block, depending on the load capacity. The symmetrical reeving supplies precise and correct load positioning, increasing safety levels when handling heavy, high-value loads.

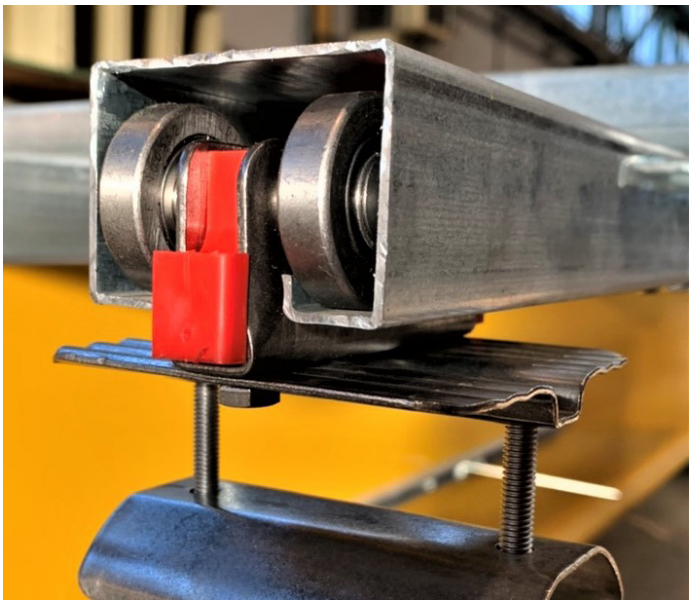
- Brakes specially designed for lifting service with twice the torque of the motor and suitable for heavy duty service in Safe Area or Atex -IEC Ex version.

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

- Standard hardware protected by Geomet 321 grade B coating. GEOMET® 321 is used for corrosion protection of fasteners and all metal parts (zinc flake technology.) High corrosion resistance: Salt spray test according to IS0 9227/ASTM B117 Cyclic







tests > 240 hours without white rust > 720 hours without red rust.

- Screws < M10 stainless steel grade A2 70.

- Watt-metric electronic load limiter designed for specific lifting requirements. It detects the load variation using the power absorbed by the motor as a reference parameter. Due to the linear trend of the power (P) throughout the application amplitude of the motor, it is possible to detect any load variation (RESISTANT TORQUE) by means of a watt-metric relay.

- Slow gearbox shafts made with a polygonal DIN 32711 profile, which avoids the harmful notches caused by keyed or splined shafts and makes decoupling easy, even after years of operation.

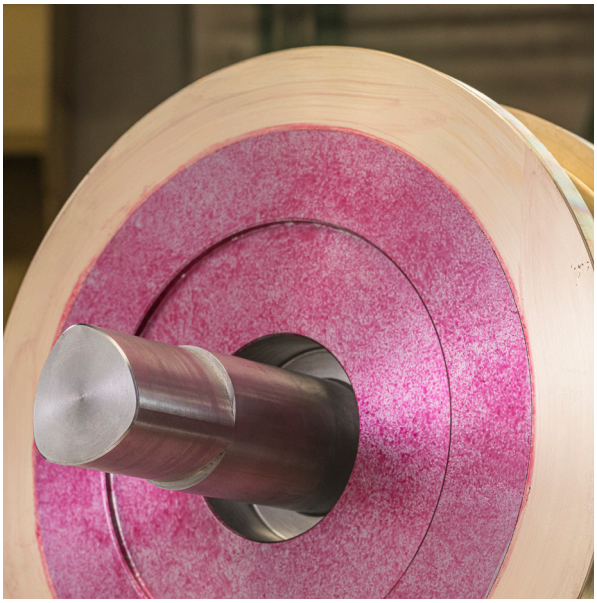
- All exposed surface of the pins (of wheels, sheaves etc.) are protected from corrosion by a nickel/chrome coating (Test of resistance in neutral salt fog >1000 h as per EN-ISO 9227)

- Sealing rings /Seeger exposed to weathering in stainless steel A2.

- All trolley wheels used in Ex machines made of AISI 304.

- All-round cable glands used in Ex machines, made of chrome-plated brass, are additionally protected by PVC sheaths. Benefits of sheath application: reduce collection of foreign matter and dust; ideal protection when high fluid levels are present; used to minimize the risk of dirt or foreign matter accumulating on the cable body; provides additional protection & improves IP; effective solution for weather and corrosion protection of a cable gland.

- Enclosure hinges made of AISI 304.
- Wheels in Ex/anti-spark design, made of highly wear-resistant and thick rolling band in bronze/aluminum alloy.
- Bronze plated Ex machine hooks.
- Multicore power and control cables, for Ex machines, shielded type with XLPE insulation and halogen-free EPDM or PVC outer jacket and fire retardant. Reduced emission of toxic/corrosive gases and opaque smoke in the event of fire. Designed specifically for our lifting equipment. Cable construction: flexible conductor in annealed electrolytic red copper; XLPE insulation; red copper braid screen; outer sheath of thermoplastic rubber type EPDM or PVC - UV-resistant.
- Lifting limit switch with safety contact (redundancy) on lifting.
- Grooved, seamless, and large diameter drum.
- Class F motor insulation with class B delta. Service S4. Intermittency 40 % heavy-duty.
- Mechanical degree of protection IP 55.
- Control relays of sequence and phase failure.
- Two-position trolley travel limit switches.
- Anti-condensation heater in control panels.
- Rope safety factor ≥ 5.
- Galvanized ropes.

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Some of the main options available for equipment installed in ‘safe area’ as well as for those in Ex-classified areas.

- Control with radio remote control station
- Rope guide, with bronze anti-friction sector, for increased smooth unwinding of the rope.
- VFDs (inverters) for hoisting and trolley (picture shows an example of a 40-t capacity win-ch working in twins, suitable for operation in Zone 1 IIB T3).
- IP66 protection for motors and electrical control equipment (std for Zone 21-22)
- Anti-derailing devices.
- Heating resistors for motors.
- Motors with PTC or PT100 thermistors.
- Motors supplied with condensation drain valves.
- Winches suitable for operation at low temperatures (-50 °C).
- TR-CU certification.
- Class H insulation.
- Rail cleaning brushes.
- Hook rotation locking system.
- Anti-collision systems.
- Counters for number of starts / hours of operation.
- For outdoor installations, protective canopies and anti-condensation heaters for motors.
- AISI 304 or 316 stainless steel enclosures.
- Power supply lines fully made in AISI 304 or 316 stainless steel.
- Special painting cycles.
- Machines manufactured according to customer specifications

Italkrane is recognized internationally as a specialist in explosion protection and is regarded as one of the world references in explosion protection technology. The safety of people and machines operating in potentially explosive gas and dust atmospheres is the main aim of our business, and we never compromise with it.

The experience and knowledge of many decades, our basic research and development, and approvals obtained with INERS and other testing institutes in many countries guarantee our competence. The hoisting technology used by italkrane is among the safest available on the world market for all kinds of industrial activities, such as the chemical, petrochemical, pharmaceutical, food industry and the electrical, offshore, and natural gas liquefaction (LNG) industries.

The ARG series winch program is based, without exception, on the proven modular range of IK components. All components of the explosion-proof winches - from the brake to the controls and control panel - are manufactured in-house. This guarantees comprehensive, high-quality explosion protection, which users, crane manufacturers and plant builders around the world have been relying on for decades. The strict ATEX directives and IECEx standards for mechanical and electrical explosion protection are of course complied with.

Benefits

- Load capacity from 32 to 160 t.
- Fast and precise load positioning, without the necessity of continuous adjustments.
- The reduced dynamic loads extend the service life of the lifting motor and gearbox and protects the entire system.
- Standard speed range 1:10.
- Ambient temperature -50 °C to +55 °C.
- Protection according to IEC/EN 60529 IP55 IP66.
- Standard finish/painting color RAL 5010 and, on request, according to customer specification in all other colors, according to RAL table. Polyurethane finish Epoxy resin base (D.F.T. 240/320 µm and above)

The Engineering

Our engineers innovate and customize products to adapt the lifting and transport of loads to the increasingly complex and challenging demands of the market, even in explosive areas. Relying on the technological reliability of our proven product lines, we focus on the development of lifting technologies applied to standard and customized cranes, carefully designed, and manufactured to the highest quality standards. Few other manufacturers can offer such a wide range of quality, cost-effective and customized products. Our expertise and knowledge gained from over 60 years of experience in crane technology give us the flexibility to quickly develop and produce the optimal solution for your project. On demand, all non-standard winches and customized solutions are available in explosion-proof versions for Zone 1, Zone 2, Zone 21 and Zone 22.

- At your disposal you will have
- Perfectly adapted winches designed to maximize your project.
- Over 60 years of experience and knowledge in each winch.
- Short development times.
- Solutions that combine economy and technology thanks to the modular system.
- High reliability thanks to the use of tried and evaluated standard components.
- Guaranteed high quality thanks to certified in-house production.
- All customized solutions are available in explosion-proof versions according to ATEX and IECEx standards.

ITALKRANE lifting equipment

Gru

Paranchi elettrici a fune

Argani

Macchine speciali

Paranchi a catena

Crane kit

Componenti

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