

NEXT LEVEL
PARTNERSHIP



Electric hoists
and lifting components
explosion and sparkproof



verlinde.com

 **VERLINDE**[®]
LIFTING EQUIPMENT



LEADING French manufacturer of lifting equipment

Leading French manufacturer of lifting equipment, VERLINDE's long production runs include electric belt hoists, electric winches, jib cranes and crane components in their VERNQUILLET (France) production centre. From CAD/CAM design to production by machines amongst the most modern in Europe combined with the know-how of skilled staff, every VERLINDE brand lifting unit ensures reliability and quality for users.

NEW regulations, new products

VERLINDE have designed a range of explosion and spark proof hoists, with a close awareness of their customer's requirements, for use in many different fields such as food industry, chemicals, petrol, gas industries, and any environment where safety in production is a key concern. This range of lifting units is now manufactured to comply with the new ATEX 100a (94/09/EC directive applicable in 2003) and the EC standard (EC marking, EC documentation, EC inspection certificate, EC compliance approval). To comply with requirements of the ATEX 100 directive equipment is classified into 5 categories according to the explosion risk level in the working area.



Material available in **explosion proof** version



Material available in **Zone 22** version



Material in compliance with the new **ATEX 100a** directive (94/09/CE applicable in 2003)



Material available in **sparkproof** version

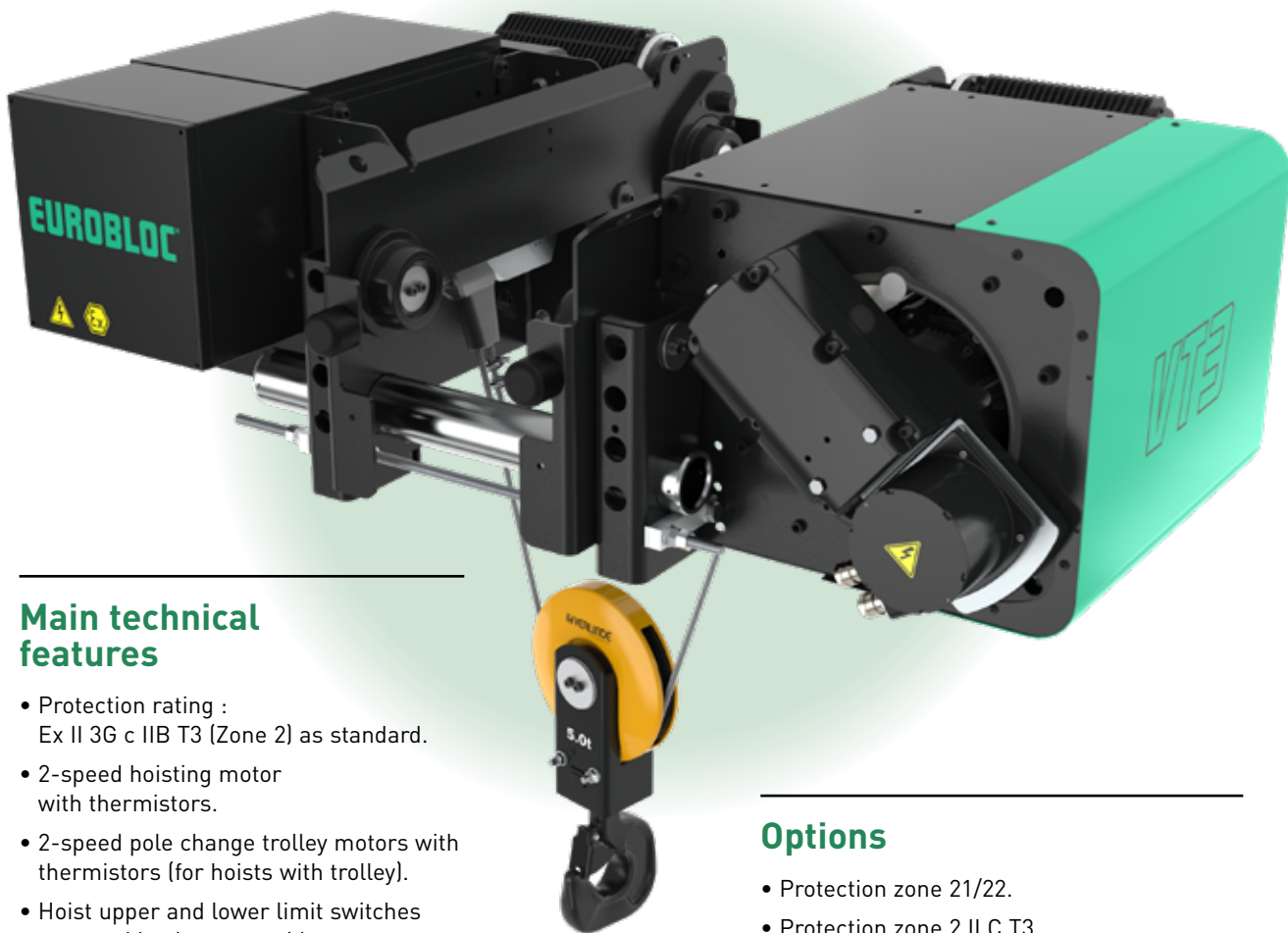




EUROBLOC® VT

Electric sparkproof wire rope hoist

For loads from 800 to 80.000 kg



Main technical features

- Protection rating :
Ex II 3G c IIB T3 [Zone 2] as standard.
- 2-speed hoisting motor with thermistors.
- 2-speed pole change trolley motors with thermistors (for hoists with trolley).
- Hoist upper and lower limit switches operated by the rope guide.
- Electro-mechanical overload protector.
- Hoist electrics with main contactor and 48 V contactor control.
- Motor protection IP66 according to EN 60 529.
- Push button box with an emergency "stop" button.
- Ergonomical hook with safety latch.
- Galvanised wire rope.
- Operation hours meter.

Options

- Protection zone 21/22.
- Protection zone 2 II C T3.
- Protection EEx de IIC T4 (instead of IIB).
- Ramshorn hook.
- Non-rotating hook.
- Remote control systems.
- Travelling limit switch.
- Special rail gauge for crab trolley.
- Non standard rail width for monorail trolley.
- Greater safety :
 - Bronze travelling wheels.
 - Bronze roller anti rail jump, non ferrous metal plated.
 - Bronzed hook.

EUROBLOC[®] VT

Electric sparkproof wire rope hoist

For loads from 800 to 80.000 kg



Sparkproof hoist motor

Tropicalized motor as standard for longer life span.
Power rating 60% motor cooling increased by 30% (tunnel effect).

Special design for explosion proof lifting (ATEX).

2 hoist speeds for greater precision.

Motor cooling increased by 30% (tunnel effect).

Limit switch

The limit switches, accessed on the front face of the drum, manage the hook's upper and lower limit switches.



Trolleys and pole change motors

Tropicalized motor as standard for longer life span.

Special Ex bronze treatment of wheels (option).

Optimal positioning of trolley wheels.

The 4 trolley wheels share the load exactly to optimize your rail gauge.



New generation hoist drum

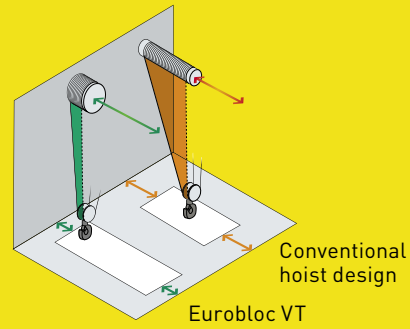
The very high wire rope/drum ratio (twice the standard ratio) increases wire rope life span and reduces "C" approach data of the hook.

The best "C" factor on the market for optimal use of the size of your buildings and optimal use of work areas (save in building costs).



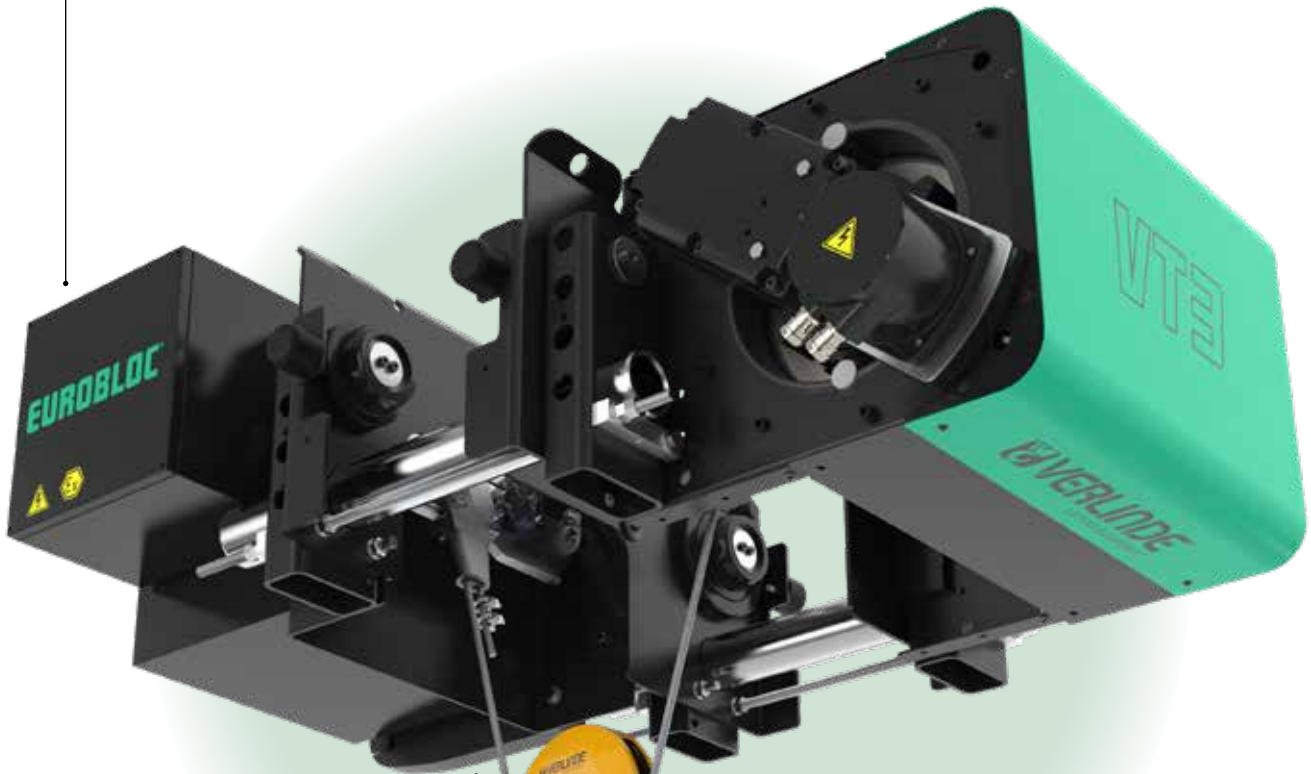
Explosion proof electric cubicle

The electric cubicle provides protection rating IP 65 as standard. Low voltage control for greater safety.



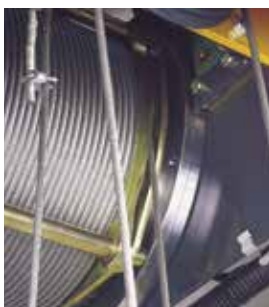
VT design

“VT new concept” The pulley block presents only a slight lateral shift during hoisting motion (virtually vertical lifting) for a fine positioning of your load.



Rope guide

New “very high performance” cable guide system. No guide system fouling to enable operation in the most difficult environments. Galvanized steel rope as standard with high safety factor (factor 4.6).



Hook and pulley block

Special Ex bronze treatment of hook (option) Small space requirements, bearings lubricated for life, GGG forged iron pulleys, ultra resistant. The high wire rope/pulley diameter ratio increases wire rope life span. Rotating hook and pulley block with safety latch.





EUROCHAIN[®] VL

Electric sparkproof chain hoist

For loads from 125 to 10.000 kg



Main technical features

- An ideal solution for low and medium capacities from 125 to 10,000 kg.
- Hook suspended model or with push or electric trolley.
- Protection rating as standard : Zone 1, EEx de IIB T4 in compliance with EN/DIN.
- Standard height of lift 3 m.
- 2 hoist speeds (standard XCC : 2 speeds).
- 2 trolley motor speeds (standard XCC : 2 speeds).
- IP55-speed hoisting motors with thermistors.
- Galvanised load chain.



EUROCHAIN[®] VR

ZONE 22



EUROCHAIN[®] VL

ZONE 1

- Stainless steel hand chain if chain travel trolley.
- Pendant push button box + control cable 2.5 m.
- 4 buttons pendant for hoist attached to electric trolley.
- 6 button box on hoist attached to electric trolley.
- Power supply 400 V / 3Ph / 50 Hz or 415 V / 3Ph / 50 Hz.
- Low voltage control 48 V.
- Torque limiter.
- Chain collector.
- Emergency stop button with main contactor.
- Epoxy paint with 5 years guarantee.

EUROCHAIN[®] VL

Electric sparkproof chain hoist

For loads from 125 to 10.000 kg



Limit switch

Electric cam limit switch (option) ensures safety of hoist operations. The user can now focus his attention on load travel.



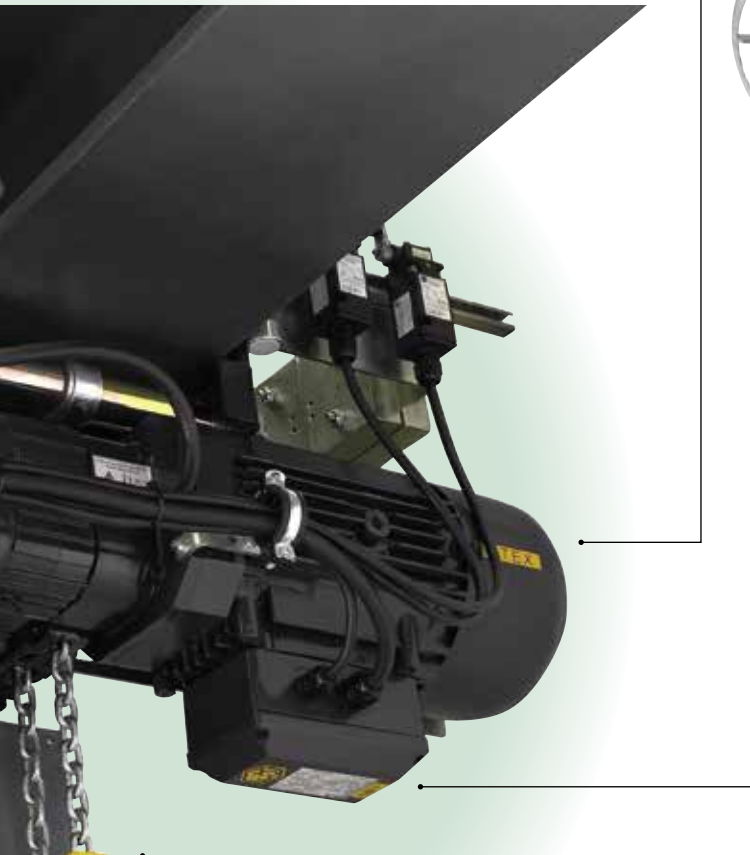
Options

- Protection EEx de IIC IICT4 (instead of IIB) / Zone 21 / Zone 22.
- Lifting upper and lower limit switch.
- Travel limit switch.
- Special trolley speed.
- Monorail bogie trolley.
- Monorail short headroom trolley.
- Keylock on push button box.
- Time meter.
- Special supply voltage.
- Remote control.
- Non-standard IP protection rating.
- Special paint.
- Stainless steel load chain.
- Greater sparkproof protection : bronze travelling wheels, bronze roller anti-rail jump, non-ferrous metal plated, bronzed hook, bronze load and return wheels.



Gear box

Improved hoist compactness.
Low noise level when running
thanks to grease-lubricated
pinions and rectified,
treated straight teeth.



Motor

Electro-magnetic disc brake type with linings
material designed for lifespan of hoist FEM groups,
easy to access and adjust.



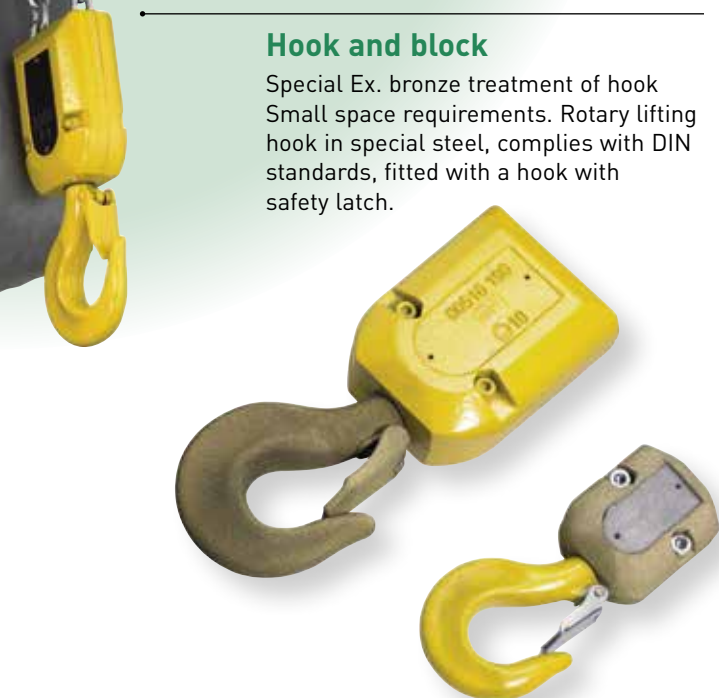
Explosion proof electric cubicle

Quite large, built into the equipment, it contains all
the components (plate, contactors, transformer, etc.)
and is easy to access for maintenance purposes,
IP55 protection.



Hook and block

Special Ex. bronze treatment of hook
Small space requirements. Rotary lifting
hook in special steel, complies with DIN
standards, fitted with a hook with
safety latch.



Load wheel

5 or 6 pockets (depending on model),
treated and rectified, machined in a
single operation.

Chain guide

Ensures precise positioning of the chain
guide on the load wheel.



EUROLIFT® BH

Explosion proof electric belt hoist

For loads from 500 to 5.000 kg



Main technical features

- Ideal clean environment solution such as for chemical and food industries.
- Suspended model or with push, chain driven or electric trolley.
- Protection rating as standard: EEx de IIB T4.
- 2 mechanical variable speed hoisting motors.
- High resistance polyester belt (good resistance to acids, no action from solvents, rotproof, antistatic).
- Motor protection IP 55.
- Hook with safety latch.
- Electrically isolated hook block.
- 4 buttons pendant for hook suspended hoist on manual trolley.
- 6 buttons pendant for hoist attached to electric trolley.
- Emergency stop button with main contactor.
- Power supply 400 V / 3 Ph/ 50 Hz.
- Overload limiter.
- Upper and lower limit switch.
- Electric cubicle with cable gland and low voltage 48 V contactor control.
- For hoists with trolley, 2-speed travelling motor (20 & 5 m/min. or 10 & 2.5 m/min.).
- Epoxy paint with 5 years guarantee.

EUROLIFT® BH

Explosion proof electric belt hoist

For loads from 500 to 5.000 kg



Electric cubicle

- 48V low voltage control.
- Printed circuit for standard voltage.
- NFE 52070 standard.
- Upper and lower limit switches IP 54.
- Protected low voltage control push button box.

Lifting motor

2-speed motor, electromagnetic brake featuring automatic wear compensation. IP 55 protection. Class F insulation. Hoist motor protected by thermal sensors.



Belt

High resistance anti-static polyester belt flame retardant with good dimensional stability and excellent ability to maintain its strength after immersion in boiling water. Excellent ability to withstand attack by acids. Immune to attack by solvents. Rotproof BH5 : Dynema belt (this belt has the same characteristics as those of the BH2, with a greater safety factor).

Options

- Protection EEx de IIC T4 (instead of IIB) Zone 21 / Zone 22.
- Special voltages or frequencies.
- Monorail bogie trolley for curved beam.
- Travel limit switch.
- Greater sparkproof protection:
 - Bronze travelling wheels.
 - Bronze roller anti rail jump, non ferrous metal plated.
 - Bronzed hook.





BH design

The most reduced "C" approach data of hook and "F" approach data of hoist compared with competitors. Low block shift during lifting (virtually vertical lifting). Thanks to its principle of construction EUROLIFT BH provides "virtually vertical lifting" as standard for a fine positioning of your load.



Overload limiter

Overload limiter as standard incorporated in hoist preventing ascent in the event of overload (in compliance with "MACHINES" directive).



Lifting block and hook

Stainless steel block and hook as options.



Gear box

3-step helical gear, life-lubricated (semi-fluid grease) comprising O-ring seals and lip seal at shaft end (BH2).



Type VHR Ex manual chain hoist

For loads from 500 to 10.000 kg



Manual trolleys and hand chain blocks designed to be used in explosive atmospheres do not have to comply with specific standards. However, the use of this type of lifting equipment of its very nature could lead to sparks (creation of particles by friction). To deal with this problem, VERLINDE's manual trolleys and hand chain blocks are available in ATEX version.

Marking : Ex 11 2 Gc IICT4.

Main technical features

- Overload limiter as standard.
- Chrome plated block shell.
- ISO hooks with safety latches.
- Galvanised and calibrated load chain.
- 60 µm bronzed hook.
- Stainless steel hand chain as option.

Options

- Corrosion proof version with stainless steel lifting chain available as option.
- Chain collector as option.





Type VHR Ex manual trolley

For loads from 500 to 10.000 kg



Manual trolleys and hand chain blocks designed to be used in explosive atmospheres do not have to comply with specific standards. However, the use of this type of lifting equipment of its very nature could lead to sparks (creation of particles by friction).

To deal with this problem, VERLINDE's manual trolleys and hand chain blocks are available in ATEX version. Marking : Ex 11 2 Gc IICT4.

Main technical features

- For loads up to 10 tonnes.
- Travelling trolley operated by push action on load.
- 60 µm bronze treated wheels.
- Rubber buffer.
- Stainless steel hand chain on travel version with handwheel and chain.

Options

- Chrome plated trolley
- Trolley with short headroom and travel with handwheel and handchain.



Type ZHR Ex manual chain hoist

For loads from 500 to 20.000 kg



Main technical features

- Machined chain sprocket and gears.
- Hoist mechanism with 4 bearings.
- Overload limiter as standard.
- Heavy duty, galvanized finish hoisting chain.
- Electrogalvanized hand chain.
- ISO hooks with safety latches.
- WESTON type lifting brake.
- Offshore high resistance powder coating (220µ).

Options

- Chain bag.
- Stainless steel load chain.
- ZHR with short headroom trolley (HPR).



Type ZHV Ex manual chain hoist

For loads from 500 to 50.000 kg



Main technical features

- Epoxy Painting (min. 50 µm).
- Machined chain sprocket and gears provide smoother, more efficient operation.
- High strength alloy steel load chain with corrosion-resistant galvanized
- Galvanized hand chain.
- ZHV's compact design offers safety together with reduced weight. Ideal for construction and maintenance applications.
- Steel casing solidly protects chain sprocket, gearcase and handwheel cover.
- Upper and lower alloy steel ISO hooks with safety latches.
- Delivered with CE certificate.

Options

- ZHV with EX ATEX marking (bronze coated hook, polyester paint,...).
- ZHV full stainless steel (hoist frame, chain, hook,...).
- ZHV with Aluminum Ceramic Coat (min. 30 µm).
- ZHV with Aluminum Ceramic Coat (min. 30 µm) and additional polyester paint.
- ZHV with Offshore paint coating.
- Locking device on trolley, activated by hand chain.
- ZHV with normal headroom trolley (HPN).
- ZHV with short headroom trolley (HPR).
- ZHV with trolley for curved beam (HPNB).
- ZHV with short headroom trolley (HPR).



COMPOSANT® +

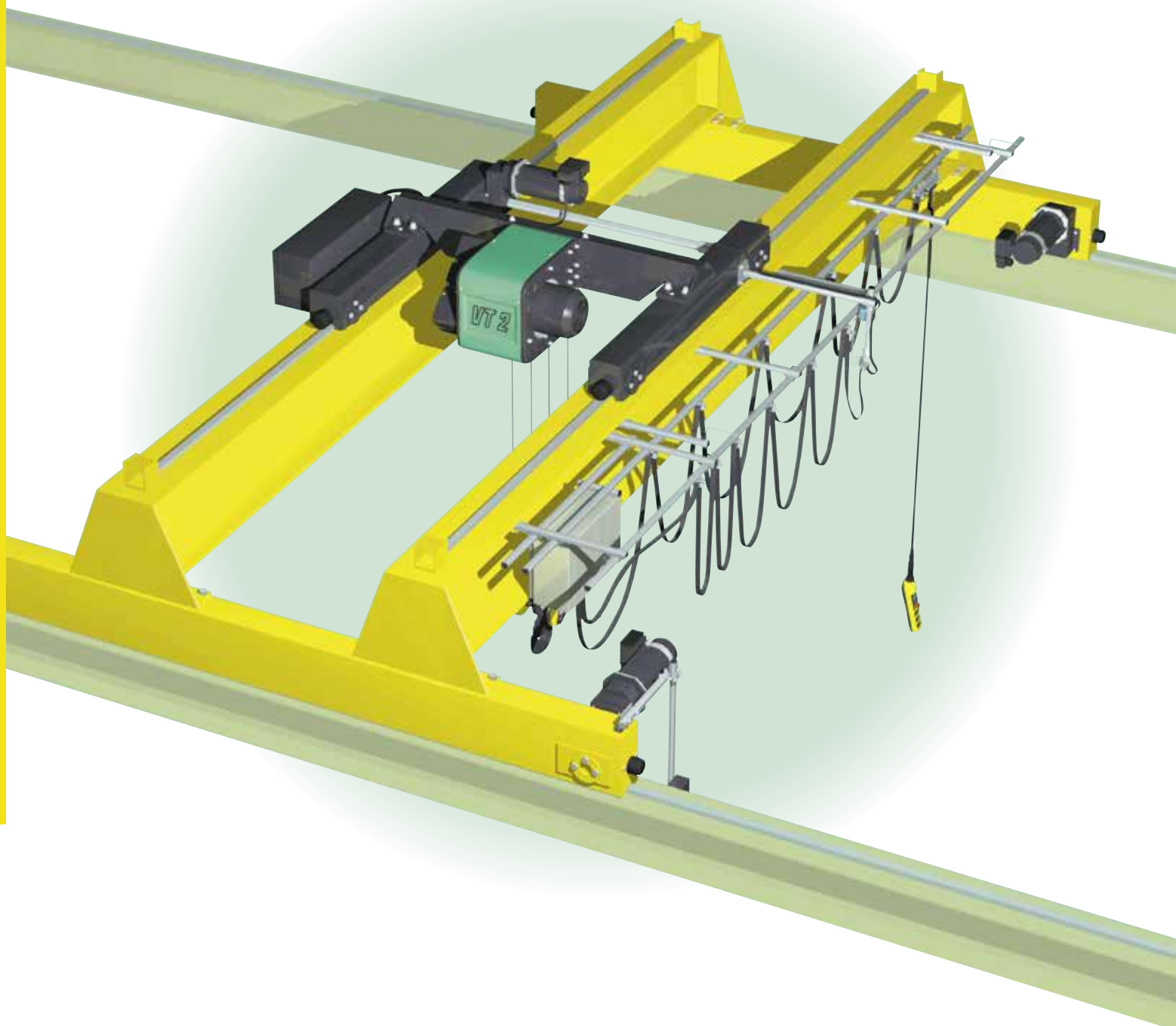


Ex components for standart cranes



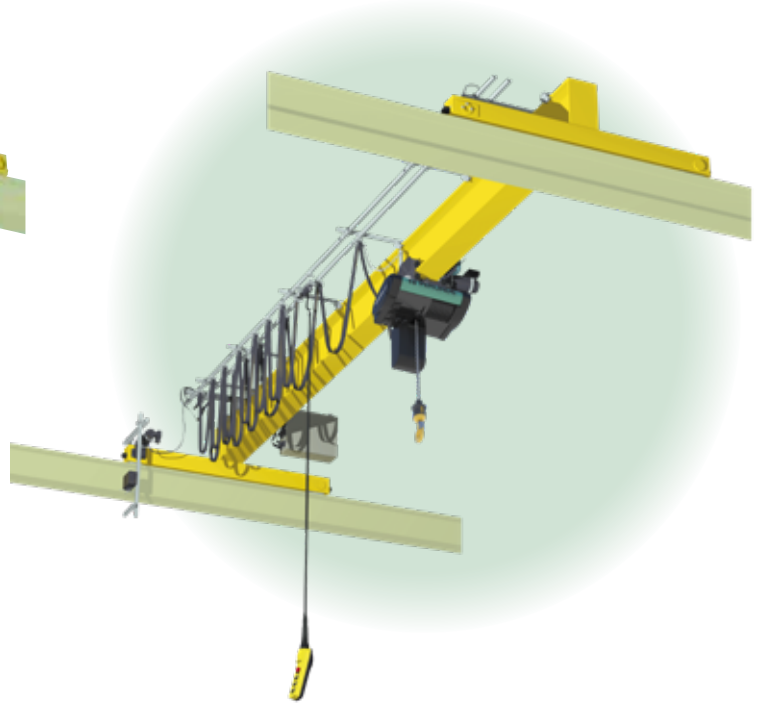
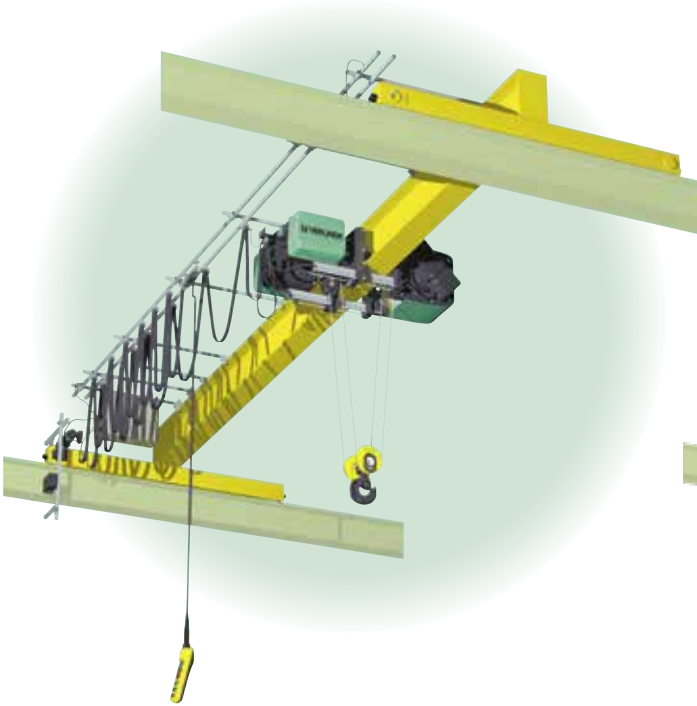
Double girder

Crane kit



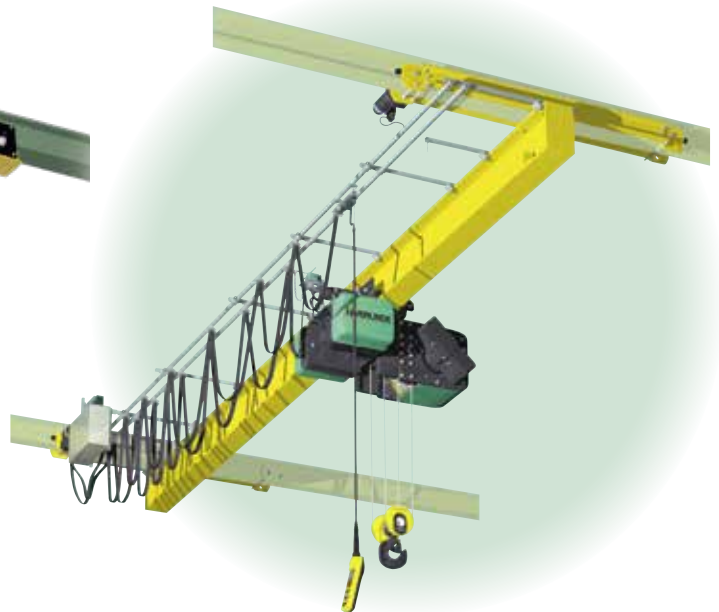
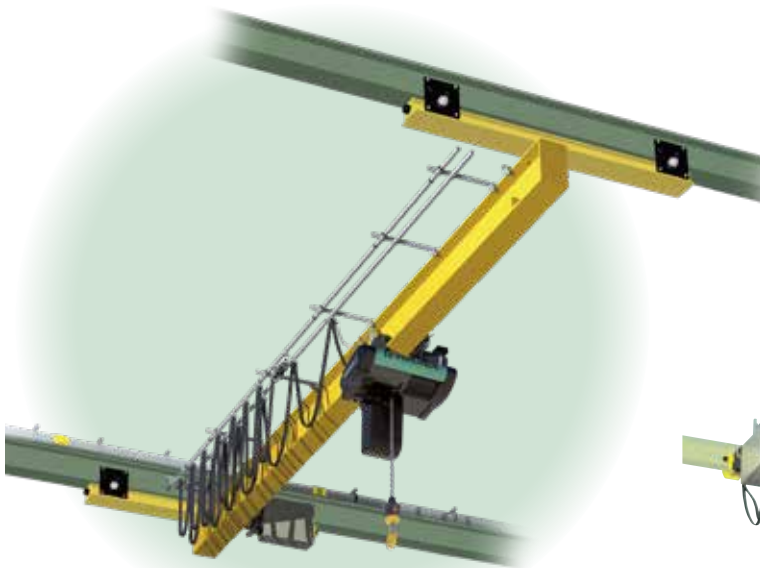
Single girder top running

Crane kit



Single girder underslung

Crane kit



COMPOSANT® +



Top running end carriage for crane

Underslung end carriage for crane



Main technical features

- Protection rating: EEx de IIB T4.
- End carriages supplied with channels and adjustable trolleys.
- 2 travelling speeds.
- 2 geared wheels per carriage.
- Drive units with brake.
- Motor protection IP 55, insulation class F.
- Motors thermal protection.

Options

- Special voltage.
- Travel limit switch.
- Tropicalized motors.
- Greater sparkproof protection.
- Non standard wheel groove.

Main technical features

- Protection rating: EEx de IIB T4.
- End carriages with wheels and buffers.
- Motor gear with 2 travelling speeds.
- Travelling motor(s) with brake(s), IP 55 protection, class F.
- End carriages with top girder connection.
- Motors thermal protection.

Options

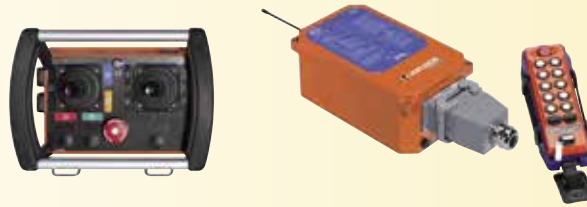
- Special voltage.
- Travel limit switch.
- Tropicalized motors.
- Greater sparkproof protection.
- Non standard wheel groove.



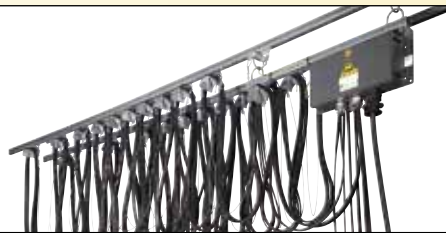
COMPOSANT® +

Range of crane components

Ex remote control system



Ex Explosion-proof power feed systems, round and flat cable types



Ex cable gland with increased safety



Ex lighting system



Ex range of visual and audible warning system



Ex push button range for hoists and cranes

- Push button box Sealed, IP 65 protection with 2, 4 or 6 buttons.
- 48V low voltage control, emergency stop button.



Suspended crane electric cubicle

- Complete cubicle with aluminium base, and hinged steel cover. Includes terminals and 48 V transformer, crane travel contactors, main contactor, thermal trip relays.
 - EEx... IIB T4 protection.
- Option:** EEx de IIC T4 protection.



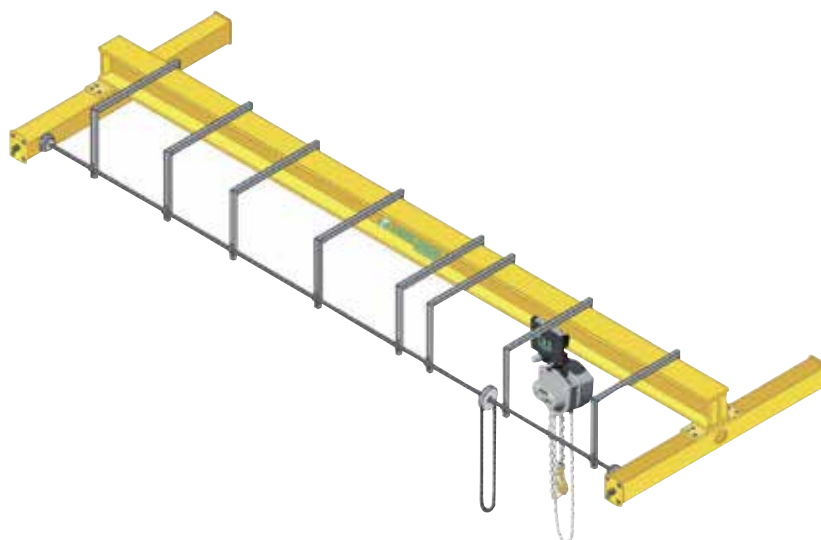
VTP-VUP

VTP manual top running or VUP suspended crane kit



Main technical features

- Sets of components for manufacture of manual top running or underslung crane with sparkproofing features.
- Girder or crane manufacturing drawings.
- Support brackets for long travel drive mechanism (standard drawing supplied).
- Capacity from 500 kg up to 10 tons.
- Span from 4 up to 16 m.



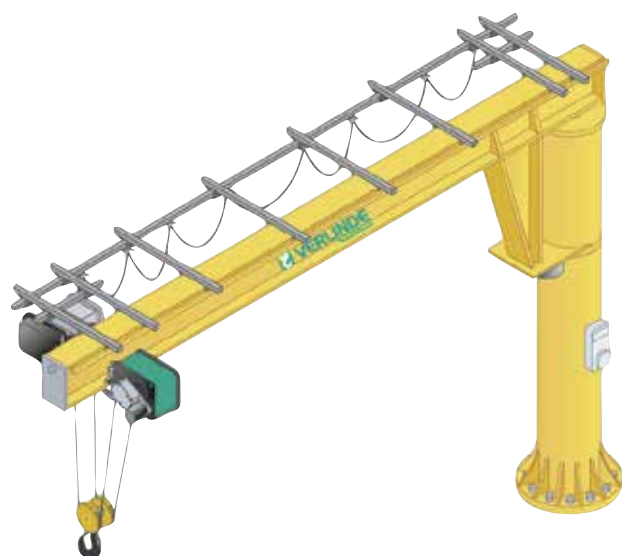
EUROSTYLE[®]

Wall or column-mounted jib cranes



Main technical features

- Explosion proof and sparkproof jib cranes : mounted on a wall or on a column, with total or partial rotation capability, manual or motorized.
- Individual handling is essential to each workstation to prevent a slowdown in the production rhythm when using the travelling crane in service at the production plant.
- VERLINDE offers a wide range of jib crane that are strong, with an attractive design and have high level of performance.



Gas groups and temperature classes

Zone	0	1	2	Safe area
Explosive atmosphere				
Presence of explosive atmosphere	Constant or for long periods	Occasionally during normal operation	Rarely or for short periods	Practically never
Ignition sources				

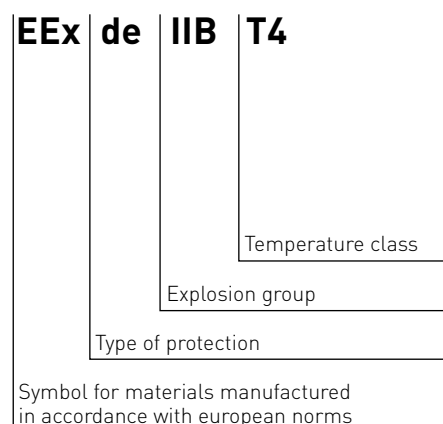
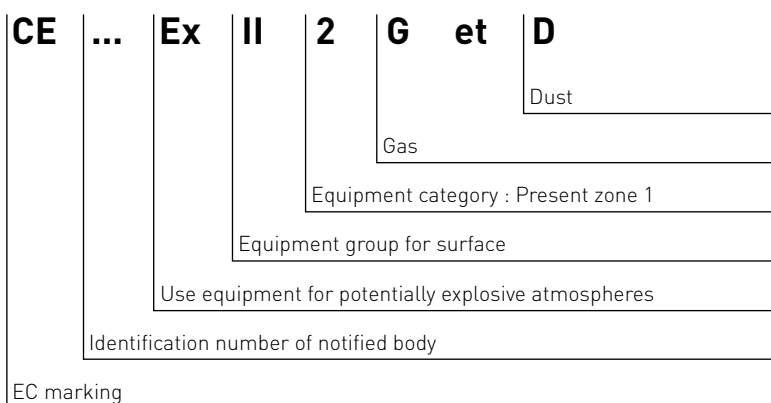
Equipment classification

Max. surface temperature	IIA	IIB	Equipment category
T1 - 450° C	Methane – Carbon Monoxide Ammonia – Acetone Toluene	Cyclopropane Cyanhydric acid	Hydrogen 2 independent faults
T2 - 300° C	Propane - Butane	Ethylene - Butadiene	
T3 - 200° C	Gas		
T4 - 135° C	Acetaldehyde		
T5 - 100° C			Carbon disulphide Ethyl nitrite
T6 - 85° C			

Installations are no longer classified as "Area" but as "Category" which takes into account both explosive gas and dust.

	Equipment category	Inflammable substances	Level of protection	Fault protection	Comparison with present practice and IEC
Group I (mines)	M1	Methane, dust	Very high level	2 types of protection or 2 independent faults	Group I
	M2	Methane, dust	High level	1 type of protection or normal operation	Group I
Group II (surface)	1	Gas, vapours, mist, dust	Very high level	2 types of protection or 2 independent faults	Group II Z0 (gas) Z20 (dust)
	2	Gas, vapours, mist, dust	High level	1 type of protection/habitual frequent malfunction	Group II Z0 (gas) Z20 (dust)
	3	Gas, vapours, mist, dust	Normal	Required level of protection	Group II Z0 (gas) Z20 (dust)

EC marking



VERLINDE is:

- The leading French manufacturer and exporter of lifting and handling equipment.
- A comprehensive range of 30 groups of lifting equipment from 60 to 250,000 kg.
- ISO 9001 Quality control certified and ISO 14001 Environmental Management Systems.

In France:

A sales network and after sales service points, EUROPONT travelling crane construction plants and a distributor network.

Abroad:

A customer service in more than 92 countries.



References

Metallurgy, Mechanics, Nuclear

ArcelorMittal, Unimetal, Stein, NFM, Framatome, Alstom

Chemicals, Petrochemicals industry

Sanofi Aventis, Total, Du Pont De Nemours

Aeronautical industry

Aérospatiale, Airbus, Snecma, Eurocopter, Air France, Aéroport de Paris, Dassault Aviation



Agri-food industry

Nestlé, Danone, Bel, Palamatic, Tetrapak, Lactalis

Automobile industry

Renault, Peugeot, Citroën, Scania, Ford, RVI, Volkswagen, Michelin, Massey Ferguson, Manitou, Toyota Industrial Equipment

Other sectors

EDF, SNCF, RATP, Spie, Degremont, Eiffage, Polysius, Baudin Chateaufort



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