ZX HOIST



Street

THE BEST JUST GOT BETTER

PRO-LIFT SOLUTIONS

PERFORMANCE THROUGH EVOLUTION AND INNOVATION

Street

"To achieve the highest possible levels of performance and reliability it is necessary to continuously learn from experience...



...Invest in R&D and pay attention to even the smallest possibility for improvement. Only then can new bench marks for efficient performance and operating reliability be set. Only then can a technology be said to be truly proven."



ZX HOIST: the next generation.

The new ZX hoist generation evolved from the most rigorous application of this philosophy. The original ZX hoist which was launched 10 years ago established Street as a world leader in hoisting technology and has been the company's best ever selling product with an unparalleled record for reliability and endurance in a vast range of applications and environments worldwide.
When it came to developing the next generation it was therefore completely logical to retain the best aspects, such as the highly successful parallel configuration of the motor and drum. Every function of the hoist was reviewed and a whole series of innovations applied to provide new levels of user-friendliness and performance.

Finally we optimised every component using the latest finite element design techniques and a passionate commitment to every performance detail. The result is an easy to operate high endurance hoist incorporating state-of-the-art technology.

A hoist designed to fulfill expectations and improve our customer's productivity. A hoist for tomorrow's world in which only the most productive will prosper.

The new ZX hoist formula for safe and efficient lifting capacities up to 80 tonnes/90 US tons.
Duty classifications up to ISO M7/CMAA Class F.

The new ZX hoist sets the benchmarks in the crane industry. It provides a series of unique benefits for the user. ZX epitomises intelligent design - for easy load handling - impressive performance - exceptional safety levels.

We invite you to compare the following hoist specification with any in the world and we think you will agree ZX represents unbeatable value for money and great investment.

"A hoist for tomorrow's world in which, only the most productive will prosper."

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2
3
1

ZX HOIST: Truly different



1 Extra hoist brake safety

On a conventional hoist, the brake acts on the hoist motor shaft, but in such an arrangement the brake cannot hold the load in the event of failure of the motor shaft, motor coupling or motor connection. ZX Hoists do hold the load in all of the above cases because they are designed with the brake mounted on the hoist gearbox. This braked gearbox arrangement will hold the load even if the hoist motor is removed and it has the further benefit of lower motor operating temperatures because the heat generated by the brake does not soak into the motor.

2 No external hoist gears

The ZX solution for extra reliability and low lifetime cost is to eliminate open gears in the hoist transmission. We achieve this with fully hardened and ground hoist gears submerged in an oil bath inside a substantial hoist gearbox. Others drive the hoist drum via a pinion and spur ring outside the gearbox which might provide the lowest upfront cost. However failure to maintain good grease lubrication of external gearing can result in expensive repairs.

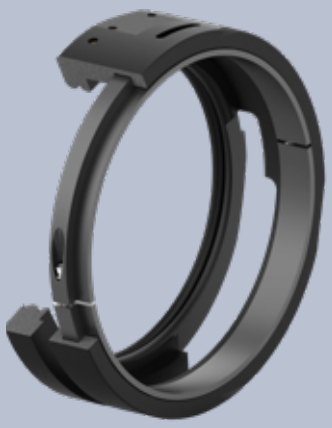
3 Hand brake release

Conventional hoists do not have a hand brake release but there are circumstances when the ability to lower a load without power to the brake is crucial, hence it is standard on ZX Hoists.

WHY ZX?

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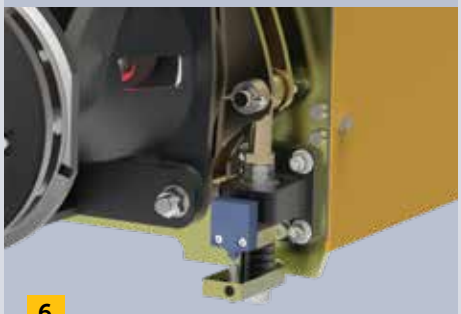
WHY Z



4

Unique solution to prevent ‘slack rope’ failures

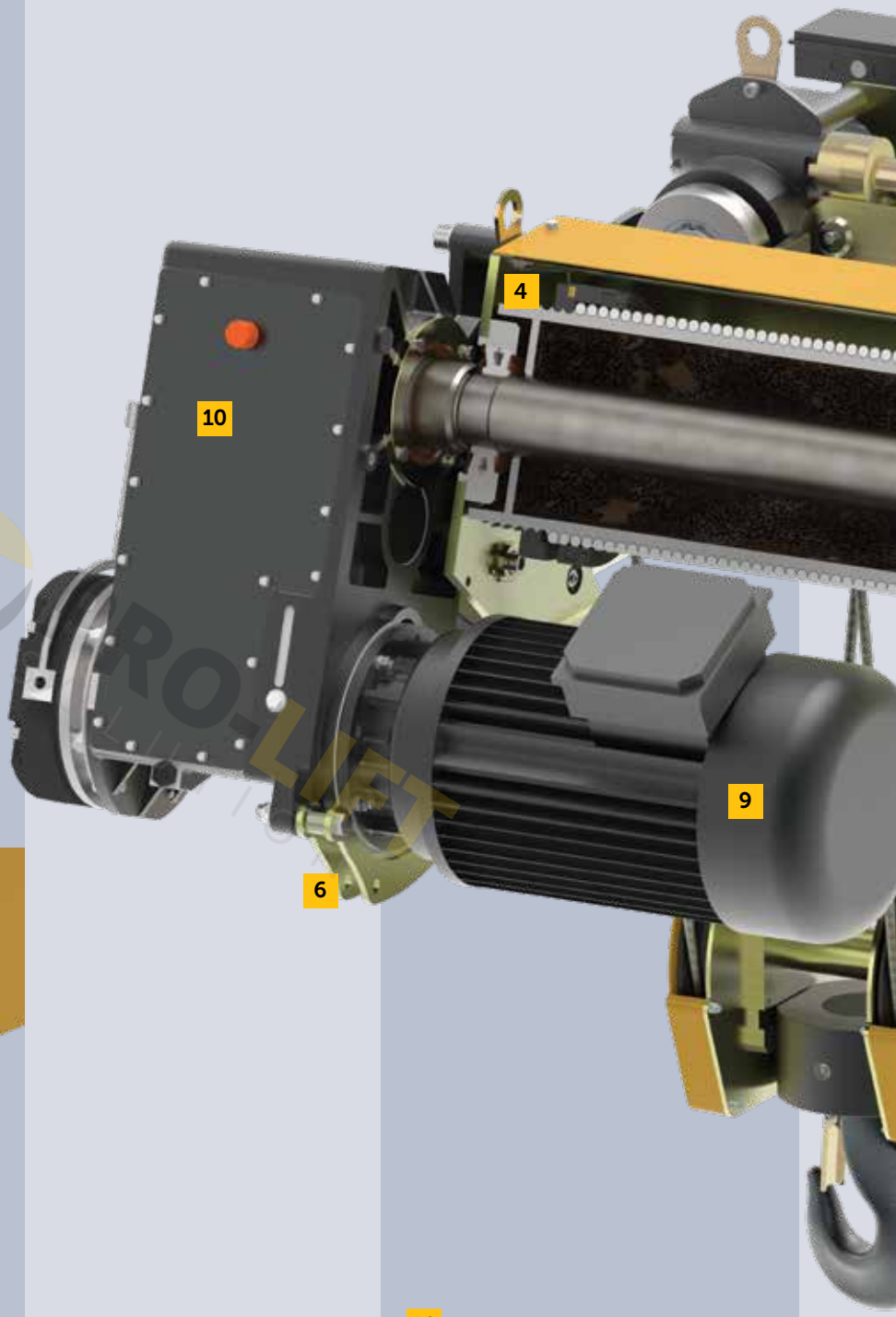
When unloaded, the stiffness of wire rope creates a de-coiling force which can pull rope through a single band rope guide, causing it to be slack in the scroll. If this occurs the guide can collide with the slack rope, damaging rope and/or guide. The ZX solution is a unique double band rope guide, in which a rotating inner band clamps the rope to the drum and prevents it from pulling through. This inner band rotates in and is guided by a static outer band, resulting in the elimination of failures due to slack rope.



6

Additional protection against overloading

ZX hoists have a unique torque arm capacity restrictor between gearbox and hoist frame which senses the total load transmitted by the hoist mechanism, not just the load on the ropes. The device not only protects against an operator accidentally attempting a load greater than capacity, but also protects against an overload caused by impedance of hoist rotation. It does not rely on measuring motor current which can vary due to other factors.



10

Hoist gear inspection facility

Conventional hoists have no means of inspecting the hoist gears without dismantling the hoist. In our opinion it is not possible to assure safety without knowing the hoist gears are free from damage. Hence all Street ZX hoists have a traditional gearbox lid which allows a service technician to view all the hoist gears in minutes.

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7

Unique electrical specification and protection

ZX Hoists are available with certification to CE or to both CSA and UL standards. Quick release plug and socket connections are standard and all panel wiring is identified with termination connection reference. Every hoist is equipped with an 'hours in service meter' continuously recording the total running time since commissioning.



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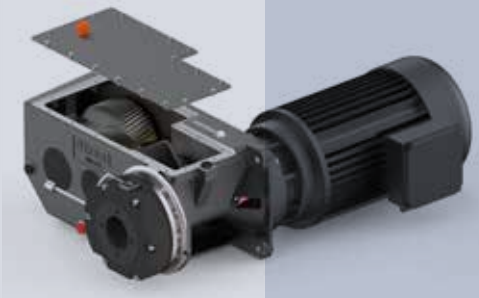
Variable speed drive

Variable frequency drive (VFD) is standard on trolley programmed for ramp and hold with two position controller. This allows the operator to start in micro-speed and ramp up towards full speed, with the ability to hold any speed in between. Alternatively the standard controls can simply be programmed for two pre-set speeds.

5

Unique fail-safe hoist drum

All ZX6 and ZX8 hoists have a continuous shaft through the hoist drum, plus specially designed drum retention flanges. This arrangement ensures that should the drum fail the rope will be retained by the shaft and conversely should the shaft fail, the retention flanges will retain the drum and shaft.



9

Heavy duty external hoist motor

The ZX hoist motor is mounted externally for optimum cooling and maximum accessibility. Motor insulation is a minimum of Class F and overheating protection in the windings is standard. The motor is duty rated strictly in accordance with hoist classification and protected against ingress of dust particles and water in accordance with IP55 (NEMA 3R).

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single gir

Low headroom four wheeled trolley design for capacities up to 15 tonnes/US Tons

We offer an extensive range of low headroom monorail hoists on four wheeled trolleys. Top selling capacities worldwide are 5 and 10 tonne/US Ton but we now offer this arrangement in capacities up 15 tonne/US Ton. Our success in this most competitive market sector is down to the continuous application of value engineering techniques over time.

All Street ZX6 and ZX8 monorail hoists incorporate the safety and performance features listed on previous pages plus the following:









11

Direct drive with no external gears

Conventional trolley drives use an external pinion to drive a spur gear cut into the wheel flange. However this makes it impossible to maintain clean lubrication as wear particles from wheel flanges and beam get into the lubricant, accelerating gear wear and damage. The ZX solution is a direct drive with oil immersed gearing and a spline coupling which eliminates external gears and provides long reliable service.

The ZX wheel assembly is also designed to allow both the drive and wheel to be easily changed independently without the need to remove the hoist from the crane beam.

PRO-LIFT SOLUTIONS

der

monorail hoists

Low headroom
capacities up to 15 tonnes/US Tons



12

Sturdy side rollers for longer wheel life

With conventional flanged trolley wheels the shearing action of wheel flange against beam results in the need for regular wheel replacement and over time the beam may become worn and damaged. The ZX solution is flange-less wheels with guide rollers which considerably extend the wheel and beam life and results in a lower trolley rolling resistance and increased drive efficiency.

13

Reaction roller no counterweight

The use of a reaction roller acting on the bottom beam flange obviates the need for a costly counterweight on low headroom single girder ZX hoists. This increases wheel life due to lower wheel loads and the use of sealed for life bearings reduces maintenance costs. Reduced hoist weight and size increases hoist efficiency and reduces shipping costs.

14

Adjustable trolley gauges

Trolley gauges are fully adjustable to accommodate a wide range of beam flanges. ZX6 trolley is adjustable from 150mm to 500mm with standard options for both wider and a narrower gauge the latter of which suits 3¼'' US patented track.

ZX8 trolley is adjustable from 200mm to 500mm with standard option for wider gauge.

15

Motor coupling inspection facility

Conventional hoists have no means of inspecting the coupling between motor and gearbox without first removing the motor which is not always an easy task. All Street ZX hoists have an easy access viewing port through which the status of this safety critical component may be ascertained.

PRO-LIFT SOLUTIONS

single



girder

ZX monorail hoists

Twin trolley design for capacities of 20 tonnes/US Tons and above

Double trolley design for capacities of 20 tonnes/US Tons and above

Low headroom twin trolley construction is available in capacities up to 25 tonnes (or 27.5 US Tons). For higher capacities up to 35 tonnes (or 40 US Tons) monorail hoists we offer standard headroom construction

The low headroom design is designed primarily for the single girder crane applications in both conventional bridge crane and portal (gantry) crane construction. The combination of a compact design and the economy of single girder provides for a very attractive solution.

We provide the option of 2 wheel or 4 wheel drive depending on application. As with the smaller single girder hoists all trolley drives are direct without open gears and flangeless wheels with sturdy side rollers.

Curved monorail solution

Standard headroom construction designs are available for straight or curved monorail applications. For reliable performance when navigating bends our talented engineering team have designed a compensating trolley mechanism. This arrangement incorporates both a pivoting and a slewing action to ensure smooth transition of radii and tolerance of up to 3 degrees of angular track misalignment.





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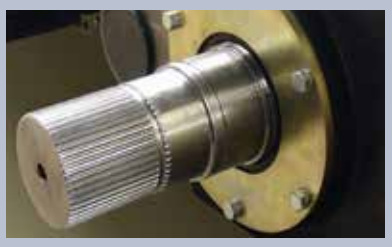
double g



BASE MOUNTED HOIST









This new generation of hoists sets a bench mark for lifting and material handling in the 21st century.

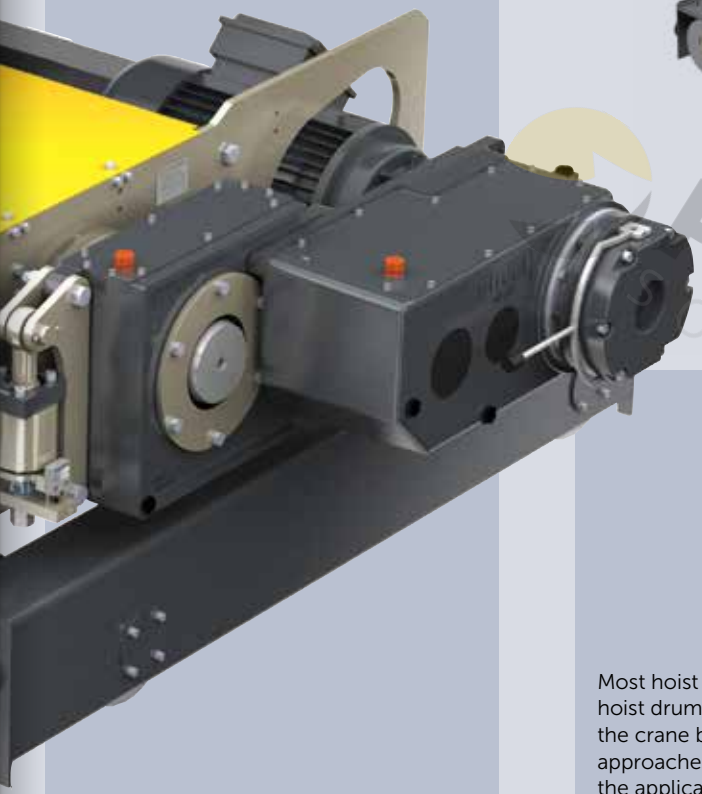
The design concept of a single scrolled hoist drum provides the most efficient and cost effective solution for double girder and base mount applications in capacities up to 32 tonnes.

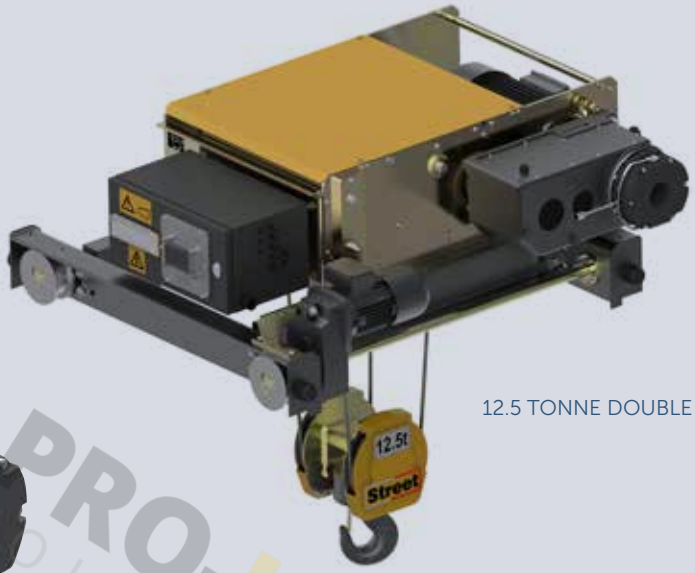
PRO-LIFT SOLUTIONS

irder

single rope hoists

capacities up to 32 tonnes/US Tons





12.5 TONNE DOUBLE GIRDER TROLLEY

The unique low profile design of this range of double girder hoists is achieved by off-setting the rope diverter to allow a higher top hook position.

Multiple gearbox ratios, motor powers and hoist drum lengths provide standard ZX Hoist solutions for an exceptionally wide range of customer requirements.

Most hoist versions are available with the hoist drum parallel or perpendicular to the crane beams allowing side hook approaches to be optimised to best suit the application.

To ensure high performance and long-life, all travelling machinery incorporates direct drive technology with power transmission through a spline or shaft connection.





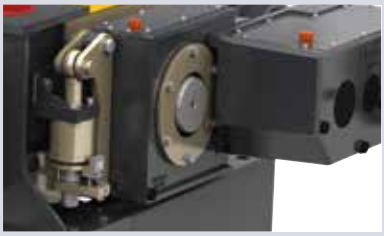


PRO-LIFT SOLUTIONS

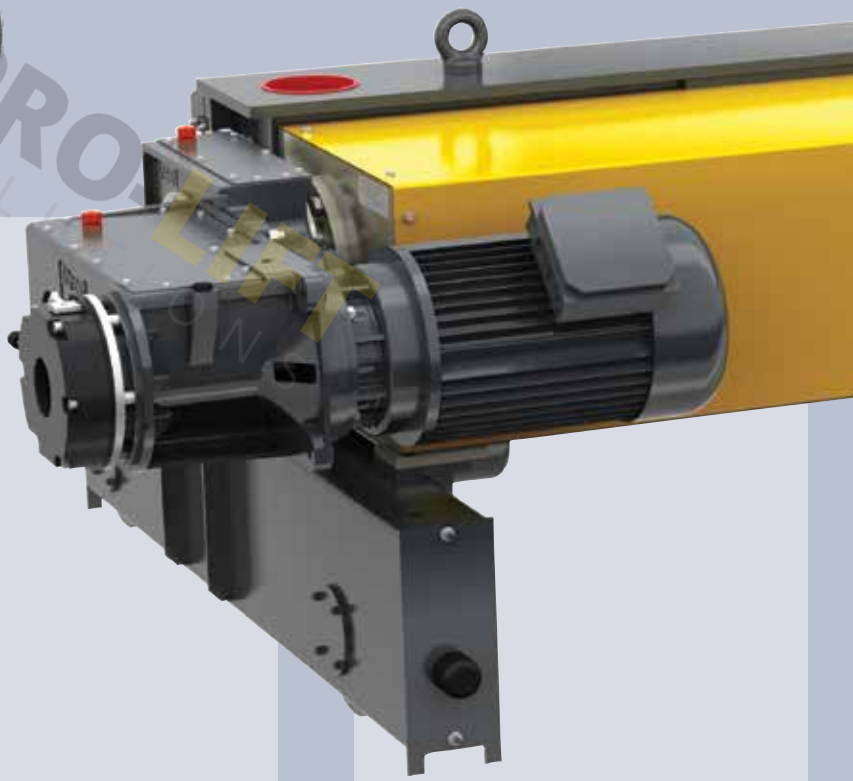
double g











These hoists sit at the top of the ZX range for the highest lifting capacities or for very heavy duty ratings.

Faster lifting speeds and greater lifting heights at lesser capacities are also available.

Key features include double scrolled hoist drum and genuine true vertical lift for enhanced safety and precision handling.

Zero lateral hook movement over the full lifting height results in equal trolley wheel loads. This, in-turn, allows the crane designer to optimise the dimensions and weight of the crane structure generally resulting in savings in the building structure or supporting steelwork.

PRO-LIFT SOLUTIONS

irder

twin rope hoists

capacities up to 80 tonnes/90 US Tons



This range of hoists is available in a robust heavy duty open winch format with drum flanges instead of rope guides.

As an optional safety enhancement,true vertical lift models of ZX hoists are available with separate ropes in the left and right hand. As an optional safety enhancement,true vertical lift models of ZX hoists are available with separate ropes in the left and right hand scrolling.

PRO-LIFT SOLUTIONS

double g

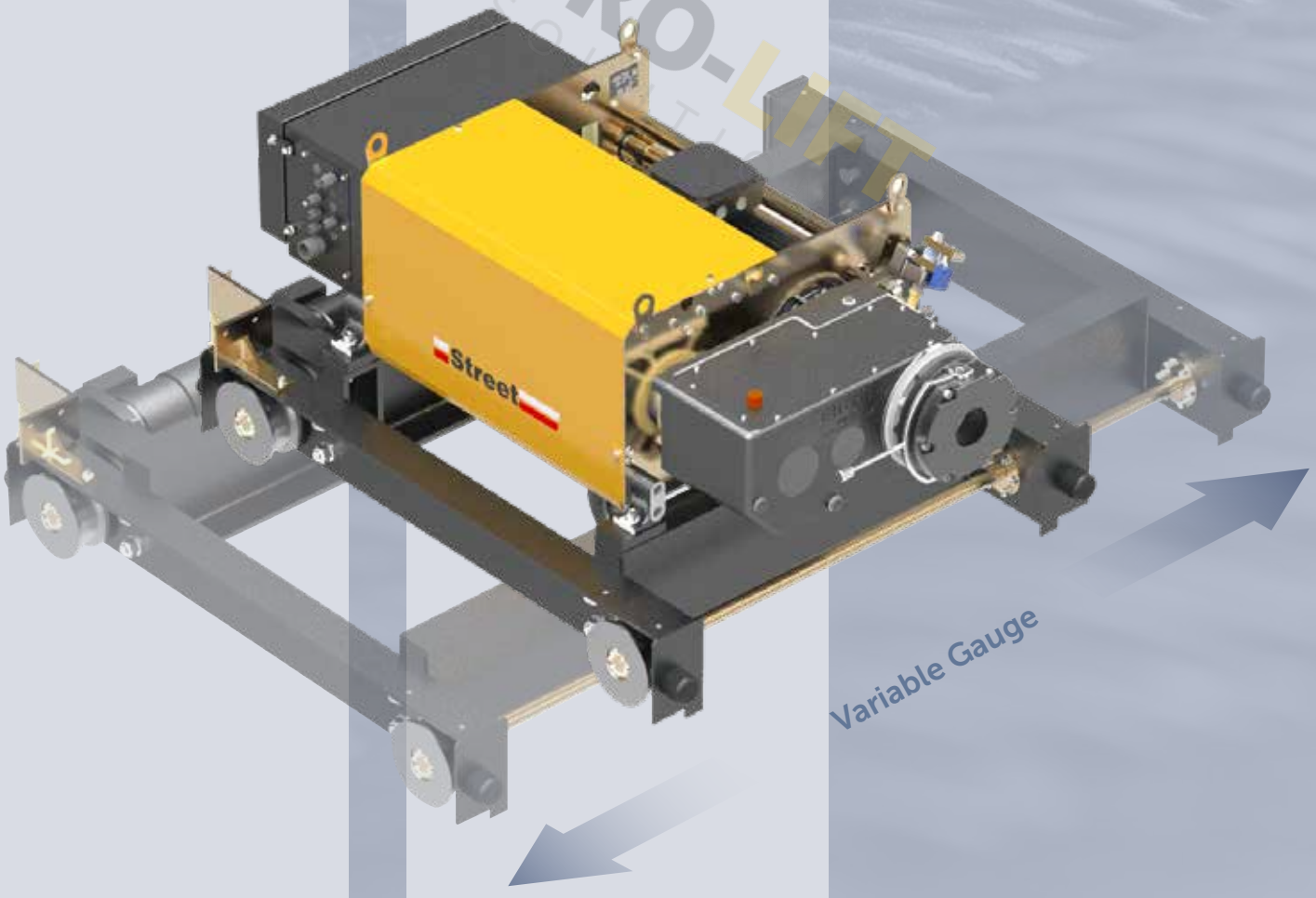
Standard Construction Custom Gauge

A standard base mounted hoist and a trolley kit with cross members at maximum length enabling the installer to cut to the precise gauge of the application. This design is principally a super fast solution for the replacement hoist market.

Example solutions:

5 tonne/5 US Ton to suit gauges from 800mm (31.5 ins) to 2134 mm (84.0 ins).

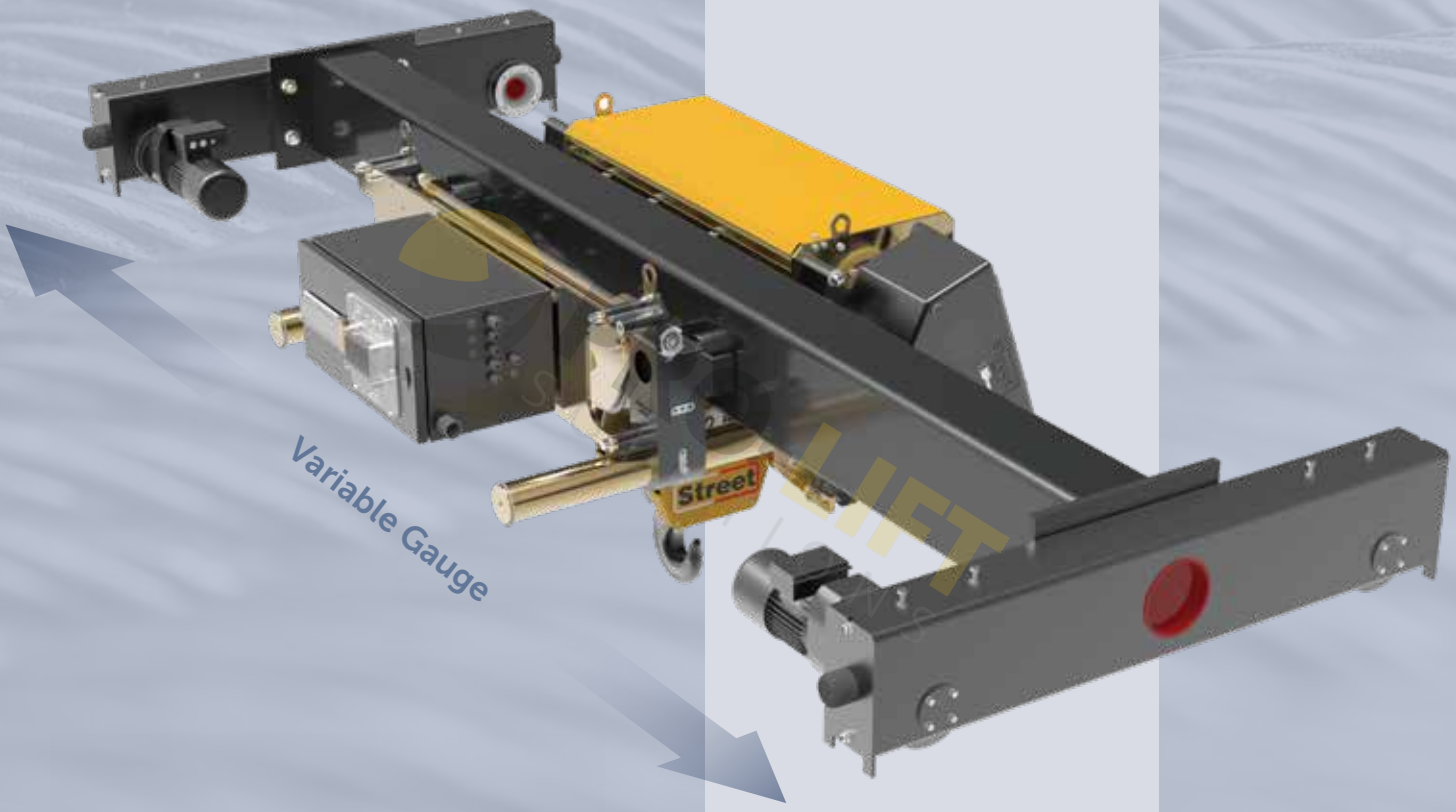
10 tonne/10 US Ton to suit gauges from 1100mm (43.25 ins) to 2134 mm (84.0 ins).



PRO-LIFT SOLUTIONS

irder

Custom gauge and low headroom trolley solutions



Low Headroom Construction Custom Gauge

When headroom in a building is strictly limited this ultra low profile hoist and trolley arrangement makes it possible to provide higher lifting heights in the confined space. Although originally conceived to reduce headroom this design also allows the installer to customise the trolley gauge.

ZX HOIST: optional features/equipment.

Closed loop variable speed drive (VFD) on hoisting and lowering

Speeds are varied by means of a frequency inverter in ''closed loop'' with a motor encoder which provides a high safety level through continuous speed monitoring. As standard this system provides the facility to programme hoisting and lowering speeds as well as acceleration and deceleration to suit your application. Gentle acceleration reduces the loading of mechanisms and improves productivity, hoist life and safety.

Electrical braking when slowing from fast to slow speed

Electrical braking of the hoist motor is standard with ZX which significantly reduces wear on the mechanical hoist brake linings.



VFD programming tool

Programmable speed possibilities

Micro-speeds

A benefit of closed loop monitoring is the possible to programme extremely slow micro-speeds for hoisting and lowering which enhances safety when positioning fragile or potentially hazardous loads. Maximum fast to slow speed ratios of 10:1 are standard on all models but the options of 20:1 or even slower are available.

Ramp and hold or preset speeds hoist and trolley

The standard control setting is 'ramp and hold' for infinitely variable speeds on both hoist and trolley. Two position controls allow the operator to start in micro-speed and ramp up towards full speed with the ability to hold any speed in between. Alternatively the standard controls can simply be set for two pre-set speeds. Multiple speed options are also available.

No load express lift

This option provides a very economical way to increase productivity by significantly increasing hoisting and lowering speeds when there is no load on the hook.

Load dependent speed (LDS)

LDS provides optimum efficiency/minimum cycle time with automatic and incremental increase in hoisting and lowering speeds for medium, small and zero load. Heavy loads must be handled at slower speeds to maintain safety.

Anti-Sway control

This software operates in conjunction with VFD controls to totally eradicate any load swing caused by the travelling movements in one or both axis (travel and traverse).

Anti-sway provides the operator with greater control over the crane/hoist allowing precise load handling and positioning. Speeds can be safely increased allowing faster cycle times and increased efficiency by as much as 50%.

As well as reducing operator fatigue and improving safety, this feature can also extend the life of your crane/hoist as the electrical and mechanical components within the structures are subject to less stress.



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Safety critical information you need to know

ZX HOIST: Condition monitoring options

Design Working Period (DWP) monitor

This device provides continuous monitoring of the remaining Design Working Period which is calculated from the magnitude and duration of every lift, plus a record of operating statistics. This information helps owners and authorised service technicians ensure the equipment is safe for use. Data can be accessed on the hoist or with the optional Wi-Fi module via a mobile phone, tablet or laptop.

Remote Condition Monitor (RCM)

RCM is a top-of-the-range aid to ensuring the highest levels of safety. This fully remote monitoring system gathers safety related data and operating statistics from sensors and controllers and stores them in the Cloud. The crane owner or authorised service technician can view and monitor data at the crane site or remote from the site at any time. Safety alerts are automatically emailed to designated persons.

In either case, monitored data includes:

- Remaining design working period.
- Load spectrum.
- Work cycles.
- Total hours run.
- Motor starts.
- Attempted overloads.



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Industry Applications

Street Crane offer an unrivalled range of cranes which are used by many of the world's largest and most respected businesses. Our cranes have proven themselves for decades across every key industrial sector where the demand for reliability and safety is paramount.

Whatever you industry, you can be assured that we have a lifting solution for you.



Proven safety and reliability when tandem lifting.





ZX double girder cranes helping to refurbish heritage steam locomotives.



ZX cranes forms an essential part of operations in this iconic circular factory.

Helping to build the next generation of rail vehicles.



ZX overhead crane used during for the building of a £32M superyacht.

ZX semi-goliath and overhead cranes provide flexible handling solutions for a busy factory.



Crane Kits

ZX hoists can be supplied to crane builders as part of a complete crane kit with all the components required to build a crane except the beam(s).

Street Crane Kits comprise:

- Hoist Unit including trolley mechanism and electrical control panel.
- End Trucks.
- Beam Connection Plates.
- Travel Drives.
- Bridge Control Panel.
- Push button pendant.
- Cable Kit.
- Fixings and Accessories.

The crane manufacturer has only to fabricate crane beams, assemble and paint.

Street Crane standard crane kits incorporate the most up-to-date innovations in lifting and travelling technology. We include a long list of safety and operating features.



Control Panels and Cable Kits

- All flatform festoon cables and travel drive cables incorporate heavy duty quick release plug and socket cable connectors for fast and simple assembly.
- Coding pins are supplied as standard to prevent incorrect cable connections.

End Trucks

- Rigid box section construction.
- Flexible beam connection system to allow optimisation of available space.
- Long-life S.G. Iron wheels.
- Removable end plate for access to crane wheels.
- High impact rubber buffers.
- End trucks machined in one setting for precise geometric wheel alignment.





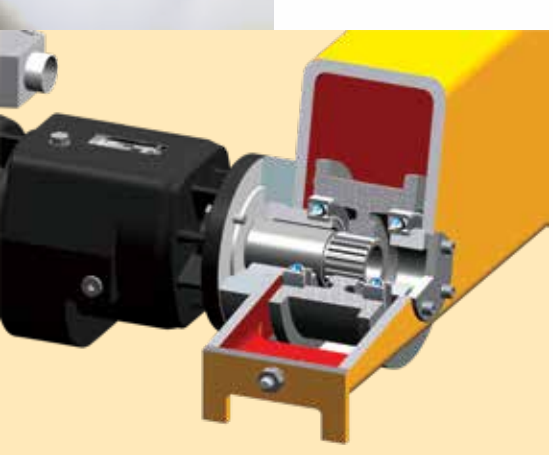
Double Insulated Push Button Pendant

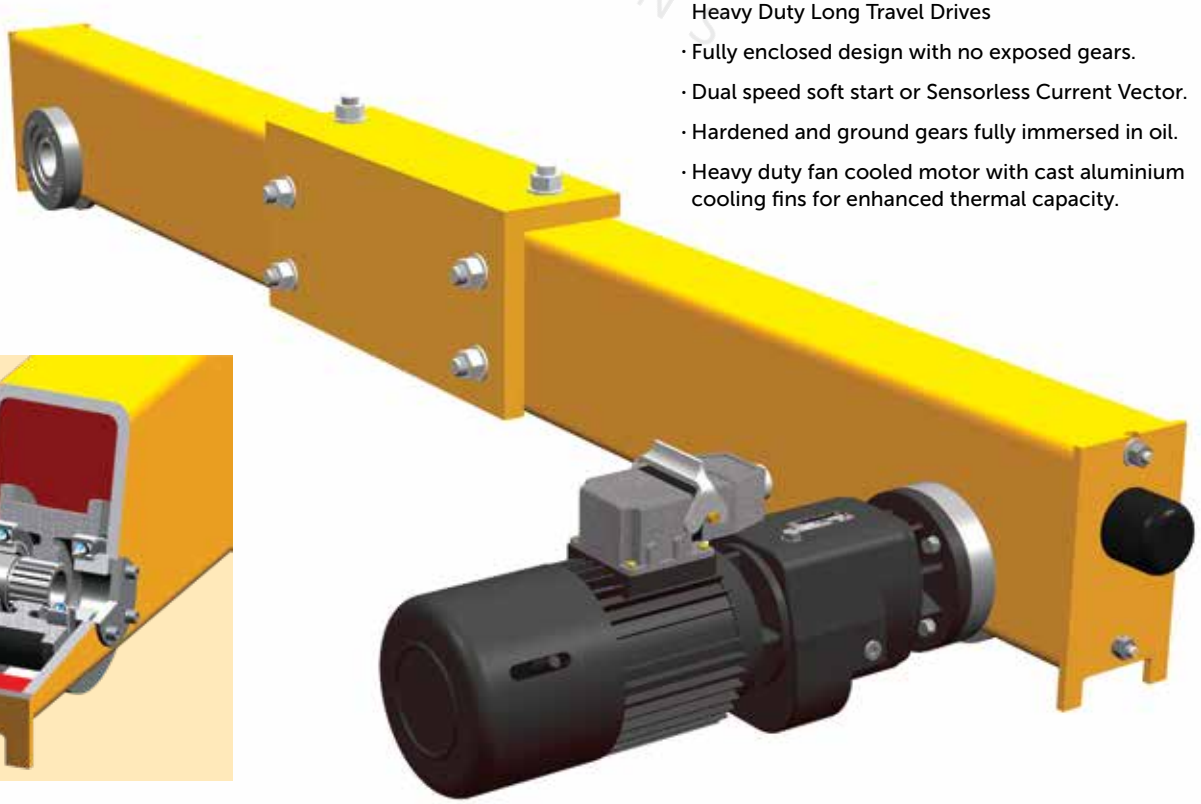
- Push-button durability: 1 million operations.
- Mechanical interlocks on the crane motions.
- Supplied with quick release plug and socket connection on the pendant cable.
- Integral strainer wire in the pendant cable.
- International direction labels.



Heavy Duty Long Travel Drives

- Fully enclosed design with no exposed gears.
- Dual speed soft start or Sensorless Current Vector.
- Hardened and ground gears fully immersed in oil.
- Heavy duty fan cooled motor with cast aluminium cooling fins for enhanced thermal capacity.





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www.streetcrane.co.uk

Street

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FM13635

ISO 9001 Quality Management

OHSAS 18001 Occupational Health and Safety Management

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