





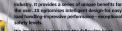
## "PERFORMANCE THROUGH EVOLUTION AND INNOVATION"



# -Street

## ZX HOIST: the next generation.

The new ZX bast generation evolved from the most rigorous application of this philosophy. The original ZX host which was launched to years age established Street as a world leader in hosting technology and has been the company's best ever selling product with an unparalleled record for reliability and endurance in a vastrange of applications and environments worldwise. When it camp to developing the next generation it was therefore completely logical to retain the best appect.



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.

The new ZX Hoist formula for safe and efficient lifting

The new ZX hoist sets the benchmarks in the crane



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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 lottest finite element design techniques and a passionist finite element design techniques and a passionist commitment to every performance detail. The result is an easy to operate high endurage heats in corporating state of the-art technology. A hold designed to fulfill expectations and improve our customer's productivity. A hold for tomorrow's world in which only the most productive will prosper.



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

## **ZX HOIST:** operating and safety features.

## IP 55 steel electrical control cubicle

Functional design with hinged door makes all componts easily accessible.
 All electrical equipment incorporates heavy duty, quick release, plug and socket cable connectors for fast simple assembly.

Better heat dissipation by the finned aluminium heat-sink to transfer heat out of the control cubicle when in verters are used on travel, inverter control for trolley drive
 A phase failure relay prevents uncontrolled movement of the hoist should

No phase failure leady prevents discontinuous movement or the most sone or more phases of incorret.
 Hours in service meter records the total time the motor is energised.

Hours in service meter records the total time the motor is energised
 Panel wiring is ferruled and fully identified to the connection terminal





Direct drive trolley with flangeless cross travel wheels and side rollers for high durability and reduced wear.

The monorall trolley design is an outstanding feature of the Street design concept.

ossign concept.
It is proven by experience and generally accepted in the industry that for long term reliability and durability in travel gearing the trolley wheel should be directly driven, avoiding the need for an overhung printen driving a spur on the trolley wheel.
Oirect drive via hardened and precision ground gears permanently immersed in 0.1

 The traverse drive is removable without the need to remove or interfere with gearing or travel wheels. The trolley wheels are also easily removable.

 Scaled for life self aligning permanently lubricated bearings in the trolley frame ensure long life even under maximum loading.
 Sturdy flangeless steel wheels and guide rollers eliminate the problem of wheel flange wear and increase beam life.





Trolley reaction roller avoids the need for a counter weight to increase wheel life.

Spring roler acting on the underside of the beam eliminates the need for a counter weight.

Increases life of the wheel rolling surface as a result of lighter host weight.

Pre-loading on the mechanism significantly reduces wheel slip on light load or no load start up.

Reduced slipping and transport cost as a result of lower weight and volume.

Caters for beam flange thickness up to 35mm.



## Patented torque arm safe load cut-out device. (Capacity restrictor)

· Protects the operator and the machine. - Measures all the load the hoist mechanism is

transmitting (not just the load in one or two ropes). · Can be easily adjusted to the required capacity. Does not reduce available height of lift. - Activated directly by the load, does not rely on measuring electrical current.

## Over-hoisting and over-l limit switches · Over-hoisting and over-low are prevented by individual s

(one for-over-hoist and on The switches are activated as it travels along the door positions can be adjusted to



Precision hoist gearbox with hardened and ground gears/driv · Gears permanently immersed in oil safety and reliability year afterye

. The hollow shaft gearbox directly drives the hoist drum shaft, avoiding by an overhung pinion and barrel sour arrangement outside the gear · Gears are case hardened and precision around with special tip relief : and hing relibility. Gear train can be viewed through a removable hoist gearbox inspect

- ZX6 gearbox now improved M5 rating for S and F speeds utilising H4 · Gear train can be viewed through the removable inspection cover

## Superior load safety.

· A hoist brake acts on a gearbox shaft not a motor shaft as is the case with competitor hoists · When the hoist brake is applied, the load will remain secure even if the hoist motor is removed · Automatic braking in the event of a nower failure

· Low maintenance DC disk brack fitted on gearbox shaft-ensures load remains secure in event of motor shaft or coupling failure. · Health and safety compliant asbestos free brack linigs. · Hand-release mechanism fitted as standard.



· New ergonomic design for improved safety and handling. · "Sealed for life" maintenance free bearings fitted in all sheave · Robust cast aluminium sheave covers. · Spring loaded safety catch fitted as standard.

- Close coupled hoist motor mounting with damping coupling prolongs motor and ge

\_Street\_

ring of the hoo unt limit switches for over-lower). y the rope guide and the cut-out



Heavy duty rope guide ensures positive rope scrolling and prevents damage in 'slack-rope' conditions. · Robust functional design - the product of 60 years experience

 Specially selected oil impregnated nylon material, highly resistant to breaking or permanent distortion. The material properties include self-lubrication and a good elastic memory range.

. Spring loaded inner clamping band to prevent rope build up damaging the rone quide if the operator lowers the book block onto an object and causes slack in the ropes. · Rope quide reduces wear on the hoist rope and drum.

· Facy to install

High-strength galvanised wire ropes.

· Compact strand structure with improved tensile strength · Enhanced fatique strength for durability under cyclic bending · Galvanised steel rone strands for maximum comosion protection.

Extra hoist drum security . Continuous shaft through the hoist drum

· Barrel retention "spinots" · Self aligning bearings at each end of the dru to take up deflection



## n chafte

the need for final reduction nd crowling for smooth running

on cover. nd H5 motors respectively



ntinuous primary gear shaft through in double bearing to set alignment.

Designed for improved ventilation and easy access to key components. External hoist motor to optimise cooling and maximise accessibility.

· Remote mounting of the hoist motor and brake prevents heat transfer in either direction. Flange mounting IEC Standards 60034-7 Heavy duty two speed hoist motor with built in protection against over-heating.

· Cylindrical rotor fan cooled design. . Overheating protection in the motor winding is standard.

· Class "F" insulation 155°C Ambient temperatures -20°C up to +50°C at an altitude less than 1000m, above sea level

 Humidity 5-95% Non condensing LP SS protection against ingress of dust particles and water.

vibration rbox life.



## **NEW ZX HOIST MODELS**



MODEL: ZXO6 SINGLE GIRDER HOISTS Capacity of 2.5, 3.2 and 5 Tons Lifting Heigh 6, 10 and 15 Meter

## SINGLE GIRDER TROLLEY

\*\*\* Trolley Reaction Roller Avoids The Need For A Counter Weight to increase wheel life Direct Drive Trolley With Flangeless Cross Travel







## **DOUBLE GIRDER TROLLEY**

# MODEL : ZX10 SINGLE GEAR BOX TWIN ROPE HOISTS Capacity up to 16, 29, 25 and 32 Trost Litting Heigh up to 11 Meter True Vertical Litt Hoist Ultra Short Head Room Design Combination of Very Heavy Duty Ratings Fast Hoisting Speeds

## single gira



**ZX06 Single Girder Hoists** 

Low headroom construction is a standard design feature of ZX monorail hoists with capacities ranging from 0-5 tonne for ZX06 models and 0-25 tonne for the ZX08.

At each capacity we offer a huge combination of lifting speeds and lifting heights giving the user maximum flexibility.

All popular capacities are available with M5 duty ratings (FEM 2m) and in most capacities duty ratings of M6 (FEM 3m) and M7 (FEM 4m) are also available.

Low headroom models are fully adjustable to accommodate a wide range of beam flanges:

ZX6 - 150mm - 500mm\*

outside these ranges

ZX8 - 200mm - 500mm\* (0-12.5t)

ZX8 - 300mm - 700mm\* (12.5-25t)
\*Special solutions available for beams

Few, if any, of the world's wire rope hoist manufacturers offer such an extensive range of single girder monorall hoists.

The advanced modular design of ZX Hoists provides a huge number of standard hoist combinations from a relatively small number of sub-assemblies



ZX06 HOIST								1-0-	-								
Hoist	S.W.L.	D	uty	Lifting	Hol	st		Rope	Trans	verse	D	lmen	sions	(mm	.)	Weight	Milana
	THE PARTY OF THE P		0.000	Hight	2 Speeds	Motor	Dla		Inverter	Motor		,		C			West.
Model	Tons	BS	FEM	m.	(m/min)	(Kw.)	(mm.)	Reeving	(m/min)	(Kw.)	A	В	*300	*400	*500	Kg.	Dia.
ZX062-3FoNM5H052	2.5	M5	2m	13	10.3/3.4	7.8/2.6	8	2:1	0-2-20	0.25	978	213	631	752	871	329	100
ZX062-3FoLM5H052	2.5	M5	2m	20	10.3/3.4	7.8/2.6	8	2:1	0-2-20	0.25	1208	328	631	752	871	329	100
ZX062-3FoEM5H052	2.5	M5	2m	30	10.3/3.4	7.8/2.6	8	2:1	0-2-20	0.25	1553	492	631	752	871	410	100
ZX064-3FoNM7H031	2.5	M7	4m	6.5	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	978	106	585	706	825	350	100
ZX064-3FoLM7H031	2.5	M7	4m	10	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	1208	163	585	706	825	386	100
ZX064-3FoEM7H031	2.5	M7	4m	15	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	1553	245	585	706	825	439	100
ZX064-3FoNM7K041	3.2	M7	4m	6.5	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	978	106	585	706	825	350	100
ZX064-3FoLM7K041	3.2	M7	4m	10	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	1208	163	585	706	825	386	100
ZX064-3FoEM7K041	3.2	M7	4m	15	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	1553	245	585	706	825	439	100
ZX064-3FoNM5K052	5	M5	2m	6.5	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	978	106	585	706	825	350	100
ZX064-3FoLM5K052	5	M5	2m	10	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	1208	163	585	706	825	386	100
ZX064-3FoEM5K052	5	M5	2m	15	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	1553	245	585	706	825	439	100

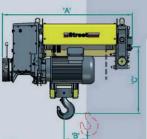
<sup>\*\*</sup> Remark: Excerpt from our product portfolio. Above are standard model, Special specification is available for buyer, Please contact Distributor.

## monorail hoists capacity up to 25 tons

One of the many technical advantages which ensures the high efficiency and reliability of this range of single glider holists is the use of direct drive travelling machinery with no open gears or wheel flanges.







All low headroom models have improved headroom dimensions giving a lower roof height requirement.

The compact design of the hoists provides optimal top hook position, ideal for modern low profile buildings.

Side and end hook approaches have been designed to maximise factory floor coverage for a more productive work space.

## **7X08 HOIST SINGLE GIRDER**

Hoist	S.W.L.	D	uty	Lifting	Hoi	st	R	lope	Transv	verse	Di	men	sions	(mm	.)	Weight	Whee
Model		-		Height	2 Speeds	Motor	Dia	Reeving	Inverter	100000000000000000000000000000000000000	А	В		С		Kg.	Dia.
Model	Tons	BS	FEM	m.	(m/min)	(Kw)	(mm.)		(m/min)	(Kw.)		in the	*300	*400	*500	Ny.	Dia.
ZX082-4SoNM6K074	5	M6	3m	16	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.37	1437	300	600	646	765	853	160
ZX082-4SoLM6K074	5	M6	3m	24	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.37	1697	430	600	646	765	930	160
ZX082-4SoEM6K074	5	M6	3m	40	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.37	2267	716	600	646	765	1098	160
ZX084-4FoNM7L074	6.3	M7	4m	8	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.37	1437	145	566	612	731	928	160
ZX084-4FoLM7L074	6.3	M7	4m	12	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.37	1697	215	566	612	731	1011	160
ZX084-4FoEM7L074	6.3	M7	4m	20	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.37	2267	358	566	612	731	1190	160
ZX084-4FoNM6N074	8	M6	3m	8	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.37	1437	145	566	612	731	928	160
ZX084-4FoLM6N074	8	M6	3m	12	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.37	1697	215	566	612	731	1011	160
ZX084-4FoEM6N074	8	M6	3m	20	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.37	2267	358	566	612	731	1190	160
ZX084-4FoNM50088	10	M5	2m	8	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.37	1437	145	566	612	731	928	160
ZX084-4FoLM50088	10	M5	2m	12	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.37	1697	215	566	612	731	1011	160
ZX084-4FoEM50088	10	M5	2m	20	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.37	2267	358	566	612	731	1190	160
ZX084-4FoNM4P108	12.5	M4	1Am	8	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.37	1437	145	566	612	731	928	160
ZX084-4FoLM4P108	12.5	M4	1Am	12	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.37	1697	215	566	612	731	1011	160
ZX084-4FoEM4P108	12.5	M4	1Am	20	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.37	2267	358	566	612	731	1190	160
ZX086-4FoNM5R088	16	M5	2m	5.5	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	2205	100	1175	1175	1175	1867	160
ZX086-4FoLM5R088	16	M5	2m	8	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	2465	143	1175	1175	1175	2104	160
ZX086-4FoEM5R088	16	M5	2m	13	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	3035	240	1175	1175	1175	2328	160
ZX086-4EoNM4R108	16	M4	1Am	5.5	3.7/1	19.2/4.8	13	6:1	0-2-20	2x0.37	2205	100	1175	1175	1175	1867	160
ZX086-4EoLM4R108	16	M4	1Am	8	5.9/1.4	19.2/4.8	13	6:1	0-2-20	2x0.37	2465	143	1175	1175	1175	2104	160
ZX086-4EoEM4R108	16	M4	1Am	13	5.9/1.4	19.2/4.8	13	6:1	0-2-20	2x0.37	3035	240	1175	1175	1175	2328	160
ZX088-4EoLM4S108	20	M4	1Am	6	4.4/1.1	19.2/4.8	13	8:1	0-2-20	2x0.37	2465	108	1282	1282	1282	2244	160
ZX088-4E0EM4S108	20	M4	1Am	10	4.4/1.1	19.2/4.8	13	8:1	0-2-20	2x0.37	3305	180	1282	1282	1282	2453	160
ZX088-4XoLM4T108	25	M4	1Am	6	3.3/0.9	19.2/4.8	13	8:1	0-2-20	2x0.37	2465	108	1282	1282	1282	2244	160
ZX088-4XoEM4T108	25	M4	1Am	10	3.3/0.9	19.2/4.8	13	8:1	0-2-20	2x0.37	3305	180	1282	1282	1282	2453	160

<sup>\*\*</sup> Remark : Excerpt from our product portfolio. Above are standard model, Special specification is available for buyer, Please contact Distributor.

## double gir



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 widerange of customer requirements.

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 25 tonnes.





ZX06 HOIST DOUBLE GIRDER

Hoist	S.W.L.	D	utv	Lifting	Hois	st	F	Rope	Trans	verse	Di	men	ions	(mm	.)		
Model	Tons	BS	FEM		2 Speeds (m/min)		Dia (mm.)	Reeving	Inverter (m/min)		A	В	С	E	F	Weight Kg.	Dia.
ZX062-3FoNM5H052	2.5	M5	2m	13	10.3 / 3.4	7.8/2.6	8	2:1	0-2-20	0.25	1122	213	104	541	900	423	125
ZX062-3FoLM5H052	2.5	M5	2m	20	10.3 / 3.4	7.8/2.6	8	2:1	0-2-20	0.25	1352	328	104	541	900	477	125
ZX062-3FoEM5H052	2.5	M5	2m	30	10.3 / 3.4	7.8/2.6	8	2:1	0-2-20	0.25	1697	492	104	541	900	566	125
ZX064-3FoNM7H031	2.5	M7	4m	6.5	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	1122	106	71	541	900	446	125
ZX064-3FoLM7H031	2.5	M7	4m	10	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	1352	163	71	541	900	502	125
ZX064-3FoEM7H031	2.5	M7	4m	15	5/1.8	3.7/1.2	8	4:1	0-2-20	0.25	1697	245	71	541	900	596	125
ZX064-3FoNM7I041	3.2	M7	4m	6.5	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	1122	106	71	541	900	446	125
ZX064-3FoLM7I041	3.2	M7	4m	10	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	1352	163	71	541	900	502	125
ZX064-3FoEM7I041	3.2	M7	4m	15	5.3/1.8	4.7/1.6	8	4:1	0-2-20	0.25	1697	245	71	541	900	596	125
ZX064-3FoNM5K052	5	M5	2m	6.5	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	1122	106	71	541	900	446	125
ZX064-3FoLM5K052	5	M5	2m	10	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	1352	163	71	541	900	502	125
ZX064-3FoEM5K052	5	M5	2m	15	5.2/1.8	7.8/2.6	8	4:1	0-2-20	0.25	1697	245	71	541	900	596	125

## single rope hoists capacity up to 25 tons

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 soline or shaft connection.









## XX08 HOIST DOUBLE GIRDER

Hoist	S.W.L.	D	uty	Lifting	Hoi	ist	R	tope	Trans	verse	D	imens	ions	(mn	1.)	Weight	Whon
Model	Tons	BS	EM		2 Speeds (m/min)	Motor (Kw.)	Dia (mm.)	Reeving	Inverter (m/min)		A	В	С	E	F	Kg.	Dia.
ZX082-4SoNM6K074	5	M6	3m	16	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.55	1552	295.5	300	679	1400	1002	160
ZX082-4SoLM6K074	5	M6	3m	24	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.55	1782	295.5	430	679	1400	1104	160
ZX082-4SoEM6K074	5	M6	3m	40	8.7/2.2	11.2/2.8	13	2:1	0-2-20	0.55	2352	295.5	716	679	1400	1329	160
ZX084-4FoNM7L074	6.3	M7	4m	8	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.55	1552	260.5	145	679	1400	1078	160
ZX084-4FoLM7L074	6.3	M7	4m	12	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.55	1782	260.5	215	679	1400	1185	160
ZX084-4FoEM7L074	6.3	M7	4m	20	5.4/1.3	11.2/2.8	13	4:1	0-2-20	0.55	2352	260.5	358	679	1400	1419	160
ZX084-4FoNM6N074	8	M6	3m	8	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.55	1552	260.5	145	679	1400	1078	160
ZX084-4FoLM6N074	8	M6	3m	12	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.55	1782	260.5	215	679	1400	1185	160
ZX084-4FoEM6N074	8	M6	3m	20	5.3/1.3	11.2/2.8	13	4:1	0-2-20	0.55	2352	260.5	358	679	1400	1419	160
ZX084-4FoNM5O088	10	M5	2m	8	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.55	1552	260.5	145	679	1400	1078	160
ZX084-4FoLM5O088	10	M5	2m	12	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.55	1782	260.5	215	679	1400	1185	160
ZX084-4FoEM5O088	10	M5	2m	20	5.5/1.4	13.0/3.2	13	4:1	0-2-20	0.55	2352	260.5	358	679	1400	1419	160
ZX084-4FoNM4P108	12.5	M4	1Am	8	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.55	1552	260.5	145	679	1400	1078	160
ZX084-4FoLM4P108	12.5	M4	1Am	12	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.55	1782	260.5	215	679	1400	1185	160
ZX084-4FoEM4P108	12.5	M4	1Am	20	5.6/1.4	19.2/4.8	13	4:1	0-2-20	0.55	2352	260.5	358	679	1400	1419	160
ZX086-4FoNM5R088	16	M5	2m	5.5	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	1656	372	100	738	1400	1292	160
ZX086-4FoLM5R088	16	M5	2m	8	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	1916	372	143	738	1400	1410	160
ZX086-4FoEM5R088	16	M5	2m	13	3.7/1	13.0/3.2	13	6:1	0-2-20	2x0.37	2486	372	240	738	1400	1669	160
ZX086-4EoNM4R108	16	M4	1Am	5.5	3.7/1	19.2/4.8	13	6:1	0-2-20	2x0.37	1656	372	100	738	1400	1292	160
ZX086-4EoLM4R108	16	M4	1Am	8	5.9/1.4	19.2/4.8	13	6:1	0-2-20	2x0.37	1916	372	143	738	1400	1410	160
ZX086-4EoEM4R108	16	M4	1Am	13	5.9/1.4	19.2/4.8	13	6:1	0-2-20	2x0.37	2486	372	240	738	1400	1669	160
ZX088-4EoLM4S108	20	M4	1Am	6	4.4/1.1	19.2/4.8	13	8:1	0-2-20	2x0.37	1916	421	108	738	1400	1496	200
ZX088-4EoEM4S108	20	M4	1Am	10	4.4/1.1	19.2/4.8	13	8:1	0-2-20	2x0.37	2486	421	180	738	1400	1753	200
ZX088-4XoLM4T108	25	M4	1Am	6	3.3/0.9	19.2/4.8	13	8:1	0-2-20	2x0.37	1916	421	108	738	1400	1496	200
														1			

single rope hoists

capacity up to 32 tons



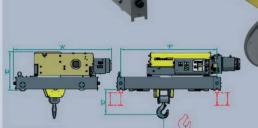
These hoists sit at the top of the ZX range

for the highest lifting capacities or for very Faster lifting speeds and greater lifting heights at lesser capacities are also available.

heavy duty ratings.

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.



Hoist	S.W.L.	D	uty	Lifting	Hol	st	F	Rope	Trans	verse	D	imen	sions	(mm	1.)	Weight	Whee
Model	Tons	BS	FEM		2 Speeds (m/min)	100000	Dia (mm.)	Reeving	Inverter (m/min)		A	В	С	E	F	Kg.	Dia.
X1004-4EaS8CM5J107-SS	20	M5	2m	10	4.1/1	19.2/4.8	18	4:1	0-2-20	2x0.37	2043	216	517	787	2000	1876	200
X1004-4EaN8CM5J107-SS	20	M5	2m	15	4.1/1	19.2/4.8	18	4:1	0-2-20	2x0.37	2043	316	517	787	2600	2113	200
X1004-4EaL8CM5J107-SS	20	M5	2m	21	4.1/1	19.2/4.8	18	4:1	0-2-20	2x0.37	2043	416	517	787	3200	2351	200
X1004-4EaE8CM5J107-SS	20	M5	2m	23	4.1/1	19.2/4.8	18	4:1	0-2-20	2x0.37	2043	466	517	787	3200	2435	200
X1004-4EaV8CM5J107-SS	20	M5	2m	29	4.1/1	19.2/4.8	18	4:1	0-2-20	2x0.37	2043	591	517	787	4000	2736	200
X1006-4CaS8CM5K107-SS	25	M5	2m	7	3.3/0.8	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	144	613	792	2000	1904	200
X1006-4CaN8CM5K107-SS	25	M5	2m	10	3.3/0.8	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	210	613	792	2600	2143	200
X1006-4CaL8CM5K107-SS	25	M5	2m	14	3.3/0.8	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	277	613	792	3200	2383	200
X1006-4CaE8CM5K107-88	25	M5	2m	15	3.3/0.8	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	310	613	792	3200	2469	200
X1008-4CaV8CM5K107-SS	25	M5	2m	19	3.3/0.8	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	394	613	792	4000	2771	200
X1006-4EaS8CM5M107-SS	32	M5	2m	7	2.8/0.7	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	144	613	792	2000	1904	200
X1006-4EaN8CM5M107-SS	32	M5	2m	10	2.8/0.7	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	210	613	792	2600	2143	200
X1006-4EaL8CM5M107-SS	32	M5	2m	14	2.8/0.7	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	277	613	792	3200	2383	200
X1006-4EaE8CM5M107-SS	32	M5	2m	15	2.8/0.7	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	310	613	792	3200	2469	200
X1008-4EaV8CM5M107-SS	32	M5	2m	19	2.8/0.7	19.2/4.8	18	6:1	0-2-20	2x0.37	2043	394	613	792	4000	2771	200

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

treet

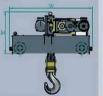
As an optional safety enhancement, true vertical lift models of ZX hoists are available with separate ropes in the left and right hand scrolls with a compensating bar rather than a sheave.

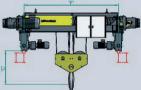
## Oirder twin rope hoists

capacity up to 50 tons



ZX10 Double Girder Trolley 50 Tons





## TY10 ST HOIST SINGLE GEADROY AND TWIN DODE

Hoist	S.W.L.	D	utv	Lifting	Hoi	st	F	Rope	Trans	verse	D	Ime	nslons	s (mn	1.)	Weight	10H
Model	Tons	BS	FEM		2 Speeds (m/min)	Motor (Kw.)	Dia (mm.)	Reeving	Inverter (m/min)		A	В	С	E	F	Kg.	Dia.
ZX1008-4CoN3AM5I108-ST	16	M5	2m	11	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	-	906	886	2000	2016	200
ZX1008-4CoL3AM5I108-ST	16	M5	2m	15	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	-	920	886	2600	2277	200
ZX1008-4CoV3AM5I108-ST	16	M5	2m	22	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	•	948.5	886	3600	2682	200
ZX1008-4CoN3AM5J108-ST	20	M5	2m	11	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	-	906	886	2000	2016	200
ZX1008-4CoL3AM5J108-ST	20	Ms	2m	15	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086		920	886	2600	2277	200
ZX1008-4CoV3AM5J108-ST	20	M5	2m	22	3.7/0.9	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	14	946.5	886	3600	2682	200
ZX1008-4EaN3AM5K107-ST	25	M5	2m	11	3.1/0.8	19.2/4.8	13	8:2	0-2-20	2x0.37	2088	-	906	886	2000	2016	200
ZX1008-4EoL3AM5K107-ST	25	M5	2m	15	3.1/0.8	19.2/4.8	13	8:2	0-2-20	2x0.37	2086	-	920	886	2600	2277	200
ZX1008-4EoV3AM5K107-ST	25	M5	2m	22	3.1/0.8	19.2/4.8	13	8:2	0-2-20	2x0.37	2086		946.5	886	3600	2682	200
ZX1012-4CaN3AM5M107-ST	32	M5	2m	7	2.5/0.7	19.2/4.8	13	12:2	0-2-20	2x0.37	2086	-	810	990	2000	2175	250
ZX1012-4CaL3AM5M107-ST	32	M5	2m	10	2.5/0.7	19.2/4.8	13	12:2	0-2-20	2x0.37	2085		810	990	2600	2445	250
ZX1012-4CaV3AM5M107-ST	32	Ms	2m	14	2.5/0.7	19.2/4.8	13	12:2	0-2-20	2x0.37	2086		810	gan	3600	2950	250

## XX10 DT HOIST SINGLE GEARBOX AND TWIN ROPE

Holst	S.W.L.	D	utv	Lifting	Ho	ist	I	Rope	Trans	verse	D	ime	nsion	s (mn	n.)	Weight	Whool
	Name of Street		Belle Steel	Height	2 Speeds	Motor	Dia	_	Inverter	Motor	- 11			2000	-		
Model	Tons	BS	FEM	m.	(m/min)	7 mm 1 mm	(mm.)	Reeving	(m/min)	(Kw.)	A	В	C	E	F	Kg.	Dia.
ZX1012-4CaN6DM5O107-DT	40	M5	2m	7	3.3/0.8	2x19.2/4.8	16	12:2	0-2-20	2x0.55	2280	-1	965.5	1117	2000	3484	315
ZX1012-4CaL6DM5O107-DT	40	M5	2m	10	3.3/0.8	2x19.2/4.8	16	12:2	0-2-20	2x0.55	2280	-	965.5	1149	2600	4152	315
ZX1012-4CoV6DM5O107-DT	40	M5	2m	15	3.3/0.8	2x19.2/4.8	16	12:2	0-2-20	2x0.55	2280		965.5	1149	3600	4347	315
ZX1012-4CaN6DM4Q107-DT	50	M4	1Am	7	3.3/0.8	2x19.2/4.8	16	12:2	0-2-20	2x0.55	2280		965.5	1117	2000	3484	315
ZX1012-4CaL6DM4Q107-DT	50	M4	1Am	10	3.3/0.8	2x19.2/4.8	16	12.2	0-2-20	2x0.55	2280	-	965.5	1149	2600	4152	315
ZX1012-4CaV6DM4Q107-DT	50	M4	1Am	15	3.3/0.8	2x19.2/4.8	16	12:2	0-2-20	2x0.55	2280		985.5	1149	2600	4347	315

\*\* Remark : Excerpt from our product portfolio. Above are standard model, Special specification is available for buyer, Please contact Distributor.



## Classification of Mechanisms

FEM 9.511	1D <sub>m</sub>	1C <sub>m</sub>	1B <sub>m</sub>	1Am	2m	3 <sub>m</sub>	4m	5m
BS 2573 P2	M1	M2	МЗ	M4	M5	M6	M7	M8
						918		iondi
1000	Interm	ittent ratio (R1%)	25	30	40	50	60	>60
Hoist	No. of st	arts per hour (S/h)	150	180	240	300	360	>360
	No. of cy	cles per hours (C/h)	25	30	40	50	60	>60
	Intermi	ttent ratio (R1%)	20	25	30	/40	50	60
Trolley	No. of st	arts per hour (S/h)	120	150	180	240	300	360
Real Property	No. of cy	cles per hours (C/h)	20	25	30/	40	50	60
	TO STATE	Two-Speed Double	polarit	y motor	1/6	The same	To the	
No. of starts per	have (C(h)	Main speed	1	/3 (33.3	% of tot	al starts	per hou	ır)
No. or starts per	nour (S/II)	Slow speed	2	/3 (66.7	% of tot	al starts	per hou	ır) 🌠
Operating time	and day	Main speed	2/3 (	66.7% of	average	operating	g time p	er day)
Operating time	per day	Slow speed	1/3 (	33.3% of	average	operatin	g time p	er day)
12	Operating tin	ne at main speed (min.)	15	15	30	30	60	>60
Used in temporary duty	Operating tin	ne at slow speed (min.)	2,5	3	3,5	4	5	6
temporal y duty	Maximum num	ber of starts per hour (s/h)	10	10	10	10	10	10

For applying to the hoist mechanisms are classified into the groups depending on operating conditions. The group into which a mechanism is classified is determined by the following factor:

- Class of operating time

## Class of operating time

The class of operating time indicates the average period per day during which a mechanism is in operation (see table 1).

mechanism is considered to be in operation when it is in motion.

For mechanisms not regularly used during the year the average operating time per day is determined by the ratio of the annual operating time to 250 working days per year. The higher classes of operating time apoly only in such cases where a mechanism is operated during more than one shift per

day.

Table 1
Average operating time per day (hours)

Operating time/day (h) = 2 x lifting height (m) x number of cycles per hour x working time/day (h)
60 (minutes per hour) x lifting speed (m/min)

Lifting height = The average hook travel under actual operating conditions (meter)
Cycles per hour = The average number of complete ascent/decent operations in an hour
Working time/day = The time during which the hoist is used on a working day (hour)

Lifting speed = The average lifting speed (normally the maximum lifting speed) at which the load cycles are performed. (Meter per minute)

Class of ope	rating time	Average operating time per day	Calculated total operating time
FEM	BS	(hours)	(hours)
V0.06	TO	≤ 0.12	200
V0.12	T1	≤ 0.25	400
V0.25	T2	≤ 0.5	800
V0.5	T3	≤1	1600
V1	T4	≤ 2	3200
V2	T5	≤ 4	6300
V3	T6	≤ 8	12500
V4	T7	≤ 16	25000
V5	TR	< 16	50000

## **Load spectrum**

The load spectrum indicates to what extent a mechanism or part thereof is subject to maximum stress or whether it is subject to smaller load only.

For an exact classification into groups the cubic mean value k referred to the safe working load is required. It is calculated by using the following formula:

$$k = \sqrt[3]{(\beta_1 + \Upsilon)^3 \cdot t_1 + (\beta_2 + \Upsilon)^3 \cdot t_2 + \dots + \Upsilon^3 \cdot t_{\Delta}}$$

Where:

 $\beta = \frac{\text{useful or partial load}}{\text{safe working load}}$ 

 $\gamma = \frac{\text{dead load}}{\text{safe working load}}$ 

t = operating time under useful or partial load and dead load total operating time

 $t_{\Delta} = \frac{\text{operating time under dead load only}}{\text{total operating time}}$ 

Four load spectra are distinguished which are determined by the definitions given and by the ranges covered by the cubic mean values k as listed in table 2

Load spectr	um	Deficitions	Chiana Maria
FEM	BS	Definitions	Cubic mean value
1 (light)	11	Mechanisms or parts thereof, Usually subject to very small Loads and in exceptional cases Only to maximum loads	010 50 100  PRO 11 10 10 10 0 10 0 10 0 10 0 10 0 10
	1		$k \leq 0.50$
2 (medium)	12	Mechanisms or parts thereof, Usually subject to small loads But rather often to maximum loads	016,7 33,3 50 100  peol 1, 1, 1, 1, 2, 1,
- INC	188	- I	$0.50 < k \le 0.63$
3 (heavy)	L3	Mechanisms or parts thereof, Usually subject to medium Loads but frequently to Maximum loads	$0 \qquad 50 \qquad 100$ $0 \qquad 40$ $0 \qquad 60$
4 (very heavy)	14	Mechanisms or parts thereof, Usually subject to maximum or almost maximum loads	0 90 100 80 your control of the second of

The formular given above for the cubic mean value k excludes the weight of the load carrying means. This is acceptable if the ratio

Weight of the load carrying means < 0.05 safe working load

\*\*\*\*\*\*\*\*\*\*

By applying the classes of operating times and the load spectra, the mechanisms are classified in to 8 groups :

## Classification of mechanisms into groups

8		2				Class of	operatio	n time		193	100
			V 0.06	V 0.12	V 0.25	V 0.5	V 1	V 2	V 3	V 4	V 5
- C	Load spe	ctrum	TO	T1	T2	Т3	T4	T 5	T 6	17	T.8
1	6		3 6	1	Averag	e operati	ing time	per day ir	hours		The same
FEM	BS	Cubic mean value	≤ 0.12	≤ 0.25	≤ 0.5	≤1	≤ 2	≤4	≤ 8	≤ 16	≤ 16
1	1	k ≤ 0.50	1		1 D <sub>m</sub>	1 C <sub>m</sub>	1 B <sub>m</sub>	1 A <sub>m</sub>	2 <sub>m</sub>	3 <sub>m</sub>	4 <sub>m</sub>
(Light)	1		4.45	13	М1	M2	мз	M4	M5	M6	M7
2	L2	$0.50 < k \le 0.63$		1 D <sub>m</sub>		1 B <sub>m</sub>	1 A <sub>m</sub>	2 <sub>m</sub>	3 <sub>m</sub>	4 <sub>m</sub>	5 <sub>m</sub>
(medium)				M1	M2	мз	M4	M5	M6	M7	M8
3	11	0.63 ≤ k ≤ 0.80	1 D <sub>m</sub>	1 C <sub>m</sub>	1 B <sub>m</sub>	1 A <sub>m</sub>	2 <sub>m</sub>	3 <sub>m</sub>	4m	5 <sub>m</sub>	THE STREET
(heavy)		0.03 ( 11 2 0.00	M1	M2	мз	M4	M5	M6	M7	M8	3
4 (very heavy)	0.80 < k ≤ 1.00	1 C <sub>m</sub>	1 B <sub>m</sub>	1 A <sub>m</sub>	2 <sub>m</sub>	3 <sub>m</sub>	4m	5 <sub>m</sub>	1		
		0.00 < 10 5 1.00	M2	мз	M4	M5	M6	M7	M8	1	1/3

The result of the classification of mechanism into groups according to table 3 is that the same life, expressed in years, may be expected for these machines under all load spectra and average operating times per day. This applies on condition that the life of the individual component depends on the third power of the load.

- The average daily operating time with in the classes of operating times are doubled as follows: Within a group by passing into a lower load spectrum (progression 1.25), because 1.253 = 2.
  - 2. Within a load spectrum by passing into a higher group and derating the SWL by the factor of 1.25, because 1.251 = 2







## ZX HOIST: optional features / equipment.

- SC Smartdrive on traverse motions minimises load swing.
   Fast and extra fast hoist speeds for shorter handling times.
- 10 : 1 hoist creep speed for the most precise handling.
- $\bullet \ \, \text{One step traverse limit switches (slowdown or stop)}.$
- Two step traverse limit switches (slowdown and stop).
- Second hoist brake mounted on hoist motor.
- Standby cooling fan in hoist and trolley motor.
   Load Indication Display.
- Load summation between two hoists.
- Visual or audible overload warning.
- Frequency inverter on hoist motor.
   Non-standard traverse speeds.
- Push-button pendant on hoist.
- Special voltages.
- Overspeed switch applies the hoist brake if the gearbox shaft is running more than 10% over normal speed.





## SC Smartdrive Technology.

The New ZX hoist incorporates SC SMARTDRIVE, the latest, most advanced traverse speed control technology to give the superior performance you might expect from a world leader.

DX beats the competition by employing a full frequency inverter and current vector control for minimum load swing and easy, more accurate load positioning for greater safety and productivity.



SC SMARTDRIVE is based on the latest inverter technology utilising dual CPU control and S-Ramp profiles on travel drives, to ensure smooth acceleration and controlled stopping with minimised load, swing and increased efficiency and safety.

Sensorless Current Vector method of motor control out-performs the Voltage Frequency method used by some competitors with respect to starting torque, speed holding and consistent slow speed performance.

 The SC SMARTDRIVE Inverter includes an LED status display to access a series of diagnostic and condition monitoring data, including Safe Working Period calculation.

 Mechanically more robust inverter unit with increased vibration resistance (up to 0.65g at 20 to 50 Hz).  Plug-in Control Terminal Board with memory is another significant advantage and another uncommon feature on standard cranes and hoists. It provides for a simple change in the unlikely event the inverter falls with no need for any ex-

programming tools

MAN

Inverter is CE UL cUL and TUV approved and is suitable for environments with Relative Hurndity of 95% (none-condensing). It has a broad input range of 380 -480 Volts -15% +10%.

SC SMARTDRIVE Standard programming is for 2 speeds with standard smooth acceleration and deceleration; amps but the inverters are fully programmable for different speeds and accelerations, multiple speeds, ramp and hold or infinitely variable between full speed and 10% of full speed.





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Email, info.titanservice@gmail.comwww.titanservice.co.th