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Electric Single Girder Crane

Henan Weihua Heavy Machinery Co.,LTD.

World leading crane manufacturer
making the world easier

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Introduction

Overview

1. Simple and reasonable structure, high rigidity.
2. Good craftwork, convenient manufacturing, strong versatility.
3. Small size, work class is not very high.
4. It has constant speed and variable frequency speed regulation, stable travelling.
5. User can choose according to different requirements.

Supply scope

Yuantai supply the single girder crane with lifting capacity: 1~20t, span:7.5~28.5m, lifting height 1~30m, low work class A3, A4. We also design and manufacture the non-standard crane according users' demanding.

Main Application

1. Designed and made according to JB/T 1306 Electric Single-girder Crane.
2. The matched electric hoists have CD1 model, MD1 model, etc.
3. It is a light & small lifting equipment with running on rail.
4. Hoisting goods in the factory, warehouse, stockyard.
5. Banned to use in such dangerous environment as easily combustible, explosive, etc.

Working atmosphere and condition

This crane is used in ambient temperature of $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$, humidity $\leq 85\%$, elevation under 1000m, power supply is 3-ph, 380V, 50HZ (can change as user demand).

Classification and product specifications

Single speed lifting single-girder crane and double speed lifting single-girder crane.

Tag: if a single speed lifting single-girder crane has lifting capacity 5t, span 10.5m, it can be written as LD5t-10.5m.

Main Structure and Feature

It mainly has three parts: mechanism part, (metal structure and crane travelling parts), electric hoist (lifting mechanism), electrical equipments (safe protection, operation).

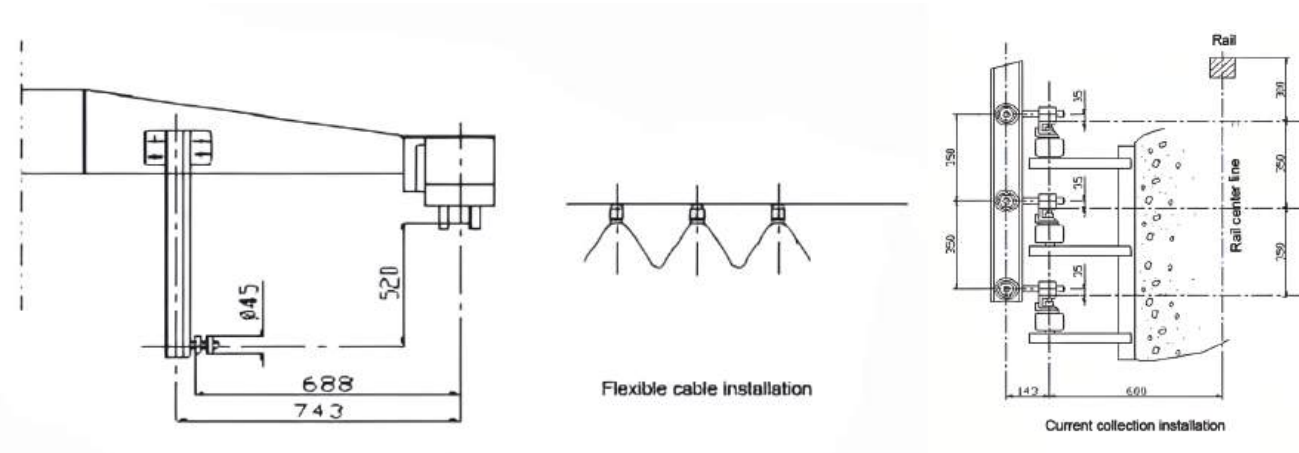
Main Structure and Features

1. Single girder, made by high quality I steel and U-shape slot.
2. Material Q235B or Q345B (similar as Fe37 or Fe52).
3. End girder is welded with rectangular tubes or good steel.
4. Main girders connected with bolts.
5. Crane travelling use respective drive.
6. QS trinity-drive system or traditional drive by motor and reducer.
7. Assembly and adjustment is rapid, simple.
8. Compact structure, small and light.
9. Use LD single girder special wheel, light and strong versatility.
10. Stable travelling, effective brake, long service life.
11. Choosing according to different needs.



Electrical Equipment

1. Trolley conductor or angle steel conductor power supply.
2. Hoist and crane Separately control, move separately or together.
3. Flat cable or special cable power supply for electric hoist.
4. Galvanize slide and cable trolley, smoothly moving, appearance is aesthetics.
5. Electrical non-contact speed regulation control module.
6. Operation, hoisting, the point start are very smoothly.
7. Power leading has both methods of current collector and flexible cable.



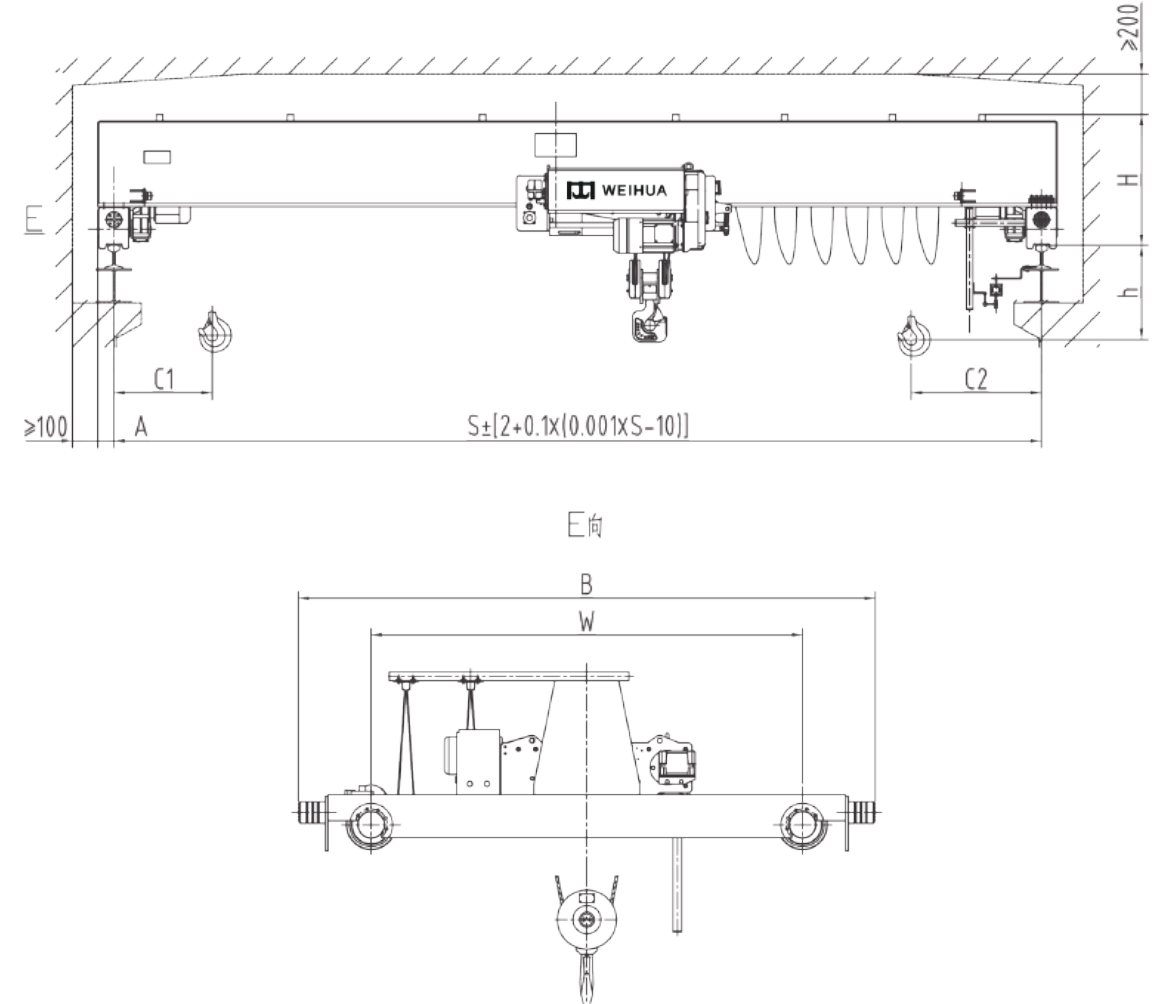
Safety Device

1. Outdoor cranes are equipped with lifting mechanism,
2. Electrical control box and rainproof devices.
3. Overloading alarm, two grade of top dashing proof protection.
4. Crane buffer.
5. Anti-collision, sound and light alarm devices.
6. Circuit self-check protector.
7. Flow phase lack protection.

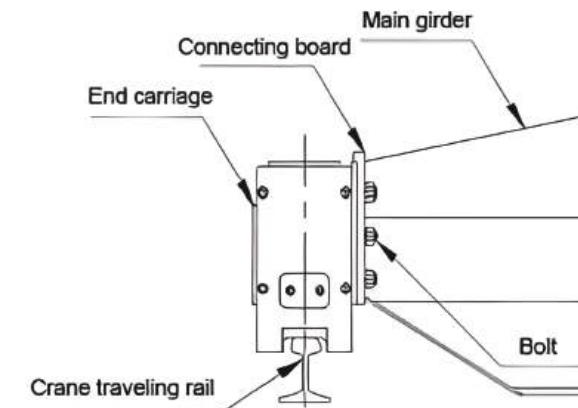


Other Equipment

Overall Organization Drawing



Connecting drawing between main and end girder



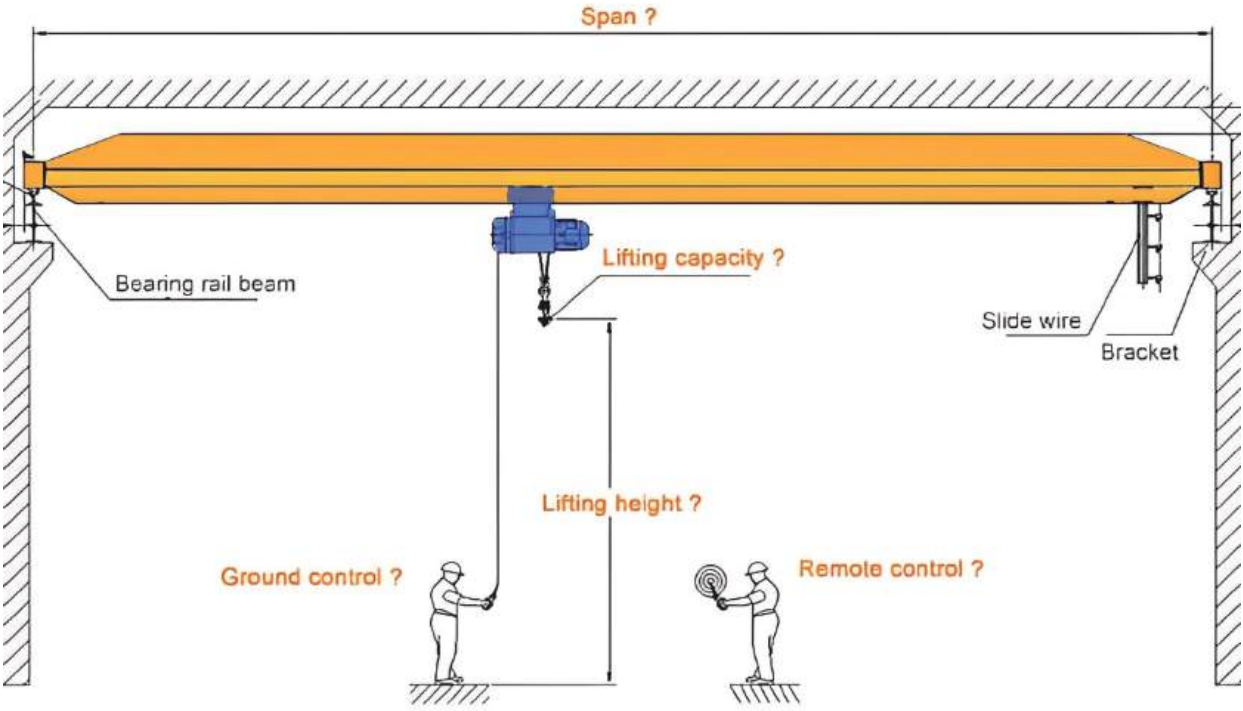
LD Model Electric Single Girder Crane 5t											
Lifting Capacity	Span	Crane Total	Max.wheel load	Min.wheel load	Basic Dimensions (mm)						
t	S (m)	G(t) Ground	Rmax(kN)	Rmin(kN)	H1 (mm) Wheel	H2 (mm) Wheel	(mm) End	B (mm) Total	C1 (mm) Hook	C2 (mm) Hook	
5	7.5	2.22	28.7	4.6	580	1460	1500	2000	842	1310	
	8	2.28	29.1	4.7							
	8.5	2.35	29.4	4.9							
	9	2.41	29.7	5							
	9.5	2.48	30	5.2							
	10	2.54	30.3	5.3							
	10.5	2.61	30.6	5.5							
	11	2.67	30.8	5.6							
	11.5	2.86	31.4	6.1	660	1460	2000	2500	842	1310	
	12	2.93	31.6	6.3							
	12.5	3	31.9	6.4							
	13	3.07	32.1	6.6							
	13.5	3.14	32.4	6.8							
	14	3.21	32.6	6.9							
	14.5	3.43	33.2	7.5	725	1475	2000	2500	842	1310	
	15	3.55	33.5	7.7							
	15.5	3.58	33.7	7.9							
	16	3.65	33.9	8							
	16.5	3.72	34.2	8.2			2500	3000			
	17	3.79	34.4	8.4							
	17.5	4.44	36	10	835	1465	2500	3000	842	1310	
	18	4.52	36.3	10.2							
	18.5	4.61	36.5	10.4							
	19	4.69	36.8	10.6							
	19.5	4.79	37	10.8							

LD Model Electric Single Girder Crane 5t										
Lifting Capacity	Span	Crane Total	Max.wheel load	Min.wheel load	Basic Dimensions (mm)					
t	S (m)	G(t) Ground	Rmax(kN)	Rmin(kN)	H1 (mm) Wheel	H2 (mm) Wheel	(mm) End	B (mm) Total	C1 (mm) Hook	C2 (mm) Hook
5	20	5.09	37.8	11.6	880	1500	3000	3500	842	1310
	20.5	5.19	38.1	11.8						
	21	5.27	38.3	12						
	21.5	5.37	38.6	12.3						
	22	5.45	38.8	12.5						
	22.5	5.55	39.1	12.7						
	23	6.27	40.9	14.6	940	1540	3500	4000	842	1310
	23.5	6.39	41.2	14.8						
	24	6.48	41.5	15.1						
	24.5	6.59	41.8	15.3						
	25	6.69	42	15.6						
	25.5	6.8	42.3	15.9						
	26	8.36	46.2	19.7	1020	1520	4000	4500	842	1310
	26.5	8.49	46.6	20.1						
	27	8.61	46.9	20.4						
	27.5	8.74	47.3	20.7						
	28	8.86	47.6	21						
	28.5	8.99	47.9	21.3						



LD Model Electric Single Girder Crane 10t										
Lifting Capacity	Span	Crane Total	Max.wheel load	Min.wheel load	Basic Dimensions (mm)					
t	S (m)	G(t) Ground	Rmax(kN)	Rmin(kN)	H1 (mm) Wheel	H2 (mm) Wheel	(mm) End	B (mm) Total	C1 (mm) Hook	C2 (mm) Hook
10	7.5	3.06	50.8	5.9	735	1815	1500	2000	1293	1893
	8	3.13	51.6	6						
	8.5	3.21	52.3	6.1						
	9	3.28	53	6.3						
	9.5	3.36	53.6	6.4						
	10	3.43	54.2	6.5						
	10.5	3.51	54.7	6.7						
	11	3.58	55.2	6.9						
	11.5	3.95	56.4	7.8	835	1815	2000	2500	1293	1893
	12	4.03	56.9	7.9						
	12.5	4.12	57.3	8.1						
	13	4.21	57.8	8.3						
	13.5	4.3	58.2	8.5						
	14	4.38	58.6	8.7						
	14.5	4.64	59.4	9.4			2000	2500	1293	1893
	15	4.72	59.8	9.5						
	15.5	4.82	60.2	9.8						
	16	4.91	60.5	10						
	16.5	5	60.9	10.2			2500	3000		
	17	5.09	61.2	10.4			880	1950	2500	3000
	17.5	5.59	62.5	11.8						
	18	5.69	62.9	12						
	18.5	5.8	63.3	12.3						
	19	5.89	63.6	12.5						
	19.5	6.01	64	12.8						

LD Model Electric Single Girder Crane 10t										
Lifting Capacity	Span	Crane Total	Max.wheel load	Min.wheel load	Basic Dimensions (mm)					
t	S (m)	G(t) Ground	Rmax(kN)	Rmin(kN)	H1 (mm) Wheel	H2 (mm) Wheel	(mm) End	B (mm) Total	C1 (mm) Hook	C2 (mm) Hook
10	20	6.83	66.1	14.8	920	1970	3000	3500	1293	1893
	20.5	6.94	66.5	15.1						
	21	7.05	66.9	15.3						
	21.5	7.18	67.3	15.7						
	22	7.29	67.6	15.9						
	22.5	7.42	68	16.2						
	23	8.55	71.9	20.1						
	23.5	8.67	72.4	20.5	1065	1865	3500	4000	1293	1893
	24	8.8	72.8	20.8						
	24.5	8.97	73.3	21.2						
	25	9.09	73.6	21.5						
	25.5	9.22	74.1	21.9						



Easily Damaged Parts			
NO.	Name	Material	Remark
1	gear wheel axle	20CrMnTi	/
3	gear ring	40Cr	/
3	Initiative	45	/
4	Passive wheel	45	/
5	Taper brake ring Plane brake ring	/	/

Usage

1. Test crane: without loading, connect power, inspect all the travelling mechanism and safe device, make them readywitted and acurrate, safe and reliable.
2. Adjust travelling and lifting limitor
3. Don't overload
4. Don't lift loading in inclined girder direction
5. Forbiden to use it in fire, bombing, corrosive atmosphere, and can't lift molten metal or toxic, inflammable and explosive objects.



Maintenance



Users often need to inspect the crane, especially the connecting between beam end girder and all bolts

lubrication (showing as picture) :

1. Get out of oil plug 6 and inject albany grease (GB491- 1987) to lubricate wheel bearings.
suggestion: change oil every three monthes, at 1/2~1/3 of the bearing volume.
2. Get out of oil plug 8 and inject sodium soap grease (GB492/T-1989). Suggestion: change the oil every half year.
3. Often daub lubricating grease on open gear (GB491-1987) to ensure it oiling.

inspect wheel, must no fissure, indentation and excessive wear. If the flaw is 3mm or more, shoule be not used more and replaced by new wheel. Method: loosen bolt 1, take down cover plate2, get down bolt 4 and axle board 5, pull down wheel axle 7, then replace the wheel 3.

When installing, reverse the order.

WEIHUA CRANE



Weihua Group set sail on the wave of the industry in 1988, Nowadays, Weihua Crane Group has 33 national and provincial R&D platforms, a research team of more than 1,200 people led by Zhang Tiegang and Ma Yushan, academicians of the Chinese Academy of Engineering, has undertaken 7 national major special projects, and owns more than 1,500 authorized patents.

Self-developed electrical anti-sway control technology is in the international leading position, 658 meters of ultra-high lifting created the world's largest lifting height of the world record, AICRANE intelligent control system to create a real lifting robots, new Chinese cranes redefine the concept of lifting, and promote China's lifting technology continues to be iterative update.

With the acceleration of globalization, Weihua Group sets its sights on the international market. With high-quality products and good reputation, Weihua crane products have successfully entered the international market, exported to more than 170 countries and regions, such as UAE, Thailand, Malaysia, Australia, etc., which has demonstrated the strong strength of Made-in-China on the international stage.

500+

500 HONORARY
TITLES

1000

1000 R&D
ENGINEERS TEAM

1200

1200 AUTHORIZED
PATENTS

130

130 TECHNOLOGICAL
ACHIEVEMENTS

CERTIFICATE

33 honors as National Enterprise Technology Center, National Technology Inspection and Testing Center, Henan Manufacturing Innovation Center.

