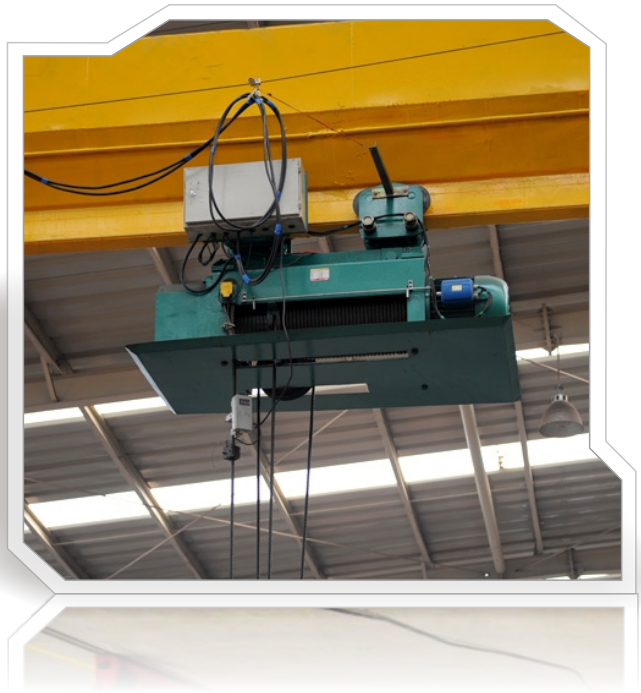
YUANTAI CRANE

LDY Metallurgical Single Girder Crane Specification



- Reasonable structure, strong rigidity
- Stepless control, smoothly moving

Henan Yuantai Crane Machinery Import&Export Co.,Ltd.

Part 1 Introduction

Supply Scope

Our company mainly manufactures metallurgy cranes with lifting capacity of 1-10t, span of 7.5m-28.5m, lifting height of 1m-30m, working class（A6), also can design and manufacture according to requirements.

Applications

(1) Matched with metallurgy hoist, to do interval and cycle work.
(2) It is an important equipments to improve efficiency in modern industrial metallurgy and casting sites.
(3) Crane assembly and test accord with No. 375, 2007 document
(4) Banned used in inflammable, explosive corrosive medium environment.

Working Conditions

It is applicable in the temperature of -25℃～+60℃, Humidity≤85%, the temperature is below +60℃, humidity ≤50%, Altitude below 2000m, Power is 3-phase 380v 50HZ(also can be customized according to customer's requirements).

Specifications&Description

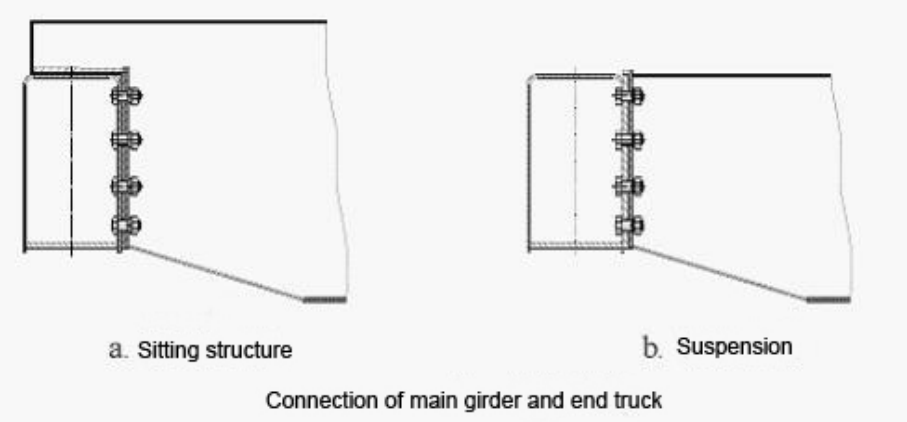
Mark：for example, metallurgy crane with lifting capacity of 5t, span of 10.5m , it is LDY5t-10.5m.

Structure & Feature

Mainly composed of bridge(metal), crane traveling mechanism, metallurgy hoist and electrical equipments.

Bridge

1.Use for supporting the crane and longitudinal traverse.
2.Be composed of main girder, end truck and connector, the three parts
3.The main girder is composed of high quality molding and stamping I-beam and U-Steel.
4.Adapts special thermal protection process below the main girder.
5.Steel quality is Q235B or Q345B(international Fe37 or Fe52).
6.The end truck is welded by rectangular tube or high quality steel plate.
7.The connecting between main girder and end truck adapts bolts suspension or sitting structure, easy for transportation.



Connection of main girder and end truck

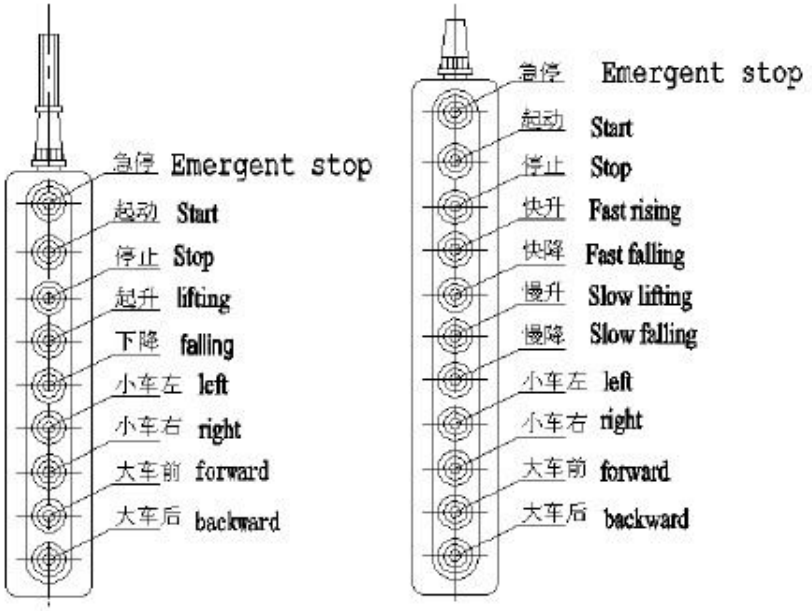
Crane traveling mechanism

1.Separate driving
2.Driving and braking are completed by tapered rotor motor, can reduce damage to rail because of wheel skew or deflection.

Metallurgy hoist（It has an independent specification）

Electric

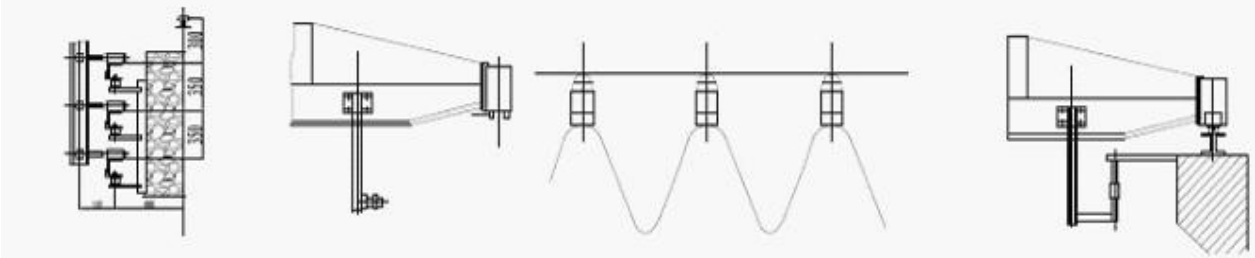
1.Lifting and traveling can be controlled separately, working separately or at the same time.
2.The power supply of trolley moving adapts thermostability cable.
3.Optional power supply ways:angle steel slide touch line, safe slide touch line, soft cable slide touch line
4.Control ways is ground control, Considering safety, advise to adapts remote control.
5.Through pressing the button switch, makes the contactor cut in or cut off the power, the electric components of main circuit and control circuit are less, easy maintenance.
6.There is thermal protective device outside the motor.



a. 单速控制按钮开关
Single-speed pushbutton switch

b. 双速控制按钮开关
dual-speed pushbutton switch

手电门



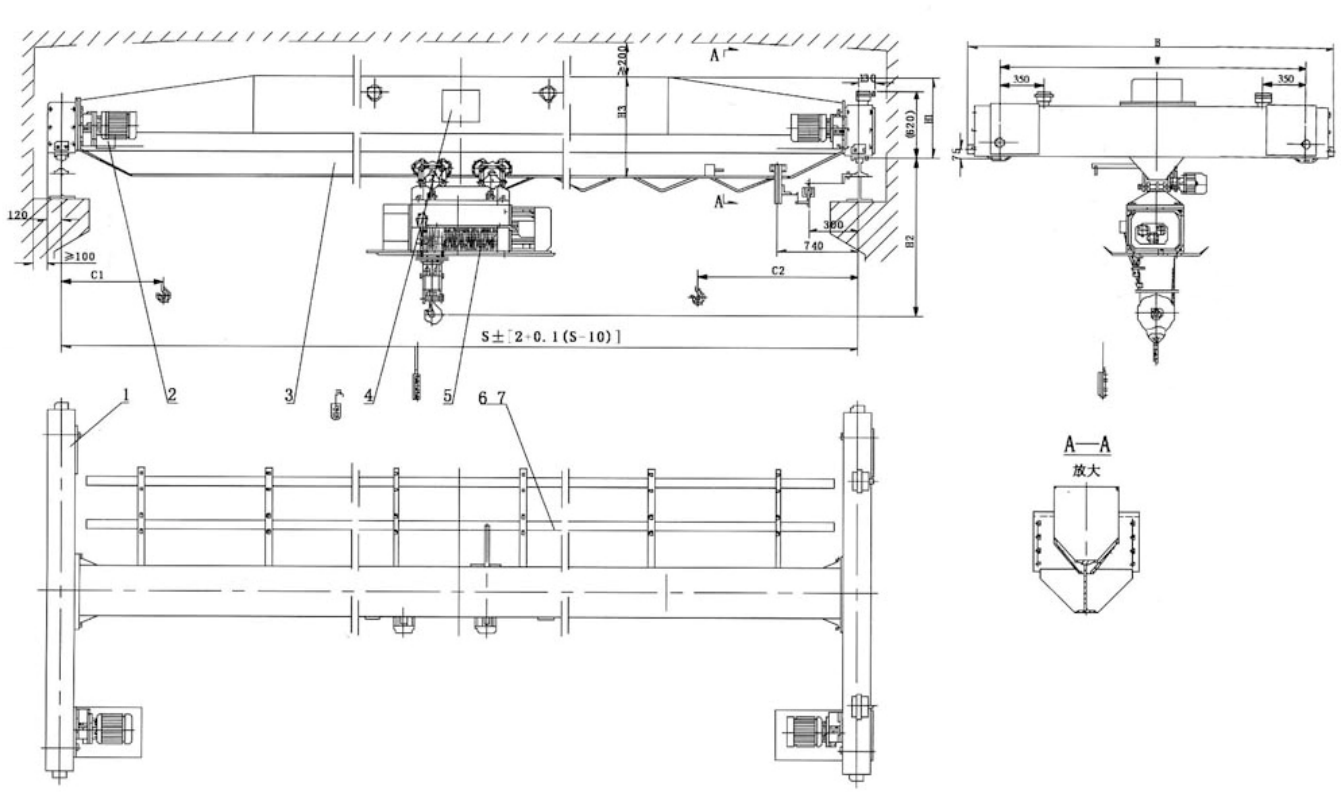
Angle steel slide touch line

Soft cable slide touch line

Safe slide touch line

Part 2 Drawing

Overall structure sketch



Part 3 Parameters

LDY Metallurgical Electric Single Girder Crane 2t									
Span	S(m)	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Lifting height	m	9	9	9	9	9	9	9	9
Lifting speed	m/min	8	8	8	8	8	8	8	8
Trolley speed	m/min	20	20	20	20	20	20	20	20
Crane speed	m/min	20	20	20	20	20	20	20	20
Lifting motor	kw	3	3	3	3	3	3	3	3
Trolley motor	kw	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total weight	t	2.14	2.45	2.77	3.40	4.28	5.40	6.29	8.65
Max Wheel Load	KN	15.20	16.40	17.40	19.00	21.40	24.30	26.60	32.60
Track		P24	P24	P24	P24	P24	P24	P24	P24
Main dimension	mm	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Rail top to main top	H1	490	490	490	580	660	785	820	875
Rail top to hook centre	H2	1405	1405	1510	1520	1540	1515	1580	1625
Wheel base	W	2000	2000	2000	2500	2500	3000	3500	4000
Crane width	B	2500	2500	2500	3000	3000	3500	4000	4500
Hook left limitation	S1	871	871	871	871	871	871	871	871
Hook right limitation	S2	1291	1291	1291	1291	1291	1291	1291	1291
Main girder height	H3	595	595	700	800	900	1000	1100	1200

LDY Metallurgical Electric Single Girder Crane 3t									
Span	S(m)	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Lifting height	m	9	9	9	9	9	9	9	9
Lifting speed	m/min	8	8	8	8	8	8	8	8
Trolley speed	m/min	20	20	20	20	20	20	20	20
Crane speed	m/min	20	20	20	20	20	20	20	20
Lifting motor	kw	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Trolley motor	kw	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total weight	t	2.14	2.48	3.02	3.86	4.80	5.74	7.69	9.60
Max Wheel Load	KN	19.70	21.10	22.80	25.10	27.60	30.00	35.00	39.80
Track		P24	P24	P24	P24	P24	P24	P24	P24
Main dimension	mm	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Rail top to main top	H1	530	530	580	660	745	820	875	925
Rail top to hook centre	H2	1570	1570	1620	1620	1655	1680	1725	1775
Wheel base	W	2000	2000	2000	2500	2500	3000	2500	4000
Crane width	B	2500	2500	2500	3000	3000	3500	4000	1500
Hook left limitation	S1	841	841	841	841	841	841	841	841
Hook right limitation	S2	1291	1291	1291	1291	1291	1291	1291	1291
Main girder height	H3	700	700	800	900	1000	1100	1200	1300

LDY Metallurgical Electric Single Girder Crane 5t									
Span	S(m)	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Lifting height	m	9	9	9	9	9	9	9	9
Lifting speed	m/min	8	8	8	8	8	8	8	8
Trolley speed	m/min	20	20	20	20	20	20	20	20
Crane speed	m/min	20	20	20	20	20	20	20	20
Lifting motor	kw	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Trolley motor	kw	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total weight	t	2.65	3.08	3.64	4.54	5.24	7.22	8.85	11.27
Max Wheel Load	KN	30.40	32.40	34.30	36.90	38.90	44.00	48.20	54.30
Track		P24	P24	P24	P24	P24	P24	P24	P24
Main dimension	mm	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Rail top to main top	H1	660	660	745	820	875	925	1015	1065
Rail top to hook centre	H2	1730	1730	1745	1770	1815	1865	1875	1925
Wheel base	W	2000	2000	2000	2500	2500	3000	3500	4000
Crane width	B	2500	2500	2500	3000	3000	3500	4000	4500
Hook left limitation	S1	840	840	840	840	840	840	840	840
Hook right limitation	S2	1310	1310	1310	1310	1310	1310	1310	1310
Main girder height	H3	800	800	900	1000	1100	1200	1300	1400

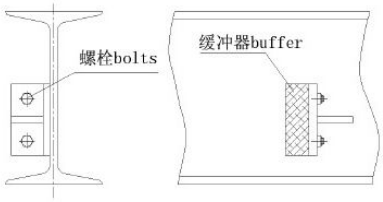
LDY Metallurgical Electric Single Girder Crane 10t									
Span	S(m)	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Lifting height	m	9	9	9	9	9	9	9	9
Lifting speed	m/min	7	7	7	7	7	7	7	7
Trolley speed	m/min	20	20	20	20	20	20	20	20
Crane speed	m/min	20	20	20	20	20	20	20	20
Lifting motor	kw	13	13	13	13	13	13	13	13
Trolley motor	kw	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total weight	t	3.55	4.07	4.76	5.54	6.91	8.91	12.08	15.29
Max Wheel Load	KN	50.80	55.40	58.90	62.00	66.20	71.70	80.10	88.50
Track		P24	P24	P24	P24	P24	P24	P24	P24
Main dimension	mm	7.5	10.5	13.5	16.5	19.5	22.5	25.5	28.5
Rail top to main top	H1	820	820	875	875	925	1100	1200	1280
Rail top to hook centre	H2	1780	1780	1825	1865	1925	1850	1595	1870
Wheel base	W	2000	2000	2000	2500	2500	3000	3500	4000
Crane width	B	2500	2500	2500	3000	3000	3500	4000	4700
Hook left limitation	S1	1500	1500	1500	1500	1500	1500	1500	1500
Hook right limitation	S2	2100	2100	2100	2100	2100	2100	2100	2100
Main girder height	H3	1000	1000	1100	1140	1250	1350	1450	1550

Note: Control mode for ground operation

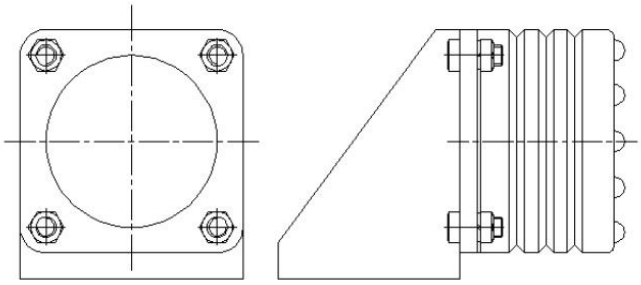
Part 4 Safe and protection devices

Block in the end of track and buffer

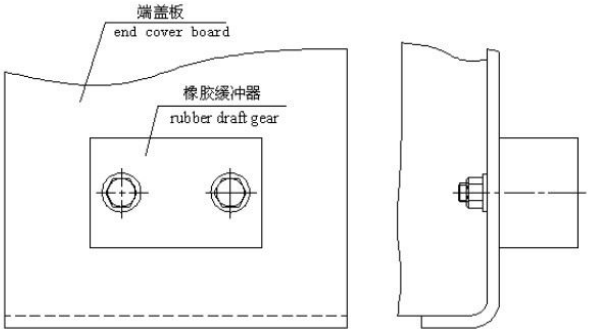
Block in the end of track is used for preventing the crane from derailing.
On the I-beam for trolley moving is also installed Block, it's position and height is suit for trolley
moving, and on the block with rubber bumper.
In the end of end truck with Polyurethane buffer, installed over-travel limiter, ensure the crane stop traveling in the condition of power off.



小车端部止挡
Backstop at end of track of trolley



聚氨酯缓冲器
Polyurethane buffer



橡胶缓冲器
Diagram 7 rubber draft gear

Position limiter

It is a safe device used for limiting the traveling of machine.
Metallurgy hoist has position limiter of rising and falling, the rising position limiter has LX type and hammer type cut off limiter; when the hook is in the lowest position, it can cut off the power automatically, stop running, to ensure the wire rope twining on the coiling block is not less than 2 circles.
Rising position limiter is used for limiting the height of hook lifting, when it is in the extreme position, cut off the power, stop running, preventing the hook from clashing top and breaking the wire rope, avoid accident.

LX type cut off limiter

1.Shell is protection type, control part is push-pull type.
2.Position limiter has four pairs closed contactors, can cut off the main circuit of lifting motor directly.
3.Normally, the limiter is in the state of power but closed, when the spreader rising to certain height,limiting pole push the limiter to make the limiting switch open contactor, then the power is cut off, stop running and lifting. If falling, control handle come back to zero, then restart.

■ Hammer type position limiter

1.Be composed of limiting switch and hammer.

2.While the hammer is falling, the limiting switch is in the state of power, when the spreader rise to certain position, holding up the hammer, make the limiting switch open the contactor, cut off power, stop running and rising. If falling, control handle come back to zero, then restart.

◆ Overload limiter

Overloading will lead to break of wire rope, damage to components, motor and brake.Overload limiter is one protective device to prevent the hoist from overloading during working.

When the lifting capacity reach the rated 95%~100%, the overload limiter will send out sound and light alarm signal; when the lifting capacity exceed the rated lifting weight, overload limiter will cut off the lifting power automatically, and send out forbidden signal, prevent the damage to components and accidents.

Two points should be noted during working:

1.Using overload limiter should not reduce the lifting capacity, the setting point should be adjusted to lift rated lifting weight in normal condition.

2.In any condition, overload protection action point should be less than 1.1 times of rated lifting weight; Setting point can be adjusted between 1.0~1.05 times of rated lifting weight.

■ Part 5 National, industrial and new standards of design, manufacture and installation

1. GB3811-2008	Crane design standards
2. GB5905-86	Crane test specification and procedures
3. GB6067-85	Lifting machinery safety standards
4. GB5972-2006	Wire rope inspection for cranes and scrap practical standard
5. JB/T 1306-2008	Electric single girder crane
6. GB8197-87	Mechanical equipment shields safety requirements
7.GB1005.1.1～8-88	Lifting hook

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Tips:
You can use the phone dimensional code recognition software to scan the right side of the two-dimensional code, to quickly and easily access our web site for more information.