Professional cranes & hoists for lifting

Generation II
Air Chain Hoist

CHENG DAY MACHINERY WORKS CO., LTD.

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■ No further notice while sizes and dimensions update; Quotations are based on practical dimensions.
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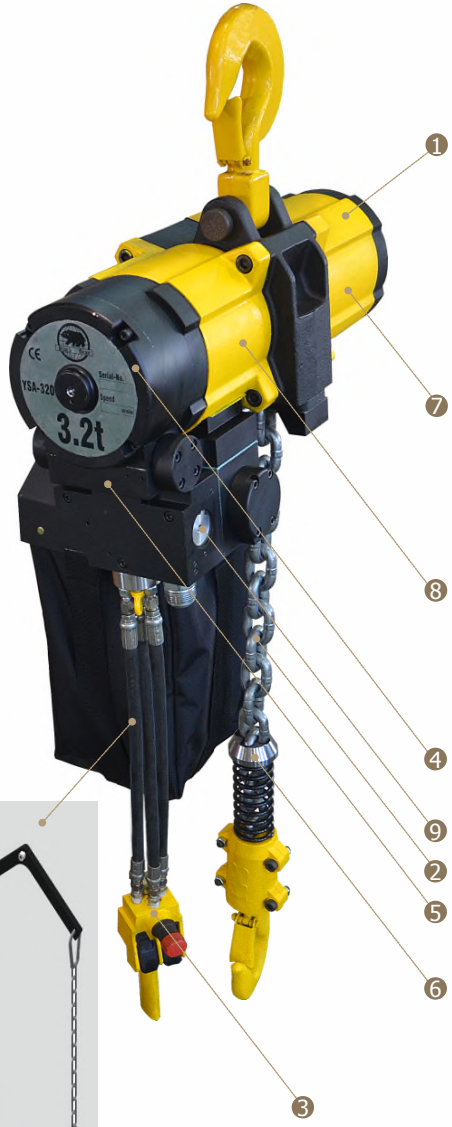
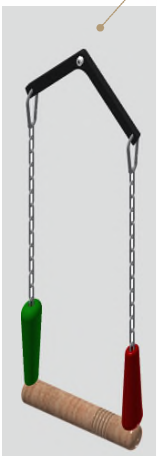
CHENG DAY MACHINERY WORKS CO., LTD.





Toggle Cord type

❶ Gearbox

Sealed planetary gearbox complies with heavy duty cycles, gears are heat treated and mounted on high strength low friction bearings to extend its life span.

❷ Load Chain & Chain Guide

G80 load chain applied. The chain guide leads load chain working rapidly and smoothly on sprocket without twisting.

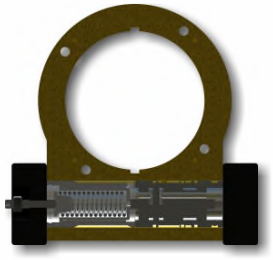
❸ Controller

Toggle Cord (TC) & Pendant Control (PC, Optional) for users choice. They can offer variable speed control with accurate & precise positioning of loads.

❹ Brake

Non-asbestos disc brake is applied automatically when the air shut-off.

❺ Main Air Supply Shut - Off Type Overload Limiter System



Two overload limiter devices for extra safety- a Mechanical Clutch type [MCT] & a Main Air Supply Shut-off [MASSO] valve type.

These devices are pre -set at the factory to an overload limit capacity value of the hoist rated WLL x 125% and are adjustable.

The main air supply shut - off overload limiter device MASSO valve which is integrated into the air motor monitors the air pressure differential between the incoming air pressure and the exhaust air pressure.

When the overload limit capacity is reached the reduced exhaust air pressure is sensed and the higher incoming air pressure over comes the valve spring tension and closes the valve thereby closing the supply of air to the brake which then engages. However the hoist can still function in the DOWN mode to allow the load to be lowered.

❻ Upper and Lower Load Chain Travel Limit Switch System (LSS)

To ensure that the load chain and hoist body are not damaged which can compromise safety, it is essential to limit the maximum up/down travel limits of the load chain and load hook.

Chain stops are attached to the load chain at the UP/DOWN travel limit points on either end of the load chain.
Such Chain Stops activate the limit switch when the UP/DOWN chain travel points are reached.
When activated the limit switch mechanically closes the main air supply control piston to stop the air supply to the air motor.
When the hoist is operated in the reverse direction from the limit point the pressure on the limit switch is released which allows the main air supply control piston spring to open the main air valve and the hoist to operate.

Such LSS is incorporated into both the pendant control and toggle cord operating control types of YSA hoists.

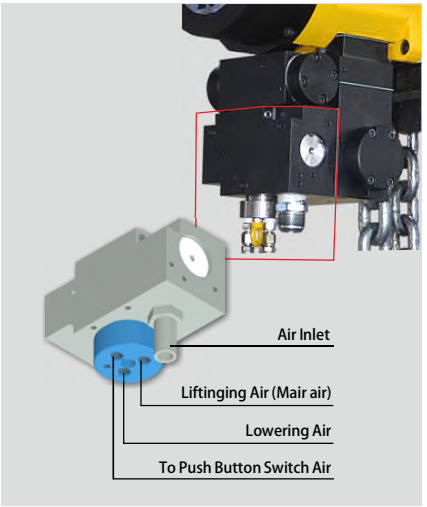
❼ Hoist Housing

High strength FCD cast-iron housing ensures shocks, bumps and corrosion resistance.

❽ Air-Lift Motor

Air inlet to make vanes work, through the power of centrifugal force and air-in, the motor makes maximum torque. High quality material of vanes without O-rings inside special design to ensure powerful loading and less maintenance.

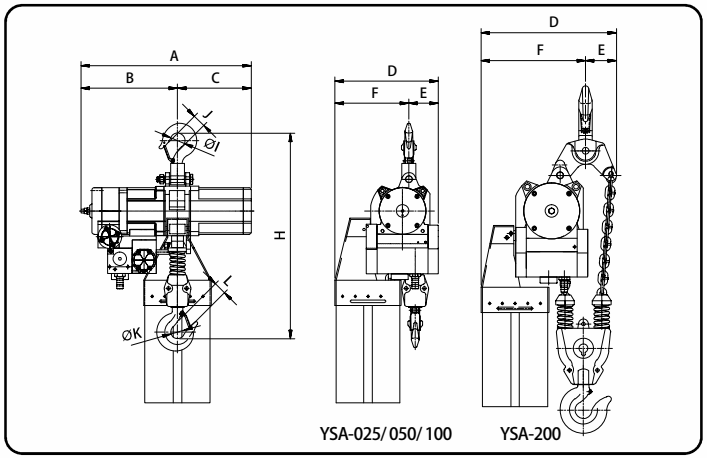
❾ Emergency Stop Device (Optional)



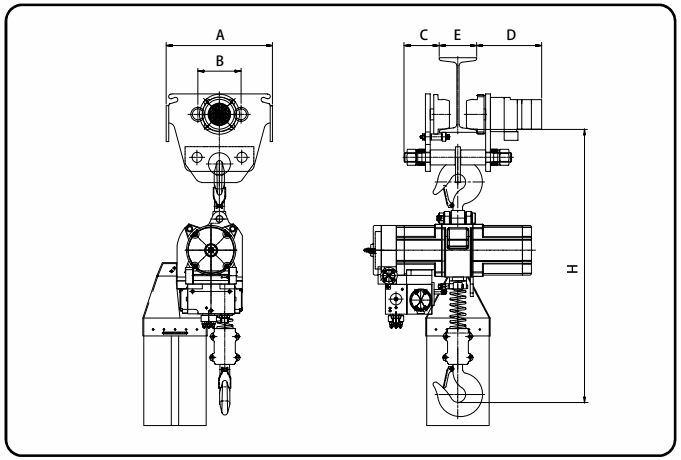
The air stream from either the Red or Blue hose ports, as indicated above, operate and activate the Emergency Stop Valve when the Emergency Stop Button on the Pendant Control Handle is depressed.

On activation the Emergency Stop Valve located on the air motor housing shuts-off the incoming main air supply to the air motor.

YSA Series



Hoist with trolley



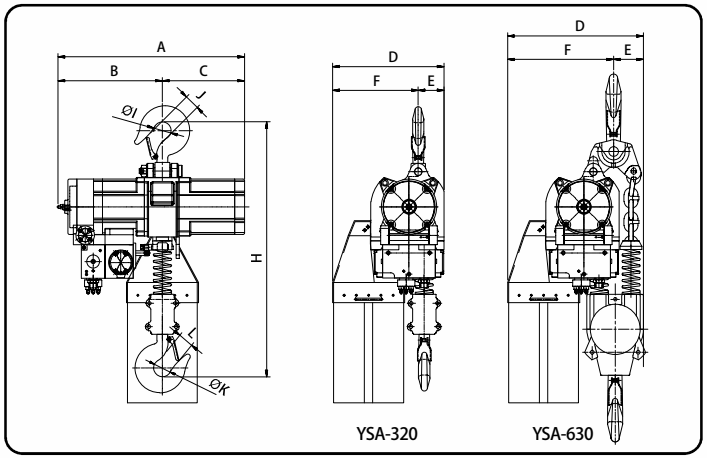
Model	Capacity (ton)	Fall no.	Dimension (mm)											N.W. (kg)
			H	A	B	C	D	E	F	I	J	K	L	
YSA-025	0.25	1	535	371	197	174	244	70	174	40	32	40	32	32
YSA-050	0.5	1	535	402	228	174	244	70	174	40	32	40	32	36
YSA-100	1	1	540	460	255	205	251	65	186	40	32	40	32	51
YSA-200	2	2	760	460	255	205	319	73	246	46	40	46	40	60

Model	Capacity (ton)	Motor (Kw)	Air supply pressure (kg/cm²)	Traversing Speed (m/min)	Air consumption (m³/min)	Brake type	Air inlet
AT-100	1	0.2	6	20	0.6	Disk type brake	1/2"
AT-200	2	0.2	6	20	0.6	Disk type brake	1/2"

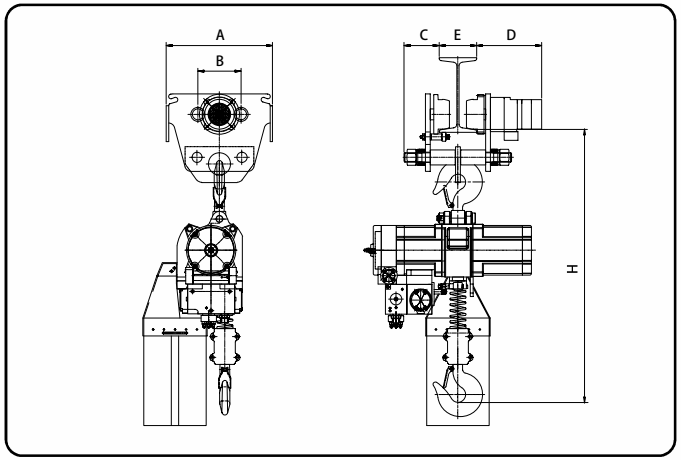
Model	Capacity (ton)	Dimension (mm)					
		H	A	B	C	D	E
YSA-025+PT-050	0.25	590	194	89	35	-	50~150
YSA-050+PT-050	0.5	590	194	89	35	-	50~150
YSA-100+AT-100	1	621	294	116	95	208	75~125
YSA-200+AT-200	2	751	322	135	100	209.5	100~150

Model	Capacity (ton)	Fall no.	Load chain (mm)	Lift (m)	Classification	Operation	Air supply pressure (kg/cm²)	Motor (kw)	Speed (m/min)	Air consumption (m³/min)	Brake type	Limit switch	Air inlet (in)	Level of noise (dB)		Main line air supply (in)
														Load	No load	
YSA-025	0.25	1	Ø6.3x19.1	3	2m	Toggle Cord (TC) or Pendant Control (PC)	6	1.5	18	2	Disk type brake	Upper/Lower limit	1/2"	85	82	3/4"
							4	0.8	8	1						
YSA-050	0.5	1	Ø6.3x19.1	3	2m		6	1.5	11	2			1/2"	85	82	3/4"
							4	0.8	5	1						
YSA-100	1	1	Ø7.1x20.2	3	2m		6	2.0	7.6	2			1/2"	85	82	3/4"
							4	1.0	3.4	1						
YSA-200	2	2	Ø7.1x20.2	3	2m		6	2.0	3.8	2			1/2"	85	82	3/4"
							4	1.0	1.7	1						

YSA Series



Hoist with trolley



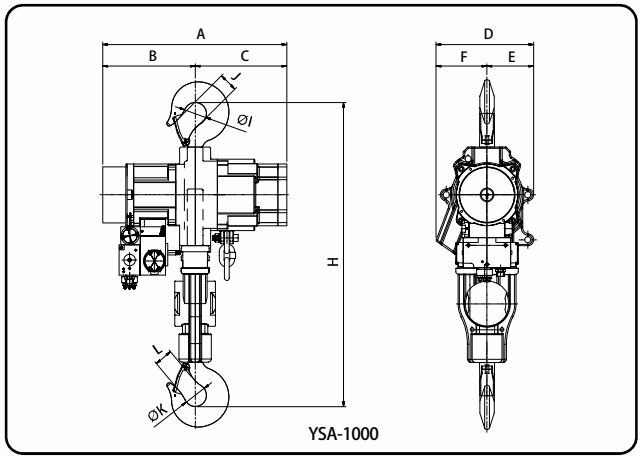
Model	Capacity (ton)	Fall no.	Dimension (mm)										N.W. (kg)
			H	A	B	C	D	E	F	I	J	K	L	
YSA-320	3.2	1	814	559	313	246	334	77	257	52	47	52	47	108
YSA-630	6.3	2	1022	559	313	246	334	77	257	62	52	62	52	138

Model	Capacity (ton)	Motor (Kw)	Air supply pressure (kg/cm^2)	Traversing Speed (m/min)	Air consumption (m^3/min)	Brake type	Air inlet
AT-320	3.2	0.2	6	20	0.6	Disk type brake	1/2"
AT-630	6.3	0.2	6	20	0.6	Disk type brake	1/2"

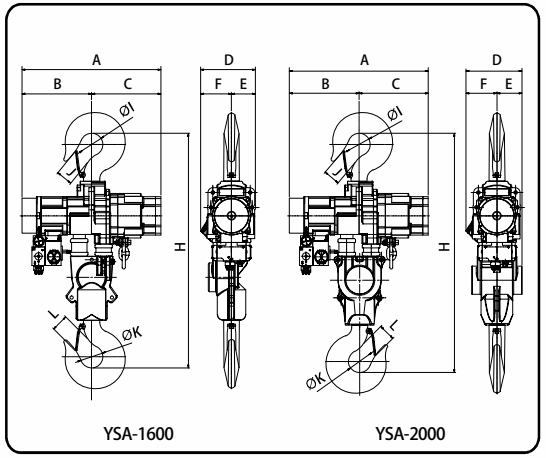
Model	Capacity (ton)	Dimension (mm)					
		H	A	B	C	D	E
YSA-320+AT-320	3.2	902	356	144	117.5	217	125~175
YSA-630+AT-630	6.3	1125	386	183	132.5	219	125~175

Model	Capacity (ton)	Fall no.	Load chain (mm)	Lift (m)	Classification	Operation	Air supply pressure (kg/cm^2)	Motor (kw)	Speed (m/min)	Air consumption (m^3/min)	Brake type	Limit switch	Air inlet (in)	Level of noise (dB)		Main line air supply (in)
														Load	No load	
YSA-320	3.2	1	Ø13x36	3	2m	Toggle Cord (TC) or Pendant Control (PC)	6	3.5	4.8	4	Disk type brake	Upper/Lower limit	3/4"	90	87	2"
							4	1.8	2.2	2						
YSA-630	6.3	2	Ø13x36	3	2m		6	3.5	2.4	4			3/4"	90	87	2"
							4	1.8	1.1	2						

YSA Series



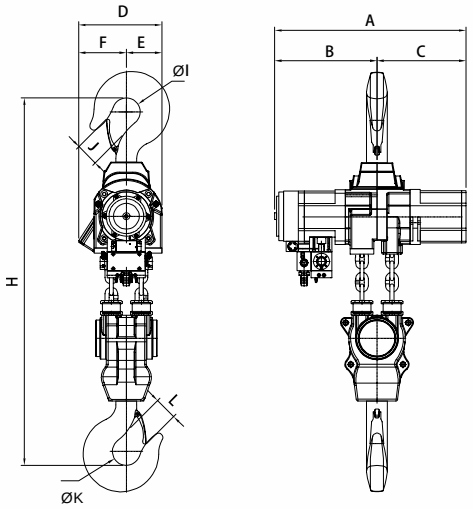
YSA Series



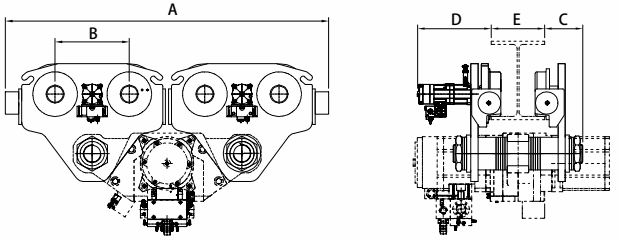
Model	Capacity (ton)	Fall no.	Dimension (mm)											N.W. (kg)
			H	A	B	C	D	E	F	I	J	K	L	
YSA-1000	10	2	1100	614	308	308	326	156	170	75	69	75	69	186

Model	Capacity (ton)	Fall no.	Dimension (mm)											N.W. (kg)
			H	A	B	C	D	E	F	I	J	K	L	
YSA-1600	16	3	1350	746	374	372	295	129	166	120	109	120	109	327
YSA-2000	20	4	1400	746	374	372	301	135	166	120	109	120	109	383

Model	Capacity (ton)	Fall no.	Load chain (mm)	Lift (m)	Classification	Operation	Air supply pressure (kg/cm²)	Motor (kw)	Speed (m/min)	Air consumption (m³/min)	Brake type	Limit switch	Air inlet (in)	Level of noise (dB)		Main line air supply (in)
														Load	No load	
YSA-1000	10	2	Ø16x45	3	2m	Toggle Cord (TC) or Pendant Control (PC)	6	3.5	1.6	4	Disk type brake	Upper/Lower limit	1"	90	87	2"
							4	1.8	0.7	2						
YSA-1600	16	3	Ø16x45	3	2m		6	3.5	1.0	4			1"	90	87	2"
							4	1.8	0.4	2						
YSA-2000	20	4	Ø16x45	3	2m		6	3.5	0.8	4			1"	90	87	2"
							4	1.8	0.3	2						



YSA-5000



AT-5000

Model	Capacity (ton)	Fall no.	Dimension (mm)											N.W. (kg)
			H	A	B	C	D	E	F	I	J	K	L	
YSA-2500	25	2	1561	923	498	425	390	152	238	150	112	150	112	580
YSA-3700	37	3	1840	1099	588	511	480	205	275	140	113	140	113	880
YSA-5000	50	4	1840	1099	588	511	480	205	275	160	132	160	132	980

Model	Capacity (ton)	Fall no.	Load chain (mm)	Lift (m)	Classification	Operation	Air supply pressure (kg/cm²)	Motor (kw)	Speed (m/min)	Air consumption (m³/min)	Brake type	Limit switch	Air inlet (in)	Level of noise (dB)		Main line air supply (in)
														Load	No load	
YSA-2500	25	2	Ø23.5 x 66	3	1Bm	Handle pull type or push button valve type	6	6.3	1.25	6.5	Disk type brake	Upper/Lower limit	1½"	85	82	2"
YSA-3700	37	3	Ø23.5 x 66	3	1Bm		6	6.3	0.75	6.5			1½"	85	82	2"
YSA-5000	50	4	Ø23.5 x 66	3	1Bm		6	6.3	0.55	65			1½"	85	82	2"

Model	Capacity (ton)	Dimension (mm)					N.W. (kg)
		A	B	C	D	E	
AT-2500	25	972	416	214	413	180-300	300
AT-3700	37	1750	415	214	413	180-300	560
AT-5000	50	1812	416	214	413	180-300	600

Model	Capacity (ton)	Motor (Kw)	Air supply pressure (kg/cm²)	Traversing Speed (m/min)	Air consumption (m³/min)	Brake type	Air inlet
AT-2500	25	1.5	6	14	2.6	Disk type brake	1/2"
AT-3700	37	1.5	6	14	2.6		1/2"
AT-5000	50	1.5	6	14	2.6		1/2"

■ Air Flow System

Air Compressor

Air Pressure Source

Air Dryer

F.R.L Unit

Air Purification

Air Tank

Purge Gas Available to The Hoist

- **Compressor :** above 30hp to match air storage supplement.
- **Air Filter :** need to clean & replace regularly.
- **Pressure Regulator :** 8kg / cm² at least.
- **Lubricator :** 6 drops / min or more adjusted according to operating status.
- Connect the main air supply hose to the main air inlet of the hoist. Supply hose i.d. sizes : 0.25 ton ~ 2 ton : i.d. 1/2" ; 3.2 ton ~ 20 ton : i.d. 3/4".
- Air supply pressure range needs to be Working Air Pressure 4~6 Kg / cm ². The hoist performance and lifting / lowering speed is affected by the W.A.P.
- Use a dedicated air supply line to the hoist to prevent air starvation to the hoist which can occur if used on the same air supply line as other pneumatic equipment.

■ Federation Europeenne De La Manutention

	Cubic mean value Definitions	Average operating time per day in hours							
1 (light)	(k≦0.50) Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	>16	
2 (medium)	(0.50<k≦0.63) Mechanisms or parts thereof, usually subject to small loads but rather often to maximum loads.	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	>16
3 (heavy)	(0.63<k≦0.80) Mechanisms or parts thereof, usually subject to medium loads but frequently to maximum loads.	≦0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16
4 (very heavy)	(0.80<k≦1) Mechanisms or parts thereof, usually subject to maximum or almost to maximum loads.		≦0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8
Classification of Mechanisms FEM 9.511		1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m

■ ISO/FEM (9.511)

Classification of mechanisms into groups

1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m
M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8

Classification of mechanisms

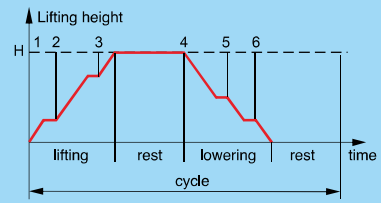
Load spectrum		Cubic mean value	Class of operation time								
			V0.06	V0.12	V0.25	V0.5	V1	V2	V3	V4	V5
			TO	T1	T2	T3	T4	T5	T6	T7	T8
			Average operating time per day in hours								
			≦0.12	≦0.25	≦0.5	≦1	≦2	≦4	≦8	≦16	>16
1	L1	k≦0.50			1 Dm	1 Cm	1 Bm	1 AM	2 m	3 m	4 m
2	L2	0.50<k≦0.63		1 Dm	1 Cm	1 BM	1 Am	2 m	3 m	4 m	5 m
3	L3	0.63<k≦0.80	1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m	
4	L4	0.80<k≦1.00	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m		

Class of operation time

Class of operation time		Average operating time per day (in hours)	Calculated total operating time in hours
V0.06	T0	≤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	T8	≤16	50000

■ Operation Cycle

Hoist with one speed



Hoist with two speed