

CB SERIES MANUAL CHAIN HOIST & TS SERIES TROLLEY

# **KITO MIGHTY**

Model **M3**



# KITO Manual Chain Hoists CB Series - Up to 50 ton Standard Capacity

KITO MIGHTY Model M3 incorporates state-of-the-art design and technology to provide superior performance. Lighter and more compact than others in its class, yet highly efficient, this hoist spares nothing when it comes to lifting power.

With capacities from 0.5t to 50t, the Model M3 shines in a wide range of lifting applications.

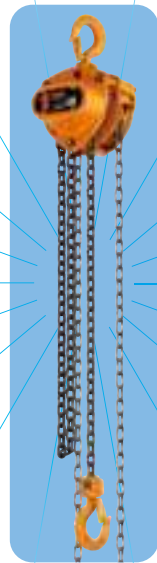
Helping to set this hoist apart is the use of KITO's smallest yet strongest load chain.

This load chain has a breaking strength of 1,000N/mm<sup>2</sup> (100kgf/mm<sup>2</sup>).

KITO's exclusive process technology and years of experience assure superior quality and performance.

With its impressive array of features and benefits,

we are confident the Model M3 will meet your most demanding needs.



**Best Design  
Highest Efficiency  
and Reliability  
KITO MODEL M3**

## **Outstanding features**

A high-strength load chain and a dry-type braking mechanism combine with a highly-efficient compact design to provide smooth and reliable operation and outstanding performance

KITO MIGHTY

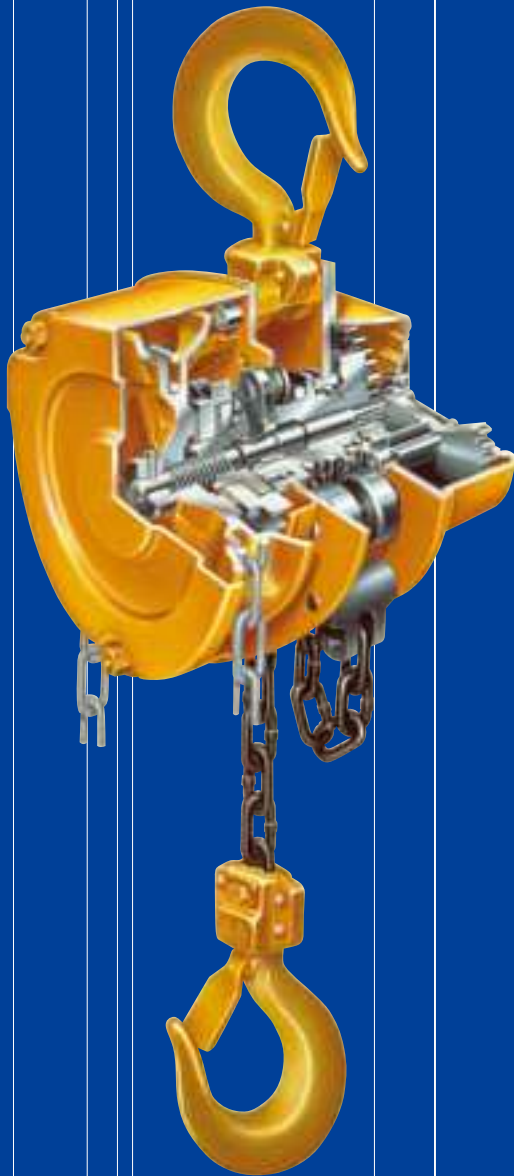
*Model M3*





# features

## 10 Important Features Of “KITO MIGHTY Model M3” Chain Hoist



### 1 **Gear Case and Hand Wheel Cover are Resistant to External Shocks**

Both sides of the hoist are covered with a thick steel gear case and reinforced wheel cover. Manufactured using state-of-the-art technology, these critical components are ideally shaped and highly rigid to maintain bearing alignment and withstand external shock.

### 2 **Double Enclosures Protect Against Rainwater and Dust Intrusion**

The braking mechanism, comprising the heart of the hoist, is securely enclosed within the wheel and brake covers. This double coverage protects the internal mechanisms from intrusion by weather elements, mud and dust. Further, the hand chain guide attached to the wheel cover provides durability and a smooth operation of the hand chain on the hand chain wheel.

### 3 **Double Pawl Spring Mechanism Increases Safety and Reliability**

The MIGHTY M3 insists on two pawl springs to deliver an extra degree of performance in case one spring is damaged.

### 4 **Sure and Reliable Mechanical Brake**

KITO's dry-type asbestos-free mechanical brake ensures outstanding stopping power and safety for high performance operation.

### 5 **Hooks for Easy Work**

Heat-treated to withstand the rigors of the toughest jobs, the MIGHTY M3's top and bottom hooks are ready to make your work easier. The bottom hook's relatively large dimensions enable a load to be quickly stabilized in the proper position while the bottom yoke's protecting guard protects the chain pin and nut from damage, further enhancing safety.

### 6 **Bearing Mechanism Increases Mechanical Efficiency**

KITO's unique ball and needle bearings optimize mechanical efficiency and produce high power output with a minimum of manual input.

### 7 **Load Chain Guide Mechanism Smooths Operation**

Superior performance is designed into the MIGHTY M3. Smooth load chain movement is facilitated by having a chain guide mechanism in the flanged load sheave and guide roller.

### 8 **Highly Accurate and Durable Gears**

Years of research and development have enabled KITO to produce compact, highly efficient and durable gears.

### 9 **Stopper Prevents Excessive Lowering**

KITO's carefully engineered stopper assembly not only prevents a load from being lowered too far, but even keeps the chain from exiting the mechanism. Increased pull force signals the operator the load has been lowered to the maximum extent.

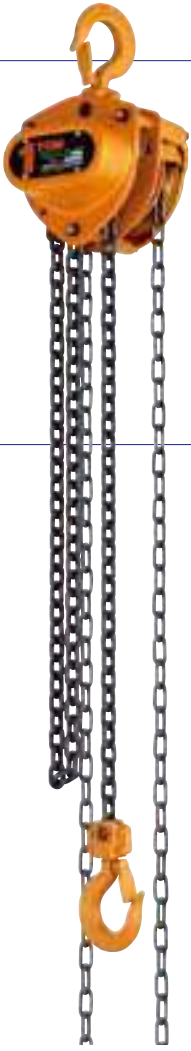
### 10 **Highly Strong Load Chain**

Load chains, the component comprising the heart of the chain hoist, are made of an exclusively developed, heat treated special steel alloy. Carefully selected special steel is entirely processed at KITO's fully automated production facilities under the most stringent quality control. Thus, all of the KITO chains are uniform in high breaking stress of 1000N/mm<sup>2</sup>(100kgf/mm<sup>2</sup>). They have excellent quality including toughness and resistance to wear and corrosion.

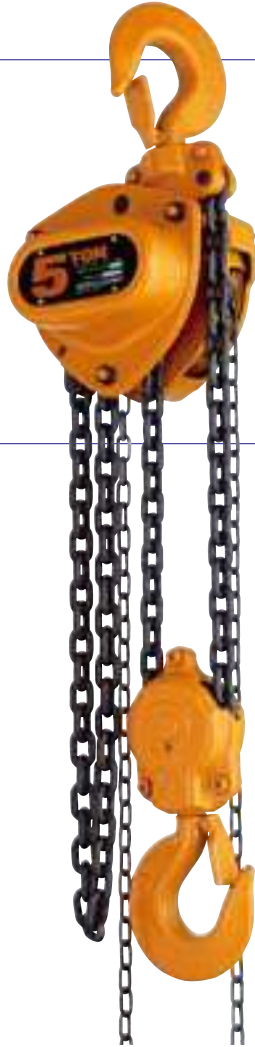


# Model M3

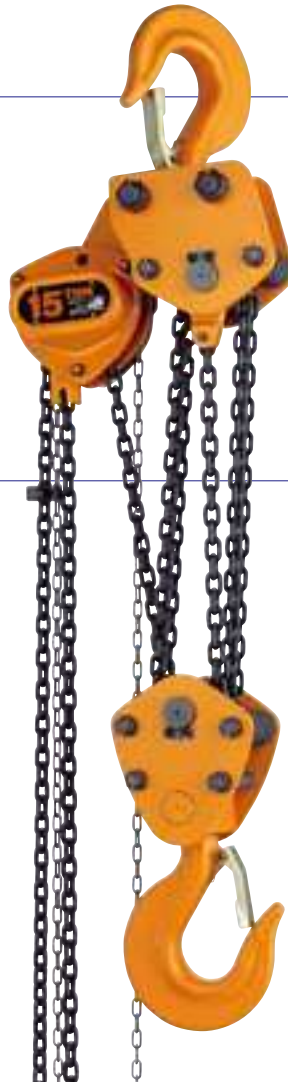
0.5t to 50t



0.5t~2.5t



3t~5t



7.5t~15t

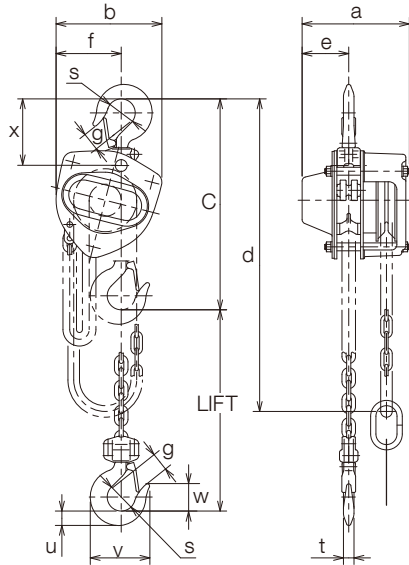


20t~50t

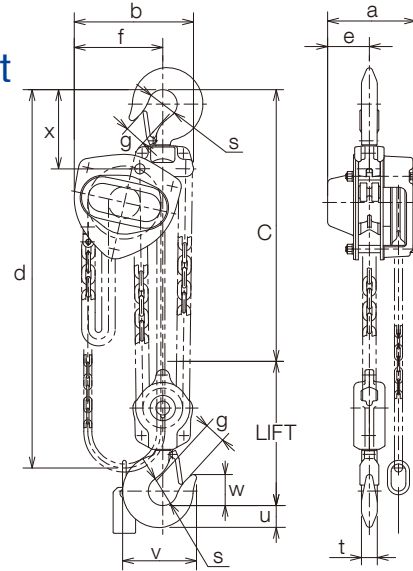
# specifications & dimensions

## KITO MIGHTY Model M3

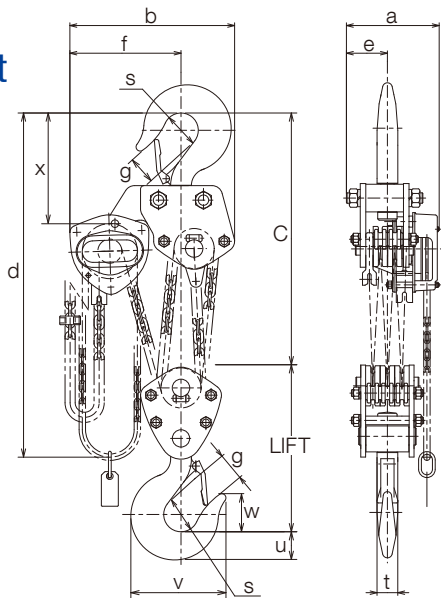
1t



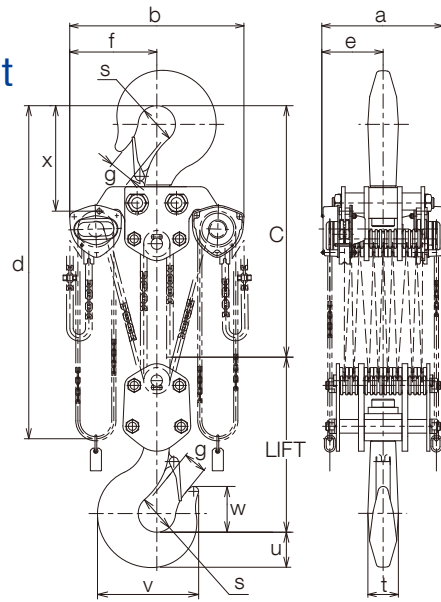
5t



15t



50t



- Any lift of chain is available upon request.
- As Kito chains are heat treated, splicing of the load chain is prohibited. In case longer lifting height is required, specify required lifting height when ordering.

## ■ Operating environmental conditions

<b>Operating temperature range</b> -40°C to +60°C	<b>Operating humidity range</b> Use the hoist at under 100%RH. This product cannot be used in water.	<b>Materials</b> Standard materials are used. Special materials such as sparkless materials and asbestos are not used. With regard to the environmental load substances, 6 substances defined in the RoHS directives are not contained in this product.
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## ■ SPECIFICATIONS

Rated Load (W.L.L.) (t)	Code	Std.Lift (m)	Hand Chain Folded Length (m)	Chain Pull to Lift Full Load (N)[kgf]	Chain O'hailed to Lift Load One Meter (m)	Load Chain Dia.xChain Fall (mm)	Test Load (t)	Mass [Net weight] (kg)	Shipping Mass [weight] [approx.](kg)	Mass [weight] in kg for Additional One Meter of Lift (kg)
0.5	CB005	2.5	2.5	235 [24]	25	5.0x1	0.75	10	10.5	1.5
1	CB010	2.5	2.5	284 [29]	43	6.3x1	1.5	11.5	12	1.8
1.5	CB015	2.5	2.5	343 [35]	57	7.1x1	2.4	14.5	15	2.1
2	CB020	3.0	3.0	353 [36]	70	8.0x1	3	20	21	2.3
2.5	CB025	3.0	3.0	323 [33]	99	9.0x1	3.8	27	28	2.7
3	CB030	3.0	3.0	353 [36]	114	7.1x2	4.8	24	26	3.2
5	CB050	3.0	3.5	333 [34]	198	9.0x2	7.5	41	43	4.4
7.5	CB075	3.5	4.0	343 [35]	297	9.0x3	9.5	63	66	6.2
10	CB100	3.5	4.0	353 [36]	396	9.0x4	12.5	83	91	7.9
15	CB150	3.5	4.5	363 [37]	594	9.0x6	20	155	165	11.4
20	CB200	3.5	4.5	353 [36] x2	396x2	9.0x8	25	235	305	15.8
30	CB300	3.5	4.5	421 [43] x2	495x2	9.0x10	40	310	400	19.2
40	CB400	3.5	4.5	421 [43] x2	693x2	9.0x14	50	480	630	26.2
50	CB500	3.5	4.5	480 [49] x2	792x2	9.0x16	62.5	640	790	29.7

- Other capacities are available upon request.
- Any lift of chain is available upon request.
- As KITO chains are heat-treated, splicing of the load chain is prohibited.
- When ordering, specify the lifting height.
- Chain falls vary depending on the capacity of each hoist.

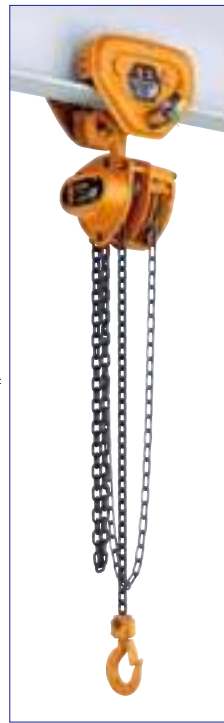
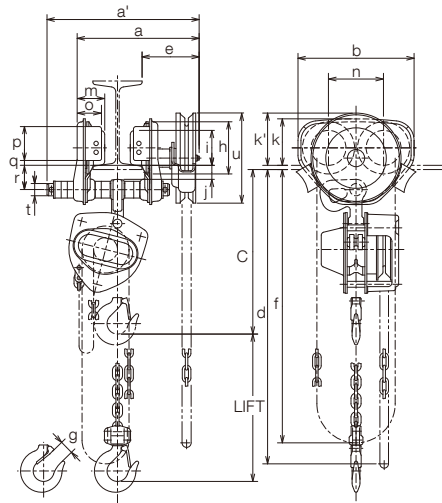
## ■ DIMENSIONS (mm)

Rated Load (W.L.L.) (t)	Headroom :C	a	b	d	e	f	g	s	t	u	v	w	x
0.5	285	158	161	2500	69	99	27	35.5	12.1	17	77	35	89
1	295	162	161	2500	71	99	29	42.5	16	21.8	93	41	101
1.5	350	171	182	2500	78	112	34	47.5	19.5	26.5	106	47	119
2	375	182	202	3000	87	125	36	50	21.8	30	116	49	124
2.5	420	192	233	3000	91	143	40	53	24.3	33.5	126	53	136
3	510	171	235	3100	78	162	42.5	56	27.2	37.5	138	57	148
5	600	192	282	3600	91	194	46.5	63	34.5	47.5	161	67.5	172
7.5	770	192	373	4200	91	253	72.5	85	47.5	63	231	97.5	275
10	760	192	438	4200	111	308	72.5	85	47.5	63	231	97.5	295
15	1020	268	492	4700	119	337	80	100	60	80	275	110	320
20	1180	374	746	4800	187	373	81	110	67	90	301	125	351
30	1300	404	746	4800	202	373	103	125	85	112	367	143	400
40	1480	502	760	4900	251	380	96	145	123	133	412.5	182.5	445
50	1560	544	796	4900	272	398	100	165	135	155	447.5	202.5	467

# TROLLEY-CONNECTED HOIST



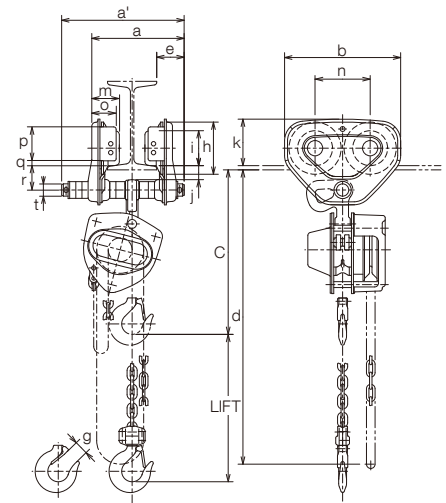
**GEARED TYPE**



**PLAIN TYPE**



Top Hook mounted on Suspender



## SPECIFICATIONS

Rated Load (W.L.L.)(t)	Code	Std.Lift (m)	Hand Chain Folded Length (m)	Load Chain Dia. x Chain Fall (mm)	Test Load (t)	Mass (Net Weight) (kg)	Mass [weight] in kg for Additional One Meter of Lift (kg)
0.5	CBSG(CBSP)005	2.5	2.5	5.0x1	0.75	23(15)	2.4(1.5)
1	CBSG(CBSP)010	2.5	2.5	6.3x1	1.5	24(19)	2.7(1.8)
1.5	CBSG(CBSP)015	2.5	2.5	7.1x1	2.4	32(28)	3.0(2.1)
2	CBSG(CBSP)020	3.0	3.0	8.0x1	3	37(33)	3.3(2.3)
2.5	CBSG(CBSP)025	3.0	3.0	9.0x1	3.8	52(48)	3.6(2.7)
3	CBSG(CBSP)030	3.0	3.0	7.1x2	4.8	48(44)	4.1(3.2)
5	CBSG(CBSP)050	3.0	3.5	9.0x2	7.5	92(87)	5.4(4.4)
7.5	CBSG075	3.5	4.0	9.0x3	9.5	175	7.1
10	CBSG100	3.5	4.0	9.0x4	12.5	185	8.8
15	CBSG150	3.5	4.5	9.0x6	20	395	13.3
20	CBSG200	3.5	4.5	9.0x8	25	495	17.7

- CBSG and CBSP mean the CB Series connected with the TS Series geared trolley and plain trolley respectively.
- Figures in parentheses show the data for the plain trolley. Other data are the same for both the plain and geared trolleys.
- The data for the standard I-beam width and the minimum radius for a curve is the same data as that shown on page 9.
- 15 ton-and-over capacity trolleys have 8-wheel construction.
- 30 ton-and-over capacity versions are available by request.

## DIMENSIONS (mm)

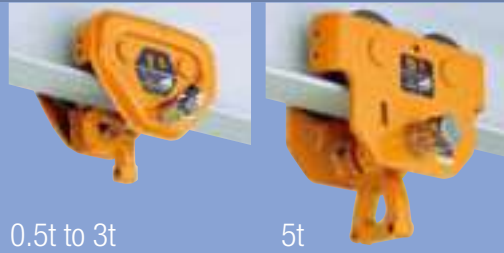
Rated Load (W.L.L.)(t)	Head room :C	a (Max)	a'	b	d	e	f	g	h	i	j	k	k'	m	n	o	p	q	r	t	u
0.5	305(295)	275(173)	309(204)	236(182)	2500	116(46)	2200	27	106(82)	71(60)	28(19)	95(76)	106	56(47.5)	112(84)	50(42)	69(54)	10	50(38)	25(22)	183
1	305	275(215)	309(249)	236	2500	116(56)	2200	29	106	71	28	95	106	56	112	50	69	10	50	25	183
1.5	365	349(218)	385(300)	280	2500	154(69)	2200	34	127	85	34	112	109	71	131	63	83	10	62	32	183
2	380	349(218)	385(300)	280	3000	154(69)	2700	36	127	85	34	112	109	71	131	63	83	10	62	32	183
2.5	435	359(280)	398(320)	324	3000	157(79)	2700	40	148	100	36	134	114	80	152	74	102	10	68	36	183
3	535	359(280)	398(320)	324	3100	157(79)	2700	42.5	148	100	36	134	114	80	152	74	102	10	68	36	183
5	660	377(273)	401(297)	400	3600	156(53)	3200	46.5	169	118	47	144	131	81	178	70	104	10	88	54	183
7.5	870	443	595	480	4300	182	3700	72.5	185	155	53	170	165	120	196.5	104	89	8	153	70	214
10	860	443	595	480	4300	182	3700	72.5	185	155	53	170	165	120	196.5	104	89	8	153	70	214
15	1150	454	677	1000	4800	182	4200	80	185	155	62	170	165	120	216.5	104	89	8	203	80	214
20	1310	454	677	1000	4900	182	4200	81	185	155	62	170	165	120	216.5	104	89	8	203	80	214

- Figures in ( ) are for PLAIN TYPE. Others are same as GEARED TYPE.



# KITO UNIVERSAL TROLLEYS TS SERIES

## PLAIN TYPE



•Shape of the Suspender for 3t is similar to the shape of the Suspender for 5t.

## GEARED TYPE

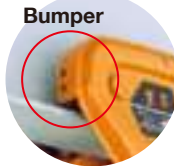


•Shape of the Suspender for 3t is similar to the shape of the Suspender for 5t.

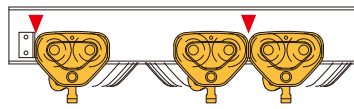
## SMOOTH AND RELIABLE OPERATION

### Bumpers & Buffers

KITO's TS Series Trolleys have bumpers, which hold trolley surely on the beam and guard against damage to a trolley and wheels arising from a collision with the stopper or between two trolleys. Buffers are available as option to install on the bumpers. Also, extended arms are available as option to install on the bumpers to help prevent damage to a hoist from collision between the hoists suspended from trolleys on the same beam.

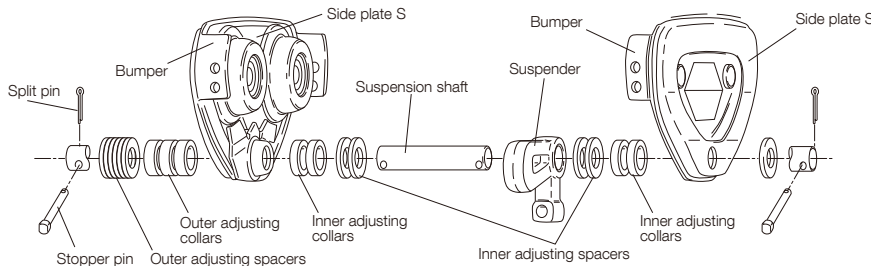


Buffer is prepared as option.



### Accommodates a Wide Selection of Beam Widths

Trolleys are adjustable for various widths of both tapered and flat flanges by changing the adjustable spacers. They can also fit on beams of up to 305mm-flange width by replacing the suspension shaft, spacers and associated parts.



### Light and Compact Models

KITO's years of trolley design experience make it possible to produce these light and compact trolleys.

### Improved Track Wheel Durability

KITO's unique press process and heat treatment ensure high track wheel strength, leading to improved reliability and performance.

### Specially Contoured Wheels Provide Security

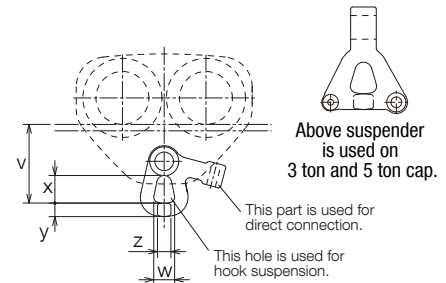
This trolley maintains secure contact between wheels and flange surfaces even under highly variable load weights thanks to the carefully designed contours of the steel trolley wheels.

### Pivot Mounted Side Plates Ensure Even Weight Distribution

Both side plates are pivot mounted so that trolleys can move freely at adequate angles to the flange surface in spite of welded joints that might otherwise cause uneven weight distribution on the four wheels.

### Ball Bearing Wheels Offer High Performance

High-grade, zero-lubrication sealed ball bearings are used on all wheels for smooth and reliable operation.



## SPECIFICATIONS

Rated Load (W.L.L.)(t)	Code		Flange Width Adjustability (mm)			Min. Radius for Curve (mm)	Mass (Net Weight) (kg)		Hand Chain Folded Length (m)	Dimensions (mm)				
	Plain Trolley	Geared Trolley	Standard	Option			TSP	TSG		v	w	x	y	z
				W20*	W30*									
0.5	TSP005	TSG005	50 to 102 (58 to 127)	103 to 203 (128 to 203)	204 to 305	1100 (1300)	4.5	12	2.5	93 (106)	26 (28)	33 (37)	14 (18)	14 (18)
1	TSP010	TSG010	58 to 127	128 to 203	204 to 305	1300	8.0	12	2.5	106	28	37	18	18
1.5	TSP015	TSG015	82 to 153	—	154 to 305	1500	14	18	2.5	129	32	40	22	22
2	TSP020	TSG020	82 to 153	—	154 to 305	1500	14	19	3.0	129	32	40	22	22
2.5	TSP025	TSG025	82 to 153	—	154 to 305	1700	23	27	3.0	144	36	44	27	25
3	TSP030	TSG030	82 to 153	—	154 to 305	1700	23	27	3.0	169	40	48	24	30
5	TSP050	TSG050	100 to 178	—	179 to 305	2300	50	56	3.5	228	60	70	33	36
7.5	—	TSG075	150 to 220	—	221 to 305	3000	—	112	4.0	connection with CB Series is hook suspension type for 7.5 ton and over cap. as standard.				
10	—	TSG100	150 to 220	—	221 to 305	3000	—	112	4.0					
15	—	TSG150	150 to 220	—	221 to 305	∞	—	265	4.5					
20	—	TSG200	150 to 220	—	221 to 305	∞	—	265	4.5					

•Figures in ( ) are for TSG005. •\*: W20 and W30 mean 203 and 305mm flange width adjustability as option.

•In case of 7.5t and over capacity, trolley wheels for tapered flange are standard. Wheels for flat flanges are available as option. If you prefer wheels for flat flanges, please specify it in advance.

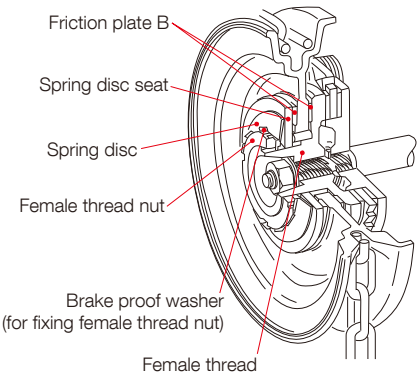
•In case of only straight I-beam, 0.5ton plain trolley can be used on 57mm and less width beam and 1ton plain trolley and geared trolley can be used on 73mm and less width beam and 2.5 & 3ton plain and geared trolley can be used on 89mm and less.

# KITO MANUAL CHAIN HOISTS

## OPTIONAL EQUIPMENT

### Overload Protection Device (OLL)

The hoist overload limiter protects the hoist mechanism from damage due to overloading. When an overload is applied to the hoist, the overload limiter actuates to stop lifting.



### Corrosion Resistant ND Chain

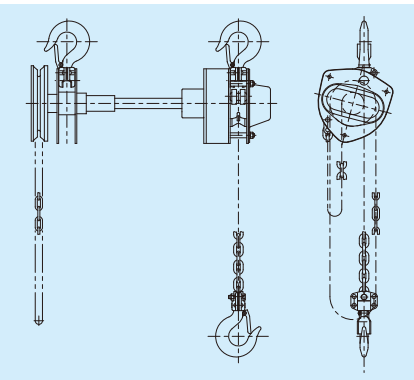
We recommend chain hoists with ND (Nickel Diffused) chain when outstanding corrosion resistance is required. These chains are especially suited for use at work sites under the strong influences of rain and seawater, corrosive vapors and chemicals, etc. Because ND chains are manufactured by applying a unique osmotic-diffusion treatment to special metals using KITO's exclusive technology, they are extremely resistant to corrosion and are immune to peeling of the nickel-plating. Please



consult with your nearest KITO distributor prior to purchase to ensure the correct ND chain selection as the corrosion resistance efficiency varies according to the environmental chemicals at the application worksite.

### Hoist with Extended Hand Wheel Shaft

When worksite conditions necessitate operating a hoist at a distance, the extended hand wheel shaft provides added convenience. The standard length of the extended shaft is 1 m.



### Trolley for Small Radius Curved Beams

Small radius curve trolley operation is available upon request by removal of the protective lug. Please consult with your nearest KITO distributor for details.

Rated Load (W.L.L.)(t)	Std. flange width (mm)	Min. radius for Curve (mm)
0.5	74 to 127 (58 to 102)	450 (350)
1	74 to 127	450
2	82 to 153	550
2.5	90 to 153	650
3	90 to 153	650

Figures in parentheses show data for the plain trolley.

### Spark Resistant Hoist

KITO produces special spark-resistant chain hoists for use on worksites where spark protection is required. Please consult with your nearest KITO distributor about the specific needs of your worksite.

### Chain Container

In situations where the load chain on the no-load side is a hindrance when the load is raised, the load chain can be kept in a chain container attached to the chain hoist. Both steel and canvas chain containers are available upon request.

### Rail Clamp Device

A rail clamp prevents a manually-operated trolley from traveling by itself. Activated by manipulating a hand chain, the trolley rail clamp is convenient when fixing a trolley at a pre-set position, such as in a rolling and pitching ship or in a sloped tunnel.

### Large Capacity Chain Hoist

Chain hoists with lifting capacities up to 100 tons are available upon request.



## Manual Chain Hoist **CB-ATEX** up to 3 t

**Ex-protected**

**Ex II 2G c IIB T4**

**Ex II 2D c 135 °C**



ATEX Directive  
94/9/EC

Solid bronze  
(Bronze coated for 3 t)

Hand chain SUS 304



Copper-coated  
load hook



**> Allows the operation in potentially explosive atmosphere**

Conforms to ATEX  
Directive 94/9/EC

**> Increased safety for temperature limit range**

Maximum equipment temperature 135 °C

**> Safe operation in potentially explosive atmosphere**

Protected against explosive gases, vapors and dust



## High Speed CB

Speedy lifting and lowering!  
Automatic high & low speed change!

2.5 to 50 t

## Stress-free 7:1 Lifting Speed! High Speed CB is just released!

Succeeded in no-load high-speed operation

With originally developed automatic high/low-speed clutch technology,  
KITO has realized no-load seven times lifting speed.

This gear shows outstanding durability in continuous and  
long-term use though it is small size.

Operability in a loaded condition is as high as the standard specifications.

Relieved from past stress, a worker can smoothly prepare for his field work.



## Unique Industry Innovation!

Equipped with automatic speed change gear in no-load.



•The functions and performance of the products mentioned in the catalog have been designed based on the related regulations and standards. If they are used for other than their intended purposes such as being integrated into your equipment, we will not take any responsibility for accidents attributable to their unintended usages as well as guarantee their performance and functions. Never remodel our products.  
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