

Trusted quality and design

# KITO RY SERIES WIRE ROPE HOIST



# "Safety" is the foundation of manufacturing of Kito hoist

Kito's manufacturing begins with a focus on customers' "safety". How to enhance "safety" is considered in every step of Kito's technical innovation. This design philosophy forms the basis of Kito's RY Series Wire Rope Hoist. RY Series Wire Rope Hoist, inspired by Kito's strict standard for safety, will provide exceptional values for users all over the world.

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KITO

# Three elements of Kito hoists' "safety"

Kito believes that the following "three elements" are indispensable for safety of customers.

- 1. Supply quality products
- 2. Ensure that users understand safe and proper use
- 3. Ensure that users perform proper maintenance

Kito will continue to provide excellent services to customers in order to satisfy those elements above.



### "Reliability" backed by experience

Based on the experience and the technology that have been cultivated through the history of manufacturing over a century, Kito provides reliable products to all over the world.

## To assure the "quality"

Every effort is made to improve the quality by utilizing the know-how accumulated over the years. To provide high-quality products, Kito has established its original standard for quality which is implemented in manufacturing, design and sales.

## Flexibility to meet the "needs"

Customized products are available to meet wide variety of customer needs. Kito will deliver "one of a kind" product that is suitable for every application environment.











# **Kito technology**

KITC

NO.025-05

NO.050

NO. 100 - 03

NO. 100-2620

509KG

1015

9701

RY Series is equipped with technologies and know-how accumulated through Kito's experience with electric chain hoists.

# 1. Minimizes the swing of a load with Kito's "original inverter control"

Kito's original inverter control makes a high level of safety and workability possible at the same time.Kito's original technology minimizes the drift in the load movement typical for an inverter control and stops theload at a minimum distance. Furthermore, the soft start/stop function\* minimizes the swing of a load, contributing to work efficiency. \*:Applies to lifting/lowering and traversing operations.

# 2. Equipped with a proven pull rotor type motor brake on 3t and 5t / magnetic disc brake on 10t to ensure a high level of safety

The high-performance brake securely holds a load; service life is optimized with the inverter operation. The simple structure with minimal electric components offers stable operation that is essential for productivity.

# 3. Adopts aluminum casing to reduce weight

Low-pressure casting method is used to make a light-weight aluminum casing with excellent serviceability.

### **Inverter technology**



**Aluminum casing** 



# **Features of Kito RY Series Wire Rope Hoist**

## Safety

RY is equipped with cutting edge safety system and the control voltage has been lowered (3t and 5t: DC24V, 10t: AC24V) to ensure safety for the operators.

### Design

A simple, modern and functional design accommodates wide variety of applications and demands.

### Durability

Excellent durability and a long service life is offered by utilizing Kito's electric chain hoist technology and originally designed inverter.

### Productivity

The low-load high-speed function with the inverter is provided for better efficiency. Smooth movement is enabled with the soft start/stop function.

### **Ease of operation**

The ergonomic design makes it easy and effortless to use and provides comfortable operations even for long working hours.

### **Total cost**

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Maintenance time required is reduced by improved service life and serviceability, providing more value over time.

# Safety

# Equipped with the inverter as standard (lifting / lowering and traversing)

Smooth operation with the anti-jogging feature for lifting/ lowering. The soft start/stop minimizes the swing of a load.

# Electronic overload limiter

Detects overload instantaneously and shuts off the circuit for lifting.

# Electronic thermal motor protection

Detects overheat and stops the operation to protect the motor.

# Upper/lower limit switch

Upper/lower limits are externally adjustable to set the range of operation.

# Rope guide

Full wrap rope guide keeps the rope securely in the groove.

# Lower control voltage for the pendant

3t and 5t: DC24V, 10t: AC24V for improved safety

# Durability

# High-performance pull rotor type motor brake on 3t and 5t, magnetic disc brake on 10t

Durable brake rated for more than 1 million cycles.

# Serviceability

# CH meter (inverter built-in function)

The number of starts and operating hours are displayed on the LED, enabling users to perform maintenance and inspection in accordance with the frequency of use.



# Performance

## Wire rope (high-strength wire rope)

Equipped with high-strength wire rope to reduce weight and size of the unit (5t models or higher).

# Low headroom model

Minimum headroom for efficient use of work space.

# Low-load high-speed function (lifting / lowering)

Operates at 1.5 times the rated speed with a load less than 25% of rated capacity for enhanced productivity.

# Wide flange range

Suitable for crane girders with various flange widths.



# Advantages of inverter

- •Smooth movement
- •Soft start/stop minimizes load swing.
- •High and low speed adjustability. Max ratio of 6:1.
- •Includes standard count hour meter that records and displays the number of lifting/lowering starts and hoist on time for preventative maintenance.
- •Electronic overload limiter: Detects overload instantaneously and shuts off the circuit for lifting.
- •Electronic thermal motor protection: Detects overheating and stops the motor.
- •No load high speed function: Operates at 1.5 times the standard high speed with a load less than 25% of rated capacity.
- Better maintainability



Inverter control - hoist and trolley

# Lineup

Capacity	3 t	5 t	10 t
Low headroom	•	•	•

• Double girder option will be available soon.

•Contact Kito for information on the release date of a particular model.

# **Features of each part**

## No Load High Speed Function

Operates at 1.5 times the standard high speed with a load less than 25% of rated capacity.

## **Rope Drum**

Deep grooved, high strength drum for durability and long service life.

## Full 360° Rope Guide

Made of a high strength polymer for durability, keeps the rope securely in the groove on the drum. Simple design makes replacement easy.



Externally Adjustable Upper/ Lower Limit Switches

Set the range of operation with easy adjustment.

## Externally Adjustable Trolley Motor and Brake

IP55 totally enclosed non ventilated (TENV) motor with cooling fins ensures protection from dust and water and enhances motor life.



# Premium Wire Rope (IWRC, Coated Core)\*

Provides high resistance to fatigue and wear. \*Except 3tons



**Standard Rubber Trolley Buffers** Provides protection from collisions.

# Built-In Bumpers

Security for the operator and the equipment.

# **Standard Guide Rollers**

Reduce wheel friction and noise while providing smooth travel and increased life of wheel and beam.

# Inverter Control – Hoist and Trolley

Soft start/stop minimizes load swing. High and low speed adjustability. Max. ratio of 6:1.

# **Count Hour Meter**

Records and displays the number of starts and hoist on time which is valuable for preventive maintenance. Integral to the inverter.



**High Performance Motor Brakes** The Pull-Rotor motor brake on 3 and 5 Ton and Magnetic Disc Brake on 10 Ton provide reliable operation and exceptional durability.



Heavy Duty Hoist Motor

Totally enclosed fan cooled (TEFC) motor with class F insulation and a ribbed frame for maximum cooling and durability. IP44 rating ensures a high level of protection from the entrance of dust and water.

# Electronic Thermal Motor Protection Detects overheating and

Detects overheating an stops the motor.

# **Technical materials**

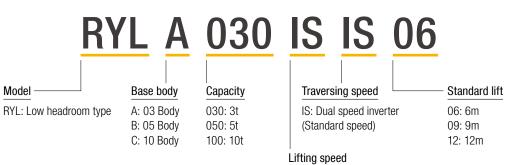
# Model list

Capacity	Lifting speed		flange width (mm)									
(t)		125-175	176-350	150-350	351-500							
ŋ	standard	•	•	-	•							
3	high	•	•	_	•							
F	standard	•	●	_	•							
5	high	•	•	_	•							
10	standard	_	-	•	•							

## Standard specification

Power supply	3Phase 200 - 230V 50/60Hz 3Phase 380 - 460V 50/60Hz
Control voltage	3t / 5t: DC 24V 10t: AC 24V
Intermittent ratings	Lifting: 60%ED (high speed: 40%, low speed: 20%) 360 starts/hr Traversing: 30%ED (high speed: 20%, low speed: 10%)
Protection construction	IP44 (IP65 for push button switches)
Operation	Pendant control
Ambient temperature	-20°C to +40°C
Humidity	90%RH or less (no condensation)
Color	Kito Yellow (Equivalent to Munsell 7.2YR6.5/14.5), Kito Metallic Gray

## Product code



IS: Dual speed inverter (Standard speed) IH: Dual speed inverter (High speed)

# Intermittent rating and start-up frequency

Intermittent rating (%ED) =	Maximum time of operation allowed in 1 hour (min.)	x 100
	60 min.	

Start-up frequency = Maximum number of starts allowed in 1 hour

### **Hoist classifications**

### IS0

	Ctata of loading			To	tal duratio	on of use	(h)		
	State of loading	200	400	800	1600	3200	6300	12500	25000
Light	Mechanisms subjected very rarely to the maximum load and, normally, to light loads	_	_	M1	M2	M3	M4	M5	M6
Moderate	Mechanisms subjected fairly frequently to the maximum load but, normally, to rather moderate loads	_	M1	M2	M3	M4	M5	M6	_
Heavy	Mechanisms subjected frequently to the maximum load and, normally, to loads of heavy magnitude	M1	M2	M3	M4	M5	M6	-	_
Very heavy	Mechanisms subjected regularly to the maximum load	M2	M3	M4	M5	M6	_	_	_

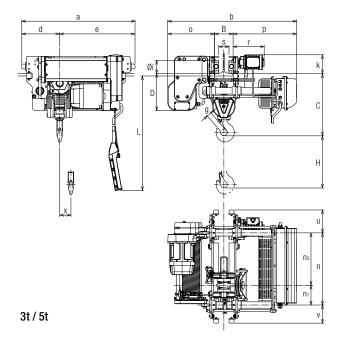
This classification refers to ISO 4301-1 and applies to the mechanical components including gears and bearings except for consumable parts. The Grade Symbols Are Identical To Those Of Asme Hst-1M. (Performance Standard For Electric Chain Hoist)

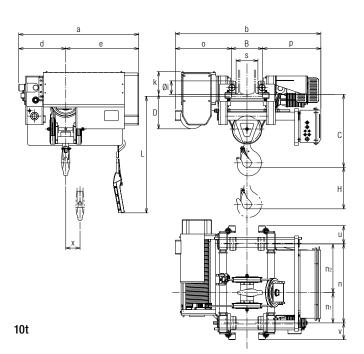
# **Technical materials**

# **Specification list**

					Lifting: In	verter operation		Trav	versing: Inver	ter operation		Wire	Rope		We	ight
					Motor	Speed			Motor	Speed				1		
Capacity (t)	Product code	Standard lift (m)	Flange Width (mm)	Output	Intermittent rating	With a Rated Load	With a *1 Low Load	Output	Intermittent		Rope diameter	Reeving	Construction	IS0	*2 Main unit	Hook (kg)
				(kW)	rating (%ED)	High and low Speed m/s (m/min)	m/s (m/min)	(kW)	rating (%ED)	speed m/s (m/min)	(mm)				(kg)	((\\g)
			125 to 175	_		0.083 to 0.014	0.105								375	
	RYLA030ISIS06		176 to 350	3.5		(5.0 to 0.833)	0.125 (7.5)								380	
		6	351 to 500												385	
			125 to 175			0.133 to 0.022	0.200								375	
	RYLA030IHIS06		176 to 350	5.0		(8.0 to 1.333)	(12.0)								380	
			351 to 500 125 to 175				0.125								385 405	
	RYLA030ISIS09		176 to 350	3.5		0.083 to 0.014									403	
			351 to 500	0.0		(5.0 to 0.833)	(7.5)			0 222 to 0 056			6 x Fi(29) B type JIS G 3525		415	
3		9	125 to 175		40/20			0.25	20/10	0.333 to 0.056 (20 to 3.333)	Ø8	4/1	1770N/mm <sup>2</sup>	M5	405	30
	RYLA030IHIS09		176 to 350	5.0		0.133 to 0.022	0.200						(Standard wire rope)		410	
			351 to 500			(8.0 to 1.333)	(12.0)								415	
			125 to 175												440	
	RYLA030ISIS12		176 to 350	3.5		0.083 to 0.014 (5.0 to 0.833)	0.125 (7.5)								445	
			351 to 500	-		(0.0 10 0.000)	(1.3)								450	
		12	125 to 175												440	
	RYLA030IHIS12		176 to 350	5.0		0.133 to 0.022 (8.0 to 1.333)	0.200 (12.0)								445	
			351 to 500			. ,									450	
			125 to 175	_		0.000 += 0.014	0.105								395	
	RYLB050ISIS06	_	176 to 350	5.0		0.083 to 0.014 (5.0 to 0.833)	0.125 (7.5)								400	
		6	351 to 500												405	
			125 to 175				0.200 (12.0)								415	
	RYLB050IHIS06		176 to 350	8.0											420	
			351 to 500												425	
			125 to 175	5.0		0.083 to 0.014	0.125						IWRC 6 x P/WS(26)		425	
	RYLB050ISIS09		176 to 350 351 to 500	5.0		(5.0 to 0.833)	(7.5)						Compliant with		430 435	
5		9	125 to 175		40/20			0.4	20/10	0.333 to 0.056 (20 to 3.333)	Ø8	4/1	JIS G 3546 2160N/mm <sup>2</sup>	M5	435	35
	RYLB050IHIS09		176 to 350	8.0		0.133 to 0.022	0.200						(High-strength wire rope)		450	
			351 to 500	0.0		(8.0 to 1.333)	(12.0)						wire rope)		455	
			125 to 175												460	
	RYLB050ISIS12		176 to 350	5.0		0.083 to 0.014	0.125								465	
			351 to 500			(5.0 to 0.833)	(7.5)								470	
		12	125 to 175												480	
	RYLB050IHIS12		176 to 350	8.0		0.133 to 0.022 (8.0 to 1.333)	0.200 (12.0)								485	
			351 to 500			(010 10 11000)	(1210)								490	
			150to 350												1015	
	RYLC100ISIS09	9	351 to 500	13.2		0 100 to 0 017	0.150			0.000 +- 0.050			IWRC 6 x P/WS(31)		1025	
10			150to 350		40/20	0.100 to 0.017 (6.0 to 1.0)	(9.0)	0.75	20/10	0.333 to 0.056 (20 to 3.333)	Ø13	4/1		M5	1090	90
	RYLC100ISIS12	12		13.2									2160N/mm <sup>2</sup>			
			351 to 500												1100	

\*1: For other flange options, please ask Kito distributor in your region.
\*2: The weight of the main unit includes the weight of the hook.
\*3: Lifting/lowering a load less than 25% of the rated capacity at a speed of 1.5 times the high speed (this function may be turned off).





# Dimension table (mm)

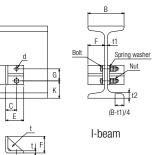
Capacity (t)	Product code	Standard lift H (m)	Flange width B (mm)	С	D	L	а	b	d	e	g	i	k	n	N1	N2	0	р	r	S	u	v	x
			125 to 175					1215										649 to 599					
	RYLA030ISIS06 RYLA030IHIS06	6	176 to 350			5700	1067	1390		710				680		494		773 to 599					106
			351 to 500					1540										748 to 599					
			125 to 175					1215										649 to 599					
3	RYLA030ISIS09 RYLA030IHIS09	9	176 to 350	635	348	8700	1279	1390	357	922	43	Ø125	178	892	186	706	441	773 to 599	293	B-80	216	171	160
			351 to 500					1540										748 to 599					
			125 to 175					1215										649 to 599					
	RYLA030ISIS12 RYLA030IHIS12	12	176 to 350			11700	1491	1390		1134				1104		918		773 to 599					213
			351 to 500					1540										748 to 599					
			125 to 175					1215										649 to 599					
	RYLB050ISIS06 RYLB050IHIS06	6	176 to 350			5700	1067	1390		710				680		494		773 to 599					106
			351 to 500					1540										748 to 599					
			125 to 175					1215										649 to 599					
5	RYLB050ISIS09 RYLB050IHIS09	9	176 to 350	650	348	8700	1279	1390	357	922	45	Ø125	186	892	186	706	441	773 to 599	342	B-80	216	171	160
			351 to 500					1540										748 to 599					
			125 to 175					1215										649 to 599					
	RYLB050ISIS12 RYLB050IHIS12	12	176 to 350			11700	1491	1390		1134				1104		918		773 to 599					213
			351 to 500					1540										748 to 599					
	RYLC100ISIS09	9	150 to 350			8700	1348	1633		820				887		548		855 to 655					160
10			351 to 500	820	388	0/00	1040	1783	528		Ø150	256	007	339	0+0	628	804 to 655	631	B-105	205	189	100	
10	RYLC100ISIS12	RYLC100ISIS12		150 to 350	520	000	11700	1563	1633	520	8 72	72 Ø150		1102 339	763	520	855 to 655	501	000	200	100	213	
RYLC100			RYLC100ISIS12		351 to 500				1000	1783		1000				1102		100		804 to 655			

•Select the flange width when purchasing the product.

# **Technical materials**

# Stopper dimension table (mm)

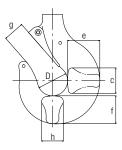
Capacity (t)	Product code	F*	Selection	Н	Е	G	С	В	t	К	Ød					
3	RYLA030ISIS							F≤90	80	C+25	50	40				14 (M12)
3	RYLA030IHIS	(B-t1)	F>90	100	C+30	60	45	125 to 500			18 (M16)					
5	RYLB050ISIS	/2	/2 F≤90	0+30	00	40	125 10 500	9	t2+60	10 (1110)						
5	RYLB050IHIS		F>90	110	C+35	65	50				22 (M20)					
10	RYLC100ISIS	(B-t1) /2+15	_	120	C+35	65	50	150 to 500			22 (M20)					



\*: Rounded down to a whole number

# Hook dimension table (mm)

Capacity (t)	Product code	D	g	h	f	e	C
3	RYLA030ISIS RYLA030IHIS	63	43	45	58	67	53
5	RYLB050ISIS RYLB050IHIS	71	45	53	67	80	63
10	RYLC100ISIS	100	72	75	95	112	90



# Rated current (A)

		200-	230V	380-460V					
Capacity (t)	Product code	50Hz	/60Hz	50Hz/60Hz					
		Lifting motor	Traversing motor	Lifting motor	Traversing motor				
0	3 RYLA030ISIS RYLA030IHIS	18.0	1.0	9.5	0.0				
3		29.5	1.6	15.0	0.8				
5	RYLB050ISIS	29.5	2.0	15.0	1.0				
5	RYLB050IHIS	46.0	2.0	24.0	1.0				
10	RYLC100ISIS	60.0	3.3	30.0	1.6				

# Permissible cable length

			200V Grade		400V Grade									
Capacity (t)	Product code		Permissible ca	able length (m)	Wire size (mm²)	Permissible cable length (m)								
Gapacity (i)	Trouber code	Wire size (mm²)	50Hz /	/ 60Hz		50Hz 60Hz		50Hz / 60Hz						
			220V	230V		38	OV	415V	440V	460V				
2	RYLA030ISIS	5.5 (8)	40 (58)	41 (60)	2 (3.5)	47 (83)	47 (83)	52 (91)	55 (97)	58 (101)				
3	RYLA030IHIS	8 (14)	36 (64)	38 (67)	3.5 (5.5)	54 (85)	54 (85)	59 (93)	63 (99)	66 (103)				
E	RYLB050ISIS	8 (14)	36 (63)	37 (66)	3.5 (5.5)	53 (84)	53 (84)	58 (92)	62 (98)	65 (102)				
5	RYLB050IHIS	14 (22)	41 (65)	43 (68)	5.5 (8)	54 (78)	54 (78)	59 (86)	62 (91)	65 (95)				
10	RYLC100ISIS	14 (22)	43 (69)	47 (74)	3.5 (5.5)	30 (48)	34 (53)	35 (55)	44 (69)	48 (76)				

\*Figures in ( ) are for larger size.

# Installation

Installation of the hoist must be carried out only by a professional or a qualified personnel.

- Install the hoist only in an environment in which the hoist is intended for.
- Be sure to create a proper grounding connection.
- Be sure to attach stoppers at the ends of the trolley and crane beams.
- Make sure that the structural strength is sufficient at the site of installation.
- Do not modify the product and its accessories.

# **Regulation on use**

Do not perform the following legally prohibited actions.

- Lifting more than rated load for the hoist.
- Lifting, supporting or transporting people.
- Lifting or supporting loads over people.

# Selection of a model

Make sure to carefully check the listed specifications to select a model.

Consult Kito for specifications not covered in this guide.

- Ensure that the voltage of the power supply is proper for the hoist.
- Do not operate the hoist beyond its duty rating (intermittent rating and start-up frequency).

# Legal requirements regarding inspection

The following actions are required for users of the hoist.

- Implementation of daily inspection.
- Implementation of monthly and yearly self-inspection.
- Storage of the monthly and yearly self-inspection record for three years.

# Other

• Make sure to understand the information and the warnings in the Owner's manual provided with the product before use.



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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.

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