

HITACHI
Inspire the Next

Hitachi Hoists

Hitachi Inverter Rope Hoist

Super V Series: 1/2—10 t

V8 Series: 15—30 t

VV



<http://www.hitachi-ies.co.jp/english/products/hst/>

Further-evolved Inverter Hoist that Employs Further-enhanced Electronic Control Technologies

The Hitachi inverter hoist that made it possible to transport loads in a delicate manner and even in precision operations has been revamped with Hitachi's original inverter added. The external appearance is almost no different from a standard hoist, but the new inverter hoist can be used in a wider range of applications. In addition, it can be used in a wider range of environments, because it is rainproof. The new hoist meets a variety of operation needs with the further-enhanced electronic control technologies as well as the proven and highly-valued functions inherited from previous products including the stepless control (from Speed 1 to Speed 1/10) of the hoisting and lowering and the longitudinal and traversing, the high-speed operation function for no-load operations, the function to reduce the impacts during the hoisting off and lowering onto the floor of the load, and the high positioning accuracy.

Hoisting and lowering speeds:
150% of the rated speed [in no-load operations]
From Speed 1 to Speed 1/10

Traversing speed:
From Speed 1 to Speed 1/10

Traveling speed:
From Speed 1 to Speed 1/10

Super V Series



V8 Series



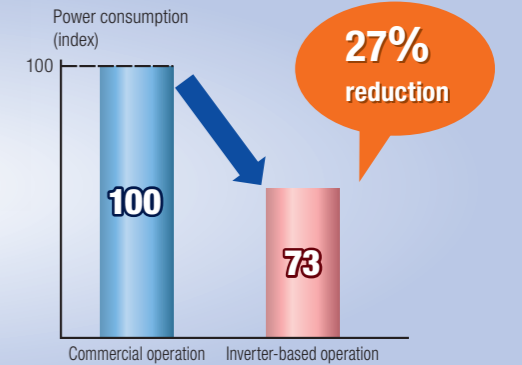
The hoist is a product designed for transporting cargoes.
It is not designed for lifting or transporting human beings.

Advantages

Hoists are being widely used as transport cranes. One of their characteristics is that they are being started and stopped frequently. Inverter-based control of hoists allows the service lives of expendable (mechanical) parts to be prolonged and the starting current to be reduced.

Advantage 1 High-speed operation that helps reduce power consumption

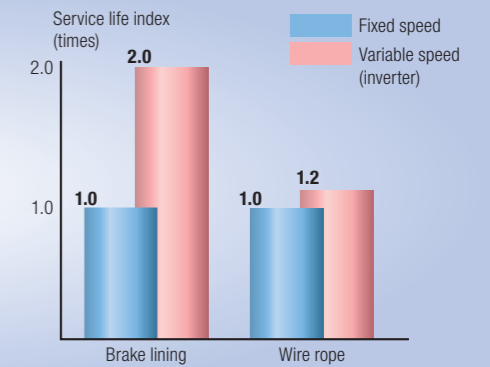
When bringing or returning the crane (in no-load operations), the operation time can be shortened by using the high-speed no-load hoisting function and the high-speed traveling function (twice the rated speed). In addition, the function that allows the crane to be started and stopped with reduced impacts reduces the starting current.



Reduction in power consumption that is achieved when a 3t inverter hoist is operated with cycles of 5 times per hour with the hoist installed on a crane with a hoisting lift of 6m, a span of 12m and a 50m runway.

Advantage 2 Service lives of expendable parts can be prolonged.

The smooth operation reduces impacts on mechanical parts. This prolongs the times between replacements of parts, thereby reducing the amount of waste.



(Data from tests conducted by us)

Advantage 3 Leaves more space available for use

Through our efforts to make the control section etc. smaller, we succeeded in making the hoist lighter and more compact than our previous products. This means that the new hoist leaves more space available for use.

(65mm shorter and 5kg lighter than the previous product (3t standard headroom type))



- Advantages
- Features of Super V
- Table of standard specifications
- Dimensions and dimensions table for Super V
- Features of and dimensions table for V8
- Installation of inverter hoists
- Notes on wiring / About supply of power
- Inverter units for saddles

Super V Series and V8 Series

Ease of use and reliability has been further improved with the proven and highly-valued functions inherited from previous products.

Features

Inverter-based operation

The pendant's push buttons provide high operability. Minute changes in the position of the hoist can be made easily, and the user can perform the inching operation in a smooth manner.

Overloading prevention function is provided as a standard function.

When hoisting is attempted of a load that is heavier than the capacity, the winding will be stopped automatically.

Note: The overloading detection threshold may vary between 100 and 150% of the capacity depending on the operation frequency, source voltage and motor temperature.

Improved environmental resistance

Because the inverter section is housed in the control panel, the hoist can be used in environments that are on a par with operating environments for standard hoists.

High-speed operation (hoisting and lowering) function for no-load operations

When the hoist is operated with no load, high-speed operation at 150% of the rated speed will automatically be selected.

Note 1: The no-load state detection threshold may vary between 0 and 25% of the capacity depending on the source voltage, motor characteristics and temperature.

Note 2: Certain special high hoisting lift hoists cannot be fitted with the high-speed operation function for no-load operations. Please contact us for details.

Note 3: The high-speed operation function for no-load operations cannot be used in co-hoisting operations. Please contact us for details.

Electronic limit switch function (upper and lower limits)

This function detects the hook position to allow hoisting and lowering to be stopped automatically with reduced impacts (The user can easily set the upper and lower limits according to his needs. The upper and lower limits are not set at the factory before shipment).

Convenient information that makes for maintenance

Information that is useful for maintenance, such as the number of times of starting, cumulative operation hours, when to replace the capacitor and information on abnormal conditions that have occurred, is displayed.

Pushbutton with 2 depressed positions for changing speed (on products equipped with a pendant with pushbuttons)

The first and second depressed positions correspond to the low and high speed settings, respectively. The low and high speed settings are independent of each other and can be set to any desired speed.

Vibration of the load during hoisting is very small.

The vibration of the load during hoisting is very small because the starting and stopping impact reduction function reduces the impacts at starting and stopping. This function reduces the impacts on the building and crane girder as well.

Smooth traveling that minimizes the pendular motion of the load during traveling

The smooth acceleration and deceleration minimizes the pendular motion of the suspended load during traveling.



The contactless main circuit provides high reliability.

The main circuit is of a highly-reliable design that does not use any contactor in the entire main circuit from the inverter power supply to the motor.

Reduced impacts on mechanical parts

Because the brake is applied when the motor rotation speed is low, the abrasion of the lining is reduced and so are the impacts on mechanical parts such as the wire ropes, sieves, couplings and gears, which means that the service lives of these parts can be prolonged.

Abnormal condition detection function that protects the hoist (for hoisting and lowering only)

When an abnormal condition is detected (through comparison of the operation command with the actual operation performed), the circuit will be disconnected and the brake will be applied.

Table of Standard Hoist Types

Super V Series (inverter-based control of hoisting and traversing, inverter-based control of hoisting only)

Specification		Capacity							
		1/2t	1t	2t	2.8t	3t	5t	7.5t	10t
Standard Headroom Type (P8-P11)	Hoisting lift	6m 12m	6m 12m	6m 12m	6m 12m	6m 12m	8m 12m	8m 12m	8m 12m
Low Headroom Type (P12-P13)	Hoisting lift	6m	6m 12m	6m 12m	6m 12m	6m 12m	6m 11m	—	—
Double-Rail Type (P14-P15)	Hoisting lift	—	—	12m	6m 12m	6m 12m	8m 12m	8m 12m	8m 12m

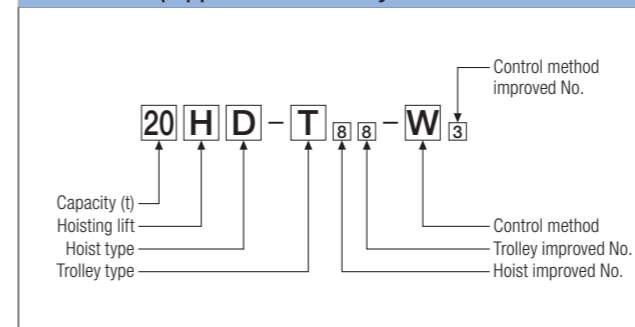
V8 Series (inverter-based control of hoisting and traversing)

Specification		Capacity		
		15t	20t	30t
Standard Headroom Type (P16-P17)	Hoisting lift	8m 12m	12m	—
Double-Rail Type (P16-P17)	Hoisting lift	8m 12m	12m	12m

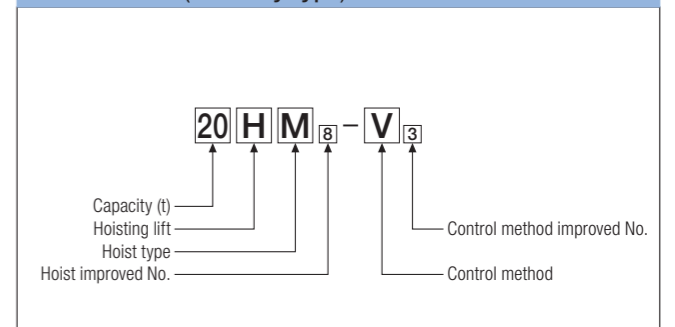
*For information on types other than the ones listed above, please contact us.

Explanation of the product codes

Products equipped with a trolley



Hoist section (catenary type)



Capacity	Hoisting lift	By type		Control method
		Hoist	Trolley	
Rated load indicated by tons.	No letter: low hoisting lift H: high hoisting lift	M: Standard Headroom Type L: Low Headroom Type D: Double-Rail Type	T: electrically-driven	Super V Series W: inverter-based control of hoisting and traversing V: inverter-based control of hoisting only
				V8 Series W: dual-speed type V: dual-speed type (during independent operation of the hoist)

Example

Super V Series (10t or less)

Inverter-based control of hoisting and traversing, pendant-based operation 2.8HD-T55-W3

Inverter-based control of hoisting only, pendant-based operation 2.8HD-T55-V3

V8 Series (15t or more)

Inverter-based control of hoisting and traversing, pendant-based operation, dual-speed 20HD-T88-W3

*In the V8 Series, there is no product with inverter-based control of hoisting only.

Super V Series and V8 Series

Super V Series

Table of standard specifications

Capacity			t	1/2	1	2	2.8	3	5	7.5	10			
Hoist load			t	0.51	1.01	2.02	2.83	3.03	5.07	7.65	10.2			
Hoisting lift	Standard Headroom Type	Low hoisting lift	m	6	6	6	6	6	8	8	8			
		High hoisting lift	m	12	12	12	12	12	12	12	12			
		Low hoisting lift	m	6	6	6	6	6	6	—	—			
	Low Headroom Type	Low hoisting lift	m	—	12	12	12	12	12	11	—	—		
		High hoisting lift	m	—	—	—	—	—	—	8	8	8		
		Low hoisting lift	m	—	—	—	—	—	—	12	12	12		
Inverter-based control of hoisting	Speed*1		m/s	0.022—0.217 [0.325]	0.022—0.217 [0.325]	0.017—0.167 [0.25]	0.015—0.15 [0.225]	0.015—0.15 [0.225]	0.013—0.133 [0.2]	0.012—0.12 [0.18]	0.01—0.10 [0.15]			
	Motor output		kW	1.3—13 [19.5]	1.3—13 [19.5]	1.0—10 [15]	0.9—9.0 [13.5]	0.9—9.0 [13.5]	0.8—8.0 [12]	0.72—7.2 [10.8]	0.6—6.0 [9.0]			
	No. of poles of the motor			4	4	4	4	4	4	4	4			
	Speed		m/min	0.042—0.417	0.042—0.417	0.042—0.417	0.042—0.417	0.042—0.417	0.042—0.417	0.028—0.283	0.028—0.283			
Traversing	Inverter-based	Standard Headroom Type	Motor output	Common to 50 and 60Hz	kW	0.36	0.36	0.36	0.55	0.55	0.75	0.56×2	0.56×2	
					kW	0.36	0.36	0.36	0.55	0.55	0.75	—	—	
					kW	—	—	—	0.55	0.55	0.75	0.55×2	0.55×2	
		Commercial	Standard Headroom Type	Motor output	50Hz	m/s	0.35	0.35	0.35	0.35	0.35	0.35	0.233	0.233
					60Hz	m/min	21	21	21	21	21	14	14	
					60Hz	m/s	0.417	0.417	0.417	0.417	0.417	0.283	0.283	
	Low Headroom Type		Motor output	50Hz	m/min	25	25	25	25	25	17	17		
				60Hz	kW	0.30	0.30	0.30	0.45	0.45	0.63	0.47×2	0.47×2	
				60Hz	kW	0.36	0.36	0.36	0.55	0.55	0.75	0.56×2	0.56×2	
	Double-Rail Type	Motor output	50Hz	kW	0.30	0.30	0.30	0.45	0.45	0.63	—	—		
			60Hz	kW	0.36	0.36	0.36	0.55	0.55	0.75	—	—		
			60Hz	kW	—	—	—	0.45	0.45	0.63	0.45×2	0.45×2		
No. of poles of the motor			4	4	4	4	4	4	4	6	6			
Wire rope	Standard Headroom Type	No. of strands	Standard Headroom Type	4	4	4	4	4	4	4	4			
			Low Headroom Type	4	4	4	4	4	4	4	4			
			Double-Rail Type	—	—	—	4	4	4	4	4			
		Composition	6×W (19)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B			
			Diameter mm	φ 6.3	φ 8	φ 11.2	φ 14	φ 14	φ 12.5	φ 14	φ 16			
			No. of strands	4	4	4	4	4	4	4	4			
	Low Headroom Type	No. of strands	Standard Headroom Type	4	4	4	4	4	4	4	4			
			Low Headroom Type	4	4	4	4	4	4	4	4			
			Double-Rail Type	—	—	—	4	4	4	4	4			
		Composition	6×W (19)-B	6×W (19)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B				
			Diameter mm	φ 4	φ 6.3	φ 8	φ 10	φ 10	φ 12.5	φ 12.5	φ 12.5			
			No. of strands	—	—	—	4	4	4	4	4			
Double-Rail Type	No. of strands	Standard Headroom Type	—	—	—	4	4	4	4	4				
		Low Headroom Type	—	—	—	4	4	4	4	4				
		Double-Rail Type	—	—	—	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B				
	Composition	6×W (19)-B	6×W (19)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B	6×Fi (29)-B					
		Diameter mm	—	—	φ 8	φ 10	φ 10	φ 12.5	φ 14	φ 16				
		No. of strands	—	—	—	4	4	4	4	4				

*1 The figures in [] are the no-load operation speeds.

V8 Series

Table of standard specifications

Capacity			t	15	20	30	
Hoist load			t	15.2	20.3	30.4	
Hoisting lift	Standard Headroom Type	Low hoisting lift	m	8	—	—	
		High hoisting lift	m	12	12	—	
	Double-Rail Type	Low hoisting lift	m	8	—	—	
		High hoisting lift	m	12	12	12	
Hoisting	Motor	Speed*2		m/s	0.01—0.10 [0.15]	0.008—0.083 [0.125]	0.006—0.055 [0.083]
		Output		kW	0.6—6.0 [9.0]	0.5—5.0 [7.5]	0.33—3.3 [5.0]
		No. of poles			4	4	4
		Speed		m/min	0.028—0.283	0.028—0.283	0.028—0.283
Traversing	Motor	Output		kW	1.7—17	1.7—17	1.7—17
		No. of poles			4	4	4
		Standard Headroom Type	Number of strands		4	4	—
			Composition		6×Fi (29)-B	6×Fi (29)-B	—
Wire rope	Double-Rail Type	Number of strands		φ 20	φ 22.4	—	
		Composition		6×Fi (29)-B	6×Fi (29)-B	8	
		Diameter mm		φ 20	φ 22.4	φ 20	
		Diameter mm		φ 20	φ 22.4	φ 20	

*2 The figures in [] are the no-load operation speeds.

Standard specifications

Power supply		Three-phase 200V 50/60Hz 220V 60Hz	380V 50Hz 400V 50/60Hz	440V 60Hz
Operation method	Standard product	Pushbuttons on the pendant Eight pushbuttons designed to be operated by an operator standing on the floor (on, off, up, down, east, west, south and north) *The pushbuttons with 2 depressed positions are as follows: Inverter-based control of hoisting and traversing : up, down, east, west, south and north Inverter-based control of hoisting only : up and down Inverter-based control of traversing only : east and west		
		Operation voltage		
Repetitive rating (rate of loading ≤ 0.63)	Hoisting	200VAC or 220VAC		
		400 times per hour		
	Traversing	40%ED		
		400 times per hour		
Power supply method		Power is supplied via cable. (In the case where a contact type current collector such as a collector/bus duct is used, please make sure that a double-trolley system is used.)		
Protection structure		JIS C0920 IP44 *In the case of outdoor use, please provide a covered refuge bay so that the hoist is not exposed to rain. *The IP rating is for the motor section and the control panel.		
Ambient temperature		-10 to +40°C (without freezing)		
Humidity		90% or less (without condensation)		
Paint color		Munsell 2.5B, 2.5/1		
Compliance with standards		JIS C9620 (Electric Hoists), a crane structure standard		

Safety instructions for using the product

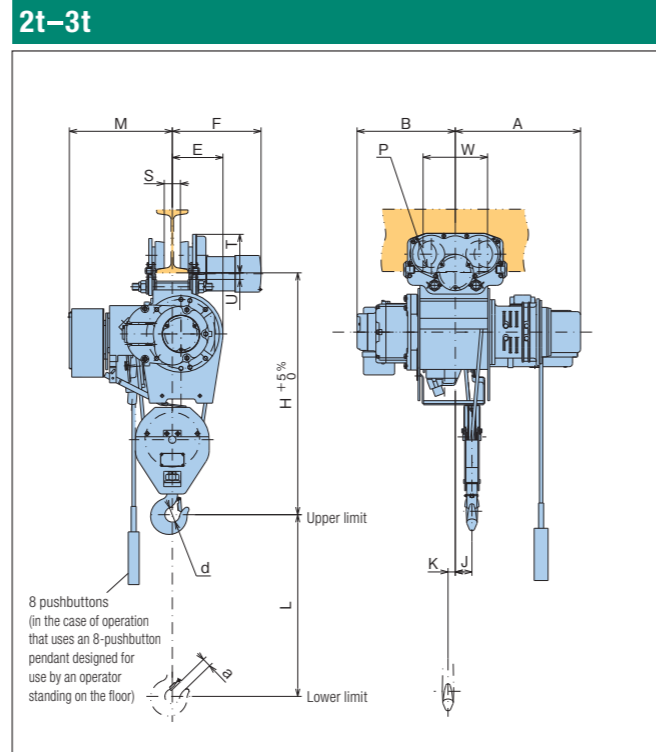
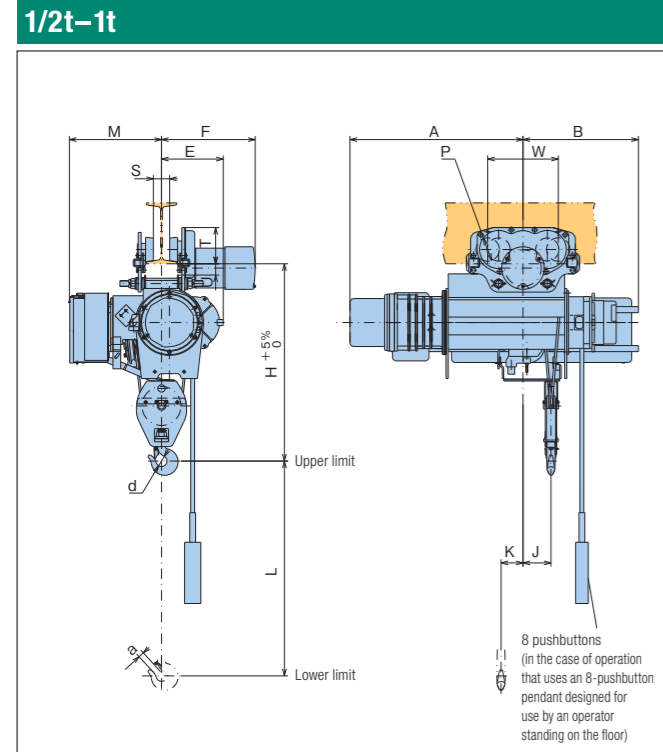
- Standard specification products cannot be used in special environments such as the ones listed below. Please contact us if you need a product that can be used in such environments.
 - Acid, alkali and saline atmospheres and corrosive gas atmospheres
 - Environments with an ambient temperature higher than 40°C
 - Dusty environments
 - Environments in which the product is subjected to water splashes
 - Environments with a risk of ignited explosion such as environments in which volatile dust or an organic solvent exists
 - Environments in which the product is used very frequently
- An inverter hoist will not stop immediately after the OFF pushbutton is pressed. The function to start and stop the hoist with reduced impacts requires a deceleration distance that is proportional to the operating speed. Therefore, be sure to operate the hoist taking into account the deceleration distance. In particular, please allow for a sufficient deceleration distance when you operate the hoist at a high speed above the rated speed with the hoist carrying no load.
- If the hoist is operated continuously for more than 1 minute at the lowest speed, the inverter's overheating protection function may be activated to stop the hoist. In that event, please leave the hoist stopped until the inverter cools down (usually 5 minutes or more) before restarting the hoist.
- The inverter hoist requires a time period of about 4 seconds before it becomes capable of operating after the ON pushbutton is pressed. Do not press any pushbutton during this period.
- For the use of the product in a place with significant power supply noises, we recommend that a noise filter be installed, because such noises can cause malfunctioning such as a sudden stop.

Super V Series (1/2–10t) – Standard Headroom Type Hoists

Inverter-based control of hoisting and traversing

Super V Series

Dimensions



Dimensions

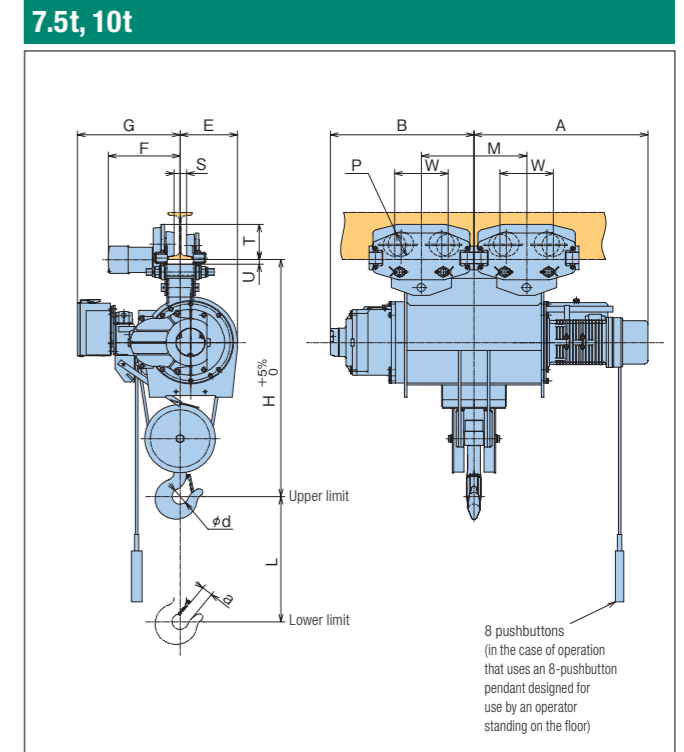
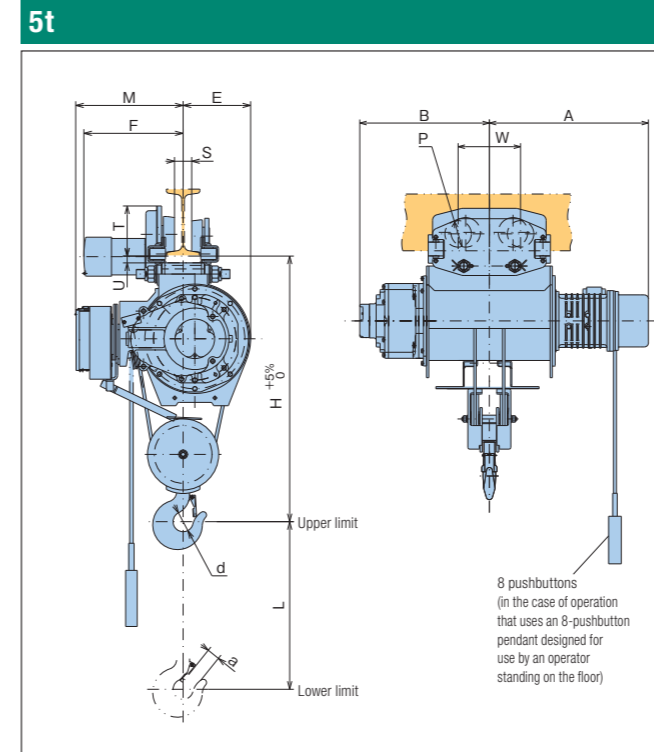


Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	1/2M-T ₆₅ -W ₃	1/2HM-T ₆₅ -W ₃	1M-T ₆₅ -W ₃	1HM-T ₆₅ -W ₃	2M-T ₇₅ -W ₃	2HM-T ₇₅ -W ₃	2.8M-T ₆₅ -W ₃	2.8HM-T ₆₅ -W ₃	3M-T ₆₅ -W ₃	3HM-T ₆₅ -W ₃		
	Hoist type	1/2M ₆ -V ₃	1/2HM ₆ -V ₃	1M ₆ -V ₃	1HM ₆ -V ₃	2M ₇ -V ₃	2HM ₇ -V ₃	2.8M ₆ -V ₃	2.8HM ₆ -V ₃	3M ₆ -V ₃	3HM ₆ -V ₃		
	Trolley type	1/2T ₅ -V ₃	1/2T ₅ -V ₃	1T ₅ -V ₃	1T ₅ -V ₃	2T ₅ -V ₃	2T ₅ -V ₃	3T ₅ -V ₃	3T ₅ -V ₃	3T ₅ -V ₃	3T ₅ -V ₃		
Capacity (t)		0.5		1		2		2.8		3			
Approx. dimensions (mm)	L	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000		
	H	740		790		985		1,115		1,115			
	A	520	660	545	715	620	640	610	645	610	645		
	B	500	530	475	510	435	615	510	660	510	660		
	M	385		400		450		495		495			
	E	190		255		220		245		245			
	W	200/290		200/290		200/290		230/310		230/310			
	K	20	100	20	90	30	110	35	120	35	120		
	J	80	105	85	115	75	100	80	110	80	110		
	d	40		45		56		71		71			
	P	96		96		96		128		128			
	a	21		23		36		42		42			
Min. curve radius (m)		3.5 (5.0)		3.5		4.5		5.0		5.0			
Dimensions with respect to I-beam (mm)		F	S	T	U	F	S	T	U	F	S	T	U
150x75x5.5		361	17	147	53/43								
200x100x7		374	42	148	52/42	374	42	148	47/42	378	42	148	42
250x125x7.5		387	67	151	44/39	391	67	151	39	417	52	177	38
300x150x11.5						404	92	160	35/30	404	92	160	30
450x175x11										443	102	185	30
Approx. weight (kg)		175		185		200		220		295		345	
										405		435	
										405		435	

- *1: Dimension W indicates (drive side / driven side).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.
- *5: When a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," the min. curve radius shall be 5m.
- *6: In the case where a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," a 50mm filler must be installed between the I-beams and the building.

Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	5M-T ₅₅ -W ₃	5HM-T ₅₅ -W ₃	7.5M-T ₅₅ -W ₃	7.5HM-T ₅₅ -W ₃	10M-T ₅₅ -W ₃	10HM-T ₅₅ -W ₃						
	Hoist type	5M ₅ -V ₃	5HM ₅ -V ₃	7.5M ₅ -V ₃	7.5HM ₅ -V ₃	10M ₅ -V ₃	10HM ₅ -V ₃						
	Trolley type	5T ₅ -V ₃	5T ₅ -V ₃	4FT ₅ -V ₃	4FT ₅ -V ₃	5FT ₅ -V ₃	5FT ₅ -V ₃						
Capacity (t)		5		7.5		10							
Approx. dimensions (mm)	L	8,000	12,000	8,000	12,000	8,000	12,000						
	H	1,190		1,345		1,515							
	A	845	955	1,075	1,150	1,075	1,150						
	B	690	800	830	905	885	960						
	M	490		560		650							
	E	305		315		355							
	G	—		640		670							
	W	250/330		230/310		250/330							
	d	90		100		100							
	P	156/140 (drive side / driven side)		128		156/140 (drive side / driven side)							
	a	58		69		69							
	Min. curve radius (m)		Straight line										
Dimensions with respect to I-beam (mm)		F	S	T	U	F	S	T	U	F	S	T	U
300x150x11.5		450	77	225	30	440	77	186	28	450	77	225	30
450x175x11		463	102	223	32	453	102	184	30	460	102	225	30
600x190x13						461	117	189	25	468	117	230	25
Approx. weight (kg)		710		775		985		1,045		1,295		1,355	

- *1: Dimension W indicates (drive side / driven side)(7.5t and 10t).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.

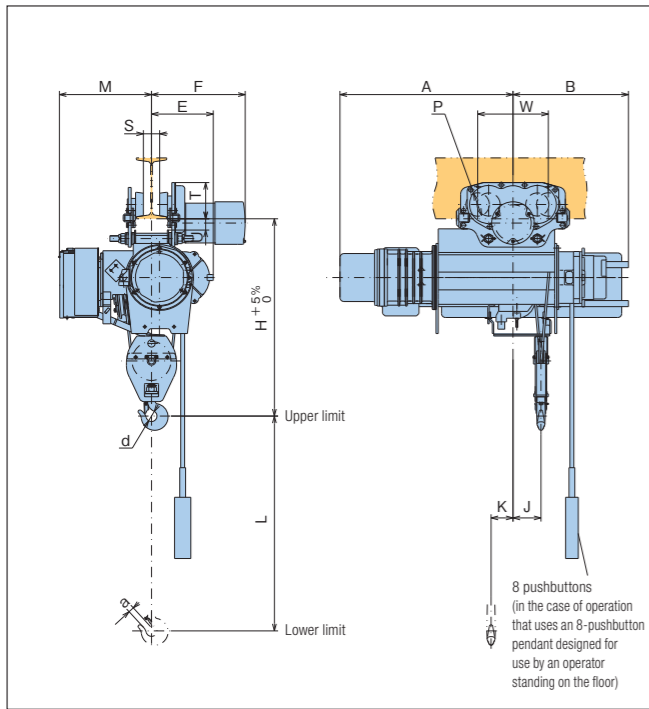
Standard Headroom Type Hoists

Inverter-based control of hoisting

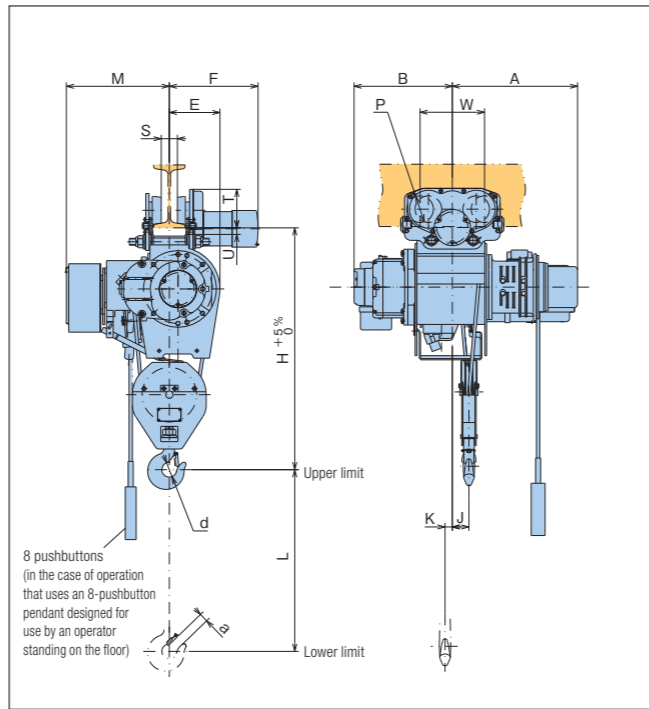
Super V Series

Dimensions

1/2t-1t

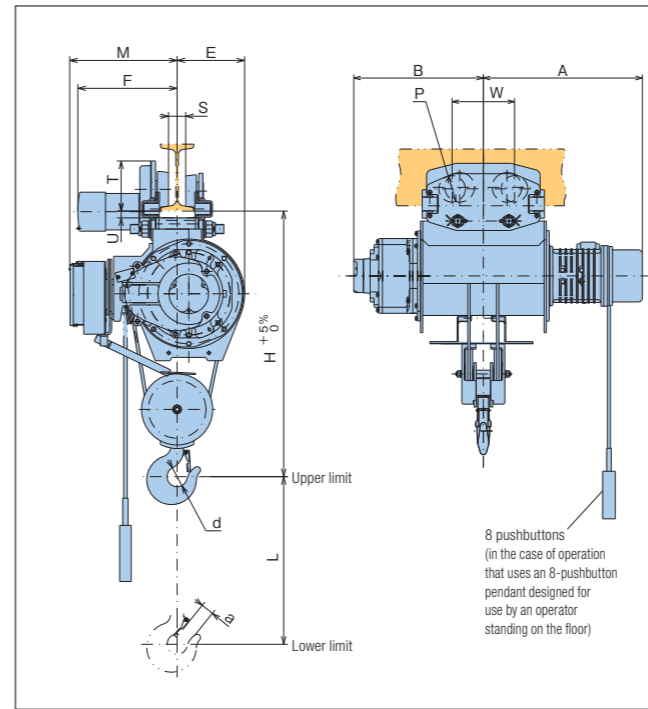


2t-3t



Dimensions

5t



7.5t, 10t

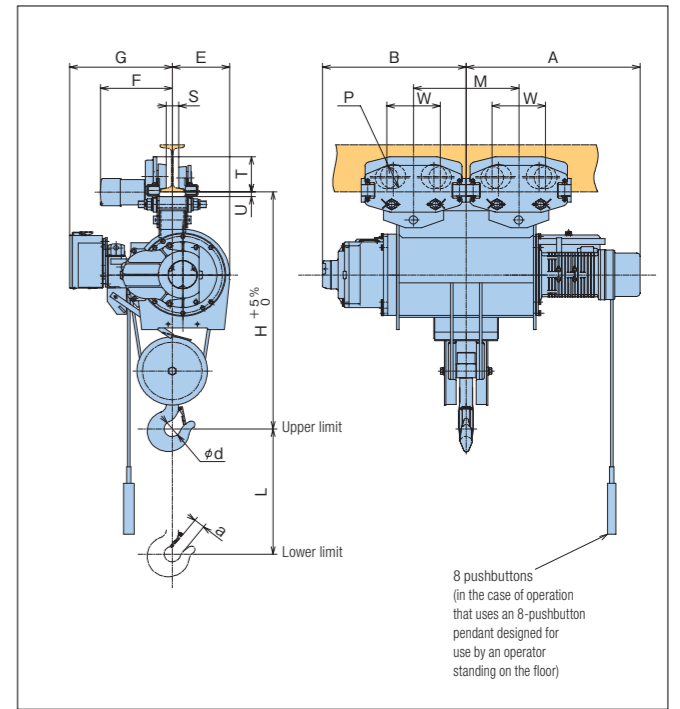


Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	1/2M-T65-V3		1/2HM-T65-V3		1M-T65-V3		1HM-T65-V3		2M-T75-V3		2HM-T75-V3		2.8M-T65-V3		2.8HM-T65-V3		3M-T65-V3		3HM-T65-V3	
	Hoist type	1/2M6-V3		1/2HM6-V3		1M6-V3		1HM6-V3		2M7-V3		2HM7-V3		2.8M6-V3		2.8HM6-V3		3M6-V3		3HM6-V3	
	Trolley type	1/2T5		1/2T5		1T5		1T5		2T5		2T5		3T5		3T5		3T5		3T5	
Capacity (t)		0.5				1				2				2.8				3			
Approx. dimensions (mm)	L	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000	6,000	12,000
	H	740				790				985				1,115				1,115			
	A	520	660	545	715	620	640	610	645	610	645	610	645	610	645	610	645	610	645	610	645
	B	500	530	475	510	435	615	510	660	510	660	510	660	510	660	510	660	510	660	510	660
	M	385				400				450				495				495			
	E	190				255				220				245				245			
	W	200/290		200/290		200/290		200/290		230/310		230/310		230/310		230/310		230/310		230/310	
	K	20	100	20	90	30	110	35	120	35	120	35	120	35	120	35	120	35	120	35	120
	J	80	105	85	115	75	100	80	110	80	110	80	110	80	110	80	110	80	110	80	110
	d	40				45				56				71				71			
	P	96				96				96				128				128			
	a	21				23				36				42				42			
Min. curve radius (m)	1.3 (5.0)				1.5				1.8				2.0				2.0				
Dimensions with respect to I-beam (mm)	F	S	T	U	F	S	T	U	F	S	T	U	F	S	T	U	F	S	T	U	
150x75x5.5	361	17	147	53/43																	
200x100x7	374	42	148	52/42	374	42	148	47/42	378	42	148	42									
250x125x7.5	387	67	151	49/39	387	67	151	44/39	391	67	151	39	417	52	177	38	417	52	177	38	
300x150x11.5					400	92	160	35/30	404	92	160	30	430	77	187	28	430	77	187	28	
450x175x11									443	102	185	30	443	102	185	30	443	102	185	30	
Approx. weight (kg)	175		185		200		220		295		345		405		435		405		435		

- *1: Dimension W indicates (drive side / driven side).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.
- *5: When a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," the min. curve radius shall be 5m.
- *6: In the case where a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," a 50mm filler must be installed between the I-beams and the building.

Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	5M-T55-V3		5HM-T55-V3		7.5M-T55-V3		7.5HM-T55-V3		10M-T55-V3		10HM-T55-V3	
	Hoist type	5M5-V3		5HM5-V3		7.5M5-V3		7.5HM5-V3		10M5-V3		10HM5-V3	
	Trolley type	5T5		5T5		4FT5		4FT5		5FT5		5FT5	
Capacity (t)		5				7.5				10			
Approx. dimensions (mm)	L	8,000	12,000	8,000	12,000	8,000	12,000	8,000	12,000	8,000	12,000	8,000	12,000
	H	1,190				1,345				1,515			
	A	845	955	1,075	1,150	1,075	1,150	1,075	1,150	1,075	1,150	1,075	1,150
	B	690	800	830	905	885	960	885	960	885	960	885	960
	M	490				560				760			
	E	305				315				355			
	G	—				640				670			
	W	250/330		230/310		230/310		250/330		250/330		250/330	
	d	90				100				100			
	P	156/140 (drive side / driven side)				128				156/140 (drive side / driven side)			
	a	58				69				69			
	Min. curve radius (m)	3.0				Straight line							
Dimensions with respect to I-beam (mm)	F	S	T	U	F	S	T	U	F	S	T	U	
300x150x11.5	450	77	225	30	440	77	186	28	450	77	225	30	
450x175x11	463	102	223	32	453	102	184	30	460	102	225	30	
600x190x13					461	117	189	25	468	117	230	25	
Approx. weight (kg)	710				775				970				

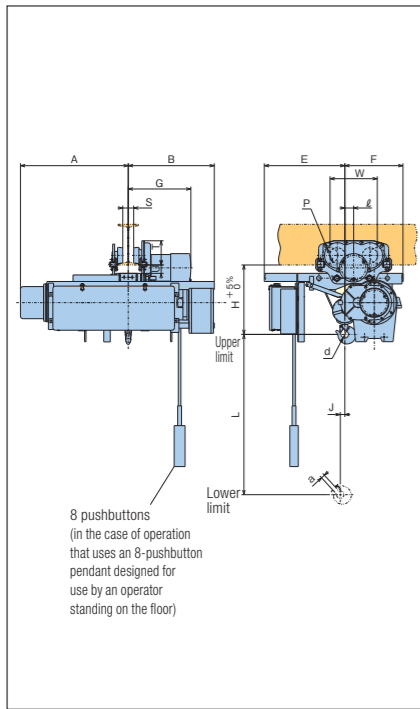
- *1: Dimension W indicates (drive side / driven side)(7.5t and 10t).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.

Low Headroom Type Hoists

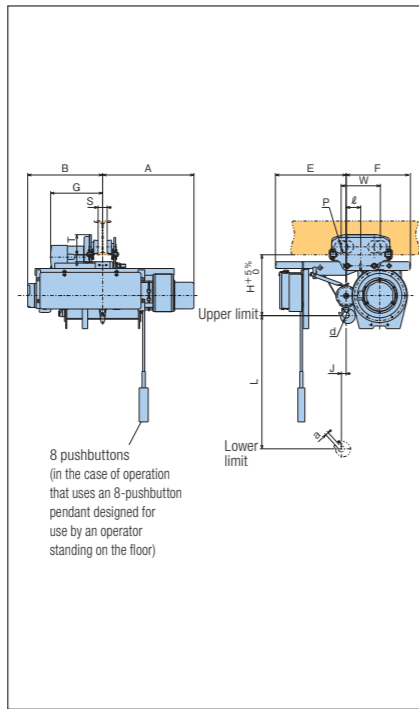
Inverter-based control of hoisting and traversing

Dimensions

1/2-1t (with a hoisting lift of 6m)



1t (with a hoisting lift of 12m)



2t-5t

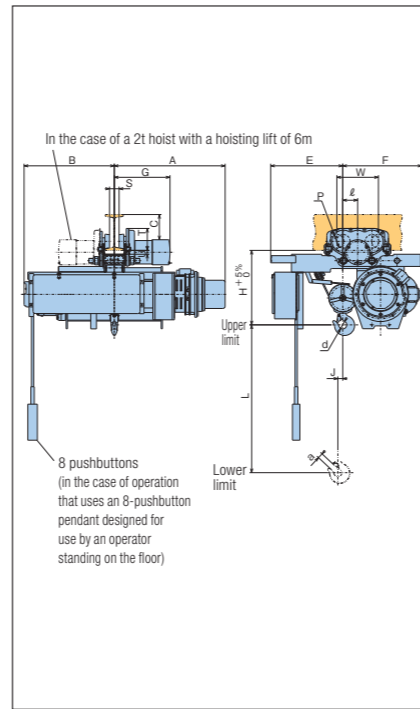


Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	1/2L-T55-W3				1L-T55-W3				1HL-T55-W3				2L-T55-W3				2HL-T55-W3				2.8L-T55-W3				2.8HL-T55-W3				3L-T55-W3				3HL-T55-W3				5L-T55-W3				5HL-T55-W3			
	Hoist type	1/2L5-V3				1L5-V3				1HL5-V3				2L5-V3				2HL5-V3				2.8L5-V3				2.8HL5-V3				3L5-V3				3HL5-V3				5L5-V3				5HL5-V3			
	Trolley type	1/2T5-V3				1T5-V3				2T5-V3				3T5-V3				3HLT5-V3				5T5-V3				5T5-V3																			
Capacity (t)		0.5				1				2				2.8				3				5																							
Approx. dimensions (mm)	L	6,000				6,000				12,000				6,000				12,000				6,000				12,000				6,000				11,000											
	H	400				425				450				515				520				600				650				600				810											
	A	550				665				675				705				775				750				795				845				955											
	B	560				530				560				605				635				620				700				620				690				800							
	W	200/290				200/290				200/290				230/310				230/410				230/310				230/410				250/330															
	E	450				495				525				525				505				565				605				605				635											
	F	340				360				465				480				560				575				660				660				675											
	d	40				45				56				71				71				90				90				90															
	J	26				28				35				42				34				46				50				46				50				35				35			
	P	96				96				96				96				128				128				156/140(drive side / driven side)				156/140(drive side / driven side)															
	a	21				23				36				42				42				58				58				58															
ℓ	40				54				108				85				104				100				99				100				99				89								
Min. curve radius (m)	3.5 (5.0)				3.5				4.5				5.0				Straight line				5.0				Straight line				Straight line																
Dimensions with respect to I-beam (mm)	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U									
(150x75x5.5)	361	17	147	53																																									
200x100x7	374	42	148	52	374	42	148	52	378	42	148	32																																	
250x125x7.5	387	67	151	49	387	67	151	49	391	67	151	29	417	52	177	28	417	52	177	28																									
300x150x11.5					400	92	160	40	404	92	160	20	430	77	187	18	430	77	187	18	450	77	225	23																					
450x175x11													443	102	185	20	443	102	185	20	463	102	223	25																					
Approx. weight (kg)	190				235				315				330				460				455				620				455				620				765				835				

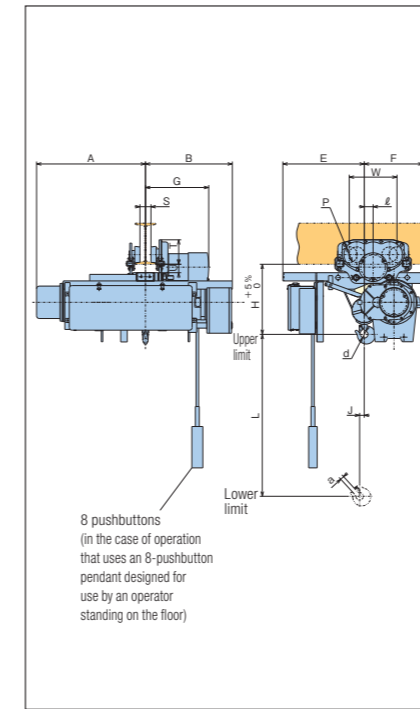
- *1: Dimension W indicates (drive side / driven side).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.
- *5: When a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," the min. curve radius shall be 5m.
- *6: In the case where a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," a 50mm filler must be installed between the I-beams and the building.

Inverter-based control of hoisting

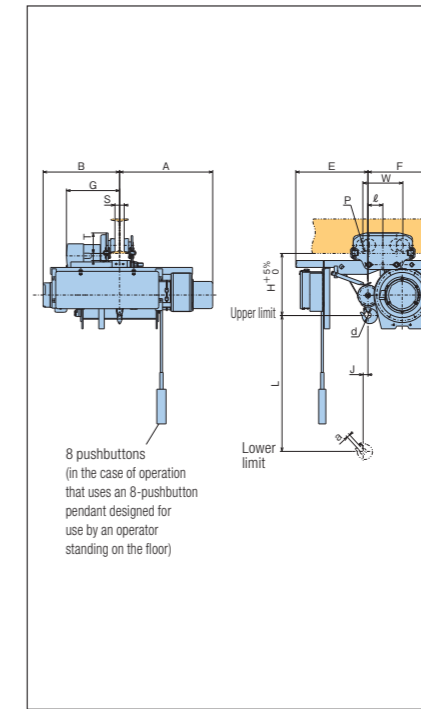
Super V Series

Dimensions

1/2-1t (with a hoisting lift of 6m)



1t (with a hoisting lift of 12m)



2t-5t

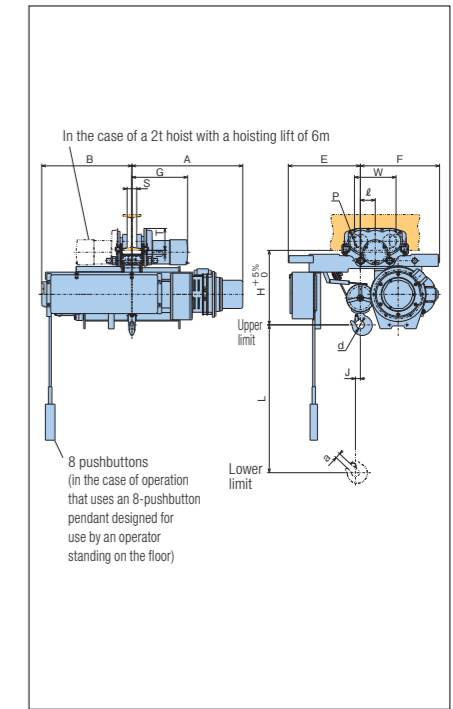


Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	1/2L-T55-V3				1L-T55-V3				1HL-T55-V3				2L-T55-V3				2HL-T55-V3				2.8L-T55-V3				2.8HL-T55-V3				3L-T55-V3				3HL-T55-V3				5L-T55-V3				5HL-T55-V3			
	Hoist type	1/2L5-V3				1L5-V3				1HL5-V3				2L5-V3				2HL5-V3				2.8L5-V3				2.8HL5-V3				3L5-V3				3HLT5-V3				5L5-V3				5HL5-V3			
	Trolley type	1/2T5				1T5				1T5				2T5				2T5				3T5				3HLT5				3T5				3HLT5				5T5				5T5			
Capacity (t)		0.5				1				1				2				2				2.8				2.8				3				3				5				5			
Approx. dimensions (mm)	L	6,000				6,000				12,000				6,000				12,000				6,000				12,000				6,000				12,000				6,000				11,000			
	H	400				425				450				515				520				600				650				600				650				810							
	A	550				665				675				705				775				750				795				845				955											
	B	560				530				560				605				635				620				700				620				690				800							
	W	200/290				200/290				200/290				230/310				230/410				230/310				230/410				250/330															
	E	450				495				525				525				505				565				605				605				635											
	F	340				360				465				480				560				575				660				660				675											
	d	40				45				56				71				71				90				90				90															
	J	26				28				35				42				34				46				50				46				50				35				35			
	P	96				96				96				96				128				128				156/140(drive side / driven side)				156/140(drive side / driven side)															
	a	21				23				36				42				42				58				58				58															
ℓ	40				54				108				85				104				100				99				100				99				89								
Min. curve radius (m)	1.3 (5.0)				1.5				1.8				2.0				3.5				2.0				3.5				2.0				3.0												
Dimensions with respect to I-beam (mm)	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U	G	S	T	U									
(150x75x5.5)	361	17	147	53																																									
200x100x7	374	42	148	52	374	42	148	52	378	42	148	32																																	
250x125x7.5	387	67	151	49	387	67	151	49	391	67	151	29	417	52	177	28	417	52	177	28																									
300x150x11.5					400	92	160	40	404	92	160	20	430	77	187	18	430	77	187	18	450	77	225	23																					
450x175x11													443	102	185	20	443	102	185	20	463	102	223	25																					
Approx. weight (kg)	190				235				315				330				460				455				620				455				620				765				835				

- *1: Dimension W indicates (drive side / driven side).
- *2: Dimension U indicates (low hoisting lift / high hoisting lift).
- *3: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.
- *4: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.
- *5: When a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," the min. curve radius shall be 5m.
- *6: In the case where a 1/2t hoist is used on I-beams with the dimensions "150 x 75 x 5.5," a 50mm filler must be installed between the I-beams and the building.

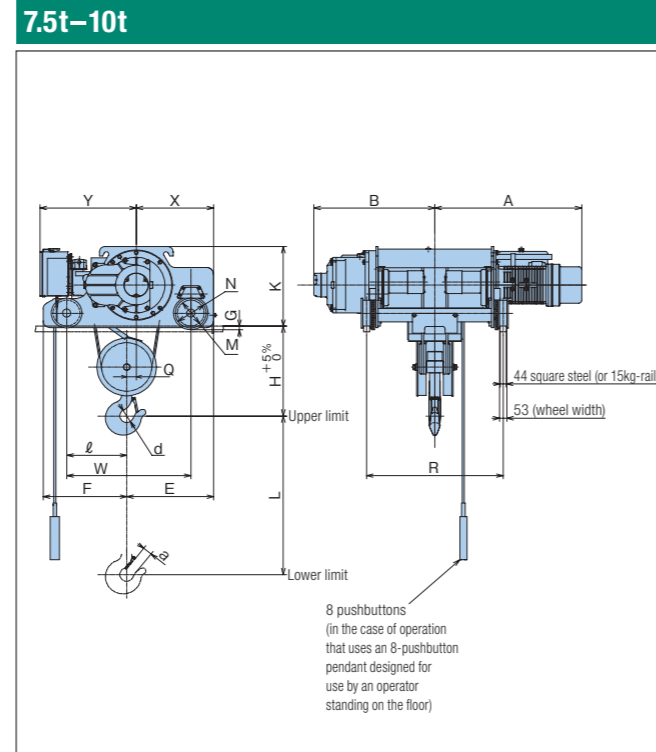
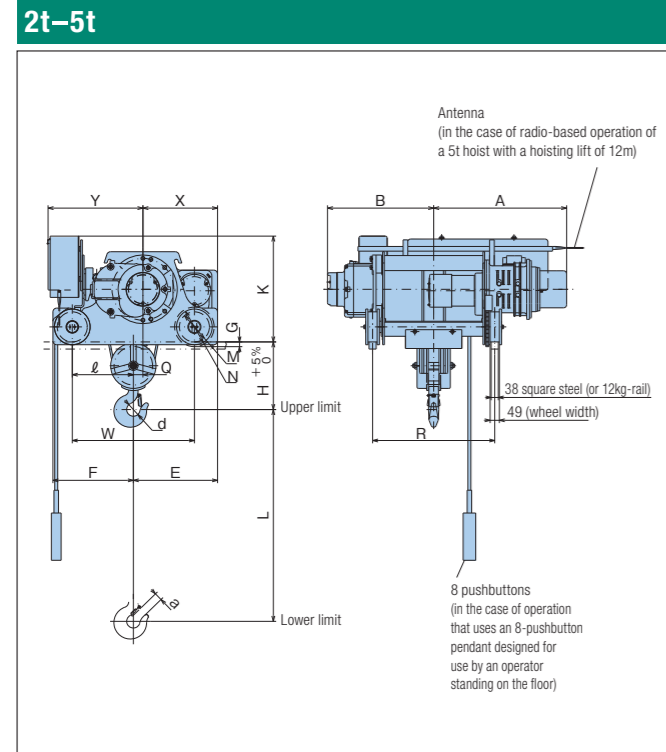
Double-Rail Type Hoists

Inverter-based control of hoisting and traversing

Inverter-based control of hoisting

Super V Series

Dimensions



Dimensions

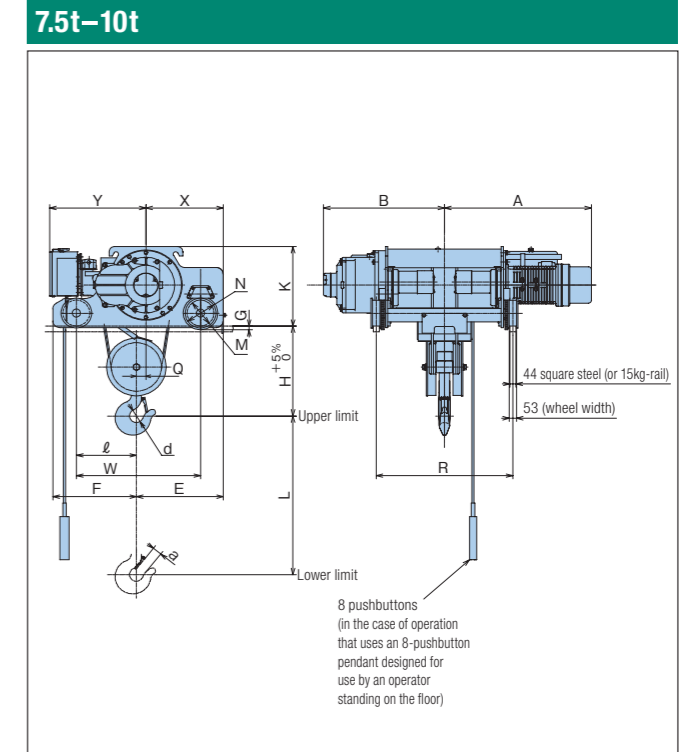
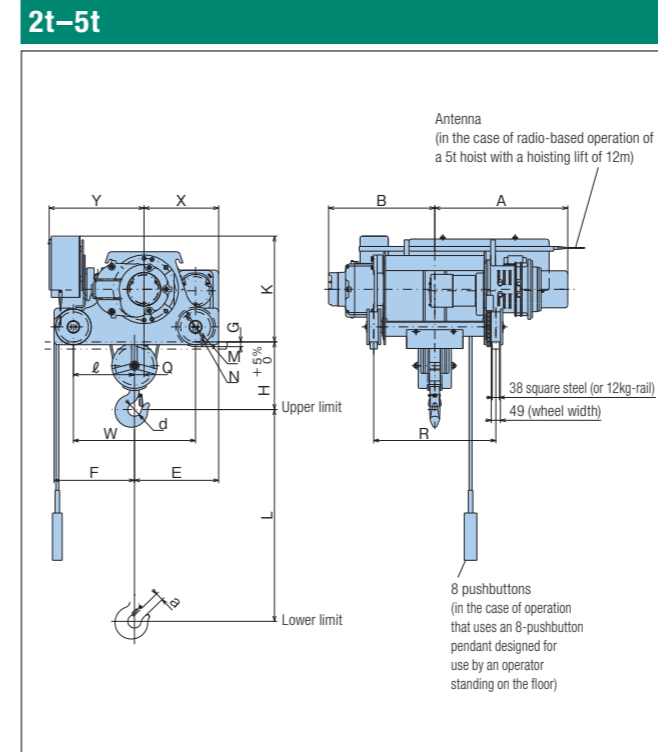


Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	2HD-T55-W3	2.8D-T55-W3	2.8HD-T55-W3	3D-T55-W3	3HD-T55-W3	5D-T55-W3	5HD-T55-W3	7.5D-T55-W3	7.5HD-T55-W3	10D-T55-W3	10HD-T55-W3	
	Hoist type	2HD5-V3	2.8D5-V3	2.8HD5-V3	3D5-V3	3HD5-V3	5D5-V3	5HD5-V3	7.5D5-V3	7.5HD5-V3	10D5-V3	10HD5-V3	
Trolley type		2DT5-V3	3DT5-V3	3DT5-V3	3DT5-V3	3DT5-V3	5DT5-V3	5DT5-V3	7.5DT5-V3	7.5DT5-V3	10DT5-V3	10DT5-V3	
Capacity	(t)	2	2.8	2.8	3	3	5	5	7.5	7.5	10	10	
Approx. dimensions (mm)	L	12,000	6,000	12,000	6,000	12,000	8,000	12,000	8,000	12,000	8,000	12,000	
	H	310	360		360		560		515		680		
	K	535	580		580		590		600		600		
	R	900	650	950	650	950	900	1,150	1,000	1,150	1,000	1,150	
	E	425	450		450		550		615		650		
	F	455	430		430		530		605		615		
	W	650	650		650		850		865		915		
	X	385	399		399		495		548		580		
	Y	480	505		505		570		730		735		
	A	835	710	870	710	870	845	955	1,075	1,150	1,075	1,150	
	B	675	570	730	570	730	690	800	830	905	885	960	
	φd	56	71		71		90		100		100		
	Q	40	51		51		55		67		70		
	ℓ	350	325		325		425		433		445		
φM	160	160		160		160		195		195			
φN	190	190		190		190		225		225			
G	26	26		26		26		29		29			
a	36	42		42		58		69		69			
Rail used		38 square steel or 12kg-rail						44 square steel or 15kg-rail					
Wheel width	(mm)	49						53					
Approx. weight	(kg)	400	440	510	440	510	695	765	1,125	1,185	1,325	1,415	

*1: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.

Table of dimensions

Operation that uses an 8-pushbutton pendant	Type	2HD-T55-V3	2.8D-T55-V3	2.8HD-T55-V3	3D-T55-V3	3HD-T55-V3	5D-T55-V3	5HD-T55-V3	7.5D-T55-V3	7.5HD-T55-V3	10D-T55-V3	10HD-T55-V3	
	Hoist type	2HD5-V3	2.8D5-V3	2.8HD5-V3	3D5-V3	3HD5-V3	5D5-V3	5HD5-V3	7.5D5-V3	7.5HD5-V3	10D5-V3	10HD5-V3	
Trolley type		2DT5	3DT5	3DT5	3DT5	3DT5	5DT5	5DT5	7.5DT5	7.5DT5	10DT5	10DT5	
Capacity	(t)	2	2.8	2.8	3	3	5	5	7.5	7.5	10	10	
Approx. dimensions (mm)	L	12,000	6,000	12,000	6,000	12,000	8,000	12,000	8,000	12,000	8,000	12,000	
	H	310	360		360		560		515		680		
	K	535	580		580		590		600		600		
	R	900	650	950	650	950	900	1,150	1,000	1,150	1,000	1,150	
	E	425	450		450		550		615		650		
	F	455	430		430		530		605		615		
	W	650	650		650		850		865		915		
	X	385	399		399		495		548		580		
	Y	480	505		505		570		730		735		
	A	835	710	870	710	870	845	955	1,075	1,150	1,075	1,150	
	B	675	570	730	570	730	690	800	830	905	885	960	
	φd	56	71		71		90		100		100		
	Q	40	51		51		55		67		70		
	ℓ	350	325		325		425		433		445		
φM	160	160		160		160		195		195			
φN	190	190		190		190		225		225			
G	26	26		26		26		29		29			
a	36	42		42		58		69		69			
Rail used		38 square steel or 12kg-rail						44 square steel or 15kg-rail					
Wheel width	(mm)	49						53					
Approx. weight	(kg)	400	440	510	440	510	695	770	1,125	1,185	1,325	1,415	

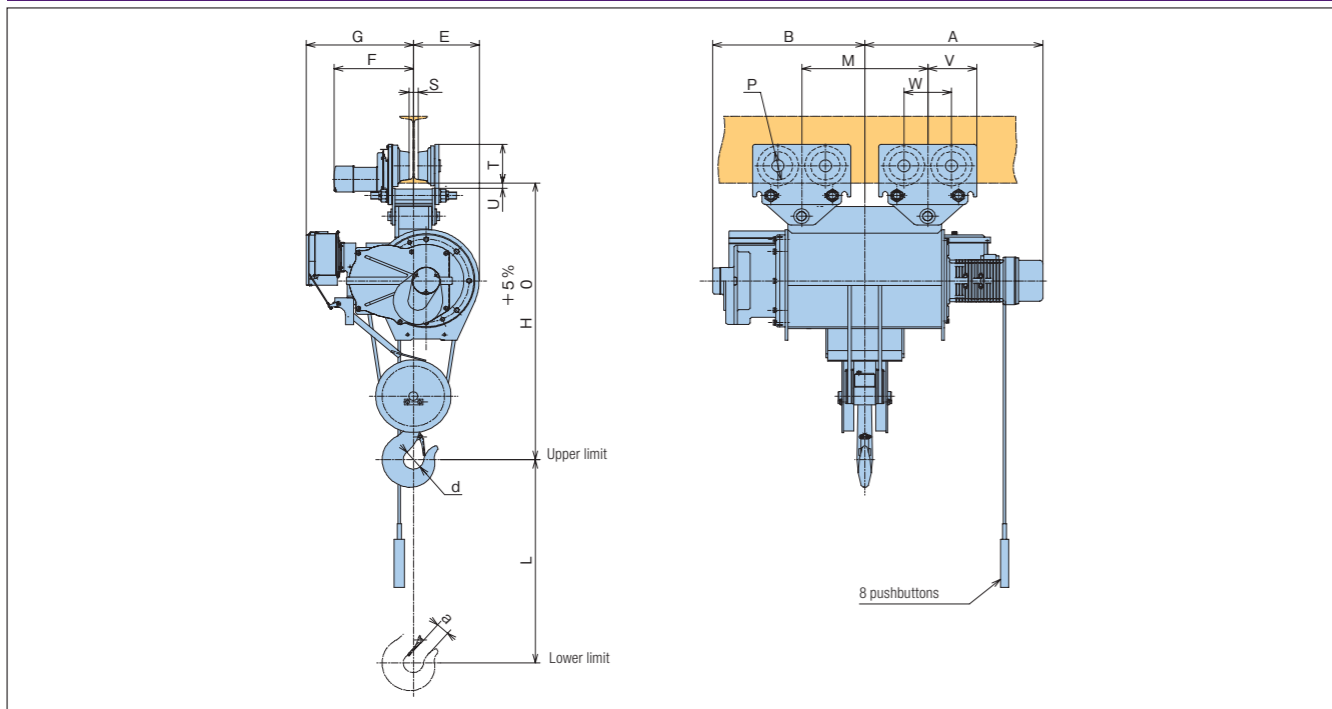
*1: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.

V8 Series (15–30t) Standard Headroom Type Hoists and Double-Rail Type Hoists

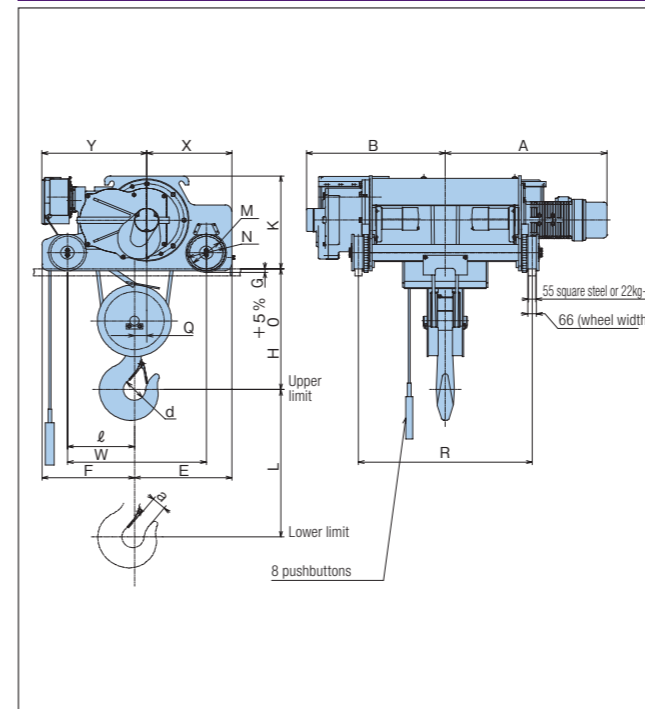
V8 Series

Dimensions

15 and 20t (Standard Headroom Type)



15 and 20t (Double-Rail Type)



30t (Double-Rail Type)

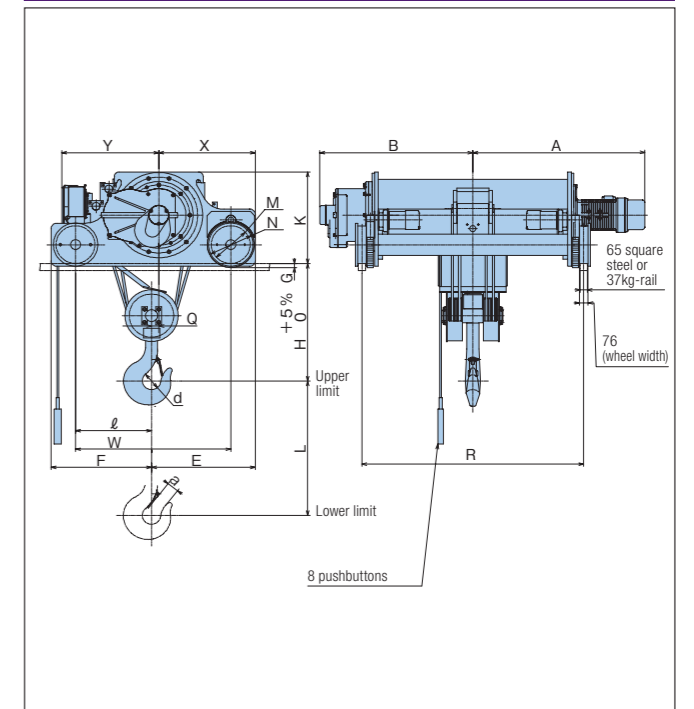


Table of dimensions

Operation that uses an 8-pushbutton pendant	Dual-speed type	Type	Standard Headroom Type				Double-Rail Type			
			15M-T88-W3	15HM-T88-W3	20HM-T88-W3		15D-T88-W3	15HD-T88-W3	20HD-T88-W3	30HD-T88-W3
Capacity	Hoist type	15M8-V3	15HM8-V3	20HM8-V3		15D8-V3	15HD8-V3	20HD8-V3	30HD8-V3	
		Trolley type	10AT8-V3	10AT8-V3	10AT8-V3	15DT8-V3	15DT8-V3	20DT8-V3	30DT8-V3	
Approx. dimensions (mm)	(t)		15	20		15		20		
	L	8,000	12,000	12,000		8,000	12,000	12,000	12,000	
	H		1,865	2,010			785	930	1,090	
	K						730	730	850	
	R					1,000	1,200	1,300	2,000	
	E	427		427			740	740	935	
	F						700	700	905	
	W	309		309			1,040	1,040	1,400	
	X					640	640	640	870	
	Y						780	780	875	
	A	1,060	1,160	1,210		1,060	1,160	1,210	1,560	
	B	950	990	1,040		960	990	1,040	1,390	
	φd		130	165			130	165	165	
	M		820	900						
	V	320	320	320						
	Q						89	91	65	
ℓ						505	505	685		
φM						250	250	350		
φN						282	282	400		
G	705	705	705			28	28	38		
φP	190	190	190				108	108		
a	86	86	108			86				
Approx. weight (kg)		2,150	2,400	2,750		1,960	2,110	2,260	4,210	
Min. curve radius (m)			Straight line							
Dimensions with respect to I-beam (mm)		S	T	U	F					
450×175×11 (mm)		62	280	30	524					
600×190×13 (mm)		77	285	25	532					
Rail used (mm)						55 square steel or 22kg-rail			65 square steel or 37kg-rail	
Wheel width (mm)						66			76	

*1: Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions shown in the colored columns will be delivered.

*2: As the product contains electronic components, be sure to install a buffering mechanism or buffering material on the stoppers for the longitudinal and traversing.

Installation of Inverter Hoists

Table of I-beams and Max. allowable spans

The I-beam dimensions marked with ○ are the dimensions compatible with standard products. Unless otherwise specified by the customer, a product compatible with I-beams with the dimensions marked with ● will be delivered. (Use of our inverter hoists on an unmarked I-beam requires a special part. Please contact us for details.)

Capacity (t)	Max. allowable I-beam span (m) (intervals of installation on the building)								
	Size of I-beams used (mm)								
	150×75×5.5	200×100×7	250×125×7.5	250×125×10	300×150×11.5	350×150×12	400×150×12.5	450×175×11	600×190×13
0.5	○3.0	●4.5	○7.0	○7.9					
1		○3.5	●5.4	○6.4	○8.6	○9.9			
2		○2.3	●4.0	○4.9	○6.9	○8.0	○8.5		
3 (2.8)			○2.9	○3.8	●5.6	○6.4	○7.1	○8.0	
5					●4.1	○4.9	○5.6	○6.2	
7.5								●4.5	○7.1
10								●3.9	○6.1
15								●3.1	○4.9
20								●2.7	○4.3

Notes: 1. The I-beams and spans shown in the table are for telfers.
2. Span is determined by the capacity regardless of the hoist type (standard or low headroom type) or trolley type (manually-pushed, chain-driven or electrically-driven type).
3. The spans shown in the table were calculated based on a deflection of approx. 1/1500.

Grounding of the hoist

Securely ground (earth) the hoist in the same way as that for ordinary electrical products.

●Catenary hoists:

In the case of direct installation on a steel frame structure, ground the hoist completely to the shape steel after removing the paint and rust from the contact part to a sufficient degree. In the case of installation on a wooden structure, completely ground the main body of the hoist using a copper wire with a diameter of 2.6mm or larger.

●Hoists with trolley

Ground the I-beam basically in accordance with the instructions given in the left. Do not paint the traversing surface. As the traversing wheels of the hoist are coated with anti-rust paint, remove the paint from the part that will come in contact with the I beams before installation.

Stoppers for traversing rails

Stoppers for standard headroom type hoists and low headroom type hoists

Instructions for the installation of stoppers for standard headroom type hoists and low headroom type hoists

- After installing a trolley on an I-beam, be sure to install a stopper at the end of the I-beam to prevent accidents such as dropping of the hoist.
- Avoid using the hoist in such a way that the trolley is always stopped by allowing the trolley to collide with the stopper.
- Using a stopper whose color is different from the color of the I-beam makes the stopper conspicuous, thereby assisting in collision prevention.
- Stoppers must be installed in such a way that the wheels on both sides come in contact with them simultaneously.
- Attach buffering material to the surfaces of the stoppers so that the impact of collision with the hoist can be reduced.

The value of Dimension C is determined by the values of Dimension W (wheel interval) and Dimension ϕP (wheel diameter). Values shown in the table below must be used. In the case of special specifications, calculate the C value from the W and ϕP values.

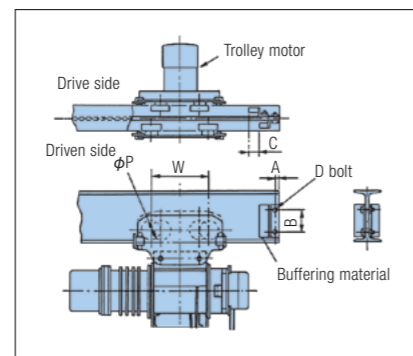
Capacity (t)	0.5-2	2.8, 3, 7.5	5, 10	15, 20
W (drive side / driven side)	200 / 290	230 / 310 *(230 / 410)	250 / 330	327 / 327
ϕP	96	128	156 / 140 (drive side / driven side)	200
C	45	40*(90)	32	0

*For high hoisting lift trolleys (low headroom type) only.

Dimensions A, B and D must be as specified in the table below.

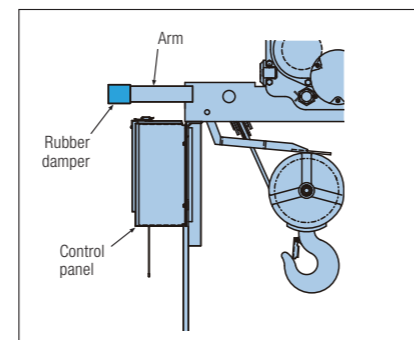
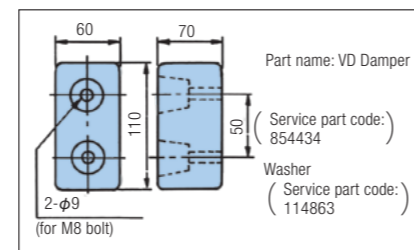
I-beam (mm)	150×75	200×100	250×125	300×150	450×175	600×190
Angle steel (mm)	*35×50 ×6	*45×50 ×6	50×50 ×6	65×65×6		75×75 ×9
A	22					
B	70	105	110	190	280	380
D	M10	M16	M20	M24		

*Machine the angle from an angle with the dimensions "50 x 50 x 6" and use the 35/45mm side in the width direction of I-beam.



Stoppers must be installed in such a way that the wheels on both sides come in contact with them simultaneously. Cover the stopper surfaces with rubber to reduce the impacts of collisions with the hoist.

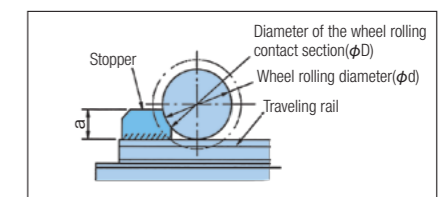
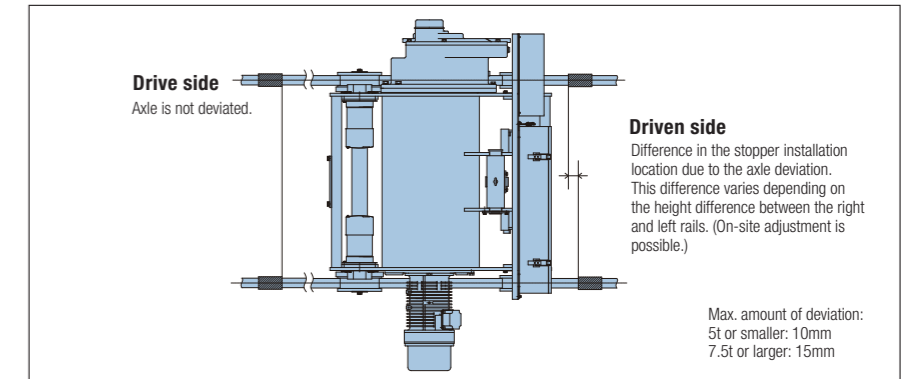
If you use 2 or more low headroom type hoists on the same rail and need a means to prevent collisions of a hoist with the preceding hoist, please use the product (damper) shown below.



Stoppers for Double-Rail Type Hoists

About installation of stoppers for Double-Rail Type hoists

- Stoppers must be installed in such a way that the wheels of the hoist come in contact with the both sides of the traversing rail simultaneously.
- The stopper height ("a") must be at least one fourth of the wheel rolling diameter.
- Double-Rail Type hoists employ an automatic center adjustment structure in which the axle on the Driven side is deviated so that the 4 wheels contact the surface completely. For this reason, the amount of deviation varies depending on the height difference between the right and left rails. Stoppers must be installed in such a way that the right and left wheels come in contact with them simultaneously taking into consideration the amount of the deviation due to the rail height difference.
- The diameter of the wheel rolling contact section of the stopper must be "the wheel rolling diameter + 10mm."



(Unit: mm)

Capacity (t)	Wheel rolling diameter (φd)	Diameter of the wheel rolling contact section (φD)	Stopper height (a)
2-5	160	170	40 or higher
7.5-10	195	205	49 or higher
15-20	250	260	63 or higher
30	350	360	88 or higher

In the case of a special specification hoist, make sure that "φD" and "a" values that match the wheel rolling diameter ("φd") value are used.

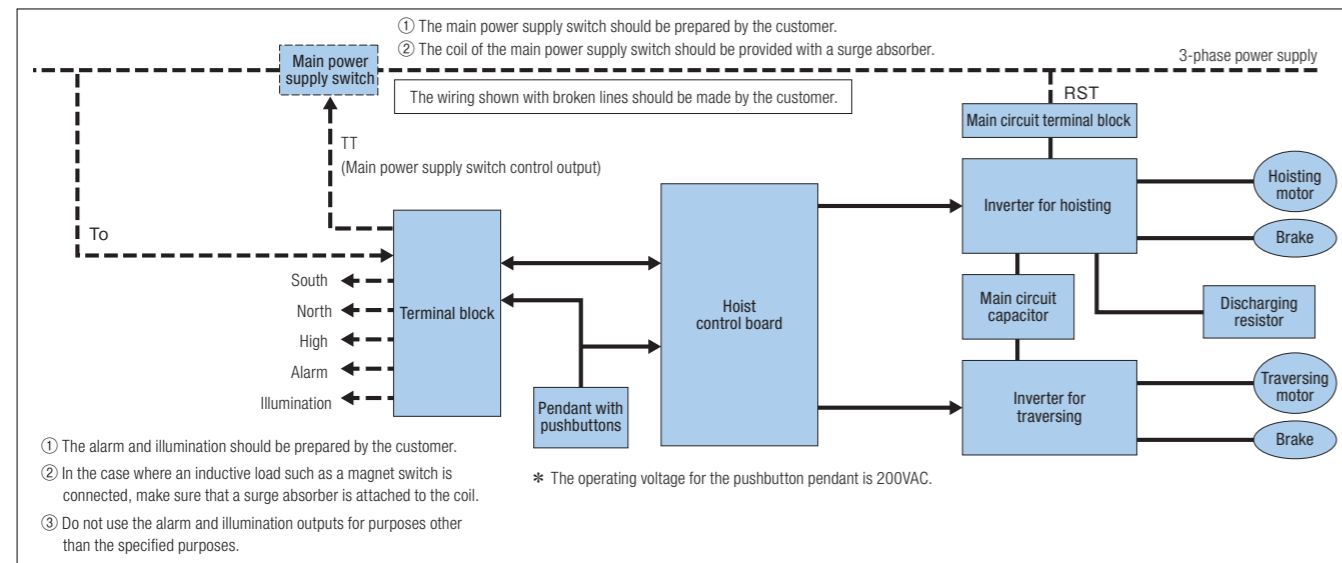
Weight of the hook block of the hoist

The approximate weight of the hook block of the hoist is as shown in the table below.

Capacity (t)	0.5	1	2	2.8	3	5	7.5	10	15	20	30
Standard Headroom Type	10	10	20	30	30	70	150	200	200	300	—
Low Headroom Type	10	10	20	30	30	70	—	—	—	—	—
Double-Rail Type	—	—	20	30	30	70	150	200	200	300	400

(Unit: kg)

Notes on the Wiring of Inverter Hoists



Alternate current reactor for enhancing the power supply and improving the power factor

In the case where sudden source voltage changes occur, the power supply capacity is 500kVA or more and the unbalance rate of the source voltage is 3% or more, install an alternate current reactor on the primary side of the power supply.

Type	Source voltage	Application
AL I - □□L2	200V class	(□□...1/2t, 1t : 5.5 2t-5t : 11 7.5t, 10t : 22 15t- : 33)
AL I - □□H2	400V class	(□□...1/2t-2t : 5.5 2.8t-5t : 11 7.5t, 10t : 22 15t- : 33)

Recommended earth leakage breaker

Rated current (A)	Type	
	200V Class	400V Class
10	—	EX30 (10A)
15	EX30 (15A)	EX30 (15A)
20	EX30 (20A)	—
30	EX30 (30A)	EX50C (30A)
50	EX50B (50A)	EX50C (50A)
60	EX60 (60A)	EX60B (60A)
75	RX100 (75A)	—
100	RX100 (100A)	—

About supply of power

In the case where power is supplied via cable:

When the traveling distance is short and the traveling path is straight, supplying power via cable is convenient. The cable can be hung like a curtain using cable hangers or reeled using a cable reel.

In the case of insulated trolley power supply:

<Setting up Hitachi ToughTro>

"Hitachi ToughTro" is a safe trolley that prevents electric shocks. It can be used in lieu of bare trolley lines.

- Power supply: 600V or less
- Current-carrying capacity: 30-100A (Type E), 150-300A (Type F)
- Specification: Standard (high-temperature- and corrosion-resistant: Type F)
- Standard lengths: 15m, 30m, 45m, 60m, 80m, 100m (Production of the 300A model is "made-to-order" production.)
- Support span : End-tension type: 6m or less
End-tensionless type: 1.5m or less (Type F)
Curve sections: 0.5m or less

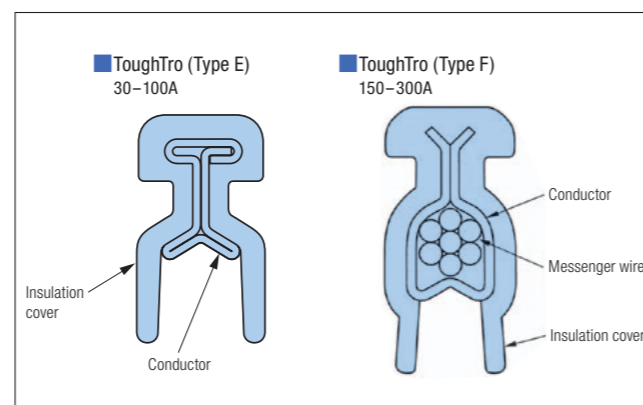
Note on noises

Depending on the installation conditions, the operation of the hoist may cause malfunctions of television sets, radio receivers, instruments, etc. located near the hoist, including distortions of video and/or audio on television sets and radio receivers. In such a case, installing noise filters specified below will help solve or alleviate the problem.

Name	Type	Functions	Remark
Radio noise filters	ZCA-A (200V class)	Suppresses the radiation noise (radio noise) from power supply lines, alleviates radio interferences in television sets and radio receivers and prevents instruments etc. from malfunctioning.	Common to all capacities
	ZCL-B (400V class)		
Noise filters	NF-L□□□ (200V class)	Reduces the noise from inverters. Prevents malfunctioning of instruments etc. connected to the same power line. (□□□... 1/2t : 10, 1t : 20, 2t-3t : 30, 5t : 40, 7.5t, 10t : 60, 15t-30t : 150)	Input side setting
	NF-H□□ (400V class)		

Collector (current collector): 30A, 60A, 100A

Note: Tandem use is possible. For the transversal direction, a counterbalance is required.



Permissible lengths for cabtyre cables for supplying power to hoists and the corresponding power fuse capacities (for hoists with electrically-driven traversing trolley)

200V Class

Capacity (t)	Hoist Motor (kW)	Power Source	Permissible Length of Cabtyre Cable (m) [for 3-core cables]														
			Nominal Sectional Area of Conductor (mm ²)														
			0.75	1.25	2	3.5	5.5	8	14	22	30	38	60	80	100	125	
1/2	1.2	200V 50Hz	55	92	147	257	403										
		200V 60Hz	63	104	167	292	460										
		220V 60Hz	60	99	159	278	437										
1	2.3	200V 50Hz		50	80	140	219	300	525								
		200V 60Hz		58	92	162	254	350	612								
		220V 60Hz		54	86	150	238	326	570								
2	3.5	200V 50Hz			44	76	120	175	306	481							
		200V 60Hz			49	85	134	195	341	536							
		220V 60Hz			44	78	122	177	310	487							
(2.8) 3	(4.8) 5.0	200V 50Hz				<67>	105	152	266	419							
		200V 60Hz				<77>	121	176	307	483							
		220V 60Hz				<71>	111	161	283	444							
5	7.0	200V 50Hz						106	185	291	396	502					
		200V 60Hz						116	202	318	433	549					
		220V 60Hz						109	191	299	408	517					
7.5	9.5	200V 50Hz							112	176	239	303	479	638			
		200V 60Hz							127	200	272	345	545	726			
		220V 60Hz							117	184	251	318	501	668			
10	10.5	200V 50Hz							112	176	239	303	479	638			
		200V 60Hz							127	200	272	345	545	726			
		220V 60Hz							117	184	251	318	501	668			
15	16	200V 50Hz								124	169	214	338	450	563	703	
		200V 60Hz								148	202	256	404	539	674	842	
		220V 60Hz								128	175	221	349	466	582	728	
20	18	200V 50Hz								124	169	214	338	450	563	703	
		200V 60Hz								148	202	256	404	539	674	842	
		220V 60Hz								128	175	221	349	466	582	728	
30	18	200V 50Hz								123	168	213	336	448	560	700	
		200V 60Hz								146	199	252	398	530	663	829	
		220V 60Hz								127	173	219	346	461	577	721	

400V Class

Capacity (t)	Hoist Motor (kW)	Power Source	Permissible Length of Cabtyre Cable (m) [for 3-core cables]									
			Nominal Sectional Area of Conductor (mm ²)									
			0.75	1.25	2	3.5	5.5	8	14	22	38	
1/2	1.2	380-415V 50Hz	205	342								
		400V 60Hz	214	356								
		440V 60Hz	214	356								
1	2.3	380-415V 50Hz	122	204	326							
		400V 60Hz	123	205	329							
		440V 60Hz	123	205	329							
2	3.5	380-415V 50Hz		115	184	321						
		400V 60Hz		115	184	323						
		440V 60Hz		119	191	334						
(2.8) 3	(4.8) 5.0	380-415V 50Hz			143	250	392					
		400V 60Hz			133	233	367					
		440V 60Hz			145	253	397					
5	7.0	380-415V 50Hz			105	184	290	421				
		400V 60Hz			103	181	285	414				
		440V 60Hz			107	187	293	426				
7.5	9.5	380-415V 50Hz				107	168	245	428			
		400V 60Hz				111	174	253	443			
		440V 60Hz				113	177	258	451			
10	10.5	380-415V 50Hz				103	161	235	411			
		400V 60Hz				102	160	233	408			
		440V 60Hz				108	170	247	432			
15	16	380-415V 50Hz					123	178	312	490		
		400V 60Hz					124	180	315	495		
		440V 60Hz					123	179	314	493		
20, 30	18	380-415V 50Hz					111	161	282	442	764	
		400V 60Hz					112	162	284	446	771	
		440V 60Hz					114	166	290	456	788	

Inverter Unit for Saddles

An easy-to-use, high-performance compact inverter unit that comes with a shared protection panel as a standard component. Improves the efficiencies of elaborate operations.

Features

The unit will be ready for use as soon as the installation of the unit and the wiring are complete.

The unit comes with a circuit breaker and a main power supply MgSW as standard components. There is no need to prepare a shared protection panel. *N-10S₃ does not come with these components. In the case of N-10S₃, these components must be prepared by the customer.

A compact inverter unit that is easy to install

A compact and easy-to-install inverter unit that houses all the components in the panel.

Dramatically reduces impacts on and the pendular motion of the suspended load

The starting and stopping impact reduction function ensures smooth acceleration and deceleration, thereby minimizing impacts on and the pendular motion of the suspended load during traveling.

Speed can be changed to achieve efficient operations.

Traveling speed can be set in 10% increments.

The best speed for the line operation can be selected.

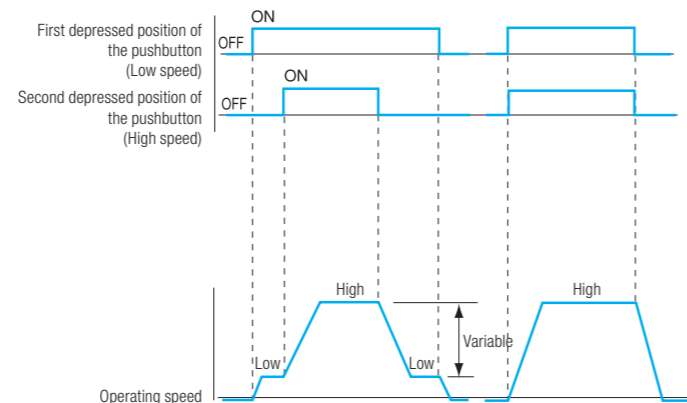


- Acid, alkali and saline atmospheres and corrosive gas atmospheres
- Environments with an ambient temperature higher than 40°C
- Dusty environments
- Environments with a risk of ignited explosion such as environments in which volatile dust or an organic solvent exists
- For the use of the product in a place with significant power supply noise, we recommend that a noise filter be installed, because such noise can cause malfunctioning of the inverter hoist.

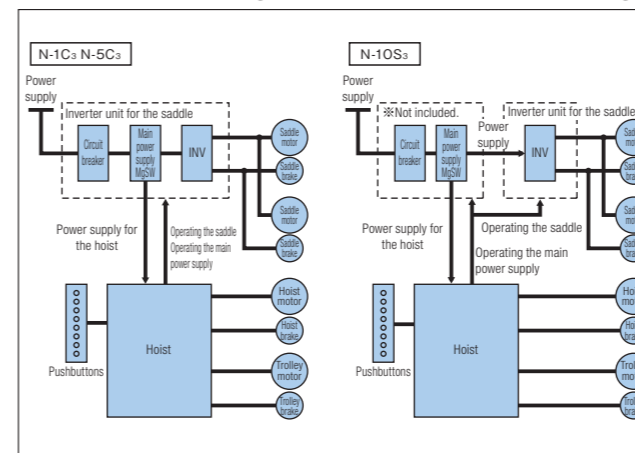
Standard specification products cannot be used in special environments such as the ones listed below. Please contact us if you need a product that can be used in such environments.

Relationship between the speed and the depressed position of the pushbutton

The first and second depressed positions of the pushbutton correspond to the low and high speeds, respectively. To use the high speed from the beginning, push the pushbutton down to the second depressed position without allowing the button to stop at the first depressed position.



Schematic diagram of the electrical wiring



Dimensions

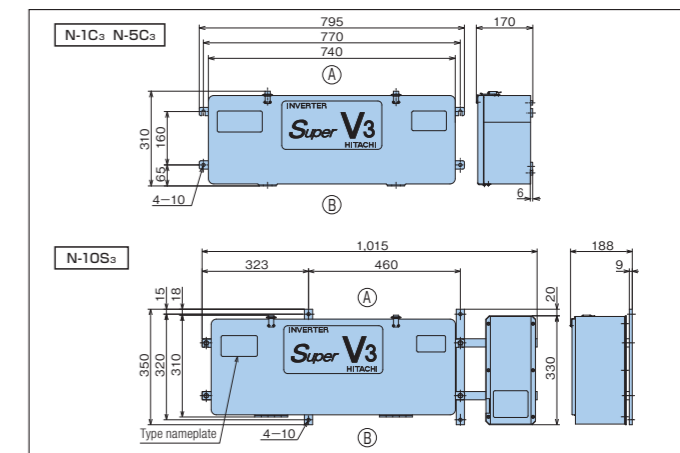


Table of specifications

200V Class

* Please do not forget to specify the source voltage at the time of order.

Type	N-1C ₃	N-5C ₃	N-10S ₃ ("made-to-order" product)
Applicable hoists	1/2-1t	2-5t	7.5-10t
Applicable saddle types (The inverter units cannot be used on saddles other than Hitachi crane saddles.)	● TL ₅ -10 (*1) ● TH ₅ -10 (*1) ○ THM ₅ -10	● TL ₅ -10 ● TL ₅ -28 ● TH ₅ -10 ● TH ₅ -28 ● THL ₅ -30 ● TH ₅ -30 ● THL ₅ -30 ● THL ₅ -56 ○ THM ₅ -28 ○ THM ₅ -45 (*2) ○ TLM ₅ -28 ○ TLM ₅ -45 (*2) ○ TLM ₅ -30	● TH ₅ -75 ● TH-112 ● TLM ₅ -100
● 200% of the rated speed ○ 150% of the rated speed	SL ₅ -10 SLM ₅ -10	TLU ₅ -28 (*3) TLU ₅ -56 (*4) SL ₅ -28 SL ₅ -30 SLM ₅ -28 SL ₅ -56	
Circuit breaker	S-50EB (20A) (built-in)	S-50EB (50A) (built-in)	Not included
Main power supply MgSW	H50 (50A) (built-in)		Not included
Power supply	3-phase, 200V 50/60Hz or 220V 60Hz		
Approx. weight	22kg	22kg	30kg

400V Class

Type	N-5C ₃		
Applicable hoists	1/2-5t		
Applicable saddle types (The inverter units cannot be used on saddles other than Hitachi crane saddles.)	● TL ₅ -10 ● TH ₅ -10 ○ THM ₅ -10	● TL ₅ -28 ● TH ₅ -28 ○ THM ₅ -28 ○ TLM ₅ -28 SL ₅ -28 SLM ₅ -28 TLU ₅ -28	● TH ₅ -30 ● THL ₅ -30 ○ THM ₅ -45 ○ TLM ₅ -45 SL ₅ -30 SLM ₅ -28 TLU ₅ -56 (5t hoist or smaller)
● 200% of the rated speed ○ 150% of the rated speed	SL ₅ -10 SLM ₅ -10		SL ₅ -56
Circuit breaker	S-50EB (50A)		
Interruption switch	H50 (50A)		
Power supply	3-phase, 380V 50Hz, 400V 50/60Hz, 415V 50Hz or 440V 60Hz		
Approx. weight	25kg		

Common specifications

Power supply method	Power is supplied via cable. (In the case where a contact type current collector such as a collector/bus duct is used, please make sure that a double-trolley system is used.)
Speed range	Other than TH-112: 0.0417-0.417m/s (2.5-25m/min.) TH-112: 0.05-0.5m/s (3.0-30m/min.) (The factory-set default values are the lowest and highest speeds.)
Repetition rating	25%ED duty factor with a starting frequency of 250 times per hour In the case of use at 200% of the rated speed: 25%ED duty factor with a starting frequency of 110 times per hour In the case of use at 150% of the rated speed: 25%ED duty factor with a starting frequency of 150 times per hour
Operation method	2-depressed-position pushbutton (whose first and second depressed positions correspond to the low and high speeds, respectively) designed to be operated by an operator standing on the floor can be used (No pushbutton is included).
Protection structure	JIS C0920, IP44 (* In the case of outdoor use, please install a roof etc. over the unit.)
Ambient temperature	-10-40°C (without freeze)
Humidity	90% or less (without condensation)
Paint color	Munsell 2.5B, 2.5/1
Others	Electromagnetic contactors for alarm and illumination can be attached. Operation status detection, abnormal condition detection and capacitor life prediction functions are built into the unit.
Installation method	Screw the inverter unit on the crane using the mounting holes (4-10).

*1: In the case where TL₅-10 or TH₅-10 is used and the capacity of the hoist is 2t, please use N-5C₃.

*2: In the case where the inverter unit is used on THM₅-45 or TLM₅-45, the repetition rating is 25%ED duty factor with a starting frequency of 150 times per hour

*3: In the case where a 1t hoist is used, please use N-1C₃.

*4: This should be used on a 5t or smaller hoist.

Network

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Information in this brochure is subject to change without notice.

Hitachi Industrial Equipment Systems Co., Ltd.

For further information, please contact your nearest sales representative.



Registration number: JACO-EC99J2009
Registration date: July 22, 1996

The Energy Saving Systems Division (Taga Division) of Hitachi Industrial Equipment Systems Co., Ltd. obtained ISO 14001 certification, an international standard for environmental management systems.

Registration number: JQA-QMA 12087
Registration date: April 1, 2005

The Energy Saving Systems Division (Taga Division) of Hitachi Industrial Equipment Systems Co., Ltd. obtained international standard ISO 9001 certification for the quality assurance of the hoist motor block contained in this brochure.