HITACHI
Inspire the Next

## Hitachi Hoists

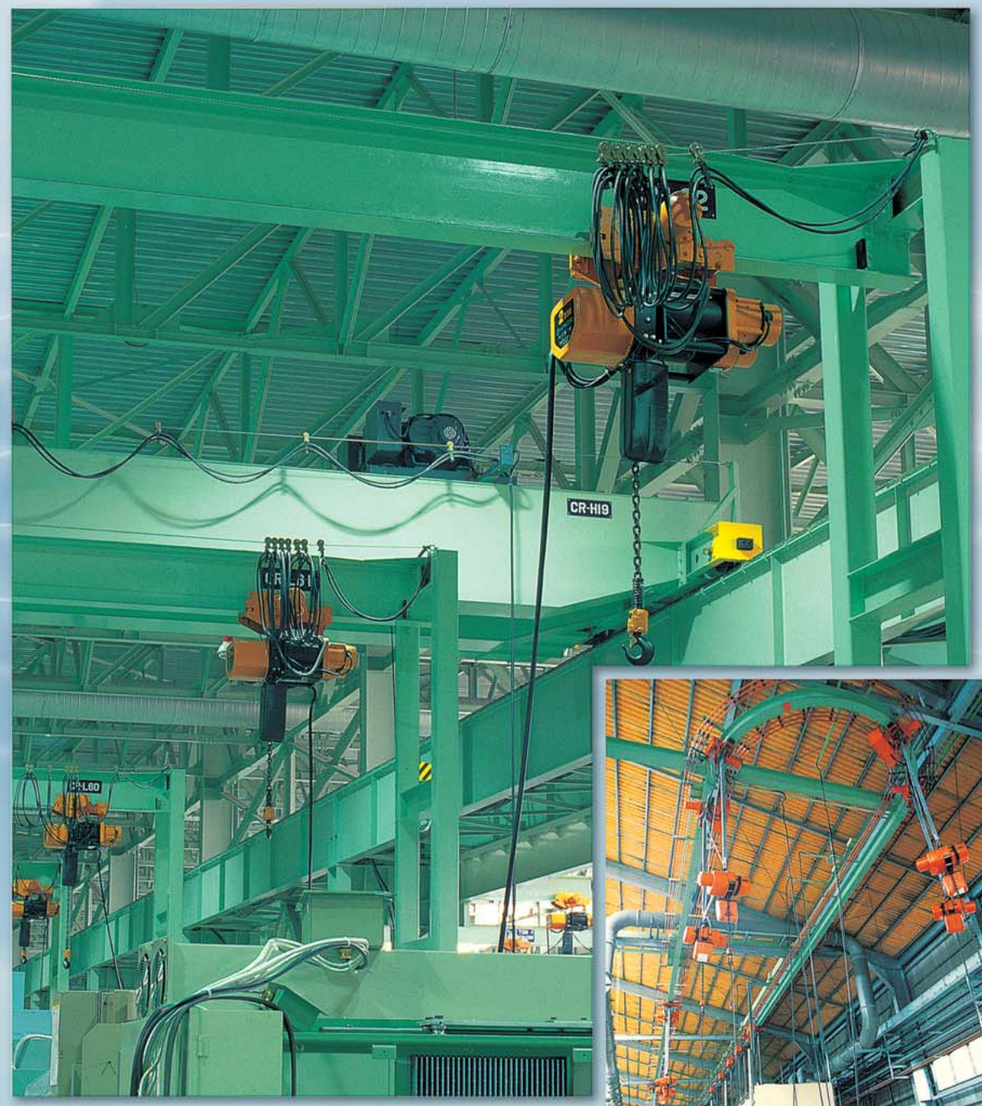
# Electric Chain Hoist

http://www.hitachi-ies.co.jp/english/products/hoist/

# HITACHI Electric Chain Hoist

## Widely used to make cargo handling more efficient.

**A wide range of applications are provided for not only general machinery, automobile, can manufacturing and other plants but also for applications from primary to tertiary industries including warehouses and retail stores.**



The electric chain hoist is only meant for transporting cargo.
It is not to be used for hoisting and transporting people.



## Contents


- Introduction — 1–2

**Outline**

- List of Model Series — 3
- Standard Specifications — 4
- Model Explanation — 4
- Series Selection — 4
- Operating Conditions and Model Selection Method — 5
- Standard Specifications Quick Reference — 6
- Features
  - Standard Model — 7–8
  - CE Marking Model — 9–10

**S series**

- Suspension type — 11–12
- With motorized trolley - ET — 13
- With motorized trolley - ST — 14
- With chain driven trolley - BC — 15
- With manual driven trolley - BP — 16

**F series**

- Suspension type — 17–18
- With motorized trolley - ET — 19
- With motorized trolley - ST — 20
- With chain driven trolley - BC — 21
- With manual driven trolley - BP — 22

**Others**

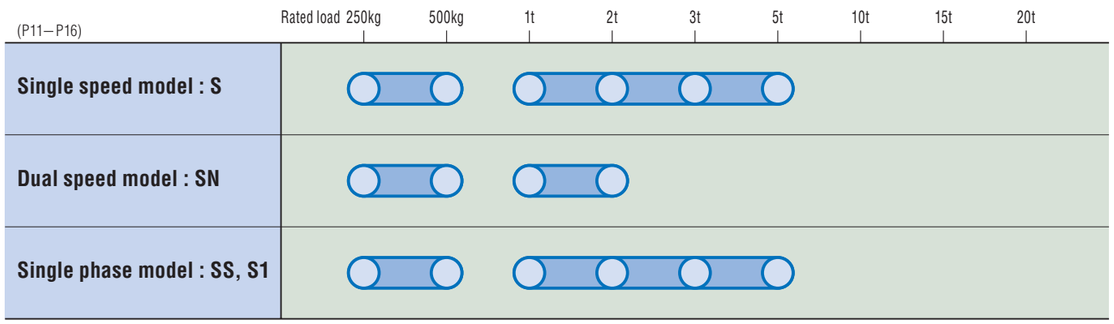
- Crane wiring unit — 23
- Dedicated electric chain hoist — 24–26
- Technical materials — 26

# You can make an exacting model selection based on such operating conditions as capacity and speed.



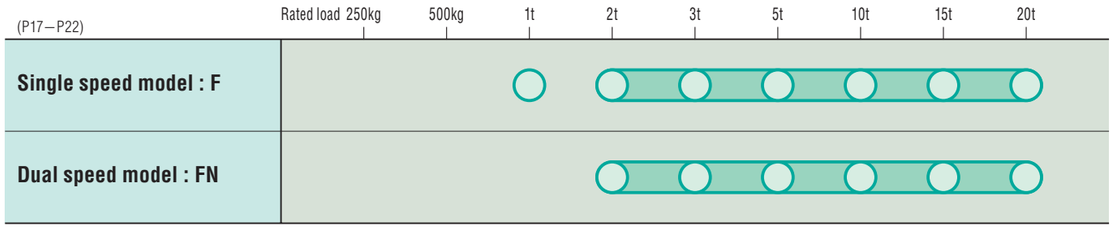
## S series — Suitable for general work. Economical standard speed model.

(P11—P16)

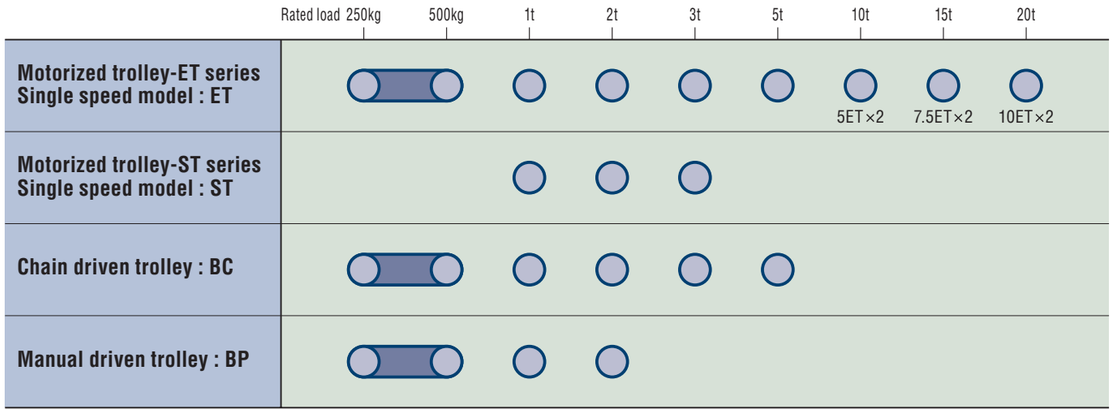



## F series — High-speed model that is sturdy and suitable for high-speed work.

(P17—P22)




## Trolley series




## Dedicated electric chain hoist contents


- Twin hook type electric chain hoist ——— 24
- Low head room type ——— 25
- Optional power source electric chain hoist and trolley — 25
- Optional control voltage model ——— 25
- Electric chain hoist with the Hi-plated chain — 25
- Electric chain hoist with overload prevention unit (with OL) — 25
- With geared limit switch (UDS) ——— 25
- Other products with changed specifications Lift change (extension), etc. ——— 25—26



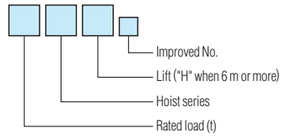

## Standard Specifications

| Specifications | | | Standard model | CE Making model |
|---|---|---|---|---|
| Power Source* | | 50Hz | 3 phase : 220/380-415V<br>3 phase : 346-380V<br>1 phase : 200-220V | 1 phase : 220-240V |
| | | 60Hz | 3 phase : 220V, 220-230/440-460V<br>1 phase : 110V, 220V | — |
| Operation Method | | | Operating pushbutton | |
| Control Voltage | | | 24V | |
| Power Method | | | Suspension type with manual driven trolley or chain driven trolley : with 5m cable<br>With motorized trolley : cable and catch are not included with standard shipment | |
| Pushbutton Switch | 2(3) | single speed | ↑ ↓ | STOP ↑ ↓ |
| | | dual speed | ↑↑ ↓↓ | STOP ↑↑ ↓↓ |
| | 4(5) | single speed | ↑ ↓ ← → | STOP ↑ ↓ ← → |
| | | dual speed | ↑↑ ↓↓ ← → | STOP ↑↑ ↓↓ ← → |
| | 6(7) | single speed | ↑ ↓ ← → ↖ ↘ | STOP ↑ ↓ ← → ↖ ↘ |
| | | dual speed | ↑↑ ↓↓ ← → ↖ ↘ | STOP ↑↑ ↓↓ ← → ↖ ↘ |
| Color(Munsell) | | | Orange(2.5YR 6/12) | |
| Electrical Protection | | | IP54(S-series(1t and above),Trolley : IP44) (Equivalent when stuffing drain hole) | |
| Insulation Class of Motor | | | E | |
| Rating** | | | 30%ED, 180starts/h(1 to 5S : 25%ED, 150starts/h) | |
| Classification | | | ISO M4, FEM 1Am | |
| Standards | | | — | Machinery : 2006/42/EC<br>EMC : 2004/108/EC |

* For power sources other than those listed, see the dedicated electric chain hoists (page25).
** This shows the value at a load of 63% of the rated load.
** Make sure the average value per hour is not exceeded even during concentrated use in a short time.
** Dual speed models have an added low speed to allow fine movement operation and improve workability by reducing inching. The rating shows the value when the high speed and the low speed, the operation time of which is 1/10 of the high speed, are combined.

## Model Explanation

● For suspension types

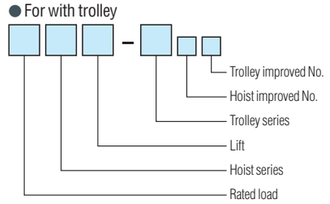



Ex. 2t, S series, Lift 6m

2 S H

No improved No.—Blank field

● For with trolley




Ex. 1t, SN series, Lift 3m, With motorized trolley-ET

1 SN – ET 02

"H" is not added when lift is under 6m —Blank field

* Separate product name plates are placed on the hoist unit and the trolley unit
Ex. 1SN-ET02 : Hoist unit name plate "1SN" / Trolley unit name plate "1ET"

## Series Selection

When selecting an electric chain hoist, the operating environment, operating time, and operating frequency must be taken into consideration.

### Operating time and load ratio

Use within the range of ▭ section.

| Load Condition | Load Ratio | Mean operating hour per day (h) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0.25 | 0.5 | 1 | 2 | 4 | 8 |
| Light | K≦0.5 | | | | | | |
| Medium | 0.5＜K≦0.63 | | | | | | |
| Heavy | 0.63＜K≦0.8 | | | | S, F series | | |
| Severe | 0.8＜K | | | | | | |

Load condition
Light : This is normally used at a load of 1/2 the rated load, and on rare occasions at the rated load.
Medium : This is normally used at a load of 1/2 to 2/3 the rated load, and occasionally at the rated load.
Heavy : This is normally used at loads above 2/3 the rated load, and often at the rated load.
Severe : This is mostly used at the rated load or close to this load.

* If use is expected to exceed the above range, then an electric chain hoist with a higher capacity must be selected, so please consult with HITACHI.

### Operating environment

● Use in locations with an ambient temperature of −10°C to 40°C (with no freezing) and humidity of 90% or less (no condensation).

In addition to the general specifications, (1) starting frequency, (2) duty factor, and (3) load ratio must be taken into consideration.

● Calculation method
(If the calculated value exceeds the standard specification, then it is a dedicated specification.)

**(1)** Max. starting frequency $\alpha$ (Starts/h)=2×n×N

● Example calculation
The starting frequency is the cumulative sum of the inching operation count, so this must be calculated by estimating the number of inchings per hoist round trip.

$$2\times3\times25=150\text{Starts/h}$$

Lifting+Lowering (Number of times) — No. of transfer per hour (times) — Inching count (times) per lifting or lowering operation.

**(2)** Duty factor $\beta(\%)=\dfrac{\text{The total motor ON time (minutes) per hour under the most frequent condition.}}{60\text{ min}}\times100$

$$=2\times\frac{\ell}{V}\times N\times\frac{1}{60\text{min}}\times100$$

● Example calculation

$$2\times\frac{3}{10}\times25\div60\times100=25\%$$

Lift(m) — No. of transfer per hour(Times) — Lifting+Lowering (Times) — 1 hour (60 min) — Hoisting speed (m/min)

**(3)** Load ratio $K=\sqrt[3]{P_1^3t_1+P_2^3t_2+P_3^3t_3+\cdots\cdots\cdots}$

● Example calculation
When a 0.4t load is suspended on a 1-ton rated load electric chain hoist for a one-way trip, with a no-load return trip. (The lifting sling is 0.3t).

$$K=\sqrt[3]{(0.3+0.4)^3\times0.5+0.3^3\times0.5}\fallingdotseq0.57$$

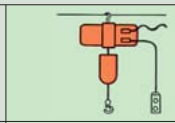
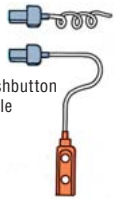
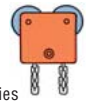
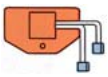
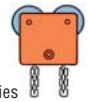
In this case, the load condition is comparable to "medium" and the average operating time per day is 2 hours or less. If used for a longer time than this, an electric chain hoist with a higher capacity must be selected.

n : Inching count (times) per lifting or lowering operation.
N : Transport count (times) within 1 hour
$\ell$ : Lift(m)
V : Hoisting speed(m/min)

$t_1, t_2, t_3 \cdots\cdots$ : Ratio of the operating time of each load to the total operating time
$P_1, P_2, P_3 \cdots\cdots$ : Each load ratio (ratio of the load to each rated load)

## Operating Conditions and Model Selection Method

Select a model from the following that is suitable for the operating conditions.

| Operating Conditions | | Main Unit | Trolley | Pushbutton Cable | Crane Saddle | Option |
|---|---|---|---|---|---|---|
| Suspension Type |  | S series<br>F series<br> <br>P11<br>P17 | — | Power cable<br>  <br>Pushbutton cable<br>2PB(H) For single speed<br>2PBN(H) For double speed | | |
| Manual Driven Trolley Type | | | <br>BP series P16 P22 | | | |
| Chain Driven Trolley Type | | |  <br>BC series P15 P21 | | | |
| Motorized Trolley Type | | | ST series<br>  <br>P13 P20 | <br>4PB(H)<br>4PBN(H) | | |
| Motorized Trolley Motorized Travel Type | | | ET series<br> <br>P13 P20<br>*Cables between Main unit and Trolley are not attached | <br>6PB(H)<br>6PBN(H) | | |
| Manual Driven Trolley Motorized Travel Type | | | <br>BP series P16 P22 | <br>Wiring unit<br>4PB(H)-C<br>4PBN(H)-C | <br>Crane saddle<br>TL series<br>TLM series<br>TH series<br>THM series<br>SL series<br>SLM series | <br>Crane girder switch unit (24V operation)<br>GMB-10 |
| Chain Driven Trolley Motorized Travel Type | | |  <br>BC series P15 P21 | | | |

### Pushbutton cable

* The operation method is a pushbutton operation. Indirect 24V control voltage.
* A power cable is not included with the trolley. Refer to the Power cable in the list below and prepare a suitable one.

Standard Model

| | Type | Lift (m) | Number of Pushbutton Switch | Material of Cable | | Pushbutton Switch | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | For Pushbutton Cable | For Power Cable | | | | |
| For Single Speed Type | 2PB | 3 | 2 | T-VCT 3CX0.75mm² | VCT 4CX2mm² | Character | ↑ ↓ | | |
| | 2PBH | 6 | | | | Contact | 2a | | |
| | 4PB | 3 | 4 | T-VCT 5CX0.75mm² | — | Character | ↑ ↓ | ← → | |
| | 4PBH | 6 | | | | Contact | 2a | 2a | |
| | 6PB | 3 | 6 | T-VCT 8CX0.75mm² | — | Character | ↑ ↓ | ← → | ↖ ↘ |
| | 6PBH | 6 | | | | Contact | 2a | 2a | 2a |
| For Dual Speed Type | 2PBN | 3 | 2 | T-VCT 5CX0.75mm² | VCT 4CX2mm² | Character | ↑↑ ↓↓ | | |
| | 2PBNH | 6 | | | | Contact | 4a+2b | | |
| | 4PBN | 3 | 4 | T-VCT 6CX0.75mm² | — | Character | ↑↑ ↓↓ | ← → | |
| | 4PBNH | 6 | | | | Contact | 4a+2b | 2a | |
| | 6PBN | 3 | 6 | T-VCT 8CX0.75mm² | — | Character | ↑↑ ↓↓ | ← → | ↖ ↘ |
| | 6PBNH | 6 | | | | Contact | 4a+2b | 2a | 2a |

CE Version

| | Type | Lift (m) | Number of Pushbutton Switch | Material of Cable | | Pushbutton Switch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | For Pushbutton Cable | For Power Cable | | | | | |
| For Single Speed Type | 3PBE | 3 | 3 | T-VCT 4CX0.75mm² | VCT 4CX2mm² | Character | STOP | ↑ ↓ | | |
| | 3PBEH | 6 | | | | Contact | 1b | 2a | | |
| | 5PBE | 3 | 5 | T-VCT 7CX0.75mm² | — | Character | STOP | ↑ ↓ | ← → | |
| | 5PBEH | 6 | | | | Contact | 1b | 2a | 2a | |
| | 7PBE | 3 | 7 | T-VCT 8CX0.75mm² | — | Character | STOP | ↑ ↓ | ← → | ↖ ↘ |
| | 7PBEH | 6 | | | | Contact | 1b | 2a | 2a | 2a |
| For Dual Speed Type | 3PBNE | 3 | 3 | T-VCT 5CX0.75mm² | VCT 4CX2mm² | Character | STOP | ↑↑ ↓↓ | | |
| | 3PBNEH | 6 | | | | Contact | 1b | 4a+2b | | |
| | 5PBNE | 3 | 5 | T-VCT 7CX0.75mm² | — | Character | STOP | ↑↑ ↓↓ | ← → | |
| | 5PBNEH | 6 | | | | Contact | 1b | 4a+2b | 2a | |
| | 7PBNE | 3 | 7 | T-VCT 9CX0.75mm² | — | Character | STOP | ↑↑ ↓↓ | ← → | ↖ ↘ |
| | 7PBNEH | 6 | | | | Contact | 1b | 4a+2b | 2a | 2a |

# Standard Specifications Quick Reference

## Hoist main unit

| Capacity (kg) | Hoisting Speed (m/min)(50/60Hz) | | | Motor (kW)(50/60Hz) | | Power Source (phase) | Chain | | Lift (m) | Type | See page | Function | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Main | Creep | Main | Creep | | Dia. (mm) | No. of falls | | | | Automatic Adjusting Brake | Reverse Phase Inspecting Relay | Auxiliary Brake System |
| 250 | Single | 10/12 | — | 0.45/0.55 | — | 3 | 6.3 | 1 | 3 | $1/4S_2$ | 11,12 | — | — | — |
| 250 | Single | 10/12 | — | 0.45/0.55 | — | 3 | 6.3 | 1 | 6 | $1/4SH_2$ | 11,12 | — | — | — |
| 250 | Dual | 7.2/8.5 | 1.8/2.1 | 0.32/0.38 | 0.08/0.1 | 3 | 6.3 | 1 | 3 | $1/4SN_2$ | 11,12 | — | — | — |
| 250 | Dual | 7.2/8.5 | 1.8/2.1 | 0.32/0.38 | 0.08/0.1 | 3 | 6.3 | 1 | 6 | $1/4SNH_2$ | 11,12 | — | — | — |
| 250 | Single | 5/6 | — | 0.25/0.3 | — | 1 | 6.3 | 1 | 3 | $1/4SS_2$ | 11,12 | — | — | — |
| 250 | Single | 5/6 | — | 0.25/0.3 | — | 1 | 6.3 | 1 | 6 | $1/4SSH_2$ | 11,12 | — | — | — |
| 500 | Single | 7.2/8.5 | — | 0.63/0.75 | — | 3 | 6.3 | 1 | 3 | $1/2S_2$ | 11,12 | — | — | — |
| 500 | Single | 7.2/8.5 | — | 0.63/0.75 | — | 3 | 6.3 | 1 | 6 | $1/2SH_2$ | 11,12 | — | — | — |
| 500 | Dual | 7.2/8.5 | 1.8/2.1 | 0.63/0.75 | 0.16/0.19 | 3 | 6.3 | 1 | 3 | $1/2SN_2$ | 11,12 | — | — | — |
| 500 | Dual | 7.2/8.5 | 1.8/2.1 | 0.63/0.75 | 0.16/0.19 | 3 | 6.3 | 1 | 6 | $1/2SNH_2$ | 11,12 | — | — | — |
| 500 | Single | 3.6/4.3 | — | 0.32/0.37 | — | 1 | 6.3 | 1 | 3 | $1/2SS_2$ | 11,12 | — | — | — |
| 500 | Single | 3.6/4.3 | — | 0.32/0.37 | — | 1 | 6.3 | 1 | 6 | $1/2SSH_2$ | 11,12 | — | — | — |
| 1,000 | Single | 4.6/5.5 | — | 0.8/1.0 | — | 3 | 7.1 | 1 | 3 | 1S | 11,12 | — | ○ | — |
| 1,000 | Single | 4.6/5.5 | — | 0.8/1.0 | — | 3 | 7.1 | 1 | 6 | 1SH | 11,12 | — | ○ | — |
| 1,000 | Single | 7.1/8.5 | — | 1.3/1.6 | — | 3 | 7.1 | 1 | 3 | 1F | 17,18 | ○ | ○ | ○ |
| 1,000 | Single | 7.1/8.5 | — | 1.3/1.6 | — | 3 | 7.1 | 1 | 6 | 1FH | 17,18 | ○ | ○ | ○ |
| 1,000 | Dual | 4.6/5.5 | 1.2/1.4 | 0.8/1.0 | 0.2/0.25 | 3 | 7.1 | 1 | 3 | 1SN | 11,12 | — | ○ | — |
| 1,000 | Dual | 4.6/5.5 | 1.2/1.4 | 0.8/1.0 | 0.2/0.25 | 3 | 7.1 | 1 | 6 | 1SNH | 11,12 | — | ○ | — |
| 1,000 | Single | 2.3/2.8 | — | 0.4/0.5 | — | 1 | 7.1 | 1 | 3 | 1S1 | 11,12 | — | — | — |
| 1,000 | Single | 2.3/2.8 | — | 0.4/0.5 | — | 1 | 7.1 | 1 | 6 | 1SH1 | 11,12 | — | — | — |
| 2,000 | Single | 2.3/2.8 | — | 0.8/1.0 | — | 3 | 7.1 | 2 | 3 | 2S | 11,12 | — | ○ | — |
| 2,000 | Single | 2.3/2.8 | — | 0.8/1.0 | — | 3 | 7.1 | 2 | 6 | 2SH | 11,12 | — | ○ | — |
| 2,000 | Single | 6.8/8.2 | — | 2.4/2.9 | — | 3 | 10 | 1 | 3 | 2F | 17,18 | ○ | ○ | ○ |
| 2,000 | Single | 6.8/8.2 | — | 2.4/2.9 | — | 3 | 10 | 1 | 6 | 2FH | 17,18 | ○ | ○ | ○ |
| 2,000 | Dual | 2.3/2.8 | 0.6/0.7 | 0.8/1.0 | 0.2/0.25 | 3 | 7.1 | 2 | 3 | 2SN | 11,12 | — | ○ | — |
| 2,000 | Dual | 2.3/2.8 | 0.6/0.7 | 0.8/1.0 | 0.2/0.25 | 3 | 7.1 | 2 | 6 | 2SNH | 11,12 | — | ○ | — |
| 2,000 | Dual | 6.8/8.2 | 1.7/2.1 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 1 | 3 | 2FN | 17,18 | ○ | ○ | ○ |
| 2,000 | Dual | 6.8/8.2 | 1.7/2.1 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 1 | 6 | 2FNH | 17,18 | ○ | ○ | ○ |
| 2,000 | Single | 1.1/1.4 | — | 0.4/0.5 | — | 1 | 7.1 | 2 | 3 | 2S1 | 11,12 | — | — | — |
| 2,000 | Single | 1.1/1.4 | — | 0.4/0.5 | — | 1 | 7.1 | 2 | 6 | 2SH1 | 11,12 | — | — | — |
| 3,000 | Single | 1.5/1.8 | — | 0.8/1.0 | — | 3 | 7.1 | 3 | 3 | 3S | 11,12 | — | ○ | — |
| 3,000 | Single | 1.5/1.8 | — | 0.8/1.0 | — | 3 | 7.1 | 3 | 6 | 3SH | 11,12 | — | ○ | — |
| 3,000 | Single | 4.1/4.9 | — | 2.4/2.9 | — | 3 | 10 | 2 | 3 | 3F | 17,18 | ○ | ○ | ○ |
| 3,000 | Single | 4.1/4.9 | — | 2.4/2.9 | — | 3 | 10 | 2 | 6 | 3FH | 17,18 | ○ | ○ | ○ |
| 3,000 | Dual | 4.0/4.8 | 1.0/1.2 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 2 | 3 | 3FN | 17,18 | ○ | ○ | ○ |
| 3,000 | Dual | 4.0/4.8 | 1.0/1.2 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 2 | 6 | 3FNH | 17,18 | ○ | ○ | ○ |
| 3,000 | Single | 0.8/0.9 | — | 0.4/0.5 | — | 1 | 7.1 | 3 | 3 | 3S1 | 11,12 | — | — | — |
| 3,000 | Single | 0.8/0.9 | — | 0.4/0.5 | — | 1 | 7.1 | 3 | 6 | 3SH1 | 11,12 | — | — | — |
| 5,000 | Single | 0.9/1.1 | — | 0.8/1.0 | — | 3 | 7.1 | 5 | 3 | 5S | 11,12 | — | ○ | — |
| 5,000 | Single | 0.9/1.1 | — | 0.8/1.0 | — | 3 | 7.1 | 5 | 6 | 5SH | 11,12 | — | ○ | — |
| 5,000 | Single | 2.8/3.3 | — | 2.4/2.9 | — | 3 | 10 | 3 | 3 | 5F | 17,18 | ○ | ○ | ○ |
| 5,000 | Single | 2.8/3.3 | — | 2.4/2.9 | — | 3 | 10 | 3 | 6 | 5FH | 17,18 | ○ | ○ | ○ |
| 5,000 | Dual | 2.8/3.3 | 0.7/0.8 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 3 | 3 | 5FN | 17,18 | ○ | ○ | ○ |
| 5,000 | Dual | 2.8/3.3 | 0.7/0.8 | 2.4/2.9 | 0.6/0.7 | 3 | 10 | 3 | 6 | 5FNH | 17,18 | ○ | ○ | ○ |
| 5,000 | Single | 0.45/0.55 | — | 0.4/0.5 | — | 1 | 7.1 | 5 | 3 | 5S1 | 11,12 | — | — | — |
| 5,000 | Single | 0.45/0.55 | — | 0.4/0.5 | — | 1 | 7.1 | 5 | 6 | 5SH1 | 11,12 | — | — | — |
| 10,000 | Single | 2.8/3.3 | — | 2.4/2.9×2 | — | 3 | 10 | 4 | 6 | 10FH | 17,18 | ○ | ○ | ○ |
| 10,000 | Dual | 2.8/3.3 | 0.7/0.8 | 2.4/2.9×2 | 0.6/0.7×2 | 3 | 10 | 4 | 6 | 10FNH | 17,18 | ○ | ○ | ○ |
| 15,000 | Single | 1.8/2.2 | — | 2.4/2.9×2 | — | 3 | 10 | 6 | 6 | 15FH | 17,18 | ○ | ○ | ○ |
| 15,000 | Dual | 1.8/2.2 | 0.45/0.55 | 2.4/2.9×2 | 0.6/0.7×2 | 3 | 10 | 6 | 6 | 15FNH | 17,18 | ○ | ○ | ○ |
| 20,000 | Single | 1.4/1.6 | — | 2.4/2.9×2 | — | 3 | 10 | 8 | 6 | 20FH | 17,18 | ○ | ○ | ○ |

## Motorized trolley

| Rated Load | Model Name | Traveling Speed(m/min) 50Hz | Traveling Speed(m/min) 60Hz | Applicable Beam Width (mm) | Min. Curve Radius (m) | Page |
|---|---|---|---|---|---|---|
| 250kg–1t | 1ET | 21・10.5 | 25・12.5 | 75–125 | 1.5 | 13, 14 19, 20 |
| | 1ST | | | | 1.8 | |
| 2t | 2ET | | | 100–150 | 1.8 | |
| | 2ST | | | | 2.5 | |
| 3t | 3ET | | | | 2.0 | |
| | 3ST | | | | 3.0 | |
| 5t | 5ET | | | 125–175 | 3.0 | |
| 10t | 5ET×2 | 10.5 | 12.5 | 150, 175 | 5.0 | |
| 15t | 7.5ET×2 | | | | 5.0 | |
| 20t | 10ET×2 | 14 | 17 | 175, 190 | Straight | |

## Crane saddle

| Model Configuration | Max. Wheel Load (t) | Max. Span (m) | Traveling Speed (m/min) | Model Name | Main Unit Frame Structure |
|---|---|---|---|---|---|
| Toprun Type Crane Saddle | 1 | 10 | 21/25 | $TL_5$-10 | Inverted hat cross-section structure |
| | 2.8 | 12 | | $TL_5$-28 | |
| | 1 | 10 | | $TH_5$-10 | Double channel structure ($TH_5$-10, $TH_5$-28 Use uniform thickness channel steel) |
| | 2.8 | 12 | | $TH_5$-28 | |
| | 3 | 16 | | $TH_5$-30 | |
| | 5.6 | 18 | | $TH_5$-56 | |
| | 11.2 | 20 | 25/30 | TH-112 | |
| Suspension Crane Saddle | 0.6 | 10 | 21/25 | SL-6 | L-shaped frame structure |
| | 1 | 10 | | $SL_5$-10 | Double channel structure ($SL_5$-10, $SL_5$-28 Use uniform thickness channel steel) |
| | 2.8 | 12 | | $SL_5$-28 | |

## Chain driven trolley

| Rated Load | Model Name | Applicable Beam Width (mm) | Min. Curve Radius (m) |
|---|---|---|---|
| 250–500kg | 1/2BC(H) | 75–125 | 1.0 |
| 1t | 1BC(H) | | 1.2 |
| 2t | 2BC(H) | 100–150 | 1.5 |
| 3t | 3BCH | | 1.5 |
| 5t | 5BCH | 125–175 | 2.4 |

## Manual driven trolley

| Rated Load | Model Name | Applicable Beam Width (mm) | Min. Curve Radius (m) |
|---|---|---|---|
| 250–500kg | 1/2BP | 75–125 | 1.0 |
| 1t | 1BP | | 1.2 |
| 2t | 2BP | 100–150 | 1.5 |

# Hitachi Electric Chain Hoists are Packed with Advanced Features

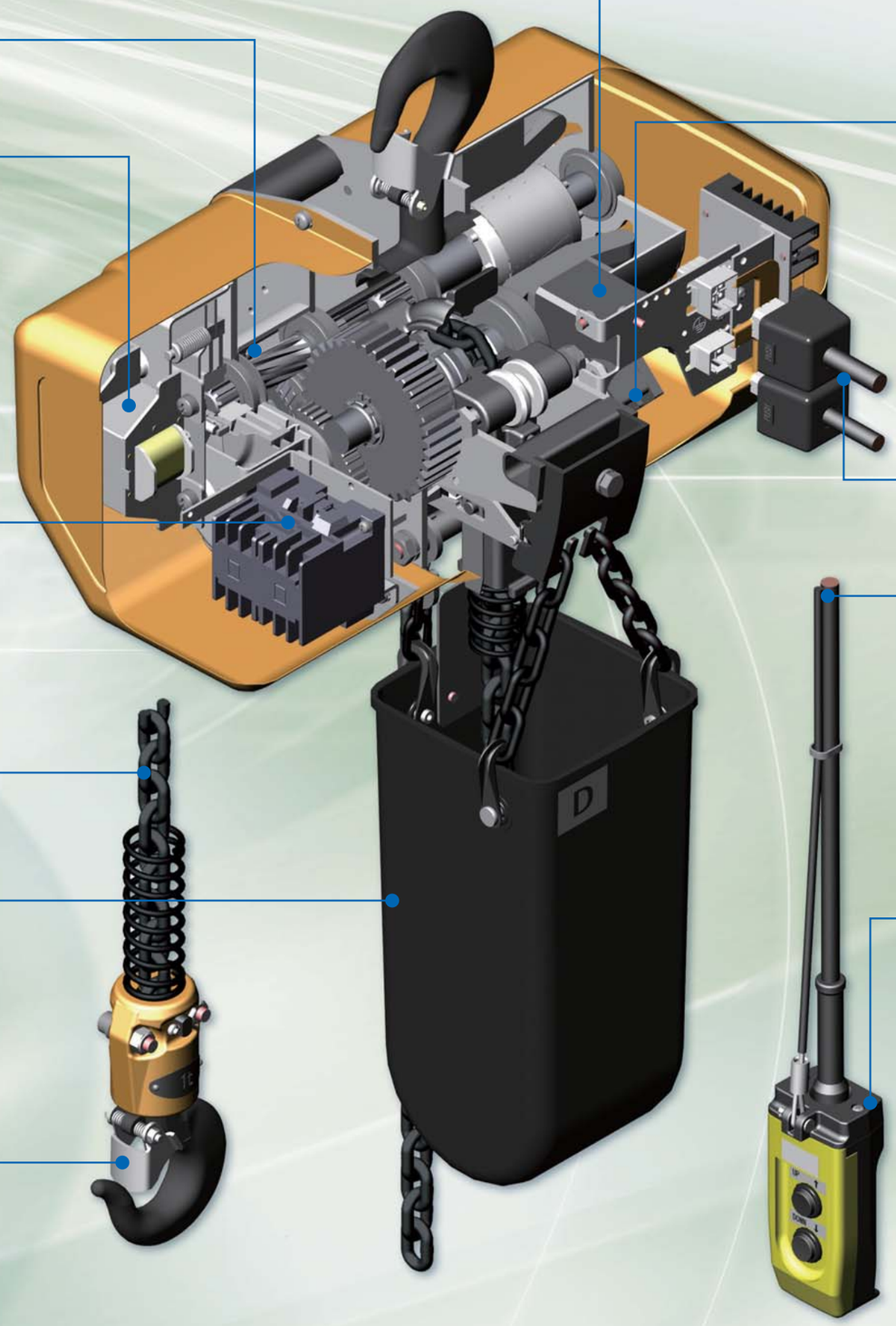
## STANDARD MODEL S series S / F series F

### HELICAL GEARING S F
used where practical to provide quiet operation.

### LONG LIFE BRAKE UNIT S F
Disk type Electro-Magnetic brake system for steady operation and long life.

### AUTOMATIC ADJUSTING BRAKE F
are equipped with patented Automatic Adjusting Brake for easier maintenance and added safety.
U.S. PAT. 3908802
Germany
PAT. 2354044

### ELECTRO-MAGNETIC CONTACTOR S F
with mechanical-interlocking against line short by mechanical shock.



### POWER CHAIN S F
special (patented) alloy steel chain surface hardened for optimum strength and wear resistance.
(U.S. PAT. 3830054)

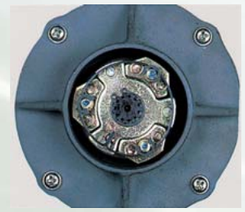
### CHAIN CONTAINER S F
as standard part for safer operation.

### LOWER HOOK S F
is heat-treated and equipped with safety latch and 360° swivelling.

### REVERSE PHASE INSPECTION RELAY S F
cut control circuit when reverse phasing.
Except the 3 phase models of 250 kg and 500 kg, and single phase models.

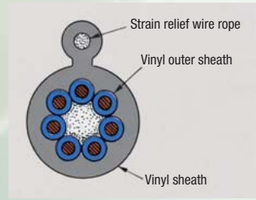
### LIMIT SWITCH (Upper and Lower) S F
interrupt motor power to prevent hook overtravel and hazardous condition such as chain kink.

### AUXILIARY BRAKE SYSTEM F
F series hoists equipped with auxiliary brake.



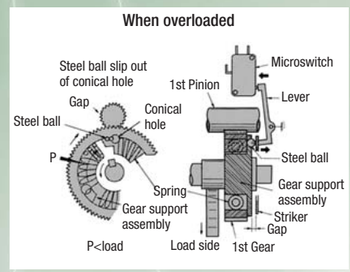
### PLUG-IN CABLES S F
reduce maintenance time and installation.

### PUSHBUTTON CABLE S F
is molded with strain relief wire rope into one body.
This assures easier and safer operation.




### PUSHBUTTON SWITCH S F
is rain-proof plastic for severe impact and corrosive atmosphere resistance and mechanically interlocked.
The 24 volt control circuit reduce shock hazard to the operation.

### HITACHI OVERLOAD LIMITER S option F option
Unique, patented over load protection device is available on all models upon request.
U.S. PAT. 4103873
CANADA PAT. 1062232
Others



# Conform with Essential Requirements Set Out in European Directives CE



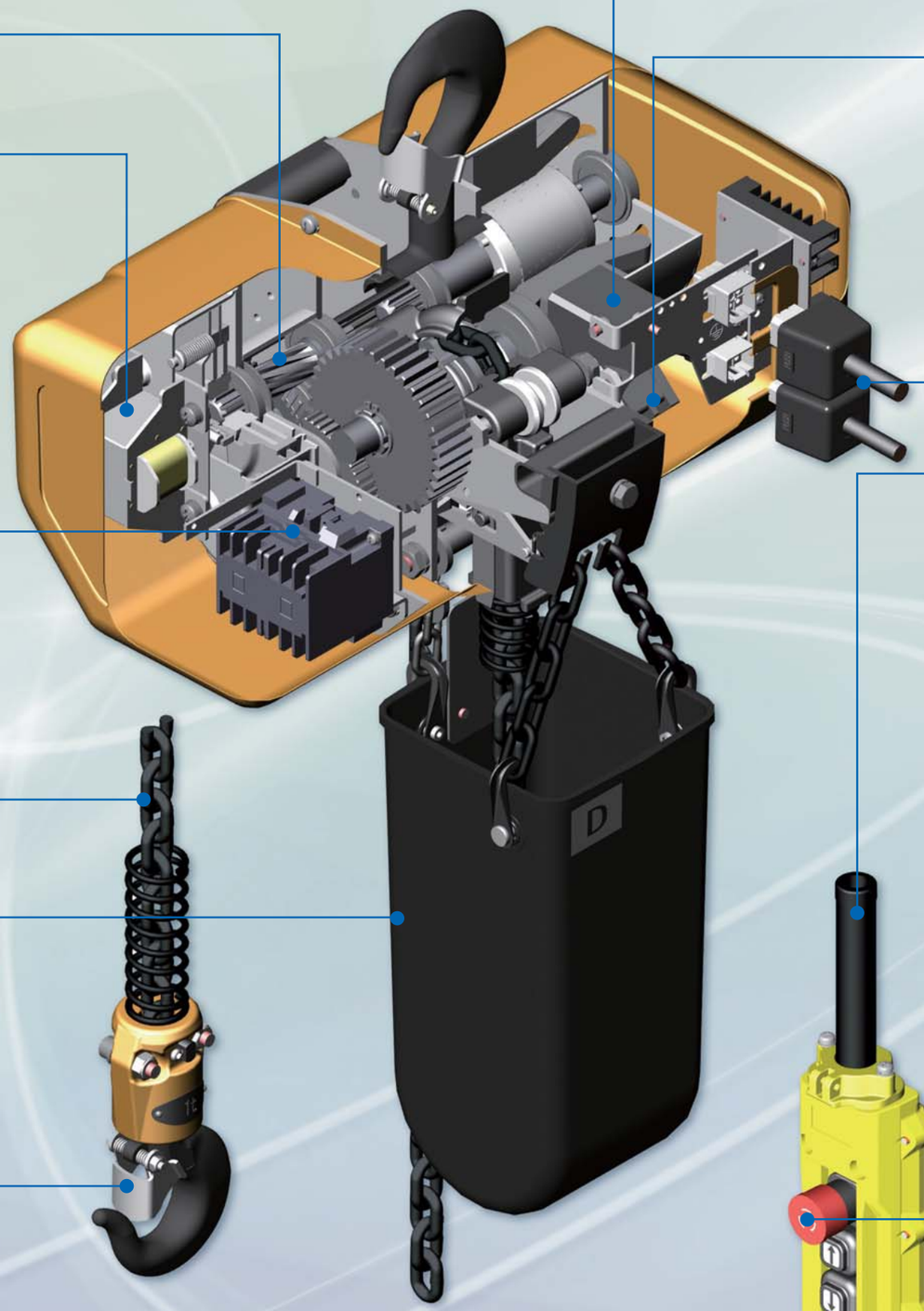
## CE MARKING MODEL S series S / F series F

### HELICAL GEARING S F
used where practical to provide quiet operation.

### LONG LIFE BRAKE UNIT S F
Disk type Electro-Magnetic brake system for steady operation and long life.

### AUTOMATIC ADJUSTING BRAKE F
are equipped with patented Automatic Adjusting Brake for easier maintenance and added safety.
U.S. PAT. 3908802
Germany
PAT. 2354044

### ELECTRO-MAGNETIC CONTACTOR S F
with mechanical-interlocking against line short by mechanical shock.

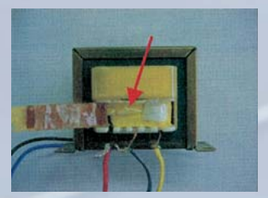


### POWER CHAIN S F
special (patented) alloy steel chain surface hardened for optimum strength and wear resistance.
(DIN-5684-8)

### CHAIN CONTAINER S F
as standard part for safer operation.

### LOWER HOOK S F
is heat-treated and equipped with safety latch and 360° swivelling.

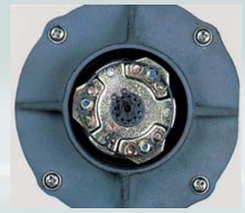
### TRANSFORMER
Fuse is built in a primary side to prevent overheat.



### REVERSE PHASE INSPECTING RELAY S F
cut control circuit when reverse phasing.
Except the 3 phase models of 250 kg and 500 kg, and single phase models.

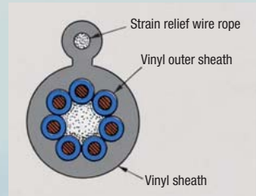
### LIMIT SWITCH (Upper and Lower) S F
interrupt motor power to prevent hook overtravel and hazardous condition such as chain kink.

### AUXILIARY BRAKE SYSTEM F
F series hoists equipped with auxiliary brake.



### PLUG-IN CABLES S F
reduce maintenance time and installation.

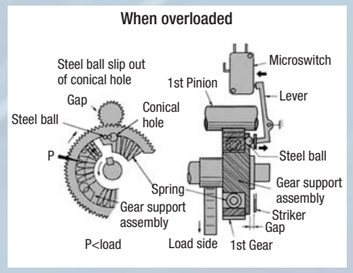
### PUSHBUTTON CABLE S F
is molded with strain relief wire rope into one body.
This assures easier and safer operation.




### PUSHBUTTON SWITCH S F
is rain-proof plastic for severe impact and corrosive atmosphere resistance and mechanically interlocked.
The 24 volt control circuit reduce shock hazard to the operation.

● EMERGENCY STOP BUTTON
The chain hoist can be stopped in emergency cases that are caused by overdrive or erroneous operation.

### HITACHI OVERLOAD LIMITER S F
Unique, patented over load protection device is available on all models upon request.
U.S. PAT. 4103873
CANADA PAT. 1062232
Others



# F series

## Electric chain hoist

# Suspension type

**Single speed model**

**Dual speed model**

## Specifications table

### SINGLE SPEED (3 PHASE)

F(H)

| Rated Load (kg) | | 1,000 | 2,000 | 3,000 | 5,000 | 10,000 | 15,000 | 20,000 |
|---|---|---|---|---|---|---|---|---|
| Model Name | | 1F(H) | 2F(H) | 3F(H) | 5F(H) | 10FH | 15FH | 20FH |
| Standard Lift (m) | | 3(6) | | | | 6 | | |
| Hoisting Speed (m/min) | 50Hz | 7.1 | 6.8 | 4.1 | 2.8 | 2.8 | 1.8 | 1.4 |
| | 60Hz | 8.5 | 8.2 | 4.9 | 3.3 | 3.3 | 2.2 | 1.6 |
| Motor Output (kW) | 50Hz | 1.3 | 2.4 | | | 2.4×2 | | |
| | 60Hz | 1.6 | 2.9 | | | 2.9×2 | | |
| Link Chain | Dia. (mm) | ϕ7.1 | ϕ10 | | | | | |
| | No. of Falls | 1 | 1 | 2 | 3 | 4 | 6 | 8 |
| Rating | | 30% ED | | | | | | |
| Power Cord Length | | 5m | | | | | | |

### DUAL SPEED (3 PHASE)

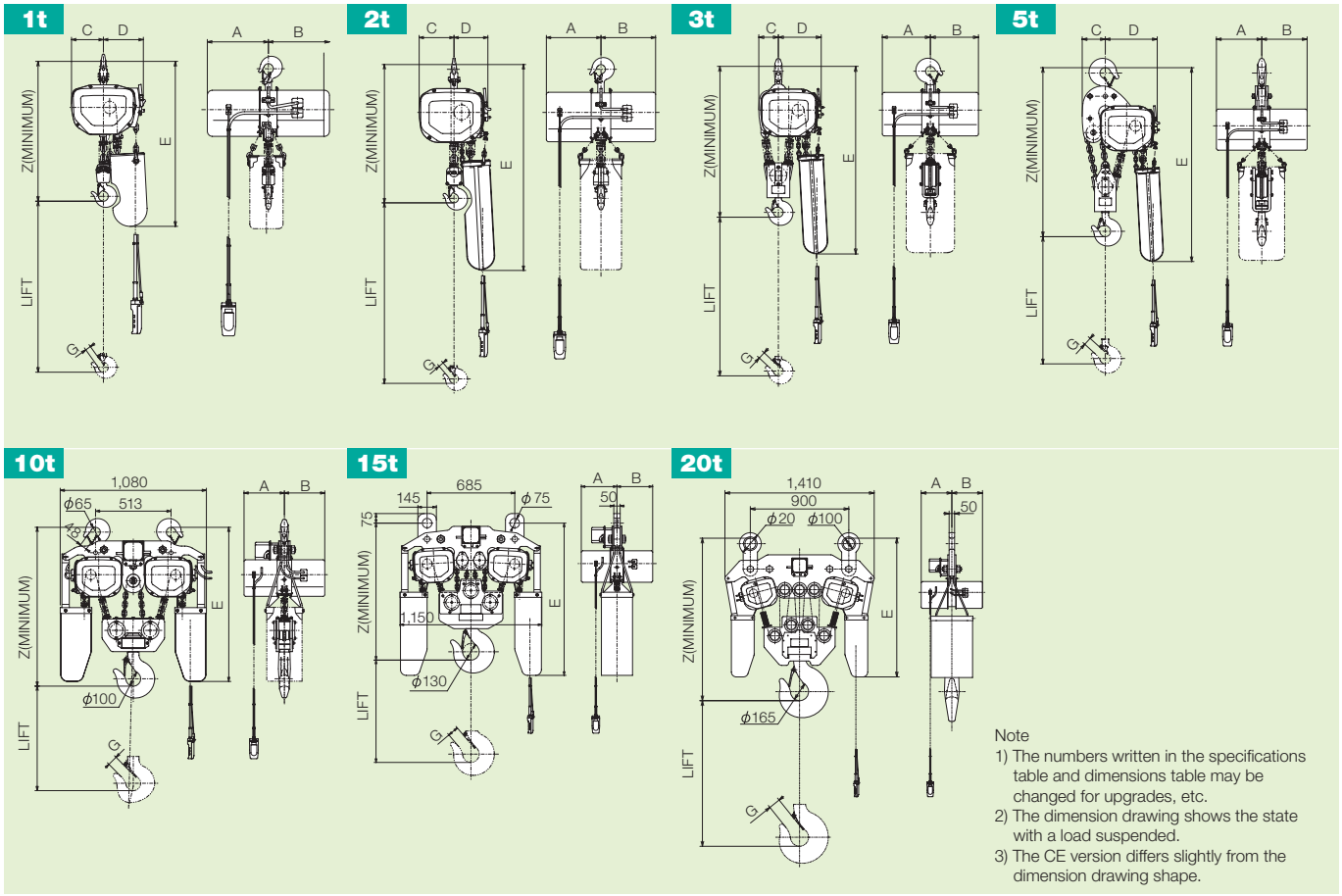
FN(H)

| Rated Load (kg) | | 2,000 | 3,000 | 5,000 | 10,000 | 15,000 |
|---|---|---|---|---|---|---|
| Model Name | | 2FN(H) | 3FN(H) | 5FN(H) | 10FNH | 15FNH |
| Standard Lift (m) | | 3(6) | | | 6 | 6 |
| Hoisting Speed (m/min) | 50Hz | 6.8/1.7 | 4.0/1.0 | 2.8/0.7 | 2.8/0.7 | 1.8/0.45 |
| | 60Hz | 8.2/2.1 | 4.8/1.2 | 3.3/0.8 | 3.3/0.8 | 2.2/0.55 |
| Motor Output (kW) | 50Hz | 2.4/0.6 | | | 2.4/0.6×2 | |
| | 60Hz | 2.9/0.7 | | | 2.9/0.7×2 | |
| Link Chain | Dia. (mm) | ϕ10 | | | | |
| | No. of Falls | 1 | 2 | 3 | 4 | 6 |
| Rating | | 20% ED | | | | |
| Power Cord Length | | 5m | | | | |

All dimensions and specifications are subject to change without notice.

# Suspension type

## Dimensions




Note
1) The numbers written in the specifications table and dimensions table may be changed for upgrades, etc.
2) The dimension drawing shows the state with a load suspended.
3) The CE version differs slightly from the dimension drawing shape.

## Specifications table

### SINGLE SPEED (3 PHASE)

| Model Name | | 1F | 1FH | 2F | 2FH | 3F | 3FH | 5F | 5FH | 10FH | 15FH | 20FH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated Load | (kg) | 1,000 | | 2,000 | | 3,000 | | 5,000 | | 10,000 | 15,000 | 20,000 |
| Dimensions | Z | 535 | | 660 | | 820 | | 1,020 | | 1,060 | 1,235 | 1,440 |
| | A | 250 | | 280 | | 280 | | 280 | | 280 | 280 | 280 |
| | B | 250 | | 280 | | 280 | | 280 | | 280 | 280 | 280 |
| (mm) | C | 135 | | 175 | | 120 | | 145 | | — | — | — |
| | D | 170 | | 170 | | 245 | | 330 | | — | — | — |
| | E | 680 | | 845 | 1,060 | 1,090 | 1,100 | 1,295 | 1,305 | 1,040 | 1,280 | 1,400 |
| | G | 23 | | 26 | | 42 | | 48 | | 68 | 86 | 108 |
| Approx. Weight | (kg) | 42 | 47 | 80 | 87 | 99 | 113 | 121 | 142 | 330 | 490 | 690 |

All dimensions and specifications are subject to change without notice.

### DUAL SPEED (3 PHASE)

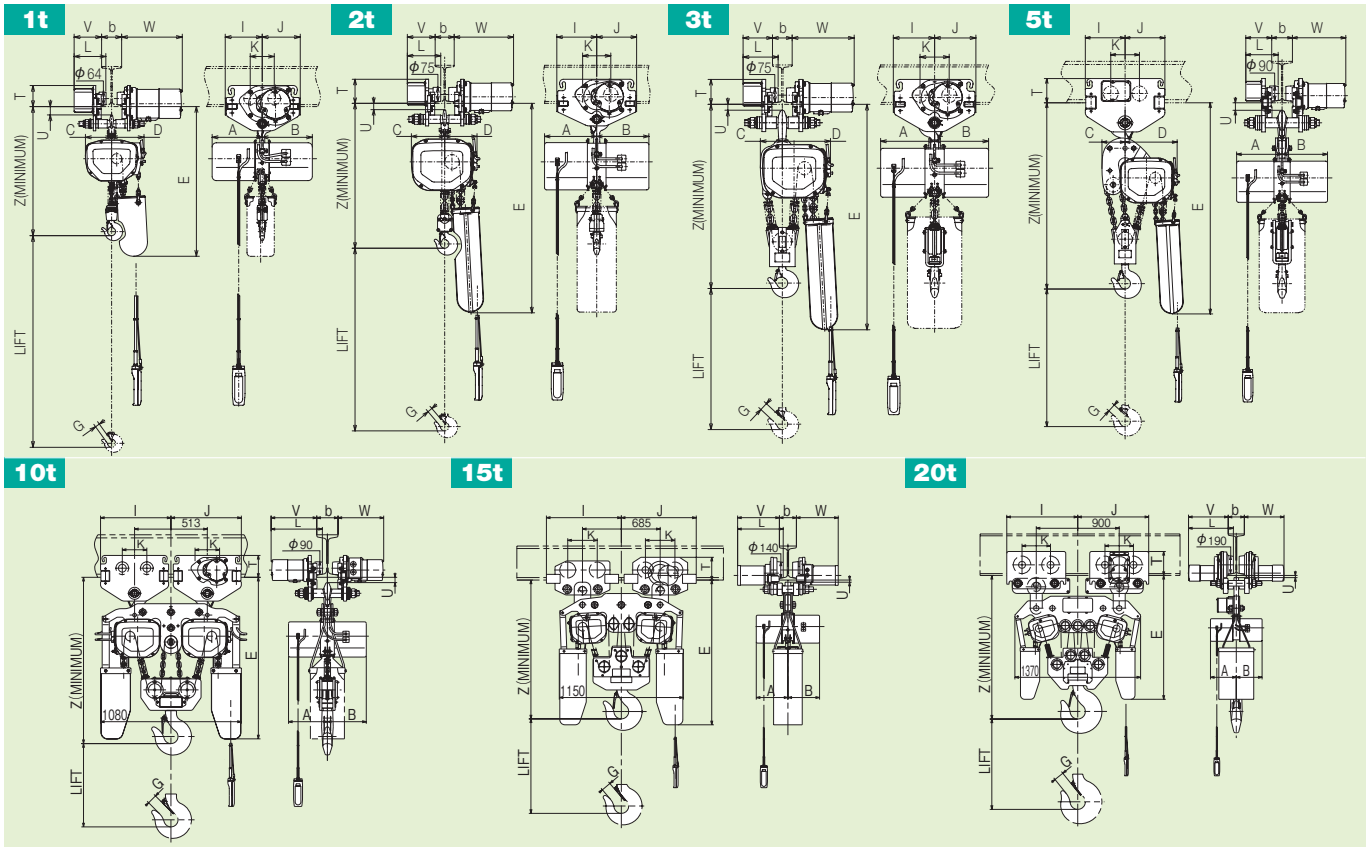
| Model Name | | 2FN | 2FNH | 3FN | 3FNH | 5FN | 5FNH | 10FNH | 15FNH |
|---|---|---|---|---|---|---|---|---|---|
| Rated Load | (kg) | 2,000 | | 3,000 | | 5,000 | | 10,000 | 15,000 |
| Dimensions | Z | 660 | | 820 | | 1,020 | | 1,060 | 1,235 |
| | A | 280 | | 280 | | 280 | | 280 | 280 |
| | B | 330 | | 330 | | 330 | | 330 | 330 |
| (mm) | C | 175 | | 120 | | 145 | | — | — |
| | D | 170 | | 245 | | 330 | | — | — |
| | E | 845 | 1,060 | 1,090 | 1,100 | 1,295 | 1,305 | 1,040 | 1,280 |
| | G | 26 | | 42 | | 48 | | 68 | 86 |
| Approx. Weight | (kg) | 96 | 102 | 112 | 126 | 146 | 167 | 360 | 520 |

All dimensions and specifications are subject to change without notice.

# With motorized trolley-ET

This can be combined with a 4-point or 6-point pushbutton and used as a motorized trolley or overhead traveling crane.

## Dimensions




Note
1) The numbers written in the specifications table and dimensions table may be changed for upgrades, etc.
2) The dimension drawing shows the state with a load suspended.
3) The CE version differs slightly from the dimension drawing shape.

## Specifications table

| Chain Hoist Model Name | | 1F(H) | 2F(H) | 2FN(H) | 3F(H) | 3FN(H) | 5F(H) | 5FN(H) | 10FH | | 10FNH | | 15FH | | 15FNH | | 20FH | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trolley Type | | 1ET | 2ET | | 3ET | | 5ET | | 5ET×2 | | | | 7.5ET×2 | | | | 10ET×2 | |
| Rated Load | (kg) | 1,000 | 2,000 | | 3,000 | | 5,000 | | 10,000 | | | | 15,000 | | | | 20,000 | |
| Dimensions (mm) | Z | 604 | 715 | 715 | 882 | 882 | 1,112 | 1,112 | 1,150 | 1,152 | 1,150 | 1,152 | 1,210 | 1,212 | 1,210 | 1,212 | 1,520 | 1,515 |
| | A | 250 | 280 | 280 | 280 | 280 | 280 | 280 | 280 | | 280 | | 280 | | 280 | | 280 | |
| | B | 250 | 280 | 330 | 280 | 330 | 280 | 330 | 280 | | 330 | | 280 | | 330 | | 280 | |
| | C | 135 | 185 | 185 | 120 | 120 | 145 | 145 | — | | — | | — | | — | | — | |
| | D | 170 | 170 | 170 | 245 | 245 | 330 | 330 | — | | — | | — | | — | | — | |
| | E | 750 | 945(1,125) | | 1,130(1,185) | | 1,410 | | 1,130 | | 1,130 | | 1,265 | | 1,265 | | 1,375 | |
| | G | 23 | 26 | 26 | 42 | 42 | 48 | 48 | 68 | | 68 | | 86 | | 86 | | 108 | |
| | I | 185 | 210 | | 210 | | 240 | | 500 | | 500 | | 663 | | 663 | | 770 | |
| | J | 190 | 210 | | 210 | | 240 | | 500 | | 500 | | 663 | | 663 | | 770 | |
| | K | 120 | 148 | | 148 | | 173 | | 173 | | 173 | | 260 | | 260 | | 309 | |
| | L | 182 | 200 | | 203 | | 219 | | 362 | | 362 | | 434 | | 434 | | 511 | |
| | T | 110 | 140 | | 140 | | 156 | | 158 | 156 | 158 | 156 | 205 | 203 | 205 | 203 | 280 | 285 |
| | U | 38 | 18 | | 16 | | 34 | | 32 | 34 | 32 | 34 | 15 | 17 | 15 | 17 | 23 | 18 |
| | V | 159 | 172 | | 175 | | 181 | | 323 | | 323 | | 401 | | 401 | | 455 | |
| | W | 303 | 313 | | 316 | | 323 | | 323 | | 323 | | 401 | | 401 | | 455 | |
| Min. Curve Radius | (m) | 1.5 | 1.8 | | 2.0 | | 3.0 | | 5.0 | | 5.0 | | 5.0 | | 5.0 | | Straight | |
| Applicable Beam Width b | (mm) | 75-125 | 100—150 | | 100—150 | | 125—175 | | 150 | 175 | 150 | 175 | 150 | 175 | 150 | 175 | 175 | 190 |
| Approx. Weight | (kg) | 80(85) | 132(139) | 147(154) | 161(175) | 176(190) | 217(238) | 232(253) | 502 | | 532 | | 860 | | 890 | | 1,490 | |

All dimensions and specifications are subject to change without notice.

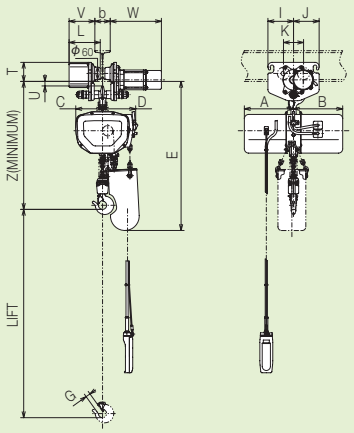
# With motorized trolley-ST

This can be combined with a 4-point or 6-point pushbutton and used as a motorized trolley or overhead traveling crane.

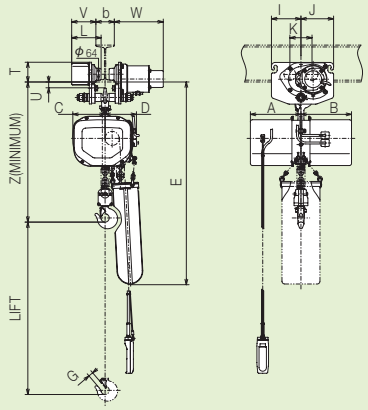


## Dimensions

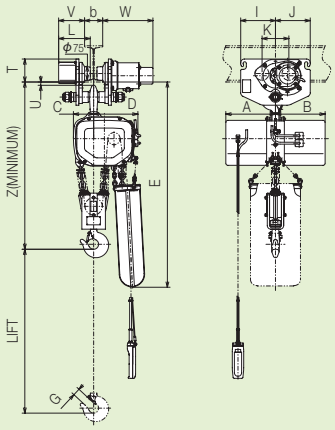
**1t**




**2t**




**3t**




## Specifications table

| Chain Hoist Model Name | | 1F(H) | 2F(H) | 2FN(H) | 3F(H) | 3FN(H) |
|---|---|---|---|---|---|---|
| Trolley Type | | 1ST | 2ST | | 3ST | |
| Rated Load | (kg) | 1,000 | 2,000 | | 3,000 | |
| Dimensions (mm) | Z | 582 | 715 | 715 | 872 | 872 |
| | A | 250 | 280 | 280 | 280 | 280 |
| | B | 250 | 280 | 330 | 280 | 330 |
| | C | 135 | 185 | 185 | 120 | 120 |
| | D | 170 | 170 | 170 | 245 | 245 |
| | E | 725 | 935(1,115) | | 1,110(1,165) | |
| | G | 23 | 26 | 26 | 42 | 42 |
| | I | 125 | 160 | | 192 | |
| | J | 125 | 177 | | 192 | |
| | K | 98 | 120 | | 148 | |
| | L | 156 | 163 | | 180 | |
| | T | 101 | 119 | | 140 | |
| | U | 18 | 19 | | 5 | |
| | V | 130 | 135 | | 145 | |
| | W | 255 | 270 | | 280 | |
| Min. Curve Radius | (m) | 1.8 | 2.5 | | 3.0 | |
| Applicable Beam Width b | (mm) | 75–125 | 100–150 | | 100–150 | |
| Approx. Weight | (kg) | 66(71) | 117(124) | 132(139) | 140(161) | 155(176) |

## Motorized trolley specifications table

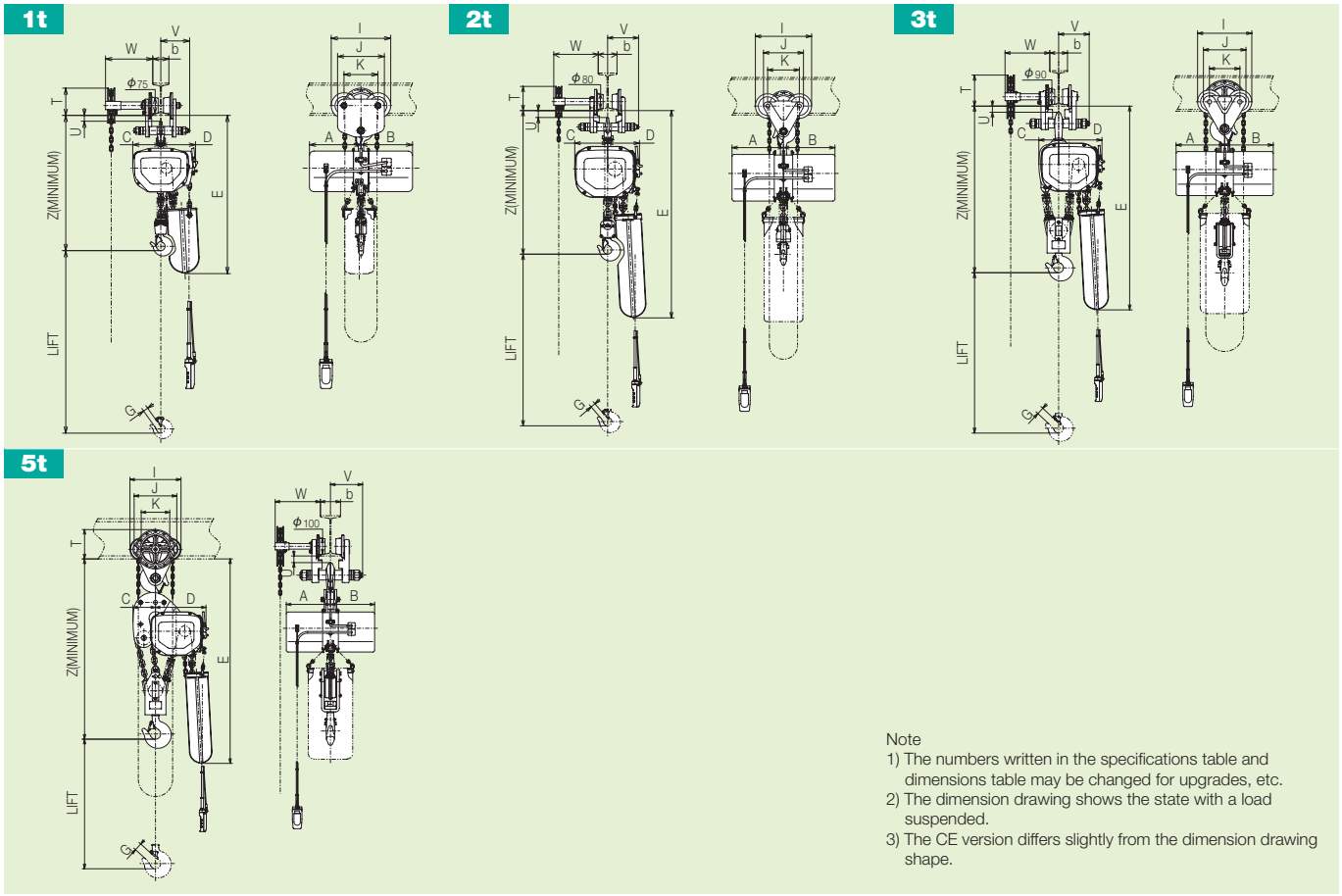
| Series Name | | ET series | | | | | | | ST series | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Model Name | | 1ET | 2ET | 3ET | 5ET | 5ET×2 | 7.5ET×2 | 10ET×2 | 1ST | 2ST | 3ST |
| Working Load Limit | (kg) | 1,000 | 2,000 | 3,000 | 5,000 | 10,000 | 15,000 | 20,000 | 1,000 | 2,000 | 3,000 |
| Travelling Spead (m/min) | 50Hz | 10.5(21) | | | | 10.5 | | 14 | 10.5 | | |
| | 60Hz | 12.5(25) | | | | 12.5 | | 17 | 12.5 | | |
| Motor Output (kW) | 50Hz | 0.14(0.27) | | 0.3(0.6) | | 0.3×2 | 0.35×2 | 0.7×2 | 0.07 | 0.14 | 0.2 |
| | 60Hz | 0.16(0.32) | | 0.35(0.7) | | 0.35×2 | 0.42×2 | 0.84×2 | 0.08 | 0.16 | 0.24 |
| Applicable Beam Width b | (mm) | 75–125 | 100–150 | | 125–175 | 150, 175 | | 175, 190 | 75–125 | 100–150 | |
| Rating | | 25%ED | | | | | | 40%ED | 25%ED | | |

All dimensions and specifications are subject to change without notice.

# With chain driven trolley-BC

The electric chain hoist with chain driven trolley is suitable for relatively heavy loads not transported a long distance.

## Dimensions




## Specifications table

| Chain Hoist Model Name | | 1F(H) | 2F(H) | 2FN(H) | 3FH | 3FNH | 5FH | 5FNH |
|---|---|---|---|---|---|---|---|---|
| Trolley type | | 1BC(H) | 2BC(H) | | 3BCH | | 5BCH | |
| Rated Load | (kg) | 1,000 | 2,000 | | 3,000 | | 5,000 | |
| Dimensions (mm) | Z | 600 | 717 | 717 | 886 | 886 | 1,105 | 1,105 |
| | A | 250 | 280 | 280 | 280 | 280 | 280 | 280 |
| | B | 250 | 280 | 330 | 280 | 330 | 280 | 330 |
| | C | 135 | 175 | 175 | 120 | 120 | 145 | 145 |
| | D | 170 | 170 | 170 | 245 | 245 | 330 | 330 |
| | E | 740 | 1,130 | 1,130 | 1,180 | 1,180 | 1,405 | 1,405 |
| | G | 23 | 26 | 26 | 42 | 42 | 48 | 48 |
| | I | 277 | 300 | | 306 | | 319 | |
| | J | 218 | 213 | | 240 | | 262 | |
| | K | 158 | 169 | | 172 | | 177.2 | |
| | L | — | — | | — | | — | |
| | T | 131 | 143 | | 191 | | 194 | |
| | U | 23 | 22 | | 21 | | 30 | |
| | V | 135 | 165 | | 173 | | 200 | |
| | W | 220 | 236 | | 252 | | 284 | |
| Min. Curve Radius | (m) | 1.2 | 1.5 | | 1.5 | | 2.4 | |
| Applicable Beam Width b | (mm) | 75—125 | 100—150 | | 100—150 | | 125—175 | |
| Approx. Weight | (kg) | 63(71) | 104(114) | 120(129) | 157 | 170 | 198 | 223 |

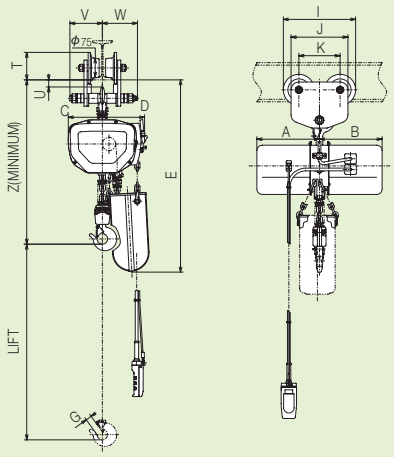
# With manual driven trolley-BP

The electric chain hoist with manual driven trolley is suitable for relatively light loads transported a short distance.

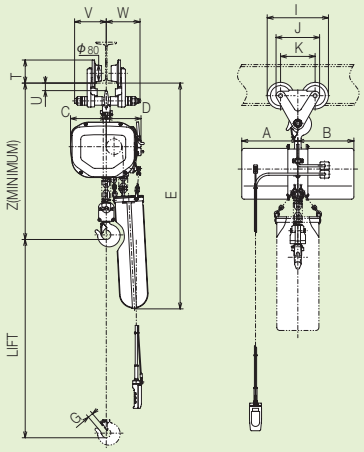


## Dimensions

**1t**




**2t**




## Specifications table

| Chain Hoist Model Name | | 1F(H) | 2F(H) | 2FN(H) |
|---|---|---|---|---|
| Trolley type | | 1BP | 2BP | |
| Rated Load | (kg) | 1,000 | 2,000 | |
| Dimensions (mm) | Z | 600 | 717 | 717 |
| | A | 250 | 280 | 280 |
| | B | 250 | 280 | 330 |
| | C | 135 | 175 | 175 |
| | D | 170 | 170 | 170 |
| | E | 740 | 1,130 | 1,130 |
| | G | 23 | 26 | 26 |
| | I | 277 | 300 | |
| | J | 218 | 213 | |
| | K | 158 | 169 | |
| | L | — | — | |
| | T | 110 | 128 | |
| | U | 23 | 22 | |
| | V | 125 | 155 | |
| | W | 135 | 165 | |
| Min. Curve Radius | (m) | 1.2 | 1.5 | |
| Applicable Beam Width b | (mm) | 75–125 | 100–150 | |
| Approx. Weight | (kg) | 57(62) | 97(104) | 113(119) |

## Chain driven trolley, manual driven trolley specifications table

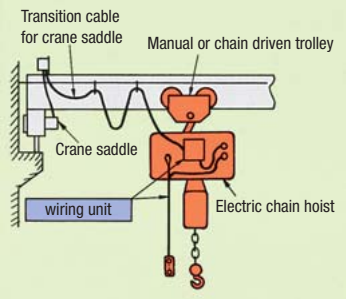
| Classification | | Chain driven trolley | | | | Manual driven trolley | |
|---|---|---|---|---|---|---|---|
| Model Name | | 1BC(H) | 2BC(H) | 3BCH | 5BCH | 1BP | 2BP |
| Working Load Limit | (kg) | 1,000 | 2,000 | 3,000 | 5,000 | 1,000 | 2,000 |
| Standard Lift | (m) | 3(6) | 3(6) | 6 | 6 | — | — |
| Min. Curve Radius | (m) | 1.2 | 1.5 | 1.5 | 2.4 | 1.2 | 1.5 |
| Applicable Beam Width b | (mm) | 75–125 | 100–150 | | 125–175 | 75–125 | 100–150 |

For a crane that uses a chain or manual driven trolley for transverse movement and an electric motor for travel, please purchase a 4PB(H)-C, 4PBN(H)-C type wiring unit (See page 23).

# Crane wiring unit

## 4-point pushbutton crane wiring unit

- This is a wiring unit for connecting to the crane electro-magnetic switch and the hoist main unit.
- Connection can be done simply by just attaching to the hoist main unit.
- A unique HITACHI operation cable with a single protective wire provides excellent operability and durability.
- The pushbutton is made of drip-proof hardened plastic.
- The pushbutton cable employs a one-touch outlet to allow it to be connected easily.




### Specifications table

The product is a wiring unit that combines an electric chain hoist with an crane saddle for use with manual traverse (manual or chain driven trolley) and motorized travel 4-point pushbutton cranes.

**For single speed models**

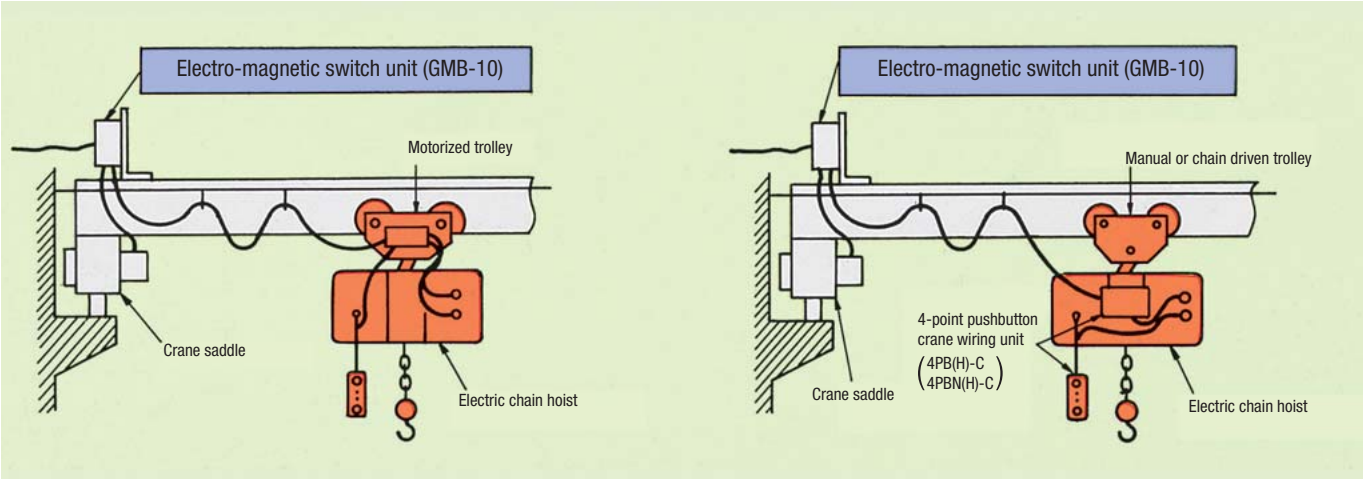
| Model Name | 4PB-C | 4PBH-C |
|---|---|---|
| Lift | 3m | 6m |
| Approx. Weight | 3kg | 3.5kg |

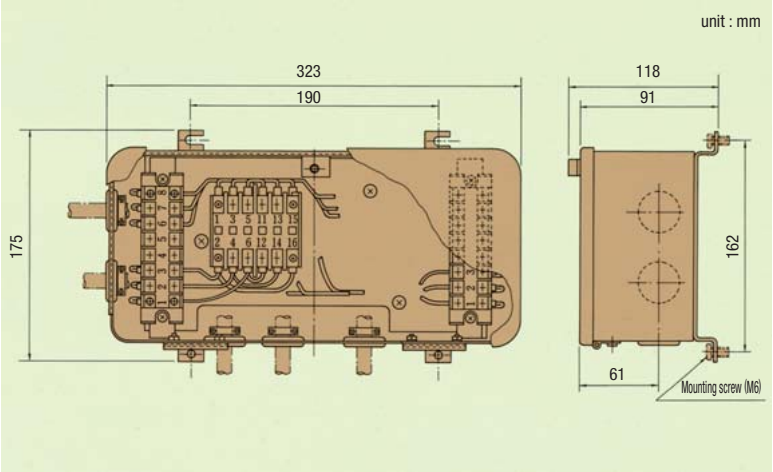
**For double speed models**

| Model Name | 4PBN-C | 4PBNH-C |
|---|---|---|
| Lift | 3m | 6m |
| Approx. Weight | 3.5kg | 4kg |

## Electro-magnetic switch unit with crane case

- This is the electro-magnetic switch unit with a case for girder operation (24V) for when a HITACHI electric chain hoist (with motorized trolley) is used in a crane girder system. (Applicable up to HITACHI crane saddle $TLU_5$-56 and $TH_5$-56)
- Install in a freely selected location of the girder system, and the transition cables for girder and trolley, and the power cable are connected to the terminal block.




### Specifications table

| Model Name | | GMB–10 |
|---|---|---|
| Electro-magnetic Contactor | Type | HMU-12 |
| | Control Voltage | 24V |
| | Current Capacity | 10A |
| Approx. Weight | | 4kg |

# Other products with changed specifications

## Lift change (extension)

- The lift can be extended within the range in the following table, so specify as needed.
- Options other than those shown in the following table are also possible depending on the conditions, so contact HITACHI.

### Chain Length and Chain Container

It is necessary to use a chain container of a capacity fitted to the length of chain to be contained.

| | Rated Load(kg) | Chain System | Chain Length(m) | Lift (m) and Name of Container | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| S Series | 250 | $\phi$6.3 × 1 | LIFT+0.5 | | | Ax | | | | | | | Bx | | | | | | Cx | | | | | | |
| | 500 | $\phi$6.3 × 1 | LIFT+0.5 | | | Ax | | | | | | | Bx | | | | | | Cx | | | | | | |
| | 1,000 | $\phi$7.1 × 1 | LIFT+0.7 | | D | | | | | E | | | | | | | F | | | | | | | |
| | 2,000 | $\phi$7.1 × 2 | 2× LIFT+1.4 | D | | E | | | F | | | | | G | | | | | | | | | | |
| | 3,000 | $\phi$7.1 × 3 | 3× LIFT+2.4 | | E | | F | | G | | | | | | | | | | | | | | | | |
| | 5,000 | $\phi$7.1 × 5 | 5× LIFT+3.9 | | F | | G | | | | | | | | | | | | | | | | | | |
| F Series | 1,000 | $\phi$7.1 × 1 | LIFT+0.7 | | | D | | | | E | | | | | | | F | | | | | | | | |
| | 2,000 | $\phi$10 × 1 | LIFT+0.8 | E | | | F | | | | | | | | G | | | | | I | | | | | |
| | 3,000 | $\phi$10 × 2 | 2× LIFT+1.6 | | F | | | G | | | | | I | | | | | | | | | | | | |
| | 5,000 | $\phi$10 × 3 | 3× LIFT+1.8 | | | G | | | I | | | | | | | | | | | | | | | | |

## Tropical treatment added

The motor is varnish treated twice when it will be subjected to high humidity conditions.

## Insulation grade change

The standard product uses E grade insulation, but F grade insulation is possible (motor only).

## On beam first stage

The ET trolley beam width is one grade higher than the standard.

## With protective cover

This is a resin coated cloth main unit protective cover.

## Upper hook direct connection type

This type directly connects the trolley and hoist body using an I-hook.

## Optional chain container

Plastic is the standard specification, but it can also be made of steel plate.

## With thermal protector

This product can come with a thermal protector to prevent motor burnout.

# Technical materials

## Power cable allowable length

The power cable allowable length for the standard specification is shown in the following table.
When extending the power cable or relay cable, make a selection after referring to the following table.

### Allowable Power Cord Length

When extending power cord, cord length should be less than the values in this Table. (m)

| | Rated Load (kg) | Cable Size | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.75mm² | | AWG #18 | | 1.25mm² | | AWG #16 | | 2.0mm² | | AWG #14 | | AWG #12 | | 3.5mm² | |
| | | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley | Hoist only | With Motor Trolley |
| S | 250 | 31 | 27 | 34 | 29 | 52 | 45 | 54 | 47 | 74 | 52 | 76 | 54 | — | — | — | — |
| | 500 | 27 | 20 | 29 | 21 | 46 | 33 | 48 | 34 | 74 | 52 | 76 | 54 | — | — | — | — |
| | 1,000–5,000 | 27 | 20 | 29 | 21 | 46 | 33 | 23 | 18 | 74 | 52 | 76 | 54 | 118 | 86 | 125 | 92 |
| F | 1,000 | 13 | 10 | 14 | 11 | 22 | 18 | 11 | 8 | 35 | 29 | 36 | 30 | 57 | 48 | 61 | 51 |
| | 2,000–5,000 | — | — | — | — | — | — | — | — | 17 | 13 | 17 | 13 | 28 | 21 | 30 | 23 |
| | 10,000–20,000 | — | — | — | — | — | — | — | — | 8 | 6 | — | — | 14 | 10 | 15 | 11 |

*The length is calculated using 40V for the drop amount where the voltage drop only occurs in the cable. (For a power source of 400V)

## About the method with a stopper

### Wheel stopper

After the trolley has been installed on the travel rail, always install a stopper on the end of the travel rail to prevent the trolley from dropping off.

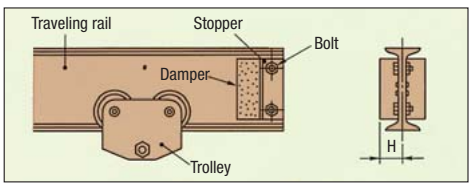
- Avoid using the stopper to stop the trolley by letting it run into the stopper.
- Using a stopper that is a different color from the travel rail is an effective means for preventing the trolley from striking the stopper because it makes the stopper stand out.

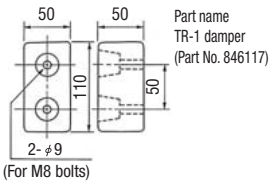
### Damper

The stopper should be used with rubber or other shock absorbing material to absorb the shock when the trolley strikes the stopper. The rubber damper shown in the figure at right is available, so please make use of it.

### Installation of trolley stopper

| Runway Beam Width (mm) | Materials (L Shaped RolledSteel Bar) | H (mm) | Bolts and Nuts |
|---|---|---|---|
| 75 | 50×50×6 | 30 | M10 |
| 100 | | 40 | M16 |
| 125 | | 50 | |
| 150 | 65×65×6 | 60 | M20 |
| 175 | | 65 | |



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