



Professional cranes & hoists for lifting



Electric Chain Hoist / SH series



CHENG DAY MACHINERY WORKS CO., LTD.

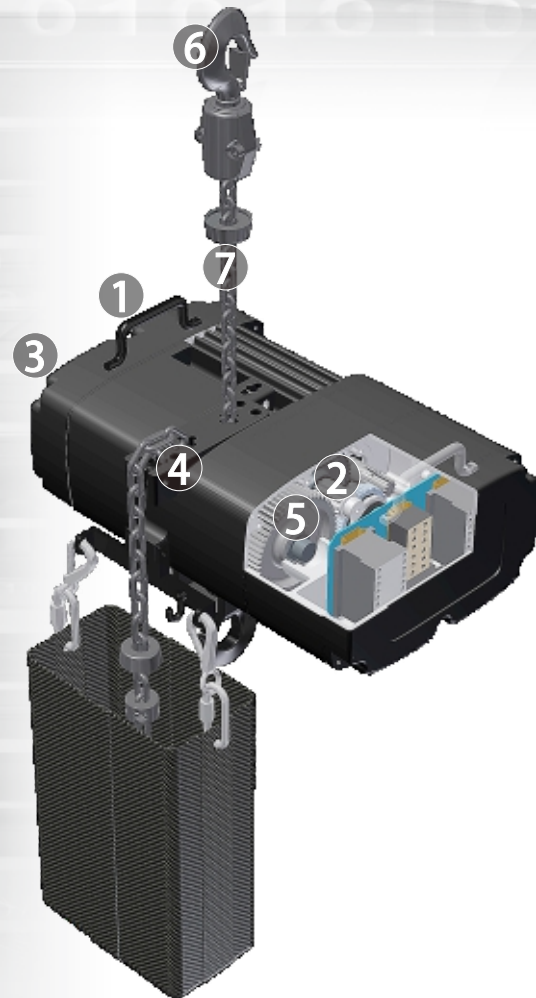
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- No further notice while sizes and dimensions update; Quotations are based on practical dimensions.
- Due to the printing factors, the color of the products is subject to minor deviation from the physical objects.



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D8 series



① Motor and electromagnetic brake

- 1). Cooling fins around motor have good thermal performance.
- 2). Standard IP54 enclosure, motor winding with class F insulation and thermal protection.
- 3). Asbestos-free brake to meet international request
- 4). Electromagnetic brake actuates synchronously in the event of power failure to ensure the operation safety while loading.



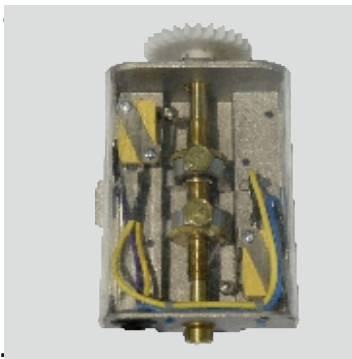
② Overload protection

Mechanical overload device - While generated torque is over the friction torque, the overload mechanism will trigger, in which motor keeps running but slipping clutch hold back the hoist from further lifting for the sake of safety.



③ Geared limit switch (Optional)

It can be handy adjusted to the required position, setting the chain travelling limits and offering the preventable method for hoist from over winding and damage.



④ Chain Guide

- 1) Made of robust material, MC Nylon, and comply with housing design to make sure the load chain operating smoothly.
- 2) The forward-curve shape of MC Nylon keeps operating chain in the central position, away from getting stuck in the farther sides.



⑤ Gear

Gear is made of alloy steel for steady operation and less wearing and tearing.



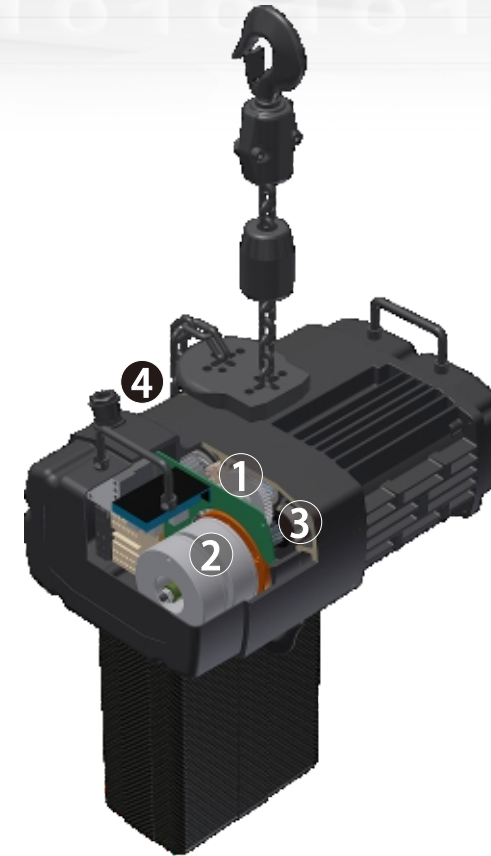
⑥ Top hook

Top hooks apply material SF45C to cast which allow swiveled 360 and are equipped with safety latch to enhance the loading safety.

⑦ Load Chain

Premium quality and high strength alloy chain, heat treated, used in a variety of sling and tie down applications.

D8 plus series



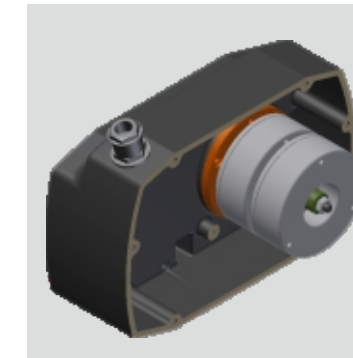
① Gear

- 1). Gear is made of alloy steel.
- 2). Long-span, Low noise



② Dual brake system

This system is safer : allows for a secondary braking of action in the event that the primary braking system fails or demagnetized.



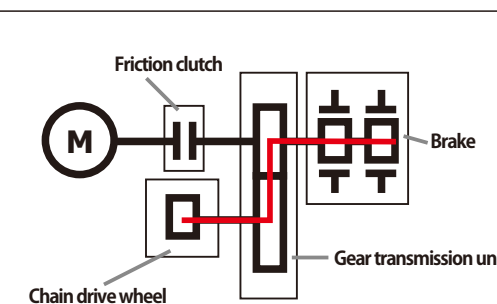
③ Overload protection (slipping clutch)

Friction clutch is not in the load path when chain hoist is disconnected from power supply. It's mechanical brake. (when restart, it's unable to lift up due to overload protection).

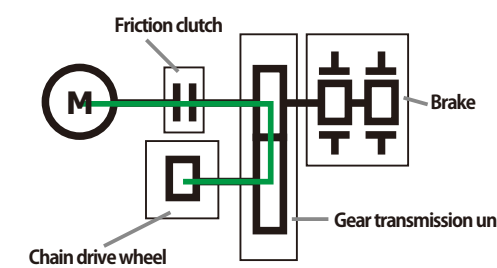


④ Chain sprocket

- 1). 5-pocket chain sprocket
- 2). Improve load chain wearing.
- 3). Low noise, transmission smoothly.
- 4). Sprocket and shaft separately, easy for maintenance.



Friction clutch is not in the load path when chain hoist is disconnected from power supply.

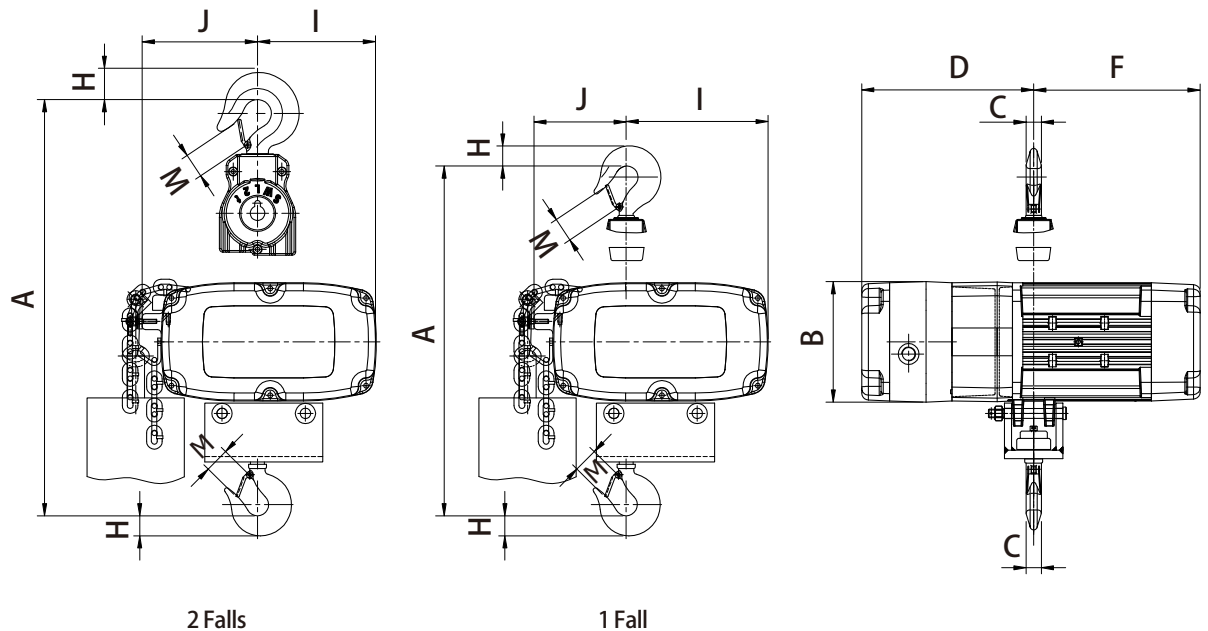


Dynamic load path of hoist



D8 series

- Particularly design and operates in both upright and inverted position optimized collect chain at stage to load concert equipment.
- Comply with FEM 2m / ISO M5 classification.
- Matt-black non reflective finish chassis for rigid, compact, and durable.
- Forged hook is made of high tensile steel with heat treatment, allowing 360 degree swiveling, and equipped with safety latch to ensure proper rigging the load.
- MC Nylon chain leading plate ensures the chain links properly fit into the lift wheel, and eliminates the possibility of jamming, as well as protect the lift wheel from wet and dirt.
- Overload clutch as safety device.
- Duty cycle ED 40% high efficiency, robust motor running the hoist quietly and steady.
- IP54 rated hoist.
- Phase error relay is standard device, prevent circuit working at its wrong phased.
- Operates on single voltage between 220V~550V, 3 phase, 50 or 60 Hz. 48V operating voltage as standard & safety, depends on different countries request.



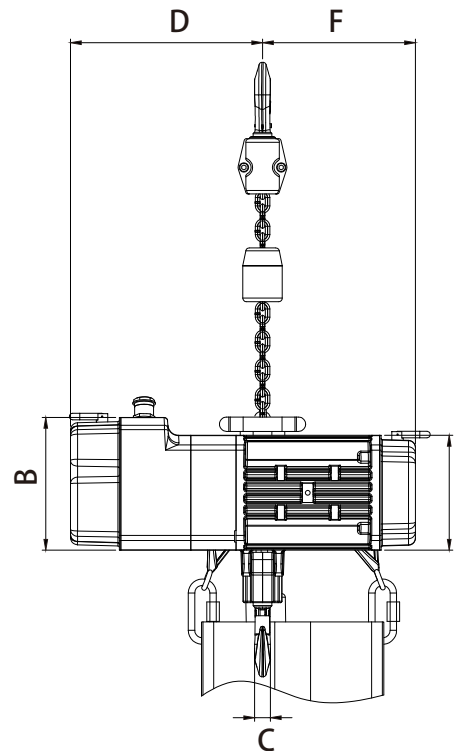
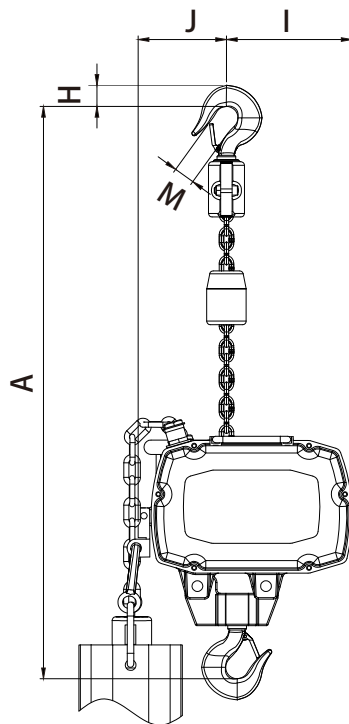
■ Specification

| Capacity (kg) | Model | Speed (m/min) | | Fall no. | Load Chain (Dia x Pitch) (mm) | Motor (kw x pole) | Weight (kg) | Dimension (mm) | | | | | | | | |
|------------------|----------|------------------|------|----------|-------------------------------------|----------------------|----------------|----------------|-----|----|-----|-----|----|-----|-----|----|
| | | 50Hz | 60Hz | | | | | A | B | C | D | F | H | I | J | M |
| 250 | SH-025-1 | 4.0 | 4.8 | 1 | Ø4X12 | 0.25X4 | 30 | 410 | 135 | 18 | 205 | 175 | 28 | 165 | 85 | 25 |
| 500 | SH-050-1 | 4.0 | 4.8 | 1 | Ø6.3X19.1 | 0.4X4 | 42 | 600 | 156 | 23 | 247 | 221 | 33 | 185 | 105 | 30 |
| 1000 | SH-100-1 | 4.0 | 4.8 | 1 | Ø7.1X20.2 | 0.75X4 | 47 | 650 | 156 | 23 | 247 | 221 | 33 | 185 | 105 | 30 |
| 2000 | SH-200-2 | 4.0 | 4.8 | 2 | Ø7.1X20.2 | 1.5X2 | 62 | 860 | 170 | 27 | 275 | 240 | 39 | 170 | 170 | 30 |



D8 plus series

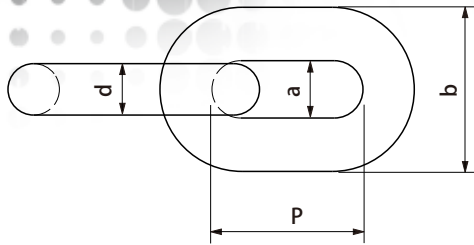
- Higher safety factor
- Overload clutch protects damage from overloading and insures product and personnel safety. The clutch design location is not in the loading path, the main purpose is to avoid overload slipping and danger in static situation. (After restart, it cannot lift up because of the overload.)
- Dual Brake System can insure higher safety level, avoid one of brake system being magnetized after a long period of time using and cause the braking spring cannot rebound (loose brake). Therefore the second brake can insure safety operation.
- Structure design is modularity. Chain sprocket and chain regulator can be disassembled independently, easily replace and maintenance. Likewise, for rapidly repair and removal on motor brake coil or other spare parts.
- 5-pocket chain sprocket arrange with chain regulator design allow the load chain run smoothly.



■ Specification

| Capacity (kg) | | Model | Speed (m/mim) | | Fall no. | Load Chain (Dia x Pitch) (mm) | Motor (kw x pole) | Weight (kg) | Dimension (mm) | | | | | | | | |
|---------------|------|----------|---------------|------|----------|-------------------------------|-------------------|-------------|----------------|-----|----|-----|-----|----|-----|-----|----|
| D8 plus | D8 | | 50Hz | 60Hz | | | | | A | B | C | D | F | H | I | J | M |
| 500 | 1000 | SH-100-1 | 4.0 | 4.8 | 1 | Ø7.1X20.2 | 0.75X4 | 50 | 650 | 185 | 23 | 267 | 213 | 33 | 175 | 123 | 30 |

■ Load Chain



| Diameter d(mm) | Model Reference Being Used | Inner Length p (mm) | Inner Width a (mm) | Outer Width b (mm) | Breaking Load (kn) |
|-------------------|-------------------------------|---------------------------|--------------------------|--------------------------|--------------------------|
| Ø4.0 | SH-025-1 | 12 | 4.8 | 13.7 | 20 |
| Ø6.3 | SH-050-1 | 19.1 | 7.6 | 21.4 | 50 |
| Ø7.1 | SH-100-1 SH-200-2 | 20.2 | 8.4 | 23.6 | 63 |

■ VPLT. VPLT. Standard SR2.0 - Special engineering requirements

| Requirements | D8 | D8 plus | C1 |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| Mechanism group | 1Bm min. ¹⁾ | 1Bm min. | 1Bm min. |
| Dimensioning of mechanism | 1x rated load ²⁾ | 2 x rated load | 2 x rated load |
| Dimensioning of load-bearing element for rated load | Safety factor 5 min. | Safety factor 10 min. | Safety factor 10 min. |
| Friction clutch | yes | no ³⁾ | no ³⁾ |
| Safety brake or, alternatively, dynamic transmission brake | 1 X | 2 X | 2 X |
| Emergency limit switch | no | no | yes |
| Limit switch | no | no | yes |
| Overload monitoring ⁵⁾ | Friction clutch | Shut-down | Shut-down at 120% of rated load |
| Underload monitoring | no | no | yes ⁴⁾ |
| Speed control for vario-drives | n/a | n/a | yes |
| Generic requirements | Two swivel safety hooks or lifting eyes | | |
| | Chain-storage capacity in accordance with chain length | | |
| | Chain-storage unit can be mounted on hoist in any operating position up to a max. chain mass specified by the manufacturer | | |
| | Load-free (loose) chain end is securely fixed to housing | | |
| | Housing is impermeable in all mounting positions | | |
| | Implementation of protection class in accordance with conditions of use | | |
| | Housing has no sharp edges or corners (due to risk of injury) | | |
| | Two transport handles for hoists weighing 20 kg or more with out chain | | |
| | Housing construction suitable for tough operating conditions | | |

¹⁾ 1Bm = 400 operating hours under full load in normal use.

²⁾ Rated load = load during operation. The sum of the load plus the dynamic forces.

³⁾ A friction clutch is permitted if it is not within the load path when the electric chain hoist is disconnected from the power supply.

⁴⁾ Underload monitoring with a collective shut-down facility is required for guided loads and system loads.

⁵⁾ Overload shut-down/overload monitoring.

■ Federation Europeenne De La Manutention

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

■ ISO/FEM (9.511)

Classification of mechanisms into groups

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

Classification of mechanisms

| Load spectrum | Cubic mean value | Class of operation time | | | | | | | | | |
|---------------|----------------------|-----------------------------------------|-------------|------------|----------|----------|----------|----------|-----------|-----|--|
| | | V0.06 | V0.12 | V0.25 | V0.5 | V1 | V2 | V3 | V4 | V5 | |
| | | T0 | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | |
| | | Average operating time per day in hours | | | | | | | | | |
| | | ≤ 0.12 | ≤ 0.25 | ≤ 0.5 | ≤ 1 | ≤ 2 | ≤ 4 | ≤ 8 | ≤ 16 | >16 | |
| 1 L1 | $k \leq 0.50$ | | | 1 Dm | 1 Cm | 1 Bm | 1 AM | 2 m | 3 m | 4 m | |
| 2 L2 | $0.50 < k \leq 0.63$ | | 1 Dm | 1 Cm | 1 BM | 1 Am | 2 m | 3 m | 4 m | 5 m | |
| 3 L3 | $0.63 < k \leq 0.80$ | 1 Dm | 1 Cm | 1 Bm | 1 Am | 2 m | 3 m | 4 m | 5 m | | |
| 4 L4 | $0.80 < k \leq 1.00$ | 1 Cm | 1 Bm | 1 Am | 2 m | 3 m | 4 m | 5 m | | | |

Class of operation time

| Class of operation time | Average operating time per day (in hours) | Calculated total operating time in hours |
|-------------------------|-------------------------------------------|------------------------------------------|
| V0.06 T0 | ≤ 0.12 | 200 |
| V0.12 T1 | ≤ 0.25 | 400 |
| V0.25 T2 | ≤ 0.5 | 800 |
| V0.5 T3 | ≤ 1 | 1600 |
| V1 T4 | ≤ 2 | 3200 |
| V2 T5 | ≤ 4 | 6300 |
| V3 T6 | ≤ 8 | 12500 |
| V4 T7 | ≤ 16 | 25000 |
| V5 T8 | ≤ 16 | 50000 |

■ Operation Cycle

