

electric wire rope hoist

DRH

series



donati

SELBY ENGINEERING AND LIFTING SAFETY LTD. TEL: +44 (0) 1977 684 600

LIFTING

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ELECTRIC WIRE ROPE HOIST

DRH series, the most reliable and safe way of lifting

It guarantees maximum safety in hoisting up to 40.000 kg. The competence and experience in design and production, the quality of components used, the high technology employed in the production of mechanical parts, in the finish and in surface treatments as well as the certified quality system UNI EN ISO 9001:2000 which regulates all the company's activity, allow DONATI SOLLEVAMENTI to offer a product in line with the most modern international regularity standards.

The DRH electric rope hoist ensures use in a wide range of situations, reliability over time and safety in all operative phases.

The special hydro-repellent finish, obtained by an electrostatic process, guarantees long life and consistency in performance even in particularly hostile environments.

The company offers a 3-year guarantee starting from the date of delivery, all at a reasonable price.



DONATI SOLLEVAMENTI S.R.L.
INTRODUCES A NEW AND EVEN MORE EVOLVED RANGE OF **DRH** ELECTRIC WIRE ROPE HOISTS.
SAFE, RELIABLE, COMPACT AND ECONOMICAL.
THEY REPRESENT THE MOST MODERN AND ECONOMICAL MEANS OF LIFTING LOADS UP TO 40.000 KG, IN ABSOLUTE SAFETY.



electric wire rope hoists



and trolleys

power and safety



at your disposal

power and safety at your disposal

ELECTRIC WIRE ROPE HOISTS AND TROLLEYS

The hoist combined with a trolley which runs on one or two beams also allows horizontal movements. All lifting (raise and lower) and traverse (right and left) movements are activated

electrically and can be activated via a fixed pendant, a radio-control system or infra red.

The range of the DRH series electric wire rope hoists has been developed in:

- **4 basic sizes**, DRH 1-2-3-4, to lift from 800 to 40.000 kg, including 1020 standard executions, in the FEM service group (ISO) 1Am (M4) – 2m (M5) – 3m (M6).
- **with one lifting speed** made with a 4 pole motor:
 - 4 or 6 m/min. for 4 rope falls hoists
 - 8 or 12 m/min. for 2 rope falls hoists
- **with two speeds** made with a 4/12 pole motor:
 - 4/1,3 or 6/2 m/min. for 4 rope falls hoists
 - 8/2,6 or 12/4 m/min. for 2 rope falls hoists
- **with three speeds** made with a 4/12 pole motor, the micro speed is made by frequency control device
- **5 standard versions with a:** short (C), normal (N), long (L) or extra long (X1 and X2) drum lengths, for hook runs from 4 to 58 m.



ELECTRIC WIRE ROPE HOIST

the range of the DRH series

Fixed configuration

This is the universal, basic configuration, with fixing eye-bolts that allow the DRH hoist fixing on a frame as a double girder trolley or in a suspended execution.

Configuration with monorail trolleys type DST/N/S

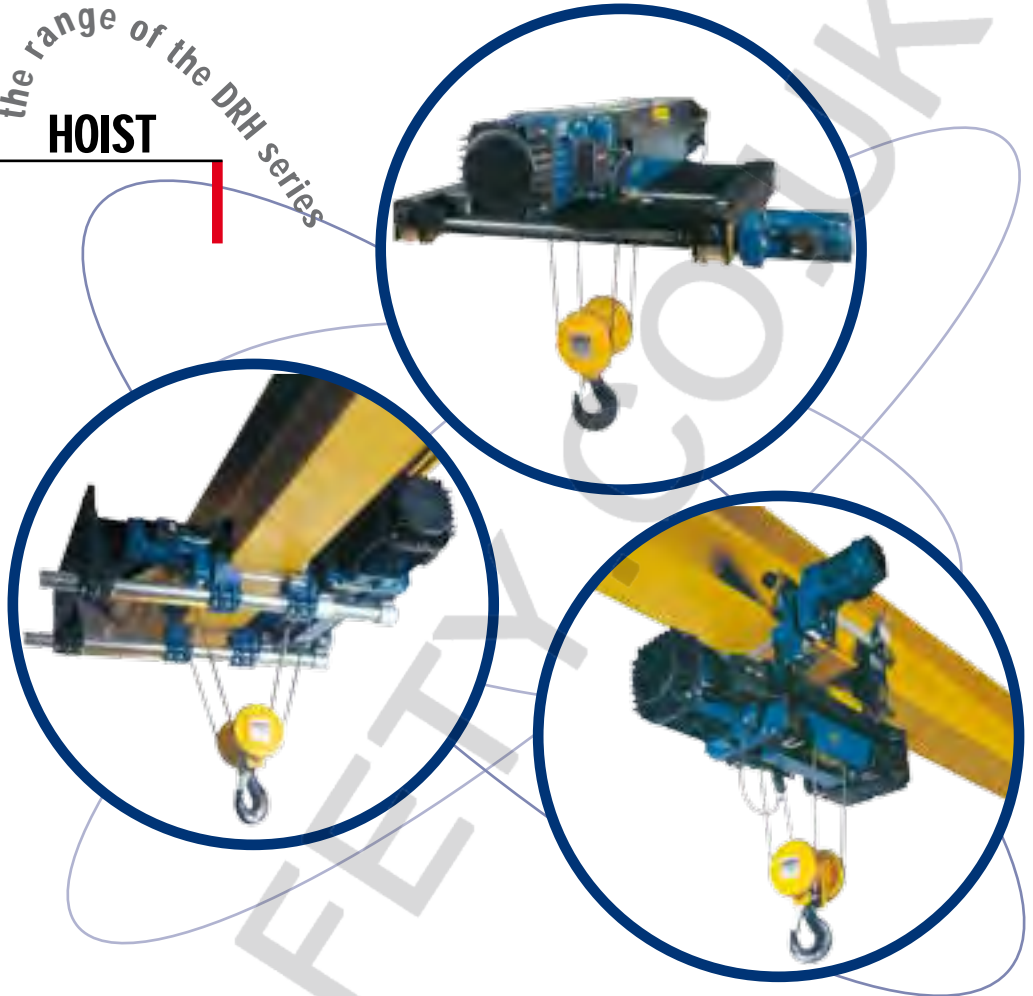
The DRH hoist is supplied in suspended execution with the normal headroom trolley or with the articulated one in case the unit has to run on curves. The trolley is electrically operated.

Configuration with monorail trolley type DST/R

In this configuration the DRH hoist is supplied in low headroom version for a maximum height of lift.

Configuration with double girder trolley type DRT

The DRH hoist can be fitted on the top of the double girder trolley frame or suspended. It can be supplied also in trasversal execution. The trolley is electrically operated and run on two rails this configuration allows to obtain the maximum hookpath.



The DRH series electric wire rope hoists and relative electric trolleys are made with modular components. This allows multiple normalised or special executions to be made quickly, economically but most importantly, safely. To guarantee maximum use of the hook run and minimum overall dimensions of the hoist body, the base components (motor, reducer and rope drum) are assembled in a coaxial line, by way of high strength bolted connections. Every connection can be inspected and has self-locking safety nuts. This type of construction, equally as important for the efficiency as for the safety of the hoist, is possible thanks to the extremely compact gear motor unit.

The rope drum on the side opposite the gear motor, can be connected to a cycle counter, selectors, limit switches, encoders, safety brakes etc. Furthermore, being perfectly symmetrical in the special execution with drum right and left grooved, allows two gear motors to be installed thereby doubling the lifting speed but keeping the same capacity with a true vertical lift. This is a particularly suitable option for executions with large hook runs.

The assembly process uses the most advanced technology and highly industrialised production processes to produce, by economies of scale, totally reliable and technically innovative machines.

Enclosure and insulation of electrical components

- Hoist and trolley motors: IP55 protection – Class “F” insulation.
- IP23 hoist-motor brake.
- Limit switch: IP65 minimum protection. Maximum insulation voltage 500 V
- Cables: CEI 20/22 II Maximum insulation voltage 450/750 V

Electric power supply

- DRH electric rope hoists are designed to be supplied with alternate electric current with three-phase voltage: 400 V – 50 Hz, in accordance with IEC 38-1
- Voltage and frequency different from standard are available on request.

Working conditions

- Working temperature: minimum –10°C; maximum +40°C
- Maximum relative humidity: 80%
- Maximum altitude 1000 m above sea level
- The hoist must be installed in a well aired environment free of corrosive vapours (acidic vapours, saline mist, etc.)

Noise levels

- The noise level emitted by a fully loaded hoist is always less than 85 dB (A). However, the transmission of noise through metal structures and the reflection due a machine being located near a wall, are not included in the indicated value.

the design and assembling process

THE HOIST IN DETAIL

1. Electric motor for lifting

Asynchronous three-phase, self-braking with tapered motor. Minimum protection IP 55 – Class F insulation. It has thermal probes for protection against overloading.

2. Hoist's brake

The brake's lining is asbestos free. The brake block, which has a fan that guarantees the cooling of the brake itself and of the motor, moves axially with the motor shaft and the braking function is activated automatically if the energy supply fails.

(RES. 1.2.6 – 4.1.1.6 c – Attachment I Machine Directive).

3. Joint

It's the connection between the self-braking motor and the reducer, allowing perfect axial sliding of the motor shaft.

4. Reducer (gearbox)

Coaxial, with three stages of reduction, with cylindrical gears made of thermally treated, highly resistant steel, helicoidal teeth. Dimensioned and made to withstand the phenomena of stress and wear for life in relation to the normal FEM service group.

(RES. 4.1.2.3 – Attachment I Machine Directive).

The whole machine is mounted on spherical bearings lubricated for life in an oil bath.

5. Drum

The drum in steel casing, is mechanically grooved, and supported by the flange of the reducer and by the equipment side flange, with hubs with rotating broached holes on permanently lubricated bearings. The rope drum is made in line with the ISO standard 4308-1 and UNI 9466 and the FEM rules 9.661/86 and the ratio of the diametral pitch of the same and the diameter of the wound rope is never < 20 (FEM 3m). The rope-drum support flanges have steel cylindrical pins in order to secure the components which suspend the hoist or which support it when set on machined seatings support the anchorage crossheads and the return pulley. The connection between the two flanges is made with bolted staybolts. A protective roof, made of shock-resistant transparent plastic, is fixed above the hoist.

6. Rope guide

It has a threaded ring made of spheroidal graphite cast iron and allows the rope to be wound well onto the drum.

[RES.4.1.2.4. – Attachment I Machine Directive].
The system automatically registers any play or wear which may occur. The rope guide includes sliding backlash arms made of brass, which, acting on the staybolts of the hoist, they function as raise and lower limit switches.

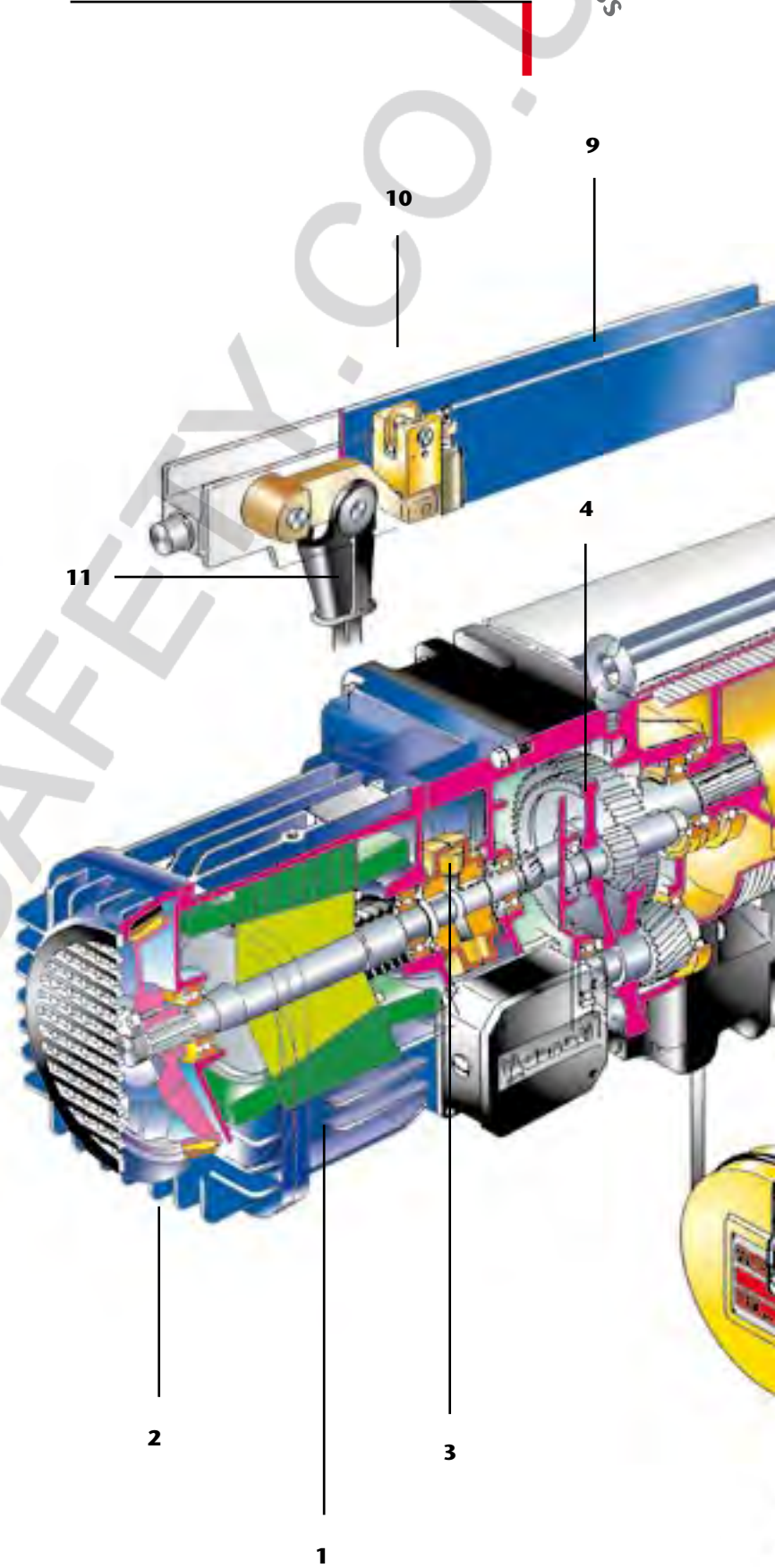
7. Raise and lower limit switch

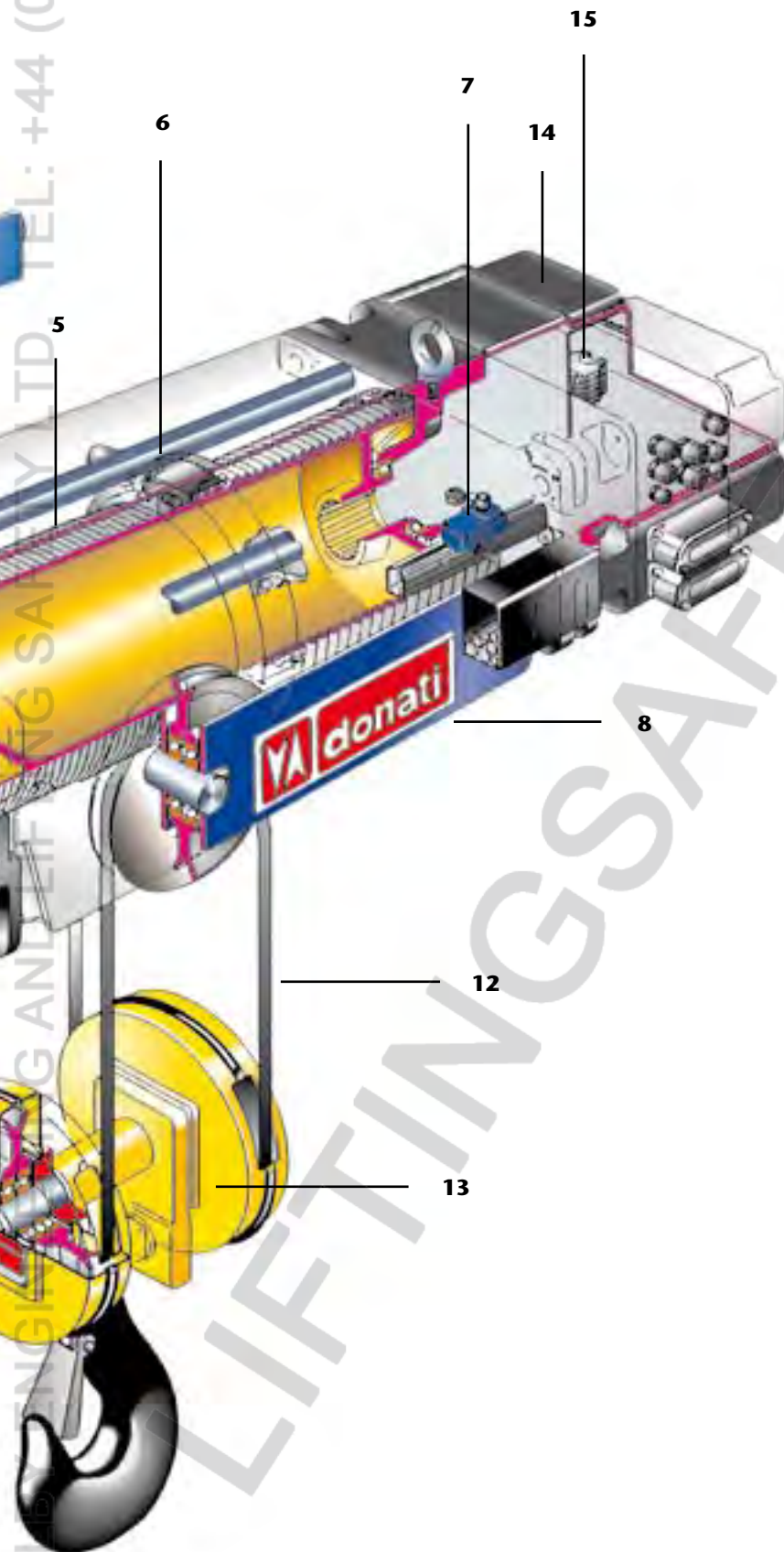
It is a safety component which limits, in an emergency, the run of the hook in raise and lower.

[RES. 4.1.2.6. a – Attachment I Machine Directive]
There are two micro-switches which work according to the positive slow opening principle and act on the auxiliary circuit of the control device of the hoist's motor.

8. Pulley assembly

Utilised in versions with more than 2 rope falls, and supported by two pivots which allow it to be orientated depending on the vertical axis of the rope. The return pulley is made of carbon steel. The rim has been grooved mechanically and the sheave rotates on bearings which are permanently lubricated.





9. Anchorage crosshead

Utilised in standard versions, and supported by two pivots which allow it to be orientated depending on the vertical axis of the rope. The overload device is located between the plates of the transverse.

10. Overload device

All the DRH series electric rope hoists have an overload device with a threshold level micro-switch. [RES. 4.2.1.4. – Attachment I Machine Directive].

The overload device constantly measures and checks the values of the load and the dynamic and inertial effects due to its movement. Whenever the set levels is exceeded the micro-switch of the device starts by opening the control circuit of the lifting-controls device.

11. Wedge anchorage

The anchorage is made of spheroidal graphite cast iron. The minimum coefficient for use conforms to the FEM rule 9.661/86. The rope is secured with a wedge which stops it from unwinding.

12. Rope

Made of flexible steel, highly resistant to strain and wear. The minimum coefficient of use has been chosen to conform to the ISO standard 4308-1. Non-twist ropes are used on DRH hoist with 2 falls and long (L) and extra long, 1st size (X1) drums, and on 2 and 4 fall hoists with extra long, 2nd size (X2) drums.

13. Hook block and hook

The return pulley is made of carbon steel and the rim has been grooved mechanically. It rotates on bearings which are permanently lubricated. The load hook is made of highly resistant drop-forged steel and is mounted on an swinging cross beam. It rotates on a thrust bearing and has a safety device to avoid unhooking. [RES. 4.1.2.6 - Allegato I Direttiva Macchine].

14. Frame for electrical connections

Supplied on request. It has cable intake and allows the wiring of all the connections of the electrical equipment of the hoist and electric travel trolley, if present. The compartment for the electrical connections and/or any other low voltage control equipment, is closed with a shock resistant thermoplastic cover, IP 55 enclosure.

15. Low voltage controls

When the hoist is supplied complete with electric controls, the raise and lower and /or right and left functions of the trolley, are activated by electrical equipment which includes:

The transformer for control circuits.

- The main contactor and the contactors/reversing contactor for controlling the motors.
- The fuses for protection of the motors and transformer.
- The terminal board for the connections of auxiliary and power circuits.

The components are mounted on a hinged panel and fixed in a compartment located on the side opposite the motor. The controls are activated by a push-buttons-pannel, supplied in AC at low voltage, 48V. The push-buttons-pannel is ergonomically shaped, watertight and made of self-extinguishing, shock resistant, thermoplastic material. Its level of protection is IP 65.

The emergency stop [RES. 1.2.4 – Attachment I Machine Directive], is activated by voluntarily pushing the mushroom shaped button, which starts the control circuit [RES. 1.2.3 – Attachment I Machine Directive].

The push-buttons-pannel is connected to the electrical equipment by a multipolar electrical cable with break-resistant metallic cores.

TROLLEYS

Monorail electric trolley, types DST/N – S – R –

• Normal – Articulated – Reduced •

They are usually composed of an idler wheel and a drive wheel assembly, both have two wheels made of machined pressed steel, and mounted on spherical bearings which are permanently lubricated. The wheels of the drive wheel assembly are opposing and have a crown gear wheel and are connected, in the normal (N) and reduced (R) versions, by a transmission bar. The articulated version (S) has a double motoreducer, both of which directly give the wheels the movement. The steel supporting plates have anti derailment and anti drop device [RES. 4.1.2.2 – Attachment I Machine Directive] and have rubber buffers. Traveling is assured by one or two self-braking motors. They have tapered motor, progressive start up and braking, one or two speeds and one or two offset geared motors with gears with helicoidal teeth which are permanently lubricated in an oil bath.



Electric trolley

Normal monorail, standard headroom, type DST/N

In the normal version the trolley has supporting bars with circular cross-sections which support the hoist by a hinge-pin type suspension. The drive and idler plates can be adjusted along the bars in relation to the width of the running beam and are complete with brackets which have bolted joints. Both assemblies, drive and idler, are connected to each other with strengthening plates.

Electric trolley, monorail, reduced headroom, type DST/R

In the low headroom version the trolley has supporting bars with circular cross-sections which support the hoist in a set-down position. The drive and idler plates are sliding and can be adjusted along the bars, in relation to the width of the running beam, with brackets which have bolted joints. The trolley has a counterbalance on the supporting bar with a circular cross-section in order to balance the eccentric weight of the hoist.

Electric trolley, monorail, articulated, type DST/S

In the articulated version the trolley has supporting bars with circular cross-sections and brackets with hinged joints which support the hoist. The drive and idler plates are sliding and can be adjusted along the bars, in relation to the width of the running beam, with brackets which have bolted joints. Both drive wheel assemblies are opposing on the same bar and are independent from the two idler wheel assemblies.





monorail trolley

Electric trolley, double girder, type DRT

The wheels, two of which are driven and two are idler, are supported by a steel crab frame. The wheels, pressed from carbon steel, rotate on permanently lubricated spherical bearings. The double girder trolley has devices to avoid derailment and anti drop [RES. 4.1.2.2 – Attachment I Machine Directive] and rubber buffers.

Activation of traverse is assured by a self-braking motor with tapered motor, progressive start-up and braking, one or two speeds and one offset reducer with gears with helicoidal teeth which are permanently lubricated in an oil bath, which confer the movement to the drive wheels by a transmission bar.

The hoist can be fitted on the top of the trolley or can be suspended and trasversal.



Traverse limit switches

On request all trolleys can be supplied complete with the limit switches [RES. 4.1.2.6 a – Attachment I Machine Directive].

Towing arm

A towing arm is available on request for all types of trolleys, adjustable in all directions, to connect the trolley/hoist to the electricity supply and to avoid breakage of the conductors.

Oscillating brackets for hoists mounted on a DST/N trolley.

Available on request to allow the hoist to oscillate with respect to the vertical axis of the running beam.



double girder trolley



QUALITY PRODUCTS OF A LEADER COMPANY

Donati range of products meets the demands of hoisting equipment for manufacturing industry applications, offering an incomparable relation between quality and price coupled with professional design.

The electric chain hoist DMK series with capacities up to 4000 Kg, the hand-push and powered slewing jib cranes, the electric wire rope hoist DRH series with capacities up to 40000 Kg, the suspended DSC channel profile systems and the wheel drive unit DGP, represent solutions for handling problems safely and economically.

Special versions for all products and also versions with CSA/US approval are available on request.

The constant care of DONATI SOLLEVAMENTI S.r.l. over the customer satisfaction is directed to establish a long-term relation, based on the mutual respect and trust, thanks to the flexibility and promptitude of the organization and to the direct and personal contact.

The after-sales service is organized in order to give prompt answers and solutions about spares-parts, service and warranties procedures.

Since 1930 DONATI SOLLEVAMENTI S.r.l. has become more and more successful in international markets for lifting equipment, due to our flexible, technological and design innovation.

The experience of many years of qualified presence in the market and the precise will to face the issues about safety and conformity to the rules without any compromises are a guarantee of safety and reliability.

The constant quality and reliability of all our products and services are granted from the certification of our internal quality insurance system, regulated since 1993, Donati organization, starting from the control of the materials and of the manufacturing process till the finished products.



DONATI SOLLEVAMENTI S.r.l.
offer a range of products
in line with the most
modern international
regularity standards.





the design and assembling process

CERTIFICATES AND GUARANTEES



The on going and careful attention to quality by Donati Sollevamenti S.r.l seen, not only through our careful design, responsible choices and constant checks of materials, of all phases of production and of the finished product, but it also involves the whole organisation, through the quality control system which, since 1993, controls and checks the life of the whole company.

The integrity in the design and production of all Donati products would not be complete without the careful consideration of the international regulations referred to which give a guarantee of safety for the Client and user and acts as a passport for internationalisation and diffusion of our products throughout the world. In this light we recommend reading the recent CSA approval with extension ANSI/UL of the DRH rope hoists and relative accessories and translation trolleys made in special execution for the north American market.

The DRH series electric rope hoists and relative trolleys are designed and produced taking into consideration the **“Essential Requirements” of Safety in Attachment I of the Community Directive 98/37/CE ex 89/392 CEE and subsequent amendments 91/368/CEE, 93/44/CEE and 93/68/CEE**, denominated Machine Directive. Furthermore, the DRH series hoists and relative trolleys conform to the following Directives: **Low Voltage Directive (DBT) 2006/95/CE. Electromagnetic Compatibility Directive (EMC) 2004/108/CE.**

Regulatory framework

The following are the main technical rules and regulations which were taken into consideration during the design and assembling of the DRH series electric rope hoists:

- EN 12100 parts: 1a - 2a “Safety of the machinery”.
- EN 60204 - 32: “Safety of the electrical equipment of lifting machines”.
- EN 60439 - 1: “Low voltage controls equipment”.
- EN 60529: “IP enclosure”.
- ISO 4301 - 1: “Classification of lifting equipment”.
- ISO 4308 - 1: “Choice of ropes”.
- UNI 7670: “Calculation of the mechanisms of the lifting equipments”.
- UNI 9466: “Calculation of the drums”.
- DIN 15401: “Choice of the lifting hooks”.
- FEM 1.001/98: “Calculation of the lifting equipments”.
- FEM 9.511/86: “Classification of the mechanisms”.
- FEM 9.661/86: “Choice of the drums, ropes and pulleys”.
- FEM 9.683/95: “Choice of the lifting and traverse motors”.
- FEM 9.755/93: “Periods of safe work”.
- FEM 9.941/95: “Control symbols”.

Criteria and condition of use

- Correctly determine the operating limits of the hoist in order to ensure the correct functioning and the complete correspondence to the operating systems of the work for which it is intended.
- The FEM 9.511 rule allows the classification of hoists according to the conditions of use.
- The necessary parameters to determine the limits of use for electric wire rope hoists are the following:
 - 1) Actual lifting capacity
 - 2) Stress level
 - 3) Average duration of daily use

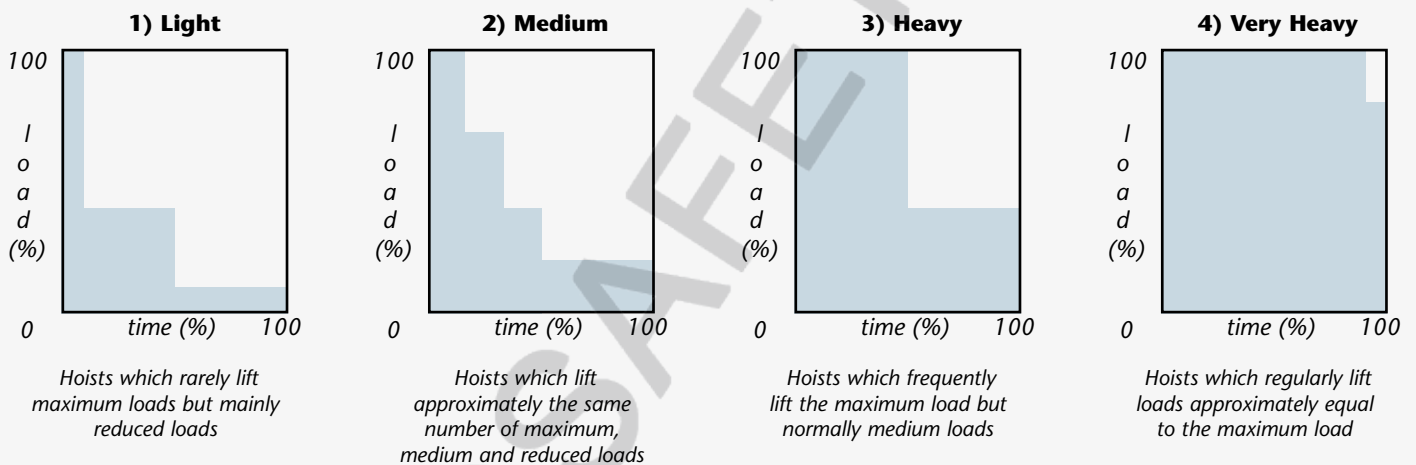
1) Actual lifting capacity

- This is determined by the heaviest load to be lifted.

| | | |
|----------|--|------------------------------|
| ! | <i>The nominal lifting capacity of the hoist must be \geq the actual lifting capacity</i> | <i>Lifting capacity = kg</i> |
|----------|--|------------------------------|

2) Stress level

- The stress level is determined considering the actual entity of the loads lifted and it is ascribable to one of the four spectrums of load shown below which determine the type of service.



3) Average duration of daily use - T_m =Hours

- For **lifting** operations the average duration of use is calculated in the following way:

$$T_m \text{ (hours)} = \frac{AH \cdot C_e \times C/h \times T_i}{30 \times V}$$

| | | | |
|---|---|--|--|
| <p>Actual hook run AHR = m</p> <p>$C_e = m$</p> <p><i>It is the average of the actual runs of the load</i></p> | <p>Operative cycles $C/h = N^\circ$ cycles per hour</p> <p>$C/h = N^\circ$ cycles for hour</p> <p><i>It is the number of complete ascents and descents carried out in an hour</i></p> | <p>Running time $R_t = \text{hours}$</p> <p>$T_i = \text{hours}$</p> <p><i>Hoist running time in a whole day</i></p> | <p>Lifting speed $S = \text{m/min.}$</p> <p>$V = \text{m/min.}$</p> <p><i>It is the distance covered by the load in a minute</i></p> |
|---|---|--|--|

• For travel operations the average duration of use is determined in the following way:

$$T_m \text{ (hours)} = \frac{P_m \times C/h \times T_i}{30 \times V}$$

Actual average run
AAR (m) = L/2

P_m (m) = L/2

It is the average of the length L of the trolley running beam

Operative cycles
C/h = N° cycles for hour

C/h = N° cycles for hour

It is the number of complete runs (right/left) carried out in an hour

Running time
Rt = ore

T_i = hours

It is the running time of the trolley in a day

Travel speed
S = m/min.

V = m/min.

It is the distance covered by the trolley in a minute of continuous running

Having determined the **stress level** and the **average duration of daily use** for lifting and/or travelling, using the following table the identification group of the relative mechanisms are classified and then, according to the **lifting capacity**, the type of hoist is determined.

| Level of stress | | Average daily running time - T _m = Hours | | | | | | |
|--|--|---|---|-----------|----------|----------|----------|----------|
| 1) Light Load | | ≤ 2 | ≤ 4 | ≤ 8 | ≤ 16 | > 16 | - | |
| 2) Medium Load | | ≤ 1 | ≤ 2 | ≤ 4 | ≤ 8 | ≤ 16 | > 16 | |
| 3) Heavy Load | | ≤ 0,5 | ≤ 1 | ≤ 2 | ≤ 4 | ≤ 8 | ≤ 16 | |
| 4) Very Heavy Load | | ≤ 0,25 | ≤ 0,5 | ≤ 1 | ≤ 2 | ≤ 4 | ≤ 8 | |
| Service group of the mechanisms of lifting and translation | | ISO 4301/88 FEM 9.511/86 | M3 1Bm | M4 1Am | M5 2m | M6 3m | M7 4m | M8 5m |
| Intermittent use according to FEM standard 9.683/95 | Hoist | Ratio of intermittence (RI%) | 25 | 30 | 40 | 50 | 60 | 60 |
| | | N° Start-ups per hour (A/h) | 150 | 180 | 240 | 300 | 360 | 360 |
| | Trolley | N° Cycles per hour (C/h) | 25 | 30 | 40 | 50 | 60 | 60 |
| | | Ration of intermittence (RI%) | 20 | 25 | 30 | 40 | 50 | 60 |
| Two-speed double-polarity motors | N° Start-ups per hour (A/h) | Main speed | 1/3 (33. 3 % of total N° of start-ups per hour) | | | | | |
| | | Low speed | 2/3 (66. 7 % of total N° of start-ups per hour) | | | | | |
| | Daily running time (T _m) | Main speed | 2/3 (66. 7 % of the average daily running time) | | | | | |
| | | Low speed | 1/3 (33. 3 % of the average daily running time) | | | | | |
| Temporary use | Running time at main speed (min) | 15 | 15 | 30 | 30 | 60 | > 60 | |
| | Running time at low speed (min.) | 2,5 | 3 | 3,5 | 4 | 5 | 6 | |
| | Maximum N° of start-ups per hour (A/h) | 10 | 10 | 10 | 10 | 10 | 10 | |

Example:

Calculation of the average daily running time (T_m) based on the following factors:
Capacity = 6300 kg; Level of stress = Medium load 2); Actual hook run (AHR) = 3 m; N° Hourly Cycles (C/h) = 10; Daily running time (Rt) = 8 h; Lifting speed (S) = 4 m/min. Performed with a hoist with 4 rope falls.

$$T_m \text{ (hours)} = \frac{C_e \times C/h \times T_i}{30 \times V} = \frac{3 \times 10 \times 8}{30 \times 4} = 2 \text{ h}$$

In the table in section 2.2.7, in relation to the capacity (6300 kg), at a medium level of stress (2) and at an average daily running time (T_m = 2 h) it is possible to determine the rope hoist, with 4/1 falls of rope, which is:

FEM service group 1Am – Type DRH 24L1•M



- The designation of the group of utilization of the wire rope hoist is shown on the label plate on the hoist (see paragraph 3.5.3 - List of labelling plates)
- DONATI SOLLEVAMENTI S.r.l. guarantees the safe and lasting utilization only if the DRH electric wire rope hoist is used according to the corresponding parameters for the group of utilization foreseen.

Characteristics and technical data

| Capacity (kg) | FEM Group of the hoist | Life and service reducers/ motors ⁽¹⁾ | Type DRH | Typical data of the DRH electric wire rope hoists | | | | | | | | | | Rope ⁽⁴⁾ | | Type of trolley on the hoist | |
|------------------|------------------------------|---|---------------|---|---------|---------------------|---------|---|----|----|----|-----|-------------|---------------------|-----------------------|---------------------------------|--|
| | | | | Speed at 50 Hz (m/min.) ⁽²⁾ | | Motor power (kW) | | Lifting height (m) with rope drum ^{(3) (4) (5)} | | | | | N° falls | Ø/Type (mm) | monorail DST - N/R | double girder DRT | |
| | | | | 1 Speed | 2 Speed | 1 Speed | 2 Speed | C | N | L | X1 | X2 | | | | | |
| 800 | 3m | > 5m | 12L3•D | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| | 3m | 3m | 12V3•D | 12 | 12/4 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| 1000 | 3m | > 5m | 14L3•E | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 5m | 14V3•E | 6 | 6/2 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 2m | 4m | 12L2•E | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| | 3m | 4m | 12L3•E | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| | 2m | 2m | 12V2•E | 12 | 12/4 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| 1250 | 3m | > 5m | 14L3•F | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 4m | 14V3•F | 6 | 6/2 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 1Am | 3m | 12L1•F | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| | 3m | 3m | 12L3•F | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7M (7A) | 1 | 1 | |
| | 1Am | 1Am | 12V1•F | 12 | 12/4 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7B (7B) | 1 | 1 | |
| | 2m | 3m | 22V2•F | 12 | 12/4 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9B (9B) | 1 | 1 | |
| 1600 | 3m | 3m | 22V3•F | 12 | 12/4 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 8M (8B) | 1 | 1 | |
| | 3m | 5m | 14L3•G | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 3m | 14V3•G | 6 | 6/2 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 1Am | 2m | 12L1•G | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7M (7A) | 1 | 1 | |
| | 2m | 2m | 12L2•G | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7M (7A) | 1 | 1 | |
| | 3m | 4m | 22L3•G | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 8A (8A) | 1 | 1 | |
| | 2m | 2m | 22V2•G | 12 | 12/4 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9B (9B) | 1 | 1 | |
| 2000 | 3m | 5m | 32V3•G | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12M (12A) | 2 | 2 | |
| | 2m | 4m | 14L2•H | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 4m | 14L3•H | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 2m | 2m | 14V2•H | 6 | 6/2 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 4m | 24V3•H | 6 | 6/2 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 8M (8B) | 2 | 1 | |
| | 1Am | 1Am | 12L1•H | 8 | 8/2,6 | 3 | 3/1 | 8 | 12 | 24 | 34 | 45 | 2/1 | 7A (7A) | 1 | 1 | |
| | 2m | 3m | 22L2•H | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9B (9B) | 1 | 1 | |
| | 3m | 3m | 22L3•H | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | - | - | - | 2/1 | 8A | 1 | 1 | |
| | 1Am | 1Am | 22V1•H | 12 | 12/4 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9B (9B) | 1 | 1 | |
| | 2m | 4m | 32V2•H | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| 2500 | 3m | 4m | 32V3•H | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12M (12A) | 2 | 2 | |
| | 1Am | 3m | 14L1•I | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 3m | 3m | 14L3•I | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7M (7A) | 1 | 1 | |
| | 1Am | 1Am | 14V1•I | 6 | 6/2 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7B (7B) | 1 | 1 | |
| | 2m | 3m | 24V2•I | 6 | 6/2 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9B (9B) | 2 | 1 | |
| | 3m | 3m | 24V3•I | 6 | 6/2 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 8M (8B) | 2 | 1 | |
| | 1Am | 2m | 22L1•I | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9M (9A) | 1 | 1 | |
| | 2m | 2m | 22L2•I | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9M (9A) | 1 | 1 | |
| | 3m | 5m | 32L3•I | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12M (12B) | 2 | 2 | |
| | 2m | 3m | 32V2•I | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| 3200 | 3m | 3m | 32V3•I | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12M (12A) | 2 | 2 | |
| | 1Am | 2m | 14L1•J | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7M (7A) | 1 | 1 | |
| | 2m | 2m | 14L2•J | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7M (7A) | 1 | 1 | |
| | 3m | 4m | 24L3•J | 4 | 4/1,3 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 8A (8A) | 2 | 1 | |
| | 2m | 2m | 24V2•J | 6 | 6/2 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9B (9B) | 2 | 1 | |
| | 3m | 5m | 34V3•J | 6 | 6/2 | 10 | 10/3.3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12M (12A) | 3 | 2 | |
| | 1Am | 1Am | 22L1•J | 8 | 8/2,6 | 5 | 5/1.65 | 10 | 14 | 26 | 34 | 43 | 2/1 | 9A (9A) | 1 | 1 | |
| | 2m | 4m | 32L2•J | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| | 3m | 4m | 32L3•J | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12M (12A) | 2 | 2 | |
| 4000 | 2m | 2m | 32V2•J | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| | 3m | 4m | 42V3•J | 12 | 12/4 | 16 | 16/5.3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 15M (15A) | 3 | 3 | |
| | 1Am | 1Am | 14L1•K | 4 | 4/1,3 | 3 | 3/1 | 4 | 6 | 9 | 14 | 19 | 4/1 | 7A (7A) | 1 | 1 | |
| | 2m | 3m | 24L2•K | 4 | 4/1,3 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9B (9B) | 2 | 1 | |
| | 3m | 3m | 24L3•K | 4 | 4/1,3 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | - | 4/1 | 8A | 2 | 1 | |
| | 1Am | 1Am | 24V1•K | 6 | 6/2 | 5 | 5/1.65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9B (9B) | 2 | 1 | |
| | 2m | 4m | 34V2•K | 6 | 6/2 | 10 | 10/3.3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 3m | 4m | 34V3•K | 6 | 6/2 | 10 | 10/3.3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12M (12A) | 3 | 2 | |
| | 1Am | 3m | 32L1•K | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| | 2m | 3m | 32L2•K | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13M (13B) | 2 | 2 | |
| | 3m | 3m | 32L3•K | 8 | 8/2,6 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 12A (12A) | 2 | 2 | |
| | 1Am | 1Am | 32V1•K | 12 | 12/4 | 10 | 10/3.3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13B (13B) | 2 | 2 | |
| 2m | 3m | 42V2•K | 12 | 12/4 | 16 | 16/5.3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16B (16B) | 3 | 3 | | |
| 3m | 3m | 42V3•K | 12 | 12/4 | 16 | 16/5.3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 15M (15A) | 3 | 3 | | |

| Capacity (kg) | FEM Group of the hoist | Life and service reducers/ motors ⁽¹⁾ | Type DRH | Typical data of the DRH electric wire rope hoists | | | | | | | | | | Rope ⁽⁴⁾ | | Type of trolley on the hoist | |
|------------------|---------------------------------|---|-------------|---|---------|---------------------|---------|---|----|----|----|-----|-------------|---------------------|-----------------------|---------------------------------|--|
| | | | | Speed at 50 Hz (m/min.) ⁽²⁾ | | Motor power (kW) | | Lifting height (m) with rope drum ⁽³⁾ (4) (5) | | | | | N° falls | Ø/Type (mm) | monorail DST - N/R | double girder DRT | |
| | | | | 1 Speed | 2 Speed | 1 Speed | 2 Speed | C | N | L | X1 | X2 | | | | | |
| 5000 | 1Am | 2m | 24L1•L | 4 | 4/1,3 | 5 | 5/1,65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9M (9A) | 2 | 1 | |
| | 2m | 2m | 24L2•L | 4 | 4/1,3 | 5 | 5/1,65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9M (9A) | 2 | 1 | |
| | 3m | 5m | 34L3•L | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12M (12A) | 3 | 2 | |
| | 2m | 3m | 34V2•L | 6 | 6/2 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 3m | 3m | 34V3•L | 6 | 6/2 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12M (12A) | 3 | 2 | |
| | 1Am | 2m | 32L1•L | 8 | 8/2,6 | 10 | 10/3,3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13M (13A) | 2 | 2 | |
| | 2m | 2m | 32L2•L | 8 | 8/2,6 | 10 | 10/3,3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13M (13A) | 2 | 2 | |
| | 3m | 4m | 42L3•L | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 15M (15A) | 3 | 3 | |
| 2m | 2m | 42V2•L | 12 | 12/4 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16B (16B) | 3 | 3 | | |
| 6300 | 1Am | 1Am | 24L1•M | 4 | 4/1,3 | 5 | 5/1,65 | 5 | 7 | 10 | 14 | 18 | 4/1 | 9A (9A) | 2 | 1 | |
| | 2m | 4m | 34L2•M | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 3m | 4m | 34L3•M | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12M (12A) | 3 | 2 | |
| | 2m | 2m | 34V2•M | 6 | 6/2 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 3m | 4m | 44V3•M | 6 | 6/2 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 15M (15A) | 4 | 3 | |
| | 1Am | 1Am | 32L1•M | 8 | 8/2,6 | 10 | 10/3,3 | 10 | 14 | 28 | 37 | 47 | 2/1 | 13A (13A) | 2 | 2 | |
| | 2m | 3m | 42L2•M | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16B (16B) | 3 | 3 | |
| | 3m | 3m | 42L3•M | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 15A (15A) | 3 | 3 | |
| 1Am | 1Am | 42V1•M | 12 | 12/4 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16B (16B) | 3 | 3 | | |
| 8000 | 1Am | 3m | 34L1•N | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 2m | 3m | 34L2•N | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13M (13B) | 3 | 2 | |
| | 3m | 3m | 34L3•N | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 12A (12A) | 3 | 2 | |
| | 1Am | 1Am | 34V1•N | 6 | 6/2 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13B (13B) | 3 | 2 | |
| | 2m | 3m | 44V2•N | 6 | 6/2 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16B (16B) | 4 | 3 | |
| | 3m | 3m | 44V3•N | 6 | 6/2 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 15M (15A) | 4 | 3 | |
| | 1Am | 2m | 42L1•N | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16M (16M) | 3 | 3 | |
| | 2m | 2m | 42L2•N | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16M (16M) | 3 | 3 | |
| 10000 | 1Am | 2m | 34L1•O | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13M (13A) | 3 | 2 | |
| | 2m | 2m | 34L2•O | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13M (13A) | 3 | 2 | |
| | 3m | 4m | 44L3•O | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 15M (15A) | 4 | 3 | |
| | 2m | 2m | 44V2•O | 6 | 6/2 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16B (16B) | 4 | 3 | |
| | 1Am | 1Am | 42L1•O | 8 | 8/2,6 | 16 | 16/5,3 | 12 | 16 | 32 | 45 | 58 | 2/1 | 16A (16A) | 3 | 3 | |
| 12500 | 1Am | 1Am | 34L1•P | 4 | 4/1,3 | 10 | 10/3,3 | 5 | 7 | 10 | 14 | 19 | 4/1 | 13A (13A) | 3 | 2 | |
| | 2m | 3m | 44L2•P | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16B (16B) | 4 | 3 | |
| | 3m | 3m | 44L3•P | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 15A (15A) | 4 | 3 | |
| | 1Am | 1Am | 44V1•P | 6 | 6/2 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16B (16B) | 4 | 3 | |
| 16000 | 1Am | 2m | 44L1•Q | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16M (16M) | 4 | 3 | |
| | 2m | 2m | 44L2•Q | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16M (16M) | 4 | 3 | |
| 20000 | 1Am | 1Am | 44L1•R | 4 | 4/1,3 | 16 | 16/5,3 | 6 | 8 | 11 | 17 | 24 | 4/1 | 16A (16A) | 4 | 3 | |
| 25000 | 2m | 2m | 46L2•S | 2,7 | 2,7/0,9 | 16 | 16/5,3 | / | 5 | 10 | 14 | / | 6/1 | 16A | / | 3(7) | |
| 32000 | 1Am | 1Am | 46L1•T | 2,7 | 2,7/0,9 | 16 | 16/5,3 | / | 5 | 10 | 14 | / | 6/1 | 16A | / | 3(7) | |
| 40000 | 1Am | 1Am | 48L1•U | 2 | 2/0,7 | 16 | 16/5,3 | / | 4 | 8 | 11 | / | 8/1 | 16A | / | 4(6) | |

Trolley data and motor power (maximums suppliable = kW) with one and two travel speeds

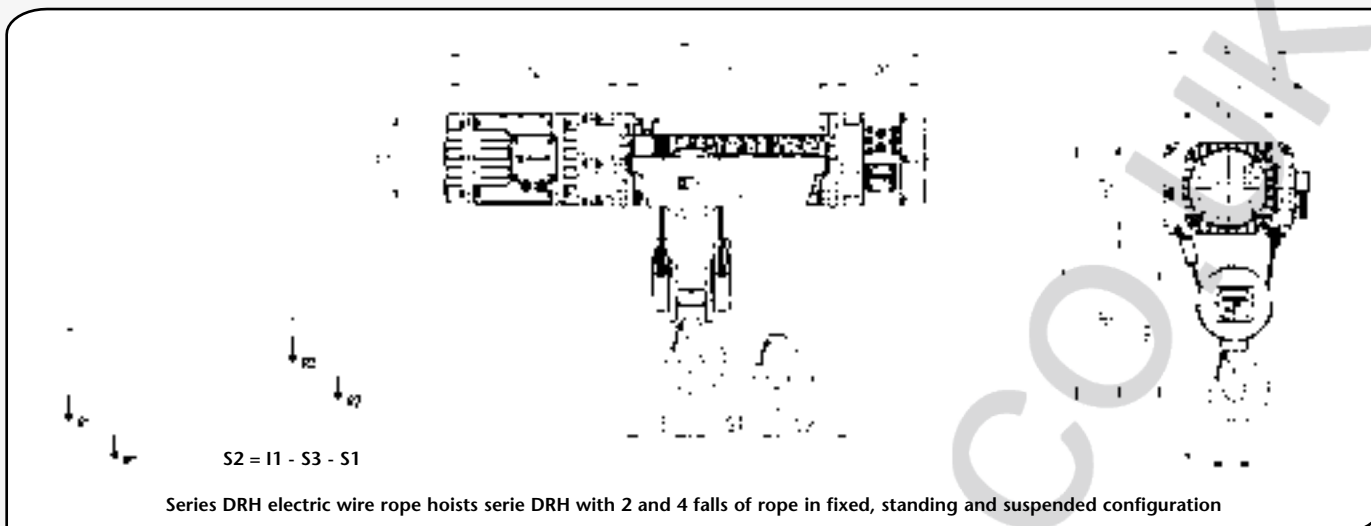
| Electric travel trolley Type - Size | 1 Speed: 8 or 10 m/min. ⁽²⁾ | | | | 1 Speed : 16 or 20 m/min. ⁽²⁾ | | | | 2 Speed: 16/4 or 20/5 m/min. ⁽²⁾ | | | | |
|---|--|-----|-----------------|-------------|--|-----|----------------|-------------|---|------|-------------------|-------------|-----------|
| | Reducer ratio with speed m/min | | Trolley motor | | Reducer ratio with speed m/min | | Trolley motor | | Reducer ratio with speed m/min | | Trolley motor | | |
| | 8 | 10 | Type 4 poles | Power kW | 16 | 20 | Type 2 poli | Power kW | 16/4 | 20/5 | Type 2/8 poles | Power kW | |
| DST - N/R Monorail | 1 - 2 | ↑ 1 | ↑ 2 | 71 - 4 | 0,16 | ↑ 1 | ↑ 2 | 71 - 2 | 0,32 | ↑ 1 | ↑ 2 | 71 - D | 0,32/0,08 |
| | 3 | ↑ 1 | ↑ 2 | 80 - 4 | 0,25 | ↑ 1 | ↑ 2 | 80 - 2 | 0,50 | ↑ 1 | ↑ 2 | 80 - D | 0,50/0,12 |
| | 4 | ↑ 1 | ↑ 2 | 80 - 4 | 0,32 | ↑ 1 | ↑ 2 | 80 - 2 | 0,63 | ↑ 1 | ↑ 2 | 80 - D | 0,63/0,16 |
| DRT double girder | 1 | ↑ 1 | ↑ 2 | 71 - 4 | 0,16 | ↑ 1 | ↑ 2 | 71 - 2 | 0,32 | ↑ 1 | ↑ 2 | 71 - D | 0,32/0,08 |
| | 2 | ↑ 1 | ↑ 2 | 80 - 4 | 0,25 | ↑ 1 | ↑ 2 | 80 - 2 | 0,50 | ↑ 1 | ↑ 2 | 80 - D | 0,50/0,12 |
| | 3 | ↑ 1 | ↑ 2 | 100 - 4 | 0,63 | ↑ 1 | ↑ 2 | 100 - 2 | 1,25 | ↑ 1 | ↑ 2 | 100 - D | 1,25/0,32 |
| | 4 | ↑ 1 | ↑ 2 | 100 - 4 | 0,63 | ↑ 1 | ↑ 2 | 100 - 2 | 1,25 | ↑ 1 | ↑ 2 | 100 - D | 1,25/0,32 |

Breaking load of the ropes (minimum granted kN)

| Hoist type → Ø Rope → Strength classes → | DRH 1 | | | DRH 2 | | | | | DRH 3 | | | | | DRH 4 | | | | |
|--|--------|------|------|--------|------|--------|------|------|---------|-------|---------|-------|-------|---------|-------|---------|-------|-------|
| | Ø 7 mm | | | Ø 8 mm | | Ø 9 mm | | | Ø 12 mm | | Ø 13 mm | | | Ø 15 mm | | Ø 16 mm | | |
| | B | M | A | M | A | B | M | A | M | A | B | M | A | M | A | B | M | A |
| Normal (kN) | 30,4 | 42,1 | 48,1 | 42,0 | 65,6 | 53,1 | 69,6 | 74,6 | 121,7 | 138,7 | 102,0 | 142,5 | 163,4 | 189,7 | 219,2 | 176,9 | 215,9 | 236,0 |
| Non rotating (kN) | 35,3 | = | 48,8 | 46,1 | 60,5 | 58,4 | = | 76,6 | = | 136,2 | 121,8 | = | 159,8 | = | 212,7 | 184,4 | 242,1 | 255,0 |

NOTE: ⁽¹⁾ This column indicates the FEM reference group for evaluation of normal conditions and/or the life span of the motored reducer only.
⁽²⁾ The lifting and translation speeds and the power of the relative motors are related to a three-phase electrical supply with a frequency of 50 Hz.
⁽³⁾ The drum N (standard) is available in stock, C (short) L (long) X1 and X2 are available on request.
⁽⁴⁾ Hoists with 2 falls of rope (2/1), a long (L) and extra long rope drum size 1 (X1) and hoists with 2 and 4 falls of rope (2/1 e 4/1) and an extra long rope drum size 2 (X2) use anti-twist ropes. The type of anti-twist rope is shown in brackets.
⁽⁵⁾ The extra long drums size 1 (X1) and size 2 (X2) are supplied without the protective roof.
⁽⁶⁾ The trolley is made with two traverse motored reducer. Therefore the power values shown in the table must be doubled.
⁽⁷⁾ he trolley is made with two traverse motored reducer (with motor 80 and powers as DRT2). Therefore the power values shown in the table must be doubled.

Overall dimensions - Weights - Reactions on the supports



* DRH3 and DRH4 with Low Voltage Control Box, the dimension P has to be: DRH3 = 330; DRH4 = 360

| Falls of rope N° | DRH | Type of drum C-N-L | Hoist weight (kg) | Overall dimensions (mm) | | | | | | | | | | | | | | |
|------------------|-----|--------------------|-------------------|-------------------------|-----|-----|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|----|
| | | | | H | H1 | H2 | H3 | I | I1 | L | L1 | R | N | P | Q | S1 | S3 | S4 |
| 2/1 | 1 | C | 132 | 690 | 460 | 230 | 390 | 250 | 400 | 320 | 210 | 1135 | 480 | 255 | 225 | 125 | 95 | 28 |
| | | N | 141 | 690 | 460 | 230 | 390 | 250 | 515 | 320 | 210 | 1250 | 480 | 255 | 225 | 185 | 95 | 28 |
| | | L | 160 | 690 | 460 | 230 | 390 | 250 | 890 | 320 | 210 | 1625 | 480 | 255 | 225 | 275 | 95 | 28 |
| | 2 | C | 180 | 820 | 550 | 270 | 445 | 290 | 480 | 370 | 235 | 1275 | 525 | 270 | 260 | 160 | 100 | 30 |
| | | N | 195 | 820 | 550 | 270 | 445 | 290 | 600 | 370 | 235 | 1395 | 525 | 270 | 260 | 220 | 100 | 30 |
| | | L | 215 | 820 | 550 | 270 | 445 | 290 | 1000 | 370 | 235 | 1795 | 525 | 270 | 260 | 310 | 100 | 30 |
| | 3 | C | 460 | 1090 | 710 | 380 | 595 | 370 | 600 | 480 | 290 | 1510 | 705 | 205 | 300 | 195 | 130 | 40 |
| | | N | 490 | 1090 | 710 | 380 | 595 | 370 | 740 | 480 | 290 | 1650 | 705 | 205 | 300 | 265 | 130 | 40 |
| | | L | 565 | 1090 | 710 | 380 | 595 | 370 | 1260 | 480 | 290 | 2170 | 705 | 205 | 300 | 375 | 130 | 40 |
| | 4 | C | 855 | 1400 | 920 | 470 | 750 | 460 | 722 | 600 | 360 | 1797 | 855 | 220 | 340 | 220 | 170 | 45 |
| | | N | 890 | 1400 | 920 | 470 | 750 | 460 | 862 | 600 | 360 | 1937 | 855 | 220 | 340 | 290 | 170 | 45 |
| | | L | 1010 | 1400 | 920 | 470 | 750 | 460 | 1422 | 600 | 360 | 2497 | 855 | 220 | 340 | 400 | 170 | 45 |
| 4/1 | 1 | C | 140 | 650 | 420 | 230 | 345 | 250 | 400 | 320 | 210 | 1135 | 480 | 255 | 225 | 70 | 150 | 15 |
| | | N | 150 | 650 | 420 | 230 | 345 | 250 | 515 | 320 | 210 | 1250 | 480 | 255 | 225 | 100 | 150 | 15 |
| | | L | 170 | 650 | 420 | 230 | 345 | 250 | 890 | 320 | 210 | 1625 | 480 | 255 | 225 | 160 | 165 | 15 |
| | 2 | C | 195 | 750 | 480 | 270 | 390 | 290 | 480 | 370 | 235 | 1275 | 525 | 270 | 260 | 105 | 180 | 19 |
| | | N | 205 | 750 | 480 | 270 | 390 | 290 | 600 | 370 | 235 | 1395 | 525 | 270 | 260 | 135 | 180 | 19 |
| | | L | 235 | 750 | 480 | 270 | 390 | 290 | 1000 | 370 | 235 | 1795 | 525 | 270 | 260 | 210 | 200 | 19 |
| | 3 | C | 515 | 1020 | 640 | 380 | 540 | 370 | 600 | 480 | 290 | 1510 | 705 | 205 | 300 | 130 | 240 | 23 |
| | | N | 540 | 1020 | 640 | 380 | 540 | 370 | 740 | 480 | 290 | 1650 | 705 | 205 | 300 | 160 | 240 | 23 |
| | | L | 625 | 1020 | 640 | 380 | 540 | 370 | 1260 | 480 | 290 | 2170 | 705 | 205 | 300 | 240 | 270 | 23 |
| | 4 | C | 960 | 1320 | 850 | 470 | 700 | 460 | 722 | 600 | 360 | 1797 | 855 | 220 | 340 | 150 | 300 | 25 |
| | | N | 1000 | 1320 | 850 | 470 | 700 | 460 | 862 | 600 | 360 | 1937 | 855 | 220 | 340 | 180 | 300 | 25 |
| | | L | 1140 | 1320 | 850 | 470 | 700 | 460 | 1422 | 600 | 360 | 2497 | 855 | 220 | 340 | 220 | 300 | 25 |

| Hoist | | Version with 2 falls of rope (2/1) | | | | | |
|-------|-------------|------------------------------------|------|--------|------|--------|-----|
| DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 800 | 349 | 117 | 373 | 97 | 410 | 69 |
| | 1000 | 425 | 141 | 455 | 115 | 500 | 79 |
| | 1250 | 521 | 170 | 557 | 138 | 611 | 93 |
| | 1600 | 654 | 212 | 699 | 171 | 768 | 111 |
| | 2000 | 806 | 260 | 863 | 207 | 946 | 133 |
| 2 | 1250 | 555 | 160 | 586 | 136 | 634 | 99 |
| | 1600 | 693 | 197 | 732 | 165 | 792 | 116 |
| | 2000 | 852 | 238 | 898 | 199 | 972 | 136 |
| | 2500 | 1050 | 290 | 1107 | 240 | 1197 | 161 |
| | 3200 | 1327 | 363 | 1398 | 299 | 1512 | 196 |
| 3 | 2500 | 1133 | 347 | 1193 | 302 | 1309 | 223 |
| | 3200 | 1407 | 423 | 1482 | 363 | 1623 | 259 |
| | 4000 | 1721 | 509 | 1812 | 433 | 1982 | 300 |
| | 5000 | 2112 | 618 | 2224 | 521 | 2430 | 352 |
| | 6300 | 2621 | 759 | 2760 | 635 | 3013 | 419 |
| 4 | 4000 | 1813 | 614 | 1901 | 543 | 2097 | 407 |
| | 5000 | 2195 | 732 | 2302 | 642 | 2536 | 468 |
| | 6300 | 2691 | 886 | 2823 | 771 | 3109 | 545 |
| | 8000 | 3341 | 1086 | 3505 | 939 | 3857 | 647 |
| | 10000 | 4104 | 1323 | 4308 | 1136 | 4738 | 766 |

| Hoist | | Version with 4 falls of rope (4/1) | | | | | |
|-------|-------------|------------------------------------|------|--------|------|--------|------|
| DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 1600 | 546 | 324 | 617 | 258 | 708 | 176 |
| | 2000 | 671 | 399 | 759 | 316 | 871 | 213 |
| | 2500 | 826 | 494 | 935 | 389 | 1074 | 260 |
| | 3200 | 1046 | 624 | 1184 | 491 | 1360 | 324 |
| | 4000 | 1296 | 774 | 1468 | 607 | 1686 | 398 |
| 2 | 2500 | 847 | 500 | 943 | 409 | 1078 | 289 |
| | 3200 | 1065 | 632 | 1188 | 514 | 1358 | 359 |
| | 4000 | 1315 | 782 | 1468 | 634 | 1678 | 439 |
| | 5000 | 1627 | 970 | 1818 | 784 | 2078 | 539 |
| | 6300 | 2034 | 1213 | 2273 | 979 | 2598 | 669 |
| 3 | 5000 | 1672 | 1086 | 1870 | 900 | 2172 | 640 |
| | 6300 | 2062 | 1346 | 2308 | 1112 | 2683 | 779 |
| | 8000 | 2572 | 1686 | 2882 | 1388 | 3351 | 961 |
| | 10000 | 3172 | 2086 | 3558 | 1712 | 4137 | 1175 |
| | 12500 | 3922 | 2586 | 4403 | 2117 | 5118 | 1444 |
| 4 | 8000 | 2654 | 1826 | 2938 | 1561 | 3535 | 1035 |
| | 10000 | 3237 | 2243 | 3589 | 1910 | 4324 | 1246 |
| | 12500 | 3966 | 2764 | 4403 | 2346 | 5310 | 1510 |
| | 16000 | 4987 | 3493 | 5543 | 2956 | 6690 | 1880 |
| | 20000 | 6154 | 4326 | 6845 | 3654 | 8268 | 2302 |

Fixing of the DRH wire rope hoists in suspended or set-down execution

Fixing in suspended execution:

Detail of the hole and the connection zone of the universal suspension/set-down eye bolt



The universal suspension/set-down eye bolt is included in the supply

Fixing in set-down execution:

Detail of the support foot and the connection zone of the universal suspension/set-down eye bolt



The universal suspension/set-down eye bolt is included in the supply

NOTE: Fixing in set-down execution:

- Using the universal eyebolt, the headroom of the hoist (height H2 on page 18), in relation to the level of setting down of the hoist itself, must be increased by the "B6" dimension.

| Rope falls N° | DRH | Overall dimensions (mm) | | | | | | | | | | | |
|---------------|-----|-------------------------|----|----|----|----|----|----|----|----|----|--------|-----|
| | | A | A1 | B | B1 | B2 | B3 | B4 | B5 | B6 | ØF | M | G |
| 2/1 | 1 | 20 | 20 | 37 | 21 | 21 | 35 | 35 | 50 | 13 | 20 | 16x2 | 65 |
| | 2 | 22 | 22 | 42 | 31 | 31 | 40 | 40 | 55 | 13 | 25 | 20x2,5 | 70 |
| 4/1 | 3 | 32 | 32 | 48 | 36 | 36 | 55 | 55 | 76 | 28 | 35 | 24x3 | 93 |
| | 4 | 42 | 42 | 60 | 38 | 46 | 70 | 70 | 89 | 29 | 45 | 30x3,5 | 108 |

DRH wire rope hoists with extra long drum (X) for high lifting height - Temporary service

The DRH electric wire rope hoists are fitted with electric motors designed for intermittent service, conforming with rule FEM 9.683/95.

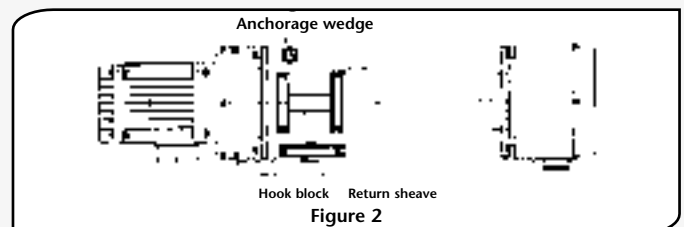
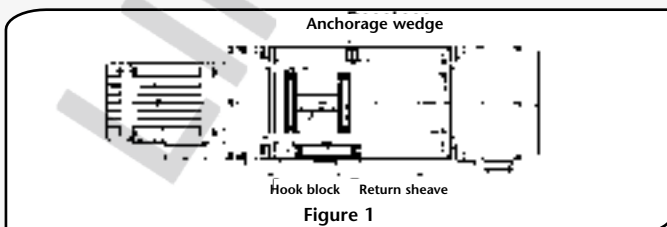
In any cases, where it is necessary to extend the running time of the motor beyond the limits allowed by the ratio of intermittence of the lifting motor, as in the case of high hook runs, the running time of the movement can last as long as the allowed limit temperature for the motor is not exceeded. In these cases, instead of the intermittent, use in "temporary service" is required.

For this type of service the hoist must respect the running times for use foreseen for the related FEM group with a maximum number of times started-up not over ten (see table in paragraph 2.2.6). If DRH hoists must be used in temporary service, as well as high lifting height, in addition to the standard versions with drum C - N- L, two sizes of **extra long drums (X)**: 1st size (X1) and 2nd size (X2), are available corresponding to other normalized versions as shown in the table.

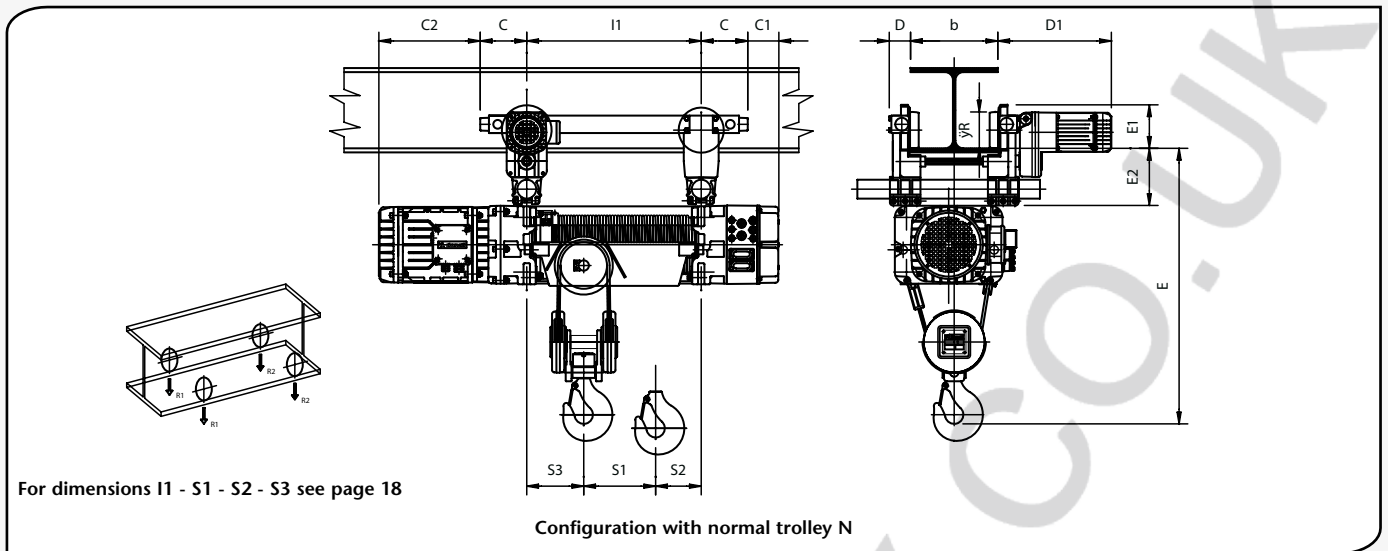
| DRH | Rope falls | DRH rope hoists with extra long rope drum (X) for high lifting height | | | | | | | |
|-----|------------|---|-------------|---------|---------|--------------------|---------|---------|---------|
| | | Lifting height (m) | Size 1 (X1) | | | Size 2 (X2) | | | |
| | | | I1 (mm) | S1 (mm) | S3 (mm) | Lifting height (m) | I1 (mm) | S1 (mm) | S3 (mm) |
| 1 | 2/1 | 34 | 1200 | 380 | 95 | 45 | 1530 | 490 | 95 |
| | 4/1 | 14 | 1200 | 230 | 165 | 19 | 1530 | 300 | 165 |
| 2 | 2/1 | 34 | 1260 | 400 | 100 | 43 | 1530 | 490 | 100 |
| | 4/1 | 14 | 1260 | 280 | 200 | 18 | 1530 | 350 | 200 |
| 3 | 2/1 | 37 | 1550 | 490 | 130 | 47 | 1940 | 620 | 130 |
| | 4/1 | 14 | 1550 | 280 | 270 | 19 | 1940 | 350 | 270 |
| 4 | 2/1 | 45 | 1852 | 580 | 170 | 58 | 2352 | 750 | 170 |
| | 4/1 | 17 | 1852 | 310 | 300 | 24 | 2352 | 410 | 300 |

Geometric position of the 4 falls hook-block

DRH electric hoists in the 4 rope falls version with a short (C) or normal (N) rope drum are made as shown in figure 1
 DRH electric hoists in the 4 rope falls version with a long (L) or extra long (X) rope drum are made as shown in figure 2



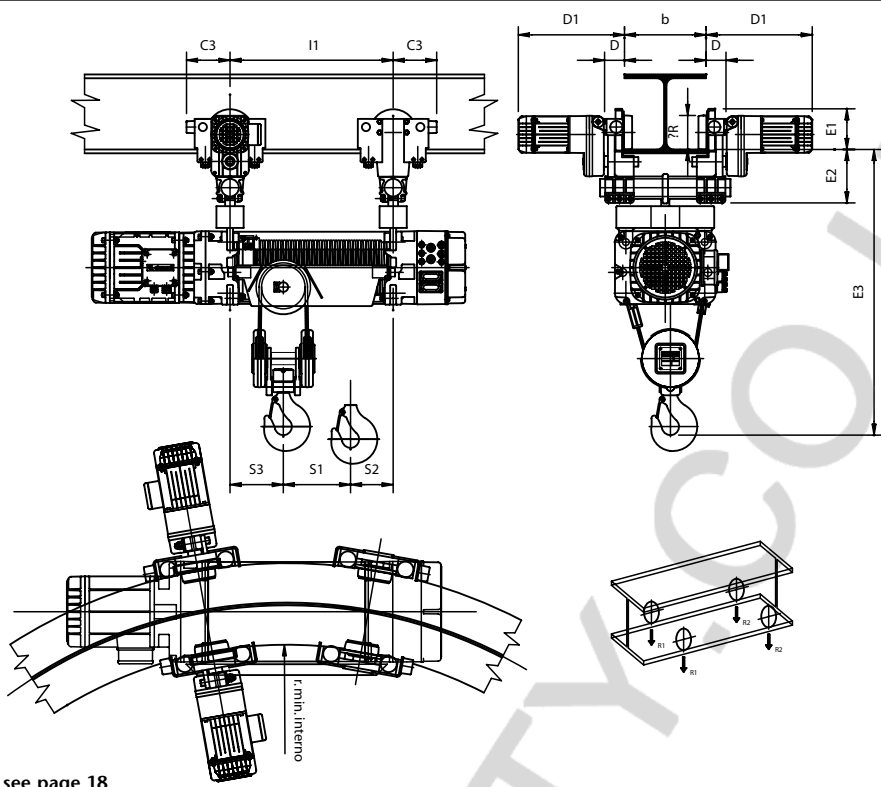
Single girder DST/N/S trolleys for DRH electric wire rope hoists -2 rope falls version (2/1) and 4 rope falls version (4/1)



| Falls of rope N° | DRH | Type of drum C-N-L | Trolley DST N/S | Weight DRH+DST (kg) | Overall dimensions (mm) | | | | | | | | | |
|------------------|-----|--------------------|-----------------|---------------------|-------------------------|------|-----|-----|-----|------|-----|-----|------|---------|
| | | | | | C | C1 | C2 | D | D1 | E | E1 | E2 | E3 | r. min. |
| 2/1 | 1 | C | 1 | 215 | 140 | 115 | 340 | 66 | 385 | 870 | 128 | 180 | 960 | 1500 |
| | | N | 1 | 220 | 140 | 115 | 340 | 66 | 385 | 870 | 128 | 180 | 960 | 1500 |
| | | L | 1 | 240 | 140 | 115 | 340 | 66 | 385 | 870 | 128 | 180 | 960 | 1500 |
| | 2 | C | 1 | 260 | 140 | 130 | 385 | 66 | 385 | 1000 | 128 | 180 | 1090 | 1500 |
| | | N | 1 | 270 | 140 | 130 | 385 | 66 | 385 | 1000 | 128 | 180 | 1090 | 1500 |
| | | L | 1 | 295 | 140 | 130 | 385 | 66 | 385 | 1000 | 128 | 180 | 1090 | 1500 |
| | 3 | C | 2 | 575 | 160 | 45 | 545 | 75 | 390 | 1290 | 148 | 195 | 1400 | 1600 |
| | | N | 2 | 600 | 160 | 45 | 545 | 75 | 390 | 1290 | 148 | 195 | 1400 | 1600 |
| | | L | 2 | 675 | 160 | 45 | 545 | 75 | 390 | 1290 | 148 | 195 | 1400 | 1600 |
| | 4 | C | 3 | 1120 | 275 | -55 | 580 | 95 | 455 | 1670 | 240 | 260 | 1840 | 1800 |
| | | N | 3 | 1155 | 275 | -55 | 580 | 95 | 455 | 1670 | 240 | 260 | 1840 | 1800 |
| | | L | 3 | 1270 | 275 | -55 | 580 | 95 | 455 | 1670 | 240 | 260 | 1840 | 1800 |
| 4/1 | 1 | C | 1 | 220 | 140 | 115 | 340 | 66 | 385 | 830 | 128 | 180 | 920 | 1500 |
| | | N | 1 | 230 | 140 | 115 | 340 | 66 | 385 | 830 | 128 | 180 | 920 | 1500 |
| | | L | 1 | 250 | 140 | 115 | 340 | 66 | 385 | 830 | 128 | 180 | 920 | 1500 |
| | 2 | C | 2 | 300 | 160 | 110 | 365 | 75 | 390 | 950 | 148 | 195 | 1060 | 1600 |
| | | N | 2 | 310 | 160 | 110 | 365 | 75 | 390 | 950 | 148 | 195 | 1060 | 1600 |
| | | L | 2 | 335 | 160 | 110 | 365 | 75 | 390 | 950 | 148 | 195 | 1060 | 1600 |
| | 3 | C | 3 | 775 | 275 | -70 | 430 | 95 | 455 | 1290 | 240 | 260 | 1460 | 1600 |
| | | N | 3 | 810 | 275 | -70 | 430 | 95 | 455 | 1290 | 240 | 260 | 1460 | 1600 |
| | | L | 3 | 880 | 275 | -70 | 430 | 95 | 455 | 1290 | 240 | 260 | 1460 | 1600 |
| | 4 | C | 4 | 1415 | 325 | -108 | 530 | 107 | 465 | 1620 | 295 | 300 | 1810 | 1800 |
| | | N | 4 | 1455 | 325 | -108 | 530 | 107 | 465 | 1620 | 295 | 300 | 1810 | 1800 |
| | | L | 4 | 1590 | 325 | -108 | 530 | 107 | 465 | 1620 | 295 | 300 | 1810 | 1800 |

| DRH | Hoist Capacity kg | Static reactions: R1; R2 = daN | | | | | |
|-----|-------------------|--------------------------------|------|--------|------|--------|-----|
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 800 | 377 | 131 | 400 | 110 | 437 | 83 |
| | 1000 | 453 | 155 | 481 | 129 | 527 | 93 |
| | 1250 | 549 | 184 | 583 | 152 | 638 | 107 |
| | 1600 | 682 | 226 | 726 | 184 | 795 | 125 |
| | 2000 | 834 | 274 | 889 | 221 | 973 | 147 |
| 2 | 1250 | 581 | 174 | 611 | 149 | 661 | 112 |
| | 1600 | 720 | 210 | 757 | 178 | 819 | 129 |
| | 2000 | 878 | 252 | 923 | 212 | 999 | 149 |
| | 2500 | 1076 | 304 | 1132 | 253 | 1224 | 174 |
| | 3200 | 1353 | 377 | 1423 | 312 | 1539 | 209 |
| 3 | 2500 | 1171 | 367 | 1230 | 320 | 1346 | 242 |
| | 3200 | 1445 | 443 | 1519 | 381 | 1660 | 278 |
| | 4000 | 1759 | 529 | 1849 | 451 | 2019 | 319 |
| | 5000 | 2150 | 638 | 2261 | 539 | 2467 | 371 |
| | 6300 | 2660 | 778 | 2797 | 653 | 3050 | 438 |
| 4 | 4000 | 1901 | 659 | 1990 | 588 | 2184 | 451 |
| | 5000 | 2283 | 777 | 2391 | 687 | 2624 | 511 |
| | 6300 | 2780 | 930 | 2913 | 815 | 3196 | 589 |
| | 8000 | 3429 | 1131 | 3595 | 983 | 3944 | 691 |
| | 10000 | 4193 | 1367 | 4397 | 1181 | 4825 | 810 |

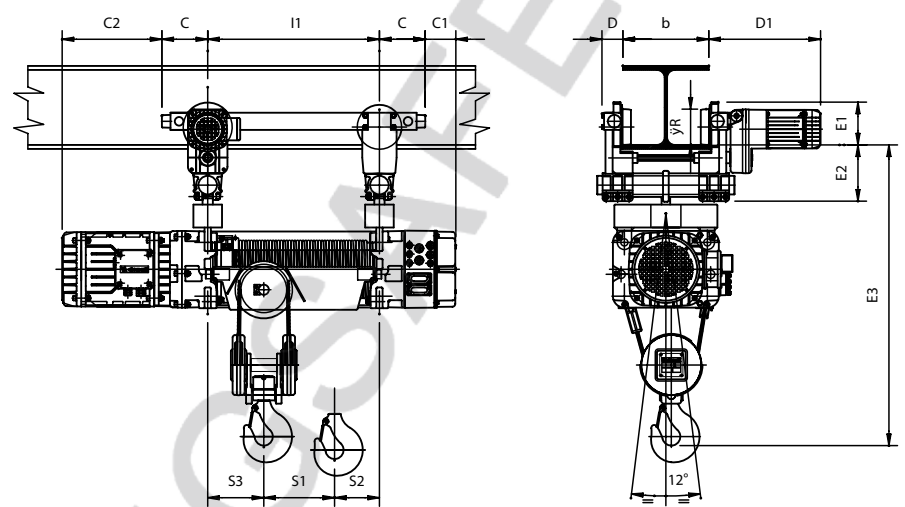
| DRH | Hoist Capacity kg | Static reactions: R1; R2 = daN | | | | | |
|-----|-------------------|--------------------------------|------|--------|------|--------|------|
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 1600 | 573 | 337 | 644 | 271 | 735 | 190 |
| | 2000 | 698 | 412 | 785 | 330 | 898 | 227 |
| | 2500 | 855 | 505 | 963 | 402 | 1102 | 273 |
| | 3200 | 1073 | 637 | 1211 | 504 | 1387 | 338 |
| | 4000 | 1323 | 787 | 1494 | 621 | 1713 | 412 |
| 2 | 2500 | 881 | 519 | 978 | 427 | 1112 | 306 |
| | 3200 | 1100 | 650 | 1223 | 532 | 1392 | 376 |
| | 4000 | 1350 | 800 | 1503 | 652 | 1712 | 456 |
| | 5000 | 1663 | 987 | 1853 | 802 | 2112 | 556 |
| | 6300 | 2069 | 1231 | 2308 | 997 | 2632 | 686 |
| 3 | 5000 | 1758 | 1130 | 1959 | 946 | 2258 | 682 |
| | 6300 | 2148 | 1390 | 2398 | 1157 | 2768 | 822 |
| | 8000 | 2658 | 1730 | 2973 | 1432 | 3436 | 1004 |
| | 10000 | 3258 | 2130 | 3648 | 1757 | 4222 | 1218 |
| | 12500 | 4008 | 2630 | 4493 | 2162 | 5204 | 1486 |
| 4 | 8000 | 2805 | 1903 | 3090 | 1638 | 3685 | 1110 |
| | 10000 | 3389 | 2319 | 3741 | 1987 | 4474 | 1321 |
| | 12500 | 4118 | 2840 | 4555 | 2423 | 5460 | 1585 |
| | 16000 | 5139 | 3569 | 5695 | 3033 | 6840 | 1955 |
| | 20000 | 6305 | 4403 | 6997 | 3731 | 8417 | 2378 |



| DST | C3 |
|-----|-----|
| 1 | 156 |
| 2 | 160 |
| 3 | 277 |
| 4 | 327 |

For dimensions I1 - S1 - S2 - S3 see page 18

Configurations with articulated trolley S

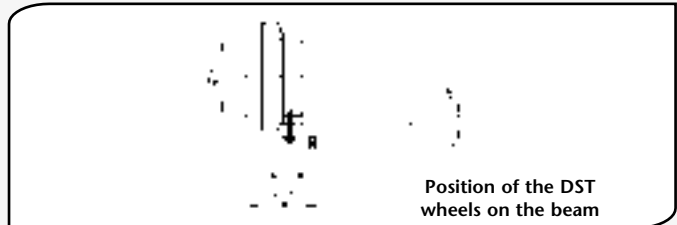


For dimensions I1 - S1 - S2 - S3 see page 18

Configurations with hoist in oscillating execution

Position of the DST wheels on the beam

| DST N/S R | Ø R Ruota mm. | Dimensions mm | | | Thick max., mm. |
|-----------------|---------------------|---------------|----|----|-----------------------|
| | | i | a | b | |
| DST 1 | 100 | 8 | 35 | 18 | 20 |
| DST 2 | 125 | 12 | 35 | 29 | 23 |
| DST 3 | 200 | 19 | 45 | 38 | 38 |
| DST 4 | 250 | 22 | 50 | 43 | 43 |



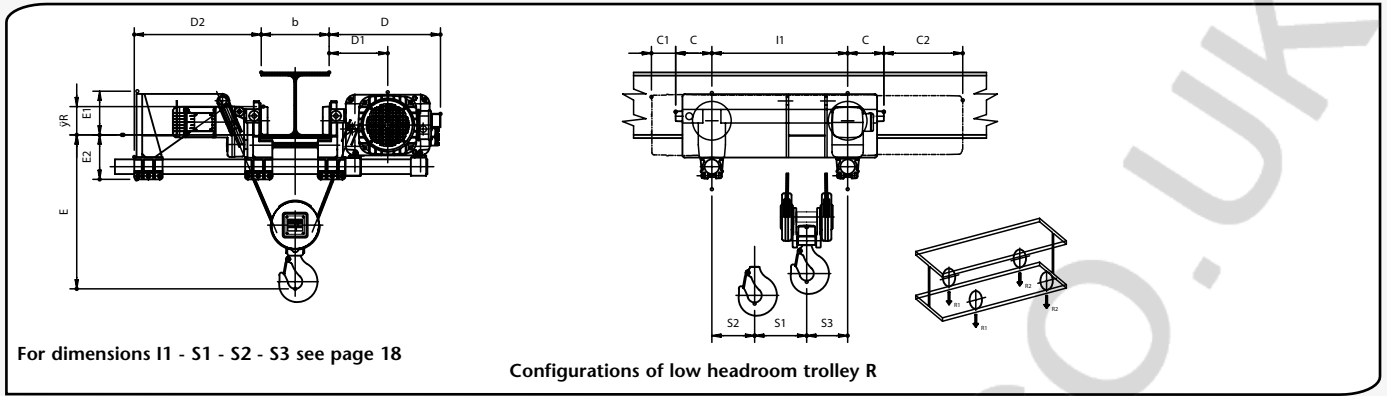
Position of the DST wheels on the beam

BEAMS WIDTH CHARACTERISTICS TABLE FOR DST TROLLEYS

| (mm) | DST1N | DST2N | DST3N | DST4N | DST1R | DST2R | DST3R | DST4R | DST1S/O | DST2S/O | DST3S/O | DST4S/O |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|
| Min beam width | 90 | 119 | 135 | 170 | 90 | 119 | 135 | 170 | 100 | 135 | 165 | 210 |
| Max thickness | 20 | 23 | 38 | 43 | 20 | 23 | 38 | 43 | 20 | 23 | 38 | 43 |
| Min radius | / | / | / | / | / | / | / | / | 1500 | 1600 | 1600 | 1800 |

Minimum beam's width = minimum beam width needed
 Maximum thickness= maximum allowed beam bottom flange thickness
 Minimum radius = minimum internal radius required for curved beams
 N= normal; R= low headroom; S= articulated; O= oscillating

Monorail DST/R trolleys for electric DRH wire rope hoists – 2 rope falls (2/1) and 4 rope falls versions (4/1)



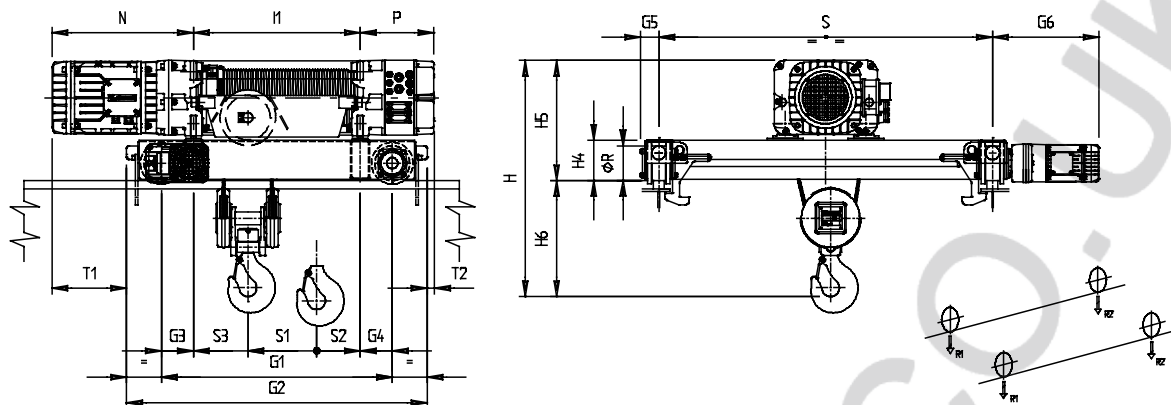
| Rope falls N° | DRH | Type of drum C-N-L | Trolley DST/R | Weight DRH+DST (kg) | Overall dimensions (mm) | | | | | | | | |
|---------------|-----|--------------------|---------------|---------------------|-------------------------|-----|-----|-----|-----|-----|-----|------|-----|
| | | | | | D | D1 | D2 | E1 | E2 | ØR | C | C1 | C2 |
| 2/1 | 1 | C | 1 | 260 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | | N | 1 | 270 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | | L | 1 | 280 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | 2 | C | 1 | 360 | 485 | 250 | 590 | 200 | 180 | 100 | 140 | 130 | 385 |
| | | N | 1 | 370 | 485 | 250 | 590 | 200 | 180 | 100 | 140 | 130 | 385 |
| | | L | 1 | 395 | 485 | 250 | 590 | 200 | 180 | 100 | 140 | 130 | 385 |
| | 3 | C | 2 | 740 | 605 | 315 | 655 | 315 | 195 | 125 | 160 | 45 | 545 |
| | | N | 2 | 770 | 605 | 315 | 655 | 315 | 195 | 125 | 160 | 45 | 545 |
| | | L | 2 | 870 | 605 | 315 | 655 | 315 | 195 | 125 | 160 | 45 | 545 |
| | 4 | C | 3 | 1510 | 755 | 395 | 677 | 345 | 260 | 200 | 275 | -55 | 580 |
| | | N | 3 | 1550 | 755 | 395 | 677 | 345 | 260 | 200 | 275 | -55 | 580 |
| | | L | 3 | 1700 | 755 | 395 | 677 | 345 | 260 | 200 | 275 | -55 | 580 |
| 4/1 | 1 | C | 1 | 270 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | | N | 1 | 280 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | | L | 1 | 290 | 440 | 230 | 540 | 140 | 180 | 100 | 140 | 115 | 340 |
| | 2 | C | 2 | 415 | 495 | 265 | 560 | 195 | 195 | 125 | 160 | 110 | 365 |
| | | N | 2 | 425 | 495 | 265 | 560 | 195 | 195 | 125 | 160 | 110 | 365 |
| | | L | 2 | 450 | 495 | 265 | 560 | 195 | 195 | 125 | 160 | 110 | 365 |
| | 3 | C | 3 | 985 | 625 | 335 | 622 | 280 | 260 | 200 | 275 | -70 | 430 |
| | | N | 3 | 1005 | 625 | 335 | 622 | 280 | 260 | 200 | 275 | -70 | 430 |
| | | L | 3 | 1115 | 625 | 335 | 622 | 280 | 260 | 200 | 275 | -70 | 430 |
| | 4 | C | 4 | 1880 | 760 | 405 | 630 | 345 | 300 | 250 | 325 | -108 | 530 |
| | | N | 4 | 1930 | 760 | 405 | 630 | 345 | 300 | 250 | 325 | -108 | 530 |
| | | L | 4 | 2120 | 760 | 405 | 630 | 345 | 300 | 250 | 325 | -108 | 530 |

| Rope Falls N° | Hook clearance E (mm) in relation to the width of the beam b (mm) and to the size of the DRH wire rope hoist | | | | | | | | | | | | | | | |
|---------------|--|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|-----|------|
| | b = 180 mm | | | | b = 220 mm | | | | b = 300 mm | | | | b = 400 mm | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 2/1 | 630 | 640 | 680 | 830 | 670 | 680 | 680 | 830 | 770 | 780 | 780 | 880 | 890 | 900 | 900 | 1000 |
| 4/1 | 480 | 500 | 610 | 790 | 530 | 550 | 610 | 790 | 620 | 650 | 650 | 790 | 740 | 770 | 770 | 850 |

| 2-rope-falls version (2/1) | | | | | | | |
|----------------------------|-------------|--------------------------------|------|--------|------|--------|-----|
| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 800 | 392 | 138 | 416 | 119 | 451 | 89 |
| | 1000 | 468 | 162 | 498 | 137 | 540 | 100 |
| | 1250 | 563 | 192 | 600 | 160 | 652 | 113 |
| | 1600 | 697 | 233 | 742 | 193 | 808 | 132 |
| | 2000 | 849 | 281 | 906 | 229 | 987 | 153 |
| 2 | 1250 | 615 | 190 | 644 | 166 | 695 | 128 |
| | 1600 | 753 | 227 | 790 | 195 | 852 | 146 |
| | 2000 | 912 | 268 | 957 | 228 | 1032 | 166 |
| | 2500 | 1110 | 320 | 1165 | 270 | 1257 | 191 |
| | 3200 | 1387 | 393 | 1457 | 328 | 1572 | 226 |
| 3 | 2500 | 1226 | 394 | 1287 | 348 | 1411 | 274 |
| | 3200 | 1500 | 470 | 1576 | 409 | 1725 | 310 |
| | 4000 | 1813 | 557 | 1905 | 480 | 2084 | 351 |
| | 5000 | 2205 | 665 | 2317 | 568 | 2532 | 403 |
| | 6300 | 2714 | 806 | 2853 | 682 | 3115 | 470 |
| 4 | 4000 | 2031 | 724 | 2121 | 654 | 2327 | 523 |
| | 5000 | 2413 | 842 | 2522 | 753 | 2767 | 583 |
| | 6300 | 2910 | 995 | 3044 | 881 | 3340 | 660 |
| | 8000 | 3559 | 1196 | 3726 | 1049 | 4088 | 762 |
| | 10000 | 4323 | 1432 | 4528 | 1247 | 4968 | 882 |

| 4-rope-falls version (4/1) | | | | | | | |
|----------------------------|-------------|--------------------------------|------|--------|------|--------|------|
| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 1600 | 590 | 345 | 660 | 280 | 748 | 197 |
| | 2000 | 715 | 420 | 802 | 338 | 911 | 234 |
| | 2500 | 871 | 514 | 979 | 411 | 1115 | 280 |
| | 3200 | 1090 | 645 | 1227 | 513 | 1400 | 345 |
| | 4000 | 1340 | 795 | 1511 | 629 | 1726 | 419 |
| | 5000 | 1629 | 979 | 1842 | 777 | 2100 | 506 |
| 2 | 2500 | 920 | 538 | 1017 | 446 | 1150 | 325 |
| | 3200 | 1139 | 669 | 1262 | 551 | 1430 | 395 |
| | 4000 | 1389 | 819 | 1542 | 671 | 1750 | 475 |
| | 5000 | 1701 | 1007 | 1892 | 821 | 2150 | 575 |
| | 6300 | 2107 | 1251 | 2347 | 1016 | 2670 | 705 |
| | 8000 | 2607 | 1551 | 2817 | 1246 | 3210 | 865 |
| 3 | 5000 | 1829 | 1164 | 2024 | 979 | 2336 | 722 |
| | 6300 | 2219 | 1424 | 2464 | 1189 | 2847 | 861 |
| | 8000 | 2729 | 1764 | 3038 | 1465 | 3515 | 1043 |
| | 10000 | 3329 | 2164 | 3714 | 1789 | 4300 | 1258 |
| | 12500 | 4079 | 2664 | 4558 | 2195 | 5283 | 1525 |
| | 16000 | 5079 | 3314 | 5614 | 2741 | 6513 | 1915 |
| 4 | 8000 | 2960 | 1980 | 3248 | 1717 | 3862 | 1198 |
| | 10000 | 3543 | 2397 | 3899 | 2066 | 4650 | 1410 |
| | 12500 | 4273 | 2917 | 4713 | 2502 | 5636 | 1674 |
| | 16000 | 5293 | 3647 | 5853 | 3112 | 7017 | 2043 |
| | 20000 | 6460 | 4480 | 7155 | 3810 | 8594 | 2466 |

DRT double girder trolleys for electric DRH wire rope hoists – 2 rope falls (2/1) and 4 rope falls versions (4/1)



For dimensions M - S1 - S2 - S3 - N - P - H see page 18
 $H6 = H - H5$

(*) Foreseen gauge of standard production is $S = 1000$ mm.
 on request it can be supplied with gauge $S = 1200$ mm.

Configurations with double girder DRT trolley

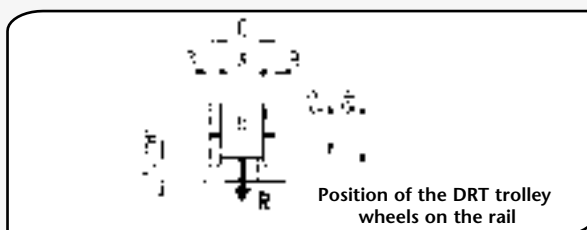
| Rope falls N° | DRH | Type of drum C-N-L | Trolley DRT | Weight DRH+DRT (kg) | G1 | G2 | G3 | G4 | G5 | G6 | T1 | T2 | S | ØR | H4 | H5 |
|---------------|-----|--------------------|-------------|---------------------|------|------|-------|-------|-----|-----|-------|-------|------|-----|-----|-----|
| 2/1 4/1 | 1 | C | 1 | 236 | 710 | 940 | 155 | 155 | 66 | 385 | 210 | -15 | 1000 | 125 | 145 | 391 |
| | | N | 1 | 250 | 830 | 1060 | 157.5 | 157.5 | 66 | 385 | 207.5 | -17,5 | 1000 | 125 | 145 | 391 |
| | | L | 1 | 280 | 1230 | 1460 | 170 | 170 | 66 | 385 | 195 | -30 | 1000 | 125 | 145 | 391 |
| | 2 | C | 1 | 296 | 710 | 940 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 433 |
| | | N | 1 | 306 | 830 | 1060 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 433 |
| | | L | 1 | 350 | 1230 | 1460 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 433 |
| | 3 | C | 2 | 716 | 890 | 1202 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 598 |
| | | N | 2 | 750 | 1030 | 1342 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 598 |
| | | L | 2 | 860 | 1550 | 1862 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 598 |
| 4 | C | 3 | 1240 | 1060 | 1446 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 720 | |
| | N | 3 | 1286 | 1200 | 1586 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 720 | |
| | L | 3 | 1480 | 1760 | 2146 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 720 | |

| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
|-----------|-------------|--------------------------------|------|--------|------|--------|------|
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 800 | 335 | 179 | 359 | 162 | 404 | 131 |
| | 1000 | 400 | 214 | 428 | 193 | 482 | 153 |
| | 1250 | 481 | 258 | 515 | 231 | 580 | 180 |
| | 1600 | 594 | 320 | 637 | 284 | 718 | 217 |
| | 2000 | 724 | 390 | 776 | 345 | 875 | 260 |
| 2 | 1250 | 529 | 236 | 562 | 211 | 626 | 164 |
| | 1600 | 651 | 289 | 691 | 257 | 770 | 195 |
| | 2000 | 791 | 349 | 839 | 309 | 935 | 230 |
| | 2500 | 965 | 425 | 1025 | 373 | 1142 | 273 |
| | 3200 | 1209 | 531 | 1284 | 464 | 1430 | 335 |
| 3 | 2500 | 1084 | 496 | 1146 | 449 | 1295 | 355 |
| | 3200 | 1326 | 604 | 1403 | 542 | 1583 | 417 |
| | 4000 | 1602 | 728 | 1696 | 649 | 1912 | 488 |
| | 5000 | 1948 | 882 | 2063 | 782 | 2323 | 577 |
| | 6300 | 2397 | 1083 | 2539 | 956 | 2858 | 692 |
| 4 | 4000 | 1737 | 831 | 1825 | 763 | 2064 | 611 |
| | 5000 | 2077 | 991 | 2184 | 904 | 2467 | 708 |
| | 6300 | 2518 | 1200 | 2649 | 1089 | 2991 | 834 |
| | 8000 | 3096 | 1472 | 3259 | 1329 | 3677 | 998 |
| | 10000 | 3775 | 1793 | 3975 | 1613 | 4484 | 1191 |

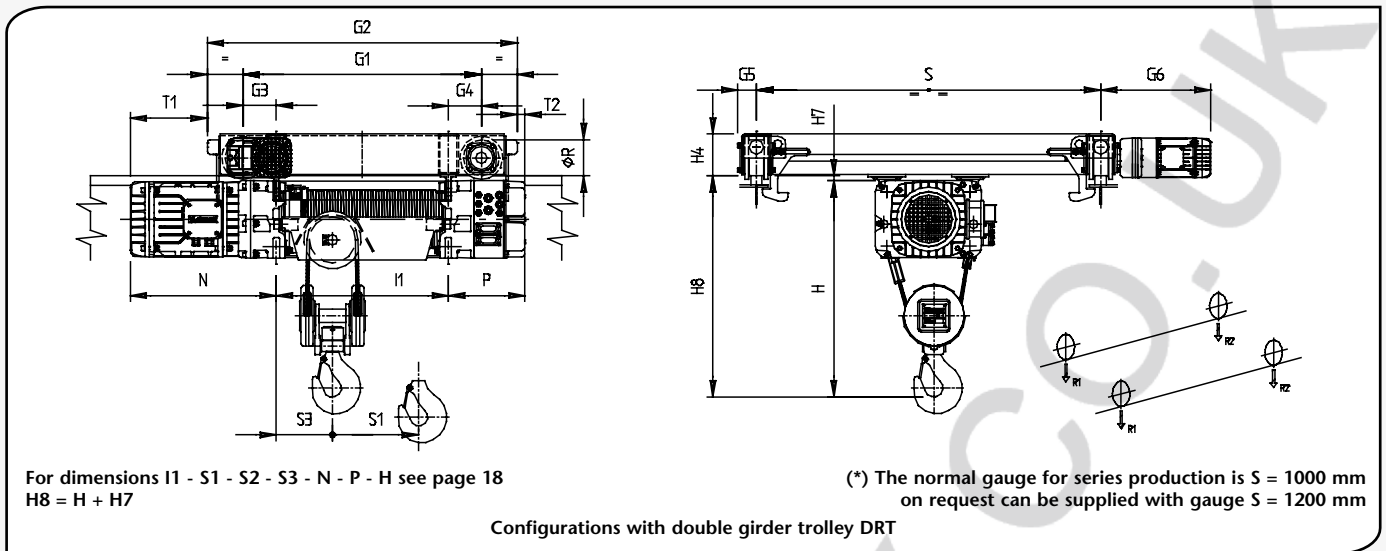
| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
|-----------|-------------|--------------------------------|------|--------|------|--------|------|
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 1600 | 535 | 383 | 587 | 338 | 675 | 265 |
| | 2000 | 649 | 469 | 713 | 412 | 821 | 319 |
| | 2500 | 792 | 576 | 870 | 505 | 1003 | 387 |
| | 3200 | 992 | 726 | 1090 | 635 | 1258 | 482 |
| | 4000 | 1220 | 898 | 1342 | 783 | 1549 | 591 |
| 2 | 2500 | 830 | 568 | 908 | 495 | 1047 | 378 |
| | 3200 | 1034 | 714 | 1133 | 620 | 1307 | 468 |
| | 4000 | 1268 | 880 | 1391 | 762 | 1605 | 570 |
| | 5000 | 1560 | 1088 | 1713 | 940 | 1977 | 698 |
| | 6300 | 1940 | 1358 | 2133 | 1170 | 2460 | 865 |
| 3 | 5000 | 1658 | 1200 | 1815 | 1060 | 2117 | 813 |
| | 6300 | 2026 | 1482 | 2223 | 1302 | 2593 | 987 |
| | 8000 | 2508 | 1850 | 2755 | 1620 | 3216 | 1214 |
| | 10000 | 3076 | 2282 | 3381 | 1994 | 3948 | 1482 |
| | 12500 | 3785 | 2823 | 4164 | 2461 | 4863 | 1817 |
| 4 | 8000 | 2640 | 1980 | 2862 | 1781 | 3425 | 1315 |
| | 10000 | 3196 | 2424 | 3470 | 2173 | 4158 | 1582 |
| | 12500 | 3892 | 2978 | 4230 | 2663 | 5074 | 1916 |
| | 16000 | 4866 | 3754 | 5295 | 3348 | 6357 | 2383 |
| | 20000 | 5979 | 4641 | 6512 | 4131 | 7823 | 2917 |

Dimensions of the DRT wheels and relevant rails

| DRT | Ø R Wheel mm. | Dimensions mm | | | | | | |
|-------|---------------|---------------|----|-----|-----|-------|------------|-------|
| | | Wheel | | | | H min | Rail B min | B max |
| | | A | B | C | Ø e | | | |
| DRT 1 | 125 | 50 | 15 | 80 | 150 | 30 | 30 | 40 |
| DRT 2 | 160 | 55 | 19 | 93 | 190 | 30 | 30 | 45 |
| DRT 3 | 200 | 60 | 20 | 100 | 230 | 30 | 40 | 50 |



DRT double girder trolleys for DRH wire rope hoist suspended execution - Version 2 rope falls and 4 rope falls



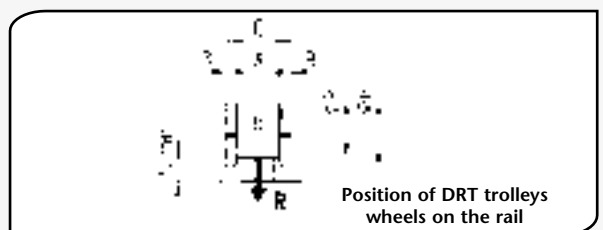
| Falls of rope N° | DRH | Drum type C-N-L | Trolley DRT | Weight DRH+DRT (kg) | G1 | G2 | G3 | G4 | G5 | G6 | T1 | T2 | S | ØR | H4 | H7 |
|------------------|-----|-----------------|-------------|---------------------|------|------|-------|-------|----|-----|-------|-------|------|-----|-----|----|
| 2/1 4/1 | 1 | C | 1 | 236 | 710 | 940 | 155 | 155 | 66 | 385 | 210 | -15 | 1000 | 125 | 145 | 13 |
| | | N | 1 | 250 | 830 | 1060 | 157.5 | 157.5 | 66 | 385 | 207.5 | -17.5 | 1000 | 125 | 145 | 13 |
| | | L | 1 | 280 | 1230 | 1460 | 170 | 170 | 66 | 385 | 195 | -30 | 1000 | 125 | 145 | 13 |
| | 2 | C | 1 | 296 | 710 | 940 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 15 |
| | | N | 1 | 306 | 830 | 1060 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 15 |
| | | L | 1 | 350 | 1230 | 1460 | 115 | 115 | 66 | 385 | 295 | 40 | 1000 | 125 | 145 | 15 |
| | 3 | C | 2 | 716 | 890 | 1202 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 11 |
| | | N | 2 | 750 | 1030 | 1342 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 11 |
| | | L | 2 | 860 | 1550 | 1862 | 145 | 145 | 80 | 455 | 404 | -96 | 1000 | 160 | 190 | 11 |
| | 4 | C | 3 | 1240 | 1060 | 1446 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 11 |
| | | N | 3 | 1286 | 1200 | 1586 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 11 |
| | | L | 3 | 1480 | 1760 | 2146 | 170 | 170 | 90 | 520 | 492 | -143 | 1000 | 200 | 228 | 11 |

| Version with 2 rope falls (2/1) | | | | | | | | |
|---------------------------------|-------------|--------------------------------|------|--------|------|--------|------|--|
| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | | |
| | | Drum C | | Drum N | | Drum L | | |
| | | R1 | R2 | R1 | R2 | R1 | R2 | |
| 1 | 800 | 335 | 179 | 359 | 162 | 404 | 131 | |
| | 1000 | 400 | 214 | 428 | 193 | 482 | 153 | |
| | 1250 | 481 | 258 | 515 | 231 | 580 | 180 | |
| | 1600 | 594 | 320 | 637 | 284 | 718 | 217 | |
| | 2000 | 724 | 390 | 776 | 345 | 875 | 260 | |
| 2 | 1250 | 529 | 236 | 562 | 211 | 626 | 164 | |
| | 1600 | 651 | 289 | 691 | 257 | 770 | 195 | |
| | 2000 | 791 | 349 | 839 | 309 | 935 | 230 | |
| | 2500 | 965 | 425 | 1025 | 373 | 1142 | 273 | |
| | 3200 | 1209 | 531 | 1284 | 464 | 1430 | 335 | |
| 3 | 2500 | 1084 | 496 | 1146 | 449 | 1295 | 355 | |
| | 3200 | 1326 | 604 | 1403 | 542 | 1583 | 417 | |
| | 4000 | 1602 | 728 | 1696 | 649 | 1912 | 488 | |
| | 5000 | 1948 | 882 | 2063 | 782 | 2323 | 577 | |
| | 6300 | 2397 | 1083 | 2539 | 956 | 2858 | 692 | |
| 4 | 4000 | 1737 | 831 | 1825 | 763 | 2064 | 611 | |
| | 5000 | 2077 | 991 | 2184 | 904 | 2467 | 708 | |
| | 6300 | 2518 | 1200 | 2649 | 1089 | 2991 | 834 | |
| | 8000 | 3096 | 1472 | 3259 | 1329 | 3677 | 998 | |
| | 10000 | 3775 | 1793 | 3975 | 1613 | 4484 | 1191 | |

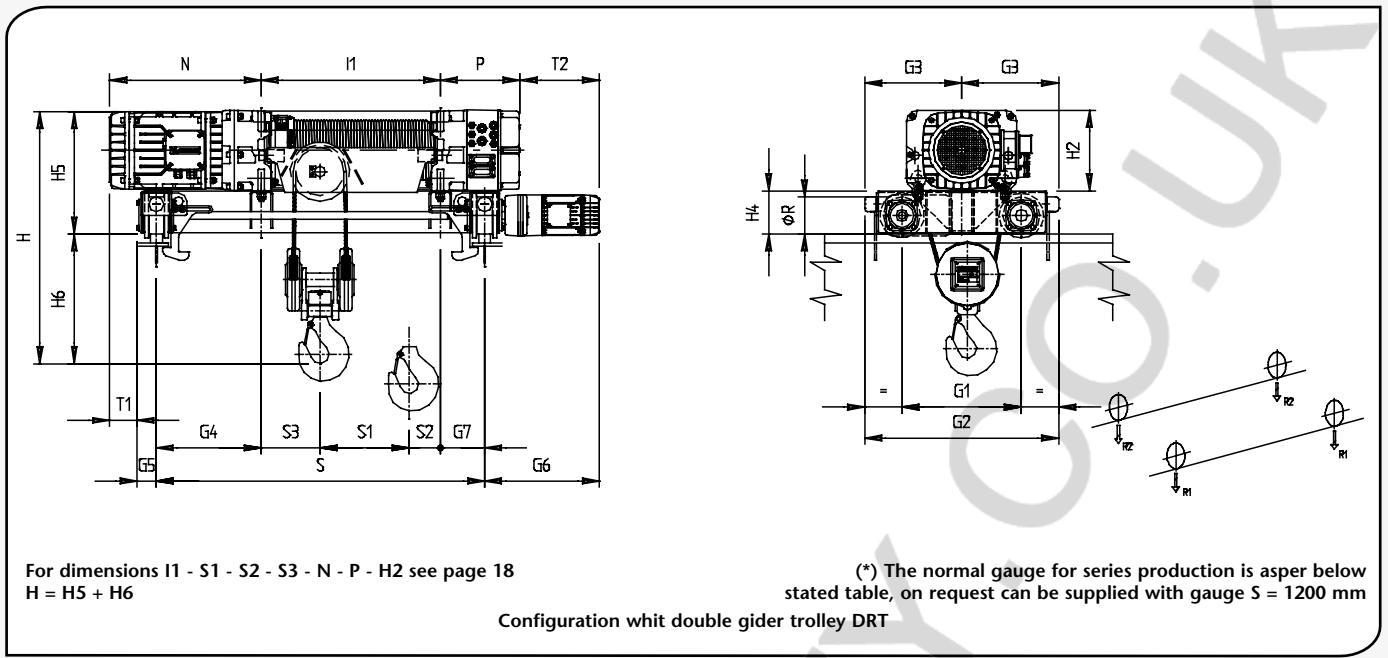
| Version with 4 rope falls (4/1) | | | | | | | | |
|---------------------------------|-------------|--------------------------------|------|--------|------|--------|------|--|
| Hoist DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | | |
| | | Drum C | | Drum N | | Drum L | | |
| | | R1 | R2 | R1 | R2 | R1 | R2 | |
| 1 | 1600 | 535 | 383 | 587 | 338 | 675 | 265 | |
| | 2000 | 649 | 469 | 713 | 412 | 821 | 319 | |
| | 2500 | 792 | 576 | 870 | 505 | 1003 | 387 | |
| | 3200 | 992 | 726 | 1090 | 635 | 1258 | 482 | |
| | 4000 | 1220 | 898 | 1342 | 783 | 1549 | 591 | |
| 2 | 2500 | 830 | 568 | 908 | 495 | 1047 | 378 | |
| | 3200 | 1034 | 714 | 1133 | 620 | 1307 | 468 | |
| | 4000 | 1268 | 880 | 1391 | 762 | 1605 | 570 | |
| | 5000 | 1560 | 1088 | 1713 | 940 | 1977 | 698 | |
| | 6300 | 1940 | 1358 | 2133 | 1170 | 2460 | 865 | |
| 3 | 5000 | 1658 | 1200 | 1815 | 1060 | 2117 | 813 | |
| | 6300 | 2026 | 1482 | 2223 | 1302 | 2593 | 987 | |
| | 8000 | 2508 | 1850 | 2755 | 1620 | 3216 | 1214 | |
| | 10000 | 3076 | 2282 | 3381 | 1994 | 3948 | 1482 | |
| | 12500 | 3785 | 2823 | 4164 | 2461 | 4863 | 1817 | |
| 4 | 8000 | 2640 | 1980 | 2862 | 1781 | 3425 | 1315 | |
| | 10000 | 3196 | 2424 | 3470 | 2173 | 4158 | 1582 | |
| | 12500 | 3892 | 2978 | 4230 | 2663 | 5074 | 1916 | |
| | 16000 | 4866 | 3754 | 5295 | 3348 | 6357 | 2383 | |
| | 20000 | 5979 | 4641 | 6512 | 4131 | 7823 | 2917 | |

DRT wheels dimensions and relevant rails

| DRT | Ø R Wheel mm. | Dimensions mm | | | | | | |
|-------|---------------|---------------|----|-----|-----|-------|------------|-------|
| | | Wheel | | | | H min | Rail B min | B max |
| | | A | B | C | Ø e | | | |
| DRT 1 | 125 | 50 | 15 | 80 | 150 | 30 | 30 | 40 |
| DRT 2 | 160 | 55 | 19 | 93 | 190 | 30 | 30 | 45 |
| DRT 3 | 200 | 60 | 20 | 100 | 230 | 30 | 40 | 50 |



DRT double girder trolley for DRH wire rope hoist in trasversal position with 2 rope falls (2/1) and 4 rope falls (4/1)



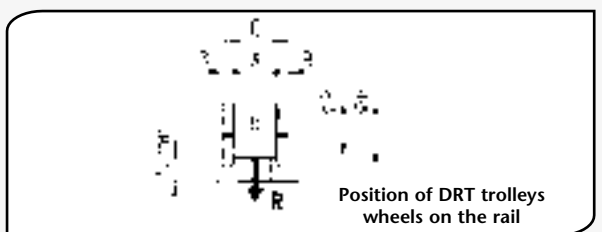
| Falls of rope N° | DRH | Drum type C-N-L | Trolley DRT | Weight DRH+DRT (kg) | G1 | G2 | G3 | G4 | G5 | G6 | G7 | T1 | T2 | S | ØR | H4 | H5 | H6 | |
|------------------|-----|-----------------|-------------|---------------------|-----|------|-----|-----|----|-----|-----|-----|-----|------|-----|-----|-----|--------------|--------------|
| | | | | | | | | | | | | | | | | | | 2 rope falls | 4 rope falls |
| 2/1 4/1 | 1 | C | 1 | 216 | 400 | 630 | 315 | 315 | 66 | 385 | 285 | 99 | 415 | 1000 | 125 | 145 | 375 | 405 | 360 |
| | | N | 1 | 226 | 400 | 630 | 315 | 300 | 66 | 385 | 185 | 114 | 315 | 1000 | 125 | 145 | 375 | 405 | 360 |
| | | L | 1 | 270 | 710 | 940 | 470 | 110 | 66 | 385 | 0 | 304 | 130 | 1000 | 125 | 145 | 375 | 315 | 275 |
| | 2 | C | 1 | 276 | 400 | 630 | 315 | 267 | 66 | 385 | 253 | 192 | 368 | 1000 | 125 | 145 | 415 | 485 | 425 |
| | | N | 1 | 286 | 400 | 630 | 315 | 252 | 66 | 385 | 148 | 207 | 263 | 1000 | 125 | 145 | 415 | 485 | 425 |
| | | L | 1 | 346 | 710 | 940 | 470 | 200 | 66 | 385 | 0 | 259 | 115 | 1200 | 125 | 145 | 415 | 405 | 335 |
| | 3 | C | 2 | 660 | 500 | 812 | 406 | 195 | 80 | 455 | 205 | 431 | 455 | 1000 | 160 | 190 | 570 | 630 | 570 |
| | | N | 2 | 686 | 500 | 812 | 406 | 180 | 80 | 455 | 90 | 446 | 340 | 1000 | 160 | 190 | 570 | 630 | 570 |
| | | L | 2 | 830 | 890 | 1202 | 601 | 140 | 80 | 455 | 0 | 486 | 250 | 1400 | 160 | 190 | 570 | 520 | 450 |
| | 4 | C | 3 | 1190 | 600 | 986 | 493 | 140 | 90 | 520 | 140 | 625 | 440 | 1000 | 200 | 228 | 698 | 768 | 722 |
| | | N | 3 | 1240 | 600 | 986 | 495 | 200 | 90 | 520 | 140 | 565 | 440 | 1200 | 200 | 228 | 698 | 768 | 722 |

| Version with 2 rope falls (2/1) | | | | | | | |
|---------------------------------|-------------|--------------------------------|------|--------|------|--------|-----|
| DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 800 | 305 | 199 | 313 | 194 | 405 | 125 |
| | 1000 | 364 | 240 | 374 | 233 | 484 | 146 |
| | 1250 | 438 | 291 | 450 | 282 | 584 | 171 |
| | 1600 | 541 | 363 | 555 | 352 | 723 | 207 |
| | 2000 | 659 | 445 | 676 | 431 | 882 | 148 |
| 2 | 1250 | 482 | 273 | 494 | 264 | 577 | 211 |
| | 1600 | 593 | 337 | 607 | 326 | 709 | 254 |
| | 2000 | 720 | 410 | 737 | 396 | 859 | 304 |
| | 2500 | 878 | 502 | 899 | 484 | 1046 | 367 |
| | 3200 | 1100 | 630 | 1125 | 608 | 1309 | 454 |
| 3 | 2500 | 1046 | 507 | 1084 | 479 | 1266 | 369 |
| | 3200 | 1282 | 621 | 1329 | 584 | 1548 | 437 |
| | 4000 | 1552 | 751 | 1609 | 704 | 1871 | 514 |
| | 5000 | 1890 | 913 | 1959 | 854 | 2275 | 610 |
| | 6300 | 2328 | 1125 | 2414 | 1049 | 2800 | 735 |
| 4 | 4000 | 1802 | 741 | 1810 | 755 | | |
| | 5000 | 2162 | 881 | 2168 | 897 | | |
| | 6300 | 2630 | 1063 | 2634 | 1081 | | |
| | 8000 | 3242 | 1301 | 3243 | 1322 | | |
| | 10000 | 3962 | 1581 | 3960 | 1605 | | |

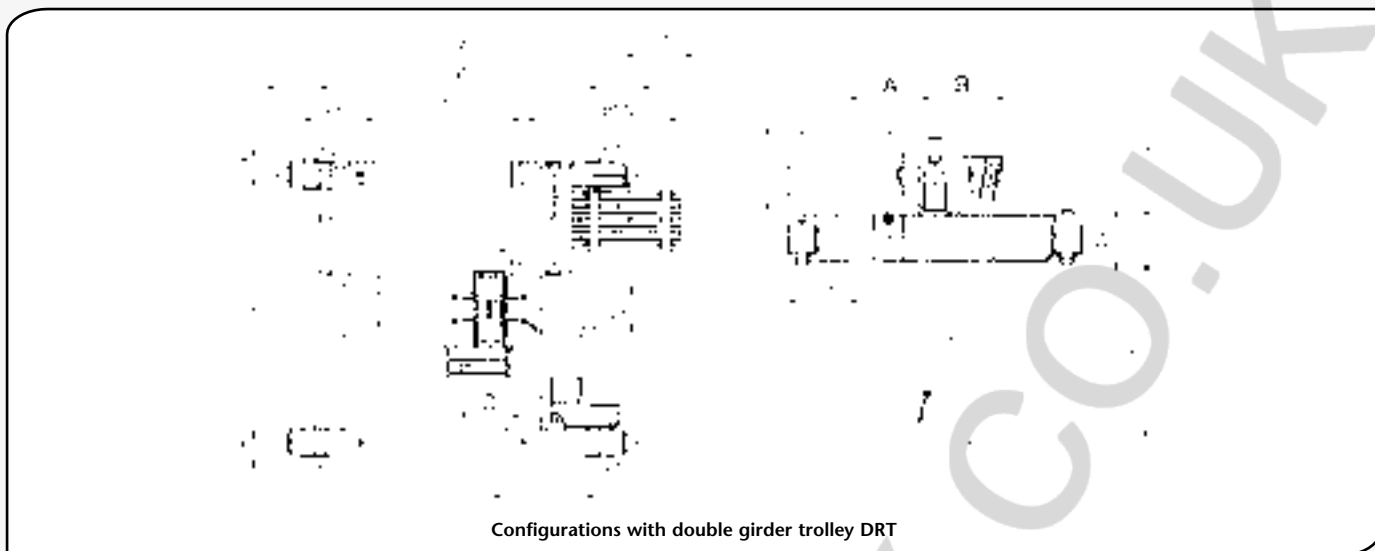
| Version with 4 rope falls (4/1) | | | | | | | |
|---------------------------------|-------------|--------------------------------|------|--------|------|--------|------|
| DRH | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum C | | Drum N | | Drum L | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1 | 1600 | 500 | 408 | 515 | 398 | 670 | 265 |
| | 2000 | 607 | 501 | 625 | 488 | 815 | 320 |
| | 2500 | 741 | 617 | 763 | 600 | 996 | 389 |
| | 3200 | 928 | 780 | 955 | 758 | 1250 | 485 |
| | 4000 | 1142 | 966 | 1175 | 938 | 1540 | 595 |
| 2 | 2500 | 783 | 605 | 805 | 588 | 949 | 474 |
| | 3200 | 977 | 761 | 1004 | 739 | 1182 | 591 |
| | 4000 | 1198 | 940 | 1231 | 912 | 1449 | 724 |
| | 5000 | 1475 | 1163 | 1515 | 1128 | 1782 | 891 |
| | 6300 | 1834 | 1454 | 1885 | 1408 | 2215 | 1108 |
| 3 | 5000 | 1633 | 1197 | 1704 | 1139 | 2045 | 870 |
| | 6300 | 2000 | 1480 | 2087 | 1406 | 2504 | 1061 |
| | 8000 | 2480 | 1850 | 2589 | 1754 | 3105 | 1310 |
| | 10000 | 3045 | 2285 | 3179 | 2164 | 3812 | 1603 |
| | 12500 | 3752 | 2828 | 3916 | 2677 | 4696 | 1969 |
| 4 | 8000 | 2757 | 1838 | 2847 | 1773 | | |
| | 10000 | 3347 | 2248 | 3455 | 2165 | | |
| | 12500 | 4085 | 2760 | 4215 | 2655 | | |
| | 16000 | 5117 | 3478 | 5280 | 3340 | | |
| | 20000 | 6297 | 4298 | 6497 | 4123 | | |

DRT wheels dimensions and relevant rails

| DRT | Ø R Wheel mm. | Dimensions mm | | | | | | |
|-------|---------------|---------------|----|-----|-----|-------|------------|-------|
| | | Wheel | | | | H min | Rail B min | B max |
| | | A | B | C | Ø e | | | |
| DRT 1 | 125 | 50 | 15 | 80 | 150 | 30 | 30 | 40 |
| DRT 2 | 160 | 55 | 19 | 93 | 190 | 30 | 30 | 45 |
| DRT 3 | 200 | 60 | 20 | 100 | 230 | 30 | 40 | 50 |



DRT double girder trolley for DRH wire rope hoist - Version with 6 rope falls (6/1) and 8 rope falls (8/1)



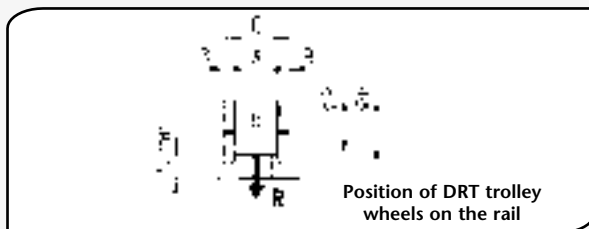
Configurations with double girder trolley DRT

| Falls of rope N° | DRH | Drum type N-L-X1 | Trolley DRT | Weight DRH+DRT (kg) | Overall dimensions (mm) | | | | | | | | | | | | | |
|------------------|-----|------------------|-------------|---------------------|-------------------------|------|-----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | | G1 | G2 | G3 | G4 | S3 | S | T1 | H1 | H4 | ØR | A | B | C | |
| 6 | 4 | N | 3 | 1800 | 1500 | 1900 | 230 | 90 | 580 | 1400 | 255 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | N | 3 | 2100 | 1500 | 1900 | 650 | 90 | 580 | 2240 | 255 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | N | 3 | 2400 | 1500 | 1900 | 930 | 90 | 580 | 2800 | 255 | 960 | 235 | 200 | 470 | 300 | 360 | |
| 6 | 4 | L | 3 | 2000 | 2070 | 2470 | 230 | 90 | 590 | 1400 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | L | 3 | 2300 | 2070 | 2470 | 650 | 90 | 590 | 2240 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | L | 3 | 2700 | 2070 | 2470 | 930 | 90 | 590 | 2800 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| 6 | 4 | X1 | 3 | 2250 | 2500 | 2900 | 230 | 90 | 590 | 1400 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | X1 | 3 | 2500 | 2500 | 2900 | 650 | 90 | 590 | 2240 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| | | X1 | 3 | 2800 | 2500 | 2900 | 930 | 90 | 590 | 2800 | 245 | 960 | 235 | 200 | 470 | 300 | 360 | |
| 8 | 4 | N | 4 | 2000 | 1500 | 1950 | 230 | 97 | 688 | 1400 | 230 | 930 | 287 | 250 | 470 | 400 | 556 | |
| | | N | 4 | 2400 | 1500 | 1950 | 550 | 97 | 688 | 2240 | 230 | 930 | 287 | 250 | 570 | 400 | 556 | |
| | | N | 4 | 2600 | 1500 | 1950 | 830 | 97 | 688 | 2800 | 230 | 930 | 287 | 250 | 570 | 400 | 556 | |
| 8 | 4 | L | 4 | 2300 | 2060 | 2510 | 230 | 97 | 708 | 1400 | 230 | 930 | 287 | 250 | 470 | 400 | 556 | |
| | | L | 4 | 2600 | 2060 | 2510 | 550 | 97 | 708 | 2240 | 230 | 930 | 287 | 250 | 570 | 400 | 556 | |
| | | L | 4 | 2800 | 2060 | 2510 | 830 | 97 | 708 | 2800 | 230 | 930 | 287 | 250 | 570 | 400 | 556 | |
| 8 | 4 | X1 | 4 | 2500 | 2500 | 2950 | 230 | 97 | 738 | 1400 | 220 | 930 | 287 | 250 | 470 | 400 | 556 | |
| | | X1 | 4 | 2900 | 2500 | 2950 | 550 | 97 | 738 | 2240 | 220 | 930 | 287 | 250 | 570 | 400 | 556 | |
| | | X1 | 4 | 3100 | 2500 | 2950 | 830 | 97 | 738 | 2800 | 220 | 930 | 287 | 250 | 570 | 400 | 556 | |

| Hoist DRH 4 | | Version with 6 rope falls (6/1) | | | | | |
|-------------|-------------|---------------------------------|------|--------|------|---------|------|
| DRT 3 S | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum N | | Drum L | | Drum X1 | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1400 | 25000 | 8250 | 5150 | 9600 | 3900 | 10250 | 3375 |
| | 32000 | 10400 | 6500 | 12100 | 4900 | 10950 | 4175 |
| 2240 | 25000 | 8350 | 5200 | 9700 | 3950 | 10350 | 3400 |
| | 32000 | 10500 | 6550 | 12200 | 4950 | 13050 | 4200 |
| 2800 | 25000 | 8450 | 5250 | 9800 | 4050 | 10400 | 3500 |
| | 32000 | 10600 | 6600 | 12300 | 5050 | 13100 | 4300 |

| Hoist DRH 4 | | Version with 8 rope falls (8/1) | | | | | |
|-------------|-------------|---------------------------------|-------|--------|-------|---------|-------|
| DRT 4 S | Capacity kg | Static reactions: R1; R2 = daN | | | | | |
| | | Drum N | | Drum L | | Drum X1 | |
| | | R1 | R2 | R1 | R2 | R1 | R2 |
| 1400 | 40000 | 11500 | 9500 | 13850 | 7300 | 14900 | 6350 |
| | 2240 | 40000 | 11600 | 9600 | 13950 | 7350 | 15050 |
| 2800 | 40000 | 11650 | 9650 | 14000 | 7400 | 15100 | 6450 |

| DRT wheels dimensions and relevant rails | | | | | | | | |
|--|---------------|---------------|----|-----|-----|-------|------------|-------|
| DRT | Ø R Wheel mm. | Dimensions mm | | | | | | |
| | | Wheel | | | Ø e | h min | Rail b min | b max |
| A | B | C | | | | | | |
| DRT 3 | 200 | 60 | 20 | 100 | 230 | 30 | 40 | 50 |
| DRT 4 | 250 | 70 | 20 | 110 | 280 | 40 | 50 | 60 |



Position of DRT trolley wheels on the rail

Characteristics of the motors, fuses and power cables

| Hoist DRH | Motor Type | Poles | Group FEM | Power kW | COS | Ia - (A) 400V - 50Hz | In - (A) 400V - 50Hz | Power current fuse (A) 400V - 50Hz | Minimum section of power cables 400V - (ΔU20V) | |
|--------------|------------|-------|-----------------|----------|-----------|-------------------------|-------------------------|---------------------------------------|---|------|
| | | | | | | | | | Φ mm ² | L =m |
| DRH 1 | 112K4RH1/3 | 4 | 1Am 2m 3m | 3 | 0,75 | 40 | 8 | 16 | 2,5 | ≤ 30 |
| | 112K5RH1/3 | 4/12 | 1Am 2m 3m | 3/1 | 0,72/0,5 | 38/13 | 8/6,6 | 16 | 2,5 | ≤ 30 |
| DRH 2 | 132K4RH2/3 | 4 | 1Am 2m 3m | 5 | 0,75 | 58 | 12 | 20 | 4 | ≤ 30 |
| | 132K5RH2/3 | 4/12 | 1Am 2m 3m | 5/1,65 | 0,78/0,5 | 50/17 | 12/10 | 20 | 4 | ≤ 30 |
| DRH 3 | 160K4RH3/2 | 4 | 1Am 2m 3m | 10 | 0,8 | 110 | 22 | 32 | 6 | ≤ 30 |
| | 160K5RH3/2 | 4/12 | 1Am 2m 3m | 10/3,3 | 0,77/0,46 | 100/20 | 24/18 | 32 | 6 | ≤ 30 |
| DRH 4 | 180K4RH4/2 | 4 | 1Am 2m 3m | 16 | 0,82 | 175 | 34 | 63 | 10 | ≤ 20 |
| | 180K5RH4/2 | 4/12 | 1Am 2m 3m | 16/5,3 | 0,78/0,46 | 170/50 | 38/25 | 63 | 10 | ≤ 20 |

| Trolley DST DRT | Motor Type | Poles | Group FEM | Power kW | COS | Ia - (A) 400V - 50Hz | In - (A) 400V - 50Hz |
|---|------------|-------|-----------------|-----------|-----------|-------------------------|-------------------------|
| DST 1 DST 2 DRT 1 | 71K3P | 2/8 | 1Am 2m 3m | 0,32/0,07 | 0,7/0,55 | 3,8/1,2 | 1,0/0,8 |
| | 71C2P | 2 | 1Am 2m 3m | 0,32 | 0,72 | 6 | 1,0 |
| | 71C4P | 4 | 1Am 2m 3m | 0,16 | 0,5 | 4 | 1,0 |
| DST 3 DRT 2 | 80K3P | 2/8 | 1Am | 0,5/0,12 | 0,85/0,6 | 5,5/1,6 | 1,3/1,1 |
| | 80K2P | 2 | 2m | 0,50 | 0,8 | 5,6 | 1,3 |
| | 80K4P | 4 | 3m | 0,25 | 0,65 | 3,3 | 0,9 |
| DST4 * DRT3 (DRH4 6 falls) | 80K3PL | 2/8 | 1Am | 0,63/0,15 | 0,82/0,57 | 6,8/1,9 | 1,6/1,3 |
| | 80K2PL | 2 | 2m | 0,63 | 0,75 | 7,7 | 1,7 |
| | 80K4PL | 4 | 3m | 0,32 | 0,65 | 3,9 | 1,1 |
| DRT 3 *DRT4 | 100K3P | 2/8 | 1Am 2m 3m | 1,25/0,31 | 0,84/0,6 | 16/3,6 | 3,1/1,8 |
| | 100K2P | 2 | 1Am 2m 3m | 1,25 | 0,83 | 16 | 2,9 |
| | 100K4P | 4 | 1Am 2m 3m | 0,63 | 0,8 | 8,5 | 1,7 |

* The trolley is made with two travel motoreducers. The powers values shown in the table must be doubled.

Example calculation of a fall in tension ΔU, of the length and of the section of the power cable. (ΔU max 5%)

$$\begin{aligned} \Delta U &= 1.73 \cdot L \cdot I_a \cdot \cos / X \cdot \Phi & [V] \\ L &= \Delta U \cdot X \cdot \Phi / 1.73 \cdot \cos \cdot I_a & [m] \\ \Phi &= 1.73 \cdot L \cdot I_a \cdot \cos / \Delta U \cdot X & [mm^2] \end{aligned}$$

Values in the formula:

$$\begin{aligned} \Delta U &= \text{Fall in tension} & [V] \\ I_a &= \text{Start-up current} & [A] \\ L &= \text{Length of cable} & [m] \\ \Phi &= \text{Section of the cable} & [mm^2] \\ X &= \text{Conductivity} & Cu=57 m/Qmm \\ \cos &= \text{Power factor} \end{aligned}$$

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