



ELECTRIC WIRE ROPE HOIST

DRH SERIES



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The most reliable and safe way to lift your loads.

The DRH electric hoist range is studied to always guarantee the maximum continuity of the job. Thanks to their strength and reliability, they allow conditions of maximum safety with loads of up to 50,000 kg.

Designed to last over the years and meet the various types of use, the DRH series has earned a prominent position internationally, allowing us to supply our customers with products that can offer a wide range of uses, long-term reliability, safety guarantees during all operating phases and excellent value for money.

DRH hoists are known for the quality of their components, high technology used to machine mechanical parts, finishing and surface treatments. The special water-repellent paintwork, applied with a completely enclosed electrostatic process, guarantees durability and constant top performance.



MAX 50.000 KG

Power and safety
at your service to guarantee
always the continuity of work



TROLLEYS

The combination of the hoist with an electric trolley, which runs on a beam, allows the creation of an integrated system for lifting and horizontal movement of the load.

All lifting (raise and lower) and traverse (right and left) movements are activated by a push button pendant or radio-control system.

The electric wire rope hoist and trolleys can be mounted overhead and fitted with monorails or act as the lifting unit for other machines, including: cranes (bridge, gantry, job, etc.) monorail and double girder.



**POWER AND
SAFETY AT
YOUR SERVICE**



DRH series electric wire rope hoists and relative electric trolleys are manufactured based on a modular component design, assembled together based on application needs and make it possible to quickly and inexpensively create many standardised and special executions.

To guarantee maximum use of the hook run and minimum overall lateral dimensions of the hoist body, the basic components, (motor, gearbox and drum) are assembled in a coaxial line, with high strength bolted connections. Each connection can be inspected and has self-locking safety nuts. The drum on the side opposite the gear motor can be connected (upon request) to a cycle counter, selectors, limits switches and encoders.

In addition, since it is perfectly symmetrical in the special execution with right and left threading, two gear motors can be installed doubling the lifting speed but maintaining the same capacity and vertical lifting axis. This solution is particularly suited for configurations with large hook runs. The construction uses the most advanced technology and manufacturing processes for the purpose of building totally reliable machines with economies of scale.

THE ELECTRIC WIRE ROPE HOIST RANGE

The DRH Range – Series, Capacities and Lifting Speed.

4 BASIC SIZES

DRH 1-2-3-4, for capacities from 800 to 50,000 kg, in the FEM (ISO) service units 1Bm (M3) - 1Am (M4) - 2m (M5) - 3m (M6).

ONE LIFTING SPEED

Created with a 4 pole motor:

- ▶ 8 or 12 m/min for 2 falls wire rope hoists
- ▶ 4 or 6 m/min for 4 falls wire rope hoists
- ▶ 2.7 or 4 m/min for 6 falls wire rope hoists
- ▶ 2 or 3 m/min for 8 falls wire rope hoists

TWO LIFTING SPEEDS 1/3 ratio created with a 4/12 pole motor:

- ▶ 8/2.6 or 12/4 m/min for 2 falls wire rope hoists
- ▶ 4/1.3 or 6/2 m/min for 4 falls wire rope hoists
- ▶ 2.7/0.9 or 4/1.3 m/min for 6 falls wire rope hoists
- ▶ 2/0.7 or 3/1 m/min for 8 falls wire rope hoists

5 STANDARD VERSIONS WITH DRUM

short (C), normal (N), long (L) and extra-long (X1) and (X2), for hook runs from 4 to 58 m.

PROTECTION AND INSULATION OF ELECTRICAL PARTS

- ▶ Hoist and trolley motors: IP55 protection – “F” insulation class
- ▶ Motor brake IP23
- ▶ Limit switch: IP65 minimum protection
Maximum insulation voltage 500 V
- ▶ Cables: IEC 20/22 II
Maximum insulation voltage 450/750 V
- ▶ Hoist motor protected by thermal sensor
- ▶ Overload protection

ELECTRICAL POWER SUPPLY

- ▶ Standard DRH electric rope hoists are designed to be supplied with AC electrical current with three-phase voltage: 400 V - 50Hz in accordance with IEC 38-1.
- ▶ Non-standard voltages and frequencies are available upon request.

NOMINAL WORKING CONDITIONS

- ▶ Operating 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-ventilated ambient, free from corrosive fumes (acid fumes, saline mist, etc.)

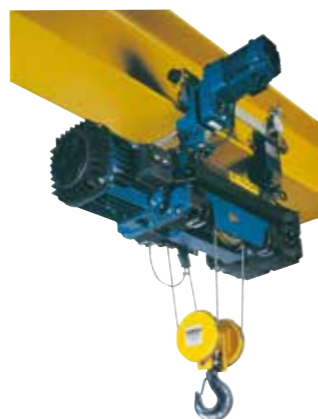
NOISE LEVEL

- ▶ The sound pressure level emitted by the hoist when fully loaded is always less than 80 dB (A). The incidence of environmental characteristics such as the transmission of sound through metallic structures, reflection caused by combined machines and walls, is not included in the indicated level.



FIXED EXECUTION

This is the universal, basic configuration, with fixing eyebolts that allow any version of DRH hoist fixing on a frame or to be adapted in a suspended execution.



ELECTRIC MONORAIL TROLLEYS, TYPE DST/N/S

The DRH hoist is supplied in suspended execution with the normal trolley or articulated trolley for curved beams, it runs on a single beam and is operated electrically.



ELECTRIC MONORAIL TROLLEY, TYPE DST/R

In this configuration the DRH hoist is supplied in low headroom execution for maximum height of lift. It is compact and runs on a single beam; it is operated electrically.



DOUBLE GIRDER TROLLEY, TYPE DRT

The DRH hoist can be fitted longitudinally on the frame or suspended, or in transversal execution, on the trolley, which runs on two beams and is operated electrically. The two girder trolley execution allows the maximum hook run of the hoist.

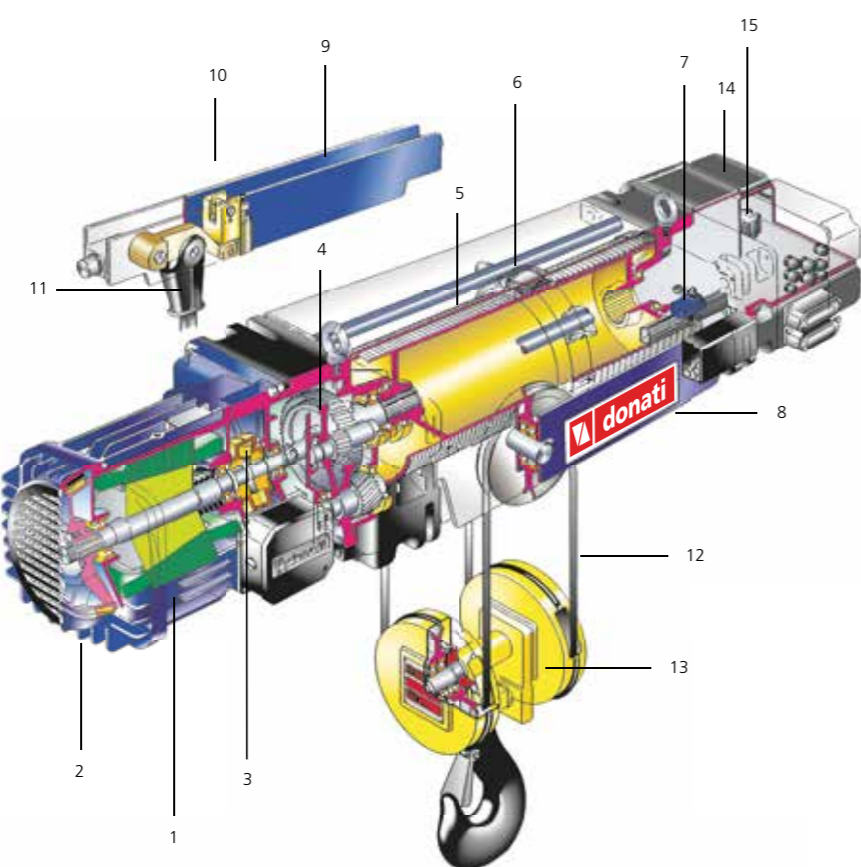
THE DRH SERIES ELECTRIC WIRE ROPE HOIST RANGE

FIXED EXECUTION
WITH ELECTRIC TROLLEY, MONORAIL,
TYPE DST/N/S AND TYPE DST/R
WITH DOUBLE GIRDER TROLLEY, TYPE DRT



THE HOIST IN DETAIL

DESIGN AND CONSTRUCTION



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.
- ▶ DRH4 motor, 24 kW cylindrical, asynchronous and three phase.

2. LIFTING BRAKE

- ▶ The conical brake is fitted with asbestos free lining. The brake block, which has a fan that guarantees cooling of the brake and the motor, moves axially with the motor shaft and the braking function is activated automatically if the energy supply fails. [RES. 1.2.3 – 4.1.1.6 c) - Annex I Machinery Directive].
- ▶ DRH4 24 kW electromechanical brake.

3. COUPLING

This creates the connection between the self-braking motor and the gearbox, allowing perfect axial sliding of the motor shaft.

4. GEARBOX

Coaxial, with three stages of reduction, with cylindrical gears made of thermally treated, highly resistant steel, helical 7 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 - Annex I Machinery Directive]. The whole machine is mounted on ball 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 gearbox and the equipment side flange, with hubs with rotating broached holes on permanently lubricated bearings. The drum is dimensioned based on the standards ISO 4308-1:2003 and UNI 9466:1994 as well as the FEM rules 9.661/86. The drum support flanges are fitted with steel cylindrical pins to secure the components which suspend and support the hoist. Mechanically machined seats support the anchorage crossheads and the return pulley. The connection between the two casings is made with bolted stay bolts.

6. ROPE GUIDE

This has a threaded ring made of spheroidal cast iron and allows excellent winding of the rope on the drum. [RES. 4.1.2.4 – Annex I Machinery Directive]. An elastic system automatically registers any play or wear. The rope guide is equipped with sliding backlash arms made of brass, which, by acting on the hoist stay bolts, function as raise and lower limit switches.

7. LIFTING LIMIT SWITCH

This is a safety component which limits the run of the hook, both raising and lowering, in an emergency. [RES. 4.1.2.6 a) - Annex I Machinery Directive]. It is composed of two precision microswitches which operate according to the “positive slow opening” principle and work on the auxiliary circuit of the hoist motor control device.

8. PULLEY ASSEMBLY

Used in versions with 4 rope falls, and supported by two pivots which allow it to be oriented based on the vertical axis of the rope. It is equipped with a return pulley made of carbon steel with mechanically grooved rim and turns on permanently lubricated ball bearings.

9. ANCHORAGE CROSSHEAD

Used in versions with 2 and 4 rope falls, and supported by two pivots which allow it to be oriented based on the vertical axis of the rope. The overload device is located between the plates of the beam.

8A/9A PULLEY AND ANCHORAGE SUPPORT

Used in the 6 and 8 rope fall versions, it is composed of an electric welded metal structure and is equipped with a connection plate to be positioned on the double girder trolley. It is fitted with return pulleys made on carbon steel with a mechanically grooved rim and turns on permanently lubricated ball bearings. The overload device is positioned between the support plates on the swinging beam.

10. OVERLOAD DEVICE

All DRH series electric rope hoists have an overload device with a threshold level microswitch. [RES. 4.2.1.4 - Annex I Machinery Directive]. The electromechanical overload device, constantly measures and checks the value of the load and the dynamic and inertial effects due to its movement. When the set values are exceeded the microswitch of the device starts by opening the control circuit of the hoist motor control device.

11. WEDGE ANCHORAGE

The anchorage is made of spheroidal cast iron. The minimum coefficient of utilisation is in compliance with the FEM rule 9.661/86. The rope is secured with a wedge which keeps it from unwinding.

12. ROPE

This is made of flexible steel, highly resistant to strain and wear. The minimum coefficient of utilisation has been selected to comply with the ISO standard 4308-1:2003. Non-twist ropes are used on DRH hoists 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 with mechanically grooved rim. It rotates on bearing which are permanently lubricated. The load hook is made of highly resistant drop forged steel and is mounted on a swinging cross beam. It rotates on a thrust bearing and has a safety device to prevent unhooking. [RES. 4.1.2.6 - Annex I Machinery Directive].

14. FRAME FOR ELECTRICAL CONNECTIONS

Supplied upon 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 protection.

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 the low voltage control circuits.
- ▶ The main contactor and contactors/ reversing contactors for controlling the motors.
- ▶ The fuses for protecting the motors and transformer.
- ▶ The terminal board for connections of the 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-button panel supplied in AC at low voltage. The push-button panel is ergonomically shaped, watertight and made of self-extinguishing, shock resistant, thermoplastic material. Its protection level is IP 65. The emergency stop [RES. 1.2.4.3 - Annex I Machinery Directive], is activated by voluntarily pushing the mushroom shaped button, which starts the control circuit [RES. 1.2.3 - Annex I Machinery Directive]. The push-button panel is connected to the electrical equipment by a multipolar electrical cable with break-resistant metallic cores.



TROLLEYS

DESIGN AND CONSTRUCTION

MONORAIL ELECTRIC TROLLEY, TYPES DST/N - S - R NORMAL - ARTICULATED - LOW HEADROOM

These are normally composed of an idler unit and drive unit, each equipped with two wheels made of mechanically machined pressed steel and mounted on permanently lubricated ball bearings. The wheels of the drive unit are opposing, have a crown gear wheel and are connected to each other by a transmission bar in the normal (N) and low headroom (R) versions.

The articulated version (S), is equipped with a double gear motor, both of which directly give the wheels the movement. The steel supporting plates have anti derailment and anti-drop systems [RES. 4.1.2.2 – Annex I Machinery Directive] and rubber buffers. Travel is assured by one or two self-braking motors with tapered motor, progressive start up and braking, one or two speeds and one of two offset gear motors with gears with helicoidal teeth which are permanently lubricated in an oil bath.

ELECTRIC TROLLEY, NORMAL MONORAIL, TYPE DST/N

In the normal version the trolley has supporting bars with circular cross-sections that support the hoist by hinge and pin suspensions. 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 fitted with bolted joints. Both units, 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 a circular cross-section that support the hoist in standing 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 fitted with bolted joints. The trolley has a counterbalance on the supporting bar with circular cross-section 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 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 and are fitted with bolted joints. Both drive units are opposing on the same bar and are independent from the idler units.

ELECTRIC TROLLEY, DOUBLE GIRDER, TYPE DRT

The two driven and two idle wheels are supported by a steel frame. The wheels, pressed from carbon steel, rotate on permanently lubricated ball bearings. The double girder trolley is equipped with devices to avoid derailment and dropping [RES. 4.1.2.2 – Annex I Machinery Directive] and rubber buffers. Activation of the traverse is assured by a self-braking motor with tapered motor, progressive start up and braking, one or two speeds and an offset gear motor with gears with helicoidal teeth which permanently lubricated in an oil bath. They confer the movement to the drive wheels by a transmission bar. The hoist can be lifted on the top of the trolley or can be suspended or transversal.

TRAVERSE LIMIT SWITCHES

Upon request all trolleys can be supplied complete with limit switches [RES. 4.1.2.6 a) - Annex I Machinery Directive].

TOWING ARM

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

OSCILLATING BRACKET FOR HOISTS MOUNTED ON A DST/N TROLLEY

Available upon request to allow the hoist to oscillate in relation to the vertical axis of the running beam.

CONFORMITY TO NORMS AND REGULATIONS

The hoists and their trolleys are designed and manufactured taking into consideration the **“Essential Safety Requirements”** in **Annex I of the EU Machinery Directive 2006/42/EC** and are placed on the market and **EC Declaration of Conformity**, as per **Annex IIA of the same Directive**.

In addition, DRH series hoists and their trolleys comply with the following Directives:

- ▶ **LOW VOLTAGE DIRECTIVE 2014/35/UE**
- ▶ **ELECTROMAGNETIC COMPATIBILITY DIRECTIVE 2014/30/UE**

DESIGN AND CONSTRUCTION

Donati Sollevamenti S.r.l.'s continuous focus on quality is not just seen in its careful designing, responsible choices and constant testing of materials, production phases and finished product. It involves the whole company through its quality assurance system which has been in place since 1993 and governs and controls the life of the entire company. The integrity in the design and production of all Donati products would not be complete without the careful consideration of the international regulatory framework and standards which are a guarantee of safety for the customer and user. In this light we recommend reading the CSA homologation of DRH rope hoists and relative accessories and trolleys built in a special execution for the North American market.

REGULATORY REFERENCE FRAMEWORK

The design and construction of DRH series electric wire rope hoists the following technical standards and rules were taken into consideration:

- EN ISO 1210:2010 “Fundamental concepts, general design principles”
- ▶ EN ISO 13849-1:2008 “Safety-related parts of control systems”
- ▶ EN 12077-2:2008 “Limiting and indicating devices”

- ▶ EN 13001-1:2009 “General design – Part 1: General principles and requirements”
- ▶ EN 14492-2:2009 “Power driven winches and hoists – Part 2: Power driven hoists”
- ▶ EN 60204-32:2009 “Safety of the electrical equipment of lifting machines”
- ▶ EN 60529:1997 “IP enclosure (IP Codes)”
- ▶ ISO 4301-1:1988 “Classification of lifting equipment. General”
- ▶ ISO 4308-1:2003 “Selection of wire ropes – General”
- ▶ DIN 15401 “Choice of lifting hooks”
- ▶ UNI 9466:1994 “Shell drum. Design requirements”
- ▶ FEM 1.001/98 “Rules for the design of lifting equipment”
- ▶ FEM 9.511/86 “Mechanisms classification”
- ▶ FEM 9.661/86 “Dimensions and designs of rope reeving components”
- ▶ FEM 9.683/95 “Selection of lifting and traverse motors”
- ▶ FEM 9.755/93 “Periods of safe work”
- ▶ FEM 9.761/93 “Lifting force limiters”
- ▶ FEM 9.941/95 “Control symbols”



OPERATING LIMITS, OPERATING CONDITIONS AND LIFE SPAN

Correctly determine the operating limits of the hoist in order to ensure correct operation and duration as well as complete compliance of the operating system with the work for which it is intended. The ISO standard 4301-1:1988 and FEM rule 9.511/86 make it possible to classify electric rope hoists based on their use and the parameters necessary for determining the limits of use are the following:

ACTUAL LIFTING CAPACITY

This is determined by the heaviest load to be lifted.

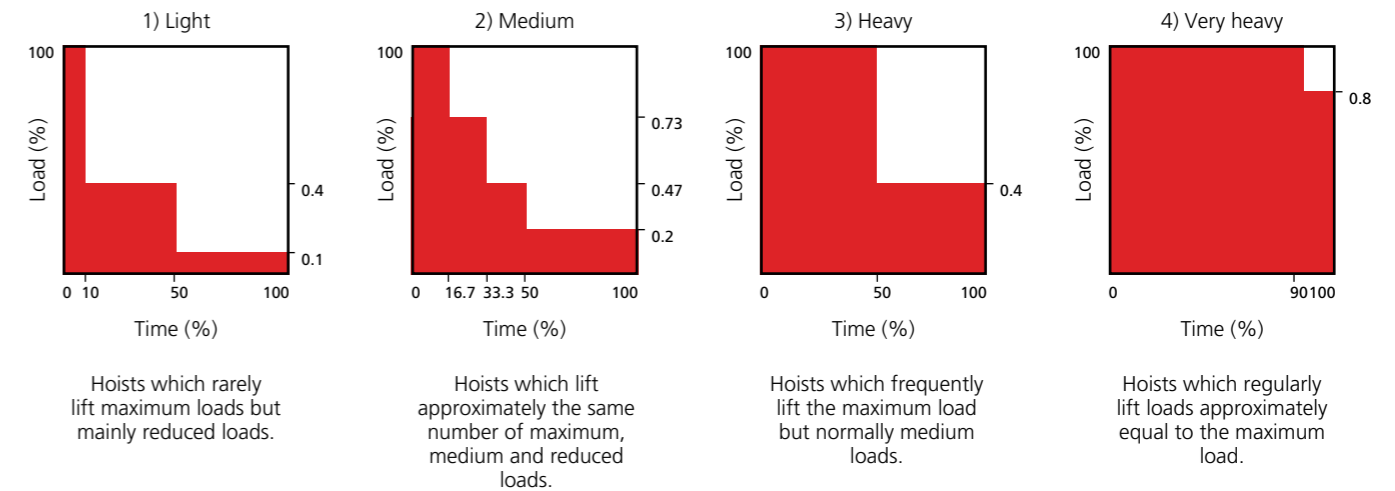
The nominal lifting capacity of the hoist must be \geq the actual lifting capacity.

Lifting capacity = kg



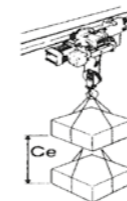
THE STATE OF STRESS

Is evaluated considering the average entity of the loads lifted and is ascribable to one of the four spectrums load shown below which determine the type of service.



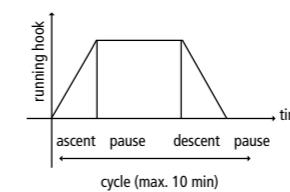
AVERAGE DURATION OF DAILY OPERATION

For LIFTING operations the average duration of operation is calculated as follows: $T_m \text{ (hours)} = (AHR \times C/h \times Rt) / (30 \times S)$



Actual hook run
 $AHR = m$

It is the average of the actual runs of the load



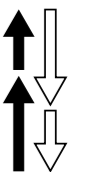
Cycles in an hour
 $C/h = N^\circ$

It is the number of complete ascents and descents carried out in an hour.



Running time
 $RT = \text{hours}$

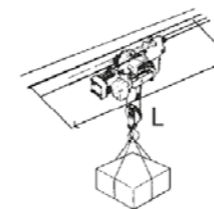
Hoist running time in a whole day.



Lifting speed
 $S = m/\text{min}$

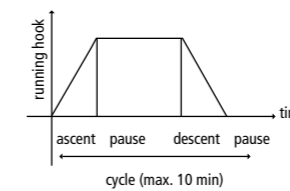
It is the distance covered by the load in a minute.

For TRAVEL operations the average duration of operation is calculated as follows: $T_m \text{ (hours)} = (Aar \times C/h \times Rt) / (30 \times S)$



Actual average run
 $Aar (m) = L/2$

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



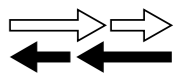
Cycles in an hour
 $C/h = N^\circ$

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



Running time
 $RT = \text{hours}$

It is the running time of the trolley in a day.



Travel speed
 $S = m/\text{min}$

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

SELECTION OF THE LIFTING EQUIPMENT

According to the type of use, that determines the **stress level** and calculation of **average daily use time**, for lifting and/ or travelling, the following table can be used to classify the group and the related mechanisms and select the type of hoist in relation to the **capacity**. Once the type of hoist is identified, it is important to check the related life in terms of hours of service and total number of cycles in 10 years of operation.

FOR EXAMPLE:

Capacity = 6300 kg
 Level of stress = 2) Medium Load
 Actual hook run = AHR 2.5 M
 N° of cycles per hour = C/h 8
 Daily running time = Rt 8 h
 Lifting speed = S 4 m/min (4/1 rope falls)
 N° of working days per year = D/y 220

1) Calculation of the average daily running time:

$$T_m \text{ (hours)} = (AHR \times C/h \times Rt) / (30 \times S) = (2.5 \times 8 \times 8) / (30 \times 4) = 1.33 \text{ h}$$

In the table on page 15, in relation to the Capacity (6300 kg), at the medium level of stress (2) and at the average duration of daily operation ($T_m = 1.2 \text{ h}$) it is possible to determine the rope hoist, with 4/1 rope falls, which is:

Service Group FEM 1Am – Type DRH 24L1• M

2) Test of life span: Hours of operation in 10 years

$$T_m \times G/y \times 10 \text{ years} = 1.33 \times 220 \times 10 = 2933 \text{ (hours)} < \text{delle } 3200 \text{ (maximum hours possible)} \blacktriangleright \text{OK}$$

N° operating cycles in 10 years

$$C/h \times Rt \times G/y \times 10 \text{ years} = 8 \times 8 \times 220 \times 10 = 140800 \text{ (cycles)} < \text{of the } 250000 \text{ (maximum cycles possible)} \blacktriangleright \text{OK}$$

LIFE SPAN OF THE LIFTING EQUIPMENT

The overall life span of the lifting equipment is determined from the stress level, real hours of operation of each mechanism and the number of operating cycles of the complete machine. The operating hours and the number of cycles, which depends on the lifting equipment FEM/ISO service group classification, are conventionally expected to allow safe use for a period of 10 years.

Thus, after 10 years, the machine may have finished its expected life span, i.e. completed the available operating cycles, related to its specific service group. For this reason, when the 10th year has finished the lifting equipment SHOULD NOT be used unless it is inspected by DONATI SOLLEVAMENTI S.r.l. or by expert technicians assigned for this purpose, aimed at checking if the equipment still has some remaining working life and is therefore able to operate safely for an additional period of time, or should undergo a general overhaul.

The classification of the hoist service group is shown on the machine plate affixed to it. DONATI SOLLEVAMENTI S.r.l. guarantees the safe use of the DRH wire rope hoist for the entire duration of its expected lifespan, only if used in compliance with the parameters corresponding to the service group and subject to correct, regular maintenance.

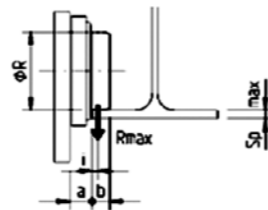
CLASSIFICATION AND LIMITS OF USE OF THE LIFTING EQUIPMENT ELECTROMECHANISMS

Use based on the stress level (type of duty)			≤ 2	≤ 4	≤ 8	≤ 16	> 16	> 16
			1) Light	Tm = Average duration of daily operation (hours)	≤ 2	≤ 4	≤ 8	≤ 16
2) Medium	Life span of the mechanisms in 10 years of operation (hours)		3200	6300	12500	25000	50000	100000
	N° max of operating cycles in 10 years of operation (Σ cycles)		250x10 ³	500x10 ³	100x10 ⁴	200x10 ⁴	400x10 ⁴	> 4x10 ⁶
	Tm = Average duration of daily operation (hours)		≤ 1	≤ 2	≤ 4	≤ 8	≤ 16	> 16
3) Heavy	Life span of the mechanisms in 10 years of operation (hours)		1600	3200	6300	12500	25000	50000
	N° max of operating cycles in 10 years of operation (Σ cycles)		125x10 ³	250x10 ³	500x10 ³	100x10 ⁴	200x10 ⁴	400x10 ⁴
	Tm = Average duration of daily operation (hours)		≤ 0.5	≤ 1	≤ 2	≤ 4	≤ 8	≤ 16
4) Heavy	Life span of the mechanisms in 10 years of operation (hours)		800	1600	3200	6300	12500	25000
	N° max of operating cycles in 10 years of operation (Σ cycles)		63x10 ³	125x10 ³	250x10 ³	500x10 ³	100x10 ⁴	200x10 ⁴
	Tm = Average duration of daily operation (hours)		≤ 0.25	≤ 0.5	≤ 1	≤ 2	≤ 4	≤ 8
Service group of lifting and travelling mechanisms	as per ISO standard 4301-1		M3	M4	M5	M6	M7	M8
	as per FEM rule 9.511		1Bm	1Am	2m	3m	4m	5m
Intermittent use as per FEM rule 9.683/95	Hoist mechanisms	Ratio of intermittence (Rl%)	25	30	40	50	60	60
		Maximum n° of start-ups per hour (A/h)	150	180	240	300	360	360
		Maximum n° of cycles per hour (C/h)	25	30	40	50	60	60
	Trolley mechanisms	Ratio of intermittence (Rl%)	20	25	30	40	50	60
		Maximum n° of start-ups per hour (A/h)	120	150	180	240	300	> 360
		Maximum n° of cycles per hour (C/h)	20	25	30	40	50	> 60
Temporary use	Operation time at main speed (min)	15	15	30	30	60	> 60	
	Operation 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	
Two speed double polarity motors	Max n° of start-ups per hour (A/h)	Main speed	1/3 (33.3% of the total n° of start-ups per hour)					
		Low speed	2/3 (66.7% of the total n° of start-ups per hour)					
Tm = Average duration of daily operation (hours)	Tm = Average duration of daily operation (hours)	Main speed	2/3 (66.7% of the average duration of daily operation)					
		Low speed	1/3 (33.3% of the average duration of daily operation)					

POSITION OF THE WHEELS ON THE BEAM FOR ALL DST TROLLEYS

DST N/S R	Ø R WHEEL (mm)	DIMENSIONS (mm)			MAX. THICKNESS (mm)
		I	A	B	
DST 1	100	8	35	18	20
DST 2	125	12	35	29	23
DST 3	160	17	45	34	35
DST 4	200	19	50	39	41

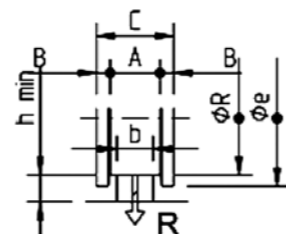
Position of the wheels on the beam for all DST trolleys



DIMENSIONS OF DRT WHEELS AND RELATIVE RAILS

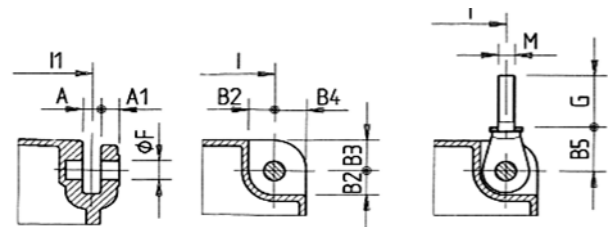
DRT	Ø R WHEEL (mm)	DIMENSIONS (mm)						
		WHEEL				RAIL		
		A	B	C	Ø e	h MIN.	b MIN.	b MAX
DRT 1	125	50	15	80	150	30	30	40
DRT 2	160	55	19	93	190	30	30	45
DRT 3	200	60	20	100	230	30	40	50
DRT 4	250	70	20	110	280	40	50	60

Track position of the wheel carts DRT



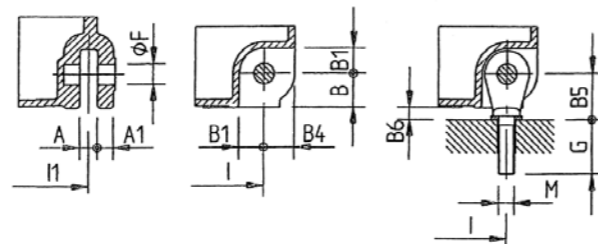
FIXING OF THE DRH WIRE ROPE HOISTS IN SUSPENDED AND STANDING EXECUTION

Fixing of 2 and 4 fall hoists in suspended execution: Detail of the hole and connection area of the universal eyebolt



The universal eyebolt is supplied as a standard. For dimensions I and I1 see the DRH standing/suspended page.

Fixing of 2, 4, 6 and 8 fall hoists in standing execution: Detail of the support foot and the connection area of the universal eyebolt (2 and 4 falls) and stay bolts (6 and 8 falls)



The universal eyebolt (2 and 4 falls) or stay bolt (6 and 8 falls) is supplied as a standard. For dimensions I and I1 see the DRH standing/suspended page.

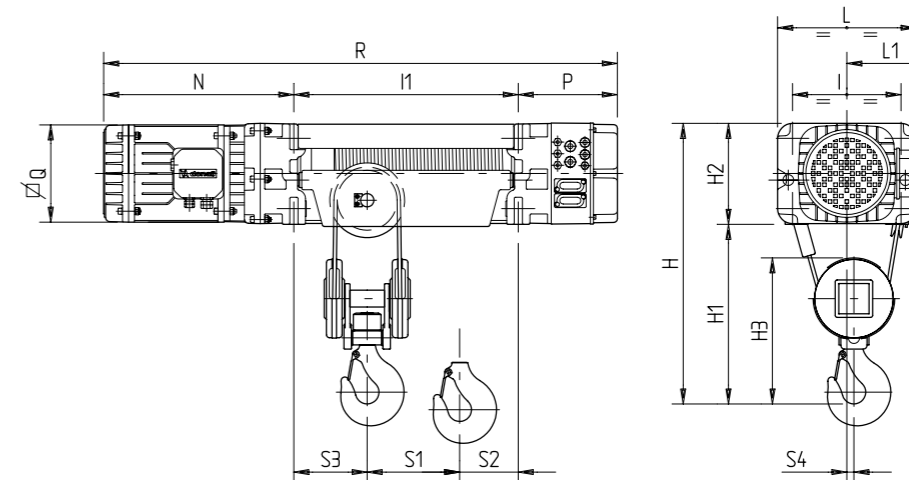
N° OF ROPE FALLS	DHR TYPE	OVERALL DIMENSIONS (mm)													
		A	A1	B	B1	B2	B3	B4	B5	B6	ØF	M	G		
2/1 - 4/1	1	20	20	37	21	21	35	35	50	13	20	16x2	65		
	2	22	22	42	31	31	40	40	55	13	25	20x2.5	70		
	3	32	32	48	36	36	55	55	76	28	35	24x3	93		
	4	42	42	60	38	46	70	70	89	29	45	30x3.5	108		
6/1 - 8/1	3	32	32	48	36	-	-	-	48	-	35	20x2.5	55		
	4	42	42	60	38	-	-	-	60	-	45	27x3	57		

NOTES - Fixing 2, 4, 6 and 8 fall hoists in standing execution for applications on trolleys not supplied by Donati:
 • With the universal eyebolt (2 and 4 falls), the headroom of the hoist (H2 DRH dimension) needs to be increased by the dimension "B6" compared to the support surface.
 • With the stay bolt (6 and 8 falls) the headroom does not need to be increased by the dimension "B6".

OVERALL DIMENSIONS - WEIGHTS

DRH SERIES ELECTRIC WIRE ROPE HOISTS WITH 2 AND 4 ROPE FALLS IN STANDING OR SUSPENDED EXECUTION

Reactions on the supports, see page 35



S2 = I1 - S3 - S1

* For DRH3 and DRH4 with L.V., dimension P becomes: DRH3 = 330; DRH4 = 360

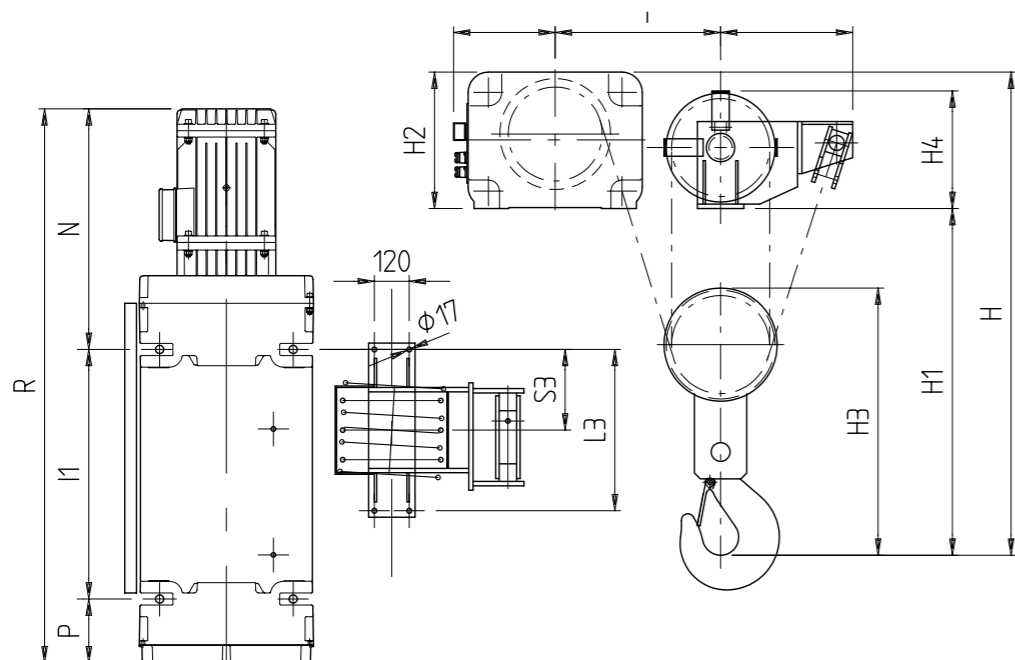
N° OF ROPE FALLS	DHR TYPE	OVERALL DIMENSIONS (mm)										
		H	H1	H2	H3	I	L	L1	N	P	Q	S4
2/1	1	690	460	230	390	250	320	210	480	255	225	28
	2	820	550	270	445	290	370	235	525	270	260	30
	3	1090	710	380	595	370	480	290	705	205	300	40
	4	1390	920	470	750	460	600	360	855	220	340	45
	⊙4	1390	920	470	750	460	600	360	1015	220	340	45
4/1	1	650	420	230	345	250	320	210	480	255	225	15
	2	750	480	270	390	290	370	235	525	270	260	19
	3	1020	640	380	540	370	480	290	705	205	300	23
	4	1320	850	470	700	460	600	360	855	220	340	25
	⊙4	1320	850	470	700	460	600	360	1015	220	340	25

N° OF ROPE FALLS	DHR TYPE	DRUM C				DRUM N				DRUM L				DRUM X1				DRUM X2				WEIGHT (kg) WITH DRUM TYPE				
		I1	R	S1	S3	I1	R	S1	S3	I1	R	S1	S3	I1	R	S1	S3	I1	R	S1	S3	C	N	L	X1	X2
2/1	1	400	1135	125	95	515	1250	185	95	890	1625	365	95	1200	1935	515	95	1530	2265	680	95	132	141	160	180	200
	2	480	1275	160	100	600	1395	220	100	1000	1795	410	100	1260	2055	530	100	1530	2325	670	100	180	195	215	260	280
	3	600	1510	195	130	740	1650	265	130	1260	2170	515	130	1550	2460	680	130	1940	2850	860	130	460	490	565	590	620
	4	722	1797	220	170	862	1937	290	170	1422	2497	570	170	1852	2927	800	170	2352	3427	1030	170	855	890	1010	1200	1250
4/1	⊙4	722	1957	220	170	862	2097	290	170	1422	2657	570	170	1852	3087	800	170	2352	3587	1030	170	910	945	1065	1255	1305
	1	400	1135	70	150	515	1250	100	150	890	1625	160	165	1200	1935	230	165	1530	2265	300	165	140	150	170	200	220
	2	480	1275	105	180	600	1395	135	180	1000	1795	210	200	1260	2055	280	200	1530	2325	350	200	195	205	235	280	300
	3	600	1510	130	240	740	1650	160	240	1260	2170	240	270	1550	2460	280	270	1940	2850	350	270	515	540	625	650	700
⊙4	4	722	1797	150	300	862	1937	180	300	1422	2497	220	300	1852	2927	310	300	2352	3427	410	300	960	1000	1140	1350	1400
	⊙4	722	1957	150	300	862	2097	180	300	1422	2657	220	300	1852	3087	310	300	2352	3587	410	300	1015	1055	1195	1405	1455

⊙ DRH4 hoist with cylindrical motor.

DRH SERIES ELECTRIC ROPE HOISTS WITH 6 AND 8 ROPE FALLS IN STANDING EXECUTION

Reactions on the supports, see page 36



N° OF ROPE FALLS	DHR TYPE	OVERALL DIMENSIONS (mm)									
		H	H1	H3	H4	L2	L3	S4	L1	N	P
6/1	3	1435	1055	777	330	350	330	415	290	705	205
	4	1665	1195	922	410	355	360	470	360	855	220
	⊙4	1665	1195	922	410	355	360	470	360	1015	220
8/1	3	1435	1055	777	330	420	450	515	290	705	205
	4	1665	1195	922	410	455	556	570	360	855	220
	⊙4	1665	1195	922	410	455	556	570	360	1015	220

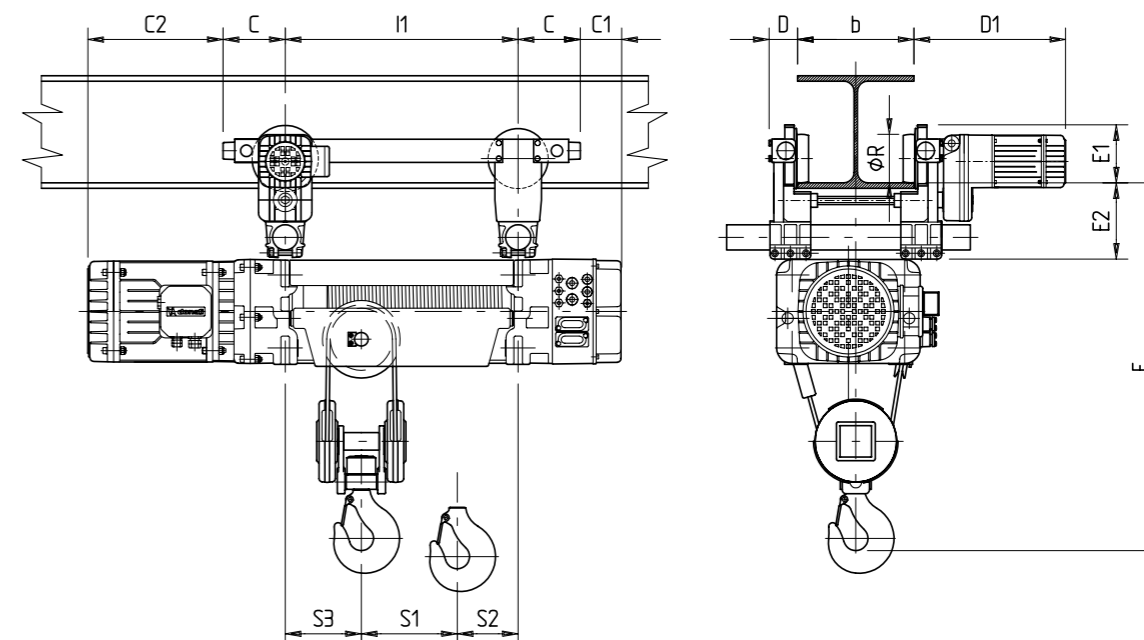
N° OF ROPE FALLS	DHR TYPE	DRUM N			DRUM L			DRUM X1			DRUM X2			WEIGHT (kg) WITH DRUM TYPE			
		I1	R	S3	I1	R	S3	I1	R	S3	I1	R	S3	N	L	X1	X2
6/1	3	740	1650	165	1260	2170	165	1550	2460	165	1940	2850	165	595	680	710	760
	4	862	1937	180	1422	2497	180	1852	2927	180	2352	3427	180	1070	1210	1420	1470
	⊙4	862	2097	180	1422	2657	180	1852	3087	180	2352	3587	180	1125	1265	1475	1525
8/1	3	-	-	-	1260	2170	225	1550	2460	225	1940	2850	225	-	700	730	780
	4	862	1937	278	1422	2497	278	1852	2927	278	2352	3427	278	1110	1250	1460	1510
	⊙4	862	2097	278	1422	2657	278	1852	3087	278	2352	3587	278	1165	1305	1515	1565

© DRH4 hoist with cylindrical motor.

DST/N MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS 2 (2/1) AND 4 (4/1) ROPE FALL VERSIONS

Reactions on the supports, see page 37

DRH series electric wire rope hoists with 2 and 4 rope falls with normal trolley N



* For dimensions I1 - S1 - S2 - S3 see page 25

N° OF ROPE FALLS	DHR TYPE	TROLLEY DST N/S	OVERALL DIMENSIONS (mm)								WEIGHT (kg) WITH DRUM TYPE				
			C	C1	C2	D	D1	E	E1	E2	C	N	L	X1	X2
2/1	1	1	140	115	340	66	393	870	130	180	215	220	240	270	290
	2	1	140	130	385	66	393	1000	130	180	260	270	295	326	346
	3	2	160	45	545	75	400	1290	148	195	575	600	675	750	826
	4	3	275	-55	580	90	460	1650	191	255	1120	1155	1270	1480	1650
4/1	⊙4	3	275	-55	740	90	460	1650	191	255	1175	1210	1325	1535	1705
	1	1	140	115	340	66	393	830	128	180	220	230	250	280	300
	2	2	160	110	365	75	400	950	148	195	300	310	335	380	400
	3	3	275	-70	430	90	460	1280	191	255	775	810	880	996	1070
	4	4	325	-105	530	102	468	1620	237	295	1415	1455	1590	1800	1970
	⊙4	4	325	-105	690	102	468	1620	237	295	1470	1510	1645	1855	2025

© DRH4 hoist with cylindrical motor.

N.B.: For the speed, power and position of the wheel see page 24

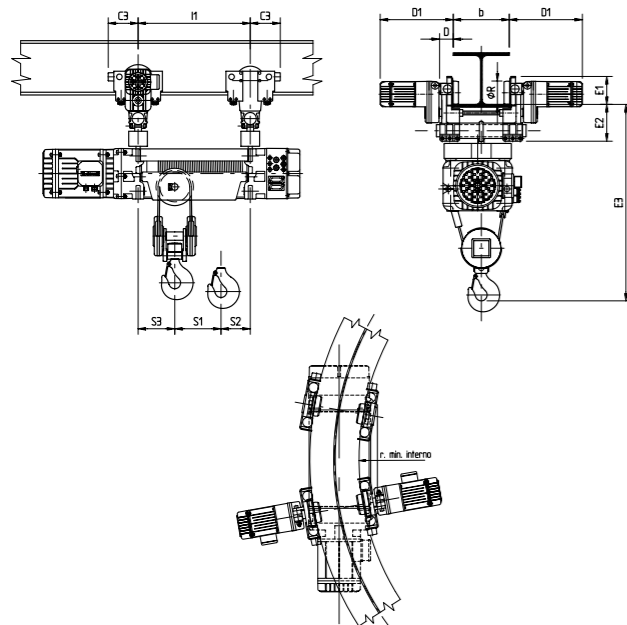
BEAM SPECIFICATIONS TABLE FOR DST/N TROLLEYS

TROLLEY	MIN. BEAM WIDTH (mm)	MAX. THICKNESS (mm)	MIN. RADIUS (mm)
DST 1N	90	20	-
DST 2N	119	23	-
DST 3N	135	35	-
DST 4N	180	41	-

Min. beam width = minimum beam width required
 Minimum radius = minimum internal radius required for curved beams
 Max. thickness = maximum beam flange thickness allowed

DST/S MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS - 2 (2/1) AND 4 (4/1) ROPE FALL VERSIONS - ARTICULATED

DRH series electric wire rope hoists with 2 and 4 rope falls with articulated trolley S



N° OF ROPE FALLS	DHR TYPE	TROLLEY DST/S	OVERALL DIMENSIONS (mm)		
			C3	r MIN.	E3
2/1	1	1	156	1500	960
	2	1	156	1500	1090
	3	2	160	1600	1400
	4	3	280	*1600	1855
4/1	1	1	156	1500	920
	2	2	160	1600	1050
	3	3	280	1600	1485
	4	4	327	1800	1810

N.B.: For the speed, power and position of the wheel see page 24

BEAM SPECIFICATIONS TABLE FOR DST/S TROLLEYS

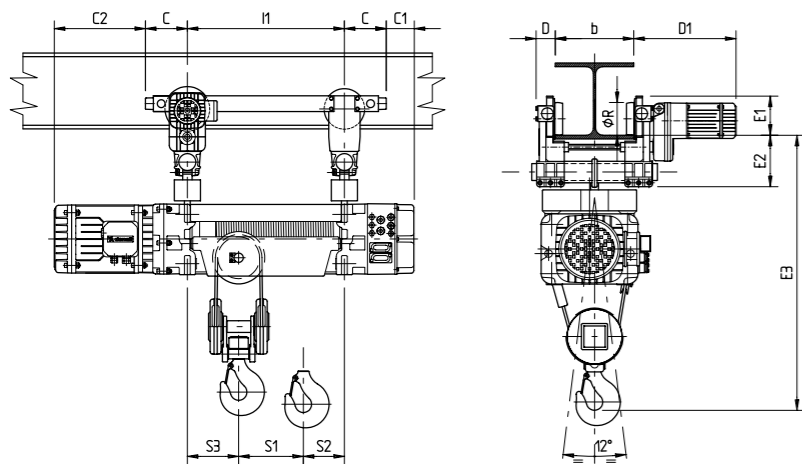
TROLLEY	MIN. BEAM WIDTH (mm)	MAX. THICKNESS (mm)	MIN. RADIUS (mm)
DST 1S	100	20	1500
DST 2S	135	23	1600
DST 3S	170	35	*1600
DST 4N	210	41	1800

* DST3S with DRH4 2 rope falls drum X2 Minimum radius = 1800
Min. beam width = minimum beam width required
Minimum radius = minimum internal radius required for curved beams
Max. thickness = maximum beam flange thickness allowed

* For dimensions I1 - S1 - S2 - S3 see page 25

DST/O MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS 2 (2/1) AND 4 (4/1) - OSCILLATING

DRH series electric wire rope hoists with 2 and 4 rope falls in oscillating execution



BEAM SPECIFICATIONS TABLE FOR DST/O TROLLEYS

TROLLEY	MIN. BEAM WIDTH (mm)	MAX. THICKNESS (mm)	MIN. RADIUS (mm)
DST 1O	100	20	-
DST 2O	135	23	-
DST 3O	170	35	-
DST 4O	210	41	-

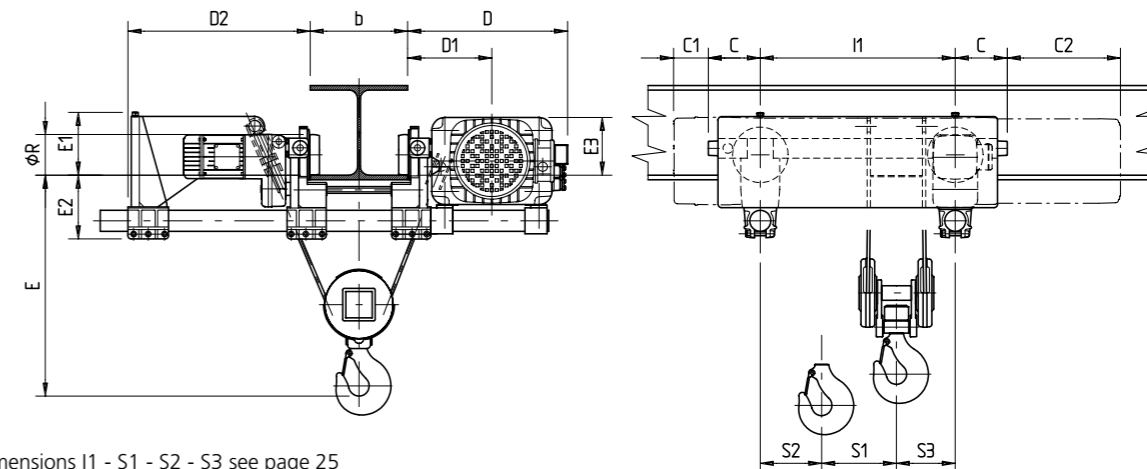
Min. beam width = minimum beam width required
Minimum radius = minimum internal radius required for curved beams
Max. thickness = maximum beam flange thickness allowed

* For dimensions I1 - S1 - S2 - S3 see page 25

DST/R MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS - 2 FALL (2/1) AND 4 FALL (4/1) VERSIONS

Reactions on the supports, see page 38

DRH series electric wire rope hoists with 2 and 4 rope falls with low headroom trolley R



* For dimensions I1 - S1 - S2 - S3 see page 25

N° OF ROPE FALLS	DHR TYPE	DST-R TROLLEY	OVERALL DIMENSIONS (mm)												WEIGHT (kg) WITH DRUM TYPE					
			D	D1	D2	D2 DRUM (X1-X2)	E1	E1 DRUM (X1-X2)	E2	E3	ØR	C	C1	C2	C	N	L	X1	X2	
2/1	1	1	440	230	540	393	140	143	180	145	100	140	115	340	260	270	280	360	390	
	2	1	485	250	590	420	200	180	180	185	100	140	130	385	360	370	395	460	490	
	3	2	605	315	655	582	317	295	195	295	125	160	45	545	740	770	870	1060	1160	
	4	3	755	395	677	677	352	352	255	365	160	275	-55	580	1510	1550	1700	2120	2350	
	⊙4	3	755	395	677	677	352	352	255	365	160	275	-55	740	1565	1605	1755	2175	2405	
4/1	1	1	440	230	540	393	140	143	180	145	100	140	115	340	270	280	290	370	400	
	2	2	495	265	560	412	195	175	195	180	125	160	110	365	415	425	450	530	560	
	3	3	625	335	622	547	286	265	255	265	160	275	-70	430	985	1005	1115	1346	1446	
	4	4	760	405	630	630	350	350	295	355	200	325	-105	530	1880	1930	2120	2540	2765	
	⊙4	4	760	405	630	630	350	350	295	355	200	325	-105	690	1935	1985	2175	2595	2820	

© DRH4 hoist with cylindrical motor.

N° OF ROPE FALLS	HOOK CLEARANCE E (mm) IN RELATION TO THE WIDTH OF BEAM B (mm) AND SIZE OF THE DRH WIRE ROPE HOIST															
	b = 180 (mm)				b = 220 (mm)				b = 300 (mm)				b = 400 (mm)			
	DRH 1	DRH 2	DRH 3	DRH 4	DRH 1	DRH 2	DRH 3	DRH 4	DRH 1	DRH 2	DRH 3	DRH 4	DRH 1	DRH 2	DRH 3	DRH 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

N.B.: For the speed, power and position of the wheel see page 24

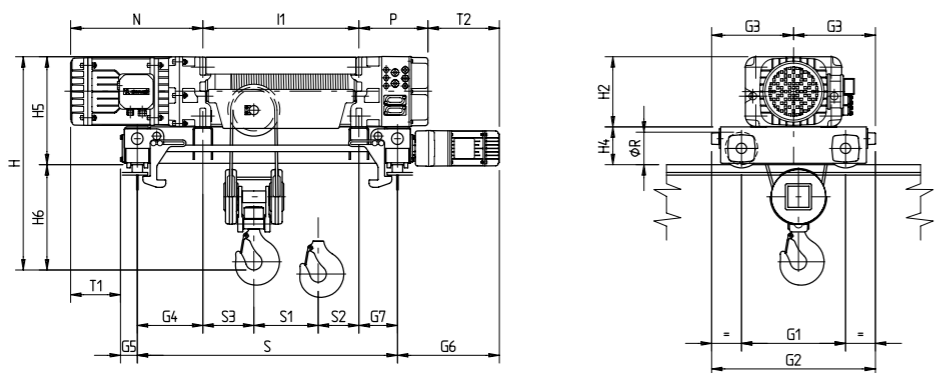
BEAM SPECIFICATIONS TABLE FOR DST/R TROLLEYS

TROLLEY	MIN. BEAM WIDTH (mm)	MAX. THICKNESS (mm)
DST 1R	90	20
DST 2R	119	23
DST 3R	135	35
DST 4R	180	41

DRT DOUBLE GIRDER TROLLEYS FOR DRH ELECTRIC ROPE HOISTS - TRANSVERSAL VERSION WITH 2 FALL (2/1) AND 4 FALL (4/1) VERSIONS

Reactions on the supports, see page 40

DRH series electric wire rope hoists with 2 and 4 rope falls with DRT double girder trolley, in transversal standing configuration



For dimensions I1 - S1 - S2 - S3 - N - P - H2 see page 25

$H = H5 + H6$

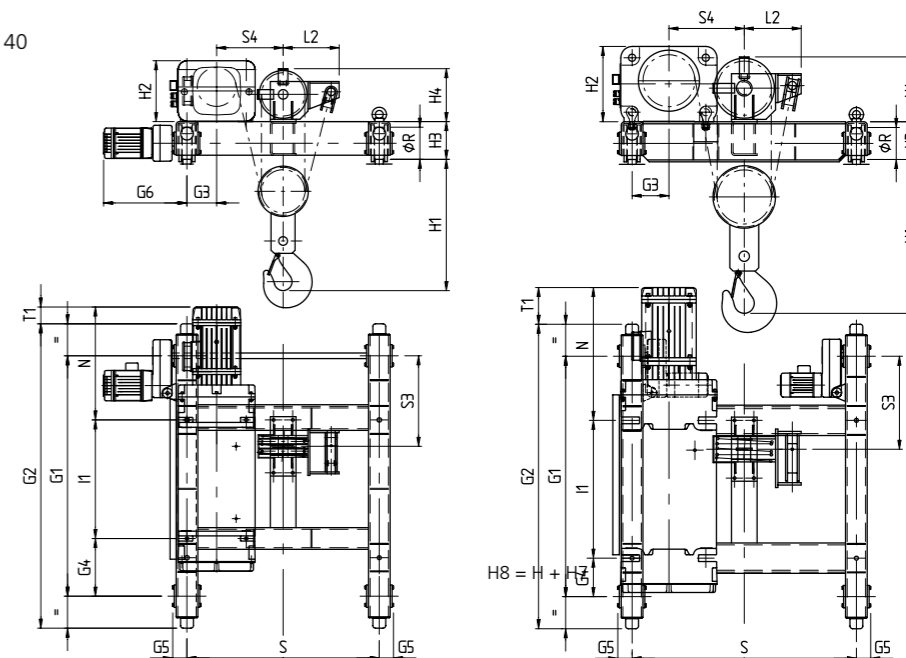
N° OF ROPE FALLS	DHR TYPE	DRT TROLLEY	GAUGE TROLLEY S (mm)	TYPE OF DRUM DRH	WEIGHT DRH + DRT (kg)	OVERALL DIMENSIONS (mm)															
						G1	G2	G3	G4	G5	G6	G7	T1	T2	Ø R	H4	H5	H6			
						2 FALL		4 FALL													
2/1	1	1	1000	C	216	400	630	315	315	66	392	285	99	422	125	145	375	405	360		
				N	226	400	630	315	300	66	392	185	114	322	125	145	375	405	360		
				L	270	710	940	470	110	66	392	0	304	137	125	145	375	315	275		
	2	1	1000	C	276	400	630	315	267	66	392	253	192	375	125	145	415	485	425		
				N	286	400	630	315	252	66	392	148	207	270	125	145	415	485	425		
				L	346	710	940	470	200	66	392	0	259	122	125	145	415	405	335		
4/1	3	2	1000	C	660	500	812	406	195	80	461	205	430	461	160	190	570	630	570		
				N	686	500	812	406	170	80	461	90	455	346	160	190	570	630	570		
				L	830	890	1202	601	140	80	461	0	485	256	160	190	570	520	450		
	4	3	1000	C	1190	600	986	493	140	90	520	140	625	440	200	228	698	768	722		
				N	1240	600	986	493	200	90	520	140	565	440	200	228	698	768	722		
				L	1295	600	986	493	140	90	520	140	785	440	200	228	698	768	722		
©4	3	1200	C	1245	600	986	493	140	90	520	140	785	440	200	228	698	768	722			
N			1295	600	986	493	200	90	520	140	725	440	200	228	698	768	722				

© DRH4 hoist with cylindrical motor.

N.B.: For the speed, power and dimensions of the wheels see page 24

DRT DOUBLE GIRDER TROLLEYS FOR DRH ELECTRIC ROPE HOISTS - 6 FALL (6/1) VERSION

Reactions on the supports, see page 40



For dimensions I1 - N - H2 - H4 - L2 see page 20

N° OF ROPE FALLS	DHR TYPE	DRT TROLLEY	GAUGE TROLLEY S (mm)	TYPE OF DRUM DRH	WEIGHT DRH + DRT (kg)	OVERALL DIMENSIONS (mm)														
						G1	G2	G3	G4	G5	G6	S3	S4	T1	H1	H3	Ø R			
3	* 3	N	1200	N	1120	1500	1900	185	360	90	520	565	415	105	820	235	200			
			1400	N	1140	1500	1900	185	360	90	520	565	515	105	820	235	200			
			1200	L	1290	2070	2470	185	400	90	520	575	415	95	820	235	200			
			1400	L	1310	2070	2470	185	400	90	520	575	515	95	820	235	200			
			1200	X1	1380	2500	2900	185	540	90	520	575	415	95	820	235	200			
			1400	X1	1400	2500	2900	185	540	90	520	575	515	95	820	235	200			
	4	** 3	N	1200	X2	1510	3000	3400	185	410	90	520	575	415	95	820	235	200		
				1400	X2	1530	3000	3400	185	410	90	520	575	515	95	820	235	200		
				1400	N	1800	1500	1900	230	240	90	-	580	470	255	960	235	200		
				2240	N	2100	1500	1900	650	240	90	-	580	470	255	960	235	200		
				2800	N	2400	1500	1900	930	240	90	-	580	470	255	960	235	200		
				1400	L	2000	2070	2470	230	240	90	-	590	470	245	960	235	200		
6/1	©4	** 3	1000	2240	L	2300	2070	2470	650	240	90	-	590	470	245	960	235	200		
				2800	L	2700	2070	2470	930	240	90	-	590	470	245	960	235	200		
				1400	X1	2250	2500	2900	230	240	90	-	590	470	245	960	235	200		
				2240	X1	2500	2500	2900	650	240	90	-	590	470	245	960	235	200		
				2800	X1	2800	2500	2900	930	240	90	-	590	470	245	960	235	200		
				1400	X2	2390	3000	3400	230	240	90	-	590	470	245	960	235	200		
	©4	** 3	1000	2240	X2	2650	3000	3400	650	240	90	-	590	470	245	960	235	200		
				2800	X2	2950	3000	3400	930	240	90	-	590	470	245	960	235	200		
				1400	N	1855	1500	1900	230	240	90	-	580	470	415	960	235	200		
				2240	N	2155	1500	1900	650	240	90	-	580	470	415	960	235	200		
				2800	N	2455	1500	1900	930	240	90	-	580	470	415	960	235	200		
				1400	L	2055	2070	2470	230	240	90	-	590	470	405	960	235	200		
©4	** 3	1000	2240	L	2355	2070	2470	650	240	90	-	590	470	405	960	235	200			
			2800	L	2755	2070	2470	930	240	90	-	590	470	405	960	235	200			
			1400	X1	2305	2500	2900	230	240	90	-	590	470	405	960	235	200			
			2240	X1	2555	2500	2900	650	240	90	-	590	470	405	960	235	200			
			2800	X1	2855	2500	2900	930	240	90	-	590	470	405	960	235	200			
			1400	X2	2445	3000	3400	230	240	90	-	590	470	405	960	235	200			
©4	** 3	1000	2240	X2	2705	3000	3400	650	240	90	-	590	470	405	960	235	200			
			2800	X2	3005	3000	3400	930	240	90	-	590	470	405	960	235	200			

©DRH4 hoist with cylindrical motor.

N.B.: For the speed, power and dimensions of the wheels see page 24

* The trolley is made with a single gear motor (motor 100)

** The trolley is made with double gear motor (motor 80)

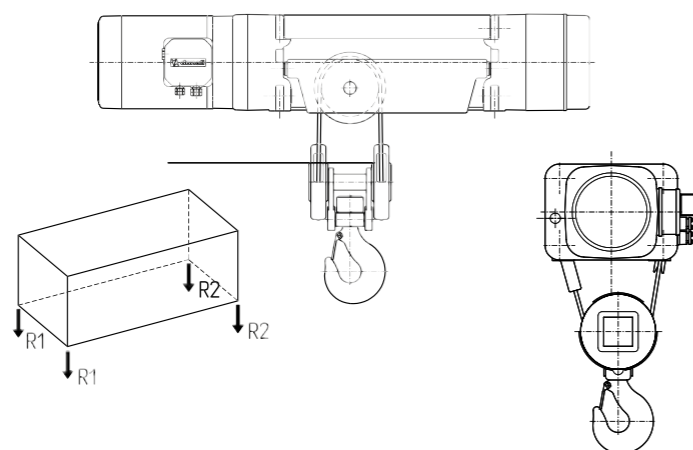
DRH SERIES ELECTRIC ROPE HOISTS WITH 6 AND 8 ROPE FALLS IN STANDING EXECUTION

Six rope fall (6/1) version

HOIST		STATIC HOIST REACTIONS: R1; R2 = daN							
DRH TYPE	CAPACITY (kg)	DRUM N		DRUM L		DRUM X1		DRUM X2	
		R1	R2	R1	R2	R1	R2	R1	R2
3	16000	6415	1883	7179	1161	7385	970	7573	807
	20000	7968	2329	8917	1423	9172	1183	9403	977
4	25000	10246	2788	11321	1784	11758	1451	12033	1202
	32000	13015	3519	14378	2227	14918	1791	15266	1469

Eight rope fall (8/1) version

HOIST		STATIC HOIST REACTIONS: R1; R2 = daN							
DRH TYPE	CAPACITY (kg)	DRUM N		DRUM L		DRUM X1		DRUM X2	
		R1	R2	R1	R2	R1	R2	R1	R2
3	20000	-	-	8400	1950	8750	1615	9050	1340
	25000	-	-	10501	2349	10929	1936	11310	1580
4	40000	13920	6635	16506	4118	17484	3245	18139	2616
	50000	17307	8247	20529	5096	21734	3996	22548	3207

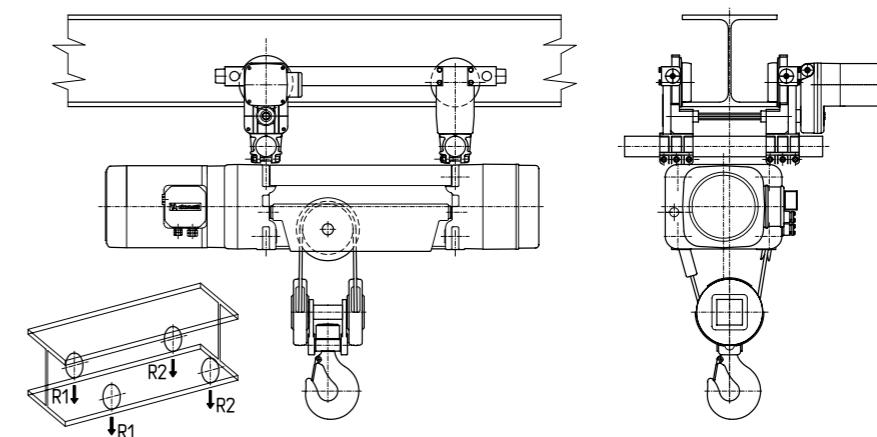


DST/N/S MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS – 2 (2/1) FALL VERSION

HOIST		STATIC HOIST REACTIONS: R1; R2 = daN									
DRH TYPE	CAPACITY (kg)	DRUM C		DRUM N		DRUM L		DRUM X1		DRUM X2	
		R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
1	800	377	131	400	110	437	83	445	90	450	95
	1000	453	155	481	129	527	93	535	100	541	104
	1250	549	184	583	152	638	107	646	114	658	112
	1600	682	226	726	184	795	125	804	131	822	123
	2000	834	274	889	221	973	147	988	147	1010	135
2	1250	581	174	611	149	661	112	668	120	673	125
	1600	720	210	757	178	819	129	826	136	834	139
	2000	878	252	923	212	999	149	1006	156	1020	153
	2500	1076	304	1132	253	1224	174	1232	180	1255	168
	3200	1353	377	1423	312	1539	209	1554	209	1581	192
3	2500	1171	367	1230	320	1346	242	1367	258	1387	275
	3200	1445	443	1519	381	1660	278	1680	295	1700	312
	4000	1759	529	1849	451	2019	319	2040	335	2072	341
	5000	2150	638	2261	539	2467	371	2490	385	2538	375
	6300	2660	778	2797	653	3050	438	3073	452	3145	418
4	4000	1901	659	1990	588	2184	451	2242	498	2268	557
	5000	2283	777	2391	687	2624	511	2680	560	2731	594
	6300	2780	930	2913	815	3196	589	3250	640	3334	641
	8000	3429	1131	3595	983	3944	691	4002	738	4123	702
	10000	4193	1367	4397	1181	4825	810	4910	830	5050	775

CARRELLI MONOTRAVE DST/N/S PER PARANCHI ELETTRICI A FUNE DRH - VERSIONE A 4 TIRI (4/1)

HOIST		STATIC HOIST REACTIONS: R1; R2 = daN									
DRH TYPE	CAPACITY (kg)	DRUM C		DRUM N		DRUM L		DRUM X1		DRUM X2	
		R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
1	1600	573	337	644	271	735	190	760	180	788	162
	2000	698	412	785	330	898	227	933	207	967	183
	2500	855	505	963	402	1102	273	1148	242	1190	210
	3200	1073	637	1211	504	1387	338	1450	290	1502	248
	4000	1323	787	1494	621	1713	412	1795	345	1860	290
2	2500	881	519	978	427	1112	306	1146	294	1186	264
	3200	1100	650	1223	532	1392	376	1441	349	1490	310
	4000	1350	800	1503	652	1712	456	1777	413	1838	362
	5000	1663	987	1853	802	2112	556	2198	492	2273	427
	6300	2069	1231	2308	997	2632	686	2745	595	2838	512
3	5000	1758	1130	1959	946	2258	682	2313	685	2420	615
	6300	2148	1390	2398	1157	2768	822	2850	798	2980	705
	8000	2658	1730	2973	1432	3436	1004	3552	946	3710	825
	10000	3258	2130	3648	1757	4222	1218	4377	1121	4572	963
	12500	4008	2630	4493	2162	5204	1486	5410	1338	5648	1137
4	8000	2805	1903	3090	1638	3685	1110	3801	1099	3982	1003
	10000	3389	2319	3741	1987	4474	1321	4639	1261	4855	1130
	12500	4118	2840	4555	2423	5460	1585	5686	1464	5945	1290
	16000	5139	3569	5695	3033	6840	1955	7152	1748	7471	1514
	20000	6305	4403	6997	3731	8417	2378	8828	2072	9216	1769

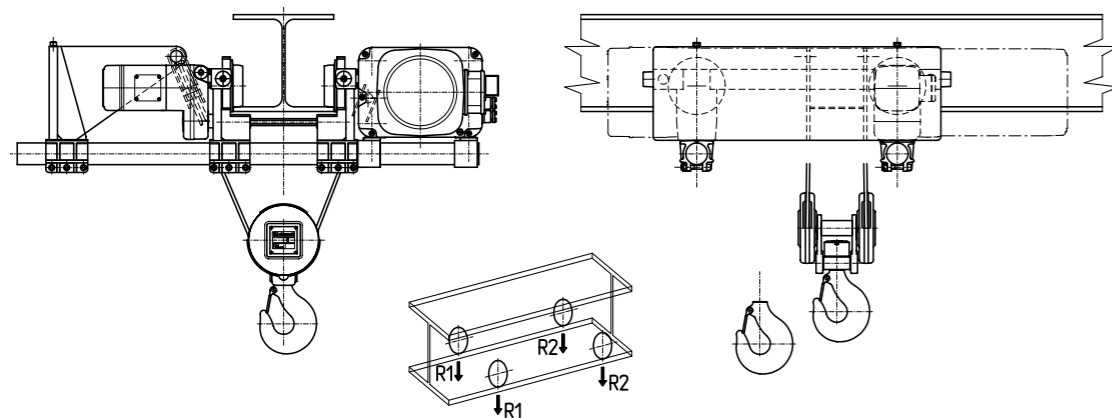


DST/R MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS – 2 (2/1) FALL VERSION

Table with columns: HOIST (DRH TYPE, CAPACITY), STATIC HOIST REACTIONS (R1, R2) for DRUM C, N, L, X1, X2.

DST/R MONORAIL TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS – 4 (4/1) FALL VERSION

Table with columns: HOIST (DRH TYPE, CAPACITY), STATIC HOIST REACTIONS (R1, R2) for DRUM C, N, L, X1, X2.



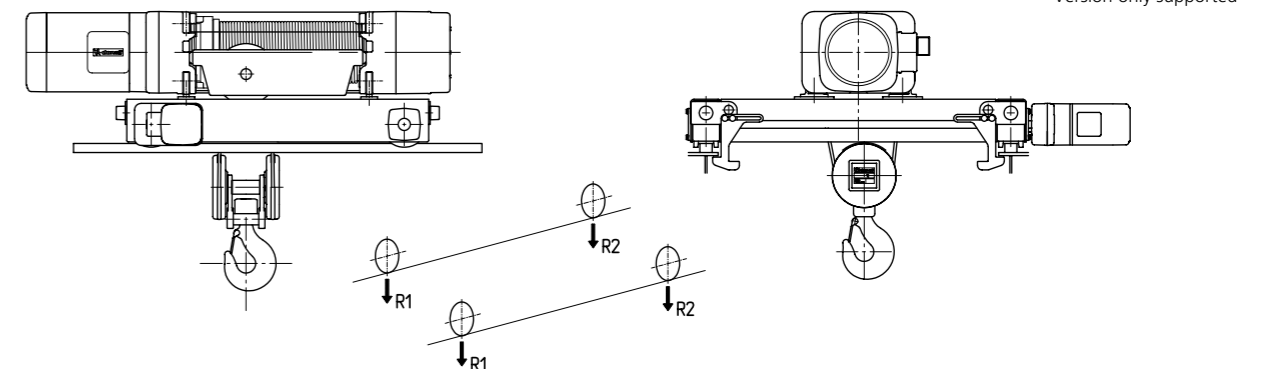
DRT DOUBLE GIRDER TROLLEYS FOR DRH STANDING/SUSPENDED ELECTRIC ROPE HOISTS - 2 FALL (2/1) AND 4 FALL (4/1) VERSIONS

Two rope fall (2/1) version

Table with columns: HOIST (DRH TYPE, CAPACITY), STATIC HOIST REACTIONS (R1, R2) for DRUM C, N, L, X1, X2.

Four rope fall (4/1) version

Table with columns: HOIST (DRH TYPE, CAPACITY), STATIC HOIST REACTIONS (R1, R2) for DRUM C, N, L, X1, X2.



*Version only supported

DRT DOUBLE GIRDER TROLLEYS FOR DRH ELECTRIC WIRE ROPE HOISTS – TRANSVERSAL 2 FALL (2/1) AND 4 FALL (4/1) VERSIONS

Two rope fall (2/1) version

Table with columns: HOIST, DRH TYPE, CAPACITY (kg), STATIC HOIST REACTIONS: R1; R2 = daN (DRUM C, DRUM N, DRUM L). Rows include capacities from 800 to 10000 kg.

Four rope fall (4/1) version

Table with columns: HOIST, DRH TYPE, CAPACITY (kg), STATIC HOIST REACTIONS: R1; R2 = daN (DRUM C, DRUM N, DRUM L). Rows include capacities from 1600 to 20000 kg.

DRT DOUBLE GIRDER TROLLEYS FOR DRH ELECTRIC WIRE ROPE TROLLEYS – 6 FALL (6/1) AND 8 FALL (8/1) VERSIONS

Six rope fall (6/1) version

Table with columns: GAUGE TROLLEY S (mm), CAPACITY (kg), STATIC HOIST REACTIONS: R1; R2 = daN (DRUM N, DRUM L, DRUM X1, DRUM X2). Rows include capacities from 1200 to 2800 mm.

Eight rope fall (8/1) version

Table with columns: GAUGE TROLLEY S (mm), CAPACITY (kg), STATIC HOIST REACTIONS: R1; R2 = daN (DRUM N, DRUM L, DRUM X1, DRUM X2). Rows include capacities from 1400 to 2800 mm.

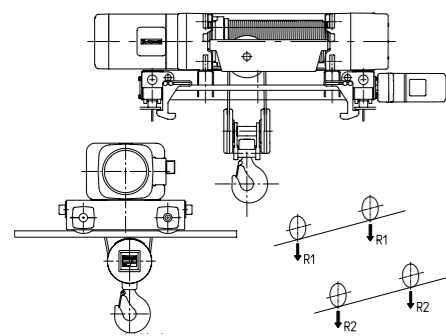
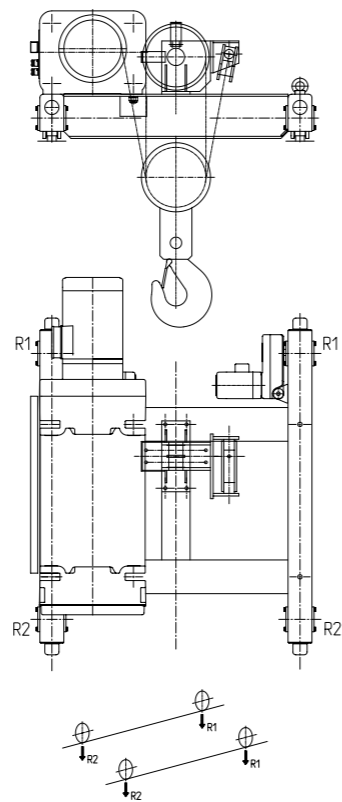


TABLE Ø DRUM AND SHEAVE PITCH DIAMETER

Table with columns: DHR TYPE, Ø ROPE (mm), Ø DRUM PITCH DIAMETER (mm), Ø SHEAVE PITCH DIAMETER (mm). Rows include DHR types 1, 2, 3, and 4 with rope diameters from 7 to 16 mm.

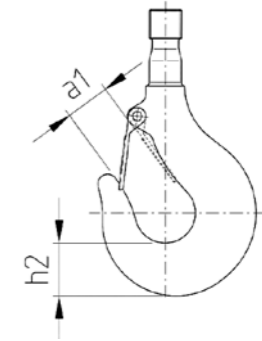


TABLE OF HOOKS FOR DRH

Large table with columns: DRH SIZE, Nº FALLS, TYPE OF HOOK IN RELATION TO THE CAPACITY (kg) AND FEM SERVICE GROUP (FEM 1Bm, FEM 1Am, FEM 2m, FEM 3m), HOOK DIMENSIONS (mm) (a1, h2). Rows include hook types 1, 2, 3, and 4 for various fall configurations.

SPECIFICATIONS OF MOTORS, FUSES AND POWER CABLES

DRH HOIST	MOTOR TYPE	POLES	INSTALLED POWER (kW)	COS φ	Ia - (A) 400V - 50Hz	In - (A) 400V - 50Hz	LINE FUSE (A) 400V - 50Hz	MINIMUM POWER CABLE SECTION 400V - (ΔU20V)	
								Ø mm²	L =m
1	112K4R	4	3	0.75	40	8	16	2.5	≤ 30
	11254R	4/12	3/1	0.752/0.5	38/13	8/6.6	16	2.5	≤ 30
2	132K4R	4	5	0.75	58	12	20	4	≤ 30
	132K5R	4/12	5/1.65	0.78/0.5	50/17	12/10	20	4	≤ 30
3	160K4R	4	10	0.8	110	22	32	6	≤ 30
	160K5R	4/12	10/3.3	0.77/0.46	100/32	24/18	32	6	≤ 30
	160K5RH3	4/12	8/2.6	0.75/0.48	80/28	20/15.5	32	6	≤ 30
4	180K4R	4	16	0.82	175	34	63	10	≤ 20
	180K5R	4/12	16/5.3	0.78/0.46	170/55	38/25	63	10	≤ 20
4 Cilindrico	180C4R	4	24	0.88	330	48	80	16	≤ 20
	180C5R	4/12	24/7.8	0.88/0.5	330/80	48/32	80	16	≤ 20

TROLLEY DST / DRT	MOTOR TYPE	POLES	INSTALLED POWER (kW)	COS φ	Ia - (A) 400V - 50Hz	In - (A) 400V - 50Hz
DST1 DST2 DRT1	71K3P	2/8	0.4/0.09	0.75/0.6	4.4/1.2	1.2/0.9
	71C2P	2	0.32	0.72	6	1.0
	71C4P	4	0.16	0.5	4	1.0
	71K2PI	2 Inverter	0.5	0.72	5.2	1.3
DST3 DRT2	80K3P	2/8	0.5/0.12	0.85/0.6	5.5/1.6	1.3/1.1
	80K2PL	2	0.63	0.75	7.7	1.7
	80K4PL	4	0.32	0.65	3.9	1.1
	80K2PI	2 Inverter	0.8	0.8	9.7	1.9
DST4 * DRT3	80K3PL	2/8	0.63/0.15	0.82/0.57	6.8/1.9	1.6/1.3
	80K2PL	2	0.63	0.75	7.7	1.7
	80K4PL	4	0.32	0.65	3.9	1.1
	80K2PI	2 Inverter	0.8	0.8	9.7	1.9
** DRT3 *** DRT4	100K3P	2/8	1.25/0.31	0.84/0.6	16/3.6	3.1/1.8
	100K2P	2	1.25	0.83	16	2.9
	100K4P	4	0.63	0.8	8.5	1.7
	100K2PI	2 Inverter	2.0	0.86	23	4.3

- The DST trolleys articulated version are made with double gear motor. Thus the powers shown in the table need to be doubled.

* The DRT3 trolley for DRH4 hoists with 6 falls is made with double traverse gear motor. The DRT3 trolley for DRH3 hoists with 8 falls (frame gauge 2240-2800) is made with double traverse gear motor. Thus the powers shown in the table need to be doubled.

** The DRT3 trolley for DRH4 hoists with 4 falls, DRH3 with 6 falls (frame gauge 1200-1400) and DRH3 with 8 falls (frame gauge 1400) is made with single traverse gear motor.

*** The DRT4 trolley for DRH4 hoists with 8 falls is made with double traverse gear motor. Thus the powers shown in the table need to be doubled.

DONATI WEBSITE

Donati's window on the world for customer service.

Manuals and product information

The new Donati website has been designed to assist customers to they can easily find all of the updated information on Donati products at any time. The Donati website makes it simple to consult and download product catalogues, technical manuals and product information sheets.



Donati Shop

The Donati Shop makes it possible to quickly and independently handle spare parts requests, thus reducing waiting times for customers.

Contact Section

The new contact section divided by departments lets you address your requests to the right team, so our staff can provide a faster and more accurate answer.

LEONARDO CONFIGURATION SYSTEM



Leonardo Configuration System is the Donati configurator system lets you configure and generate offers for Chain hoists, Jib cranes and Crane sets, easily and quickly; it lets you rapidly and efficiently respond to your customers' requests.

The suite is composed of two configurators:

Leonardo Product Configurator:

Used to configure chain hoists and jib cranes alone or in combination

Leonardo Crane Set Configurator:

Used to configure bridge cranes complete with all necessary accessories and Donati hoists.



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