



# E-SERIES ELECTRIC CHAIN HOIST

LIFT & CONNECT SAFELY

# INTRODUCTION

Carl Stahl Craftsman Enterprises Private Limited is a joint venture company of Carl Stahl of Germany and Craftsman Automation Limited of India, commenced its operations in July 2007

With the objective of using rich experience of Carl Stahl in material handling industry and strong manufacturing expertise of Craftsman Automation, the joint venture was formed to provide the end user a "Reliable, Effective, Efficient & Economic Lifting" solution.

We design, develop and manufacture, the complete product from start to its completion. Through constant research and development, we now offer one of the world's largest range of hoists for industrial application. We also offer quality service for the hoist we supply.

We provide complete lifting solutions to our customers at best competitive pricing.



## FACTS

- CE CERTIFIED
- OPTIMAL SPACE UTILIZATION
- HIGH SAFETY IN OPERATION
- GENTLE WORK
- LOW INSTALLATION AND MAINTENANCE COST
- EFFICIENT & ECONOMICAL OPERATION





# MODELS

CarlStahl Craftsman hoists are designed in various models to suit every customer's needs. We design and manufacture electric chain hoists with fixed suspension and with trolley.

The following models are available. We deliver efficient and economical lifting solutions with highest quality.



## ELECTRIC CHAIN HOIST

FIXED SUSPENSION		WITH TROLLEY	
<b>EYE SUSPENSION</b> 	<b>HOOK SUSPENSION</b> 	<b>PUSH PULL TROLLEY</b> 	<b>MOTORIZED TROLLEY</b> 

MODEL NO	CAPACITY	STATIONARY	PUSH PULL TROLLEY	MOTORIZED TROLLEY	CONTACTOR	VFD
ES2	≤ 250	✓	✓	✓	✓	⊘
ES3	500 ≤ 1000	✓	✓	✓	✓	⊘
ES4	1000 ≤ 2000	✓	✓	✓	✓	✓
ES5	1600 ≤ 3200	✓	✓	✓	✓	✓
ES6	≤ 4000	✓	✓	✓	✓	✓



# DESIGN & MANUFACTURING



# Craftsman

AUTOMATION

## ENGINEERING ADVANTAGE

Craftsman Automation Limited is a Coimbatore based company which was established in the year 1986, registered a sales turnover in 2017-2018 is 1453.52 Crores.

Craftsman's world class Product Design and Development center caters to the needs of design, development, manufacturing and testing of cutting edge products. Craftsman remains committed to provide the highest quality products and services to its customers at a reasonable cost, with just in time delivery at the customer's location.



## FACTS

Years of operation: Since 1986  
 Employees: 2000  
 Location: 11 Units  
 Turnover 2017-2018: over ₹1453.52 Crores  
 Certification by: DIN EN ISO TS 16949, DIN EN ISO 14001



Carl Stahl started out in 1880 as a small rope maker specializing in agricultural products serving only local customers.

Today it has become a global enterprise with 1490 employees operating from 60 subsidiaries in Europe, North and South America, Asia and Middle East.

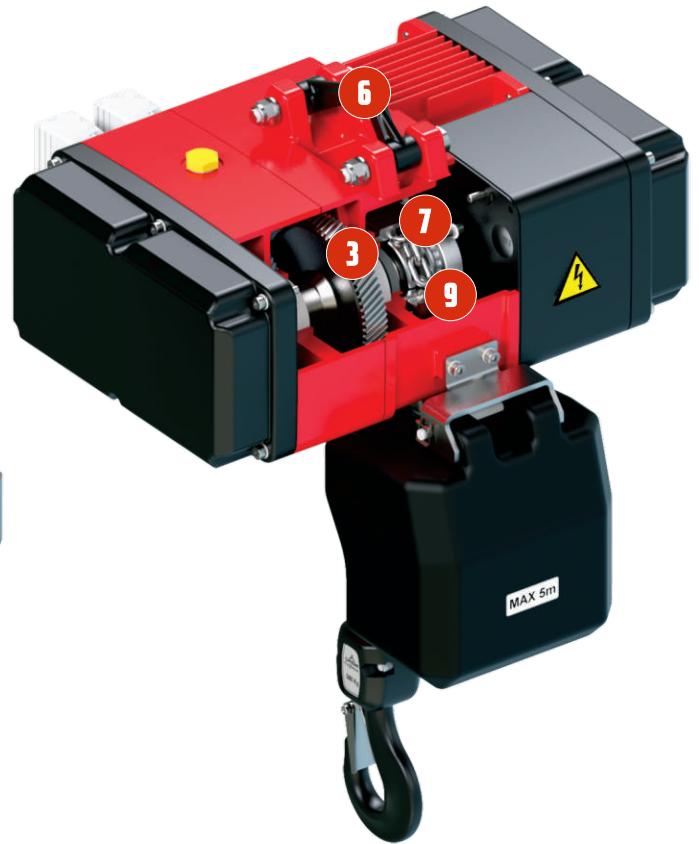
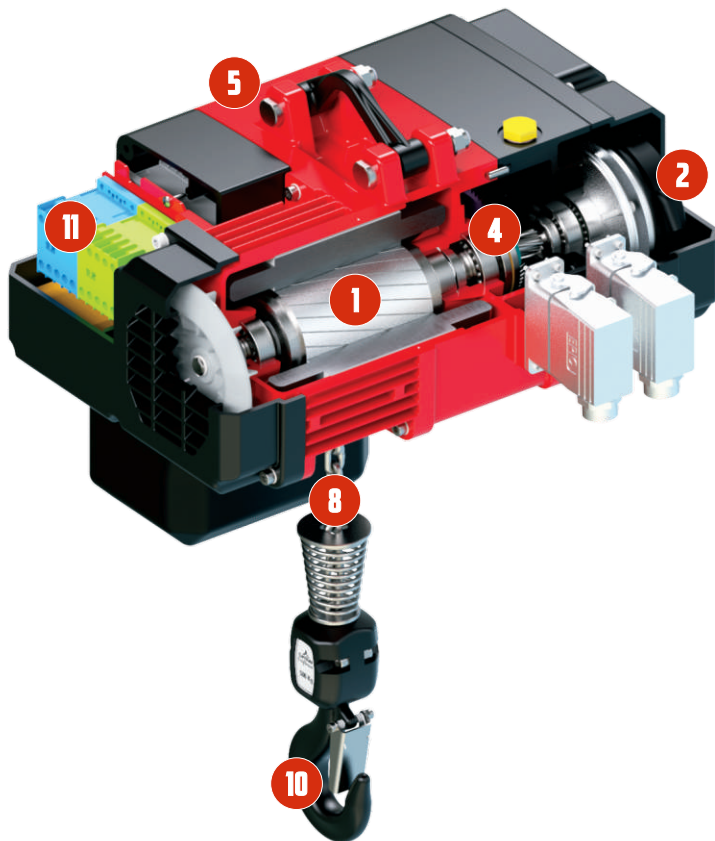
Professional know-how and the motivation of our employees are our major strengths: Customer satisfaction as our main objective is not just a statement, it is our commitment. All activities are focused on providing customers with real benefits through the products and services we supply.



## FACTS

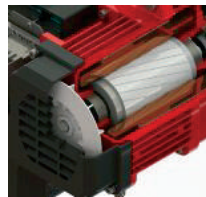
Years of operation: Since 1880  
 Employees: 1650  
 Location: 70 Units  
 Turnover: Euro 314.5 Million / over 3000 Crores  
 Certification by: DIN EN ISO 9001, DIN EN ISO 14001

# THE HOIST



## 1 EXTREME DUTY MOTOR

- Design for lifting application with high starting torque.
- Optimum cooling with external fins.
- H-Class Insulation.



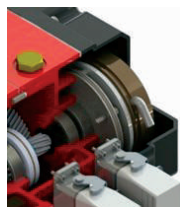
## 4 SLIPPING CLUTCH

- Reliable protection against overloading.
- Highest safety with brake positioned after the slip clutch.
- Simple and precise adjustment.



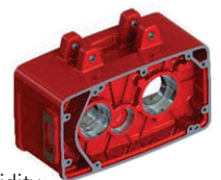
## 2 BRAKE

- Brake is placed after the slipping clutch enables the brake to hold the load without any power transmitted by the clutch.
- New magnetic brake is designed to hold the load in the event of clutch wear or unlikely failure.
- Asbestos-free brake linings with a long service life.



## 5 HOUSING

- Cast aluminium housing with maximum solidity (no plastic material)
- For extreme working conditions: casted cooling gills
- Easy transformation from 1-fall to 2-falls operation no need of dismantling.



## 3 TRANSMISSION

- Helical-toothed gear steps for quiet running
- Precision machined for long life
- Oil bath lubrication results in a quiet, smooth, cool operation



## 6 SUSPENSION BRACKET

- The removable, hinged suspension bracket is designed for easy suspension and removal of the hoist.



## 7 CHAIN WHEEL

- Made of hardened steel.
- Deep-groove pockets fully support the load chain during operation.
- Reduces vibration and chain wear.
- Provides true vertical lift.
- Increased chain pockets for longer life of chain and smooth running.



## 8 CHAIN

- High Strength, Corrosion and Wear Resistant Load Chain
- Grade DAT, super strength, ZINC-plated load chain
- Certified to BS-EN 818-7 standard
- Uses unique technology to greatly increase resistance to fatigue and wear



## 9 STEEL CASTED INTEGRATED CHAIN GUIDE

- Provides quiet and smooth guiding of chain.
- Good accessibility of wearing parts.
- With additional bearing support for chain wheel.
- Quick and simple replacement.



## 10 FORGED CARBON STEEL HOOKS

- Under excessive loads will open gradually and not fracture
- Ball bearing produces smooth rotation
- Bottom hook will swivel 360 degree
- Heavy-duty hook latches are standard



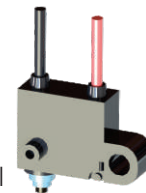
## 11 CONTACTOR CONTROL SYSTEM

- Simple technology (no electronics susceptible to interference)
- Mechanically interlocked, heavy-duty contactors
- Reliable technique
- Emergency stops as standard 48V control system allowing highest safety of operation



## 12 LIMIT SWITCHES

- Interrupt motor power to prevent hook over travel and hazardous condition such as chain kink



# OPTIONS

## 1 DURABLE PUSH BUTTON PENDANT



- Easy to use, one-handed operation
- Rated Ip65
- Strain relief wire is molded to pendant cord for added support and dependability
- Available in 2, 4 or 6-buttons version
- 48V low voltage command and removable plug
- Provided with emergency stop

## 2 RADIO REMOTE CONTROL UNIT



- Micron push button transmitter with belt clip. As an option for signal feedback from crane
- Spectrum joystick transmitter with harness

## 3 VARIABLE FREQUENCY DRIVE



- The speeds and ramps for lifting can be programmed to suit the application
- With the ability to choose intermediate speeds during operation without timely programming or upgrades.
- Infinitely variable (step less - EP) or multi step (defined speeds - MS) speed control.
- Infinitely variable (EP) speed control gives the operator the ability to smoothly accelerate, decelerated and hold any speed between the defined minimum and maximum speed.



**LIFT & CONNECT SAFELY**



# BASIC TECHNICAL SPECIFICATIONS

CATEGORY	AVAILABLE SPECS
<b>BRAKE</b>	Electromagnetic Brake with Double Side Brake Lining
<b>CAPACITY RANGE</b>	250 Kg to 4000 Kg
<b>CHAIN</b>	BS EN 818-7
<b>CHAIN CONTAINERS</b>	Fabric, plastic or steel
<b>CHAIN FALLS</b>	Single chain fall & Double chain fall
<b>CLASSIFICATION</b>	FEM Class 1Am, 2m, 3m, 4m
<b>CONFORMANCE</b>	CE
<b>CONTROL PENDANTS</b>	Single speed: 2-button Dual speed: 2-button (With two steps), With emergency On/Off
<b>CONTROL VOLTAGE</b>	48 V, 50 Hz, AC Supply
<b>DUTY CYCLE</b>	Single Speed – 60% ED Dual Speed – 40/20 % ED
<b>HOIST MOTOR CONTROL</b>	Pole Changing

CATEGORY	AVAILABLE SPECS
<b>LIFTING SPEED</b>	4/1, 5/1.2, 8/2, 10/2.5 m/min
<b>MOUNTING</b>	Hook, lug or trolley
<b>OPERATING CONDITIONS</b>	-10° to 50° C
<b>OVERLOAD PROTECTION</b>	Slipping Clutch
<b>POWER SUPPLY</b>	3 Phase, 380 – 415 V, 50Hz
<b>RATINGS</b>	Hoist – IP54 Pendant – IP65
<b>STANDARD LIFT</b>	3 to 12 meters
<b>STANDARD PENDANT DROP</b>	1m less than lift (longer drops available)
<b>TEMPERATURE CONTROL OF MOTORS</b>	Thermistor
<b>TRAVEL SPEED</b>	25/6 m/min
<b>UPPER/LOWER LIMIT SWITCH</b>	Electric Limit Switch (Up&Down Position)

## PRODUCT CODE

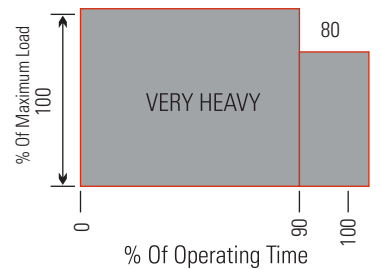
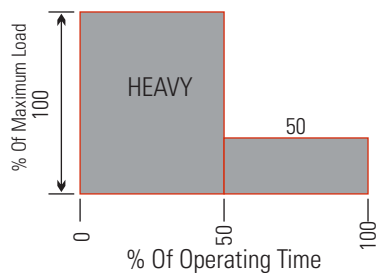
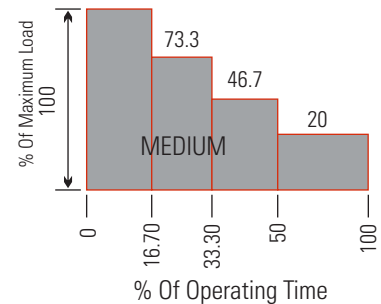
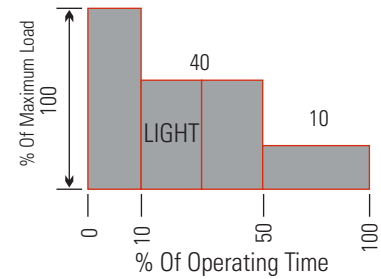
<b>ES</b>	<b>2</b>	<b>1</b>	<b>025</b>	<b>C</b>	<b>m</b>
E-Series Chain Hoist	Hoist Size 2 - 250 3 - 500 4 - 1000 5 - 1600 6 - 2000	1 - Single Fall  2 - Double Fall	Capacity (kg) *025 - 250 *032 - 315 *050 - 500 *063 - 630 *080 - 800 *100 - 1000 *125 - 1250 *160 - 1600 *200 - 2000 *250 - 2500 *320 - 3200 *400 - 4000	C - Contactor  I - Inverter	M - Push Pull Trolley P - Motorized Trolley S - Fixed Suspension S1 - Double Hole Suspension F - Eye Suspension L1 - Single Hole LCS L2 - Double Hole LCS G - Geared Trolley H - Hook Suspension

# HOIST CLASSIFICATION & SELECTION

LOAD SPECTRUM		DEFINITIONS
1 (Light)	L1	Mechanisms or parts of thereof, usually subject to very small loads and in exceptional cases only to maximum loads
2 (Medium)	L2	Mechanisms or parts of thereof, usually subject to small loads but rather often to maximum loads
3 (Heavy)	L3	Mechanisms or parts of thereof, usually subject to medium loads but frequently to maximum loads
4 (Very Heavy)	L4	Mechanisms or parts of thereof, usually subject to maximum or almost maximum loads

Average Operating time per day =  $\frac{2 \times \text{average hook path} \times \text{no. of cycles per hr} \times \text{working time per day}}{60 \times \text{hoist speed}}$

LOAD SPECTRUM		AVERAGE OPERATING TIME PER WORKING DAY IN HOURS			
L1	LIGHT	2-4	4-8	8-16	OVER 16
L2	MEDIUM	1-2	2-4	4-8	8-16
L3	HEAVY	0.5-1	1-2	2-4	4-8
L4	VERY HEAVY	0.25-0.5	0.5-1	1-2	2-4
GROUP OF MECHANISMS TO FEM 9511		<b>1AM</b>	<b>2M</b>	<b>3M</b>	<b>4M</b>
SAFE WORKING LOAD (KG)	HOIST SPEED M/MIN	PRODUCT RANGE			
1/1	2/1				
125	10 / 2.5				ES2
160	10 / 2.5			ES2	
250	10 / 2.5		ES2		ES3
315	10 / 2.5	ES2		ES3	
500	10 / 2.5		ES3		
	500	5 / 1.25			ES3
630	10 / 2.5	ES3			ES4
	630	5 / 1.25		ES3	
800	10 / 2.5			ES4	
1000	10 / 2.5		ES4		ES5
	1000	5 / 1.25	ES3		
1250	10 / 2.5	ES4		ES5	
		8 / 2			ES6
	1250	5 / 1.25	ES3		ES4
1600	10 / 2.5		ES5		
		8 / 2		ES6	
	1600	5 / 1.25		ES4	
2000	10 / 2.5	ES5			
		8 / 2		ES6	
	2000	5 / 1.25		ES4	ES5
2500	8 / 2	ES6			
	2500	5 / 1.25	ES4	ES5	
		4 / 1			ES6
	3200	5 / 1.25		ES5	
		4 / 1		ES6	
	4000	4 / 1	ES6		



## EXAMPLE:

Load capacity 500 kg  
 Load spectrum from table 'Heavy'  
 Hoist speed 10m/min  
 Reeving 1/1  
 Average hook path 5 m  
 No. of cycles/hour 30  
 Working time/day 12 hours

The average operating time per working day is estimated or calculated as follows:

$$= 2 \times 5 \times 30 \times 12 / 60 \times 10$$

$$= 6 \text{ hours}$$

For the heavy load spectrum and an average daily operating time of 6 hours, the table shows group 4m.

For a load capacity of 500 kg, the diagram shows size ES4

# PRODUCT RANGE



ELECTRIC CHAIN HOISTS - INDUSTRIAL APPLICATION											
MODEL	CAPACITY (KG)				NO. OF FALL	LIFTING SPEED (M/MIN)	MOTOR POWER (KW)	POWER SUPPLY	LIFT HEIGHT (M)	CHAIN SIZE	WEIGHT (KG)
	1M/M4	2M/M5	3M/M6	4M/M7							
ES2	315	250	160	125	1	10 / 2.5	0.55 / 0.14	380-415V, 50Hz, 3 Phase AC	3 - 12**	4 x 12	32
ES3	630	500	315	250	1	10 / 2.5	1.1 / 0.28			5 x 15	33
	1250	1000	630	500	2	5 / 1.2					38
ES4	1250	1000	800	630	1	10 / 2.5	1.9 / 0.48			7 x 21	68
	2500	2000	1600	1250	2	5 / 1.2					76
ES5	2000	1600	1250	1000	1	10 / 2.5	3 / 0.75			9 x 27	98
	-	3200	2500	2000	2	5 / 1.2					107
ES6	2500	2000	1600	1250	1	8 / 2	3 / 0.75			10 x 28	100
	-	4000	3200	2500	2	4 / 1					110

ELECTRIC CHAIN HOISTS - INDUSTRIAL APPLICATION (WITH VARIABLE FREQUENCY DRIVE)											
MODEL	CAPACITY (KG)				NO. OF FALL	LIFTING SPEED (M/MIN)	MOTOR POWER (KW)	POWER SUPPLY	LIFT HEIGHT (M)	CHAIN SIZE	WEIGHT (KG)
	1M/M4	2M/M5	3M/M6	4M/M7							
ES4	1250	1000	800	630	1	10 / 2.5	1.9	380-415V, 50Hz, 3 phase AC	3 - 12**	7 x 21	68
	2500	2000	1600	1250	2	5 / 1.2					76
ES5	2000	1600	1250	1000	1	10 / 2.5	3			9 x 27	98
	-	3200	2500	2000	2	5 / 1.2					107
ES6	2500	2000	1600	1250	1	8 / 2	3			10 x 28	100
	-	4000	3200	2500	2	4 / 1					110

\*Longer lifts available on request.

## TRAVEL DRIVES

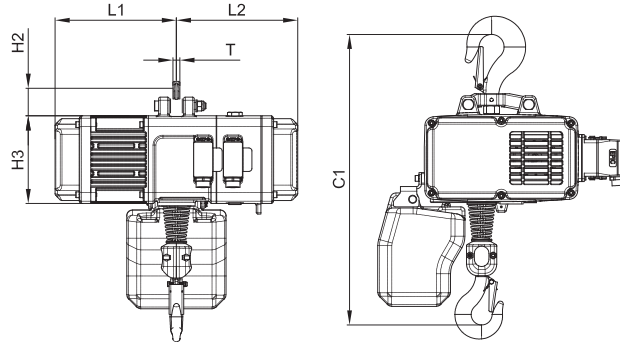
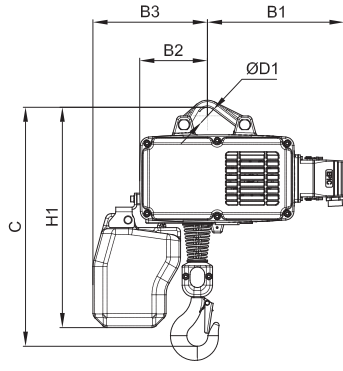
TROLLEY TYPE	HOIST MODEL	TRAVE DRIVE MODEL	NO. OF FALL	MOTOR POWER (KW)	TRAVEL SPEED (M/MIN)	WHEEL DIAMETER (MM)	FLANGE WIDTH (MM)	TROLLEY WEIGHT (KG)
PUSH PULL TROLLEY	ES2	MT-01	1	-	-	50	75-150	7
	ES3	MT-02	2	-	-	63	75-250	15
	ES4, ES5, ES6	MT-03	1,2	-	-	82	100-320	19
POWERED TROLLEY	ES2, ES3	PT-01	1,2	0.4 / 0.1	25/6	63	75-250	30
	ES4, ES5, ES6	PT-02	1,2	0.4 / 0.1	25/6	82	100-320	32

## HOIST SPECIFICATIONS

MODEL		ES2	ES3	ES4	ES5	ES6
REEVING	1/1 C	409	414	569	626	626
	2/1 (mm)	-	484	645	709	709
	1/1 C1	500	505	-	-	-
	2/1 (mm)	-	574	-	-	-
DIMENSIONS (MM)	B1	234	234	201	234	234
	B2	116	116	128	156	156
	B3	196	196	253	322	322
	H1	377	377	645	658	658
	H2	81	81	105	110	110
	H3	150	150	195	215	215
	H4	30	43	60	60	60
	H5	43	43	60	60	60
	L1	207	207	275	318	318
	L2	208	208	265	310	310
	L3	25	25	25	25	25
	L4	330	330	337	337	337
	L5	307	307	312	312	312
	T	20	20	26	35	35
	D1	30	30	40	40	40
	D2	50	50	82	82	82
	D3	76	76	122	122	122
	D4	63	63	82	82	82
D5	90	90	122	122	122	
G	1-2	1-2	1-2	1-2	1-2	
BW	75-320	75-320	100-320	100-320	100-320	

\*Note: All the specification in this catalogue are subject to change without notice.

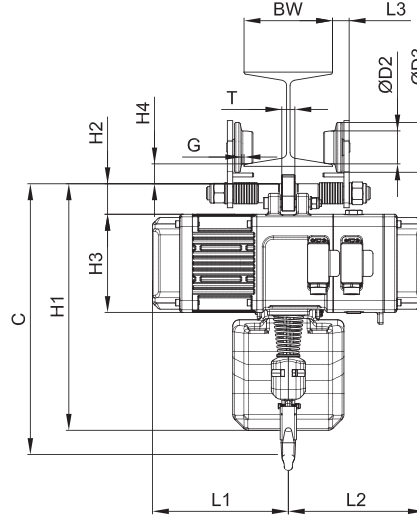
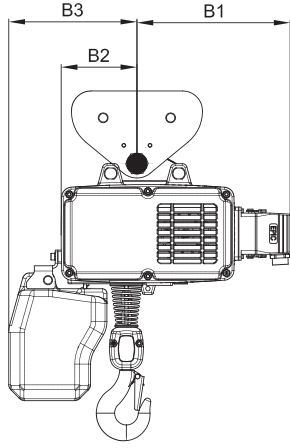
FIXED SUSPENSION



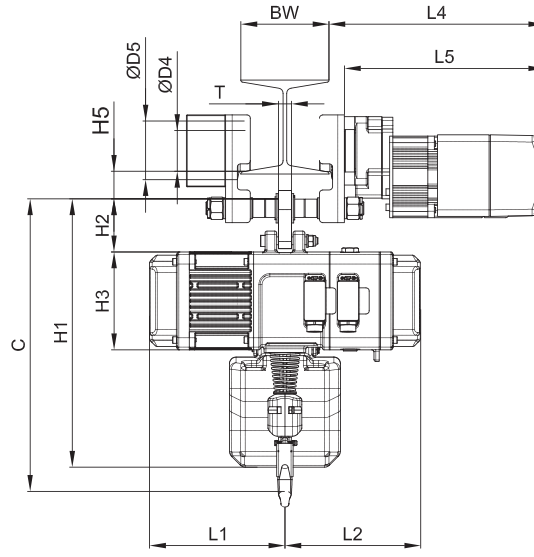
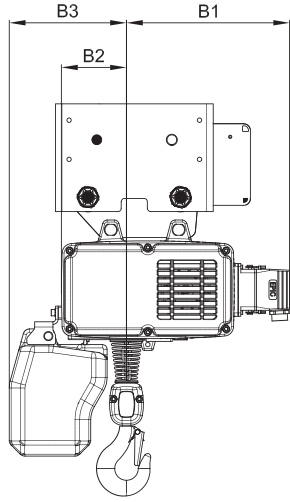
HOOK SUSPENSION



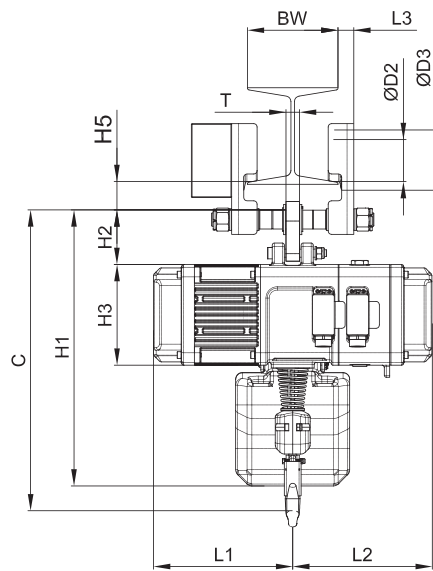
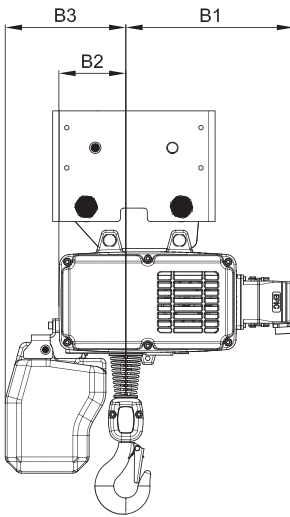
WITH PUSH PULL TROLLEY  
(MT01)



WITH PUSH PULL TROLLEY  
(MT02)



WITH POWERED TROLLEY  
(PT01-PT04)



# SERVICE



## FOR SERVICE & SPARES

Please send us an SMS to 09751102000

Business Timing: Monday to Friday 8 am – 6 pm

## CARLSTAHL CRAFTSMAN ENTERPRISES PRIVATE LIMITED.

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# SALES

For queries



Please send your inquiries through SMS to 09751106000

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**BEST MATERIAL HANDLING  
SOLUTION AT  
REASONABLE PRICING.**



**CARL STAHL CRAFTSMAN ENTERPRISES PRIVATE LIMITED.**

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