ALEKcrane

ALEKCRANE
ECH1/2/5
CHAIN HOIST TECHNICAL GUIDE

17 EN /NCS/AJ

Table of contents

1 GENERAL

This guide is used as a instruction of chain hoist and parts technical document from 250kg to 7500kg.

1.1Manufacturer

Company：Alekcrane(Suzhou)Co.,LTD.
Address： No.3099,Chang'an Road Wujiang District, Suzhou, China
No.1288 PangJin Road Wujiang Economic Development zone,Suzhou,China
Number：+86 0512 86871169
Email：info@alekcrane.com
URL：www.alekcrane.com
Manufacture License of China ：TS2432333-2017

1.2Standard features and Certificate

TUV ISO 9001：2008 No.01 100 096239/03
TUV ISO 14001:2004+Cor.1:2009 No.01 014 096239/03
EC Examination Certificate No：4698231015
Electrics parts with CSA&UL mark
Model trial report of China：TX4000-24-09-0167
In the version we supply complies with the following relevant requirements in the version valid at the time of issue when used for its intended purpose:

- EC Machine Directive	06/42/EC
- EC Low Voltage Directive	2014/35/EU
- EC Directive on EMC	89/336/EEC; 91/263/EEC; 92/31/EEC; 93/68/EEC

Harmonized standards used:

- EN 292 T1 T2	Safety of Machines
- EN 60204-1	Electrical Equipment of Machines
- EN 60204-32	Rules for Hoists
- EN 61000-6-4 and EN 61000-6-3	Electromagnetic Compatibility, Emissions
- EN 61000-6-1 and EN 61000-6-2	Electromagnetic Compatibility, Noise Immunity
- EN 954-1	Safety related parts for controllers
- DIN EN 60034-1	Electrical Rotating Machines
- DIN EN 60034-5 IP	Enclosure Classes
- DIN 5684	Round-steel-chain for Hoists
- DIN 15400 and DIN 15401	Load hooks for Hoists

Applied national standards and technical specifications:

- IEC 364	Electrical Systems
- IEC947-5-1	Low-Voltage Switchgear
- FEM 9.511	Classification of Drives
- FEM 9.671	Quality. Selection Criteria and Requirements of Chains

- FEM 9.683 Selection of Lifting and Travelling Motors
- FEM 9.755 Measures for Achieving Safe Working Periods
- FEM 9.751 Power-Operated Production Hoists , Safety

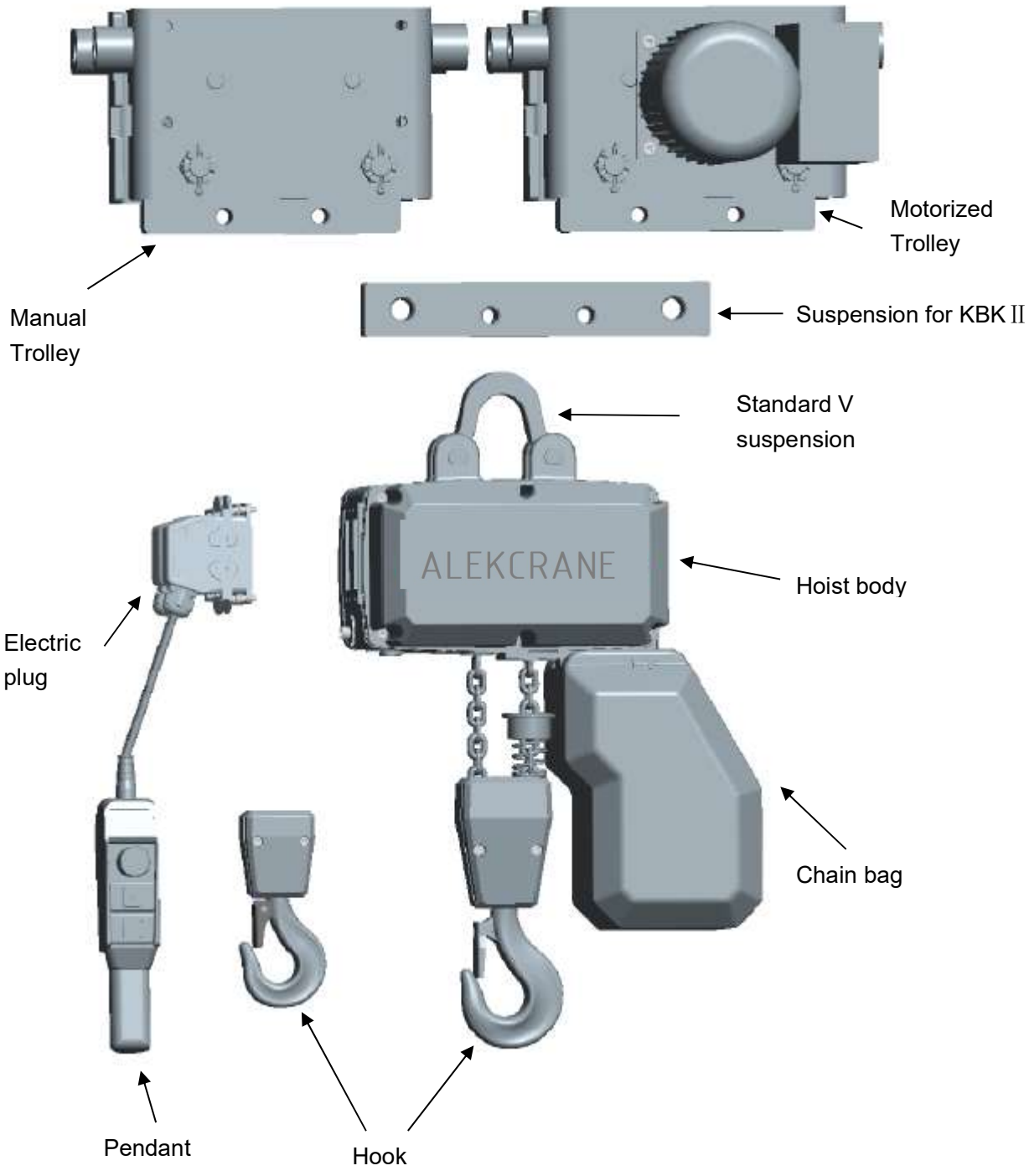
As required by the EC Machine Directive

- the CE symbol is affixed to the chain hoist
- the technical documentation is held at the manufacturer's works.

The contents of this certificate complies with EN 45014 Alekcrane (Suzhou)Co. ,Ltd operates a Quality Management system according to DIN EN ISO 9001 (08.94)

2 Product

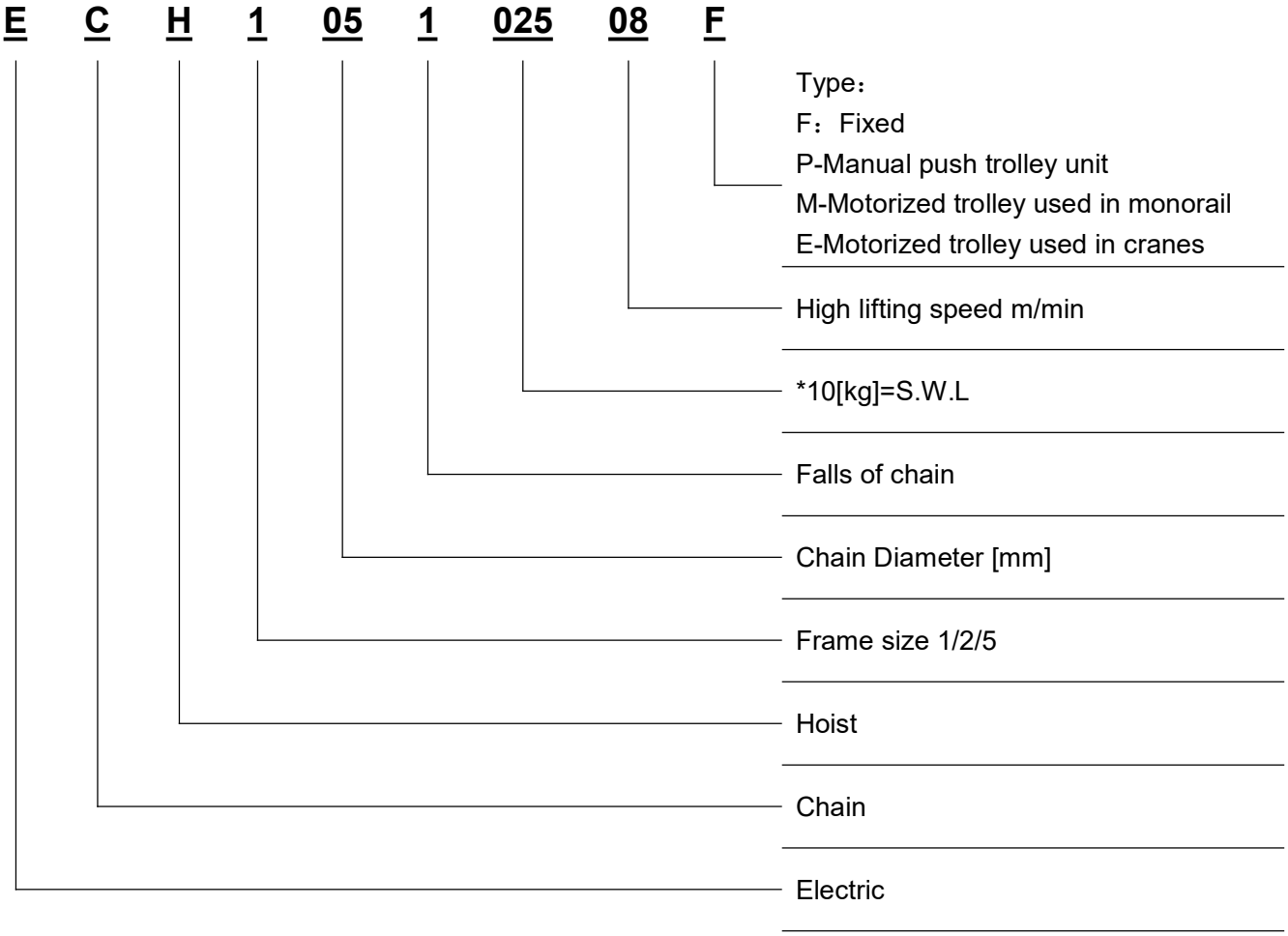
2.1 Identifying the key parts of the hoist



Notice：

The standard scope of supply should be to confirm your purchase contract. Do not reference the schematic.

2.2 Explanation of type designation



2.3 Product range

S.W.L [kg]	Hoist type	Duty Group		Falls	Lifting speed [m/min]	Structure type(1)	Gear life [h]
		FEM	ISO				
250	ECH1051 02508	3m	M6	1	8/2	F/P/M/E	3200
	ECH1051 02512	2m	M5	1	12.5/3.1	F/P/M/E	1600
320	ECH1051 03208	2m	M5	1	8/2	F/P/M/E	1600
	ECH1051 03212	1Am	M4	1	12.5/3.1	F/P/M/E	800
500	ECH1051 05008	1Am	M4	1	8/2	F/P/M/E	800
	ECH2071 05008	3m	M6	1	8/2	F/P/M/E	3200
	ECH2051 05016	2m	M5	1	16/4	F/P/M/E	1600
630	ECH1052 06306	1Am	M4	2	6.3/1.6	F/P/M/E	800
	ECH2071 06308	2m	M5	1	8/2	F/P/M/E	1600
	ECH2051 06316	1Am	M4	1	16/4	F/P/M/E	800
1000	ECH1052 10004	1Am	M4	2	4/1	F/P/M/E	800
	ECH2071 10008	1Am	M4	1	8/2	F/P/M/E	800
	ECH5091 10016	2m	M5	1	16/4	F/M/E	1600
1600	ECH2072 16004	2m	M5	2	4/1	F/P/M/E	1600
	ECH5091 16008	2m	M5	1	8/2	F/M/E	1600
2000	ECH2072 20004	1Am	M4	2	4/1	F/P/M/E	800
	ECH5111 20006	2m	M5	1	6.3/1.6	F/M/E	1600
	ECH5111 20008	1Am	M4	1	8/2	F/M/E	800
2500	ECH5092 25004	2m	M5	2	4/1.3	F/M/E	1600
	ECH5111 25006	1Am	M4	1	6.3/1.6	F/M/E	800
3200	ECH5112 32003	2m	M5	2	3.2/0.75	F/M/E	1600
	ECH5092 32004	1Am	M4	2	4/1.3	F/M/E	800
4000	ECH5112 40004	1Am	M4	2	3.2/0.75	F/M/E	800
	ECH5112 40003	2m	M5	2	4/1	F/M/E	1600
5000	ECH5112 50003	1Am	M4	2	3.2/0.75	F/M/E	800
7500	ECH5113 75002	1Am	M4	3	2.1/0.5	M/E	800

注：(1)Four structure type F/P/M&E:

F-Fixed chain hoist without trolley；

P-Chain hoist with push trolley；

M-Chain hoist with motorized trolley use in monorail have 5 buttons pendant control.

E-Chain hoist with motorized trolley use in cranes have 8 buttons pendant control.

2.4 Weight

2.4.1 Hoist weight

Type	Falls	Fixed hoist weight with 3metres chain [kg]	Chain weight [kg]
ECH1051	1	30	0.55
ECH1052	1	33	1.10
ECH2051	1	46	0.55
ECH2052	2	49	1.10
ECH2071	1	49	1.08
ECH2072	2	56	2.16
ECH5091	1	119	1.77
ECH5092	2	125	3.54
ECH5111	1	123	2.81
ECH5112	2	132	5.62
ECH5113	3	-	8.43

Notice：The weight include lifting height 3m chain and others，ECH5113do not have Ftype.

2.4.2 Trolley weight

Trolley type		Load	Travelling motor	Weight[kg]
Manual	NMT1	1100kg	NA	17
	NMT2	2200kg	NA	30
Motorized	NET1	1100kg	NTM1	32
	NET2	2200kg	NTM2	56
	NET5	5500kg	NTM5	92

2.5 Sound level

Sound / Hoist body type	Maximum noise level [dB] Without load	Maximum noise level [dB] With full load
ECH1	65	70
ECH2	65	70
ECH5	65	70

2.6 Nameplate

ECH hoist nameplate explanation

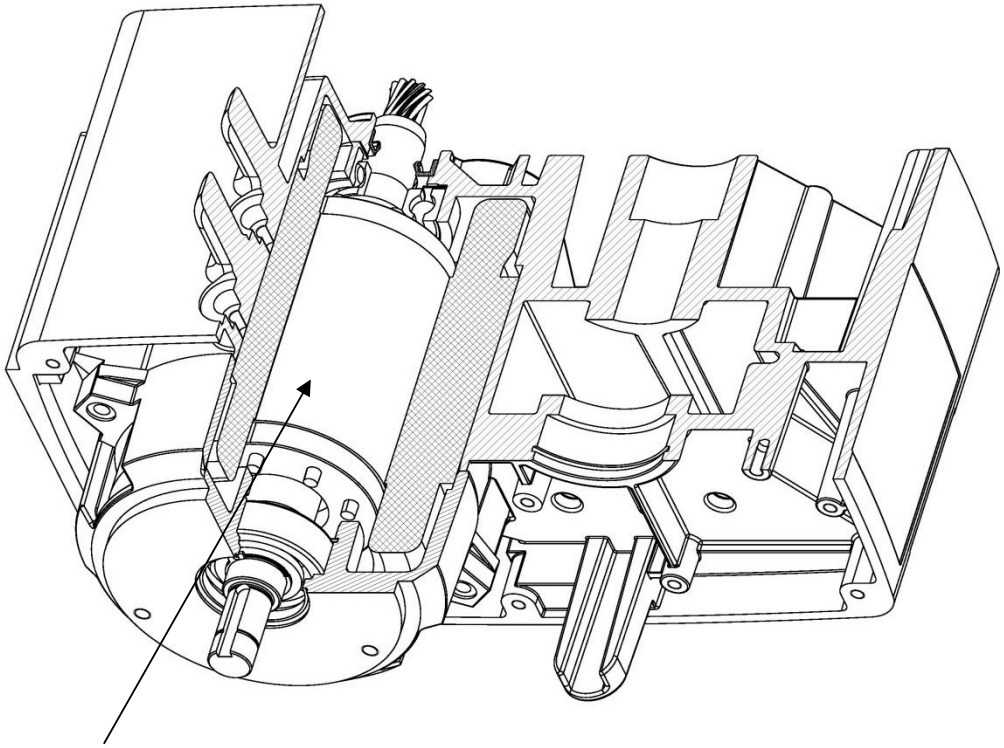
Item	Content
1	Alekcrane trademark
2	Company address
3	Safety weight load
4	Product barcode
5	Technical data

3 Main components

S.W.L [kg]	Hoist type	Hoisting motor	Gear box	Hoisting motor brake
250	ECH1051 02508	ECH1-8/2	YH10508	BFK457-08
	ECH1051 02512	ECH1-8/2	YH10512	BFK457-08
320	ECH1051 03208	ECH1-8/2	YH10508	BFK457-08
	ECH1051 03212	ECH1-8/2	YH10512	BFK457-08
500	ECH1051 05008	ECH1-8/2	YH10508	BFK457-08
	ECH2071 05008	ECH2-8/2	YH20708	BFK457-10
	ECH2051 05016	ECH2-8/2	YH20516	BFK457-10
630	ECH1052 06306	ECH1-8/2	YH10512	BFK457-08
	ECH2071 06308	ECH2-8/2	YH20708	BFK457-10
	ECH2051 06316	ECH2-8/2	YH20516	BFK457-10
1000	ECH1052 10004	ECH1-8/2	YH10508	BFK457-08
	ECH2071 10008	ECH2-8/2	YH20708	BFK457-10
	ECH5091 10016	ECH5-8/2	YH50916	BFK457-10
1600	ECH2072 16004	ECH2-8/2	YH20708	BFK457-10
	ECH5091 16008	ECH5-8/2	YH50908	BFK457-10
2000	ECH2072 20004	ECH2-8/2	YH20708	BFK457-10
	ECH5111 20006	ECH5-8/2	YH51106	BFK457-10
	ECH5111 20008	ECH5-8/2	YH51108	BFK457-10
2500	ECH5092 25004	ECH5-8/2	YH50908	BFK457-10
	ECH5111 25006	ECH5-8/2	YH51106	BFK457-10
3200	ECH5112 32003	ECH5-8/2	YH51106	BFK457-10
	ECH5092 32004	ECH5-8/2	YH50908	BFK457-10
4000	ECH5112 40004	ECH5-8/2	YH51106	BFK457-10
	ECH5112 40003	ECH5-8/2	YH51108	BFK457-10
5000	ECH5112 50003	ECH5-8/2	YH51106	BFK457-10
7500	ECH5113 75002	ECH5-8/2	YH51106	BFK457-10

3.1Hoisting motors

Hoisting motor using three-phase asyECHronous squirrel cage motor, under the condition of constant torque output of motor, it has two speeds.



Hoisting motor

Motor type	Power[kW]		Motor speed[n/rpm]		Cosφ	
	HS	LS	HS	LS	HS	LS
ECH1-8/2	0.75	0.18	2860	740	0.85	0.55
ECH2-8/2	1.9	0.45	2860	740	0.85	0.55
ECH5-8/2	3.5	0.86	2860	740	0.85	0.55

Motor type	380-415V/50Hz star connections				440-480V/60Hz star connections			
	In[A]		Ist[A]		In[A]		Ist[A]	
	HS	LS	HS	LS	HS	LS	HS	LS
ECH1-8/2	1.5	0.8	7.5	1.6	1.3	0.75	6.5	1.5
ECH2-8/2	3.8	2.0	19.0	4.0	3.3	1.7	16.5	3.4
ECH5-8/2	7.0	3.9	35.0	7.8	5.9	3.2	29.5	6.4

Motor type	208-230V/60Hzdelta-connection				220-240V/50Hzdelta-connection			
	In[A]		Ist[A]		In[A]		Ist[A]	
	HS	LS	HS	LS	HS	LS	HS	LS
ECH1-8/2	2.7	1.4	13.5	2.8	2.7	1.4	13.5	2.8

ECH2-8/2	6.9	3.6	34.5	7.2	6.9	3.6	34.5	7.2
ECH5-8/2	12.4	6.8	62.0	13.6	12.4	6.8	62.0	13.6
Motor type	380-415V/60Hz star connections				460-500V/60Hz star connections			
	In[A]		Ist[A]		In[A]		Ist[A]	
	HS	LS	HS	LS	HS	LS	HS	LS
ECH1-8/2	1.5	0.8	7.5	1.6	1.2	0.8	6.0	1.6
ECH2-8/2	3.8	2.0	19.0	4.0	3.1	2.0	15.5	4.0
ECH5-8/2	7.0	3.9	35.0	7.8	5.6	3.8	28.0	7.6

Notice:

[1]In=nominal current；Ist=starting current；

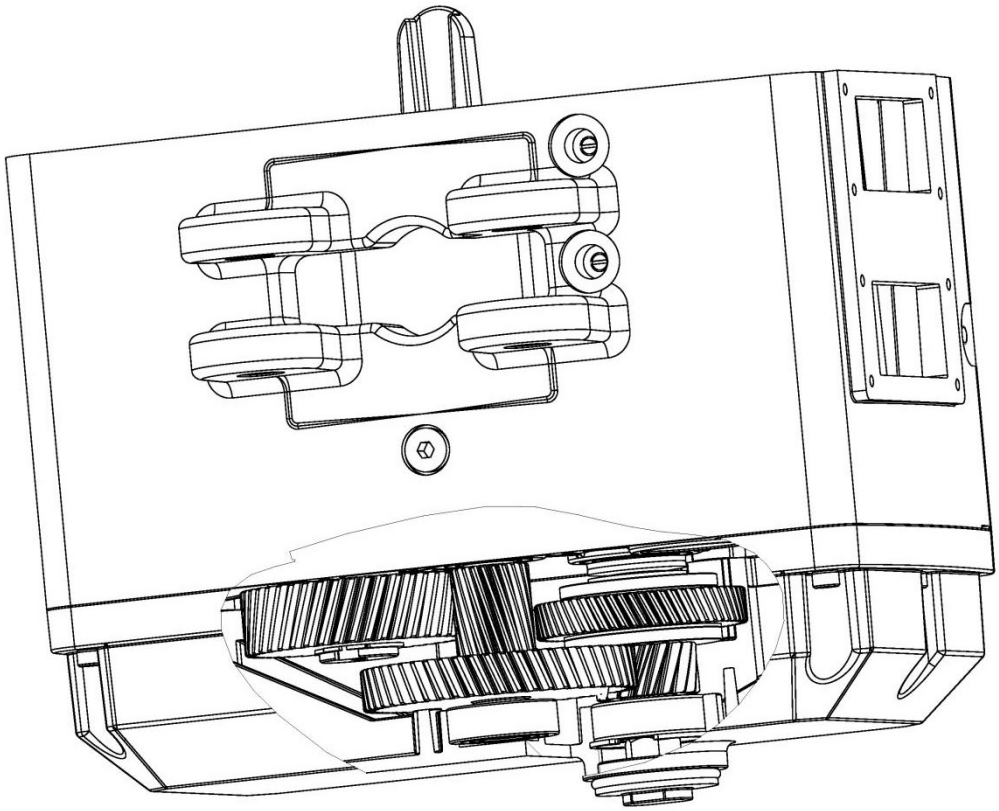
[2]HS=High speed work; LS=low speed work;

[3]ECH1、ECH2 fuse is 2A，ECH5 fuse is 5A;

[4] The size of main fuse for the ECH1&ECH2 hoist power supply is 10A, the ECH5 hoist is 20A.

3.2 Gear

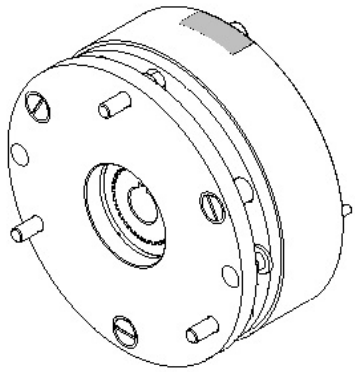
The hoisting gear has three helical steps. It is specially developed for hoisting appliances.
The gear is lubricated with oil in a way that will last for the designed working period of the hoist.

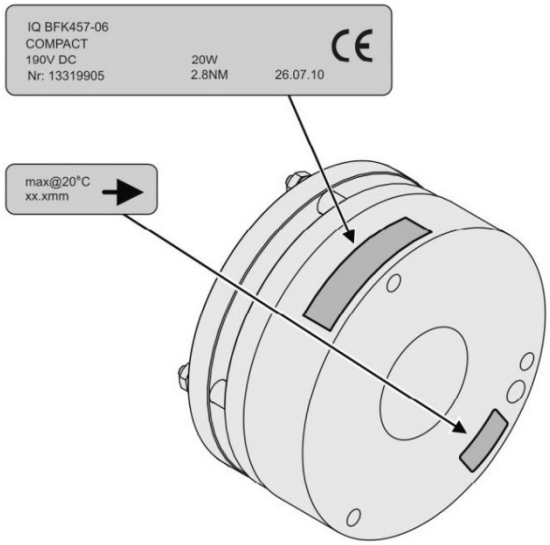


Gear box size	Type	Gear ratio
YH10508	Three steps	50.47
YH10512	Three steps	33.65
YH20708	Three steps	71.85
YH20516	Three steps	36.09
YH50908	Three steps	106.56
YH50916	Three steps	55.68
YH51106	Three steps	142.08
YH51108	Three steps	106.56

3.3Brake

The chain hoist is equipped with a disc brake which includes a rotating disc with two friction linings. The brake coil is energized by a DC voltage coming from the brake rectifier. The brake rectifier converts the AC voltage into a DC voltage. The rotating parts of the brake are not enclosed to ensure the self-cleaning function. The brake will last for the designed working period of the hoist. Its air gap can be checked easily at the brake coil, through an inspection hole. The maximum allowed air gap is indicated on a sticker attached to the brake and is to be checked from there.





3.3.1 Brake characteristics

Brake type	Brake torque[Nm]	Rated air gap[mm]	Maximum air gap[mm]	Thickness[mm]
BFK457-08	8	0.2±0.1	0.6	102
BFK457-10	16	0.3±0.1	0.7	130
BFK457-10	23	0.3±0.1	0.5	130

3.3.2 Brake coil voltages

	Power supply 3 phase	Connection	Voltages	Rectifier module type
Standard	380-415V/50Hz	Star	180V	half-wave rectifier
	440-480V/60Hz	Star	205V	half-wave rectifier
Option	208-230V/60Hz	Delta	103V	half-wave rectifier
	220-240V/50Hz	Delta	103V	half-wave rectifier
	360-400V/50Hz	Star	180V	half-wave rectifier
	460-500V/60Hz	Star	205V	half-wave rectifier

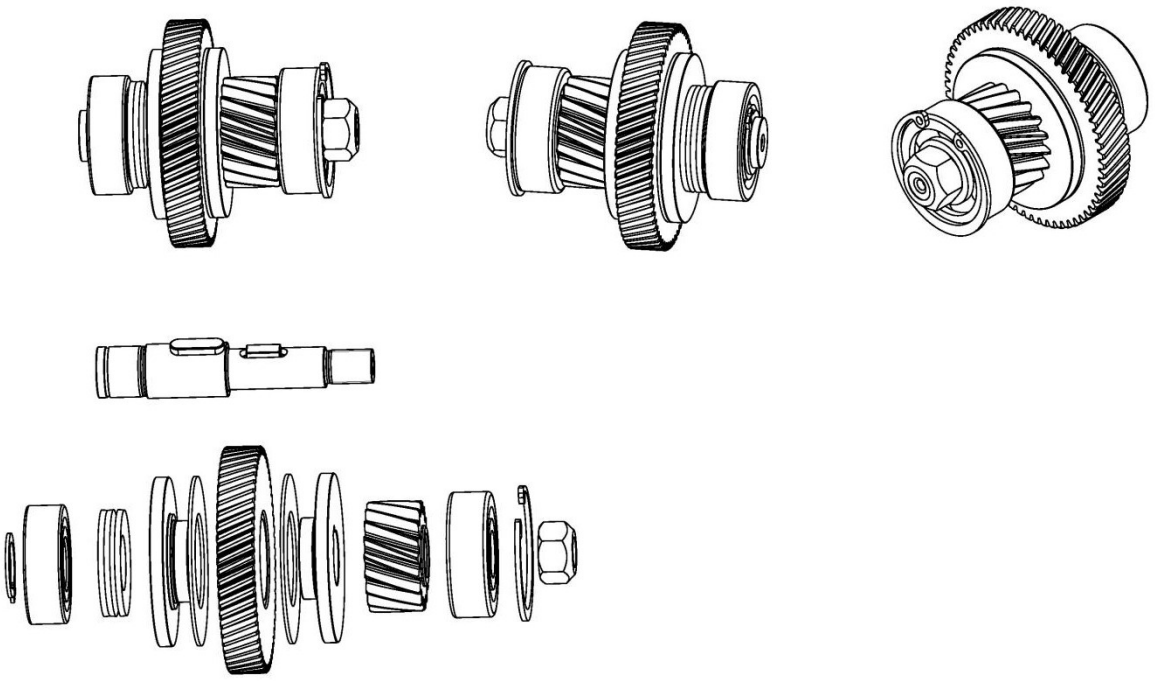
3.3.3 Coil resistance

Brake type	Brake torque [Nm]	Rated voltage[V]	Coil resistance[20℃]	
			Min.[Ohm]	Max.[Ohm]
BFK457-08	8	103	395.023	482.805
BFK457-08	8	180	1179.484	1501.162
BFK457-08	8	205	1538.564	1938.416
BFK457-10	16	103	308.533	377.121
BFK457-10	16	180	932.404	1162.886
BFK457-10	16	205	2017.466	2465.792
BFK457-10	23	103	308.533	377.121
BFK457-10	23	180	932.404	1162.886
BFK457-10	23	205	2017.466	2465.792

3.4 Overload device: Slipping clutch

The overload protection of the unit is ensured through a direct acting limiter of slipping clutch type. The device meets the requirements of EN14492-2 for such units.
It is set in a way that allows the unit to lift a load corresponding to the dynamic test load – 110% (EUR) / 125% (US) of SWL – and prevents the unit from lifting a load of 160% of SWL. The construction enables the brake to hold the load without any interaction with the clutch.
The slipping clutch construction varies according to the hoist frame size. The hoist bodies 02-05 use the same kind of clutch with just one clutch disc; whereas the bigger models, 10-25, are built with a slipping clutch with two clutch discs. An intermediate disc is placed between the two clutch discs providing the construction with altogether three friction surfaces to increase the torque.

ECH1/2 model

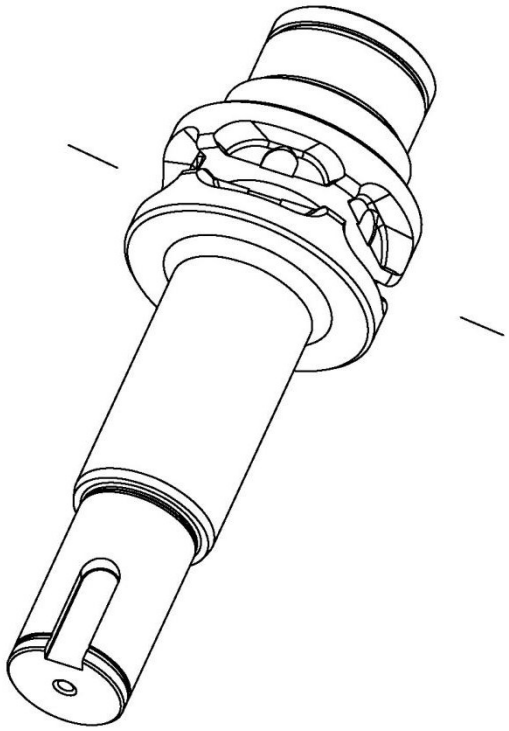


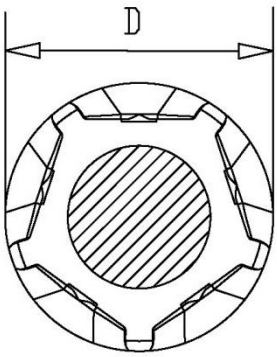
3.5Chain reeving components

The chain hoist units are fitted with a chain drive which connected to the gear box by the chain drive shaft. We call the other one return sprocket which has no power to drive chain.

3.5.1Chain drive

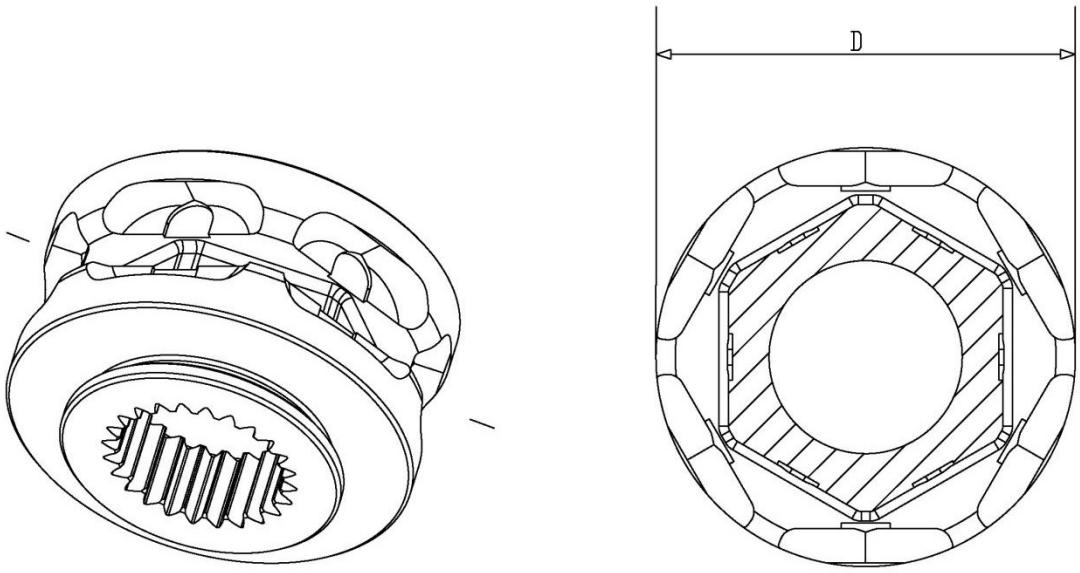
ECH1 / ECH2 model use the chain drive and shaft one-piece products, shape and main parameters are as follows：





Type	Sprocket	Chain	Nbr of pockets	D[mm]
ECH1051	Single	5*15	5	53.5
ECH1052				
ECH2051	Single	5*15	7	72.7
ECH2071	Single	7*21	5	75.5
ECH2072				

ECH5use the single chain drive without shaft, shape and main parameters are as follows：

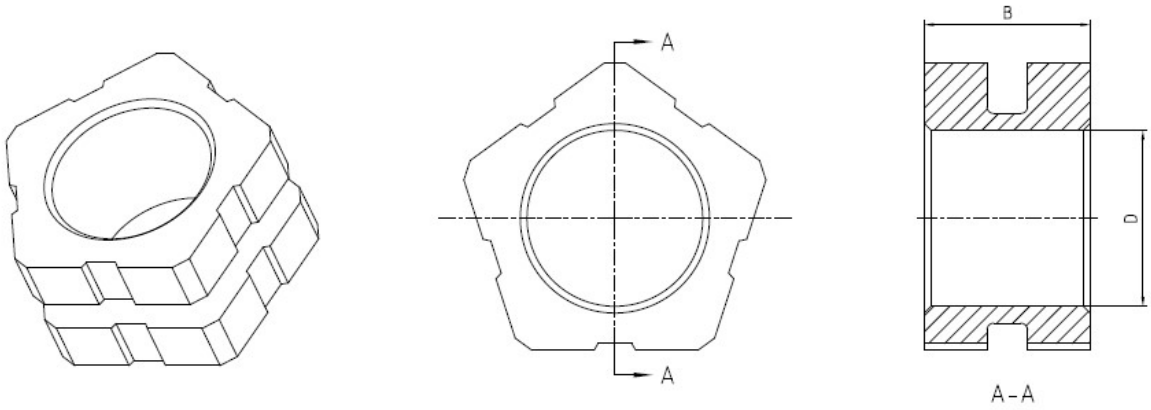


Type	Sprocket	Chain	Nbr of pockets	D[mm]
ECH5071	Single	7*21	7	101.8
ECH5091	Single	9*27	6	108.5
ECH5092				
ECH5111	Single	11.3*31	5	108.5
ECH5112				

3.5.2 Return sprocket

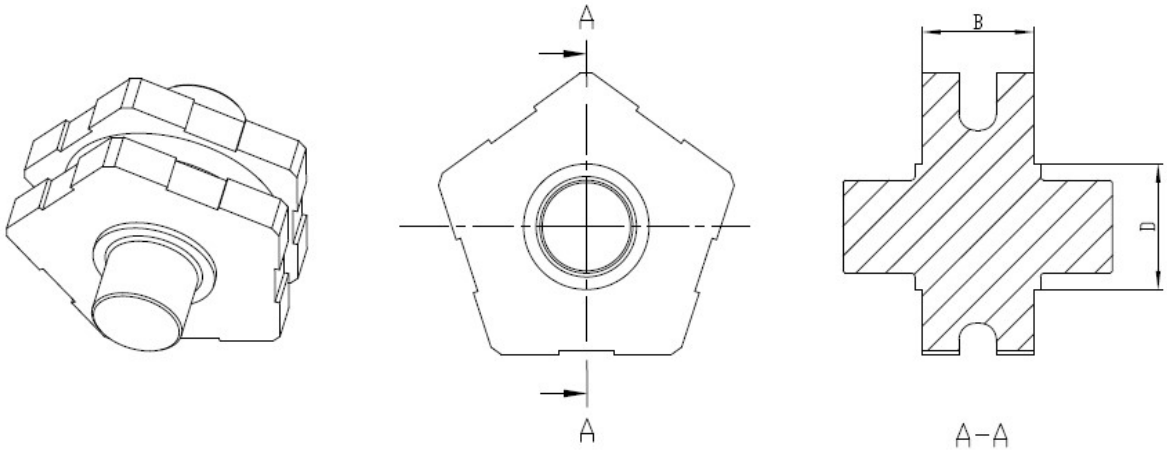
Return sprocket drive the chain like the movable pulley. It has two kinds type, a kind of hollow sprocket, other one has the shaft we call unitary sprocket.

Hollow sprocket



Type	Sprocket	Chain	Nbr of pockets	D[mm]	B[mm]
NRS05	Single	5*15	5	26	24.5
NRS11	Single	11.3*31	5	52	40

Unitary sprocket



Type	Sprocket	Chain	Nbr of pockets	D[mm]	B[mm]
NRS07	Single	7*21	5	27	24.5
NRS09	Single	9*27	5	30	36

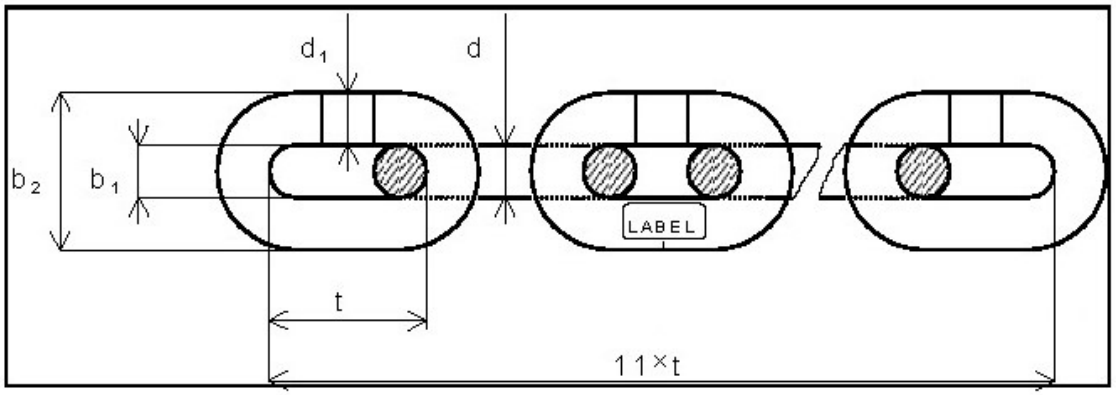
3.6 Chains

Hoist lifting chains using the G80 high strength chains. The chain of manufacturing is based on the EN818-7. According to the different using environment, it has three kinds of surface treatment of the chain to choose from: galvanized, black and dacromet.

3.6.1Safety factors for hoisting chains

S.W.L[kg]	Hoist type	Falls	Chain	Static safety factor
250	ECH1051 02508	1	5*15	13
	ECH1051 02512	1	5*15	13
320	ECH1051 03208	1	5*15	10
	ECH1051 03212	1	5*15	10
500	ECH1051 05008	1	5*15	6.4
	ECH2071 05008	1	7*21	12
	ECH2051 05016	1	5*15	6.4
630	ECH1052 06306	2	5*15	10
	ECH2071 06308	1	7*21	9.8
	ECH2051 06316	1	5*15	5
1000	ECH1052 10004	2	5*15	6.4
	ECH2071 10008	1	7*21	6.2
	ECH5091 10016	1	9*27	10
1600	ECH2072 16004	2	7*21	7.7
	ECH5091 16008	1	9*27	6.4
2000	ECH2072 20004	2	7*21	6.2
	ECH5111 20006	1	11.3*31	7.6
	ECH5111 20008	1	11.3*31	7.6
2500	ECH5092 25004	2	9*27	8.2
	ECH5111 25006	1	11.3*31	6.1
3200	ECH5112 32003	2	11.3*31	9.5
	ECH5092 32004	2	9*27	6.4
4000	ECH5112 40004	2	11.3*31	7.6
	ECH5112 40003	2	11.3*31	7.6
5000	ECH5112 50003	2	11.3*31	6.1
7500	ECH5113 75002	3	11.3*31	6.1

3.6.2 Chains dimensions



Gear type	Chain size	Diameter [mm]		Pitch t[mm]		Control length 11t[mm]	Weld seam d1max [mm]	Internal width b1min [mm]	External width b2max [mm]	Weight Kg/m
YH10508 YH10512 YH20516	5*15	5	+0.1 -0.1	15	+0.20 -0.00	165+0.70 +0.20	5.3	6.0	16.8	0.55
YH20705 YH20708 YH50716	7*21	7	+01 -0.1	21	+0.30 -0.00	231+1.00 +0.26	7.5	8.4	23.5	1.08
YH50908	9*27	9	+0.3 -0.3	27	+0.35 -0.20	297+1.00 -0.50	9.7	10.8	30.4	1.77
YH51108 YH51106	11.3*31	11.3	+0.1 -0.4	31	+0.40 -0.20	341+1.10 -0.50	12.0	12.6	36.6	2.81

3.6.3 Chains technical characteristics

Chain size	Unit	5*15	7*21	9*27	11.3*31
Max. working load	M5 [kg]	500	1000	1600	2500
Max. stress at working load limit σ F	[N/mm²]	125	125	125	125
Max. limit stress σ F	[N/mm²]	160	160	160	160
Test force	[KN]	20	40	63	100
Min. breaking force	[KN]	32	61.6	100	160
Min. breaking elongation	%	10	10	10	10
Surface hardness	HV10	580-700	580-700	580-700	580-700
Corrosion protection		galvanized	galvanized	galvanized	galvanized
Grade		80	80	80	80
Class		DAT	DAT	DAT	DAT

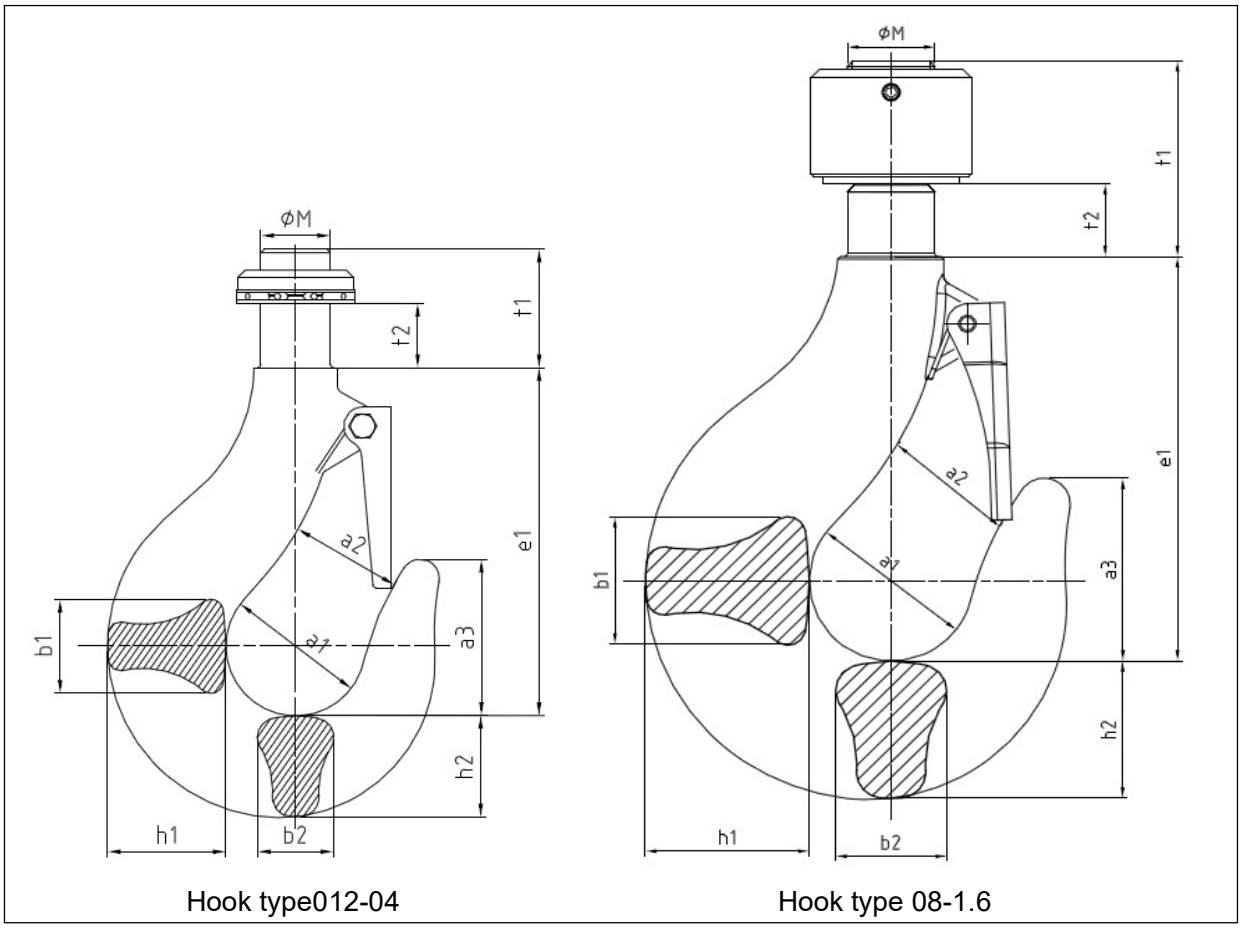
3.7Hook

ECH chain hoist used the forging hook.

3.7.1Low hook

S.W.L	Hoist type	Hook type[RSN]	Strength grade	Hook block type
250	ECH1051 02508	012	T	NHB01
	ECH1051 02512	012	T	NHB01
320	ECH1051 03208	012	T	NHB01
	ECH1051 03212	012	T	NHB01
500	ECH1051 05008	020	T	NHB02
	ECH2071 05008	040	T	NHB05
	ECH2051 05016	020	T	NHB04
630	ECH1052 06306	020	T	NHB03
	ECH2071 06308	020	T	NHB05
	ECH2051 06316	020	T	NHB04
1000	ECH1052 10004	04	T	NHB03
	ECH2071 10008	04	T	NHB05
	ECH5091 10016	04	T	NHB07
1600	ECH2072 16004	08	T	NHB06
	ECH5091 16008	08	T	NHB07
2000	ECH2072 20004	08	T	NHB06
	ECH5111 20006	08	T	NHB09
	ECH5111 20008	08	T	NHB09
2500	ECH5092 25004	1	T	NHB08
	ECH5111 25006	1	T	NHB09
3200	ECH5112 32003	1.6	T	NHB10
	ECH5092 32004	1	T	NHB08
4000	ECH5112 40004	1.6	T	NHB10
	ECH5112 40003	1.6	T	NHB10
5000	ECH5112 50003	1.6	T	NHB10
7500	ECH5113 75002	2.5	T	NHB11

3.7.2 Hook dimensions

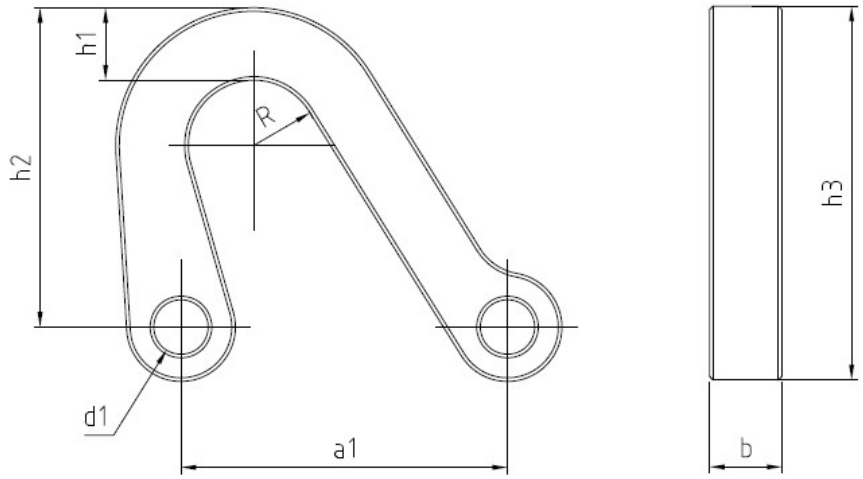


Hook type012-04

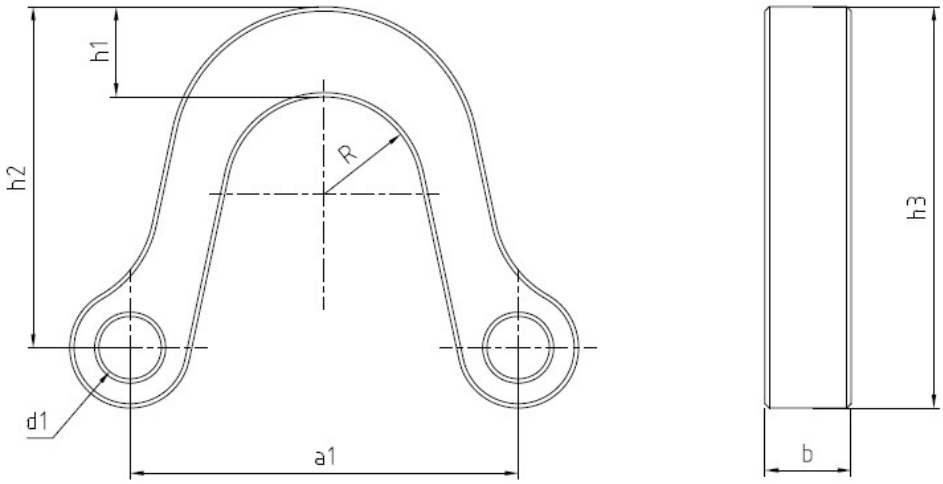
Hook type 08-1.6

Hook type	ØM	a1	a2*	a3	b1	b2	e1	h1	h2	t1	t2
012	12	30	22	34	19	15	77	22	19	32.5	11
020	16	34	25	39	21	18	80	26	22	39	15
04	20	40	30	45	27	22	100	34	29	34	18.5
08	24	48	36	54	35	29	124	44	37	58	25
1	24	50	38	57	38	32	132	48	40	59	25
1.6	30	56	43	64	45	38	141.5	56	48	65.5	25.5
2.5	36	63	48	72	53	45	161.5	67	58	99	52

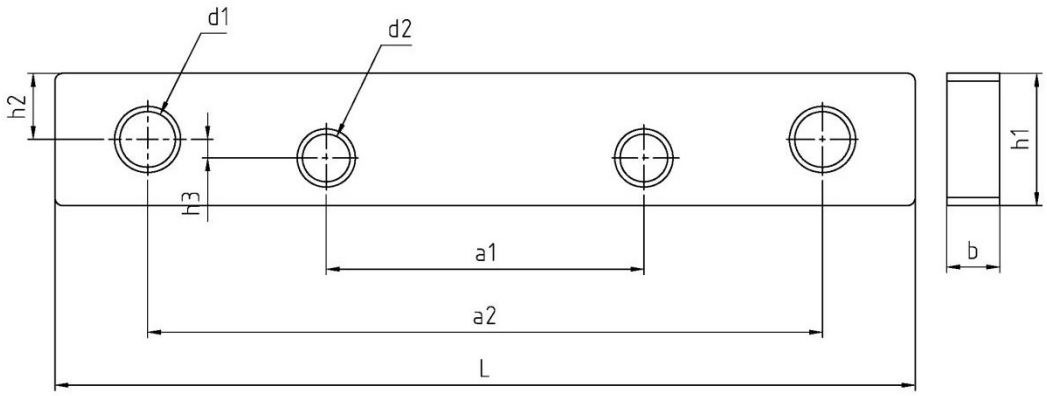
3.8 Suspensions



ECH1/ECH2-1 fall chain hoist suspension V1/V2



ECH1/ECH2 2falls chain hoist suspension U1/U2
ECH5 1/2falls chain hoist suspensionU3



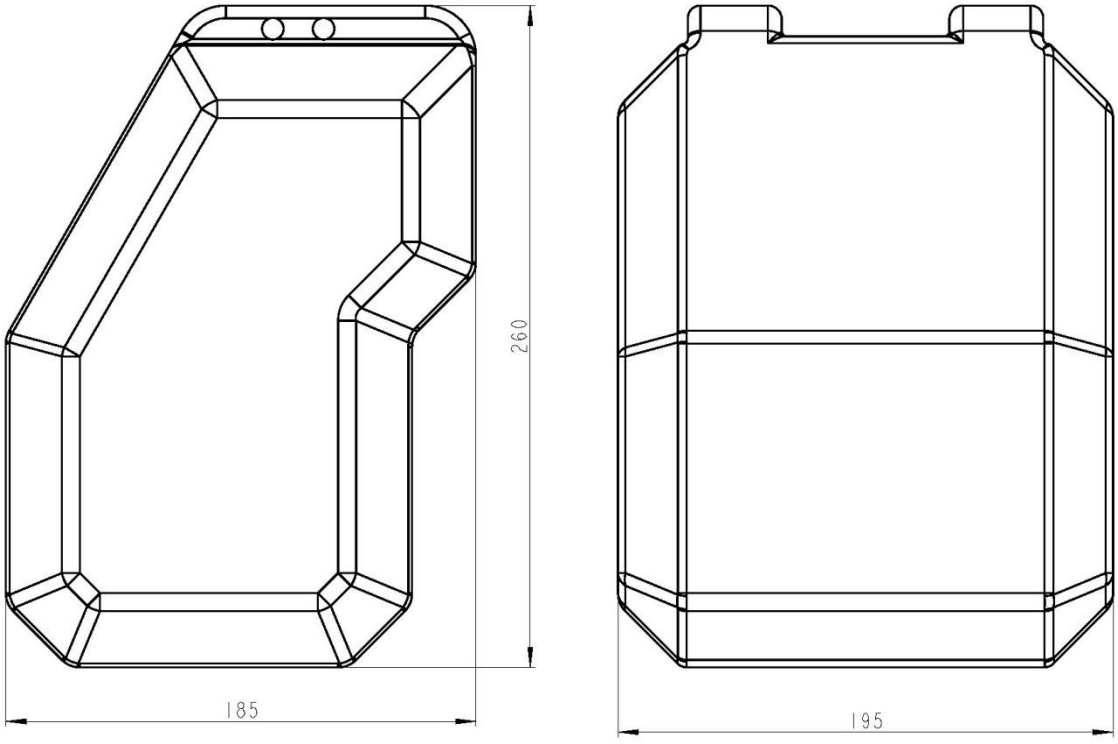
ECH1/ECH2 for KBKII type suspension K1/K2

Suspensions type	Hoist type	Dimensions									
		a1	a2	b	h1	h2	h3	d1	d2	R	L
V1	ECH1	90	NA	20	20	88	103	15	NA	18	NA
U1	ECH1	90	NA	20	21	79	93	14.5	NA	22.5	NA
K1	ECH1	90	255	20	50	25	6	21	15	NA	325
V2	ECH2	120	NA	25	25	105	125	20	NA	20	NA
U2	ECH2	120	NA	25	28.5	118.5	137.5	18.5	NA	27.5	NA
K2	ECH2	120	255	20	50	25	7	21	18	NA	325
U3	ECH5	116	NA	35	30	140	163	26	NA	25	NA

3.9Chain Bags

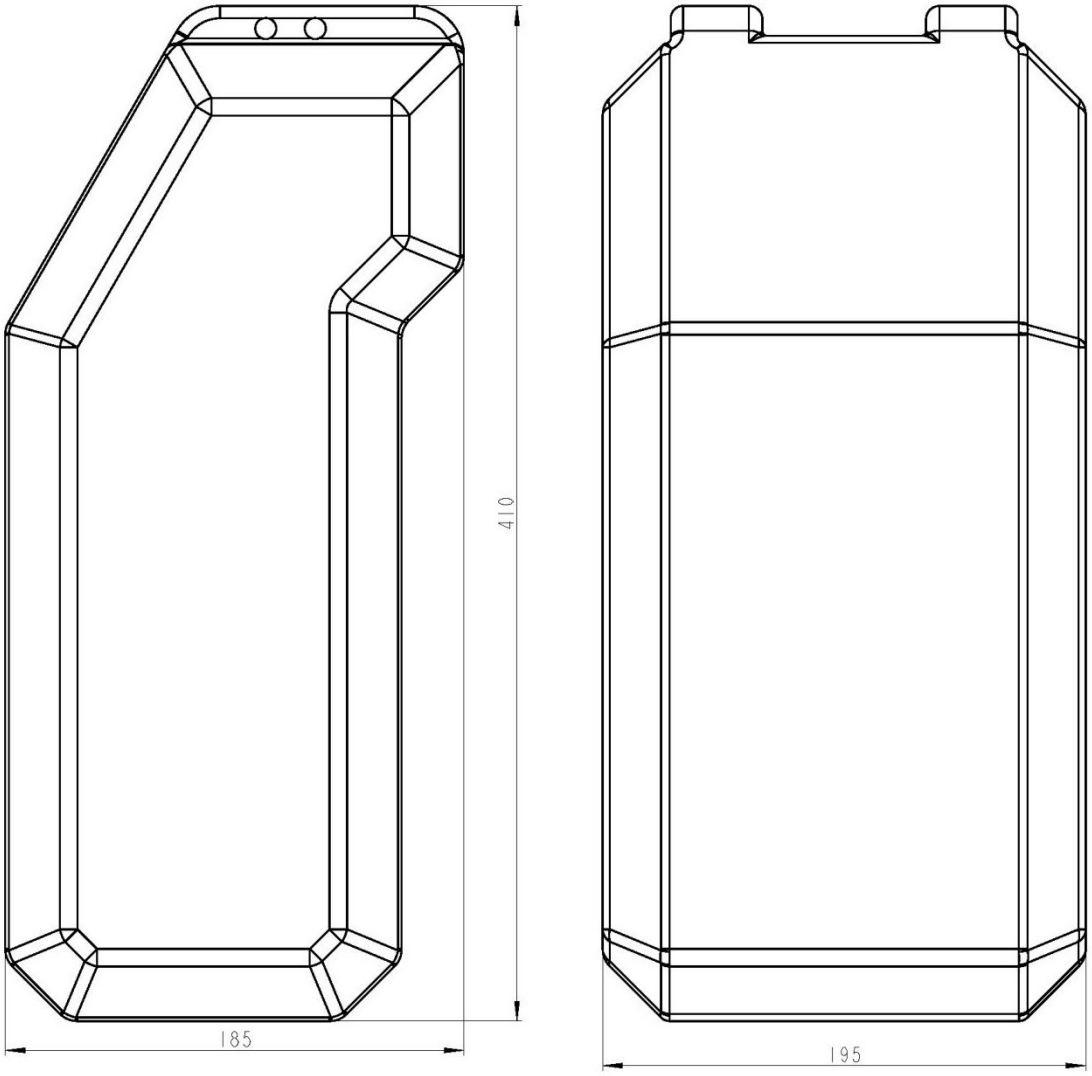
3.9.1 S chain bags

S chain bags are use to ECH1/ECH2 chain hoist.
ECH1051/ECH1052/ECH2051-5mm-max 22m chains
ECH2071/ECH2072-7mm-max 12m chains



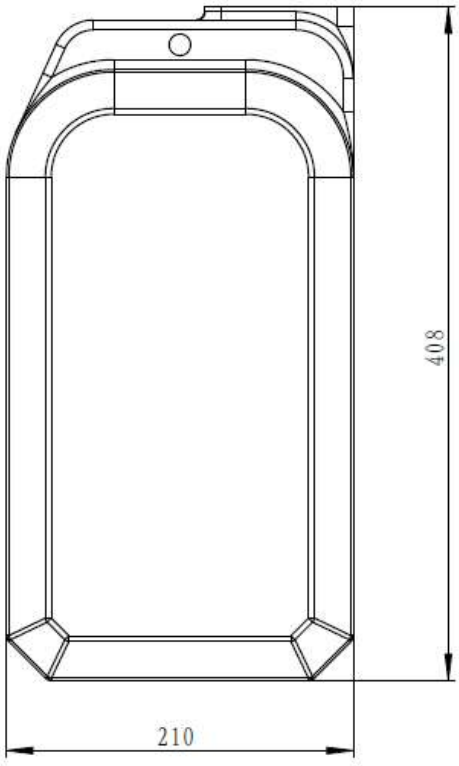
3.9.2 M chain bags

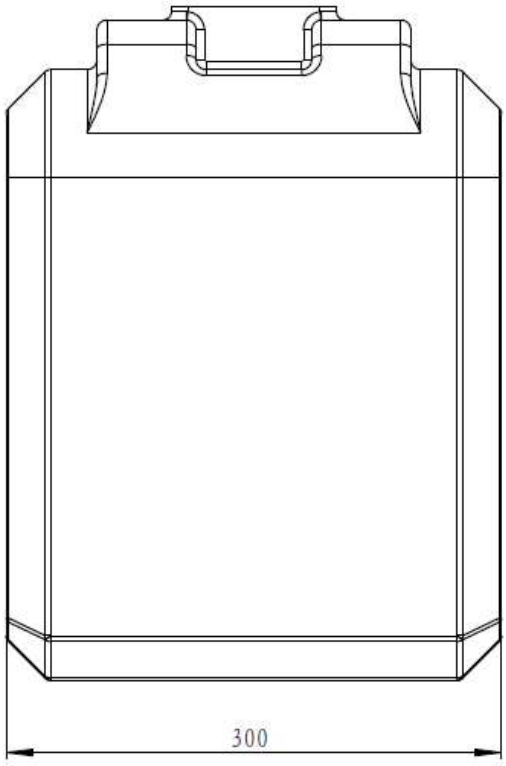
M chain bags are use to ECH1/ECH2 chain hoist
ECH1051/ECH1052/ECH2051-5*15mm-max 40m chains
ECH2071/ECH2072-7*21mm-max 21m chains



3.9.3 L chain bags

L chain bags are use to ECH5 chain hoist
ECH5091/ECH5092-9*27mm –max 26m chains
ECH5111/ECH5112-11.3*31mm-max14m chains



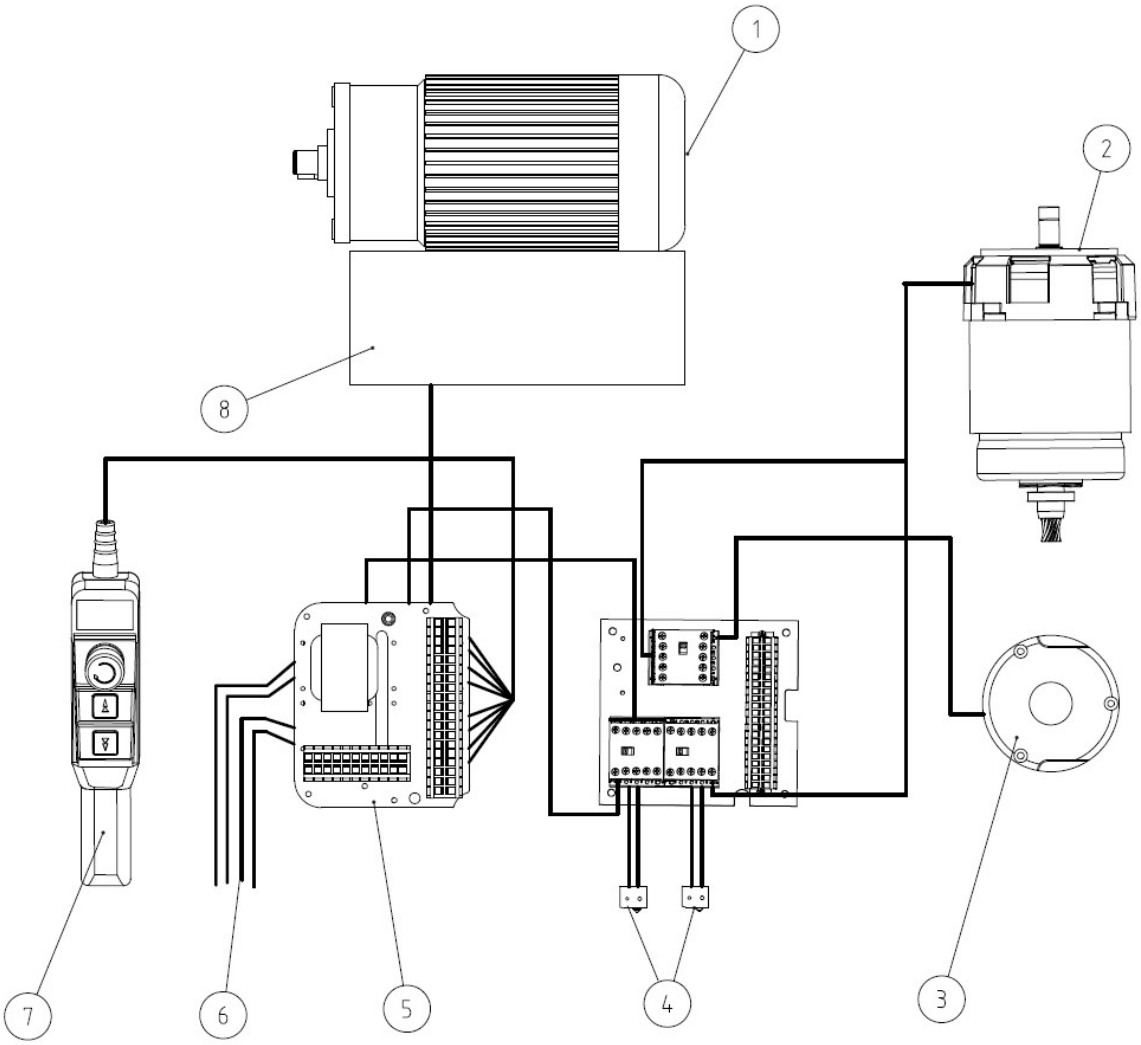


3.9.4 Canvas fabric chain bag

This product is suitable for high lifting height .The detail size of the contract drawings shall prevail.

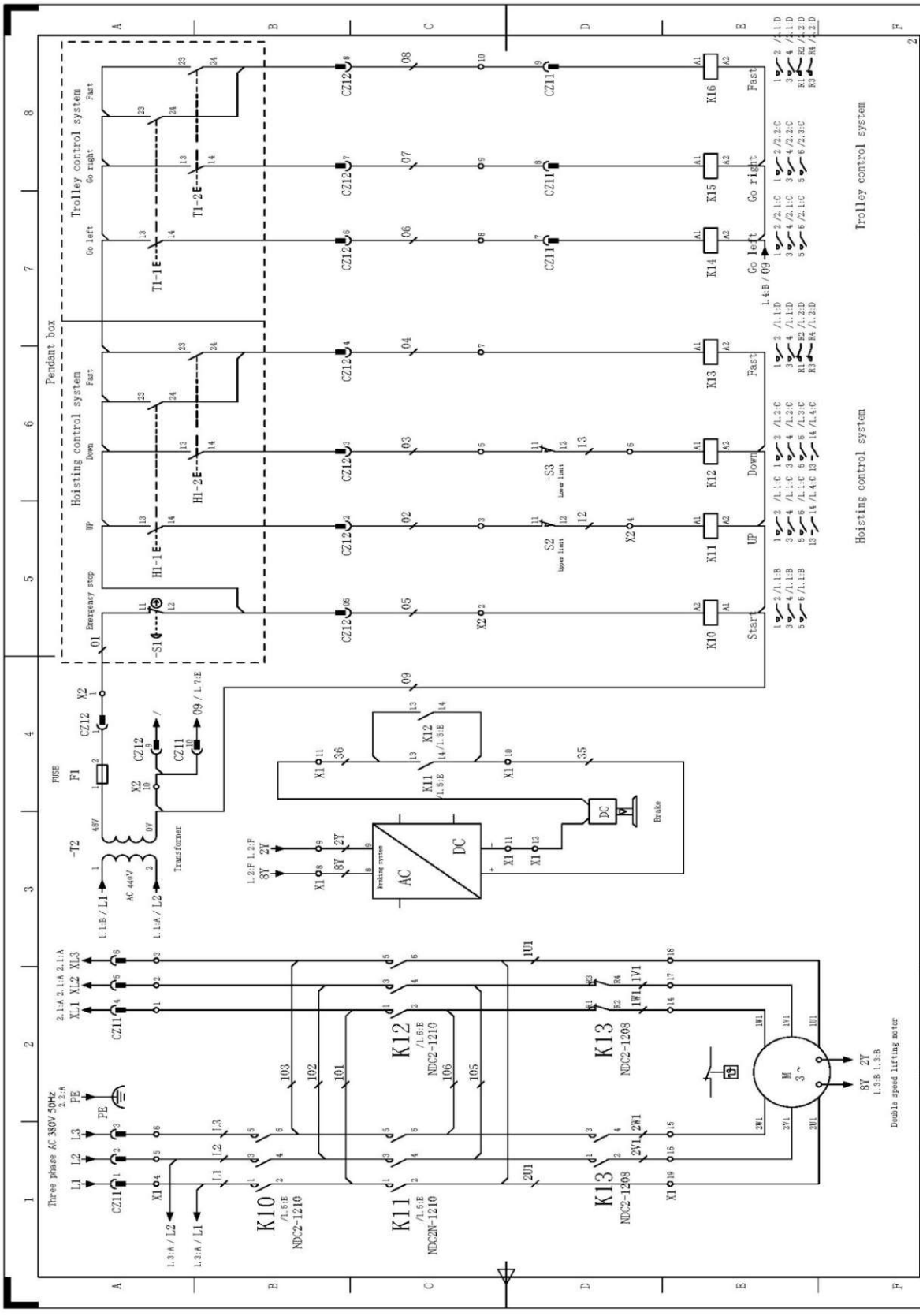
3.10Electrics

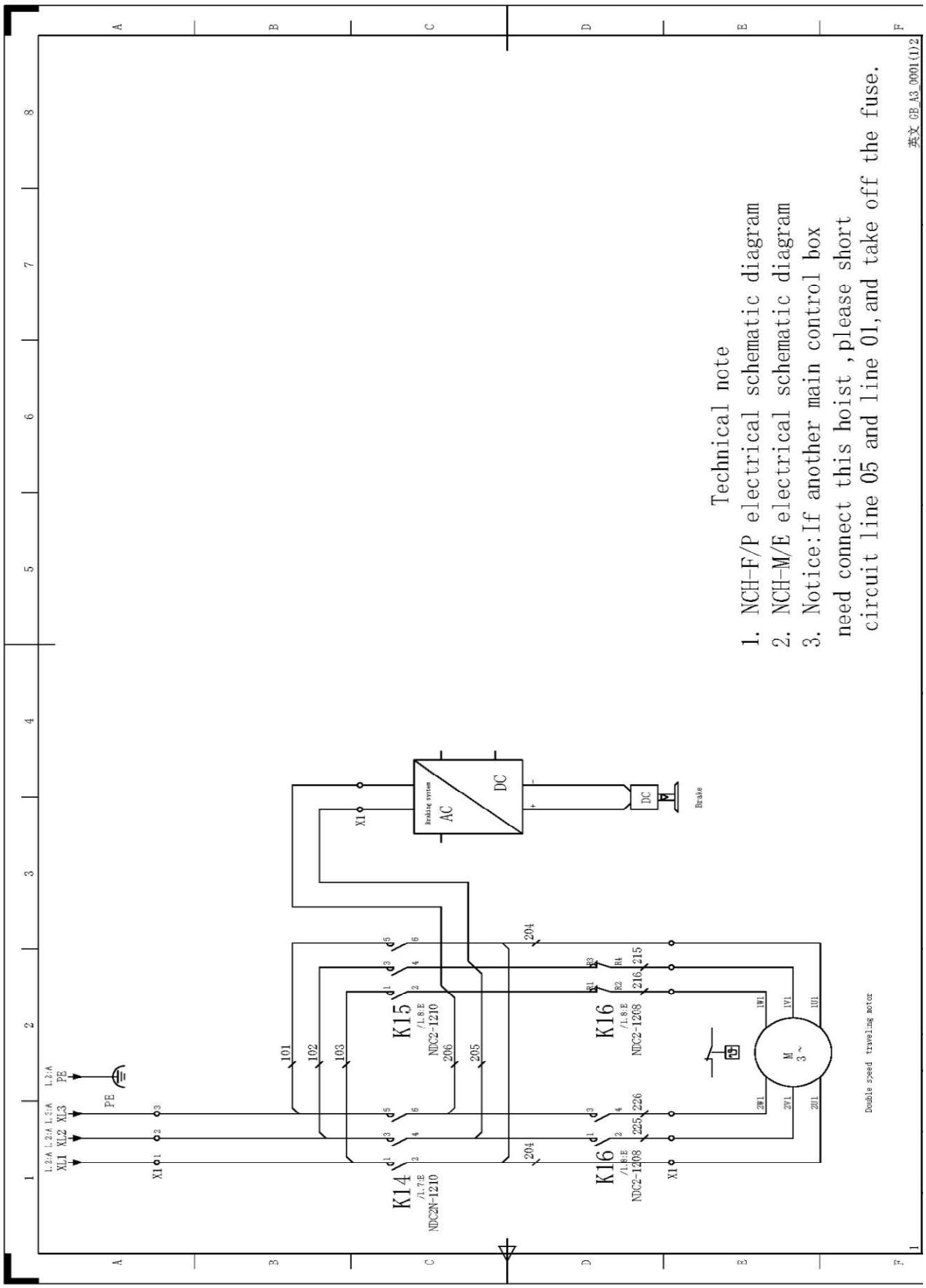
3.10.1 Wiring principle



Pos.	Part
1	Travelling motor
2	Hoisting motor
3	Brake
4	Lifting limit switches
5	Power board (main contactor and transformer)
6	Power supply
7	Control pendant
8	Trolley inverter located inside the electric cubicle

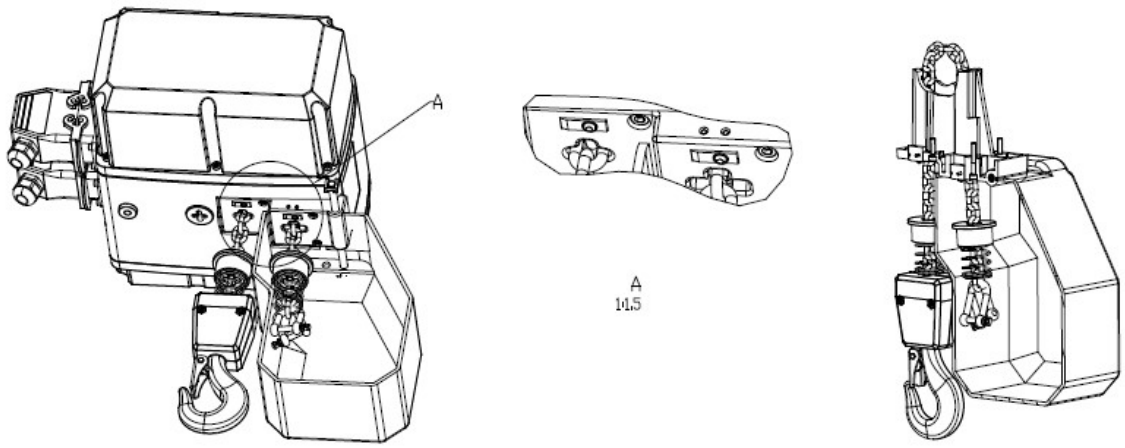
3.10.2 Electric principle diagram




Technical note
1. NCH-F/P electrical schematic diagram
2. NCH-M/E electrical schematic diagram
3. Notice:If another main control box need connect this hoist ,please short circuit line 05 and line 01,and take off the fuse.
英文 GB_A3_0001(1)2
Braking system
AC
DC
Brake
K15
/1.8:E
NDC2-1210
K16
/1.8:E
NDC2-1208
K14
/1.7:E
NDC2N-1210
K16
/1.8:E
NDC2-1208
Double speed traveling motor
PE
XL1 XL2 XL3
X1

3.10.3 Limit switch

The lifting limit switch was installed in chain guide has two point is downwards and upwards.



3.11 Pendant

PBXPBR02

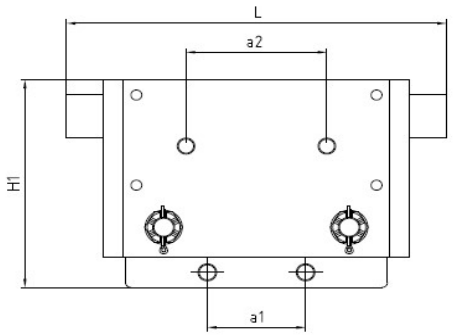
PBXA05YY03

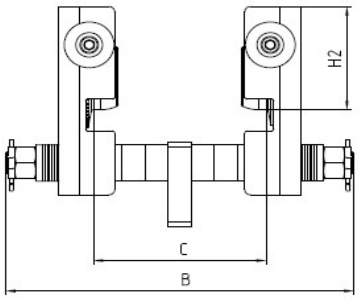
PBXA08YY

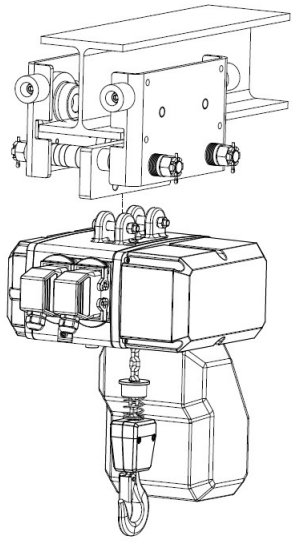
Type	Use for	Function
PBXPBR02	F/P	Three holes-two direction-double speed+ emergency stop button
PBXA05YY03	M	Five holes-four direction-double speed+ emergency stop button
PBXA08YY	E	Eight holes-six direction-double speed+ emergency stop button

3.12Trolley

3.12.1Manual trolley





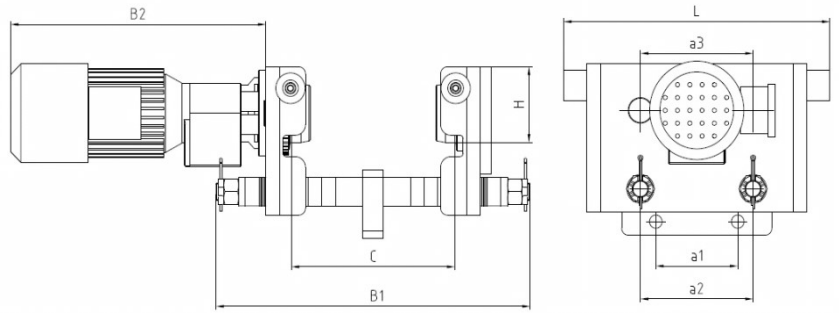


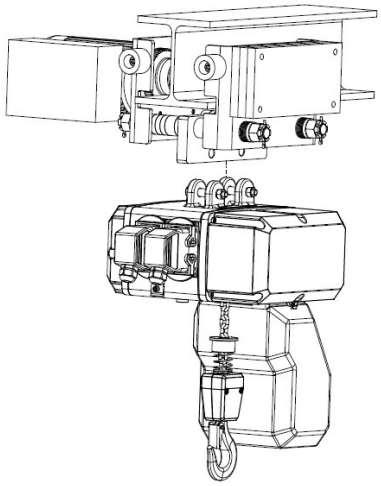
Characteristics

Trolley type	Hoist type	S.W.L([kg]	Min. radius of turn [mm]
NMT1	ECH1	1100	1500
NMT2	ECH2	2200	1500

Trolley type	Dimensions [mm]						
	H1	H2	L	a1	a2	B	C
NMT1	207	97	348	129	90	300	50-180
NMT2	240	106	390	165	120	460	70-300

3.12.2 Motorized trolley



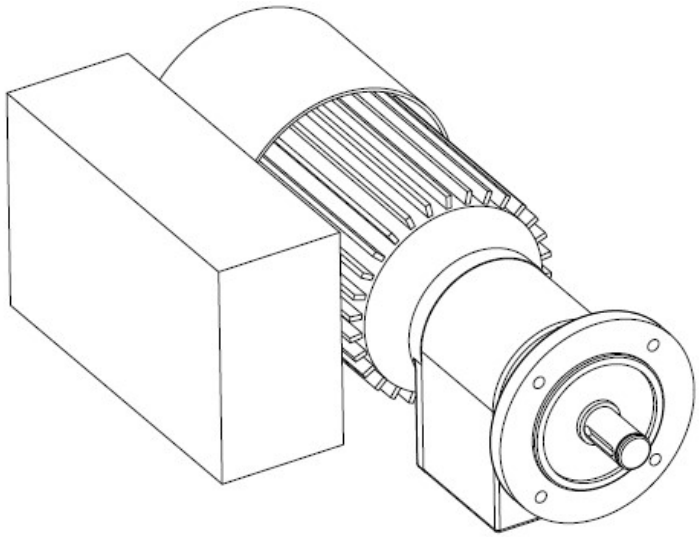


Characteristics

Trolley type	Hoist type	S.W.L(kg)	Travelling speed[m/min]	Min. radius of turn [mm]
NET1	ECH1	1100	6-20	1500
NET2	ECH2	2200	6-20	1500
NET5	ECH5	5500	6-17	2000

Trolley type	Dimensions [mm]							
	H	L	a1	a2	a3	B1	B2	C
NET1	97	348	90	170	129	300	264	50-180
NET2	102	402	120	165	168	460	267	70-300
NET5	130	526	116	204	204	500	374	80-320

3.13Travelling motor



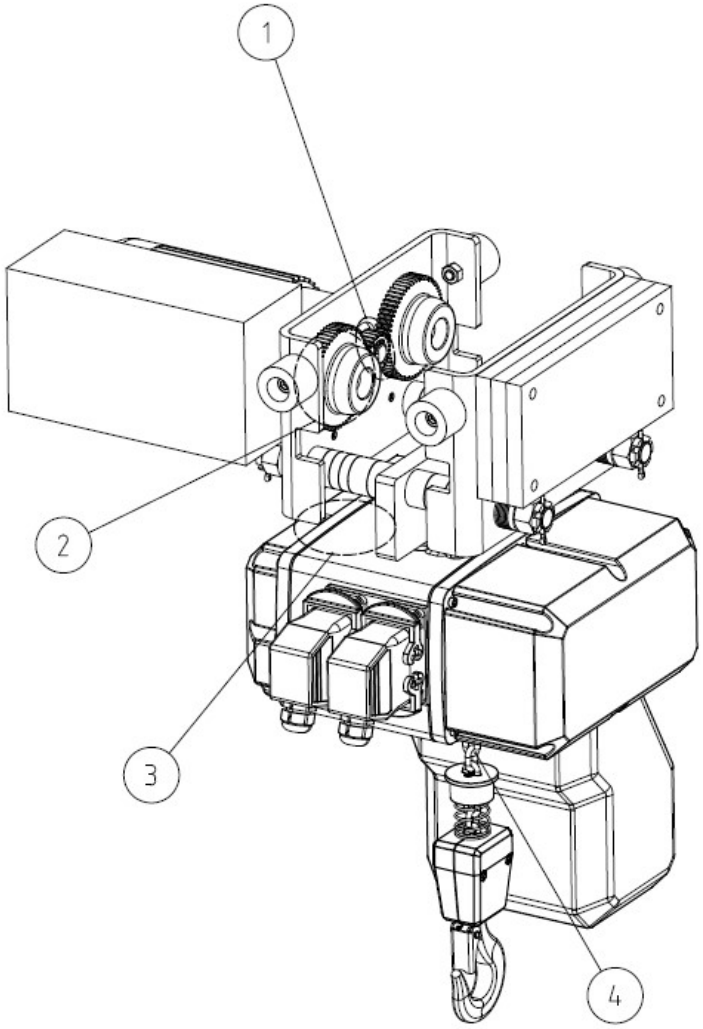
Motor type	Power[W]	Speed regulation	Trolley type
NTM1	200	Variable frequency	NET1
NTM2	400	Variable frequency	NET2
NTM5	640	Variable frequency	NET5

3.13.1 Motor characteristics

	Standard						Option
	NTM1		NTM2		NTM5		
Travelling speed（m/min)	LS	HS	LS	HS	LS	HS	–
	15Hz	50Hz	15Hz	50Hz	30Hz	87Hz	–
	6	20	6	20	6	17	
S.W.L（kg）	1100		2200		5500		–
ED%	30		30		40		–
Max. cycles[c/h]	180		180		240		–
Current[A]	In=0.6		In=1.0				–
	Ist=2.2		Ist=4.9				
Power[W]	200		400		640		-
Cosφ	0.812		0.828				-
RPM[r/min]	1400		1400		2800		-
Power supply[V]	380		380		380		
Frequency[Hz]	50/60		50/60		50/60		
Control voltage[V]	48		48		48		
End limit switches	–		–		–		yes
Slow down switches	–		–		–		-
Thermal protection	–		–		–		yes
IP protection	54		54		54		-
Relative humidity [%]	90		90		90		
Ambient temperature[℃]	-10℃-40℃		-10℃-40℃		-10℃-40℃		-
Standby hearers	–		–		-		yes
Insulation class	F		F		F		–

Notice: In=nominal current； Ist=starting current； HS=High speed work; LS=low speed work

4. Lubrication



Pos.	Component	Intervals
1	Secondary/output shaft (traveling transmission)	3 months
2	Travelling wheel bearing	Annual
3	Hoisting gear box	Five years
4	Chain	From 1 week up to a year (depending on the usage)

1

Traveling transmission (secondary/output shaft)

Remove the plug and grease open transmission.

Installation	Trade name and number	Quantity
Factory installed	MOBILITHSHC460	75ml

3

Hoisting gear box

Lubricated with oil. Lubrication will last for the designed working period of the product.

Installation	Trade name and number	Quantity
Factory installed	MGEP680	See table

Hoist type	Quantity of oil needed [l]
ECH1	1L
ECH2	2L
ECH5	3.5L

4

Chain

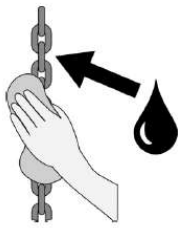
Lubricate the chain carefully before the first run (commissioning);

Grease the chain with a substantial amount of lubricant and make sure that the chain is lubricated all over its surface and links, especially on all contact areas between the chain links.

To extend chain lifetime, continue to lubricate the chain within regular intervals;

The lubrication interval varies from a minimum of one week to one year, depending on the usage;

Excessive lubrication may cause dribbling.



Installation	Trade name and number	Quantity
Factory installed	Renolit LZR000	As required
	Mobil Gear 632	

5. List of materials and coatings

5.1 Materials

Part	Fabrication	Material type	Norm
Hoist body	Pressure die casted aluminum alloy	GD-AlSi9Cu3	EN AC –AlSi9Cu3
Suspension eye	Machined plate	S355J2[Q345]	GB709
Gear covers	Pressure die casted aluminum alloy	GD-AlSi9Cu3	EN AC –AlSi9Cu3
Electric covers	High-density polyethylene	PEHD BLACK	
Gear wheels	Alloy steel	20CrMnTi	EN 10060
Chain bag	High-density polyethylene	PEHD BLACK	
Hooks	Forged steel	35CrMo	EN 10083
Hook blocks	Pressure die casted aluminum alloy	GD-AlSi9Cu3	EN AC –AlSi9Cu3
Chains	Bended and welded alloy steel	Special steel	EN 818-7
Wheels	Forged steel, casted iron	C40	EN 10060

5.2Coatings

Component	Coating type
Aluminum alloy components	Spray
Steel components	Spray
Chains	Galvanized

5.3 Color codes

Component	Color code
Body	RAL7042
Electric covers	RAL9004
Chain bag	RAL9005
Hook blocks	RAL1018
Hook	RAL9005

5.4Packing

According to purchase quantity is different, choose different packing. Enclosed is the packing the following information:

- Technical guide
- Owner's manual
- Packing list

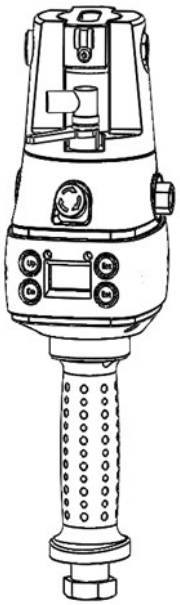
6. Options

6.1 Electric overload protection

Shaft type load sensor was installed in the fixed hole. The signal processing device has a display was installed in the electric cabinet.

6.2 Ergonomics control

Except the pendent control, ergonomics control can be used in the single chain hoist. The control box was installed on the hook block moves up and down with the hook.

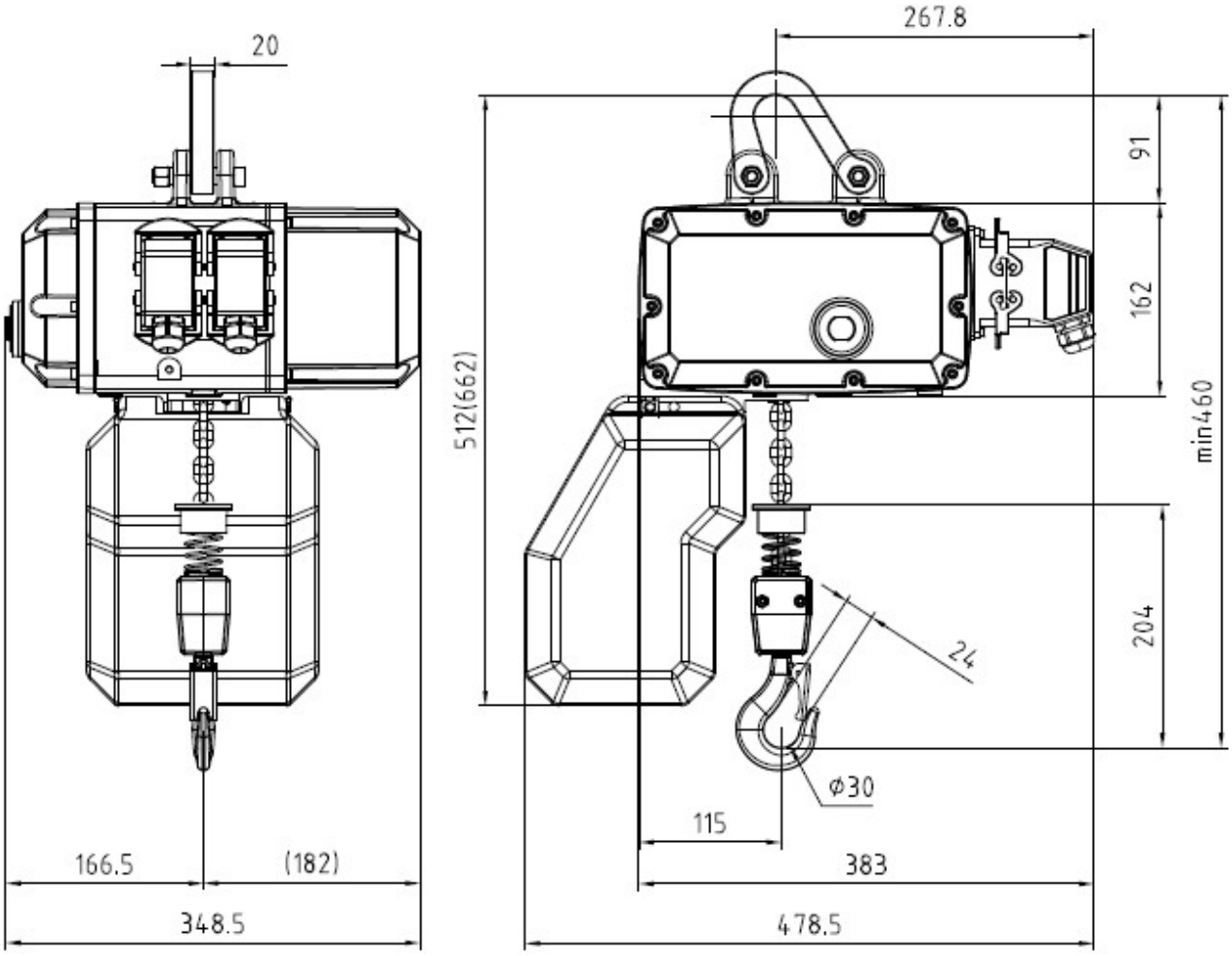


7Hoist type and dimension

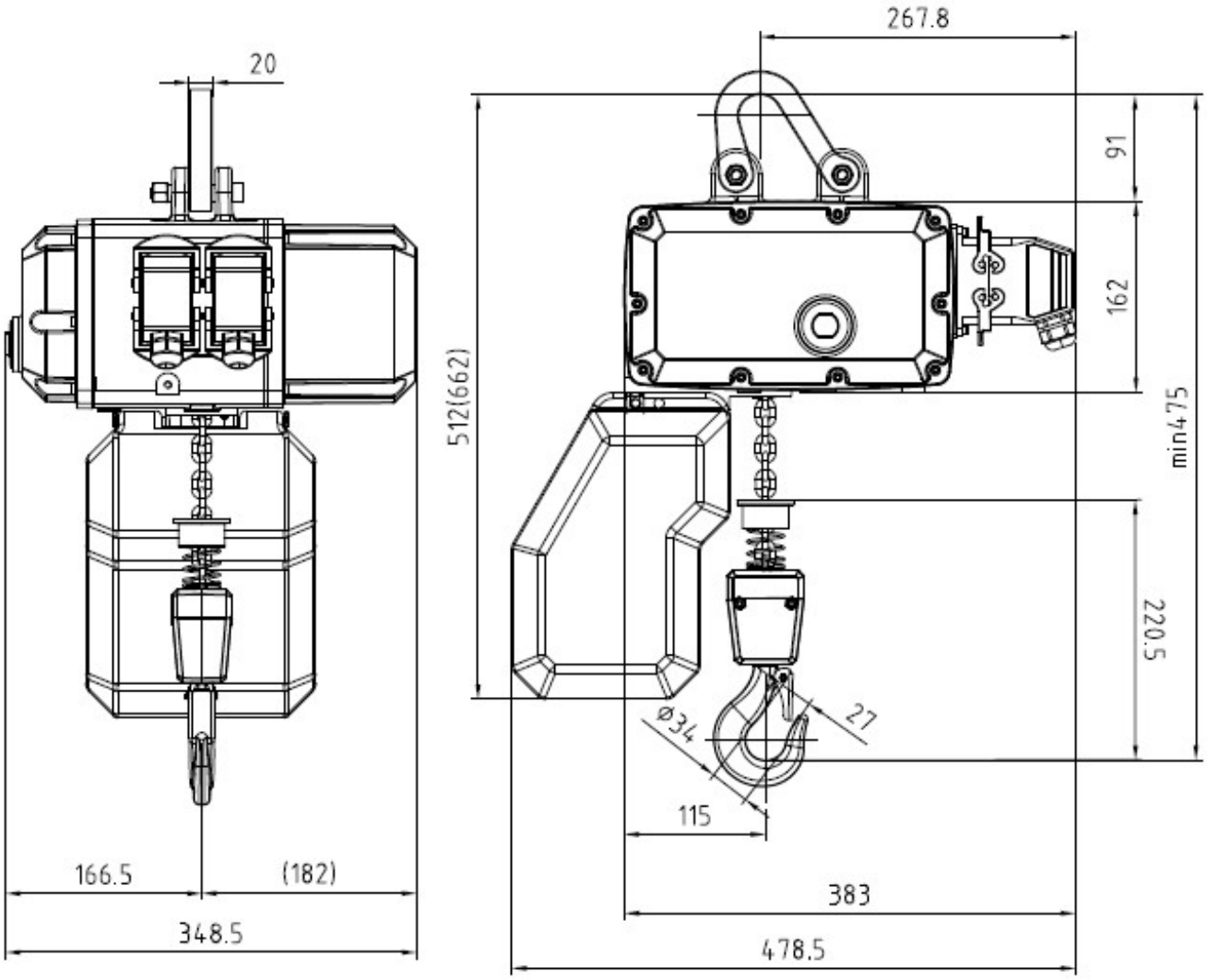
7.1 Fixed [F]type hoist

7.1.1 ECH1

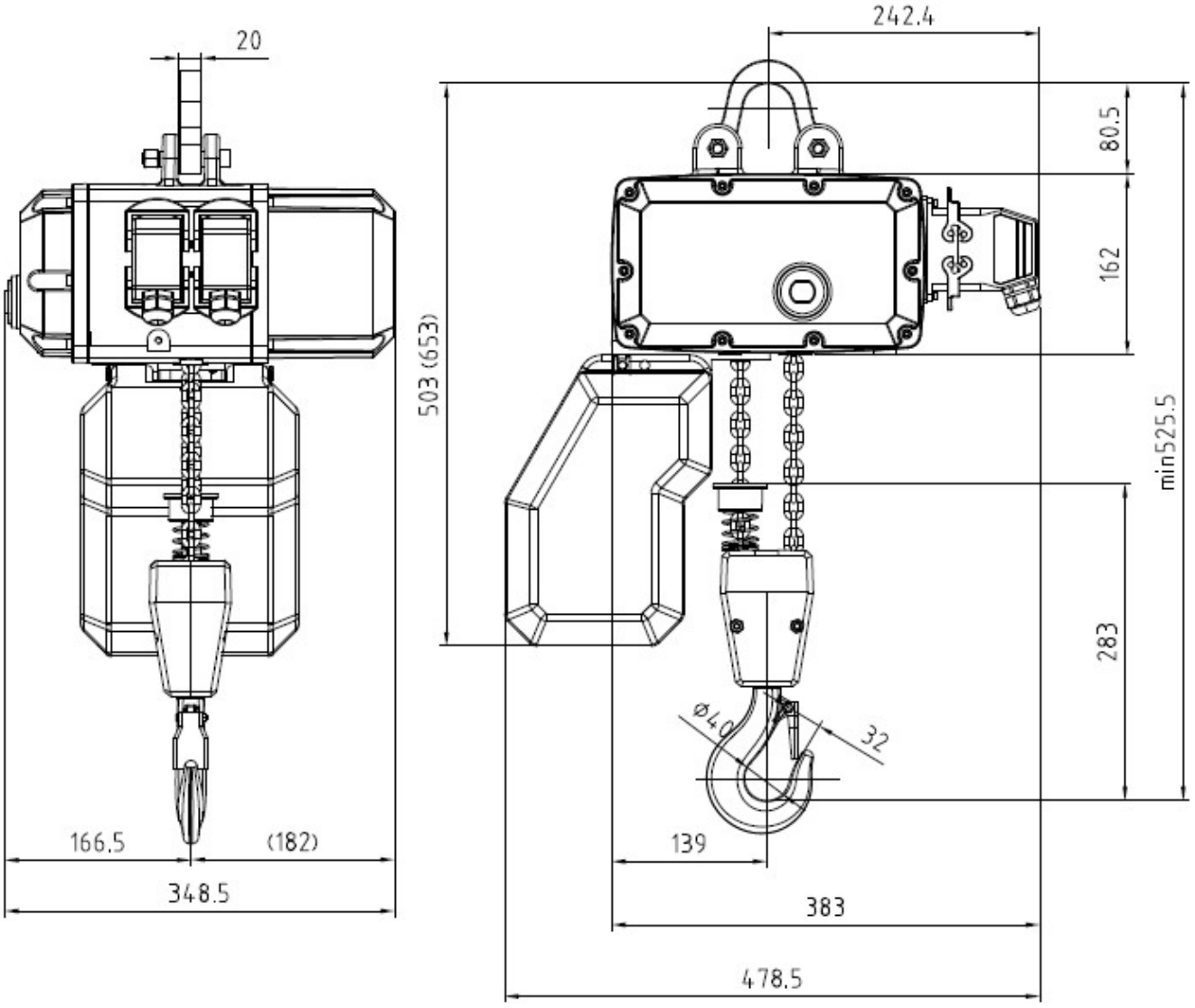
S.W.L	250/320kg	ECH1051 02508 ECH1051 02512 ECH1051 03208 ECH1051 03212
Type		



S.W.L	**500kg**	**ECH1051 05008**
Type		

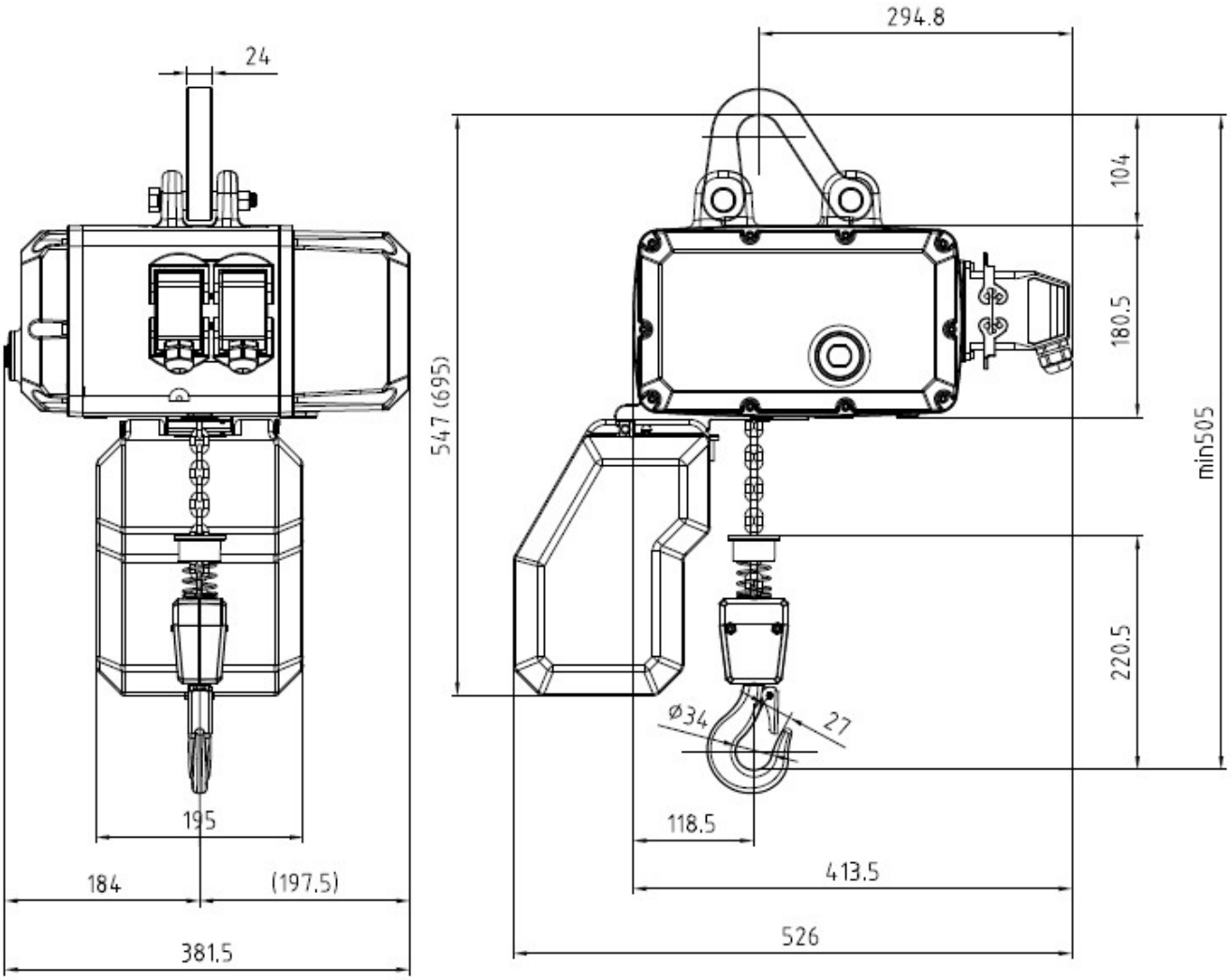


S.W.L	630/1000kg	ECH1052 06306
Type		ECH1052 10004

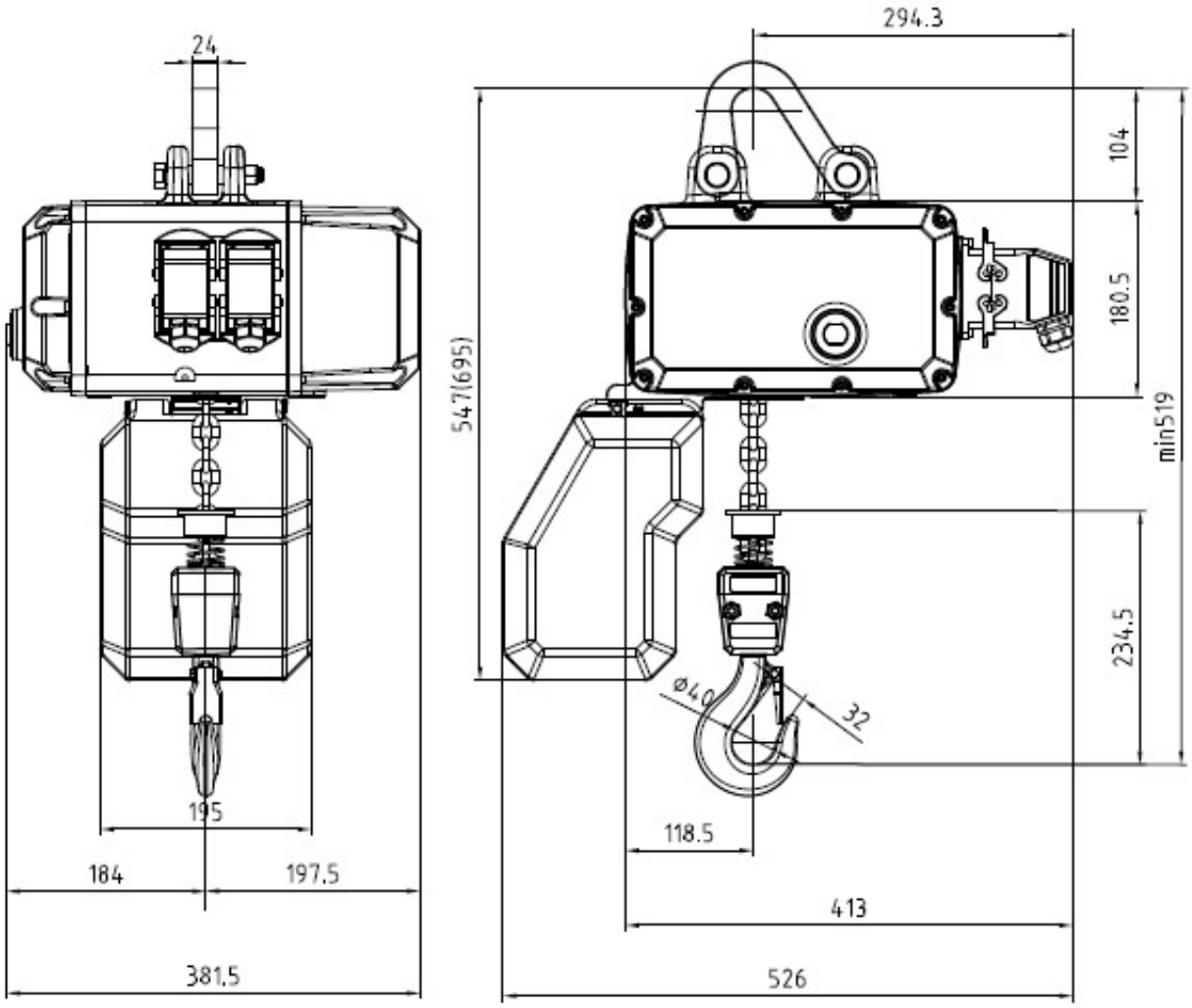


7.1.2 ECH2

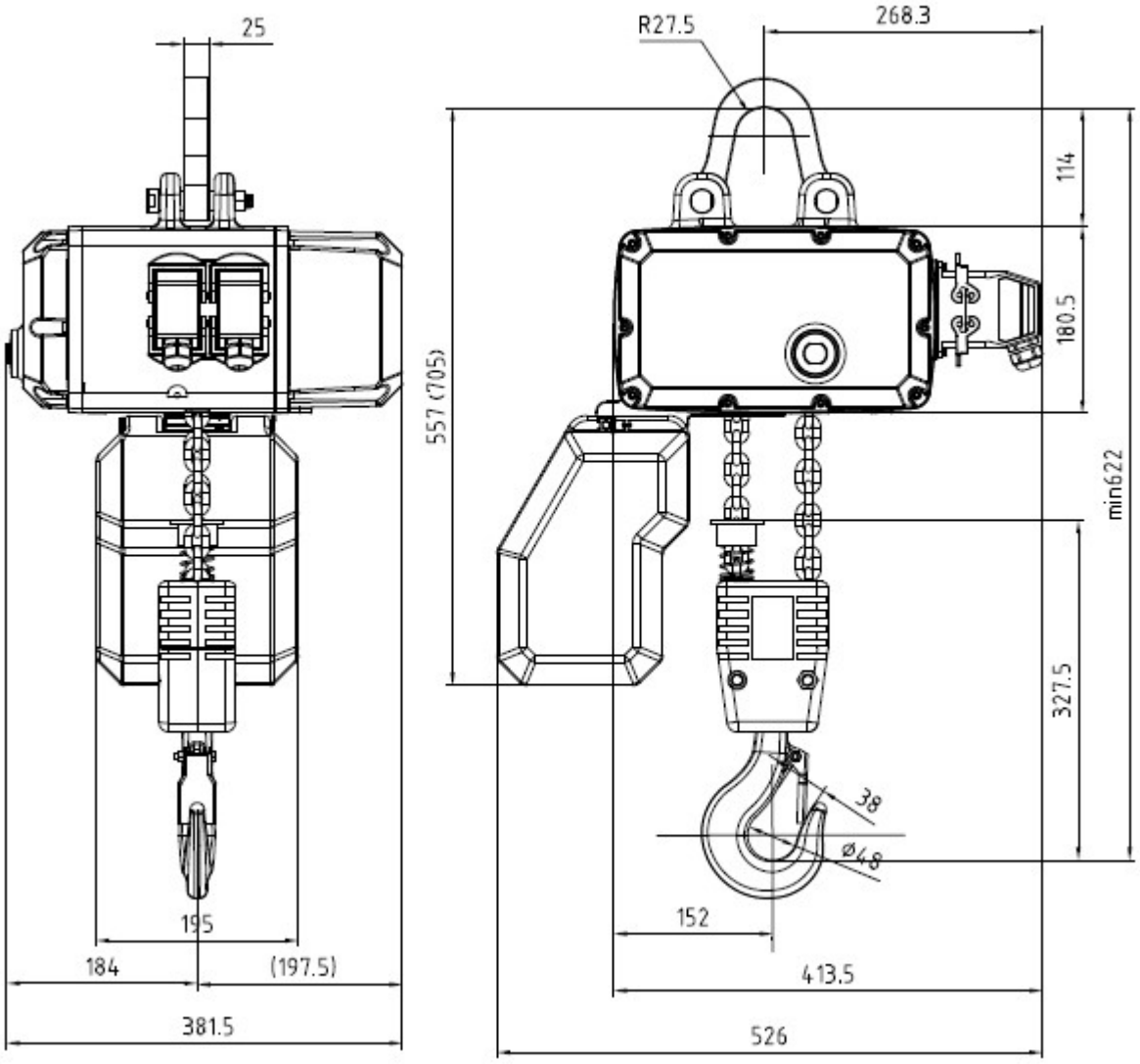
S.W.L	500/630kg	ECH2051 05016
Type		ECH2051 06316



S.W.L	500/630/1000kg	ECH2071 05008
Type		ECH2071 06308
		ECH2071 10008

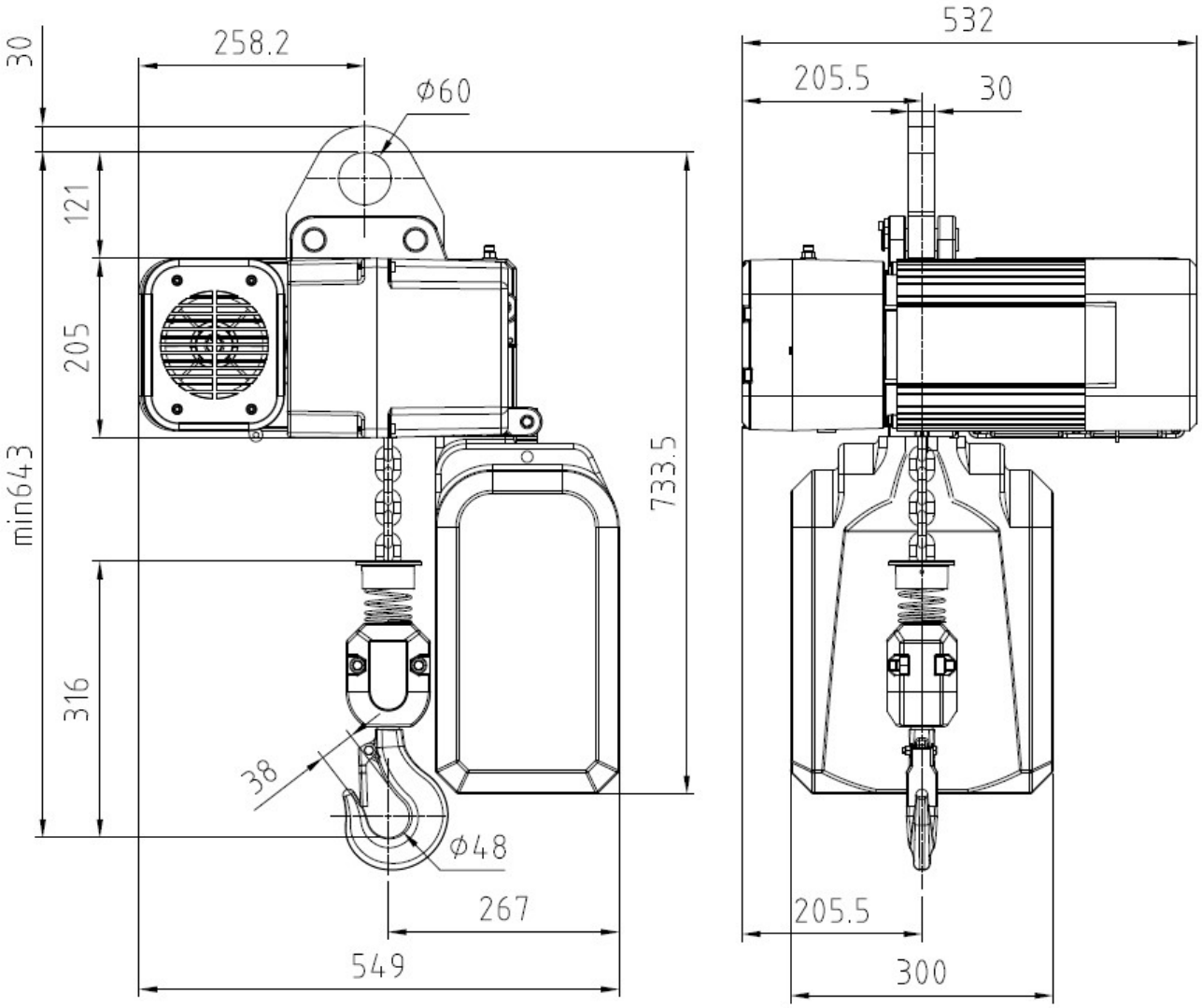


S.W.L	1600/2000kg	ECH2072 16004 ECH2072 20004
Type		

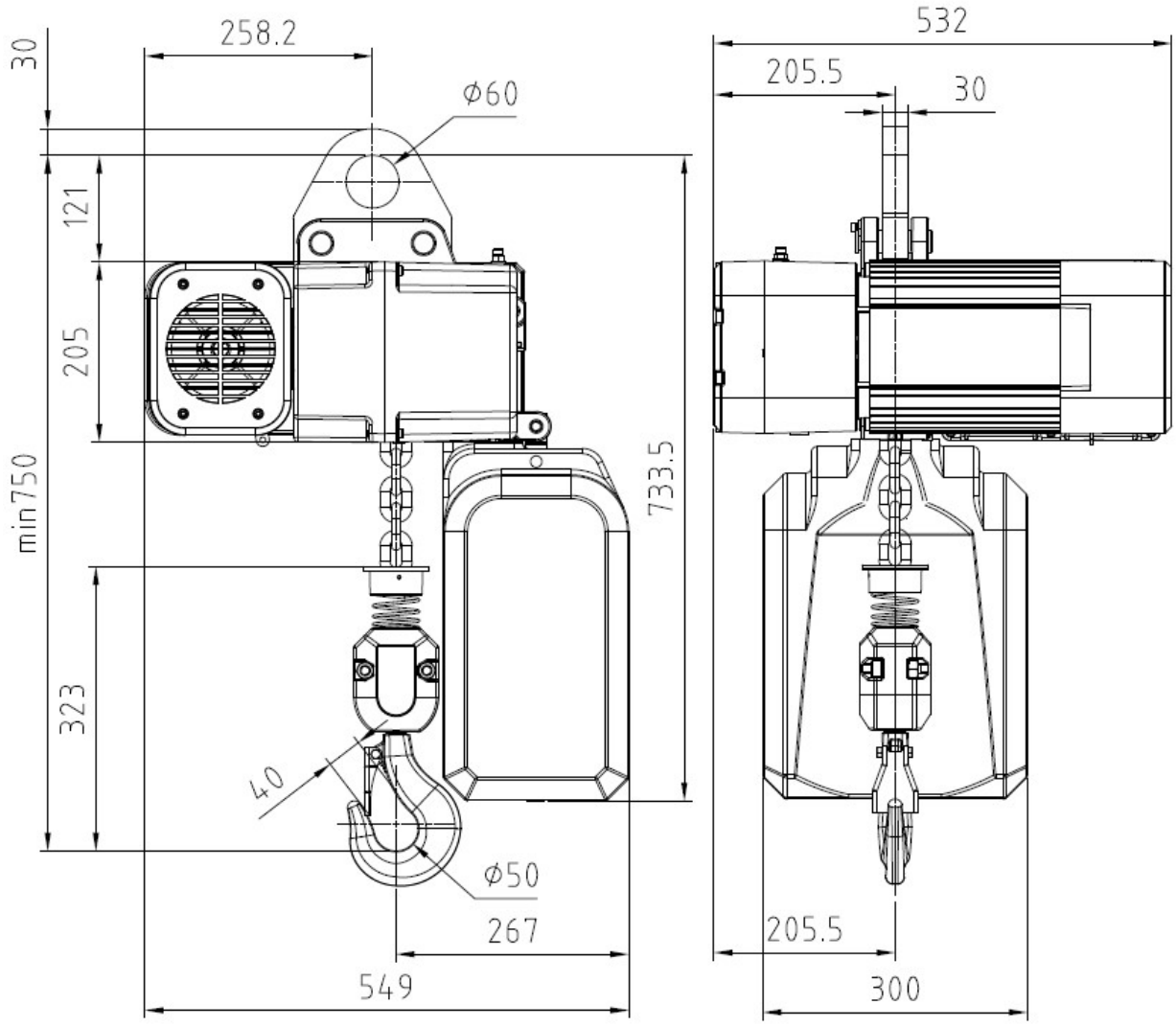


7.1.3 ECH5

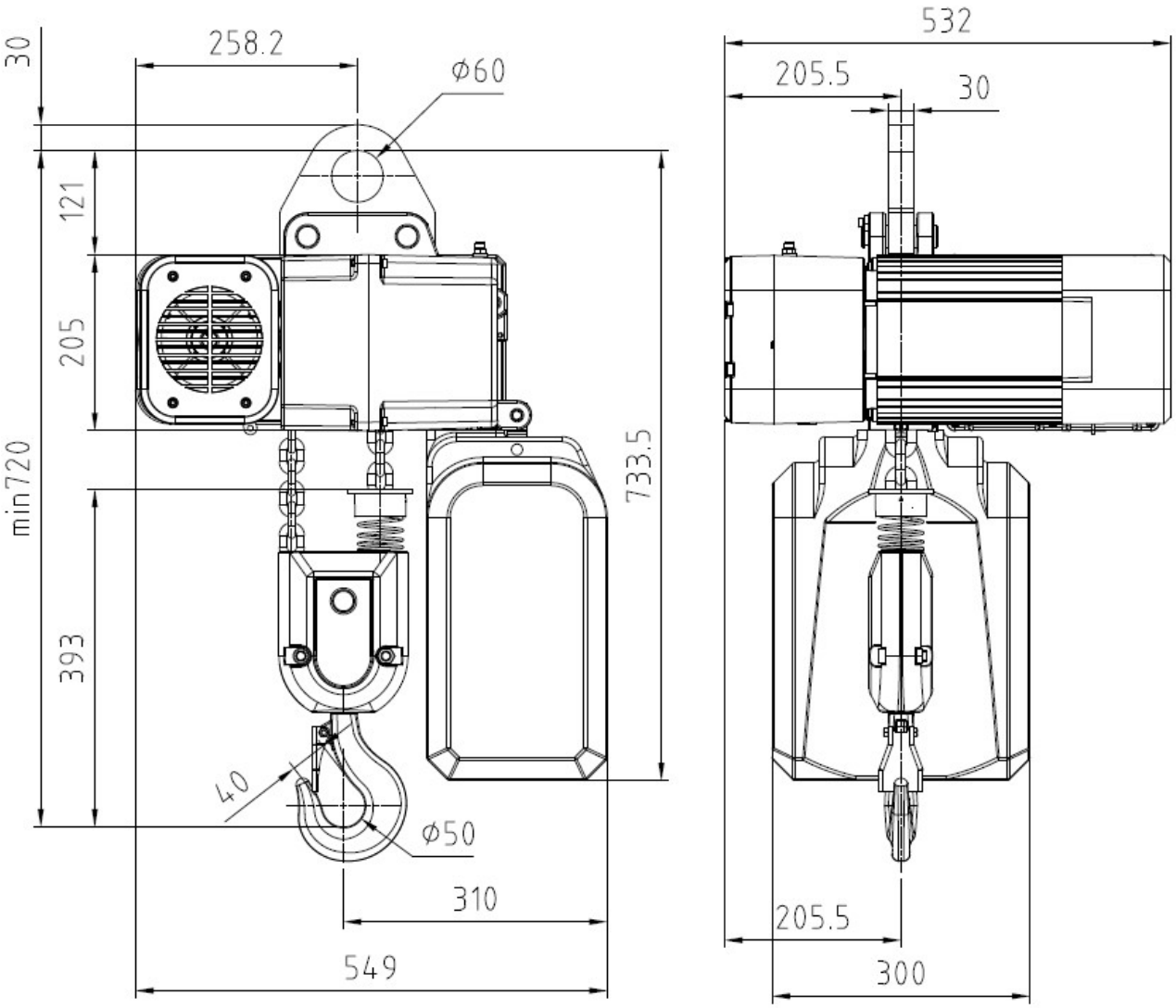
S.W.L	**1000/1600kg**	**ECH5091 10016**
Type		**ECH5091 16008**



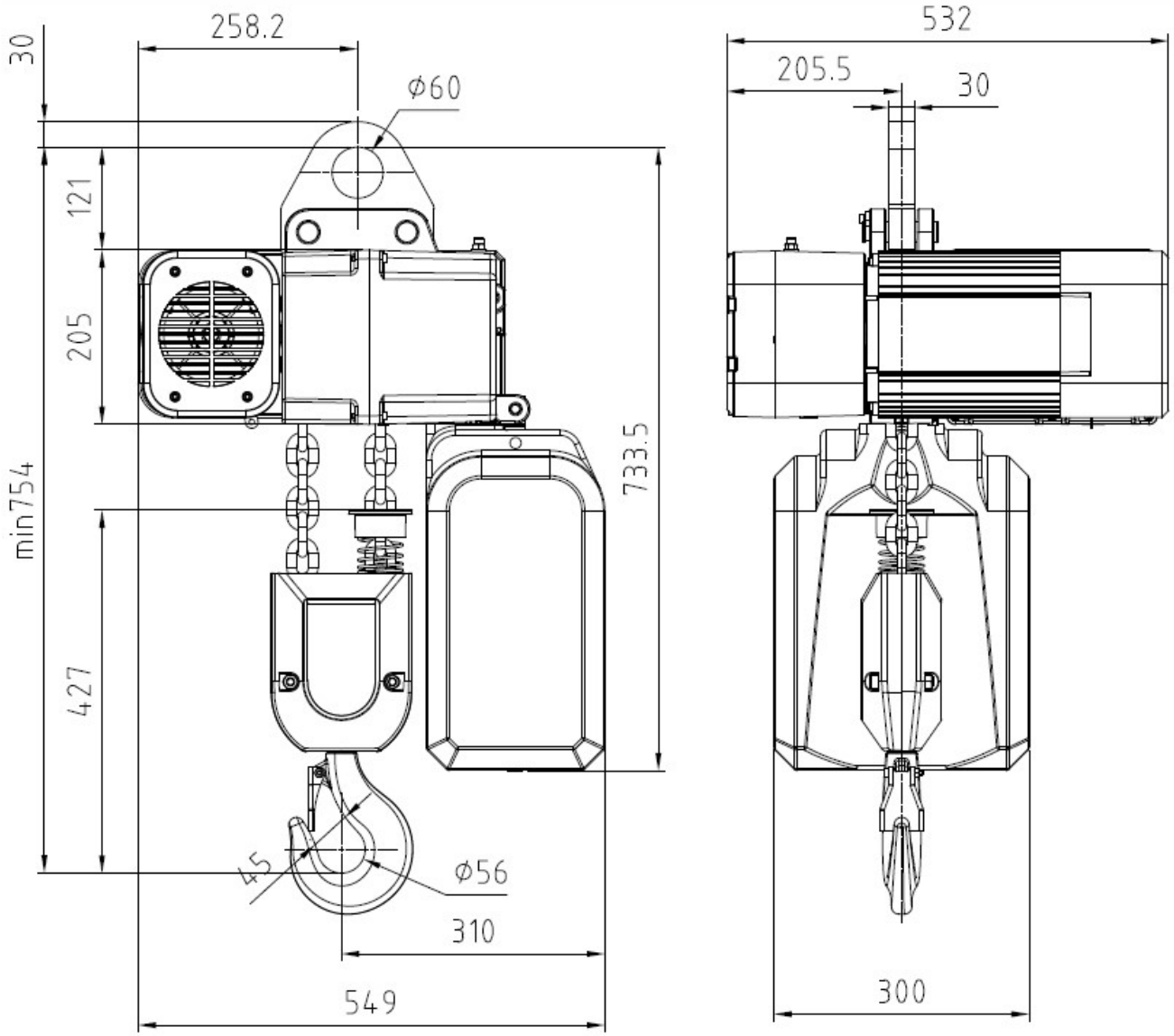
S.W.L	**2000/2500kg**	**ECH5111 20006**
Type		**ECH5111 20008**
		ECH5111 25006



S.W.L	**2500/3200kg**	**ECH5092 25004**
Type		**ECH5092 32004**



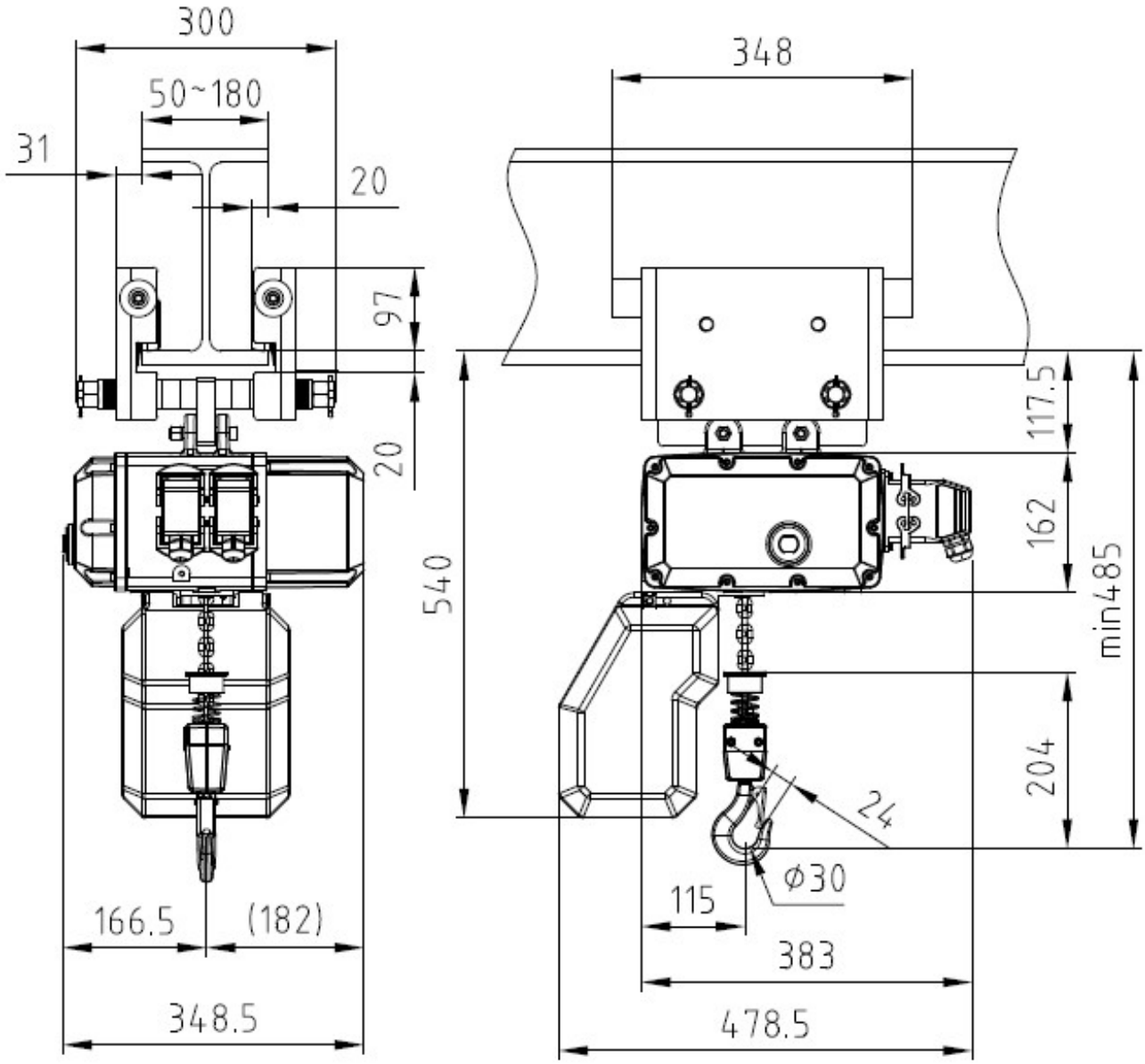
S.W.L	**4000/5000kg**	**ECH5112 40003**
Type		**ECH5112 40004**
		ECH5112 50003



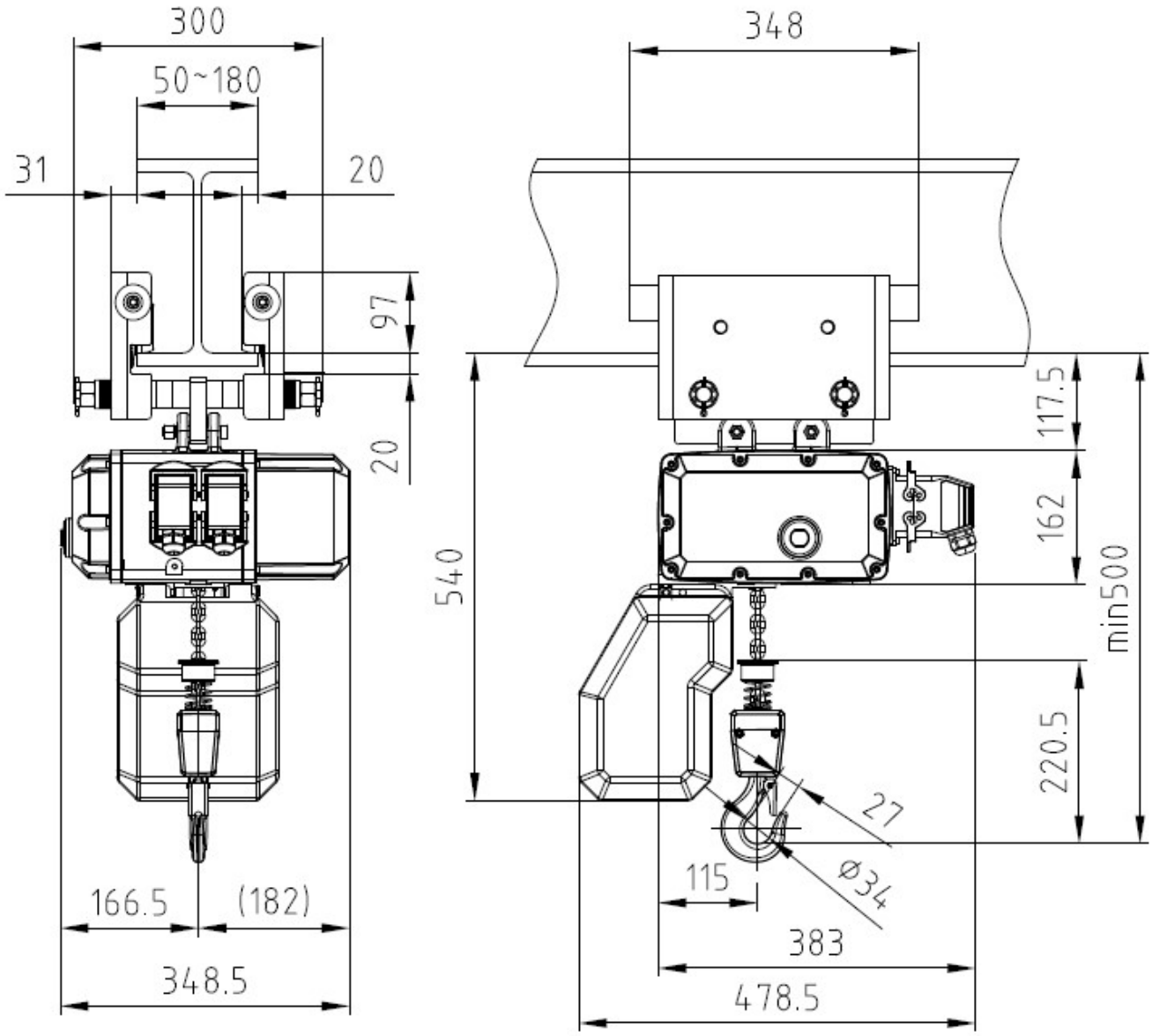
7.2 Push trolley [P] type hoist

7.2.1 ECH1

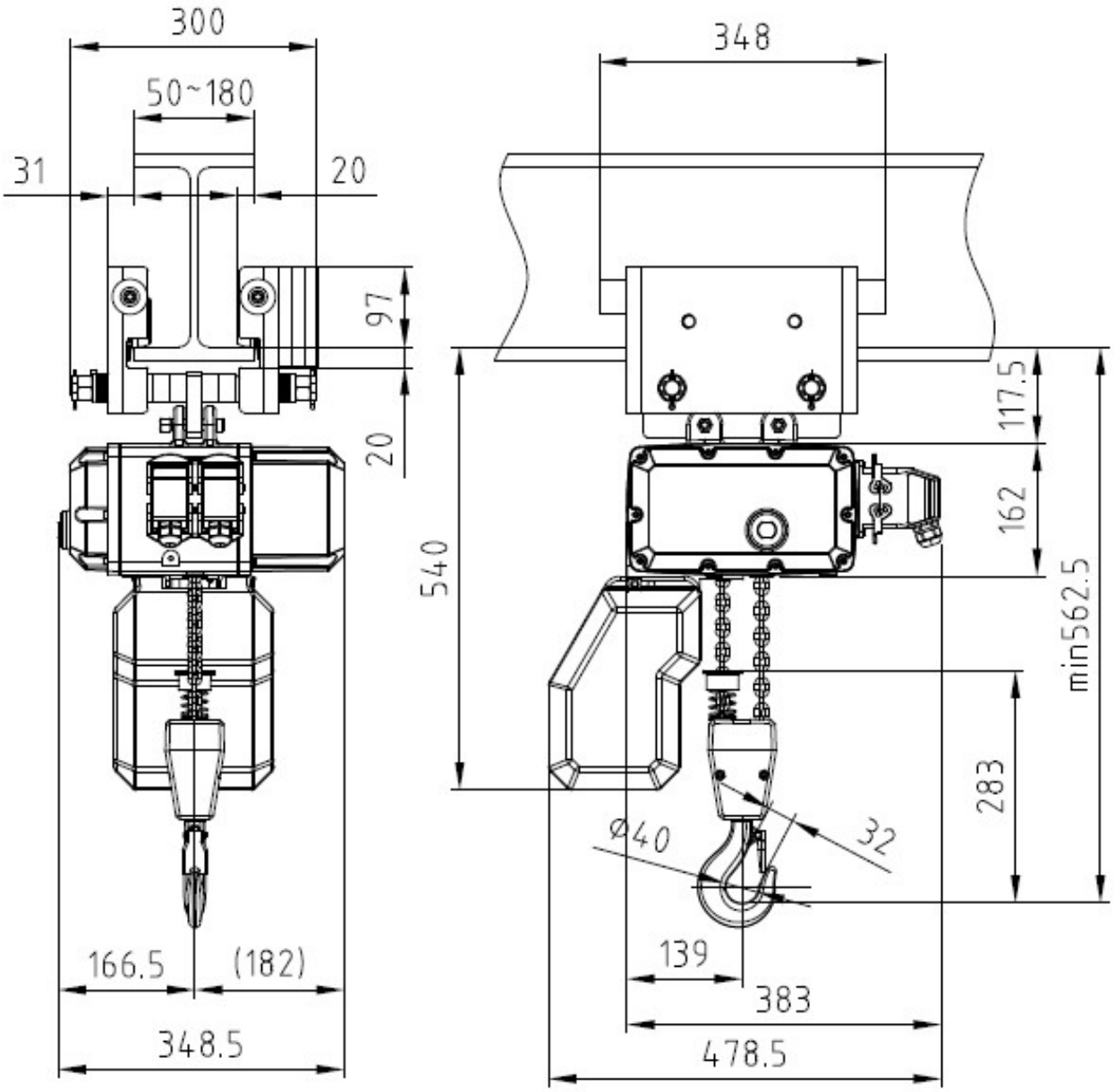
S.W.L	**250/320kg**	**ECH1051 02508**
Type		**ECH1051 02512**
		ECH1051 03208
		ECH1051 03212



S.W.L	**500kg**	**ECH1051 05008**
Type		

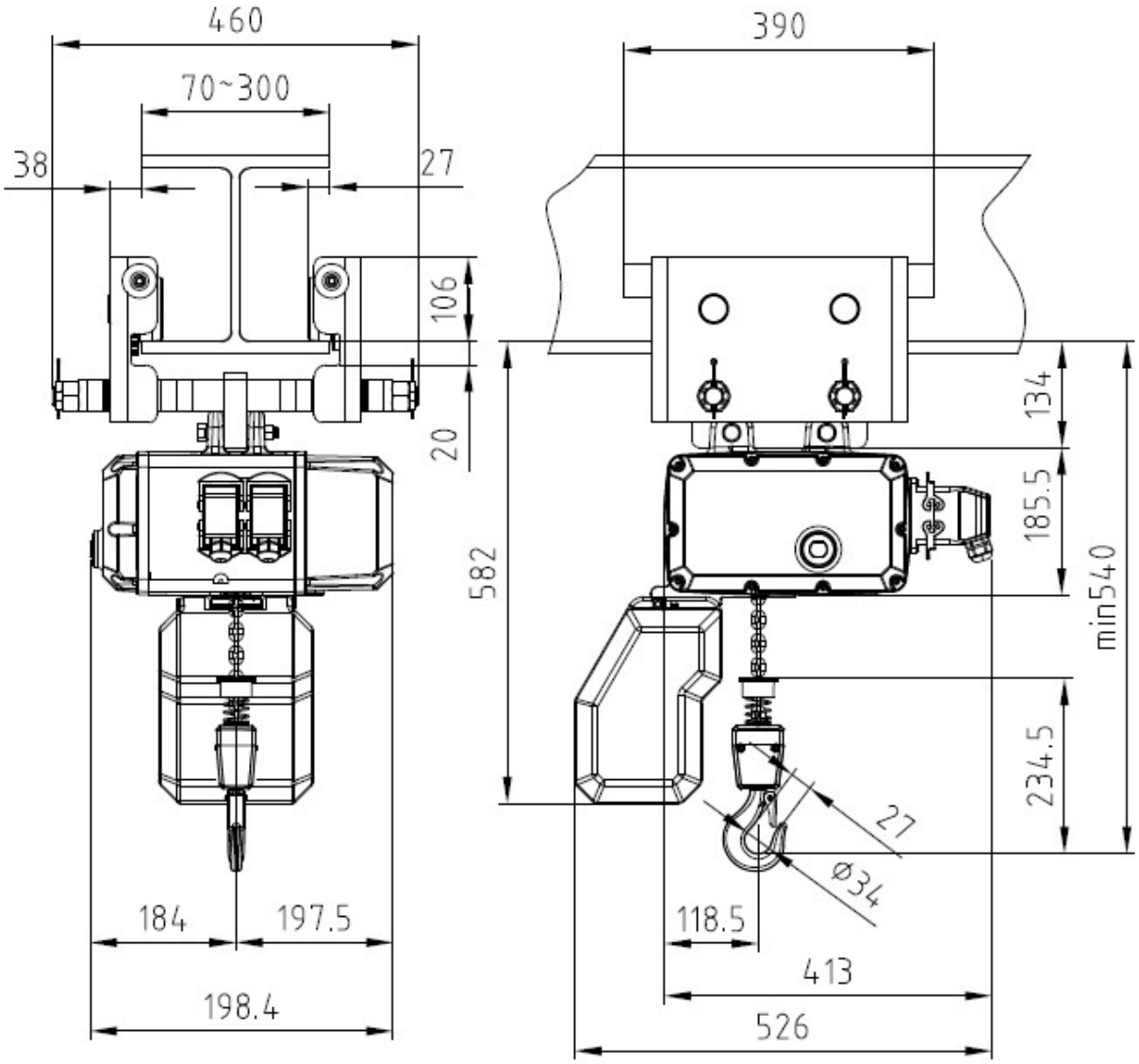


S.W.L	**630/1000kg**	**ECH1052 06306**
Type		**ECH1052 10004**

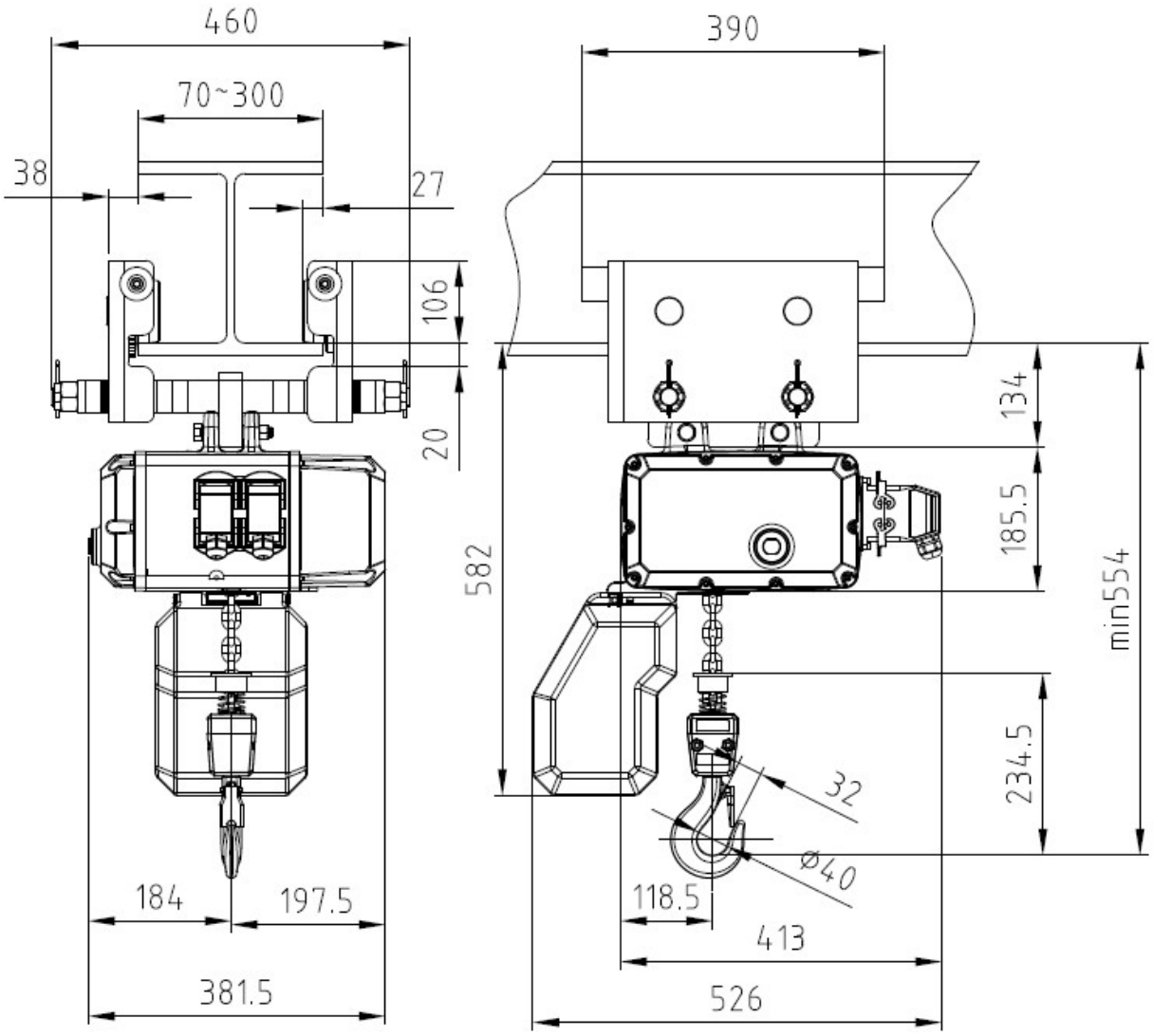


7.2.2 ECH2

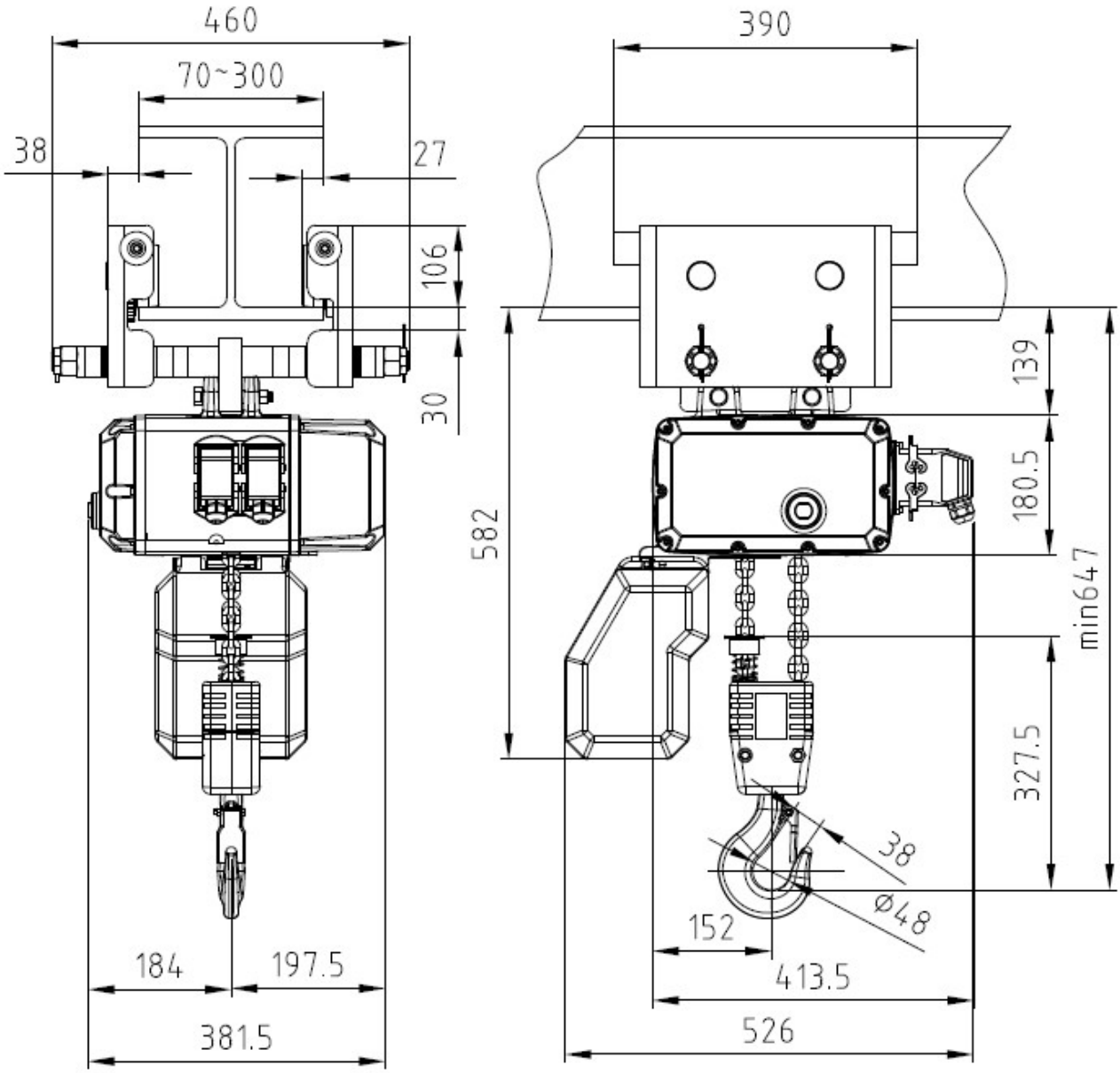
S.W.L	**500/630kg**	**ECH2051 05016**
Type		**ECH2051 06316**



S.W.L	**500/630/1000kg**	**ECH2071 05008**
Type		**ECH2071 06308**
		ECH2071 10008



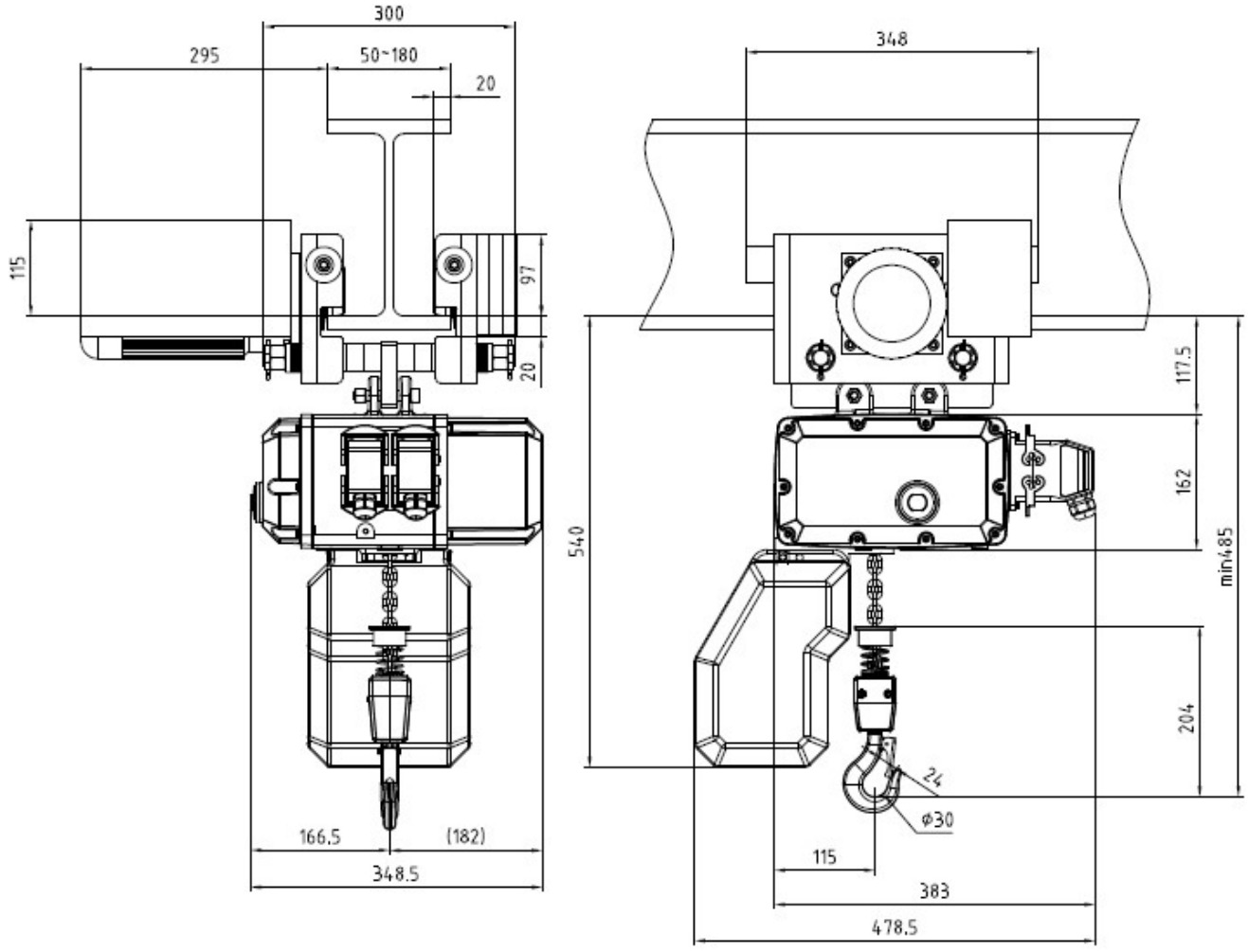
S.W.L	**1600/2000kg**	**ECH2072 16004**
Type		**ECH2072 20004**



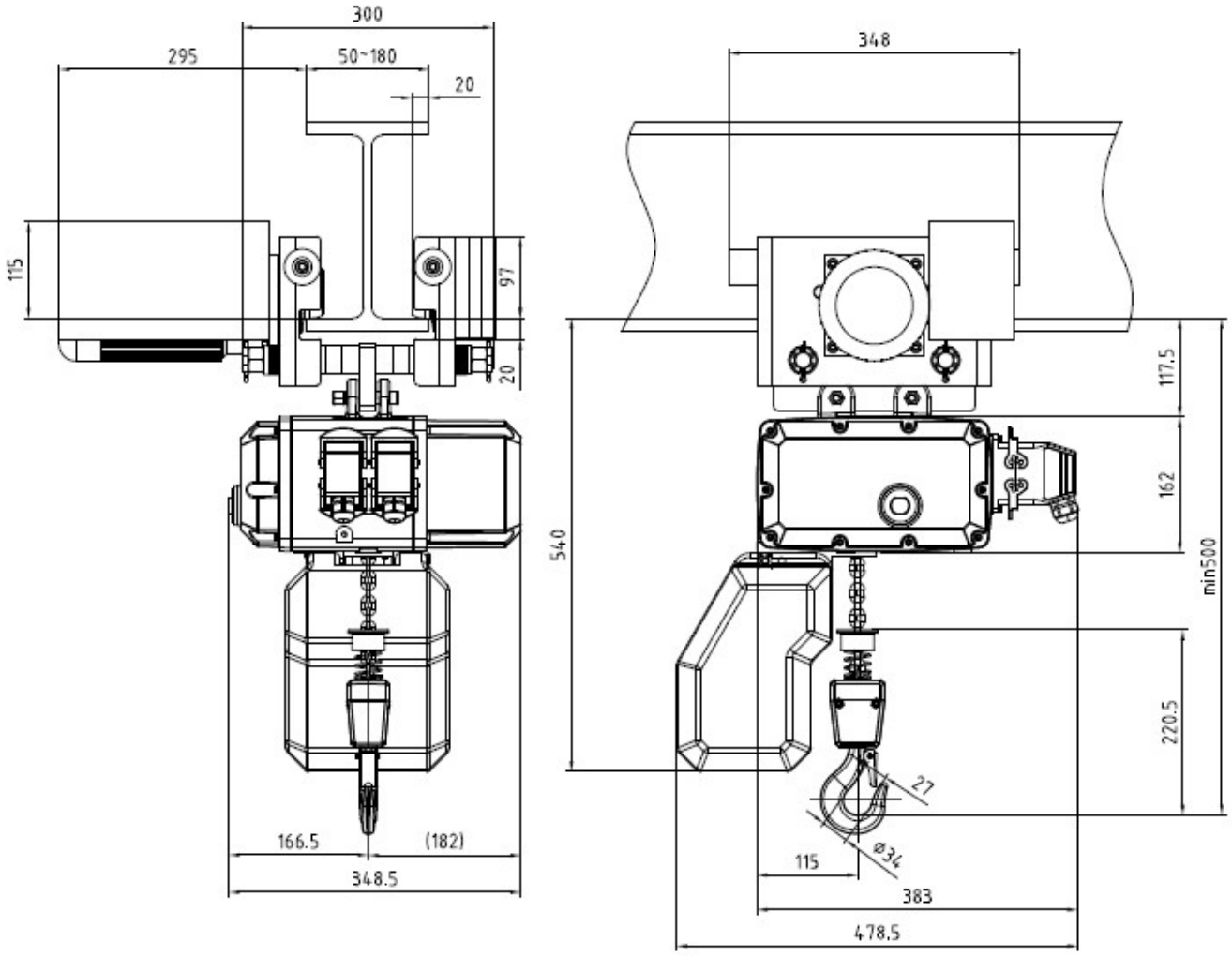
7.3 Monorail [M] type and Crane [E] type hoist

7.3.1 ECH1

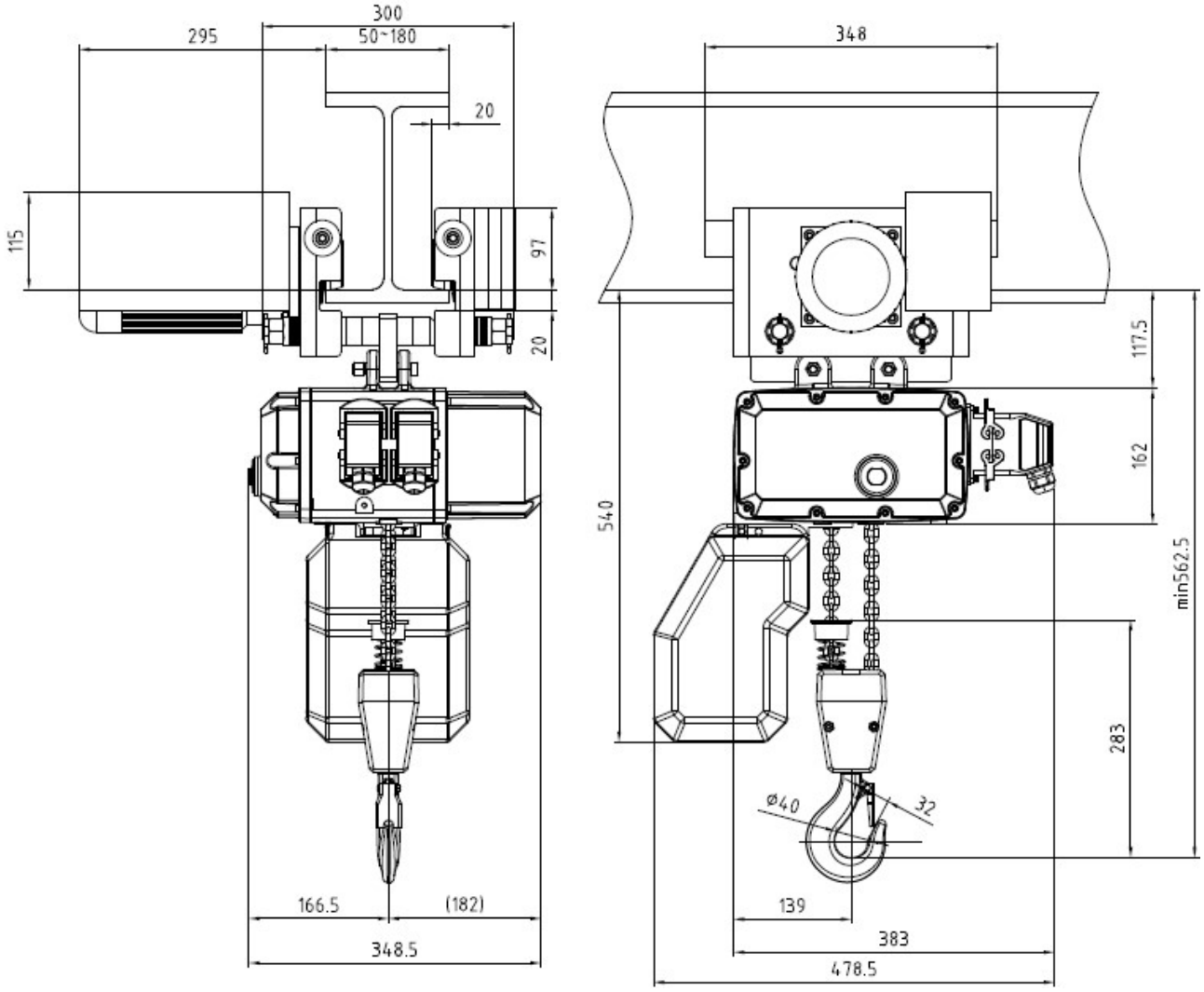
S.W.L	**250/320kg**	ECH1051 02508 ECH1051 02512 ECH1051 03208 ECH1051 03212
Type		



S.W.L	500kg	ECH1051 05008
Type		

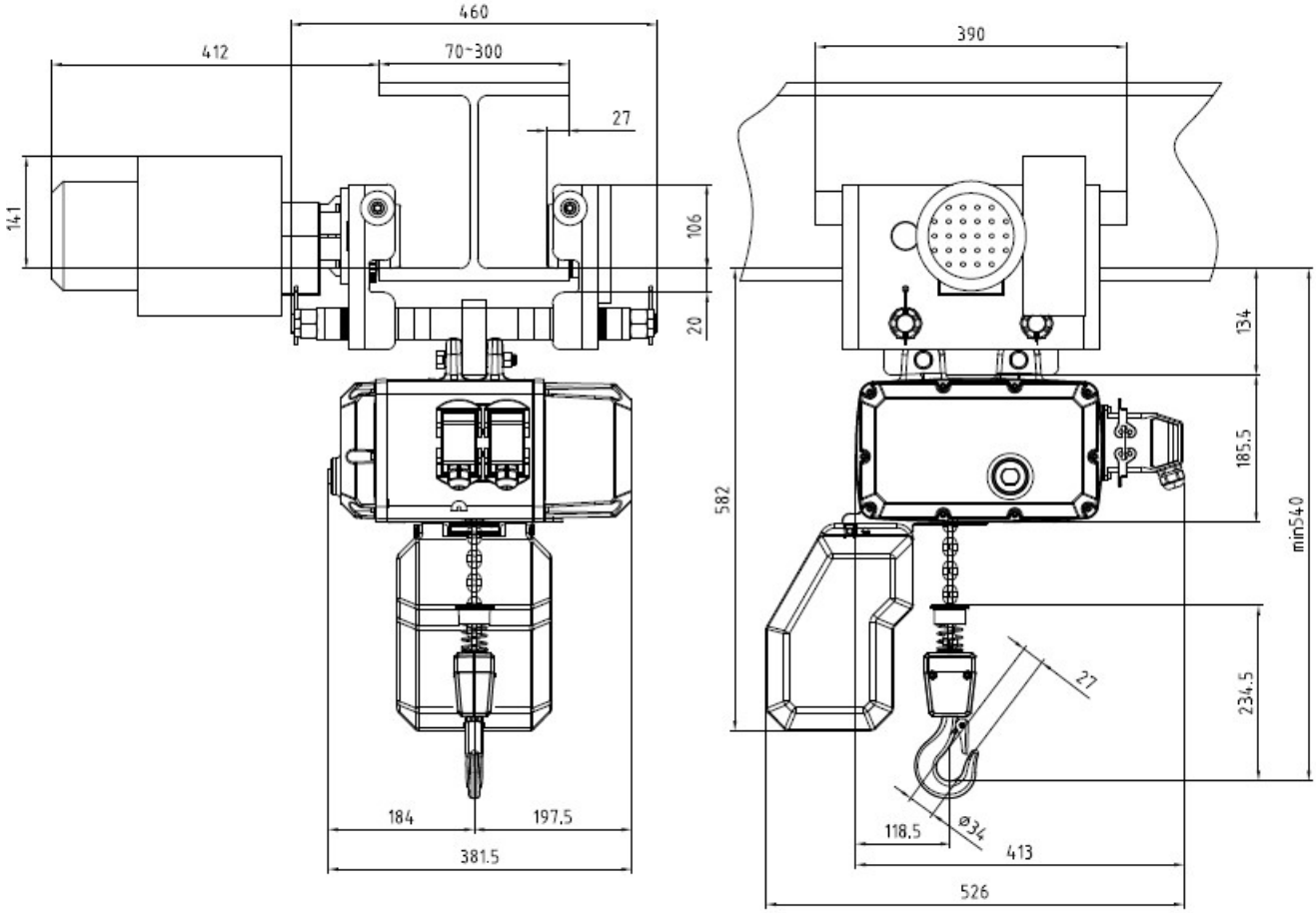


S.W.L	**630/1000kg**	**ECH1052 06306**
Type		**ECH1052 10004**

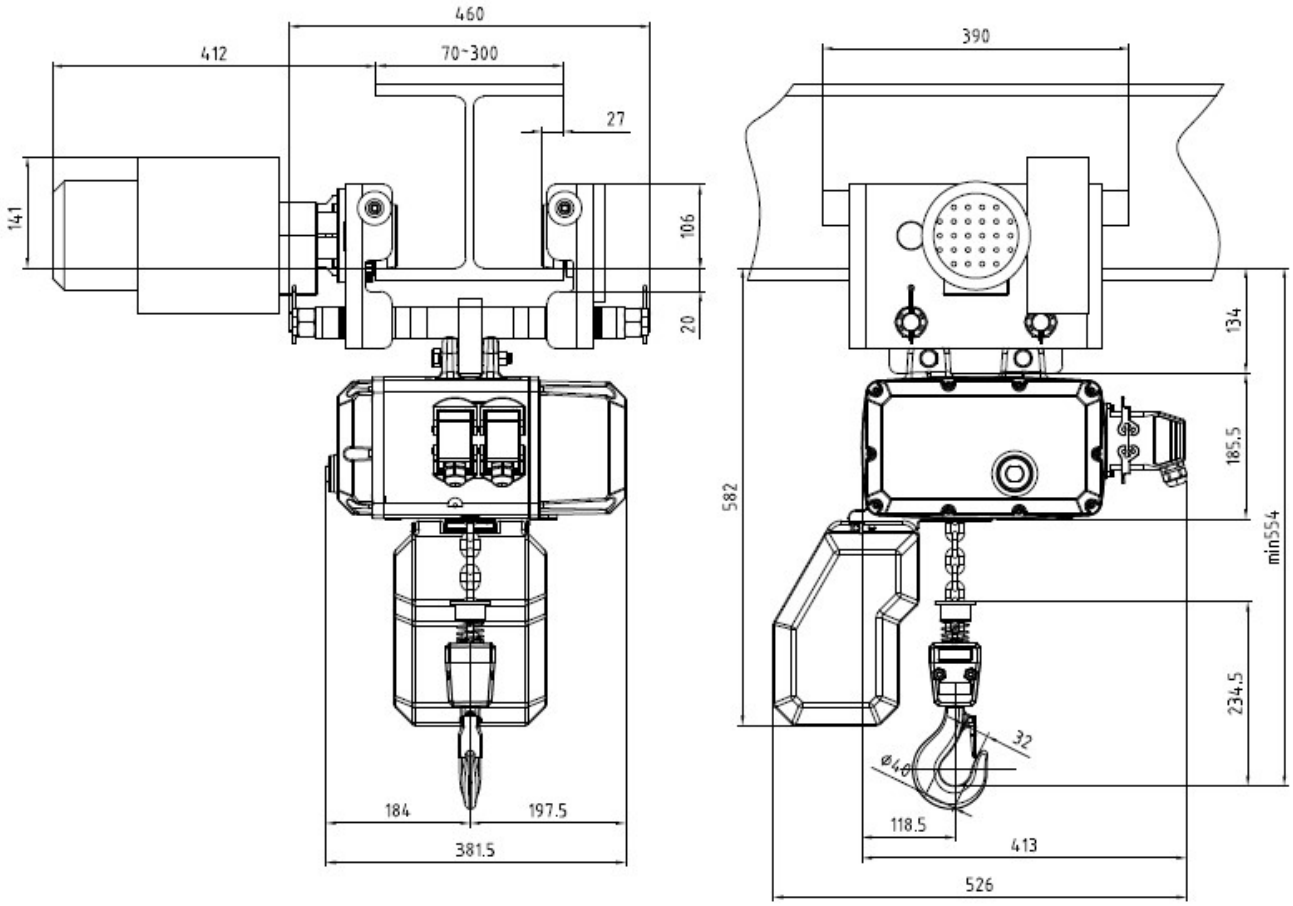


7.3.2 ECH2

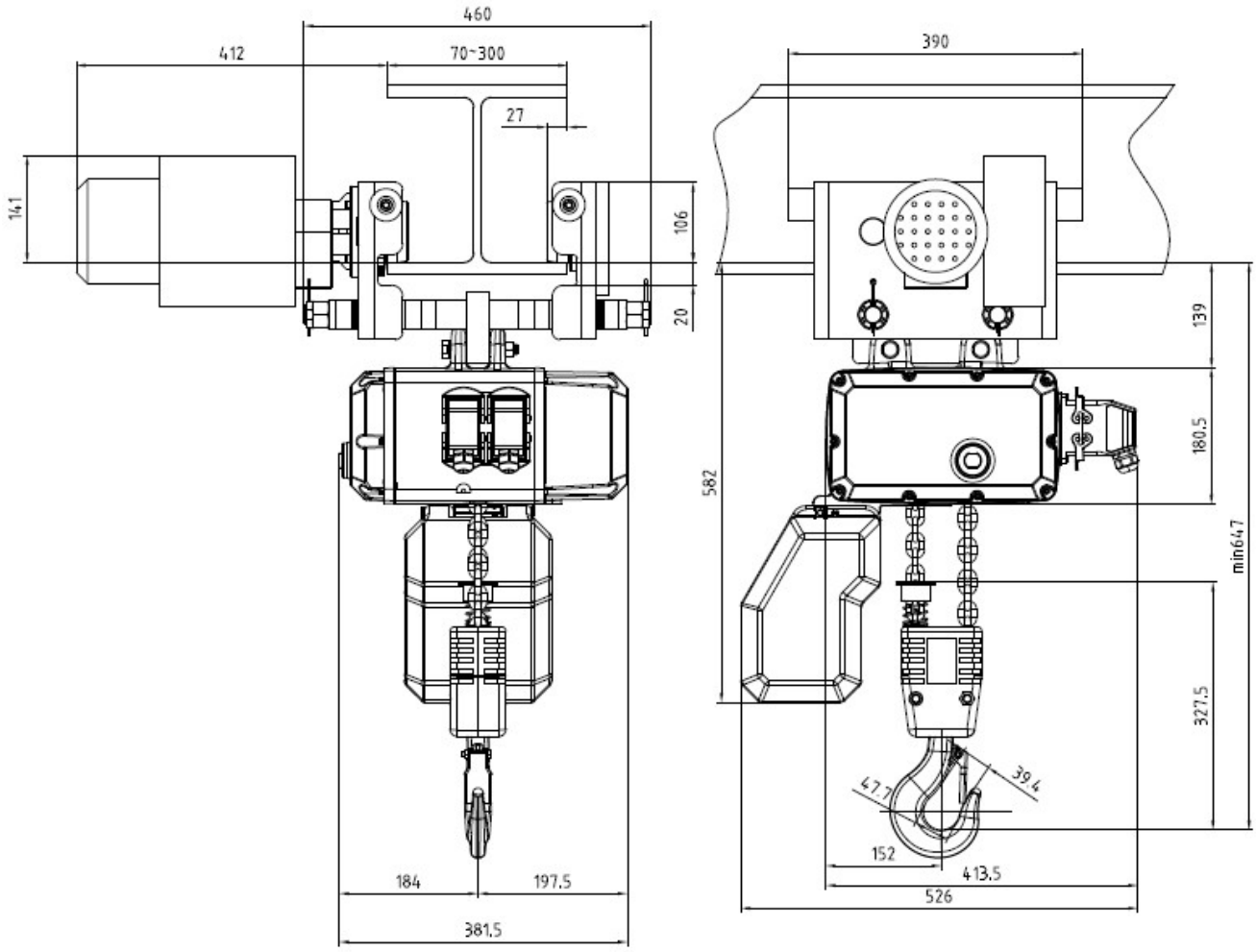
S.W.L	**500/630kg**	**ECH2051 05016**
Type		**ECH2051 06316**



S.W.L	**500/630/1000kg**	**ECH2071 05008**
Type		**ECH2071 06308**
		ECH2071 10008

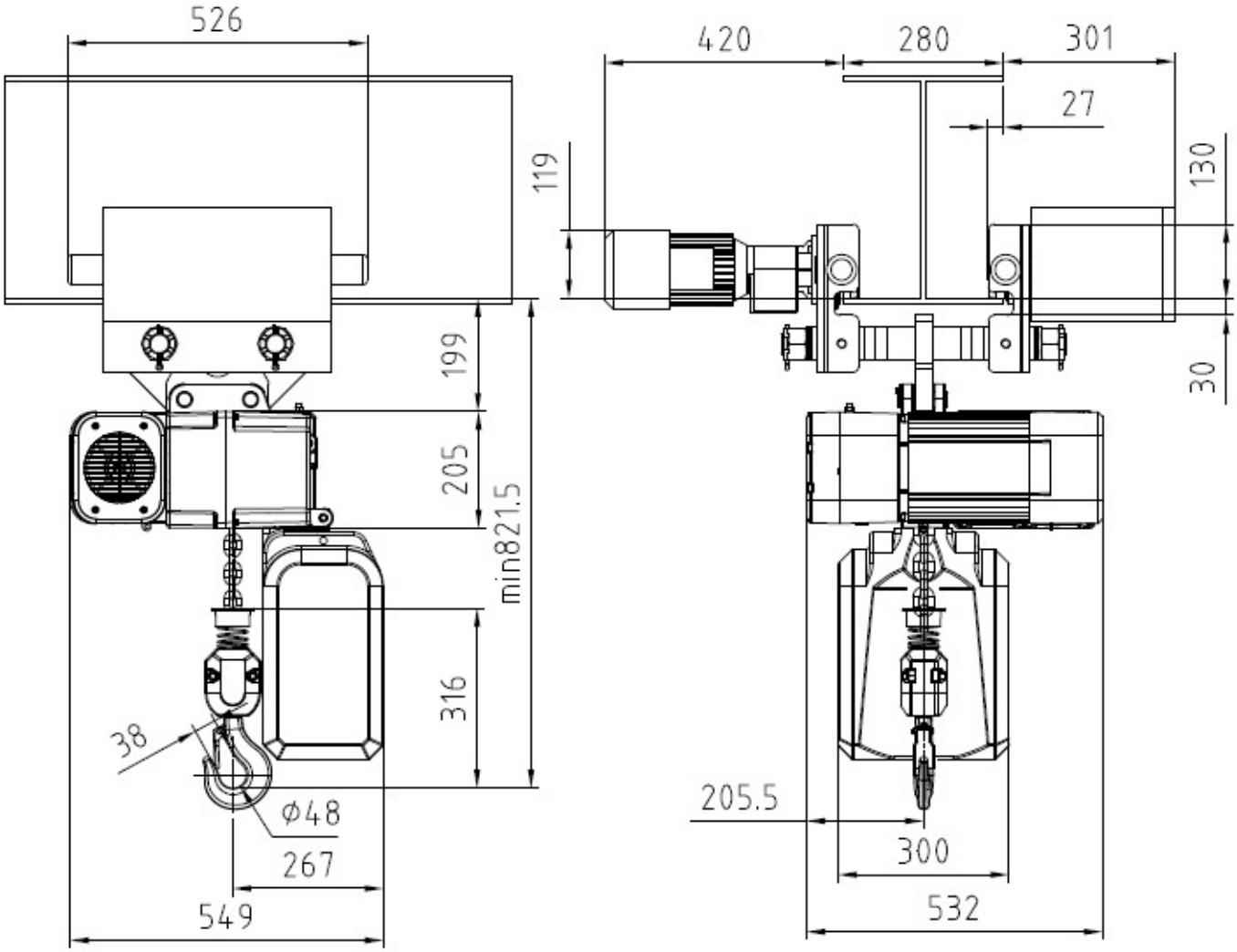


S.W.L	**1600/2000kg**	**ECH2072 16004**
Type		**ECH2072 20004**

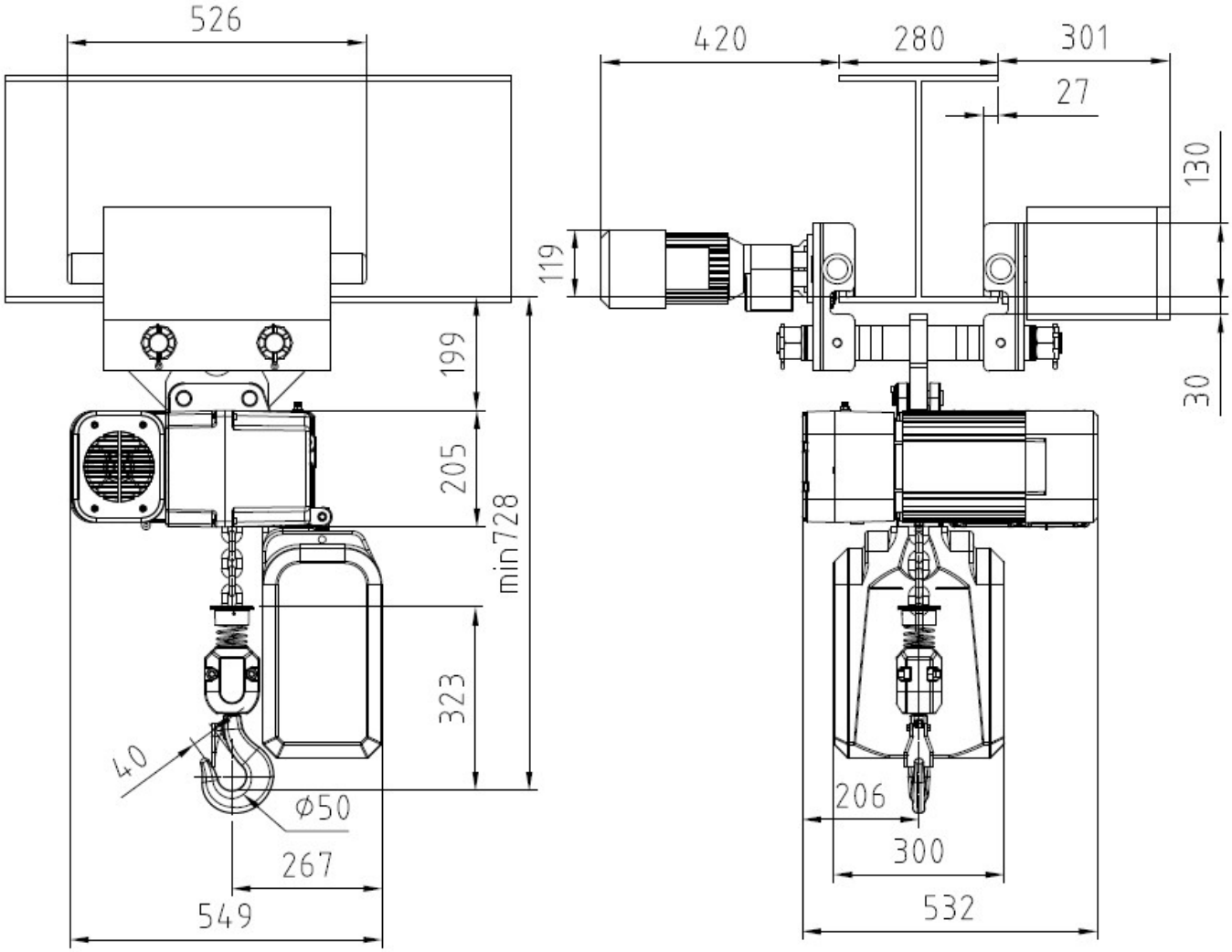


7.3.3 ECH5

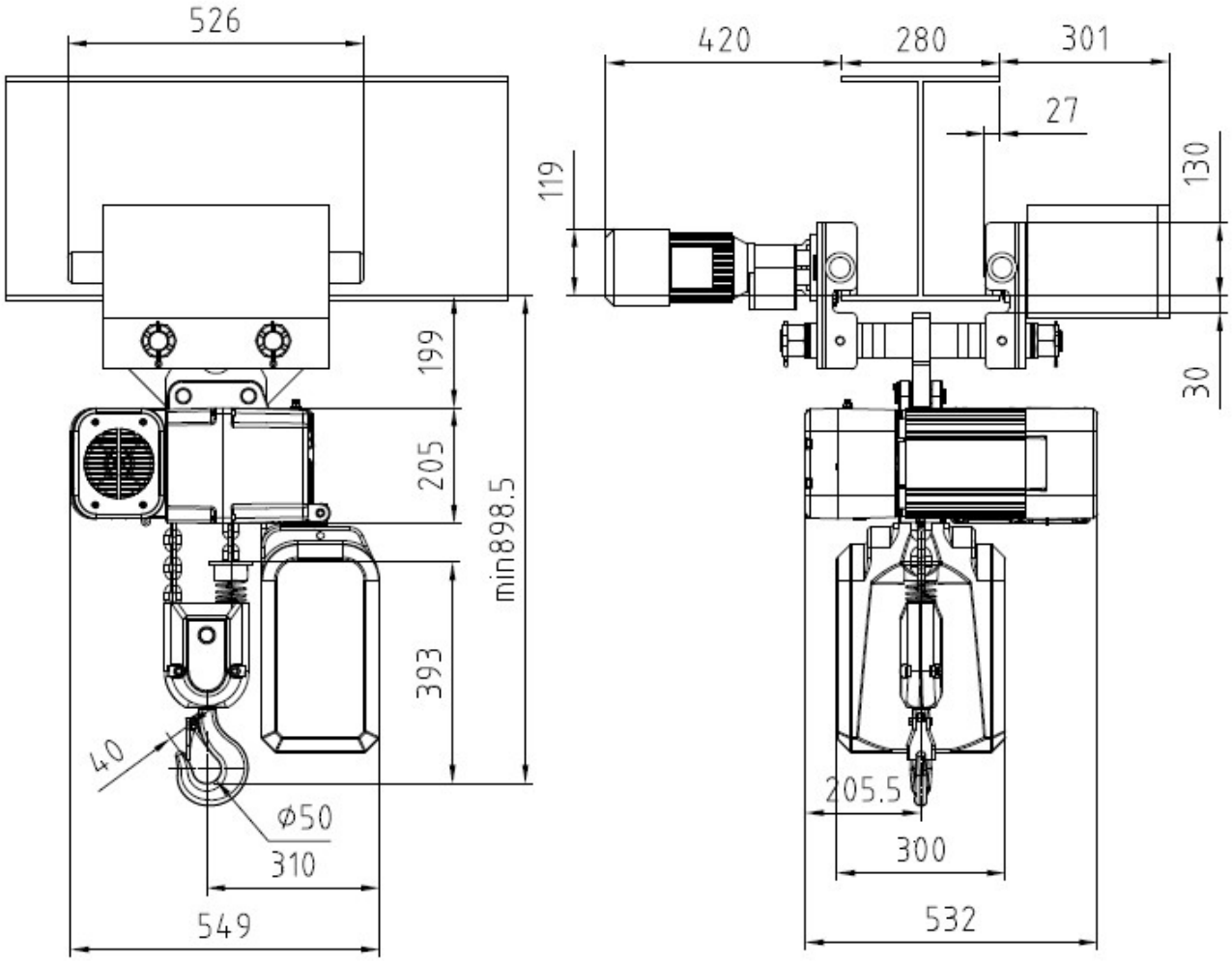
S.W.L	**1000/1600kg**	**ECH5091 10016**
Type		**ECH5091 16008**



S.W.L	**2000/2500kg**	**ECH5111 20006**
Type		**ECH5111 20008**
		ECH5111 25006



S.W.L	**2500/3200kg**	**ECH5092 25004**
Type		**ECH5092 32004**



S.W.L	**4000/5000kg**	**ECH5112 40003**
Type		**ECH5112 40004**
		ECH5112 50003