



ABM ELECTRIC CHAIN HOIST

TRIDENT PRECISION INTERNATIONAL
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1. Advantages of ABM Chain Hoists



Precise Safety Clutch

- easily adjustable → minimizes installation time
- maximum wear resistance, operates in oil bath → minimal cost for maintenance and repair
- Overload safety → extends life of gearbox and motor

Foolproof Electrical Connections

- Quick disconnect plugs → easy connections during installation
→ foolproof design
→ no electrical contractor needed
- Low voltage control (optional) → maximum operator safety due to use of low voltage of 48 V

Modular Hoist Suspension

- Easy exchange of eye bolt or swivel top hook suspension → minimizes installation time

Outstanding Flexibility

- Easy switch from 1 to 2 falls operation → quick adaptation at installation site

2. Major Hoist Components



Chain Guide

Design: The upper chain guide is wear resistant plastic, the lower one steel.

Gearbox

Design: 3-stages, helical gearbox in flat design. Therefore especially low noise.
Gears: All gear teeth are ground or milled and heat treated.

Housing

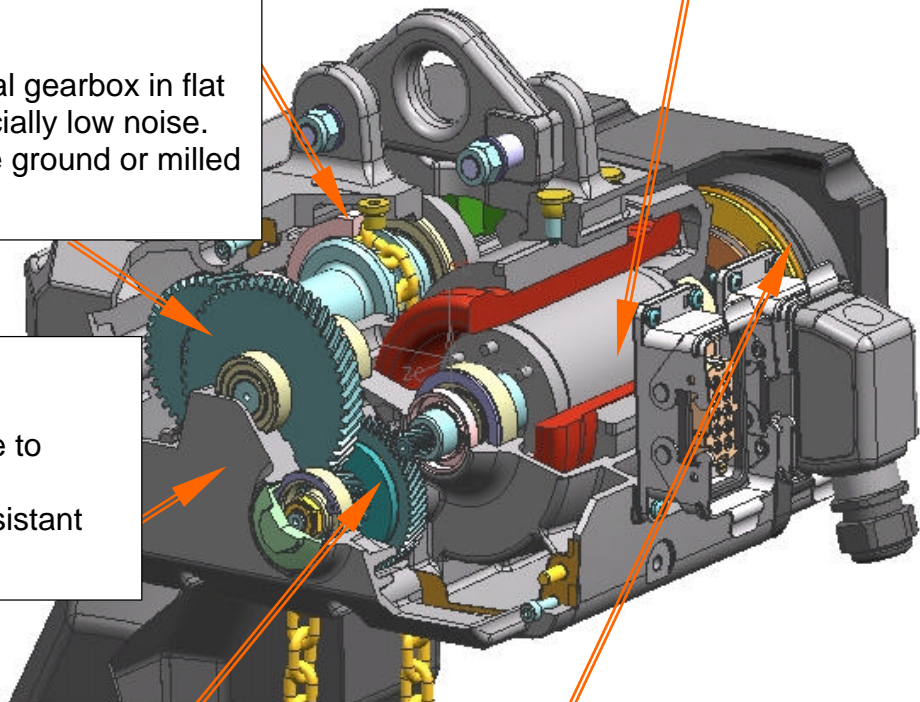
Design: Low weight due to aluminum alloy.
Motor cover is shock-resistant plastic.

Safety Clutch

Design: Operates in oil bath with minimal resistance force variations.
Adjustment: Set at factory at 1.3 to 1.4 times rated load.
Life Expectancy: Minimum life expectancy of 800 operating hours at FEM 1Am duty cycle.
Adjustment free for approximately 20,000 slip cycles at an average activation time of 1,5 sec.

Motor

Power: CH1 0,09/0,36kW
CH2 0,18/0,75kW
CH3 0,45/1,90kW
Winding: 1-speed – 2 poles
2-speed – 8/2 poles
Duty Cycle: Intermittent S3
Isolation Class: F
Protection: IP55



Brake

Design: Corrosion resistant, Electromagnetical brake.
Brake-Voltage: 85 / 95V DC (depending on power supply)
Operating Time: 100%
Number of Cycles until 1st Adjustment: $1,0 \times 10^6$ full load cycles (50% lifting and 50% lowering)
Reaction Time for Brake Activation: < 80ms after DC circuit switch
Stopping Distance: < 40mm at high and low speeds

3. ABM Electric Chain Hoist Program



Program Overview

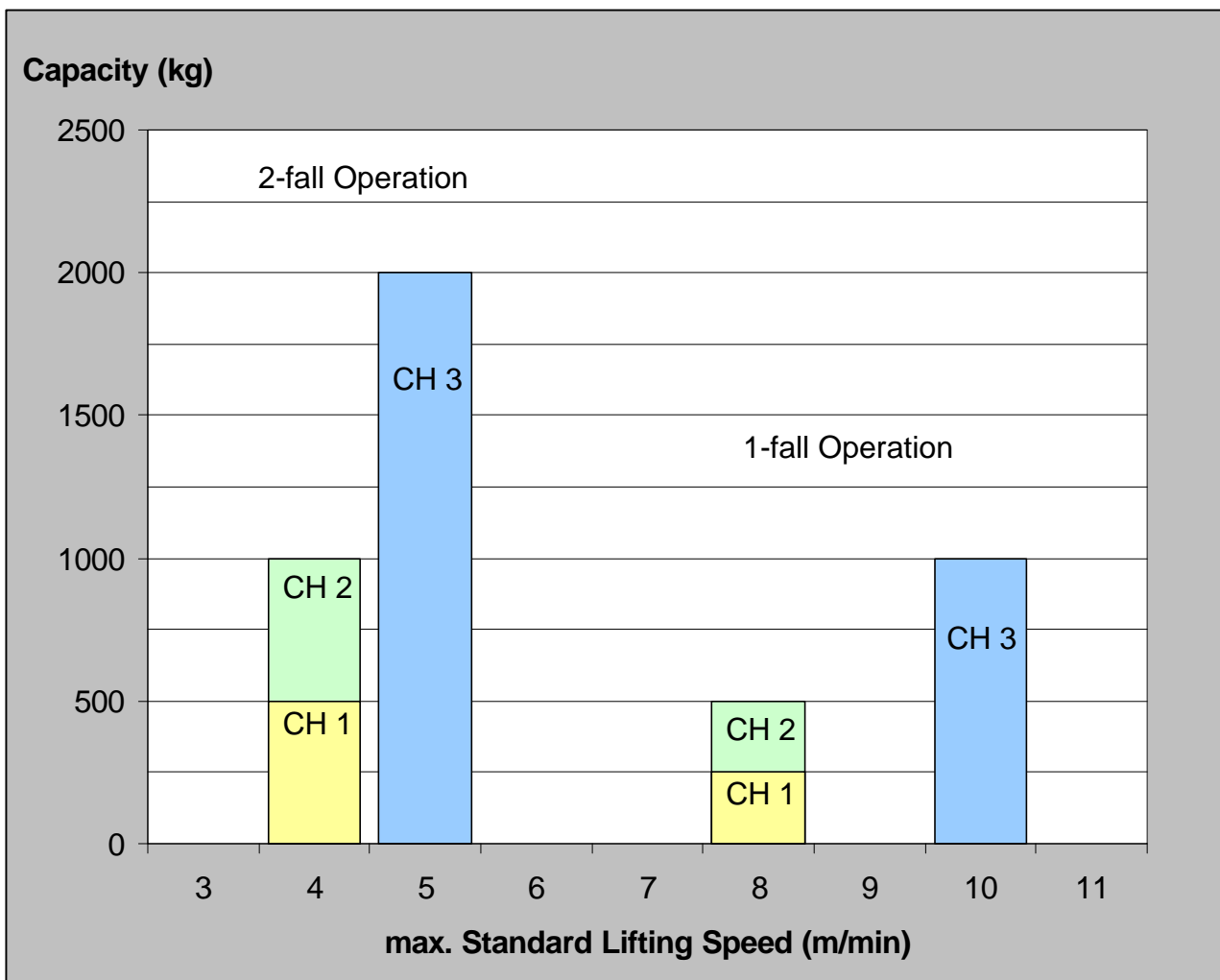
Chain Hoist CH1:



Chain Hoist CH2:



Chain Hoist CH3:



4. Technical Data



Frequency 50Hz

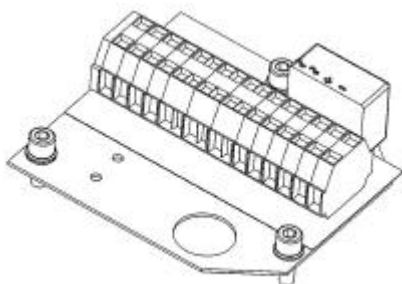
Type	Safe Working Load (kg) Acc. FEM 9.511				Hook No *	Lifting Speed		No of falls	Power P (KW)	OT (%)	Maxi. Cycles (c/h)
	1 Bm	1 Am	2 m	3 m		1-speed (m/min)	2-speed (m/min)				
CH 1 250.8		250			012	8	2,0 / 8,0	1	0,09/ 0,36	60	360
CH 1 500.4		500			05	4	1,0 / 4,0	2			
CH 2 250.8				250	025	8	2,0 / 8,0	1	0,18/ 0,75	40	240
CH 2 500.4				500	05	4	1,0 / 4,0	2			
CH 2 320.8				320	025	8	2,0 / 8,0	1			
CH 2 630.4				630	05	4	1,0 / 4,0	2			
CH 2 400.8			400		025	8	2,0 / 8,0	1			
CH 2 800.4			800		05	4	1,0 / 4,0	2			
CH 2 500.8		500			025	8	2,0 / 8,0	1			
CH 2 1000.4		1000			05	4	1,0 / 4,0	2			
CH 3 500.10				500	05	10	2,5 / 10	1			
CH 3 1000.5				1000	1	5	1,25 / 5,0	2			
CH 3 630.10			630		05	10	2,5 / 10	1			
CH 3 1250.5				1250	1	5	1,25 / 5,0	2			
CH 3 800.10		800			05	10	2,5 / 10	1			
CH 3 1600.5			1600		1	5	1,25 / 5,0	2			
CH 3 1000.10	1000				05	10	2,5 / 10	1			
CH 3 2000.5		2000			1	5	1,25 / 5,0	2			

Frequency 60Hz

Type	Safe Working Load (kg) Acc. FEM 9.511				Hook No *	Lifting Speed		No of falls	Power P (KW)	OT (%)	Maxi. Cycles (c/h)
	1 Bm	1 Am	2 m	3 m		1-speed (m/min)	2-speed (m/min)				
CH 1 250.8		250			012	10	2,5 / 10	1	0,11/ 0,43	60	360
CH 1 500.4		500			05	5	1,25 / 5,0	2			
CH 2 250.8				250	025	10	2,5 / 10	1	0,25/ 0,90	40	240
CH 2 500.4				500	05	5	1,25 / 5,0	2			
CH 2 320.8				320	025	10	2,5 / 10	1			
CH 2 630.4				630	05	5	1,25 / 5,0	2			
CH 2 400.8			400		025	10	2,5 / 10	1			
CH 2 800.4			800		05	5	1,25 / 5,0	2			
CH 2 500.8		500			025	10	2,5 / 10	1			
CH 2 1000.4		1000			05	5	1,25 / 5,0	2			
CH 3 500.10				500	05	12	3,0 / 12	1			
CH 3 1000.5				1000	1	6	1,5 / 6,0	2			
CH 3 630.10			630		05	12	3,0 / 12	1			
CH 3 1250.5				1250	1	6	1,5 / 6,0	2			
CH 3 800.10		800			05	12	3,0 / 12	1			
CH 3 1600.5			1600		1	6	1,5 / 6,0	2			
CH 3 1000.10	1000				05	12	3,0 / 12	1			
CH 3 2000.5		2000			1	6	1,5 / 6,0	2			

* Hook size according to DIN 15401 (1AM/ P)

5. Control Options



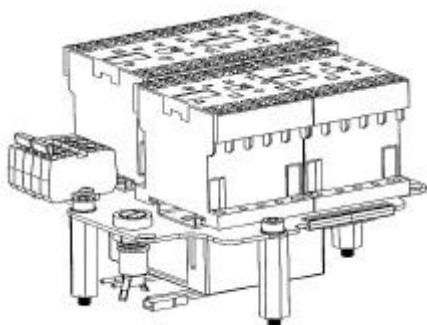
Direct Control

Function:

- Up/down
- Single speed
- Operator pendant control box connected directly to power supply

Option:

- Two speeds



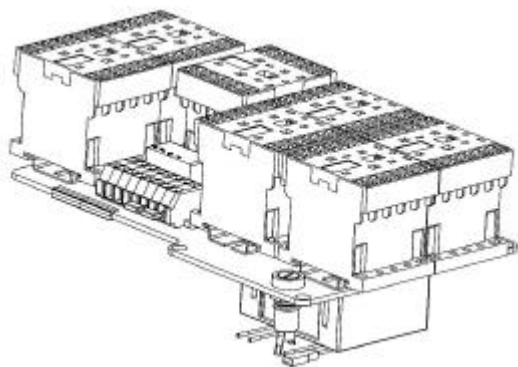
Low Voltage Control (small) 48V

Function:

- Up/down
- Single speed
- Operator pendant control box connected to control voltage of 48 V

Options:

- Limit Switches for upper and lower hook position end stops
- Programmable Limit Switch for adjustable hook travel
- Two speeds



Low Voltage Control (large) 48V

Function:

- Up/down/trolley operation
- Two speeds
- Operator pendant control box connected to control voltage of 48 V

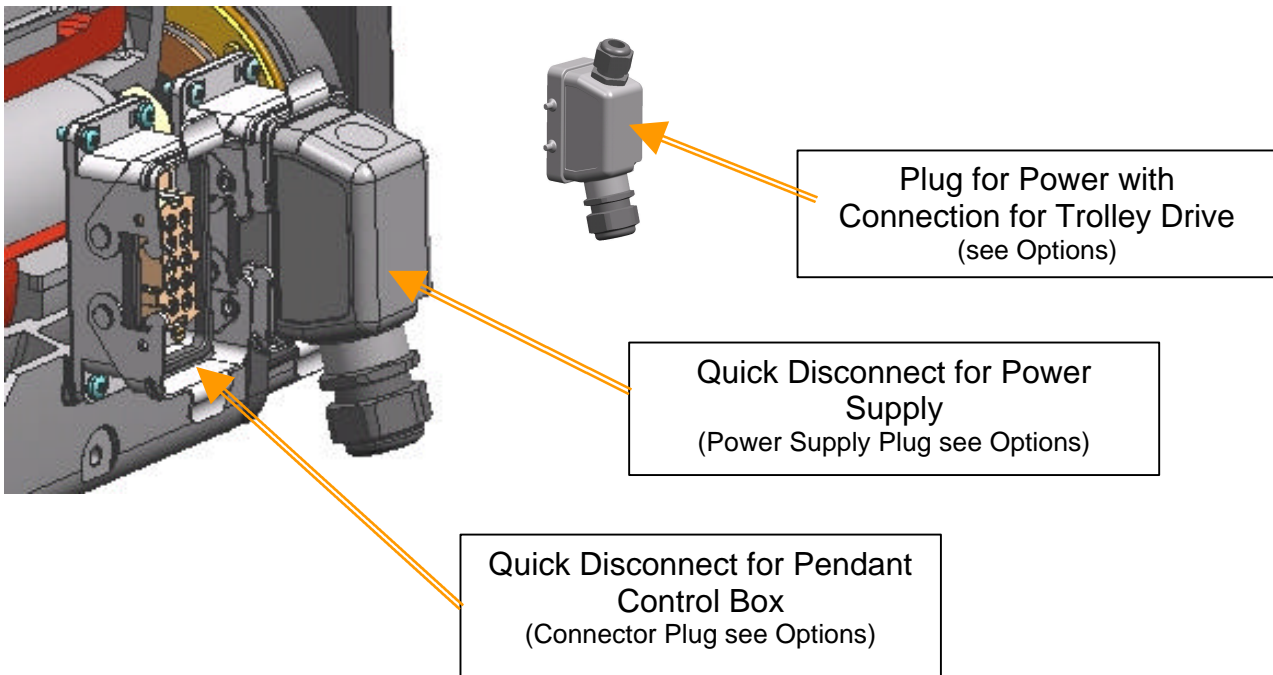
Options:

- Limit Switches for upper and lower hook position end stops
- Programmable Limit Switch for adjustable hook travel

6. Electrical Connections



Simple 10-pole quick disconnects make connecting of operator pendant control box and power supply easy. Their fool proof design prevents possible wrong connections.

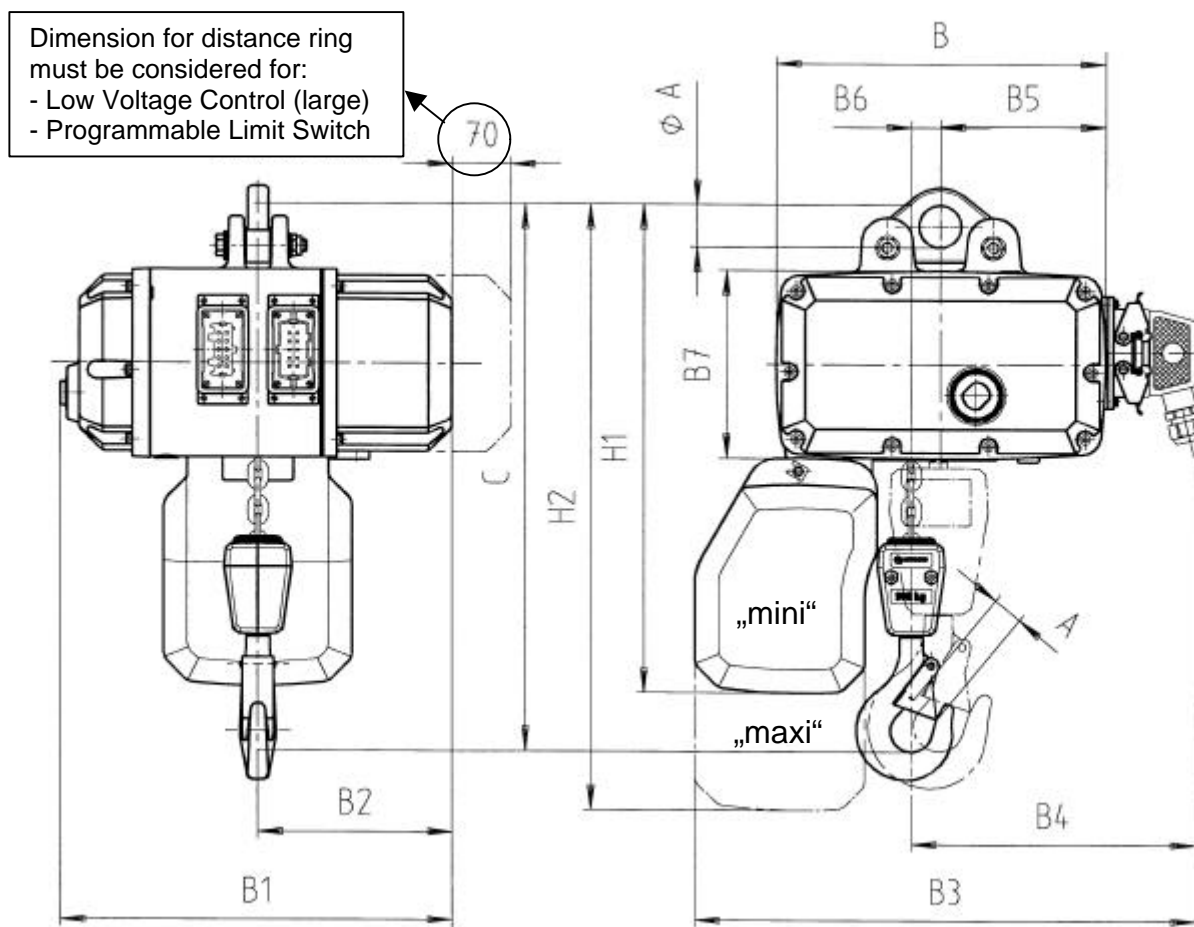


	Power Supply Voltage 3 PH/ PE	Connections
Standard	380-415V/ 50Hz	Star
	440-480V/ 60Hz	Star
Options Prices available upon request	208-230V/ 60Hz	Delta
	220-240V/ 50Hz	Delta
	360-400V/ 50Hz	Star
	460-500V/ 60Hz	Star
	550-600V/ 60Hz	Star

7. Dimensions, Weight



Standard Execution (Eye Bolt Suspension)



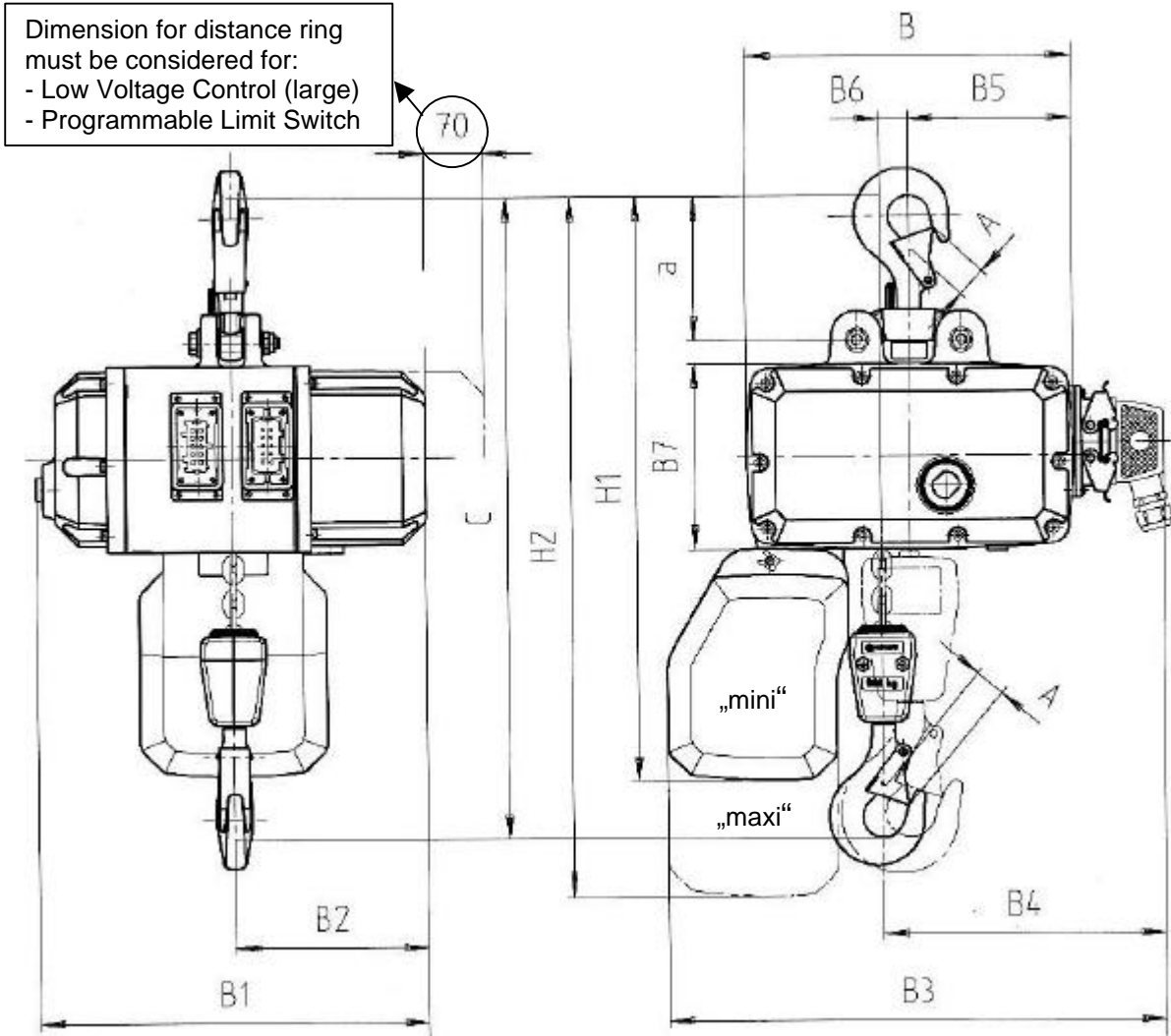
Type	∅ A	A	B	B1	B2	B3	B4	B5	B6	B7	C	H1	H2
CH1 1-fall 250kg	36	22	280	327	165	425	242	140	25	160	367	415	515
CH1 2-falls 500kg	36	32	280	327	165	425	217	140	0	160	463	415	515
CH2 1-fall 250kg	36	22	280	327	165	425	242	140	25	160	367	415	515
CH2 1-fall 500kg	36	26	280	327	165	425	242	140	25	160	400	415	515
CH2 2-falls 1000kg	36	32	280	327	165	425	217	140	0	160	463	415	515
CH3 1-fall 1000kg	52	32	310	375	196	502	266	166	24	180	480	512	662
CH3 2-falls 2000kg	52	38	310	375	196	502	231	166	0	180	570	512	662

Weight of Standard Hoist only: CH1 = 30kg; CH2 = 33kg; CH3 = 54kg

Dimensions, Weight



Optional Execution with Swivel Top Hook Suspension



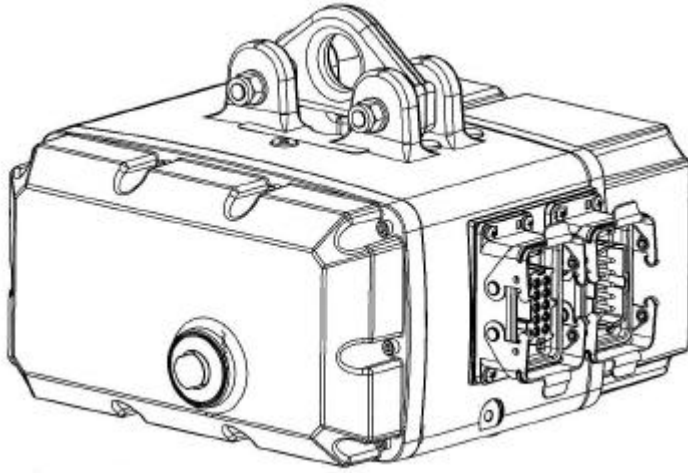
Type	a	A	B	B1	B2	B3	B4	B5	B6	B7	C	H1	H2
CH1 1-fall 250kg	103	22	280	327	165	425	242	140	25	160	435	483	583
CH1 2-falls 500kg	142	32	280	327	165	425	217	140	0	160	571	523	623
CH2 1-fall 250kg	103	22	280	327	165	425	242	140	25	160	435	483	583
CH2 1-fall 500kg	123	26	280	327	165	425	242	140	25	160	489	504	604
CH2 2-falls 1000kg	142	32	280	327	165	425	217	140	0	160	571	523	623
CH3 1-fall 1000kg	136	32	310	375	196	502	266	166	24	180	568	600	750
CH3 2-falls 2000kg	156	38	310	375	196	502	231	166	0	180	679	621	771

Weight of Standard Hoist only: CH1 = 30kg; CH2 = 33kg; CH3 = 54kg

8. Features of Standard Hoist



ABM offers numerous options allow hoist resellers to equip hoists to the requirements of their customers. However, Chain (due to their infinite length options) as well as operator pendant control box (there are numerous products available on the market) are not listed as options by ABM.



Features of Standard Hoists

		Standard-Execution	Options
Lifting Speeds	Single speed	●	
	Two speed		⊙
Power Supply	380 - 415V/ 50Hz or 440 - 480V/ 60Hz	●	
	Special voltage / -frequency		⊙
Suspension	Eye Bolt	●	
	Swivel Top Hook		⊙
Control	Direct	●	
	Low Voltage Control (small) - up/ down		⊙
	Low Voltage Control (large) - up/ down/ trolley drive		⊙
Limit Switches (Stop at maximum upper and lower hook positions) (*)			⊙
Programmable Limit Switch for adjustable hook travel (*)			⊙

(*) Only in combination with Low Voltage Control available!

- Standard features
- ⊙ Options available at additional cost

9. Overview of Options



This list allows ordering options with ABM part numbers.

		CH1	CH2	CH3
Lower Block	250kg 1-fall (no 012*)	511.650.601		
	500kg 2-falls (no 05*)	511.726.601	511.726.601	
	500kg 1-fall (no 025*)		511.636.401	
	1000kg 2-falls (no 05*)		511.632.601	
	1000kg 1-fall (no 05*)			511.652.501
	2000kg 2-falls (no 1*)			511.648.201
Chain Bucket	„mini“ (till 11m chain)	491.398.570		491.398.770
	„maxi“ (till 22m chain)	491.398.571		491.398.771
Quick Disconnects	Power Supply	491.398.592		
	Power supply with connection for trolley drive	491.398.581		
	Connector for operator pendant control box	491.398.594		
Swivel Top Hook Suspension	250kg	491.398.542		
	500kg	491.398.543		
	1000kg		491.398.544	491.398.781
	2000kg			491.398.779
Low Voltage Control 380-415V/ 50Hz	Small up / down single speed	761.793.100		
	Small up / down two speed	753.734.100		
	Large up / down / trolley two speed	761.705.100 ⁽¹⁾		

* Hook size according to DIN 15401 (1AM/ P)

Overview of Options



		CH1	CH2	CH3
Low Voltage Control 208-230V/ 60Hz	Small up / down single speed	761.793.101		
	Small up / down two speed	753.734.105		
	Large up / down / trolley drive two speed	761.705.105 ⁽¹⁾		
Low Voltage Control 440-480V/ 60Hz	Small up / down single speed	761.793.102		
	Small up / down two speed	753.734.102		
	Large up / down / trolley drive two speed	761.705.102 ⁽¹⁾		
Low Voltage Control 575V/ 60Hz	Small up / down single speed	761.793.106		
	Small up / down two speed	753.734.106		
	Large up / down / trolley drive two speed	761.705.107 ⁽¹⁾		
Programmable Limit Switch (adjustable hook travel)	Short travel 0 – 9m	491.398.558 ^{(1) (2)}		
	Long travel 0 – 25m	491.398.555 ^{(1) (2)}		
Limit Switches (stop at maximum upper and lower hook positions)		491.398.541 ⁽²⁾		491.398.741 ⁽²⁾
Housing Extension (distance ring)		491.398.556		491.398.768

⁽¹⁾ This option requires housing extension (see pages 8/9 7. Dimensions, Weight)!

⁽²⁾ Not available with direct control, low voltage control must be selected!

Chain as well as operator pendant control box are not listed as options! This allows hoist resellers to easily customize ABM chain hoists to their customer's requirements in a very short time.

