

EWELLIX

MAKERS IN MOTION

# Linear actuator CAHB series



# CAHB series

Designed to operate in harsh environment with temperatures from  $-40$  to  $85$  °C up to 25 % duty cycle, Ewellix electromechanical actuator CAHB family features robust metal gears and corrosion-resistant housings.

Available in 7 series - CAHB-20A/20E/21E/22E for medium and heavy load applications with an over load protection by clutch, CAHB-10, a compact solution for low-load applications and CAHB-30A/31N for AC version- Ewellix electromechanical actuators, are virtually maintenance-free, self-locking up to 2 times the rated load and rated up to IP69K/66M. Additional design options are available like limit switches, positioning feedback and manual override.



## Features

- Long stroke and high speed
- High holding force up to 20 000 N
- Absolute or incremental Position feedback and limit switches option
- Low backlash
- Manual override option
- Overload and thermal protection
- Ingress protection IP69K/66M with vent
- Stainless steel push tube and Corrosion protected metal parts
- Wide temperature range ( $-40$  to  $85$  °C)
- Mechanical, electrical and climatic tests
- High efficiency
- Virtually maintenance-free

See **pages 38 and 39** for test results.

## Benefits

- High productivity and usability of the adjustment
- Reliability and safety
- Save development time and shorten the time to market
- Cost effectiveness
- Durable

# CAHB-30A

## Linear actuator

### Benefits

- ACME screw drive
- Extension tube (stainless steel)
- Protection tube (steel)
- Enhanced corrosion resistance
- Mechanical overload protection (clutch)
- Maintenance free
- Robust, designed for tough environment
- Self-locking
- Motor with thermal protection



### Technical data

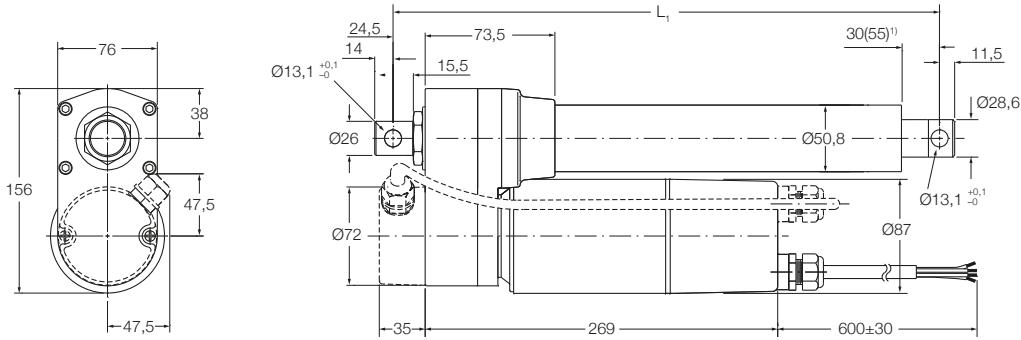
		Unit	CAHB-30A... 1	CAHB-30A... 2
Rated push load		N	1 500	2 300
Rated pull load		N	1 500	2 300
Speed (full load to no load)	115 V AC/60 Hz	mm/s	25 to 26	12 to 13
	230 V AC/50 Hz	mm/s	21 to 22	11 to 12
Stroke		mm	102 to 610	102 to 610
Retracted length		mm	- <sup>1)</sup>	- <sup>1)</sup>
Voltage		V AC	115 or 230	115 or 230
Power consumption		W	N/A	N/A
Current consumption	115 V AC/60 Hz	A	2,3	1,8
	230 V AC/50 Hz	A	1,35	1,4
Duty cycle		%	25 (94/376 s)	25 (94/376 s)
Ambient temperature		°C	-26 to +65	-26 to +65
Type of protection		IP	65S	65S
Weight		kg	9	9
Color		-	Black	Black

<sup>1)</sup> See dimensional drawing (L→ page 31)

For outdoors application, please contact Ewellix.

## Dimensional drawing

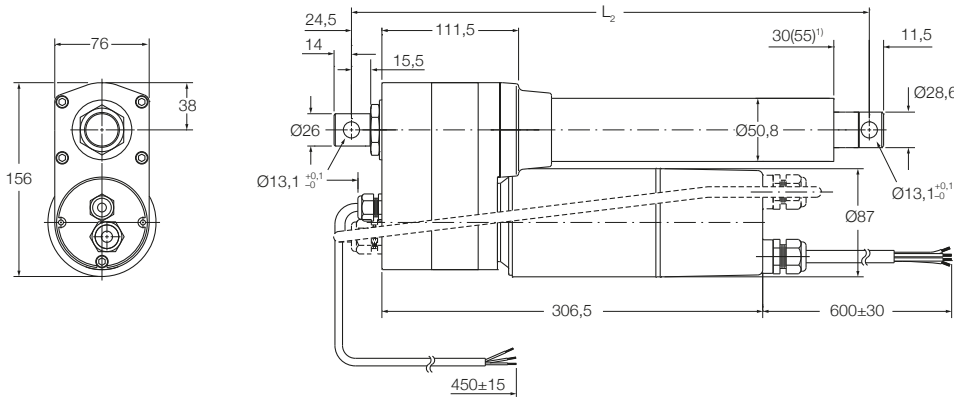
### Basic configuration (dashed line for optional limit switch)



**Legend:**  
L<sub>1</sub> = retracted length

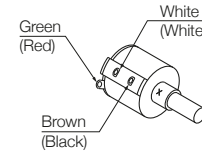
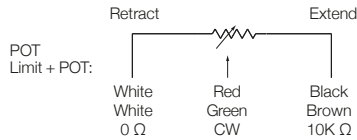
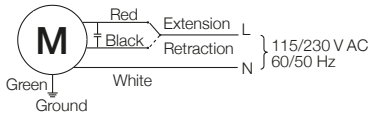
<sup>1)</sup> 55 = dimension with limit switch

### Optional potentiometer (dashed line for optional limit switch)



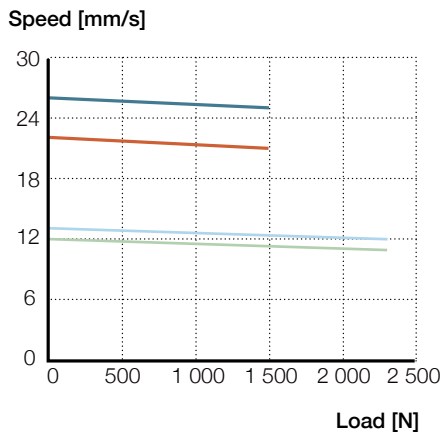
**Legend:**  
L<sub>2</sub> = retracted length

<sup>1)</sup> 55 = dimension with limit switch

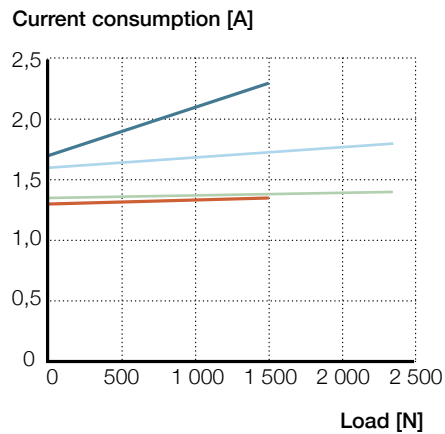


## Performance diagrams

### Speed-load diagram



### Current-load diagram



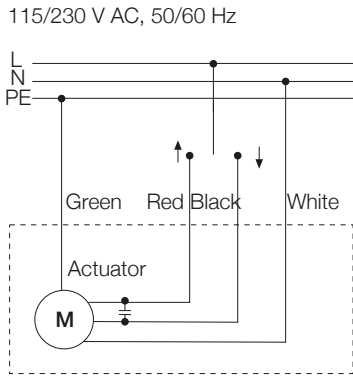
— 1 (115 VAC)

— 1 (230 VAC)

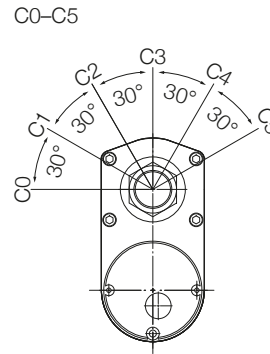
— 2 (115 VAC)

— 2 (230 VAC)

### Connecting diagram



### Different rear attachment



### Electrical specifications

#### Basic configuration

Stroke (mm)	With limit switch <sup>1)</sup>						Without limit switch <sup>2)</sup>					
	102	153	204	305	457	610	102	153	204	305	457	610
L1 Retracted length	440	440	440	592	744	897	380	415	415	465	668	821

<sup>1)</sup> Tolerance: S and L1 = ± 5,0 mm (If S ≥ 305 mm, S = ± 7,5 mm)

<sup>2)</sup> Tolerance: S = ± 2,5 mm and L1 = ± 3,8 mm

#### Optional potentiometer

Stroke (mm)	With limit switch <sup>1)</sup>						Without limit switch <sup>2)</sup>					
	102	153	204	305	457	610	102	153	204	305	457	610
L2 Retracted length	478	478	478	630	782	935	418	453	453	503	706	859

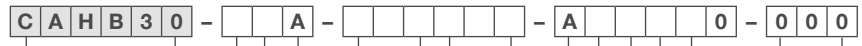
<sup>1)</sup> Tolerance: S and L2 = ± 5,0 mm (If S ≥ 305 mm, S = ± 7,5 mm)

<sup>2)</sup> Tolerance: S = ± 2,5 mm and L2 = ± 3,8 mm

#### Potentiometer resolution

Stroke (mm)	102	153	204	305	457	610
Ohm/mm	59,0	59,0	29,5	29,5	9,84	9,84

## Ordering key



**Type**

**Voltage**

- N 115 V AC
- P 230 V AC

**Load**

- 1 1 500 N
- 2 2 300 N

**Screw**

- A Acme screw

**Stroke**

- 102 102 mm
- 153 153 mm
- 204 204 mm
- 305 305 mm
- 457 457 mm
- 610 610 mm

**Retracted length**

Stroke	with limith switch1)	without POT2)	with POT2)
102 mm		440	478
153 mm		440	478
204 mm		440	478
305 mm		592	630
457 mm		744	782
610 mm		897	935
	without limith switch1)		
102 mm		380	418
153 mm		415	453
204 mm		415	453
305 mm		465	503
457 mm		668	706
610 mm		821	859

**IP**

- A Standard (IP 65)

**Front attachment**

- A Standard (hole: Ø13,1 mm)
- X Customized

**Rear attachment**

- A Standard (0° and hole: Ø13,1 mm)
- B 30°
- C 60°
- D 90°
- E 120°
- F 150°
- X Customized

**Option 1**

- 0 None
- L Limit switch (only for load version 2 300 N)

**Option 2**

- 0 None
- P Potentiometer

**Customization**

Options shown in red are only available on request. Contact Ewellix for more information on minimum quantities and additional costs.



# CAHB-31N

## Linear actuator

### Benefits

- High efficiency ball screw
- Extension tube (stainless steel)
- Protection tube (steel)
- Enhanced corrosion resistance
- Mechanical overload protection (clutch)
- Lubricated for service life
- Robust, designed for tough environment
- No back driving
- Motor with thermal protection



### Technical data

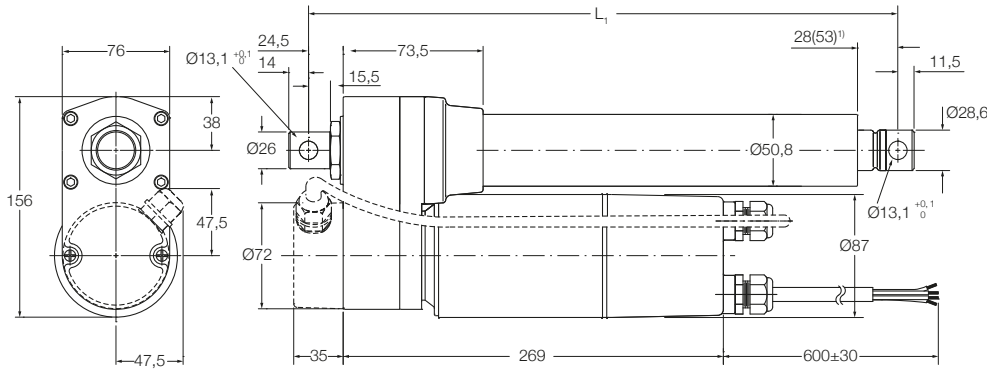
		Unit	CAHB-31N... 1	CAHB-31N... 2	CAHB-31N... 3
Rated push load		N	2 300	4 500	6 000
Rated pull load		N	2 300	4 500	6 000
Speed (full load to no load)	115 V AC/60 Hz	mm/s	48 to 57	22 to 28	13 to 15
	230 V AC/50 Hz	mm/s	40 to 50	20 to 24	11 to 13
Stroke		mm	102 to 610	102 to 610	102 to 610
Retracted length		mm	– <sup>1)</sup>	– <sup>1)</sup>	– <sup>1)</sup>
Voltage		V AC	115 or 230	115 or 230	115 or 230
Power consumption		W	N/A	N/A	N/A
Current consumption	115 V AC/60 Hz	A	3	2,6	2,2
	230 V AC/50 Hz	A	1,5	1,4	1,4
Duty cycle		%	25 (94/376 s)	25 (94/376 s)	25 (94/376 s)
Ambient temperature		°C	–26 to +65	–26 to +65	–26 to +65
Type of protection		IP	65S	65S	65S
Weight		kg	9,5	9,5	9,5
Color		–	Black	Black	Black

<sup>1)</sup> See dimensional drawing (L→ page 35)

For outdoors application, please contact Ewellix.

## Dimensional drawing

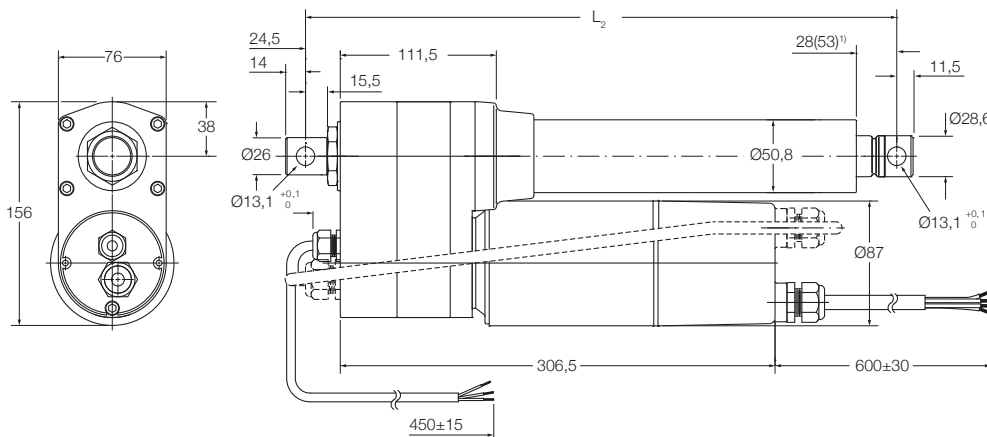
### Basic configuration (dashed line for optional limit switch)



**Legend:**  
L<sub>1</sub> = retracted length

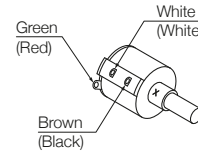
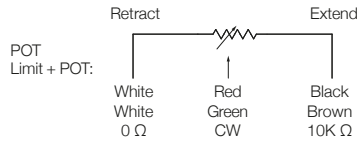
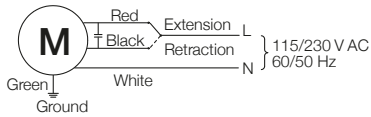
<sup>1)</sup> 53 = dimension with limit switch

### Optional potentiometer (dashed line for optional limit switch)



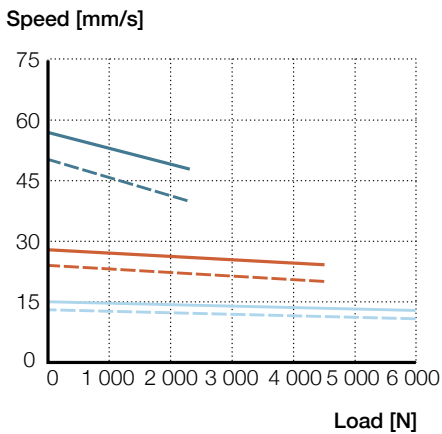
**Legend:**  
L<sub>2</sub> = retracted length

<sup>1)</sup> 53 = dimension with limit switch

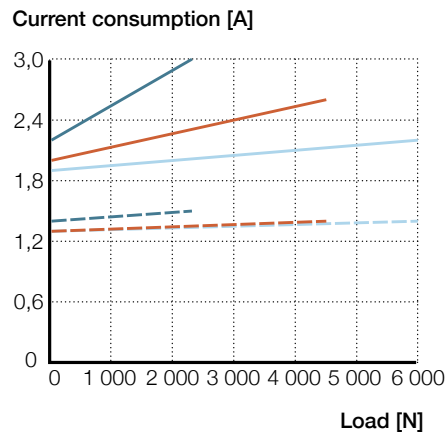


## Performance diagrams

### Speed-load diagram



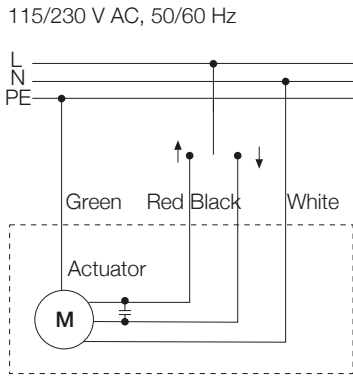
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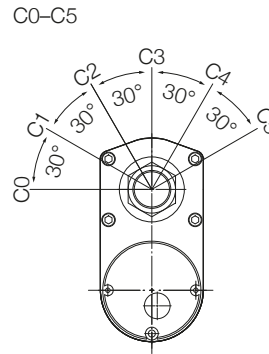
- 1 (115 VAC)
- 2 (115 VAC)
- - 1 (230 VAC)
- - 2 (230 VAC)
- 3 (115 VAC)
- 3 (230 VAC)



### Connecting diagram



### Different rear attachment



### Electrical specifications

	With limit switch <sup>1)</sup>						Without limit switch <sup>2)</sup>					
	102	153	204	305	457	610	102	153	204	305	457	610
Stroke (mm)												
L1 Retracted length	444	444	495	659	811	964	380	419	419	521	735	888

<sup>1)</sup> Tolerance: S and L1 = ± 5,0 mm (If S ≥ 305 mm, S = ± 7,5 mm)

<sup>2)</sup> Tolerance: S = ± 2,5 mm and L1 = ± 3,8 mm

### Basic configuration

	With limit switch <sup>1)</sup>						Without limit switch <sup>2)</sup>					
	102	153	204	305	457	610	102	153	204	305	457	610
Stroke (mm)												
L2 Retracted length	482	482	533	697	849	1002	418	457	457	559	773	926

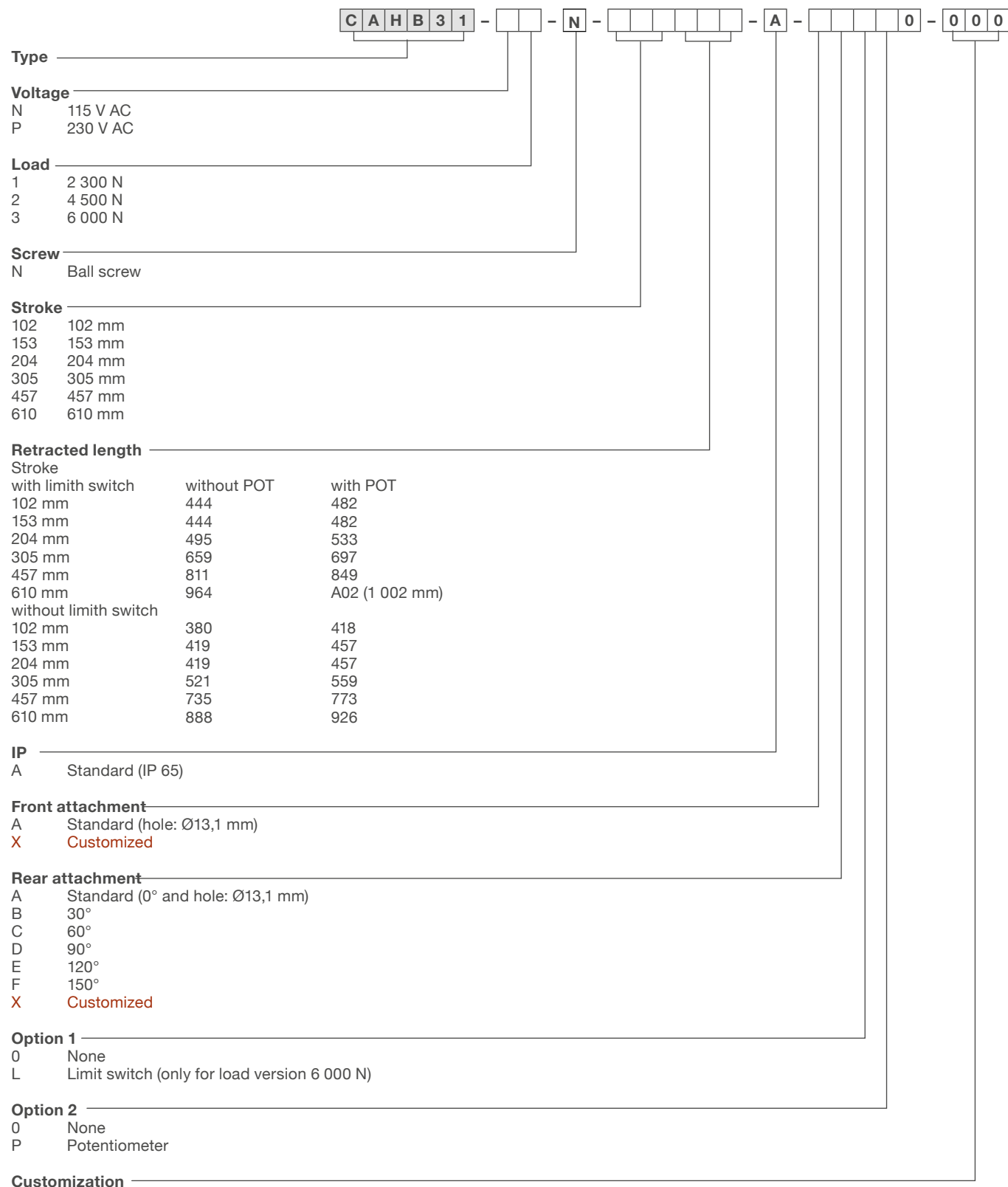
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