

# Linear actuator

CAHB – 20 E series

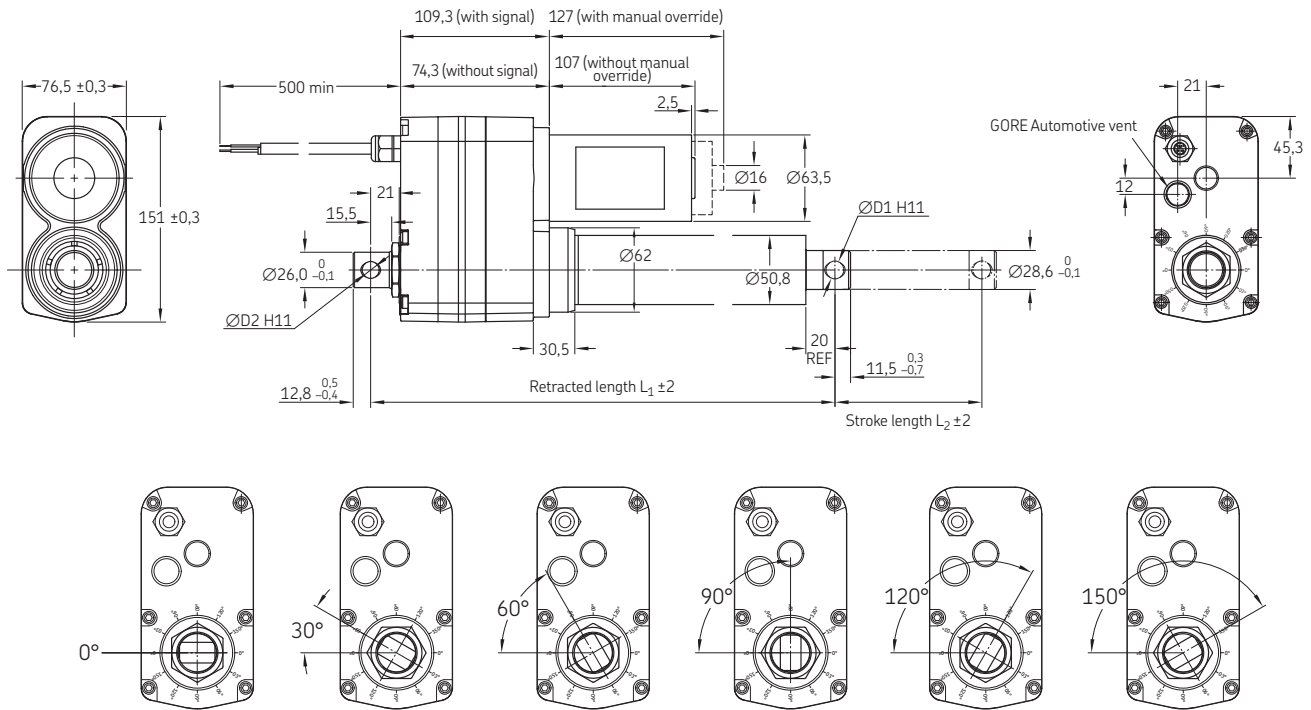
## Features:

- Holding force
- Mechanical overload protection
- Enhanced ingress protection
- Corrosion protection and stainless steel tube
- Manual override option
- Virtuality maintenance free



## Benefits:

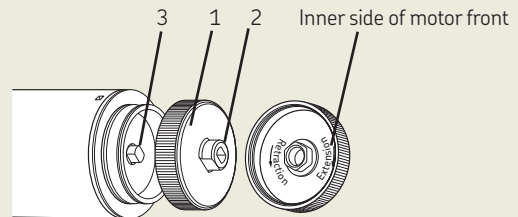
- High productivity
- Reliability and safety
- Save development time
- Cost effectiveness



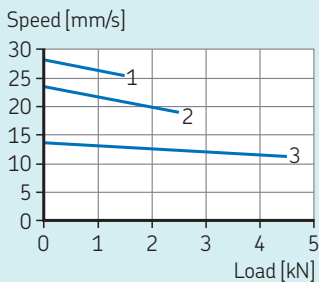
### Heading

	No option <sup>2)</sup>		With signal <sup>2)</sup>	
$L_2$ Stroke [mm]	50 – 305	306 – 700	50 – 305	306 – 700
$L_1$ retracted length	160 + stroke	211 + stroke	195 + stroke	246 + stroke

Release the motor cover (1). Use the slot (2) to rotate the motor shaft (3) in the proper direction

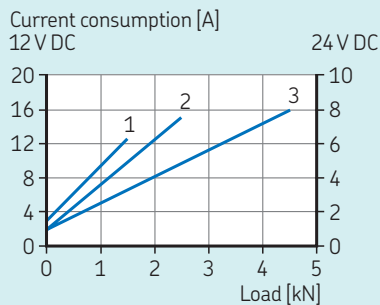


### Speed and load



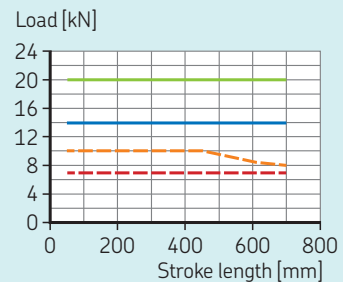
- Load variant 1
- Load variant 2
- Load variant 3

### Current load



- Load variant 1
- Load variant 2
- Load variant 3

### Static load



- Ultimate CAHB-20-xxE (push)
- Ultimate CAHB-20-xxE (pull)
- Recommended CAHB 20-xxE (push)
- Recommended CAHB 20-xxE (pull)

## Technical data CAHB 20

Designation	Symbol	Unit	CAHB 20 / 12 V			CAHB 20 / 24 V		
<b>Performance data</b>								
Rated Push Force	Push F	N	1 500	2 500	4 500	1 500	2 500	4 500
Rated Pull Force	Pull F	N	1 500	2 500	4 500	1 500	2 500	4 500
Max pull / push Force		N	2 600	3 800	6 300	2 600	3 800	6 300
Speed without load	$V_0$	mm/s	27,0	23,5	13,5	29,0	22,0	13,0
Speed with the rated force	V	mm/s	24,5	17,5	10,5	25,5	19,0	11,0
<b>Electric data</b>								
Nominal voltage	U	V DC	12	12	12	24	24	24
Rated current	I	A	14,5	17,0	19,5	6,0	7,5	9,0
Duty cycle	-	%	10% (85/765 s)	10% (85/765 s)	10% (85/765 s)	20% (85/340 s)	20% (85/340 s)	20% (85/340 s)
<b>Mechanical data</b>								
Stroke	s	mm	50 ... 700	50 ... 700	50 ... 700	50 ... 700	50 ... 700	50 ... 700
Backlash	$S_{backlash}$	mm	0,6	0,6	0,6	0,6	0,6	0,6
Weight for 200 mm stroke	-	kg	4,5	4,5	4,5	4,5	4,5	4,5
Colour	-	-	Black	Black	Black	Black	Black	Black
<b>Environment and standards</b>								
Ambient temperature	$T_{ambient}$	°C	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85	-40 ... 85
Degree of protection	-	-	IP 69K/66M					
Standards / EMC	-	-	EN61000-6-2:2005, EN61000-6-4:2007/A1:2011					
Salt spray test	-	-	ISO 9227:2012, 250 hours					

## Electrical specification

### Wire connection with no signal

Wire no.	AWG	Colour	Application
1	14	Red	Motor power(+)=> Extension, (-)=> Retraction
2	14	Black	Motor power(-)=> Extension, (+)=> Retraction

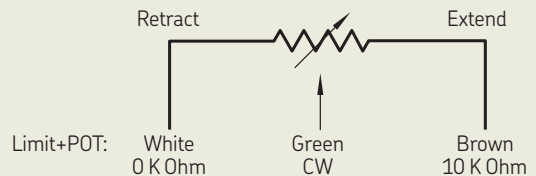
### Feedback resolution list

Actuator type	Hall sensor resolution [pulses/mm]	POT resolution [ohm/mm]
CAHB-20...E	2,76	59,06 if S = 050-125 29,53 if S = 126-250 9,84 if S = 251-700

### Wire connection with potentiometer

Wire no.	AWG	Colour	Application
1	22	Green	See picture description
2	22	White	See picture description
3	22	Brown	See picture description
4	14	Red	Motor power(+)=> Extension, (-)=> Retraction
5	14	Black	Motor power(-)=> Extension, (+)=> Retraction

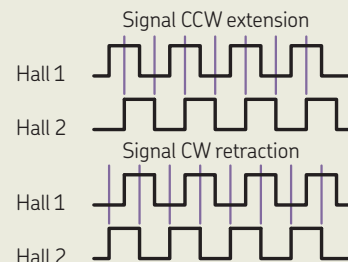
### Potentiometer



### Wire connection with encoder

Wire no.	AWG	Colour	Application
1	26	Green	Sensor signal 1
2	26	Yellow	Sensor signal 2
3	26	Black	Sensor power GND
4	26	Red	Sensor power 5V
5	14	Red	Motor power(+)=> Extension, (-)=> Retraction
6	14	Black	Motor power(-)=> Extension, (+)=> Retraction

### Encoder



## Ordering key

C A H B - 2 0 - [ ] - [ ] - E - [ ] [ ] [ ] [ ] - B [ ] [ ] [ ] [ ] 0 [ ] [ ] T - 0 0 0

### Type

#### Voltage

12 V DC  
24 V DC  
12 V DC with manual override  
24 V DC with manual override

A  
B  
E  
F

#### Load

1 500 N  
2 500 N  
4 500 N

1  
2  
3

#### Design

E

#### Stroke (mm)

100  
150  
200  
250  
300  
350  
400  
450  
500  
600  
700

100  
150  
200  
250  
300  
350  
400  
450  
500  
600  
700

#### Retracted length

For a stroke length

100  
150  
200  
250  
300  
350  
400  
450  
500  
600  
700

#### Retracted length (mm)

Without POT or encoder

260  
310  
360  
410  
460  
561  
611  
661  
711  
811  
911

With POT or encoder

295  
345  
395  
445  
495  
596  
646  
696  
746  
846  
946

#### Ingress protection

Standard: IP69K/IP66M

B

#### Attachment diameter: (Front and rear)

Hole  $\varnothing 13,1$  H11 (+0, +0,11 mm)  
Hole  $\varnothing 12,8$  H11 (0, +0,11 mm)  
Hole  $\varnothing 12,5$  H11 (+0, +0,11 mm)  
Customized

A  
B  
C  
X

#### Attachment orientation:

Standard (0°)  
30°  
60°  
90°  
120°  
150°  
Customized

A  
B  
C  
D  
E  
F  
X

#### Option 1: L.S (Limit switch)

Not available

0

#### Option 2: Feedback

None  
Potentiometer  
Encoder

O  
P  
E

#### Thermal protection

Standard: Built-in thermal switch

T

#### Customization

Stroke length, retracted length, cable, connector, front attachment, rear attachment, color, de-rated load

Notes: In standard, the actuators are IP69K / IP66M and equipped with GORE Automotive vent, built-in thermal protection, protection Clutch and EMC filter.