

Linear actuator

CAHB – 22 E series

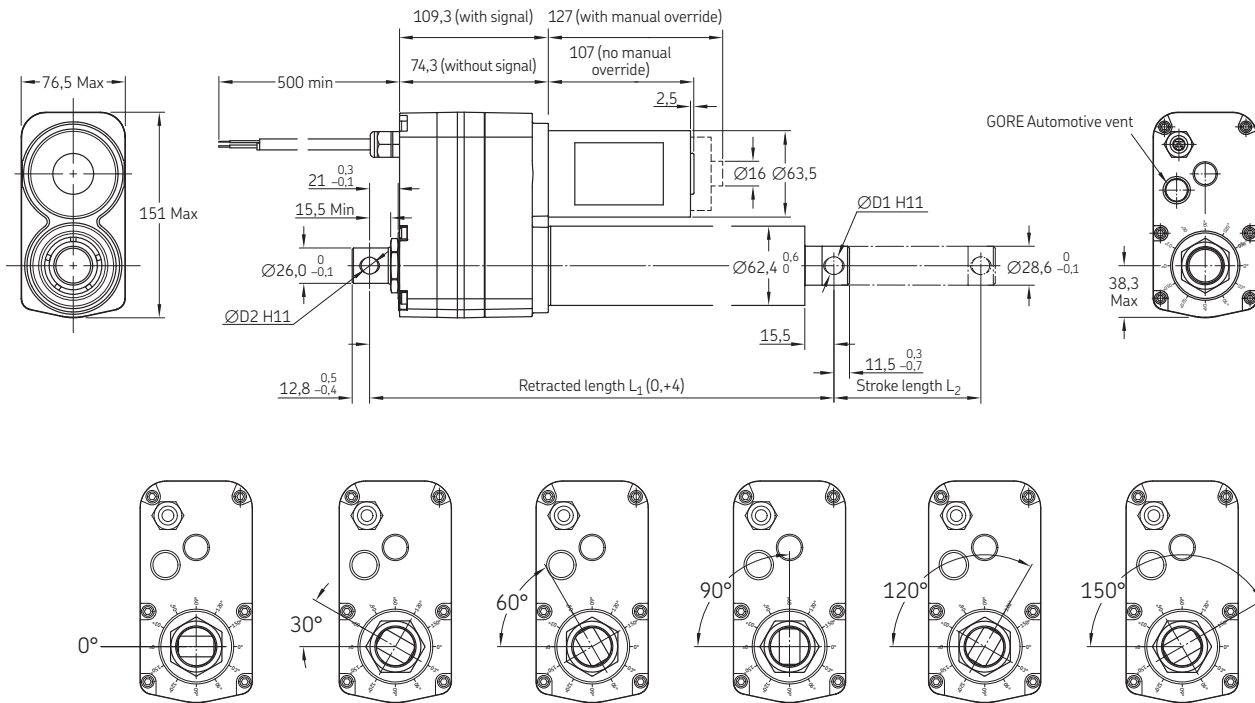
Features:

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

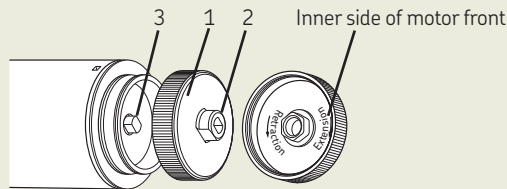


Benefits:

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



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



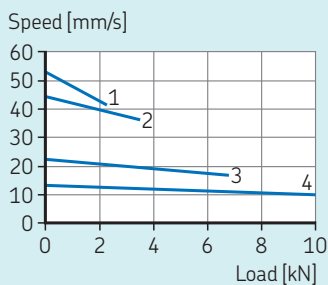
	No option ²⁾		With limit switch ¹⁾		With signal ²⁾		With limit switch and signal ¹⁾	
L ₂ Stroke [mm]	100 – 305	306 – 700	100 – 305	306 – 700	100 – 305	306 – 700	100 – 305	306 – 700
L ₁ retracted length	194 + stroke	229 + stroke	200 + stroke	235 + stroke	229 + stroke	264 + stroke	235 + stroke	270 + stroke

Tolerance L₂: Stroke S

¹⁾ Tolerance S: if S ≤ 305: (±2); if S > 305: (±3)

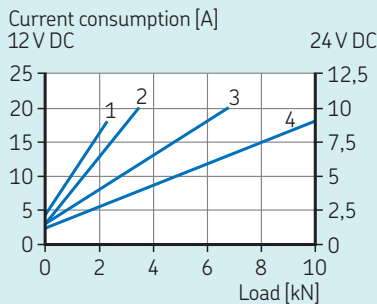
²⁾ Tolerance S: for CAHB22 3E/4E if S ≤ 305: (-2, -0,5); if S > 305: (-3, -1); for CAHB22 1E/2E if S ≤ 305: (-3, -1,5); if S > 305: (-4, -2)

Speed and load



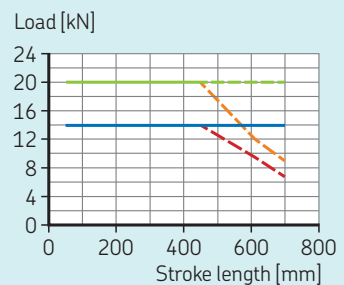
- Load variant 1
- Load variant 2
- Load variant 3

Current load



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

Static load



- Ultimate CAHB-22-xxE (push)
- Ultimate CAHB-22-xxE (pull)
- Recommended CAHB 22-xxE (push)
- Recommended CAHB 22-xxE (pull)

Technical data CAHB 22

Designation	Symbol	Unit	CAHB 22 / 12 V				CAHB 22 / 24 V			
Performance data										
Rated Push Force	Push F	N	2 300	3 500	6 800	10 000	2 300	3 500	6 800	10 000
Rated Pull Force	Pull F	N	2 300	3 500	6 800	10 000	2 300	3 500	6 800	10 000
Max pull / push Force		N	3 500	4 900	9 500	14 000	3 500	4 900	9 500	14 000
Speed without load	V_0	mm/s	55,0	45,0	22,0	13,0	53,0	45,0	22,0	13,0
Speed with the rated force	V	mm/s	42,0	36,0	15,5	10,2	42,0	37,0	17,0	10,2
Electric data										
Nominal voltage	U	V DC	12	12	12	12	24	24	24	24
Rated current	I	A	20,5	22,0	23,0	21,5	9,5	11,0	11,0	10,0
Duty cycle	-	%	10%	10%	10%	10%	20%	20%	20%	20%
			(85/765 s)	(85/765 s)	(85/765 s)	(85/765 s)	(85/340 s)	(85/340 s)	(85/340 s)	(85/340 s)
Mechanical data										
Stroke	s	mm	50 ... 700	50 ... 700	50 ... 610	50 ... 450	50 ... 700	50 ... 700	50 ... 610	50 ... 450
Backlash	$s_{backlash}$	mm	1,0	1,0	0,6	0,6	1,0	1,0	0,6	0,6
Weight for 200 mm stroke	-	kg	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8
Colour	-	-	Black	Black	Black	Black	Black	Black	Black	Black
Environment and standards										
Ambient temperature	$T_{ambient}$	°C	-40 ... 85	-40 ... 85	-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

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

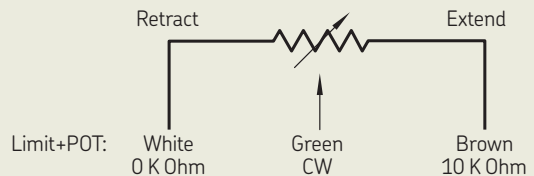
Wire connection with encoder

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

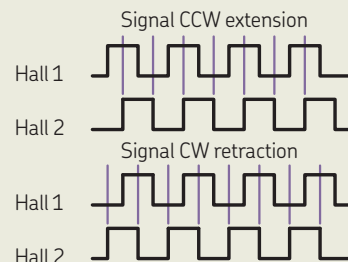
Feedback resolution list

Actuator type	Hall sensor resolution [pulses/mm]	POT resolution [ohm/mm]
CAHB-22...1E	1,4	30 if S = 050-222
CAHB-22...2E	1,4	15 if S = 223-444 5 if S = 445-700
CAHB-22...3E	2,8	60 if S = 050-222
CAHB-22...4E	2,8	30 if S = 223-444 10 if S = 445-700

Potentiometer



Encoder



Ordering key

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

2 300 N
3 500 N
6 800 N
10 000 N

1
2
3
4

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

Retracted length (mm)

With LS

100
150
200
250
300
350
400
450
500
600
700

Without POT or encoder

300
350
400
450
500
585
635
685
735
835
935

With POT or encoder

335
385
435
485
535
620
670
720
770
870
970

Without LS

100
150
200
250
300
350
400
450
500
600
700

294
344
394
444
494
579
629
679
729
829
929

329
379
429
479
529
614
664
714
764
864
964

Ingress protection

Standard: IP69K/IP66M

B

Attachment diameter: (Front and rear)

Hole Ø13,1 H11 (+0, +0,11 mm)
Hole Ø12,8 H11 (0, +0,11 mm)
Hole Ø12,5 H11 (+0, +0,11mm)
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)

None (mandatory for 2 300 N and 3 500 N version)

Limit switch (valid only for load version 6 800 N and 10 000 N, not mandatory for 10 000 N)

0
L

Option 2: Feedback

None
Potentiometer
Encoder

0
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.

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