

Linear actuator

CAHB – 21 E series

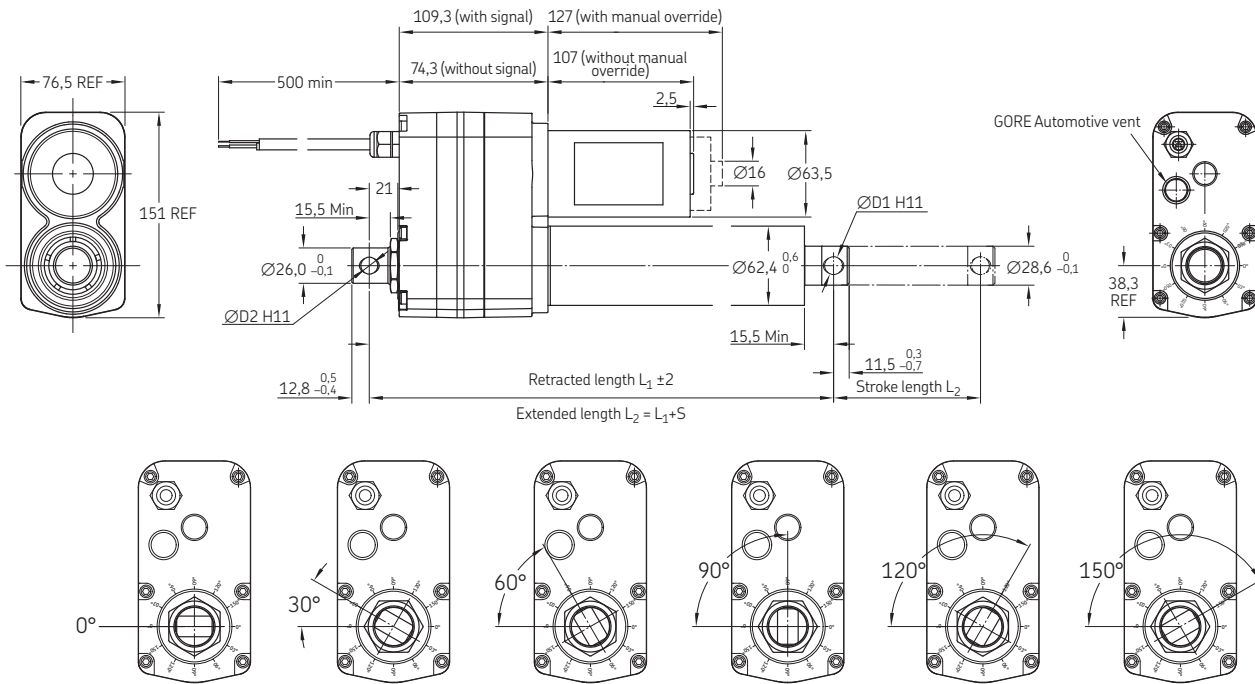
Features:

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

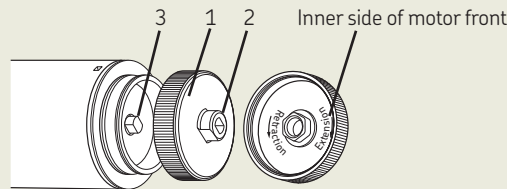


Benefits:

- 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



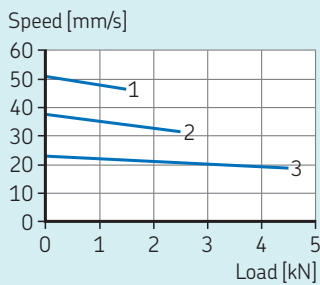
	No option ²⁾		With limit switch ¹⁾		With signal ²⁾		With limit switch and signal ¹⁾	
L_2 Stroke [mm]	100 – 300	301 – 700	100 – 300	301 – 700	100 – 300	301 – 700	100 – 300	301 – 700
L_1 retracted length	182 +stroke	217 +stroke	191 +stroke	226 +stroke	217 +stroke	252 +stroke	226 +stroke	261 +stroke

Tolerance L_2 : Stroke S

¹⁾ Tolerance S, if $S \leq 300$ (± 2); if $S \geq 300$ (± 3)

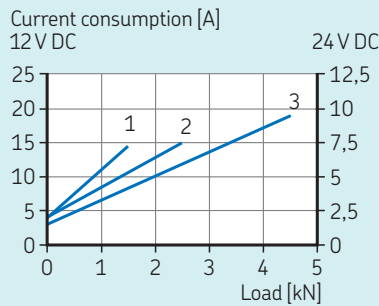
²⁾ Tolerance S, if $S \leq 300$ ($-2, -0,5$); if $S \geq 300$ ($-3, -1$)

Speed and load



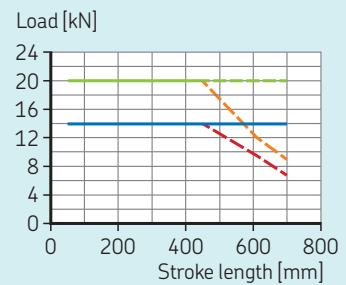
— Load variant 1
— Load variant 2
— Load variant 3

Current load



— Load variant 1
— Load variant 2
— Load variant 3

Static load



— Ultimate CAHB-21-xxE (push)
— Ultimate CAHB-21-xxE (pull)
— Recommended CAHB 21-xxE (push)
— Recommended CAHB 21-xxE (pull)

Technical data CAHB 21

Designation	Symbol	Unit	CAHB 21 / 12 V			CAHB 21 / 24 V		
Performance data								
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	2 500	3 600	6 300	2 500	3 600	6 300
Speed without load	V_0	mm/s	49,5	37	24,0	52,5	38	22,5
Speed with the rated force	V	mm/s	43	31,5	19,0	50	31,5	21,0
Electric data								
Nominal voltage	U	VDC	12	12	12	24	24	24
Rated current	I	A	17,0	18,5	22,0	8,0	8,5	12,0
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)
Mechanical data								
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	4,8	4,8	4,8	4,8	4,8	4,8
Colour	-	-	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
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

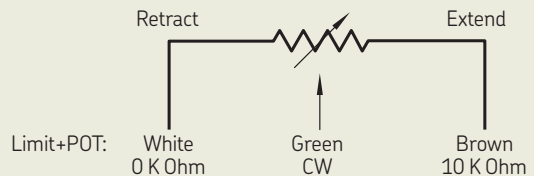
Feedback resolution list

Actuator type	Hall sensor resolution [pulses/mm]	POT resolution [ohm/mm]
CAHB-21...E	1,56	33,33 if S = 050-222 16,67 if S = 223-444 5,56 if S = 445-700

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

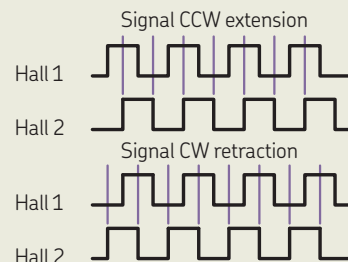
Potentiometer



Wire connection with encoder

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

Encoder



Ordering key



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

With LS

100
 150
 200
 250
 300
 350
 400
 450
 500
 600
 700

Retracted length (mm)

Without POT or encoder

With POT or encoder

291
 341
 391
 441
 491
 576
 626
 676
 726
 826
 926

326
 376
 426
 476
 526
 611
 661
 711
 761
 861
 961

Without LS

100
 150
 200
 250
 300
 350
 400
 450
 500
 600
 700

282
 332
 382
 432
 482
 567
 617
 667
 717
 817
 917

317
 367
 417
 467
 517
 602
 652
 702
 752
 852
 952

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 1 500 N and 2 500 N version)
 Limit switch (valid only for load version 4 500)

0
 L

Option 2: Feedback

None
 Potentiometer
 Encoder

0
 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.

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