

**EWELLIX**

MAKERS IN MOTION

# Linear actuator CAR, CAP & CAT series





# CAR, CAP & CAT series

The CAR, CAP, CAT modular design concept makes it easy to interchange critical components such as motors, gears, screws, attachments, etc. Custom-built actuators are easily and cost efficiently built from standard parts. The CAT range flexibility makes it suitable for a high number of applications.



## Features

- Compact
- Robust
- Modular
- Lubricated for service life
- High efficiency

## Benefits

- Industrial reliable and robust actuator
- Wide range of components
- Right-hand and left-hand version
- Incremental or absolute position feedback option

# CAR 22

## Linear actuator

### Benefits

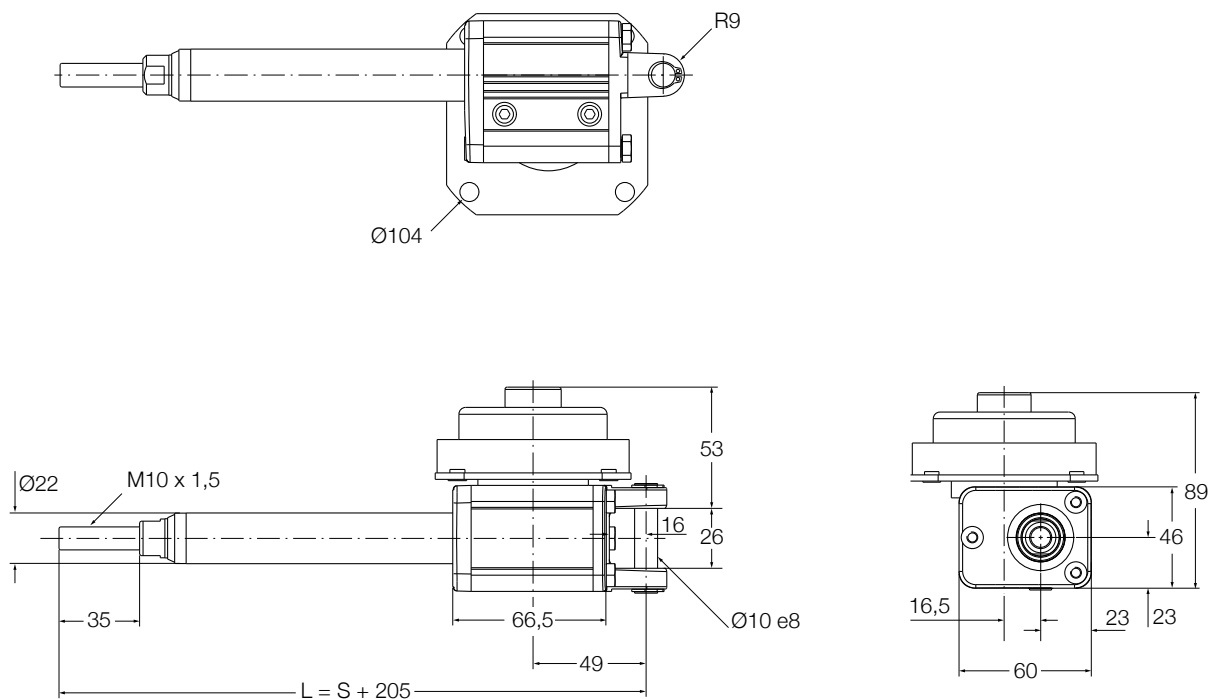
- Reliable and robust industrial actuator
- Right- and left-hand version
- Maintenance free



### Technical data

	Unit	CAR 22	
Rated push load	N	1 000 to 1 500	
Rated pull load	N	1 000 to 1 500	
Speed (full load to no load)	mm/s	10 to 30	
Stroke	mm	50 to 300	
Retracted length	mm	S+ 205	
Voltage	V AC	12 or 24	
Power consumption	W	N/A	
Current consumption	12 V DC	A	9
	24 V DC	A	5
Duty cycle	%	25	
Ambient temperature	°C	-20 to +70	
Type of protection	IP	44	
Weight	kg	1,2 to 1,6	

### Dimensional drawing

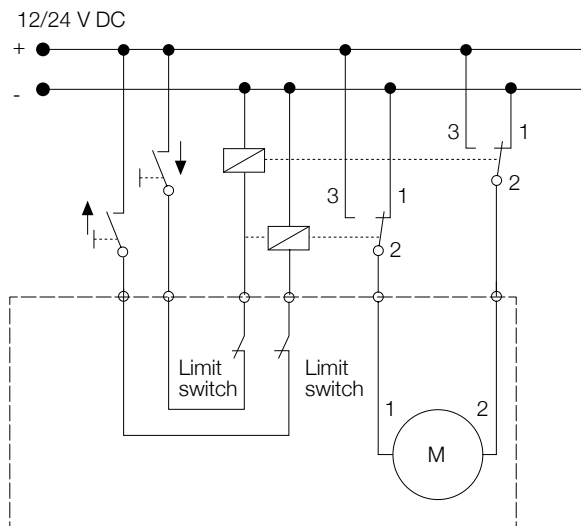


**Legend:**





S = stroke

L = retracted length

### Connecting diagrams

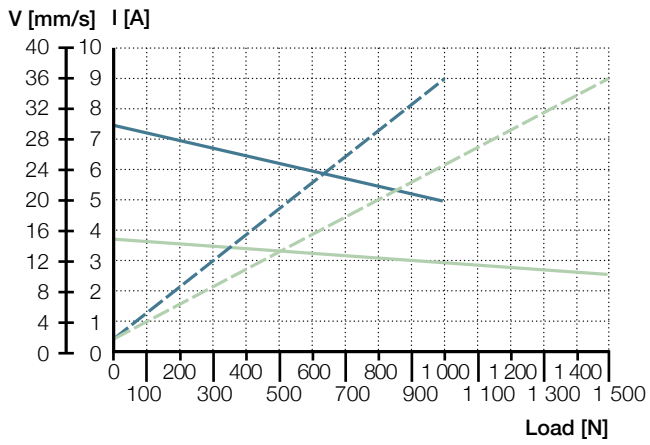


### Suitable control units and accessories

	Control units	Limit switch
D12B	CAED 5-24R	CAXE 22
D24B	●	●
<b>Operating switches</b>		
CAES 31C 	●	
 Hand switch	 Foot switch	 Desk switch

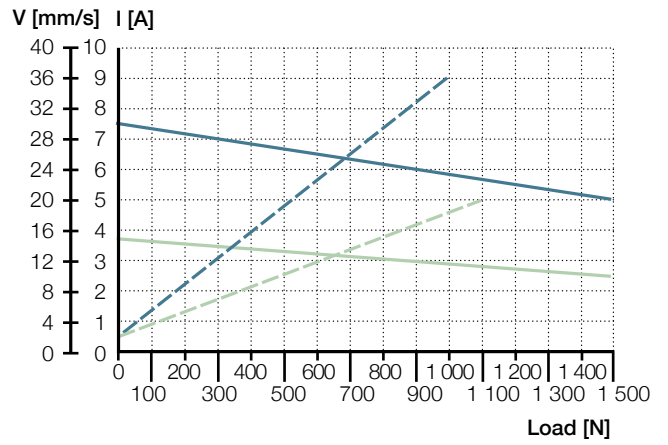
### Performance diagrams

CAR 22.../D12B



Gear 1 — V (mm/s) - - I (A)

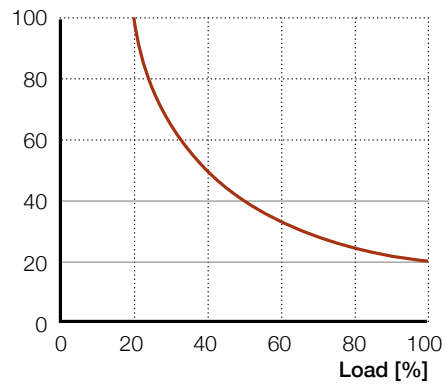
CAR 22.../D24B



Gear 2 — V (mm/s) - - I (A)

### Duty cycle

Duty factor [%] at 20 °C



# Ordering key

Load [N] / Full Load Speed [mm/s]		Motor options	
1 500/xx	1 000/xx	No motor	0
1 500/15-10	1 000/30-20	12 V DC, flat motor, IP44	D12B
1 500/15-10	1 000/30-20	24 V DC, flat motor, IP44	D24B

**Type**

**Motor assembly**

Right R  
Left L

**Stroke [S]**

50 mm 050  
100 mm 100  
150 mm 150  
200 mm 200  
300 mm 300

Other stroke lengths ---

## CAR 22 – Type codes for accessories and spare parts

Item code	Type code	Order N°
12 VDC motor (flat motor)	D12B	M/0405516
24 VDC motor (flat motor)	D24B	M/0405517
Limit switch for stroke =50 mm	CAXE 22 × 50	M/0412019
Limit switch for stroke =100 mm	CAXE 22 × 100	M/0412020
Limit switch for stroke =150 mm	CAXE 22 × 150	M/0412021
Limit switch for stroke =200 mm	CAXE 22 × 200	M/0412022
Limit switch for stroke =300 mm	CAXE 22 × 300	M/0412023
Proximity switch for CAXE	CAXE Proximity switch	M/0432369
Front mounting attachments type Rod-end	575-22	M/0430575-22
Front mounting attachments type Clevis	576-22	M/0430576-22
Rear mounting attachments type Single ear bracket	580-22	M/0430580-22
Rear mounting attachments type Ball-joint bracket	581-22	M/0430581-22
Control unit (suitable for D24B motor)	CAED 5-24R	M/0420209
Handset matched for CAED	CAES 31C	M/0420213

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

# CAP 32

## 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

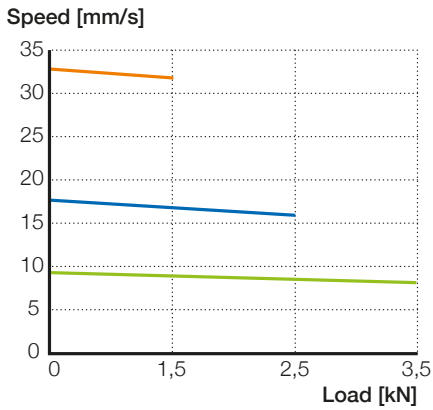
		Unit	CAP 32 – AC version	CAP 32 – DC version
Rated push load		N	1 500 to 3 500	1 000 to 3 500
Rated pull load		N	1 500 to 3 500	1 000 to 3 500
Speed (full load to no load)		mm/s	6 to 32 <sup>1)</sup>	5 to 60 <sup>1)</sup>
Stroke		mm	50 to 700	50 to 700
Retracted length		mm	S+301	S+301
Voltage		V AC	120 or 230	–
		V DC	–	12 or 24
Power consumption	120 V AC	W	98 (brake 133,2 W)	N/A
	230 V AC	W	92 (brake 117,3 W)	–
	12 or 24 V DC	W	–	N/A
Current consumption	120 V AC	A	0,82 (brake +0,29 A)	–
	230 V AC	A	0,4 (brake + 0,11 A)	–
	12 V DC	A	–	13
	24 V DC	A	–	8
	24 V DC	A	–	5 (for motor D24CW)
Duty cycle		%	30	25
Ambient temperature		°C	–20 to +50	–20 to +50
Type of protection		IP	20/54	20/44
Weight		kg	2,9 to 5,0	2,9 to 5,0

<sup>1)</sup> Depending on selected motor

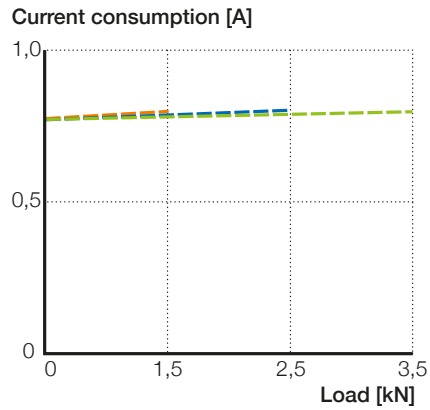


### Performance diagrams – AC version

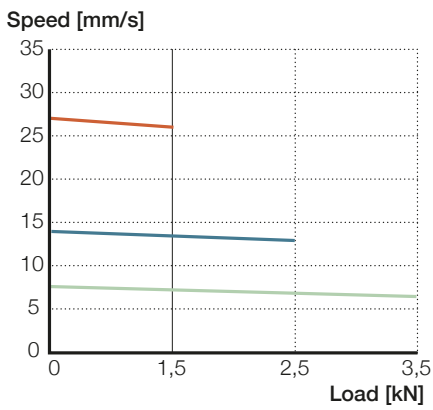
Speed-load diagram CAP 32 ... 120 V AC



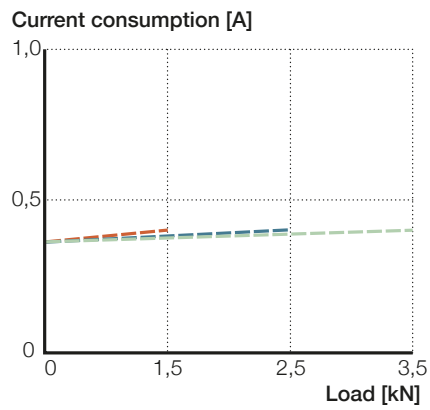
Current-load diagram CAP 32 ... 120 V AC



Speed-load diagram CAP 32 ... 230 V AC



Current-load diagram CAP 32 ... 230 V AC

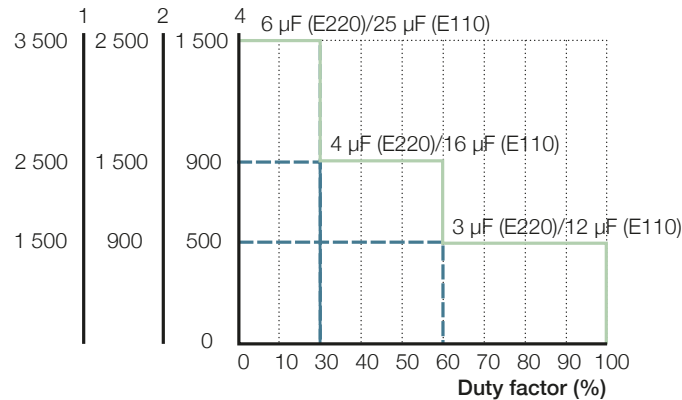


Gear 1 — V (mm/s) — I (A)    Gear 2 — V (mm/s) — I (A)    Gear 4 — V (mm/s) — I (A)

### Duty cycle – AC version

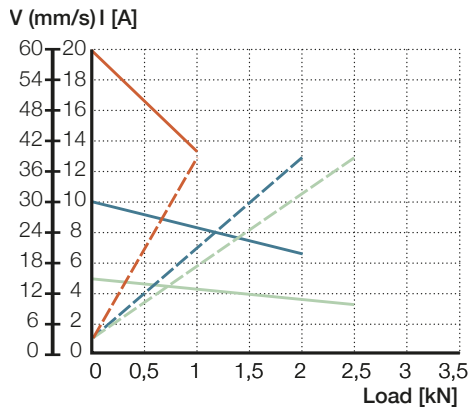
CAP 32 ... 230/120 V AC

F (N) Gear

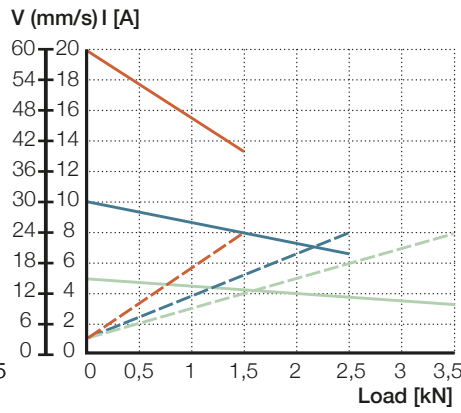


## Performance diagrams – DC version

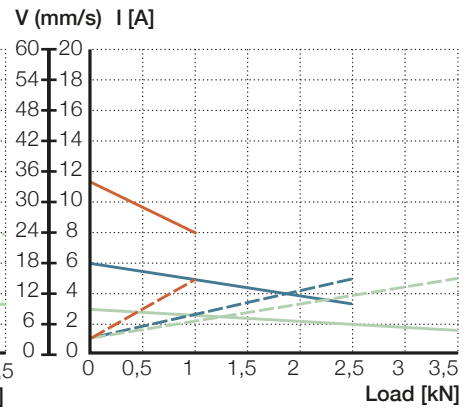
CAP 32.../D12C



CAP 32.../D24C/D24CS/D24CB



CAP 32.../D24CW



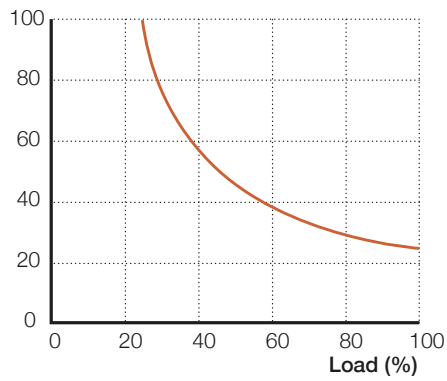
Gear 1 — V (mm/s) — I (A)

Gear 2 — V (mm/s) — I (A)

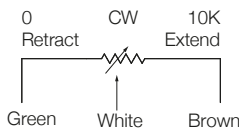
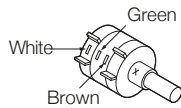
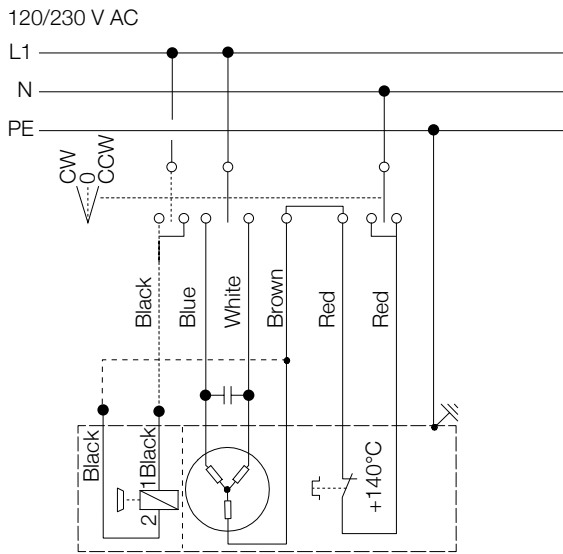
Gear 4 — V (mm/s) — I (A)

## Duty cycle – DC version

Duty factor (%) at 20°C

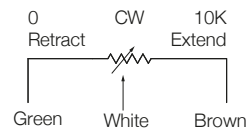
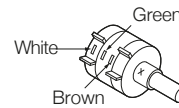
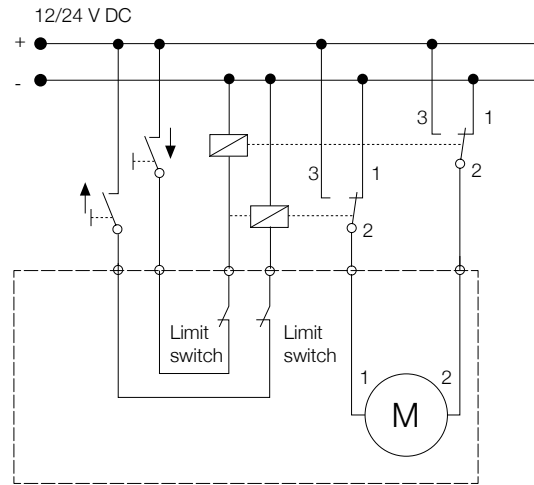


### Connecting diagrams – AC version



Connection diagram for rotating potentiometer.

### Connecting diagrams – DC version



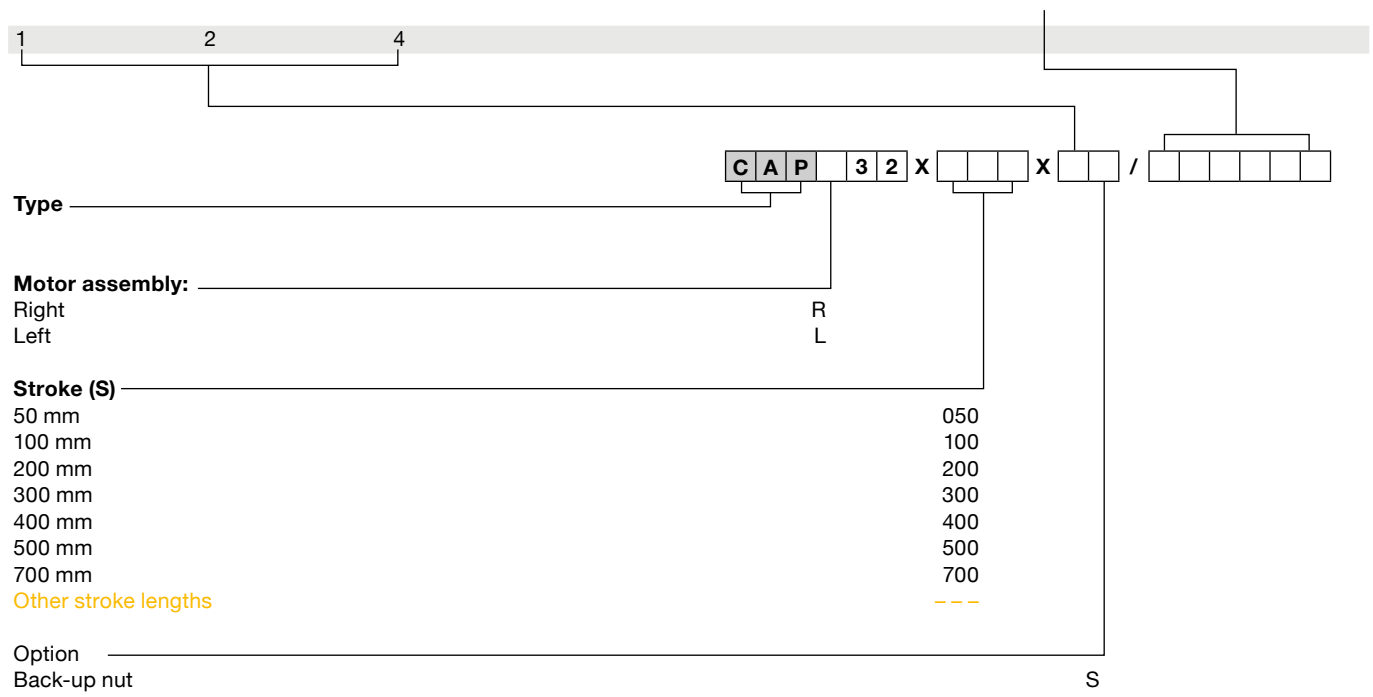
Connection diagram for rotating potentiometer.

### CAP 32 – Type codes for accessories and spare parts

Item code	Type code	Order N°
12 V DC motor (flat motor)	D12C	M/0405518
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with brake)	D24CB	M/0405523
24 V DC motor (flat motor with extended shaft)	D24CS	M/0405522
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
120 V AC motor (cylindrical motor)	E110C	M/0405533
120 V AC motor (cylindrical motor with brake)	E110CB	M/0405534
230 V AC motor (cylindrical motor)	E220C	M/0405531
230 V AC motor (cylindrical motor with brake)	E220CB	M/0405532
Capacitor value 25 µF (120 V AC)	Capacitor 25 µF	M/0430670-06
Capacitor value 6 µF (230 V AC)	Capacitor 6 µF	M/0430670-03
Limit switch for stroke =50 mm	CAXE 32 × 50	M/0412030
Limit switch for stroke =100 mm	CAXE 32 × 100	M/0412031
Limit switch for stroke =200 mm	CAXE 32 × 200	M/0412033
Limit switch for stroke =300 mm	CAXE 32 × 300	M/0412034
Limit switch for stroke =500 mm	CAXE 32 × 500	M/0412036
Limit switch for stroke =700 mm	CAXE 32 × 700	M/0412037
Proximity switch for CAXE	CAXE Proximity switch	M/0432369
Front mounting attachments type Rod-end	575-32	M/0430575-32
Front mounting attachments type Clevis	576-32	M/0430576-32
Rear mounting attachments type Single ear bracket	580-32	M/0430580-32
Rear mounting attachments type Universal joint	582-32	M/0431780-32

# Ordering key

Dynamic load (N) / Speed (mm/s)			Motor options	
3 500xx	2 500/xx	1 500/xx	No motor	0000
3 500/8	2 500/16	1 500/32	120 V AC/60 Hz, 1-phase, IP54	E110C
3 500/8	2 500/16	1 500/32	120 V AC/60 Hz, 1-phase, brake, IP20	E110CB
3 500/6	2 500/13	1 500/26	230 V AC/50 Hz, 1-phase, IP54	E220C
3 500/6	2 500/13	1 500/26	230 V AC/50 Hz, 1-phase, brake, IP20	E220CB
3 500/xx	2 500/xx	1 500/xx	No motor	0000
2 500/15-10	2 000/30-20	1 000/60-40	12 V DC, flat motor, IP44	D12C
3 500/15-10	2 500/30-20	1 500/60-40	24 V DC, flat motor, IP44	D24C
3 500/9-5	2 500/18-10	1 500/34-24	24 V DC, flat motor, low speed, IP44	D24CW
3 500/15-10	2 500/30-20	1 500/60-40	24 V DC, flat motor, extended shaft, IP44	D24CS
3 500/15-10	2 500/30-20	1 500/60-40	24 V DC, flat motor, brake, IP20	D24CB



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

# CAT 32B and CAP 43B

## Linear actuator

### Benefits

- Compact
- Robust
- Modular
- Lubricated for service life
- High efficiency
- Digital encoder feedback



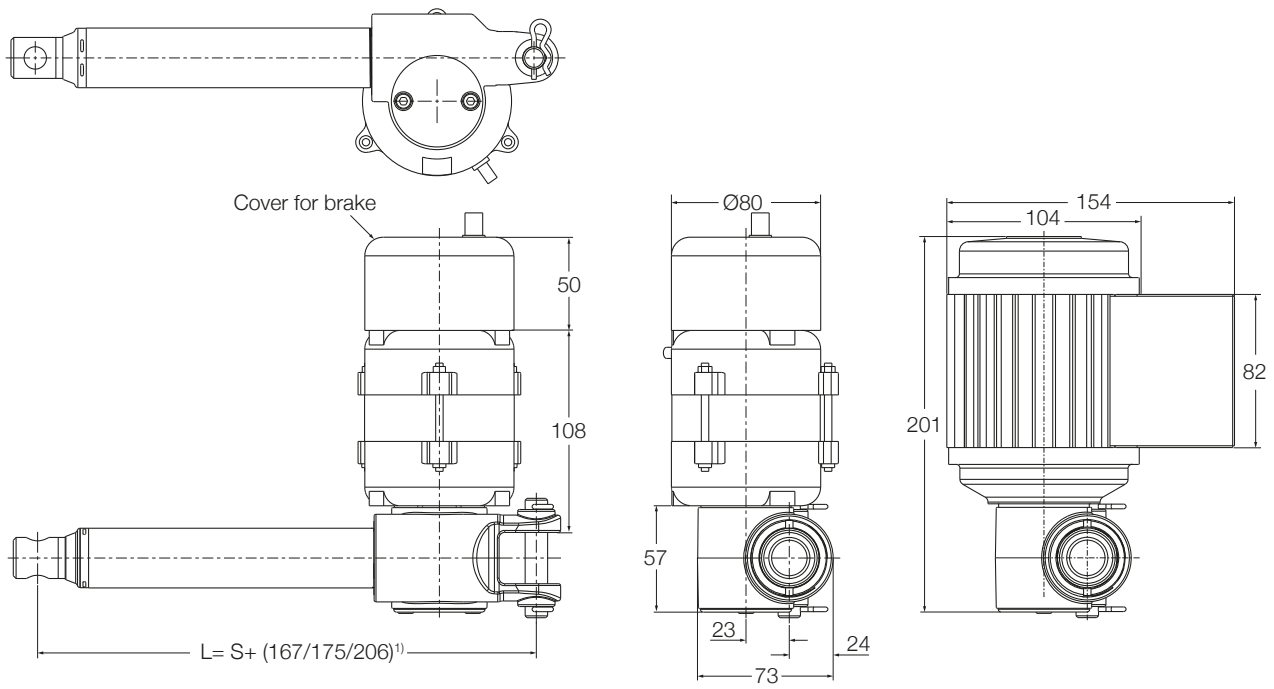
### Technical data

	Unit	CAT 32B – AC version	CAT 32B – DC version	CAP 43B
Rated push load	N	1 500 to 3 500	1 000 to 4 000	1 500 to 4 000
Rated pull load	N	1 500 to 3 500	1 000 to 4 000	1 500 to 4 000
Speed (at full load)	mm/s	6,5 to 32 <sup>1)</sup>	5 to 52 <sup>1)</sup>	5 to 65 <sup>1)</sup>
Stroke	mm	50 to 700	50 to 700	50 to 700
Retracted length	mm	S+167/175/206 <sup>2)</sup>	S+167/175/206 <sup>2)</sup>	S+167/175/206 <sup>2)</sup>
Voltage	V AC	120, 230 or 400	–	–
	V DC	–	12 or 24	24
Power consumption	120 V AC	W	98 (brake 133,2 W)	–
	230 V AC	W	92 (brake 117,3 W)	–
	400 V AC	W	80	–
	12 or 24 V DC	W	–	N/A
Current consumption	120 V AC	A	0,82 (brake +0,29 A)	–
	230 V AC	A	0,4 (brake +0,11 A)	–
	400 V AC	A	0,2	–
	12 V DC	A	–	18
	24 V DC	A	–	9
	24 V DC	A	–	5 (for motors C24CW and D24CW)
Duty cycle	%	30	20	20
Ambient temperature	°C	–20 to +50	–20 to +50	–20 to +50
Type of protection	IP	20/54/55	20/44/65	44
Weight	kg	2 to 3,5	2 to 3,5	2,0 to 2,7

<sup>1)</sup> Depending on selected motor

<sup>2)</sup> Dimension depends on selected front attachment

### Dimensional drawing – CAT 32B AC version



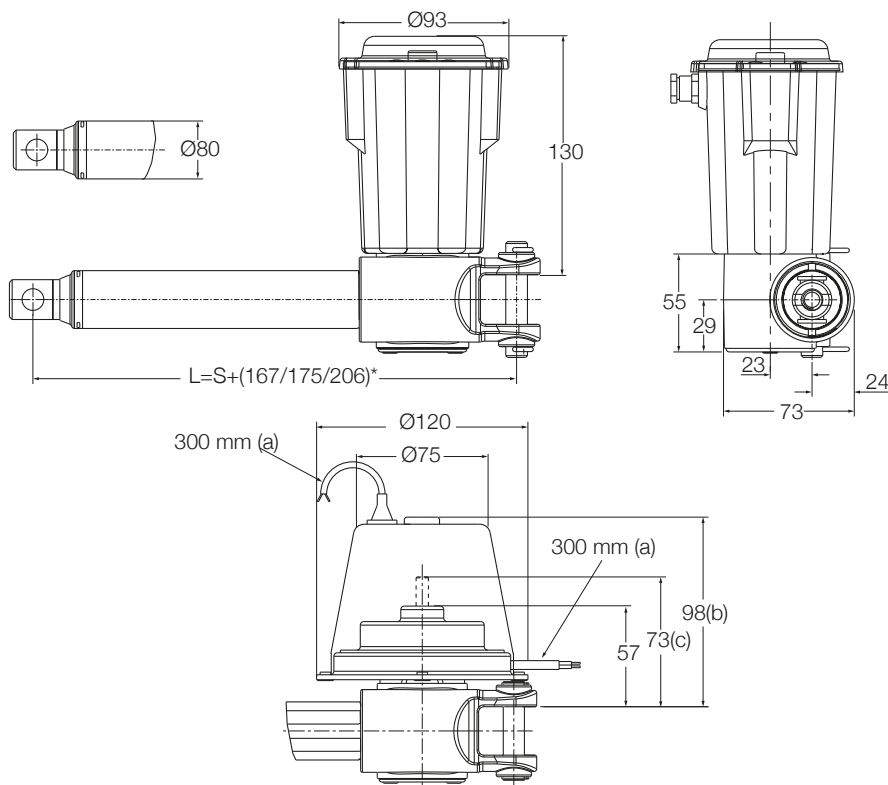
**Legend:**

S = stroke

L = retracted length

<sup>1)</sup> Dimension depends on selected front attachment

### Dimensional drawing – CAT 32B DC version



**Legend:**

S = stroke

L = retracted length

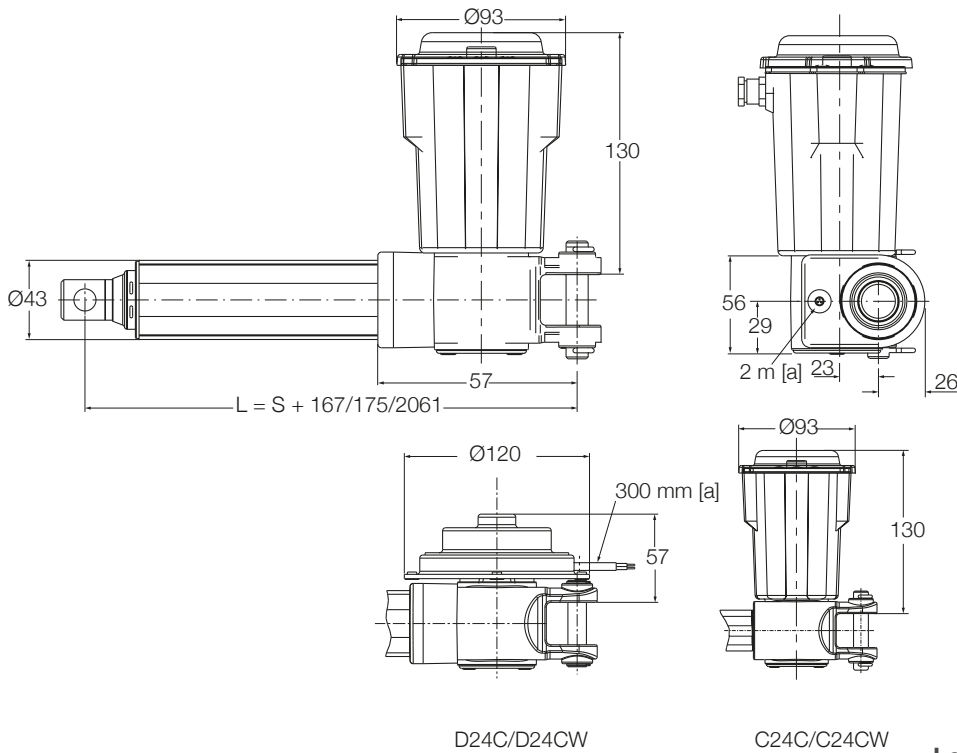
(a) = cable length

(b) = cover for brake (D24CB)

(c) = extended shaft (D24CS)

D12C, D24C, D24CB, D24CS, D24CW

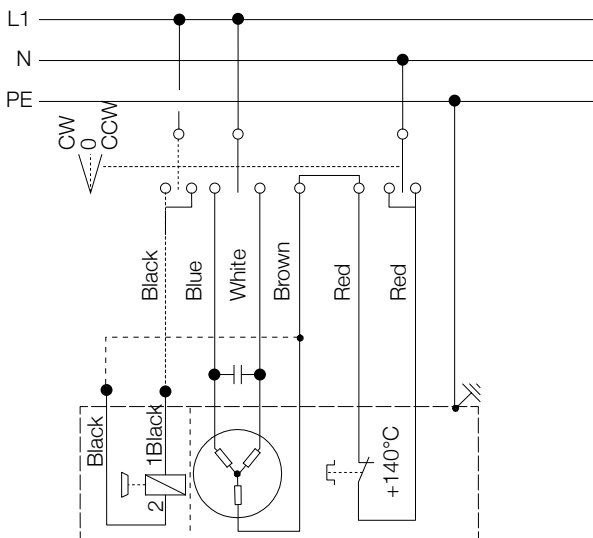
Dimensional drawing – CAP 43B



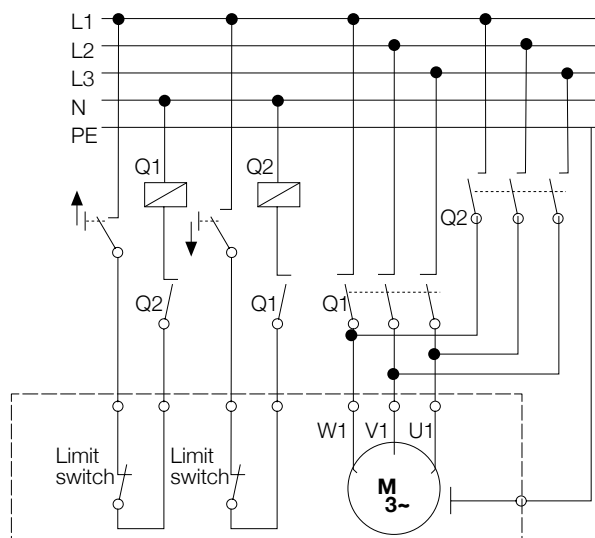
**Legend:**  
 S = stroke  
 L = retracted length  
 [a] = cable length  
 1) Dimension depends on selected front attachment

Connecting diagrams – AC version

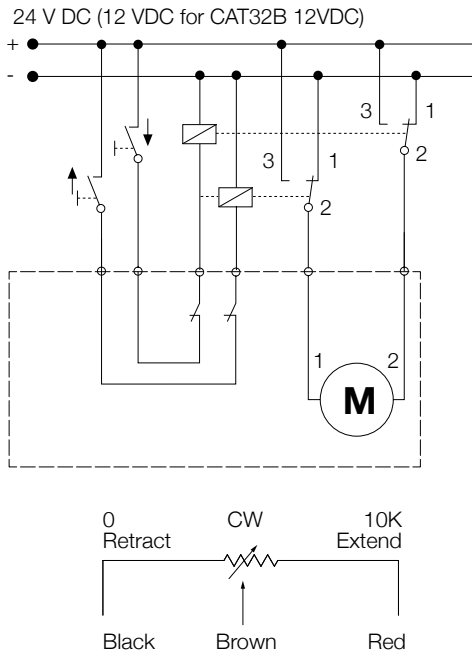
120/230 V AC



400 V AC





### Connecting diagrams – DC version




Connection diagram for linear potentiometer only for CAP 43B.


### Suitable control units and accessories AC version

	Control units	Limit switch	Encoder
	CAEV 110/220	CAXE32B	E2
E110C	●	●	●
E110CB	●	●	●
E220C	●	●	●
E220CB	●	●	●
E380C	●	●	●
<b>Operating switches</b>			
CAES 31C 	●		

 Hand switch

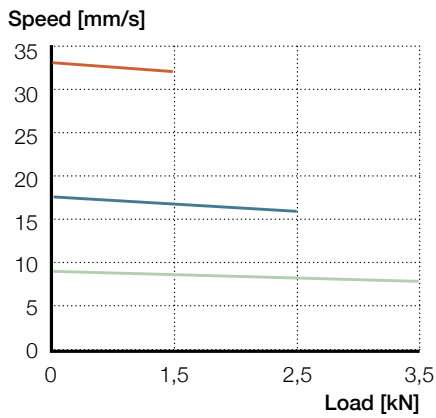
### Suitable control units and accessories DC version

	Control units	Limit switch	Encoder
	CAED 5-24R	CAED 9-24R	CAXE32B
			E2
C12C			●
D12C			●
C24C		●	●
C24CW	●	●	●
D24C		●	●
D24CB		●	●
D24CS		●	●
D24CW	●	●	●
<b>Operating switches</b>			
CAES 31C 	●	●	

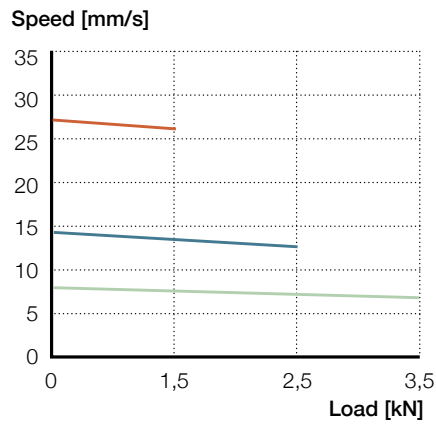
 Hand switch

### Performance diagrams – AC version

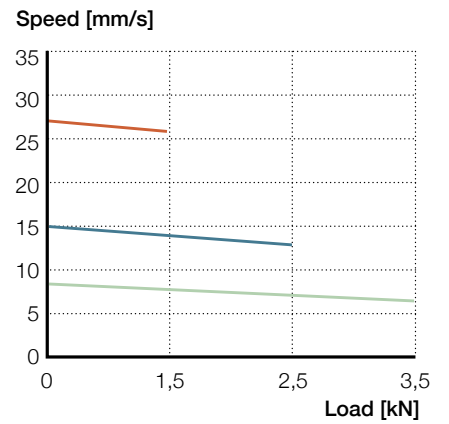
Speed-load diagram CAT 32B ... 120 V AC



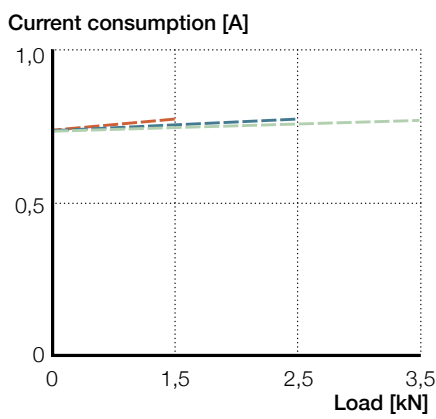
Speed-load diagram CAT 32B ... 230 V AC



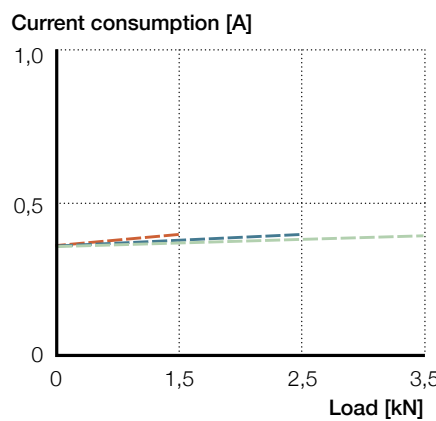
Speed-load diagram CAT 32B ... 400 V AC



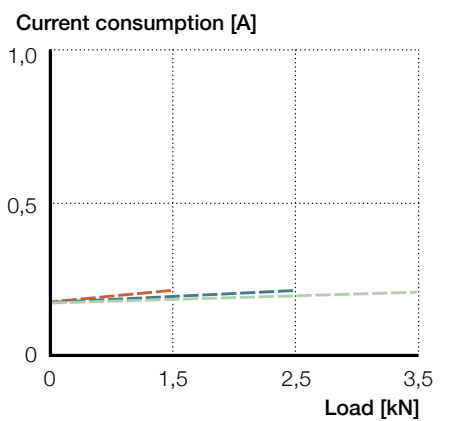
Current-load diagram CAT 32B ... 120 V AC



Current-load diagram CAT 32B ... 230 V AC



Current-load diagram CAT 32B ... 400 V AC



Gear 1 — V (mm/s) — I (A)

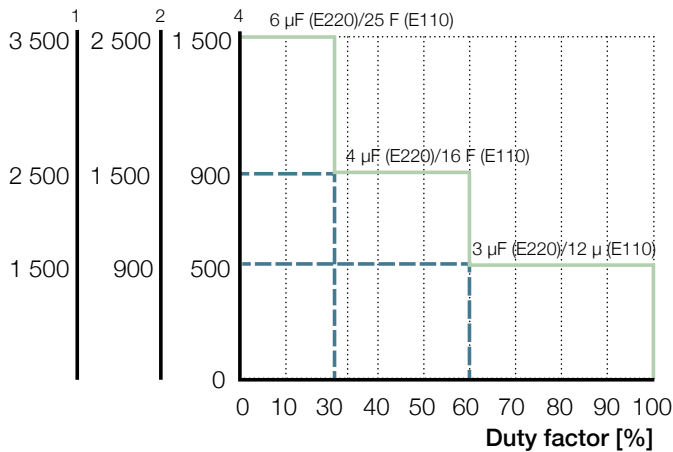
Gear 2 — V (mm/s) — I (A)

Gear 4 — V (mm/s) — I (A)

### Duty cycle – AC version

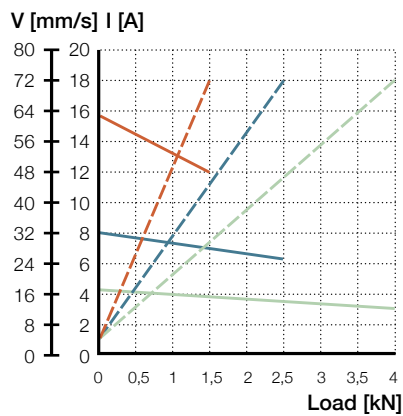
CAT 32B...230/120 V AC

F [N] Gear

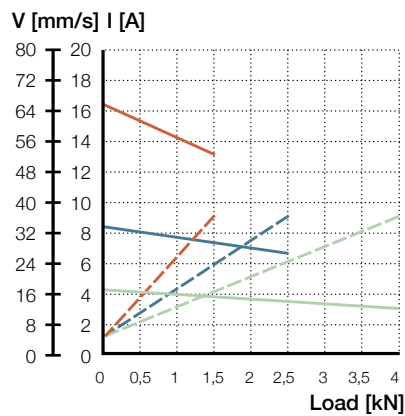


### Performance diagrams – DC version

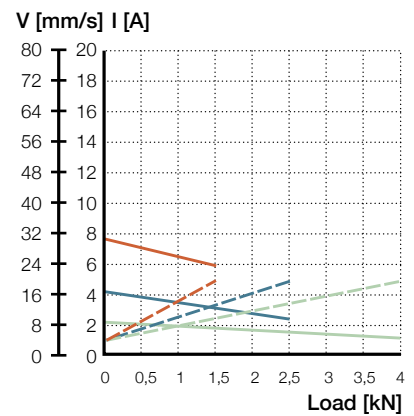
CAT 32B.../C12C



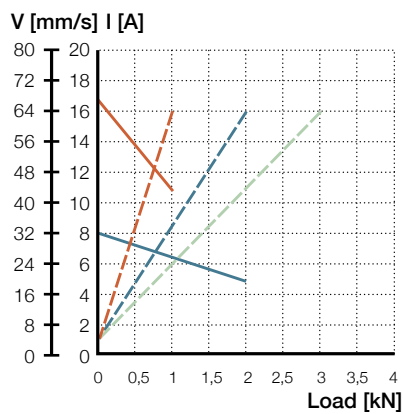
CAT 32B.../C24C  
CAP 43B.../C24C



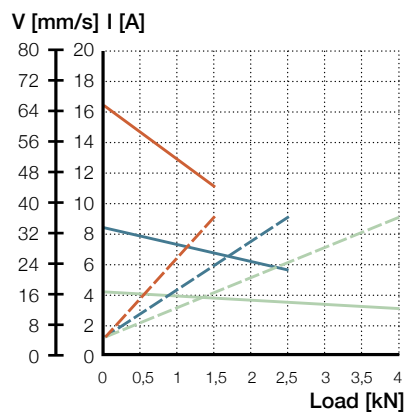
CAT 32B.../C24CW  
CAP 43B.../C24CW



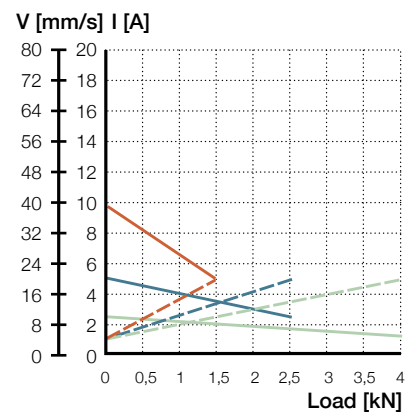
CAT 32B.../D12C



CAT 32B.../D24C/D24CB/D24CS  
CAP 43B.../D24C



CAT 32B.../D24CW  
CAP 43B.../D24CW



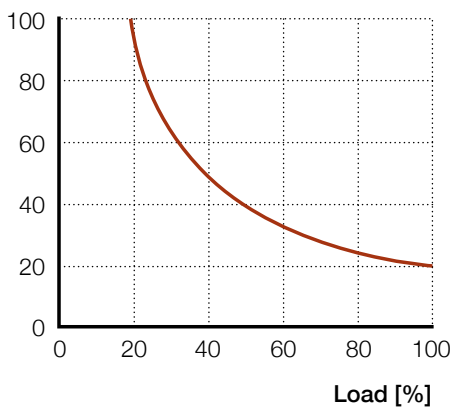
Gear 1 — V (mm/s) — I (A)

Gear 2 — V (mm/s) — I (A)

Gear 4 — V (mm/s) — I (A)

### Duty cycle – DC version

Duty factor [%] at 20 °C



## CAR 32B – Type codes for accessories and spare parts

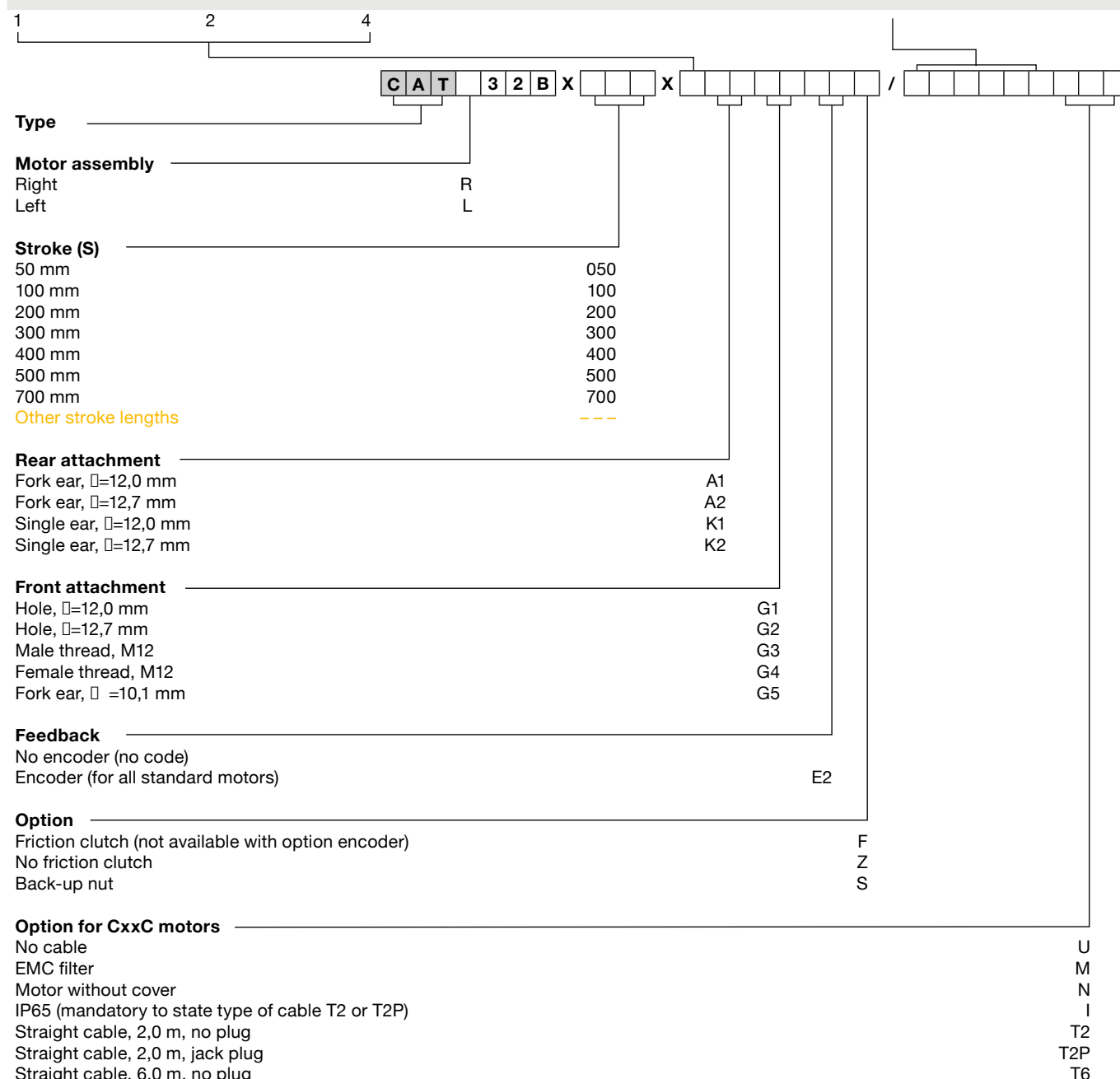
Item code	Type code	Order N°
12 V DC motor (cylindrical motor)	C12C	M/0405535
12 V DC motor (flat motor)	D12C	M/0405518
24 V DC motor (cylindrical motor)	C24C	M/0405536
24 V DC motor (cylindrical with low speed)	C24CW	M/0405537
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with brake)	D24CB	M/0405523
24 V DC motor (flat motor with extended shaft)	D24CS	M/0405522
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
120 V AC motor (cylindrical motor)	E110C	M/0405533
120 V AC motor (cylindrical motor with brake)	E110CB	M/0405534
230 V AC motor (cylindrical motor)	E220C	M/0405531
230 V AC motor (cylindrical motor with brake)	E220CB	M/0405532
400 V AC motor (cylindrical motor)	E380C	M/0411607
Capacitor value 25 $\mu$ F (120 V AC)	Capacitor 25 $\mu$ F	M/0430670-06
Capacitor value 6 $\mu$ F (230 V AC)	Capacitor 6 $\mu$ F	M/0430670-03
Limit switch for stroke =50 mm	CAXE 32B $\times$ 50	M/0412070
Limit switch for stroke =100 mm	CAXE 32B $\times$ 100	M/0412071
Limit switch for stroke =200 mm	CAXE 32B $\times$ 200	M/0412073
Limit switch for stroke =300 mm	CAXE 32B $\times$ 300	M/0412074
Limit switch for stroke =400 mm	CAXE 32B $\times$ 400	M/0412075
Limit switch for stroke =500 mm	CAXE 32B $\times$ 500	M/0412076
Limit switch for stroke =700 mm	CAXE 32B $\times$ 700	M/0412077
Proximity switch for CAXE	CAXE Proximity switch	M/0432369
Front mounting attachments type Rod-end	575-32	M/0430575-32
Front mounting attachments type Clevis	576-32	M/0430576-32
Rear mounting attachments type Single ear bracket	580-32	M/0430580-32
Rear mounting attachments type Universal joint	582-32	M/0431780-32
Control unit (suitable for E110, E220 motors)	CAEV 110/220	M/0420097
Control unit (suitable for D24CW, C24CW motor)	CAED 5-24R	M/0420209
Control unit (suitable for D24C/CB/CS, C24C motors)	CAED 9-24R	M/0420210
Handset configured for CAED and CAEV units	CAES 31C	M/0420213

## CAP 43B – Type codes for accessories and spare parts

Item code	Type code	Order N°
24 V DC motor (cylindrical motor)	C24C	M/0405536
24 V DC motor (cylindrical with low speed)	C24CW	M/0405537
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
Front mounting attachments type Rod-end	575-32	M/0430575-32
Front mounting attachments type Clevis	576-32	M/0430576-32
Rear mounting attachments type Single ear bracket	580-32	M/0430580-32
Rear mounting attachments type Universal joint	582-32	M/0431780-32

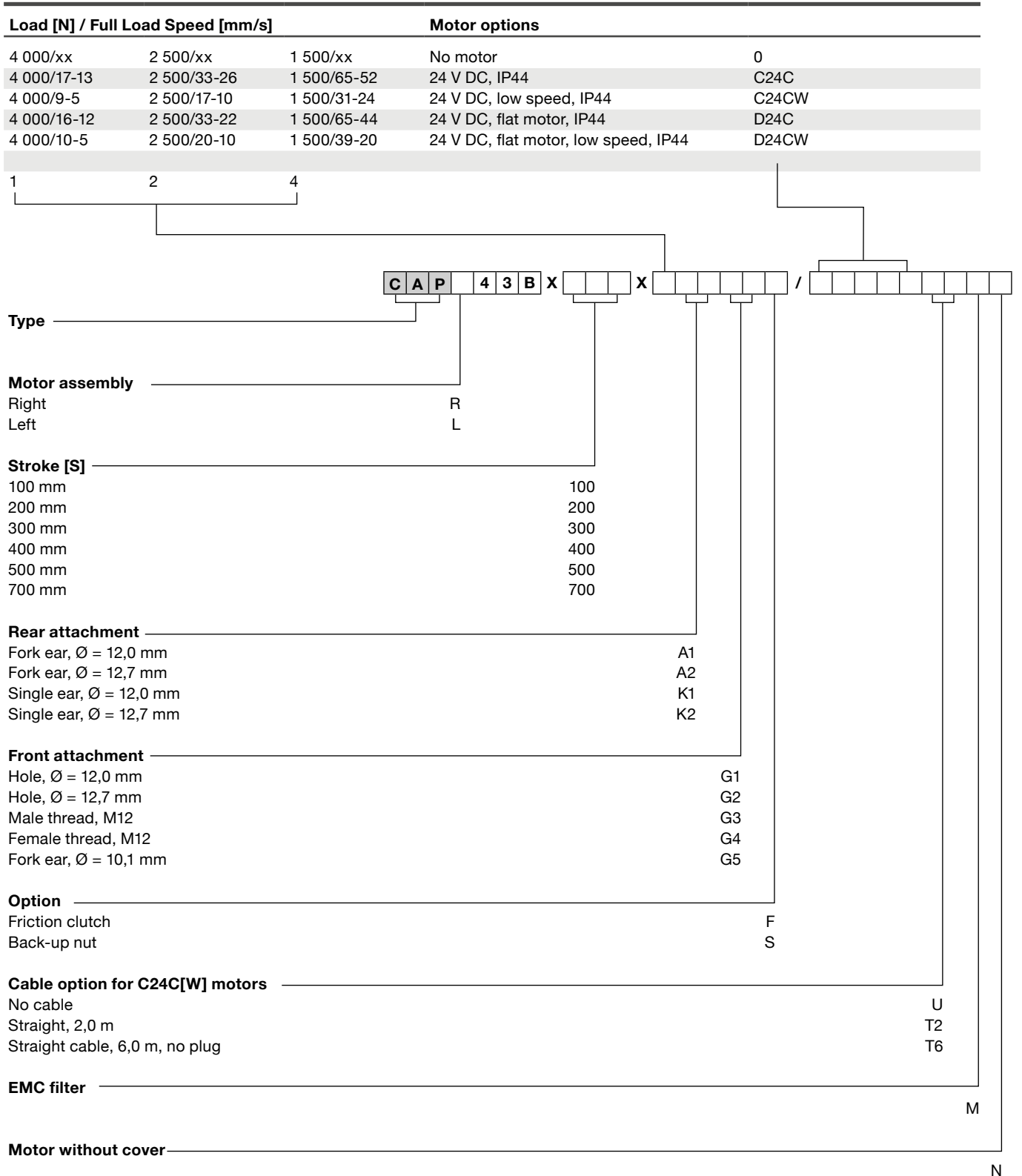
# Ordering key

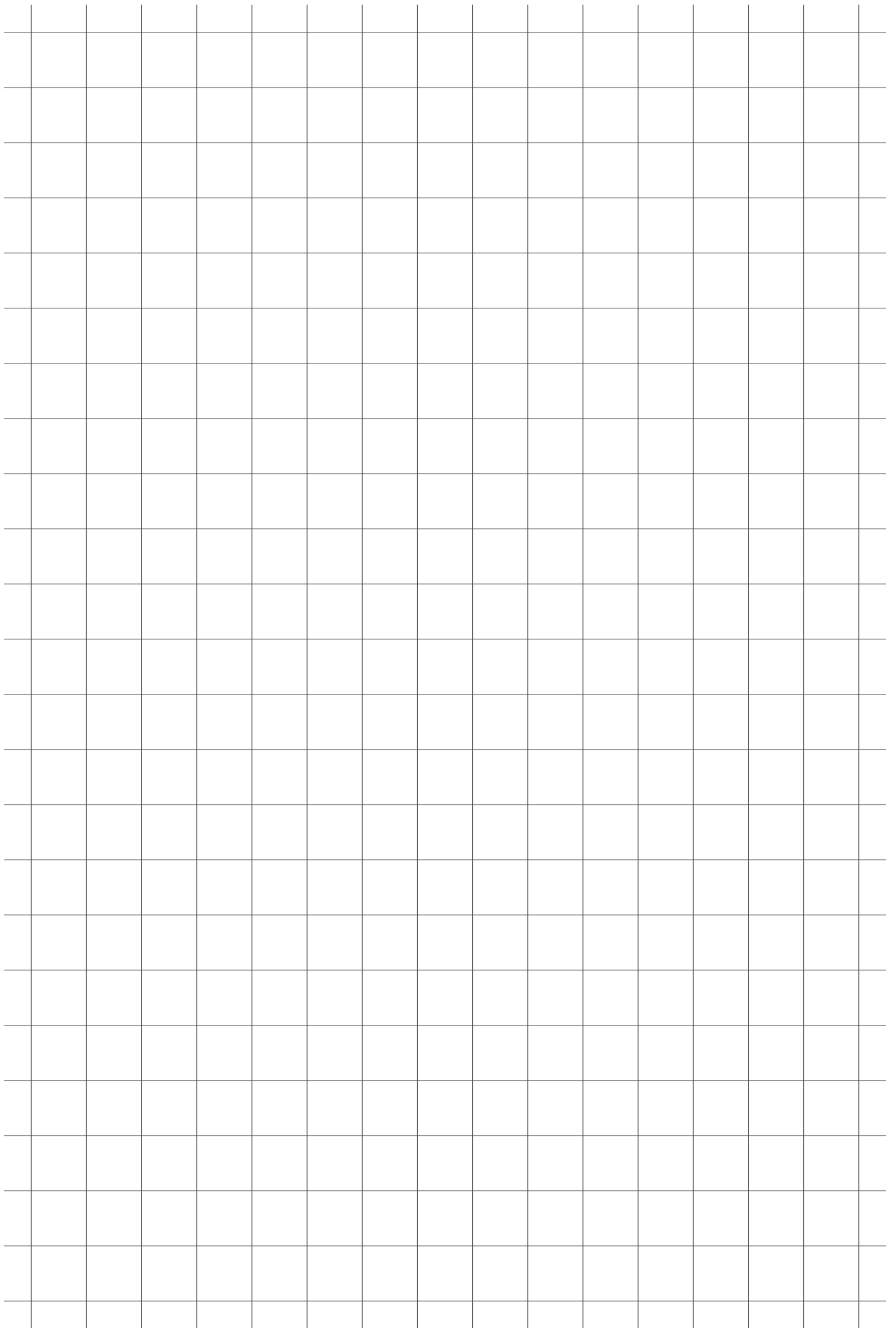
Load [N] / Full Load Speed [mm/s]			Motor options	
4 000/xx	2 500/xx	1 500/xx	No motor	0
3 500/8	2 500/16	1 500/32	120 V AC/60 Hz, 1-phase, IP54	E110C
3 500/8	2 500/16	1 500/32	120 V AC/60 Hz, 1-phase, brake, IP20	E110CB
3 500/6,5	40 6/13	20 3/13	230 V AC/50 Hz, 1-phase, IP54	E220C
3 500/6,5	40 6/13	20 3/13	230 V AC/50 Hz, 1-phase, brake, IP20	E220CB
3 500/7	2 500/14	1 500/32	400 V AC/50 Hz, 3-phase, IP55	E380C
4 000/xx	2 500/xx	1 500/xx	No motor	0
4 000/17-12	2 500/32-25	1 500/63-48	12 V DC, IP44 (65)	C12C
4 000/17-11	2 500/34-19	1 500/67-43	12 V DC, flat motor, IP44	D12C
4 000/17-13	2 500/33-26	1 500/65-52	24 V DC, IP44 (65)	C24C
4 000/9-5	2 500/17-10	1 500/31-24	24 V DC, low speed motor, IP44 (IP65)	C24CW
4 000/16-12	2 500/33-22	1 500/65-44	24 V DC, flat motor, IP44	D24C
4 000/16-12	2 500/33-22	1 500/65-44	24 V DC, flat motor, brake, IP20	D24CB
4 000/16-12	2 500/33-22	1 500/65-44	24 V DC, flat motor, ext.shaft, IP44	D24CS
4 000/10-5	2 500/20-10	1 500/39-20	24 V DC, flat motor, low speed, IP44	D24CW



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

# Ordering key





# CAT 33 and CAP 43A

## Linear actuator

### Benefits

- Small
- Robust
- Highly efficient
- Lubricated for service life
- Digital encoder feedback



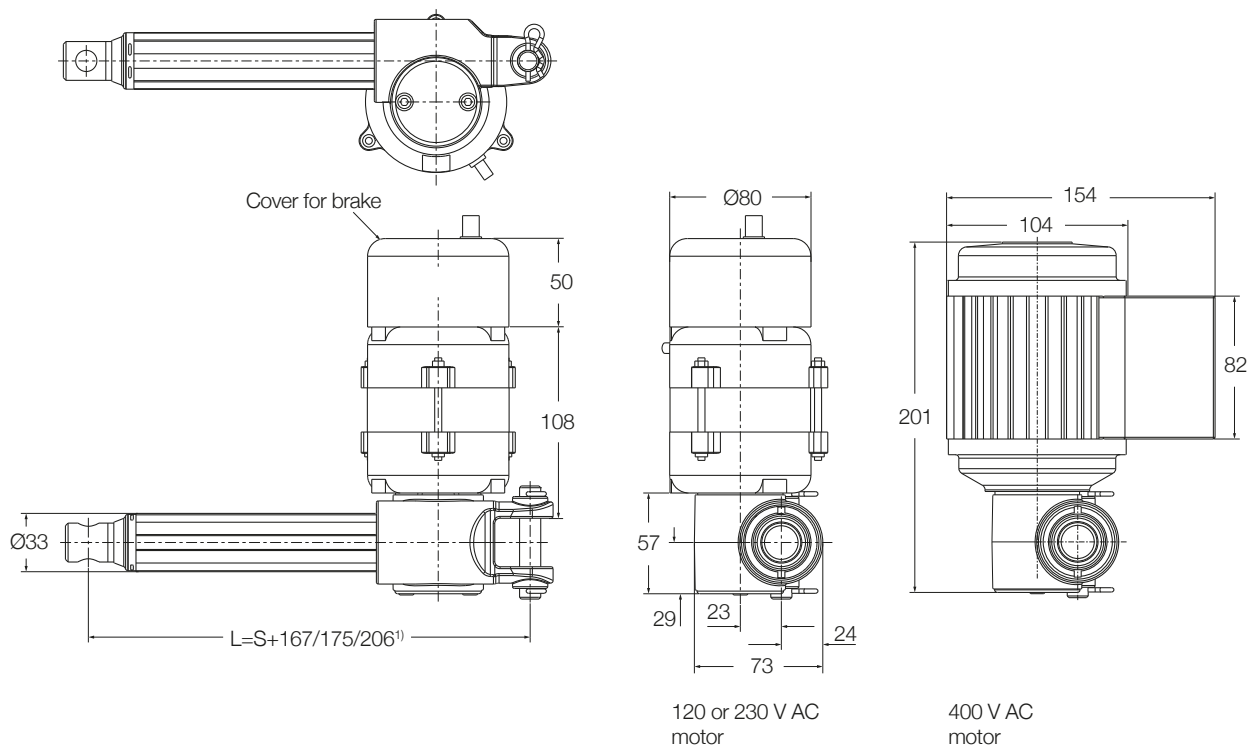
### Technical data

	Unit	CAT 33 - AC version	CAT 33 - DC version	CAP 43A
Rated push load	N	800 to 3 000	800 to 3 000	1 000 to 3 000
Rated pull load	N	800 to 3 000	800 to 3 000	1 000 to 3 000
Speed (at full load)	mm/s	5 to 24 <sup>1)</sup>	5 to 52 <sup>1)</sup>	5 to 52 <sup>1)</sup>
Stroke	mm	100 to 400	100 to 400	100 to 400
Retracted length	mm	S+150/158/189 <sup>2)</sup>	S+150/158/189 <sup>2)</sup>	S+150/158/189 <sup>2)</sup>
Voltage	V AC	120, 230 or 400	–	–
	V DC	–	12 or 24	24
Power consumption	120 V AC	W	98 (brake 133,2 W)	–
	230 V AC	W	92 (brake 117,3 W)	–
	400 V AC	W	80	–
	12 or 24 V DC	W	–	N/A
Current consumption	120 V AC	A	0,82 (brake +0,29 A)	–
	230 V AC	A	0,4 (brake + 0,11 A)	–
	400 V AC	A	0,2	–
	12 V DC	A	–	18
	24 V DC	A	–	9
	24 V DC	A	–	5 (for motors C24CW and D24CW)
Duty cycle	%	30	15	15
Ambient temperature	°C	–20 to +50	–20 to +50	–20 to +50
Type of protection	IP	20/54/55	20/44/65	44
Weight	kg	2 to 2,7	2 to 2,7	2,0 to 2,7

<sup>1)</sup> Depending on selected motor

<sup>2)</sup> Dimension depends on selected front attachment

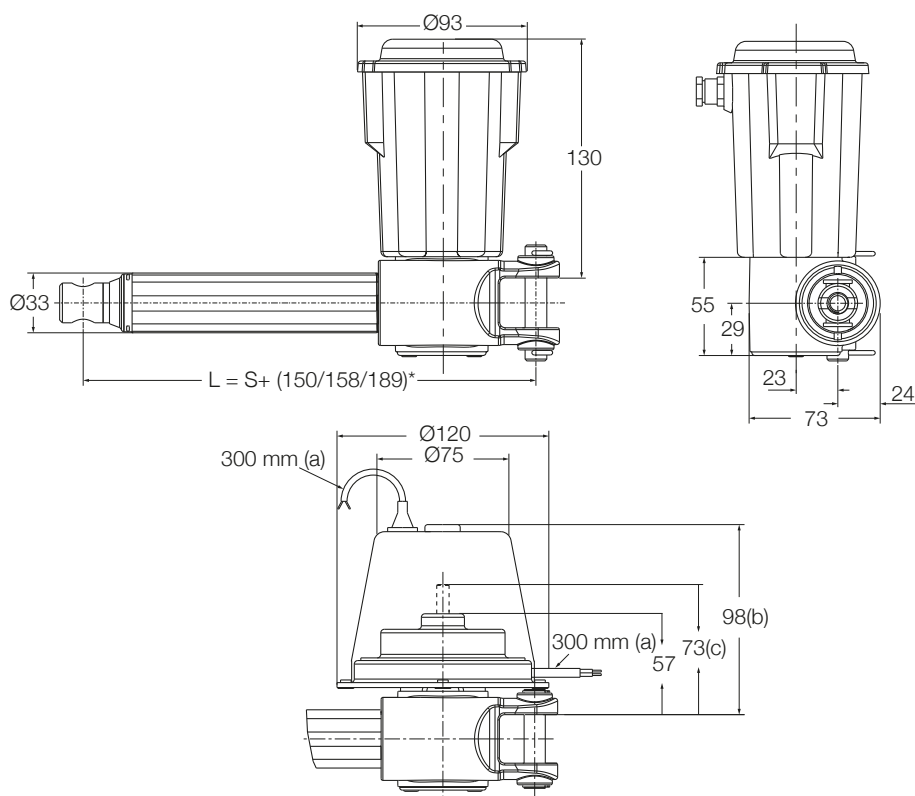
### Dimensional drawing – CAT 33 AC version



**Legend:**

- S = stroke
- L = retracted length
- <sup>1)</sup> Dimension depends on selected front attachment

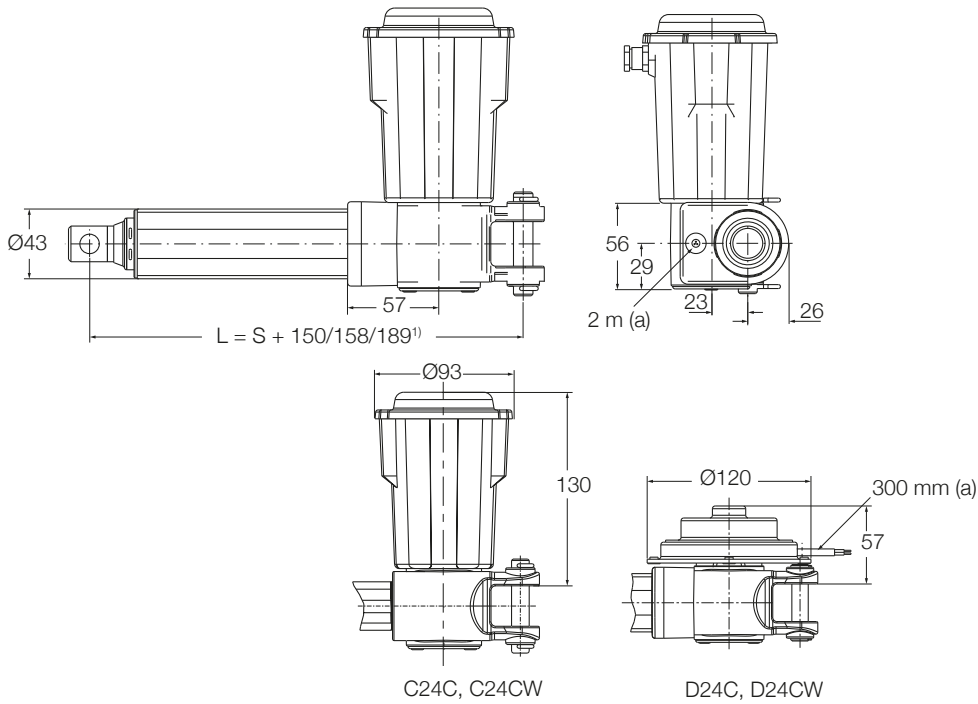
### Dimensional drawing – CAT 33 DC version



**Legend:**

- S = stroke
- L = retracted length
- (a) = cable length
- (b) = cover for brake (D24CB)
- (c) = extended shaft (D24CS)
- <sup>1)</sup> Dimension depends on selected front attachment

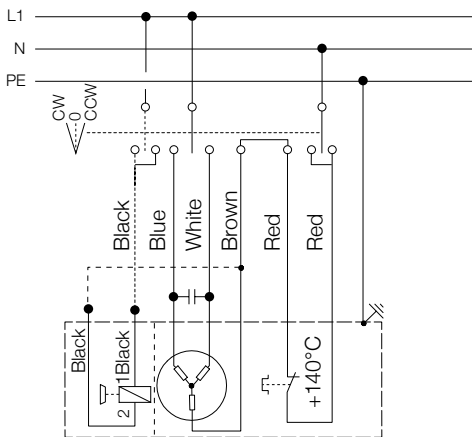
Dimensional drawing – CAP 43A



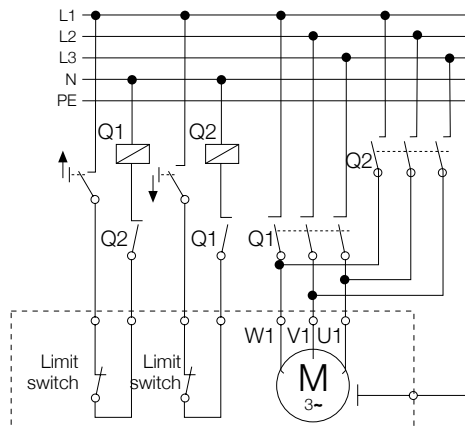
**Legend:**  
**S** = stroke  
**L** = retracted length  
**[a]** = cable length  
 ¹) Dimension depends on selected front attachment

Connecting diagrams – CAT 33 AC version

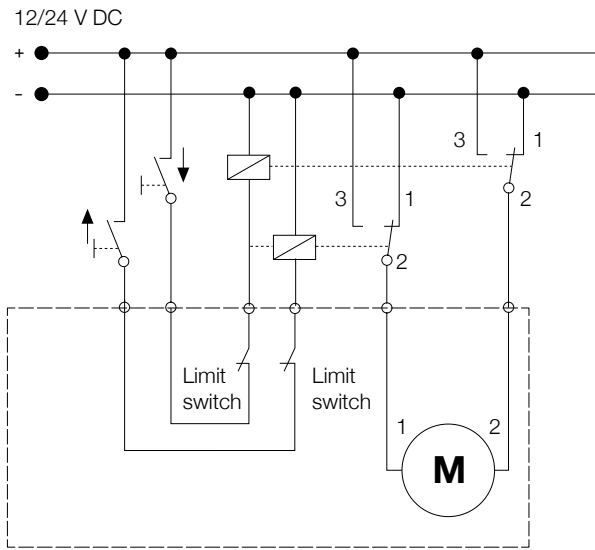
120/230 V AC



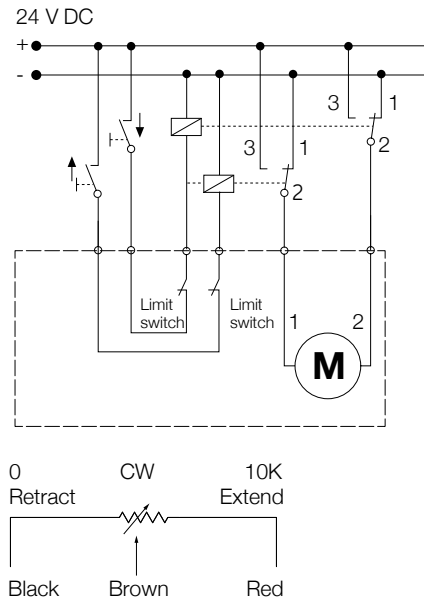
400 V AC



### Connecting diagrams – CAT 33 DC version



### Connecting diagrams – CAP 43A



Connection diagram for linear potentiometer

### Suitable control units and accessories AC version

	Control units	Limit switch	Encoder
<b>E110C</b>	● CAEV 110/220		● E2
<b>E110CB</b>	● CAEV 110/220		● E2
<b>E220C</b>	● CAEV 110/220		● E2
<b>E220CB</b>	● CAEV 110/220	● CAXD33	● E2
<b>E380C</b>		● CAXD33	● E2
<b>Operating switches</b>			
CAES 31C	● CAEV 110/220		

Hand switch

### Suitable control units and accessories DC version

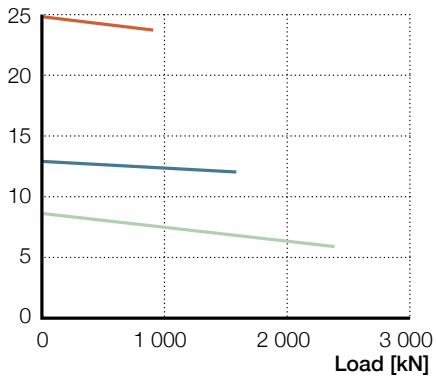
	Control units	Encoder
<b>C12C</b>		● E2
<b>D12C</b>		● E2
<b>C24C</b>		● E2
<b>C24CW</b>	● CAED 5-24R	● CAED 9-24R
<b>D24C</b>		● E2
<b>D24CB</b>		● E2
<b>D24CS</b>		● E2
<b>D24CW</b>	● CAED 5-24R	● CAED 9-24R
<b>Operating switches</b>		
CAES 31C	● CAED 5-24R	● CAED 9-24R

Hand switch

### Performance diagrams – AC version

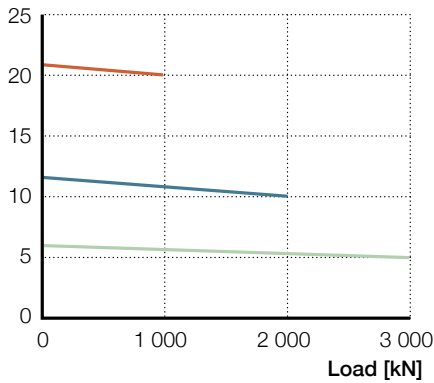
Speed-load diagram CAT 33 ... 120 V AC

Speed [mm/s]



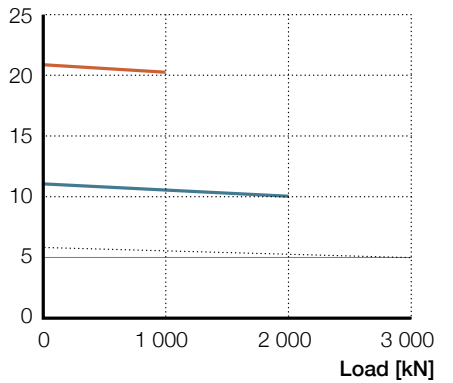
Speed-load diagram CAT 33 ... 230 V AC

Speed [mm/s]



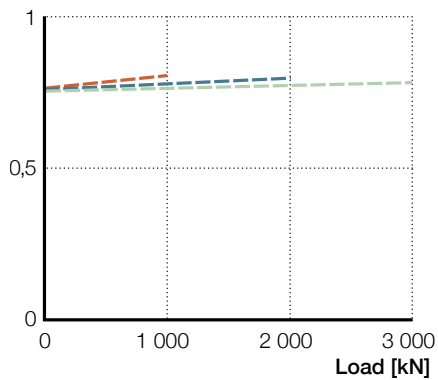
Speed-load diagram CAT 33 ... 400 V AC

Speed [mm/s]



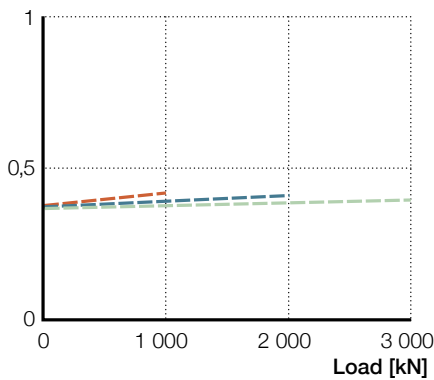
Current-load diagram CAT 33 ... 120 V AC

Current consumption [A]



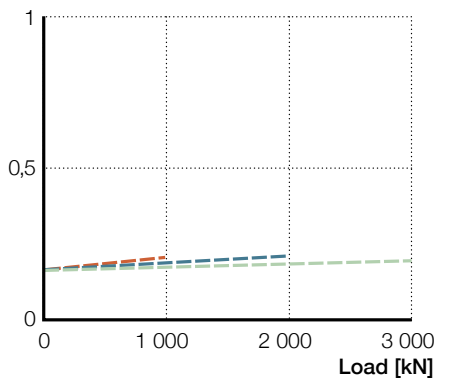
Current-load diagram CAT 33 ... 230 V AC

Current consumption [A]



Current-load diagram CAT 33 ... 400 V AC

Current consumption [A]



Gear 1 — V (mm/s) - - - I (A)

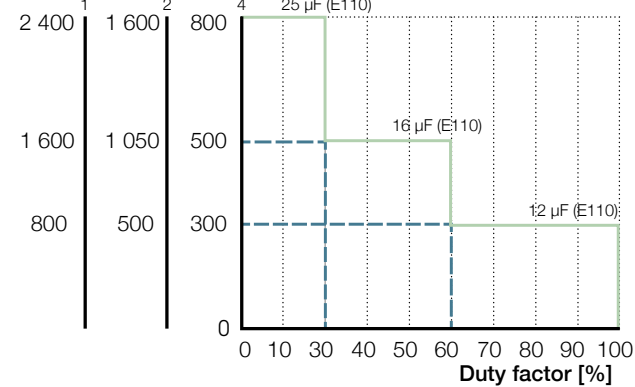
Gear 2 — V (mm/s) - - - I (A)

Gear 4 — V (mm/s) - - - I (A)

### Duty cycle

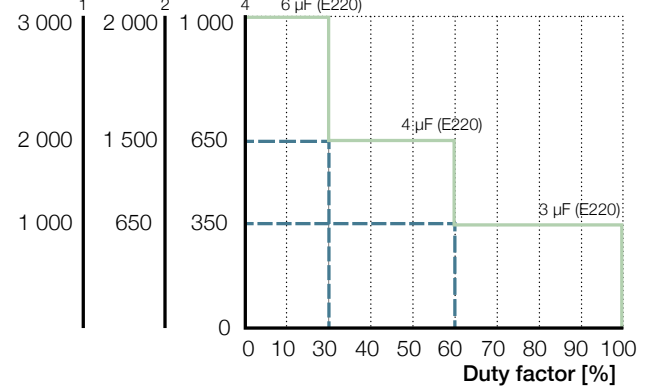
CAT 33 ... 120 V AC

F [N] Gear



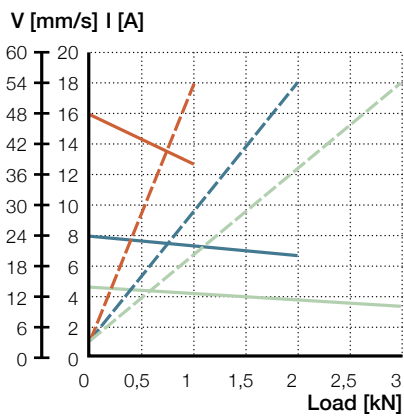
CAT 33 ... 230 V AC

F [N] Gear

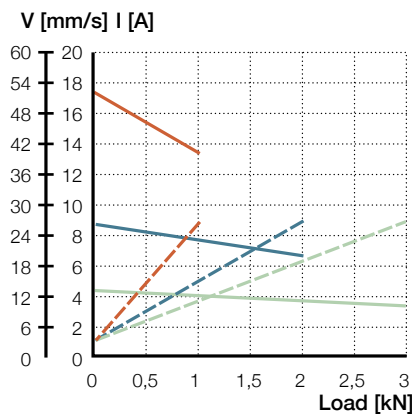


### Performance diagrams – DC version

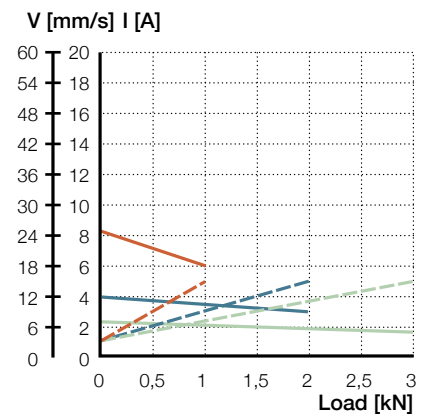
CAT 33.../C12C



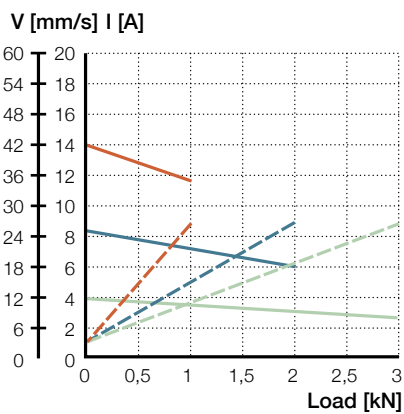
CAT 33.../C24C  
CAP 43B.../C24C



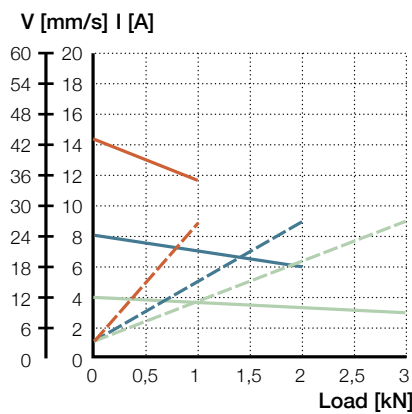
CAT 33.../C24CW  
CAP 43B.../C24CW



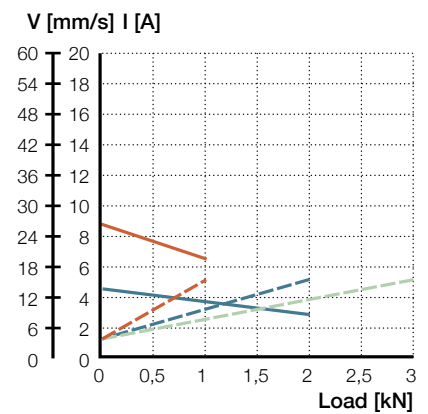
CAT 33.../D12C



CAT 33.../D24C/D24CB/D24CS  
CAP 43B.../D24C



CAT 33.../D24CW  
CAP 43B.../D24CW



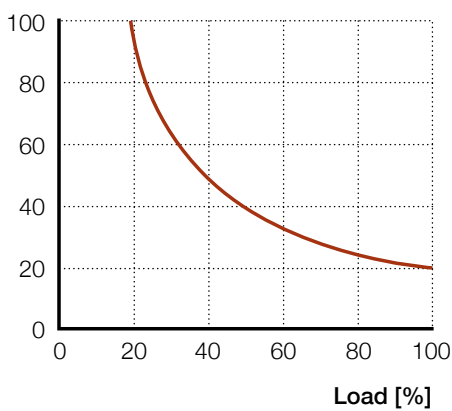
Gear 1 — V (mm/s) — I (A)

Gear 2 — V (mm/s) — I (A)

Gear 4 — V (mm/s) — I (A)

### Duty cycle – DC version

Duty factor [%] at 20 °C



## CAT 33 – Type codes for accessories and spare parts

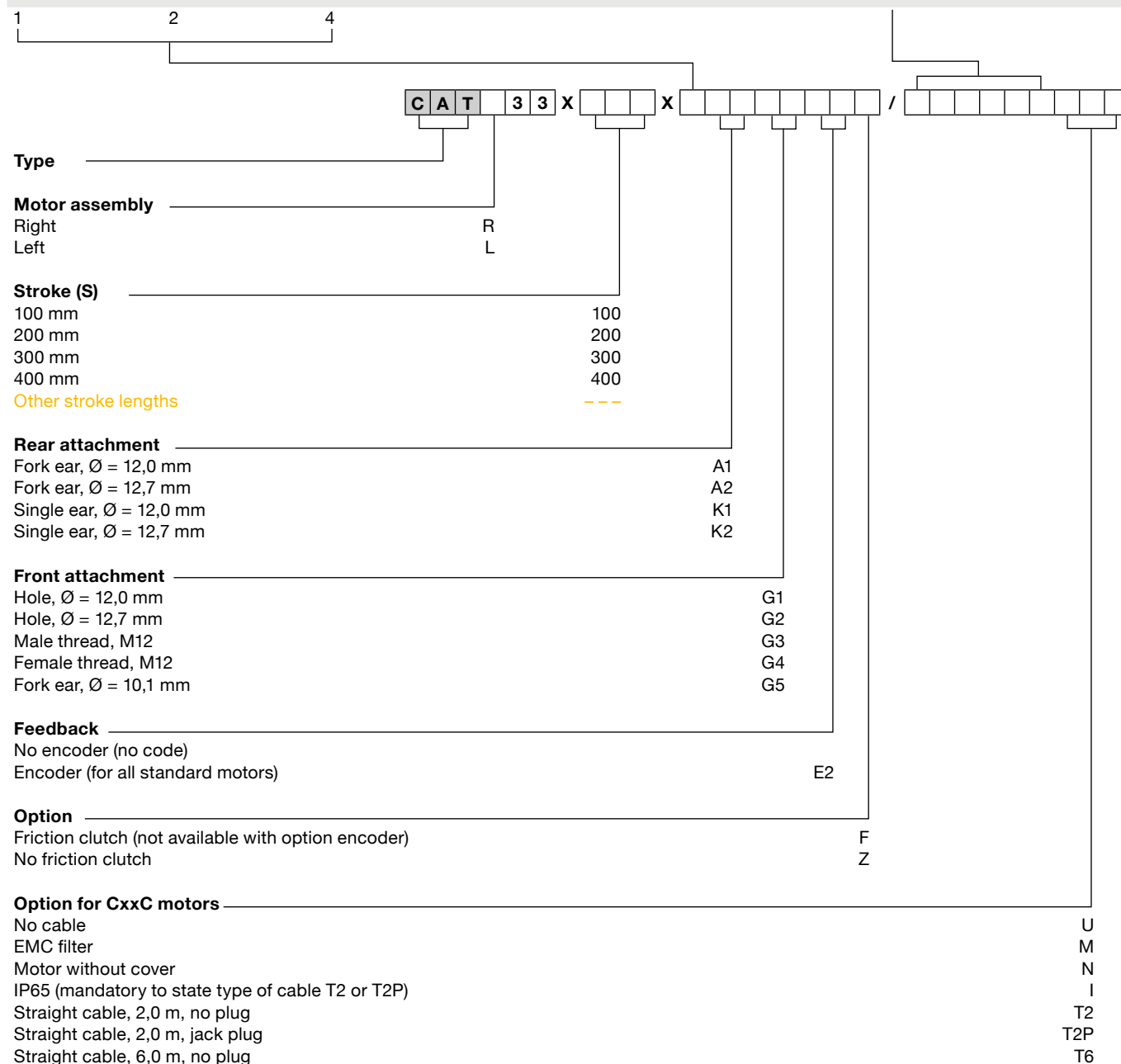
Item code	Type code	Order N°
12 V DC motor (cylindrical motor)	C12C	M/0405535
12 V DC motor (flat motor)	D12C	M/0405518
24 V DC motor (cylindrical motor)	C24C	M/0405536
24 V DC motor (cylindrical with low speed)	C24CW	M/0405537
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with brake)	D24CB	M/0405523
24 V DC motor (flat motor with extended shaft)	D24CS	M/0405522
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
120 V AC motor (cylindrical motor)	E110C	M/0405533
120 V AC motor (cylindrical motor with brake)	E110CB	M/0405534
230 V AC motor (cylindrical motor)	E220C	M/0405531
230 V AC motor (cylindrical motor with brake)	E220CB	M/0405532
400 V AC motor (cylindrical motor)	E380C	M/0411607
Capacitor value 25 $\mu$ F (120 V AC)	Capacitor 25 $\mu$ F	M/0430670–06
Capacitor value 6 $\mu$ F (230 V AC)	Capacitor 6 $\mu$ F	M/0430670–03
Limit switch for any stroke, normally closed	CAXD33, NC	M/0440054
Limit switch for any stroke, normally open	CAXD33, NO	M/0440053
Front mounting attachments type Rod-end	575–32	M/0430575–32
Front mounting attachments type Clevis	576–32	M/0430576–32
Rear mounting attachments type Single ear bracket	580–32	M/0430580–32
Rear mounting attachments type Universal joint	582–32	M/0431780–32
Control unit (suitable for E110, E220 motors)	CAEV 110/220	M/0420097
Control unit (suitable for D24CW,C24CW motor)	CAED 5–24R	M/0420209
Control unit (suitable for D24C/CB/CS motors)	CAED 9–24R	M/0420210
Handset configured for CAED and CAEV units	CAES 31C	M/0420213

## CAP 43A – Type codes for accessories and spare parts

Item code	Type code	Order N°
24 V DC motor (cylindrical motor)	C24C	M/0405536
24 V DC motor (cylindrical with low speed)	C24CW	M/0405537
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
Front mounting attachments type Rod-end	575–32	M/0430575–32
Front mounting attachments type Clevis	576–32	M/0430576–32
Rear mounting attachments type Single ear bracket	580–32	M/0430580–32
Rear mounting attachments type Universal joint	582–32	M/0431780–32

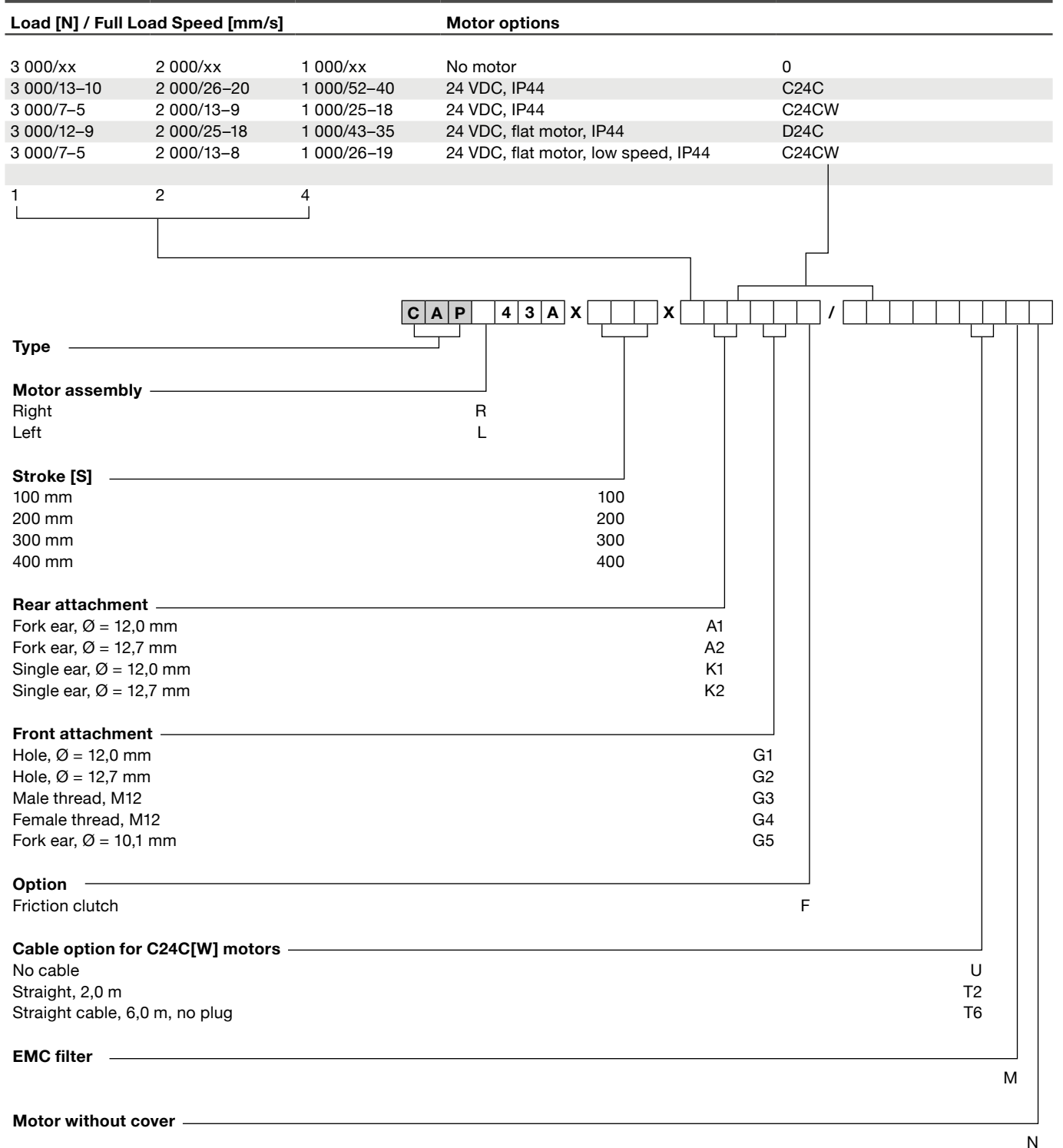
# Ordering key

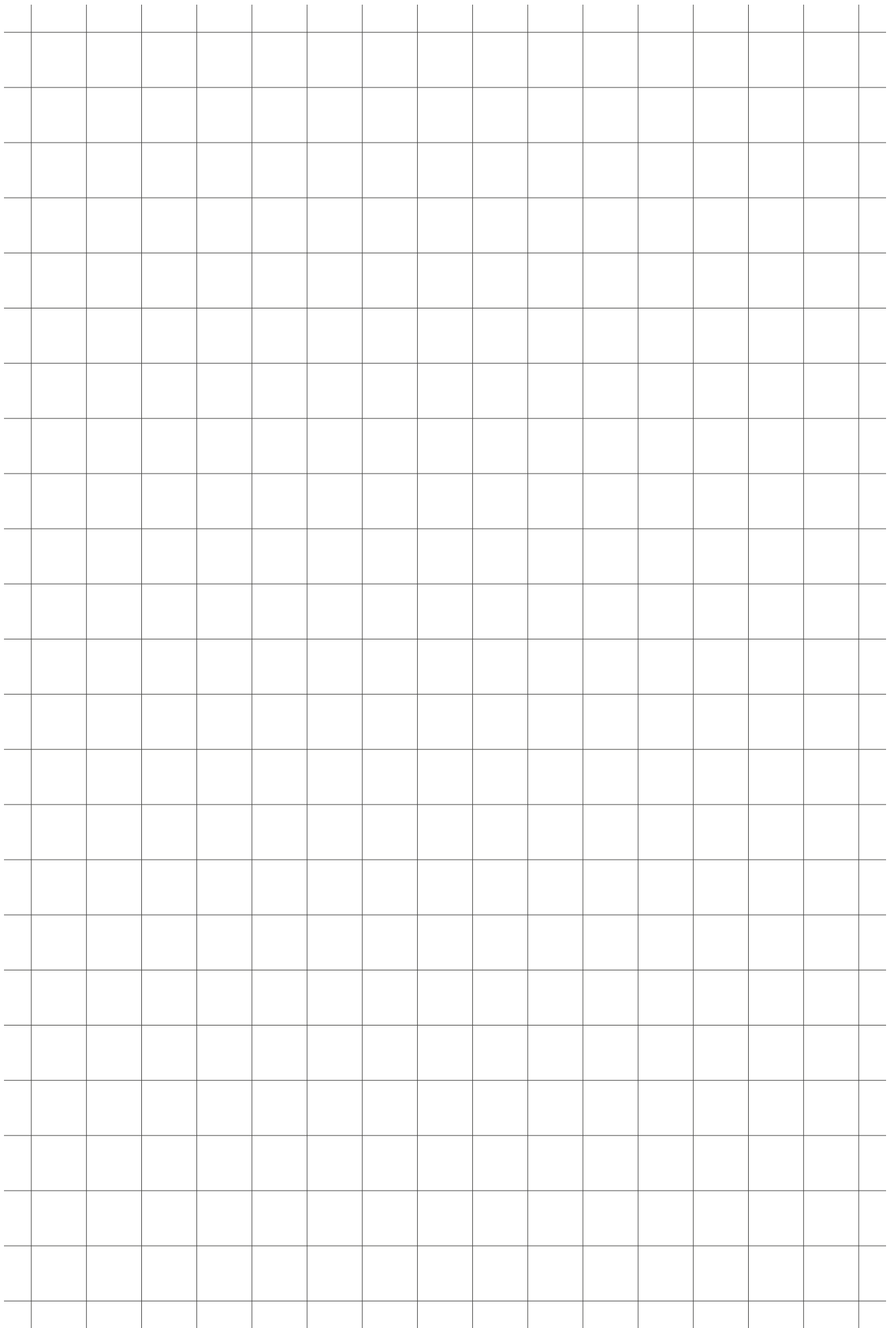
Load [N] / Full Load Speed [mm/s]			Motor options	
3 000/xx	2 000/xx	1 000/xx	No motor	0
2 400/6	1 600/12	800/24	120 V AC/60 Hz, 1-phase, IP54	E110C
2 400/6	1 600/12	800/24	120 V AC/60 Hz, 1-phase, brake, IP20	E110CB
3 000/5	2 000/10	1 000/20	230 V AC/50 Hz, 1-phase, IP54	E220C
3 000/5	2 000/10	1 000/20	230 V AC/50 Hz, 1-phase, brake, IP20	E220CB
3 000/5	2 000/10	1 000/20	400 V AC/50 Hz, 3-phase, IP55	E380C
3 000/xx	2 000/xx	1 000/xx	No motor	0
3 000/13-10	2 000/24-20	1 000/48-38	12 V DC, IP44 (65)	C12C
2 400/ 11-7	1 600/21-15	800/39-21	12 V DC, flat motor, IP44	D12C
3 000/13-10	2 000/26-20	1 000/52-40	24 V DC, IP44 (65)	C24C
3 000/7-5	2 000/13-9	1 000/25-18	24 V DC, low speed, IP44 (65)	C24CW
3 000/12-9	2 000/25-18	1 000/43-35	24 V DC, flat motor, IP44	D24C
3 000/12-9	2 000/25-18	1 000/43-35	24 V DC, flat motor, brake, IP20	D24CB
3 000/12-9	2 000/25-18	1 000/43-35	24 V DC, flat motor, IP44, ext. shaft	D24CS
3 000/7-5	2 000/13-8	1 000/26-19	24 V DC, flat motor, low speed, IP44	D24CW



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

# Ordering key





# CAT 33H

## Linear actuator

### Benefits

- Compact
- Robust
- Modular
- Lubricated for service life
- High efficiency
- Digital encoder feedback



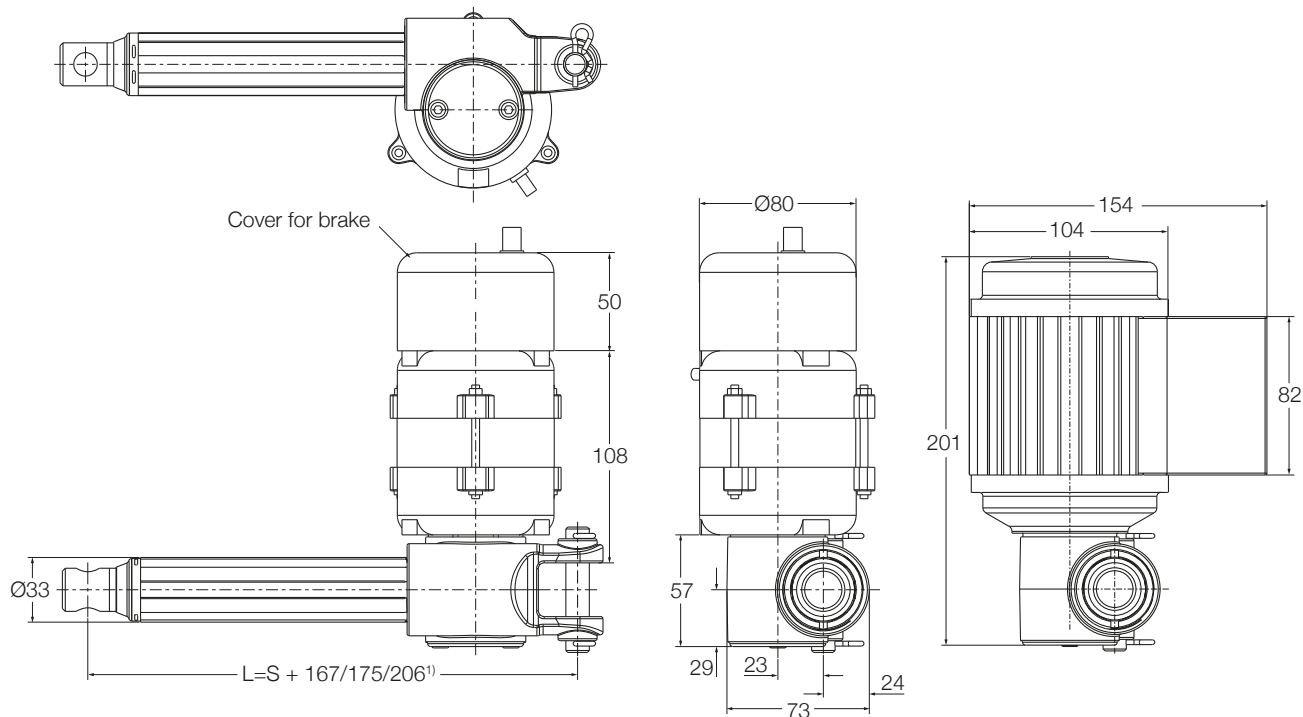
### Technical data

		Unit	CAT 33H – AC version	CAT 33H – DC version
Rated push load		N	500 to 1 200	400 to 1 200
Rated pull load		N	500 to 1 200	400 to 1 200
Speed (at full load)		mm/s	20 to 90 <sup>1)</sup>	17 to 193 <sup>1)</sup>
Stroke		mm	100 to 400	100 to 400
Retracted length		mm	S+150/158/189 <sup>2)</sup>	S+150/158/189 <sup>2)</sup>
Voltage		V AC	120, 230 or 400	–
		V DC	–	12 or 24
Power consumption	120 V AC	W	98 (brake 133,2 W)	–
	230 V AC	W	92 (brake 117,3 W)	–
	400 V AC	W	80	–
	12 or 24 V DC	W	–	N/A
Current consumption	120 V AC	A	0,82 (brake +0,29 A)	–
	230 V AC	A	0,4 (brake +0,11 A)	–
	400 V AC	A	0,2	–
	12 V DC	A	–	18
	24 V DC	A	–	9
	24 V DC	A	–	5 (for motors C24CW and D24CW)
Duty cycle		%	30	20
Ambient temperature		°C	–20 to +50	–20 to +50
Type of protection		IP	20/54/55	20/44/65
Weight		kg	2 to 2,7	2 to 2,7

<sup>1)</sup> Depending on selected motor

<sup>2)</sup> Dimension depends on selected front attachment

### Dimensional drawing – AC version



120 or 230 V AC motor

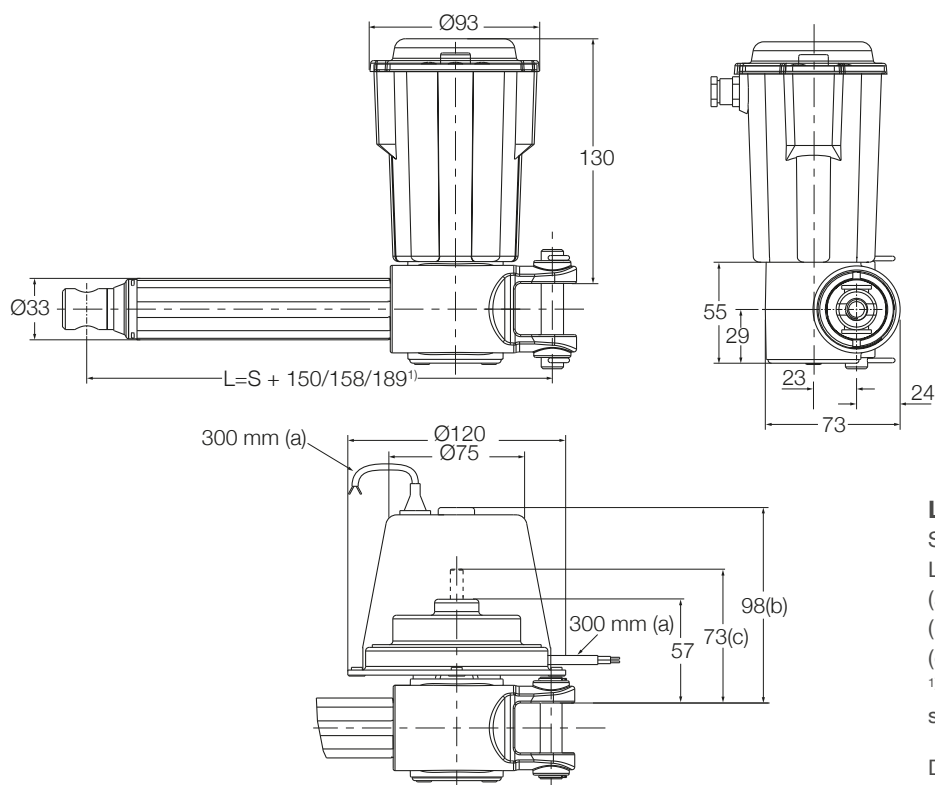
**Legend:**

S = stroke

L = retracted length

¹) Dimension depends on selected front attachment

### Dimensional drawing – DC version



**Legend:**

S = stroke

L = retracted length

(a) = cable length

(b) = cover for brake (D24CB)

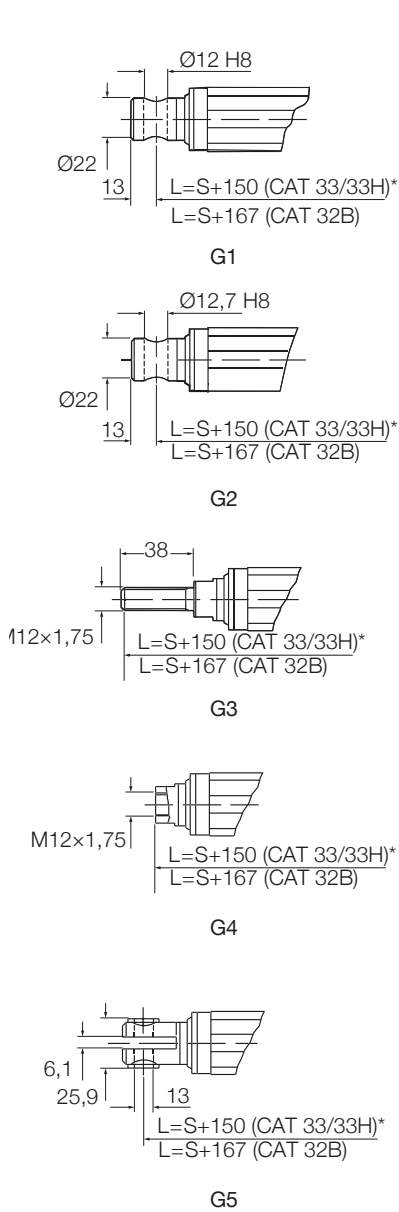
(c) = extended shaft (D24CS)

¹) Dimension depends on selected front attachment

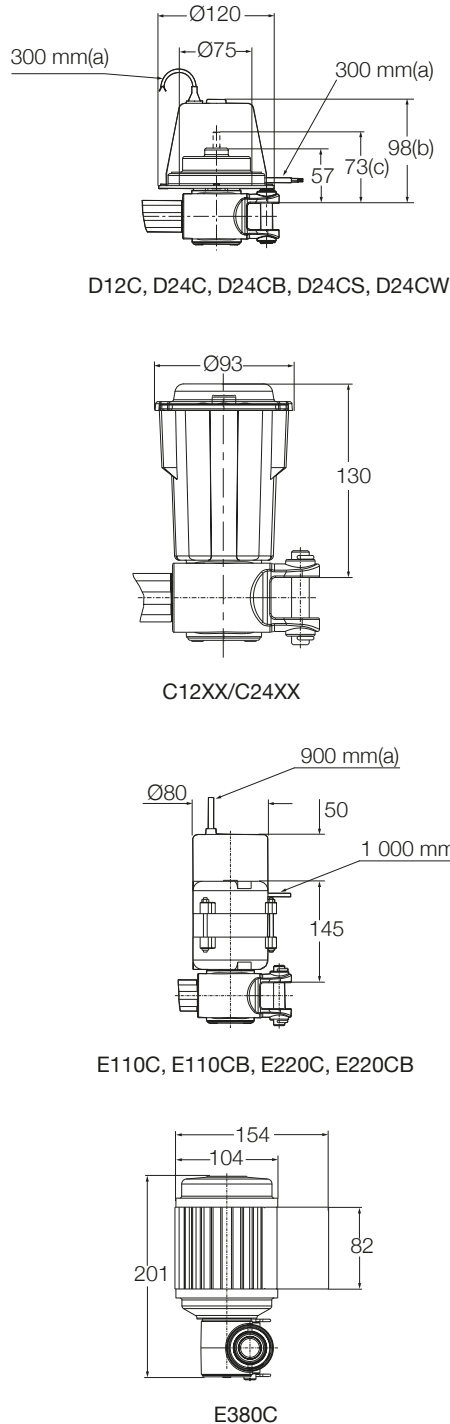
D12C, D24C, D24CB, D24CS, D24CW

## Detailed drawings of front and rear attachments for CAT and CAP 43 and motor options for CAT

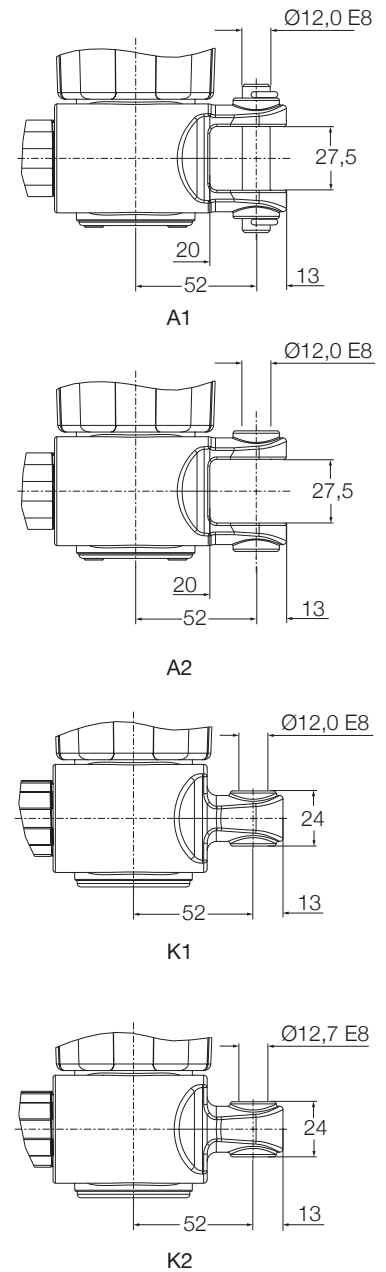
### Front attachments and retracted length



### Motor options for CAT



### Rear attachments



### Legend:

S = stroke

L = retracted length

(a) = cable length

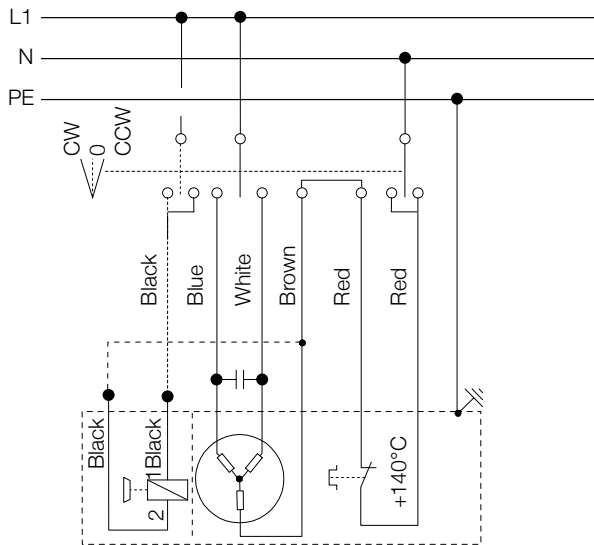
(b) = cover for brake

(c) = extended shaft

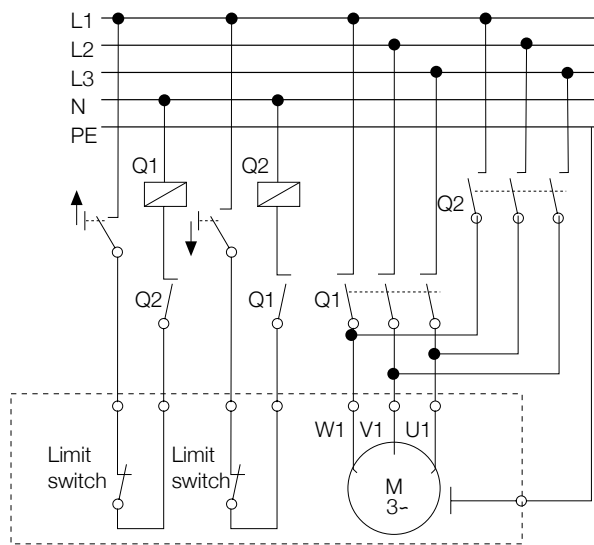
\*If S = 400, add 50 mm to retracted length.

### Connecting diagrams – AC version

120/230 V AC

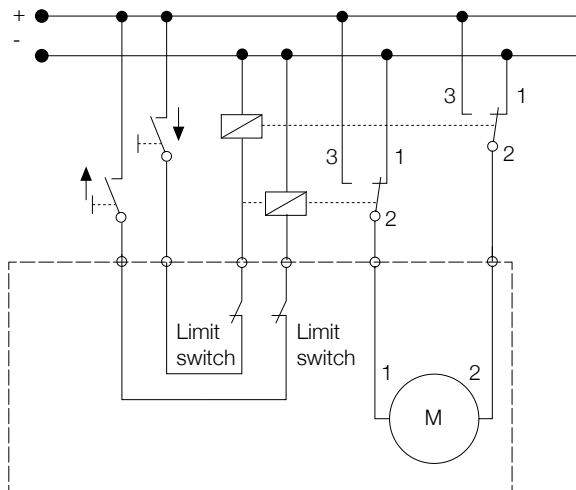


400 V AC

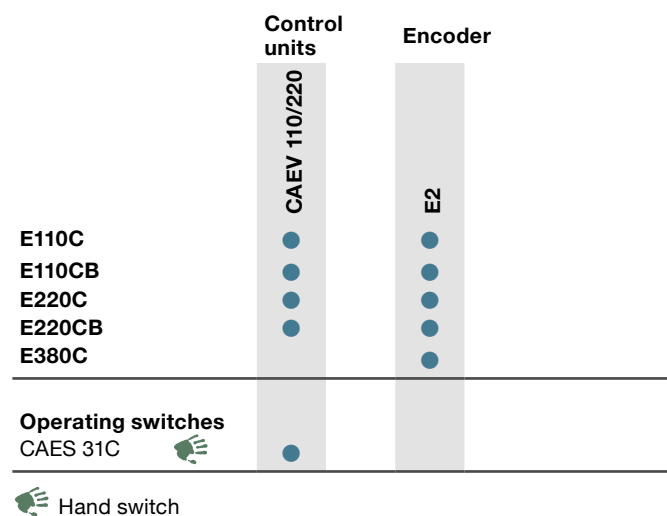


### Connecting diagrams – DC version

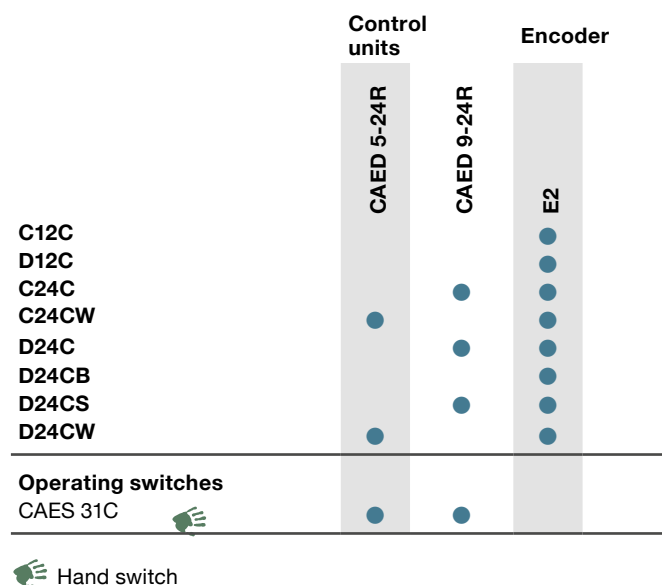
12/24 V DC



### Suitable control units and accessories AC version



### Suitable control units and accessories DC version



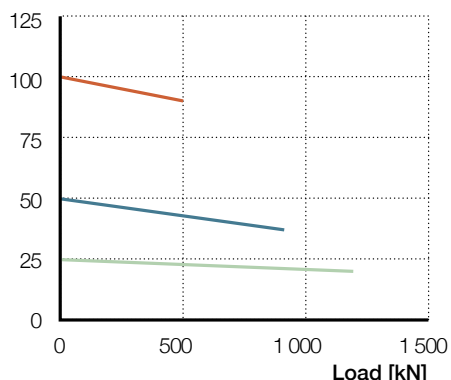
### CAT 33H – Type codes for accessories and spare parts

Item code	Type code	Order N°
12 V DC motor (cylindrical motor)	C12C	M/0405535
12 V DC motor (flat motor)	D12C	M/0405518
24 V DC motor (cylindrical motor)	C24C	M/0405536
24 V DC motor (cylindrical with low speed)	C24CW	M/0405537
24 V DC motor (flat motor)	D24C	M/0405519
24 V DC motor (flat motor with brake)	D24CB	M/0405523
24 V DC motor (flat motor with extended shaft)	D24CS	M/0405522
24 V DC motor (flat motor with low speed)	D24CW	M/0405521
120 V AC motor (cylindrical motor)	E110C	M/0405533
120 V AC motor (cylindrical motor with brake)	E110CB	M/0405534
230 V AC motor (cylindrical motor)	E220C	M/0405531
230 V AC motor (cylindrical motor with brake)	E220CB	M/0405532
400 V AC motor (cylindrical motor)	E380C	M/0411607
Capacitor value 25 µF (120 V AC)	Capacitor 25 µF	M/0430670-06
Capacitor value 6 µF (230 V AC)	Capacitor 6 µF	M/0430670-03
Front mounting attachments type Rod-end	575-32	M/0430575-32
Front mounting attachments type Clevis	576-32	M/0430576-32
Rear mounting attachments type Single ear bracket	580-32	M/0430580-32
Rear mounting attachments type Universal joint	582-32	M/0431780-32
Control unit (suitable for E110, E220 motors)	CAEV 110/220	M/0420097
Control unit (suitable for D24CW,C24CW motor)	CAED 5-24R	M/0420209
Control unit (suitable for D24C/CB/CS motors)	CAED 9-24R	M/0420210
Handset configured for CAED and CAEV units	CAES 31C	M/0420213

## Performance diagrams – AC version

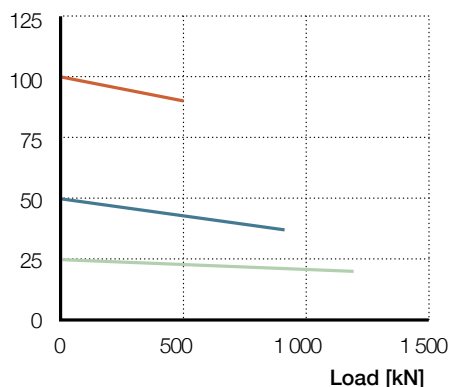
Speed-load diagram CAT 33H ... 120 V AC

Speed [mm/s]



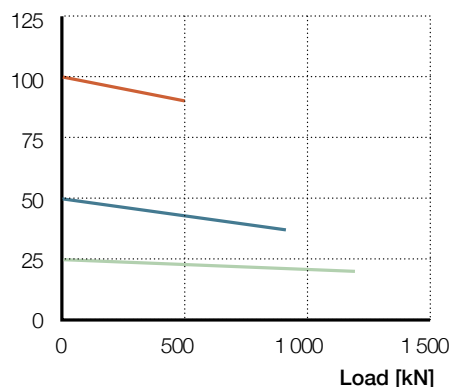
Speed-load diagram CAT 33H ... 230 V AC

Speed [mm/s]



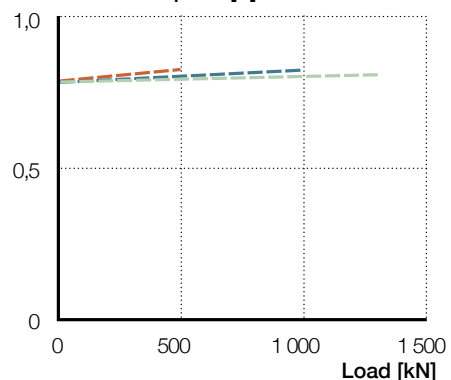
Speed-load diagram CAT 33H ... 400 V AC

Speed [mm/s]



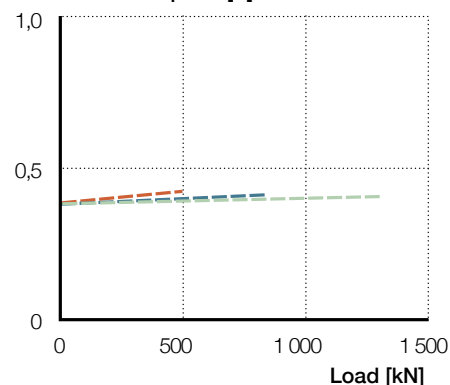
Current-load diagram CAT 33H ... 120 V AC

Current consumption [A]



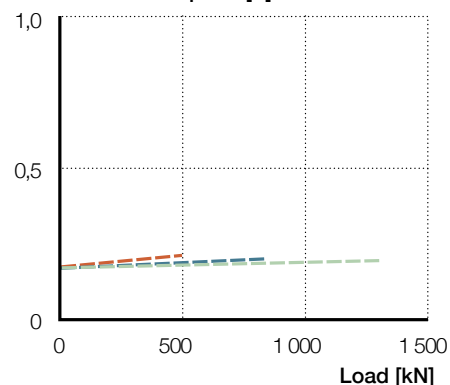
Current-load diagram CAT 33H ... 230 V AC

Current consumption [A]



Current-load diagram CAT 33H ... 400 V AC

Current consumption [A]



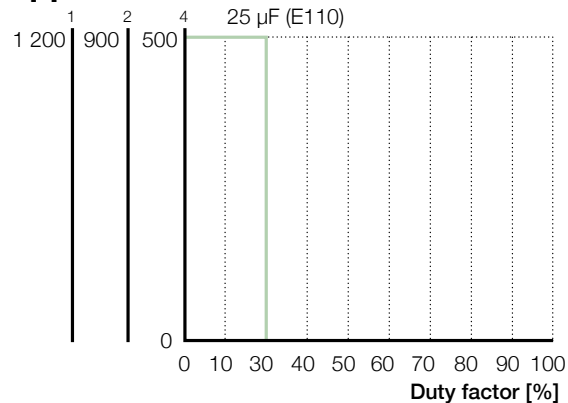
Gear 1 — V (mm/s) — I (A)

Gear 2 — V (mm/s) — I (A)

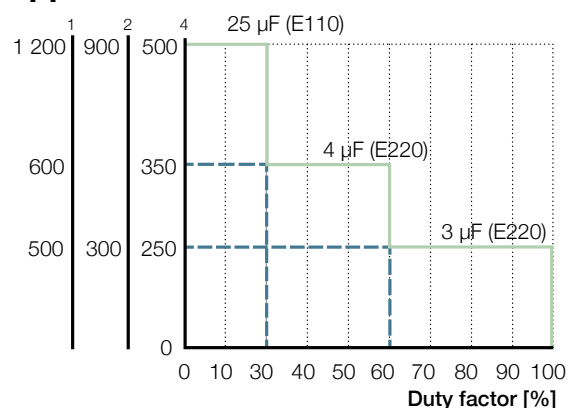
Gear 4 — V (mm/s) — I (A)

## Duty cycle

F [N] Gear

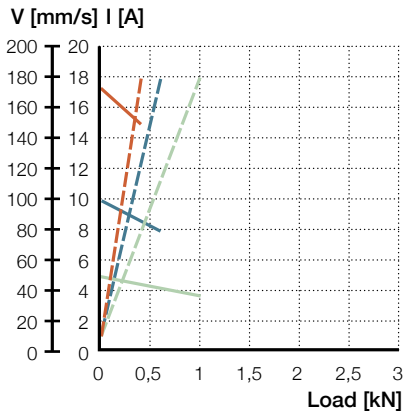


F [N] Gear

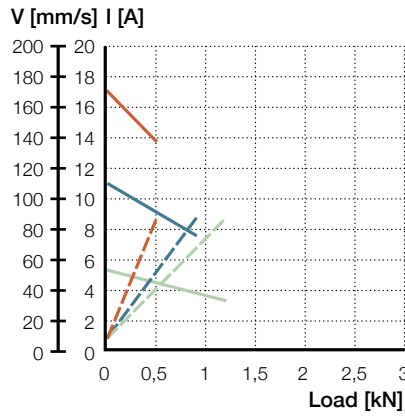


Performance diagrams – DC version

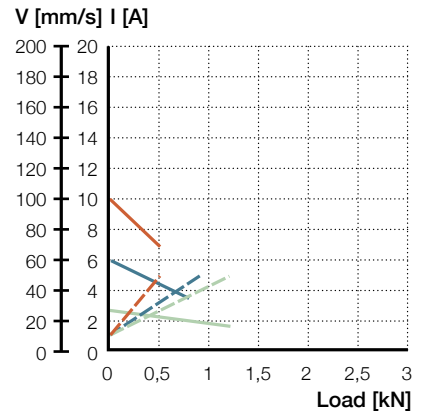
CAT 33H.../C12C



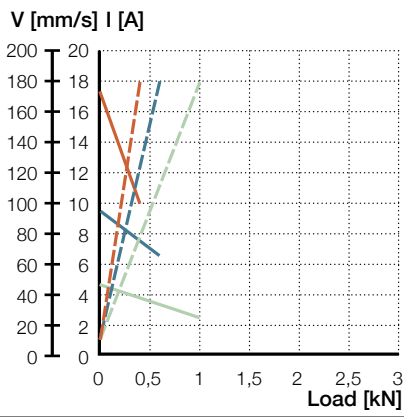
CAT 33H.../C24C



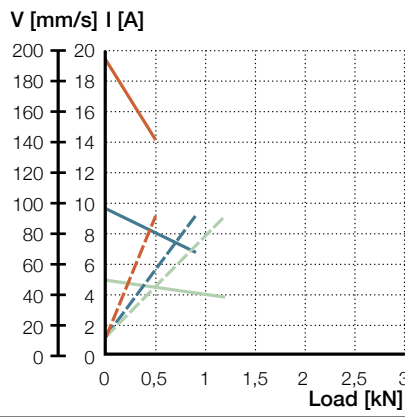
CAT 33H.../C24CW



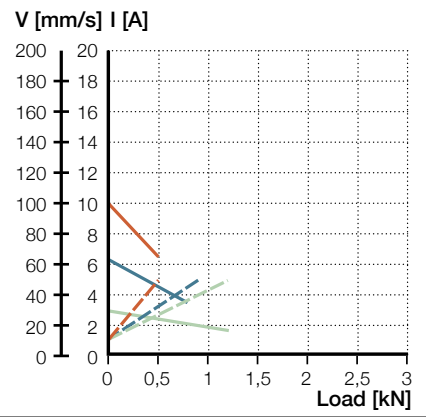
CAT 33H.../D12C



CAT 33H.../D24C/D24CB/D24CS



CAT 33H.../D24CW



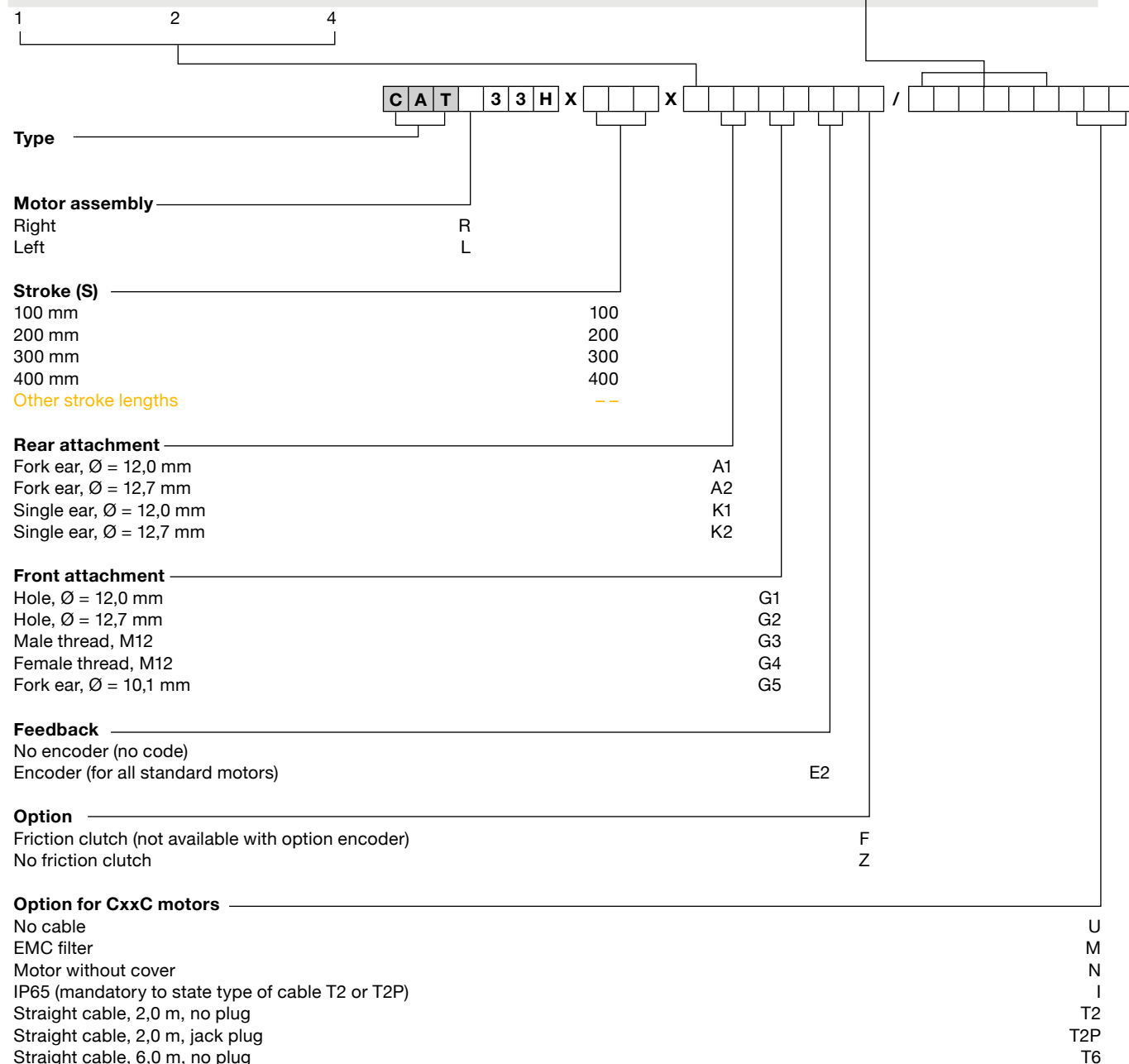
Gear 1 — V (mm/s) — I (A)

Gear 2 — V (mm/s) — I (A)

Gear 4 — V (mm/s) — I (A)

# Ordering key

Load [N] / Full Load Speed [mm/s]			Motor options	
1 200/xx	900/xx	600/xx	No motor	0
1 200/20	900/37	500/90	120 V AC/60 Hz, 1-phase, IP54	E110C
1 200/20	900/37	500/90	120 V AC/60 Hz, 1-phase, brake, IP20	E110CB
1 200/20	900/37	500/90	230 V AC/50 Hz, 1-phase, IP54	E220C
1 200/20	900/37	500/90	230 V AC/50 Hz, 1-phase, brake, IP20	E220CB
1 200/20	900/37	500/90	400 V AC/50 Hz, 3-phase, IP55	E380C
1 200/xx	900/xx	600/xx	No motor	0
1 200/50-38	600/100-80	400/174-150	12 V DC, IP44 (65)	C12C
1 200/47-25	600/95-65	400/170-100	12 V DC, flat motor, IP44	D12C
1 200/56-36	600/113-79	500/174-140	24 V DC, IP44 (65)	C24C
1 200/27-17	600/60-35	500/100-69	24 V DC, low speed motor, IP44 (65)	C24CW
1 200/48-37	600/95-65	500/193-140	24 V DC, flat motor, IP44	D24C
1 200/48-37	600/95-65	500/193-140	24 V DC, flat motor, brake, IP20	D24CB
1 200/48-37	600/95-65	500/193-140	24 V DC, flat motor, ext.shaft, IP44	D24CS
1 200/30-17	600/63-35	500/100-65	24 V DC, flat motor, low speed, IP44	D24CW



3

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

# CAR 40

## Linear actuator



### Benefits

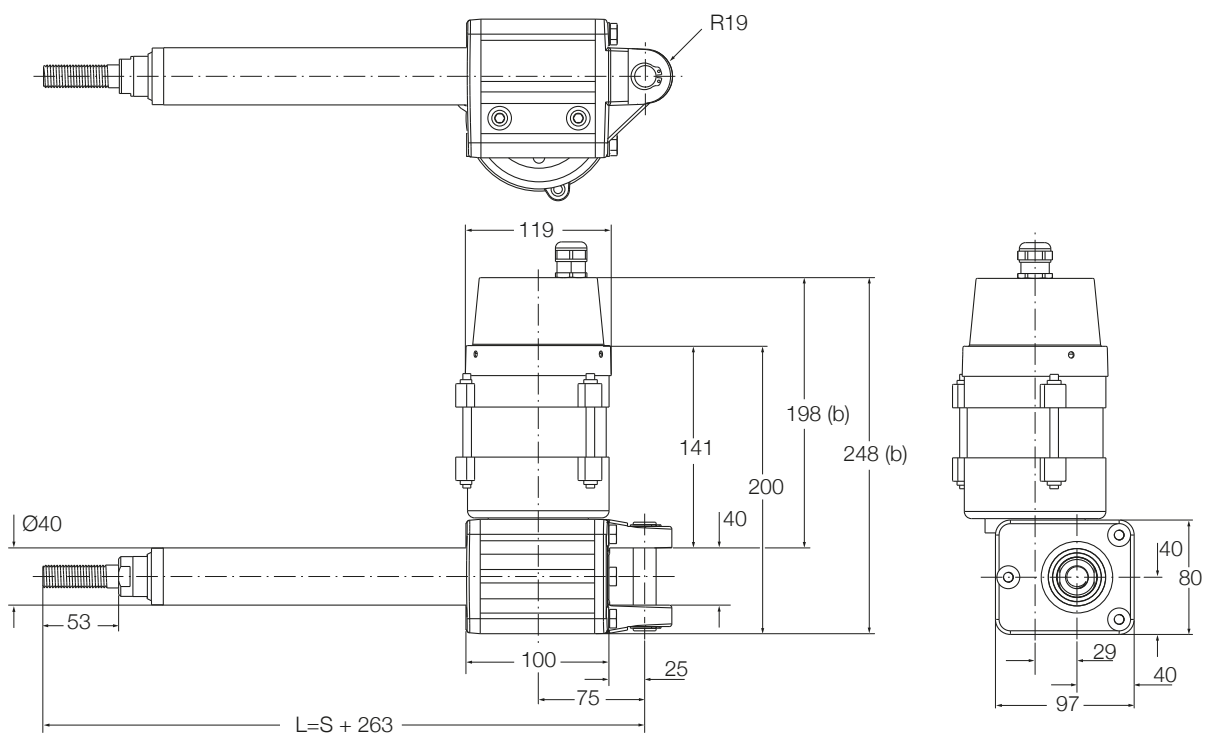
- Reliable and robust industrial actuator
- Wide range of components
- Right- and left-hand version

### Technical data - AC version

		Unit	CAR 40 - AC version	CAR 40 - DC version
Rated push load		N	2 000 to 6 000	2 000 to 6 000
Rated pull load		N	2 000 to 6 000	2 000 to 6 000
Speed (at full load)		mm/s	9 to 40 <sup>1)</sup>	10 to 60
Stroke		mm	100 to 700	100 to 700
Retracted length		mm	S+263	S+263
Voltage		V AC	120 or 230	–
		V DC	–	24
Power consumption	120 V AC	W	360	–
	230 V AC	W	299	–
	24 V DC	W	–	N/A
Current consumption	120 V AC	A	3 (brake +0,29 A)	–
	230 V AC	A	1,3 (brake +0,11 A)	–
	24 V DC	A	–	16
Duty cycle		%	40	25
Ambient temperature		°C	–20 to +70	–20 to +70
Type of protection		IP	20/54	20/44
Weight		kg	5,8 to 8,4	5,8 to 8,4

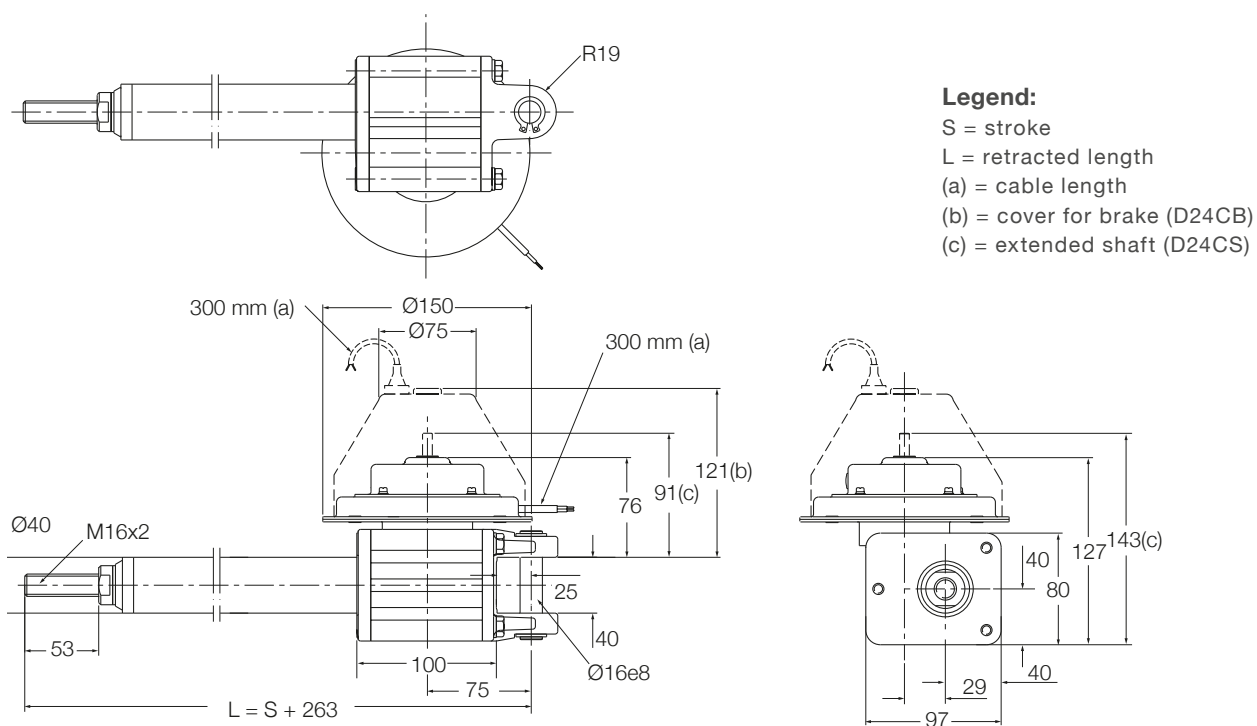
<sup>1)</sup> Depending on selected motor

### Dimensional drawing – AC version



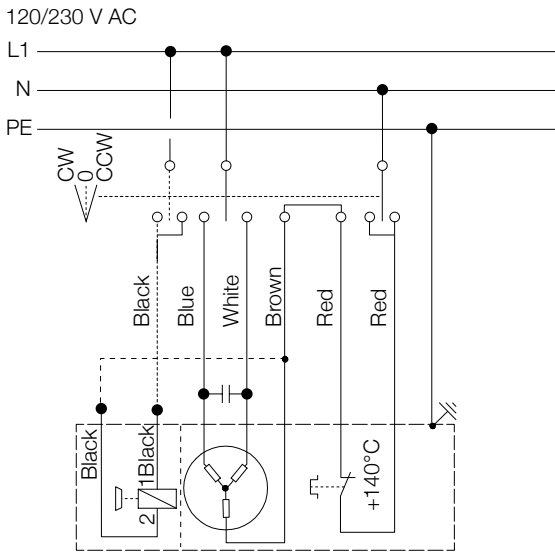
**Legend:**  
 S = stroke  
 L = retracted length  
 (b) = cover for brake (D24 CB)

### Dimensional drawing – DC version

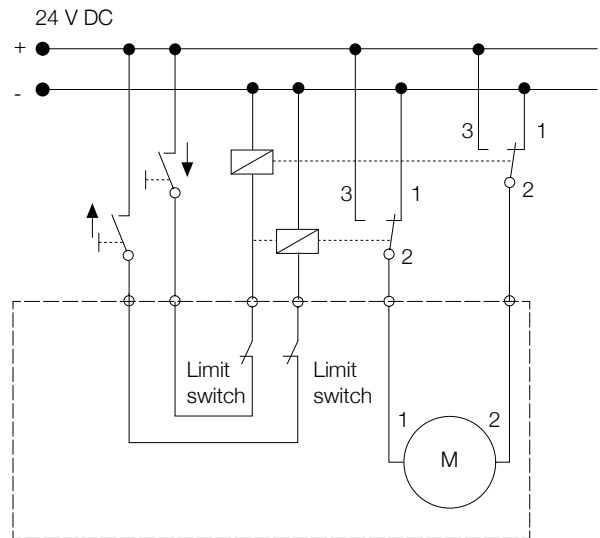


**Legend:**  
 S = stroke  
 L = retracted length  
 (a) = cable length  
 (b) = cover for brake (D24CB)  
 (c) = extended shaft (D24CS)




### Connecting diagrams – AC version




### Connecting diagrams – DC version



### Suitable control unit and accessories AC version

	Control units	Limit switch
E110D E110DB E220D E220DB	CAEV 110/220	CAXE40
Operating switches CAES 31C 		

 Hand switch

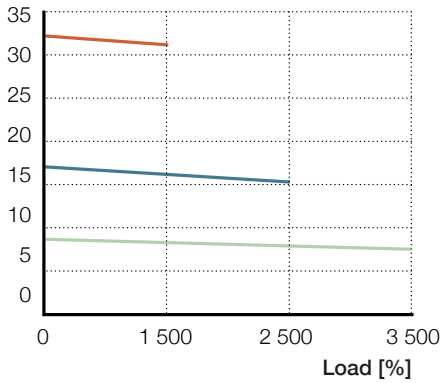
### Suitable control unit and accessories DC version

	Limit switch
D24D D24DS D24DB	CAXE40

## Performance diagrams – AC version

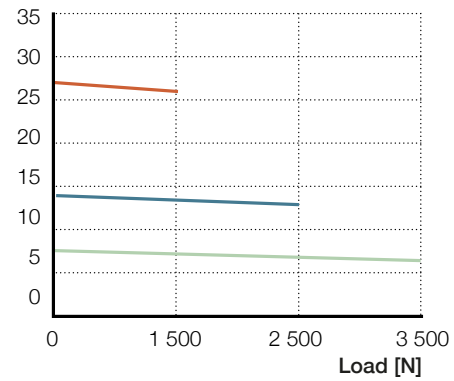
Speed-load diagram CAR 40 ... 120 V AC

Duty factor [%] at 20 °C



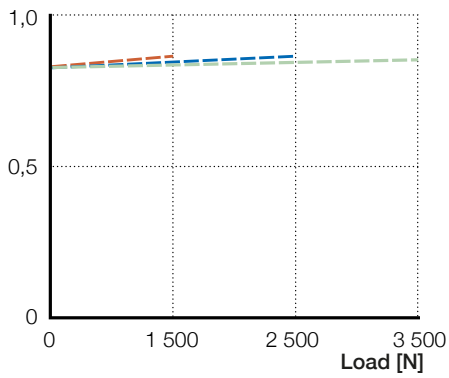
Speed-load diagram CAR 40 ... 230 V AC

Speed [mm/s]



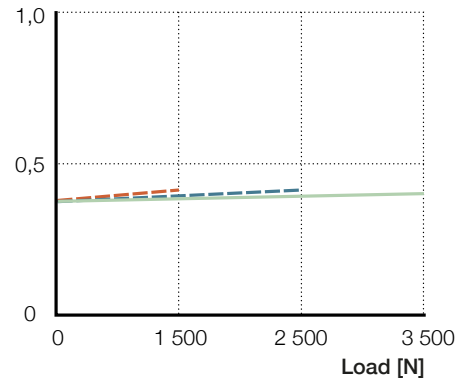
Current-load diagram CAR 40 ... 120 V AC

Current consumption [A]



Current-load diagram CAR 40 .. 230 V AC

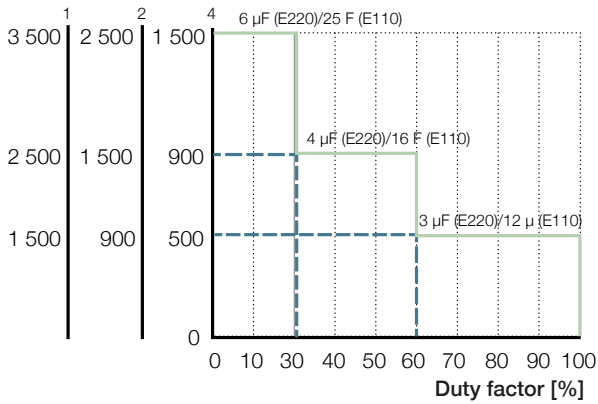
Current consumption [A]



Gear 1 — V (mm/s) — I (A)    Gear 2 — V (mm/s) — I (A)    Gear 4 — V (mm/s) — I (A)

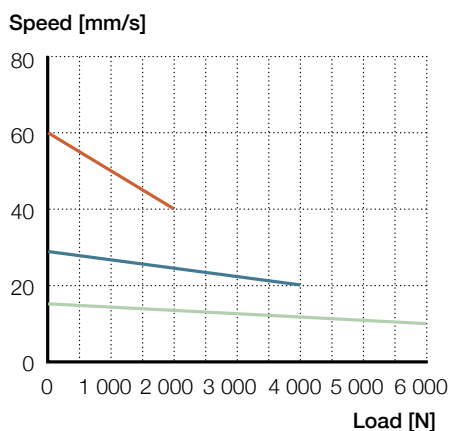
## Duty cycle – AC version

F [N] Gear

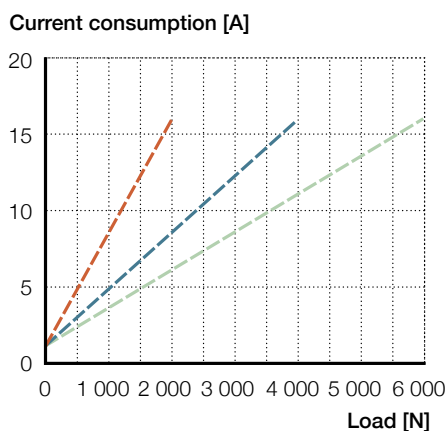


## Performance diagrams – DC version

Speed-load diagram CAR 40 ... 24 V DC



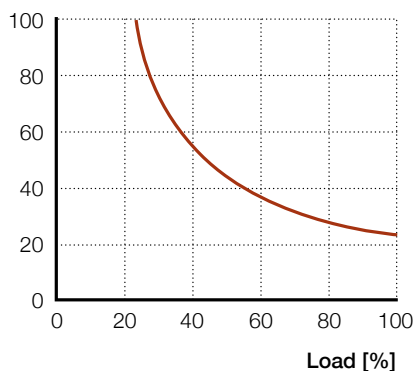
Current-load diagram CAR 40 ... 24 V DC



Gear 1 — V (mm/s) — I (A)    Gear 2 — V (mm/s) — I (A)    Gear 4 — V (mm/s) — I (A)

## Duty cycle – DC version

Duty factor [%] at 20 °C

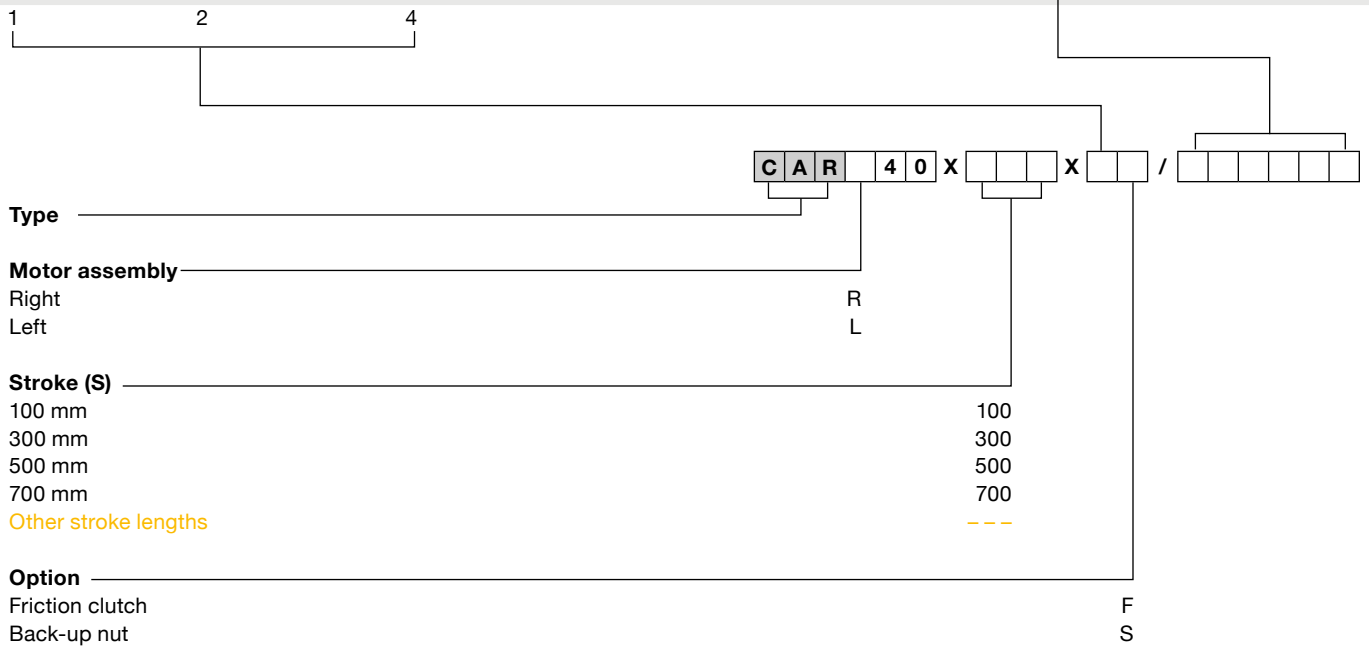


## CAR 40 – Type codes for accessories and spare parts

Item code	Type code	Order N°
24 V DC motor (flat motor)	D24D	M/0405524
24 V DC motor (flat motor with extended shaft)	D24DS	M/0405526
24 V DC motor (flat motor with brake)	D24DB	M/0405525
120 V AC motor (cylindrical motor)	E110D	M/0405529
120 V AC motor (cylindrical motor with brake)	E110DB	M/0405530
230 V AC motor (cylindrical motor) E220D M/0405527	590-40	M/0430590-40
230 V AC motor (cylindrical motor with brake)	E220DB	M/0405528
Capacitor value 12 µF (230 VAC-motor)	Capacitor 12 µF	M/0430670-04
Limit switch for stroke =100 mm	CAXE 40 × 100	M/0412051
Limit switch for stroke =300 mm	CAXE 40 × 300	M/0412054
Limit switch for stroke =500 mm	CAXE 40 × 500	M/0412056
Limit switch for stroke =700 mm	CAXE 40 × 700	M/0412057
Proximity switch for CAXE	CAXE Proximity switch	M/0432369
Front mounting attachments type Rod-end	575-40	M/0430575-40
Front mounting attachments type Clevis	576-40	M/0430576-40
Rear mounting attachments type Single ear bracket	590-40	M/0430590-40
Rear mounting attachments type Ball-joint bracket	581-40	M/0430581-40

# Ordering key

Dynamic load [N] / Speed [mm/s]			Motor options	
6 000/xx	4 000/xx	2 000/xx	No motor	0
6 000/10	4 000/20	2 000/40	120 V AC/60 Hz, 1-phase, IP54	E110C
6 000/10	4 000/20	2 000/40	120 V AC/60 Hz, 1-phase, brake, IP20	E110DB
6 000/9	4 000/17	2 000/34	230 V AC/50 Hz, 1-phase, IP54	E220D
6 000/9	4 000/17	2 000/34	230 V AC/50 Hz, 1-phase, brake, IP20	E220DB
6 000/xx	4 000/xx	2 000/xx	No motor	0
6 000/15-10	4 000/30-20	2 000/60-40	24 V DC, flat motor, IP44	D24D
6 000/15-10	4 000/30-20	2 000/60-40	24 V DC, flat motor, extended shaft, IP44	D24DS
6 000/15-10	4 000/30-20	2 000/60-40	24 V DC, flat motor, brake, IP20	D24DB



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

# Spare parts

## CAXD 33 limit switch

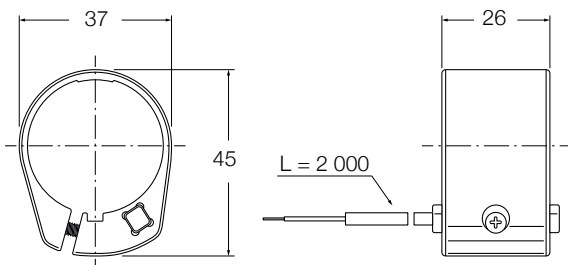
Limit switches, combined with Ewellix control units, make it possible to set the stroke to any desired length.

- CAXD 33 – designed for the following actuators:
  - CAT 33
  - CALA 36A
- One CAXD is needed for each limit position
- Use of limit switches reduce the effective stroke by 20 mm for CAT 33 and 25 mm for CALA 36A (retracted position is affected)

### Technical data

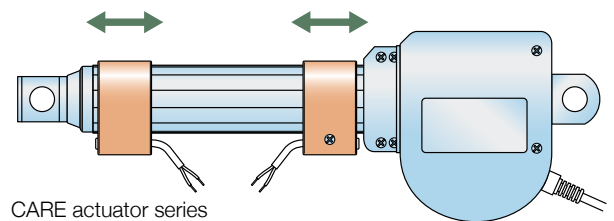
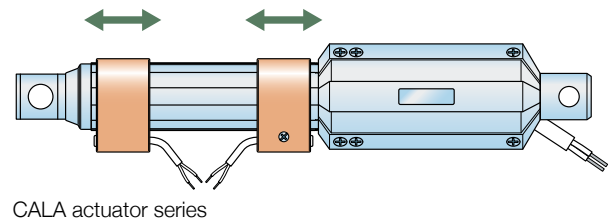
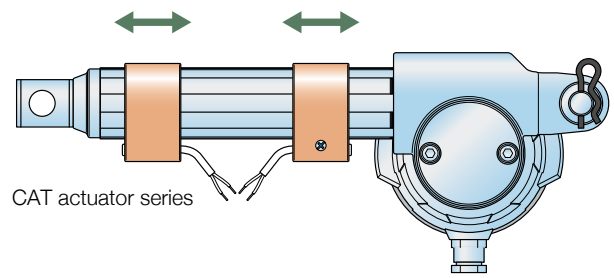
CAXD 33	
Operating voltage	5 to 30 V DC
Max. current	100 mA DC
Voltage drop	< 5 V
Voltage drop	< 5 V
Electrical function	Normally closed or normally open
Make/fall time	0,3 ms / 0,6 ms
Operating temperature	-20 °C to +50 °C
Ingress protection	IP 67 (sensor element)
Vibration/shock	According to IEC 90947-5-2 (sensor element)
Cable dimensions (L x D)	2 m x 3 mm (PUR)
Cable area	2 x 0,14 mm <sup>2</sup>
Housing colour	Black

### Dimensional drawing

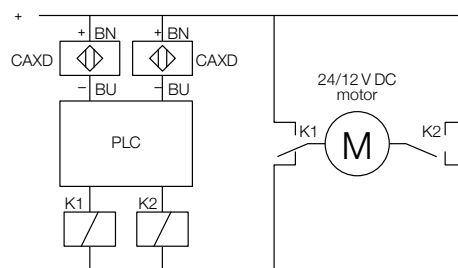
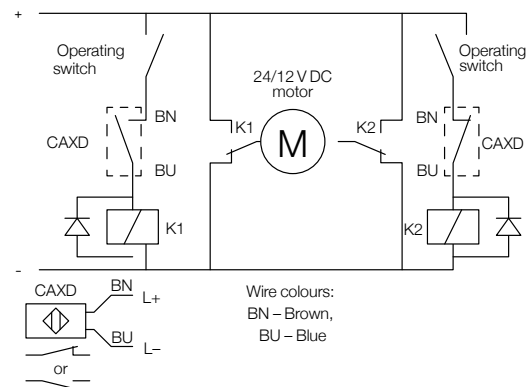


### Ordering key

Code	Description
CAXD 33 LIMIT SWITCH, NC	Normally Closed
CAXD 33 LIMIT SWITCH, NO	Normally Open



### Connecting diagrams



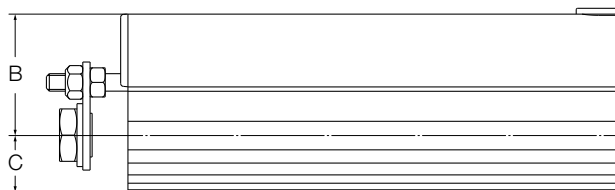
**Important!** For DC-supply only

# CAXE limit switch

Limit switches, combined with Ewellix control units, make it possible to set the stroke to any desired length.

- CAXE - designed for the following actuators:
  - CAR 22
  - CAR 32
  - CAR 40
  - CAT 32B
  - CARN 32
- It is recommended to place the limit switch at least 10 mm from the end stop to avoid mechanical failure
- Front attachment G3 must be selected for this option

## Dimensional drawing



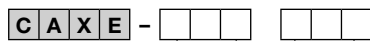
	A	B	C
CAXE 22	42,5	37	14
CAXE 32/32B	47,5	40	20
CAXE 40	46	46	23

## Technical data

CAXE	
Operating voltage	5 to 30 V DC
Max. current	100 mA DC
Protection class	III
Voltage drop	< 5 V
Electrical function	Normally Closed (NC) and Normally Open (NO)
Make/break time	0,3 ms / 0,6 ms
Operating temperature	-20 to +70 °C
Degree of protection	IP 67 (sensor element)
Vibration/shock	According to IEC 60947-5-1 (sensor element)
Cable dimensions (L x D)	2 000 x 3 mm (PUR)
Cable area	3 x 0,14 mm <sup>2</sup>

Important! The sensor has no overload protection and no reverse polarity protection.

## Ordering key



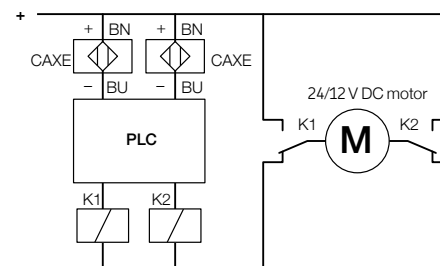
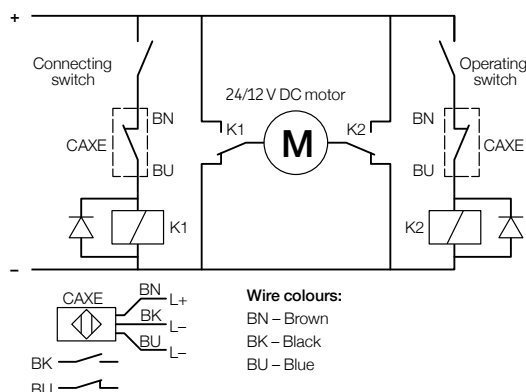
### Type

CAXE32	CAR 22	022
CAXE32	CAR 32, CARN 32	032
CAXE32B	CAT 32B	32B
CAXE40	CAR 40	040

### Actuators stroke (mm)

050	CAR 22, 32 CARN 32 and CAT 32B	050
100	CAR 22, 32, 40, CARN 32 and CAT 32B	100
150	CAR 22	150
200	CAR 22, 32 CARN 32 and CAT 32B	200
300	CAR 22, 32, 40, CARN 32 and CAT 32B	300
400	CAT 32B	400
500	CAR 32, 40, CARN 32 and CAT 32B	500
700	CAR 32, 40, CARN 32 and CAT 32B	700

## Connecting diagrams



Important! For DC-supply only

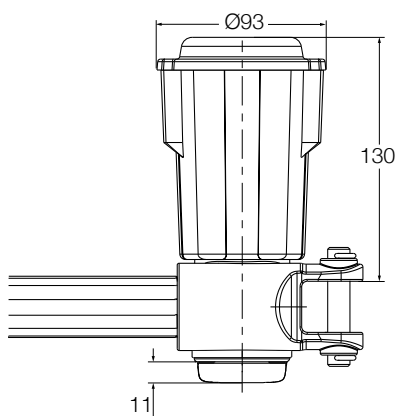
# Feedback for CAT series – Encoder E2

- Can be fitted to all standard motors
- Hall effect, two channels with 90° displacement
- Located on gear housing, see drawing
- 2 pulses/channel and motor revolution
- Supply voltage: 5–24 V DC
- Final resolution according to gear ratio and actuator basic type (see table)

## Feedback

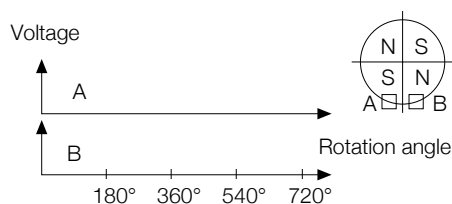
	Gear	Pulses at 1mm stroke	Resolution (mm) per pulse
CAT 33	1	16,67	0,06
	2	8,33	0,12
	4	4,17	0,24
CAT 33H	1	4,00	0,25
	2	2,00	0,50
	4	1,00	1,00
CAT 32B	1	12,50	0,08
	2	6,25	0,16
	4	3,13	0,32

## Dimensional drawing

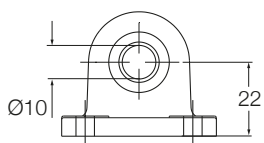


Encoder option E2

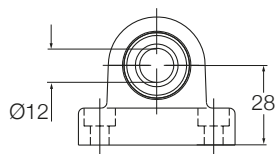
## Connecting diagrams



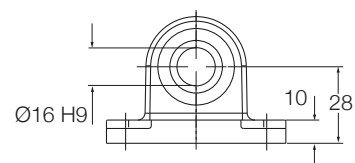
# Attachments



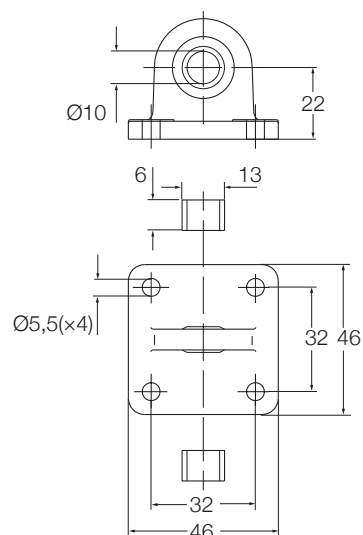
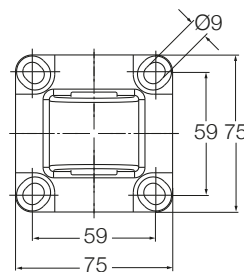
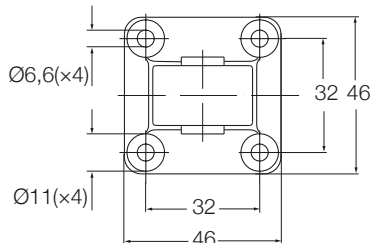
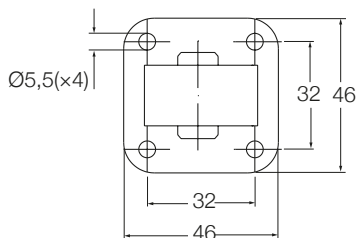
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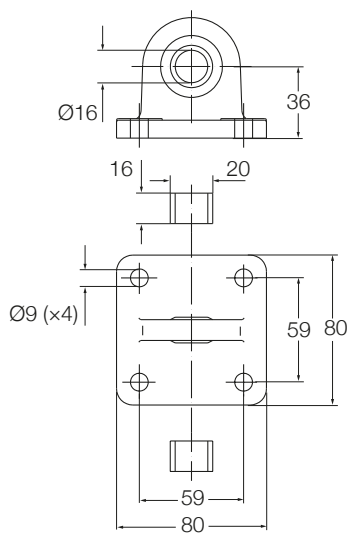
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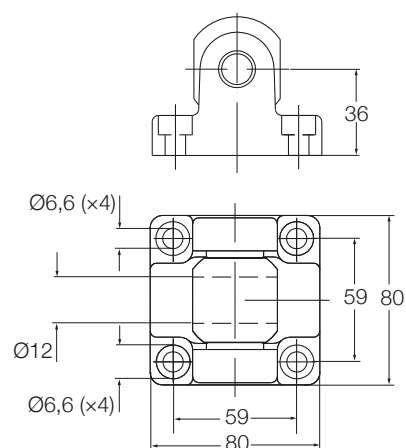
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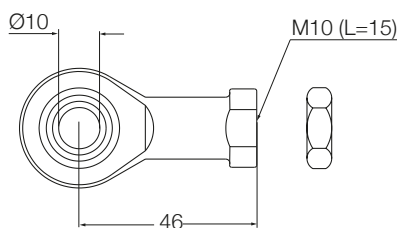
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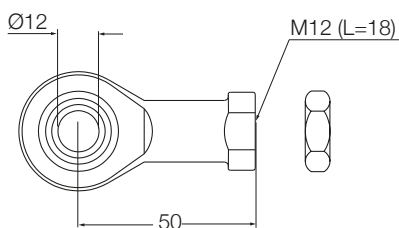
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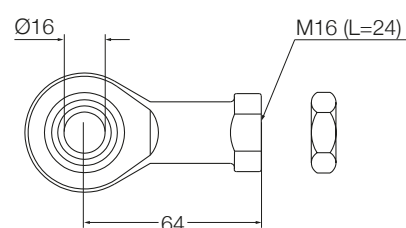
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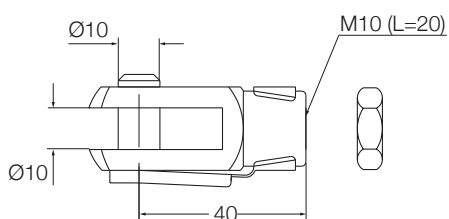
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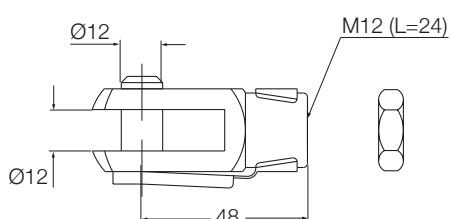
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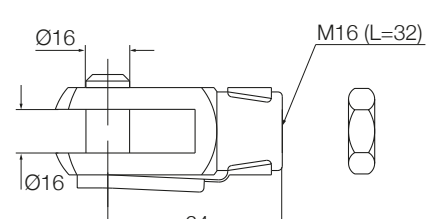
575-40



576-22



576-32



576-40



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