

# Linear actuator

CAT 33

## Benefits

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



Suitable control units and accessories

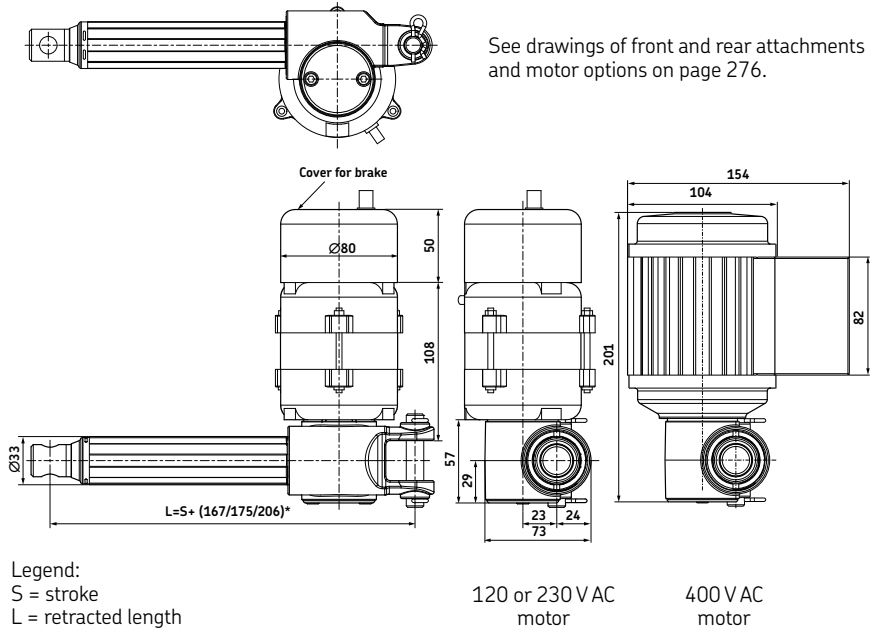
	Control unit	Limit switch	Encoder
	CAEV 110/220	CAXC 33 <sup>1)</sup>	E2 <sup>2)</sup>
	E110C	•	•
	E110CB	•	•
	E220C	•	•
	E220CB	•	•
	E380C	•	•
	CAES 31C	•	

- Hand switch
- Foot switch
- Desk switch

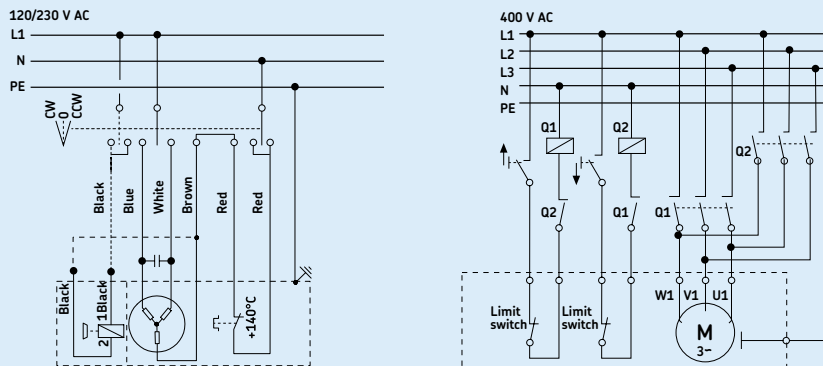
<sup>1)</sup>See page 378

<sup>2)</sup>See page 380

Dimensional drawing – AC version



Connecting diagrams – AC version



Technical data

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

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

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

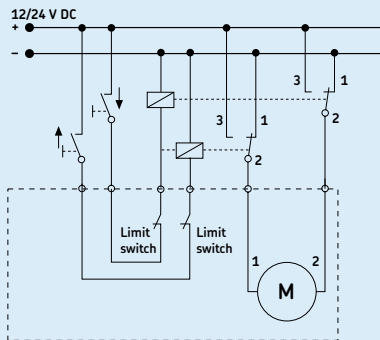
Suitable control units and accessories

	Control units	Encoder	Limit switch
	CAED 5-24R		
	CAED 9-24R		
		E2 <sup>1)</sup>	
			CAXC <sup>2)</sup>
C12C		•	•
D12C		•	•
C24C	•	•	•
C24CW	•	•	•
D24C	•	•	•
D24CB		•	•
D24CS	•	•	•
D24CW	•	•	•
CAES 31C	•		

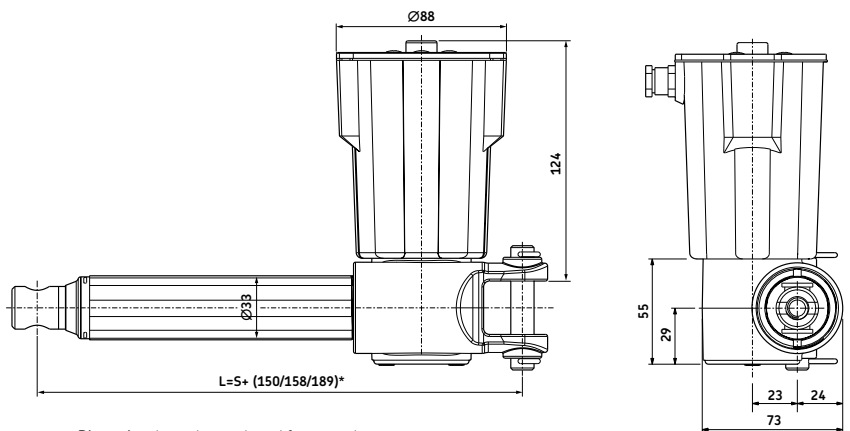
- Hand switch
- Foot switch
- Desk switch

<sup>1)</sup> See page 380  
<sup>2)</sup> See page 378

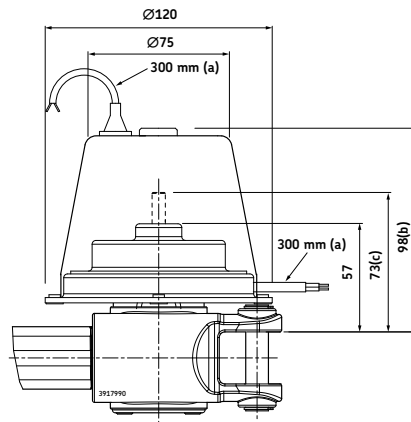
Connecting diagram – DC version



Dimensional drawing – DC version



\* Dimension depends on selected front attachment



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

D12C, D24C, D24CB, D24CS, D24CW

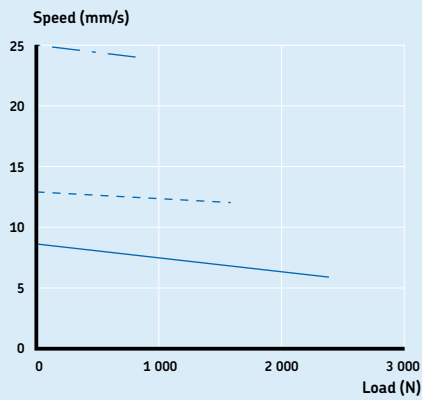
See drawings of front and rear attachments and motor options on page 276.

Technical data

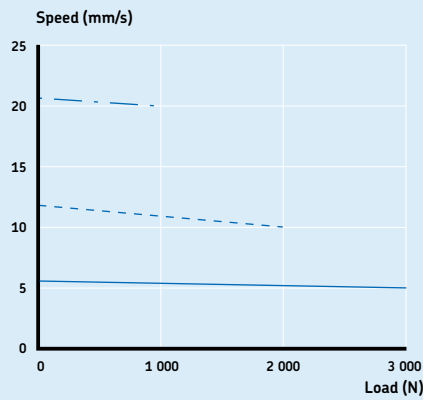
	Unit	CAT 33 – DC version
Rated push load	N	800 to 3 000
Rated pull load	N	800 to 3 000
Speed (full load to no load)	mm/s	5 to 52 <sup>1)</sup>
Stroke	mm	100 to 400
Retracted length	mm	S+150/158/189 <sup>2)</sup>
Voltage	V DC	12 or 24
Power consumption	W	N/A
Current consumption	12 V DC A	18
	24 V DC A	9
	24 V DC A	5 (for motors C24CW and D24CW)
Duty cycle	%	15
Ambient temperature	°C	-20 to +50
Type of protection	IP	20/44/65
Weight	kg	2 to 2,7

<sup>1)</sup> Depending on selected motor  
<sup>2)</sup> Dimension depends on selected front attachment

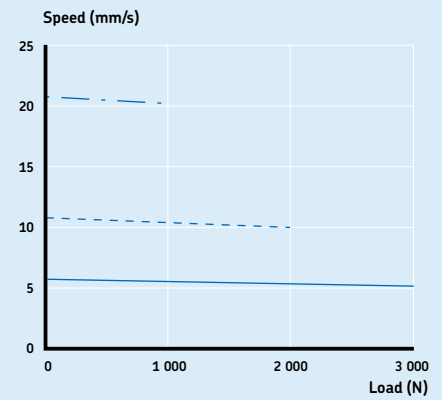
Performance diagrams – AC version



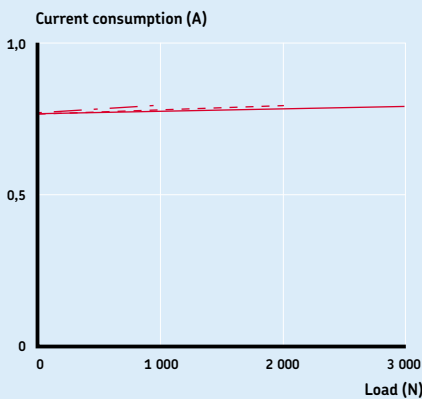
Speed-load diagram CAT 33 ... 120 V AC



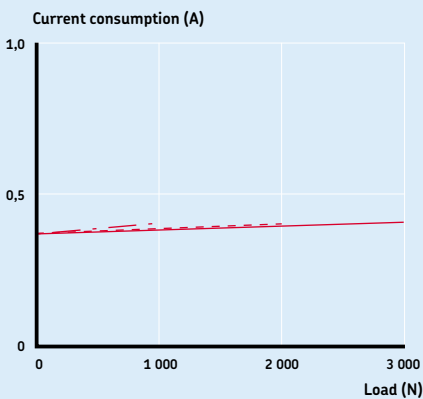
Speed-load diagram CAT 33 ... 230 V AC



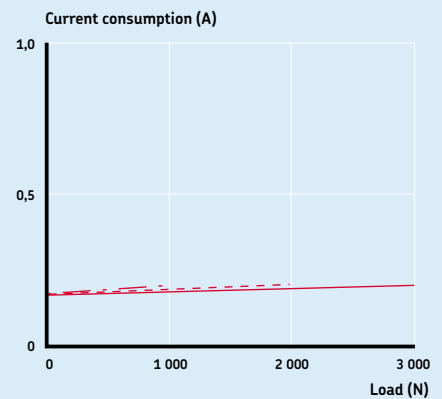
Speed-load diagram CAT 33 ... 400 V AC



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



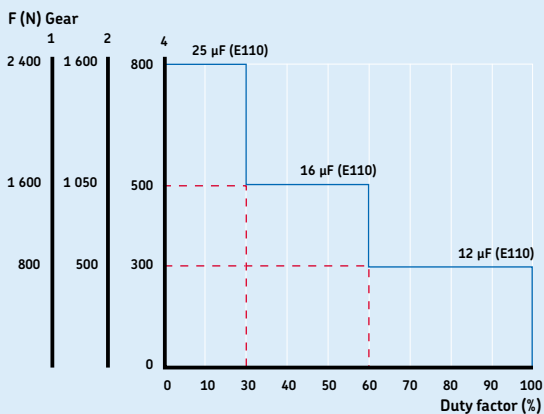
Current-load diagram CAT 33 ... 230 V AC



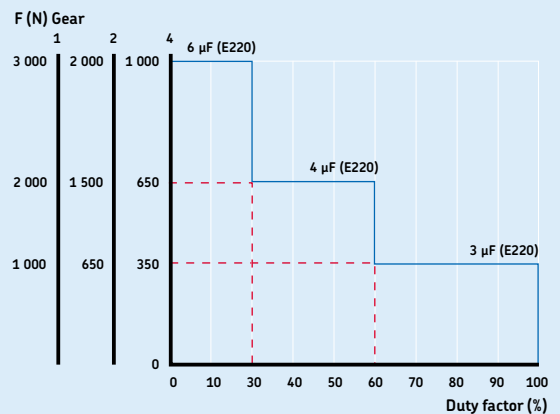
Current-load diagram CAT 33 ... 400 V AC

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

Duty cycle

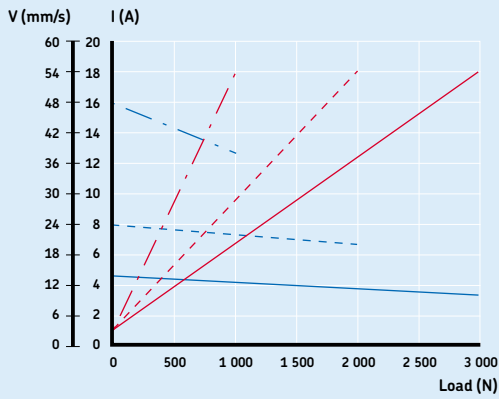


CAT 33 ... 120 V AC

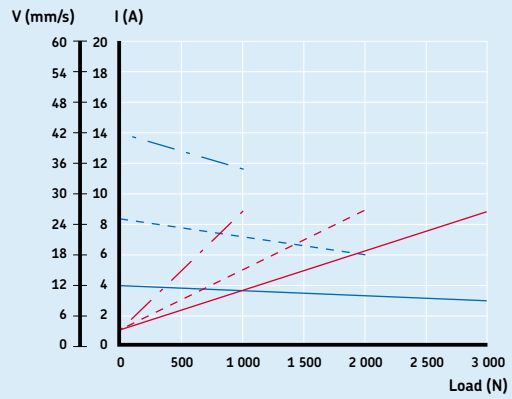


CAT 33 ... 230 V AC

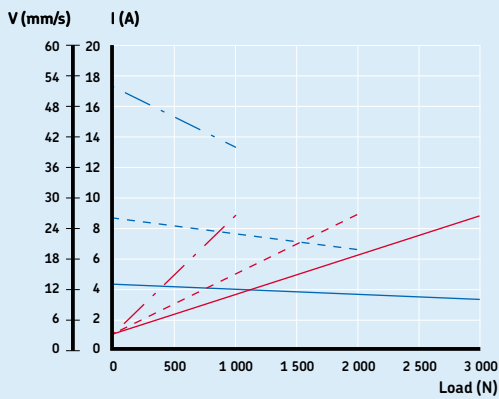
Performance diagrams – DC version



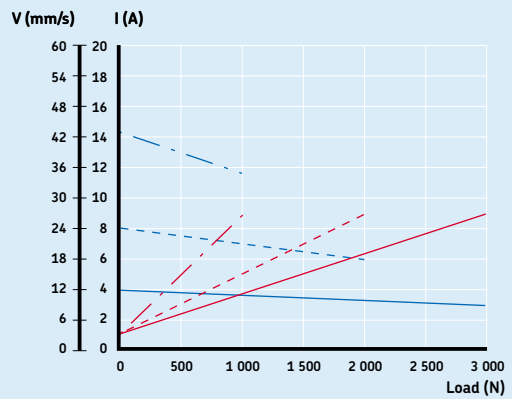
CAT 33.../C12C



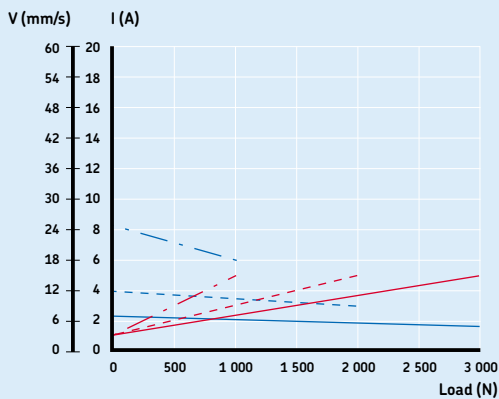
CAT 33.../D12C



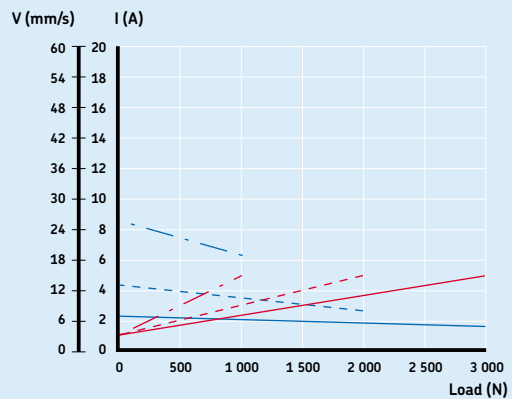
CAT 33.../C24C



CAT 33.../D24C/D24CB/D24CS

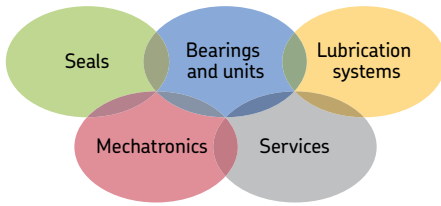


CAT 33.../C24CW



CAT 33.../D24CW





## The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry world-wide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

### Ordering key

Dynamic load (N) / Speed (mm/s)			Motor options	
3 000/xx	2 000/xx	1 000/xx	No motor	0000
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	0000
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
<b>1</b>	<b>2</b>	<b>4</b>		

#### Type

#### Motor assembly:

Right R  
Left L

#### Stroke (S):

100 mm 100  
200 mm 200  
300 mm 300  
400 mm 400  
*Other stroke lengths* ---

#### Rear attachment (see page 276):

Fork ear, Ø=12,0 mm A1  
Fork ear, Ø=12,7 mm A2  
Single ear, Ø=12,0 mm K1  
Single ear, Ø=12,7 mm K2

#### Front attachment (see page 276):

Hole, Ø=12,0 mm G1  
Hole, Ø=12,7 mm G2  
Male thread, M12 G3  
Female thread, M12 G4  
Fork ear, Ø=10,1 mm G5

#### Feedback:

No encoder (no code)  
Encoder (for all standard motors) E2

#### Option:

Friction clutch (not available with option encoder) F  
No friction clutch Z

C A T [ ] [ ] 3 3 X [ ] [ ] X [ ] [ ] [ ] [ ] [ ] [ ] / [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

*Options shown in italics are only available on demand. Contact SKF for more information on minimum quantities and additional costs.*

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