

CAF Linear Actuators



CAF Actuator Systems

The CAF linear actuator has been principally designed and developed for a large range of applications. The CAF system consists, either of one master control unit (control with a built-in actuator), or one control unit connected to one or more (up to 4) individual actuators.

The standard CAF actuator system offers a wide range of extra features such as power saving, overload protection, torodial transformer. A wide range of accessories is also available, such as battery and panel controls with handsets, table handset and foot pedals.

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The specifications and data in this publication are believed to be accurate and reliable.

However, it is the responsibility of the product user to determine the suitability of all products selected for a specific application.

Consult SKF for application support.

MediCAF actuator systems for health care applications

For health care applications and especially for medical beds, the MediMove range based on the CAF range of actuators can provide any number of fully customized solutions. The capability brochure (No.5314E) describes the possibilities and the benefits of the MediMove range for hospital beds, nursing or home care beds, couches or tables.

Standard options of MediMove range are:

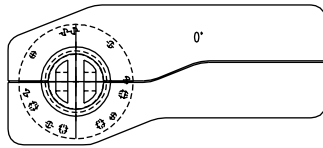
- Anti jamming system
- Back up fittings
- Quick release system
- Housing in UL94 V0 material
- Class I control box with earth connection
- Function limiter nurse locking device
- Bilateral foot pedal



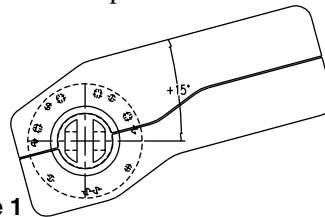
Space saver with the multi orientation of CAF range

The CAFS or CAFM actuators are very easy to fit into the application. Choose the best position in your application and the multi-orientation attachment will provide the exact angular position to optimize the available space.

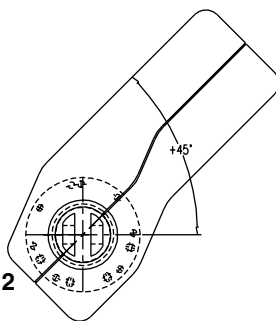
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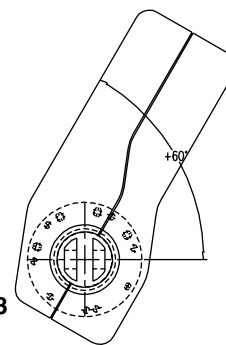
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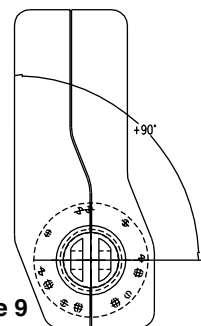
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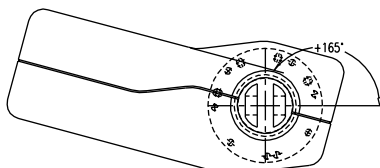
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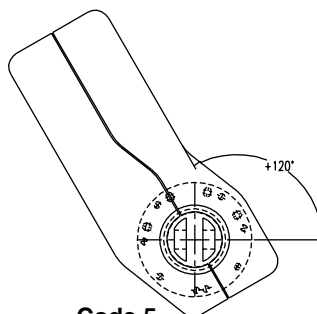
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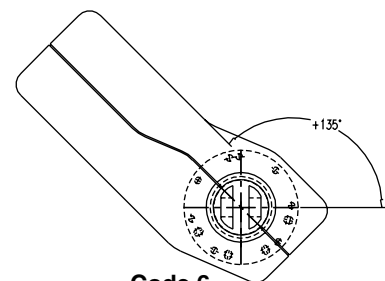
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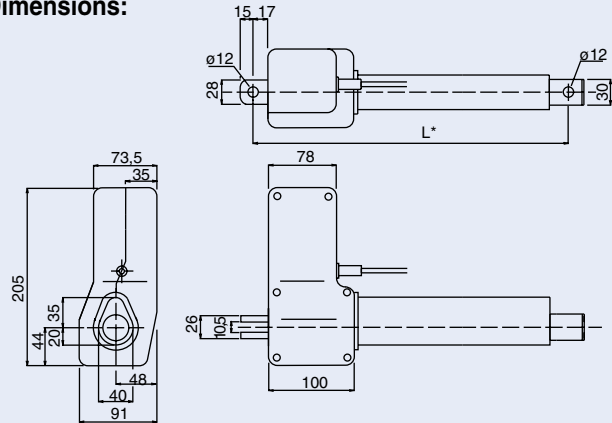


CAFS linear actuators

The efficient design of the CAF actuator enables a high dynamic load capacity in combination with a low current consumption and noise level. The standard design includes built-in limit switches and flexible orientation of attachments. Design options are available to optimize application safety. The most common of these is the metal back-up nut (mechanical failure), non-fixed extension tube (prevents crush injuries).



Dimensions:



* L= Stroke + retracted length (See ordering key)

Technical data:

Max. dynamic pushing load:	7000N (low lead screw)
Max. dynamic pushing load:	3000N (high lead screw)
Max. dynamic pulling load:	3000N
Stroke length:	50-300 mm
Speed:	4-20 mm/sec.
Mains supply voltage:	24Vd.c. or 12Vd.c.
Duty factor:	10%
Cable:	Several options - see ordering key
Connection plug:	Phono and DIN-pole
Encoder:	Hall element
Protection class:	IP51, IP66 or IPX4
Colour:	RAL 7035, grey or RAL 9005, black
Housing material:	PP
Manufactured according to:	IEC 60 601.1
Option :	Silent option to reduce the noise by 5 dB, thermo switch on the motor to avoid excess temperature due to abused duty factor

Suitable controls:

CAFMx
CAFC04

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Page 10

SKF

C	A	F	S			X							X						0	/				
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Plastic, fixed	1
Plastic, free with tube end stop (anti-jamming)	2
Steel, fixed	3
Steel, free without tube end stop	4

Steel tube - select combination from fig.1 on page 12 XXXXXX
Plastic tube - select combination from fig.2 on page 12 XXXXXX

Hole Ø10 mm, plastic	A
Hole Ø12 mm, plastic	B
Hole Ø12 mm, aluminium	D
Hole Ø10 mm, plastic natural, high load	E
Hole Ø12 mm, plastic natural, high load	F

Orientation of Fear Attachment (see fig. A on page 2)	
0°	0
15°	1
45°	2
60°	3
90°	9
120°	4
135°	5
165°	6

Hole Ø10 mm (only for steel tube)	A
Hole Ø12 mm (only for steel tube)	B
U-fork end with hole Ø10 mm, (standard for plastic tube)	C
U-fork end with hole Ø12 mm, (standard for plastic tube)	D
Hole Ø12 mm, with bushing 12-14 (only for steel tube)	E
Hole Ø10 mm, with bushing 10-12 (only for steel tube)	F

No	0
Yes	1

Black	B
Grey	G

No (only an option for the MediMove range)	0
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No	0
Yes (mandatory to select cable "B"	1

2.5 m, grey, phono plug, coiled	A
2.0 m, grey, DIN plug, straight	B
1.1 m, grey, phono plug, straight	C
2.6 m, grey, phono plug, straight	D
1.2 m, grey, phono plug, straight	E
2.5 m, black, phono plug, coiled	F

IP51	51
IPx4	X4
IP66	66

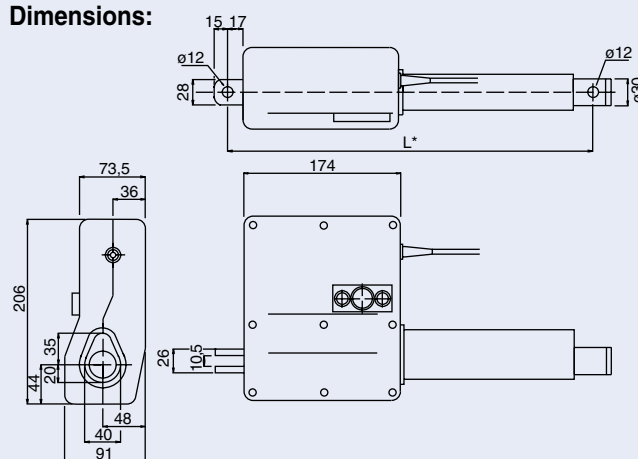
CAFM master controls

* Evolution III is the CAFM version providing higher degree of ESD protection and system surveillance and shut down features.



The CAFM master control (Evolution III)* with integrated CAF actuator can control up to 3 actuators for simple up/down movements. The CAFM master control is manufactured in accordance with the most comprehensive standards. Additional feature: outlet for external battery is also available.

Dimensions:



* L = Stroke + retracted length (See ordering key)

Technical data:

CAF actuator:	Technical data - see page 4
Mains supply voltage:	230Va.c./50/60Hz, 240Va.c./50Hz, 120Va.c./60Hz
Duty factor:	10% (1 min. on, 9 min. off) at nominal load
Mains cable:	Several options - see ordering key
Number of actuator connections:	1-3 units
Connection socket-operating switch:	DIN 5-pole, DIN 7-pole
Connection socket-actuators:	Phono
Protection class:	IPx4, IP51 or IP66
Colour:	RAL 7035, grey or RAL 9005, black
Housing material:	PP
Manufactured according to:	IEC 60 601.1
ESD protection:	Protection up to 30KV

Accessories:

Product	CAFM M1	CAFM M2	CAFM M3	CAFM M4	Page
Hand switch (grey)	CAFH M1/S118C	CAFH M2/S116C	CAFH M3/S120C	CAFH M4/S473C	13
	CAFH M1/S118CE	CAFH M2/S116CE	CAFH M3/S120CE	CAFH M4/S473CE	13
Hand switch (black)	CAFH M1/S746C	CAFH M2/S784C	CAFH M3/S822C	N/A	13
	CAFH M1/S746CE	CAFH M1/S784CE	CAFH M3/S822CE	N/A	13
Foot switch	CAFH F1/S401D	CAFH F1/S401D	CAFH F1/S402D	CAFH F1/S402D	13
	CAFH F1/S403D	CAFH F1/S403D	CAFH F1/S404D	CAFH F1/S404D	13
Desk switch (grey)	CAFH T1/S457D	CAFH T2/S458D			13
Desk switch (black)	CAFHT1 / S545D	CAFHT2 / S460D			13
Battery	CAFB/S693D	CAFB/S693D	CAFB/S693D		12
Junction box	CAFR/S238D	CAFR/S238D	CAFR/S239D	CAFR/S239D	13

Ordering key

Dynamic load (N) / Speed/mm/sec.		Motor* options A, C, E, B, D or F	
3000/20-13	7000/10-5	24 V high speed motor	A
3000/20-13	7000/10-5	24 V high speed motor - silent option	C
3000/14-9	7000/7-4	24 V standard speed motor with thermo switch	E
3000/14-9	3000/7-4	24 V standard speed motor	B
3000/14-9	3000/7-4	24 V standard speed motor - silent option	D
3000/14-9	3000/7-4	24 V standard speed motor with thermo switch	F
H	L	* Overload protection is standard	

C A F M ☐ ☐ X ☐ ☐ ☐ ☐ X ☐ ☐ ☐ ☐ 0 / 1 ☐ ☐ ☐ ☐

Actuator connections

1 additional actuator	1
2 additional actuators	2
3 additional actuators	3
4 additional actuators	4

Tube

Plastic, fixed	1
Plastic, free with tube end stop (anti-jamming)	2
Steel, fixed	3
Steel, free without tube end stop	4

Stroke/Retracted length

Steel tube - select combination from fig.1 on page 12	XXXXXX
Plastic tube - select combination from fig.2 on page 12	XXXXXX

Rear attachment

Hole Ø10 mm, plastic (only for steel tube)	A
Hole Ø12 mm, plastic (only for steel tube)	B
Hole Ø12 mm, aluminium	D
Hole Ø10 mm, plastic natural, high load	E
Hole Ø12 mm, plastic natural, high load	F

Orientation of rear attachment (see fig. A on page 2)

0°	0
15°	1
45°	2
60°	3
90°	9
120°	4
135°	5
165°	6

Tube attachment

Hole Ø10 mm	A
Hole Ø12 mm	B
U-fork end with hole Ø10 mm, (standard for plastic tube)	C
U-fork end with hole Ø12 mm, (standard for plastic tube)	D
Hole Ø12 mm, with bushing 12-14 (only for steel tube)	E
Hole Ø10 mm, with bushing 10-12 (only for steel tube)	F

Back up nut

No	0
Yes	1

Colour

Black	B
Grey	G

Quick release

No	0
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Transformer & mains cable (PVC cable, class II)

230V, 3.0m, black, EU-plug, straight	B
230V, 1.0m, grey, EU-plug, straight	G
120V, 3.0m, grey, US-plug, straight	H
240V, 3.0m, grey, UK-plug, straight	I

Battery

No battery	0
Battery connection (available for M1, M2 and M3 versions)	2
External switch (available for M1, M2 and M3 versions)	3

Protection class

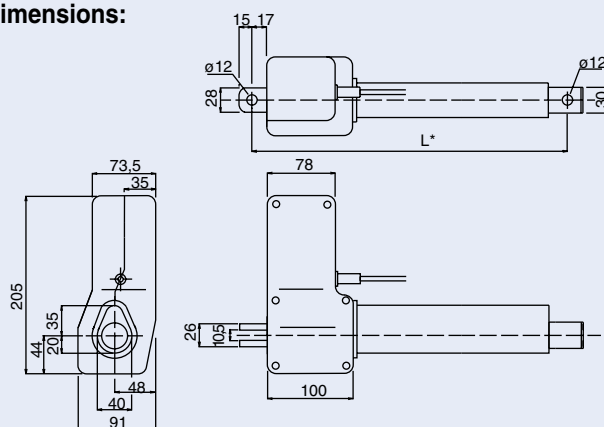
IP51	51
IPx4	X4
IP66	66

CAFX linear actuators

The CAF Relax (CAFX) is a compact and silent actuator with build-in electronics. The external transformer on the main power cable provides low voltage to the actuator thus avoiding a 230 V current to the equipment. Thanks to the mechanical and electrical design using a robust “non-relay” solution, a very high level of safety and reliability are achieved.



Dimensions:



* L = Stroke + retracted length (See ordering key)

Technical data:

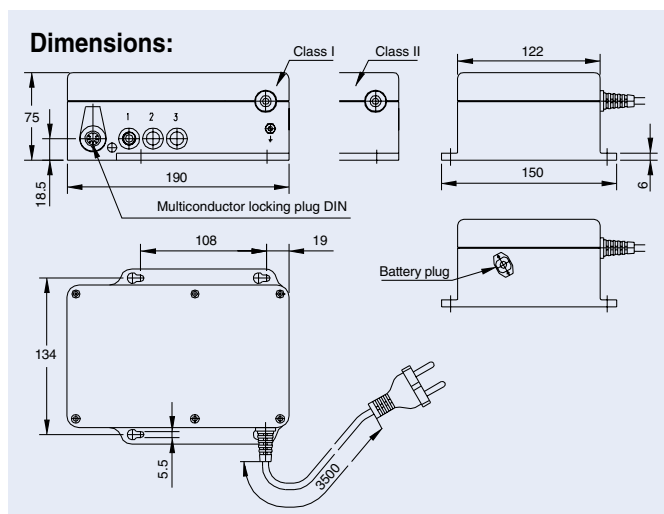
Max. dynamic pushing load:	3000N
Max. dynamic pulling load:	3000N
Stroke length:	65-200mm
Speed:	4.5-7 mm/sec.
Mains supply voltage:	230Va.c./50/60Hz, 120Va.c./60Hz
Duty factor:	10%
Cable:	Straight, 3.0m with transformer
Connection plug:	EU, UK or US-plug
Protection class:	IPxx
Colour:	RAL 9005, black or RAL 7035 grey
Housing material:	PP

Ordering key

C A F X 1		X X						/	0	0
Type Electronics inside										
Tube Plastic, fixed Plastic, free with tube end stop (anti-jamming) Steel, fixed Steel, free without tube end stop		1 2 3 4								
Stroke/Retracted length Steel tube - select combination from fig.1 on page 12 Plastic tube - select combination from fig.2 on page 12		XXXXXX XXXXXX								
Rear attachment Hole Ø10 mm, plastic Hole Ø12 mm, plastic Hole Ø12 mm, aluminium Hole Ø10 mm, plastic natural, high load Hole Ø12 mm, plastic natural, high load		A B D E F								
Orientation of rear attachment (see fig. A on page 2) 0° 15° 45° 60° 90° 120° 135° 165°		0 1 2 3 9 4 5 6								
Tube attachment Hole Ø10 mm (only for steel tube) Hole Ø12 mm (only for steel tube) U-fork end with hole Ø10 mm, (standard for plastic tube) U-fork end with hole Ø12 mm, (standard for plastic tube) Hole Ø12 mm, with bushing 12-14 (only for steel tube) Hole Ø10 mm, with bushing 10-12 (only for steel tube)		A B C D E F								
Colour Black Grey		B G								
Transformer & mains cable (PVC cable, class II) 230V, 3.0m, black, EU-plug, straight 120V, 3.0m, black, US-plug, straight 240V, 3.0m, grey, UK-plug, straight		A B C								
Battery No battery										
Potection class IPxx										

CAFC04 actuator controls

The CAFC04 controls are suitable for simple up/down functions and can control and operate up to 3 individual CAFS actuators. The CAFC04 is manufactured in accordance with the most comprehensive standards for home care applications. Additional features such as battery connection, internal battery for lowering and overload cut-off (factory pre-set) are also available.



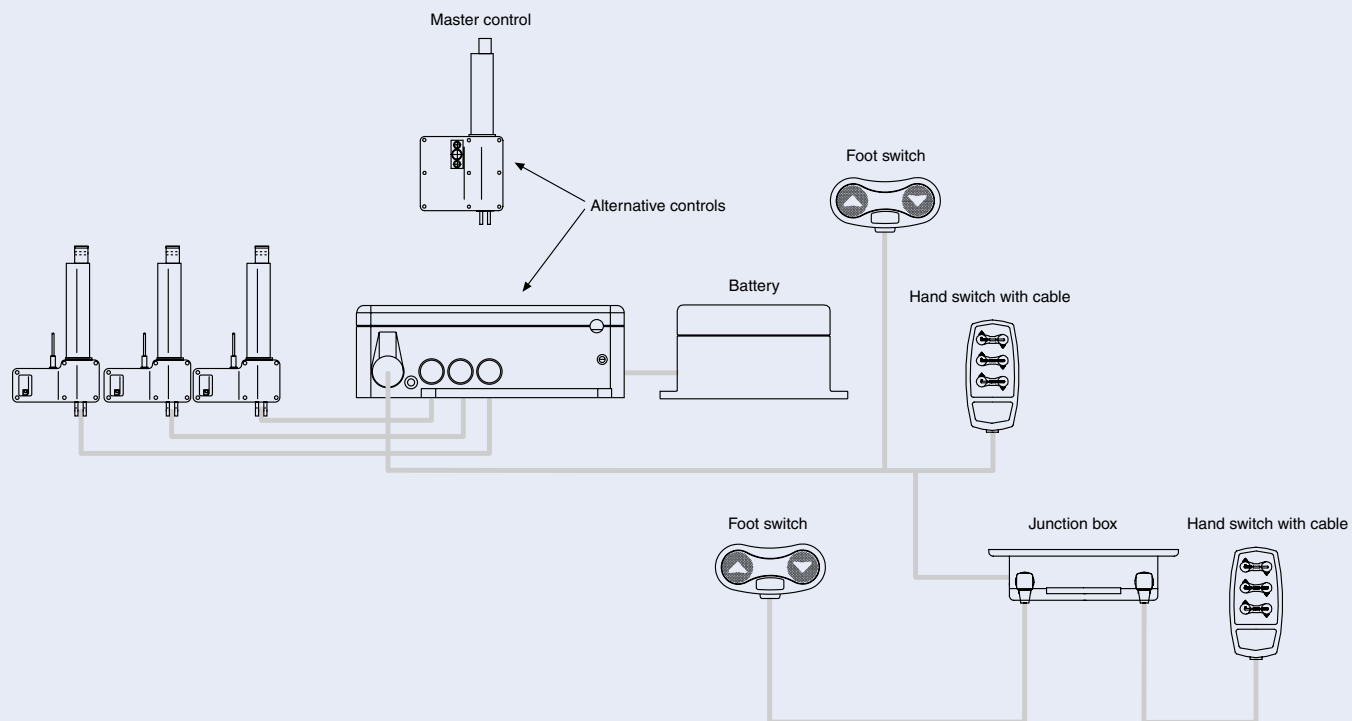
Technical data:

Supply voltage:	230Va.c./50Hz, 240Va.c./50Hz, 120Va.c./60Hz
Mains cable:	Several options - see ordering key
Duty factor:	10% (1 min. on, 9 min. off) at nominal load
Number of actuator connections:	1-3 units
Connection socket-operating switch:	DIN 5-pole (M1 and M2), DIN 7-pole (M3)
Connection socket-actuators:	Phono
Protection class:	IPx4
Colour:	RAL 7035, grey
Housing material:	PP talc, UL 94 V0

Accessories:

Product	CAFC04 M1	CAFC04 M2	CAFC04 M3	Page
Hand switch (grey)	CAFH M1/S118C	CAFH M2/S116C	CAFH M3/S120C	13
	CAFH M1/S118CE	CAFH M2/S116CE	CAFH M3/S120CE	13
Hand switch (black)	CAFH M1/S746C	CAFH M2/S784C	CAFH M3/S822C	13
	CAFH M1/S746CE	CAFH M2/S784CE	CAFH M3/S822CE	13
Foot switch	CAFH F1/S401D	CAFH F1/S401D	CAFH F1/S402D	13
	CAFH F1/S403D	CAFH F1/S403D	CAFH F1/S404D	13
Desk switch (grey)	CAFH T1/S457D	CAFH T2/S458D		13
Desk switch (black)	CAFHT1 / S545D	CAFHT2/S460D		
Battery	CAFB/S693D	CAFB/S693D	CAFB/S693D	12
Junction box	CAFR/S238D	CAFR/S238D	CAFR/S239D	13

Schematic diagram



Ordering key:

C A F C 0 4 x M x 1 / **G**

No. of actuators

1 actuator	1
2 actuators	2
3 actuators	3

Mains cable (PVC cable class II)

230V, 3.0m, grey, EU-plug, coiled	A
230V, 3.2m, black, EU-plug, straight	B
230V 3.0 m, grey, EU plug, 1m straight + 2m coiled	G
120V, 3.0m, grey, US-plug, straight	H
240V, 3.0m, grey, UK-plug, straight	I

Overload protection (factory pre-set)

Yes

Protection class

IP51	51
IPx4	x4
IP66	66

Battery options

No battery	0
Battery plug	2
External switch	3

Colour

RAL 7035, grey

Diagram for actuators designed with STEEL tube to select appropriate stroke and retracted length combination
 Fig. 1

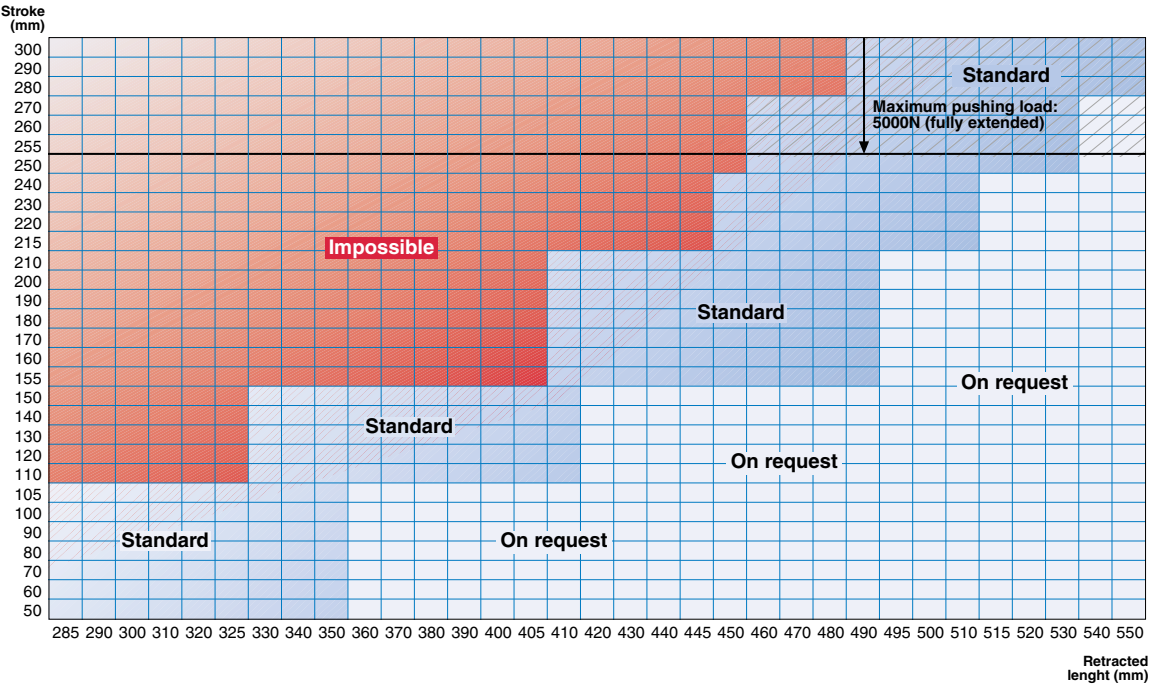
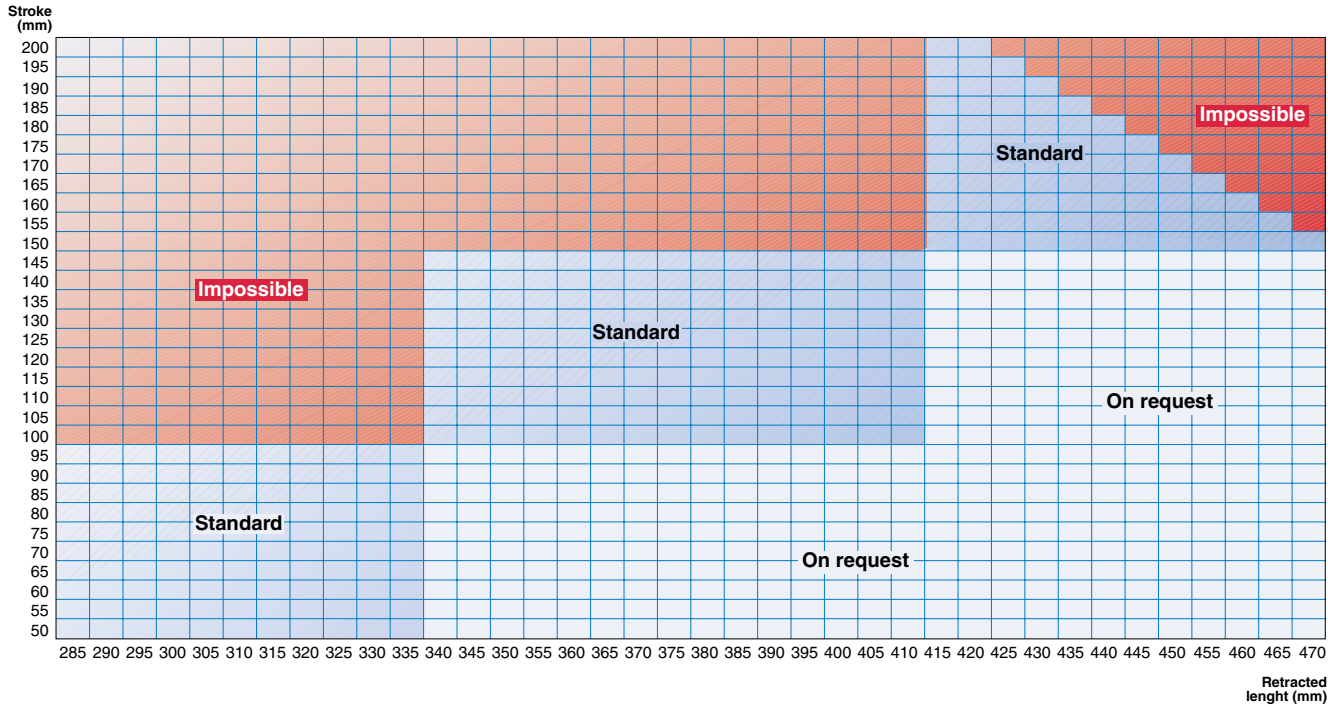


Diagram for actuators designed with PLASTIC tube to select appropriate stroke and retracted length combination
 Fig. 2



Battery CAFB

Order code:
 CAFB S 693D



Features:

- for wireless use integral battery charger, acoustic signal for low battery level

Technical data:

Capacity:	1,2 Ah (Approximately 15 double strokes with full load)
Protection class:	IPx4
Cable:	Straight, 1.0 m

Hand switch CAFHMx-Series (On/Off)



Ordering Code:

Black

CAFH M1/S746C

CAFH M1/S784C

CAFH M1/S822C

N/A

For IP66 add suffix 'E' to the order code.

Grey

CAFH M1/S118C

CAFH M2/S116C

CAFH M3/S120C

CAFH M4/S473C

Description:

2 keys, DIN 5

4 keys, DIN 5

6 keys, DIN 7

8 keys, DIN 7

Features:

- high quality design
- fastening hook
- membrane keyboard
- coiled cable with DIN plug
- protection class IPx4 (optional IP66)

Available colours:

Housing: RAL 9005, black or RAL 7035, grey

Membrane: RAL 9005, black or RAL 7035, grey

Customization:

Min. quantity for logo print: 500pcs

Foot switch CAFHFx-Series (On/Off)



Ordering code:

Single unit

CAFH F1/S401D

CAFH F1/S402D

CAFH F1/S403D

CAFH F1/S404D

Description:

Coiled cable, DIN 5-pole plug

Coiled cable, DIN 7-pole plug

Straight cable, DIN 5-pole plug

Straight cable, DIN 7-pole plug

Features:

- robust design totally enclosed
- connected in serial direct to control unit.
- cable options with DIN 5 or DIN 7-pole plugs

Technical data:

Dimension LxWxH: 180x82x26mm

Protection class: IPx4

Cable: Coiled 2.5m

Straight 1.7m

Colour: RAL 7012, anthracite

Suitable controls:

CAFC04

(for selection see page 10)

CAFMx

(for selection see page 6)

Desk switch CAFHTx-Series (On/Off)



Ordering code:

CAFH T1/S457D

CAFH T2/S458D

CAFH T1/S459D

CAFH T2/S460D

Description:

2 keys, grey

4 keys, grey

2 keys, black

4 keys, black

Features:

- customized logo-print on housing
- flexible installation

Technical data:

Dimension LxWxH: 150x40x25mm

Protection class: IP51

Cable: Coiled 3.0m

Connection plug: DIN 5-pole

Colour: RAL 7035, grey

RAL 9005, black

Suitable controls:

CAFC04 M1

CAFC04 M2

CAFM M1

CAFM M2

Junction box CAFR-Series



Order code:

CAFR/S238D

CAFR/S239D

Description:

DIN 5-pole

DIN 7-pole

Features:

- outlets for connections of two switches

Technical data:

Dimension: 220x42x60

Protection class: IPx4

Connection socket: DIN

Colour: RAL 7035, grey

Suitable controls:

CAFM

(for selection see page 10)

CAFC04

(for selection see page 6)

SKF Actuation Systems - Product groups



Systems



Linear actuators



Telescopic pillars



Rotary actuators

Contacts & Sales

Austria

Linear Motion

SKF Österreich AG

Phone +43 2236 6709 0

Fax +43 2236 6709 220

E-mail multitec.austria@skf.com

Benelux

SKF Multitec Benelux B.V.

Phone +31 030 6029 029

Fax +31 030 6029 028

E-mail multitec_benelux@skf.com

Denmark

Magnetic Danmark A/S

Phone +45 74 69 41 11

Fax +45 74 69 42 22

E-mail: actuators.denmark@skf.com

SKF Multitec

Phone +45 65 92 77 77

Fax +45 65 92 74 77

E-mail: multitec.nordic@skf.com

France

Magnetic France

Phone +33 1 30 12 68 70

Fax +33 1 30 12 68 79

E-mail magnetic.france@skf.com

SKF Equipements

Phone +33 1 30 12 73 00

Fax +33 1 30 12 69 09

E-mail equipements.france@skf.com

Represented by:

Finland

SKF Multitec

Phone +358 9 4529 752

Fax +358 9 4127 765

E-mail: multitec.nordic@skf.com

Germany

Magnetic Elektromotoren GmbH

Phone +49 7622 695 0

Fax +49 7622 695 101

E-mail magnetic.germany@skf.com

SKF Linearsysteme GmbH

Phone +49 9721 657 0

Fax +49 9721 657 111

E-mail lin.sales@skf.com

Italy

SKF Multitec S.p.A.

Phone +39 011 57 17 61

Fax +39 011 57 17 633

E-mail multitec.italy@skf.com

Norway

SKF Multitec

Phone +47 22 30 71 70

Fax +47 22 30 28 14

E-mail: multitec.nordic@skf.com

Spain & Portugal

SKF Productos Industriales S.A.

Phone +34 93 377 99 77

Fax +34 93 474 2039 / 3156 / 2156

E-mail prod.ind@skf.com

Sweden

SKF Multitec

Phone +46 42 253500

Fax +46 42 253545

E-mail: multitec.nordic@skf.com

Switzerland

Magnetic

Phone +41 52 305 02 02

Fax +41 52 305 02 05

E-mail magnetic.switzerland@skf.com

Linear Motion

Phone +41 1 825 81 81

Fax +41 1 825 82 82

E-mail skf.schweiz@skf.com

U.K.

SKF Engineering Products Ltd.

Phone +44 1582 490049

Fax +44 1582 496574

E-mail skf.epl@skf.com

USA

Magnetic Corporation

Phone +1 618 392 3647

Toll free +1 800 835 3624

Fax +1 618 392 0033

E-mail magnetic.usa@skf.com

SKF Motion Technologies

Phone +1 610 861 4800

Toll free +1 800 541 3624

Fax +1 610 861 4811

E-mail motiontech.usa@skf.com

All other countries

SKF Equipements, Strategic Markets

Phone +33 1 3012 6851/6852

Fax +33 1 3012 6859

E-mail: strategicmarkets.lmpt@skf.com