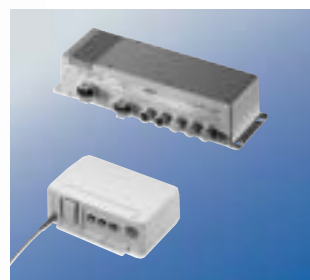


Actuator Range



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Actuation systems

About actuation systems

Linear drive applications often require superior performance from the actuator. They must exhibit this in terms of speed, temperature stability, accuracy and noise levels. SKF produces a complete range of actuator products designed to satisfy the most demanding requirements. The assortment includes telescopic pillars, linear and rotary actuators as well as control units, providing a total system solution for various applications. SKF holds a leading position in the industrial field where actuators are used in many different applications. SKF supplies a wide range of actuators but also offers extensive knowledge and experience in application engineering. This background has developed through long standing partnerships with leading companies in many industrial sectors.

Selecting actuators, made easy.

Finding the right electric actuator for an application usually requires knowing many application details and making several calculations. However, there are ways to narrow the selection to one or two safe approximations first. Using the selection guide, on following pages 8-15 you may easily find those actuators that meets your first criterias of load and speed as well as basic information about available controls and operating devices. This is normally the most important first step to carry out.



On pages 16-146 you will find detailed information and ordering keys of each individual product(s).

In case you need more explanation on technical thermology (glossary) and important considerations in selecting the right actuator for your applications pages 156-159 may be useful.

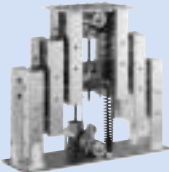


Some of our product families are only available for project sales. On page 147-148, in the selection guide, you will find a short information of those products.



In addition to this Actuator Range catalogue we have all product brochures available as pdf document on the internet – <http://skf.manager.nu/guest>.

EasyRange, fast delivery service





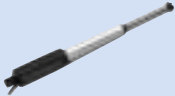



All products, up to 10pcs, defined as EasyRange can be dispatched within 5 working days from order entry. Some products even next day such as motors and accessories. Products defined for this range are highlighted in respectively ordering key and all possible options are written in **BLUE TEXT**.

Selection guide


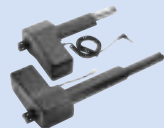

Telescopic pillars	Type	Max. force		Max. speed		Stroke (S)	Features	Page
		push	pull	no load	full load			
		N		mm/sec		mm		No.
TELEMAG								
	TGC	1000	1000	11	9	200 - 700	Robust	17
	THC	1800	1800	15	12	200 - 700	Robust	18
	THG	2000	0	7	5	200 - 700	Robust	19
	TLC	4000	4000	16	11	200 - 700	Robust	20
	TLG	4000	0	34	10	200 - 700	Robust	21
	TLT	4000	0	42	11	300 - 700	Compact	22
TMS								
	EASY	4000	0	16	28	300 - 700	for excentric loads	25
	MECH	4000	0	-	-	300-700	for excentric loads	25
TELESMART								
	TMD	800	0	60	37	700	Slim & stylish	27
	TMA	1000	0	57	35	500	Slim & stylish	28
	TXG	1500	0	23	17	200 - 600	Plug & play	29
MAGGEAR								
	ETE	800	200	8	8	200	In-line	31



Linear actuators	Type	Max. force		Max. speed		Stroke (S)	Features	Page
		push	pull	no load	full load			
		N		mm/sec		mm		No.
CAT								
	CAT 11	500	500	16	10	50 - 300	Compact	33
	CAT 21B	600	600	10	5	50 - 300	Compact	34
	CAT 33H	1200	1200	174	36	100 - 400	Flexible	35
	CAT 33	3000	3000	48	10	100 - 400	Flexible	37
	CAT 32B	4000	4000	67	13	50 - 700	Flexible	39
CAP								
	CAP 32	3500	3500	60	40	50 - 700	High duty factor	45
	CAP 43A	3000	3000	48	10	100 - 400	Positioning	46
	CAP 43B	4000	4000	65	13	50 - 700	Positioning	48

Selection guide

Linear actuators	Type	Max. force		Max. speed		Stroke (S)	Features	Page
		push	pull	no load	full load			
		N		mm/sec		mm		No.
	CAR							
	CAR 22	1500	1500	30	10	50 - 300	High duty factor	53
	CAR 32	3500	3500	60	10	50 - 700	High duty factor	54
	CAR 40	6000	6000	60	10	100 - 700	High duty factor	55
	CARN 32	3500	3500	N/A	N/A	N/A	No motor	56
	CCBR 32	3500	3500	N/A	N/A	N/A	No motor	57
	MAGFORCE							
	GTD	200	200	30	25	50 - 300	Powerful	59
	WSP	2600	2600	68	57	100 - 700	Powerful	60
	ASM	4000	4000	58	48	100 - 700	Powerful	61
	DSP	4500	4500	62	52	100 - 700	Powerful	62
	SKG	15000	15000	66	55	100 - 700	Powerful	63
	SKD	15000	15000	30	25	100 - 700	Powerful	64
	STW	15000	15000	14	12	100 - 700	Powerful	65
	STG	15000	15000	17	14	100 - 700	Powerful	66
	STD	15000	15000	12	10	100 - 700	Powerful	67
	SKS	30000	30000	54	45	100 - 700	Powerful	68
SLA	50000	50000	88	74	100 - 700	Powerful	69	
	ECOMAG							
	ECO 20/40	2000	0	13	19	50 - 300	Compact	71
	ECO 60/80	2000	0	7	4	50 - 300	Compact	71
	ECO 30/50	2000	2000	13	19	50 - 300	Compact	71
	ECO 70/90	6000	6000	7	4	50 - 300	Compact	71
	ILD							
	ILD 02	2000	2000	200	200	100 - 1500	Fast & controllable	73
	ILD 05	5000	5000	100	100	100 - 700	Fast & controllable	73
	ILD 10	10000	10000	50	50	100 - 700	Fast & controllable	73
	ILD 20	20000	20000	25	25	100 - 700	Fast & controllable	73
	CALA 36							
CALA 36A	600	600	31	17	50 - 200	In-line	75	
	MATRIX							
	MAX1	4000	4000	7	5	50 - 700	Silent operation	77
	MAX3	8000	6000	7	5	50 - 700	Silent operation	78
	MAX6	8000	6000	8	6	50 - 700	Plug & play	79
	CARE							
	CARE 33H	800	800	45	32	50 - 500	Silent operation	83
	CARE 33M	1400	1400	22	16	50 - 500	Silent operation	83
	CARE 33A	2000	2000	12	8	50 - 300	Silent operation	83
	RUNNER							
	R20	8000	8000	10.5	7.5	100 - 700	High push force	86
	R21	10000	8000	8.5	6	100 - 700	High push force	86
	R22	12000	8000	6.5	4.5	100 - 700	High push force	86

Selection guide

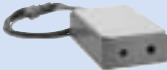

Linear actuators	Type	Max. force		Max. speed		Stroke (S)	Features	Page
		push	pull	no load	full load			
		N		mm/sec		mm	No.	
CAFM 	CAFM-H-motor A	3000	3000	20	13	50 - 300	High speed	88
	CAFM-H-motor B	3000	3000	14	9	50 - 300	High speed & silent	88
	CAFM-L-motor A	7000	3000	10	5	50 - 300	Powerful	88
	CAFM-L-motor B	7000	3000	7	4	50 - 300	Powerful & silent	88
CAFS 	CAFS-H-motor A	3000	3000	20	13	50 - 300	High speed	92
	CAFS-H-motor B	3000	3000	14	9	50 - 300	High speed & silent	92
	CAFS-L-motor A	7000	3000	10	5	50 - 300	Powerful	92
	CAFS-L-motor B	7000	3000	7	4	50 - 300	Powerful & silent	92
MAGPUSH 	GC 84 UB	400	400	8	8	210	Silent operation	97
	GC 84 TL	500	300	6	6	200 - 300	Silent operation	98
	HC 85 UB	1500	1500	10	10	260	Silent operation	99

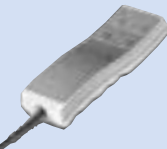

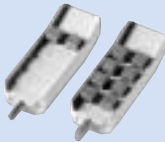


Rotary actuators	Type	Torque	Max. speed	Size	Features	Page
		N	mm/sec	mm		
		N	mm/sec	mm	No.	
CRAB 17 	CRAB 17	70	8	125	Compact	100
	CRAB 17	105	20	125	Compact	100
CRAB 05 	CRAB 05	100	3	86	Compact	104

Selection guide


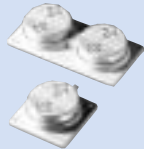

Control units	Type	Control	Max. motor connections	Input	Output	Page
				V	V / A	
KOM 	KOM 1	Standard	4	230 / 120	24 / 6	109
	KOM 2	Microprocessor	5	230 / 120	24 / 12	110
	KOM 3	Standard	3	230 / 120	24 / 6	111
	KOM 3T	Standard	2	230 / 120	24 / 9	111
	KOM 6	Microprocessor	4	230 / 120	24 / 12	112
MCU 	MCU	Standard	2	230 / 120	24 / 6	113
LD 	LD	Microprocessor	2	230 / 120	24 / 12	114
	LD	Microprocessor	4	230 / 120	24 / 12	114
CAFC 04 	M1	Microprocessor	1	230 / 120	40 / 6	115
	M2	Microprocessor	2	230 / 120	40 / 6	115
	M3	Microprocessor	3	230 / 120	40 / 6	115
CAFM 	M1	Microprocessor	0	230 / 120	40 / 6	117
	M2	Microprocessor	1	230 / 120	40 / 6	117
	M3	Microprocessor	2	230 / 120	40 / 6	117
	M4	Microprocessor	3	230 / 120	40 / 6	117
CAEN 	10R	Standard (on/off)	1	230	24 / 10	118
CAEV 	110/120	Standard (on/off)	1	120 / 230	200 / 400	119
CAED ANR 	5-24R - P O	Microprocessor	1	22-28	24 / 5	120
	9-24R - P O	Microprocessor	1	22-28	24 / 9	120
CAED 	3-24R	Standard (on/off)	1	24	24 / 3	121
	5-24R	Standard (on/off)	1	24	24 / 5	121
	9-24R	Standard (on/off)	1	24	24 / 9	121

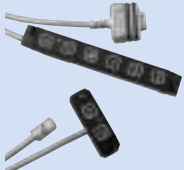


Selection guide

Control units	Type	Control	Max. motor connections	Input	Output	Page
				V	V / A	
CAEP 	10P-SL	Standard	1	230 / 120	24 / 10	122
	BCU 	4/5 8/9	Microprocessor Microprocessor	3 3	120 230	24 / 7 24 / 7


Hand switches	Type	Operating power	Max. operating motors	Prot. class	Colour	Page
		V DC / mA		IP		
EHA 	EHA 1	12 / 50	4	67	Grey	125
	EHA 2	12 / 50	5	67	Grey	126
EHE 	EHE 1	38 / 50	4	X7	Grey / black	127
	EHE 6	38 / 50	4	X7	Grey	128
PHC 	PHC	–	4	66	Anthracite	129
CAFH 	M1	40 / 50	1	X4	Black	130
	M2	40 / 50	2	X4	Black	130
	M3	40 / 50	3	X4	Black	130
	M4	40 / 50	4	X4	Black	130
CAES 	CAES 31B	–	–	–	Black	131
	CAES 31C	–	–	–	Black	131


Selection guide

Foot switches	Type	Operating power	Max. operating motors	Prot. class	Colour	Page
		V DC / mA		IP		No.
ST 	ST	12 / 50	3	X5	Blue or anthracite	133
	PFP 	PFP	–	2	21	Grey or anthracite
CAHF 	F1-DIN5	40 / 50	1	X4	Anthracite	134
	F1-DIN7	40 / 50	1	X4	Anthracite	134


Desk switch	Type	Operating power	Max. operating motors	Prot. class	Colour	Page
		V DC / mA		IP		No.
ST 	ST	12 / 50	3	X0	Black	136
	LD 	LD	5 / 50	2	32	Black
CAFH 	T1	40 / 50	1	X4	Grey or black	138
	T2	40 / 50	2	X4	Grey or black	138


Selection guide

Junction box	Type	Operating power	Max. operating motors	Prot. class	Colour	Page
		V DC / mA		IP		No.
CAFR 	DIN5	40 / 50	N/A	X4	grey	139
	DIN7	40 / 50	N/A	X4	grey	139

Easy3	Type	Max. force push	Max. force pull	Max. speed no load	Max. speed full load	Stroke (S)	Features	Page
		N		mm/sec		mm		No.
Easy3 	01	500	500	16	10	50 - 200	Flexible	142
	02	600	600	31	17	50 - 200	In-line	142
	03	2000	2000	12	8	100 - 300	Silent operation	143
	04	2000	2000	14	9	100 - 300	Silent operation	143
	05	2000	2000	14	9	100 - 300	Silent operation	144
	10	7000	3000	7	4	100 - 200	Powerful & silent	144
	11	7000	3000	7	4	100 - 200	Powerful & silent	145
	12	7000	3000	7	4	100 - 200	Powerful & silent	145
	13	7000	3000	7	4	100 - 200	Powerful & silent	146

Selection guide

Linear drive profile	Type	Max. load		Max. speed		Stroke (S)	Features	Page
		dynamic	static	no load	full load			
		N		mm/sec		mm		No.
CAWA 	CAWA	1650	3500	16	10	100-500	Powerful & compact	147

Rotary actuators	Type	Torque	Max. speed	Size	Features	Page
		Nm	rpm	mm		
CRAB 	CRAB 10	75	30	120	Compact	148
	CRAB 11	200	20	120	Compact	148
	CRAB 12	200	20	120	Compact	148
	CRAB 13	150	20	120	Compact	148
	CRAB 17	20	30	125	Compact	148
	CRAB 20	400	15	155	Zero backlash	148
	CRAB 30	1000	10	228	Zero backlash	148
	CRAB 40	1700	8	286	Zero backlash	148

Telescopic pillars

TELEMAG

The TELEMAG line of telescopicpillars features the best combination of minimum retracted length and large stroke length. They are used wherever robust and safe guiding systems are needed. The attractive design allows the TELEMAG to often become part of the overall design of the equipment. The line of TELEMAG actuators is complemented by the KOM control units, which allow a flexible and application focused system control.

Benefits:

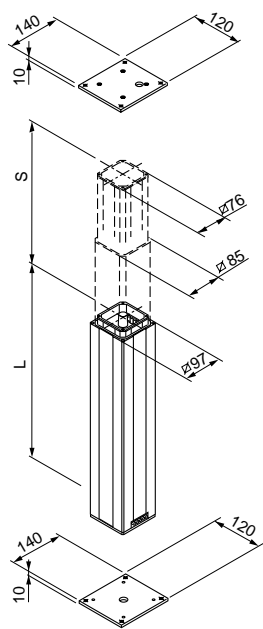
- High offset load
- Quiet
- Robust
- Long life time



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	Kg
TGC 8AWAS	1000	1000	11	9	200-700	S+145	120/230 AC	30	4.5-7.5
TGC 8AWDS	1000	1000	11	9	300-700	S+45	120/230 AC	30	5.9-9.5
THG 1.C...	1000	0	7	5	200-700	S+270	24 DC	30	8-14
TLT 10-C1	1000	0	36	25	300-700	0.5×S+170	24 DC	40	15-30
TLG 1.C...	1500	0	33	25	200-700	S+180	24 DC	30	15-30
THC 8AWAS	1800	1800	15	12	200-700	S+155	120/230 AC	30	7.9-13.5
THC 8AWDS	1800	1800	15	12	230-700	S+60	120/230 AC	30	8.6-17.5
THG 1.B...	2000	0	7	5	200-700	S+270	24 DC	30	8-14
TLT 10-B1	2000	0	19	13	300-700	0.5×S+170	24 DC	40	15-30
TLT 10-C2	2000	0	42	25	300-700	0.5×S+240	24 DC	40	15-30
TLG 1.B...	2500	0	17	13	200-700	S+180	24 DC	30	15-30
TLT 10-A1	3000	0	16	11	300-700	0.5×S+170	24 DC	40	15-30
TLC 12ZWAS	4000	4000	16	11	200-700	S+175	120/230 AC	30	15.2-24.5
TLC 12ZWDS	4000	4000	16	11	255-700	S+60	120/230 AC	30	18.3-30.5
TLG 1.A...	4000	0	14	10	200-700	S+180	24 DC	30	15-30
TLT 10-A2	4000	0	19	13	300-700	0.5×S+240	24 DC	40	15-30

Telescopic pillars

TELEMAG TGC



Legend:
S = stroke
L = retracted length

Type	Force		Speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TGC 8AWAS	1000	1000	11	9	200 - 700	S + 145	120/230 AC	30	4.5 - 7.5
TGC 8AWDS	1000	1000	11	9	300 - 700	S + 45	120/230 AC	30	5.9 - 9.5

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 2× tube set	964280
Bottom mounting plate for 2× tube set	964281
Top mounting plate for 3× tube set	964280
Bottom mounting plate for 3× tube set	965121
Screw (4/plate) (not available for 3× tube set, bottom plate)	510751
Screw (4/plate) only for 3× tube set, bottom plate	510709
Lock washer (4/plate)	510024

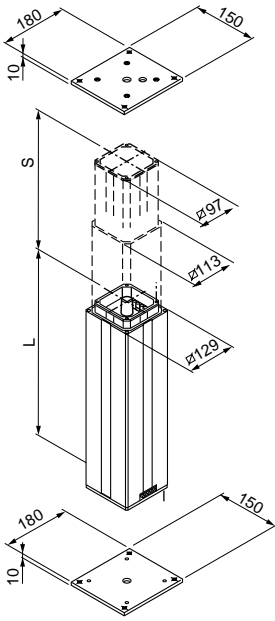
Ordering key

	TGC	8	A	W																			
Type																							
Load/Speed: 1000 N / 11-9 mm/sec				A																			
Tube set: Tube set 2× (retracted length stroke + 145 mm) Tube set 3× (retracted length stroke + 45 mm)																							
Control: Electrical control Pneumatic control																							
Motor voltage: 230 Va.c. 120 Va.c.																							
Construction: Push Pull																							
Colour: Colourless anodised																							
Stroke (S): 200 mm (not available by tube set 3×) 300 mm 400 mm 500 mm 600 mm 700 mm																							

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELEMAG THC



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
THC 8AWAS	1800	1800	15	12	200-700	S+155	120 230 AC	30	7.9-13.5
THC 8AWDS	1800	1800	15	12	200-700	S+60	120 230 AC	30	8.6-17.5

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 2× tube set	264265
Bottom mounting plate for 2× tube set	264363
Top mounting plate for 3× tube set	264265
Bottom mounting plate for 3× tube set	264237
Screw (4/plate) for top mounting plate	510671
Screw (4/plate) for bottom mounting plate	510709

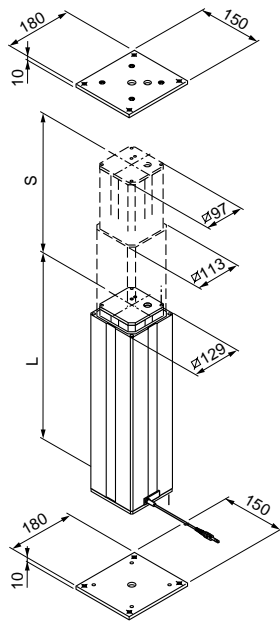
Ordering key

	THC	8	A	W							0	
Type												
Load/Speed:												
1800 N / 15 - 12 mm/sec	A											
Tube set:												
Tube set 2× (retracted length stroke + 155 mm)	A											
Tube set 3× (retracted length stroke + 60 mm)	D											
Control:												
Electrical control	S											
Pneumatic control	K											
Motor voltage:												
230 Va.c.	--											
120 Va.c.	2 U											
Construction:												
Push	0											
Pull	3											
Colour:												
Colourless anodised	0											
Stroke (S):												
200 mm (not available by tube set 3×)	2											
300 mm	3											
400 mm	4											
500 mm	5											
600 mm	6											
700 mm	7											

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELEMAG THG



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
THG 1.B...	2000	0	7	5	200-700	S+270	24 DC	30	8-14
THG 1.C...	1000	0	7	5	200-700	S+270	24 DC	30	8-14

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 2× tube set	264265
Bottom mounting plate for 2× tube set	264363
Top mounting plate for 3× tube set	264265
Bottom mounting plate for 3× tube set	264237
Screw (4/plate) for mounting plate	510709

Ordering key

THG1 0 - [] [] [] 2 A - 000

Type

Motor voltage:

24 Vd.c.

Load/Speed:

2000 N (push) / 7-5 mm/sec

1000 N (push) / 7-5 mm/sec

Tube set:

Tube set 2× (retracted length stroke + 270 mm)

Tube set 3× (retracted length stroke + 180 mm)

Stroke (S):

200 mm

300 mm

400 mm

500 mm

600 mm

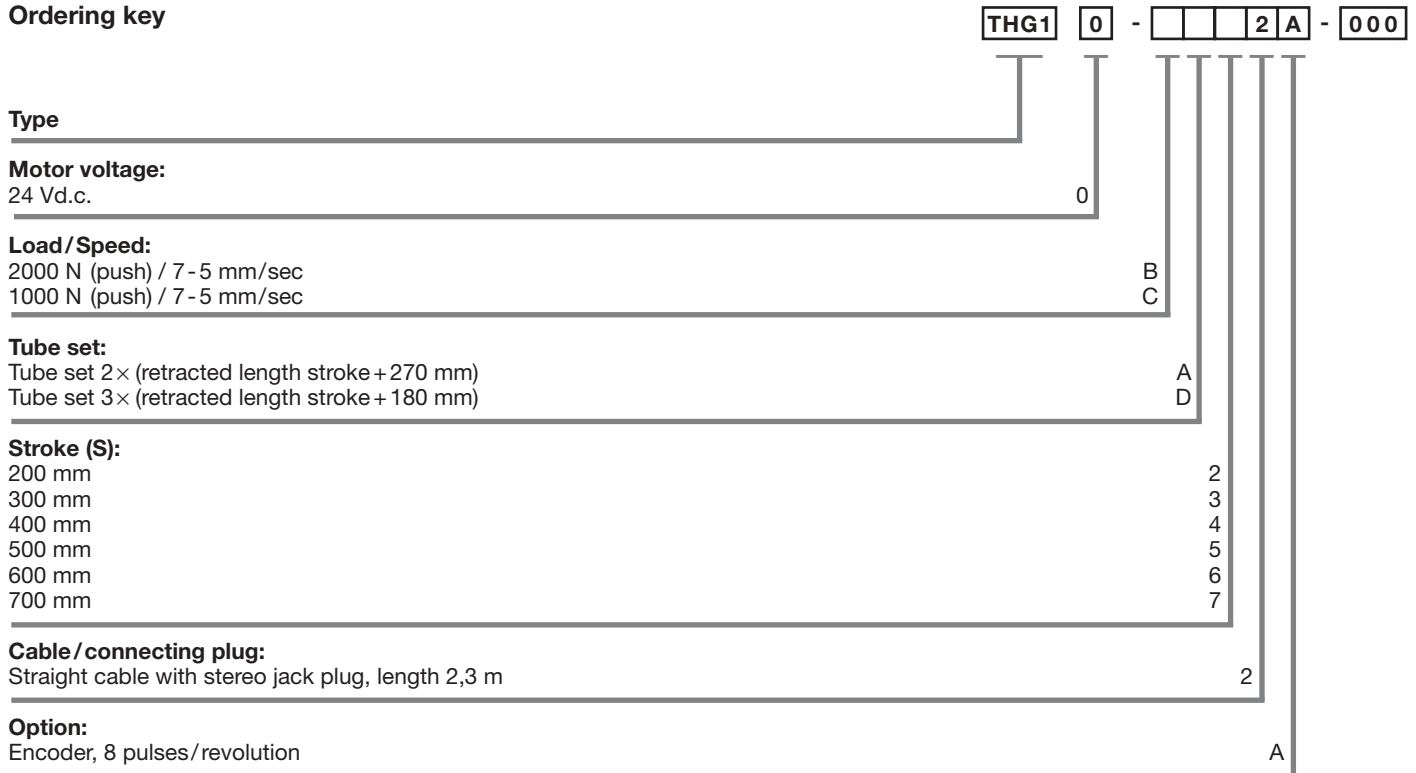
700 mm

Cable/connecting plug:

Straight cable with stereo jack plug, length 2,3 m

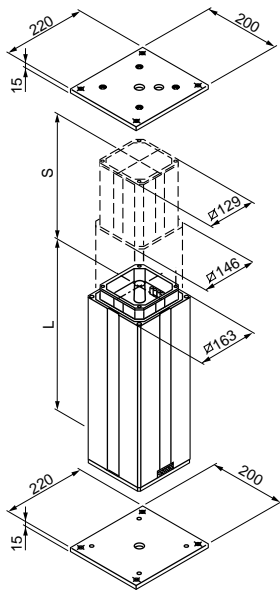
Option:

Encoder, 8 pulses/revolution



Telescopic pillars

TELEMAG TLC



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TLC 12ZWAS	4000	4000	16	11	200 - 700	S + 175	120/230 AC	30	15.2 - 24.5
TLC 12ZWDS	4000	4000	16	11	200 - 700	S + 60	120/230 AC	30	18.3 - 30.5

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 2× tube set	290268
Bottom mounting plate for 2× tube set	290351
Top mounting plate for 3× tube set	290268
Bottom mounting plate for 3× tube set	290265
Screw (4/plate) for mounting plate	510707

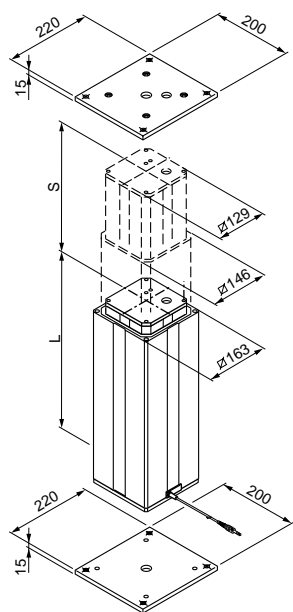
Ordering key

	TLC	12	Z	W							
Type											0
Load/Speed: 4000 N/16 - 11 mm/sec			Z								
Tube set: Tube set 2× (retracted length stroke + 175 mm) Tube set 3× (retracted length stroke + 60 mm)					A	D					
Control: Electrical control Pneumatic control							S	K			
Motor voltage: 230 Va.c. 120 Va.c.									--	2U	
Construction: Push Pull											0 3
Colour: Colourless anodised											0
Stroke (S): 200 mm (not available by tube set 3×) 300 mm 400 mm 500 mm 600 mm 700 mm											2 3 4 5 6 7

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELEMAG TLG



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TLG 1.A...	4000	0	14	10	200-700	S+180	24 DC	30	15-30
TLG 1.B...	2500	0	17	13	200-700	S+180	24 DC	30	15-30
TLG 1.C...	1500	0	33	25	200-700	S+180	24 DC	30	15-30

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 2 × tube set	290268
Bottom mounting plate for 2 × tube set	290351
Top mounting plate for 3 × tube set	290268
Bottom mounting plate for 3 × tube set	290265
Screw (4/plate) for mounting plate	510707

Ordering key

TLG1 0 - 2 A - 000

Type

Motor voltage:
24 Vd.c.

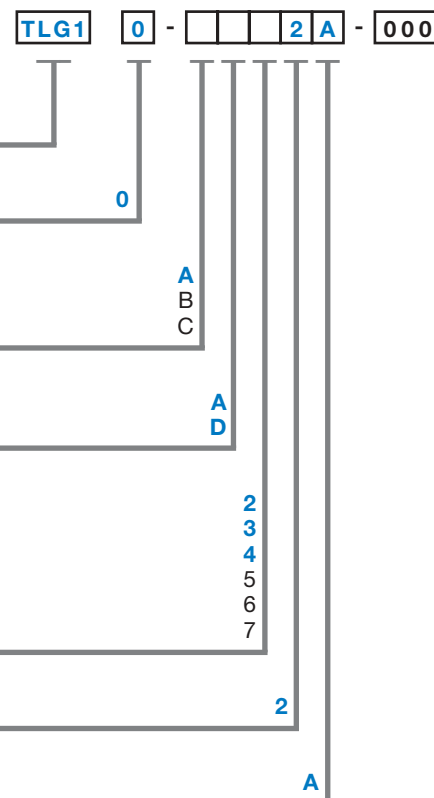
Load/Speed:
4000 N (push) / 14 - 10 mm/sec
2500 N (push) / 17 - 13 mm/sec
1500 N (push) / 34 - 25 mm/sec

Tube set:
Tube set 2 × (retracted length stroke + 180 mm)
Tube set 3 × (retracted length stroke + 180 mm)

Stroke (S):
200 mm
300 mm
400 mm
500 mm
600 mm
700 mm

Cable/connecting plug:
Straight cable with stereo jack plug, length 2.3 m

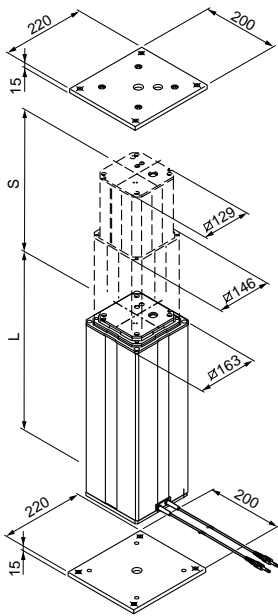
Option:
Encoder, 8 pulses/revolution



Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELEMAG TLT



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TLT10-A1	3000	0	16	11	300-700	0,5×S+170	24 DC	40	15-30
TLT10-A2	4000	0	19	13	300-700	0,5×S+240	24 DC	40	15-30
TLT10-B1	2000	0	19	13	300-700	0,5×S+170	24 DC	40	15-30
TLT10-C1	1000	0	36	25	300-700	0,5×S+170	24 DC	40	15-30
TLT10-C2	2000	0	42	25	300-700	0,5×S+240	24 DC	40	15-30

Ordering code for accessories

Accessories	Order N°
Top mounting plate for 3× tube set	290268
Bottom mounting plate for 3× tube set	290265
Screw (4/plate) for mounting plate	510707

Ordering key

Type

Motor voltage:

24 Vd.c.

Load/Speed/Retracted length:

4000 N (push) / 19 - 13 mm/sec /stroke/2 + 240 mm
 3000 N (push) / 16 - 11 mm/sec /stroke/2 + 170 mm
 2000 N (push) / 19 - 13 mm/sec /stroke/2 + 170 mm
 2000 N (push) / 45 - 25 mm/sec /stroke/2 + 240 mm
 1000 N (push) / 36 - 25 mm/sec /stroke/2 + 170 mm

Stroke (S):

300 mm
 400 mm
 500 mm
 600 mm
 700 mm

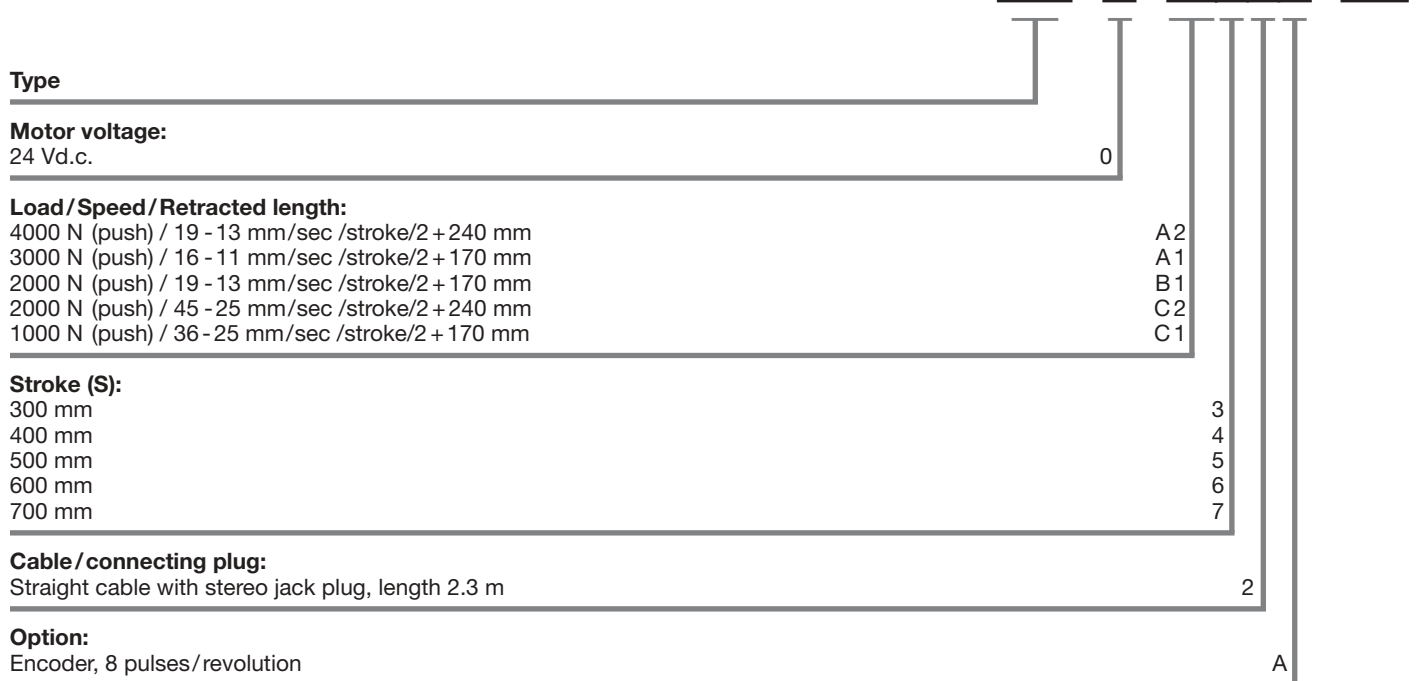
Cable/connecting plug:

Straight cable with stereo jack plug, length 2.3 m

Option:

Encoder, 8 pulses/revolution

TLT1 0 - [] 2 A - 000



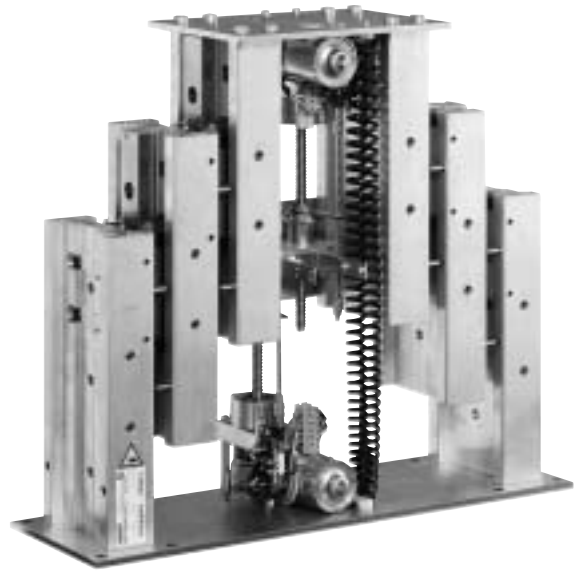
Telescopic pillars

TMS

The TMS is a strong telescopic pillar with an optimal stroke / retracted length ratio for the lift of heavy excentric loads. The TMS is fast, quiet and able to lift 400 kg centric load or 150 kg excentric load in a 2m distance away from the pillar.

Benefits:

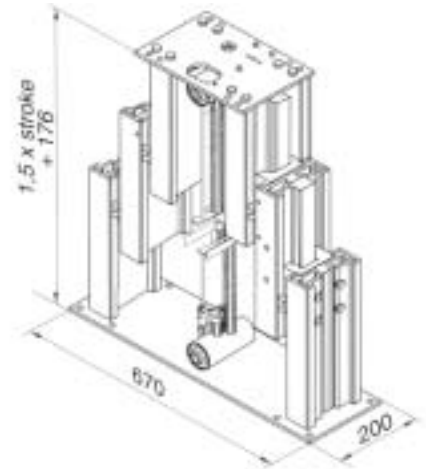
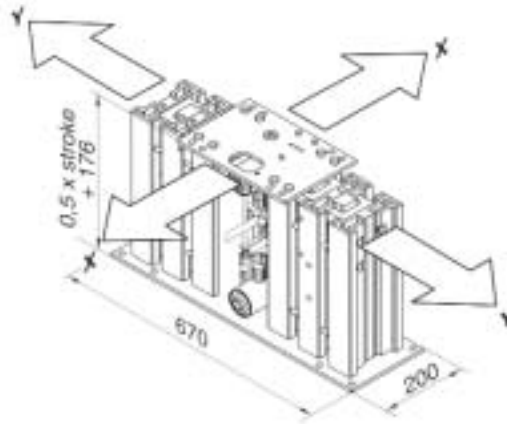
- High offset load
- Fast
- Strong



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	Kg
EASY	4000	---	28	16	300 - 700	0.5 x S + 176	24 DC	SELV	64 - 85
MECHANICAL	4000	---	---	---	300 - 700	0.5 x S + 176	---	---	61 - 82

Telescopic pillars

TMS EASY/MECHANICAL



Ordering key

TMS 0 - 0 - 00

Type

Voltage:

Mechanical: none
Easy: 24VCD

0
1

Number of channels:

Not used

0

Connecting cable:

Mechanical: Not used
Easy: Jack plug 6.35mm 1500mm

00
WR

Colour/Design:

not used

0

Options:

Cable feedthrough	Mains cable feedthrough	Potentiometer	Customer-specific	none	
				•	000
			•		KKK
	•				EXY
•					EYF
	•	•			EYL
•		•			2CH
•	•	•			2CJ
•	•				2CL
•	•	•			3CG

Stroke (S):

300mm
400mm
500mm
600mm
700mm

300
400
500
600
700

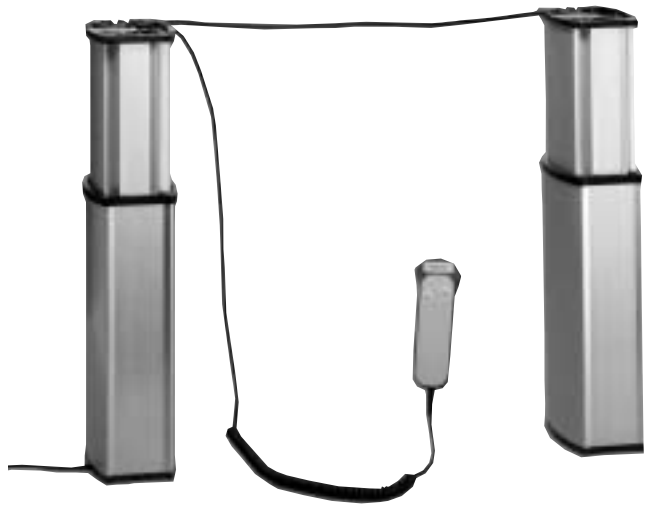
Telescopic pillars

TELESMART

This cost effective telescopic pillar offers an attractive design for height adjustable desks, tables, chairs and lightweight industrial workstations. The TXG series has an integrated control unit and combines the advantages of AC and DC power. The TMA & TMD series are very stylish and ideal for office environment. The pillars can be controlled by using desk, hand or foot switches.

Benefits:

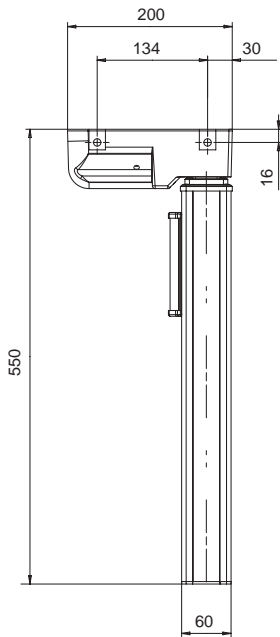
- Easy plug and play system
- Powerful and fast lifting
- Attractive design
- Cost effective



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TMD	800	800	60	37	700	550	24 DC	20	8.5
TMA	1000	1000	23	17	500	640	24 DC	20	8
TXG 1	1500	0	23	17	200-600	S+180	24 DC	30	9-14
TXG 4	1500	0	23	17	200-600	S+180	120 AC	30	9-14
TXG 8	1500	0	23	17	200-600	S+180	230 AC	30	9-14

Telescopic pillars

TELESMART TMD



Type	Force push	Force pull	Max. speed no load	Max. speed full load	Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	N		mm/s		mm	mm	V	IP	kg
TMD	800	800	60	37	700	550	24 DC	20	8.5

Legend:
S = stroke
L = retracted length

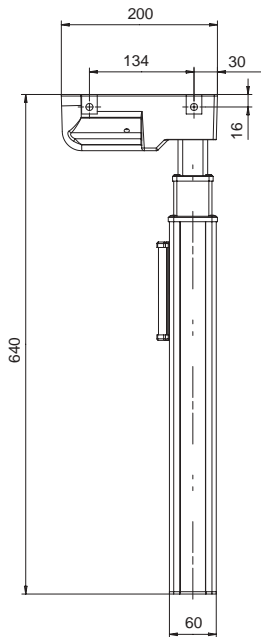
Ordering key

	TMD	1	0	-	00		-		00
Type									
Voltage: 24 Vd.c.		1							
Number of channels: Not used			0						
Connecting cable: none					00				
Colour/Design: Colourless anodized Black anodized						5 6			
Options: no options 2 Hallsensors / without flange for crossbar 2 Hallsensors / with flange for crossbar two sides 2 Hallsensors / with flange for crossbar one side								0 0 0 EWY 2CM 2CN	
Stroke/assembly dimension: Retracted length (L) = 550mm, Stroke (S) = 700 mm									700

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELESMART TMA



Type	Force push	Force pull	Max. speed no load	Max. speed full load	Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	N		mm/s		mm	mm	V	IP	kg
TMA	1000	1000	23	17	500	640	24 DC	20	8

Legend:
S = stroke
L = retracted length

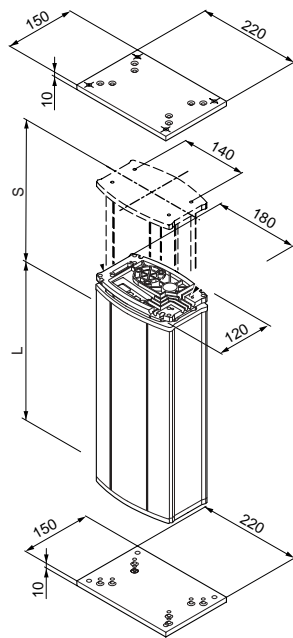
Ordering key

	TMA	1	0	-	00		-		00
Type									
Voltage: 24 Vd.c.	1								
Number of channels: Not used	0								
Connecting cable: none	00								
Colour/Design: Colourless anodized Black anodized	5 6								
Options: no options 2 Hallsensors / without flange for crossbar 2 Hallsensors / with flange for crossbar two sides 2 Hallsensors / with flange for crossbar one side	0 0 0 EWY 2CM 2CN								
Stroke/assembly dimension: Retracted length (L) = 640mm, Stroke (S) = 500 mm	500								

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

TELESMART TXG



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
TXG 1	1500	0	23	17	200-600	S+180	24 DC	30	9-14
TXG 4	1500	0	23	17	200-600	S+180	120 AC	30	9-14
TXG 8	1500	0	23	17	200-600	S+180	230 AC	30	9-14

Ordering code for accessories

Mains cable	Plug	Country	Order number	Comment
Straight cable 3.5	Euro	general	304330	2-poles
Straight cable 3.5	Schuko	DE	304331	2-poles
Straight cable 3.5	UL	USA	304332	2-poles
Straight cable 3.5	British standard	UK	304333	2-poles
Top or bottom mounting plate			304320	

Ordering key

	TXG								
Type									
Motor voltage:									
24 Vd.c.									
120 Va.c.									
230 Va.c.									
Output for an additional DC-Motor:									
Not used									
24 Vd.c. (not available for TXG1)									
Cable/connecting plug:									
not used									
Colour:									
Colourless anodised									
Options:									
Not used									
With programmable memory positions (not available for TXG1 or with additional output)									
Parallel run with programmable memory positions (only used with additional output)									
Encoder, 14 pulses/revolution (necessary for TXG1)									
Stroke (S):									
200 mm									200
300 mm									300
400 mm									400
500 mm									500
600 mm									600

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Telescopic pillars

MAGGEAR

With a stroke of 200 mm the MAGGEAR is especially suitable to adjust sit-sit workstations. Consisting of a small, strong 24VDC motor, a gear with spindle and a push tube the MAGGEAR can directly be integrated into most table legs.

Benefits:

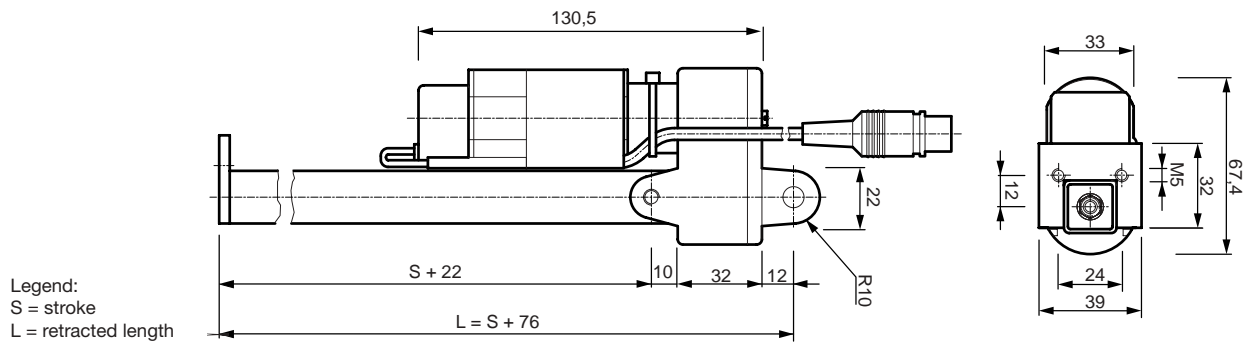
- Small and slim
- In-line layout
- Low cost



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ETE	800	200	8	8	200	S + 76	24 DC	X0	1.0

Telescopic pillars

MAGGEAR



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ETE	800	200	8	8	200	S + 76	24 DC	X0	1.0

Ordering key

ETE - 815 201

Type

Load / Speed / Stroke (S):
800 N (push) / 8 mm/sec / 200 mm

815 201

Linear actuators

CAT

The 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 an infinite number of applications.

Benefits:

- Small
- Robust
- Highly efficient
- Maintenance-free

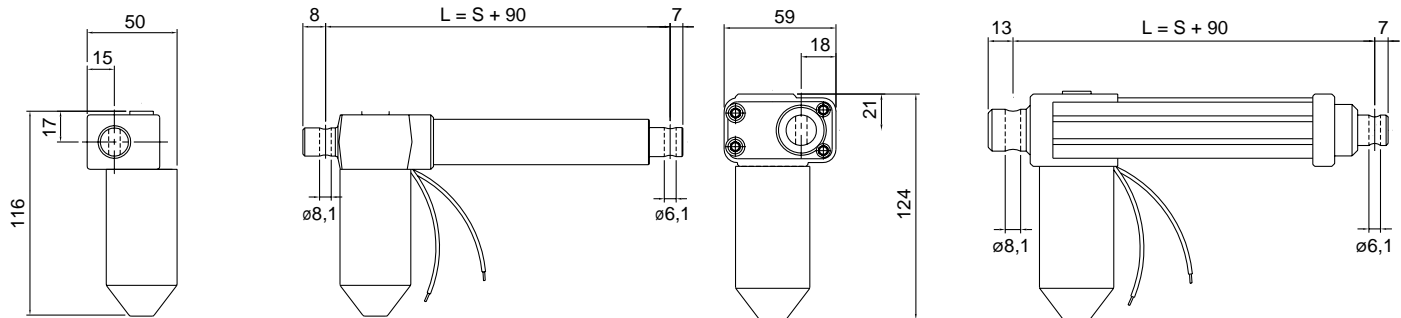


Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAT 11	500	500	16	10	50-300	S+90	12/24V DC	54	1.5-2
CAT 21B	600	600	10	5	50-300	S + 100	24 DC	X4	0.7-1.5
CAT 33H	1200	1200	174	36	100-400	S+150/158/189	12/24 V DC or	44/54/65	2-2.7
CAT 33	3000	3000	48	10	100-400	S+150/158/189	12/24 DC or	120/240/400 AC	2-2.7
CAT 32B	4000	4000	63	12	50-700	S+167/175/206	12/24 DC or	44/54/65	2-3.5
								120/240/400 AC	

* Dimension depends on selected front attachment.

Linear actuators

CAT 11



Legend:
S = stroke
L = retracted length

No limit switches

With limit switches

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAT 11	500	500	16	10	50-300	S+90	12/24 DC	54	1.5-2

Ordering key

CAT 11 × /

Type

Motor assembly:
Right (as drawing)
Left

R
L

Load(N)/Speed(mm/sec):
500/16 - 10
250/32 - 25

A
H

Stroke(S):
50 mm
100 mm
200 mm
300 mm

50
100
200
300

Motor voltage:
12 Vd.c.
24 Vd.c.

12
24

Options:
No limit switch
Limit switch with cables
Limit switch with diodes (internally connected)

N
M
D

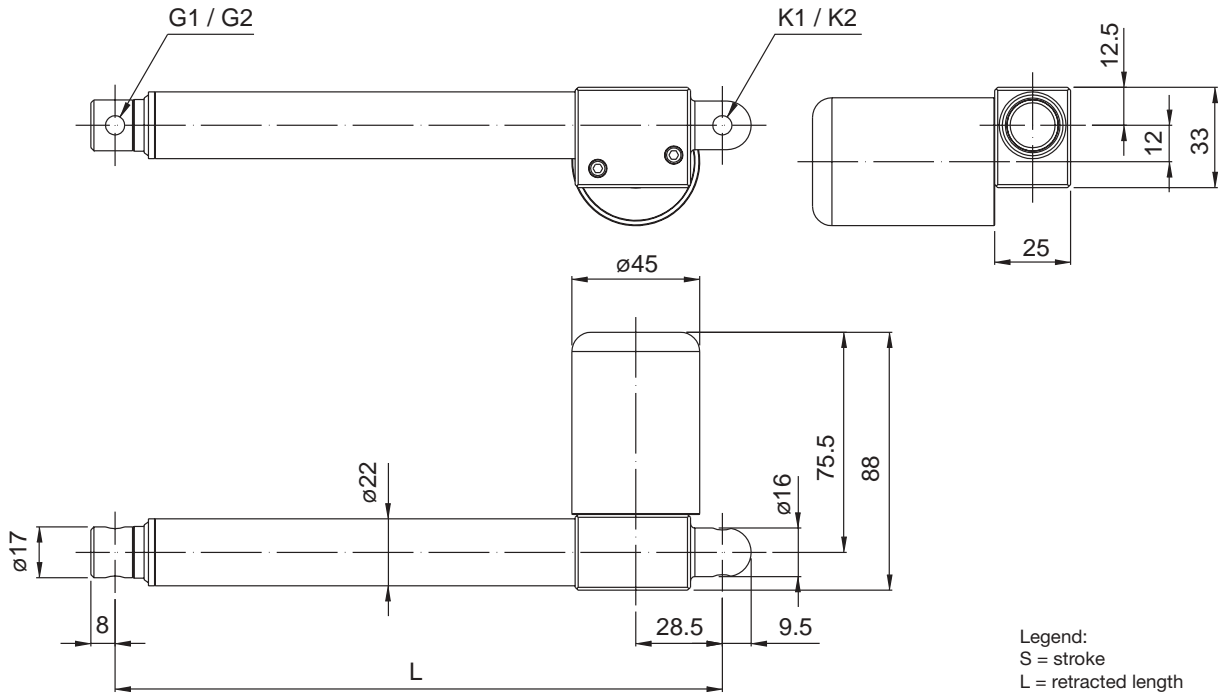
Rear attachments:
Hole, \varnothing 8,1 mm (orientation as drawing)
Hole, \varnothing 8,1 mm (orientation 90°)

0
9

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

CAT 21B



Legend:
S = stroke
L = retracted length

Ordering key



Type

Motor assembly:

Right
Left

R
L

Stroke (S):

50 mm
100 mm
200 mm
300 mm
50 < S < 300 mm (S > 300 mm contact SKF)

050
100
200
300
XXX

Rear attachment:

Single ear, hole diameter 6.35 mm
Single ear, hole diameter 8 mm

K1
K2

Front attachment:

Hole diameter 6.35 mm
Hole diameter 8 mm

G1
G2

Options:

No friction clutch Z

Motor options:

12V d.c.
24V d.c.

G12C
G24C

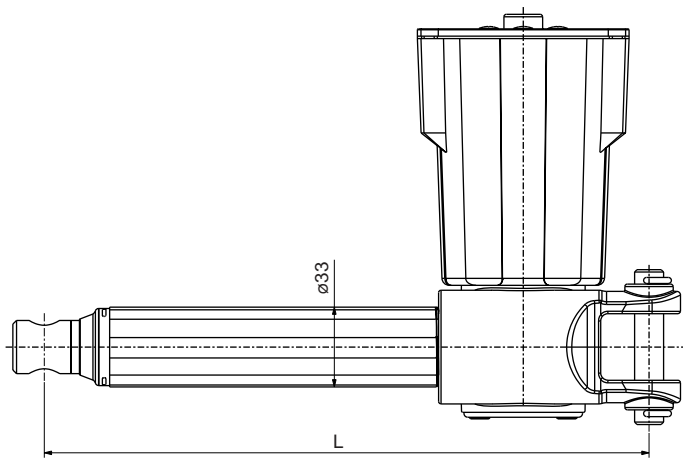
Options motors:

Cable, 1.6 m, with plug (Telejack 1/4" 2-pole)
Cable, 1.6 m, no plug
Motor without cover

P
T
N

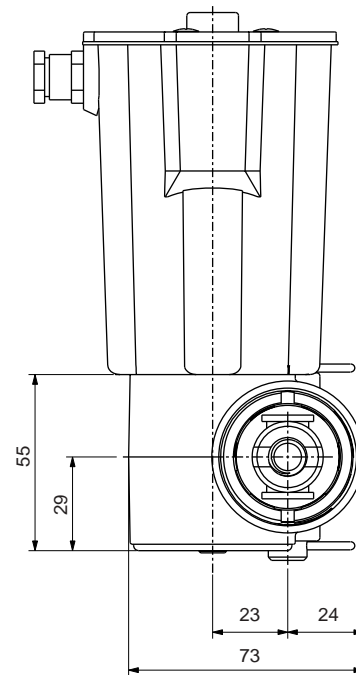
Linear actuators

CAT33H



Legend: L = retracted length

See drawings of front and rear attachments and motor options on pages 41/42



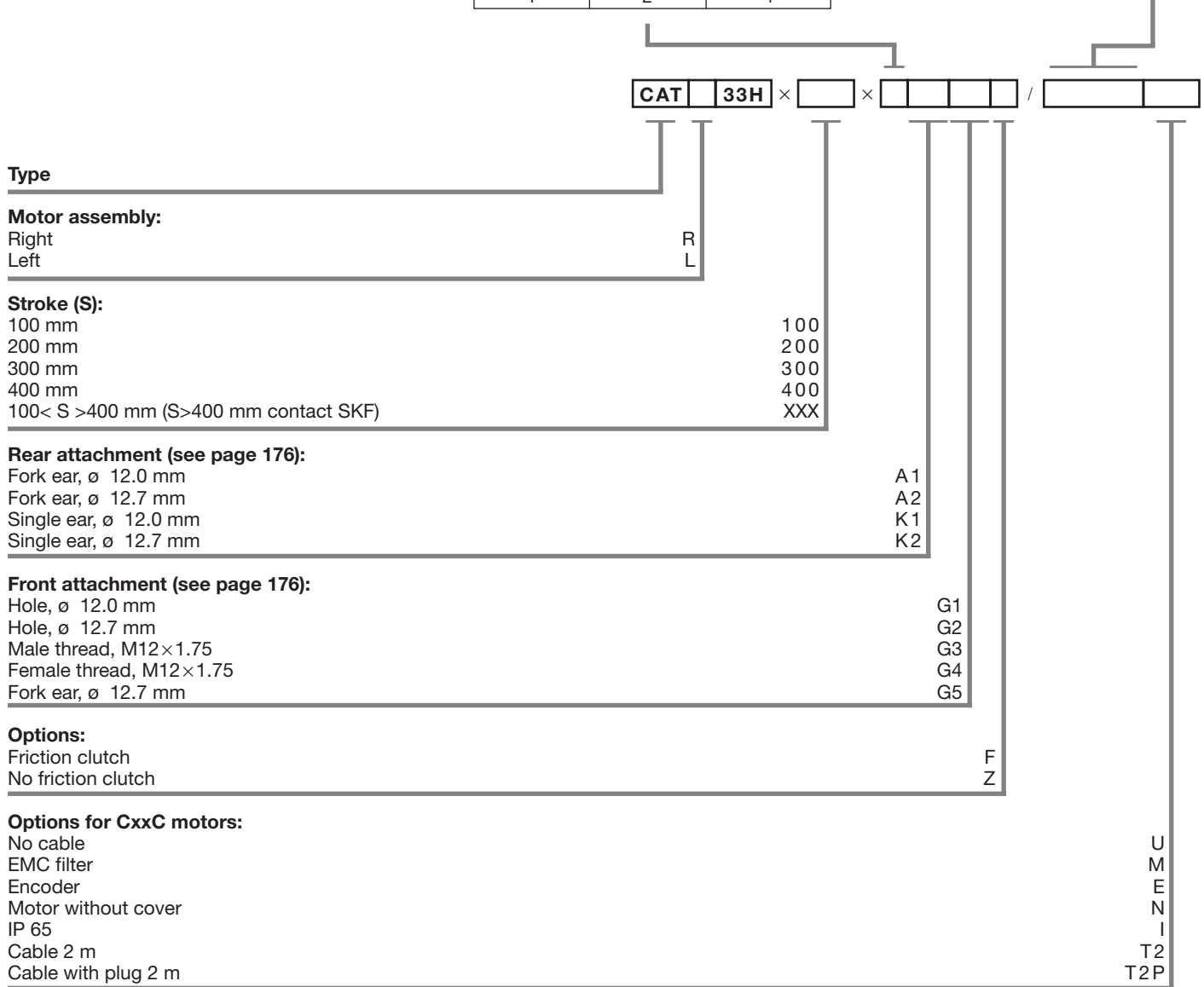
Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAT 33H	1200	1200	174	36	100 - 400	S + 150/158/189	12/24 DC or 120/240/400 AC	44/54/65	2 - 2.7

* Dimension depends on selected front attachment.

Linear actuators

Ordering key

Dynamic load (N)/ Speed (mm/sec)			Motor options	
1200/xx	900/xx	600/xx	No motor	0000
1000/50 - 38	600/100 - 80	400/174 - 150	12 Vd.c.	C12C
1000/50 - 38	600/100 - 80	400/174 - 150	12 Vd.c.	D12C
1200/56 - 36	900/113 - 79	500/174 - 140	24 Vd.c.	C24C
1200/27 - 17	800/60 - 35	500/100 - 69	24 Vd.c.	C24CW
1200/56 - 36	900/113 - 79	500/174 - 140	24 Vd.c.	D24C
1200/56 - 36	900/113 - 79	500/174 - 140	24 Vd.c./Brake	D24CB
1200/56 - 36	900/113 - 79	500/174 - 140	24 Vd.c./Shaft	D24CS
1200/27 - 17	800/60 - 35	500/100 - 69	24 Vd.c.	D24CW
1200/25 - 20	900/50 - 37	600/100 - 90	220 Va.c./50 Hz	E220C
1200/25 - 20	900/50 - 37	600/100 - 90	220 Va.c./50 Hz/Brake	E220CB
1	2	4		



Type

Motor assembly:

Right
Left

R
L

Stroke (S):

100 mm 100
200 mm 200
300 mm 300
400 mm 400
100 < S > 400 mm (S > 400 mm contact SKF) XXX

Rear attachment (see page 176):

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 176):

Hole, ø 12.0 mm G1
Hole, ø 12.7 mm G2
Male thread, M12×1.75 G3
Female thread, M12×1.75 G4
Fork ear, ø 12.7 mm G5

Options:

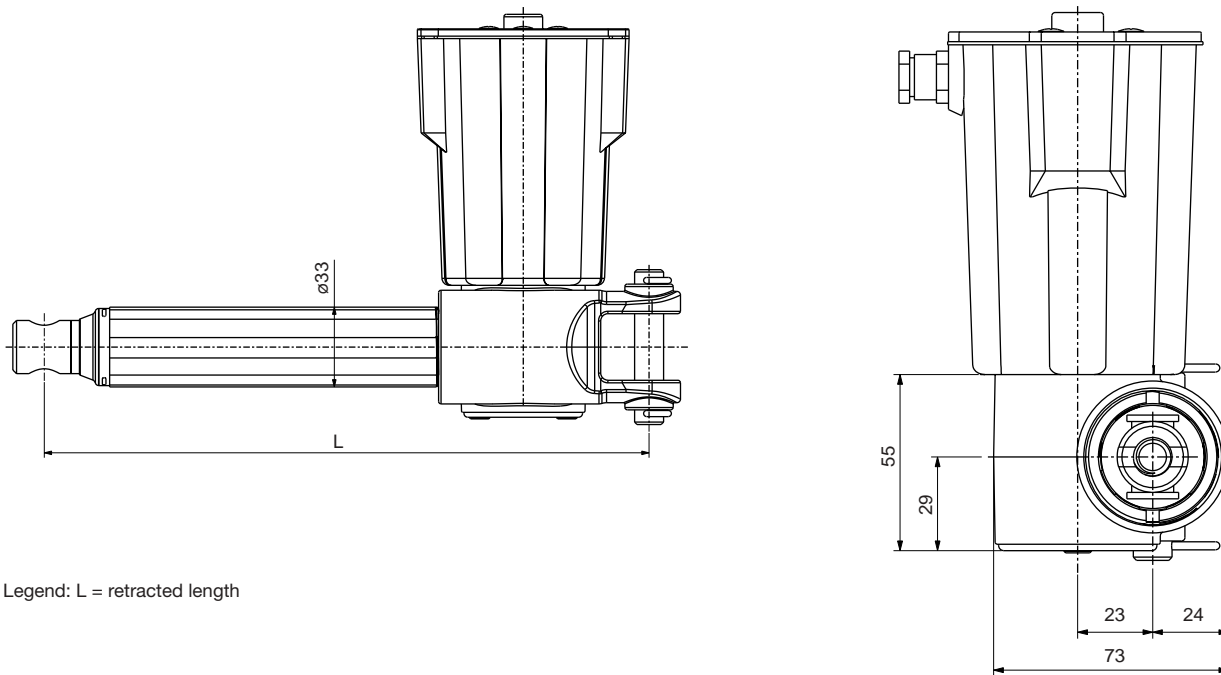
Friction clutch F
No friction clutch Z

Options for CxxC motors:

No cable U
EMC filter M
Encoder E
Motor without cover N
IP 65 I
Cable 2 m T2
Cable with plug 2 m T2P

Linear actuators

CAT 33



Legend: L = retracted length

See drawings of front and rear attachments and motor options on pages 41/42

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAT 33	3000	3000	48	10	100 - 400	S + 150/158/189	12/24 DC or 120/240/400 AC	44/54/65	2 - 2.7

* Dimension depends on selected front attachment.

Linear actuators

Ordering key

Dynamic load (N)/ Speed (mm/sec)			Motor options	
3000/xx	2000/xx	1000/xx	No motor	0000
3000/13 - 10	2000/24 - 20	1000/48 - 38	12 Vd.c.	C12C
2400/11 - 7	1600/21 - 15	800/39 - 21	12 Vd.c.	D12C
3000/13 - 10	2000/26 - 20	1000/48 - 35	24 Vd.c.	C24C
3000/7 - 5	2000/13 - 8	1000/26 - 19	24 Vd.c.	C24CW
3000/13 - 10	2000/26 - 20	1000/48 - 35	24 Vd.c.	D24C
3000/13 - 10	2000/26 - 20	1000/48 - 35	24 Vd.c./Extended shaft	D24CS
3000/7 - 5	2000/13 - 8	1000/26 - 19	24 Vd.c.	D24CW
2400/6	1600/12	800/24	110 Va.c./60 Hz	E110C
3000/5	2000/10	1000/20	220 Va.c./50 Hz	E220C
3000/5	2000/10	1000/20	380 Va.c./50 Hz	E380C
1	2	4		

CAT 33 × × /

Type _____

Motor assembly:
Right
Left

R
L

Stroke (S):
100 mm
200 mm
300 mm
 100 < S > 400 mm (S > 400 mm contact SKF)

100
200
300
XXX

Rear attachment (see page 176):
Fork ear, ø 12.0 mm
 Fork ear, ø 12.7 mm
 Single ear, ø 12.0 mm
 Single ear, ø 12.7 mm

A1
A2
K1
K2

Front attachment (see page 176):
Hole, ø 12.0 mm
 Hole, ø 12.7 mm
Male thread, M12×1.75
 Female thread, M12×1.75
 Fork ear, ø 12.7 mm

G1
G2
G3
G4
G5

Options:
 Friction clutch
 No friction clutch

F
Z

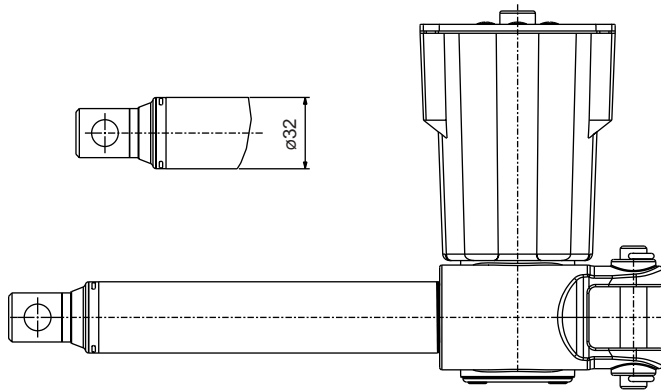
Options for CxxC motors:
 No cable
 EMC filter
 Encoder
 Motor without cover
 IP 65
 Cable 2 m
 Cable with plug 2 m

U
M
E
N
I
T2
T2P

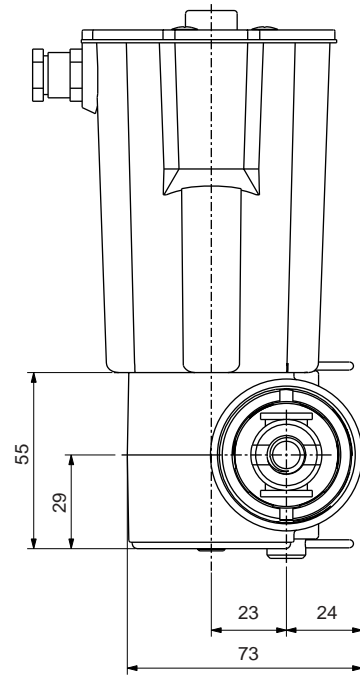
Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

CAT32B



Legend: L = retracted length



See drawings of front and rear attachments and motor options on pages 41/42

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAT 32B	4000	4000	63	12	50 - 700	S + 167/175/206	12/24 DC or 120/240/400 AC	44/54/65	2 - 3.5

* Dimension depends on selected front attachment.

Linear actuators

Ordering key

Dynamic load (N)/ Speed (mm/sec)			Motor options	
4000/xx	2500/xx	1500/xx	No motor	0000
4000/17 - 12	2500/32 - 25	1500/63 - 48	12 Vd.c.	C12C
3000/17 - 11	2000/34 - 19	1000/67 - 43	12 Vd.c.	D12C
4000/17 - 13	2500/33 - 24	1500/65 - 50	24 Vd.c.	C24C
4000/9 - 5	2500/18 - 10	1500/34 - 24	24 Vd.c.	C24CW
4000/17 - 13	2500/33 - 24	1500/65 - 50	24 Vd.c.	D24C
4000/17 - 13	2500/33 - 24	1500/65 - 50	24 Vd.c./Brake	D24CB
4000/17 - 13	2500/33 - 24	1500/65 - 50	24 Vd.c./Shaft	D24CS
4000/9 - 5	2500/18 - 10	1500/34 - 24	24 Vd.c.	D24CW
3500/8	2100/16	1300/32	110 Va.c./60 Hz	E110C
3500/8	2100/16	1300/32	110 Va.c./60 Hz/Brake	E110CB
3500/6,5	3500/13	1300/26	220 Va.c./50 Hz	E220C
3500/6,5	3500/13	1300/26	220 Va.c./50 Hz/Brake	E220CB
3500/6,5	3500/13	1300/26	380 Va.c./50 Hz	E380C
1	2	4		

Type _____

Motor assembly:
 Right _____
 Left _____

Stroke (S):
 50 mm _____
 100 mm _____
 200 mm _____
 300 mm _____
 400 mm _____
 500 mm _____
 700 mm _____
 50 < S < 700 mm (S > 700 mm contact SKF) _____

Rear attachment (see pages pages 41/42):
 Fork ear, ø 12.0 mm _____
 Fork ear, ø 12.7 mm _____
 Single ear, ø 12.0 mm _____
 Single ear, ø 12.7 mm _____

Front attachment (see pages pages 41/42):
 Hole, ø 12.0 mm _____
 Hole, ø 12.7 mm _____
 Male thread, M12×1.75 _____
 Female thread, M12×1.75 _____
 Fork ear, ø 12.7 mm _____

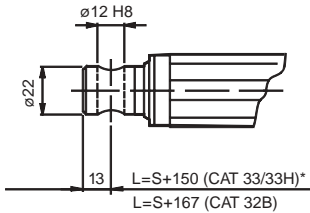
Options:
 Friction clutch _____
 No friction clutch _____
 Back-up ball nut _____

Options for CxxC motors:
 No cable _____
 EMC filter _____
 Encoder _____
 Motor without cover _____
 IP 65 _____
 Cable 2 m _____
 Cable with plug 2 m _____

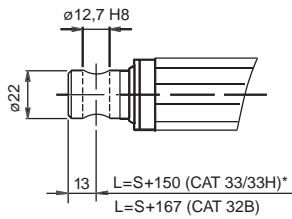
Ordering key diagram:
 CAT 32B × [] × [] / []

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

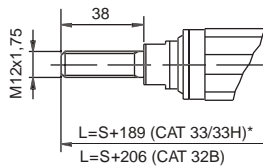
Front attachments and retracted length



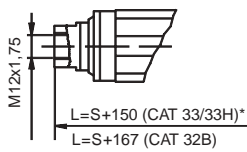
G1



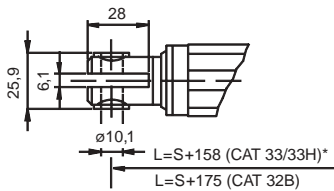
G2



G3



G4

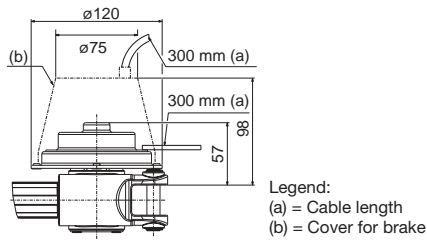


G5

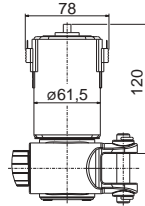
Legend:
S = stroke
L = retracted length

* If S 400 add 50 mm to retracted length

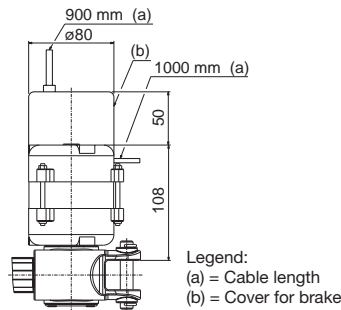
Motors



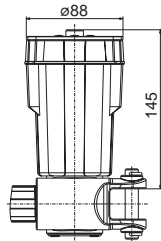
D12C, D24C, D24CB, D24CS, D24CW



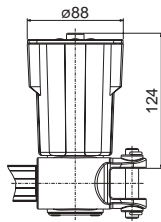
C12CN, C24CN, C24CWN



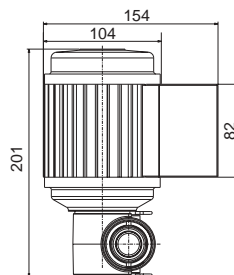
E110C, E110CB, E220C, E220CB



C12CM, C12CME, C24CM, C24CME, C24CWM, C24CWE

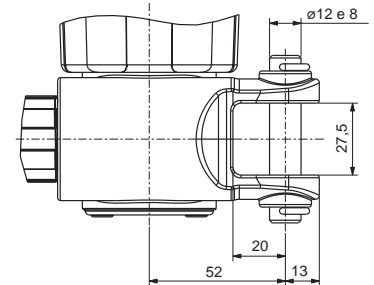


C12C, C24C, C24CW

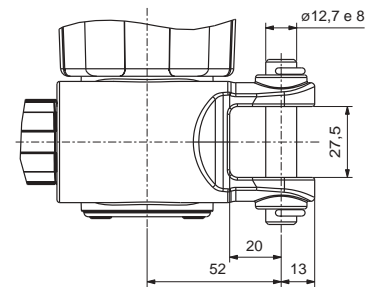


E380C

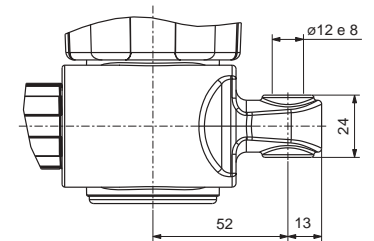
Rear attachments



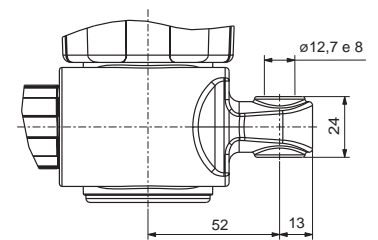
A1



A2



K1



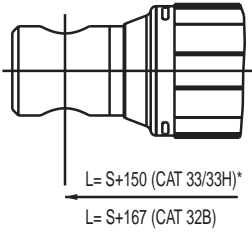
K2

Linear actuators

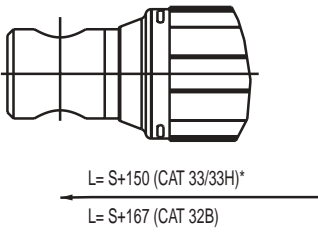
Page with all detailed drawings of CAT 32B, CAT 33 and CAT 33H

Front attachments and retracted length

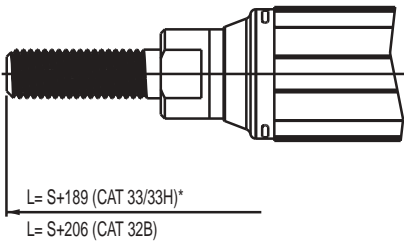
G1



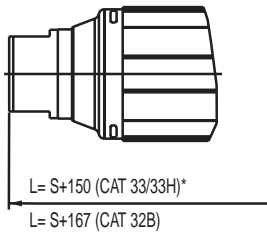
G2



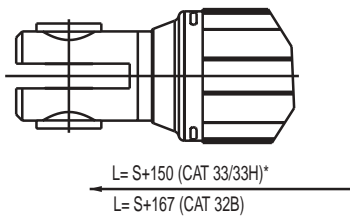
G3



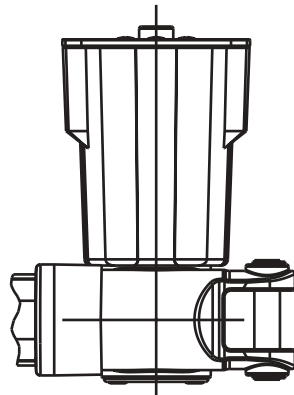
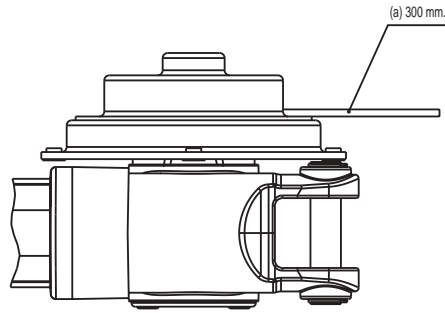
G4



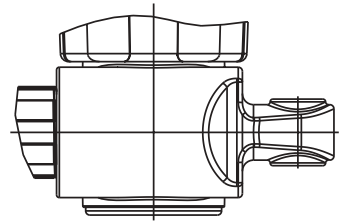
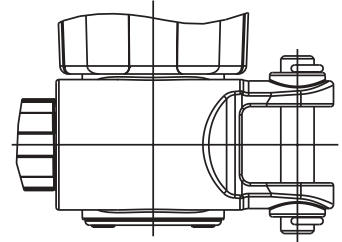
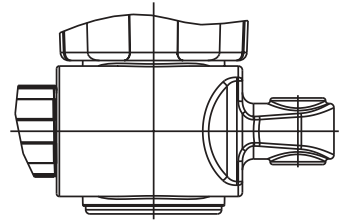
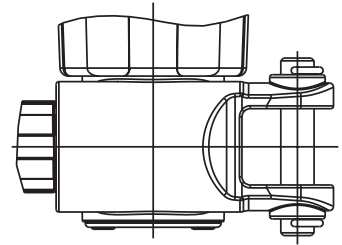
G5



Motors



Rear attachments



Legend:
 (a) = cable length
 S = stroke
 L = retracted length

Linear actuators

CAP

The base for CAP positioning actuator series is the existing CAR linear actuator series and CAT Modular Range with a vast number of possibilities such as motors, front & rear attachments etc. Positioning accuracy and service life is ensured by detecting the position directly on the moving nut and by keeping the moving parts to a minimum.

Benefits:

- Easy installation
- Robust and reliable
- Maintenance-free
- Left and right hand version

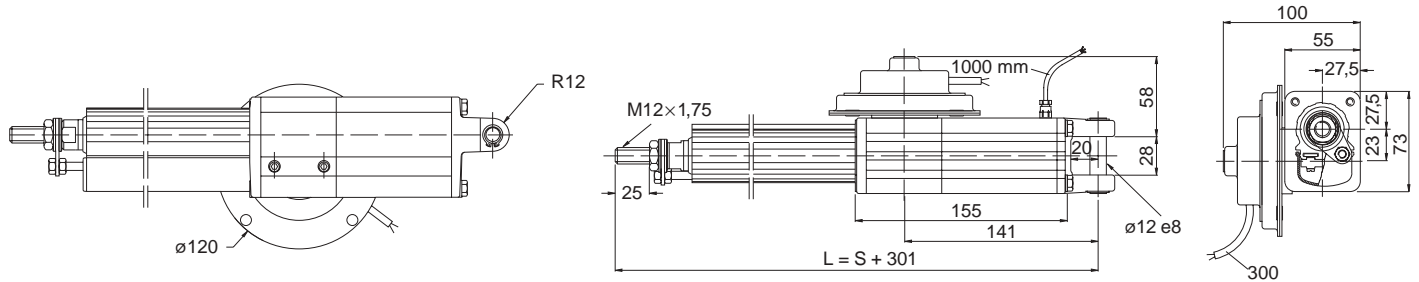


Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAP 32	3500	3500	60	40	50 - 700	S + 301	12/24 DC or 120/230 AC	44/54	2.1-3.7
CAP 43A	3000	3000	48	10	50 - 400	S + 150/158/189	24 DC	44/65	2-2.7
CAP 43B	4000	4000	65	13	50 - 700	S + 167/175/206	24 DC	44/65	2-3.5

* Dimension depends on selected front attachment.

Linear actuators

CAP 32



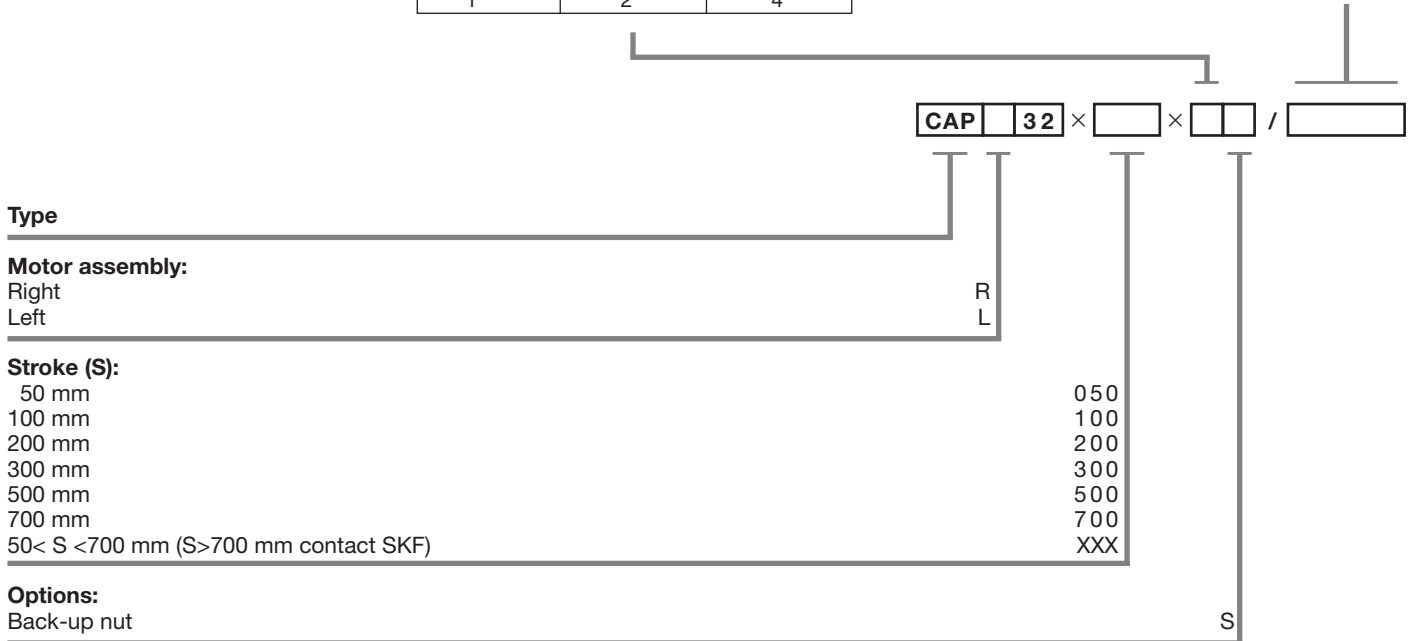
Legend:
 S = stroke
 L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAP 32	3500	3500	60	40	50 - 700	S + 301	12/24 DC or 120/230 AC	44/54	2.1-3.7

* Dimension depends on selected front attachment.

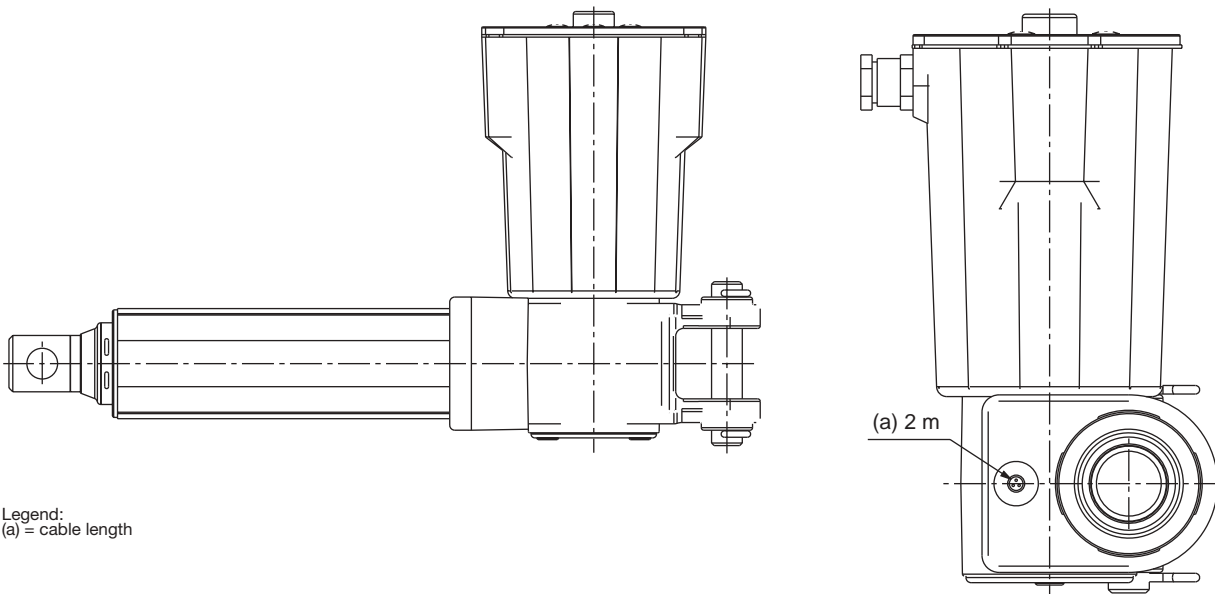
Ordering key

Dynamic load /Speed (N)/(mm/sec)			Motor options	
3500/xx	2500/xx	1500/xx	No motor	0000
2500/15 - 10	2000/30 - 20	1000/60 - 40	12 Vd.c., flat motor, IP44	D12C
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, IP44	D24C
3500/9 - 5	2500/18 - 10	1500/34 - 24	24 Vd.c., flat motor, low speed, IP44	D24CW
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, extended shaft, IP44	D24CS
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, brake, IP20	D24CB
3500/8	2500/16	1500/32	110 Va.c./60Hz, single phase, IP54	E110C
3500/8	2500/16	1500/32	110 Va.c./60Hz, single phase, brake, IP20	E110CB
3500/6	2500/13	1500/26	220 Va.c./50Hz, single phase, IP54	E220C
3500/6	2500/13	1500/26	220 Va.c./50Hz, single phase, brake, IP20	E220CB
1	2	4		



Linear actuators

CAP 43A



Legend:
(a) = cable length

See drawings of front and rear attachments and motor options on page 50

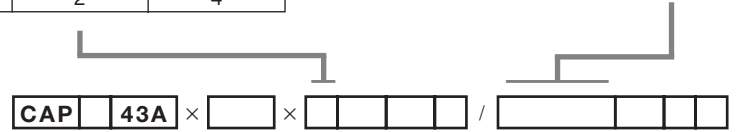
Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAP 43A	3000	3000	48	10	50 - 400	S + 150/158/189	24 DC	44/65	2 - 2.7

* Dimension depends on selected front attachment.

Linear actuators

Ordering key

Dynamic load (N)/Speed (mm/sec)			Motor options	
3000/xx	2000/xx	1000/xx	No motor	00000
3000/7-5	2000/13-8	1000/26-19	24 Vd.c.	C24CW
3000/7-5	2000/13-8	1000/26-19	24 Vd.c.	D24CW
3000/13-10	2000/26-20	1000/48-35	24 Vd.c.	C24C
3000/13-10	2000/26-20	1000/48-35	24 Vd.c.	D24C
1	2	4		



Type

Motor assembly:

Right
Left

R
L

Stroke (S):

100 mm
200 mm
300 mm
400 mm

100
200
300
400

Rear attachment (see page 50):

Fork ear, ø 12.0 mm
Fork ear, ø 12.7 mm
Single ear, ø 12.0 mm
Single ear, ø 12.7 mm

A1
A2
K1
K2

Front attachment (see page 50):

Hole, ø 12.0 mm
Hole, ø 12.7 mm
Male thread, M12
Female thread, M12
Fork ear, ø 10.1 mm

G1
G2
G3
G4
G5

Options:

Friction clutch

F

Cable options for C24C(W) motors:

No cable
Cable 2 m

U
T2

Options for motor:

EMC filter

M

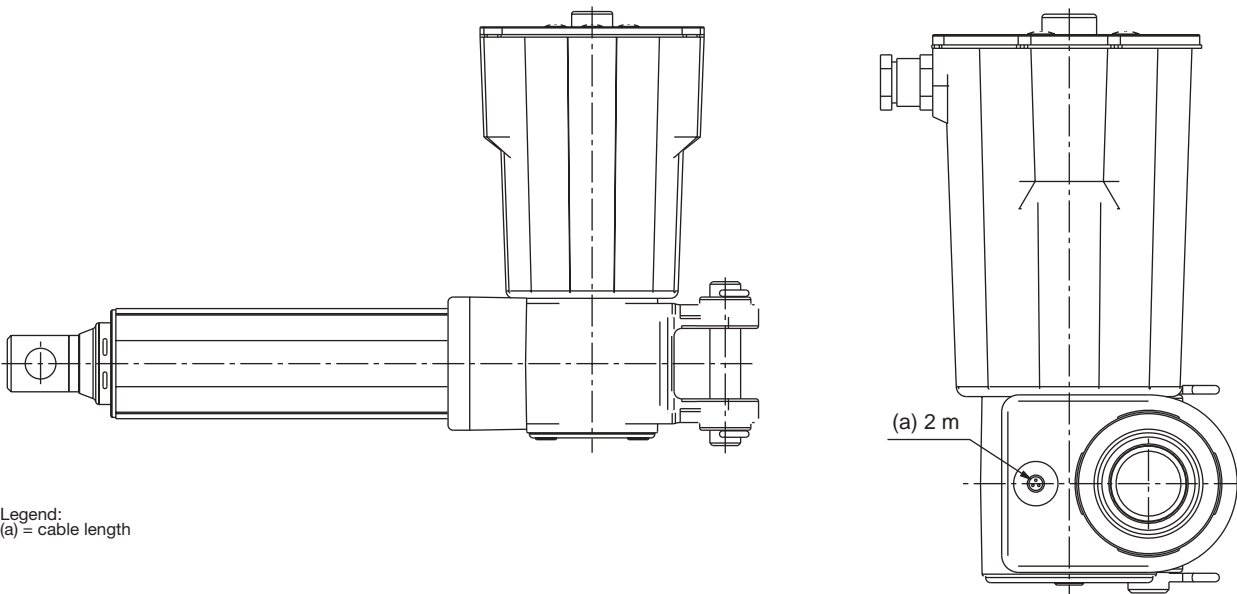
Options motor protection:

Motor without cover
Protection class IP 65 (always order motor cable when selecting IP65)

N
I

Linear actuators

CAP 43B



Legend:
(a) = cable length

See drawings of front and rear attachments and motor options on page 50

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAP 43B	4000	4000	65	13	50-700	S+167/175/206	24 DC	44/65	2-3.5

* Dimension depends on selected front attachment.

Linear actuators

Ordering key

Dynamic load (N)/Speed (mm/sec)			24 VDC-motor, flat or cylindrical	
4000/xx	2500/xx	1500/xx	No motor	0000
4000/17 - 13	2500/33 - 24	1500/65 - 50	Cylindrical motor	C24C
4000/9 - 5	2500/18 - 10	1500/34 - 24	Cylindrical motor, low speed	C24CW
4000/17 - 13	2500/33 - 24	1500/65 - 50	Flat motor	D24C
4000/9 - 5	2500/18 - 10	1500/34 - 24	Flat motor, low speed	D24CW
1	2	4		

Ordering key structure: CAP 43B × [] × [] [] [] / [] [] [] []

Type

Motor assembly:
 Right R
 Left L

Stroke (S):
 50 mm
 100 mm
 200 mm
 300 mm
 400 mm
 500 mm
 700 mm

Rear attachment (see page 50):
 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 50):
 Hole, ø 12.0 mm G1
 Hole, ø 12.7 mm G2
 Male thread, M12×1.75 G3
 Female thread, M12×1.75 G4
 Fork ear, ø 12.7 mm G5

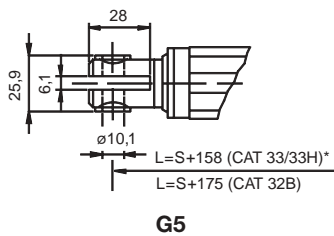
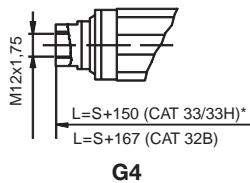
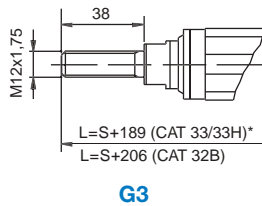
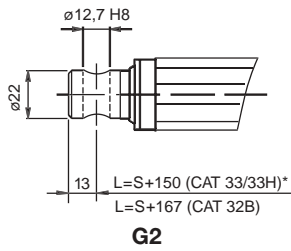
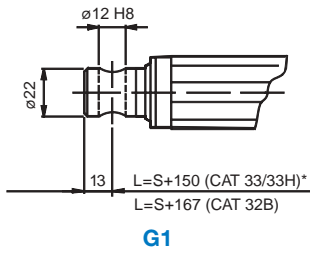
Options:
 Friction clutch F
 Back-up nut S

Cable options for C24C(W) motors:
 No cable U
 Cable 2 m T2

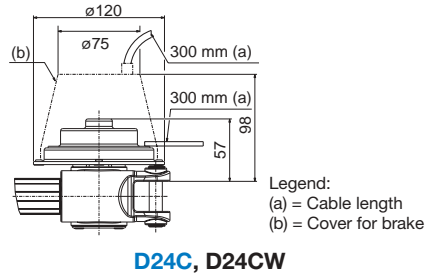
Options for motor:
 EMC filter M

Options motor protection:
 Motor without cover N
 Protection class IP 65 (always order motor cable when selecting IP65) I

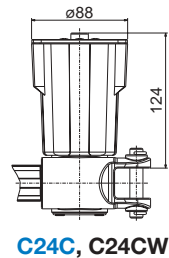
Front attachments and retracted length



Motors



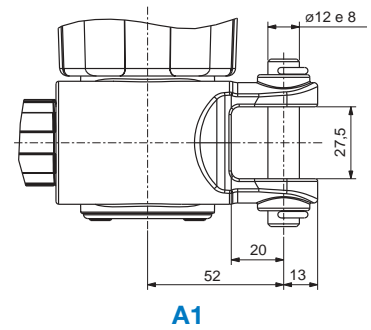
D24C, D24CW



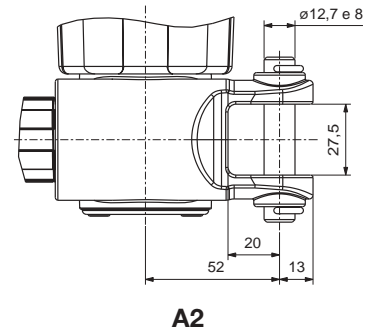
C24C, C24CW

Legend:
(a) = Cable length
(b) = Cover for brake

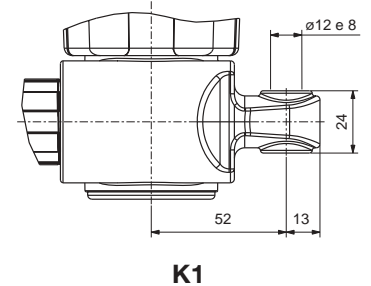
Rear attachments



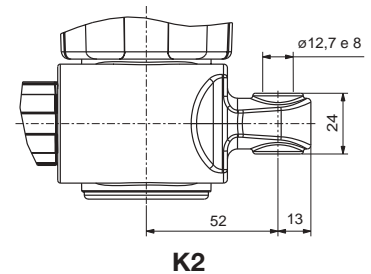
A1



A2



K1



K2

Legend:
S = stroke
L = retracted length

* If S 400 or more, add 50 mm to L

Linear actuators

CAR

The CAR range of industrial type actuators offers a unique standard of performance, durability, and reliability. The compact design incorporates well-proven parts, like the SKF high efficiency ball screw, a sturdy gearbox assembly, and high quality DC and AC-motors. All to give the best performance possible with unsurpassed operational life. Individual application requirements can easily be matched thanks to the modular design concept.

Benefits:

- Robust and reliable
- Long lifetime
- Wide component range
- Right-hand and left-hand versions



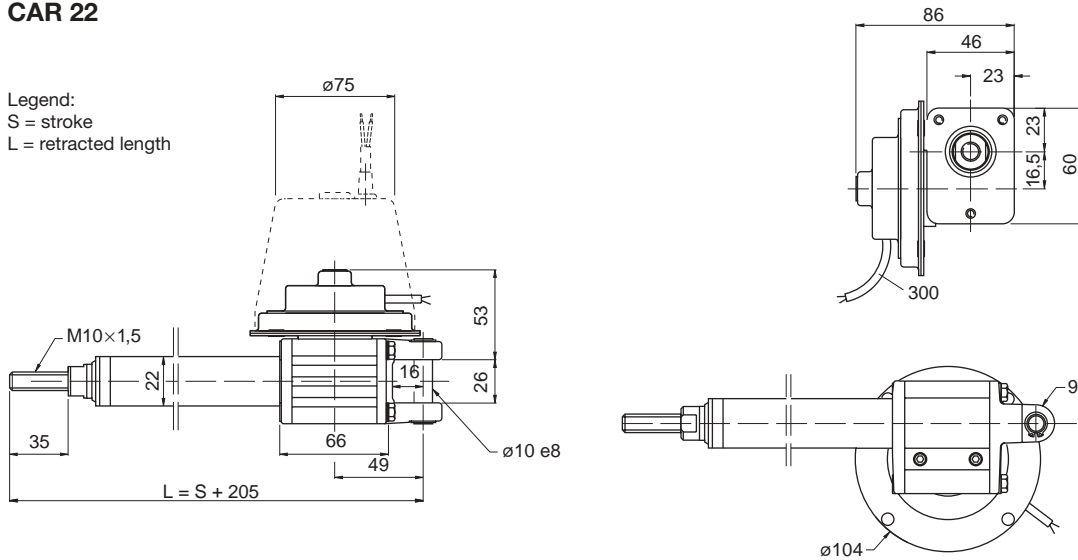
Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAR 22	1500	1500	30	20	50 - 300	S+205	12/24 DC	44	1.2 - 1.6
CAR 32	3500	3500	60	10	50 - 700	S+218	12/24 DC or 120/230 AC	44/54	2.1 - 3.7
CAR 40	6000	6000	60	40	100 - 700	S+263	12/24 DC or 120/230 AC	44/54	5.8 - 8.4
CARN 32	3500	3500	N/A	N/A	N/A	S+218	N/A	N/A	2.0 - 3.6
CCBR 32	3500	3500	N/A	N/A	N/A	S+218	N/A	N/A	1.1 - 1.5

* Dimension depends on selected front attachment.

Linear actuators

CAR 22

Legend:
S = stroke
L = retracted length



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAR 22	1500	1500	30	20	50-300	S+205	12/24 DC	44	1.2-1.6

Ordering key

Dynamic load (N)/ Speed (mm/sec)		Motor options	
1500/xx	1000/xx	No motor	0000
1500/15-10	1000/30-20	12 Vd.c., flat motor, IP44	D12B
1500/15-10	1000/30-20	24 Vd.c., flat motor, IP44	D24B
1	2		

CAR 22 × [] × [] / F []

Type

Motor assembly:

Right

Left

R

L

Stroke (S):

50 mm

100 mm

150 mm

200 mm

300 mm

50 < S > 300 mm (> 300 mm contact SKF)

50

100

150

200

300

XXX

Options:

Friction clutch

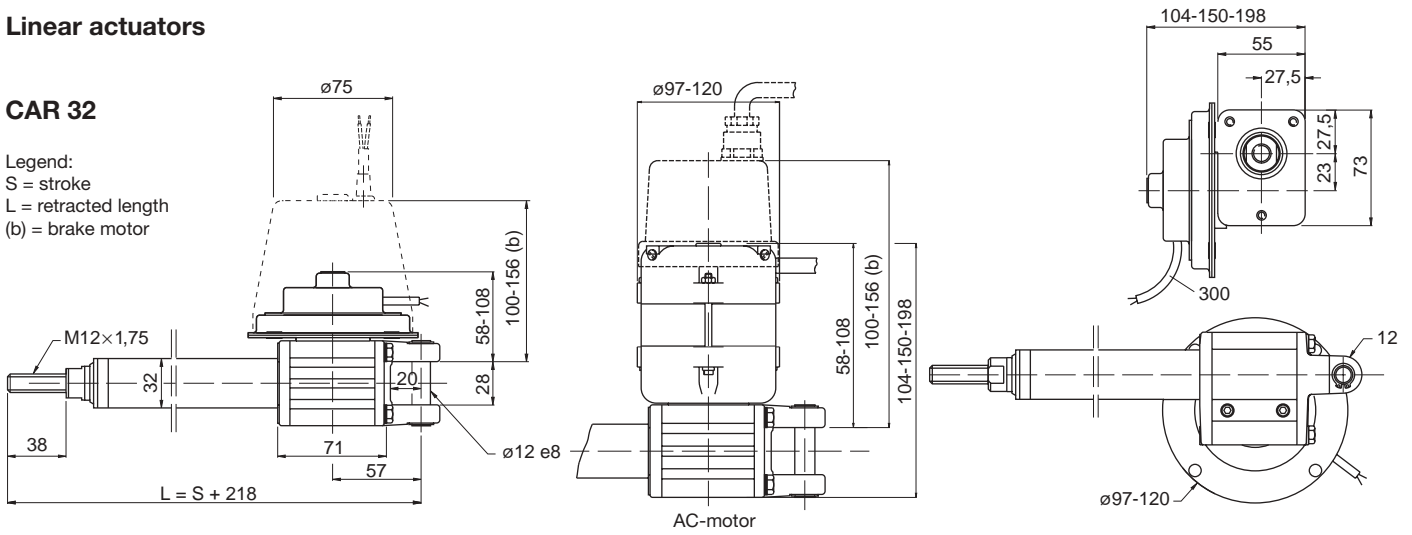
F

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

CAR 32

Legend:
 S = stroke
 L = retracted length
 (b) = brake motor



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAR 32	3500	3500	60	40	50 - 700	S + 218	12/24 DC or 120/230 AC	44/54	2.1 - 3.7

Ordering key

Dynamic load/Speed (N)/(mm/sec)			Motor options		Options
3500/xx	2500/xx	1500/xx	No motor		
2500/15 - 10	2000/30 - 20	1000/60 - 40	12 Vd.c., flat motor, IP44		
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, IP44		
3500/9 - 5	2500/18 - 10	1500/34 - 24	24 Vd.c., flat motor, low speed, IP44		
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, extended shaft, IP44		
3500/15 - 10	2500/30 - 20	1500/60 - 40	24 Vd.c., flat motor, brake, IP20		
3500/8	2500/16	1500/32	110 Va.c./60Hz, single phase, IP54		
3500/8	2500/16	1500/32	110 Va.c./60Hz, single phase, brake, IP20		
3500/6	2500/13	1500/26	220 Va.c./50Hz, single phase, IP54		
3500/6	2500/13	1500/26	220 Va.c./50Hz, single phase, brake, IP20		
1	2	4			

Ordering key diagram showing the assembly structure: **CAR 32** × [] × [] / []

Type

Motor assembly:
 Right (R)
 Left (L)

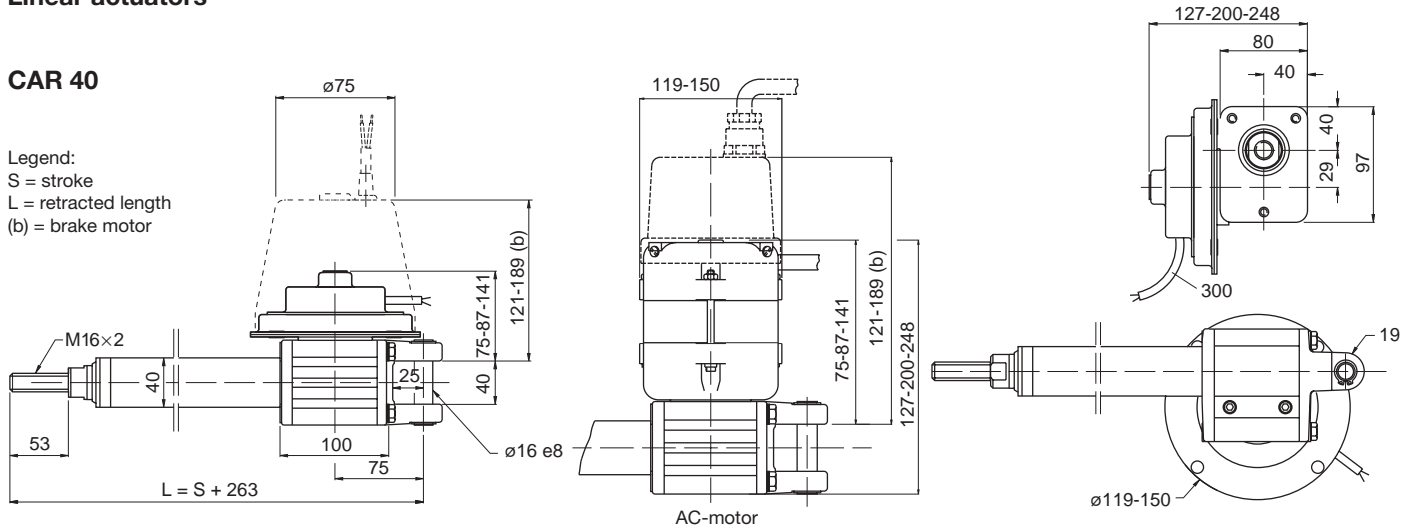
Stroke (S):
 50 mm
 100 mm
 200 mm
 300 mm
 500 mm
 700 mm
 50 < S > 700 mm (> 700 mm contact SKF)

Options:
 Friction clutch (F)
 Back-up nut (S)

Linear actuators

CAR 40

Legend:
S = stroke
L = retracted length
(b) = brake motor



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAR 40	6000	6000	60	40	100 - 700	S + 263	12/24 DC or 120/230 AC	44/54	5.8 - 8.4

Ordering key

Dynamic load / Speed (N)/(mm/sec)			Motor options	
6000/xx	4000/xx	2000/xx	No motor	0000
6000/15 - 10	4000/30 - 20	2000/60 - 40	24 Vd.c., flat motor, IP44	D24D
6000/15 - 10	4000/30 - 20	2000/60 - 40	24 Vd.c., flat motor, extended shaft, IP44	D24DS
6000/15 - 10	4000/30 - 20	2000/60 - 40	24 Vd.c., flat motor, brake, IP20	D24DB
6000/10	4000/20	2000/40	110 Va.c./60Hz, single phase, IP54	E110D
6000/10	4000/20	2000/40	110 Va.c./60Hz, single phase, brake, IP20	E110DB
6000/9	4000/17	2000/34	220 Va.c./50Hz, single phase, IP54	E220D
6000/9	4000/17	2000/34	220 Va.c./50Hz, single phase, brake, IP20	E220DB
1	2	4		

Type

Motor assembly:
Right
Left

Stroke (S):
100 mm
300 mm
500 mm
700 mm
50 < S > 700 mm (> 700 mm contact SKF)

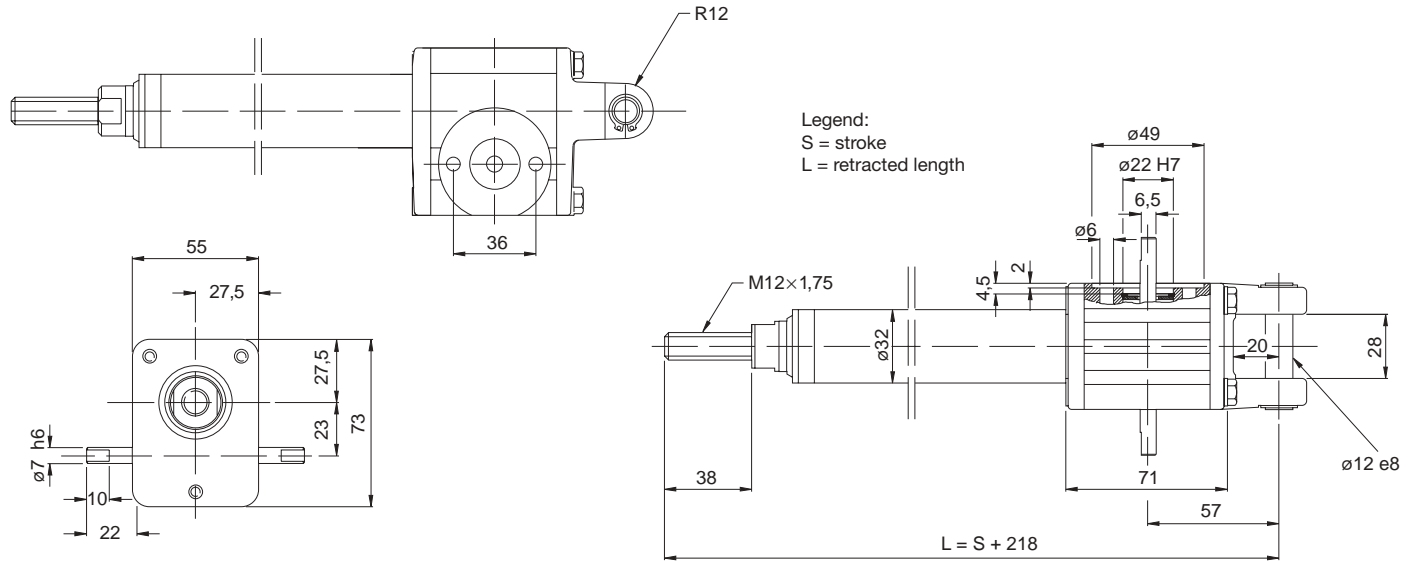
Options:
Friction clutch
Back-up nut

Ordering key diagram:
CAR 40 × [] × [] / [] [] []
R L
F S

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

CARN 32



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CARN 32	3500	3500	N/A	N/A	50 - 700	S + 218	N/A	N/A	2.0-3.6

Ordering key

CARN 32 × [] × [] / []

Type

Stroke (S):

50 mm
 100 mm
 200 mm
 300 mm
 500 mm
 700 mm
 50 < S > 700 mm (> 700 mm contact SKF)

50
 100
 200
 300
 500
 700
 XXX

Gear ratio:

1:25.00
 1:12.50
 1:6.25

1
 2
 4

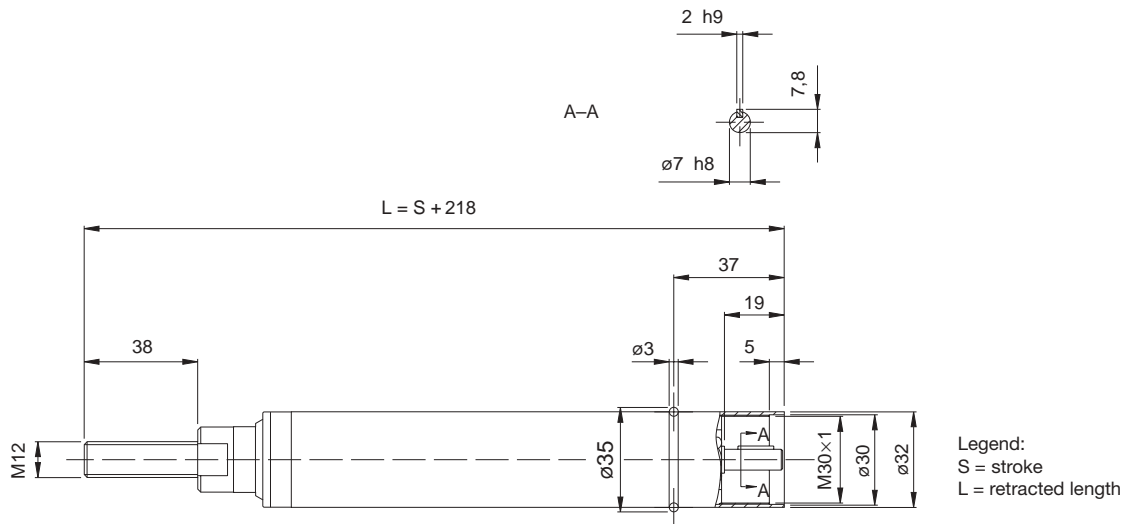
Options:

Friction clutch
 Back-up nut

F
 S

Linear actuators

CCBR 32



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CCBR 32	3500	3500	N/A	N/A	50-300	S+218	N/A	N/A	1.1-1.5

Ordering key

CCBR 32 ×

Type

Stroke (S):

50 mm	50
100 mm	100
200 mm	200
300 mm	300
50 < S > 300 mm (> 300 mm contact SKF)	XXX

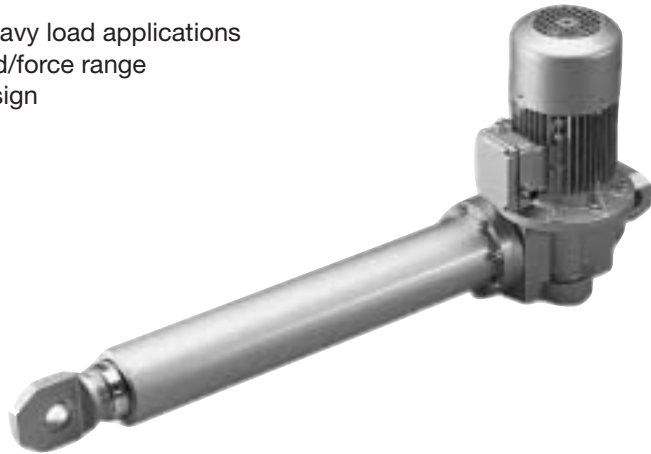
Linear actuators

MAGFORCE

The MAGFORCE line consists of spindle lifting drives with worm gears. They fulfil the highest demands for industrial and other applications. The drives are available in several different motor versions. MAGFORCE offers strong, fast and quiet movements with high safety and duty cycle. The drives include many interface options as hall encoder, end switch, extended shaft etc.

Benefits:

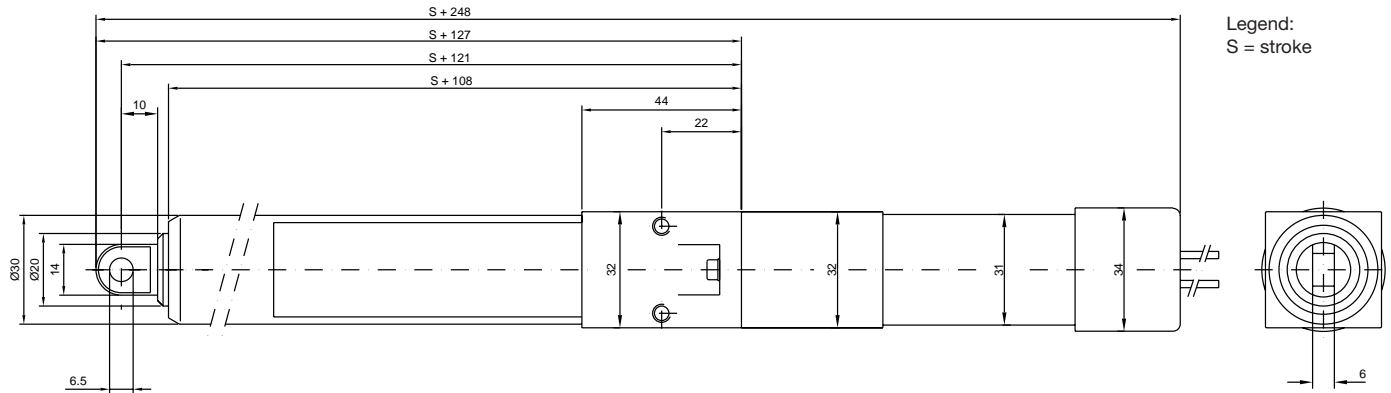
- Ideal for heavy load applications
- Wide speed/force range
- Robust design



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
GTD 0220	200	200	30	25	50-300	S+99	24 DC	00	0.9
WSP 0510	500	500	68	57	100-700	S+230	230 AC	54	5.7
WSP 1030	1000	1000	23	19	100-700	S+230	230 AC	54	5.7
DSP 1010	1000	1000	62	52	100-700	S+230	3x400 AC	54	5.6
ASM 1010	1000	1000	58	48	100-700	S+230	12/24 DC	44	5.0
WSP 1550	1500	1500	13	11	100-700	S+230	230 AC	54	5.7
ASM 2030	2000	2000	22	18	100-700	S+230	12/24 DC	44	5.0
DSP 2530	2500	2500	20	17	100-700	S+230	3x400 AC	54	5.6
WSP 2650	2600	2600	6.5	5.4	100-700	S+230	230 AC	54	5.7
ASM 3030	3000	3000	9.6	8	100-700	S+230	12/24 DC	44	5.0
DSP 3250	3200	3200	12	10	100-700	S+230	3x400 AC	54	5.6
ASM 4050	4000	4000	6	5	100-700	S+230	12/24 DC	44	5.0
DSP 4550	4500	4500	6	5	100-700	S+230	3x400 AC	54	5.6
STW 5007	5000	5000	14	12	100-700	S+273	230 AC	54	14.6
SKG 6005	6000	6000	66	55	100-700	S+273	24 DC	54	14.6
STW 7010	7000	7000	9.6	8	100-700	S+273	230 AC	54	14.6
STW 10020	10000	10000	5.2	4.3	100-700	S+273	230 AC	54	14.6
STG 10007	10000	10000	17	14	100-700	S+273	24 DC	54	14.6
STD 10007	10000	10000	12	10	100-700	S+273	3x400 AC	54	16.3
SKG 10010	10000	10000	36	30	100-700	S+273	24 DC	54	14.6
SKD 10007	10000	10000	30	25	100-700	S+273	3x400 AC	54	14.6
SKD 12010	12000	12000	25	21	100-700	S+273	3x400 AC	54	14.6
STG 12010	12000	12000	13	11	100-700	S+273	24 DC	54	14.6
STD 12010	12000	12000	9	7.5	100-700	S+273	3x400 AC	54	16.3
SKG 13020	13000	13000	18	15	100-700	S+273	24 DC	54	14.6
SKG 15040	15000	15000	9.6	8	100-700	S+273	24 DC	54	14.6
SKD 15020	15000	15000	13.2	11	100-700	S+273	3x400 AC	54	14.6
SKD 15040	15000	15000	6.3	5.3	100-700	S+273	3x400 AC	54	14.6
STW 15040	15000	15000	2.4	2	100-700	S+273	230 AC	54	14.6
STG 15040	15000	15000	3.6	3	100-700	S+273	24 DC	54	14.6
STG 15020	15000	15000	6	5	100-700	S+273	24 DC	54	14.6
STD 15040	15000	15000	2.6	2.2	100-700	S+273	3x400 AC	54	16.3
STD 15020	15000	15000	4.8	4	100-700	S+273	3x400 AC	54	16.3
SKS 15404	15000	15000	54	45	100-700	S+165	3x400 AC	54	30.0
SLA 18006	18000	18000	88	74	100-700	S+446	3x400 AC	54	40.0
SKS 20406	20000	20000	41	34	100-700	S+165	3x400 AC	54	30.0
SKS 25412	25000	25000	20	17	100-700	S+165	3x400 AC	54	30.0
SKS 30423	30000	30000	11	9.7	100-700	S+165	3x400 AC	54	30.0
SLA 34013	34000	34000	43	36	100-700	S+446	3x400 AC	54	40.0
SLA 50020	50000	50000	27	23	100-700	S+446	3x400 AC	54	40.0
SLA 50028	50000	50000	19	16	100-700	S+446	3x400 AC	54	40.0
SLA 50050	50000	50000	10.5	9	100-700	S+446	3x400 AC	54	40.0

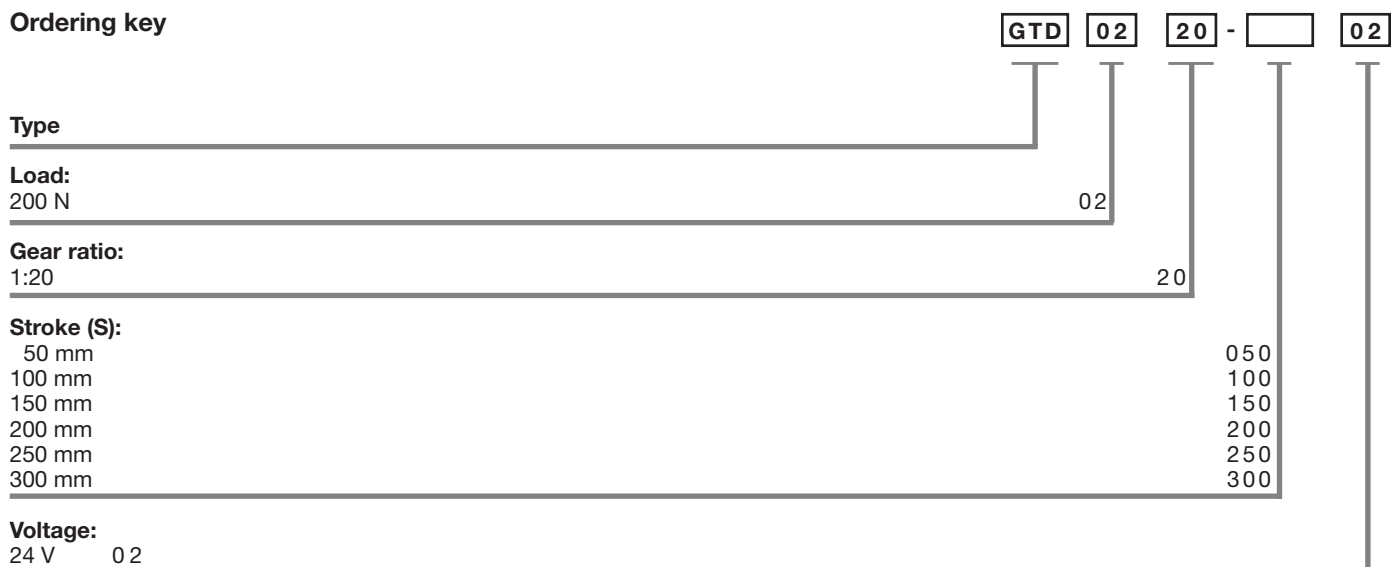
Linear actuators

MAGFORCE GTD



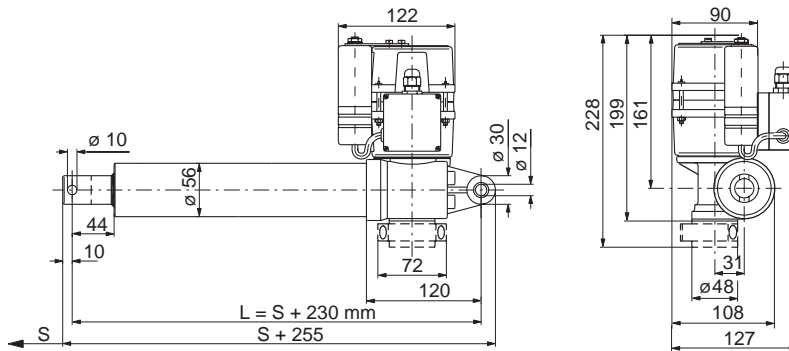
Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
GTD 0220	200	200	30	25	50 - 300	S+99	24 AC	00	0.9

Ordering key



Linear actuators

MAGFORCE WSP



Legend:
S = stroke
L = retracted length

Type	Force		Speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
WSP 0510	500	500	68	57	100-700	S+230	120/230 AC	54	5.7
WSP 1030	1000	1000	23	19	100-700	S+230	120/230 AC	54	5.7
WSP 1550	1500	1500	13	11	100-700	S+230	120/230 AC	54	5.7
WSP 2650	2600	2600	6.5	5.4	100-700	S+230	120/230 AC	54	5.7

Ordering key

Type

Load/Speed/Motor voltage:

500 N / 57 mm/sec / 230 Va.c.
1000 N / 19 mm/sec / 230 Va.c.
1500 N / 11 mm/sec / 230 Va.c.
2600 N / 5,4 mm/sec / 230 Va.c.

Stroke (S):

100 mm
200 mm
 300 mm
 400 mm
 500 mm
 600 mm
 700 mm

Customer options:

Standard

Brake for self-locking on push
 Extended shaft
 Brake for self-locking on pull
 Bronze nut / Low temperature grease / Extended shaft

WSP - - -

0510
1030
1550
2650

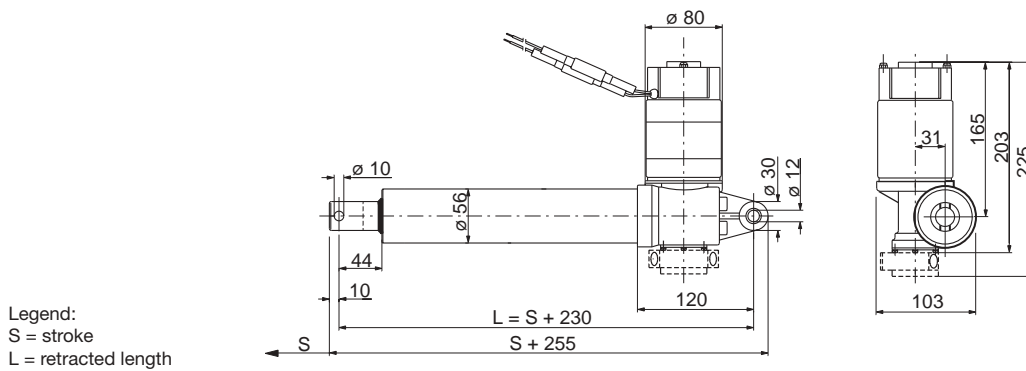
100
200
 300
 400
 500
 600
 700

01
 03
 16
 24
 81

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

MAGFORCE ASM



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ASM 1010	1000	1000	58	48	100 - 700	S + 230	12/24 DC	44	5.0
ASM 2030	2000	2000	22	18	100 - 700	S + 230	12/24 DC	44	5.0
ASM 3030	3000	3000	9.6	8	100 - 700	S + 230	12/24 DC	44	5.0
ASM 4050	4000	4000	6	5	100 - 700	S + 230	12/24 DC	44	5.0

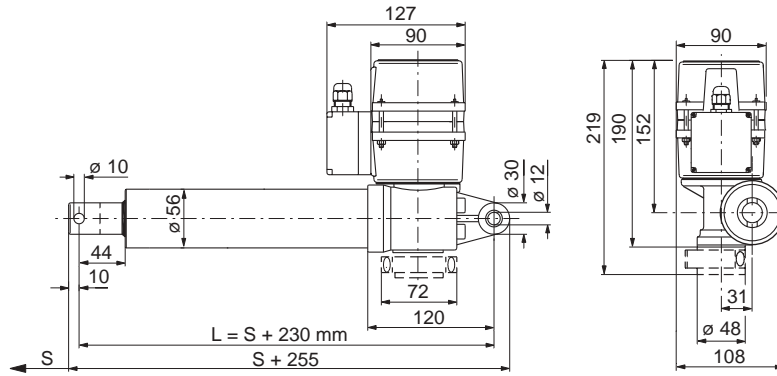
Ordering key

	ASM			
Type				
Load/Speed:				
1000 N / 48 mm/sec				1010
2000 N / 18 mm/sec				2030
3000 N / 8 mm/sec				3030
4000 N / 5 mm/sec				4050
Stroke (S):				
100 mm				100
200 mm				200
300 mm				300
400 mm				400
500 mm				500
600 mm				600
700 mm				700
Customer options:				
12 Vd.c. (Standard)				01
24 Vd.c.				02
24V DC / Brake for self-locking on push				06
24V DC / Bronze nut / Low temperature grease				07
24V DC / Brake for self-locking on push and pull				09
24V DC / Brake for self-locking on push and pull / Low temperature grease				13
24V DC / Low temperature grease				14
24V DC / Extended shaft				16

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

MAGFORCE DSP



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
DSP 1010	1000	1000	62	52	100 - 700	S + 230	3x400 AC	54	5.6
DSP 2530	2500	2500	20	17	100 - 700	S + 230	3x400 AC	54	5.6
DSP 3250	3200	3200	12	10	100 - 700	S + 230	3x400 AC	54	5.6
DSP 4550	4500	4500	6	5	100 - 700	S + 230	3x400 AC	54	5.6

Ordering key

Type

Load/Speed/Motor voltage:
1000 N / 52 mm/sec / 3x400 Va.c.
2500 N / 17 mm/sec / 3x400 Va.c.
3200 N / 10 mm/sec / 3x400 Va.c.
4500 N / 5 mm/sec / 3x400 Va.c.

Stroke (S):

100 mm
200 mm
 300 mm
 400 mm
 500 mm
 600 mm
 700 mm

Customer options:

Standard

Brake for self-locking on push
 Bronze nut / Low temperature grease
 Brake for self-locking on pull
 Bronze nut / Brake for self-locking on push
 Brake for self-locking on push and pull
 Low temperature grease
 Low temperature grease / Bronze nut
 Extended shaft
 Brake for self-locking on push and pull
 Low temperature grease

DSP - - -

1010
2530
3250
4550

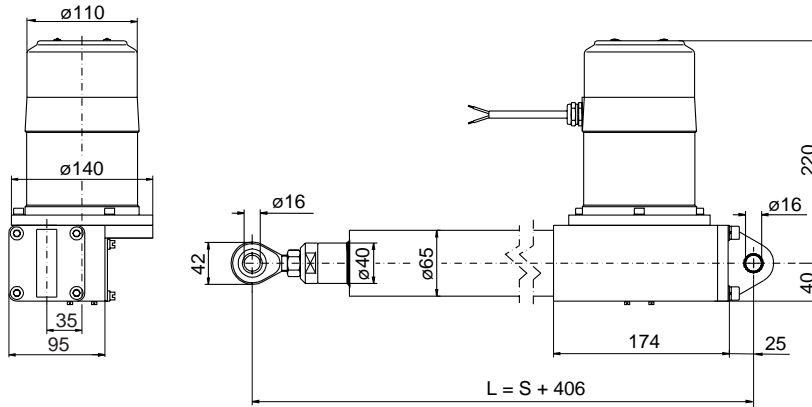
100
200
 300
 400
 500
 600
 700

01
 03
 08
 10
 12
 17
 30
 111
 122
 123
 126

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

MAGFORCE SKG



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
SKG 6005	6000	6000	66	55	100 - 700	S+406	24 DC	54	14.6
SKG 10010	10000	10000	36	30	100 - 700	S+406	24 DC	54	14.6
SKG 13020	13000	13000	18	15	100 - 700	S+406	24 DC	54	14.6
SKG 15040	15000	15000	9.6	8	100 - 700	S+406	24 DC	54	14.6

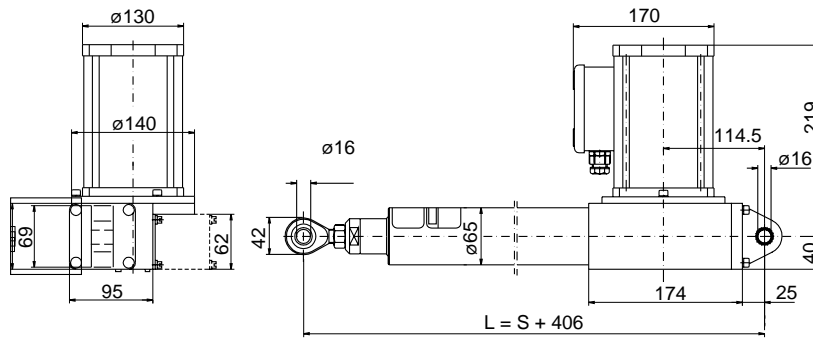
Ordering key

Type	SKG		-		-	01
Load/Speed/Motor voltage: 6000 N / 55 mm/sec / 24 Vd.c. 10000 N / 30 mm/sec / 24 Vd.c. 13000 N / 15 mm/sec / 24 Vd.c. 15000 N / 8 mm/sec / 24 Vd.c.		06005 10010 13020 15040				
Stroke (S): 100 mm 200 mm 300 mm 400 mm 500 mm 600 mm 700 mm						100 200 300 400 500 600 700
Customer options: Standard						01

Linear actuators

MAGFORCE SKD

Legend:
S = stroke
L = retracted length



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
SKD 10007	10000	10000	30	25	100-700	S+406	3x400 AC	54	14.6
SKD 12010	12000	10000	25	21	100-700	S+406	3x400 AC	54	14.6
SKD 15020	15000	10000	13.2	11	100-700	S+406	3x400 AC	54	14.6
SKD 15040	15000	10000	6.3	5.3	100-700	S+406	3x400 AC	54	14.6

Ordering key

Type

Load/Speed/Motor voltage:

10000 N / 25 mm/sec / 3x400 Va.c.

12000 N / 21 mm/sec / 3x400 Va.c.

15000 N / 11 mm/sec / 3x400 Va.c.

15000 N / 5.3 mm/sec / 3x400 Va.c.

Stroke (S):

100 mm

200 mm

300 mm

400 mm

500 mm

600 mm

700 mm

Customer options:

Standard

SKD [] - [] - 01

10007

12010

15020

15040

100

200

300

400

500

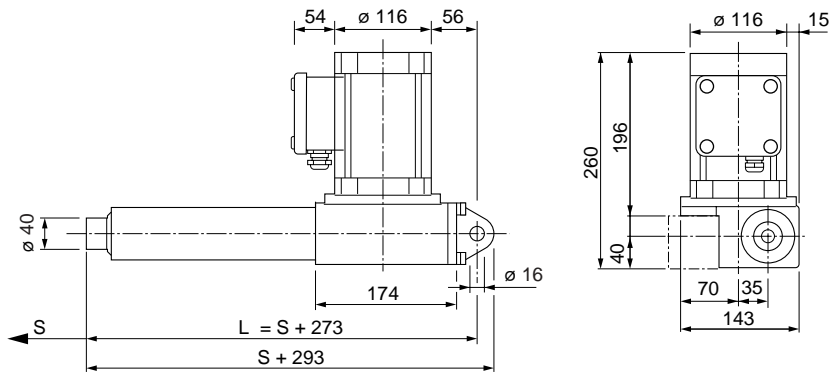
600

700

01

Linear actuators

MAGFORCE STW



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
STW 5007	5000	5000	14	12	100-700	S+273	120/230 AC	54	14.6
STW 7010	7000	7000	9.6	8	100-700	S+273	120/230 AC	54	14.6
STW 10020	10000	10000	5.2	4.3	100-700	S+273	120/230 AC	54	14.6
STW 15040	15000	15000	2.4	2	100-700	S+273	120/230 AC	54	14.6

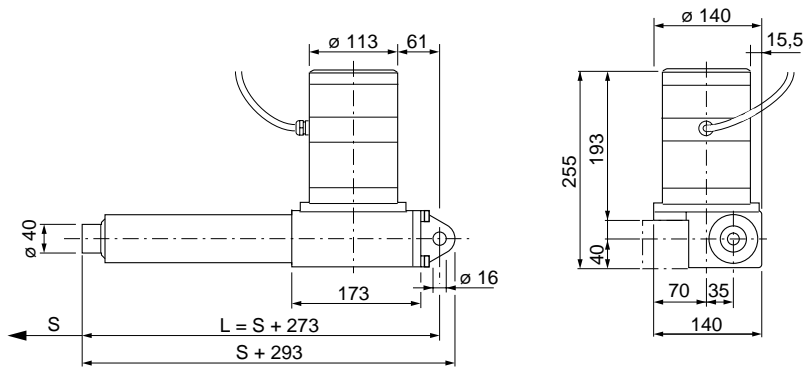
Ordering key

Type	STW		-		-	
Load/Speed/Motor voltage:						
5000 N / 12 mm/sec / 230 Va.c.						05007
7000 N / 8 mm/sec / 230 Va.c.						07010
10000 N / 4.3 mm/sec / 230 Va.c.						10020
15000 N / 2 mm/sec / 230 Va.c.						15040
Stroke (S):						
100 mm						100
200 mm						200
300 mm						300
400 mm						400
500 mm						500
600 mm						600
700 mm						700
Customer options:						
Standard						01
Limit switch						05
Low temperature grease						08

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Linear actuators

MAGFORCE STG



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
STG 10007	10000	10000	17	14	100-700	S+273	24 DC	54	14.6
STG 12010	12000	12000	13	11	100-700	S+273	24 DC	54	14.6
STG 15020	15000	15000	6	5	100-700	S+273	24 DC	54	14.6
STG 15040	15000	15000	3.6	3	100-700	S+273	24 DC	54	14.6

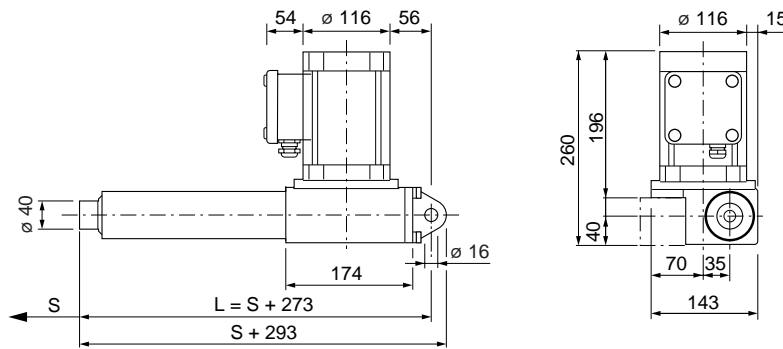
Ordering key

Type	STG		-		-	01
Load/Speed/Motor voltage: 10000 N / 14 mm/sec / 24 Vd.c. 12000 N / 11 mm/sec / 24 Vd.c. 15000 N / 5 mm/sec / 24 Vd.c. 15000 N / 3 mm/sec / 24 Vd.c.		10007 12010 15020 15040				
Stroke (S): 100 mm 200 mm 300 mm 400 mm 500 mm 600 mm 700 mm						100 200 300 400 500 600 700
Customer options: Standard						01

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Linear actuators

MAGFORCE STD



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
STD 10007	10000	10000	12	10	100 - 700	S+273	3x400 AC	54	16.3
STD 12010	12000	12000	9	7.5	100 - 700	S+273	3x400 AC	54	16.3
STD 15020	15000	15000	4.8	4	100 - 700	S+273	3x400 AC	54	16.3
STD 15040	15000	15000	2.6	2.2	100 - 700	S+273	3x400 AC	54	16.3

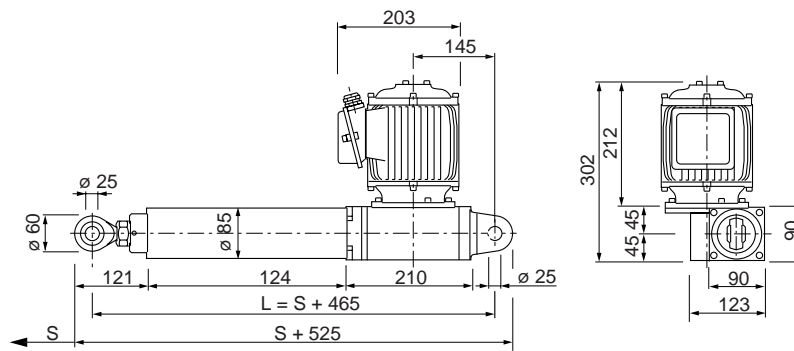
Ordering key

Type	STD		-		-	
Load/Speed/Motor voltage:						
10000 N / 10 mm/sec / 3x400 Va.c.						10007
12000 N / 7,5 mm/sec / 3x400 Va.c.						12010
15000 N / 4 mm/sec / 3x400 Va.c.						15020
15000 N / 2,2 mm/sec / 3x400 Va.c.						15040
Stroke (S):						
100 mm						100
200 mm						200
300 mm						300
400 mm						400
500 mm						500
600 mm						600
700 mm						700
Customer options:						
Standard						01
Extended shaft						11
Safety nut on push						13
Low temperature grease						19
Safety nut on push and pull						34

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Linear actuators

MAGFORCE SKS



Legend:
S = stroke
L = retracted length

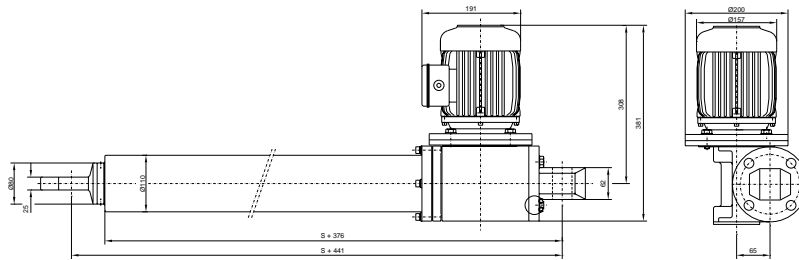
Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
SKS 15404	15000	15000	54	45	100 - 700	S + 465	3x400 AC	54	30.0
SKS 20406	20000	20000	41	34	100 - 700	S + 465	3x400 AC	54	30.0
SKS 25412	25000	25000	20	17	100 - 700	S + 465	3x400 AC	54	30.0
SKS 30423	30000	30000	11	9.7	100 - 700	S + 465	3x400 AC	54	30.0

Ordering key

	SK		-		-	01
Type						
Option: No option With limit switches						S A
Load/Speed/Motor voltage: 15000 N / 45 mm/sec / 3x400 Va.c. 20000 N / 34 mm/sec / 3x400 Va.c. 25000 N / 17 mm/sec / 3x400 Va.c. 30000 N / 9.7 mm/sec / 3x400 Va.c.						15404 20406 25412 30423
Stroke (S): 100 mm 200 mm 300 mm 400 mm 500 mm 600 mm 700 mm						100 200 300 400 500 600 700
Customer options: Standard						01

Linear actuators

MAGFORCE SLA



Legend:
S = stroke

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
SLA 18006	18000	18000	88	74	100 - 700	S+446	3x400 AC	54	40
SLA 34013	34000	34000	43	36	100 - 700	S+446	3x400 AC	54	40
SLA 50020	50000	50000	27	23	100 - 700	S+446	3x400 AC	54	40
SLA 50028	50000	50000	19	16	100 - 700	S+446	3x400 AC	54	40
SLA 50050	50000	50000	10.5	9	100 - 700	S+446	3x400 AC	54	40

Ordering key

	SLA				01
Type					
Load :					
18000 N			180		
34000 N			340		
50000 N			500		
Gear ratio:					
1:6				06	
1:13				13	
1:20				20	
1:36				36	
1:50				50	
Stroke (S):					
100 mm					100
200 mm					200
300 mm					300
400 mm					400
500 mm					500
600 mm					600
700 mm					700

Linear actuators

ECOMAG

The ECOMAG is a compact and cost effective actuator which is designed for medical and home environment. It allows precise movements and ergonomically correct positioning. The safety and reliability of the ECOMAG is well proven.

Benefits:

- Compact
- Cost effective
- Control unit can be mounted to the actuator

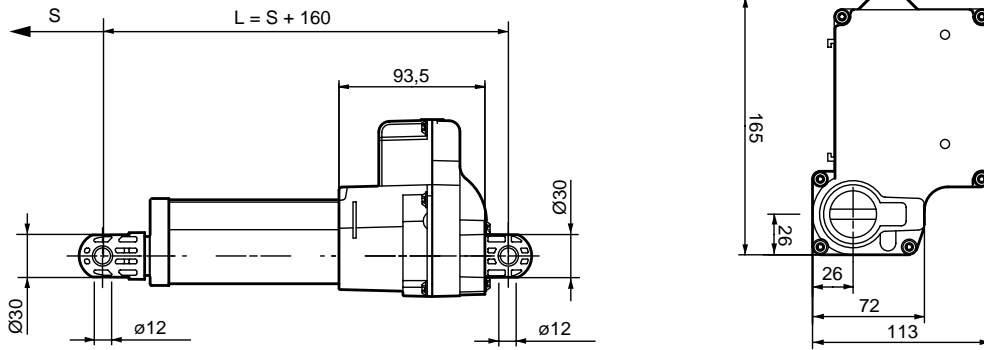


Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ECO 20/40	2000	0	13	19	50 - 300	S + 160	24 DC	X4	2.1
ECO 60/80	2000	0	7	4	50 - 300	S + 160	24 DC	X4	2.1
ECO 30/50	2000	2000	13	19	50 - 300	S + 160	24 DC	X4	2.5
ECO 70/90	6000	6000	7	4	50 - 300	S + 160	24 DC	X4	2.5

Linear actuators

ECOMAG

Legend:
S = stroke
L = retracted length



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ECO 20/40	2000	0	13	19	50 - 300	S + 160	24 DC	X4	2.1
ECO 60/80	2000	0	7	4	50 - 300	S + 160	24 DC	X4	2.1
ECO 30/50	2000	2000	13	19	50 - 300	S + 160	24 DC	X4	2.5
ECO 70/90	6000	6000	7	4	50 - 300	S + 160	24 DC	X4	2.5

Ordering key

ECO [] - 0 [] M M 1 [] - 000

Type

Load / Housing:

Push	Pull	Housing	
2000 N	2000 N	big	3
2000 N	2000 N	small	5
6000 N	4000 N	big	7
6000 N	4000 N	small	9

Encoder:

Without (cable coiled with 2-pin Minifit plug / or clientoption)	0
With 3 imp.(cable coiled with 8-pin DIN plug / or clientoption)	1
With 8 imp. (cable coiled with Jack plug 6.3 mm)	7

Current cut-off:

Without	0
---------	---

Stroke (S):

50 mm	0 5
100 mm	1 0
150 mm	1 5
200 mm	2 0
250 mm	2 5
300 mm	3 0

Fork Head:

Hole diameter 12 / groove width 10	M
------------------------------------	---

Hinge:

Hole diameter 12 / groove width 10	M
------------------------------------	---

Hinge position:

0°	1
----	---

Colour:

Black	A
Grey RAL 7035	B

Options:

No options	0
Safety nut (available only for drives with 6kN, obligatory for UL 2601)	A

Linear actuators

ILD

ILD stands for “Intelligent Linear Drive” and features electronic microprocessor technology for flexible, powerful and durable automation. The concept of the compact ILD actuator consists of a linear drive with an electrically communicated and regulated motor to achieve a linear motion. A powerful micro-controller allows the control of position, speed and direction of the drive. ILD actuators are especially suitable for industrial applications with heavy loads.

Benefits:

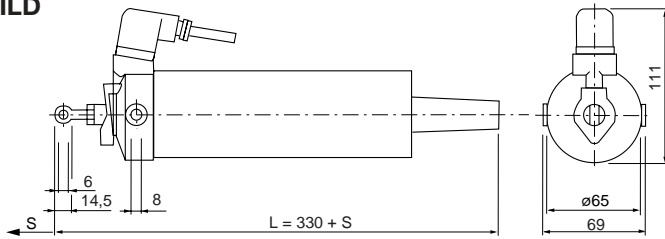
- Programmable by PC
- Speed and position regulated
- Start-stop- ramp
- Easy to install



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ILD 02	2000	2000	200	200	100 - 1500	S+420	230 AC	54	20.0
ILD 05	5000	5000	100	100	100 - 700	S+420	230 AC	54	20.0
ILD 10	10000	10000	50	50	100 - 700	S+420	230 AC	54	20.0
ILD 20	20000	20000	25	25	100 - 700	S+420	230 AC	54	20.0

Linear actuators

ILD



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
ILD 02	2000	2000	200	200	100 - 1500	S+473	230 AC	54	20.0
ILD 05	5000	5000	100	100	100 - 700	S+473	230 AC	54	20.0
ILD 10	10000	10000	50	50	100 - 700	S+473	230 AC	54	20.0
ILD 20	20000	20000	25	25	100 - 700	S+473	230 AC	54	20.0

Ordering key

ILD [] [] [] [] E XX 02

Type

Load/Speed/Motor voltage:

2000 N / 200 mm/sec / 230 Va.c.
5000 N / 100 mm/sec / 230 Va.c.
10000 N / 50 mm/sec / 230 Va.c.
20000 N / 25 mm/sec / 230 Va.c.

02
05
10
20

Positioning options:

Speed control (standard)
Positioning control
Interface card

S
P
C

Stroke (S):

100 mm
200 mm
300 mm
400 mm
500 mm
600 mm
700 mm

100
200
300
400
500
600
700

Limit switches:

Sensor for limit of travel
Sensor for limit of travel and safety switch
Sensor for limit of travel and customer switch
Sensor for limit of travel, safety switch and customer switch

E
S
A
B

Electrical options:

230 V / 50 Hz

E

Back-up nuts:

Without back-up nuts (standard)
With back-up nuts

X
S

Mechanical options:

No options

XX

Linear actuators

CALA 36

CALA 36 is a compact 12 or 24 Vd.c. actuator, intended for industrial use. The motor and drive spindle are connected in-line through a planetary gear assembly. This makes the compact design suitable in applications where space is restricted. A comprehensive range of suitable SKF control systems is available.

Benefits:

- In-line layout
- Aesthetic design
- High operating reliability



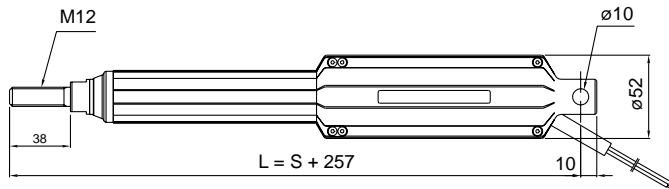
Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CALA 36A	600	600	31	17	50-200**	S+215/226/257	12/24 DC	44	0.9-1.5

* Dimension depends on selected front attachment

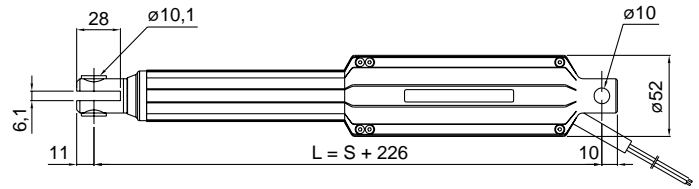
Linear actuators

CALA 36A

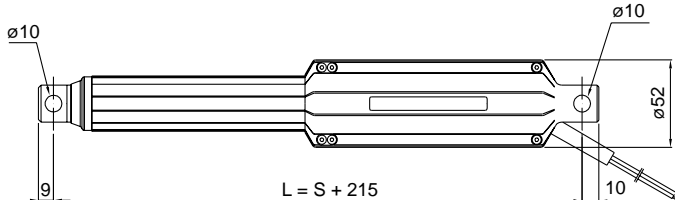
G3



G5



G6



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CALA 36A	600	600	31	17	50-200	S+215/226/257	12/24 DC	44	0.9-1.5

* Dimension depends on selected front attachment

Ordering key

CALA 36 A × [] × 4 [] / [] []

Type

Load/Speed:
600 N/33-17 mm/sec.

Stroke (S):

50 mm
100 mm
150 mm
200 mm

50 mm < S > 200 mm

50
100
150
200
XXX

Front attachment:

Male thread, M12×7.5
Fork end, ø 10.0 mm
Hole, ø 10.0 mm

G3
G5
G6

Motor voltage:

12 Vd.c.
24 Vd.c.

D12
D24

Cable:

250 mm, no plug, straight
1.9 m, phono plug, straight
1.9 m, no phono plug, straight

U
T2
T2P

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

MATRIX

The MATRIX series includes powerful AC and DC-actuators. They run very quietly, take up little space and can be installed at virtually every angle in vertical or horizontal position. The MATRIX series is complemented by the KOM control units, which allow a flexible and application focused system control.

Benefits:

- Long lifetime
- Quiet
- Full system with control, operating units and accessories



Type	Force ¹⁾		Max. speed		Stroke ²⁾ (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s			mm	mm	V	IP kg
MAX1.-C	1500	1500	18	13	50-700	S+195*	24 DC	66	3.0
MAX1.-B	2000	2000	9	6	50-700	S+195*	24 DC	66	3.0
MAX3.-C	3000	3000	18	13	50-700	S+215**	24 DC	66	4.0
MAX6.-C	3000	3000	18	13	50-700	S+215**	120/230 AC	66	5.0
MAX1.-A	4000	4000	7	5	50-700	S+195*	24 DC	66	3.5
MAX3.-B	4000	4000	9	6	50-700	S+215**	24 DC	66	4.0
MAX6.-B	4000	4000	10	8	50-700	S+215**	120/230 AC	66	5.0
MAX3.-A	8000	6000	7	5	50-700	S+215**	24 DC	66	4.5
MAX6.-A	8000	6000	8	6	50-700	S+215**	120/230 AC	66	5.5

1) depends on application, for details please see Datasheets L5321,2510-2532

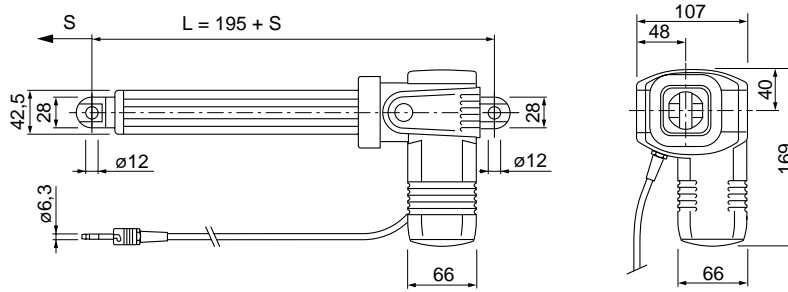
2) 50 mm steps

* if stroke < 350 mm: L = S + 260 mm

** if stroke > 350 mm: L = S + 280 mm

Linear actuators

MAX1



Legend:
S = stroke
L = retracted length

Type	Force ¹⁾		Max. speed		Stroke ²⁾ (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
MAX1.-C	1500	1500	18	13	50-700	S+195*	24 DC	66	3.0
MAX1.-B	2000	2000	9	6	50-700	S+195*	24 DC	66	3.0
MAX1.-A	4000	4000	7	5	50-700	S+195*	24 DC	66	3.5

1) depends on application, for details please see Datasheets L5321,2510-2532
2) 50 mm steps
* if stroke > 350 mm: Retr. Length = stroke + 260 mm

Ordering key

MAX1 0 - [] [] [] [] A 25 1 [] A - 000

Type

Motor voltage:
24 Vd.c.

Load/Speed:

4000 N (push and pull) / 7-5 mm/sec
2000 N (push) / 9-6 mm/sec
1500 N (push) / 18-13 mm/sec

Stroke (S) / Retracted length:

50 mm	050	245
100 mm	100	295
200 mm	200	395
300 mm	300	495
400 mm	400	660
500 mm	500	760
600 mm	600	860
700 mm	700	960

Colour:

Grey RAL 7035

Cable/Connecting plug:

Straight cable with stereo jack plug, length 2.5 m

Orientation of rear attachment:

0 (standard)

Options 1:

No options, only valid for actuator A (see load)
Motor direction push, only valid for actuator B and C (see load)

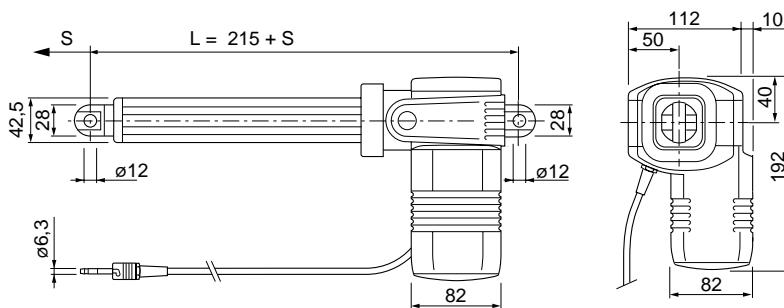
Options 2:

Encoder, 8 pulses / revolution

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

MAX3



Legend:
S = stroke
L = retracted length

Type	Force ¹⁾		Max. speed ²⁾		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
MAX3.-C	3000	3000	18	13	50 - 700	S+215*	24 DC	66	4.0
MAX3.-B	4000	4000	9	6	50 - 700	S+215*	24 DC	66	4.0
MAX3.-A	8000	6000	7	5	50 - 700	S+215*	24 DC	66	4.5

1) depends on application, for details please see Datasheets L5321,2510-2532
2) 50 mm steps
* if stroke > 350 mm: Retr. Length = stroke + 260 mm

Ordering key

MAX3 0 - [] [] [] [] A 25 1 A - 000

Type

Motor voltage:

24 Vd.c.

Load/Speed:

8000 N (push and pull) / 7 - 5 mm/sec

4000 N (push) / 9 - 6 mm/sec

3000 N (push) / 18 - 13 mm/sec

Stroke (S) / Retracted length:

50 mm

100 mm

200 mm

300 mm

400 mm

500 mm

600 mm

700 mm

050 265

100 315

200 415

300 515

400 680

500 780

600 880

700 980

Colour:

Grey RAL 7035

Cable/Connecting plug:

Straight cable with stereo jack plug, length 2.5 m

Orientation of rear attachment:

0 (standard)

Options 1:

No options, only valid for actuator A (see load)

Motor direction push, only valid for actuator B and C (see load)

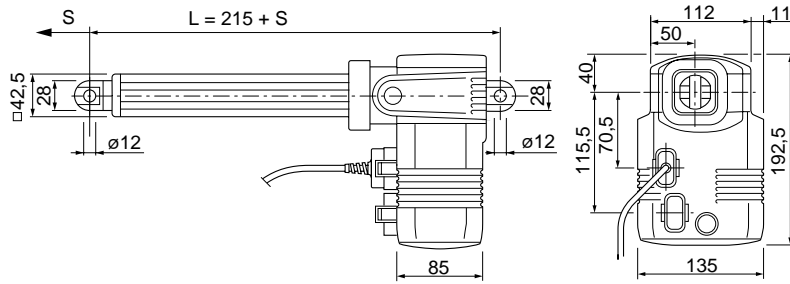
Options 2:

Encoder, 8 pulses /revolution

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Linear actuators

MAX6



Legend:
 S = stroke
 L = retracted length

Type	Force		Max. speed ¹⁾		Stroke ²⁾ (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
MAX6.-C	3000	3000	18	13	50-700	S+215*	120/230 AC	66	5.0
MAX6.-B	4000	4000	10	8	50-700	S+215*	120/230 AC	66	5.0
MAX6.-A	8000	6000	8	6	50-700	S+215*	120/230 AC	66	5.5

1) depends on application, for details please see Datasheets L5321,2510-2532
 2) 50 mm steps
 * if stroke > 350 mm: Retr. Length = stroke + 260 mm

Ordering key

MAX6 - - **A 0 1** - **0 0 0**

Type

Motor voltage:

Integrated pneumatic control 230 Va.c. 0
 Integrated pneumatic control 120 Va.c. 1
 Integrated low voltage control 230 Va.c. w. add. output 2
 Integrated low voltage control 120 Va.c. w. add. output 3
Integrated low voltage control 230 Va.c. 4
Integrated low voltage control 120 Va.c. 5

Load/Speed:

8000 N (push and pull) / 7-5 mm/sec A
4000 N (push) / 9-6 mm/sec B
3000 N (push) / 18-13 mm/sec C

Stroke (S) / Retracted length:

50 mm	050	265
100 mm	100	315
200 mm	200	415
300 mm	300	515
400 mm	400	680
500 mm	500	780
600 mm	600	880
700 mm	700	980

Colour:

Grey RAL 7035 A

Cable/Connecting plug:

Without cable 0

Orientation of rear attachment:

0 (standard) 1

Options 1:

No options, only valid for actuator A (see load) 0
Motor direction push, only valid for actuator B and C (see load) M

Options 2:

No option 0

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

Accessories

Mains cable	Plug	Country	Order number	Comment
Straight cable 3.5	Schuko	DE	140306	
Straight cable 3.5	SEV	CH	140316	
Straight cable 3.5	UL	USA	140355	
Straight cable 3.5	Hospital grade	USA	140360	
Straight cable 3.5	British standard	UK	140350	
Coiled cable 1.2 m/2.2 m	Schuko	DE	140342	
Coiled cable 1.2 m/2.2 m	SEV	CH	140378	
Straight cable 3.5	SEV	CH	140422-3500	Polyurethane cable
Straight cable 3.5	Schuko	DE	140426-3500	Polyurethane cable
Strain relief for mains cable			ZBE-952253	
Operating unit adapter			140420	
Tool for plugs (Jack/D-Sub/Mains)			140375	

Linear actuators

CARE 33

Efficient design provides the CARE 33 actuators with a high dynamic load capacity, silent operation and low current consumption. The safety features of the design make it particularly suitable for solving a large number of positioning needs in equipment for ergonomic and/or industrial applications. The gearbox floats so that the load path passes directly through a support bearing located in the rear attachment. This design offers a long operational life and minimised the transmitted noise level.



Benefits:

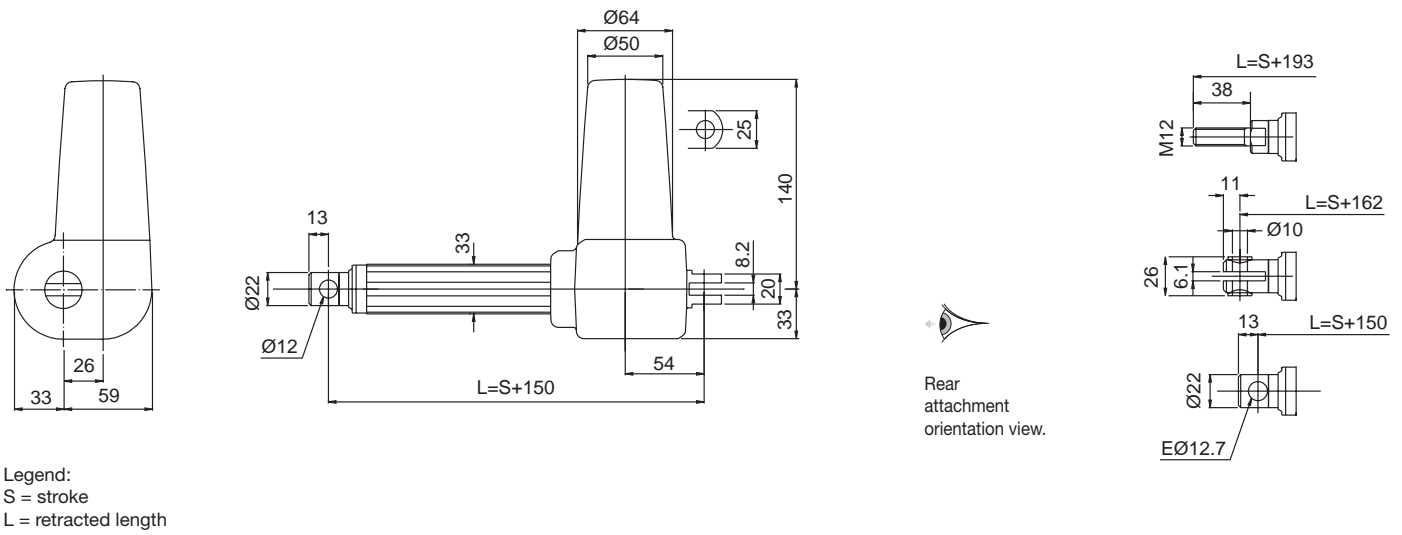
- Silent
- Multiple speed/load variants
- Easy to adjust limit switches
- Different attachment options

Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CARE 33H	800	800	45	32	50-500	S+ 150/162/193	12/24 DC	44/65	1.5-2.4
CARE 33M	1400	1400	22	16	50-500	S+ 150/162/193	12/24 DC	44/65	1.5-2.4
CARE 33A	2000	2000	12	8	50-300	S+ 150/162/193	12/24 DC	44/65	1.5-2.0

* Dimension depends on selected front attachment

Linear actuators

CARE 33



Type	Force		Max. speed		Stroke (S)	Retr. Length* (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CARE 33H	800	800	45	32	50-500	S+150/162/193	12/24 DC	44/65	1.5-2.4
CARE 33M	1400	1400	22	16	50-500	S+150/162/193	12/24 DC	44/65	1.5-2.4
CARE 33A	2000	2000	12	8	50-300	S+150/162/193	12/24 DC	44/65	1.5-2.0

* Dimension depends on selected front attachment

Linear actuators

Ordering key

CARE 33

Type

Load (N)/Speed (mm/sec):

2000/12-8

1400/22 - 16

800/45 - 32

A
M
H

Stroke (S):

50 mm

100 mm

150 mm

200 mm

300 mm

400 mm (not possible for CARE 33A)

500 mm (not possible for CARE 33A)

50 < S > 500 mm (> 500 mm contact SKF)

0 5 0
1 0 0
1 5 0
2 0 0
3 0 0
4 0 0
5 0 0
XXX

Front attachment:

Hole, $\phi = 12.0$ mm

Hole, $\phi = 12.7$ mm

Hole, $\phi = 10.0$ mm, slot 6.1 mm (L = S+162 mm)

Male thread, M12 (L = S+193 mm)

1
2
3
4

Rear attachment:

Hole, $\phi = 12.0$ mm

Hole, $\phi = 12.7$ mm

Hole, $\phi = 8.0$ mm

Hole, $\phi = 10.0$ mm

1
2
3
4

Protection class:

IP65

IP44

1
2

Feed back:

No option

Encoder

0
1

Cable/Connection plug:

Straight, no connector

Coiled, phono plug

Straight, DIN 8-pole plug (for 2-channel encoder)

Straight, phono plug

Straight, DIN 8-pole plug (for 1-channel encoder)

Straight, DIN 8-pole plug

1
2
3
5
6
7

Orientation of rear attachment:

0°

15° clockwise

30° clockwise

45° clockwise

60° clockwise

75° clockwise

90° clockwise

105° clockwise

120° clockwise

135° clockwise

150° clockwise

165° clockwise

0 0 0
0 1 5
0 3 0
0 4 5
0 6 0
0 7 5
0 9 0
1 0 5
1 2 0
1 3 5
1 5 0
1 6 5

Motor voltage:

24 Vd.c.

12 Vd.c.

2 4
1 2

Self locking feature (mandatory when selecting load/speed version "H" or "M"):

No self locking required

Self locking for pulling load

Self locking for pushing load

0
1
2

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Linear actuators

RUNNER

The RUNNER is a very compact, high performance actuator combining maximum load and maximum speed. The system includes a single fault safe control unit for up to 3 actuators as well as corresponding accessories. The RUNNER system is compatible with the TELEMAG DC series.

Benefits:

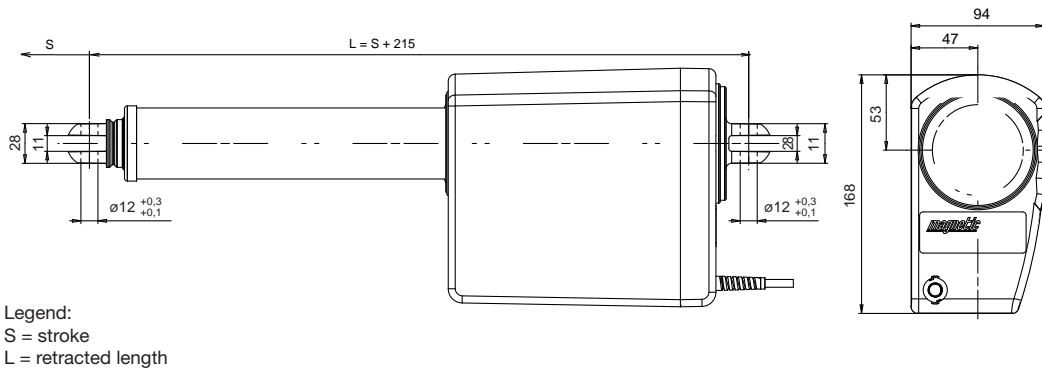
- High offset load
- High push/pull force
- Compact design
- Quiet
- Long lifetime



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
R20	8000	8000	10.5	7.5	100 - 700	S+215	24 DC	X4/X6	5.7
R21	10000	8000	8.5	6	100 - 700	S+215	24 DC	X4/X6	5.7
R22	12000	8000	6.5	4.5	100 - 700	S+215	24 DC	X4/X6	5.7

Linear actuators

R20/R21/R22



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
R20	8000	8000	10.5	7.5	100-700	S+215	24 DC	X4/X6	5.7
R21	10000	8000	8.5	6	100-700	S+215	24 DC	X4/X6	5.7
R22	12000	8000	6.5	4.5	100-700	S+215	24 DC	X4/X6	5.7

Ordering key

R 1 0 - W R 3 - 0 0 0

Load/Speed:

12000/8000N/4.5-6.5 mm/sec
10000/8000N/6.0-8.5 mm/sec
8000/8000N/7.5-10.5 mm/sec

2 2
2 1
2 0

Voltage:

24 V

1

Construction piggy back:

Standard (no fixing for control box on actuator)

0

Motor cable:

1.5 m straight jack plug

W R

Colour:

Grey RAL 7035

3

Options:

No options
Electrical anti-pinching, motor direction pull
Electrical anti-pinching, motor direction push
IPX6
Emergency lowering

0 0 0
E Y W
E Y U
M C H
M A V

Stroke (S):

100 mm
200 mm
300 mm
400 mm
500 mm
600 mm
700 mm

1 0 0
2 0 0
3 0 0
4 0 0
5 0 0
6 0 0
7 0 0

Orientation of rear attachment:

0°
90°

A 0
A 4

Linear actuators

CAFM

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.

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



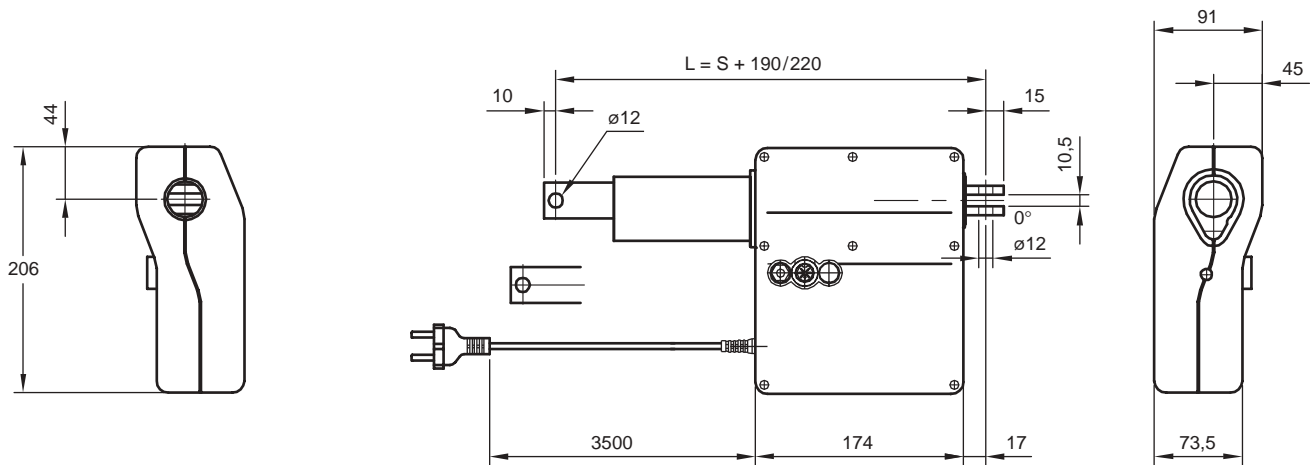
Benefits:

- Economical design solutions
- High speed
- High load capacity
- Customization and freedom of design
- Maintenance-free
- Complete motion systems
- Design and approval made easy

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAFM-H - motor A	3000	3000	20	12	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-H - motor B	3000	3000	14	9	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-L - motor A	7000	3000	10	5	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-L - motor B	7000	3000	7	4	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5

Linear actuators

CAFM



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAFM-H - motor A	3000	3000	20	12	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-H - motor B	3000	3000	14	9	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-L - motor A	7000	3000	10	5	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5
CAFM-L - motor B	7000	3000	7	4	60 - 300	S + 190/220	120/230 AC	51/X4/66	4.5

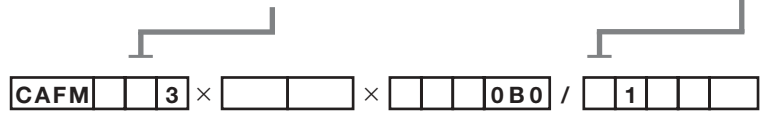
Accessories

Item / Product	CAFM M1	CAFM M2	CAFM M3	CAFM M4
Cable handset	CAFH M1/S118C CAFH M1/S118CE CAFH M1/S746C CAFH M1/S746CE	CAFH M2/S116C CAFH M2/S116CE CAFH M2/S784C CAFH M2/S784CE	CAFH M3/S120C CAFH M3/S120CE CAFH M3/S822C CAFH M3/S822CE	CAFH M4/S473C CAFH M4/S473CE
Foot switch	CAFH F1/S401D CAFH F1/S403D	CAFH F1/S401D CAFH F1/S403D	CAFH F1/S402D CAFH F1/S404D	CAFH F1/S402D CAFH F1/S404D
Table handset	CAFH T1/S457D	CAFH T2/S458D		
Battery	CAFB/S693D	CAFB/S693D	CAFB/S693D	CAFB/S693D
Junction box	CAFR/S238D	CAFR/S238D	CAFR/S239D	

Linear actuators

Ordering key

Dynamic load (N)/ Speed (mm/sec)		Motor* options	
3000/20 - 13	7000/10 - 5	24 V high speed motor	A
3000/14 - 9	7000/7 - 4	24 V standard speed motor	B
H	L	* Overload protection is standard	



Type

Actuator connections:

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

Tube:

Steel, fixed 3

Stroke (S)/Retracted length:

60 - 280 mm	0 6 0 2 8 0
100 - 290 mm	1 0 0 2 9 0
150 - 340 mm	1 5 0 3 4 0
200 - 410 mm	2 0 0 4 1 0
250 - 460 mm	2 5 0 4 6 0
300 - 490 mm	3 0 0 4 9 0

Rear attachment length:

Hole ø 12.0 mm, aluminium D
 Hole ø 10.0 mm, plastic natural, high load E
 Hole ø 12.0 mm, plastic natural, high load F

Orientation of rear attachment:

0° 0
 90° 9

Tube attachment:

Hole ø 12.0 mm, with bushing 12 - 14 (only for steel tube) E
 Hole ø 10.0 mm, with bushing 10 - 12 (only for steel tube) F

Back-up nut:

No 0

Colour:

Black B

Quick release:

No 0

Transformer & mains cable (PVC cable, class II):

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

Linear actuators

CAFS

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 attach-ments. 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).



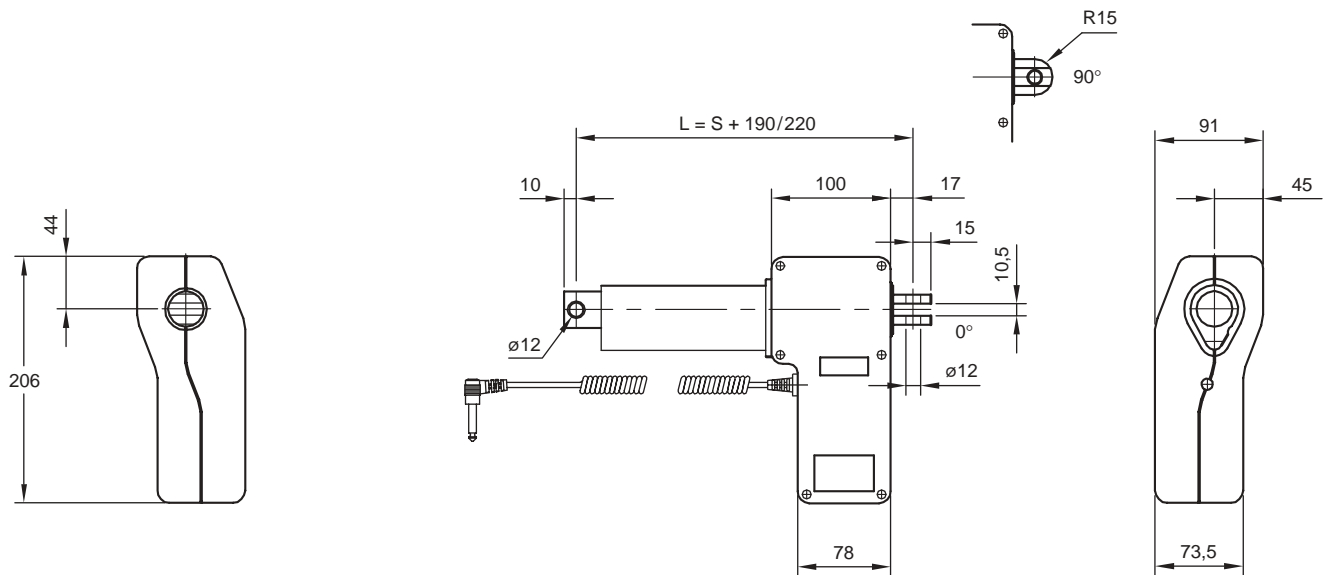
Benefits:

- Economical design solutions
- High speed
- High load capacity
- Space saving/easy to integrate and adapt
- Customization and freedom of design
- Maintenance-free
- Design and approval made easy

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAFS-H - motor A	3000	3000	20	12	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-H - motor B	3000	3000	14	9	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-L - motor A	7000	3000	10	5	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-L - motor B	7000	3000	7	4	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5

Linear actuators

CAFS



Legend:
 S = stroke
 L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
CAFS-H - motor A	3000	3000	20	12	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-H - motor B	3000	3000	14	9	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-L - motor A	7000	3000	10	5	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5
CAFS-L - motor B	7000	3000	7	4	60 - 300	S + 190/220	12/24 DC	51/X4/66	3.5

Linear actuators

Ordering key

Dynamic load (N)/ Speed (mm/sec)		Motor options	
3000/20 - 13	7000/10 - 5	24 V high speed motor	A
3000/14 - 9	7000/7 - 4	24 V standard speed motor	B
3000/8.5 - 5.5*	7000/4.5 - 2*	12 V standard speed motor	C
H	L	* Speed at 12 V	

Type

Extension tube:

Steel tube, fixed

3

Stroke (S)/ Retracted length:

60 - 280 mm	0 6 0 2 8 0
100 - 290 mm	1 0 0 2 9 0
150 - 340 mm	1 5 0 3 4 0
200 - 410 mm	2 0 0 4 1 0
250 - 460 mm	2 5 0 4 6 0
300 - 490 mm	3 0 0 4 9 0

Rear attachment:

ø 12,0 mm, aluminium
 ø 10,0 mm, plastic natural high load
 ø 12,0 mm, plastic natural high load

D
E
F

Orientation of rear attachment:

0°
90°

0
9

Tube attachment:

Hole, ø 12.0 mm with bushing 12 - 14
 Hole, ø 10.0 mm with bushing 10 - 12

E
F

Back-up nut:

no

0

Colour:

black

B

Quick release:

no

0

Encoder:

no

0

Cable:

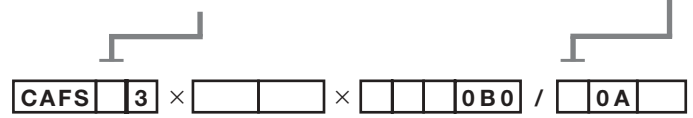
2.5 mm, grey, phono plug, spiral

A

Protection class:

IP51
IPX4
IP66

5 1
X 4
6 6



Linear actuators

MAGPUSH

MAGPUSH linear actuators are extremely quiet and smooth running. They take up little space, are maintenance-free and can be installed vertically or horizontally or at an intermediate angle. The MAGPUSH actuators are very robust and work in many applications. They are ideally suited for raising and lowering large loads.

Benefits:

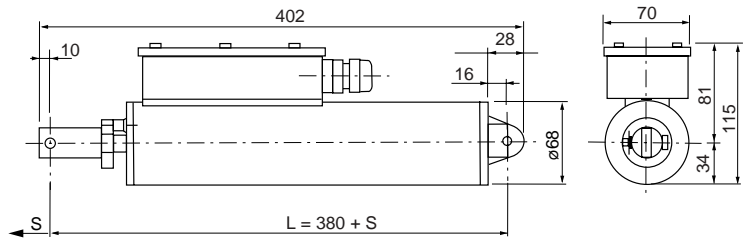
- Big stroke by a short assembly dimension
- Long lifetime
- Quiet
- Robust



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
GC 84 UB	400	400	8	8	210	S+170	230 AC	55	3.0
GC 84 TL	500	500	6	6	200-300	S+123	230 AC	54	2.3-2.4
HC 85 UB	1500	1500	10	10	260	S+190	230 AC	55	6.0

Linear actuators

MAGPUSH GC 84 UB



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
GC 84 UB	400	400	8	8	210	S+170	230 AC	55	3.0

Ordering key

GC84UB - **01**

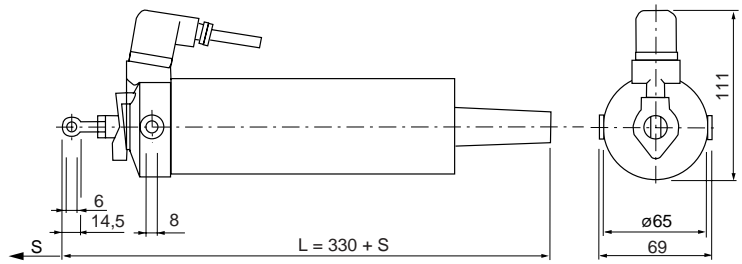
Type

Load / Speed / Stroke (S):
400 N (push) / 8 mm/sec / 210 mm

01

Linear actuators

MAGPUSH GC 84 TL



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
GC 84 TL	500	200	6	6	200 - 300	S + 123	230 AC	54	2.3 - 2.4

Ordering key

GC84TL -

Type

Load / Speed / Stroke (S):

500 N (push) 200 N (pull) / 6 mm/sec / 200 mm

500 N (push) 200 N (pull) / 6 mm/sec / 300 mm

20

30

Option:

No option

With integrated relays

01

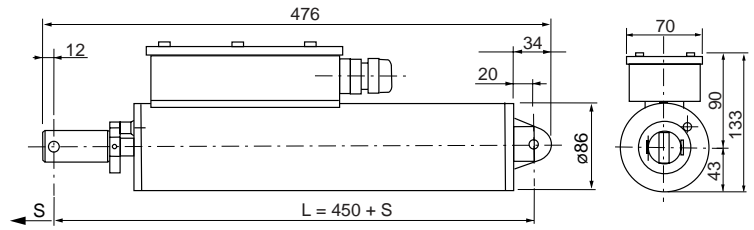
02

Accessories for MAGPUSH GC 84 TL

Accessories	Order N°
Fixing bracket	940303
Pivot screws, alone	940306
Pull adapter	939185
Rear hinge, short	940646
Rear hinge, long	940611

Linear actuators

MAGPUSH HC 85 UB



Legend:
S = stroke
L = retracted length

Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage	Protection	Weight
	push	pull	no load	full load					
	N		mm/s		mm	mm	V	IP	kg
HC 85 UB	1500	1500	10	10	260	S + 190	230 AC	55	6.0

Ordering key

HC85UB - 01

Type

Option:

No option
Potentiometer 1000 Ohm

Load / Speed / Stroke (S):

1500 N (push) / 10 mm/sec / 260 mm

01

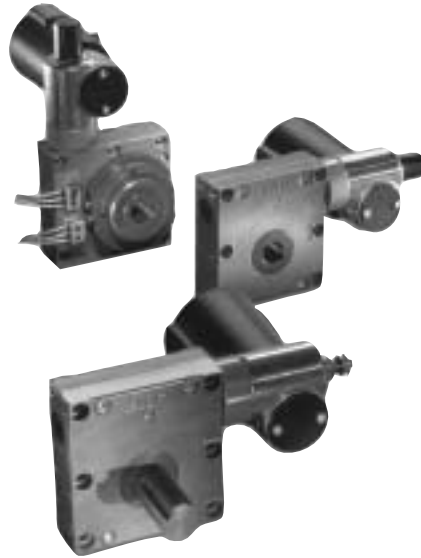
Rotary actuators

CRAB 17

The CRAB 17 rotary actuator is modular so that critical components can be interchanged to meet the needs of a special design priority. The purpose with CRAB 17 is designed to be small and compact but still be able to produce high torque. As the actuator can withstand high loads it can also serve as a load-bearing element of your design. Special bearings arrangements are not usually required.

Benefits:

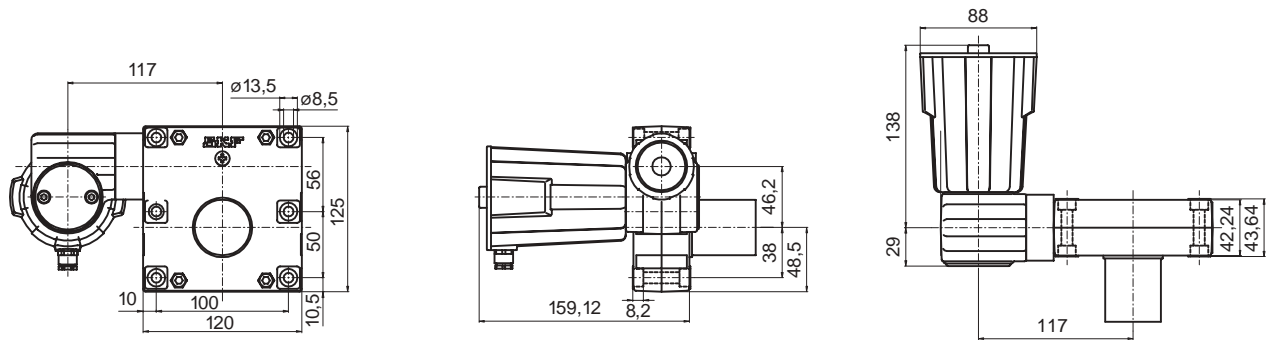
- Multiple output shafts
- Multiple motor options
- Small and compact



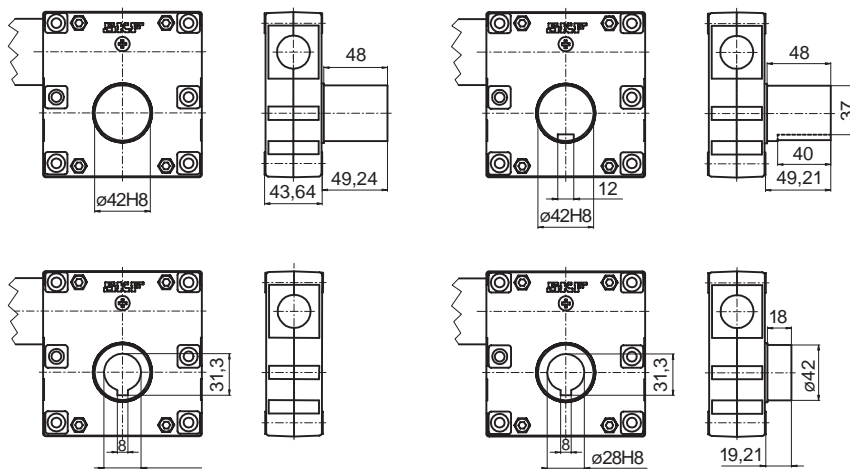
Type	Torque	Speed	Size	Working range	Voltage	Protection	Weight
	Nm	rpm	mm	degrees	V	IP	kg
CRAB 17	70	8	125	multi turn	120/230 AC	54	3
CRAB 17	105	20	125	multi turn	12/24/90 DC	54	3

CRAB17

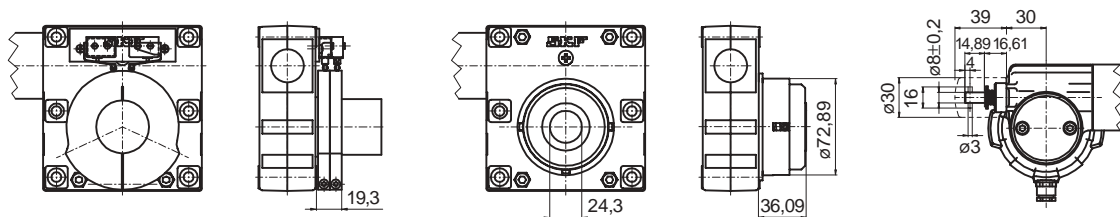
Main Measurements



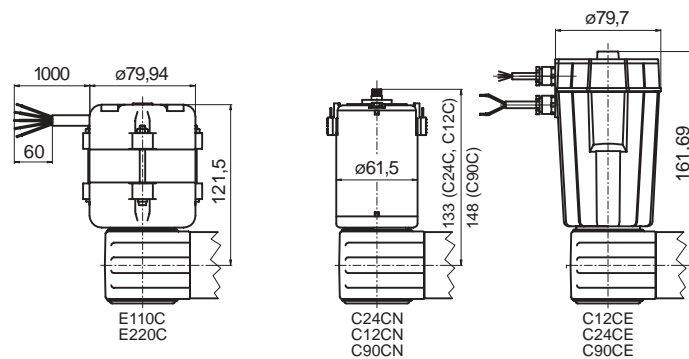
Standard shaft design



Accessories



Motor options



Rotary actuators

Type	Torque	Speed	Size	Working range	Voltage	Protection	Weight
	Nm	rpm	mm	degrees	V	IP	kg
CRAB 17	70	8	125	multi turn	120/230 AC	54	3
CRAB 17	105	20	125	multi turn	12/24/90 DC	54	3

Ordering key

Dynamic load/Speed (N)/(mm/sec)			Motor options	
60/30	38/58	19/110	12 Vd.c.	C12C C24C C90C E110C E220C
60/30	38/58	19/110	24 Vd.c.	
105/30	53/55	38/110	90 Vd.c.	
70/13	40/27	22/52	110 Va.c.	
55/13	34/27	18/52	220 Va.c.	
1	2	4		

CRAB17 × [] × [] × [] / [] []

Type

Manual override:

None
Hand crank
Release on shaft

-
A
B

Shaft design:

Solid
Solid / keyway
Hollow / keyway
Hollow / keyway for limit switch
Hollow / splines (with override for shaft type "B")

1
2
3
4
5

Limit switch:

No
Yes (fits shaft N° 1, 2, 4 and 5)

-
S

Motor orientation:

Rear
Upwards
Front
Downwards

R
U
F
D

Motor assembly:

Right
Left

R
L

Options for CxxC motors:

No cable
Encoder
Motor without cover
EMC filter
Cable 2 m
Cable with plug 2 m

-
E
N
M
T 2
T 2 P

Rotary actuators

CRAB 05

The design of the CRAB 05 rotary actuator series has been developed from a completely new recliner technology. This recliner technology is a new patent and has been successfully used in the automotive industry for car seat applications. Car seat applications demand low cost, high impact strength and ease of operation, electrically or manually, when adjusting the seat. This design makes it possible to build low cost and space saving solutions in application where dynamic force demands are below 100 Nm.

Benefits:

- Recliner
- Multiple motor options
- Thin and small



Type	Torque	Speed	Size	Working range	Voltage	Protection	Weight
	Nm	rpm	mm	degrees	V	IP	kg
CRAB 05	100	3	86	multi turn	24 DC	20	0,5

Combination matrix actuators & controls

Combinations of actuators, control units and operating units

Are you looking for a complete system including actuators, control units and operating units?

A selection of control units and hand sets is available for most actuators in this catalogue.

		Control units																		
		CAED 3-24R	CAED 5-24R	CAED 9-24R	CAEN 10R	CAEV 110/220	CAFC04 M1	CAFC04 M3	CAFM M1	CAFM M2	KOM1	KOM2	KOM3	KOM3T	KOM6	MCU1	LD-014 (TXG)	LD-015 (TXG)		
Actuators	TGC (pneum.)																			
	THC (pneum.)																			
	TLC (pneum.)																			
	THG									X	X	X		X	X					
	TLG									X	X	X		X	X					
	TLT													X						
	TXG																X	X		
	CAT11	X																		
	CAT33				X	X	X													
	CAT32				X	X	X													
	CARR 22			X	X															
	CAR32				X	X	X													
	CAR40							(No control units are available)												
	CALA36	X																		
	MAX1										X	X	X		X	X				
	MAX3										X	X	X		X	X				
	MAX60 / MAX61																			
	MAX62 / MAX65																			
	CARE33	X																		
	Easy3 01	incl.																		
	Easy3 02	incl.																		
	Easy3 03	incl.																		
	Easy3 04						incl.													
	Easy3 05							incl.												
	Easy3 10								incl.											
	Easy3 11									incl.										
	Easy3 12						incl.													
Easy3 13							incl.													
Operating units	EHA1 (DSUB)									X		X	X		X					
	EHA2 (DSUB)										X									
	EHE6 (DSUB)													X						
	STA (DSUB)									X		X	X		X					
	STC (DSUB)										X									
	STF (DSUB)									X		X	X		X					
	STG (DSUB)										X									
	STH (DSUB)														X					
	LD-011 (DIN)																X	X		

Combination matrix actuators & controls

	CAES 31C	CAES 31B	CAES 3X Series	CAFH T1	CAFH T2	EHA1 (DSUB)	EHE1 (FCC)	STA (DSUB)	STA (FCC)	STF (DSUB)	STF (FCC)	LD-011 (FCC)	PHC	PFP
													X	X
													X	X
													X	X
							X		X		X	X		
	X													
	X	X												
	X	X												
	X	X												
	X													
	X													
													X	X
						X		X		X				
	X													
	incl.													
	incl.													
	incl.													
		incl.												
		incl.												
			incl.											
				incl.										
				incl.										
					incl.									

Control units

A large variety of control units is available to operate the linear drives and telescopic pillars. They allow the connection of up to 5 actuators or several external options. There is also a version to operate battery powered DC-actuators. For combinations of actuators and control units please see the matrix on page 106.

Benefits:

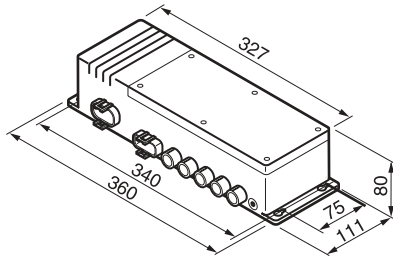
- Application focused system control
- Operation of up to 5 actuators
- Connections for foot, hand or desk switches
- Standard or microprocessor versions



Control units	Type	Control	Max. motor connections	Input	Output
			n°	V	V/A
KOM	KOM 1	Standard	4	230/120	24/6
	KOM 2	Microprocessor	5	230/120	24/12
	KOM 3	Standard	3	230/120	24/6
	KOM 3T	Standard	2	230/120	24/9
	KOM 6	Microprocessor	4	230/120	24/12
MCU	MCU	Standard	2	230/120	24/6
LD	LD	Microprocessor	2	230/120	24/12
	LD	Microprocessor	4	230/120	24/12
CAFC 04	M1	Microprocessor	1	230/120	40/6
	M2	Microprocessor	2	230/120	40/6
	M3	Microprocessor	3	230/120	40/6
CAFM	M1	Microprocessor	1	230/120	N/A
	M2	Microprocessor	2	230/120	N/A
	M3	Microprocessor	3	230/120	N/A
CAEN	10R	Standard (on/off)	1	230/120	24/6
	10P-SL	Standard (on/off)	2	230/120	24/9
CAEV	110/220	Standard (on/off)	1	230/120	200/400
CAED ANR	5-24R-PO	Microprocessor	1	22-28	24/5
	9-24R-PO	Microprocessor	1	22-28	24/9
CAED	3-24R	Standard (on/off)	1	24	24/3
	5-24R	Standard (on/off)	1	24	24/5
	9-24R	Standard (on/off)	1	24	24/9
CAEP	10P-SL	Standard	1	230/120	24/10
BCU	4/5	Microprocessor	3	120	24/7
	8/9	Microprocessor	3	230	24/7

Control units

KOM1



Type	Control	Max. motor connections	Input	Output power
		n°	VAC	VDC/A
KOM 1	Standard	4	230 / 120	24 / 6

Ordering key

	KOM1	-	0	0A	-	000
Type						
Number of channels:						
1 channel						1
2 channels						2
3 channels						3
4 channels						4
Battery option:						
Without battery						0
Voltage:						
230 Va.c.						1
120 Va.c.						2
Cable/Connecting plug:						
Without cable						0
Colour:						
Grey RAL 7035						A

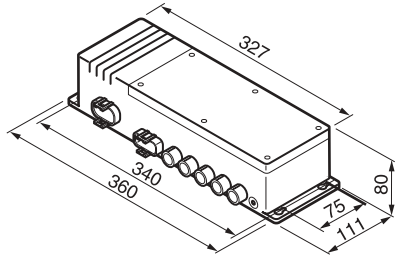
Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Accessories

Item	Plug	Country	Order number	Comment
Straight cable 3.5	Schuko	DE	140306	
Straight cable 3.5	SEV	CH	140316	
Straight cable 3.5	UL	USA	140355	
Straight cable 3.5	Hospital grade	USA	140360	
Straight cable 3.5	British standard	UK	140350	
Coiled cable 1.2 m/2.2 m	Schuko	DE	140342	
Coiled cable 1.2 m/2.2 m	SEV	CH	140378	
Straight cable 3.5	SEV	CH	140422-3500	Polyurethane cable
Straight cable 3.5	Schuko	DE	140426-3500	Polyurethane cable
Tool for plugs (Jack/D-Sub/Mains)			140375	

Control units

KOM2



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
KOM 2	Microprocessor	5	230/120	24/12

Ordering key

KOM2 - **0** **0A** - **000**

Type

Number of channels:

- 1 channel (not available with parallel option)
- 2 channels
- 3 channels
- 4 channels (not available with memory option)

1
2
3
4

Battery option:

Without battery

0

Voltage:

- 230 Va.c.
- 120 Va.c.

4
5

Cable/Connecting plug:

Without cable

0

Colour:

Grey RAL 7035

A

Software options:

- Parallel operation of actuators (all connected actuators move together)
- 3 free programmable memory positions

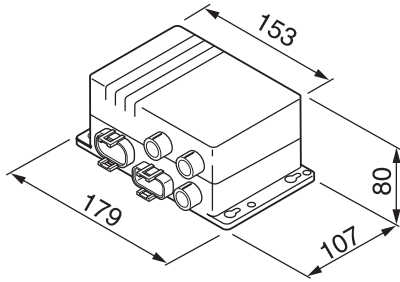
P
M

Accessories

Item	Plug	Country	Order number	Comment
Straight cable 3.5	Schuko	DE	140306	
Straight cable 3.5	SEV	CH	140316	
Straight cable 3.5	UL	USA	140355	
Straight cable 3.5	Hospital grade	USA	140360	
Straight cable 3.5	British standard	UK	140350	
Coiled cable 1.2 m/2.2 m	Schuko	DE	140342	
Coiled cable 1.2 m/2.2 m	SEV	CH	140378	
Straight cable 3.5	SEV	CH	140422-3500	Polyurethane cable
Straight cable 3.5	Schuko	DE	140426-3500	Polyurethane cable
Tool for plugs (Jack/D-Sub/Mains)			140375	

Control units

KOM3



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
KOM 3	Standard	3	230/120	24/6
KOM 3T	Standard	2	230/120	24/9

Ordering key

Type

Number of channels:

- 1 channel
- 2 channels
- 3 channels**
- 2 channels (only for TLT-Telemag)

Voltage:

- 230 Va.c.**
- 120 Va.c.**

Cable/Connecting plug:

- Without cable**

Colour:

- Grey RAL 7035**

KOM3 - **0A** - **000**

1
2
3
T

0
1

0

A

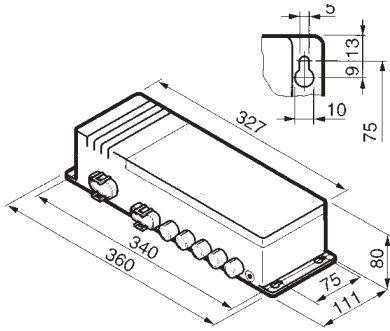
Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Accessories

Item	Plug	Country	Order number	Comment
Straight cable 3.5	Schuko	DE	140306	
Straight cable 3.5	SEV	CH	140316	
Straight cable 3.5	UL	USA	140355	
Straight cable 3.5	Hospital grade	USA	140360	
Straight cable 3.5	British standard	UK	140350	
Coiled cable 1.2 m/2.2 m	Schuko	DE	140342	
Coiled cable 1.2 m/2.2 m	SEV	CH	140378	
Straight cable 3.5	SEV	CH	140422-3500	Polyurethane cable
Straight cable 3.5	Schuko	DE	140426-3500	Polyurethane cable
Tool for plugs (Jack/D-Sub/Mains)			140375	

Control units

KOM6



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
KOM 6	Microprocessor	4	230/120	24/12

Ordering key

KOM6 - 0 0A - 000

Type

Number of channels:

- 1 channel (not available with parallel option)
- 2 channels
- 3 channels
- 4 channels (not available with memory option)

1
2
3
4

Battery option:

Without battery

0

Voltage:

- 230 Va.c.
- 120 Va.c.

4
5

Cable/Connecting plug:

Without cable

0

Colour:

Grey RAL 7035

A

Software options:

Parallel operation of actuators (all connected actuators move together), incl. 3 memory positions
3 free programmable memory positions

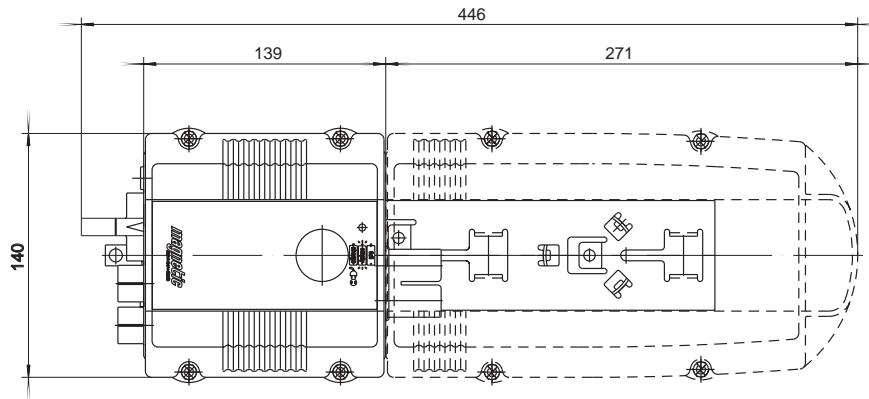
M
N

Accessories

Item	Plug	Country	Order number	Comment
Straight cable 3.5	Schuko	D	140306	
Straight cable 3.5	SEV	CH	140316	
Straight cable 3.5	UL	USA	140355	
Straight cable 3.5	Hospital grade	USA	140360	
Straight cable 3.5	British standard	GB	140350	
Coiled cable 1.2 m/2.2 m	Schuko	D	140342	
Coiled cable 1.2 m/2.2 m	SEV	CH	140378	
Straight cable 3.5	SEV	CH	140422-3500	Polyurethane cable
Straight cable 3.5	Schuko	D	140426-3500	Polyurethane cable
Tool for plugs (Jack/D-Sub/Mains)			140375	

Control units

MCU



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
MCU	Standard	2	230/120	24/6

Ordering key

MCU1 - 003 - 0000

Type

Voltage:
24 Vd.c.

Number of channels:

1 channel
2 channels

Cable/Connecting plug:

Without cable

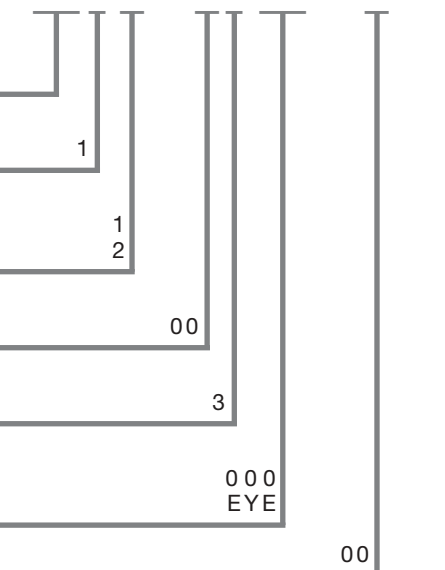
Colour:

Grey

Options:

No options
Electrical emergency off, channel 1

Not used

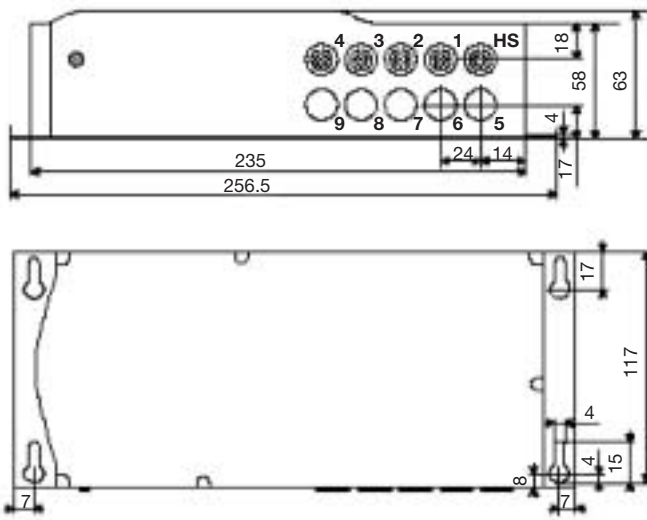


Accessories

Item	Data	Plug	Order number
Battery unit	4.5 Ah		ZBA-142211
Mains adapter	230 V	Euro plug	ZDV-142331
Mains adapter	120 V	UL plug	ZDV-142332
Wall charging station			ZLA-142221
Tool for plugs (Jack/D-Sub/Mains)			140375

Control units

LD



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
LD	Microprocessor	2	230/120	24/12
LD	Microprocessor	4	230/120	24/12

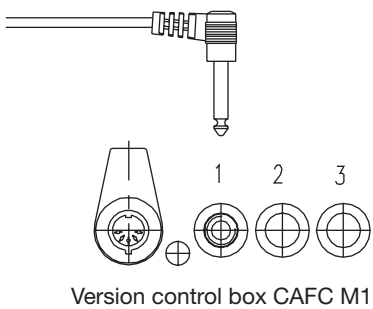
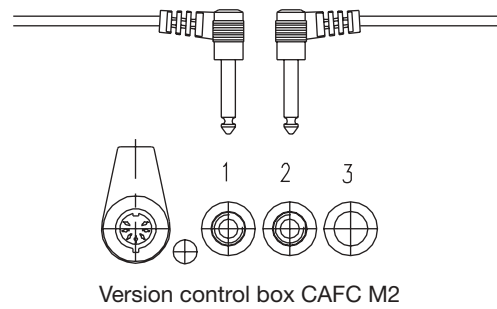
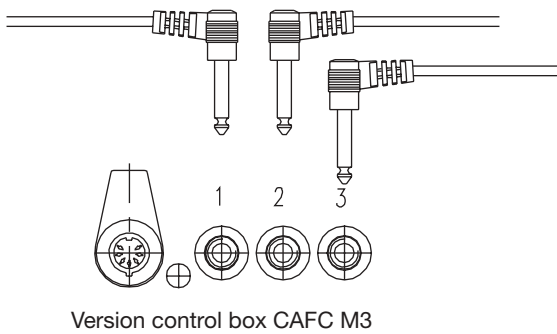
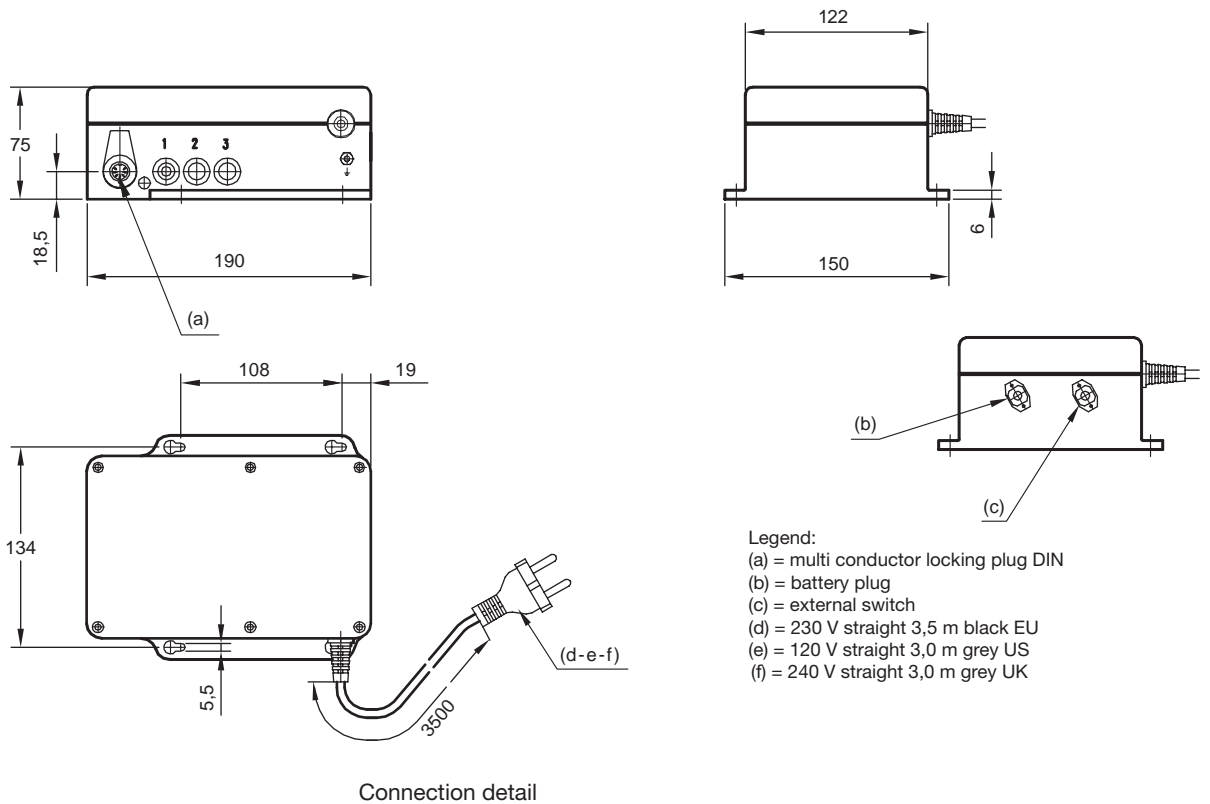
Ordering key

Type	Number of channels:	Voltage:	Ordering key
	2 channels for TELES MART TXG	230 Va.c.	LD - 015 - 005
	3 channels for TELES MART TXG	120 Va.c.	LD - 014 - 026
	4 channels for TELES MART TXG		LD - 014 - 005
			LD - 000 - 000
			LD - 000 - 001

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Control units

CAFC 04



Control units

CAFC 04

Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
M1	Microprocessor	1	230/120	40/6
M2	Microprocessor	2	230/120	40/6
M3	Microprocessor	3	230/120	40/6

Ordering key

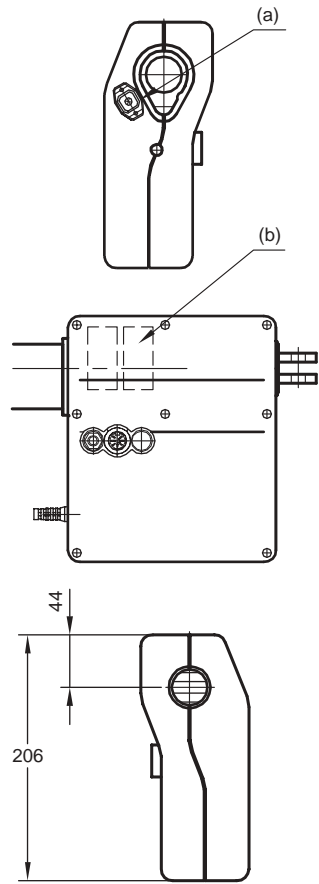
Type	CAFC04	M	1		G
Number of actuators:					
1 actuator		1			
2 actuators		2			
3 actuators		3			
Mains cable (PVC cable class II):					
230 V, 3.2 m, black, EU-plug, straight				B	
120 V, 3.0 m, grey, US-plug, straight				H	
240 V, 3.0 m, grey, UK-plug, straight				I	
Overload protection (factory pre-set):					
Yes				1	
Protection class:					
IP51					51
IPX4					X4
Battery options:					
No battery					0
Battery plug					2
External switch					3
Colour:					
RAL 7035, grey					G

Accessories

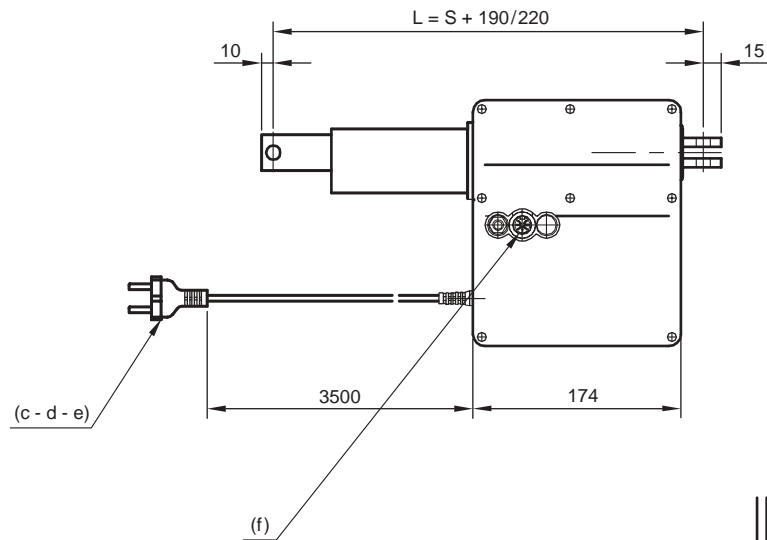
Item / Product	CAF C04 M1	CAF C04 M2	CAF C04 M3
Cable handset	CAFH M1/S118C CAFH M1/S118CE CAFH M1/S746C CAFH M1/S746CE	CAFH M2/S116C CAFH M2/S116CE CAFH M2/S784C CAFH M2/S784CE	CAFH M3/S120C CAFH M3/S120CE CAFH M3/S822C CAFH M31/S822CE
Foot switch	CAFH F1/S401D CAFH F1/S403D	CAFH F1/S401D CAFH F1/S403D	CAFH F1/S402D CAFH F1/S404D
Table handset	CAFH T1/S457D	CAFH T2/S458D	
Battery	CAFB/S693D	CAFB/S693D	CAFB/S693D
Junction box	CAFR/S238D	CAFR/S238D	CAFR/S239D

Control units

CAFM



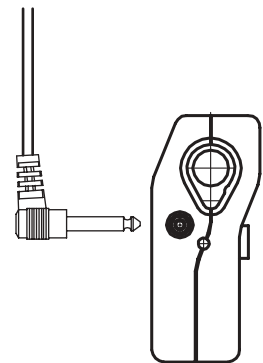
Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
M1	Microprocessor	1	230/120	N/A
M2	Microprocessor	2	230/120	N/A
M3	Microprocessor	3	230/120	N/A



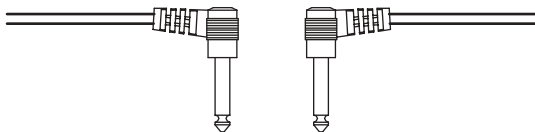
Connection detail



Version actuator CAFM1



Version actuator CAFM4



Legend:

- (a) = battery connection or external switch
- (b) = internal battery
- (c) = 230 V straight 3,5 m black EU
- (d) = 120 V straight 3,0 m grey US
- (e) = 240 V straight 3,0 m grey UK
- (f) = multi conductor locking plug DIN
- S = stroke
- L = retracted length

Control units

CAEN

Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
10R	Standard (on/off)	1	230/120	24/6
10P-SL	Standard (on/off)	2	230/120	24/9

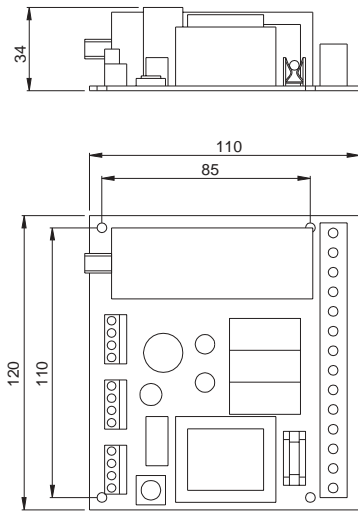
Ordering code:

CAEN 10R

CAEN 10P-SL

Control units

CAEV



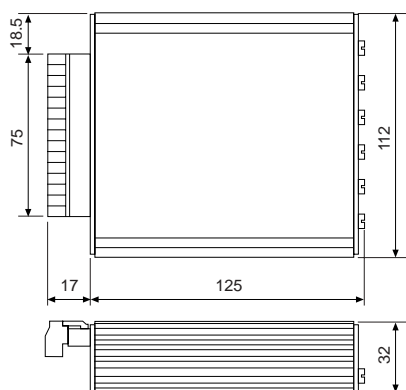
Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
110/220	Standard (on/off)	1	230/120	200/400

Available start capacitors: Values = 3 μ F / 4 μ F / 6 μ F / 8 μ F or 12 μ F

Ordering code:
CAEV 110/220

Control units

CAED ANR



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
5-24 R-PO	Microprocessor	1	22-28	24/5
9-24 R-PO	Microprocessor	1	22-28	24/9

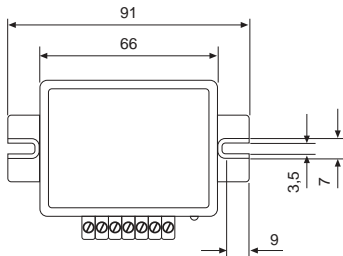
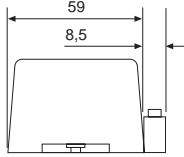
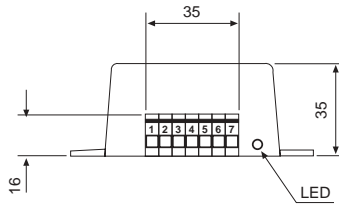
Ordering code:

CAED ANR 5-24R-PO

CAED ANR 9-24R-PO

Control units

CAED



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
3-24R	Standard	1	24	24/3
5-24R	Standard	1	24	24/5
9-24R	Standard	1	24	24/9

Ordering code:

CAED 3-24R 1

CAED 5-24R 1

CAED 9-24R 1

Control units

CAEP

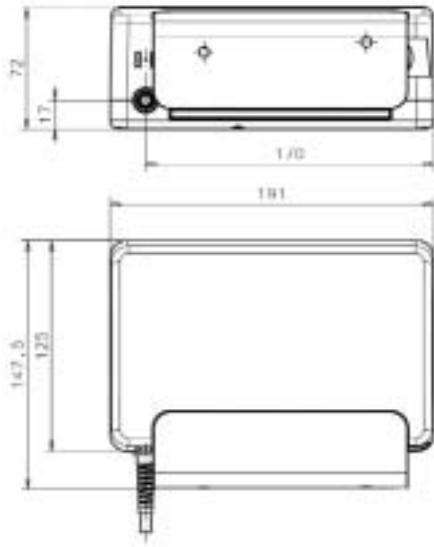
Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
10P-SL	Standard	1	230/120	24/10

Ordering code:

CAEP 10P-SL

Control units

BCU



Type	Control	Max. motor connections	Input	Output
		n°	V	V/A
4/5	Microprocessor	3	120	24/7
8/9	Microprocessor	3	230	24/7

Ordering code:

BCU 4/5

BCU 8/9

Hand switches

The hand switches serve for operating one or several actuators. With the pushbuttons field on the front panel the movements of the actuators can be controlled easily and precisely. The hand switches are available with different plug options. There is also an infrared version for more flexibility in remote operating.

Benefits:

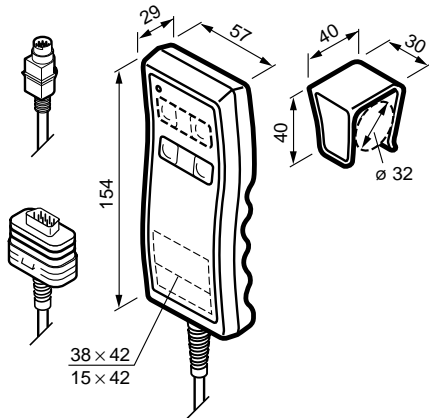
- Easy and precise
- Flexible and remote operation
- Ergonomic design
- Different plug options



Hand switches	Type	Operating power	Max. operating motors	Prot. class	Colour
		VDC/ mA	n°	IP	
EHA	EHA 1	12/50	4	67	grey
	EHA 2	12/50	5	67	grey
EHE	EHE 1	38/50	4	X7	grey / black
	EHE 6	38/50	4	X7	grey
PHC	PHC	–	4	66	anthracite
CAFH	M1	40/50	1	X4	black
	M2	40/50	2	X4	black
	M3	40/50	3	X4	black
	M4	40/50	4	X4	black
CAES	31B	30/500	1	X4	black
	31C	30/500	1	X4	black

Hand switches

EHA1



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
EHA 1	12/50	4	67	grey

Ordering key

EHA1 - **01** - **N** - **000**

Type

Number of channels:

- 1 channel
- 2 channels
- 3 channels
- 4 channels**

1
2
3
4

Mounting bracket:

Without hook

0

Colour:

Grey RAL 7035

1

Cable/Connecting plug:

Straight cable with Dsub plug, 2.5 m
Coiled cable with Dsub plug, 2.5 m/3.5 m

A
F

Symbols:

- 1 channel: arrow up/down**
- 2 channels: arrow up/down**
- 3 channels: arrow up/down**
- 4 channels: arrow up/down**

10
20
30
40

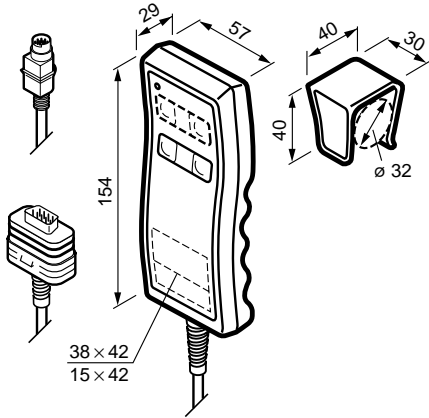
Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Accessories

Item	Order number
Hook with sticker	145361-0001

Hand switches

EHA2



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
EHA 2	12 / 50	5	67	grey

Ordering key

EHA2 - 01 N - 000

Type

Number of channels:

- 1 channel
- 2 channels
- 3 channels
- 4 channels
- 5 channels
- 1 channel with 3 memory functions
- 2 channels with 3 memory functions
- 3 channels with 3 memory functions

1
2
3
4
5
A
B
C

Mounting bracket:

Without hook

0

Colour:

Grey RAL 7035

1

Cable/Connecting plug:

- Straight cable with Dsub plug, 2.5 m
- Coiled cable with Dsub plug, 2.5 m/3.5 m

A
F

Symbols:

- 1 channel: arrow up/down
- 2 channels: arrow up/down
- 3 channels: arrow up/down
- 4 channels: arrow up/down

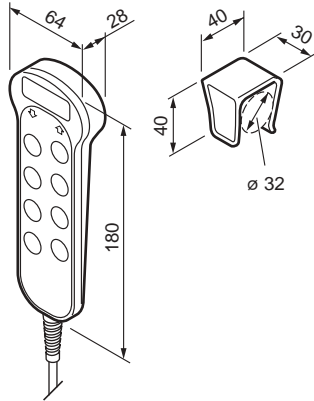
1 0
2 0
3 0
4 0

Accessories

Item	Order number
Hook with sticker	145361-0001

Hand switches

EHE1



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
EHE 1	38/50	4	X7	grey/black

Ordering key

EHE1 - 1 0 N - 000

Type

Number of channels:

- 1 channel
- 2 channels
- 3 channels
- 4 channels
- 1 channel with 3 memory functions (only for TXG)

1
2
3
4
A

System of protection:

IPX7

1

Colour:

- Black
- Grey RAL 7035

A
B

Mounting bracket:

Without hook

0

Symbols:

- 1 channel: arrow up/down
- 2 channels: arrow up/down
- 3 channels: arrow up/down
- 4 channels: arrow up/down

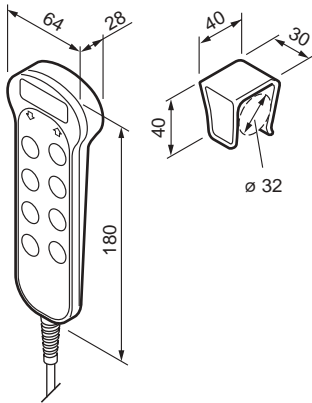
10
20
30
40

Accessories

Item	Colour	Order number
Hook with sticker	grey	145361-0001
Hook with sticker	black	145361-0003

Hand switches

EHE6



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
EHE 6	38 / 50	4	X7	grey

Ordering key

EHE6 - 1 B 0 N - 000

Type

Number of channels:

- 1 channel
- 2 channels
- 3 channels
- 4 channels
- 5 channels
- 1 channel with 3 memory functions
- 2 channels with 3 memory functions
- 3 channels with 3 memory functions

1
2
3
4
5
A
B
C

System of protection:

IPX7

1

Colour:

Grey RAL 7035

B

Mounting bracket:

Without hook

0

Symbols:

- 1 channel: arrow up/down
- 2 channels: arrow up/down
- 3 channels: arrow up/down
- 4 channels: arrow up/down
- 5 channels: arrow up/down

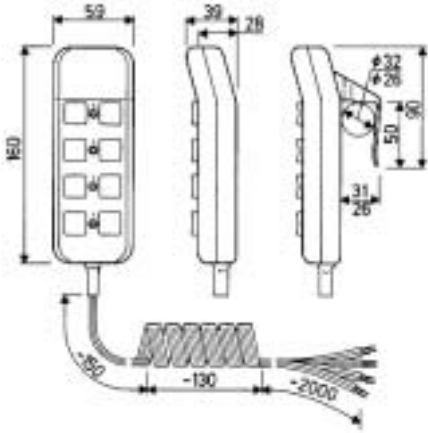
10
20
30
40
50

Accessories

Item	Colour	Order number
Hook with sticker	grey	145361-0001
Hook with sticker	black	145361-0003

Hand switches

PHC



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
PHC	-	4	66	anthracite

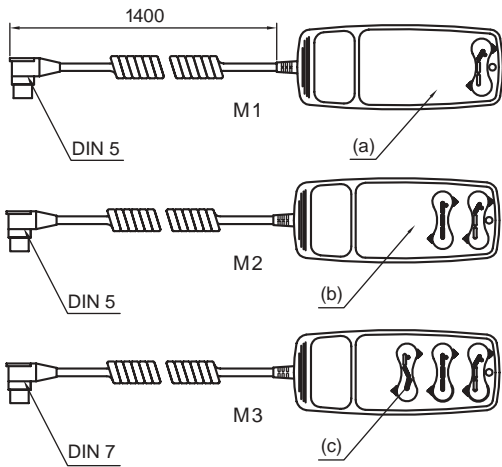
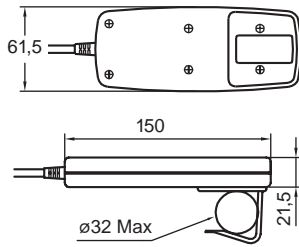
Ordering key

PHC 1 - 1 3 0 4 8 1

Pneum. hand switch

Hand switches

CAFH



Legend:
 (a) = 2 keys
 (b) = 4 keys
 (c) = 6 keys

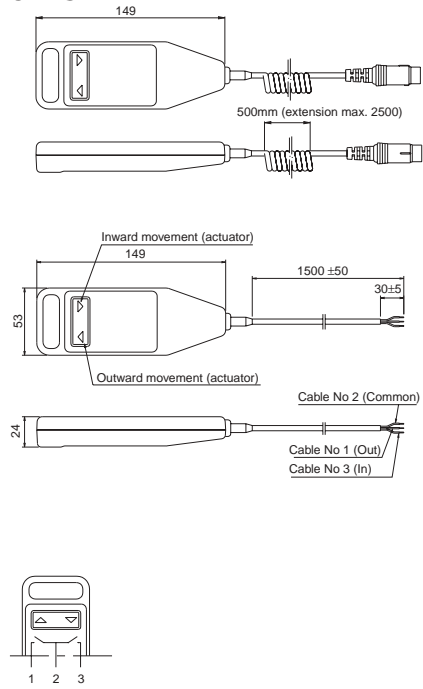
Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
CAFHM1	40 / 50	1	X4	black
CAFHM2	40 / 50	2	X4	black
CAFHM3	40 / 50	3	X4	black
CAFHM4	40 / 50	4	X4	black

Ordering code:

CAFHM1
 CAFHM2
 CAFHM3
 CAFHM4

Hand switches

CAES



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
31B	30/500	1	X4	black
31C	30/500	1	X4	black

Ordering code:

CAES 31B (version with DIN 5-pole plug)

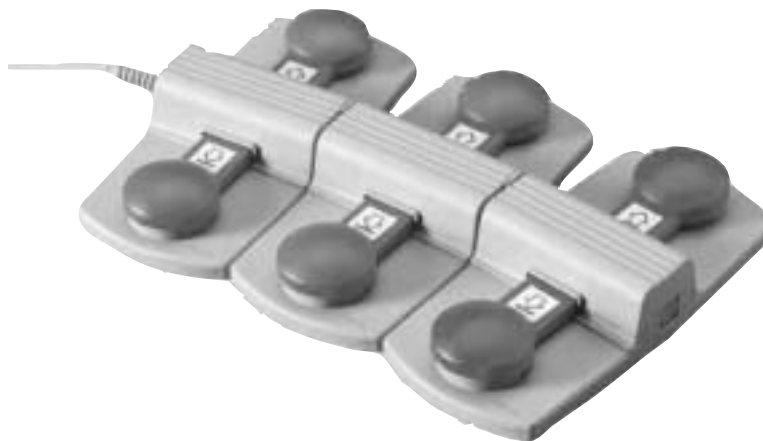
CAES 31C (version without plug)

Foot switches

With the electrical foot switches direct current actuators can be operated. The large-size buttons enable an easy and precise control of the actuators. Depending on the plug the foot switches can be used on different control units.

Benefits:

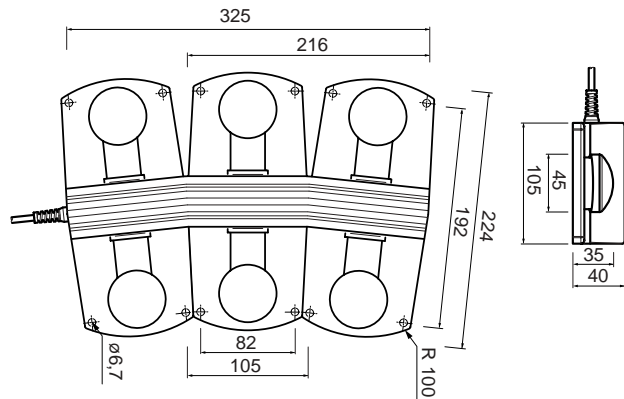
- Easy and precise
- Flexible and remote operation
- Ergonomic design
- Different plug options



Foot switches	Type	Operating power	Max. operating motors	Prot. class	Colour
		VDC/ mA	n°	IP	
ST	ST	12/50	3	X5	blue/anthracite
PFP	PFP	–	1	21	grey/anthracite
CAFHF	F1-DIN5	40/50	1	X4	anthracite
	F1-DIN7	40/50	1	X4	anthracite

Foot switches

ST



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
ST	12/50	3	X5	blue/anthracite

Ordering key

Type

Product group:

Standard
 For microprocessor units (only for KOM2)
 For first failure safety units (only for KOM6)

Voltage:

Not used

Number of channels:

1 channel
 2 channels
 3 channels

Cable/Connecting plug:

Straight cable with Dsub plug, 2,5 m
 Coiled cable with Dsub plug, 2,5 m
 Straight cable with FCC plug, 2,5 m

Colour:

Charcoal
 Blue

Options:

No options

Symbols:

Without symbols
 1-3 channels: arrow up/down (on each pair of keys)
 3 channels: arrow up/down, M/1, 2/3 (3 memory keys)

ST 0 - 000 - 00

F
G
H

0

1
2
3

0U
LU
0V

1
4

000

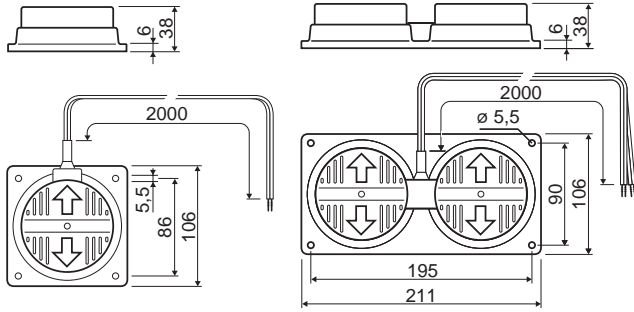
0 0
X 1
3 7

Accessories

Item	Symbol	Order number	Item	Symbol	Order number
Rubber feet		ZBE-135310	Symbol sticker	level down	135309-0008
Threaded expansion inserts		ZBE-521122	Symbol sticker	head up	135309-0009
Symbol sticker	arrow up	135309-0001	Symbol sticker	head down	135309-0010
Symbol sticker	arrow down	135309-0002	Symbol sticker	foot up	135309-0011
Symbol sticker	level up	135309-0007	Symbol sticker	foot down	135309-0012

Foot switches

PFP



PFP 1-130

PFP 2-130

Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
PFP 1	–	1	21	grey / anthracite
PFP 2	–	2	21	grey / anthracite

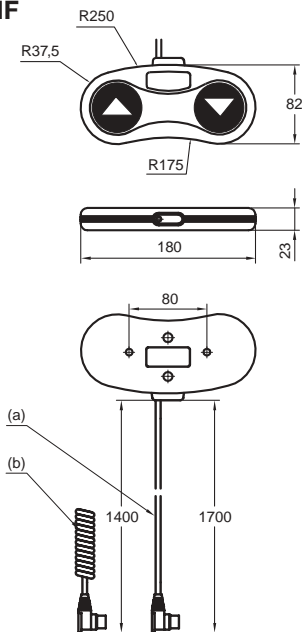
Ordering key

PFP 1 - 1 2 1 5 4 5

PFP 2 - 1 3 0 5 6 0

Pneum. hand switch

CAFHF



Type	Operating power	Max. operating motors	Prot. class	Colour	Suitable for
	Vd.c. / mA	n°	IP		
F1-DIN 5	40 / 50	1	X4	anthracite	CAFM M1/M2 and CAFC04 M1/M2
F1-DIN 7	40 / 50	1	X4	anthracite	CAFM M3 and CAFC04 M3

Legend:
 (a) = straight cable DIN5 or DIN7-pole-plug
 (b) = coiled cable DIN5 or DIN7-pole-plug

Ordering key

CAFHF F1-DIN

Type

Selection:

F1-DIN 5
 F1-DIN 7

5
 7

Desk switches

The desk switches serve for adjusting actuators in desks, chairs, couches and other adjustable furniture. They allow to operate up to 3 actuator functions, also with memory positions, and can easily be fitted to furniture without compromising the design.

Benefits:

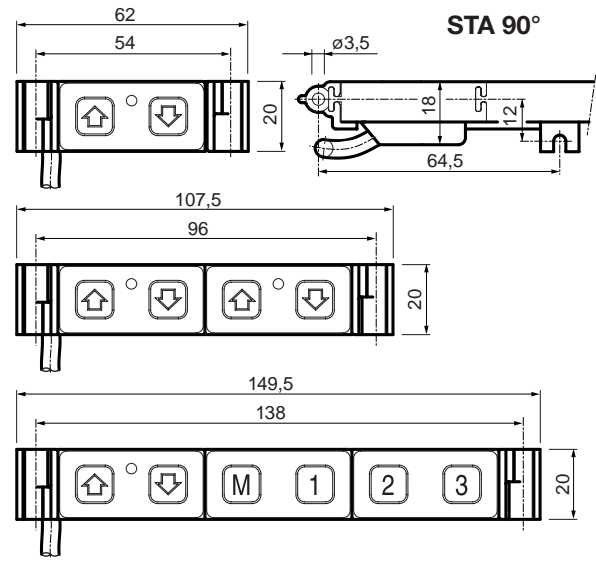
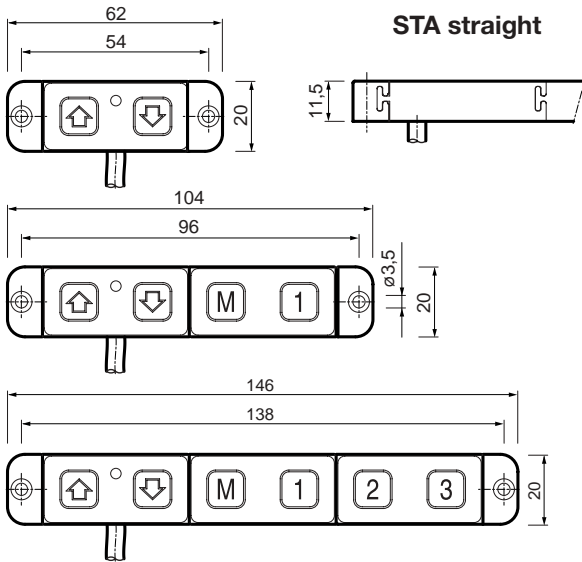
- Easy and precise
- Stylish design
- Memory position



Desk switches	Type	Operating power	Max. operating motors	Prot. class	Colour
		VDC/ mA	n°	IP	
ST	ST	12/50	3	X0	black
LD	LD	5/50	2	32	black
CAHT	T1	40/50	1	X4	black
	T2	40/50	2	X4	black

Desk switches

ST



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
ST	12/50	3	X0	black

Ordering key

ST 0 - 6 - 00

Type

Product group:

Standard
For microprocessor units (only for KOM2)

A
C

Voltage:

Not used

0

Number of channels:

1 channel
2 channels
3 channels

1
2
3

Cable/Connecting plug:

Straight cable with Dsub plug, 2.5 m
Straight cable with FCC plug, 1.5 m

0 U
WV

Colour:

Black

6

Options:

No options
Mounted on or underneath desktop, at a 90° angle

0 0 0
MAU

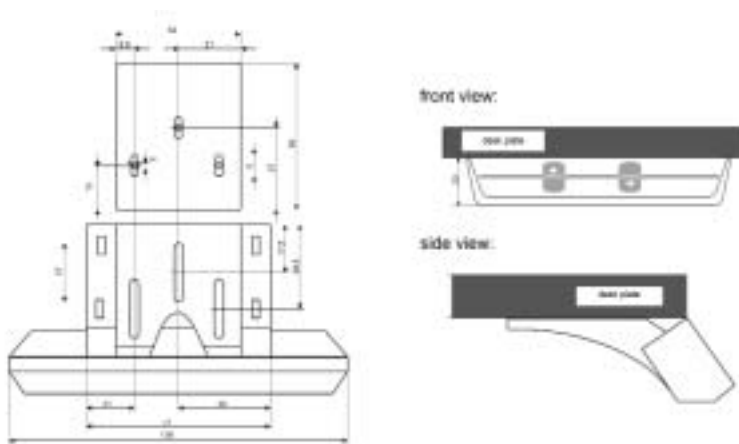
Symbols:

1-3 channels: arrow up/down (on each pair of keys)
3 channels: arrow up/down, M/1, 2/3 (3 memory keys)

X1
37

Desk switches

LD



Type	Operating power	Max. operating motors	Prot. class	Colour
	Vd.c. / mA	n°	IP	
LD	5/50	2	32	black

Ordering key

LD - 011 - -

Type

Number of channels:

1-channel, without display, for LD control units

1-channel, with memory keys, without display, for LD control units

1-channel, with memory keys, with display, for LD control units with FCC plug

1-channel, without memory and display, for TXG

1-channel, with memory keys, with display, for TXG

001 - 005

001 - 012

002 - 016

001 - 006

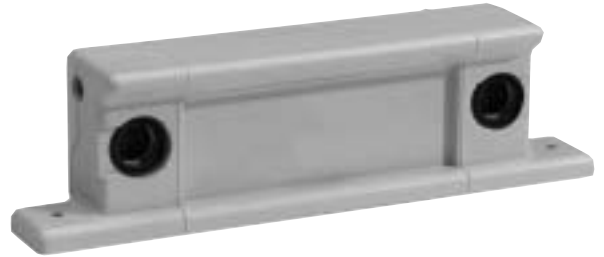
002 - 014

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Junction box

Junction box

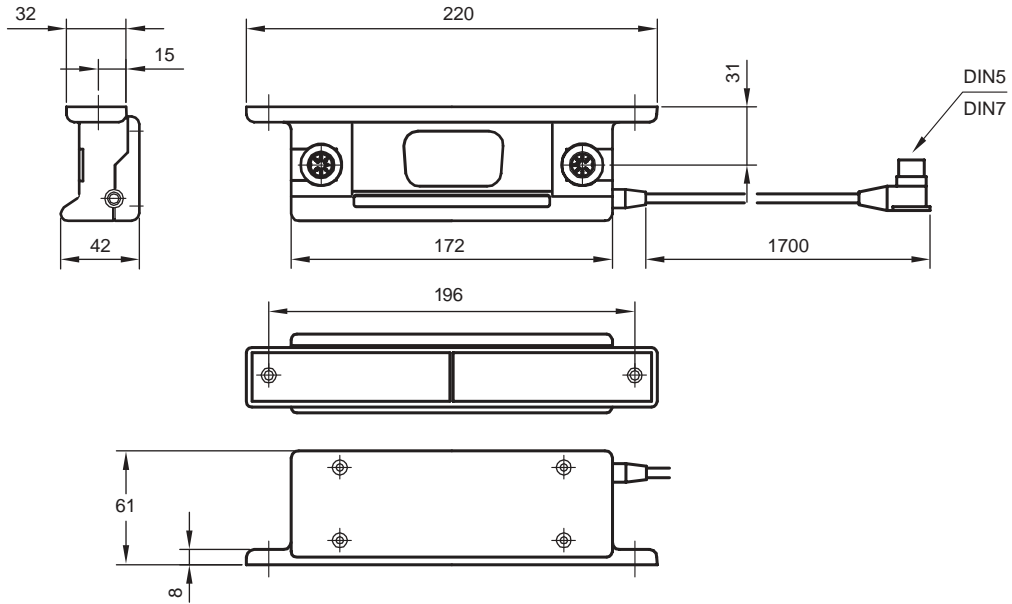
The junction box serves to connect 2 hand-, foot- or tableswitches in a complete system. They can be used with CAFM or CAFS.



Junction box	Type	Operating power	Max. operating connections	Prot. class	Colour
		Vd.c. / mA	n°	IP	
CAFR	DIN5	40/50	2	X4	grey
	DIN7	40/50	2	X4	grey

Junction box

CAFR



Type	Operating power	Max. operating motors	Prot. class	Colour	Suitable for
	Vd.c. / mA	n°	IP		
DIN5	40 / 50	2	X4	grey	CAF M1/M2 and CAF C04 M1/M2
DIN7	40 / 50	2	X4	grey	CAF M3 and CAF C04 M3

Ordering key

CAFR /

Type

Selection:

For DIN 5-pole

For DIN 7-pole

S238D

S239D

Easy3

SKF has put together actuator systems with component parts that are integrated to give you optimal safety and unbeatable reliability. Just switch the power on and you are ready for operation. The system can handle the indicated load with ease, in addition we have taken the extra precaution of building in adjustable end limits and overload protection to safeguard the equipment from impact damage.

Benefits:

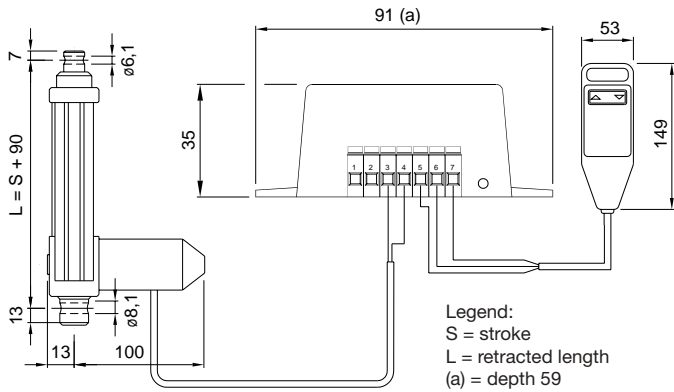
- Plug and play systems
- Easy to order
- Easy to install
- Easy to use



Type	Force		Max. speed		Stroke (S)	Retr. Length (L)	Voltage
	push	pull	no load	full load			
	N		mm/s		mm	mm	V
Easy3-01	500	500	16	10	50 - 200	S+90	24 DC
Easy3-02	600	600	31	17	50 - 200	S+215	24 DC
Easy3-03	2000	2000	12	8	100 - 300	S+150	24 DC
Easy3-04	2000	2000	14	9	100 - 300	S+150	230 AC
Easy3-05	2000	2000	14	9	100 - 300	S+150	230 AC
Easy3-10	7000	3000	7	4	100 - 200	S+190	230 AC
Easy3-11	7000	3000	7	4	100 - 200	S+190	230 AC
Easy3-12	7000	3000	7	4	100 - 200	S+190	230 AC
Easy3-13	7000	3000	7	4	100 - 200	S+190	230 AC

Easy3

Easy3-01



Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N	Vd.c.
EASY3-01	50 - 200	16 - 10	500	24

Ordering key

CATR11E301 ×

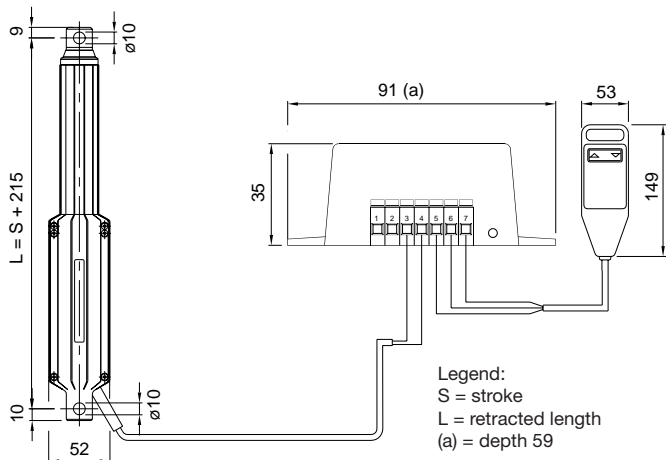
Kit type

Stroke (S):

50 mm
100 mm
200 mm

50
100
200

Easy3-02



Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N	Vd.c.
EASY3-02	50 - 200	31 - 17	600	24

Ordering key

CALA36E302 ×

Kit type

Stroke (S):

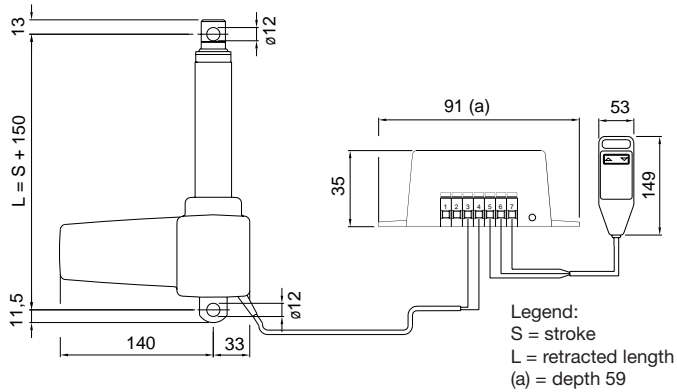
50 mm
100 mm
200 mm

50
100
200

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Easy3

Easy3-03



Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N	Vd.c.
EASY3-03	100-300	12-8	2000	24

Ordering key

CARE33E303 ×

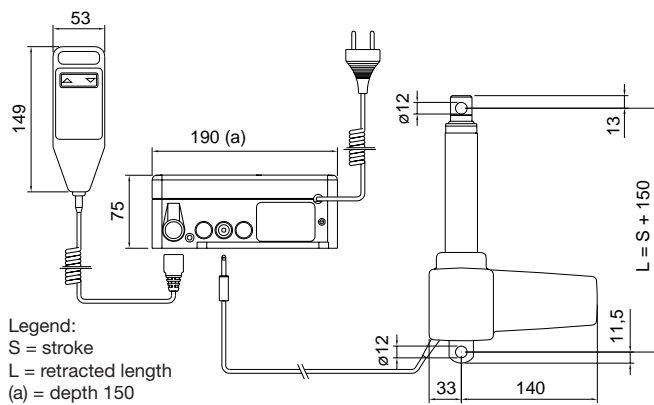
Kit type

Stroke:

100 mm
200 mm
300 mm

100
200
300

Easy3- 04



Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N	Va.c.
EASY3-04	100-300	14-9	2000	230

Ordering key

CARE33E304 ×

Kit type

Stroke:

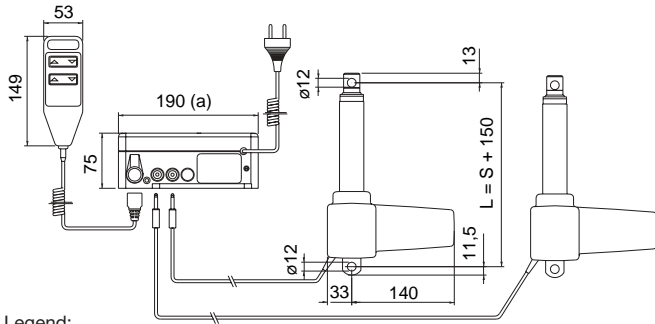
100 mm
200 mm
300 mm

100
200
300

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Easy3

Easy3-05



Legend:
S = stroke
L = retracted length
(a) = depth 150

Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N	Va.c.
EASY3-05	100-300	14-9	2000	230

Ordering key

CARE33E305 ×

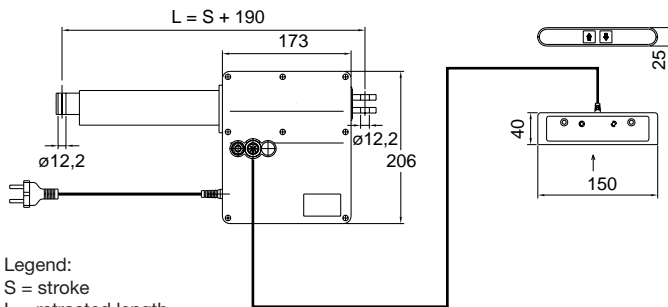
Kit type

Stroke (S):

100 mm
200 mm
300 mm

100
200
300

Easy3-10



Legend:
S = stroke
L = retracted length

Technical data	Stroke (S)	Linear speed	Max dynamic load	Supply voltage
	mm	mm/s	N push pull	Va.c.
EASY3-10	100-200	7-4	7000 3000	230

Ordering key

EASY3-10 ×

Kit type

Stroke:

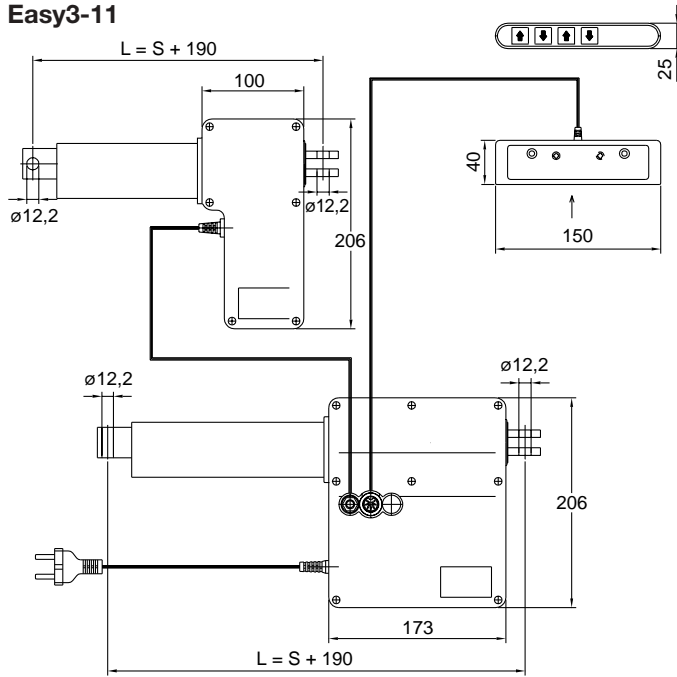
100 mm
150 mm
200 mm

100
150
200

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Easy3

Easy3-11



Legend:
S = stroke
L = retracted length

Technical data	Stroke (S)	Linear speed	Max dynamic load		Supply voltage
	mm		mm/s	push	
EASY3-11	100-200	7-4	7000	3000	230

Ordering key

EASY3-11 ×

Kit type

Stroke (S):

100 mm

150 mm

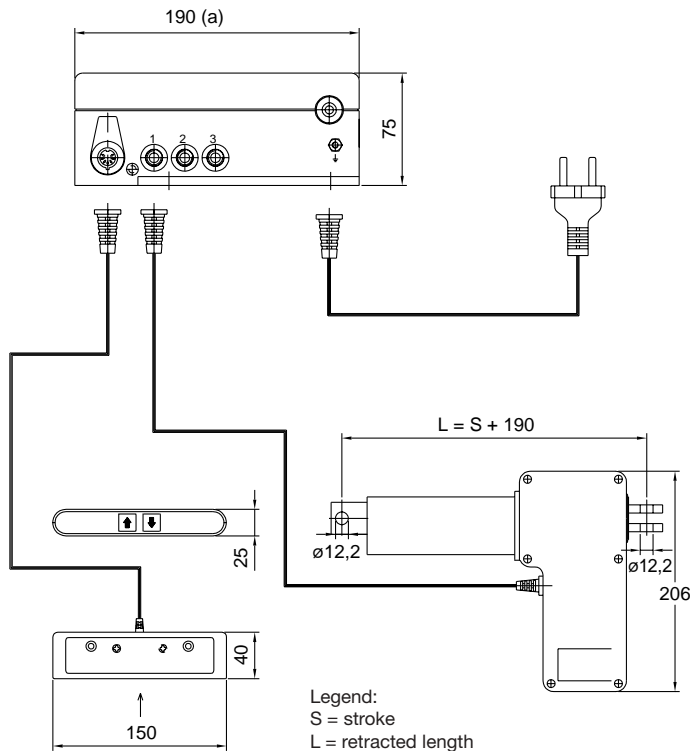
200 mm

100

150

200

Easy3-12



Legend:
S = stroke
L = retracted length
(a) = depth 150

Technical data	Stroke (S)	Linear speed	Max dynamic load		Supply voltage
	mm		mm/s	push	
EASY3-12	100-200	7-4	7000	3000	230

Ordering key

EASY3-12 ×

Kit type

Stroke (S):

100 mm

150 mm

200 mm

100

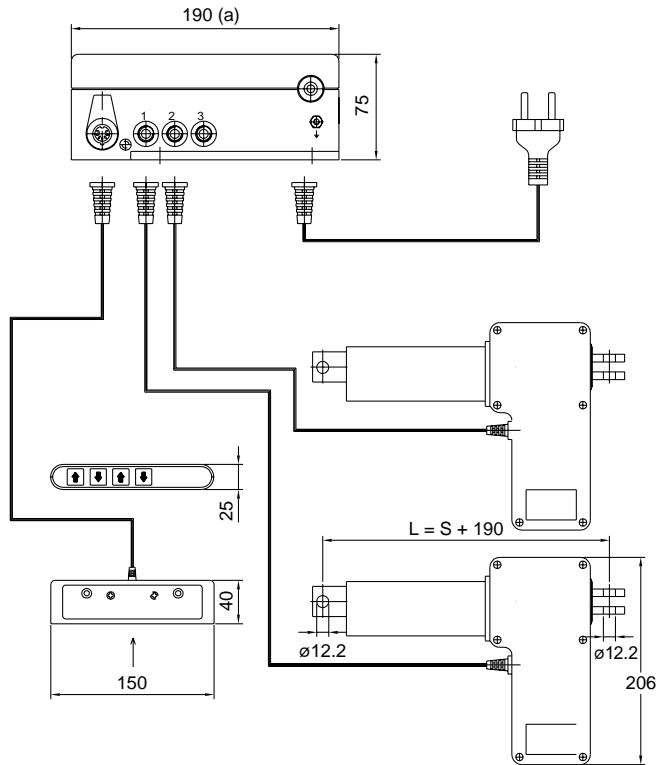
150

200

Options written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock. An ordering key made with ALL POSITIONS in BLUE qualify a product for this service.

Easy3

Easy3-13



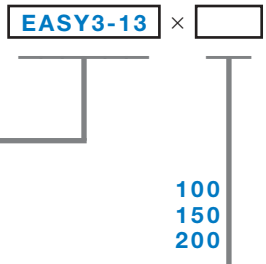
Legend:
 S = stroke
 L = retracted length
 (a) = depth 150

Ordering key

Kit type

Stroke (S):

100 mm
 150 mm
 200 mm



Technical data	Stroke (S)	Linear speed	Max dynamic load		Supply voltage
	mm		push	pull	
EASY3-13	100-200	7-4	7000	3000	230

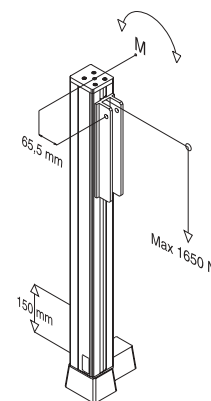
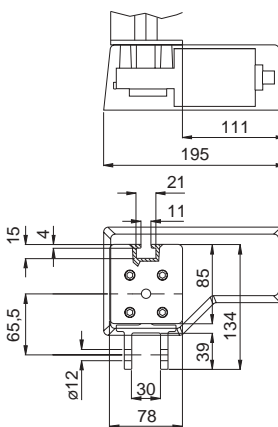
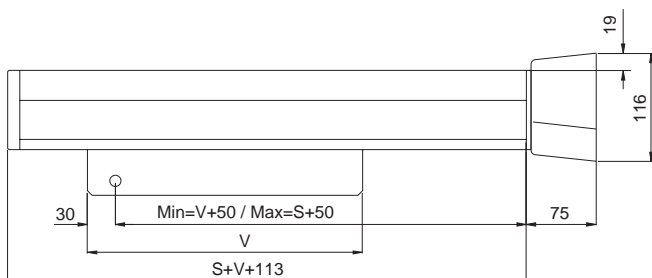
Linear drive profile

CAWA

The CAWA is a powerful, sturdy yet compact linear drive unit designed for vertically hanging loads. Its smooth operation and clean lines make it especially suitable for use in patient lifters and similar applications. The CAWA can easily be mounted in an application using the T-slot running the full length of its body. There are 54 combinations of stroke length and carriages available as standard.

Benefits:

- Dedicated design for mobile hoists
- Complete linear bearing and guiding solution



Type	Force push	Max. speed no load	Max. speed full load	Stroke (S)	Voltage	Protection	Weight
	N	mm/s		mm	V	IP	Kg
CAWA	1650	22	4	500 - 1000	24 DC	30	10-15

Notice! Please contact SKF for information regarding configuration and availability for this product

Rotary actuators

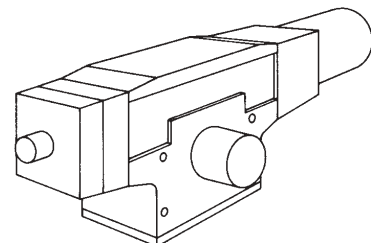
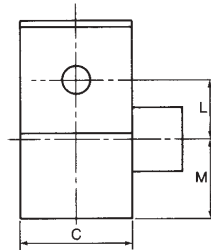
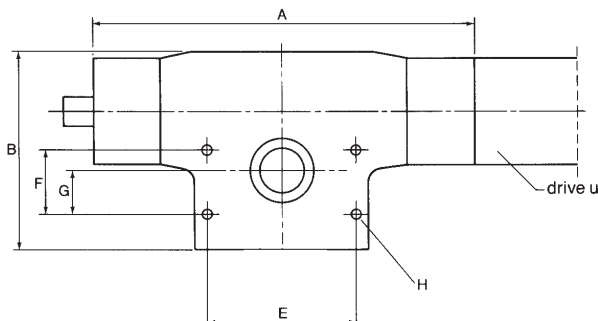
CRAB

SKF Rotary Actuators are designed to provide partial rotary motion. Fast or slow. Heavy or light duty. Complex or simple arrangements. The design of the rotary actuator enables very high torque. Furthermore, the power requirements are modest and the degree of efficiency is high. You can select the zero-backlash versions for maximum precision. Our other models provide reliable operation at a lower cost. With SKF Rotary Actuators you have complete units which are maintenance and lubrication-free.



Benefits:

- Ready to build in component
- Outdoor application
- Elasticity negligible



Type	Max. angular working range	Gear ratio		Max. angular speed	Efficiency factor		Max. instantaneous output torque	Max. axial load	Max. tilting torque	Backlash		Start torque	Temperature range	Weight
		Ball screw	Acme screw		Ball screw	Acme screw				Ball screw	Acme screw			
	°			°/sec.	%	%	Nm	N	Nm	°	°	Nm	°C	Kg
CRAB 10	135	-	1:110	180	-	30	75	5000	160	-	±0.35	≈0.3	-20 +60	5
CRAB 11	135	-	1:74	120	-	30	200	5000	160	-	±0.30	≈0.3	-20 +60	7
CRAB 12	125	1:44	-	120	75	-	200	5000	160	±0.05	-	≈0.3	-20 +60	7
CRAB 13	∞	-	1:38	120	-	40	150	5000	160	-	±0.35	≈0.3	-20 +60	6
CRAB 17	∞	-	1:52	180	-	50	200	5000	100	-	±0.25	≈0.3	-20 +60	3
CRAB 20	360	1:56	1:71	90	75	30	400	1000	1120	0.0	±0.20	≈0.5	-20 +60	9
CRAB 30	360	1:88	1:88	60	75	30	1000	1500	3465	0.0	±0.15	≈1.0	-20 +60	25
CRAB 40	360	1:113	1:94	45	75	30	1700	2000	6240	0.0	±0.10	≈2.0	-20 +60	42

Spare parts

Spare parts

CAR 22 – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor	D12B
24 V DC-motor	D24B
Limit switch for stroke = 50 mm	CAXB 22×50
Limit switch for stroke = 100 mm	CAXB 22×100
Limit switch for stroke = 150 mm	CAXB 22×150
Limit switch for stroke = 200 mm	CAXB 22×200
Limit switch for stroke = 300 mm	CAXB 22×300
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-22
Front mounting attachments type Clevis	576-22
Rear mounting attachments type Single ear bracket	580-22
Rear mounting attachments type Ball-joint bracket	581-22
Control unit	CAED 5-24R
Control unit	CAEN 10R
Handset	CAES 31C
Hand set	CAES 31B

CAR 32 – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor	D12C
24 V DC-motor	D24C
220 V AC-motor	E220C
24 V DC-motor (flat motor - low speed)	D24CW
24 V DC-motor (flat motor with extended shaft)	D24CS
24 V DC-motor (flat motor with brake)	D24CB
220 V AC-motor (cylindric motor with brake)	E220CB
110 V AC-motor (cylindric motor)	E110C
Capacitor value 3 µF, 4 µF, 6 µF, 8 µF, 12 µF	Capacitor xx µF
Limit switch for stroke = 50 mm	CAXB 32×50
Limit switch for stroke = 100 mm	CAXB 32×100
Limit switch for stroke = 200 mm	CAXB 32×200
Limit switch for stroke = 300 mm	CAXB 32×300
Limit switch for stroke = 500 mm	CAXB 32×500
Limit switch for stroke = 700 mm	CAXB 32×700
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32
Control unit	CAED 5-24R
Control unit	CAED 9-24R
Control unit	CAEN 10R
Control unit	CAEV 110/120
Handset matched for CAEN unit	CAES 31B
Handset matched for CAED or CAEV units	CAES 31C

Spare parts written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock.

Spare parts

CAR 40 – Ordering codes for accessories and spare parts

Item	Code (Order number)
24 V DC-motor	D24D
220 V AC-motor	E220D
Capacitor value 3 µF, 4 µF, 6 µF, 8 µF, 12 µF	Capacitor xx µF
Limit switch for stroke = 100 mm	CAXB 40×100
Limit switch for stroke = 300 mm	CAXB 40×300
Limit switch for stroke = 500 mm	CAXB 40×500
Limit switch for stroke = 700 mm	CAXB 40×700
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-40
Front mounting attachments type Clevis	576-40
Rear mounting attachments type Single ear bracket	580-40
Rear mounting attachments type Ball-joint bracket	581-40

CAP 32 – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor	D12C
24 V DC-motor	D24C
24 V DC-motor (flat motor - low speed)	D24CW
24 V DC-motor (flat motor with extended shaft)	D24CS
24 V DC-motor (flat motor with brake)	D24CB
220 V AC-motor (cylindric motor with brake)	E220CB
220 V AC-motor	E220C
Capacitor value 3 µF, 4 µF, 6 µF, 8 µF, 12 µF	Capacitor xx µF
Limit switch for stroke = 50 mm	CAXB 22×50
Limit switch for stroke = 100 mm	CAXB 22×100
Limit switch for stroke = 200 mm	CAXB 22×200
Limit switch for stroke = 300 mm	CAXB 22×300
Limit switch for stroke = 500 mm	CAXB 32×500
Limit switch for stroke = 700 mm	CAXB 32×700
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32

CARN 32 – Ordering codes for accessories and spare parts

Item	Code (Order number)
Limit switch for stroke = 50 mm	CAXB 32×50
Limit switch for stroke = 100 mm	CAXB 32×100
Limit switch for stroke = 200 mm	CAXB 32×200
Limit switch for stroke = 300 mm	CAXB 32×300
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32

Spare parts written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock.

Spare parts

CCBR 32 – Ordering codes for accessories and spare parts

Item	Code (Order number)
Limit switch for stroke = 50 mm	CAXB 32×50
Limit switch for stroke = 100 mm	CAXB 32×100
Limit switch for stroke = 200 mm	CAXB 32×200
Limit switch for stroke = 300 mm	CAXB 40×300
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	575-32

CAT 33 – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor (cylindrical motor)	C12C
24 V DC-motor (cylindrical motor)	C24C
12 V DC-motor (flat motor)	D12C
24 V DC-motor (flat motor)	D24C
24 V DC-motor (cylindric - low speed)	C24CW
24 V DC-motor (flat motor - low speed)	D24CW
24 V DC-motor (flat motor with extended shaft)	D24CS
24 V DC-motor (flat motor with brake)	D24CB
220 V AC-motor (cylindric motor with brake)	E220CB
220 V AC-motor (cylindrical motor)	E220C
Capacitor value 3 µF, 4 µF, 6 µF, 8 µF, 12 µF	Capacitor xx µF
Limit switch for any stroke	CAXC33
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32
Control unit	CAEN 10R
Control unit	CAEV 110/220
Control unit	CAED 3-24R
Control unit	CAED 5-24R
Control unit	CAED 9-24R
Handset	CAES 31B
Handset	CAES 31C

CAT 33H – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor (cylindrical motor)	C12C
24 V DC-motor (cylindrical motor)	C24C
12 V DC-motor (flat motor)	D12C
24 V DC-motor (flat motor)	D24C
220 V AC-motor (cylindrical motor)	E220C
Capacitor value 3 µF, 4 µF, 6 µF, 8 µF, 12 µF	Capacitor xx µF
Limit switch for any stroke	CAXC33
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32

Spare parts written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock.

Spare parts

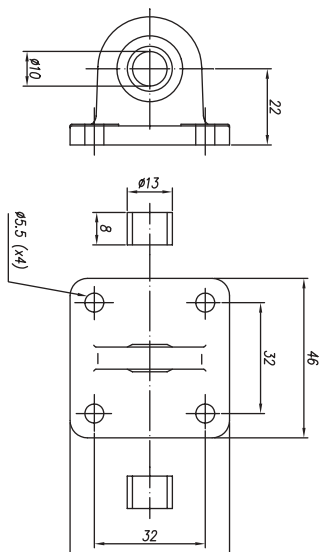
CAT 32B – Ordering codes for accessories and spare parts

Item	Code (Order number)
12 V DC-motor (cylindrical motor)	C12C
24 V DC-motor (cylindrical motor)	C24C
12 V DC-motor (flat motor)	D12C
24 V DC-motor (flat motor)	D24C
220 V AC-motor (cylindrical motor)	E220C
Capacitor value 3 μ F, 4 μ F, 6 μ F, 8 μ F, 12 μ F	Capacitor xx μ F
Limit switch for stroke = 50 mm	CAXB 32×50
Limit switch for stroke = 100 mm	CAXB 32×100
Limit switch for stroke = 200 mm	CAXB 32×200
Limit switch for stroke = 300mm	CAXB 32×300
Limit switch for stroke = 500mm	CAXB 32×500
Limit switch for stroke = 700mm	CAXB 32×700
Proximity switch for CAXB	CAXB Prox. Switch
Front mounting attachments type Rod-end	575-32
Front mounting attachments type Clevis	576-32
Rear mounting attachments type Single ear bracket	580-32
Rear mounting attachments type Universal joint	582-32
Control unit	CAEN 10R
Control unit	CAEV 110/220
Control unit	CAED 3-24R
Control unit	CAED 5-24R
Control unit	CAED 9-24R
Handset	CAES 31B
Handset	CAES 31C

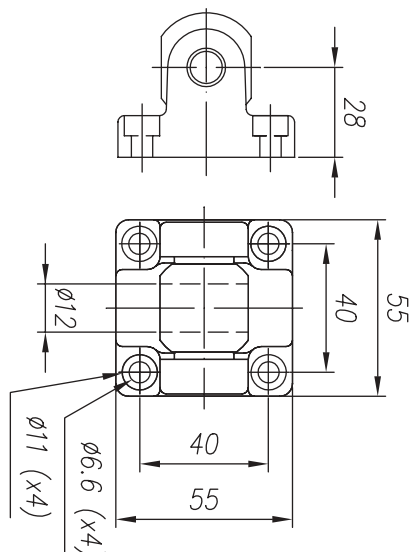
Spare parts written in BLUE text are included in the Easy Range concept, which is our special service range for quick delivery from stock.

Spare parts

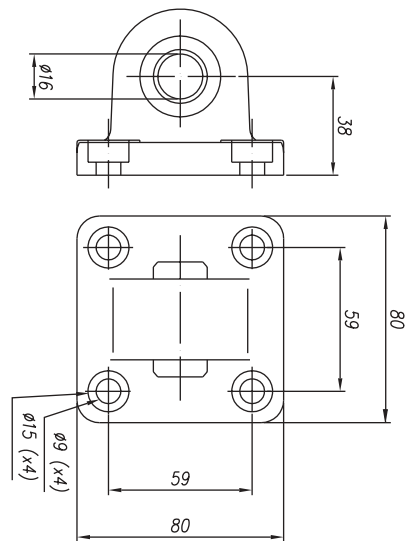
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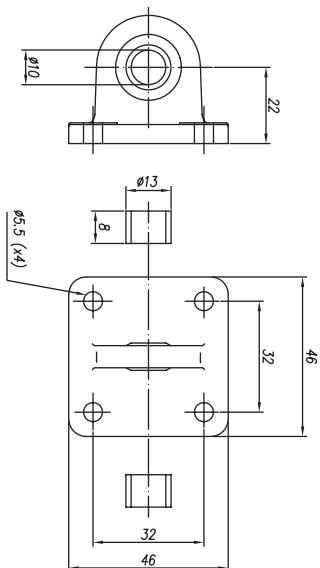
580-32



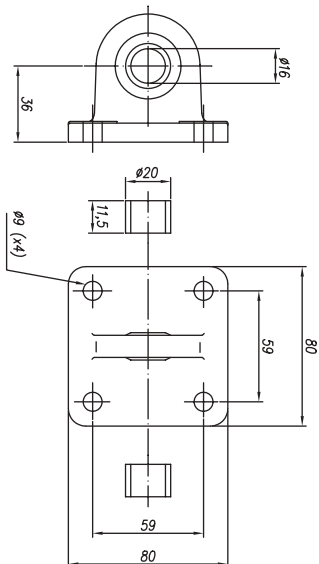
580-40



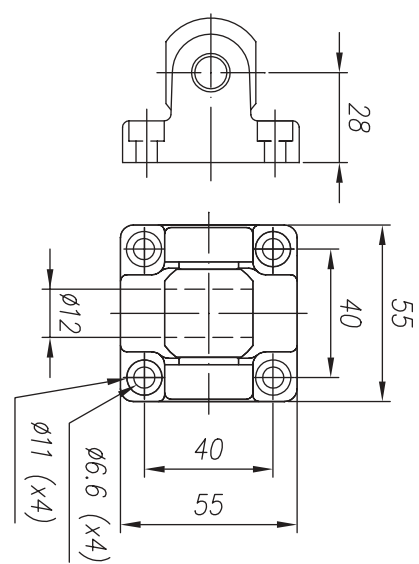
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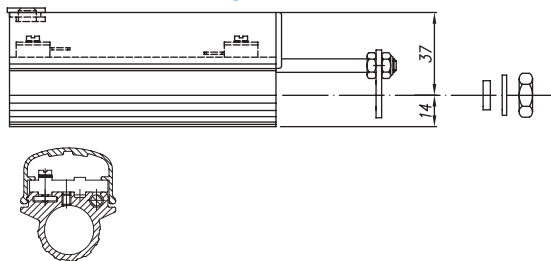
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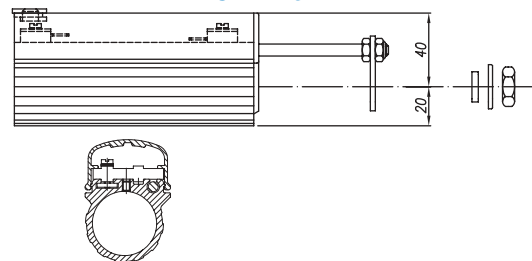
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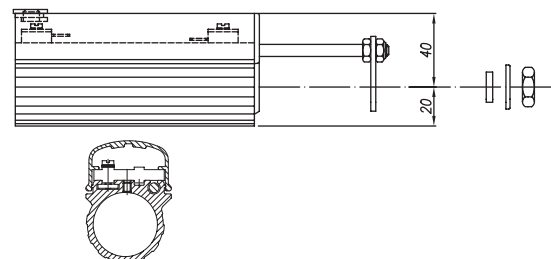
CAXB 22



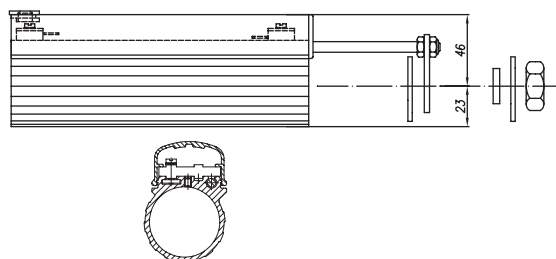
CAXB 32B



CAXB 32

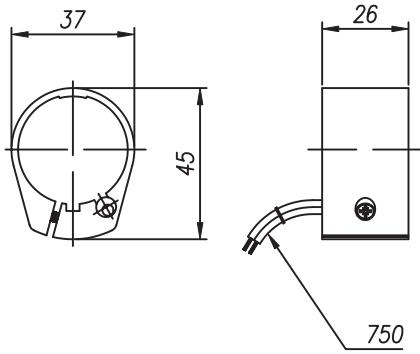


CAXB 40

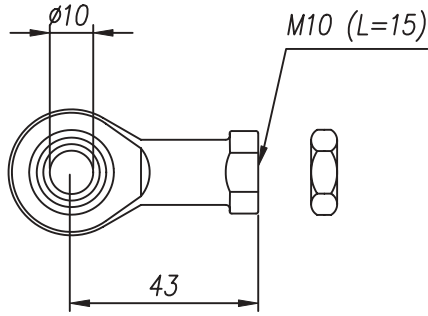


Spare parts

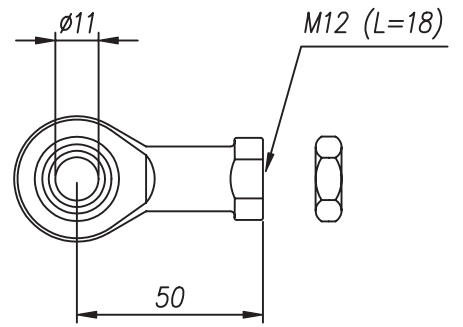
CAXC 33



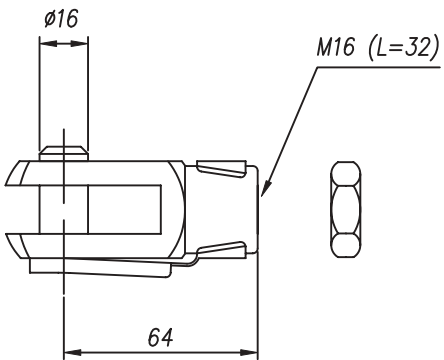
575-22



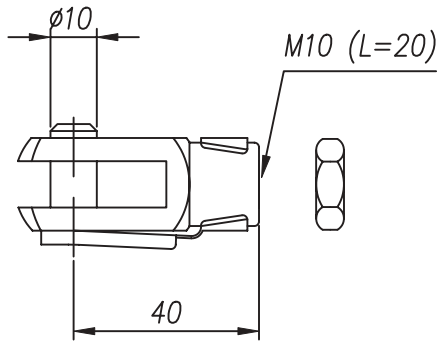
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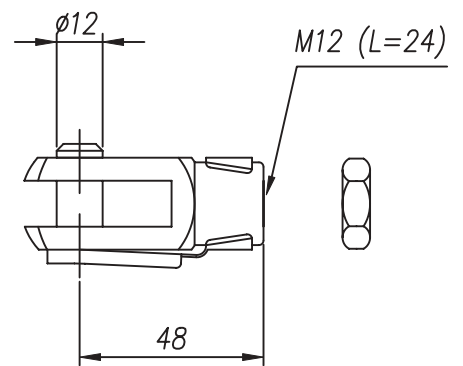
575-40



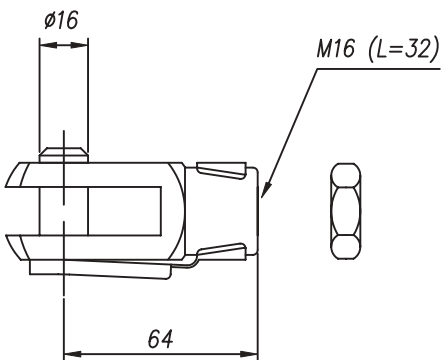
576-22



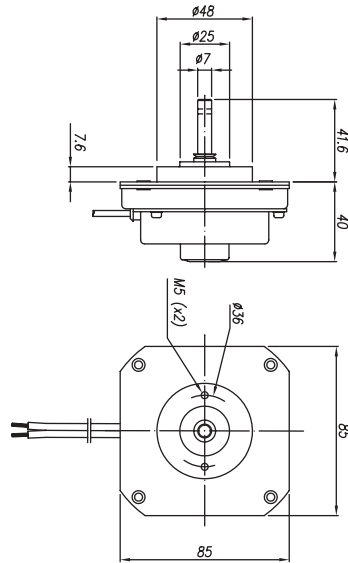
576-32



576-40

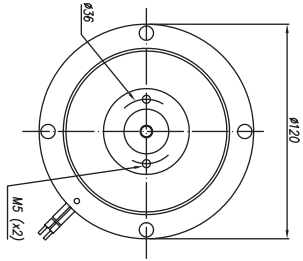
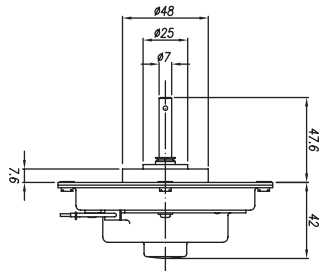


D12B/D24B

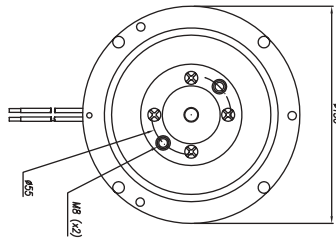
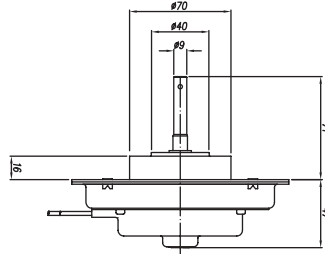


Spare parts

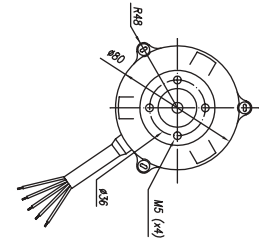
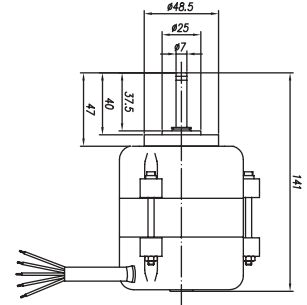
D12C/D24C



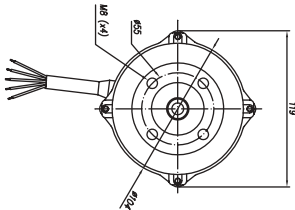
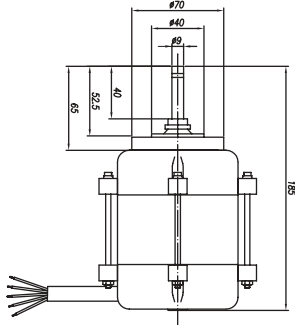
D24D



E220C



E220D



Straighten things out

Linear speed

Linear speed is the term used when we talk about the distance, in millimetres, the tube in an actuator moves linearly over a given period of time (mm/sec.), moving a load from its starting point to a new position. The speed can vary in different ways, depending, for example, on the motor employed. Actuators with direct current (DC) motors have a speed variation directly proportional to the load on the device. That is to say, the larger the load, the lower the speed and vice versa. Actuators with alternating current (AC) motors move at a constant speed, which is not affected by the load on the actuator. Other factors affecting speed include ambient temperature and how well or poorly the actuator is integrated within an application. An actuator integrated in such a way that it is subject to uneven loads wears abnormally, which results in increased friction forces and decreased speed.

Dynamic load

Maximal dynamic load refers to the maximum total weight or mass the actuator can move. Often, the decisive factor for maximal load is the size of the motor and the gearing employed. When an actuator is subject to loads exceeding the maximum stated value, the device simply stops. Certain actuator types have an integral mechanical safety device similar to a slip-clutch, designed to protect the motor and gears from damage. Electrical limit switches are another alternative. These protect the actuator from damage caused by excessive electrical current. All such safety devices are part of an operating system and it is important to be aware of them when using SKF actuators with other operating equipment.

Static load (value not available in this brochure)

Maximal static load refers to the weight or mass that an actuator can be subjected to when standing still without causing permanent damage or causing the actuator to start “going backwards”.

Subjecting an actuator to loads in excess of stated values can risk permanent deformation to some part of the actuator. N.B. Remember that in many applications and installations, it is not the weight applied directly but rather the load caused by leverage or similar forces acting on the actuator that are the decisive factor. An actuator is strongest in its shortest position and weakest in its outermost, most extended position.

DC motors

An electric motor powered by direct current electricity (12-48V DC) that can be run on batteries. These motors are suitable for use in situations where you want to be able to move the product easily and do not want a cable in the way. The speed of a DC motor is directly proportional to the load, i.e., the motor moves slowly under maximum load and fastest when run with no load at all. In many applications the actuator works both pushing and pulling, which means that the load works to “assist” in one direction and “resist” in the other. Consequently, considerable speed variations can arise.

AC motors

An electric motor powered by alternating current electricity (230-400V AC), which requires an electrician for its connection. Start-up properties can be improved with various accessories and different methods of connection. There are many standard accessories available for control and regulation of an AC motor. An AC motor is best suited to non-mobile products, i.e., fixed installations, often in industrial environments. An actuator with an AC motor is less sensitive to load variations and maintains virtually the same speed regardless of load. The normal working temperature for this type of motor is 70 °C. An AC motor has few moving parts that wear and is consequently rugged and has a long life span.

Retracted length

“Retracted length” is an expression for the shortest distance between the two fixed points on an actuator when the actuator is in its innermost position. The dimensions given reflect a measurement from the centre of the mounting holes, which means that the actuator requires a few millimetres beyond the given “retracted length” in order to fit. Remember that very few actuators are symmetrical. Thus it is important to note other dimensions as well for optimum fit and integration of the actuator. An actuator should always be mounted, insofar as is possible, so that it works linearly over its entire working range.

Duty factors

A technical term expressing how long a motor can handle non-stop operation before it becomes overheated or otherwise damaged. It should be noted that “Duty Factor”, whether expressed as a percentage or time, varies depending on the working load for the motor. The duty-cycle tells how often an actuator will be in operation within an application and the amount of time between operations. Because of the power lost due to inefficiency dissipated as heat, the actuator component with the lowest allowable temperature – usually the motor – sets the duty-cycle limit for the complete actuator. Although, there is some heat loss from friction in the gearbox and by ball-screw and acme-screw drive systems. An example of a duty cycle calculation: assume an actuator runs for 10 seconds cumulatively, up and down, and then does not run for another 40 seconds. The duty cycle is $10/(40+10)$, or 20%.

Temperature

Ambient work site temperature can be highly significant when making a choice between different actuators. Extreme heat or cold can reduce the working capacity of the equipment. If the equipment is used in temperatures as low as about – 20°C, for instance, the lubricant can harden and impair the efficiency of the motor. If the tempera-

Straighten things out

tures climb up towards 50°C, for instance, the grease can melt so that it drains away from the screw system, resulting in reduced or eliminated lubricant effect and increasing the risk of overheating in the motor.

Power consumption

An expression of how much electricity the motor uses when working. For DC motors the power consumption is directly proportional to the load, and for AC motors the power consumption is constant. With alternating current, power consumption is low, so simple cabling and other inexpensive accessories suffice. Installation is easy and the components are readily available. With battery operation, it is often adequate to use a small, lightweight battery that does not require much space and is relatively inexpensive.

Supply voltage

Supply voltage is a measure of the voltage supplying a system, regardless of whether it employs AC or DC motors.

Properties of the sliding screw

Sliding screws are manufactured from rolled steel and the nut is made of plastic. This is a relatively cost effective design with favourable properties: plastic and metal work well together

without binding. Also, actuators incorporating sliding screws usually offer a price advantage over those built around other types of screws. The sliding screw works very quietly, which means that it is well suited for office environments, hospitals, etc. Another significant advantage is the high friction coefficient in the sliding screw. This design is particularly well suited for actuators used in applications where they should be self locking, i.e., will not begin “moving backwards” under the weight of the load. For instance, when using the actuator to drive vertically adjustable tables, a sliding screw design allows you to put heavy loads on the surface of the table without changing its vertical position. In short, this means that no additional locking mechanism or brake will be necessary to keep the actuator in position when it is not in operation (however, e.g., in extreme vibrating application types additional arrangements may be needed to prevent back driving).

Properties of ball screws

The ball screws incorporated in SKF actuators are manufactured entirely of steel and equipped with a row of bearings located in a closed system between the nut and screw. The design yields extremely low friction coefficients between the nut and the screw,

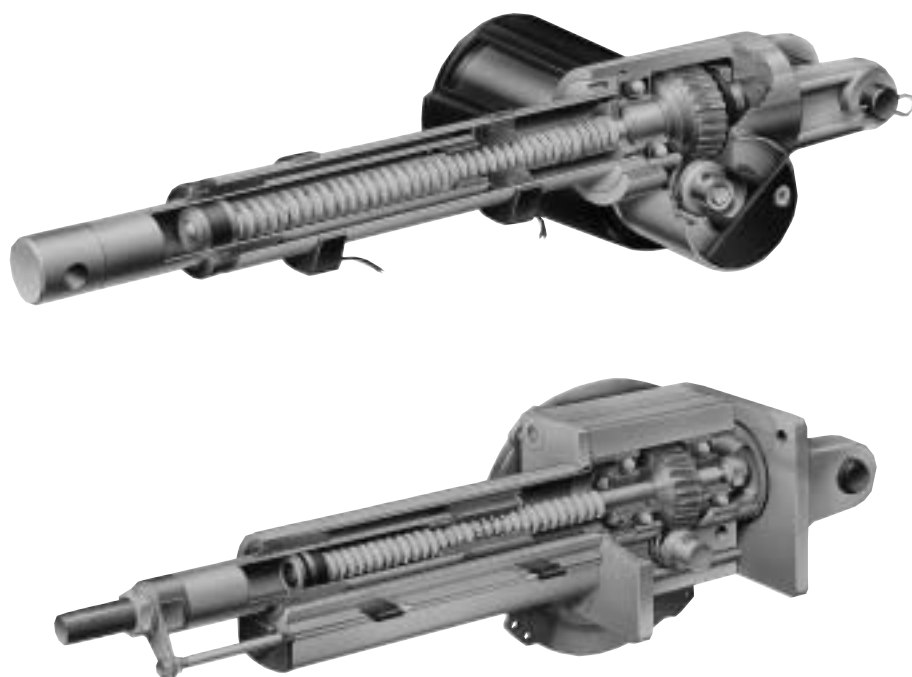
because of the rolling contact between the balls, the nut and raceway (similar to ball bearings). Wear is significantly reduced compared with a sliding screw, which results in a life span 10 times longer for a ball screw under the same working conditions. The durability of the screw also means that it tolerates extreme loads as well as high duty cycles. Thanks to its low frictional resistance, the ball screw can maintain a very low operating temperature. As a consequence, the ball screw is particularly well suited in situations where it is required to operate over long periods at high speeds. High efficiency is one of the main characteristics of ball screws. Thanks to this high efficiency, it is possible to use a motor half the size compared to a sliding screw design. This means that, as a user, you obtain a more economical solution. An actuator based on a ball screw has minimal play, and consequently its precision is significantly higher in applications where positioning and repetitive precision are important.

Self-locking

This property of the actuator means that it will not continue to move under the weight of the load after it has been switched off. The self-locking ability depends on the total efficiency of the actuator. If an actuator is not self locking the function can be obtained by using a brake. On DC-motors, the motor has to be short circuited. Self-locking load can under certain circumstances not be completely ensured on all actuator models due to the type of application being run (e.g., high vibration levels)!

Alignment

It is important that the product is mounted properly from the beginning. If the actuator is improperly installed, normal operation may cause significant damage, which can in turn result in poor performance or even a complete breakdown. Remember, therefore, to carefully follow the accompanying mounting instructions. Naturally, you can turn to your supplier or distributor whenever you have questions about our products.



Important considerations

Installation and operation

A user instruction manual and electrical wiring diagram always accompany the actuator on delivery. Make sure that the instructions contained in the package are always carefully followed and do not hesitate to turn to your supplier or distributor should you have any questions.

Maintenance

An actuator does not require any special maintenance on the part of the user. The only thing you should remember to do regularly is to put a drop of oil on the extension tube. This should be done to maintain the seal between the protection tube and the extension tube. A well-functioning sealing washer protects the actuator from moisture and dust. By observing this simple measure, you considerably extend the life span of your actuator.

Safety

Many actuators have a back-up nut that comes into play and starts working should the regular nut rupture or break down. For reasons of safety, the actuator may never be subject to loads greater than those stated in our instructions. If overloaded, the actuator forces the motor to work harder, which can cause the motor to burn out in a short time. With extreme loads, the motor can be damaged after just a couple of minutes. Overloading can even cause mechanical defects, such as damage to the nut, screw and gears, which can later cause the device to fail to deliver its stated performance and reduce its life span.

Warning

The most important thing to remember when installing actuators is not to exceed the max. load values stated for the actuator in question. Actuators may never be subjected to radial forces. An actuator is frequently used under maximum capacity and poses a significant risk of injury by crushing in circumstances where safety equipment is not in place and where the actuator is unprotected and accessible. An actuator used improperly can be dangerous.

Troubleshooting

If the actuator does not function:

- 1a Measure the voltage between the actuator and the motor connection block.
- 1b If there is current and the motor is not running - the motor is faulty.
- 1c If there is no current - the control unit is faulty.

For further help and information, contact your dealer.

Glossary

Anti-pinching (electric)

A safety option that is available on certain SKF actuators. It shuts-off the motor when an external force is applied in the opposite direction to the direction of travel.

Anti-pinching (mechanical)

This safety mechanism allows the actuator to push but not pull or pull but not push. This feature is designed to prevent injury to persons due to being trapped by the force of the actuator.

Back up nut

A nut, usually metal, of greater anti-shear strength than the drive nut and which only makes contact with the threads of the spindle when the threads of the drive nut fail.

Emergency lowering

The emergency lowering safety feature enables the actuator to be lowered in the event of a power failure or malfunction. This option is used in most medical & care applications.

Encoder

A rotary or linear sensing device that, when connected to a control unit, can be used to determine the position of an electric linear actuator.

First failure safety

First Failure Safety is a control system utilising redundant micro processors in which one processor monitors the functions of the other and shuts down the system if a malfunction in the microprocessor occurs.

Hall sensor

A sensor whose output changes based on changes in magnetic flux. Typically used for RPM, position, or current measurement.

IP protection

This standard describes a system for classifying the degrees of protection required by the enclosures of electrical equipment. Developed by the European Committee for Electro-technical Standardization (CENELEC), these standards are designed to numerically rate an electrical product based on the level of protection its enclosure provides.

Limit switches

A switch used to limit motion or travel in a particular direction. Mechanical devices that when activated open or close an electrical contact. When the contact is closed voltage will flow through the switch, when open no voltage will flow through the switch. Limit switches come in various physical sizes and configurations and can be mounted internally or externally.

Potentiometer

The potentiometer is a displacement transducer. It incorporates the sensor and transducer function into one. A typical potentiometer consists of a uniform coil of wire of an element of high resistance such as carbon, platinum or conductive plastic. This uniform coil makes up the resistive element of the potentiometer whose resistance is proportional to its length.

Pull force

The maximum retracting force that an electric linear actuator can produce in Newton (N). Some SKF actuators do not produce equal push and pull forces and others do not permit pull force at all.

Push force

The maximum extending force that an electric linear actuator can produce in Newton (N). Some SKF actuators do not produce equal push and pull forces and others do not permit pull force at all.

Stroke length

Describes the length in millimetres that an electric linear actuator will extend or retract. Most standard products are available in increments of 50 mm or 100 mm. Customer specific lengths are available, minimum order quantities apply.

Thermal protection

Protects drives and control units from overheating. A device that signals when an electrical assembly becomes too hot. The signal usually causes the shut-off of the electrical device.

SKF Actuation Systems - Product groups



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Telescopic pillars



Rotary actuators

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