EWELLIX

MAKERS IN MOTION

Electric cylinders CASM-32/40/63

Electric cylinders CASM-32/40/63

Features

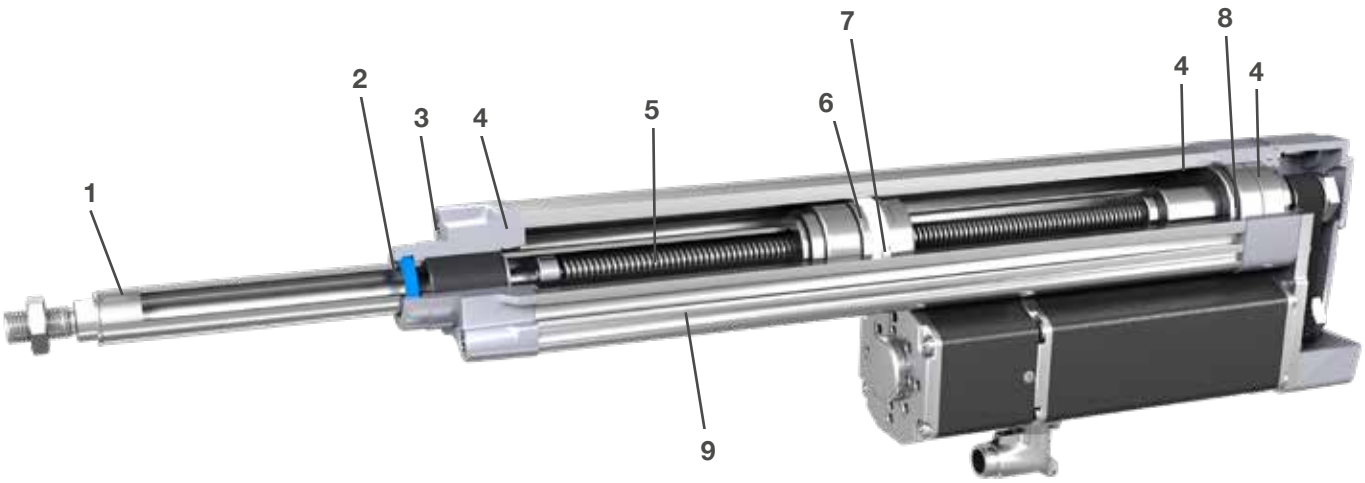
- Modular cylinder system in three different sizes
- Three different screws for each cylinder size
- Inline and parallel (belt) gearboxes
- Customized motor adapter plate
- Meets ISO-15552 standards
- High level of precision and repeatability
- Wide range of accessory parts

Benefits

- Optimal for a wide range of power and lifetime requirements
- Wide range of speed and force
- Mechanically fits most applications
- Fits most of brushless DC and servo motors
- Easy to replace pneumatic cylinders
- Accurate positioning (depending upon feedback system of the motor)
- Flexibility in mounting cylinders

Product description

CASM electric cylinders are ideally suited to perform fast and powerful linear movements. Unlike pneumatic or hydraulic cylinders, CASM electric cylinders are flexible and thus can be positioned precisely. In addition, due to a reduced number of components, the whole system is more cost effective, resulting in lower energy and maintenance costs.
The CASM modular concept enables easy connection to your preferred motor and control system. This can reduce design and programming costs considerably.
Thanks to high grade materials, a sealing system with IP54S level protection and high quality manufacturing, CASM electric cylinders can also be used long term even under adverse conditions.
The low backlash design provides positioning precision of up to ± 0,01 mm. Together with various screws for different speeds and forces, CASM electric cylinders are the optimum solution for a variety of applications.



1. Stainless steel push tube
2. Shaft seal to protect against contaminants ingress
3. Sinter filter for high airflow
4. Flat seal between housings
5. High quality ball and lead screws with low axial play and low friction, lubricated for the whole product life
6. Magnet ring for proximity sensors
7. Anti-rotation device with overload protection
8. High-quality SKF bearings
9. Anodised aluminium profile with proximity sensor slots

Performance overview of linear units

Linear unit –	F_{max} kN	F_{0max} –	V_{max} mm/s
CASM-32-LS	0,3	0,7	60
CASM-32-BS	0,7	0,7	150
CASM-32-BN	0,63	0,7	500
CASM-40-LS	0,6	1,5	70
CASM-40-BS	2,375	2,375	300
CASM-40-BN	1,55	2,375	826
CASM-63-LS	1	3,7	70
CASM-63-BN	5,4	5,4	533
CASM-63-BF	2,8	5,4	1 067

Performance overview of actuators

Linear unit –	Motor –	Adapter –	F_{c0} kN	F_{p0}	V_{max} mm/s
CASM-32-LS	BG45	inline/parallel	0,300	0,300	60
CASM-32-LS	1FK7015	inline/parallel	0,300	0,300	60
CASM-32-BS	BG45	inline/parallel	0,393/0,389	0,700	150
CASM-32-BS	1FK7015	inline/parallel	0,549/0,544	0,700	150
CASM-32-BS	1FK7022	inline	0,700	0,700	150
CASM-32-BN	BG45	inline/parallel	0,132/0,131	0,497/0,492	500
CASM-32-BN	1FK7015	inline/parallel	0,185/0,183	0,528/0,523	500
CASM-32-BN	1FK7022	inline	0,449	0,630	500
CASM-40-LS	BG65S	inline/parallel	0,6/0,596	0,600	70
CASM-40-LS	1FK7022	inline/parallel	0,600	0,600	70
CASM-40-BS	BG65S	inline/parallel	0,673/0,666	1,805/1,787	298
CASM-40-BS	BG75	inline/parallel	1,239/1,227	2,375	300
CASM-40-BS	1FK7022	inline/parallel	0,908/0,899	2,375	300
CASM-40-BS	1FK7034	inline/parallel	1,709/1,692	2,375	300
CASM-40-BN	BG65S	inline/parallel	0,268/0,265	0,719/0,712	756
CASM-40-BN	BG75	inline/parallel	0,494/0,489	1,55/1,276	783
CASM-40-BN	1FK7022	inline/parallel	0,362/0,358	1,447/1,276	826
CASM-40-BN	1FK7034	inline/parallel	0,681/0,674	1,55/1,276	826
CASM-63-LS	BG75	inline/parallel	0,711/0,704	1,000	70
CASM-63-LS	1FK7034	inline/parallel	0,98/0,97	1,000	70
CASM-63-BN	BG75	inline/parallel	0,62/0,613	2,19/2,168	533
CASM-63-BN	1FK7034	inline/parallel	0,855/0,846	3,471/2,937	533
CASM-63-BN	1FK7044	inline	2,403	5,400	533
CASM-63-BF	BG75	inline/parallel	0,313/0,31	1,108/1,097	1 067
CASM-63-BF	1FK7034	inline/parallel	0,432/0,428	1,756/1,486	1 067
CASM-63-BF	1FK7044	inline	1,216	2,800	1 067

Motors and gearboxes

Servo motors

The Siemens motors provided by Ewellix come with a multi-pole resolver, a shaft-end with no keyway and a holding brake.In addition, they are equipped with a Drive-CLiQ interface. A rotating plug adapter simplifies the connection and cable routing in all installation positions. For more information, please visit the following sites:

Motors:
www.siemens.com/motors
Frequency converters:
www.siemens.com/sinamics
Automations systems:
www.siemens.com/simotion
Controls:
www.siemens.com/simatic
Engineering software:
www.siemens.com/sizer
Support worldwide:
www.siemens.de/service

Motor technical data

Motor type Designation	Unit	1FK7015-5AK71-1SH3	1FK7022-5AK71-1UH3	1FK7034-2AK71-1UH0	1FK7044-4CH71-1UH0
Rated power (100 K)	kW	0,1	0,43	0,63	1,41
Rated speed	min^{-1}	6 000	6 000	6 000	4 500
Rated current	A	0,85	1,4	1,3	4,9
Rated torque (100 K)	Nm	0,16	0,6	1	3
Static torque (100 K)	Nm	0,35	0,85	1,6	4
Peak torque	Nm	1	3,4	6,5	12
Inertia with brake	10^{-4} kgm^2	0,102	0,35	0,98	1,41
Shaft diameter	mm	20	28	36	48
Weight with brake	kg	1,2	2	4	8,3

Ordering key

Motor	CASM-32		CASM-40		CASM-63	
	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter
1FK7015-5AK-71-1SH3	ZBE-375530	ZBE-375540	–	–	–	–
1FK7022-5AK71-1UH3	ZBE-375537	–	ZBE-375538	ZBE-375546	–	–
1FK7034-2AK71-1UH0	–	–	ZBE-375545	ZBE-375603	ZBE-375544	ZBE-375543
1FK7044-4CH71-1UH0	–	–	–	–	ZBE-375535	–

Brushless DC motors

Brushless DC motors are perfectly suited to replace pneumatic cylinders in many applications. The motors provided by Ewellix are equipped with internal controllers and are very simple to set up. Connected to the power supply, the motors can be programmed by a computer with up to 14 motion profiles. The profiles can be activated by 2-4 binary inputs (PLC outputs or switches).
The internal encoders enable for high positioning accuracy while the internal brake secures the system in case of a power loss.

Motor technical data

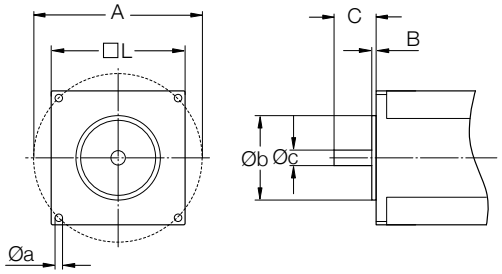
Motor type Designation	Unit	BG45x30PI	BG65Sx50PI	BG75x75PI
Nominal voltage	V	24	40	40
Rated power	W	90	236	450
Rated speed	min^{-1}	3 360	3 570	3 700
Rated current	A	4,9	7	12,7
Rated torque	Ncm	25	169	116
Peak torque	Ncm	94,2	169	410
Inertia	gcm^2	44	129	652
Shaft diameter	mm	6	8	14
Weight with brake	kg	0,74	2,17	3,3

Ordering key

Motor	CASM-32		CASM-40		CASM-63	
	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter
BG45x30PI	ZBE-375570	ZBE-375573	–	–	–	–
BG65Sx50 PI	–	–	ZBE-375571	ZBE-375574	–	–
BG75x75 PI	–	–	ZBE-375579	ZBE-375578	ZBE-375572	ZBE-375575

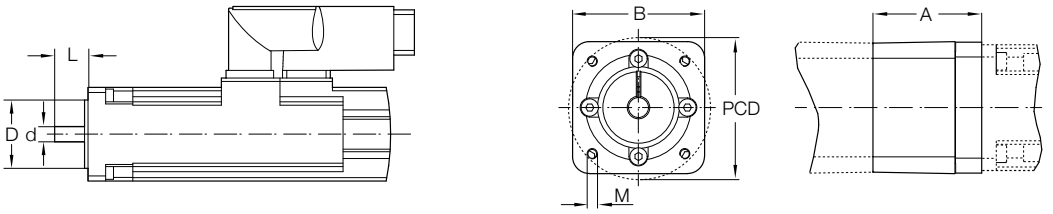
Third party motors

In order to attach your preferred motor to the linear unit, Ewellix offers tailor made solutions within the specifications below.
For motor specifications which are not covered by the specifications below, please contact Ewellix.



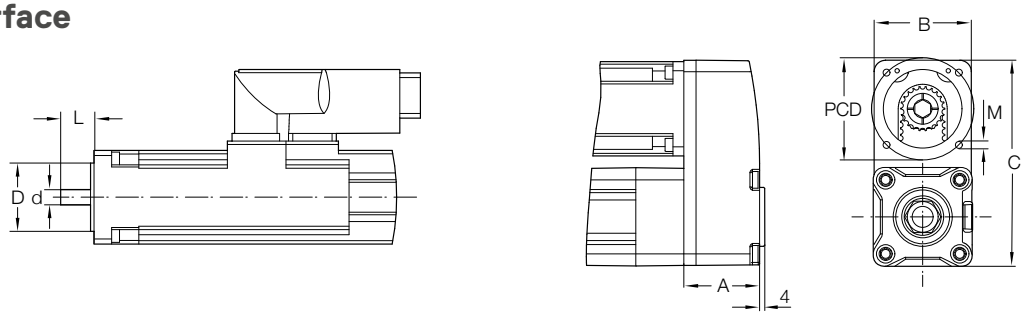
Order #	**CASM-32 Inline adapter M/0129709** mm	**Parallel adapter M/0130493** mm (in)	**CASM-40 Inline adapter M/0129710** mm	**Parallel adapter M/0130494** mm (in)	**Parallel adapter M/0130647** mm	**CASM-63 Inline adapter M/0129711**	**Parallel adapter M/0130495**
☐L	20...any value	20...47,5	40...any value	30...62	30...110	60...any value	30...86
Øb	18...75	15...32	31...75	20...44	20...65	47...95	20...65
B	1...7	1...10	1...5	1...3	1...4	1...5	1...4
ØA	36...106	19...49	36...106	24...68	24...89	52...103	24...89
Øc	6...14	6, 8, (1/4)	8...14	8, 9, (1/4), (3/8)	8, 11, 12, 14	11...19	8, 11, 12, 14
C	13...33	15...40	13...33	16...41	15...32	15...48	15...32

Inline interface



Interface	d mm	D	L	PCD	M	A mm	B	Torque max Nm	Inertia $10^{-4}kgm^{-2}$	Weight kg
CASM-32										
ZBE-375530	8	30	20	46	M4	40,9	46	2	0,006	0,25
ZBE-375537	9	40	20	64	M5	49,4	55	2	0,006	0,3
ZBE-375570	6	22	20	32	3,4	39,7	45,5	2	0,006	0,25
M/0129709	6…14	18…75	13…33	36…106	N/A	N/A	>20	2	N/A	N/A
CASM-40										
ZBE-375538	9	40	20	63	M5	49,4	55	12	0,006	0,3
ZBE-375545	14	60	30	75	M6	52,4	72	12	0,006	0,3
ZBE-375571	8	32	25	45	5,5	53,5	54	12	0,006	0,3
ZBE-375579	14	32	30	45	5,3	52,4	75	12	0,006	0,3
M/0129710	8…14	31…75	13…33	36…106	N/A	N/A	>40	12	N/A	N/A
CASM-63										
ZBE-375544	14	60	30	75	M6	62,4	75	25	0,200	0,35
ZBE-375535	19	80	40	100	M6	70,9	100	25	0,200	0,35
ZBE-375579	14	32	30	60	6,4	67,1	75	25	0,200	0,35
M/0129711	11…19	47…95	15…48	52…103	N/A	N/A	>60	25	N/A	N/A

Parallel interface



Interface	d mm (in)	D	L	PCD	M	A mm	B	C	Torque max Nm	Inertia $10^{-4}kgm^{-2}$	Weight kg
CASM-32											
ZBE-375540	8	30	20	46	M4	40,1	45,1	93,3	1	0,0016	0,35
ZBE-375573	6	22	20	32	3,4	39,5	45,1	93,3	1	0,0016	0,35
M/0130493	6, 8 (1/4")	15…32	15…40	19…49	N/A	N/A	20…47,5	93,3	1	N/A	N/A
CASM-40											
ZBE-375546	9	40	20	63	M5	47,1	56,6	115,3	3	0,0089	0,4
ZBE-375603	14	60	30	75	M6	58,1	74,1	157,3	3	0,0548	0,45
ZBE-375574	8	32	25	40	5,5	46,5	56,6	115,3	3	0,0089	0,4
ZBE-375578	14	32	30	45	5,3	58	74,1	156,6	3	0,0548	0,45
M/0130494	8, 9 (1/4", 3/8")	20…44	16…41	24…68	N/A	N/A	30…62	115,3	3	N/A	N/A
M/0130647	8, 11, 12, 14	20…65	15…32	24…89	N/A	N/A	30…110	157,3	3	N/A	N/A
CASM-63											
ZBE-375543	14	60	30	75	M6	58,1	74,1	157,3	5,5	0,0548	0,45
ZBE-375575	14	32	30	60	6,4	39,5	45,1	157,3	5,5	0,0548	0,45
M/0130495	8, 11, 12, 14	20…65	15…32	24…89	N/A	N/A	30…86	157,3	5,5	N/A	N/A

Manuals

Supporting documents are available for downloading on ewellix.com/casm in each product page under technical data section:

- operating manual
- mounting instruction

3D models

Product configurators for 3D models download are available on ewellix.com/casm, after selecting the desired actuator size

Operating manual

3D model configurator

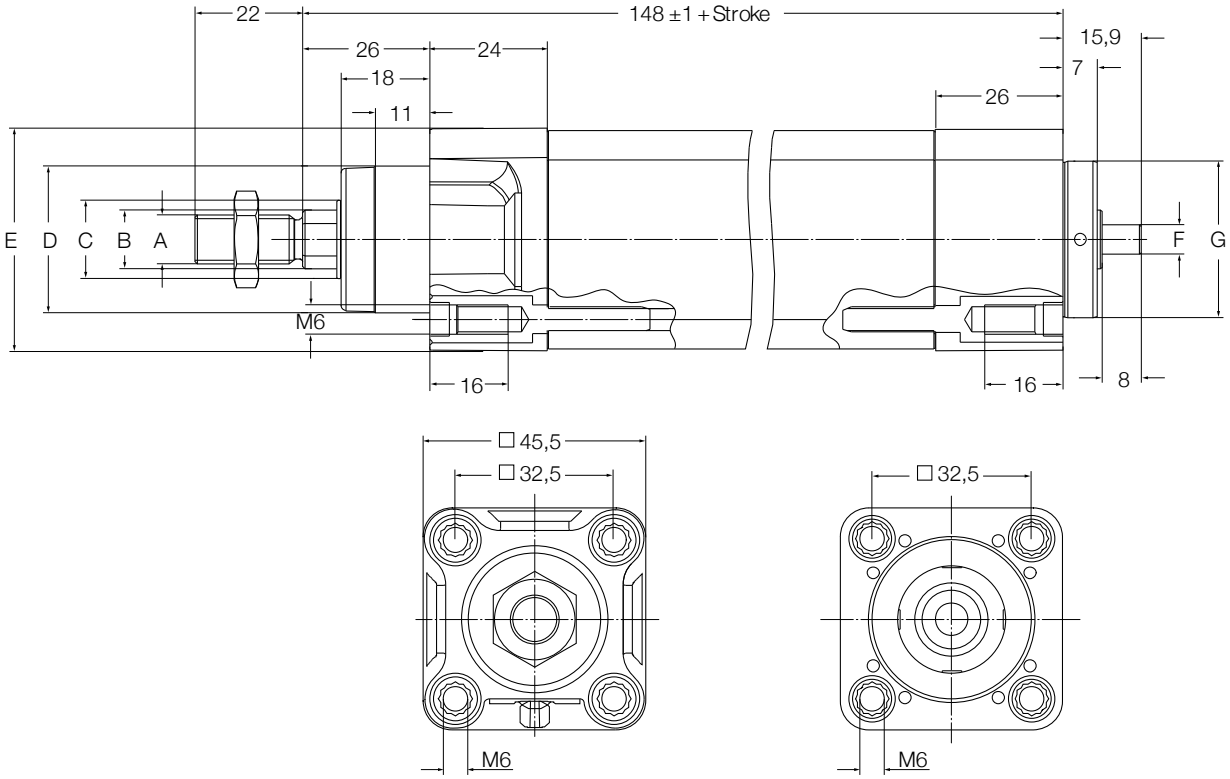
CASM-32

Linear unit

Technical data

Designation	Symbol	Unit	CASM-32-LS	CASM-32-BIS	CASM-32-BN
Performance Data					
Max. dynamic axial force	F_{max}	kN	0,3	0,7	0,63
Max. static axial force	F_{0max}	kN	0,7	0,7	0,7
Dynamic load capacity	C	kN	N/A	2,8	2,5
Maximum torque to reach Fmax	M_{max}	Nm	0,24	0,45	1,19
Max. linear speed	v_{max}	mm/s	60	150	500
Max. rotational speed	n_{max}	1/min	2 400	3 000	3 000
Max. acceleration	a_{max}	m/s^2	1	6	6
Duty cycle	D_{unit}	%	60	100	100
Mechanical Data					
Screw type	–	–	Lead screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	9	10	10
Screw lead	p_{screw}	mm	1,5	3	10
Lead accuracy	–	–	N/A	G7	G7
Stroke	s	mm	50…400	50…400	50…400
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	N/A	0,06	0,06
Efficiency	η_{lu}	%	0,3	0,75	0,84
Inertia @ 0 mm stroke	J_{lu}	10_{-4} kgm^2	0,0413	0,0420	0,0420
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm^2	0,0036	0,0047	0,0047
Weight @ 0 mm stroke	m_{lu}	kg	0,74	0,74	0,74
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34	0,34
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Max. humidity	ϕ	%	95	95	95
Degree of protection	IP	-	54S	54S	54S

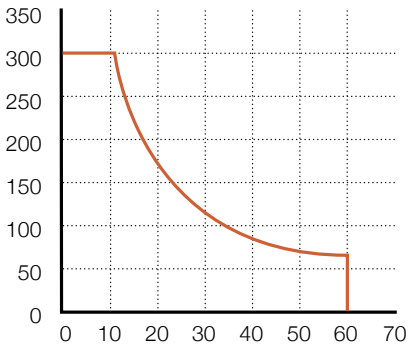
Dimensional drawing



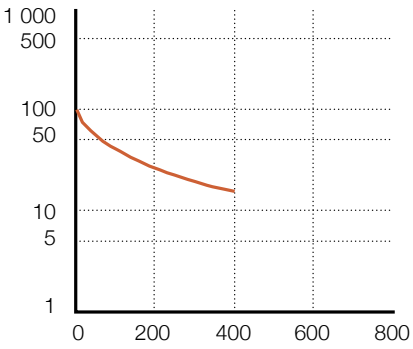
	A	B mm	C	D	E	F	G
CASM-32	M10 × 1,25	Ø12	Ø16	Ø30d11	☐44,5	Ø6h6	Ø32f7

Performance diagrams

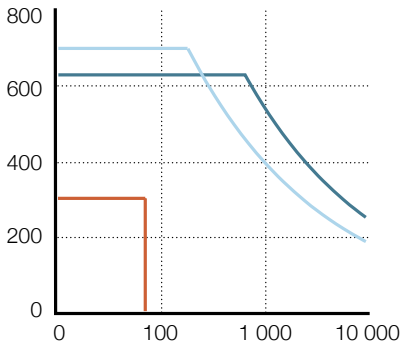
Axial force [N]



Radial load [N]



F_m [N]



Valid only for CASM–32–LS.
No limitation for ball screw types (max. load at max. speed).

The radial load acts perpendicular to the moving direction.

CASM–32–BN
CASM–32–LS
CASM–32–BS

Ordering key: See ↳ page 80

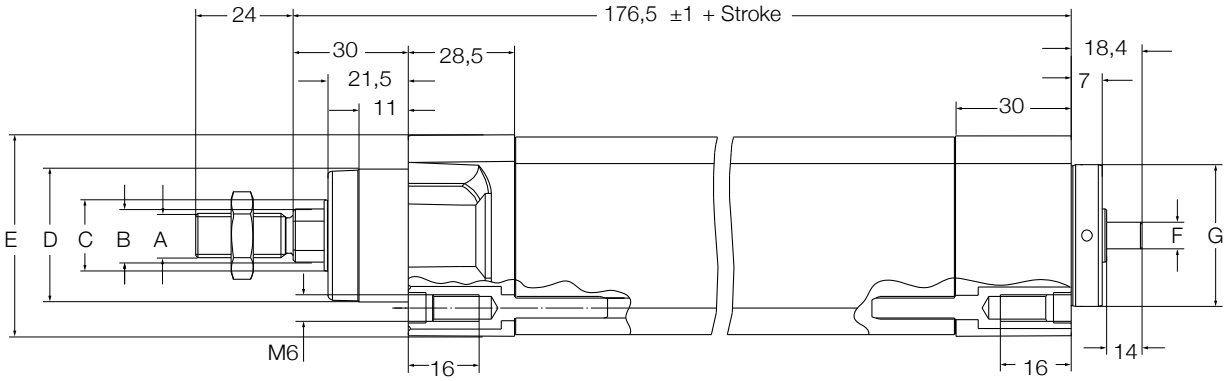
CASM-40

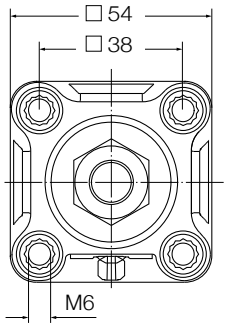
Linear unit

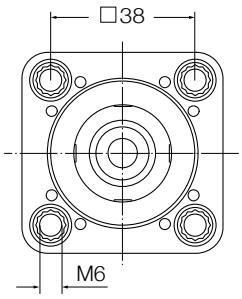
Technical data

Designation	Symbol	Unit	CASM-40-LS	CASM-40-BIS	CASM-40-BN
Performance Data					
Max. dynamic axial force	F_{max}	kN	0,6	2,375	1,55
Max. static axial force	F_{0max}	kN	1,5	2,375	2,375
Dynamic load capacity	C	kN	N/A	4,8	6
Maximum torque to reach Fmax	M_{max}	Nm	0,63	2,22	3,64
Max. linear speed	v_{max}	mm/s	70	300	826
Max. rotational speed	n_{max}	1/min	1 680	3 600	3 900
Max. acceleration	a_{max}	m/s^2	1	6	6
Duty cycle	D_{unit}	%	60	100	100
Mechanical Data					
Screw type	–	–	Lead screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	12,5	12	12,7
Screw lead	p_{screw}	mm	2,5	5	12,7
Lead accuracy	–	–	N/A	G7	G7
Stroke	s	mm	100…600	100…600	100…600
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	N/A	0,07	0,07
Efficiency	η_{lu}	%	0,38	0,85	0,86
Inertia @ 0 mm stroke	J_{lu}	10^{-4} kgm^2	0,1262	0,1246	0,1279
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm^2	0,0123	0,0103	0,0144
Weight @ 0 mm stroke	m_{lu}	kg	1,25	1,26	1,29
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46	0,46
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Max. humidity	ϕ	%	95	95	95
Degree of protection	IP	–	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552

Dimensional drawing



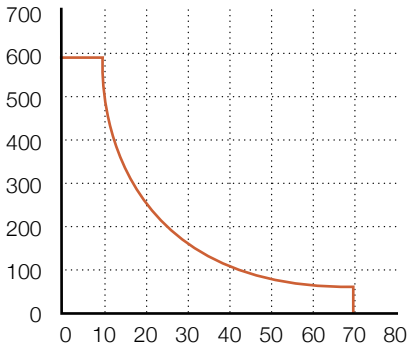




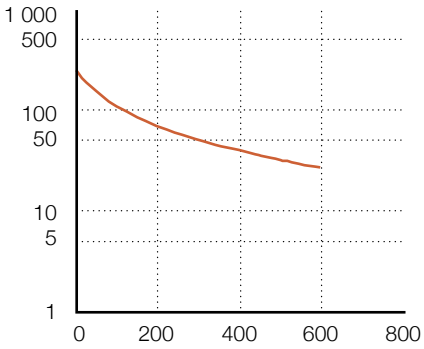
	A	B mm	C	D	E	F	G
CASM-40	M12 × 1,25	Ø16	Ø20	Ø35d11	☐53	Ø8h6	Ø40f7

Performance diagrams

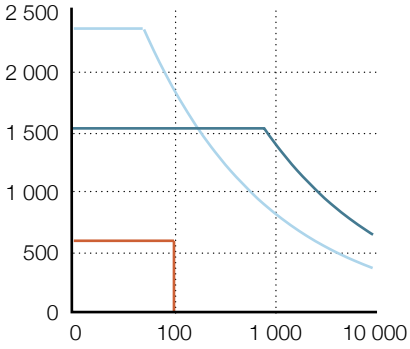
Axial force [N]



Radial load [N]



F_m [N]



Valid only for CASM–40–LS.
No limitation for ball screw types (max. load at max. speed).

The radial load acts perpendicular to the moving direction.

CASM–40–LS
CASM–40–BN
CASM–40–BS

Ordering key: See ↳ page 80

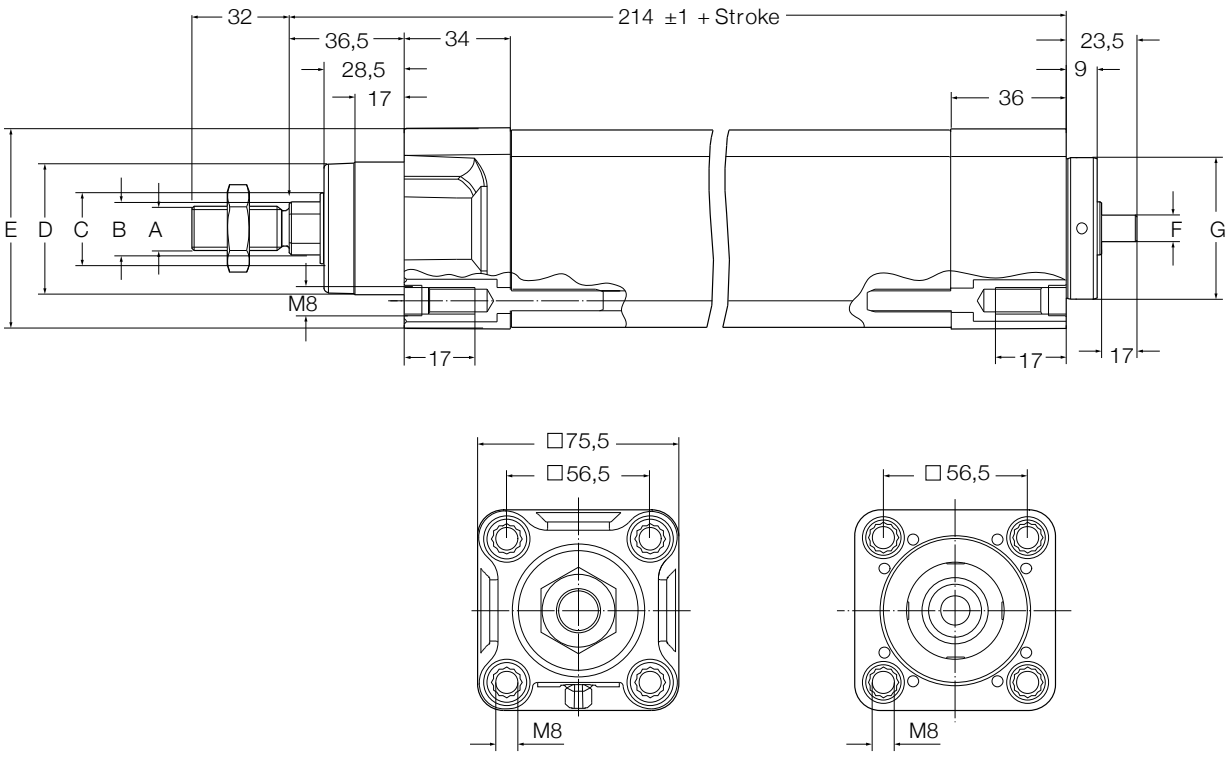
CASM-63

Linear unit

Technical data

Designation	Symbol	Unit	CASM-63-LS	CASM-63-BN	CASM-63-BF
Performance Data					
Max. dynamic axial force	F_{max}	kN	1	5,4	2,8
Max. static axial force	F_{0max}	kN	3,7	5,4	5,4
Dynamic load capacity	C	kN	N/A	21	10
Maximum torque to reach Fmax	M_{max}	Nm	1,63	10,11	10,36
Max. linear speed	v_{max}	mm/s	70	533	1 067
Max. rotational speed	n_{max}	1/min	1 050	3 200	3 200
Max. acceleration	a_{max}	m/s^2	1	6	6
Duty cycle	D_{unit}	%	60	100	100
Mechanical Data					
Screw type	–	–	Lead screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	20	20	20
Screw lead	p_{screw}	mm	4	10	20
Lead accuracy	–	–	N/A	G7	G7
Stroke	s	mm	100…800	100…800	100…800
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	N/A	0,07	0,07
Efficiency	η_{lu}	%	0,39	0,85	0,86
Inertia @ 0 mm stroke	J_{lu}	10^{-4} kgm^2	0,76	0,7600	0,7636
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm^2	0,0809	0,0809	0,0855
Weight @ 0 mm stroke	m_{lu}	kg	2,80	2,90	2,90
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81	0,81
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Max. humidity	ϕ	%	95	95	95
Degree of protection	IP	-	54S	54S	54S
Standards	-	-	ISO 15552	ISO 15552	ISO 15552

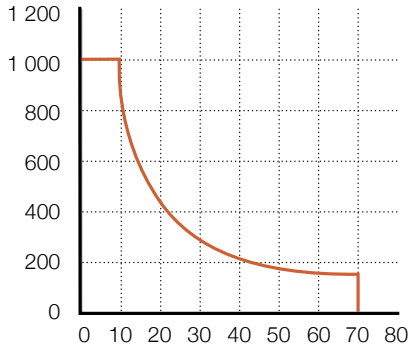
Dimensional drawing



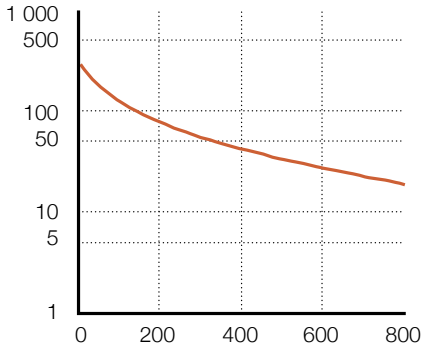
	A	B mm	C	D	E	F	G
CASM-40	M16×1,5	Ø20	Ø28	Ø45d11	□74	Ø12h6	Ø60f7

Performance diagrams

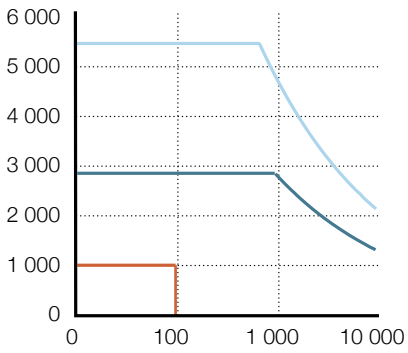
Axial force [N]



Radial load [N]



F_m [N]



Valid only for CASM–63–LS.
No limitation for ball screw types (max. load at max. speed).

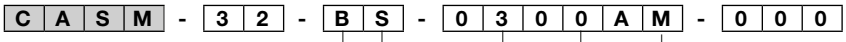
The radial load acts perpendicular to the moving direction.

- CASM–63–BF
- CASM–63–LS
- CASM–63–BN

Ordering key: See ↳ page 80

Ordering key

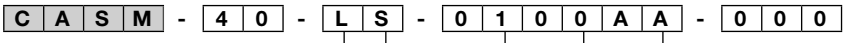
Linear units



Screw
LS Lead screw 9x1,5 mm
BS Ball screw 10x3 mm
BN Ball screw 10x10 mm

Stroke
50 mm
100 mm
150 mm
200 mm
300 mm
400 mm

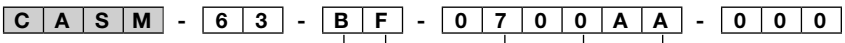
Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted



Screw
LS Lead screw 12,5×2,5 mm
BS Ball screw 12×5 mm
BN Ball screw 12,7×12,7 mm

Stroke:
100 mm
200 mm
300 mm
400 mm
500 mm
600 mm

Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted



Screw
LS Lead screw 20×4 mm
BN Ball screw 20×10 mm
BF Ball screw 20×20 mm

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

Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted

[1)] Motor, adapter kit and accessories need to be ordered separately
[2)] Foot mountings pre-mounted on inline version only

CASM-32-LS

Electric cylinder
servo motor, inline configuration

Technical data

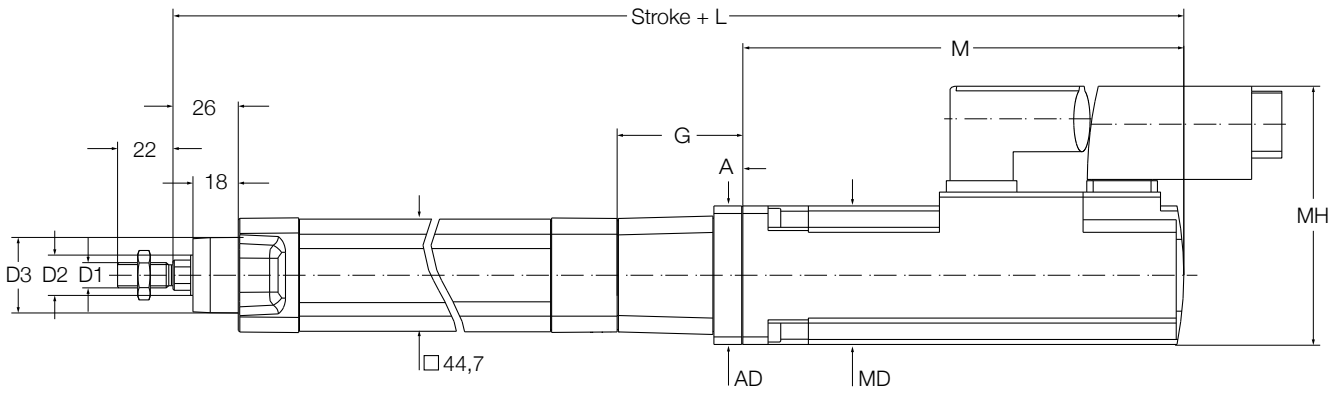
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,300	0,300
Continuous force @ max. speed	F_c	kN	0,047	0,047
Peak force @ zero speed	F_{p0}	kN	0,300	0,300
Peak force @ max. speed	F_p	kN	0,300	0,300
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN	0,700	0,700
Max. linear speed	v_{max}	mm/s	60	60
Max. acceleration	a_{max}	m/s²	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	9	9
Screw lead	p_{screw}	mm	1,5	1,5
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	50…400	50…400
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	23	20
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0913	0,1303
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0036	0,0036
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0190
Weight @ 0 mm stroke	m	kg	1,61	2,09
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,10
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	24	N/A
Nominal current	I	A	4,9	1,0
Peak current	I_{peak}	A	15,0	1,6
Nominal power	P	kW	0,091	0,100
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BLDC motor BG45	Servo motor 1FK7015
Linear unit	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FZ7015-5AK71-1SH3
Adapter	ZBE-375570	ZBE-375530

For more information regarding motors and motor adapters, please visit ↳ page 67

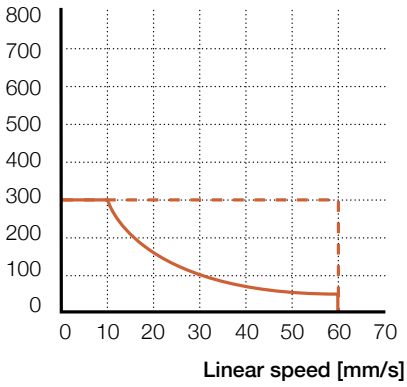
Dimensional drawing



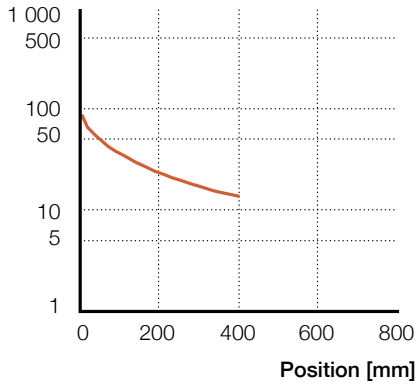
Motor	D1	D2	D3	L	G	A	AD	M	MD	MH
		mm								
BG45	M10 x 1,25	Ø16	Ø30	347,7	39,7	6,7	4,5	160	44	60,8
1FK7015	M10 x 1,25	Ø16	Ø30	353,9	40,9	9	40	165	40	86

Performance diagrams

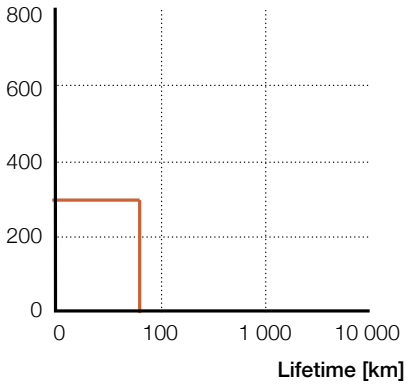
Axial force [N]



Radial load [N]



F_m [N]



BG45 – 1FK7015

— F_{cont} - - F_{peak}

CASM–32–LS

Ordering key: See ↳ page 118

CASM-32-LS

Electric cylinder
servo motor, parallel configuration

Technical data

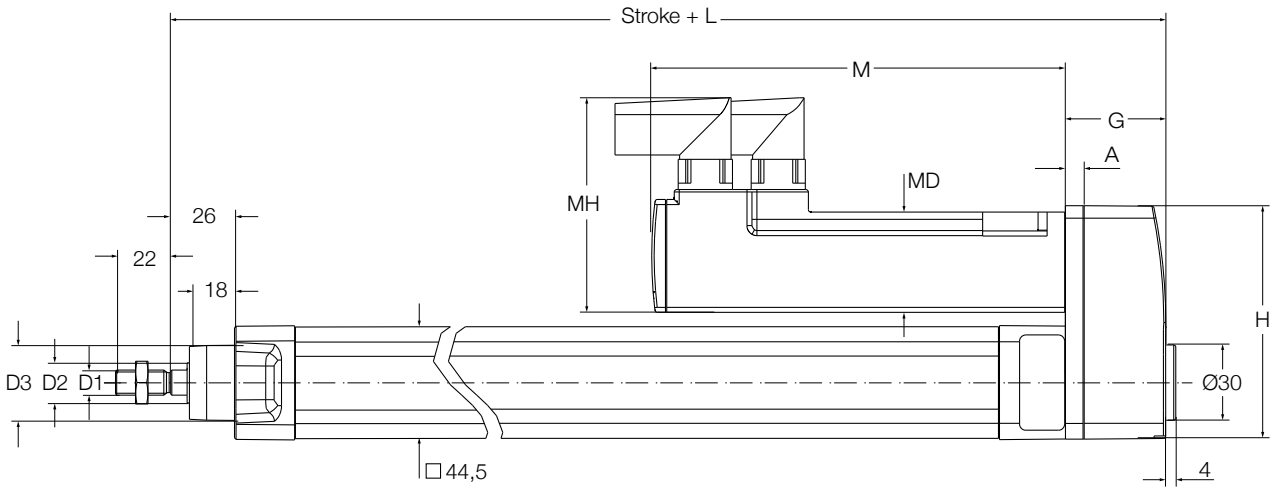
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,300	0,300
Continuous force @ max. speed	F_c	kN	0,047	0,047
Peak force @ zero speed	F_{p0}	kN	0,300	0,300
Peak force @ max. speed	F_p	kN	0,300	0,300
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN	0,700	0,700
Max. linear speed	v_{max}	mm/s	60	60
Max. acceleration	a_{max}	m/s²	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	9	9
Screw lead	p_{screw}	mm	1,5	1,5
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	50…400	50…400
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	23	20
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0869	0,1259
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0036	0,0036
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0190
Weight @ 0 mm stroke	m	kg	1,71	2,19
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,10
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	24	n/a
Nominal current	I	A	4,9	1,0
Peak current	I_{peak}	A	15,0	1,6
Nominal power	P	kW	0,091	0,100
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–		
Standards	–	–		

Ordering information

	BG45	1FK7015
Linear unit	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FZ7015-5AK71-1SH3
Adapter	ZBE-375573	ZBE-375540

For more information regarding motors and motor adapters, please visit ↳ page 67

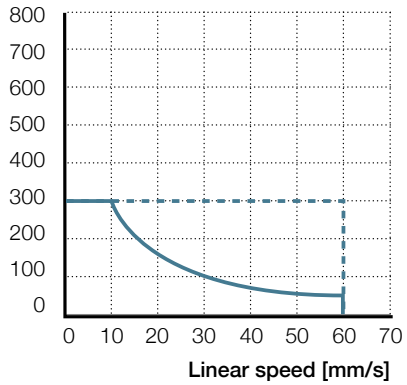
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG45	M10x1,25	Ø16	Ø30	187,5	39.5	7	93,3	160	44	60,8
1FK7015	M10x1,25	Ø16	Ø30	188,1	40.1	7	93,3	165	40	86

Performance diagrams

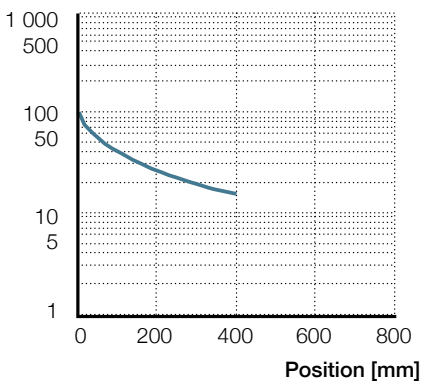
Axial force [N]



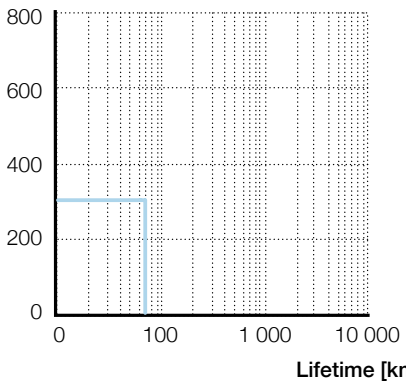
BG45 – 1FK7015

F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–32–LS

Ordering key: See ↳ page 118

CASM-32-BS

Electric cylinder
servo motor, inline configuration

Technical data

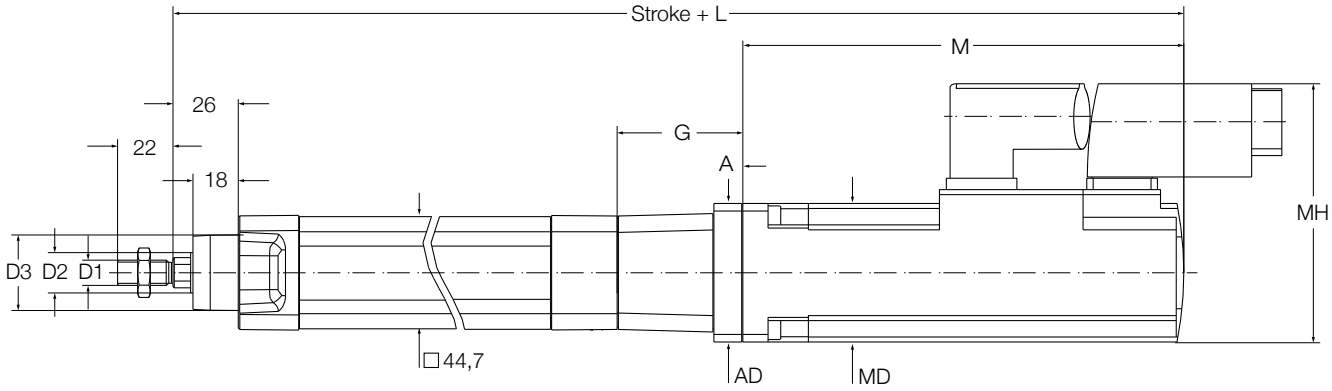
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015	Servo motor 1FK7022
Performance Data					
Continuous force @ zero speed	F_{c0}	kN	0,393	0,550	0,700
Continuous force @ max. speed	F_c	kN	0,393	0,503	0,700
Peak force @ zero speed	F_{p0}	kN	0,700	0,700	0,700
Peak force @ max. speed	F_p	kN	0,603	0,700	0,700
Dynamic load capacity	C	kN	2,8	2,8	2,8
Holding force (motorbrake option)	F_{Hold}	kN	0,558	0,700	0,279
Max. linear speed	v_{max}	mm/s	150	150	150
Max. acceleration	a_{max}	m/s²	6	6	6
Duty cycle	D	%	100	100	100
Mechanical Data					
Screw type	–	–	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	10	10	10
Screw lead	p_{screw}	mm	3	3	3
Lead accuracy	–	–	G7	G7	G7
Stroke	s	mm	50…400	50…400	50…400
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	0,06	0,06	0,06
Gear reduction	i	–	1	1	1
Efficiency	η	%	58	51	65
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0920	0,1310	0,3280
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0047	0,0047	0,0047
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0	0,0190	0,0700
Weight @ 0 mm stroke	m	kg	1,61	2,09	2,84
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,10	0,20
Electrical Data					
Motor type	–	–	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	24	N/A	N/A
Nominal current	I	A	4,9	1,0	1,4
Peak current	I_{peak}	A	15,0	1,6	1,8
Nominal power	P	kW	0,091	0,100	0,400
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG45	1FK7015	1FK7022
Linear unit	see ↳ page 74	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FZ7015-5AK71-1SH3	1FK7022-5AK71-1UH3
Adapter	ZBE-375570	ZBE-375530	ZBE-375537

For more information regarding motors and motor adapters, please visit ↳ page 67

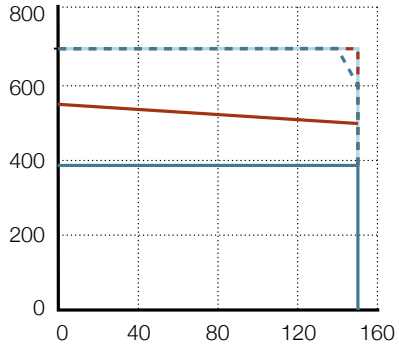
Dimensional drawing



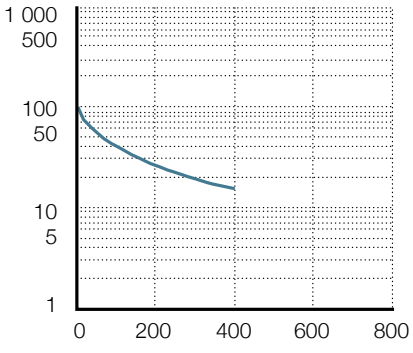
Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG45	M10x1,25	Ø16	Ø30	347,7	39,7	6,7	45,5	160	44	60,8
1FK7015	M10x1,25	Ø16	Ø30	353,9	40,9	9	40	165	40	86
1FK7022	M10×1,25	Ø16	Ø30	372,4	49,4	11	55	175	55	103

Performance diagrams

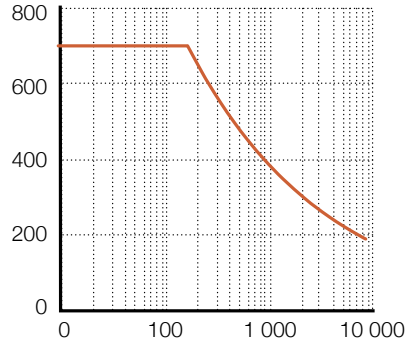
Axial force [N]



Radial load [N]



F_m [N]



BG45 — F_{cont}, F_{peak}

1FK7015 — F_{cont}, F_{peak}

1FK7022 — F_{cont}, F_{peak}

CASM–32–BS

Ordering key: See ↳ page 118

CASM-32-BS

Electric cylinder
servo motor, parallel configuration

Technical data

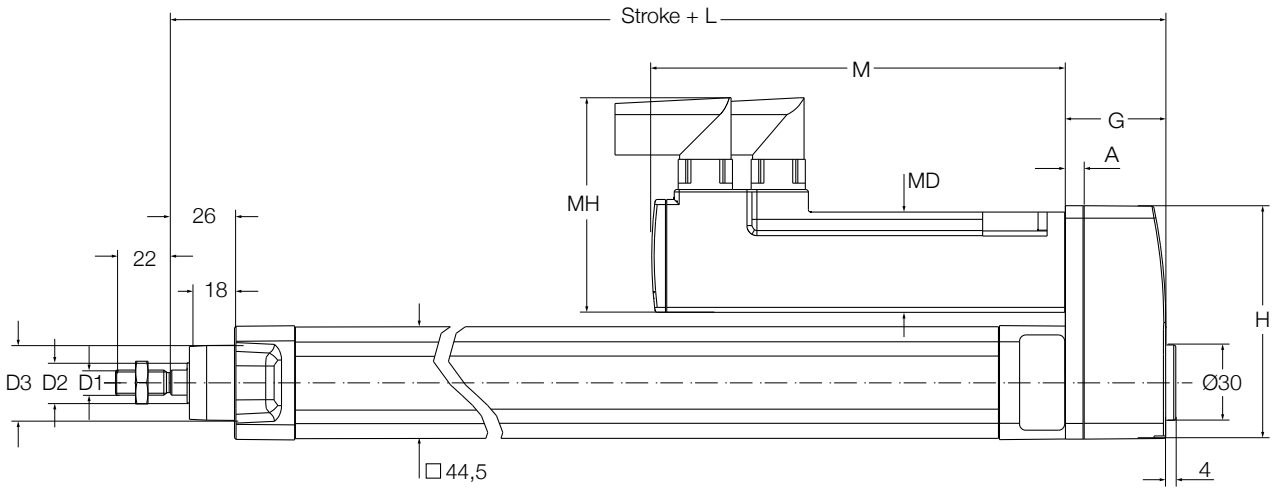
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,389	0,544
Continuous force @ max. speed	F_{c}	kN	0,389	0,498
Peak force @ zero speed	F_{p0}	kN	0,700	0,700
Peak force @ max. speed	F_{p}	kN	0,597	0,700
Dynamic load capacity	C	kN	2,8	2,8
Holding force (motorbrake option)	F_{Hold}	kN	0,558	0,700
Max. linear speed	v_{max}	mm/s	150	150
Max. acceleration	a_{max}	m/s²	6	6
Duty cycle	D	%	100	100
Mechanical Data				
Screw type	-	-	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	10	10
Screw lead	p_{screw}	mm	3	3
Lead accuracy	–	–	G7	G7
Stroke	s	mm	50…400	50…400
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	0,06	0,06
Gear reduction	i	–	1	1
Efficiency	η	%	57	50
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0875	0,1265
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0047	0,0047
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,019
Weight @ 0 mm stroke	m	kg	1,71	2,19
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,1
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	24	N/A
Nominal current	I	A	4,9	1
Peak current	I_{peak}	A	15,0	1,6
Nominal power	P	kW	0,091	0,1
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	-	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG45	1FK7015
Linear unit	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FZ7015-5AK71-1SH3
Adapter	ZBE-375573	ZBE-375540

For more information regarding motors and motor adapters, please visit ↳ page 67

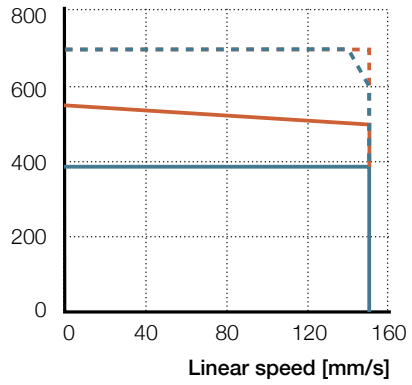
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG45	M10x1,25	Ø16	Ø30	187,5	39,5	7	93,3	160	44	60,8
1FK7015	M10x1,25	Ø16	Ø30	188,1	40,1	7	93,3	165	40	86

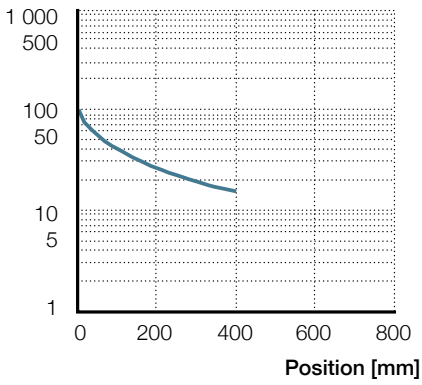
Performance diagrams

Axial force [N]

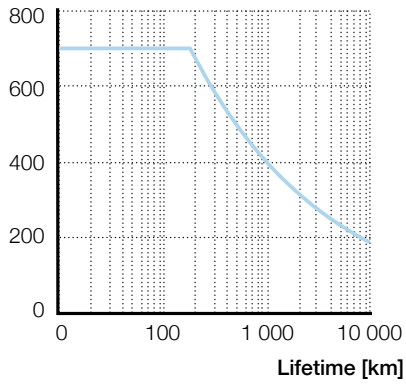


BG45 — F_{cont} F_{peak} 1FK7015 — F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–32–BS

Ordering key: See ↳ page 118

CASM-32-BN

Electric cylinder
servo motor, inline configuration

Technical data

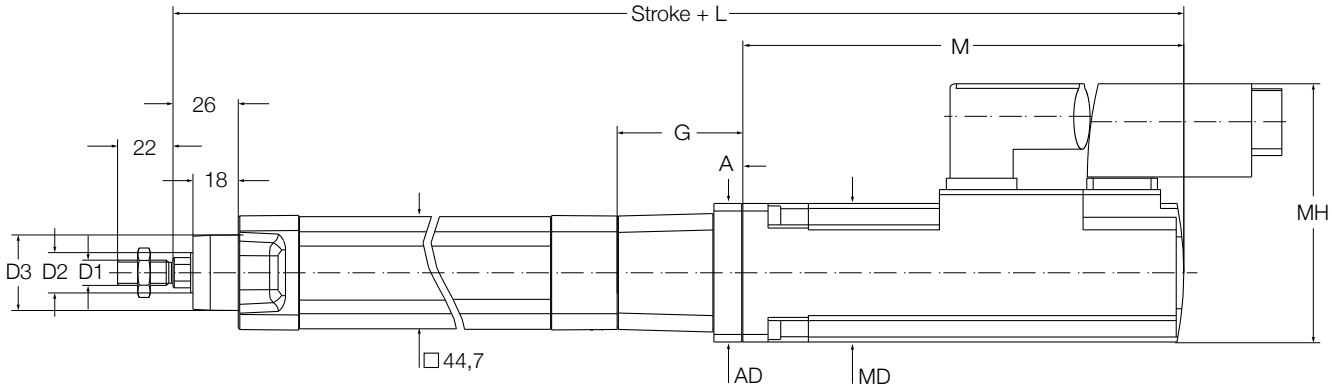
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015	Servo motor 1FK7022
Performance Data					
Continuous force @ zero speed	F_{c0}	kN	0,132	0,185	0,449
Continuous force @ max. speed	F_c	kN	0,132	0,169	0,385
Peak force @ zero speed	F_{p0}	kN	0,497	0,528	0,630
Peak force @ max. speed	F_p	kN	0,203	0,528	0,630
Dynamic load capacity	C	kN	2,5	2,5	2,5
Holding force (motorbrake option)	F_{Hold}	kN	0,131	0,151	0,357
Max. linear speed	v_{max}	mm/s	500	500	500
Max. acceleration	a_{max}	m/s²	6	6	6
Duty cycle	D	%	100	100	100
Mechanical Data					
Screw type	-	–	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	10	10	10
Screw lead	p_{screw}	mm	10	10	10
Lead accuracy	–	–	G7	G7	G7
Stroke	s	mm	50…400	50…400	50…400
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	0,06	0,06	0,06
Gear reduction	i	–	1	1	1
Efficiency	_	%	65	57	72
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0920	0,1310	0,3280
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0047	0,0047	0,0047
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0190	0,0700
Weight @ 0 mm stroke	m	kg	1,61	2,09	2,84
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,10	0,20
Electrical Data					
Motor type	_	-	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	24	N/A	N/A
Nominal current	I	A	4,9	1,0	1,4
Peak current	I_{peak}	A	15,0	1,6	1,8
Nominal power	P	kW	0,091	0,100	0,400
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG45	1FK7015	1FK7022
Linear unit	see ↳ page 74	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FK7015-5AK71-1SH3	1FK7022-5AK71-1UH3
Adapter	ZBE-375570	ZBE-375530	ZBE-375537

For more information regarding motors and motor adapters, please visit ↳ page 67

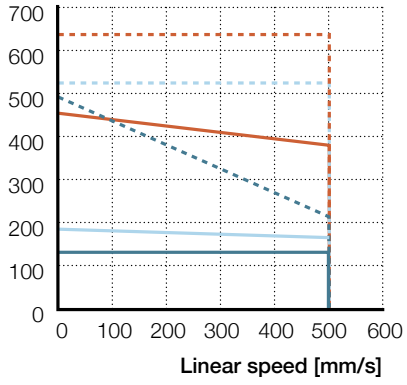
Dimensional drawing



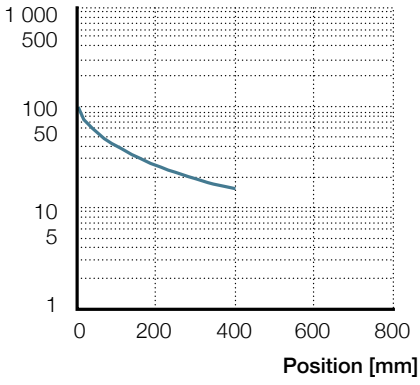
Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG45	M10x1,25	Ø16	Ø30	347,7	39,7	6,7	45,5	160	44	60,8
1FK7015	M10x1,25	Ø16	Ø30	353,9	40,9	9	40	165	40	86
1FK7022	M10x1,25	Ø16	Ø30	372,4	49,4	11	55	175	55	103

Performance diagrams

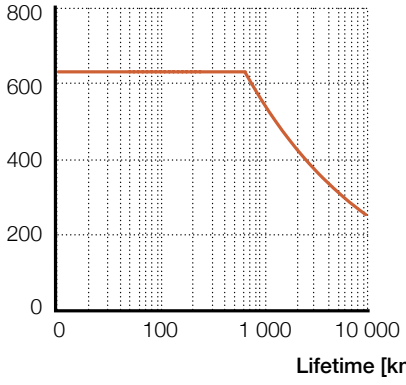
Axial force [N]



Radial load [N]



F_m [N]



BG45
- F_{cont}
- F_{peak}

1FK7015
- F_{cont}
- F_{peak}

1FK7022
- F_{cont}
- F_{peak}

- CASM–32–BN

Ordering key: See ↳ page 118

CASM-32-BN

Electric cylinder
servo motor, parallel configuration

Technical data

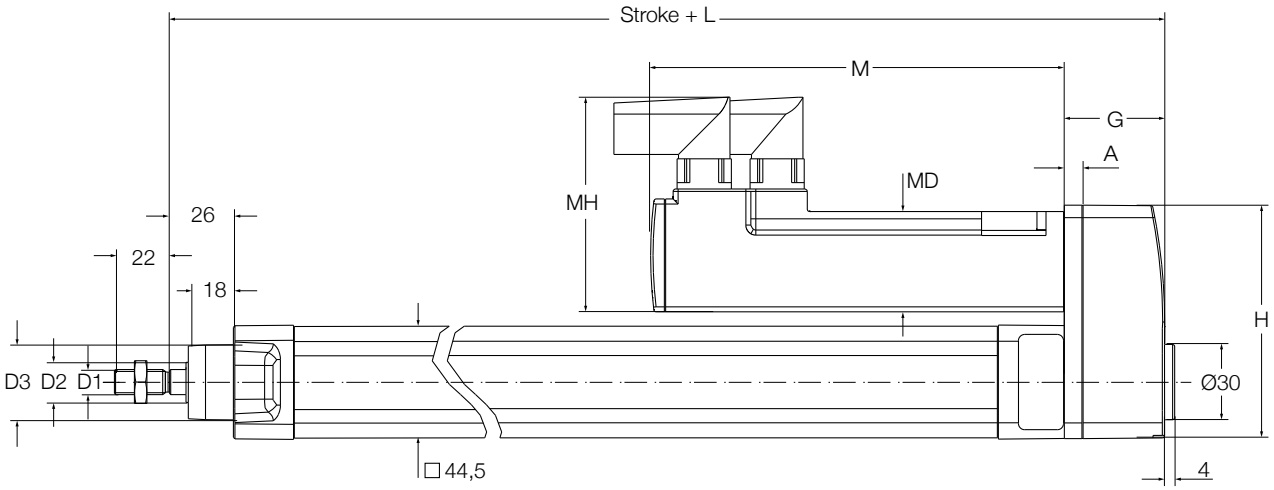
Designation	Symbol	Unit	BLDC motor BG45	Servo motor 1FK7015
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,131	0,183
Continuous force @ max. speed	F_c	kN	0,131	0,167
Peak force @ zero speed	F_{p0}	kN	0,492	0,523
Peak force @ max. speed	F_p	kN	0,201	0,523
Dynamic load capacity	C	kN	2,5	2,5
Holding force (motorbrake option)	F_{Hold}	kN	0,131	0,151
Max. linear speed	v_{max}	mm/s	500	500
Max. acceleration	a_{max}	m/s²	6	6
Duty cycle	D	%	100	100
Mechanical Data				
Screw type	–	–	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	10	10
Screw lead	p_{screw}	mm	10	10
Lead accuracy	–	–	G7	G7
Stroke	s	mm	50…400	50…400
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	0,06	0,06
Gear reduction	i	–	1	1
Efficiency	η	%	64	57
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,0875	0,1265
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0047	0,0047
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0190
Weight @ 0 mm stroke	m	kg	1,71	2,19
Δ weight per 100 mm stroke	Δm	kg	0,34	0,34
Weight of optional brake	m_{brake}	kg	0,12	0,10
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	24	N/A
Nominal current	I	A	4,9	1,0
Peak current	I_{peak}	A	15,0	1,6
Nominal power	P	kW	0,091	0,100
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG45	1FK7015
Linear unit	see ↳ page 74	see ↳ page 74
Motor	BG45X30PI	1FK7015-5AK71-1SH3
Adapter	ZBE-375573	ZBE-375540

For more information regarding motors and motor adapters, please visit ↳ page 67

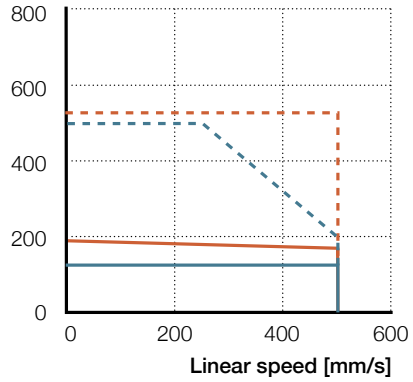
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG45	M10 x 1,25	Ø16	Ø30	187,5	39,5	7	93,3	160	44	60,8
1FK7015	M10 x 1,25	Ø16	Ø30	188,1	40,1	7	93,3	165	40	86

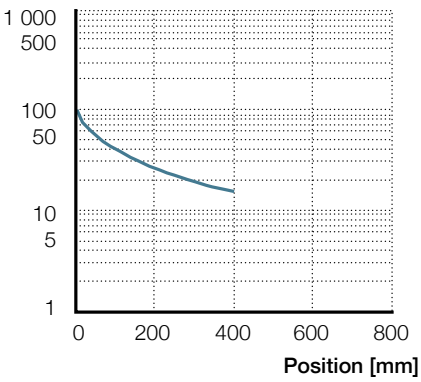
Performance diagrams

Axial force [N]

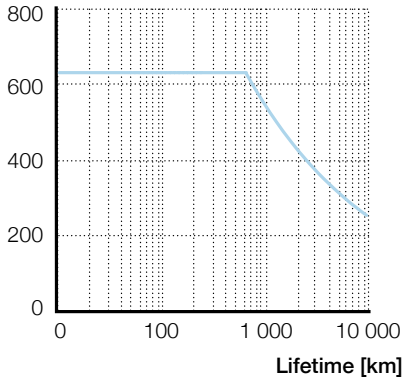


BG45 — F_{cont} F_{peak} **1FK7015** — F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–32–BN

Ordering key: See ↳ page 118

CASM-40-LS

Electric cylinder
servo motor, inline configuration

Technical data

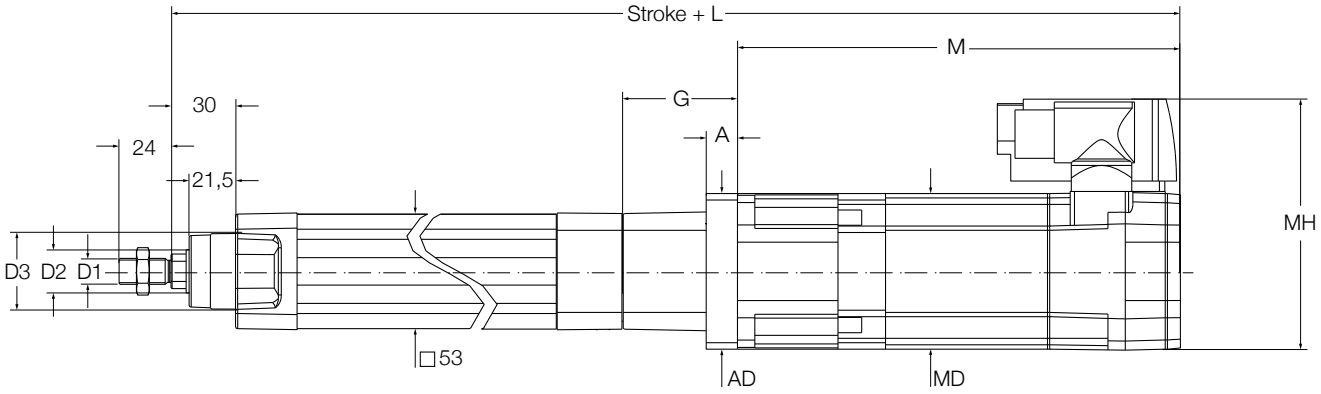
Designation	Symbol	Unit	BLDC motor BG65S	Servo motor 1FK7022
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,600	0,600
Continuous force @ max. speed	F_c	kN	0,071	0,071
Peak force @ zero speed	F_{p0}	kN	0,600	0,600
Peak force @ max. speed	F_p	kN	0,600	0,600
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN	–	–
Max. linear speed	v_{max}	mm/s	70	70
Max. acceleration	a_{max}	m/s²	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	12,5	12,5
Screw lead	p_{screw}	mm	2,5	2,5
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	100…600	100…600
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	32	33
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,2612	0,4122
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0123	0,0123
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0700
Weight @ 0 mm stroke	m	kg	3,22	3,35
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,50	0,20
Electrical Data				
Motor type	–	-	Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	7,0	1,4
Peak current	I_{peak}	A	20,0	1,8
Nominal power	P	kW	0,236	0,400
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG65	1FK7022
Linear unit	see ↳ page 76	see ↳ page 76
Motor	BG65SX50PI	1FK7022-5AK71-1UH3
Adapter	ZBE-375571	ZBE-375538

For more information regarding motors and motor adapters, please visit ↳ page 67

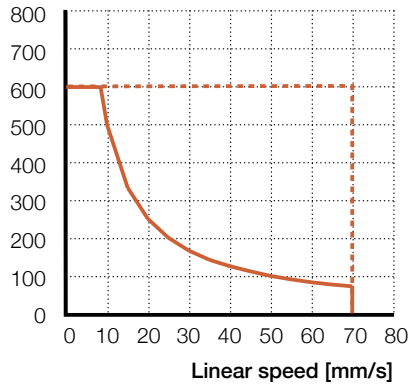
Dimensional drawing



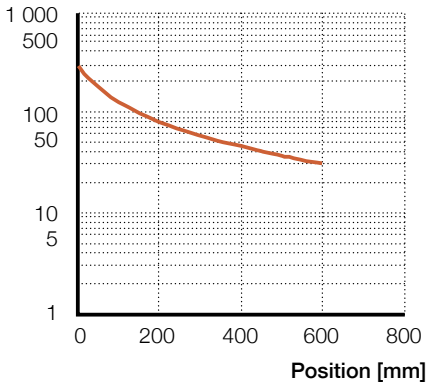
Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG65S	M12 x 1,25	Ø20	Ø35	431	53,5	35	54	201	65	96,5
1FK7022	M12 x 1,25	Ø20	Ø35	400,9	49,4	11	64	175	55	103

Performance diagrams

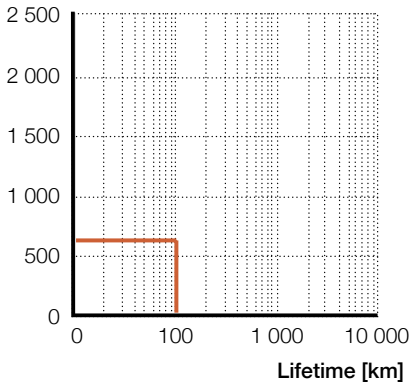
Axial force [N]



Radial load [N]



F_m [N]



BG65S – 1FK7022
F_{cont} F_{peak}

CASM–40–LS

Ordering key: See ↳ page 118

CASM-40-LS

Electric cylinder
servo motor, parallel configuration

Technical data

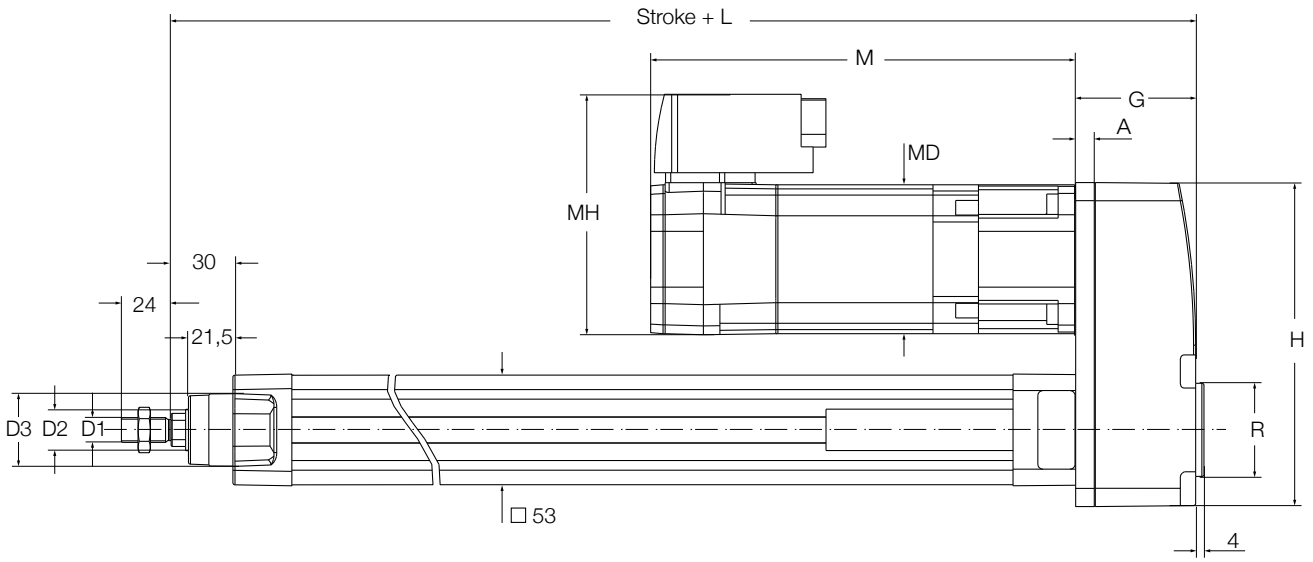
Designation	Symbol	Unit	BLDC motor BG65S	Servo motor 1FK7022
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,596	0,600
Continuous force @ max. speed	F_{c}	kN	0,071	0,071
Peak force @ zero speed	F_{p0}	kN	0,6	0,600
Peak force @ max. speed	F_{p}	kN	0,6	0,600
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN	–	–
Max. linear speed	v_{max}	mm/s	70	70
Max. acceleration	a_{max}	m/s²	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	12,5	12,5
Screw lead	p_{screw}	mm	2,5	2,5
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	100…600	100…600
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	32	32
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,2641	0,4151
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0123	0,0123
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,0700
Weight @ 0 mm stroke	m	kg	3,32	3,45
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,50	0,20
Electrical Data				
Motor type			Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	7,0	1,4
Peak current	I_{peak}	A	20,0	1,8
Nominal power	P	kW	0,236	0,400
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG655	1FK7022
Linear unit	see ↳ page 76	see ↳ page 76
Motor	BG65SX50PI	1FK7022-5AK71-1UH3
Adapter	ZBE-375574	ZBE-375546

For more information regarding motors and motor adapters, please visit ↳ page 67

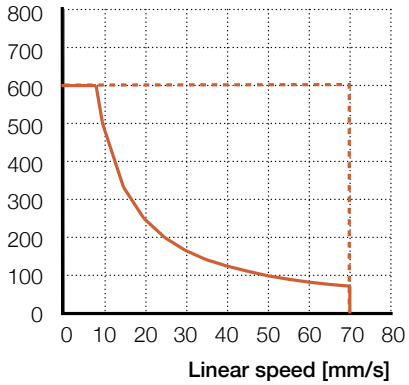
Dimensional drawing



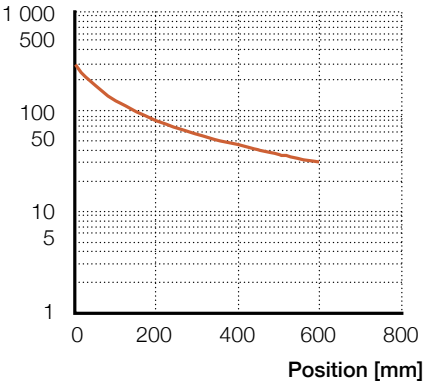
Motor	D1	D2	D3	L	G	A	AD	M	MD	MH	R
		mm									
BG65S	M12 x 1,25	Ø20	Ø35	223	46,5	7	115,3	201	65	96,5	Ø35
1FK7022	M12 x 1,25	Ø20	Ø35	223,6	47,1	7	115,3	175	55	103	Ø35

Performance diagrams

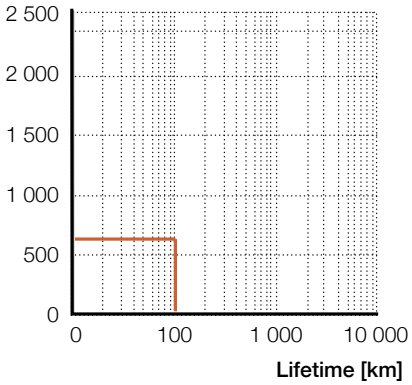
Axial force [N]



Radial load [N]



F_m [N]



BG65S – 1FK7022

— F_{cont} - - - F_{peak}

CASM–40–LS

— CASM–40–LS

Ordering key: See ↳ page 118

CASM-40-BS

Electric cylinder
servo motor, inline configuration

Technical data

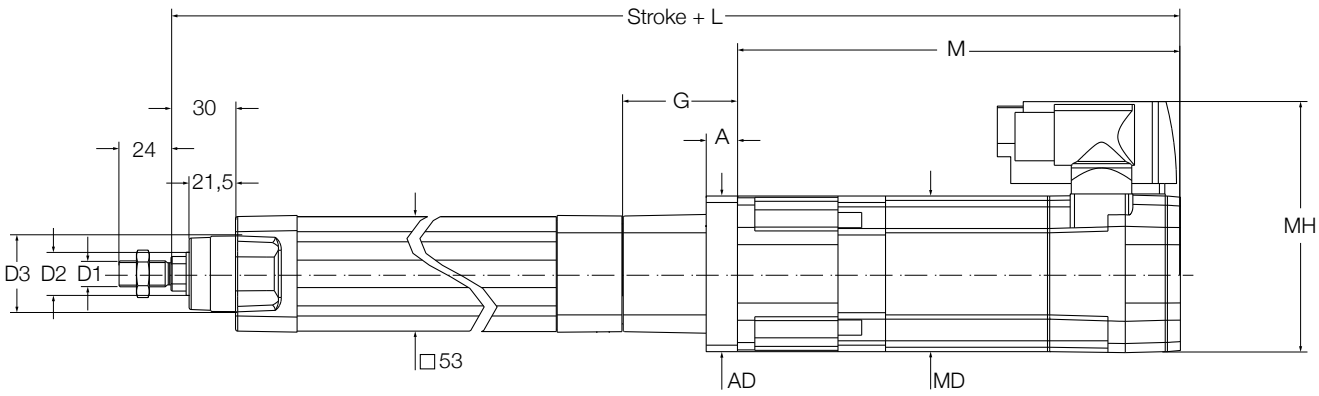
Designation	Symbol	Unit	BLDC motor BG65S	BLDC motor BG75	Servo motor 1FK7022	Servo motor 1FK7034
Performance Data						
Continuous force @ zero speed	F_{c0}	kN	0,673	1,239	0,908	1,709
Continuous force @ max. speed	F_{c}	kN	0,673	1,239	0,758	1,485
Peak force @ zero speed	F_{p0}	kN	1,805	2,375	2,375	2,375
Peak force @ max. speed	F_{p}	kN	0,673	1,453	2,375	2,375
Dynamic load capacity	C	kN	4,8	4,8	4,8	4,8
Holding force (motorbrake option)	F_{Hold}	kN	1,478	1,478	1,478	2,375
Max. linear speed	v_{max}	mm/s	298	300	300	300
Max. acceleration	a_{max}	m/s^2	6	6	6	6
Duty cycle	D	%	100	100	100	100
Mechanical Data						
Screw type	–	–	Ball screw	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	12	12	12	12
Screw lead	p_{screw}	mm	5	5	5	5
Lead accuracy	–	–	G7	G7	G7	G7
Stroke	s	mm	100…600	100…600	100…600	100…600
Internal overstroke each side	s_0	mm	1	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07	0,07
Gear reduction	i	–	1	1	1	1
Efficiency	η	%	72	77	73	75
Inertia @ 0 mm stroke	J	10^{-4} kgm^2	0,2596	0,7826	0,4106	1,0306
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm^2	0,0103	0,0103	0,0103	0,0103
Inertia of optional brake	J_{brake}	10^{-4} kgm^2	0	0,0000	0,0700	0,1000
Weight @ 0 mm stroke	m	kg	3,23	4,36	3,36	5,06
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,5	0,50	0,20	0,40
Electrical Data						
Motor type	–	-	Brushless DC	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	40	N/A	N/A
Nominal current	I	A	7	12,7	1,4	1,3
Peak current	I_{peak}	A	20	50,0	1,8	1,9
Nominal power	P	kW	0,236	0,450	0,400	0,600
Environment and Standards						
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S	54S
Standards	–	–	ISO 15554	ISO 15555	ISO 15556	ISO 15557

Ordering information

	BG65	BG75	1FK7022	1FK7034
Linear unit	see ↳ page 76	see ↳ page 76	see ↳ page 76	see ↳ page 76
Motor	BG65SX50PI	BG75X75PI	1FK7022-5AK71-1UH3	1FK7034-2AK71-1UH0
Adapter	ZBE-375571	ZBE-375579	ZBE-375538	ZBE-375545

For more information regarding motors and motor adapters, please visit ↳ page 67

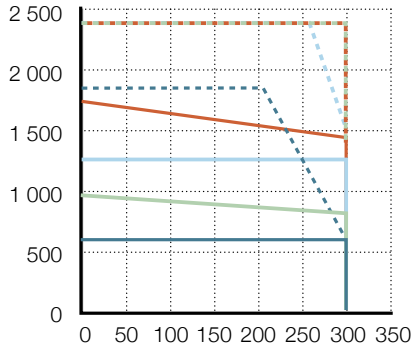
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG65S	M12 x 1,25	Ø20	Ø35	431	53,5	35	54	201	65	96,5
BG75	M12 x 1,25	Ø20	Ø35	462,9	52,4	14	75	234	75	100
1FK7022	M12 x 1,25	Ø20	Ø35	400,9	49,4	11	64	175	55	103
1FK7034	M12 x 1,25	Ø20	Ø35	428,9	52,4	14	72	200	72	117

Performance diagrams

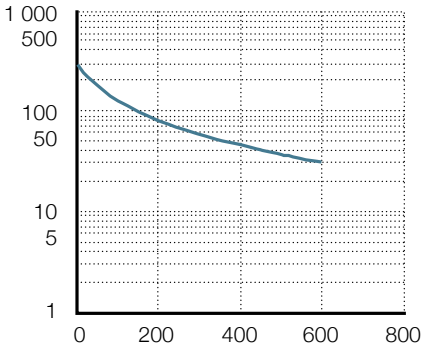
Axial force [N]



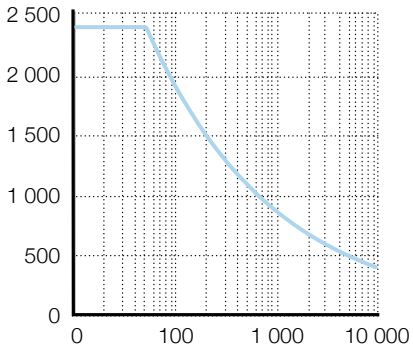
BG65S BG75 1FK7022 1FK7034

F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–40–BS

Ordering key: See ↳ page 118

CASM-40-BS

Electric cylinder
servo motor, parallel configuration

Technical data

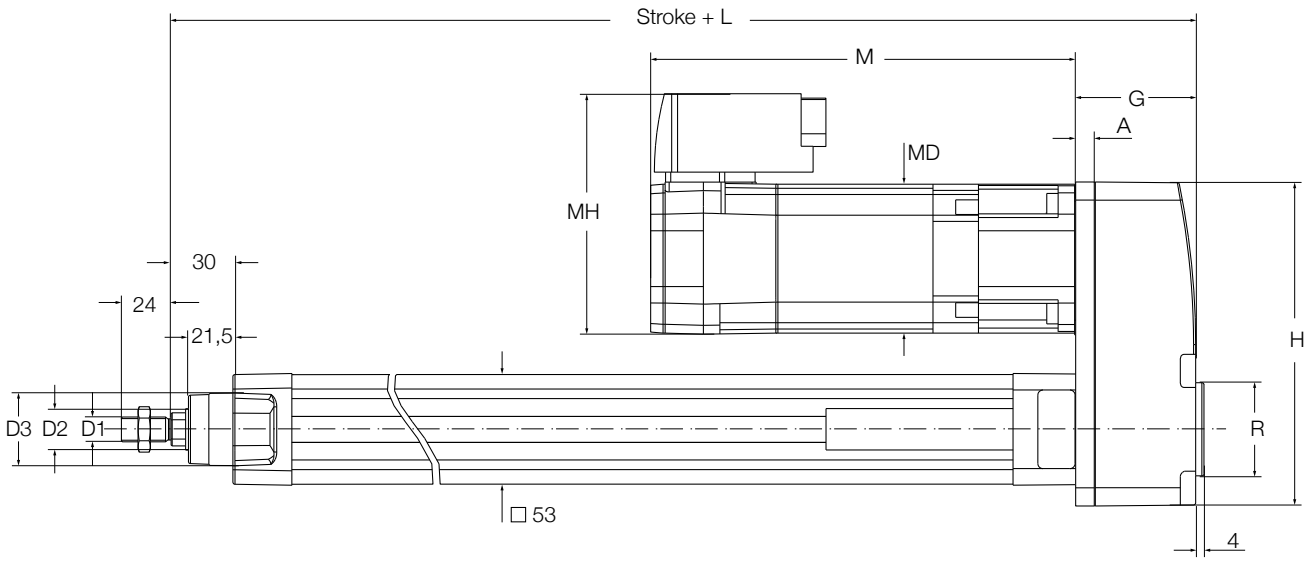
Designation	Symbol	Unit	BLDC motor BG65S	BLDC motor BG75	Servo motor 1FK7022	Servo motor 1FK7034
Performance Data						
Continuous force @ zero speed	F_{c0}	kN	0,666	1,227	0,899	1,692
Continuous force @ max. speed	F_c	kN	0,666	1,227	0,751	1,47
Peak force @ zero speed	F_{p0}	kN	1,787	2,375	2,375	2,375
Peak force @ max. speed	F_p	kN	0,666	1,438	2,375	2,375
Dynamic load capacity	C	kN	4,8	4,8	4,8	4,8
Holding force (motorbrake option)	F_{Hold}	kN	1,478	1,478	1,478	2,375
Max. linear speed	v_{max}	mm/s	298	300	300	300
Max. acceleration	a_{max}	m/s²	6	6	6	6
Duty cycle	D	%	100	100	100	100
Mechanical Data						
Screw type	–	–	Ball screw	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	12	12	12	12
Screw lead	p_{screw}	mm	5	5	5	5
Lead accuracy	–	–	G7	G7	G7	G7
Stroke	s	mm	100…600	100…600	100…600	100…600
Internal overstroke each side	s_0	mm	1	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07	0,07
Gear reduction	i	–	1	1	1	1
Efficiency	η	%	72	76	72	74
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,2624	0,8314	0,4134	1,0794
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0103	0,0103	0,0103	0,0103
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0	0,0000	0,0700	0,1000
Weight @ 0 mm stroke	m	kg	3,33	4,51	3,46	5,21
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,5	0,50	0,20	0,40
Electrical Data						
Motor type			Brushless DC	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	40	N/A	N/A
Nominal current	I	A	7	12,7	1,4	1,3
Peak current	I_{peak}	A	20	50,0	1,8	1,9
Nominal power	P	kW	0,236	0,450	0,400	0,600
Environment and Standards						
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S	54S
Standards	–	–	ISO 15558	ISO 15559	ISO 15560	ISO 15561

Ordering information

	BG65S	BG75	1FK7022	1FK7034
Linear unit	see ↳ page 76	see ↳ page 76	see ↳ page 76	see ↳ page 76
Motor	BG65SX50PI	BG75X75PI	1FK7022-5AK71-1UH3	1FK7034-2AK71-1UH0
Adapter	ZBE-375574	ZBE-375578	ZBE-375546	ZBE-375603

For more information regarding motors and motor adapters, please visit ↳ page 67

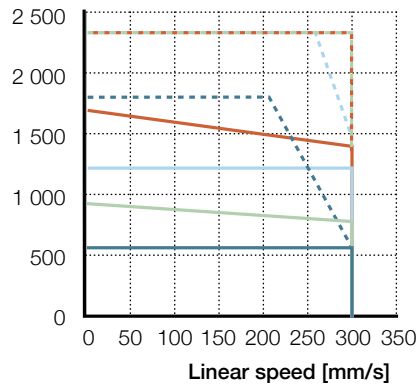
Dimensional drawing



Motor	D1	D2	D3	L	G	A	AD	M	MD	MH	R
		mm									
BG65S	M12 x 1,25	Ø20	Ø35	223	46,5	7	115,3	201	65	96,5	Ø35
BG75	M12 x 1,25	Ø20	Ø35	234,5	58	7	156,6	234	75	100	Ø45
1FK7022	M12 x 1,25	Ø20	Ø35	223,6	47,1	7	115,3	175	65	103	Ø35
1FK7034	M12 x 1,25	Ø20	Ø35	234,6	58,1	9	157,3	200	72	117	Ø45

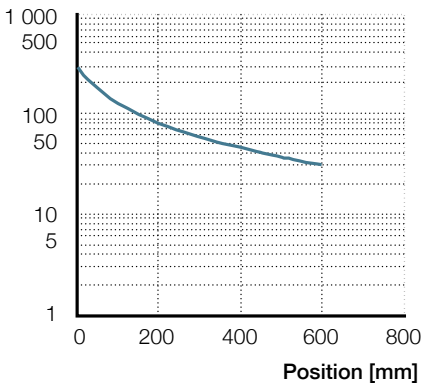
Performance diagrams

Axial force [N]

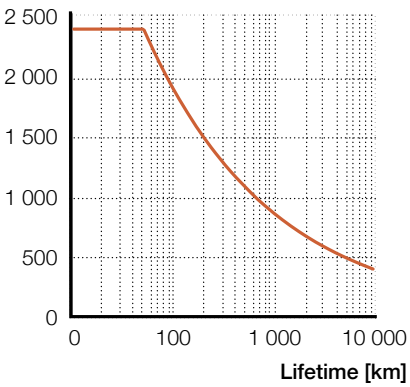


BG65S F_{cont} F_{peak} — BG75 F_{cont} F_{peak} — 1FK7022 F_{cont} F_{peak} — 1FK7034 F_{cont} $F_{peak\ p}$

Radial load [N]



F_m [N]



CASM–40–BS

Ordering key: See ↳ page 118

CASM-40-BN

Electric cylinder
servo motor, inline configuration

Technical data

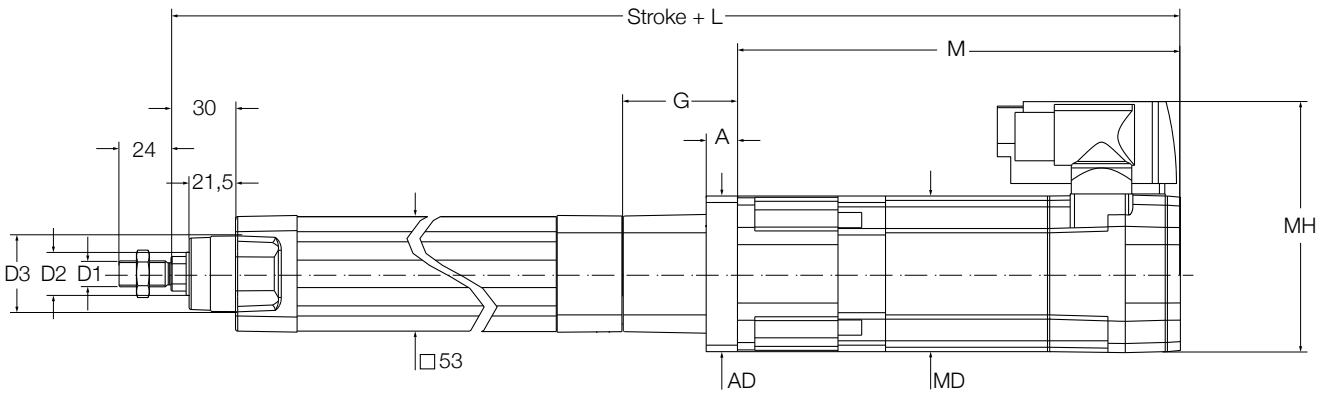
Designation	Symbol	Unit	BLDC motor BG65S	BLDC motor BG75	Servo motor 1FK7022	Servo motor 1FK7034
Performance Data						
Continuous force @ zero speed	F_{c0}	kN	0,268	0,494	0,362	0,681
Continuous force @ max. speed	F_{c}	kN	0,268	0,494	0,302	0,574
Peak force @ zero speed	F_{p0}	kN	0,719	1,550	1,447	1,550
Peak force @ max. speed	F_{p}	kN	0,268	0,494	1,447	1,550
Dynamic load capacity	C	kN	6	6	6	6
Holding force (motorbrake option)	F_{Hold}	kN	0,575	0,575	0,575	1,093
Max. linear speed	v_{max}	mm/s	756	783	826	826
Max. acceleration	a_{max}	m/s²	6	6	6	6
Duty cycle	D	%	100	100	100	100
Mechanical Data						
Screw type	–	–	Ball screw	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	12,7	12,7	12,7	12,7
Screw lead	p_{screw}	mm	12,7	12,7	12,7	12,7
Lead accuracy	–	–	G7	G7	G7	G7
Stroke	s	mm	100…600	100…600	100…600	100…600
Internal overstroke each side	s_0	mm	1	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07	0,07
Gear reduction	i	–	1	1	1	1
Efficiency	η	%	73	77	74	76
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,2629	0,7859	0,4139	1,0339
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0144	0,0144	0,0144	0,0144
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0	0,0000	0,0700	0,1000
Weight @ 0 mm stroke	m	kg	3,26	4,39	3,39	5,09
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,5	0,50	0,20	0,4
Electrical Data						
Motor type	–	-	Brushless DC	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	40	N/A	N/A
Nominal current	I	A	7	12,7	1,4	1,3
Peak current	I_{peak}	A	20	50,0	1,8	1,9
Nominal power	P	kW	0,236	0,450	0,400	0,600
Environment and Standards						
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG65S	BG75	1FK7022	1FK7034
Linear unit	see ↳ page 76	see ↳ page 76	see ↳ page 76	see ↳ page 76
Motor	BG65SX50PI	BG75X75PI	1FK7022-5AK71-1UH3	1FK7034-2AK71-1UH0
Adapter	ZBE-375571	ZBE-375579	ZBE-375538	ZBE-375545

For more information regarding motors and motor adapters, please visit ↳ page 67

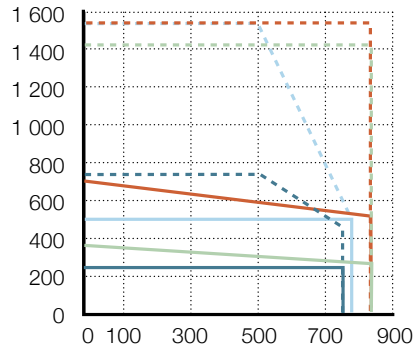
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG65S	M12 x 1,25	Ø20	Ø35	431	53,5	35	54	201	65	96,5
BG75	M12 x 1,25	Ø20	Ø35	462,9	52,4	14	75	234	75	100
1FK7022	M12 x 1,25	Ø20	Ø35	400,9	49,4	11	64	175	55	103
1FK7034	M12 × 1,25	Ø20	Ø35	428,9	52,4	14	72	200	72	117

Performance diagrams

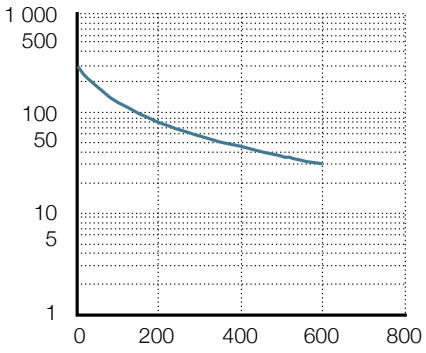
Axial force [N]



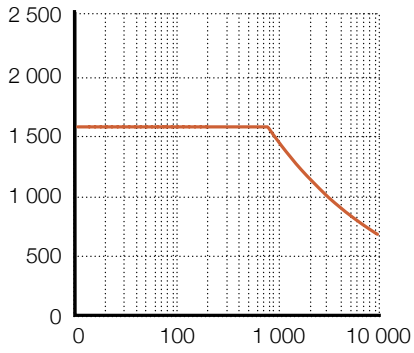
BG65S BG75 1FK7022 1FK7034

F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–40–BN

Ordering key: See ↳ page 118

CASM-40-BN

Electric cylinder
servo motor, parallel configuration

Technical data

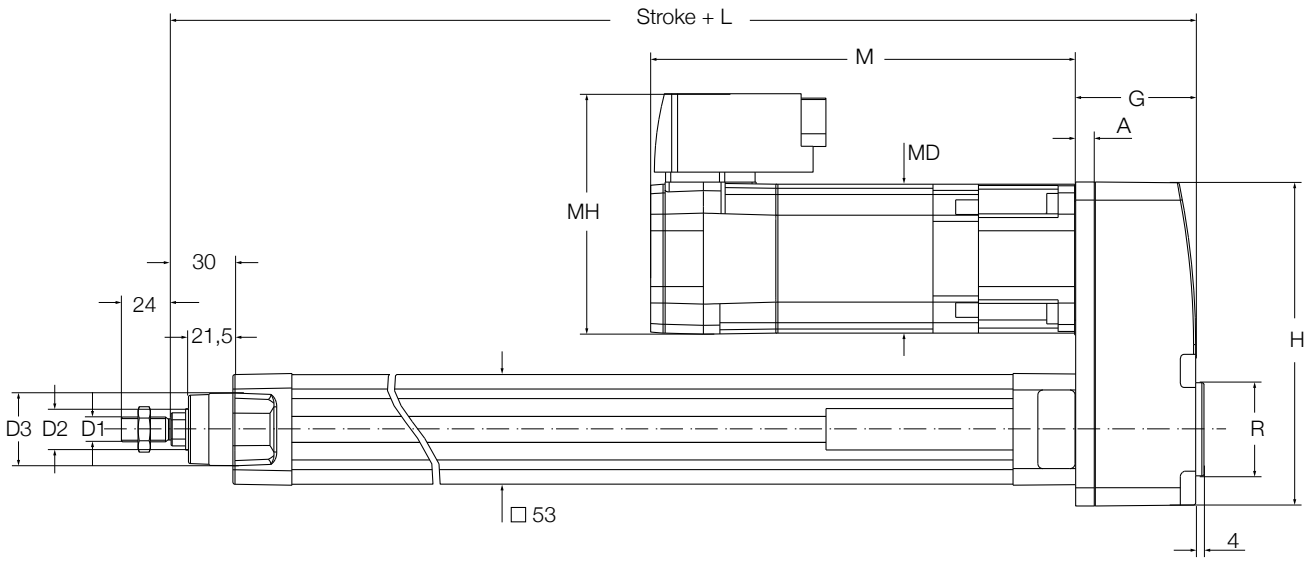
Designation	Symbol	Unit	BLDC motor BG65S	BLDC motor BG75	Servo motor 1FK7022	Servo motor 1FK7034
Performance Data						
Continuous force @ zero speed	F_{c0}	kN	0,265	0,489	0,358	0,674
Continuous force @ max. speed	F_c	kN	0,265	0,489	0,299	0,569
Peak force @ zero speed	F_{p0}	kN	0,712	1,276	1,276	1,276
Peak force @ max. speed	F_p	kN	0,265	0,489	1,276	1,276
Dynamic load capacity	C	kN	6	6	6	6
Holding force (motorbrake option)	F_{Hold}	kN	0,575	0,575	0,575	1,093
Max. linear speed	v_{max}	mm/s	756	783	826	826
Max. acceleration	a_{max}	m/s²	6	6	6	6
Duty cycle	D	%	100	100	100	100
Mechanical Data						
Screw type	–	–	Ball screw	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	12,7	12,7	12,7	12,7
Screw lead	p_{screw}	mm	12,7	12,7	12,7	12,7
Lead accuracy	–	–	G7	G7	G7	G7
Stroke	s	mm	100…600	100…600	100…600	100…600
Internal overstroke each side	s_0	mm	1	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07	0,07
Gear reduction	i	–	1	1	1	1
Efficiency	η	%	72	77	73	75
Inertia @ 0 mm stroke	J	10^{-4} kgm²	0,2657	0,8347	0,4167	1,0827
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0144	0,0144	0,0144	0,0144
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0	0,0000	0,0700	0,1000
Weight @ 0 mm stroke	m	kg	3,36	4,54	3,49	5,24
Δ weight per 100 mm stroke	Δm	kg	0,46	0,46	0,46	0,46
Weight of optional brake	m_{brake}	kg	0,5	0,50	0,20	0,40
Electrical Data						
Motor type			Brushless DC	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	40	N/A	N/A
Nominal current	I	A	7	12,7	1,4	1,3
Peak current	I_{peak}	A	20	50,0	1,8	1,9
Nominal power	P	kW	0,236	0,450	0,400	0,600
Environment and Standards						
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG65S	BG75	1FK7022	1FK7034
Linear unit	see ↳ page 78	see ↳ page 78	see ↳ page 78	see ↳ page 78
Motor	BG65SX50PI	BG75X75PI	1FK7022-5AK71-1UH3	1FK7034-2AK71-1UH0
Adapter	ZBE-375574	ZBE-375578	ZBE-375546	ZBE-375603

For more information regarding motors and motor adapters, please visit ↳ page 67

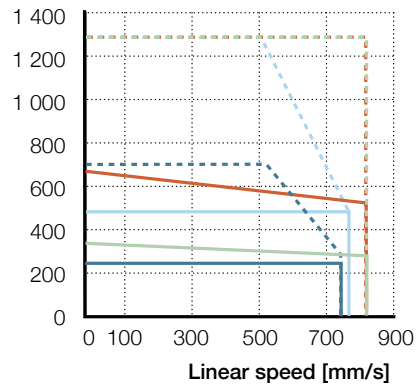
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH	R
BG65S	M12 x 1,25	Ø20	Ø35	223	46.5	7	115,3	201	65	96,5	Ø35
BG75	M12 x 1,25	Ø20	Ø35	234,5	58	7	156,6	234	75	100	Ø45
1FK7022	M12 x 1,25	Ø20	Ø35	223,6	47.1	7	115,3	175	55	103	Ø35
1FK7034	M12 x 1,25	Ø20	Ø35	234,6	58.1	9	157,3	200	72	117	Ø45

Performance diagrams

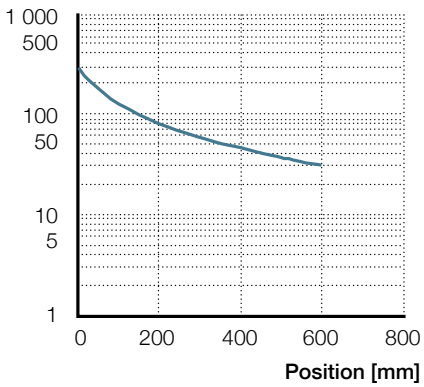
Axial force [N]



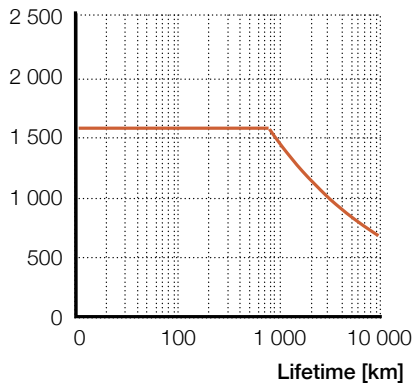
BG65S BG75 1FK7022 1FK7034

F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak} F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–40–BN

Ordering key: See ↳ page 118

CASM-63-LS

Electric cylinder
servo motor, inline configuration

Technical data

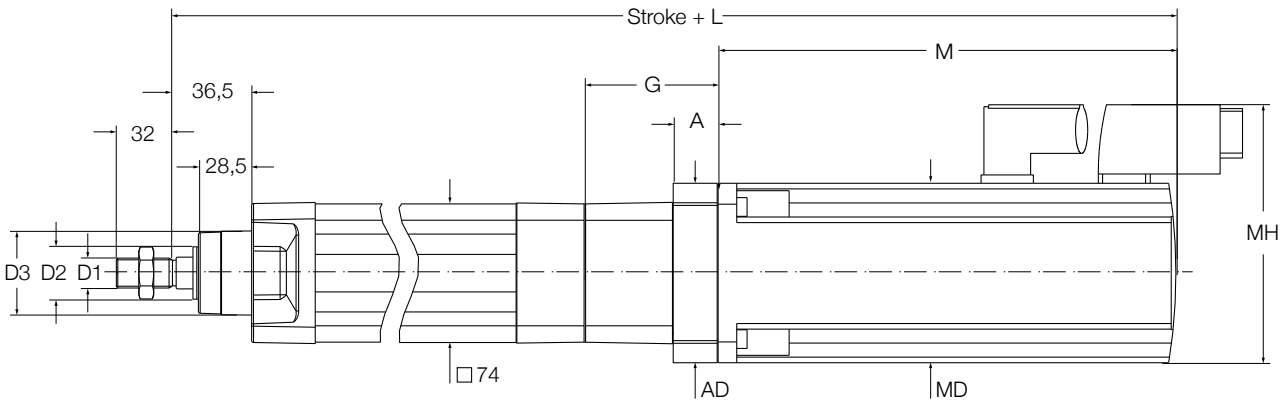
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,711	0,980
Continuous force @ max. speed	F_c	kN	0,114	0,114
Peak force @ zero speed	F_{p0}	kN	1,000	1,000
Peak force @ max. speed	F_p	kN	1,000	1,000
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN	–	–
Max. linear speed	v_{max}	mm/s	70	70
Max. acceleration	a_{max}	m/s^2	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	20	20
Screw lead	p_{screw}	mm	4	4
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	100…800	100…800
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	35	34
Inertia @ 0 mm stroke	J	10^{-4} kgm^2	1,6120	1,8600
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm^2	0,0809	0,0809
Inertia of optional brake	J_{brake}	10^{-4} kgm^2	0,0000	0,1000
Weight @ 0 mm stroke	m	kg	5,95	6,65
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40
Electrical Data				
Motor type	–	-	Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	12,7	1,3
Peak current	I_{peak}	A	50,0	1,9
Nominal power	P	kW	0,450	0,600
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034
Linear unit	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0
Adapter	ZBE-375572	ZBE-375544

For more information regarding motors and motor adapters, please visit ↳ page 67

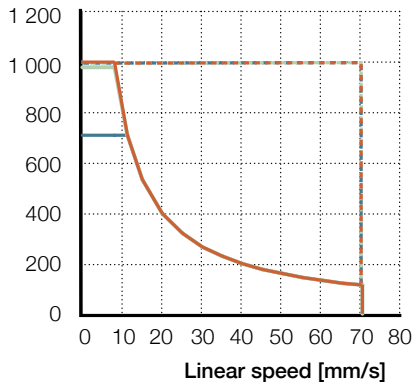
Dimensional drawing



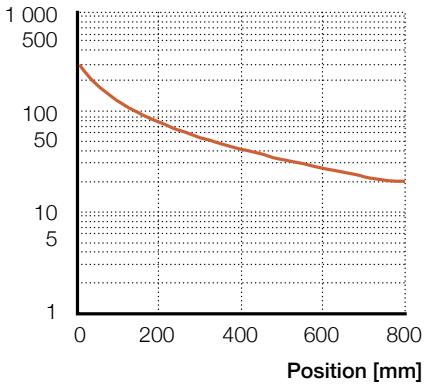
Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG75	M16 x 1,5	Ø28	Ø45	515,1	67,1	20	75	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	476,4	62,4	15	75	200	72	117

Performance diagrams

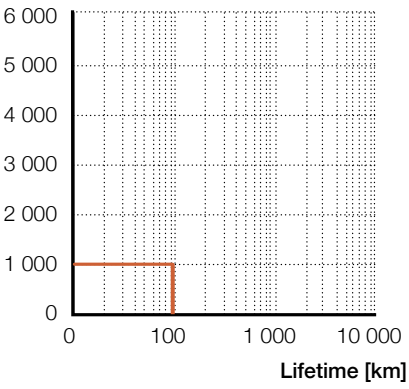
Axial force [N]



Radial load [N]



F_m [N]



BG75
F_{cont}
F_{peak}

1FK7034
F_{cont}
F_{peak}

1FK7034
F_{cont}
F_{peak}

CASM–63–LS

Ordering key: See ↳ page 118

CASM-63-LS

Electric cylinder
servo motor, parallel configuration

Technical data

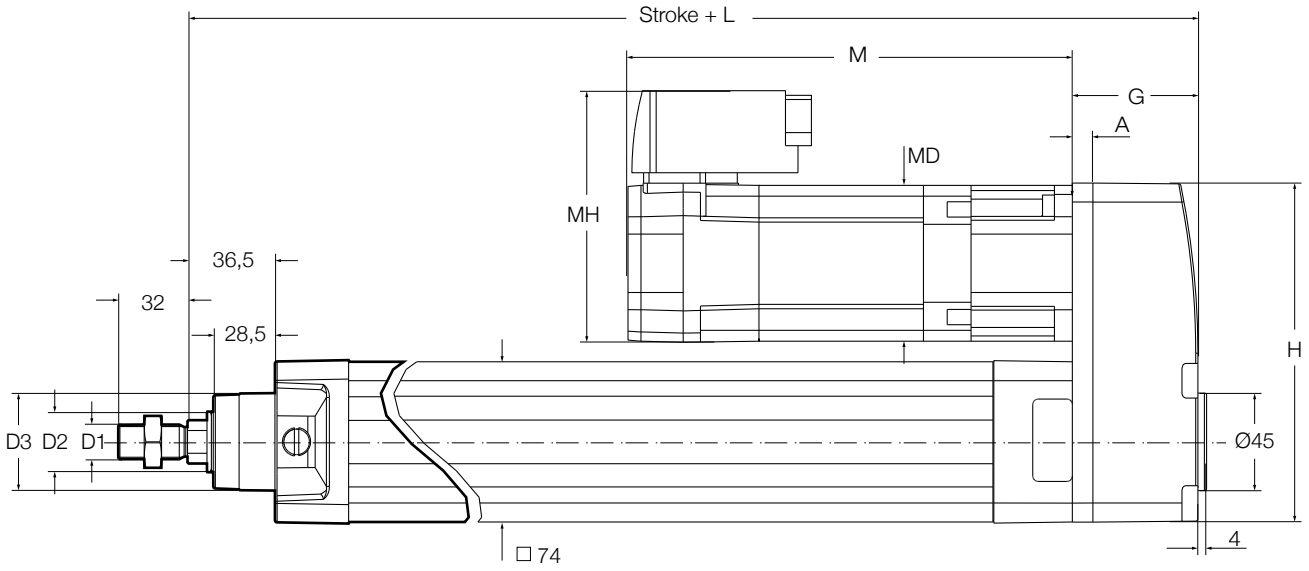
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,704	0,970
Continuous force @ max. speed	F_c	kN	0,114	0,114
Peak force @ zero speed	F_{p0}	kN	1,000	1,000
Peak force @ max. speed	F_p	kN	1,000	1,000
Dynamic load capacity	C	kN	N/A	N/A
Holding force (motorbrake option)	F_{Hold}	kN		
Max. linear speed	v_{max}	mm/s	70	70
Max. acceleration	a_{max}	m/s²	1	1
Duty cycle	D	%	60	60
Mechanical Data				
Screw type	–	–	Lead screw	Lead screw
Screw diameter	d_{screw}	mm	20	20
Screw lead	p_{screw}	mm	4	4
Lead accuracy	–	–	N/A	N/A
Stroke	s	mm	100…800	100…800
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	N/A	N/A
Gear reduction	i	–	1	1
Efficiency	η	%	35	34
Inertia @ 0 mm stroke	J	10^{-4} kgm²	1,4668	1,7148
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0809	0,0809
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,1000
Weight @ 0 mm stroke	m	kg	6,05	6,75
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40
Electrical Data				
Motor type			Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	12,7	1,3
Peak current	I_{peak}	A	50,0	1,9
Nominal power	P	kW	0,450	0,600
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034
Linear unit	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0
Adapter	ZBE-375575	ZBE-375543

For more information regarding motors and motor adapters, please visit ↳ page 67

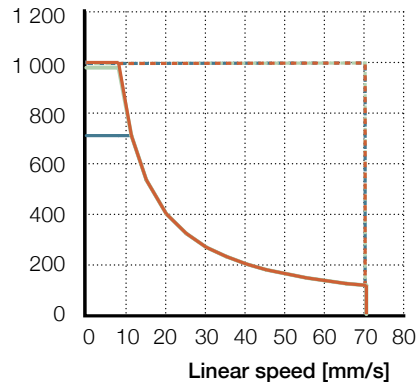
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG75	M16 x 1,5	Ø28	Ø45	281,1	39,5	9	157,3	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	272,1	58,1	9	157,3	200	72	117

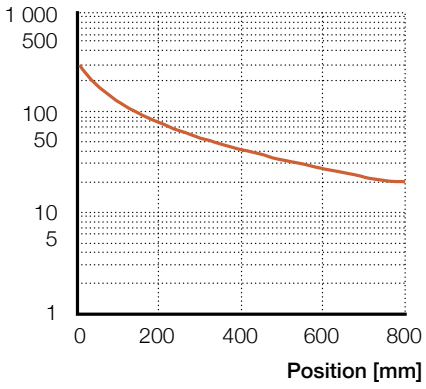
Performance diagrams

Axial force [N]

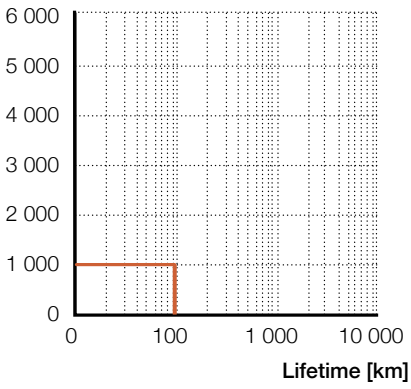


BG75 — F_{cont}, F_{peak} | 1FK7034 — F_{cont}, F_{peak} | 1FK7034 — F_{cont}, F_{peak}

Radial load [N]



F_m [N]



CASM–63–LS

Ordering key: See ↳ page 118

CASM-63-BN

Electric cylinder
servo motor, inline configuration

Technical data

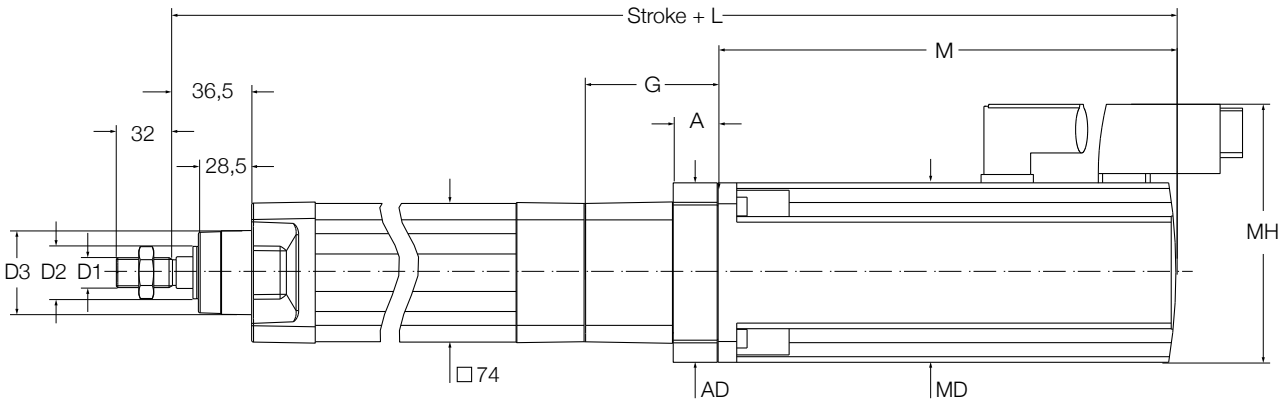
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034	Servo motor 1FK7044
Performance Data					
Continuous force @ zero speed	F_{c0}	kN	0,620	0,855	2,403
Continuous force @ max. speed	F_c	kN	0,620	0,769	1,933
Peak force @ zero speed	F_{p0}	kN	2,190	3,471	5,400
Peak force @ max. speed	F_p	kN	1,081	3,471	5,400
Dynamic load capacity	C	kN	21	21	21
Holding force (motorbrake option)	F_{Hold}	kN	0,739	1,404	2,956
Max. linear speed	v_{max}	mm/s	533	533	533
Max. acceleration	a_{max}	m/s^2	6	6	6
Duty cycle	D	%	100	100	100
Mechanical Data					
Screw type	–	–	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	20	20	20
Screw lead	p_{screw}	mm	10	10	10
Lead accuracy	–	–	G7	G7	G7
Stroke	s	mm	100…800	100…800	100…800
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07
Gear reduction	i	–	1	1	1
Efficiency	η	%	77	75	77
Inertia @ 0 mm stroke	J	$10^{-4}\,kgm^2$	1,6120	1,8600	2,2200
Δ Inertia per 100 mm stroke	ΔJ	$10^{-4}\,kgm^2$	0,0809	0,0809	0,0809
Inertia of optional brake	J_{brake}	$10^{-4}\,kgm^2$	0,0000	0,1000	0,3600
Weight @ 0 mm stroke	m	kg	6,05	6,75	10,65
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40	0,60
Electrical Data					
Motor type	–	-	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	N/A	N/A
Nominal current	I	A	12,7	1,3	3,9
Peak current	I_{peak}	A	50,0	1,9	5,4
Nominal power	P	kW	0,450	0,600	1,400
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034	1FK7044
Linear unit	see ↳ page 78	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0	1FK7044-4CH71-1UH0
Adapter	ZBE-375572	ZBE-375544	ZBE-375535

For more information regarding motors and motor adapters, please visit ↳ page 67

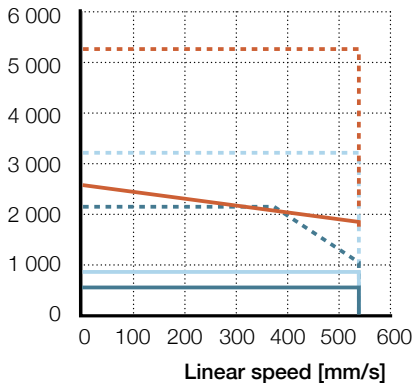
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG75	M16 x 1,5	Ø28	Ø45	515,1	67,1	20	75	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	476,4	62,4	15	75	200	72	117
1FK7044	M16 x 1,5	Ø28	Ø45	529,9	70,9	23,5	96	245	96	138

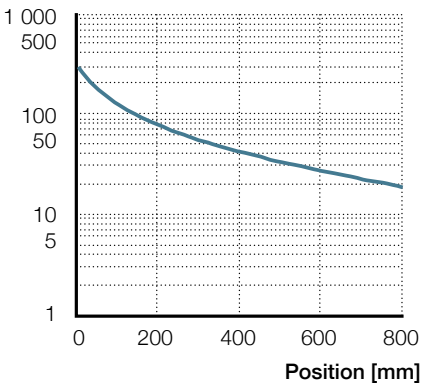
Performance diagrams

Axial force [N]

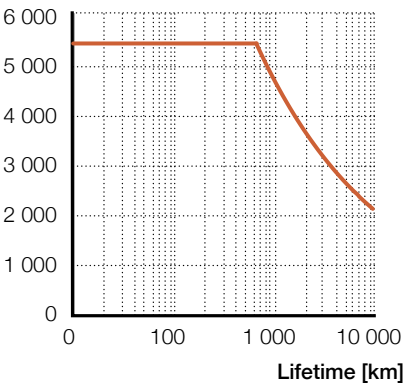


BG75 — F_{cont}, F_{peak} | 1FK7034 — F_{cont}, F_{peak} | 1FK7044 — F_{cont}, F_{peak}

Radial load [N]



F_m [N]



CASM–63–BN

Ordering key: See ↳ page 118

CASM-63-BN

Electric cylinder
servo motor, parallel configuration

Technical data

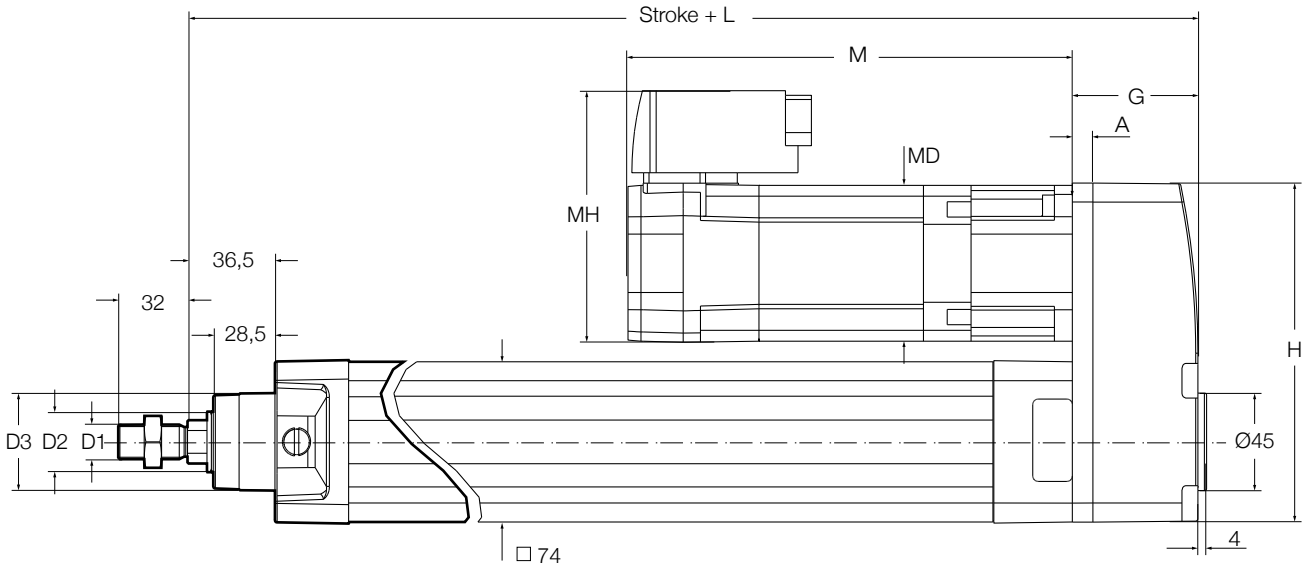
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,613	0,846
Continuous force @ max. speed	F_c	kN	0,613	0,761
Peak force @ zero speed	F_{p0}	kN	2,168	2,937
Peak force @ max. speed	F_p	kN	1,070	2,937
Dynamic load capacity	C	kN	21	21
Holding force (motorbrake option)	F_{Hold}	kN	0,739	1,404
Max. linear speed	v_{max}	mm/s	533	533
Max. acceleration	a_{max}	m/s²	6	6
Duty cycle	D	%	100	100
Mechanical Data				
Screw type	–	–	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	20	20
Screw lead	p_{screw}	mm	10	10
Lead accuracy	–	–	G7	G7
Stroke	s	mm	100…800	100…800
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07
Gear reduction	i	–	1	1
Efficiency	η	%	76	74
Inertia @ 0 mm stroke	J	10^{-4} kgm²	1,4668	1,7148
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0809	0,0809
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,1000
Weight @ 0 mm stroke	m	kg	6,15	6,85
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	12,7	1,3
Peak current	I_{peak}	A	50	1,9
Nominal power	P	kW	0,450	0,600
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034
Linear unit	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0
Adapter	ZBE-375575	ZBE-375543

For more information regarding motors and motor adapters, please visit ↳ page 67

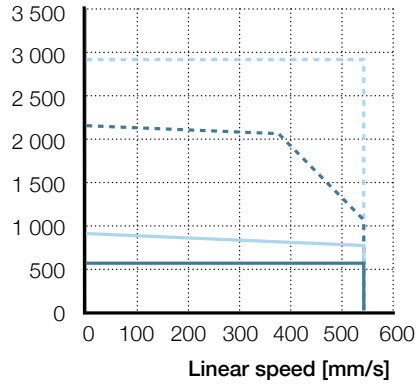
Dimensional drawing



Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG75	M16 x 1,5	Ø28	Ø45	281,1	39,5	9	157,3	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	272,1	58,1	9	157,3	200	72	117

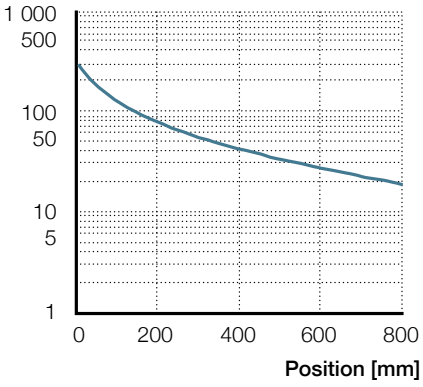
Performance diagrams

Axial force [N]

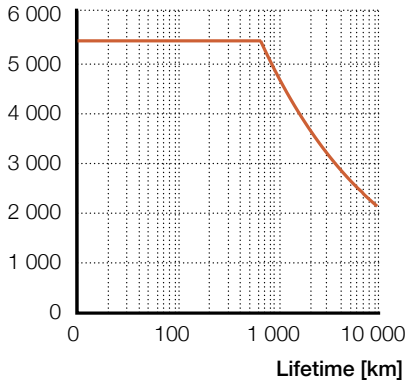


BG75 — F_{cont} F_{peak} | 1FK7034 — F_{cont} F_{peak}

Radial load [N]



F_m [N]



CASM–63–BN

Ordering key: See ↳ page 118

CASM-63-BF

Electric cylinder
servo motor, inline configuration

Technical data

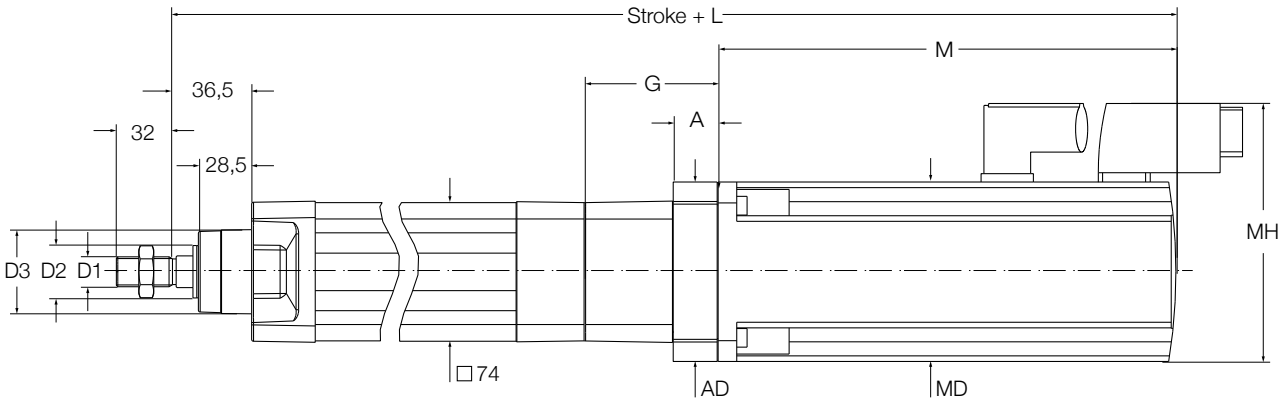
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034	Servo motor 1FK7044
Performance Data					
Continuous force @ zero speed	F_{c0}	kN	0,313	0,432	1,216
Continuous force @ max. speed	F_c	kN	0,313	0,389	0,978
Peak force @ zero speed	F_{p0}	kN	1,108	1,756	2,800
Peak force @ max. speed	F_p	kN	0,547	1,756	2,800
Dynamic load capacity	C	kN	10	10	10
Holding force (motorbrake option)	F_{Hold}	kN	0,365	0,694	1,461
Max. linear speed	v_{max}	mm/s	1 067	1 067	1 067
Max. acceleration	a_{max}	m/s^2	6	6	6
Duty cycle	D	%	100%	100	100
Mechanical Data					
Screw type	–	–	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	20	20	20
Screw lead	p_{screw}	mm	20	20	20
Lead accuracy	–	–	G7	G7	G7
Stroke	s	mm	100…800	100…800	100…800
Internal overstroke each side	s_0	mm	1	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07	0,07
Gear reduction	i	–	1	1	1
Efficiency	η	%	77	76	78
Inertia @ 0 mm stroke	J	$10^{-4}\,kgm^2$	1,6156	1,8636	2,2236
Δ Inertia per 100 mm stroke	ΔJ	$10^{-4}\,kgm^2$	0,0855	0,0855	0,0855
Inertia of optional brake	J_{brake}	$10^{-4}\,kgm^2$	0	0,1000	0,3600
Weight @ 0 mm stroke	m	kg	6,05	6,75	10,65
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40	0,60
Electrical Data					
Motor type	–	-	Brushless DC	Servo	Servo
Nominal voltage	U	V DC	40	N/A	N/A
Nominal current	I	A	12,7	1,3	3,9
Peak current	I_{peak}	A	50,0	1,9	5,4
Nominal power	P	kW	0,450	0,600	1,400
Environment and Standards					
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50	0…+50
Degree of protection	IP	–	54S	54S	54S
Standards	–	–	ISO 15552	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034	1FK7044
Linear unit	see ↳ page 78	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0	1FK7044-4CH71-1UH0
Adapter	ZBE-375572	ZBE-375544	ZBE-375535

For more information regarding motors and motor adapters, please visit ↳ page 67

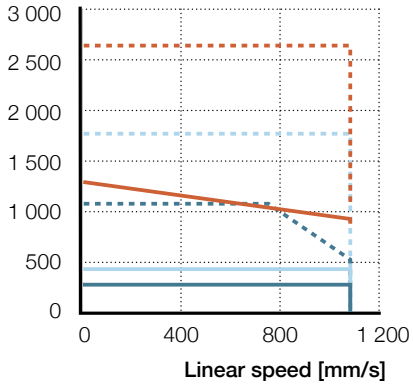
Dimensional drawing



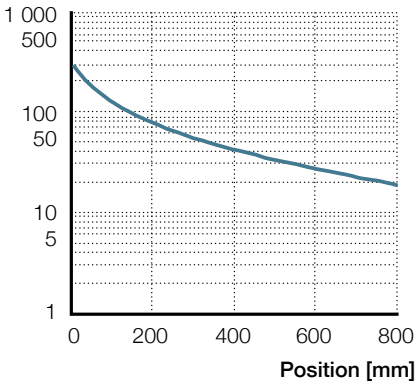
Motor	D1	D2 mm	D3	L	G	A	AD	M	MD	MH
BG75	M16 x 1,5	Ø28	Ø45	515,1	67,1	20	75	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	476,4	62,4	15	75	200	72	117
1FK7044	M16 x 1,5	Ø28	Ø45	529,9	70,9	23,5	96	245	96	138

Performance diagrams

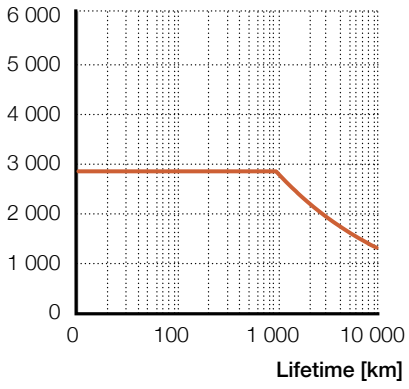
Axial force [N]



Radial load [N]



F_m [N]



BG75
F_{cont}
F_{peak}

1FK7034
F_{cont}
F_{peak}

1FK7044
F_{cont}
F_{peak}

CASM–63–BF

Ordering key: See ↳ page 118

CASM-63-BF

Electric cylinder
servo motor, parallel configuration

Technical data

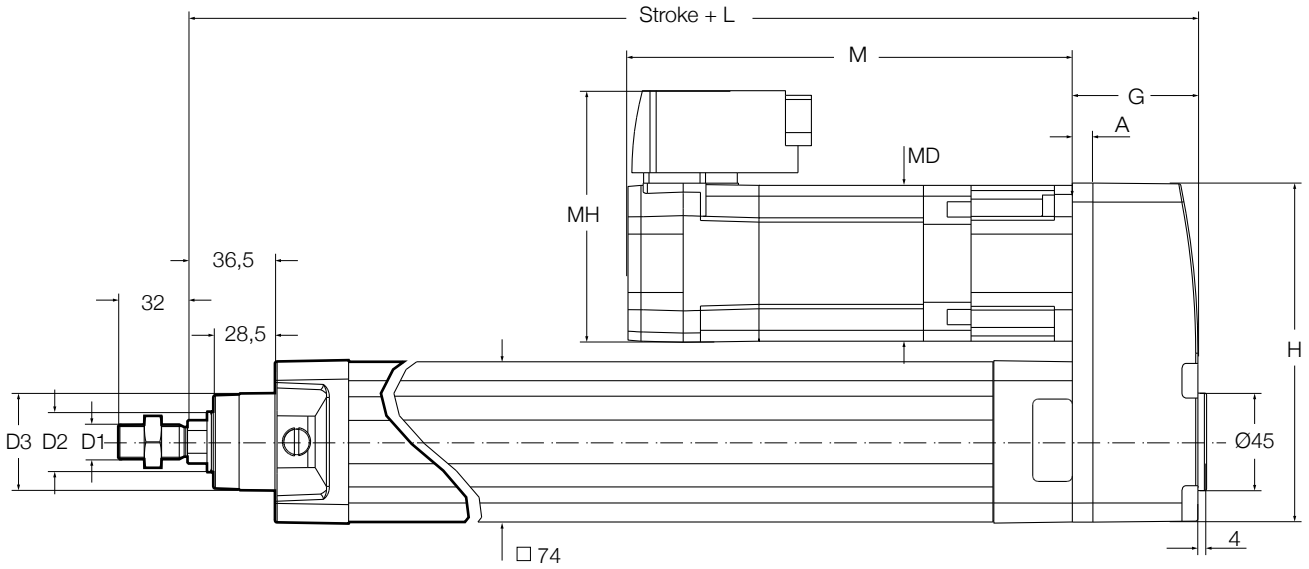
Designation	Symbol	Unit	BLDC motor BG75	Servo motor 1FK7034
Performance Data				
Continuous force @ zero speed	F_{c0}	kN	0,310	0,428
Continuous force @ max. speed	F_c	kN	0,310	0,385
Peak force @ zero speed	F_{p0}	kN	1,097	1,486
Peak force @ max. speed	F_p	kN	0,541	1,486
Dynamic load capacity	C	kN	10	10
Holding force (motorbrake option)	F_{Hold}	kN	0,365	0,694
Max. linear speed	v_{max}	mm/s	1 067	1 067
Max. acceleration	a_{max}	m/s²	6	6
Duty cycle	D	%	100	100
Mechanical Data				
Screw type	–	–	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	20	20
Screw lead	p_{screw}	mm	20	20
Lead accuracy	–	–	G7	G7
Stroke	s	mm	100…800	100…800
Internal overstroke each side	s_0	mm	1	1
Backlash	$s_{backlash}$	mm	0,07	0,07
Gear reduction	i	–	1	1
Efficiency	η	%	77	75
Inertia @ 0 mm stroke	J	10^{-4} kgm²	1,4704	1,7184
Δ Inertia per 100 mm stroke	ΔJ	10^{-4} kgm²	0,0855	0,0855
Inertia of optional brake	J_{brake}	10^{-4} kgm²	0,0000	0,1000
Weight @ 0 mm stroke	m	kg	6,15	6,85
Δ weight per 100 mm stroke	Δm	kg	0,81	0,81
Weight of optional brake	m_{brake}	kg	0,50	0,40
Electrical Data				
Motor type	–	–	Brushless DC	Servo
Nominal voltage	U	V DC	40	N/A
Nominal current	I	A	12,7	1,3
Peak current	I_{peak}	A	50,0	1,9
Nominal power	P	kW	0,450	0,600
Environment and Standards				
Ambient temperature	$T_{ambient}$	°C	0…+50	0…+50
Degree of protection	IP	–	54S	54S
Standards	–	–	ISO 15552	ISO 15552

Ordering information

	BG75	1FK7034
Linear unit	see ↳ page 78	see ↳ page 78
Motor	BG75X75PI	1FK7034-2AK71-1UH0
Adapter	ZBE-375575	ZBE-375543

For more information regarding motors and motor adapters, please visit ↳ page 67

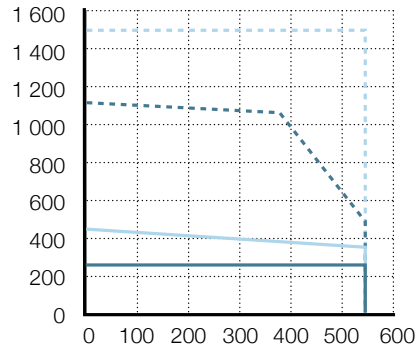
Dimensional drawing



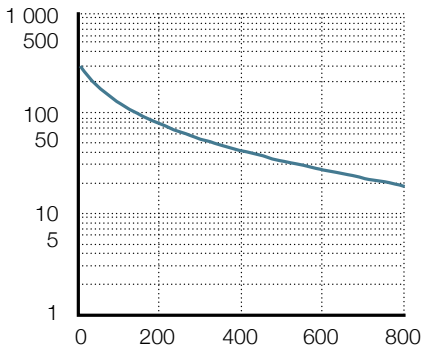
Motor	D1	D2	D3	L	G	A	AD	M	MD	MH
		mm								
BG75	M16 x 1,5	Ø28	Ø45	281,1	39,5	9	157,3	234	75	100
1FK7034	M16 x 1,5	Ø28	Ø45	272,1	58,1	9	157,3	200	72	117

Performance diagrams

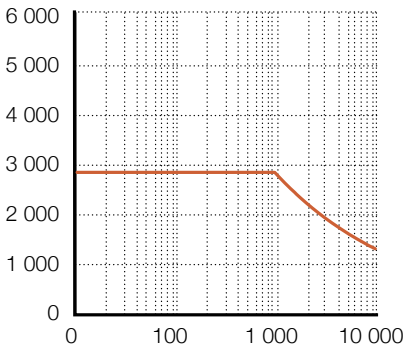
Axial force [N]



Radial load [N]



F_m [N]



BG75 — F_{cont}, F_{peak}

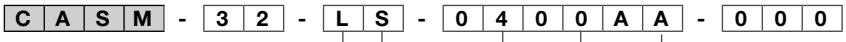
1FK7034 — F_{cont}, F_{peak}

CASM–63–BF

Ordering key: See ↳ page 118

Ordering key

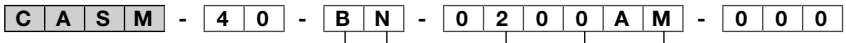
Linear units



Screw
LS Lead screw 9x1,5 mm
BS Ball screw 10x3 mm
BN Ball screw 10x10 mm

Stroke
50 mm
100 mm
150 mm
200 mm
300 mm
400 mm

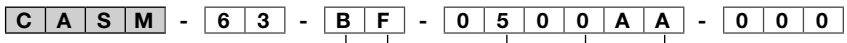
Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted



Screw
LS Lead screw 12,5×2,5 mm
BS Ball screw 12×5 mm
BN Ball screw 12,7×12,7 mm

Stroke:
100 mm
200 mm
300 mm
400 mm
500 mm
600 mm

Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted



Screw
LS Lead screw 20×4 mm
BN Ball screw 20×10 mm
BF Ball screw 20×20 mm

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

Option[1)]
A Motor, adapter and accessories separately delivered
M Motor, adapter and foot mountings[2)] pre-mounted

[1)] Motor, adapter kit and accessories need to be ordered separately
[2)] Foot mountings pre-mounted on inline version only

Servo motors

Motor
1FK7015-5AK71-1SH3
1FK7022-5AK71-1UH3
1FK7034-2AK71-1UH0
1FK7044-4CH71-1UH0

Brushless DC motors

Motor
BG45x30PI
BG65Sx50PI
BG75x75PI

Adapters for Servo motors

Motor	CASM-32		CASM-40		CASM-63	
	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter
1FK7015-5AK-71-1SH3	ZBE-375530	ZBE-375540	–	–	–	–
1FK7022-5AK71-1UH3	ZBE-375537	–	ZBE-375538	ZBE-375546	–	–
1FK7034-2AK71-1UH0	–	–	ZBE-375545	ZBE-375603	ZBE-375544	ZBE-375543
1FK7044-4CH71-1UH0	–	–	–	–	ZBE-375535	–

Adapters for brushless DC motors

Motor	CASM-32		CASM-40		CASM-63	
	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter	Inline adapter	Parallel adapter
BG45x30PI	ZBE-375570	ZBE-375573	–	–	–	–
BG65Sx50 PI	–	–	ZBE-375571	ZBE-375574	–	–
BG75x75 PI	–	–	ZBE-375579	ZBE-375578	ZBE-375572	ZBE-375575

Example

To order a CASM-32 with BG45 motor and parallel adapter the ordering key is the following:

CASM-32-BN-0150AM-000

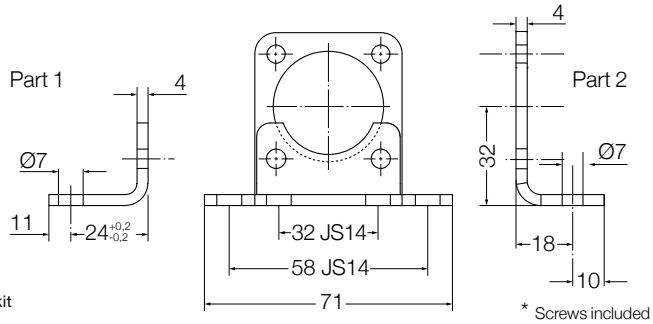
BG45x30PI

ZBE-375573

Accessories

CASM-32

Foot mounting kit*

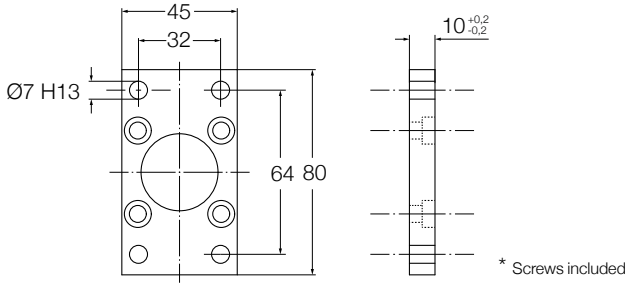


Note:
The foot mounting between the linear unit and the adapter kit increases the length of the inline version by 4 mm

Ordering key
ZBE–375501–32
For parallel version (2x part 1)

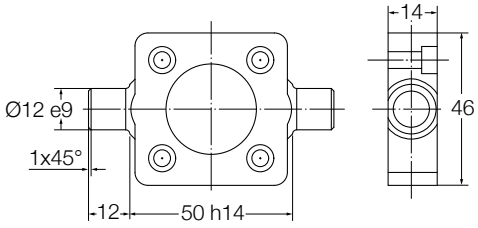
Ordering key
ZBE–375507–32
For inline version (part 1 + part 2)

Flange mounting kit*



Ordering key
ZBE–375502–32

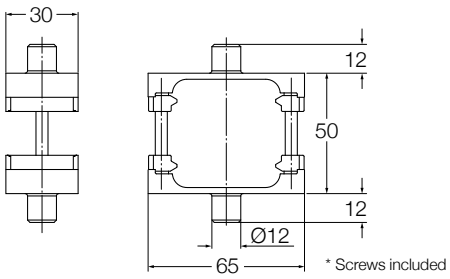
Trunnion flange kit*



* Screws included

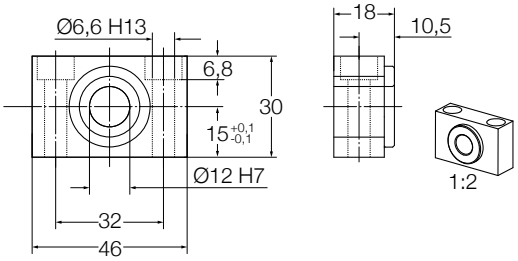
Ordering key
ZBE–375503–32

Trunnion mounting kit*



Ordering key
ZBE–375508–32

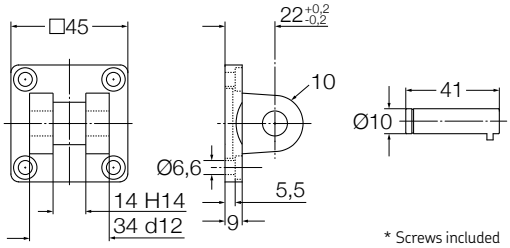
Trunnion support pair



Note:
to be used with trunnion flange kit or trunnion mounting kit

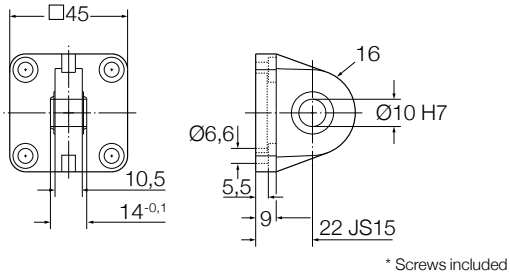
Ordering key
ZBE–375509–32

Swivel flange*



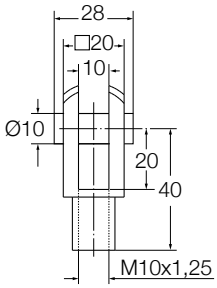
Ordering key
ZBE–375504–32
For parallel version only

Swivel flange with rod end*



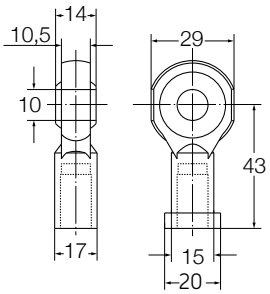
Ordering key
ZBE–375506–32
For parallel version only

Rod clevis



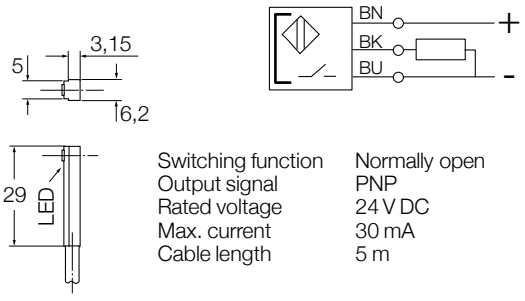
Ordering key
ZBE–375510–32

Rod end



Ordering key
ZBE–375511–32

Proximity sensor



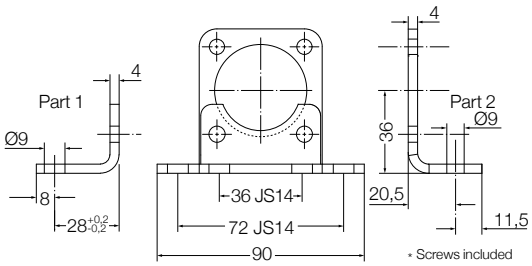
Switching function	Normally open
Output signal	PNP
Rated voltage	24 V DC
Max. current	30 mA
Cable length	5 m

Ordering key
ZSC–375525–NO

CASM-40

Foot mounting kit*

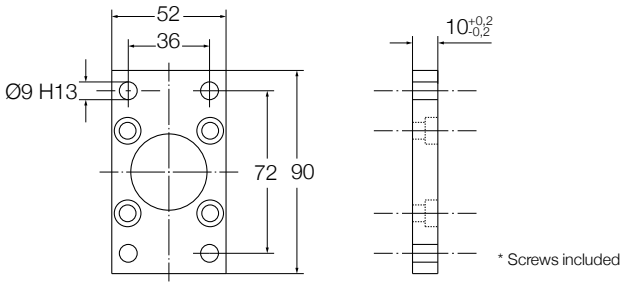
Note:
The foot mounting between the linear unit and the adapter kit increases the length of the inline version by 4 mm



Ordering key
ZBE–375501–40
For parallel version with large adapter (dimensional information on request)

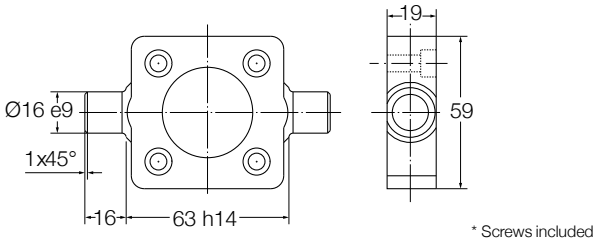
Ordering key
ZBE–375507–40
For inline version (part 1 + part 2)

Flange mounting kit*



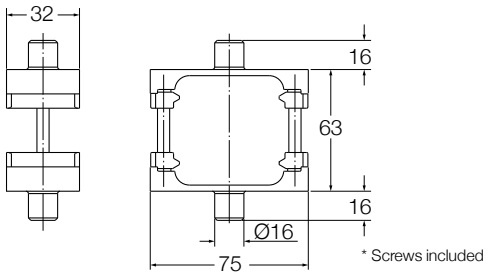
Ordering key
ZBE–375502–40

Trunnion flange kit*



Ordering key
ZBE–375503–40

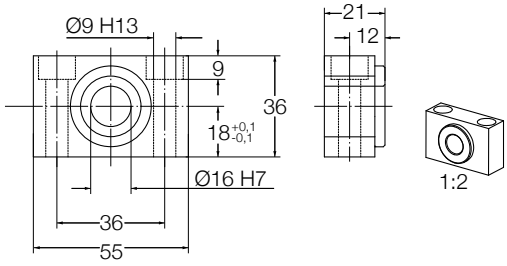
Trunnion mounting kit*



Ordering key
ZBE–375508–40

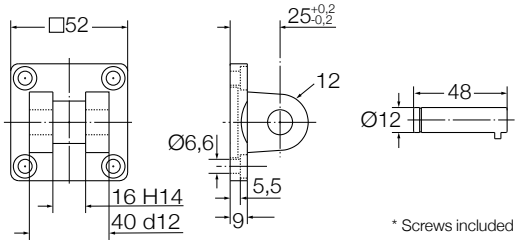
Trunnion support pair

Note:
to be used with trunnion flange kit or trunnion mounting kit



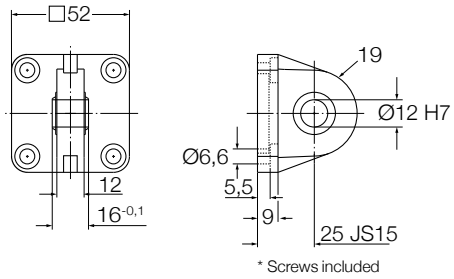
Ordering key
ZBE–375509–40

Swivel flange*



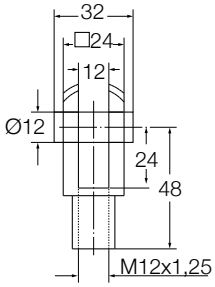
Ordering key
ZBE–375504–40
For parallel version only. For parallel adapters ZBE-375603 and ZBE-375578 see CASM-63 equivalent accessories.

Swivel flange with rod end*



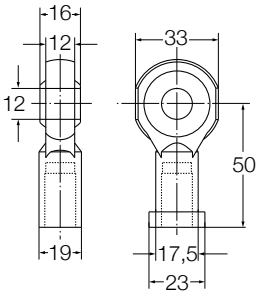
Ordering key
ZBE–375506–40
For parallel version only. For parallel adapters ZBE-375603 and ZBE-375578 see CASM-63 equivalent accessories.

Rod clevis



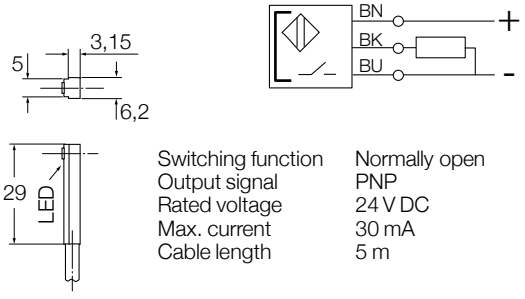
Ordering key
ZBE–375510–40

Rod end



Ordering key
ZBE–375511–40

Proximity sensor



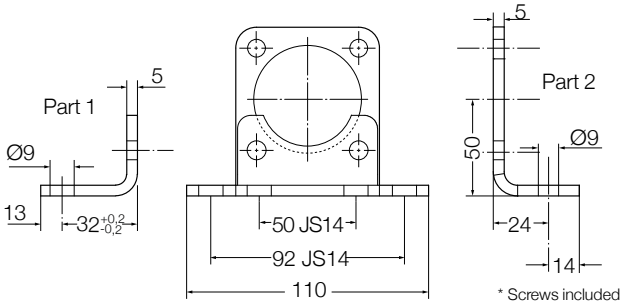
Switching function	Normally open
Output signal	PNP
Rated voltage	24 V DC
Max. current	30 mA
Cable length	5 m

Ordering key
ZSC–375525–NO

CASM-63

Foot mounting kit*

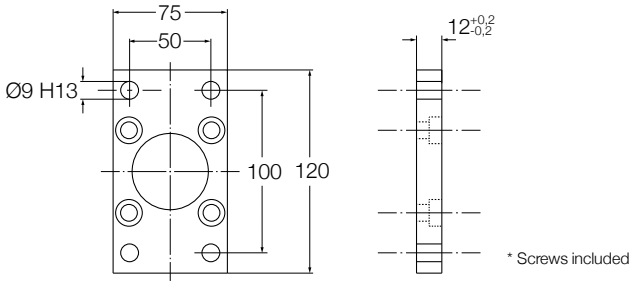
Note: The foot mounting between the linear unit and the adapter kit increases the length of the inline version by 5 mm



Ordering key
ZBE–375501–63
For parallel version with large adapter (dimensional information on request)

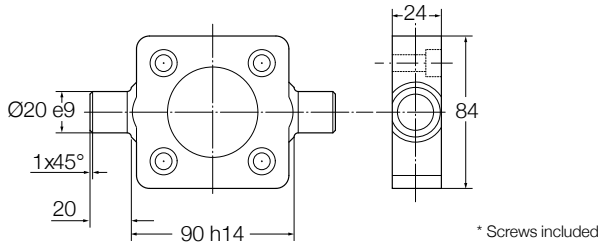
Ordering key
ZBE–375507–63
For inline version (part 1 + part 2)

Flange mounting kit*



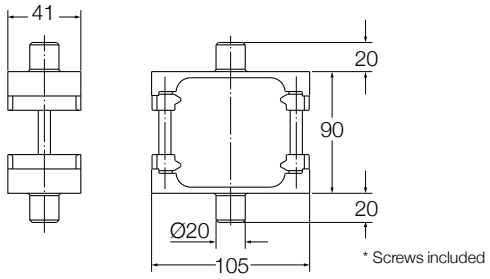
Ordering key
ZBE–375502–63

Trunnion flange kit*



Ordering key
ZBE–375503–63

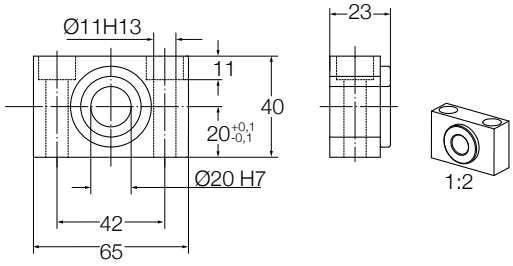
Trunnion mounting kit*



Ordering key
ZBE–375508–63

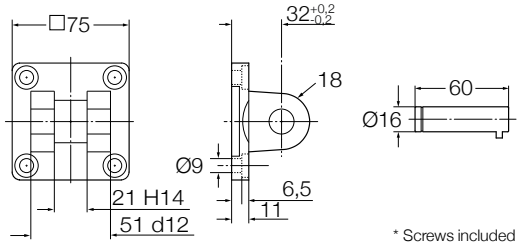
Trunnion support pair

Note: to be used with trunnion flange kit or trunnion mounting kit



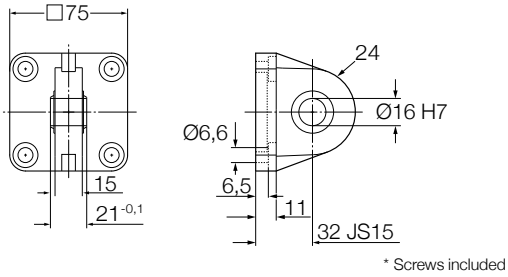
Ordering key
ZBE–375509–63

Swivel flange*



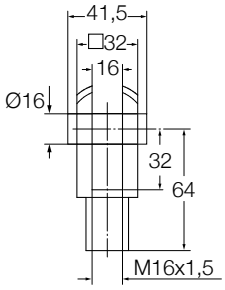
Ordering key
ZBE–375504–63
For parallel version only

Swivel flange with rod end*



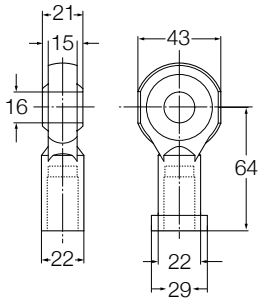
Ordering key
ZBE–375506–63
For parallel version only

Rod clevis



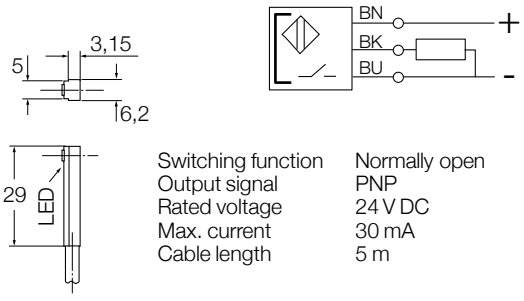
Ordering key
ZBE–375510–63

Rod end



Ordering key
ZBE–375511–63

Proximity sensor



Switching function	Normally open
Output signal	PNP
Rated voltage	24 V DC
Max. current	30 mA
Cable length	5 m

Ordering key
ZSC–375525–NO

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PUB IL-06010-EN-October 2019

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