MEQI series

ISO 15552 STANDARD **ROD ELECTRIC ACTUATOR** (WITHOUT MOTOR)

mindman

Selector table
Applications
Motor selection
Controller



Feature

- Good repeatability accuracy ±0.02.
- Pre-lubricated before shipment.
- ISO 15552 standard specifications, various mounting fixtures available.
- Ball screw drive, various strokes and leads available.
- Compatible with external magnetic sensors.

Motor type	Servo / Step	Transmission	Ball screw
Environment	Standard	Guide type	Slide guide

Specification

Model		MEQI														
Size		32		40			50			63			80			
Positioning repeatability	(mm)	±0.02														
Lead *1	(mm)	1	2	5	10	20	5	10	20	5	10	20	5	10	20	32
Ball screw	(ø)	C7ø8		C7ø12			C7ø16			C7ø20			C7ø32			
Stroke	(mm)	100~400		100~600			100~800			100~1000						
Anti-rotation tolerance	(°)	±0.4														
Start torque	(N.m)	<0.05	<0.1	<0.05	<0.1	<0.2	<0.2	<0.25	<0.3	<0.3	<0.35	<0.4	<0.3	<0.35	<0.4	<0.45
Sensor switch		RDC(V), RQC(V)														

With AC servo motor	(W)	50 (100)					200 (400)						750			
Max. speed	(mm/s)	50	100	250	500	1000	250	500	1000	250	500	1000	125	250	500	800
Max. axial force	(N)	720 (1600)	360 (800)	140 (320)	70 (160)	35 (80)	680 (1400)	340 (700)	170 (350)	680 (1400)	340 (700)	170 (350)	2700	1350	675	420
Rated axial load *2	(kg)	3.3	5.5	23	27	37	38.5	35.5	27	50.5	64	37	66	110	90	62

With step motor		□42					□56					
Max. speed	(mm/s)	50	100	250	500	1000	250	500	1000	250	500	1000
Max. thrust force at top speed *3	(N)	325	162	65	32	16	110	55	27	110	55	27

*1. Special accuracy and lead are available.
*2. The rated load refers to a 10,000 km estimated service life. Please refer to page "Capacity" for information on other load conditions.
*3. Due to the characteristics of a step motor, thrust force is low at high speed. Lowering the operating speed can further increase the thrust force.

Order example

Electric cylinder without motor — Optional with step motor (*2)

MEQI– 50 L05 – 200 – BC – S56 – CK10 03 N 015

Model (1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) (2)

Size	Ball screw lead	
32	L01	1 mm
	L02	2 mm
40 50 63 80	L05	5 mm
	L10	10 mm
	L20	20 mm
80	L32	32 mm

(3)

Stroke	Size
100~400	32
100~600	40
100~800	50
100~1000	63,80

(4)

Motor position	
BC	Direct connection
BA	Turned

(5)

Flange (For motor installation)				
Applicable motor brand (*1)		Dimensions		Size
M	Mitsubishi Yaskawa Delta	10	50/100W servo	32, 40
		40	200/400W servo	50, 63
		75	750W servo	80
P	Panasonic	10	50/100W servo	32, 40
		40	400W servo	50, 63
		75	750W servo	80
S B	Mindman	42	□42 Step NEMA 17	32, 40
		56	□56 Step NEMA 23	50, 63

*1. Motor not included. Please refer to the "Motor Selection Table".
*2. The transmission cable (CK10-C035) is optional for controller management.

(6)

Controller	Motor
CK10 (*2)	SM (for S42, S56)
CM20 *	BM (for B42, B56)

* Sensors would be needed.

(8)

I/O type	
N	NPN

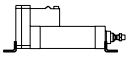
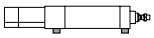
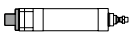
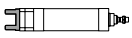
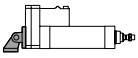
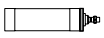
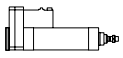
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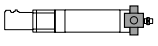
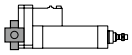
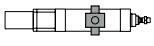
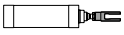
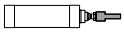
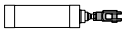
Motor + Encoder cable	
01	1 m (CM20 only)
015	1.5 m (CK10 only)
03	3 m (stanadrd)
05	5 m

(9)

I/O cable length	
015	1.5 m (stanadrd)
03	3 m

Accessories & Connector

	Accessories						
Code	**LB** (Purchase 2 pcs)	**LC** (Purchase 2 pcs)	**CA**	**CB**	**CDB** (Purchase CB+PIN)	**FAC**	**FBC**
Mounting / Size							
32	**LB-Q2-32**	**LC-EQ1-32**	**CA-Q2-32**	**CB-Q2-32**	**CDB-Q2-32**	**FAC-Q2-32**	**FAC-Q2-32**
40	**LB-Q2-40**	**LC-EQ1-40**	**CA-Q2-40**	**CB-Q2-40**	**CDB-Q2-40**	**FAC-Q2-40**	**FAC-Q2-40**
50	**LB-Q2-50**	**LC-EQ1-50**	**CA-Q2-50**	**CB-Q2-50**	**CDB-Q2-50**	**FAC-Q2-50**	**FAC-Q2-50**
63	**LB-Q2-63**	**LC-EQ1-63**	**CA-Q2-63**	**CB-Q2-63**	**CDB-Q2-63**	**FAC-Q2-63**	**FAC-Q2-63**
80	**LB-EQ1-80**	**LC-EQ1-80**	**CA-Q2-80**	**CB-Q2-80**	**CDB-Q2-80**	**FAC-EQ1-80**	**FAC-Q2-80**

	Accessories			Connector		
Code	**TFA**	**TFB**	**TC** ⚠	**Y**	**I**	**YS** (Y+Floating pin)
Mounting / Size						
32	**TFA-EQ1-32**		**TC-EQ1-32**	**Y-Q2-32**	**I-Q2-32**	**YS-Q2-32**
40	**TFA-EQ1-40**		**TC-EQ1-40**	**Y-Q2-40**	**I-Q2-40**	**YS-Q2-40**
50	**TFA-EQ1-50**		**TC-EQ1-50**	**Y-Q2-50**	**I-Q2-50**	**YS-Q2-50**
63	**TFA-EQ1-63**		**TC-EQ1-63**			
80	**TFA-EQ1-80**	**TFB-EQ1-80**	**TC-EQ1-80**	**Y-Q2-80**	**I-Q2-80**	**YS-Q2-80**

⚠ Factory assembled and shipped (self-assembled is not recommended)

Pin

Applicable	YS connector	Y&I connector	CA&CB accessories
Code	**PIN-S**	**PIN-Y-P** (with split pin)	**PIN-CB-P** (with split pin)
Fig / Size			
32	**PIN-Q2-32-S**	**PIN-Q2-32-2-P**	**PIN-Q2-32-1-P**
40	**PIN-Q2-40-S**	**PIN-Q2-40-2-P**	**PIN-Q2-40-1-P**
50	**PIN-Q2-50-S**	**PIN-Q2-50-2-P**	**PIN-Q2-50-1-P**
63			**PIN-Q2-63-1-P**
80	**PIN-Q2-80-S**	**PIN-Q2-80-2-P**	**PIN-Q2-80-1-P**

Order example of self-assembled

The size 50 of LB accessories, Y connector and pin.

No.	Order number	Qty
1	**LB-Q2-50**	2
2	**Y-Q2-50**	1
3	**PIN-Q2-50-2-P**	1

* To order accessories/ connectors/ pin separately, please place orders separately according to the order codes in the above table.

Order example of factory assembled

⚠ Actuator and accessories are distinguished by the symbol " + ".

MEQI – Standard model no. + TFB

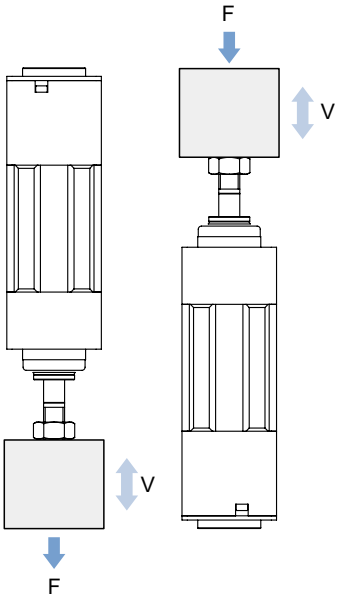
ELECTRIC ACTUATOR — ACCESSORIES

Life − Axial Force relationship chart

The estimated service life under an axial load of F is shown in the plot. The environmental condition is 25°C, and a safety factor of 1.5 is used for both the ball screw and ball bearing.

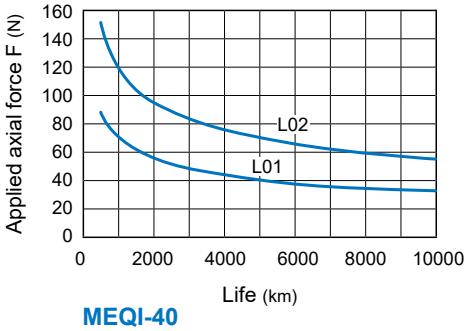
Speed − Stroke relationship chart

The maximum working speed is constrained by the product's stroke, as depicted in the plot.

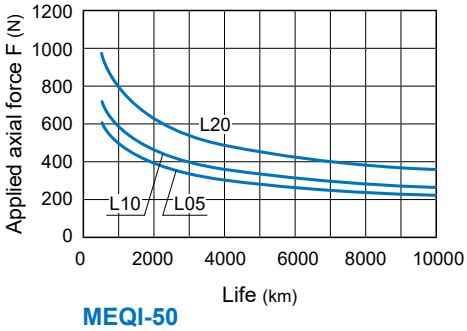


Life − Applied axial force relationship chart

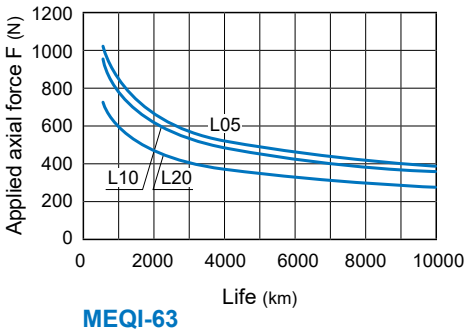
MEQI-32



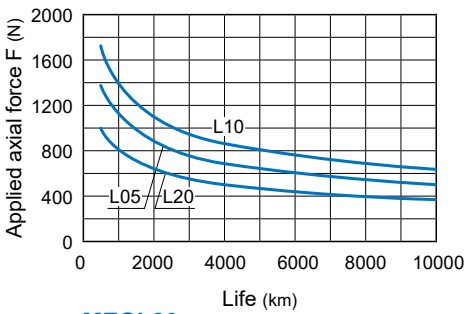
MEQI-40



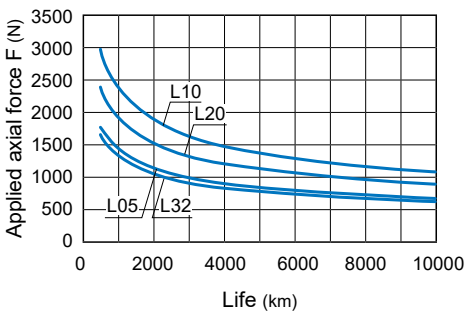
MEQI-50



MEQI-63

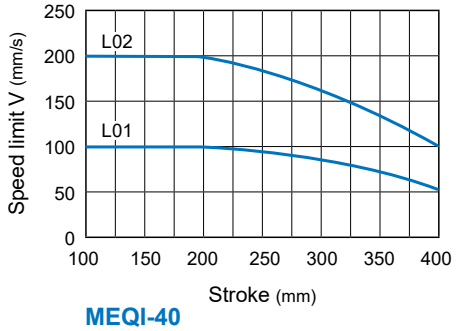


MEQI-80

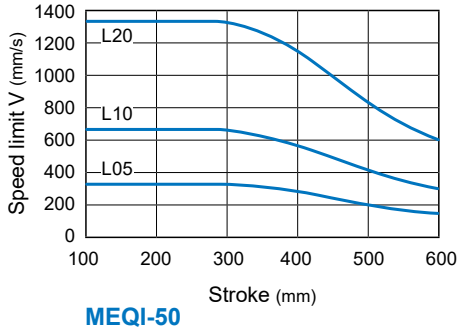


Max speed limit − Stroke relationship chart

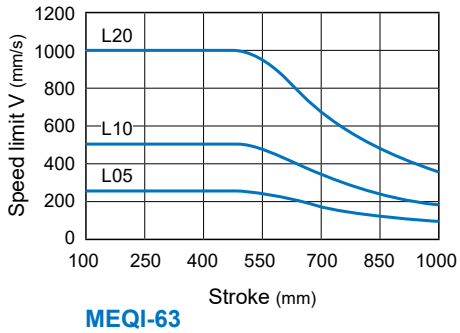
MEQI-32



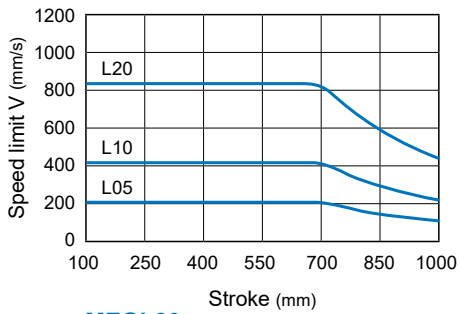
MEQI-40



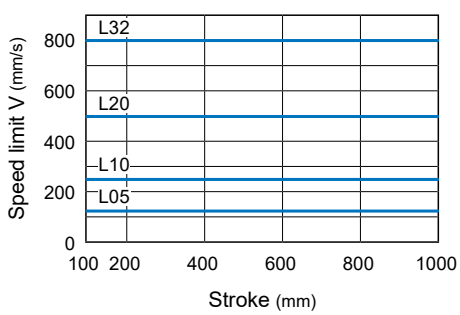
MEQI-50



MEQI-63



MEQI-80

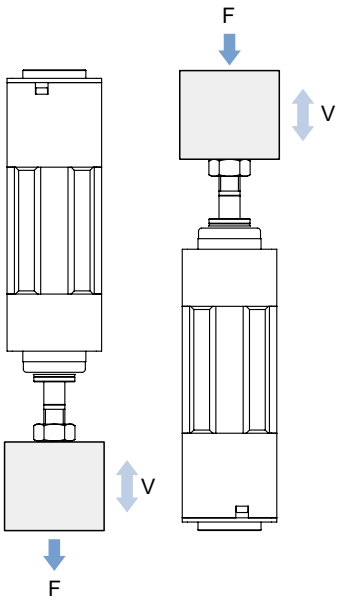


Motor output chart

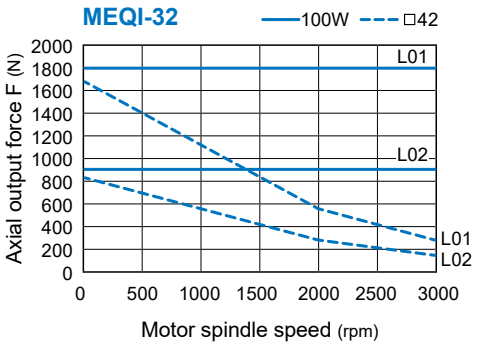
The relationship between axial output force and motor spindle speed is depicted in the plot. The default gear ratio is 1:1.

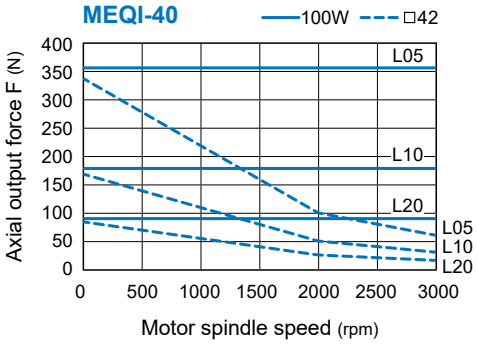
Speed chart

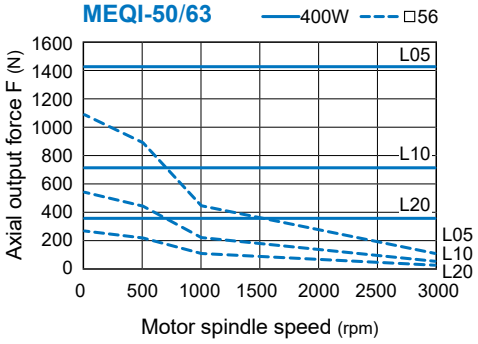
The relationship between axial velocity and motor spindle speed is depicted in the plot. The default gear ratio is 1:1.

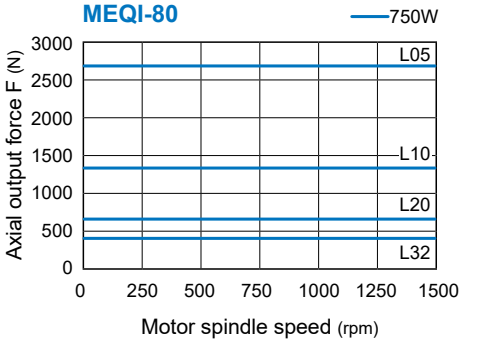


Motor spindle speed – Axial output force relationship chart

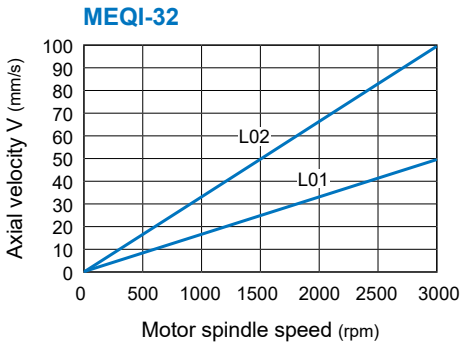


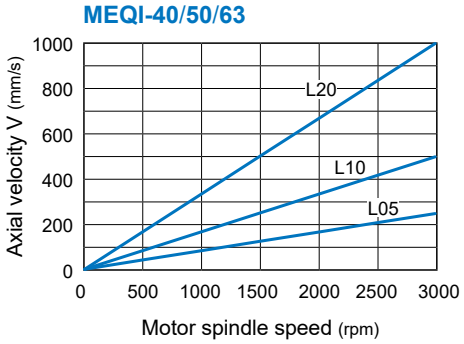


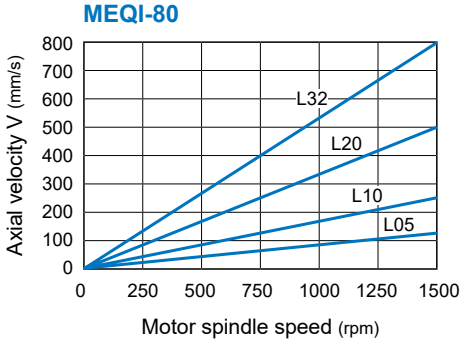




Motor spindle speed – Axial velocity relationship chart



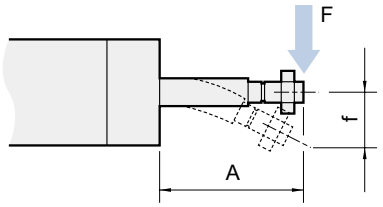




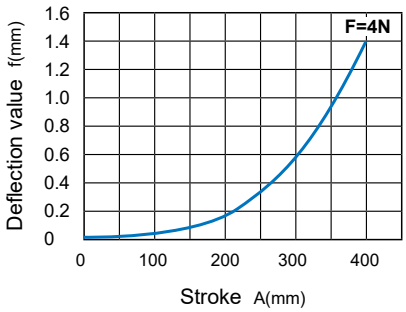
MEQI Capacity & Weight

ISO 15552 STANDARD **ROD ELECTRIC ACTUATOR** (WITHOUT MOTOR)

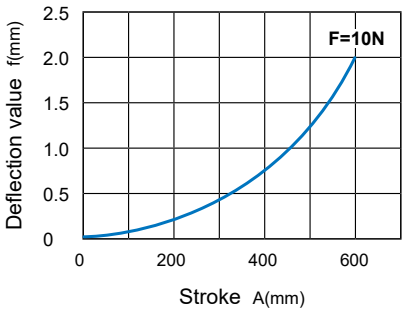
Rod bending deflection



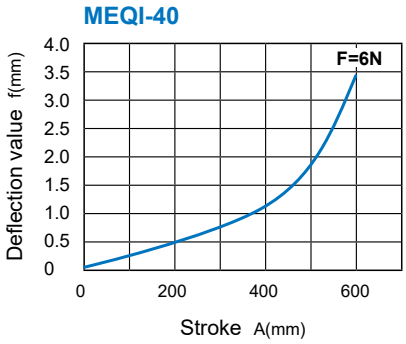
MEQI-32



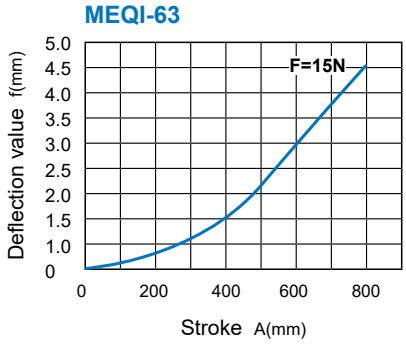
MEQI-50



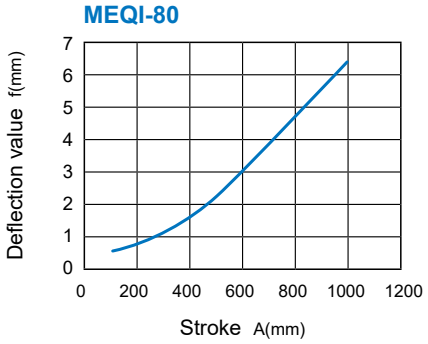
MEQI-40



MEQI-63



MEQI-80



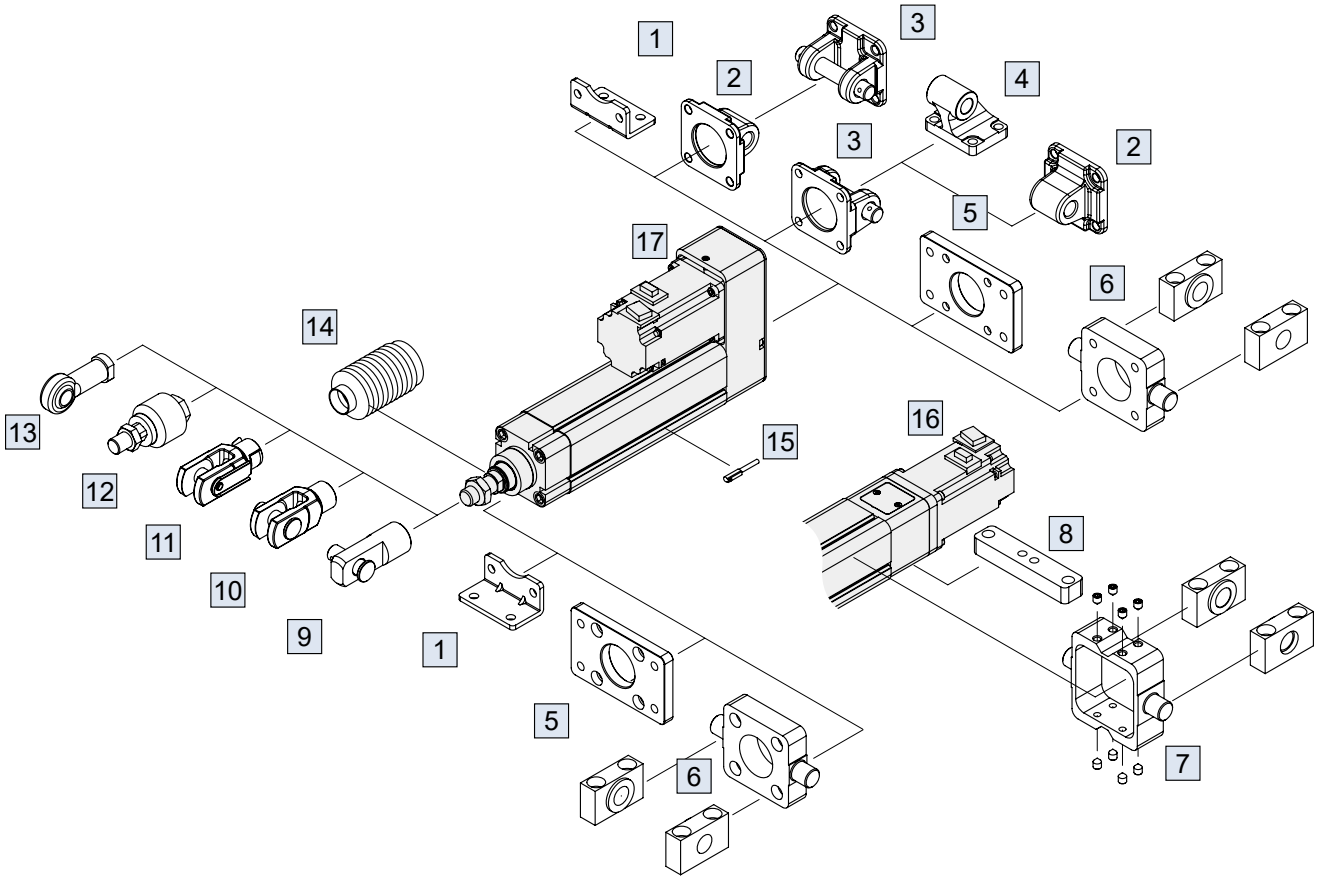
Weight

Unit: kg

Size		Basic weight					Each 100 mm				
		32	40	50	63	80	32	40	50	63	80
Fig											
Motor position	BC	1.10	2	2.58	4.15	9.3	0.43	0.53	0.73	0.99	2
	BA	1.25	2	2.99	4.39	10	0.43	0.53	0.73	0.99	2

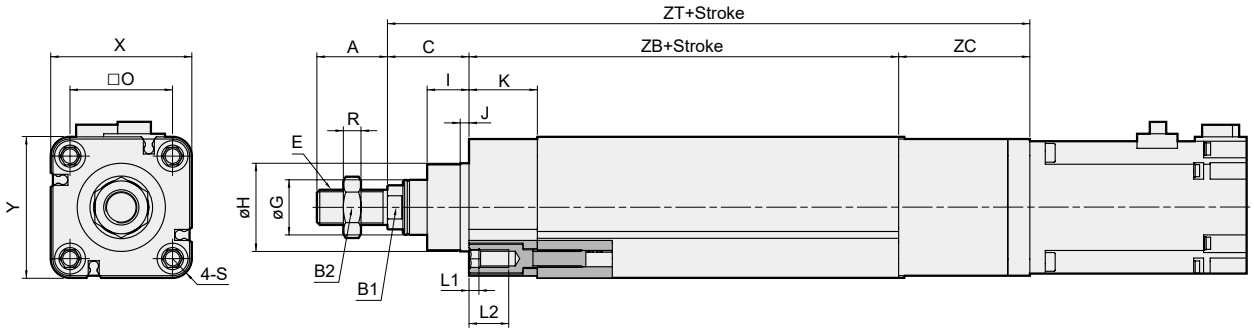
Model	LB	LC	CA	CB	CDB	FAC / FBC
Size						
32	0.16	0.05	0.22	0.19	0.17	0.24
40	0.21	0.05	0.25	0.22	0.23	0.30
50	0.32	0.06	0.39	0.35	0.46	0.46
63	0.40	0.08	0.67	0.54	0.55	0.68
80	0.82	0.1	1.08	0.99	0.87	1.51

Model	TC	TFA / TFB	Y	I	PIN		YS
					Y / I	CA / CB	
Size							
32	0.21	0.20	0.07	0.09	0.02	0.04	0.02
40	0.43	0.40	0.12	0.14	0.03	0.06	0.03
50	0.51	0.61	0.27	0.34	0.08	0.07	0.07
63	0.80	1.20	0.27	0.33	0.08	0.15	0.07
80	1.40	2.60	0.56	0.56	0.15	0.16	0.15



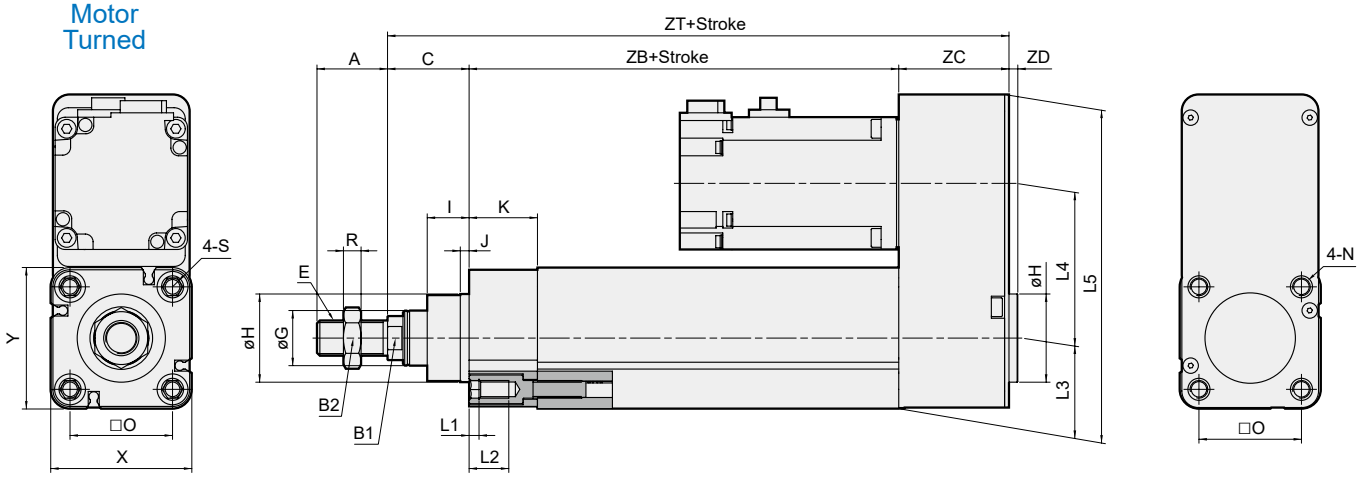
No.	Accessories	Page link
1	Mounting accessories LB	
2	Mounting accessories CA	
3	Mounting accessories CB	
4	Mounting accessories CDB	
5	Mounting accessories FAC/FBC	
6	Mounting accessories TFA/TFB	
7	Mounting accessories TC	
8	Mounting accessories LC	
9	Accessories I+PIN	
10	Accessories Y+PIN	
11	Accessories YS	
12	Floating joint MFC	
13	Female rod ends PHS	
14	Protective bellows kit	–
15	Sensor switch RDC(V), RQC(V)	
16	Motor direct connection kit BC	
17	Motor Turned kit BA	

BC
Motor direct connection



Code / Size	A	B1	B2	C	E	G	H	I	J	K	L1	L2	O	R	S	X	Y	ZB	ZC	ZT
32	22	10	17	25.5	M10×1.25	20	30	10	5	27	4.5	17	32.5	8	M6×1.0	45	48.5	87	51.0	163.5
40	24	13	19	30.5	M12×1.25	20	35	12	4	30	4.5	17	38	6	M6×1.0	53	56	131	46.5	177.5
50	32	17	24	37	M16×1.5	25	40	19	4	31	4.5	18	46.5	8	M8×1.25	64	64	152	59.5	248.5
63	32	17	24	37	M16×1.5	30	45	19	4	35	4.5	18	56.5	8	M8×1.25	77	77	162	64.0	263.0
80	40	22	30	40	M20×1.5	45	55	20	4.5	40	6	20	72	10	M10×1.5	93	93	230	72.0	342.0

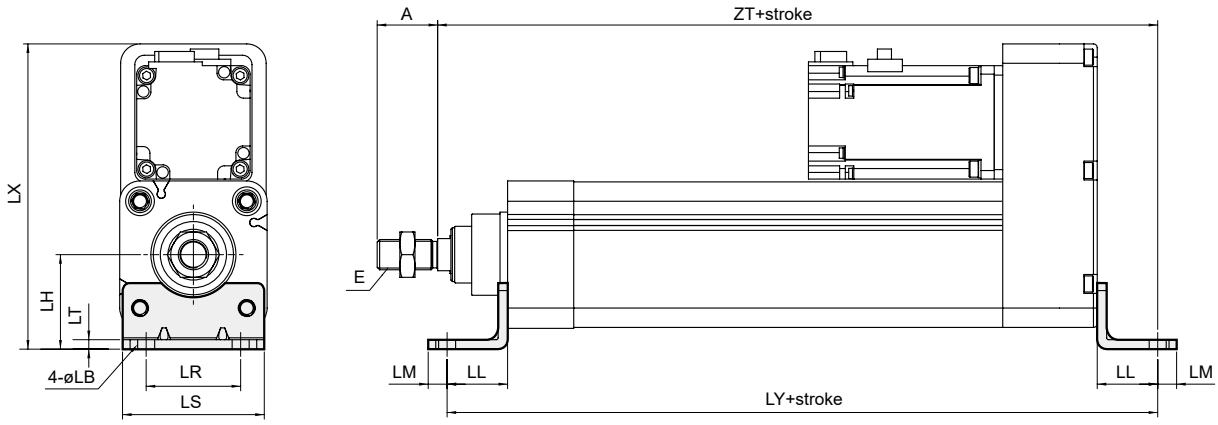
BA
Motor Turned



Code / Size	A	B1	B2	C	E	G	H	I	J	K	L1	L2	L3	L4	L5	N	O	R	S	X	Y	ZB	ZC	ZD	ZT
32	22	10	17	25.5	M10×1.25	20	30	10	5	27	4.5	17	24.5	48	100	M6×1.0×16L	32.5	8	M6×1.0	45	48.5	87	42	4	154.5
40	24	13	19	30.5	M12×1.25	20	35	12	4	30	4.5	17	28	51	108.5	M6×1.0×16L	38	6	M6×1.0	53	56	131	39	4	170
50	32	17	24	37	M16×1.5	25	40	19	4	31	4.5	18	32	70	142.5	M8×1.25×18L	46.5	8	M8×1.25	64	64	152	50	4	239
63	32	17	24	37	M16×1.5	30	45	19	4	35	4.5	18	38.5	76.2	150.5	M8×1.25×18L	56.5	8	M8×1.25	77	77	162	50	4	249
80	40	22	30	40	M20×1.5	45	55	20	4.5	40	6	20	49.5	102.5	209.5	M10×1.5×16L	72	10	M10×1.5	93	93	230	68	3	338

LB

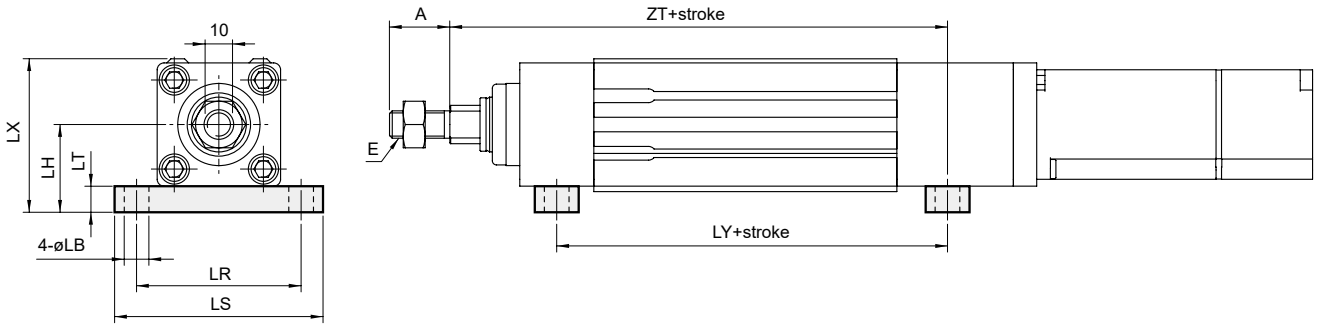
* Only for (BA) motor turned type.



Code / Size	A	E	LB	LH	LL	LM	LR	LS	LT	LX	LY	ZT
32	22	M10×1.25	7	32	24	8	32	46.5	5	107.5	177	178.5
40	24	M12×1.25	9	36	28	10	36	53	5	116.5	226	228
50	32	M16×1.5	9	45	32	10	45	65	5	163.0	266	271
63	32	M16×1.5	9	50	32	10	50	75	5	161.5	276	281
80	40	M20×1.5	12	63	41	13	63	95	6	223	380	379

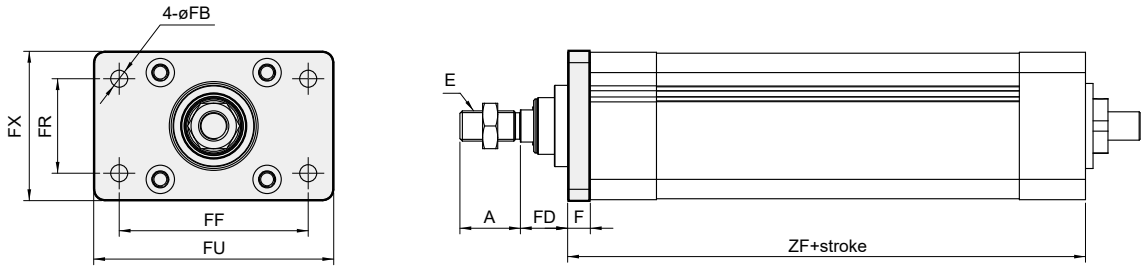
LC

* Only for (BC) motor direct connection type.



Code / Size	A	E	LB	LH	LR	LS	LT	LX	LY	ZT
32	22	M10×1.25	9	32	60	76	9.5	56	92	131
40	24	M12×1.25	9	36	68	84	9.5	64	144	189.5
50	32	M16×1.5	9	45	81	94	14	77	168	221
63	32	M16×1.5	9	50	92	110	12.5	88.5	176.5	231
80	40	M20×1.5	11	63	110	130	16.5	112.5	251	311

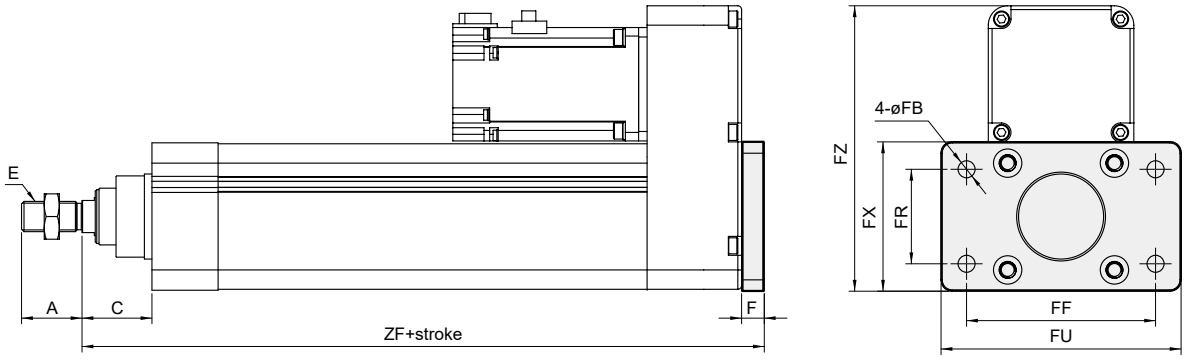
FAC



Code / Size	A	E	F	FB	FD	FF	FR	FU	FX	ZF
32	22	M10×1.25	10	7	15.5	64	32	79	50	97
40	24	M12×1.25	10	9	20.5	72	36	90	52	141
50	32	M16×1.5	12	9	25	90	45	112	67	164
63	32	M16×1.5	12	9	25	100	50	127	79	174
80	40	M20×1.5	16	12	24	126	63	154	94	246

FBC

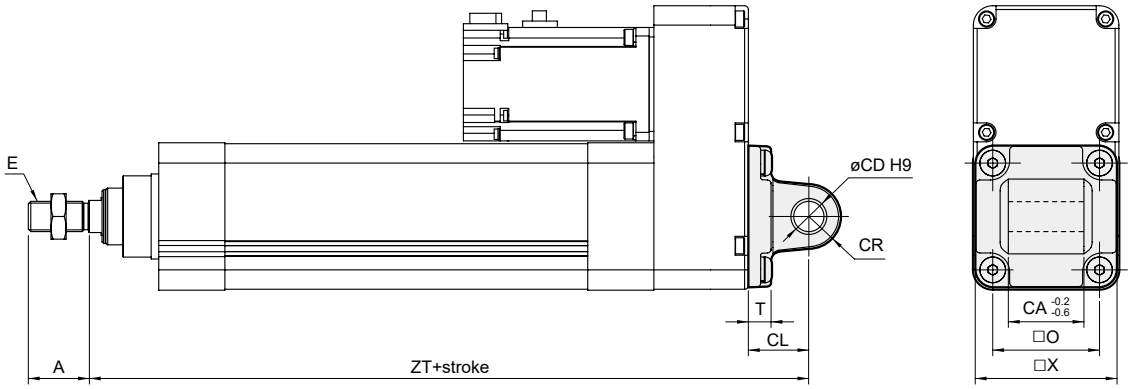
* Only for (BA) motor turned type.



Code / Size	A	C	E	F	FB	FF	FR	FU	FX	FZ	ZF
32	22	25.5	M10×1.25	10	7	64	32	79	50	100.5	164.5
40	24	30.5	M12×1.25	10	9	72	36	90	52	106.5	210.5
50	32	37	M16×1.5	12	9	90	45	112	67	151.5	251
63	32	37	M16×1.5	12	9	100	50	127	79	151.0	261
80	40	40	M20×1.5	16	12	126	63	154	94	209.5	246

CA

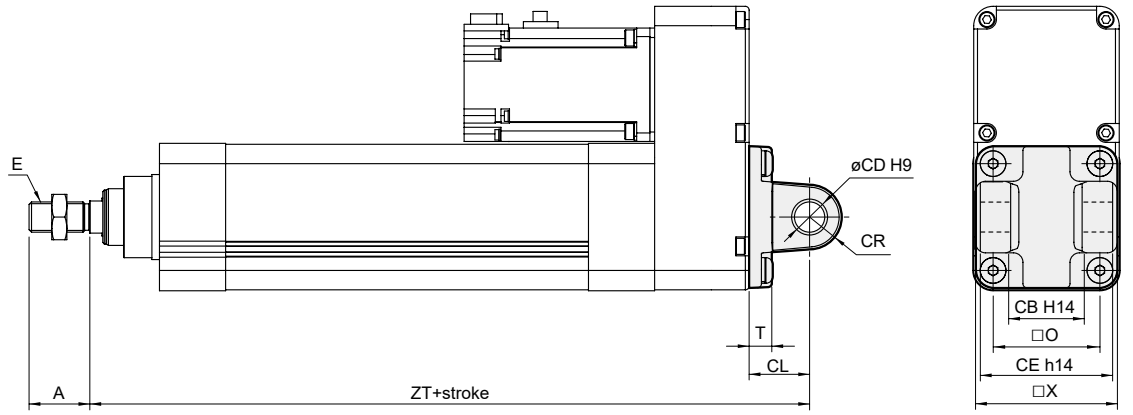
* Only for (BA) motor turned type.



Code / Size	A	CA	CD	CL	CR	E	O	T	X	ZT
32	22	26	10	22	R10.5	M10×1.25	32.5	10	46.5	176.5
40	24	28	12	25	R12	M12×1.25	38	10	54	225.5
50	32	32	12	27	R13	M16×1.5	46.5	12	64	266
63	32	40	16	32	R17	M16×1.5	56.5	12	75	281
80	40	50	16	36	R17	M20×1.5	72	16	93	374

CB

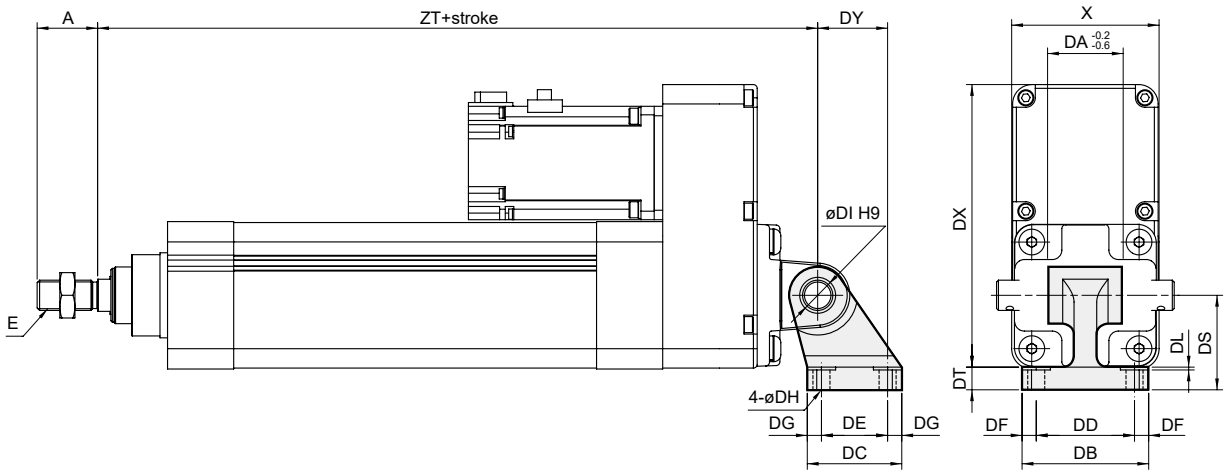
* Only for (BA) motor turned type.



Code / Size	A	CB	CD	CE	CL	CR	E	O	T	X	ZT
32	22	26	10	45	22	R10.5	M10×1.25	32.5	10	46.5	176.5
40	24	28	12	52	25	R12	M12×1.25	38	10	54	225.5
50	32	32	12	60	27	R13	M16×1.5	46.5	12	64	266
63	32	40	16	70	32	R17	M16×1.5	56.5	12	75	281
80	40	50	16	90	36	R17	M20×1.5	72	16	93	374

CDB

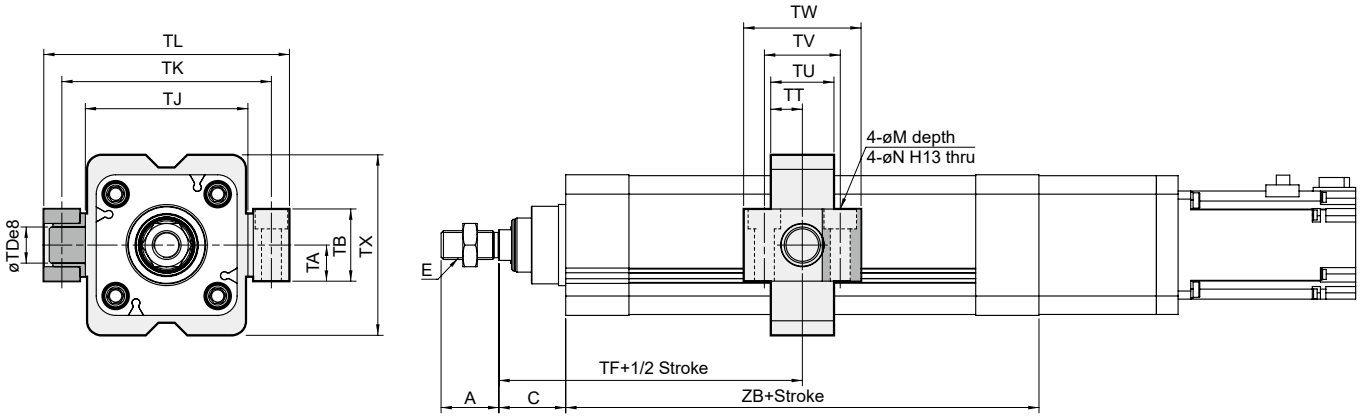
CB+Pin (Extra purchase) * Only for (BA) motor turned type.



Code / Size	A	DA	DB	DC	DD	DE	DF	DG	DH	DI	DL	DS	DT	DX	DY	E	X	ZT
32	22	26	50	30	38	18	6	6	6.6	10	1.5	32	8	101	21	M10×1.25	45	176.5
40	24	28	54	35	41	22	6.5	6.5	6.6	12	1.5	36	10	116.5	24	M12×1.25	53	225.5
50	32	32	65	45	50	30	7.5	7.5	9	12	1.5	45	12	151.0	33	M16×1.5	64	266
63	32	40	67	50	52	35	7.5	7.5	9	16	1.5	50	12	149.5	37	M16×1.5	78	281
80	40	50	86	60	66	40	10	10	11	16	2.5	63	14	209	47	M20×1.5	93	374

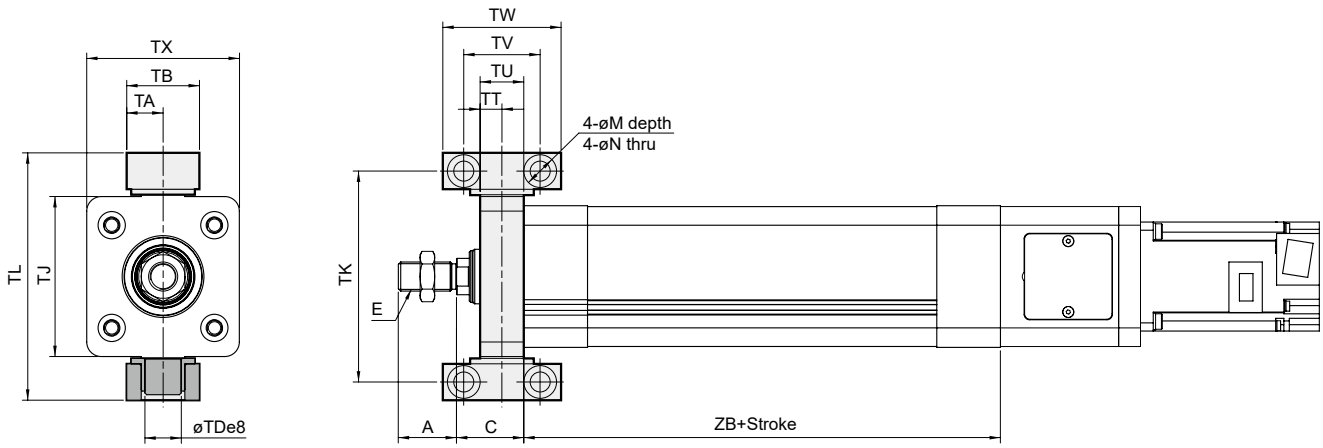
TC

* For (BA) motor turned type usage, the stroke must exceed 250mm.



Code / Size	A	C	E	M	N	TA	TB	TD	TF	TJ	TK	TL	TT	TU	TV	TW	TX	ZB
32	22	25.5	M10×1.25	11×6.8	6.6	15	30	12	44.5	50	71	86	12.5	25	32	46	65	87
40	24	30.5	M12×1.25	15×8.8	9	18	36	16	64	63	87	105	14	28	36	55	75	131
50	32	37	M16×1.5	15×9	9	18	36	16	113	75	99	117	16	32	36	55	85	152
63	32	37	M16×1.5	18×11	11	20	40	20	118	90	116	136	17.5	35	42	65	100	162
80	40	40	M20×1.5	18×10.8	11	20	40	20	180	110	133	156	18	36	42	65	130	230

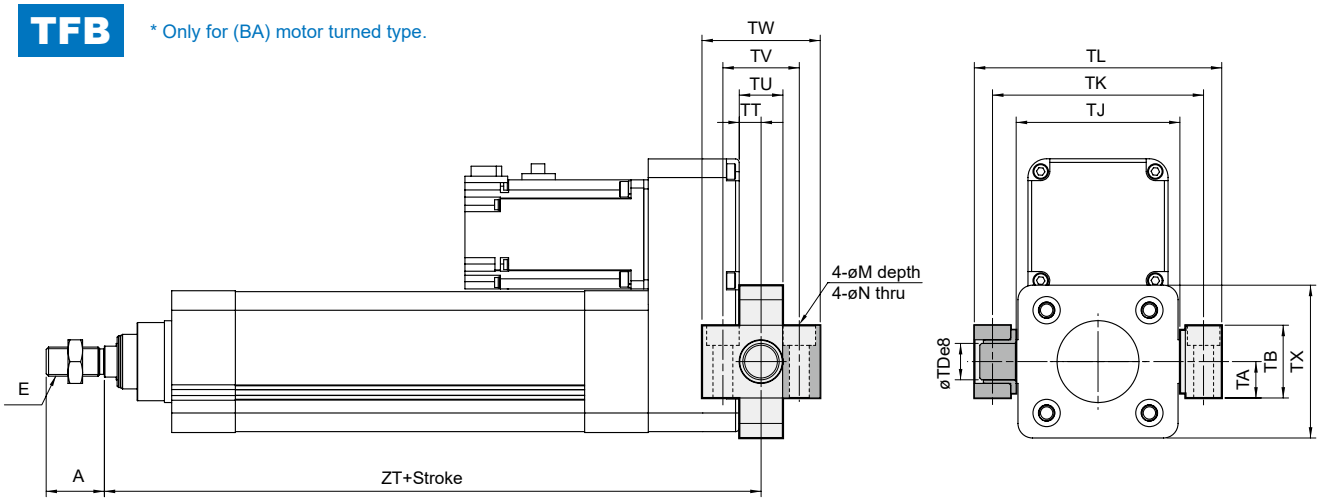
TFA



Code / Size	A	C	E	M	N	TA	TB	TD	TJ	TK	TL	TT	TU	TV	TW	TX	ZB
32	22	25.5	M10×1.25	11×6.8	6.4	15	30	12	50	71	90	7	14	32	46	65	87
40	24	30.5	M12×1.25	15×8.8	9	18	36	16	63	87	105	10	20	36	55	54	131
50	32	37	M16×1.5	15×9	9	18	36	16	75	99	117	9.5	19	36	55	69	152
63	32	37	M16×1.5	18×11	11	20	40	20	90	116	136	12	24	42	65	84	162
80	40	40	M20×1.5	18×10.8	11	20	40	20	110	133	156	18	36	42	65	93	230

TFB

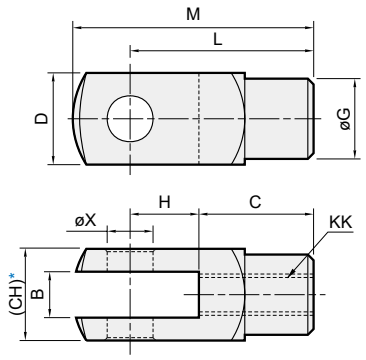
* Only for (BA) motor turned type.



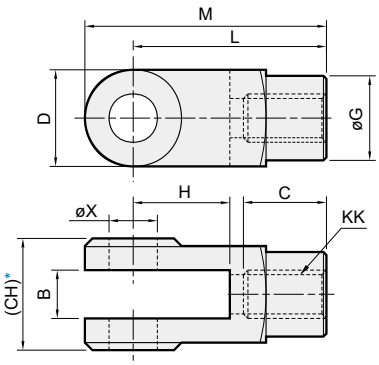
Code / Size	A	E	M	N	TA	TB	TD	TJ	TK	TL	TT	TU	TV	TW	TX	ZT
32	22	M10×1.25	11×6.8	6.4	15	30	12	50	71	90	7	14	32	46	65	161.5
40	24	M12×1.25	15×8.8	9	18	36	16	63	87	105	10	20	36	55	54	210.5
50	32	M16×1.5	15×9	9	18	36	16	75	99	117	9.5	19	36	55	69	248.5
63	32	M16×1.5	18×11	11	20	40	20	90	116	136	12	24	42	65	84	261
80	40	M20×1.5	18×10.8	11	20	40	20	110	133	156	18	36	42	65	93	356

Y connector

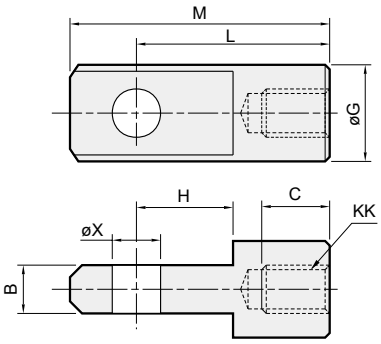
ø32, ø40



ø50~ø83



I connector

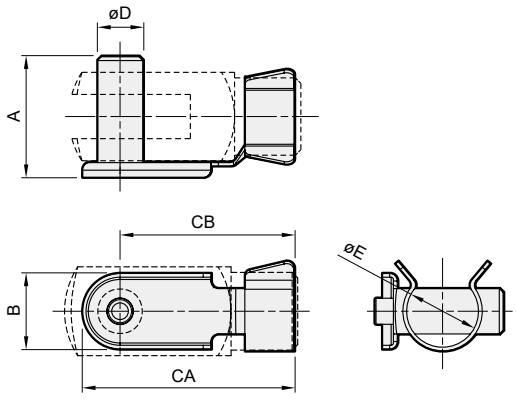


* Please do not use the sand casting plate as datum plane, because we do not machine it. If you have this special demand, please contact our sales representative.

Code / Tube I.D.	B		C		CH		D		G		H		KK		L		M		X^{H9}
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	
32	10 $^{+0.5}_{+0.15}$	10 $^{-0.1}_{-0.2}$	20	17	19	–	19	–	ø18	ø20	20	15	M10×1.25		40	40	52	52	ø10 $^{+0.04}_{0}$
40	12 $^{+0.5}_{+0.15}$	12 $^{-0.1}_{-0.2}$	24	21	22	–	22	–	ø20	ø24	24	18	M12×1.25		48	48	62	62	ø12 $^{+0.04}_{0}$
50	16 $^{+0.3}_{+0.1}$	16 $^{-0.1}_{-0.3}$	28	23	32	–	32	–	ø28	ø32	32	32	M16×1.5		64	64	89	86	ø16 $^{+0.04}_{0}$
63	16 $^{+0.3}_{+0.1}$	16 $^{-0.1}_{-0.3}$	28	23	32	–	32	–	ø28	ø32	32	32	M16×1.5		64	64	89	86	ø16 $^{+0.04}_{0}$
80	20 $^{+0.3}_{+0.1}$	20 $^{-0.1}_{-0.3}$	33	30	45	–	40	–	36	36	40	40	M20×1.5		80	80	100	108	ø20 $^{+0.05}_{0}$

PIN

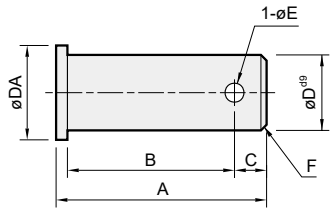
S



for floating pin

Code / Tube I.D.	A	B	CA	CB	D^{d9}	E
32	26	14	45	38	ø10 $^{-0.04}_{-0.07}$	17
40	31	16	54	46	ø12 $^{-0.05}_{-0.09}$	19
50,63	42	20	70	60	ø16 $^{-0.05}_{-0.09}$	27
80	56	30	91	76	ø20 $^{-0.06}_{-0.11}$	35

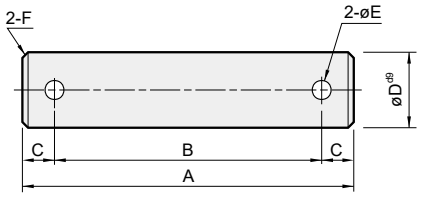
P



for Y & I connector

Code / Tube I.D.	A	B	C	D^{d9}	DA	E	F	Split pin
32	30	25	3.5	ø10 $^{-0.06}_{-0.09}$	14	3.2	1	3.2×20L
40	37	30	5	ø12 $^{-0.06}_{-0.09}$	16	3.2	1	3.2×20L
50,63	47	37	7	ø16 $^{-0.05}_{-0.09}$	22	4	1	4×25L
80	62	50	8	ø20 $^{-0.06}_{-0.11}$	30	5	1.5	5×35L

P



for CA & CB

Code / Tube I.D.	A	B	C	D^{d9}	E	F	Split pin
32	69	55	7	ø10 $^{-0.05}_{-0.09}$	4	1.0	4×20L
40	76	62	7	ø12 $^{-0.05}_{-0.09}$	4	1.0	4×20L
50	84	70	7	ø12 $^{-0.05}_{-0.09}$	4	1.0	4×20L
63	94	80	7	ø16 $^{-0.05}_{-0.09}$	4	1.0	4×30L
80	117	100	8.5	ø16 $^{-0.05}_{-0.09}$	5	1.5	5×30L