



Features

- Dust and waterproof IP 65 rating(Motor parallel mount only, motor series 4X grade)
- Food and medicine industry response
(Stainless steel piston rod basic, teflon scraper, non-toxic grease applied to human body)
- Increased endurance and side load capacity with Teflon double wearing.
- Prevent loosening ball screw nut assembly in double nut type.
- Prevention of shaft shake at high speed by reinforcing the support unit and shaft support method.
- Bumper is basic for all models.
- Customizing motor is available. (Step motor, Servo motor, BLDC, etc.)
- Reducer mounting optional.

How to order

EMC **45** **P** — **1** — **100 FNY P** — **SV** — **W9H** — **3**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Size

35	□ 35mm
45	□ 45mm
65	□ 65mm
80	□ 80mm
130	□ 130mm
165	□ 165mm

② Mounting

B	In-line motor mounting type
P	Parallel motor mounting type
L	Foot
F	Front flange
T	Rear trunnion
G	Rear flange(for parallel motor only)
D	Double clevis (for parallel motor only)

ex 1) F : In-line motor front flange

ex 2) PF : Parallel motor with front flange

③ Screw Lead

Classification Size	Motor		1	2	3	4
	DC STEP	AC SERVO				
35	28V	—	B0802.5			
45	42V	50W	B1002	B1004		
		100W			B1205	B1210
65	60V	200W/400W	B1605	B1610		
80	86V	750W	B2505	B2510		
130	—	1kW, 1.5kW	B4005	B4010	B4020	
165	—	3.5kW, 5kW		B6310	B6320	

④ Stroke [mm]

35	50 ~ 300
45	50 ~ 400
65	50 ~ 800
80	50 ~ 1,000
130	50 ~ 1,000
165	50 ~ 1,000

※ Standard stroke 50mm
(please contact us for non-standard stroke)

⑤ Rod Type

Blank	rod end male thread
F	rod end female thread
N	Rotating rod type
Y	Double knuckle

⑥ DUST

Blank	IP4X
P	IP65 (Motor Parallel Only) (size 35, 130, 165 : not available)

⑦ Motor

ST	Step motor
(P)SV	Servo motor
(P)RV	Reducer+Servo motor

⑧ Auto Switch

Blank	None
W8H	Reed switch(Horizontal type)
W8V	Reed switch(Vertical type)
W9H	Solid state switch(Horizontal type)
W9V	Solid state switch(Vertical type)
W9HN	Solid state switch(NPN), 3-wire
W10V	Solid state switch(vertical)
W9HP	Solid state switch(PNP), 3-wire
F9HN	N, C type solid state switch NPN 3-wire

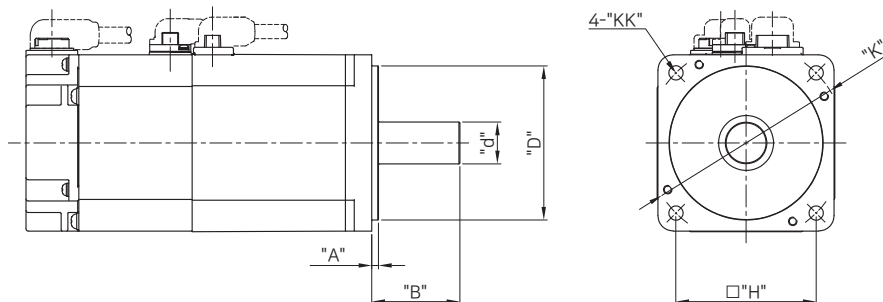
※ If lead wire length is 3m add L on number
In case of blank, standard 1m (ex : W8HL, W9VL)

⑨ Number of Auto Switches

Blank	1pc
2	2pcs
n	N pcs

Electric Motor Cylinder

Applicable Motor and Reducer View Table

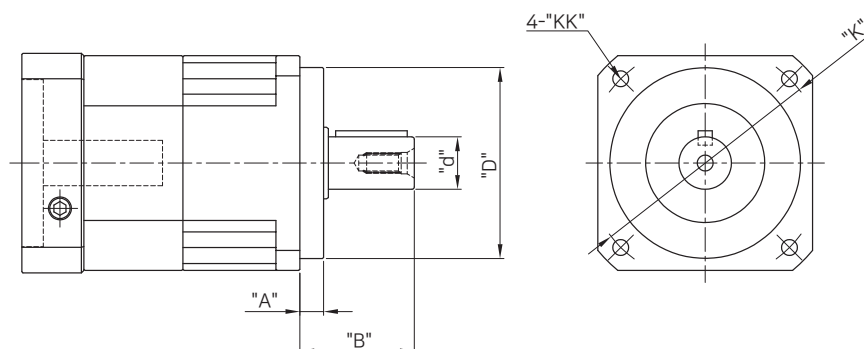


• Motor Selection Symbol : EMC * * - * * - ST (DC STEP MOTOR)

Model	Flange size (mm)	A	ØD	B	Ød	H	KK
35	□ 28	2	22	15	5	23	M2.5
45	□ 42	1.8	22	24	5	31	M3
65	□ 60	1.6	36	20.6	8	50	Ø5
80	□ 86	1.6	73	37	14	69.5	Ø6.5

• Motor Selection Symbol : EMC * * - * * - (P)SV (AC SERVO MOTOR)

Model	Motor Symbol	Flange size (mm)	Motor capacity (kW)	A	ØD	B	Ød	ØK	ØKK	Axis key
45	SV	□ 40	0.05 / 0.1	2.5	30	25	8	46	4.5	3x3
	PSV							45	3.5	
65	SV	□ 60	0.2 / 0.4	3	50	30	14	70	5.5	5x5
	PSV							70	4.5	
80	SV	□ 80	0.75	3	70	40	19	90	6.6	6x6
	PSV					35			6	
130	SV	□ 130	1 / 1.5	3	110	55	24	145	9	8x7
	PSV			6		70				6x6
165	SV	□ 176	3.5 / 5	3	114.3	79	35	200	13.5	10x8



• Reducer Selection Symbol : EMC * * - * * - (P)RV (Reducer + Motor)

Model	Reducer Symbol	Apply Reducer (mm)	A	ØD	B	Ød	ØK	ØKK	Axis key
45	RV	□ 42	5	35	26	13	50	3.4	5x5
	PRV							4.5	
65	RV	□ 60	7	50	36	16	70	5.5	5x5
80	RV	□ 90	10	80	48	22	100	6.6	6x6
130	RV	□ 115	12	110	65	32	130	9	10x8
165	RV	□ 142	15	130	97	40	165	11	12x8
					92				
(165)	RV2	□ 180	20	160	105	55	215	13	16x10

Specifications

Model		35		45				65		80		130			165	
Stroke [mm]		50 ~ 300		50 ~ 400				50 ~ 800		50 ~ 1,000		50 ~ 1,000			50 ~ 1,000	
Ball Screw	Screw Diameter [mm]	Ø8		Ø10		Ø12		Ø16		Ø25		Ø40			Ø63	
	Lead[mm]	2,5		2	4	5	10	5	10	5	10	5	10	20	10	20
Maximum Speed [mm/s]		80		100	200	250	500	250	500	250	500	160	330	660	330	660
Collision Speed [mm/s]		Less than 30						Less than 25				Less than 20				
Maximum Acceleration [m/s2]		2		3	3	3	10	3	10	3	10	3	10	20	10	20
Rated Thrust [N]		See table 1-1														
Instantaneous Maximum Thrust [N]																
Repeat Position	In-line Motor	0.02														
Precision [mm]	Parallel Motor	0.08														
Drive Method	In-line Motor	Ball screw + Direct connection by JAW COUPLING														
	Parallel Motor	Ball screw + Timing belt drive														
Mounting Method	All model	Direct attachment to the floor, BAR FOOT, Rear Trunnion, Front flange														
	Parallel only	Rear flange, Single Clevis, Double Clevis														
Operating Temperature Range [°C]		5 ~ 40														
Humidity Range of Use [%RH]		Less than 90 (there will be no condensation)														

<Table 1-1> Thrust and continuous axial loads by model

Model	35	45				65				80	
Motor	20 W	50 W		100 W		200 W		400 W		750 W	
Lead [mm]	2.5	2	4	5	10	5	10	5	10	5	10
Rated Thrust [kN]	0.059	0.4	0.2	0.32	0.16	0.64	0.32	1.3	0.65	2.4	1.2
Instantaneous Maximum Thrust [N]	0.199	1.2	0.6	0.95	0.47	1.9	0.96	3.8	1.9	7.2	3.6

Model	130						165			
Motor	1 kW			1.5 kW			3.5 kW		5 kW	
Lead [mm]	5	10	20	5	10	20	10	20	10	20
Rated Thrust [kN]	4.8	2.4	1.2	7.2	3.6	1.8	8.3	4.1	12	6
Instantaneous Maximum Thrust [N]	14.3	7.1	3.5	21.6	10.8	5.5	25	12.5	35	17

<Table 1-2> Allowable reducers by model

Model	45				65				80		130			165	
Motor	50 W		100 W		200 W		400 W		750W		1 kW, 1.5 kW		3.5kW, 5kW		
Lead [mm]	5	10	5	10	5	10	5	10	5	10	5	10	20	10	20
Allowable Reduction Ratio	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Continuous axial load	2.3	2.3	2.3	2.3	2.8	1.9	2.8	1.9	4.3	4.3	5.9	14.8	11.6	19.7	33.6

Electric Motor Cylinder

Product Weight

Model		35	45	65	80
Body Ass'y		$0.53 + 0.001 \times \text{stroke}$	$0.93 + 0.004 \times \text{stroke}$	$1.54 + 0.0144 \times \text{stroke}$	$4.9 + 0.013 \times \text{stroke}$
Motor Bracket Ass'y Parts	In-line type (B type)	0.050	0.25	0.50	1.05
	Parallel type (P type)	0.035	0.25	0.52	1.23
Mounting Accessory	Flange	0.030	0.08	0.185	0.325
	Bar Foot	0.035	0.08	0.18	0.32
	Knuckle Joint	0.090	0.18	0.39	1.20
	Double Clevis	0.095	0.17	0.41	1.12
	Trunnion	0.050	0.10	0.19	0.40

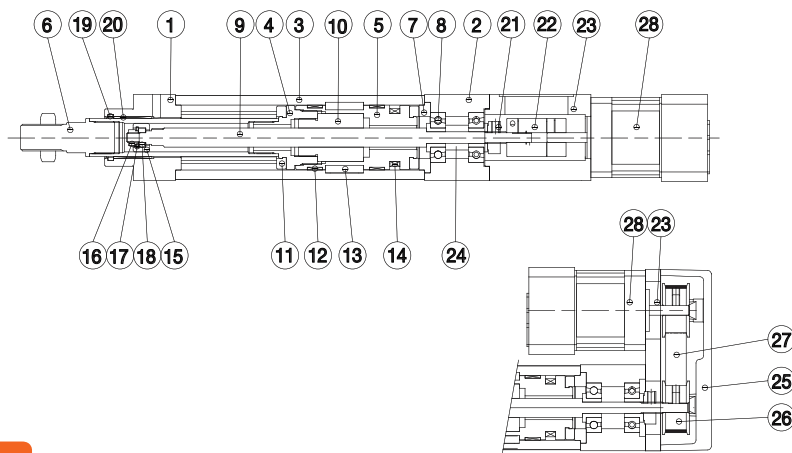
Model		130	165
Body Ass'y		$16.3 + 0.03 \times \text{stroke}$	$43.5 + 0.062 \times \text{stroke}$
Motor Bracket Ass'y Parts	In-line type (B type)	4	10.6
	Parallel type (P type)	4	13
Mounting Accessory	Flange	1.25	8.5
	Bar Foot	1.0	1.8
	Knuckle Joint	4.1	9.5
	Double Clevis	4.9	11.5
	Trunnion	2.0	3

※ Product Weight Calculation ex)

- Number : EMC80PF-1-300-SV

- Weight calculation : $4.9 + 0.013 \times 300 + 1.23 + 0.325 = 10.355 \text{ kgf}$

- Number interpret : Parallel mounting of 80 angle motors, front flange mounting, stroke 300mm

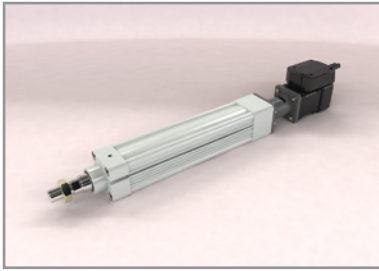


Components

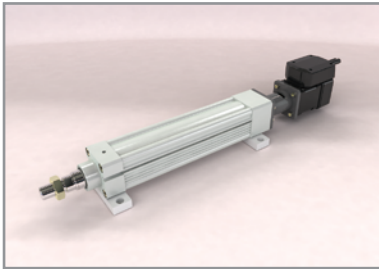
In-line Motor Type					NO	Component	Qty	Material	Surface Treatment
NO	Component	Qty	Material	Surface Treatment	15	Roller Guide	1	POM	—
1	Rod Cover	1	AL	Alumite	16	Bearing Nut	1	Free-cutting steel	Zn plated
2	Support Unit	1	AL	Alumite	17	Snap Ring	1	Carbon steel	Black coloration
3	Tube	1	AL	Alumite	18	Ball Bearing	1	—	—
4	Piston A	1	AL	—	19	Wiper	1	NBR	—
5	Piston B	1	AL	—	(1)			Teflon	—
6	Piston Rod	1	Carbon steel	Nickel, Chrome	20	Dry Bush	1	PbBrC3	—
		(1)	STS	—	21	Lock Nut	1	Carbon steel	Black coloration
7	Concentric Ring	1	Free-cutting steel	Nickel plated	22	Coupling	1	AL+Urethane	—
8	Angular Bearing	2	—	—	23	Motor Bracket	1	AL	Alumite
9	Screw Shaft	1	—	—	24	COLLAR	1	Carbon steel	Galvanized
10	Screw Nut	1	—	—	Parallel Motor Type				
11	Bumper	2	Urethane	—	25	Belt Cover	1	AL	Powder Coating
12	Wearing	2	Teflon	—	26	Timing Pulley	2	AL	—
13	Key	2	POM	—	27	Timing Belt	1	NBR	—
14	Magnet	1	NBR	—	28	Motor	1	—	—

Combination

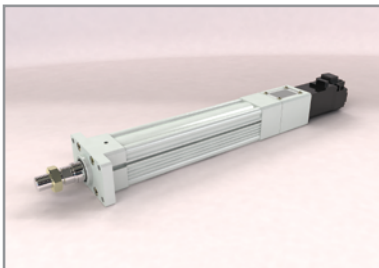
In-line motor mounting type



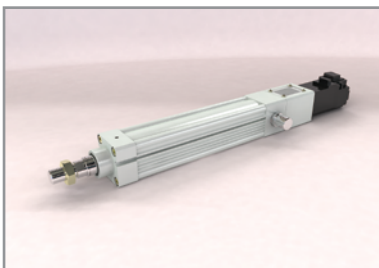
•..... Standard type•



•..... Foot type•



•..... Front flange type•

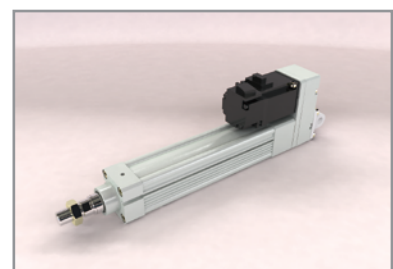
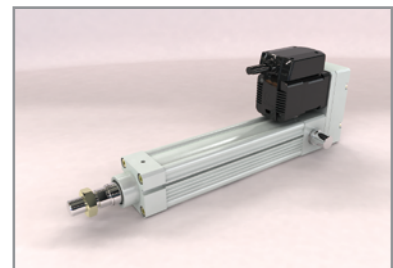
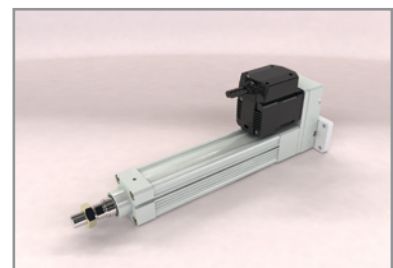
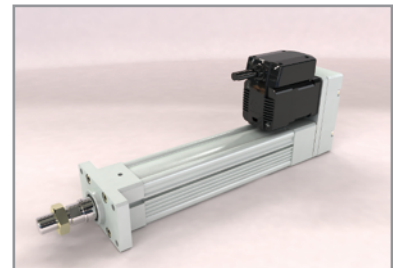
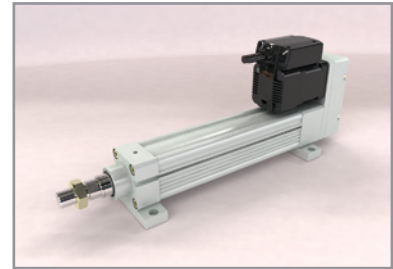
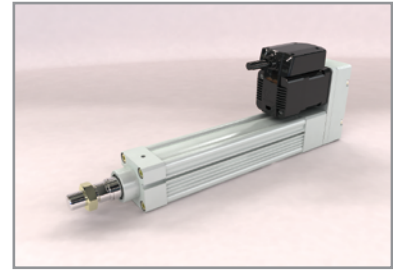


•..... Rear flange type•

•..... Trunnion type•

•..... Double clevis type•

Parallel motor mounting type



※ Above images can be changed based on motor options applied

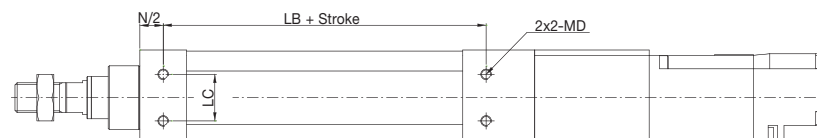
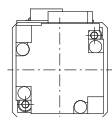
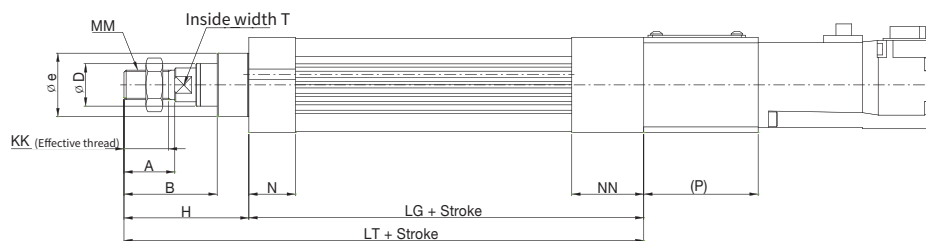
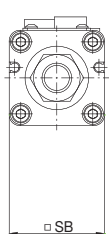
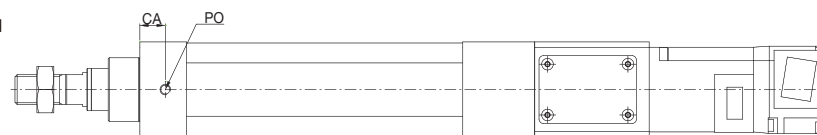
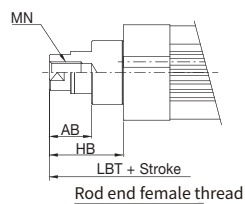
Electric Motor Cylinder

Dimension for In-line motor mounting type

Standard type

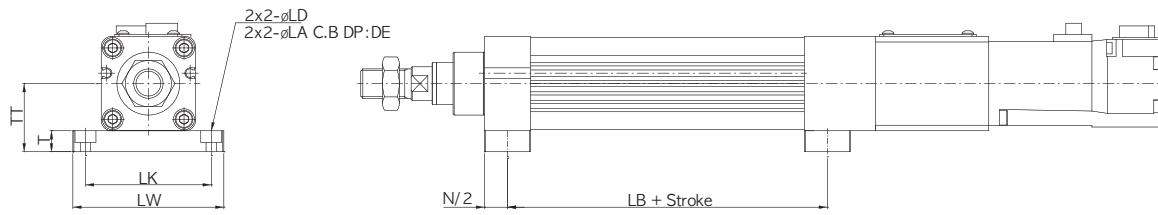
Rod end female thread

Number	AB	HB	MN	LBT
35	15	28	M6	149
45	20	35	M10	171,5
65	35	55	M12	218
80	45	70	M16	286
130	50	85	M24	397
165	—	—	—	—



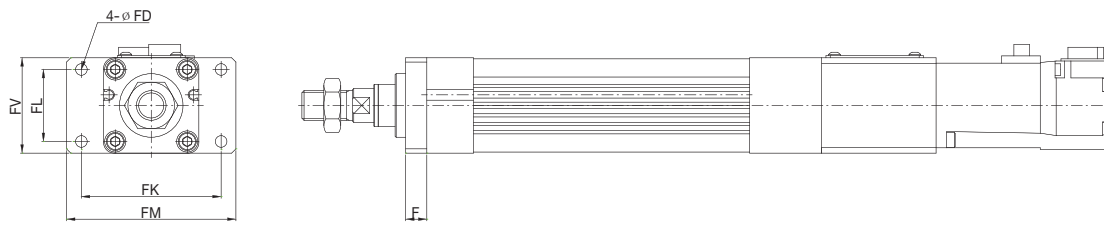
Number	SB	A	KK	B	D	e	MM	T	H	N	NN	LG	LT	LB	LC	MD	(P)	CA	PO
35	35	18	16	33	16	25	M8 X 1,25	10	46	16	28	121	167	93	16	M4	44	10	M5
45	45	24	21	44	20	30	M14 X 1,5	14	59	22	34	136,5	195,5	102,5	22	M5	54	12	M5
65	65	35	32	70	32	45	M18 X 1,5	22	90	25	40	163	253	123	34	M8	70	12,5	M5
80	80	40	37	85	40	55	M22 X 1,5	27	110	30	50	216	326	166	36	M10	91	15	Rc(PT) 1/8
130	130	60	54	110	60	85	M36 X 1,5	45	145	40	72	312	457	240	62	M14	126	20	Rc(PT) 1/8
165	165	100	96	155	100	125	M64 X 2	70	205	50	120	398	603	278	82	M20	186	25	Rc(PT) 1/4

Foot type



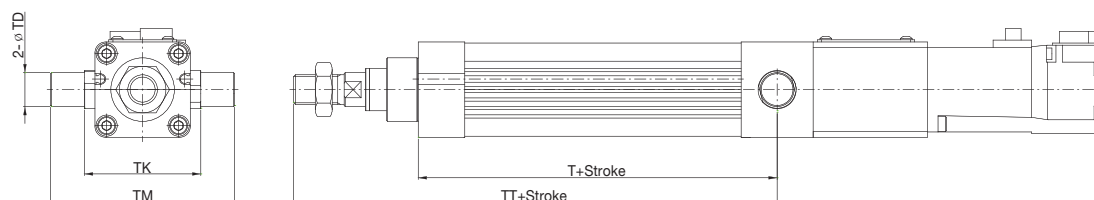
Number	LB	LK	LW	T	TT	LD	LA	DE	N
35	93	48	60	8	25,5	4,5	8	4,5	16
45	102,5	60	72	10	32,5	5,5	9	5,5	22
65	123	86	110	14	46,5	8,5	14	9	25
80	166	105	130	18	58	10,5	17	11	30
130	240	160	190	24	89	15	23	15	40
165	278	208	252	35	117,5	22	34	21	50

Front flange type



Number	FK	FM	FL	FV	FD	F
35	48	60	26	35	4,5	8
45	66	80	34	45	5,5	10
65	90	104	50	65	6,5	14
80	108	128	60	80	11	18
130	160	190	94	130	15	26
165	214	250	128	165	18	40

Trunnion type

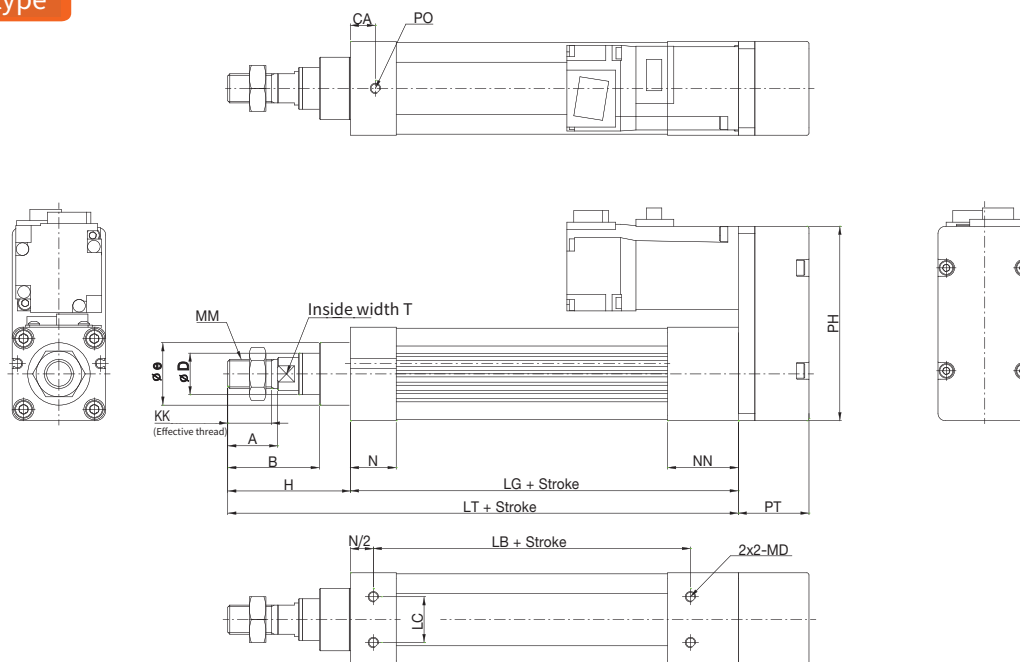


Number	TK	TM	TD	T	TT
35	41	61	10	107	153
45	55	87	15	119,5	178,5
65	76	116	20	143	233
80	92	144	25	191	301
130	146	236	45	276	421
165	193	293	50	338	543

Electric Motor Cylinder

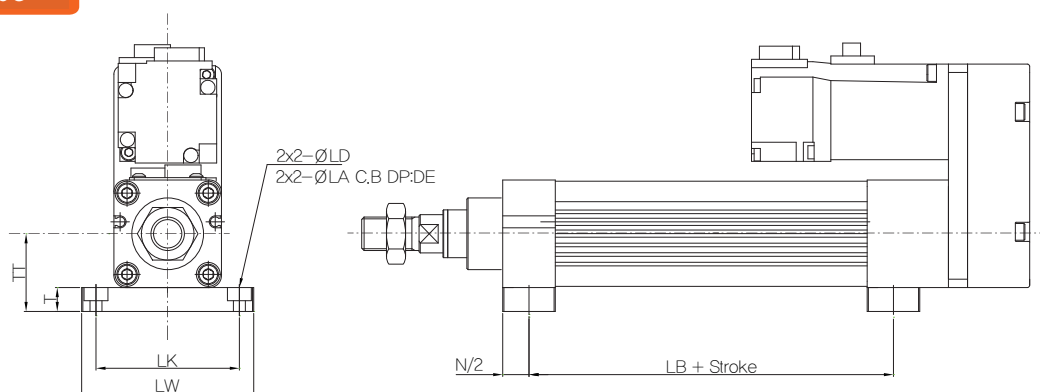
Dimension for Parallel motor mounting type

Standard type



Number	A	KK	B	D	e	MM	T	H	N	NN	LG	LT	LB	LC	MD	PH	PT	CA	PO
35	18	16	33	16	25	M8 X 1,25	10	46	16	28	121	167	93	16	M4	71	28	10	M5
45	24	21	44	20	30	M14 X 1,5	14	59	22	34	136,5	195,5	102,5	22	M5	95	34	12	M5
65	35	32	70	32	45	M18 X 1,5	22	90	25	40	163	253	123	34	M8	136	46	12,5	M5
80	40	37	85	40	55	M22 X 1,5	27	110	30	50	216	326	166	36	M10	178	61	15	Rc(PT) 1/8
130	60	54	110	60	85	M36 X 1,5	45	145	40	72	312	457	240	62	M14	274	76	20	Rc(PT) 1/8
165	100	96	155	100	125	M64 X 2	70	205	50	120	398	603	278	82	M20	374	150	25	Rc(PT) 1/4

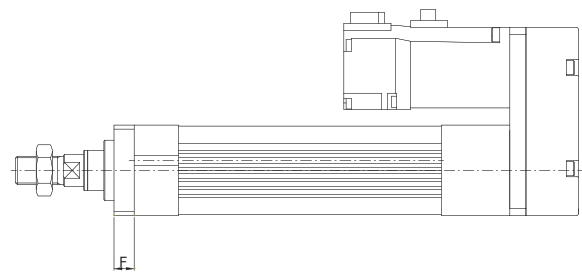
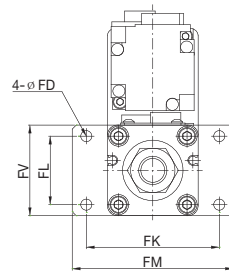
Foot type



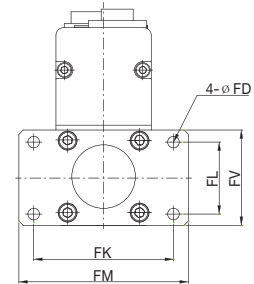
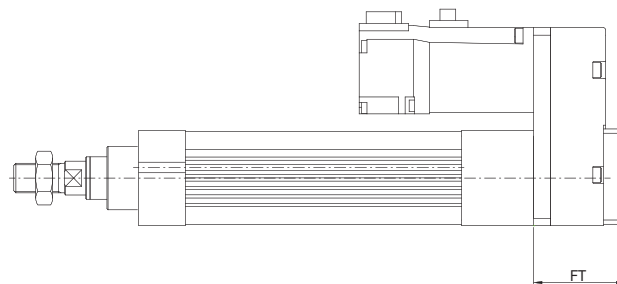
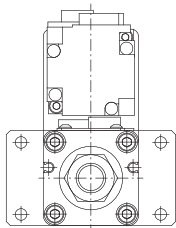
Number	LB	LK	LW	T	TT	LD	LA	DE	N
35	93	48	60	8	25,5	4,5	8	4,5	16
45	102,5	60	72	10	32,5	5,5	9	5,5	22
65	123	86	110	14	46,5	8,5	14	9	25
80	166	105	130	18	58	10,5	17	11	30
130	240	160	190	24	89	15	23	15	40
165	278	208	252	35	117,5	22	34	21	50

Front flange type

Number	FK	FM	FL	FV	FD	F
35	48	60	26	35	4.5	8
45	66	80	34	45	5.5	10
65	90	104	50	65	6.5	14
80	108	128	60	80	11	18
130	160	190	94	130	15	26
165	214	250	128	165	18	40

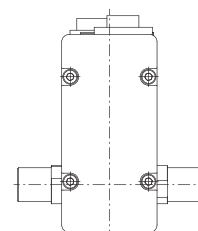
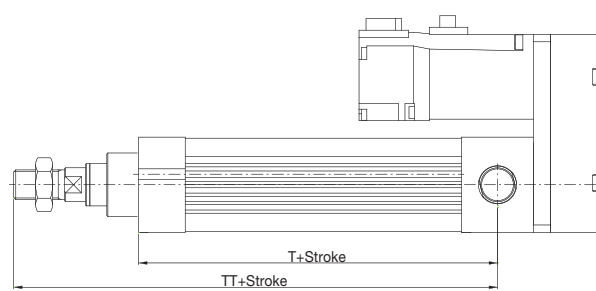
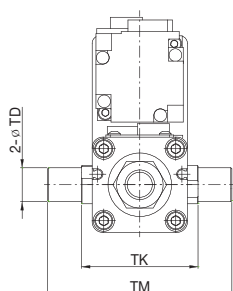


Rear flange type



Number	FK	FM	FL	FV	FD	FT
35	48	60	26	35	4.5	35
45	66	80	34	45	5.5	43
65	90	104	50	65	6.5	59
80	108	128	60	80	11	78
130	160	190	94	130	15	101
165	214	250	128	165	18	40

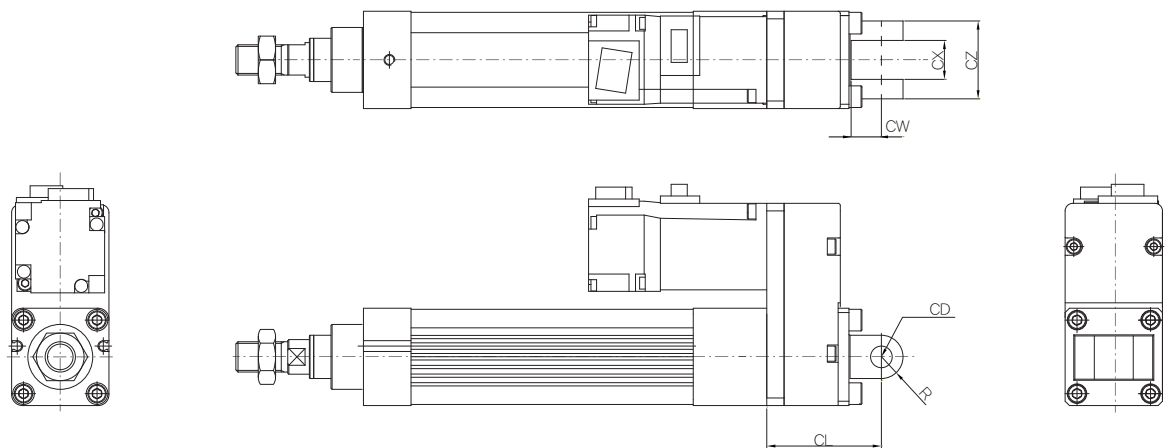
Trunnion type



Number	TK	TM	TD	T	TT
35	41	61	10	107	153
45	55	87	15	119.5	178.5
65	76	116	20	143	233
80	92	144	25	191	301
130	146	236	45	276	421
165	193	293	50	338	543

Electric Motor Cylinder

Double clevis type



Number	CL	CX	CW	CZ	CD	R
35	45	8	12	16	10	10
45	53	18	14	36	10	10
65	73	22	20	44	14	14
80	108	26	32	56	20	23
130	145	40	49	90	32	35
165	245	50	60	100	50	50

Y-KNUCKLE

Number	L1	MM	R1	CW	ØND	NX	NZ
35	36	M8 X 1,25	10	14	10	8	16
45	34	M14 X 1,5	10	14	10	18	36
65	46	M18 X 1,5	14	20	14	22	44
80	62	M22 X 1,5	23	32	20	26	56
130	85	M36 X 1,5	36	48	32	40	90
165	135	M64 X 2	50	60	50	50	100

