

LEC Series

Ball-screw Driven Electric Actuators

(For Cleanroom Applications)



High force electric actuators for Cleanroom application environment

LEC Series Ball-screw Driven Electric Actuators

For Cleanroom Applications

Main Features

- Precision control of speed, high performance and high quality of low speed performance
- High efficiency ball screw structure, self-unlocking & fully enclosed dustproof structure
- Driven by a range of servo motors or stepping motors (supplied with or without)
- Load range: 0-80KG
- Maximum stroke: 1 meter, duty up to 100%
- Precision control of position, precision repeatability of $\pm 0.02\text{mm}$
- High dynamic response time, high acceleration
- High rigidity, high impact resistance
- Long life-cycle, simple operation and maintenance, with low noise



* Note: Thrust, stroke length etc. may be customised upon request. Please contact our technical sales team at (+44) 01202 599 922 for more details.

Typical Applications

LEC series linear actuator is widely used in automation production lines to replace pneumatic cylinders, with all the benefits for a high precision motion control system for cleanroom applications, where a fully sealed structure with increased dust proof protection is required.

Part Number Configuration

LEC50D - L10 - S800 - M2 - M 100W - B

① ② ③ ④ ⑤ ⑥ ⑦

① Model name

② Screw lead length

③ Stroke length

④ Motor mounting type

M1= Motor inside position

M2= Motor outside position

M3= Motor outside, rightward position

M4= Motor outside leftward position

M5= Motor outside upper position

M6= Motor outside lower position

⑤ Servo motor flange options

H = Hiwin

S = Sanyo Denki

M = Mitshubishi

Y = Yaskawa

P = Panasonic

F = Fuji

T = Delta

⑥ Motor output power

⑦ Brake

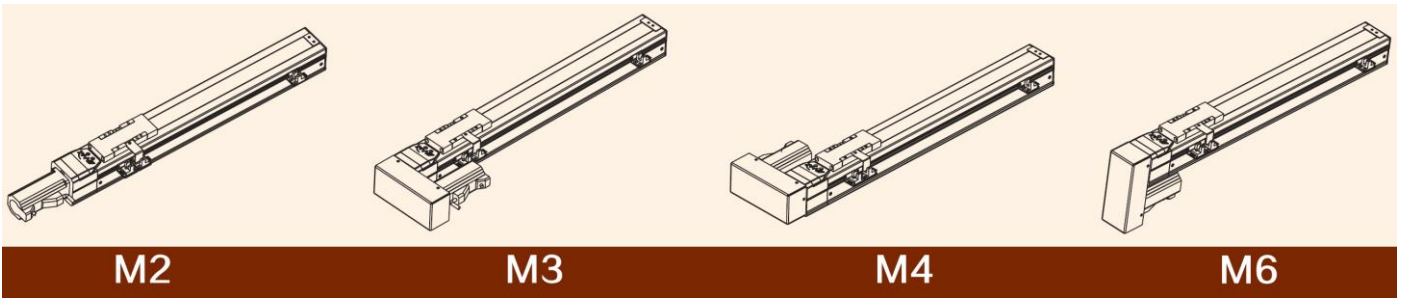
LE50D Technical Specifications

AC servo motor output power	100W																	
Repeatability (mm)	±0.02		Horizontal use				Wall installation				Vertical use							
Ball screw ϕ (mm)	12	12	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	
Screw lead (mm)	5		Lead 10	2kg	385	220	800	Lead 10	2kg	700	100	310	Lead 10	1.2kg	220	70	220	
Max. speed (mm/s)	250	500		4kg	170	90	330		4kg	385	50	110		3kg	235	140	730	3kg
Max. payload	Horizontal	9kg	5.5kg	Lead 05	6kg	125	60	460	Lead 05	6kg	520	20	130	Lead 05	2.5kg	105	25	105
	Vertical	2.5kg	1.2kg		3kg	235	140	730		3kg	800	90	235		9kg	35	10	295
Rated thrust (N)	70	35																
Stroke length (mm)	100 – 800 (50 interval)																	

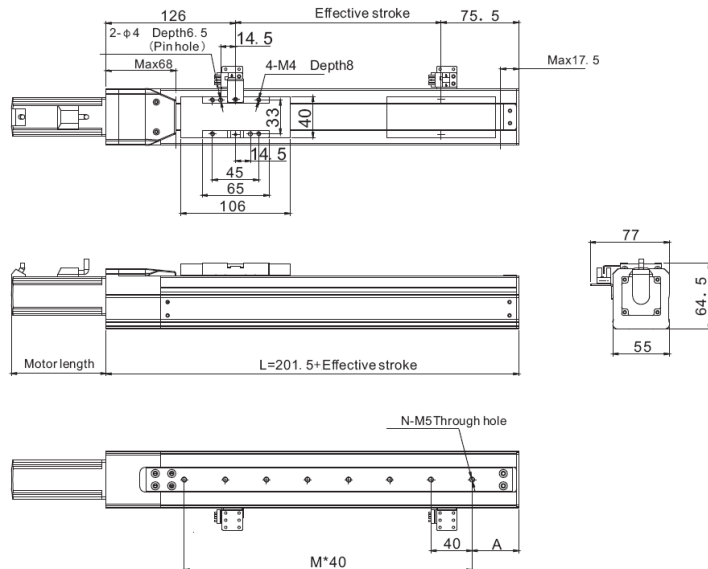
* Notes: 1) Linear guide rail: 24*8.5-1pc

2) L is the distance from the center of slider top to center of gravity of object being transported

Motor Mounting Type



Dimensions (in mm)

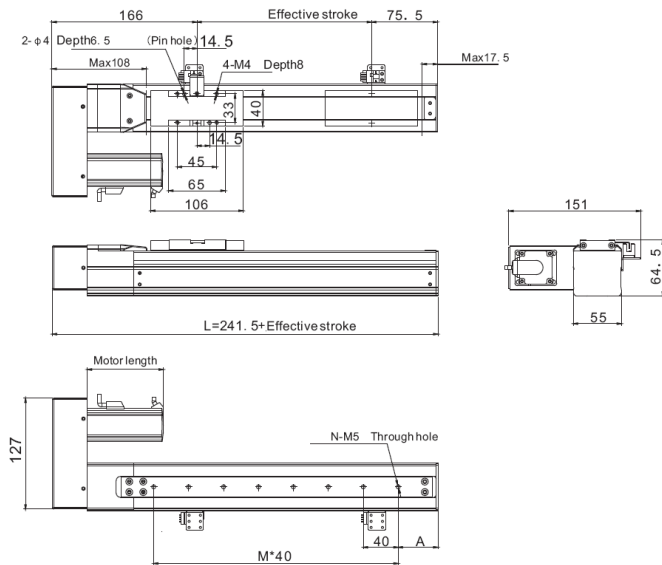


Notes: please contact us for specific model drawings before placing your order

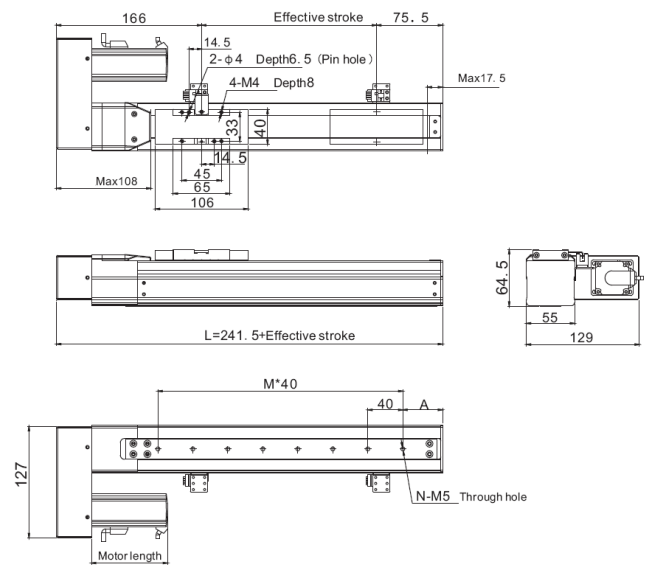
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	301.5	351.5	401.5	451.5	501.5	551.5	601.5	651.5	701.5	751.5	801.5	851.5	901.5	951.5	1001.5
A	25.5	35.5	45.5	35.5	25.5	35.5	45.5	35.5	25.5	35.5	45.5	35.5	25.5	35.5	45.5
M	5	6	7	9	10	11	12	14	15	16	17	19	20	21	22
N	6	7	8	10	11	12	13	15	16	17	18	20	21	22	23

Dimensions (in mm)

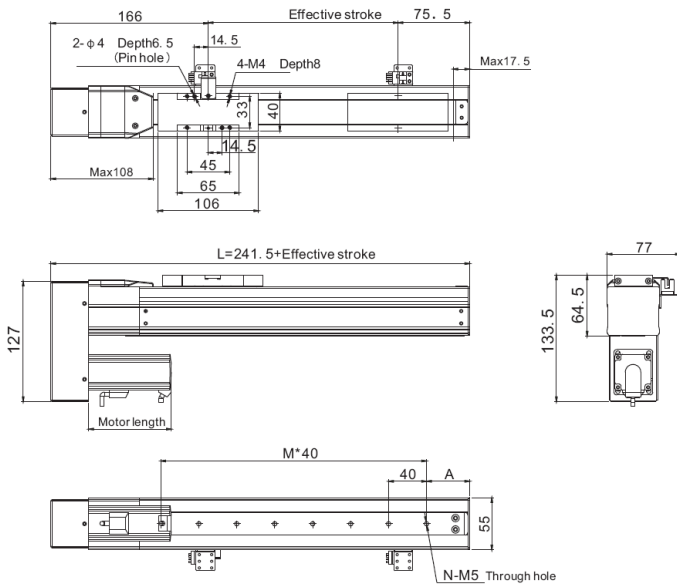
M3



M4



M6



Notes: please contact us for specific model drawings before placing your order

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	341.5	391.5	441.5	491.5	541.5	591.5	641.5	691.5	741.5	791.5	841.5	891.5	941.5	991.5	1041.5
A	25.5	35.5	45.5	35.5	25.5	35.5	45.5	35.5	25.5	35.5	45.5	35.5	25.5	35.5	45.5
M	5	6	7	9	10	11	12	14	15	16	17	19	20	21	22
N	6	7	8	10	11	12	13	15	16	17	18	20	21	22	23

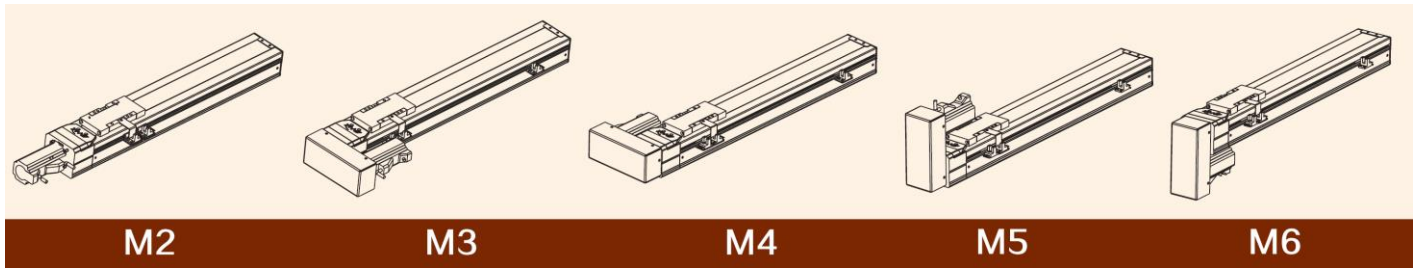
LEC60D Technical Specifications

AC servo motor output power	100W																	
Repeatability (mm)	±0.02		Horizontal use				Wall installation				Vertical use							
Ball screw ϕ (mm)	12	12	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	
Screw lead (mm)	5	10	Lead 10	4kg	306	392	585	Lead 10	4kg	500	390	287	Lead 10	1kg	340	226	340	
Max. speed (mm/s)	250	500		9kg	111	163	230		9kg	198	88	65		4kg	144	79	144	
Max. payload	Horizontal	30kg	15kg	Lead 05	15kg	20	48	124	Lead 05	15kg	61	29	12	Lead 05	5kg	31	0	31
	Vertical	9kg	5kg		5kg	211	370	650		5kg	509	374	172		4kg	77	48	77
Rated thrust (N)	250	130	Lead 05	10kg	78	156	339	Lead 05	10kg	223	96	46	Lead 05	7kg	31	6	31	
Stroke length (mm)	100 – 800 (50 interval)			30kg	21	85	148		30kg	0	0	0		9kg	0	0	0	

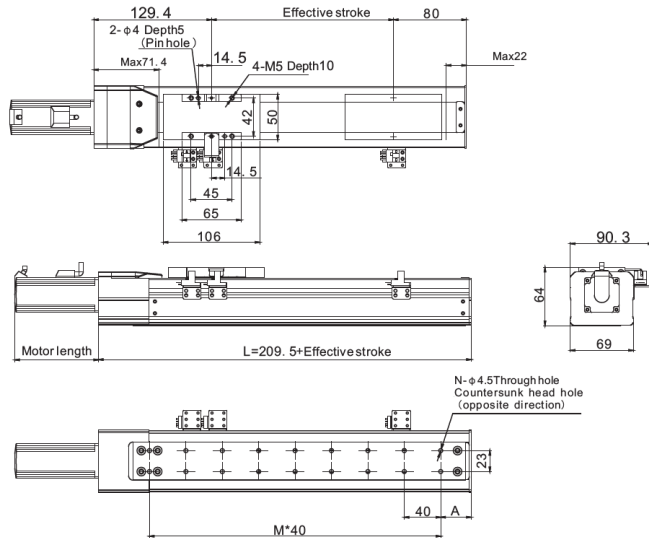
* Notes: 1) Linear guide rail: 42*9.5-1pc

2) L is the distance from the center of slider top to center of gravity of object being transported

Motor Mounting Type



Installation Dimensions (in mm)

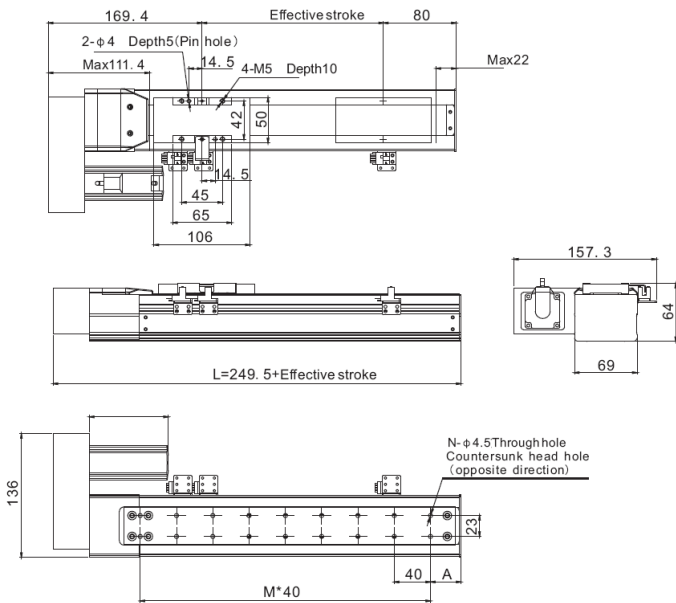


Notes: please contact us for specific model drawings before placing your order

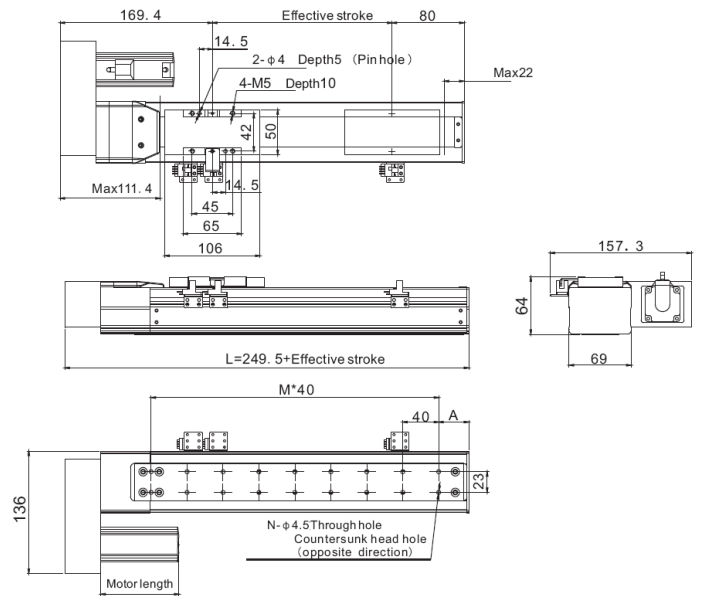
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	309.5	359.5	409.5	459.5	509.5	559.5	609.5	659.5	709.5	759.5	809.5	859.5	909.5	959.5	1009.5
A	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5
M	5	6	8	9	10	11	13	14	15	16	18	19	20	21	23
N	12	14	18	20	22	24	28	30	32	34	38	40	42	44	48

Dimensions (in mm)

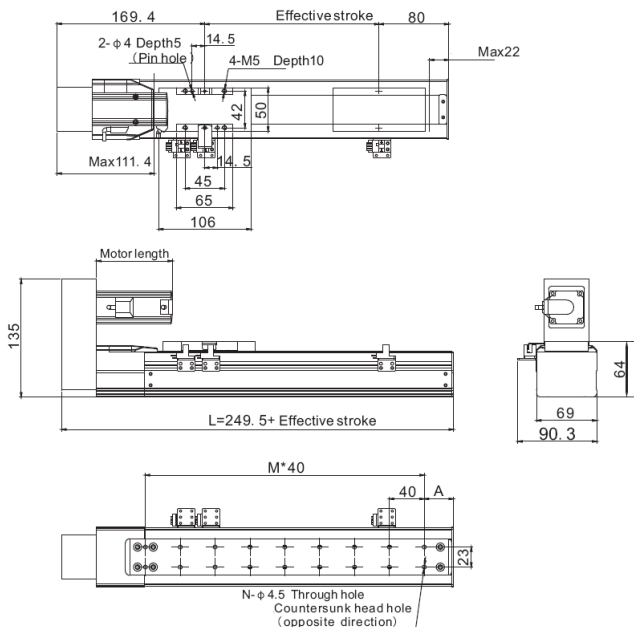
M3



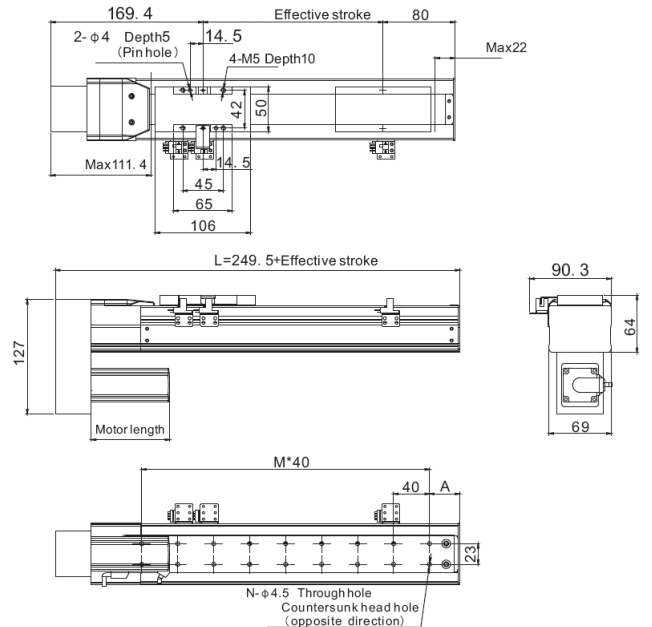
M4



M5



M6



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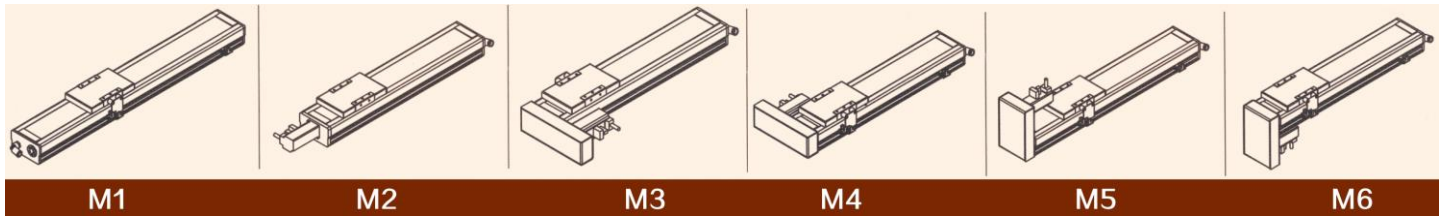
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
L	349.5	399.5	449.5	499.5	549.5	599.5	649.5	699.5	749.5	799.5	849.5	899.5	949.5	999.5	1049.5
A	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5	43.5	33.5
M	5	6	8	9	10	11	13	14	15	16	18	19	20	21	23
N	12	14	18	20	22	24	28	30	32	34	38	40	42	44	48

LEC100D Technical Specifications

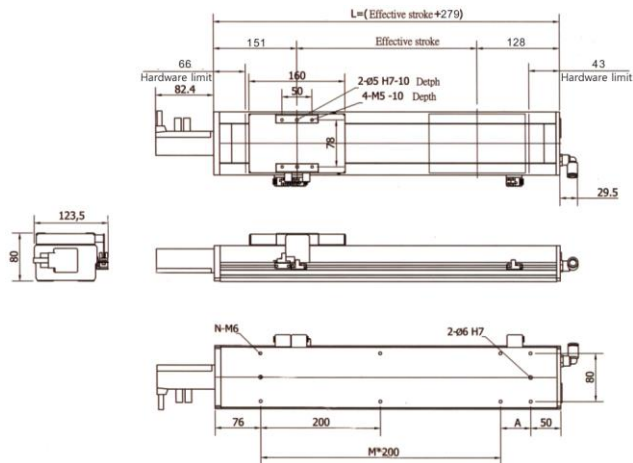
AC servo motor output power		100W																		
Repeatability (mm)		±0.02				Horizontal use (in mm)				Wall installation (in mm)				Vertical use (in mm)						
Ball screw ϕ (mm)	16	16	16	16	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	
	5	10	16	20		5kg	193	206	467		3kg	462	228	179		1kg	546	441	570	
Screw lead (mm)	5	10	16	20	Lead 20	10kg	72	81	191	Lead 20	7kg	289	94	76	Lead 20	3kg	375	243	391	
	5	10	16	20		20kg	0	0	75		10kg	211	55	39		5kg	123	82	150	
Max. speed (mm/s)	250	500	800	1000	Lead 16	5kg	239	286	536	Lead 16	5kg	477	140	123	Lead 16	3kg	413	287	262	
	250	500	800	1000		10kg	119	139	301		10kg	269	78	69		5kg	214	151	242	
Max. payload	Horizontal	50kg	35kg	25kg	20kg	Lead 10	25kg	15	23	156	Lead 10	15kg	126	54	37	Lead 10	8kg	60	15	85
	Vertical	12kg	10kg	8kg	5kg		15kg	65	85	225		10kg	545	122	109		4kg	296	212	320
Rated thrust (N)	300	150	85	75	Lead 10	25kg	21	27	87	Lead 10	20kg	210	33	21	Lead 10	6kg	145	102	101	
	300	150	85	75		35kg	0	0	0		30kg	0	0	0		10kg	79	35	80	
Stroke length (mm)	100 – 1050 (50 interval)				Lead 05	30kg	21	32	262	Lead 05	10kg	602	187	153	Lead 05	10kg	93	56	106	
	100 – 1050 (50 interval)					50kg	1	2	48		20kg	380	92	75		13kg	42	32	71	
	100 – 1050 (50 interval)					60kg	0	0	0		30kg	95	0	0		15kg	23	5	41	

* Notes: 1) Linear guide rail: 12*8-2pcs 2) L is the distance from the center of slider top to center of gravity of object being transported

Motor Installation Type



Installation Dimensions (in mm)

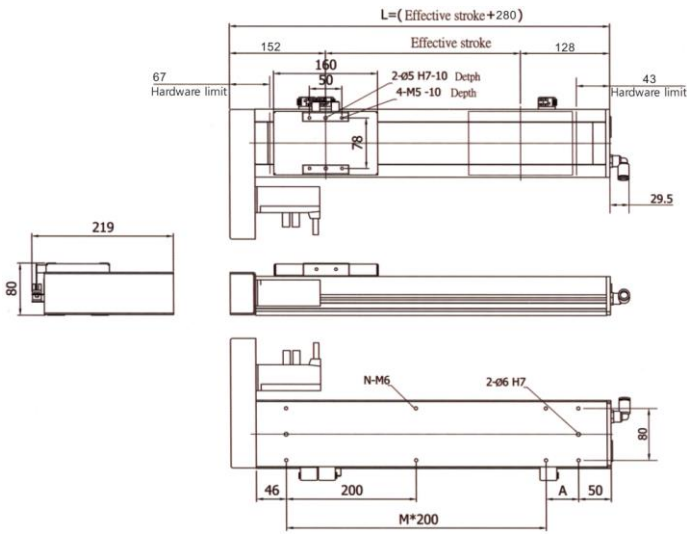


Notes: please contact us for specific model drawings before placing your order

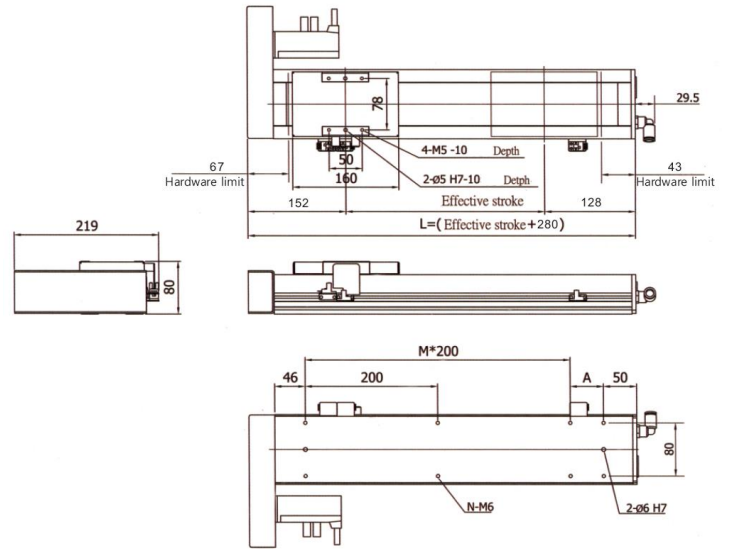
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	1229	1279	1329
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Weight(kg)	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3

Installation Dimensions (in mm)

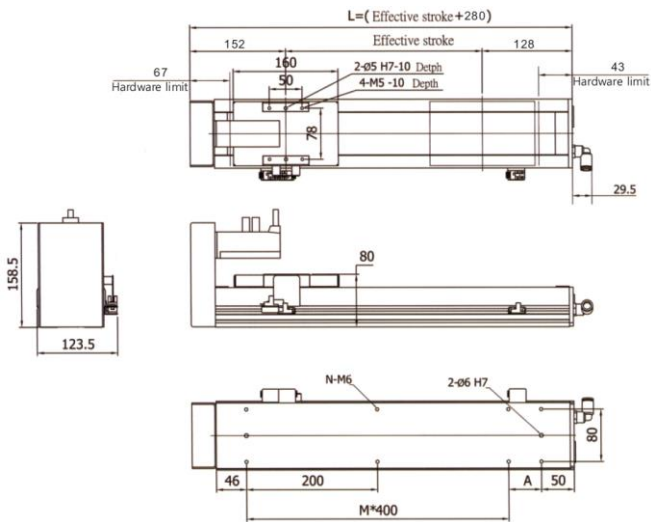
M3



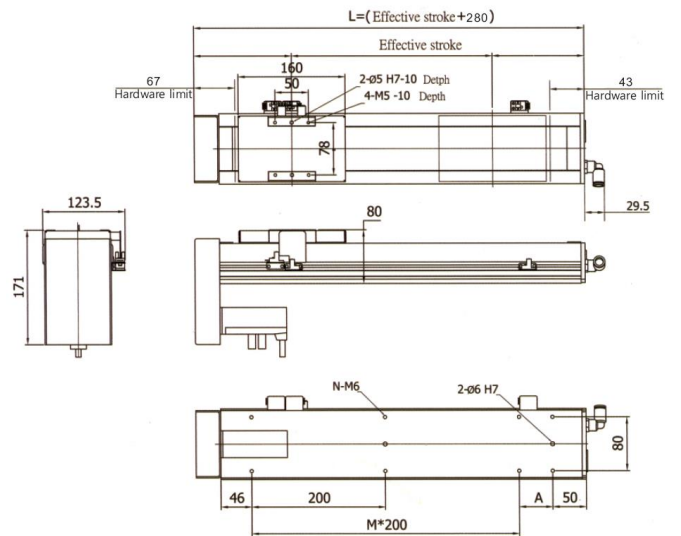
M4



M5



M6



Notes: please contact us for specific model drawings before placing your order

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Weight(kg)	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9

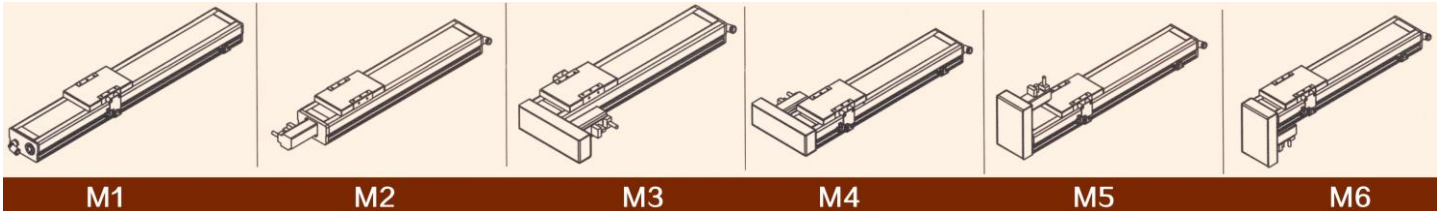
LEC136D Technical Specifications

AC servo motor output power		200W																		
Repeatability (mm)		±0.02				Horizontal use (in mm)				Wall installation (in mm)				Vertical use (in mm)						
Ball screw ϕ (mm)	16	16	16	16	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	Lead	Payload	0°	45°	90°	
						10kg	820	870	1830		10kg	935	499	550		4kg	609	830	1423	
Screw lead (mm)	5	10	16	20	Lead 20	20kg	450	480	1050	Lead 20	20kg	526	288	290	Lead 20	6kg	470	559	952	
						35kg	250	310	650		30kg	305	130	125		8kg	350	411	713	
						30kg	360	470	1100		30kg	1030	130	125		10kg	400	568	1121	
Max. speed (mm/s)	250	500	800	1000	Lead 16	50kg	232	315	815	Lead 16	50kg	1030	340	272	Lead 16	13kg	270	375	705	
						65kg	159	222	705		60kg	398	40	29		15kg	201	261	529	
Max. payload	Horizontal	85kg	70kg	65kg	35kg	Lead 10	40kg	331	459	1027	Lead 10	40kg	525	166	86	Lead 10	15kg	149	215	431
	Vertical	25kg	20kg	15kg	8kg		55kg	215	299	797		55kg	385	92	13		18kg	115	161	349
Rated thrust (N)		640	320	225	160	Lead 10	70kg	154	219	680	Lead 10	70kg	121	6	0	Lead 10	20kg	95	135	273
Stroke length (mm)		100 – 1050 (50 interval)					Lead 05	60kg	134	329		1625	Lead 05	60kg	725		61	40	Lead 05	20kg
						70kg		185	262	1385	70kg	349		11	7	22kg	127	190		310
						80kg		154	219	1220	80kg	0		0	0	25kg	73	108		263

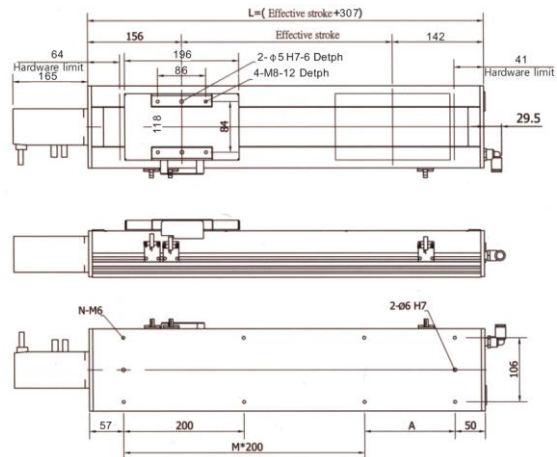
* Notes: 1) Linear guide rail: 15*12.5-2pcs

2) L is the distance from the center of slider top to center of gravity of object being transported

Motor Installation Type



Installation Dimensions (in mm)

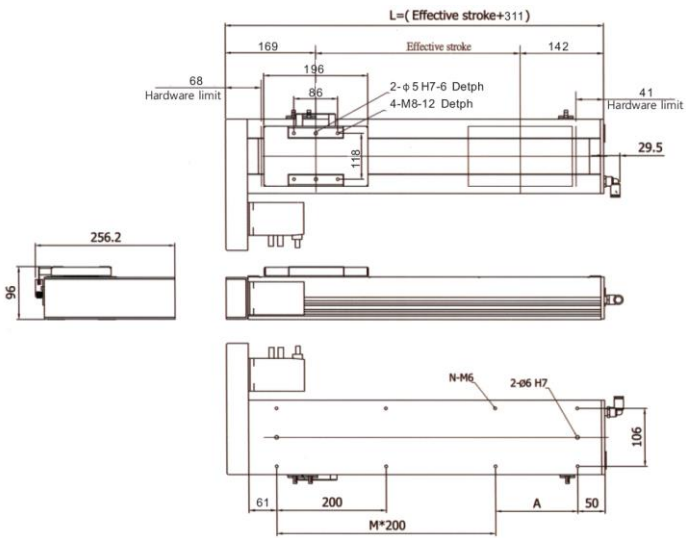


Notes: please contact us for specific model drawings before placing your order

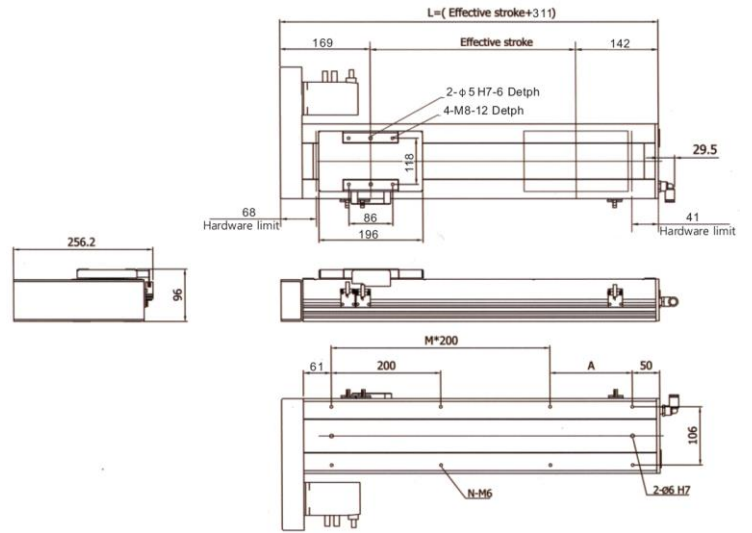
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	407	457	507	557	607	657	707	757	807	857	707	957	1007	1057	1107	1157	1207	1257	1307	1357
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16
Weight(kg)	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7	12.2	12.7	13.2	13.7	14.2	14.7	15.2	15.7	16.2	16.7	17.2

Installation Dimensions (in mm)

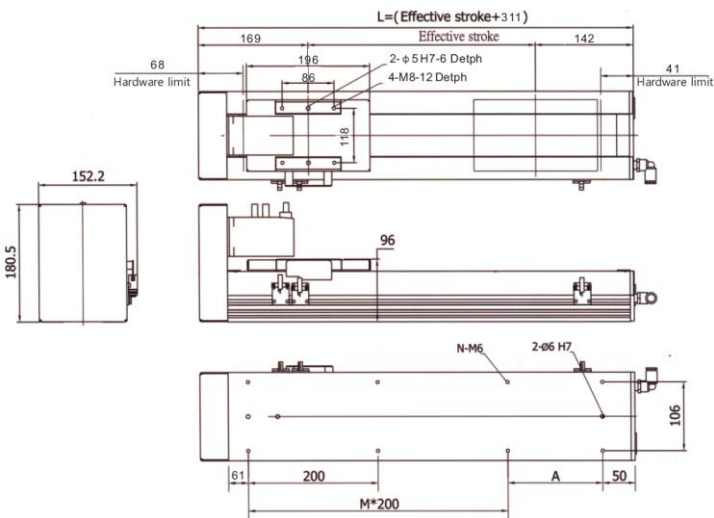
M3



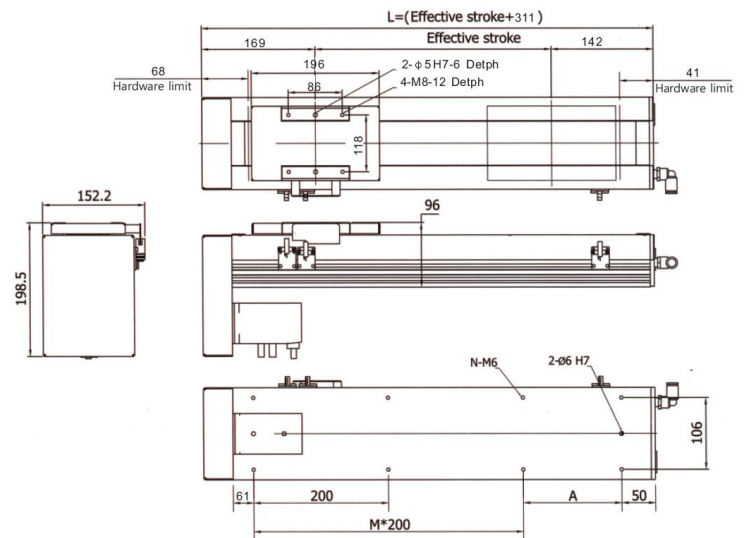
M4



M5



M6



Notes: please contact us for specific model drawings before placing your order

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	411	461	511	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161	1211	1261	1311	1361
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50
M	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6
N	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16
Weight(kg)	7.4	7.9	8.4	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9	15.4	15.9	16.4	16.9

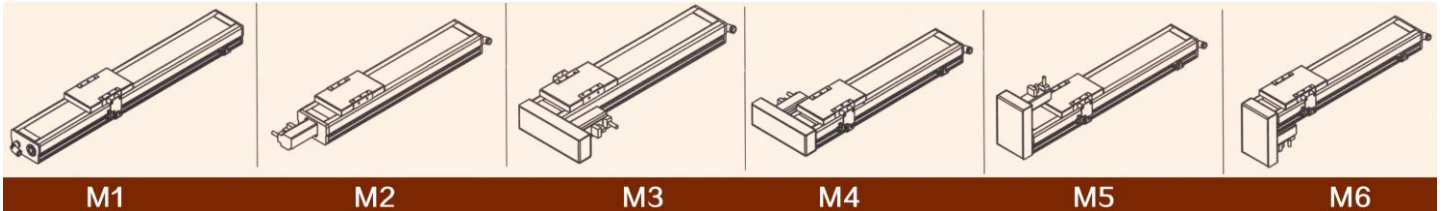
LEC168D Technical Specifications

AC servo motor output power		400W																		
Repeatability (mm)		±0.02				Horizontal use (in mm)				Wall installation (in mm)				Vertical use (in mm)						
Ball screw ϕ (mm)	25	20	20	25	Lead 20	Payload	0°	45°	90°	Lead 20	Payload	0°	45°	90°	Lead 20	Payload	0°	45°	90°	
						25kg	643	867	1438		25kg	979	460	431		3 kg	2544	1789	2544	
Screw lead (mm)	5	10	20	25	Lead 20	45kg	399	512	1103	Lead 20	45kg	682	312	300	Lead 20	7 kg	1383	571	1383	
						65kg	240	336	971		65kg	566	203	171		11 kg	900	672	900	
						30kg	765	922	1749		30kg	1095	560	550		5 kg	2350	1660	2350	
Max. speed (mm/s)	250	500	800	1250	Lead 16	50kg	454	571	1216	Lead 16	50kg	730	335	325	Lead 16	10kg	1210	845	1210	
						75kg	305	393	1035		75kg	580	215	195		15 kg	810	570	810	
Max. payload	Horizontal	110kg	80kg	75kg	65kg	Lead 10	50kg	661	770	1371	Lead 10	50kg	1212	478	369	Lead 10	15 kg	1610	1138	1610
	Vertical	40kg	35kg	15kg	11kg		65kg	499	511	1190		65kg	1130	384	335		25 kg	950	670	950
Rated thrust (N)	945	480	240	200	Lead 10	80kg	337	243	1007	Lead 10	80kg	973	263	220	Lead 10	35 kg	660	468	660	
						85kg	389	539	1398		70kg	911	400	365		20 kg	1577	1099	1577	
						100kg	220	291	1089		90kg	622	249	197		30 kg	782	567	782	
Stroke length (mm)	100 – 1250 (50 interval)	100 – 1250 (50 interval)	100 – 1250 (50 interval)	200	Lead 05	120kg	180	250	950	Lead 05	110kg	464	176	110	Lead 05	40 kg	245	130	245	
						85kg	389	539	1398		70kg	911	400	365		20 kg	1577	1099	1577	

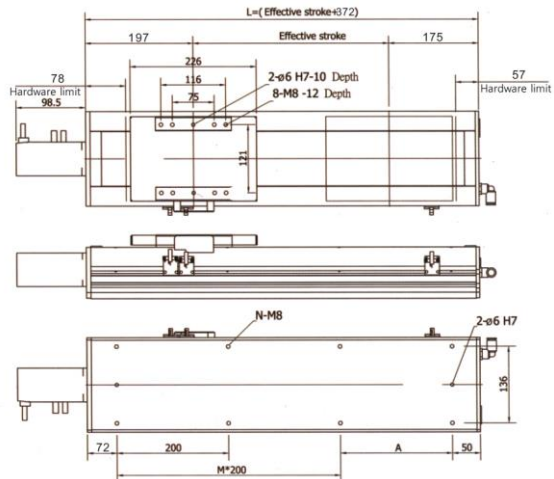
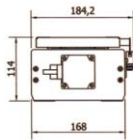
* Notes: 1) Linear guide rail: 20*15.5-2pcs

2) L is the distance from the center of slider top to center of gravity of object being transported

Motor Installation Type



Installation Dimensions (in mm)

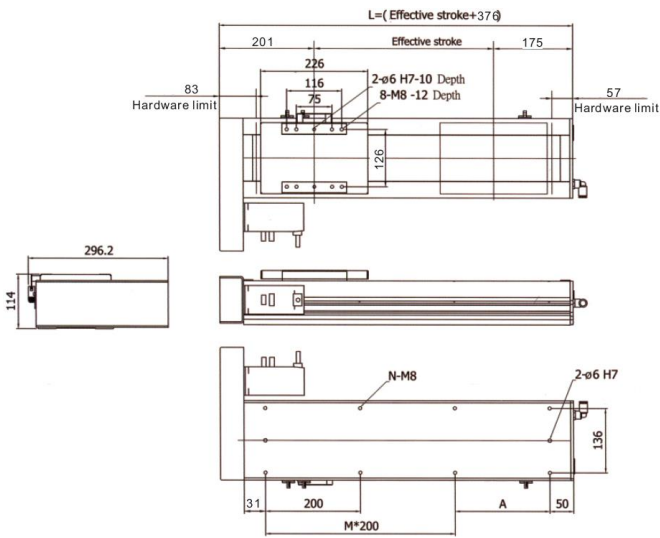


Notes: please contact us for specific model drawings before placing your order

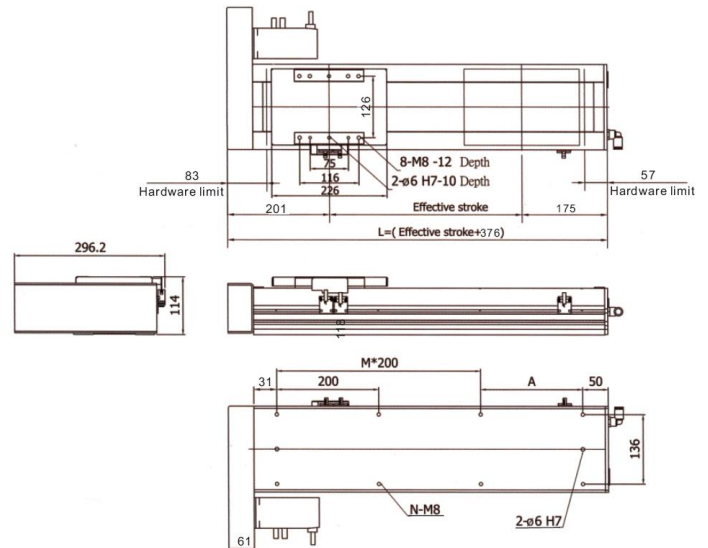
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	472	522	572	622	672	722	772	822	872	922	972	1022	1072	1122	1172	1222	1272	1322	1372	1422	1472	1522	1572	1622
A	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	100	50	100
M	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7
N	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18
Weight(kg)	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0

Installation Dimensions (in mm)

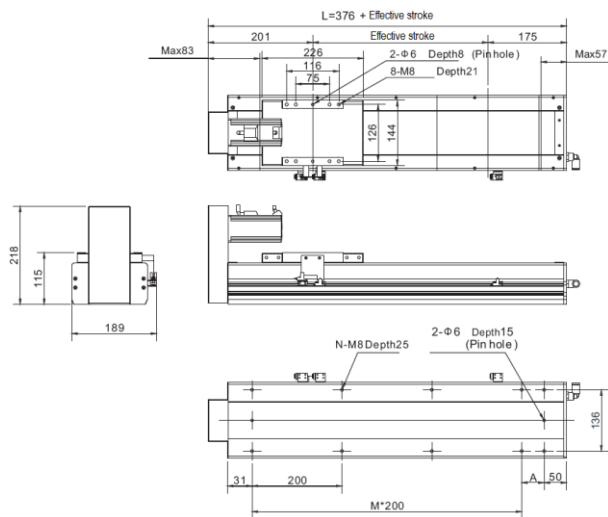
M3



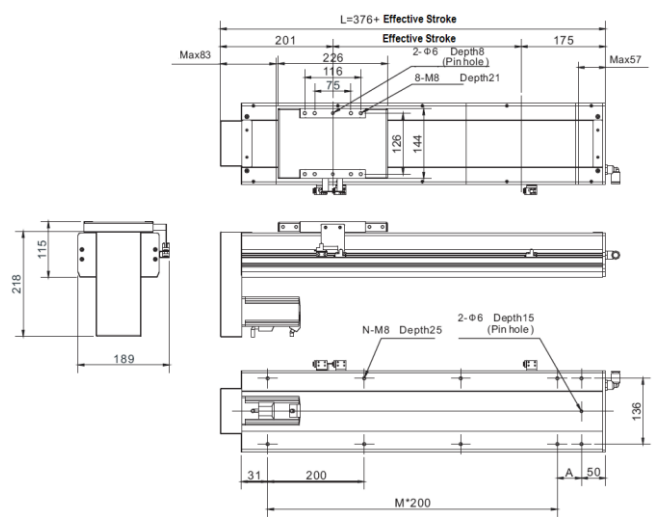
M4



M5



M6



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Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	476	526	576	626	676	726	776	826	876	926	976	1026	1076	1126	1176	1226	1276	1326	1376	1426	1476	1526	1576	1626
A	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	100	50	100
M	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7
N	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18
Weight(kg)	15.4	16.4	17.4	18.4	19.4	20.4	21.4	22.4	23.4	24.4	25.4	26.4	27.4	28.4	29.4	30.4	31.4	32.4	33.4	34.4	35.4	36.4	37.4	38.4