



LUDE TRANSMISSION

Electric Linear Actuator Catalogue



LINEAR MOTION



Product category

Linear motion idea

The compact integrations of the motor and gear reducer with the acme screw, ball screw and the satellite roller screw, unique advantages in terms of the price and the performance provide much more space to the engineer for designing. The new idea dispensed with the consideration of the hydraulic and pneumatic leakage as well as the pipes and valves.

Self-locking: The majority of the products possess the self locking function, thus increasing the performance security.

Positioning: the positioning accuracy can reach 0.1mm, and the positioning accuracy of servo actuator can reach $6\mu\text{m}$.

Precise control: equipped with encoder/potentiometer/rotary transformer, the closed loop positioning can also be realized through the inverter, PLC controller and the servo controller.

Synchronousness: the synchronous lifting can be achieved through the mechanical connection of multiple screw actuators and screw jacks

Overload protection: can be equipped with the safety clutch, and the over-load sensor.

High load capacity: wide range of load capacity from 5kg to 250 ton, with the stroke 6 meters to the maximum.

High speed: the speed of the of the roller screw actuator can reach 2 m/s, the continuous traveling life is 15 times than that of the ball screw actuator.

Others: Easy maintenance, low noise, can work normally under the harsh environment of high/low temperature, corrosive and explosive-prone environment.

Product category

Linear actuator

LAP Series



LBP Series





Screw Jack

SJA Series



SJB Series



SC Screw Jack

SCA Series



SCB Series



Servo Actuator

DMB Series

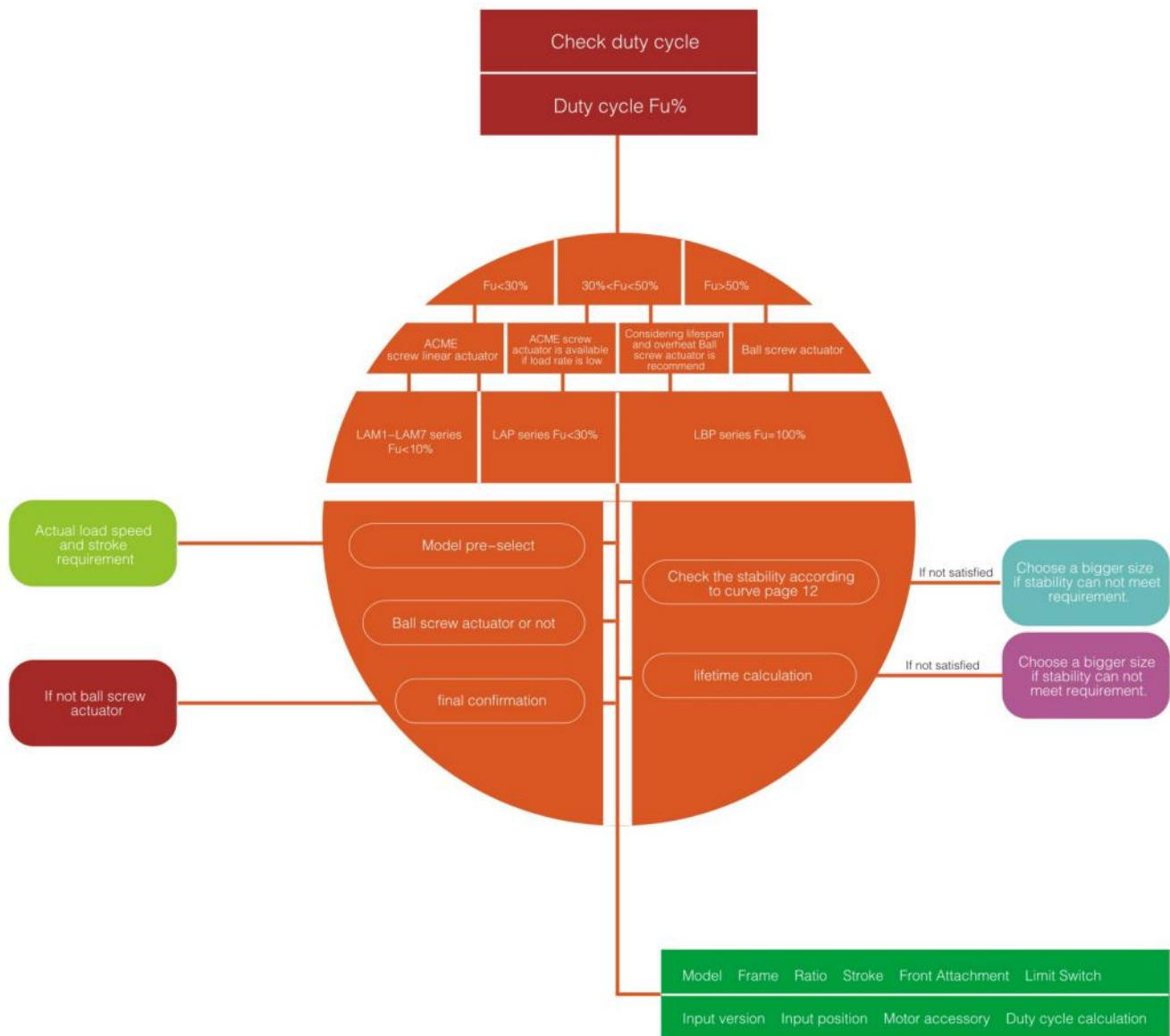


DMB Series

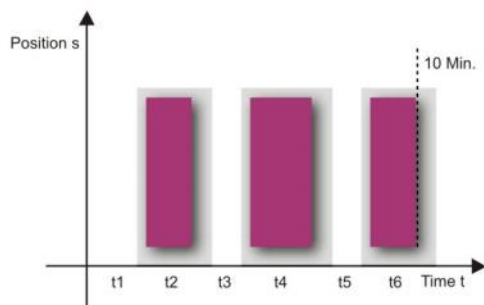




Linear actuator model selection



Duty cycle calculation



$$Fu\% = (t_2 + t_4 + t_6) / 10\text{min}$$

Fu% = Working Percentage within 10min

T2, t4, t6 : working time

T1, t3, t5: waiting time



Lifetime calculation

The lifetime of Ball screw linear LBP series depends on the lifetime of ball screw and worm gear and shaft, we just need to calculate the lifetime of screw, worm gear and shaft will wear but normally lifetime is longer than screw.

Nut lifetime calculation:

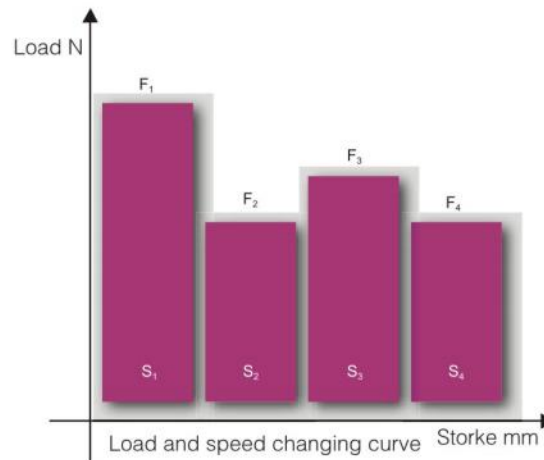
$$L_{10} = (C / F_m)^3 \times S$$

L₁₀: theoretic lifetime km F_m: mean load N

C: Rated dynamic load N S: Ball screw lead mm

F_m mean load calculation:

$$F_m = \sqrt[3]{\frac{F_1^3 S_1 + F_2^3 S_2 + F_3^3 S_3 + F_4^3 S_4}{S_1 + S_2 + S_3 + S_4}}$$





Coding

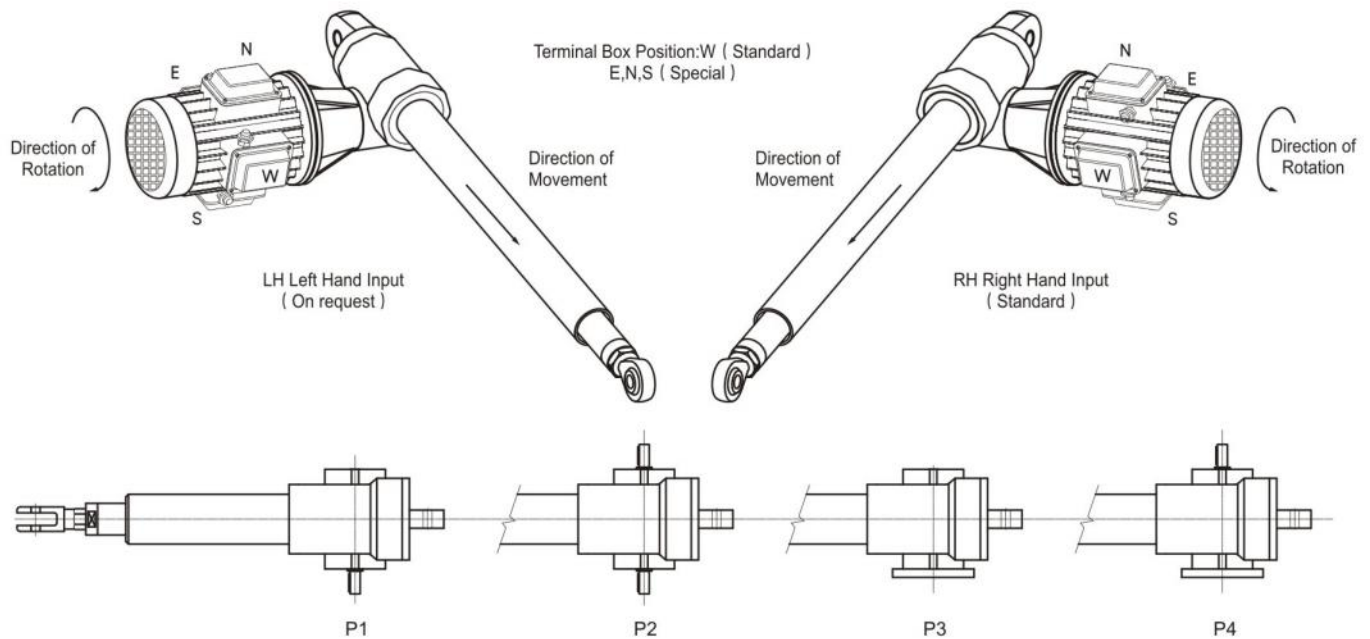
Linear actuator categories

LAP Acme Screw Series / LBP Ball Screw Series

High load capacity, Self-Locking, Synchronous
Compact Size
Precision control, multiple positioning
Continuous duty cycle equipped with Ball screw
Modularized combination of various of motor
Push load range: 10kg to 20 tons



Mounting Position





Coding

Series	Size	Ratio	Stroke	Front Attachment	Limit Device	Input Versions	Input Shaft	Motor	Power	RPM	Terminal Box Position	Accessories
LAP Series	22	H1	50	BA Standard head	P1 Single input shaft P2 Double input shaft P3 Motor flange P4 Motor flange and FCM (NC) Normally closed magnetic reed switches FCM (NO) Normally opened magnetic reed switches FCP Inductive proximity switches PNP normally closed FCE External limit switches	RH Right hand LH Left hand	DC12V DC24V AC 1-PH 220V 50HZ AC 3-PH 380V 50HZ 220V 50HZ SERVO STEPPING	kW 0.06 0.09 0.12 0.18 0.25 0.37 0.55 0.75 1.1 1.5 2.2 3	rpm 900 1400 2800	W standard N, S, E	BRE Brake SP Rear bracket FI Intermediate support flange FR Rear flange FS Safety clutch AR Anti-turn device IRE Encoder B Bellows SN Safety clutch ST Stainless steel protective tube RPT90 Rear fixing attachment turn at 90° FCK Internal limit switch POR Internal potentiometer	
LBP Series	25	H2	100	ROE Rod end								
	28	V1	200	FO Clevis end								
	32	V2	300	TS Ball joint								
	35	N1	400	FL Flange end								

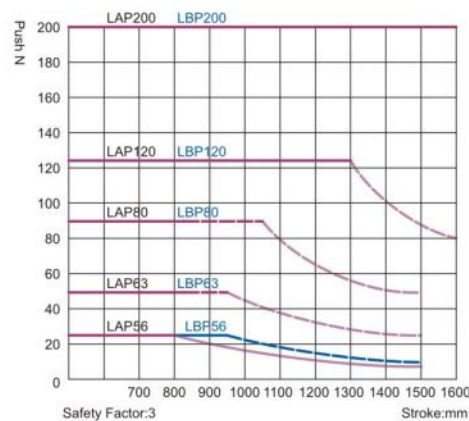
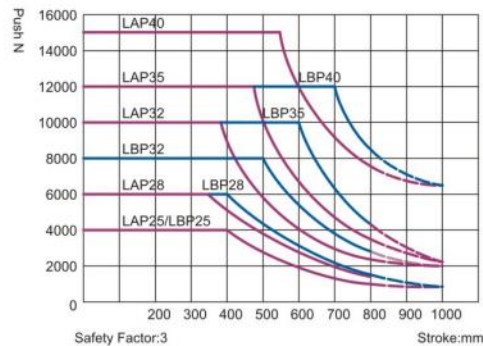
Series	Size	Ratio	Stroke	Front Attachment	Length Limit	Input Versions	Input Shaft	Motor	Power	RPM	Terminal Box Position	Accessories
LAM Series	1	S0	50	ROE Rod end	ROE Rod end FO Clevis end	DC12V DC24V AC220V AC110V	DC12V DC24V AC220V AC110V	kW 0.06 0.09 0.12 0.18 0.25 0.37 0.55 0.75 1.1 1.5 2.2 3	rpm 900 1400 2800	W standard N, S, E	BRE Brake SP Rear bracket FI Intermediate support flange FR Rear flange FS Safety clutch AR Anti-turn device IRE Encoder B Bellows SN Safety clutch ST Stainless steel protective tube RPT90 Rear fixing attachment turn at 90° FCK Internal limit switch POR Internal potentiometer	
LBM Series	2	S1	100	FO Clevis end								
	3	S2	150									
	4	S3	200									
	5	S4	250									
	6		300									
	7		Special									
	8											
	9											

Note: standard motors with insulation class F and protection class IP55, Protection class of Brake IP54.



Linear Actuator

Critical Buckling Force Graphs



Things to Consider When Choosing:

- ◆ The percentage of the duty cycle within 10 minutes
LAP series: 10%
LAP22,25 series(acme screw actuator): 25%
LAP28,32,35,40,56,63,80 series(acme screw actuator) : 30%
The ball screw actuator:100%
The duty cycle can be increased if the actual load is less than the rated loads, please consult with the engineers of Lude Transmission for the specifics
- ◆ For the stroke exceeding 800mm, the length of the inner tube and the protective tube should be increased by 200mm accordingly.
- ◆ For the stroke exceeding 300mm, the stability should be checked, please refer to the chart that reflects the relationship between the load and the stroke. As regards to the stability of the LAP and LAP22,25 series whose stroke is above 300mm, please consult with the engineers.
- ◆ Please confirm the self-locking, and refer to the table of self-locking coefficients, choose the appropriate self-locking according to the actual application. To the acme screw and ball screw actuator without self-locking function, please match the brake with them.
- ◆ For the acme screw and the ball screw actuator with the stroke of 300mm, the axial error is 0.1mm
- ◆ The catalogue only lists the parameters and the dimensions of the acme screw actuators, while that of the ball screw actuator, please consult with the engineers.
- ◆ For special custom design, please consult with engineers.

Self-locking conditions for the actuators:

The self-locking state of the actuators can be categorized into four types as follows:

Static self-locking

- ◆ Self-locking remove sless than 0.35

The actuator will not move under the external push or pull load, provided that there is not vibration.

Dynamic self-locking

- ◆ Self-locking coefficient is less than 0.3

If the load direction is opposite to the move direction, the actuator does not move in the case of power off.

Self-locking coefficient is less than 0.25

If the load direction is the same as the move direction, the actuator does not move in the case of power off

Uncertain self-locking

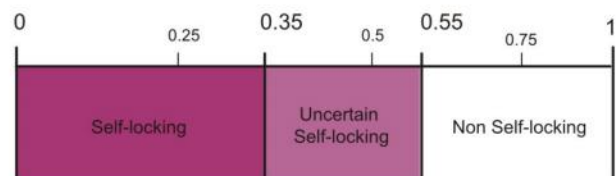
The self-locking coefficient is between 0.35 and 0.55

The actuator will move up and down under the increased external load

Non self-locking

Self-locking coefficient is above 0.55

The actuator will move up and down under a minimum load.





LAP Series Performance Table

Performance Table : LAP Series---With DC Motor 24V

Type	Speed mm/s	Dynamic Load N	Ratio	Motor Power	Rated Current A	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LAP22	26-36	400	N2	DC24V	4.5	0.35	2	0.3
	13-18	750	L2		4.2	0.27		
	10-13.5	950	N1		4.2	0.22		
	5-6.5	1400	L1		4.5	0.16		
LAP25	32-40	1000	N2	DC24V	9.8	0.35	3.2	0.4
	16-20	1600	L2		9.5	0.28		
	12-15	2000	N1		9.6	0.22		
	6-7.5	3000	L1		9.5	0.17		

Performance Table of LAP Series---With AC 3-Phase Motor

Type	Speed mm/s	Dynamic Load N	Ratio	Motor Power	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LAP22	30	500	N2	0.06kW 2800 380V 50HZ	0.35	2	0.3
	15	750	L2		0.27		
	11	900	N1		0.22		
	5.5	1400	L1		0.16		
LAP25	37	1000	N2	0.09kW 2800 380V 50HZ	0.35	3.2	0.4
	18.5	1600	L2		0.28		
	14	2000	N1		0.22		
	7	3000	L1		0.17		
LAP28	93	600	H2	0.12kW 2800 380V 50HZ	0.40	5.1	0.3
	60	1000	V2		0.41		
	46	850	H2	0.09kW 1400 380V 50HZ	0.40		
	35	1100	H1	0.12kW 2800 380V 50HZ	0.25		
	30	1750	N2		0.35		
	22	1500	V1		0.25		
	15	3000	L2		0.27		
	11	3600	N1		0.22		
	7.5	4000	L2	0.09kW 1400 380V 50HZ	0.27		
	5.5	4000	L1	0.12kW 2800 380V 50HZ	0.16		
	2.8	4000	L1	0.09kW 1400 380V 50HZ	0.16		
	1.9	4000	XL1		0.11		
LAP32	93	830	H2	0.18kW 2800 380V 50HZ	0.38	5.8	0.5
	60	1250	V2		0.38		
	46	1300	H1		0.27		
	30	2200	N2		0.33		
	23	1650	H1	0.12kW 1400 380V 50HZ	0.27		
	15	3750	L2	0.18kW 2800 380V 50HZ	0.25		
	7.5	5550	L1		0.18		
	3.5	6000	L1	0.12kW 1400 380V 50HZ	0.18		
	1.9	6000	XL1		0.12		
LAP35	93	1300	V2	0.25kW 2800 380V 50HZ	0.37	7.4	0.8
	46	2100	V1		0.25		
	23	4300	N2		0.28		
	15	6000	L2		0.22		
	11	6300	N1		0.20		
	7.5	10000	L1		0.16		
	5.5	9000	N1	0.18kW 1400 380V 50HZ	0.20		
	4	10000	L1		0.16		



Type	Speed mm/s	Dynamic Load N	Ratio	Motor Power	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LAP40	93	3000	V2	0.55kW 2800 380V 50HZ	0.37	12.9	0.9
	46	4400	V1		0.26		
	23	10000	N2		0.25		
	18	12000	L2		0.24		
	11	12000	N1		0.18		
	9	12000	L2	0.24			
	5.5	12000	N1	0.37kW 1400 380V 50HZ	0.18		
	4.5	12000	L1		0.17		
LAP56	93	11000	V2	2.2kW 2800 380V 50HZ	0.35	50	2
	46	15000	V2	1.5kW 1400 380V 50HZ	0.35		
	30	20000	N2	2.2kW 2800 380V 50HZ	0.26		
	23	18000	V1	1.5kW 1400 380V 50HZ	0.24		
	15	25000	N2		0.26		
	11	25000	L2	0.75kW 1400 380V 50HZ	0.23	40	
	7.5	25000	N1		0.18		
	5.5	25000	L1		0.15		
LAP63	89	15000	V2	3.0kW 2800 380V 50HZ	0.34	80	4
	44	30000	V2	3.0kW 1400 380V 50HZ	0.34		
	30	40000	N2	3.0kW 2800 380V 50HZ	0.26		
	22	42000	V1	3.0kW 1400 380V 50HZ	0.21		
	15	50000	N2	2.2kW 1400 380V 50HZ	0.26		
	11	50000	L2		0.23		
	7.5	50000	N1	1.5kW 1400 380V 50HZ	0.18	70	
	5.5	50000	L1		0.15		
LAP80	134	14000	V2	4.0kW 2800 380V 50HZ	0.35	150	6
	77	20000	XV2		0.32		
	67	28000	V2	4.0kW 1400 380V 50HZ	0.35		
	46	35000	N2	4.0kW 2800 380V 50HZ	0.24		
	38	40000	XV2	4.0kW 1400 380V 50HZ	0.32		
	33	40000	V1		0.24		
	23	70000	N2		0.24		
	19	65000	XV1		0.20		
	17	80000	L2		0.22		
	11	80000	N1		0.16		
	8.5	80000	L1	3.0kW 1400 380V 50HZ	0.15	140	
LAP120	77	35 kN	H2	7.5kW 1400 380V 50HZ	0.35	310	9
	52	38 kN	H2	5.5kW 950 380V 50HZ	0.35		
	45	45 kN	H1	7.5kW 1400 380V 50HZ	0.23		
	38	65 kN	N2		0.30		
	30	50 kN	H1	5.5kW 950 380V 50HZ	0.23		
	26	75 kN	N2		0.30		
	22	90 kN	N1	7.5kW 1400 380V 50HZ	0.18		
	19	110 kN	L2		0.22		
	15	95 kN	N1	5.5kW 950 380V 50HZ	0.18		
	13	120 kN	L2		0.22		
	11	125 kN	L1	7.5kW 1400 380V 50HZ	0.16		
	7.5	125 kN	L1	4.0kW 950 380V 50HZ	0.16		



LAP Series Performance Table

Type	Speed mm/s	Dynamic Load KN	Ratio	Motor Power	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LAP200	77	48	H2	11kW 1400 380V 50HZ	0.34	450	13
	52	48	H2	7.5kW 950 380V 50HZ	0.34		
	45	60	H1	11kW 1400 380V 50HZ	0.23		
	38	90	N2		0.26		
	30	60	H1	7.5kW 950 380V 50HZ	0.23		
	26	90	N2		0.26		
	22	115	N1	11kW 1400 380V 50HZ	0.16		
	19	165	L2		0.22		
	15	115	N1	7.5kW 950 380V 50HZ	0.16		
	13	165	L2		0.22		
	11	200	L1	11kW 1400 380V 50HZ	0.14		
	7.5	200	L1	7.5kW 950 380V 50HZ	0.14		

Note: LAP Series linear actuator can be driven by AC 1-phase motor, DC motor, stepping motor, servomotor, but the performances will be changed, please consult with Lude Transmission's engineers.

Ambient temperature of LAP Series linear actuator is -15°C – +40°C, please consult with Lude Transmission's engineers if the special temperature required.

Performance Table of LBP Series---With DC Motor 24V

Type	Speed mm/s	Dynamic Load N	Ratio	Motor Power	Rated Current	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LBP22	12.5–16.5	900	N1	DC24V	4.2	0.49	2	0.3
	6.5–8.5	1400	L1		4.5	0.36		
LBP25	16–20	2000	N1	DC24V	9.6	0.49	3.2	0.4
	8–10	2700	L1		9.5	0.37		

Performance Table of LBP Series---With AC 3-Phase Motor

Type	Speed mm/s	Dynamic Load N	Ratio	Motor Power	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LBP22	15	900	N1	0.06kW 2800 380V 50HZ	0.49	2	0.3
	7.5	1400	L1		0.36		
LBP25	18.6	2000	N1	0.09kW 2800 380V 50HZ	0.49	3.2	0.4
	9.3	2700	L1		0.37		
LBP32	58	1500	H1	0.18kW 2800 380V 50HZ	0.56	5.8	0.5
	37	2200	V1		0.56		
	29	2400	H1	0.12kW 1400 380V 50HZ	0.56		
	18.5	3500	N1	0.18kW 2800 380V 50HZ	0.48		
	9.3	4400	N1	0.12kW 1400 380V 50HZ	0.48		
	4.6	4500	L1		0.37		
LBP35	58	2600	V1	0.25kW 2800 380V 50HZ	0.56	7.4	0.8
	29	3400	V1	0.18kW 1400 380V 50HZ	0.56		
	14.5	4500	N1	0.25kW 2800 380V 50HZ	0.43		
	9.7	5400	L1		0.34		
	7.2	5400	N1	0.18kW 1400 380V 50HZ	0.43		
	4.8	5500	L1		0.34		
LBP40	46.6	4800	V1	0.55kW 2800 380V 50HZ	0.56	13	0.9
	23.3	5800	V1	0.37kW 1400 380V 50HZ	0.56		
	11.6	7200	N1	0.55kW 2800 380V 50HZ	0.38		
	9.3	7600	L1		0.36		
	5.8	8000	N1	0.37kW 1400 380V 50HZ	0.38		
	4.6	8000	L1		0.36		



Type	Speed mm/s	Dynamic Load N	Ratio	Motot Power	Self-locking Coefficient	Weight kg	Extra Weight per 100mm stroke kg
LBP56	78	12500	V1	1.5kW 2800 380V 50HZ	0.56	50	2
	39	15500	V1	1.5kW 1400 380V 50HZ	0.56		
	26	18000	N1	1.5kW 2800 380V 50HZ	0.43		
	18.5	20000	L1	1.1kW 2800 380V 50HZ	0.37	40	
	13	22000	N1	0.75kW 1400 380V 50HZ	0.43		
	9.3	25000	L1		0.37		
LBP200	80	85 kN	H2	11kW 1400 380V 50HZ	0.55	470	13
	64	105 kN	H1	11kW 1400 380V 50HZ	0.55		
	54	85 kN	H2	7.5kW 950 380V 50HZ	0.55		
	43	105 kN	H1	7.5kW 950 380V 50HZ	0.55		
	40	165 kN	N2	11kW 1400 380V 50HZ	0.46		
	32	190 kN	N1	11kW 1400 380V 50HZ	0.46		
	27	165 kN	N2	7.5kW 950 380V 50HZ	0.46		
	21.5	190 kN	N1	7.5kW 950 380V 50HZ	0.46		
	20	190 kN	L2	7.5kW 1400 380V 50HZ	0.40	450	
	16	200 kN	L1	7.5kW 1400 380V 50HZ	0.40		
	13.5	200 kN	L2	5.5kW 950 380V 50HZ	0.40		
	10.5	200 kN	L1	5.5kW 950 380V 50HZ	0.40		

Note:LBP Series linear actuator can be driven by AC 1-phase motor,DC motor,stepping motor,servomotor,but the performances will be changed,please consult with Lude Transmission' s engineers.
Ambient temperature of LBP Series linear actuator is -15°C – +40°C,please consult with Lude Transmission' s engineers if the special temperature required.
It is also available to supply LBP63/80/120.



Rated dynamic load table:

Type	Rated dynamic load KN
LBP22	4.25
LBP25	4.25
LBP32	7.8
LBP35	11.3
LBP40	18.0
LBP56	33.9
LBP200	250

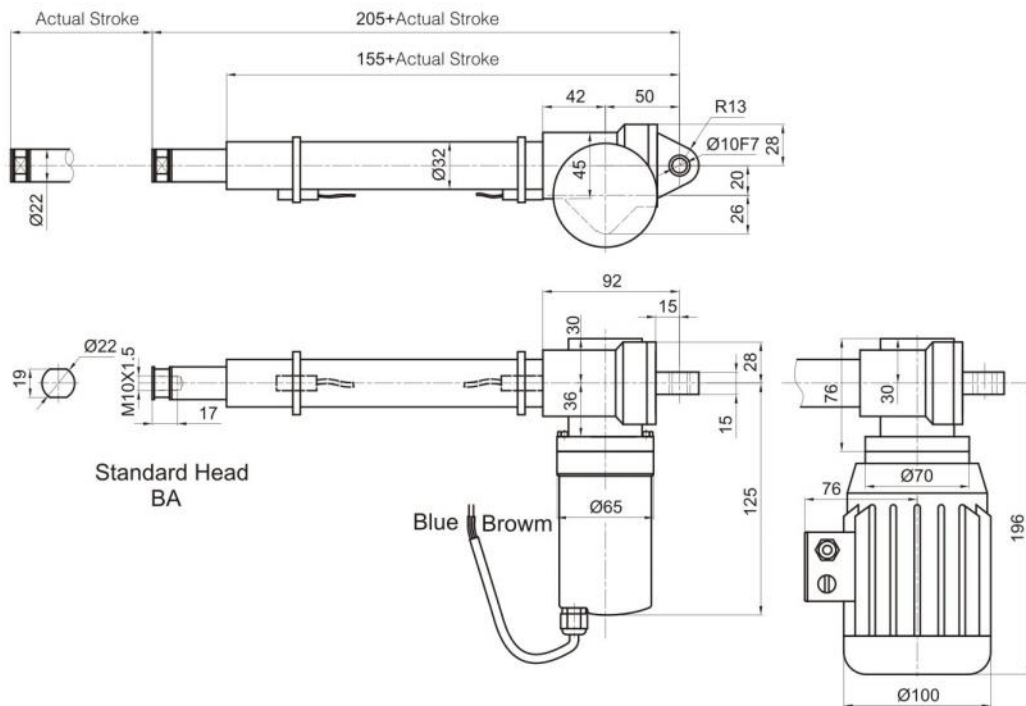


LINEAR MOTION

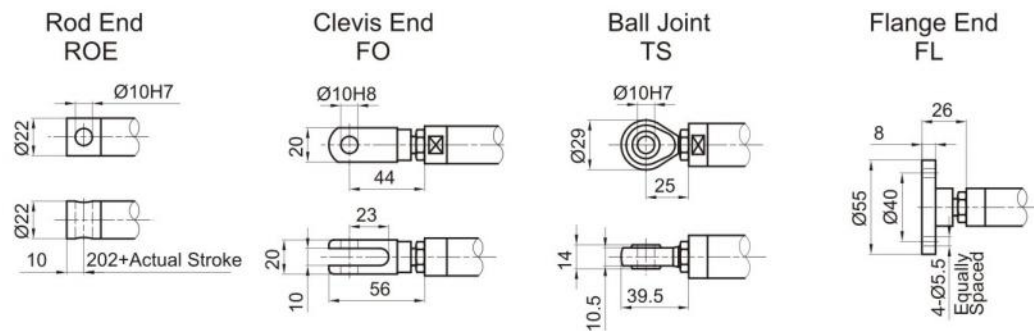
Overall add s of LAP Series Linear Actuator

Dimension of LAP22

With FCM magnetic reed switch



Front Attachment

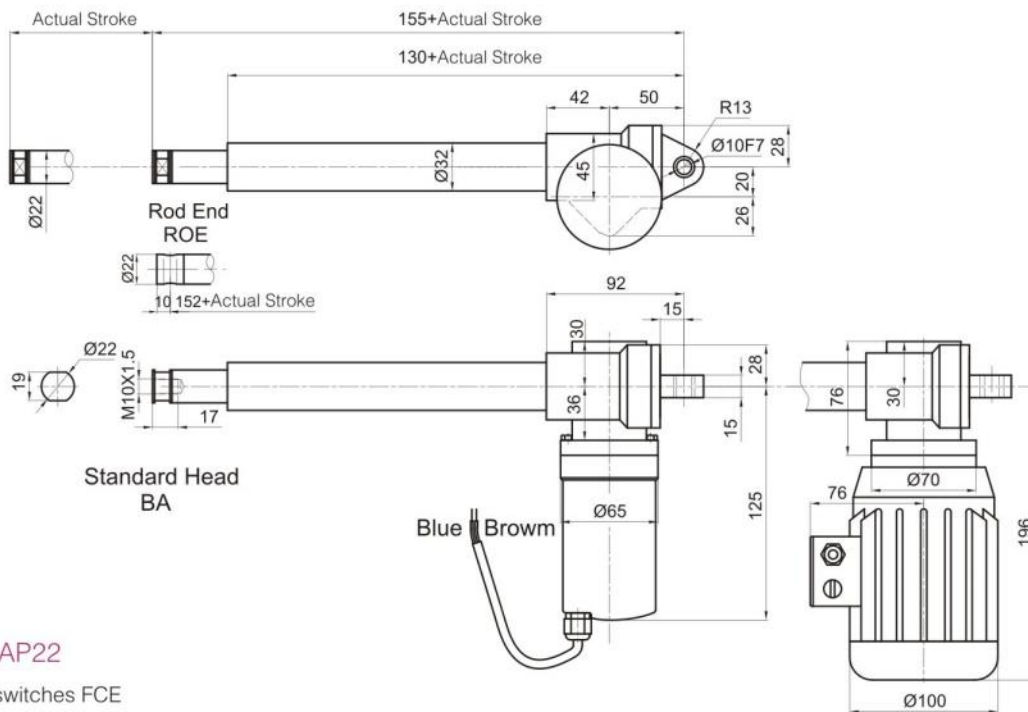


Stroke Code	100	150	200	300
Actual Stroke	100	150	200	300



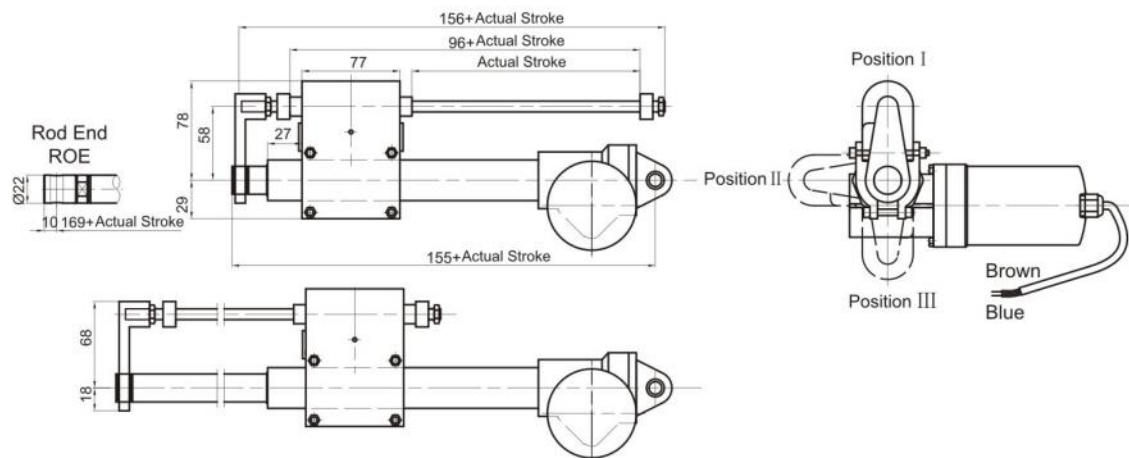
Dimension of LAP22

Without limit switches



Dimension of LAP22

With external limit switches FCE



Stroke Code	100	150	200	300
Actual Stroke	125	175	225	325

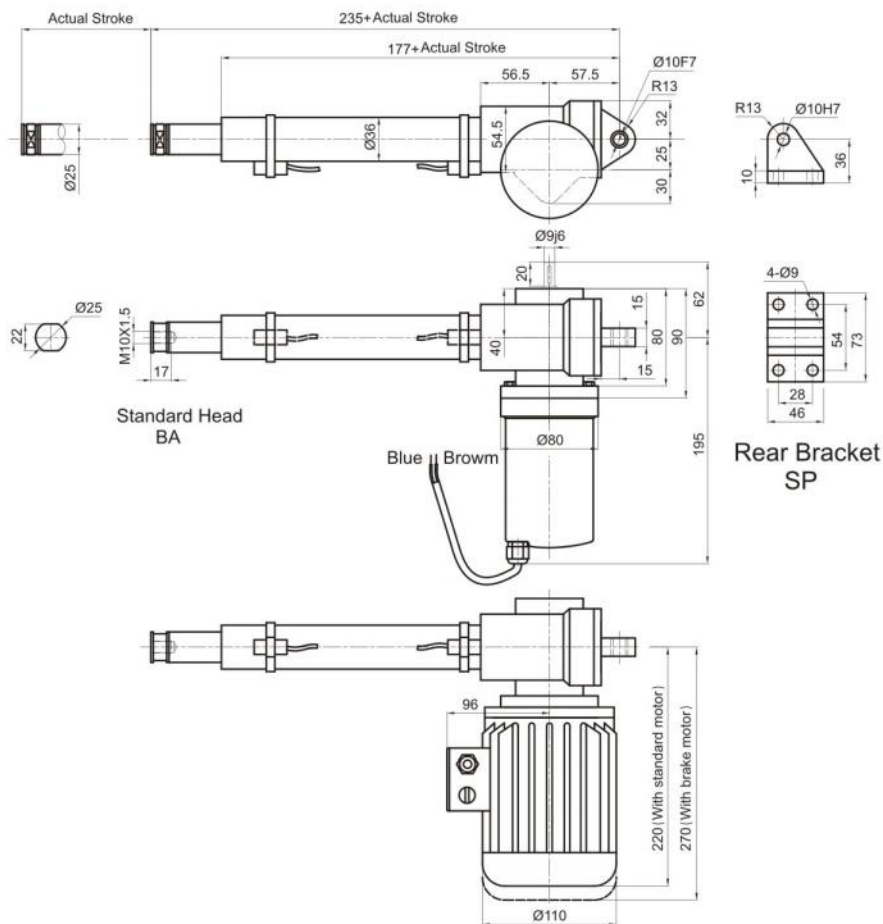


LINEAR MOTION

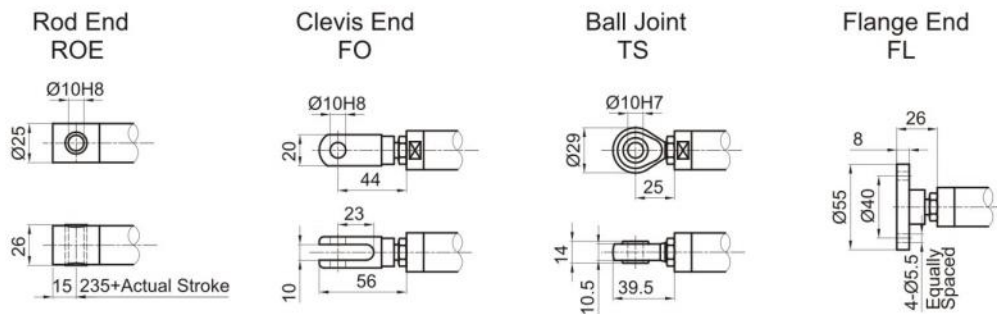
Overall Dimensions of LAP Series Linear Actuator

Dimension of LAP25

With FCM magnetic reed switch



Front Attachment

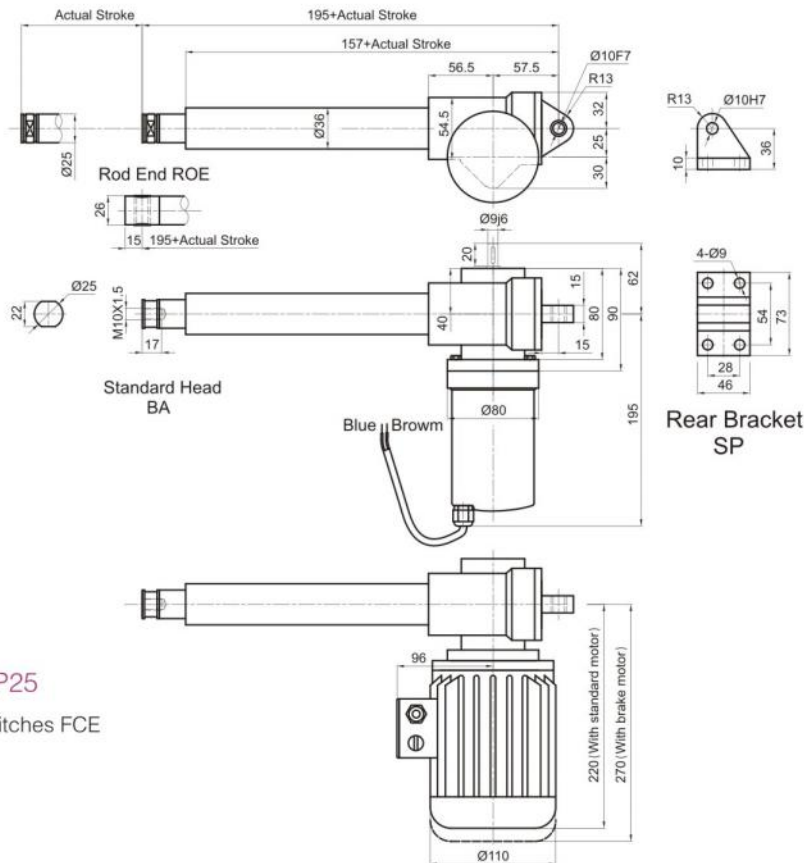


Stroke Code	100	200	300	400	500
Actual Stroke	100	200	300	400	500



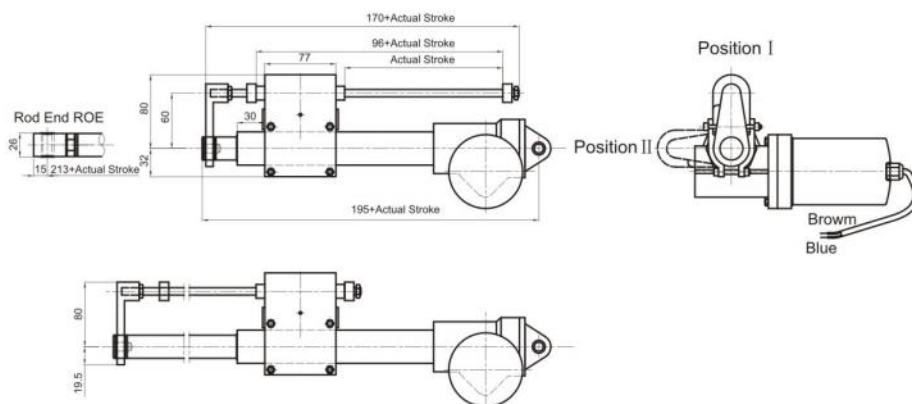
Dimension of LAP25

Without limit switches



Dimension of LAP25

With external limit switches FCE



Stroke Code	100	200	300	400	500
Actual Stroke	120	220	320	420	520

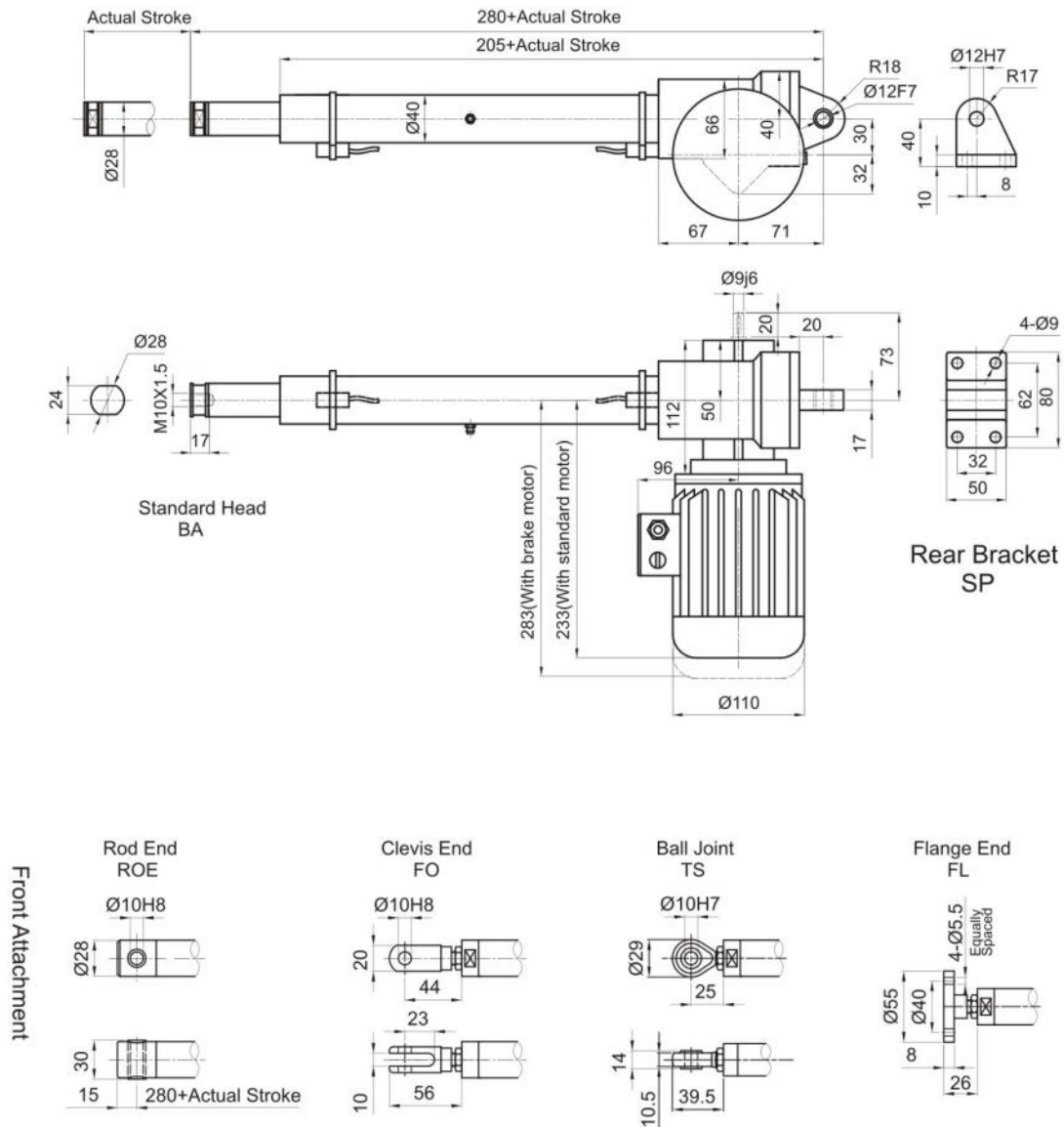


LINEAR MOTION

Overall Dimensions of LAP Series Linear Actuator

Dimension of LAP28

With FCM magnetic reed switch



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

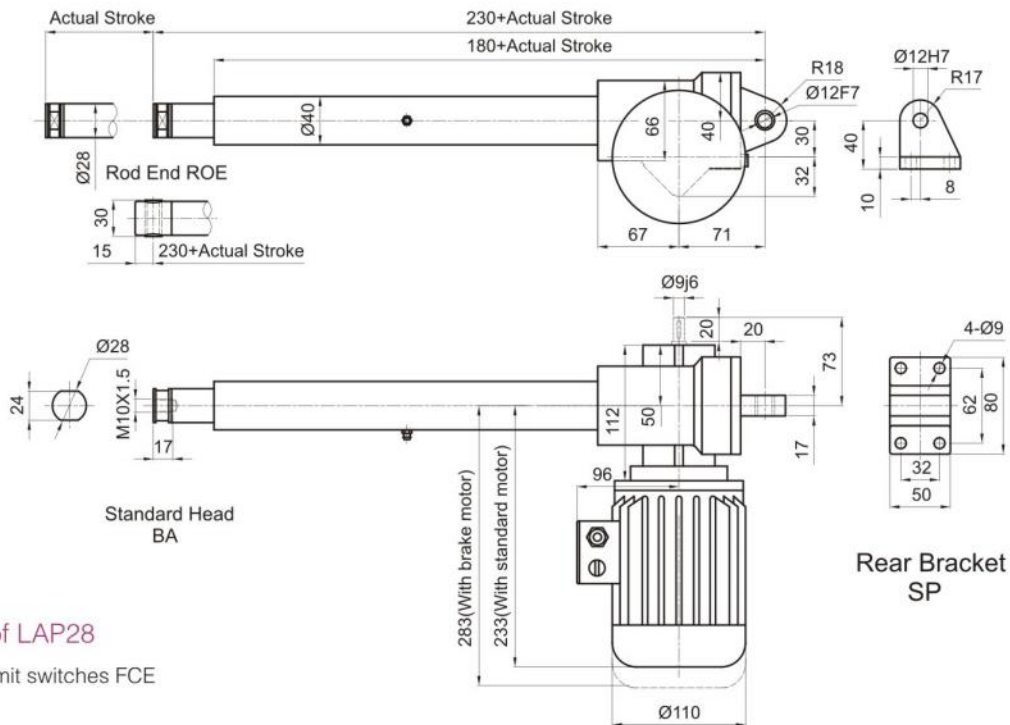
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

In case of more than 1500 mm stroke, please consult with Lude Transmission's engineers



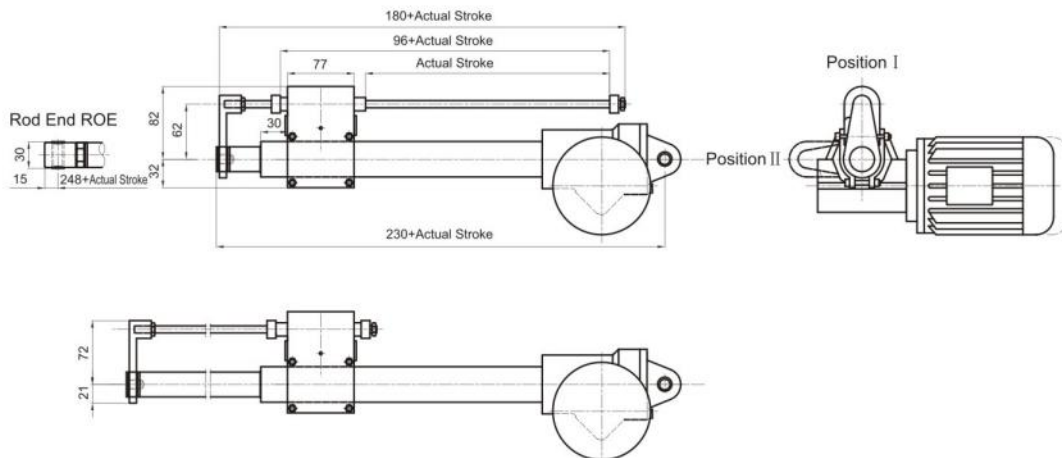
Dimension of LAP28

Without limit switches



Dimension of LAP28

With external limit switches FCE



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	125	225	325	425	525	625	725	825

Note: If the stroke between 800mm-1500mm, the length of external tube & push rod will increase 200mm

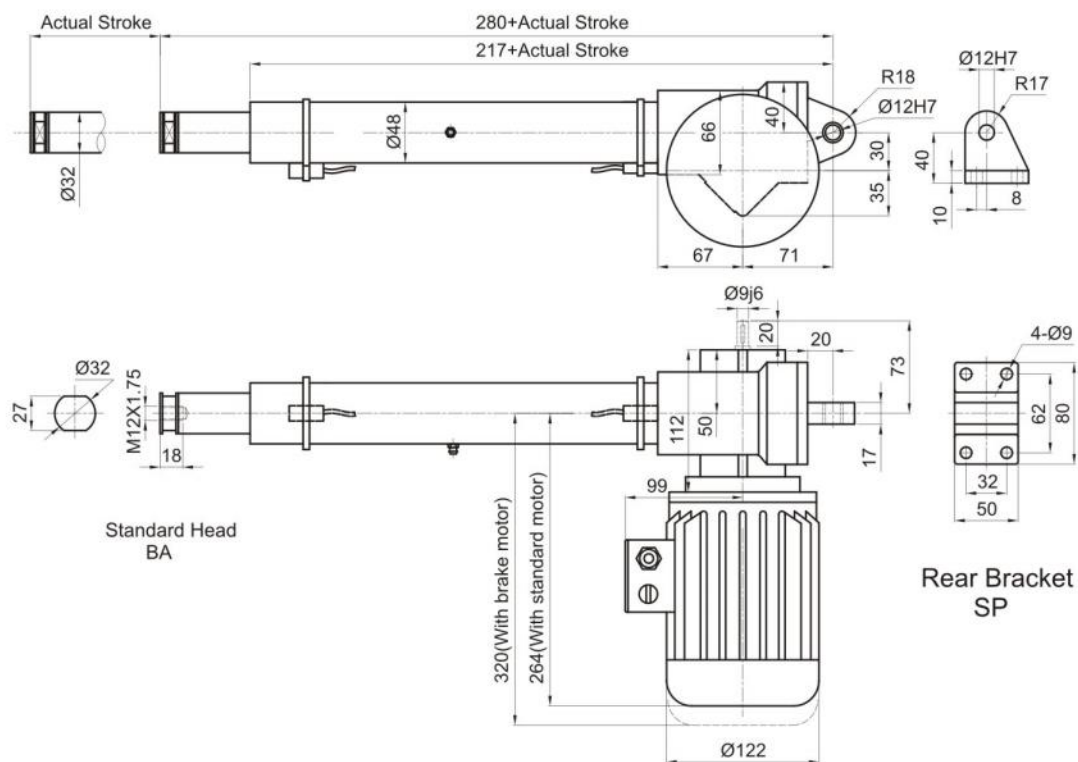
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Overall Dimensions of LAP Series Linear Actuator

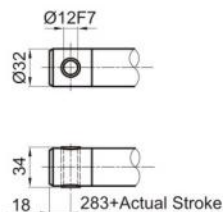
Dimension of LAP32

With FCM magnetic reed switch

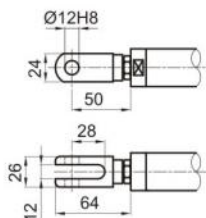


Front Attachment

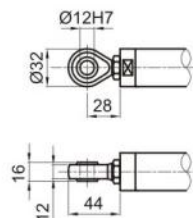
Rod End
ROE



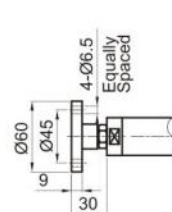
Clevis End
FO



Ball Joint
TS



Flange End
FL



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

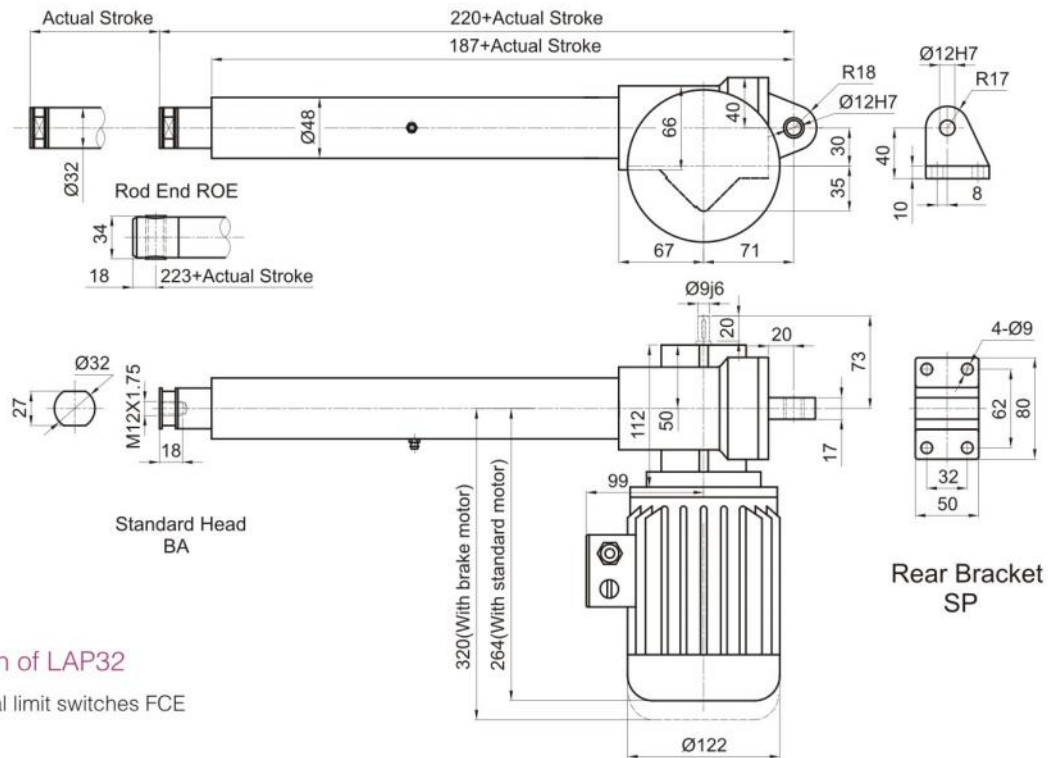
Note: If the stroke between 800mm~1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



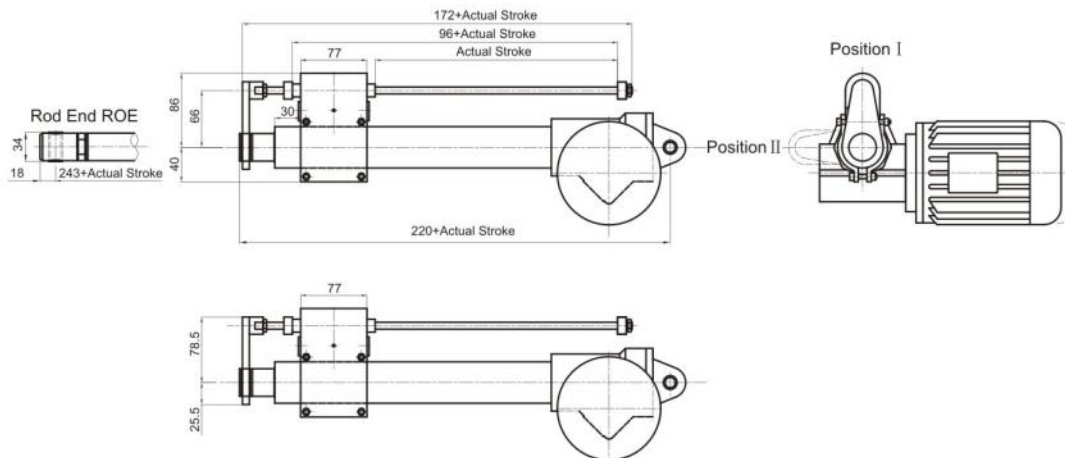
Dimension of LAP32

Without limit switches



Dimension of LAP32

With external limit switches FCE



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	130	230	330	430	530	630	730	830

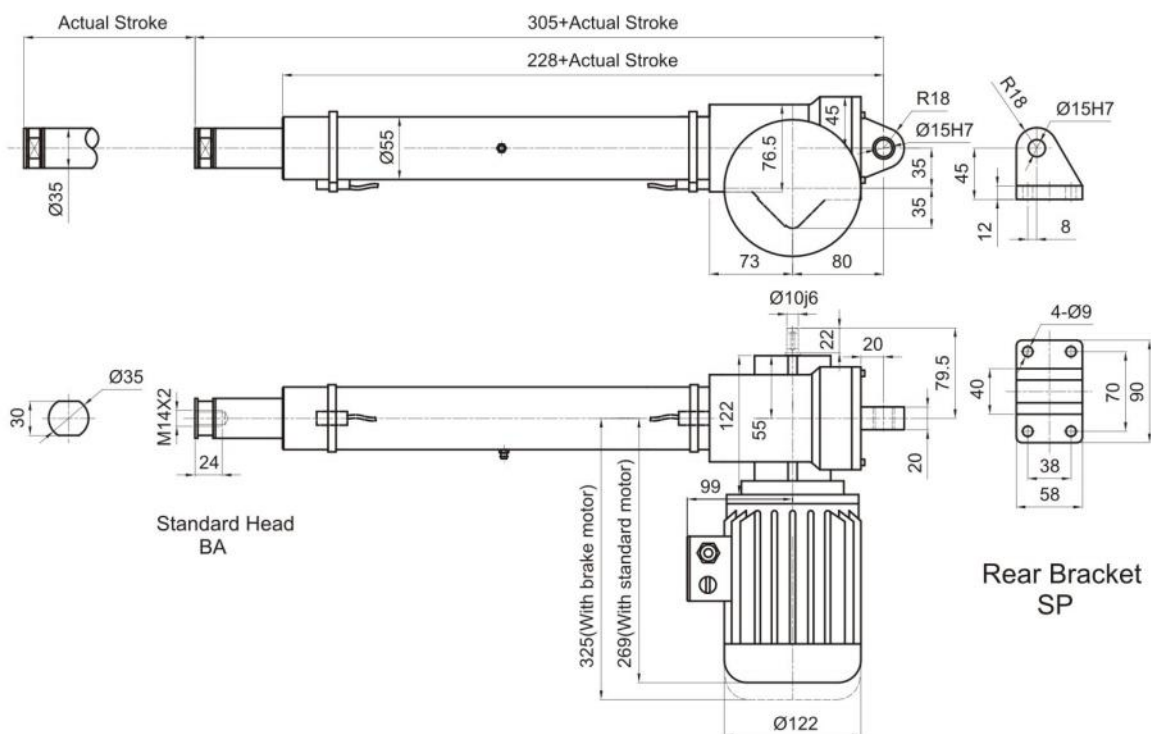
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

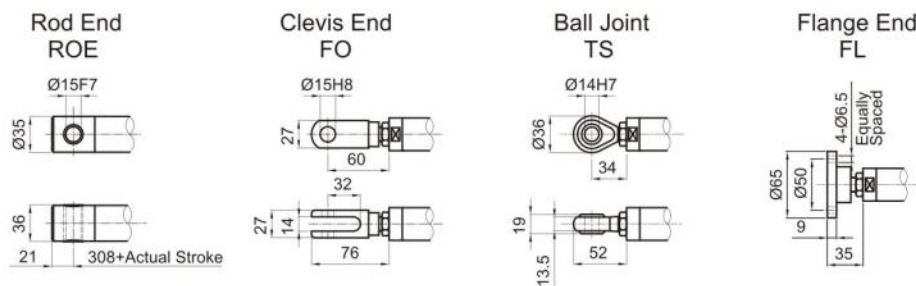
Overall Dimensions of LAP Series Linear Actuator

Dimension of LAP35

With FCM magnetic reed switch



Front Attachment



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

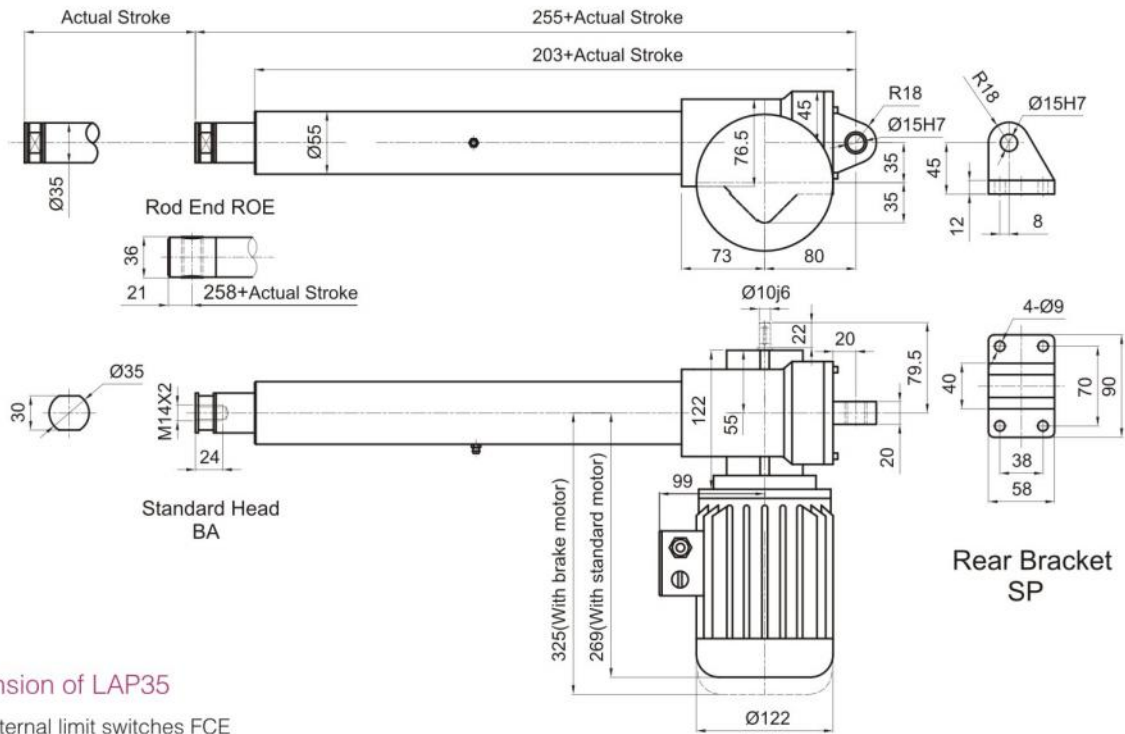
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



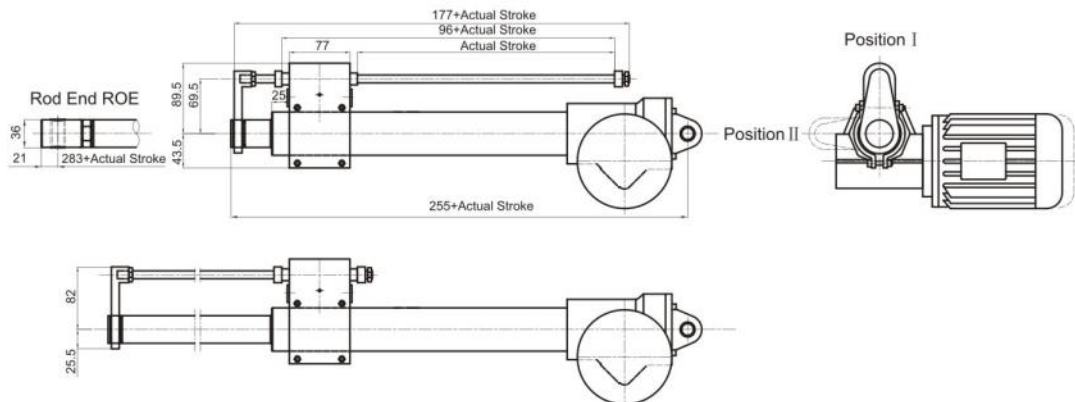
Dimension of LAP35

Without limit switches



Dimension of LAP35

With external limit switches FCE



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	125	225	325	425	525	625	725	825

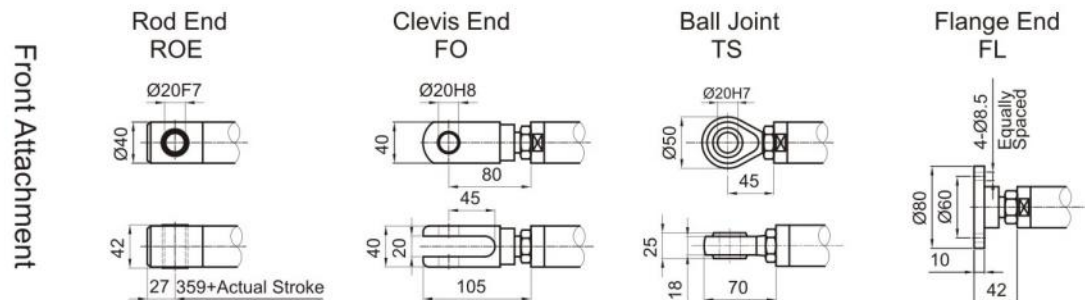
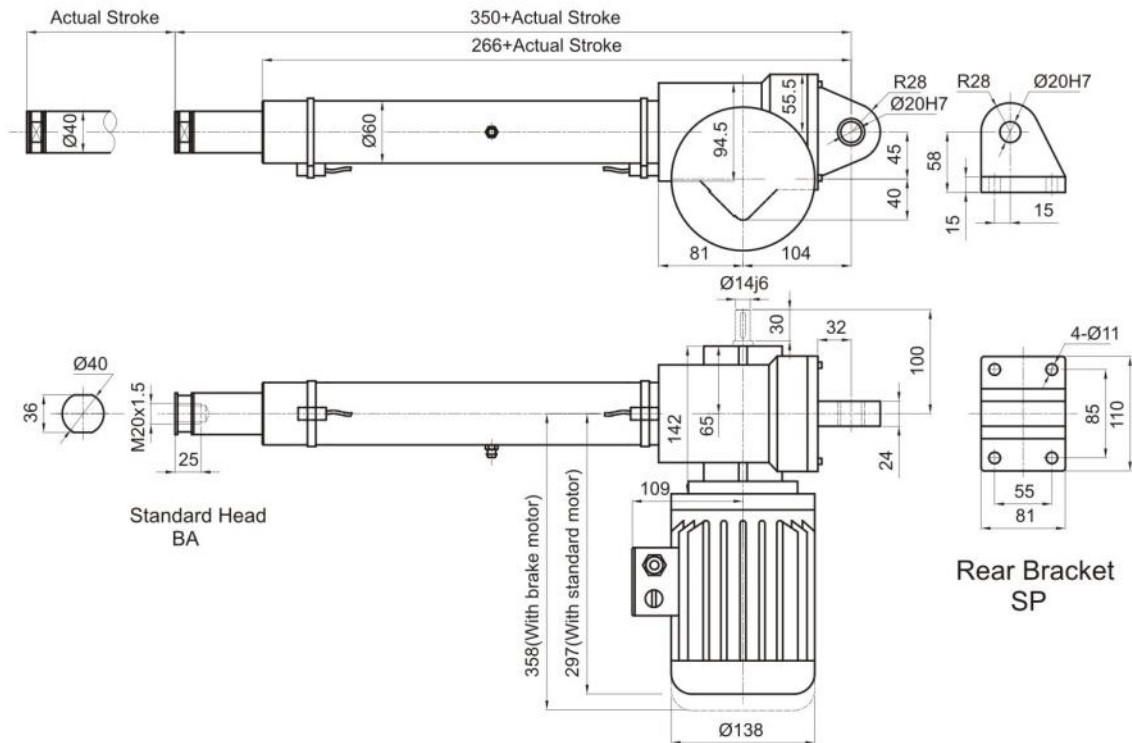
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Overall Dimensions of LAP Series Linear Actuator

Dimension of LAP40

With FCM magnetic reed switch



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

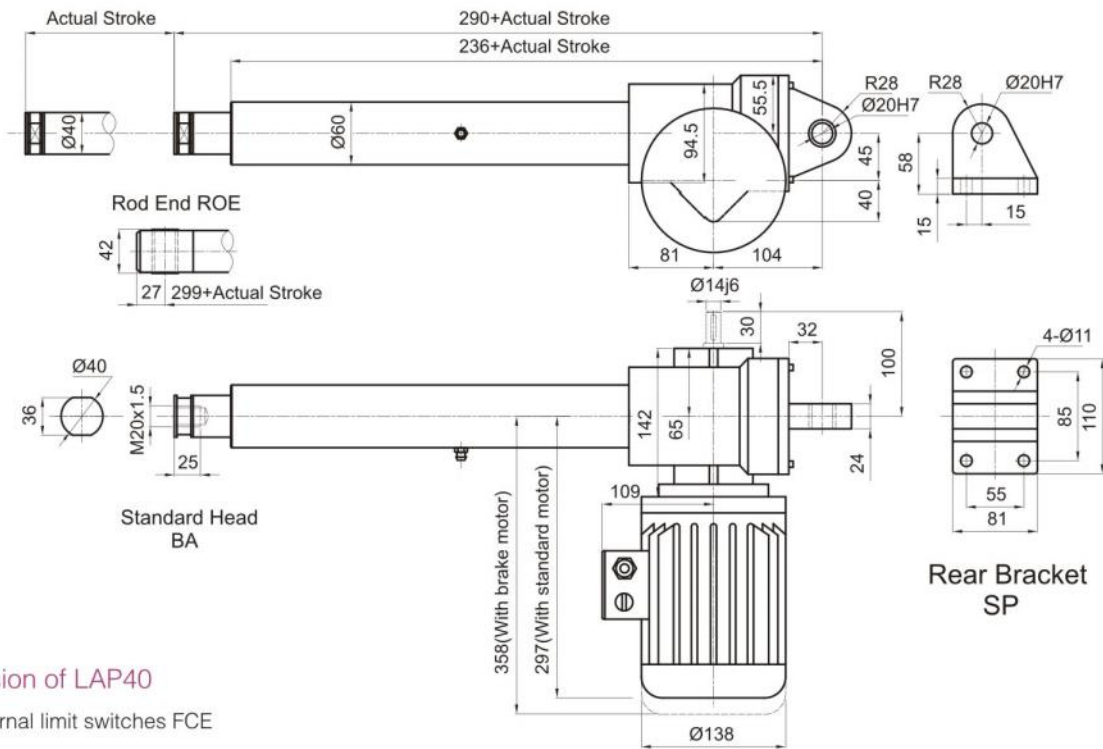
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



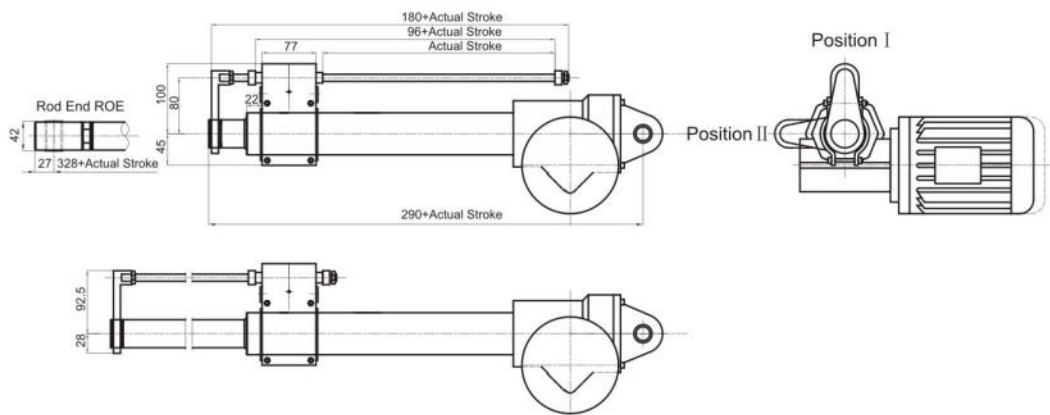
Dimension of LAP40

Without limit switches



Dimension of LAP40

With external limit switches FCE



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	130	230	330	430	530	630	730	830

Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

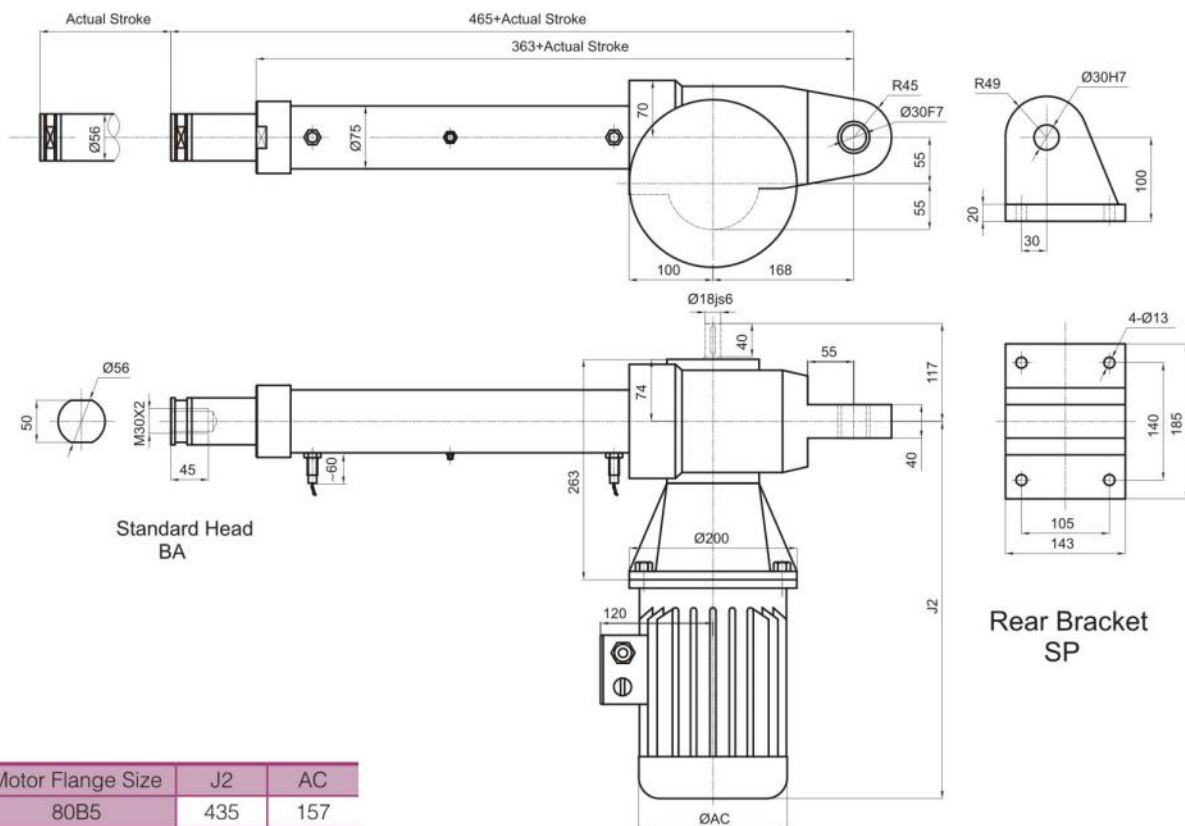


LINEAR MOTION

Overall Dimensions of LAP Series Linear Actuator

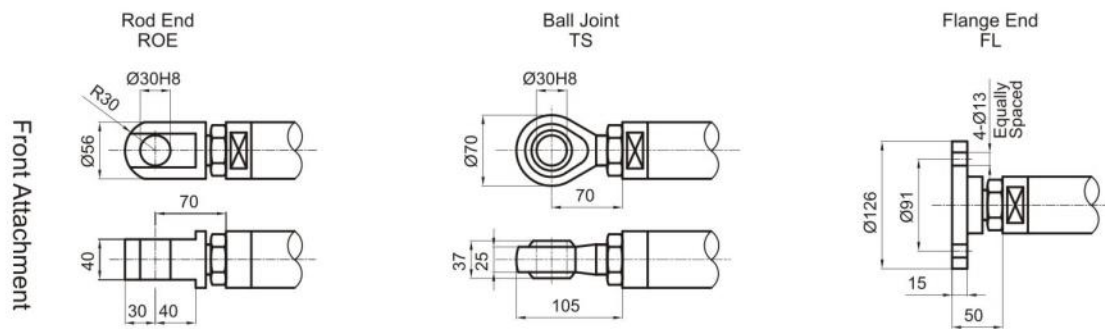
Dimension of LAP56

With FCM magnetic reed switch



Motor Flange Size	J2	AC
80B5	435	157
90B5	474	175

Dimension of brake motor reference to LBP56



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

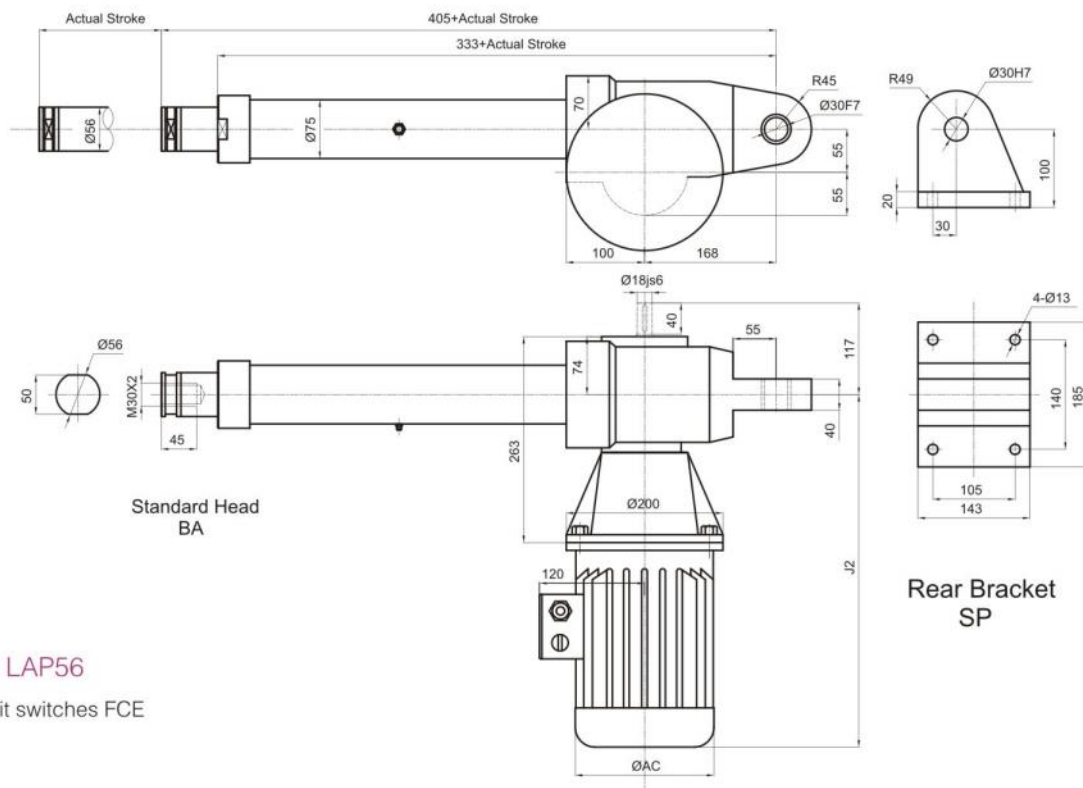
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



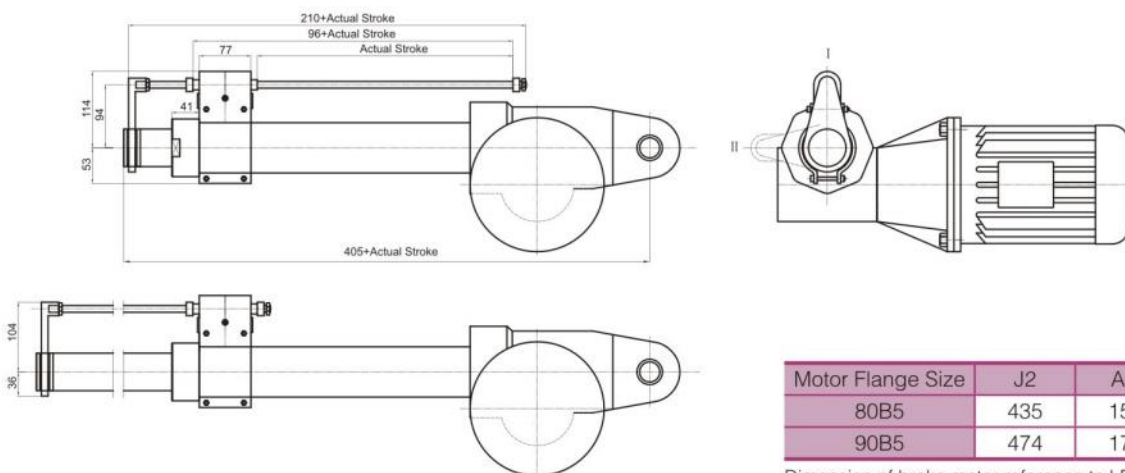
Dimension of LAP56

Without limit switches



Dimension of LAP56

With external limit switches FCE



Motor Flange Size	J2	AC
80B5	435	157
90B5	474	175

Dimension of brake motor reference to LBP56

Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	130	230	330	430	530	630	730	830

Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

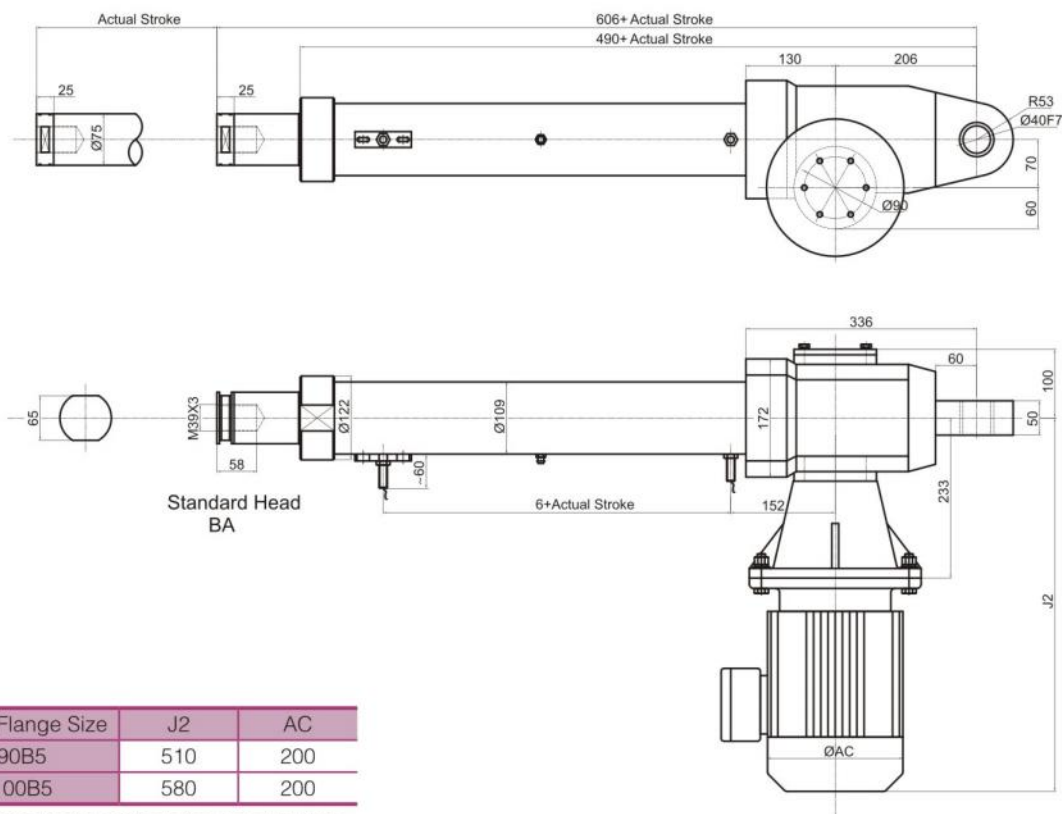
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Overall Dimensions of LAP Series Linear Actuator

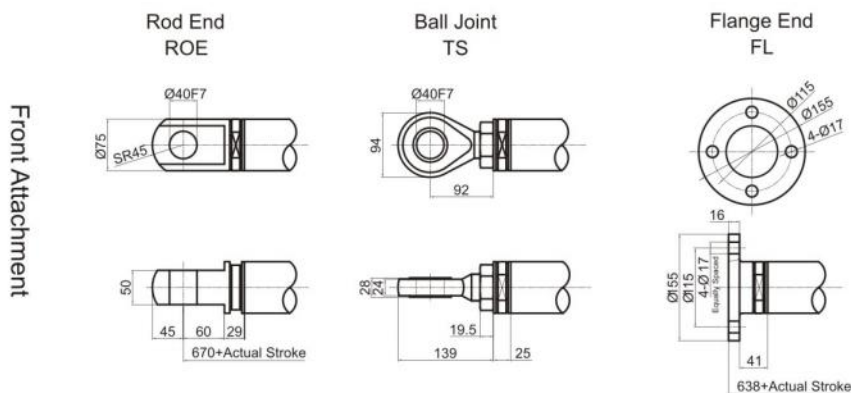
Dimension of LAP63

With FCP Inductive Proximity switches



Motor Flange Size	J2	AC
90B5	510	200
100B5	580	200

Note: brake motor's dimension consult Lude



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

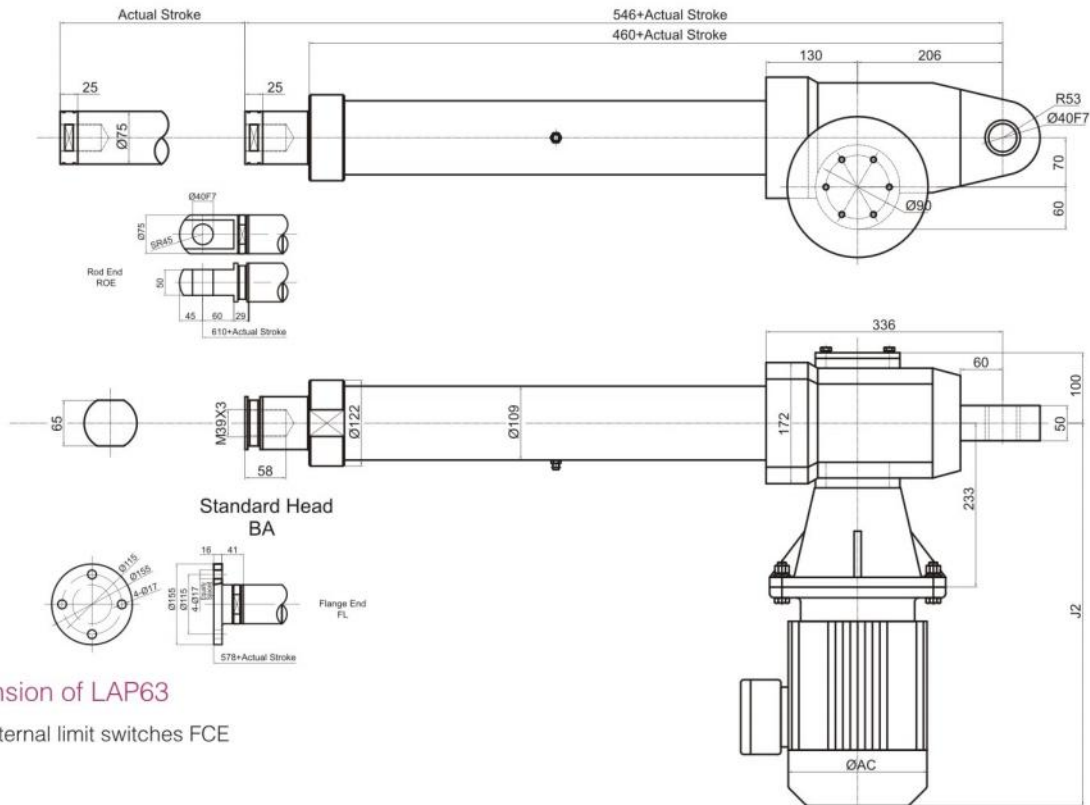
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



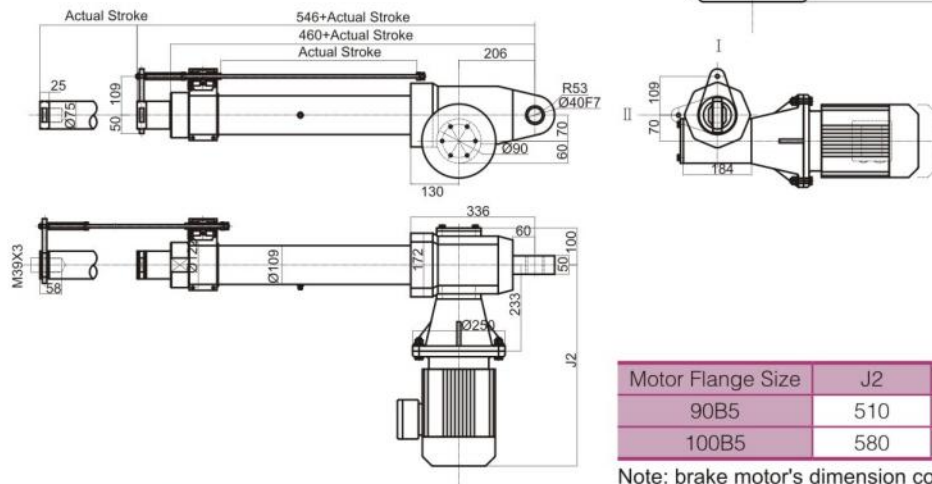
Dimension of LAP63

Without limit switches



Dimension of LAP63

With external limit switches FCE



Motor Flange Size	J2	AC
90B5	510	200
100B5	580	200

Note: brake motor's dimension consult Lude

Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	130	230	330	430	530	630	730	830

Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

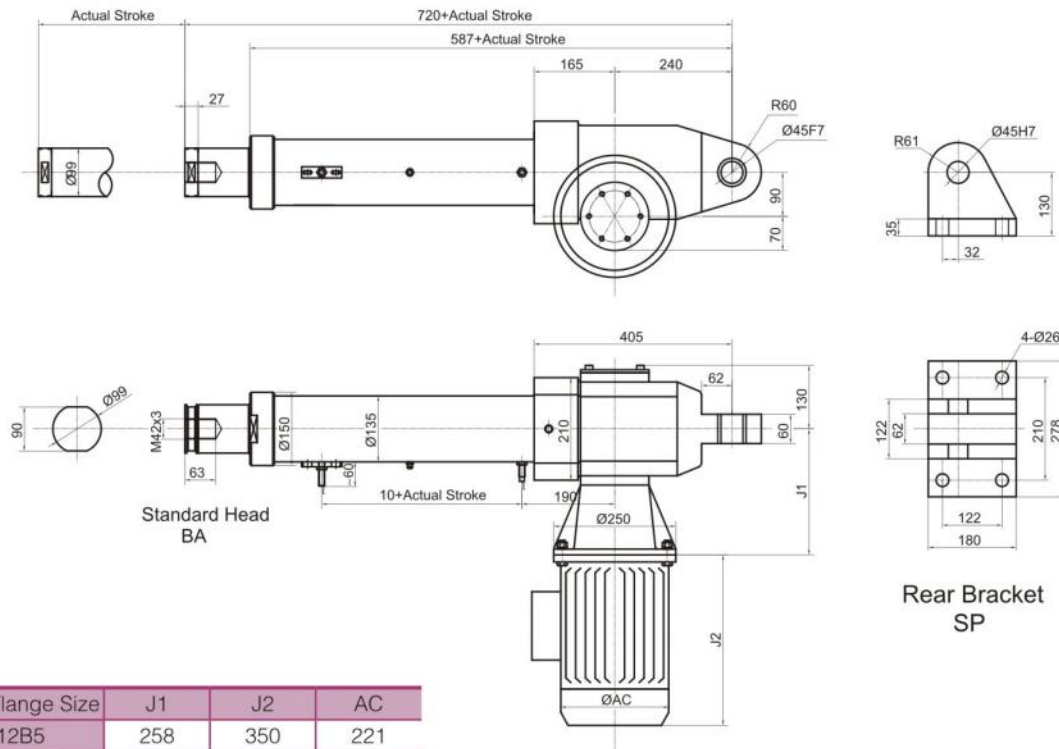
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Overall Dimensions of LAP Series Linear Actuator

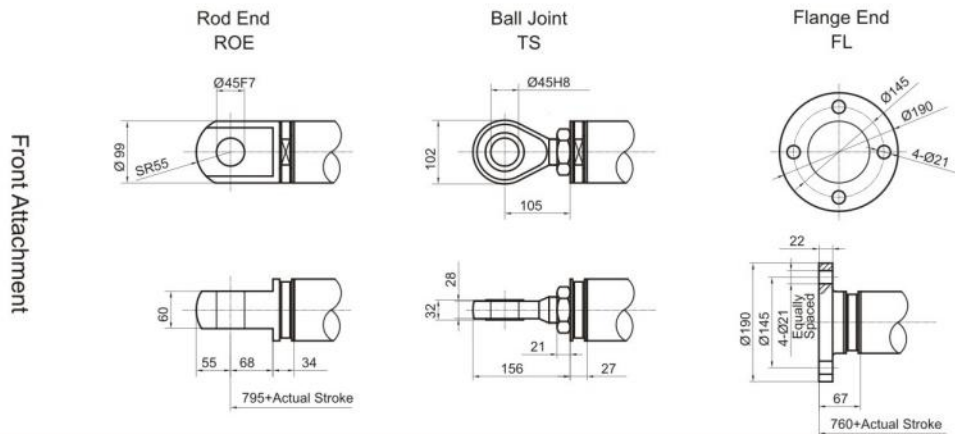
Dimension of LAP80

With FCP Inductive Proximity switches



Motor Flange Size	J1	J2	AC
112B5	258	350	221
132SB5	285	400	221

Note: brake motor's dimension consult Lude



Stroke Code	100	200	300	400	500	600	800	1000
Actual Stroke	100	200	300	400	500	600	800	1000

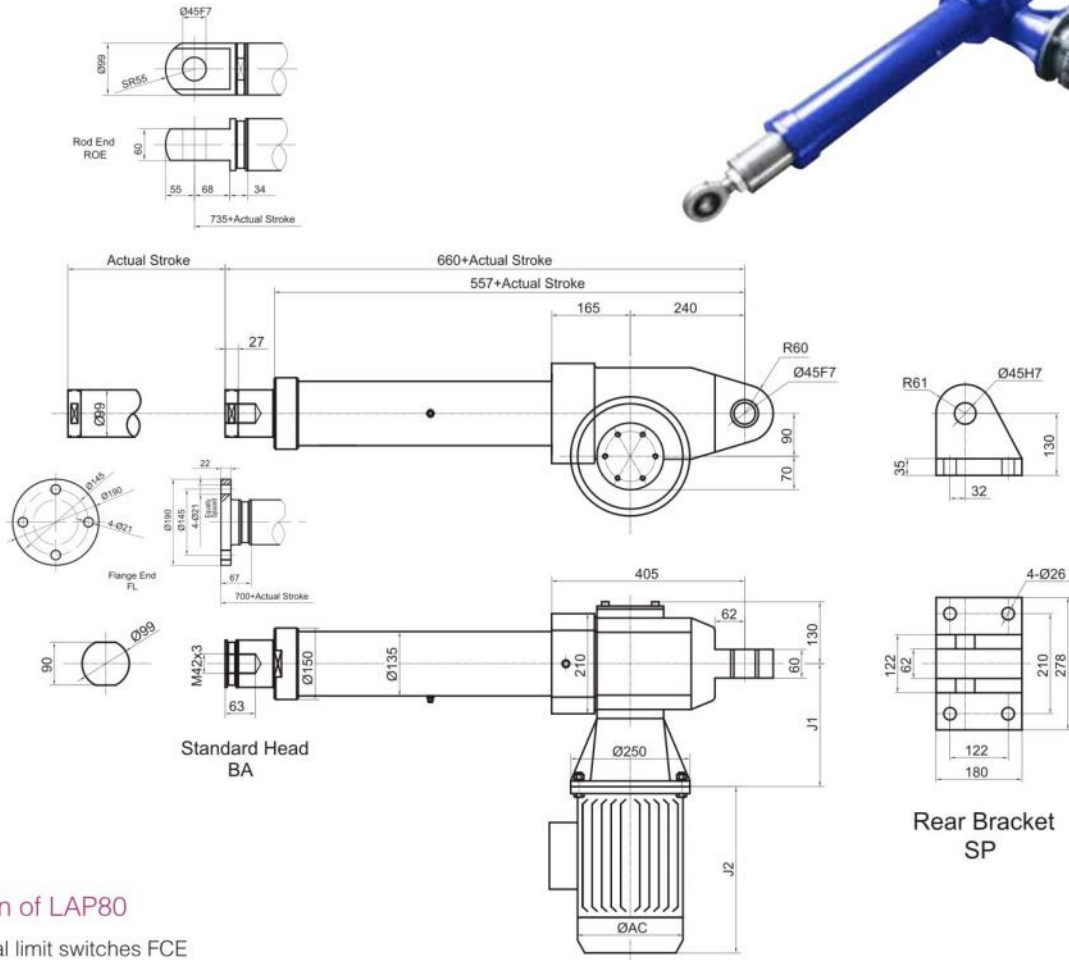
Note: If the stroke between 1000mm-1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



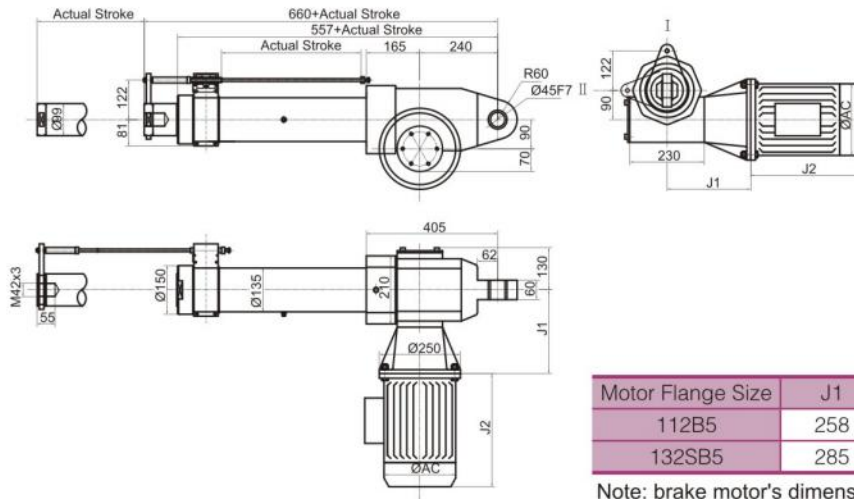
Dimension of LAP80

Without limit switches



Dimension of LAP80

With external limit switches FCE



Motor Flange Size	J1	J2	AC
112B5	258	350	221
132SB5	285	400	221

Note: brake motor's dimension consult Lude

Stroke Code	100	200	300	400	500	600	800	1000
Actual Stroke	130	230	330	430	530	630	830	1030

Note: If the stroke between 1000mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

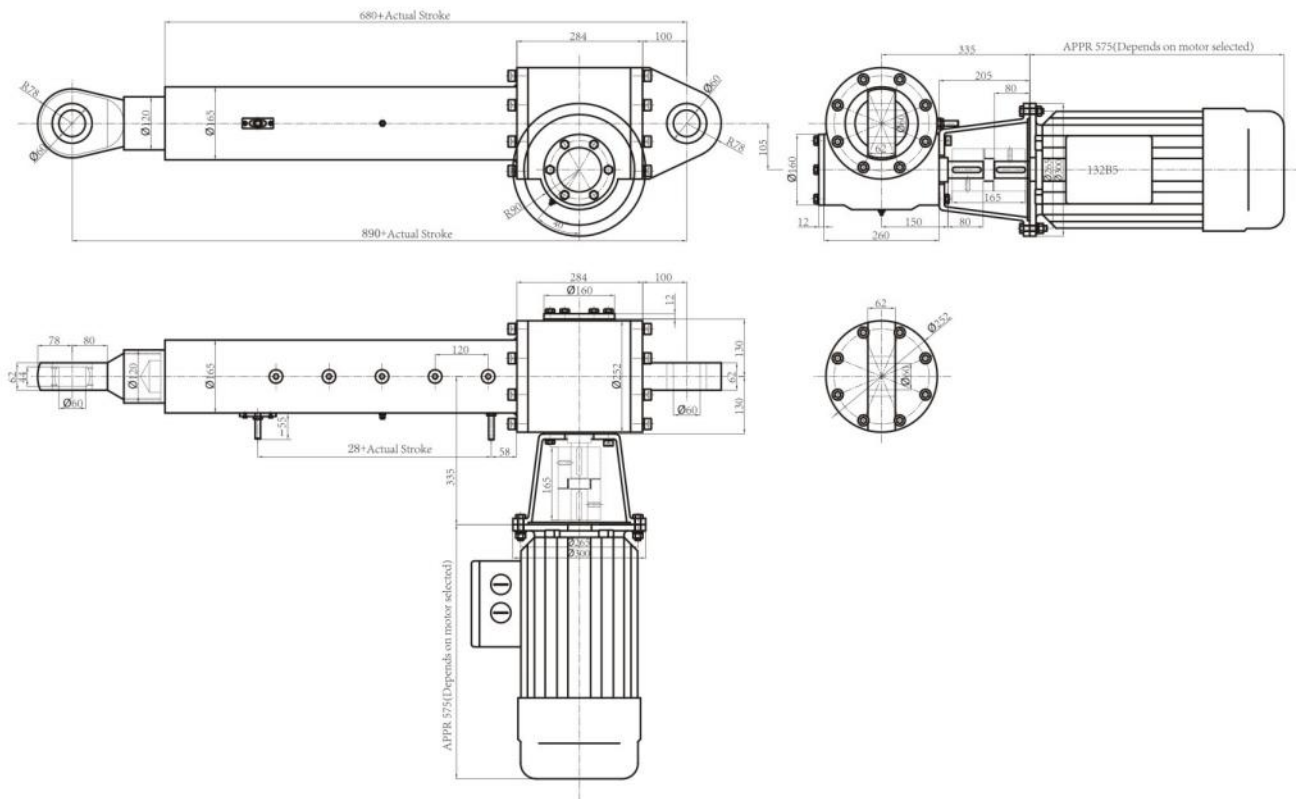


LINEAR MOTION

Overall Dimensions of LAP Series Linear Actuator

Dimension of LAP120

With FCP Inductive Proximity switches

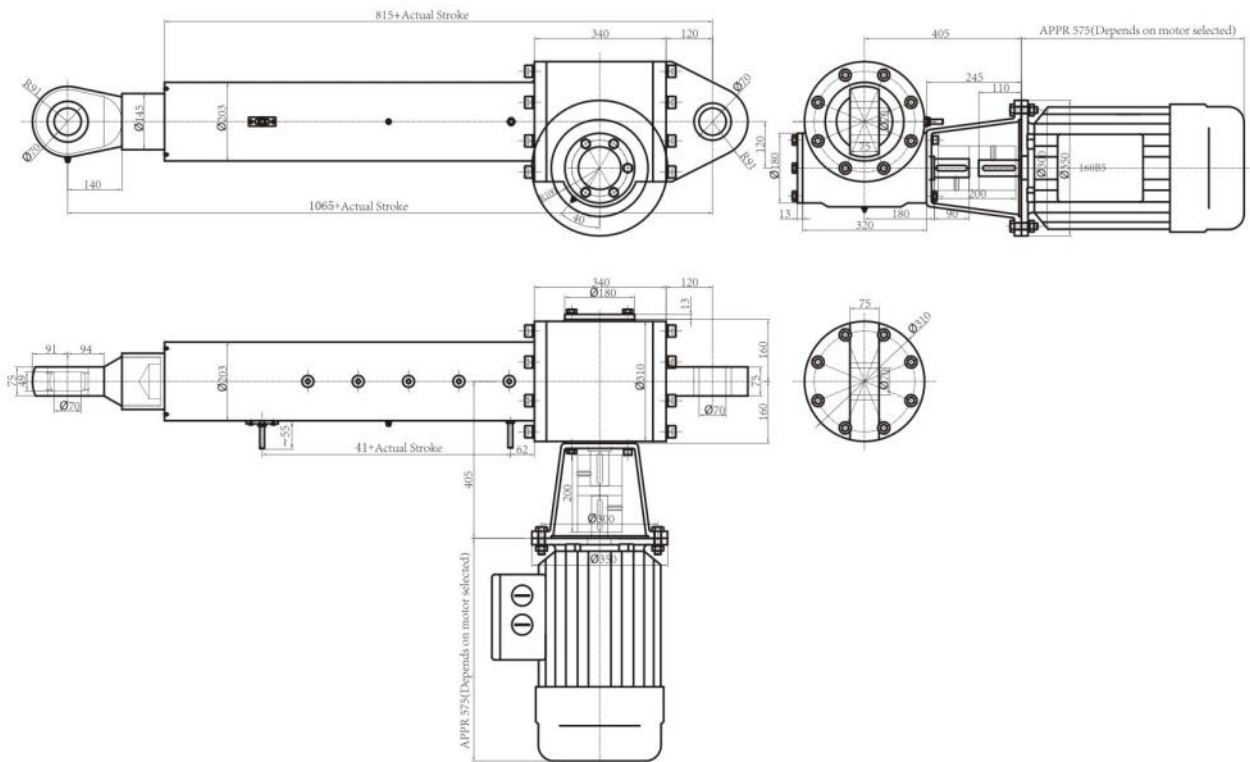


Stroke Code	200	400	500	600	800	1000	1200	1500
Actual Stroke	200	400	500	600	800	1000	1200	1500

Note: If the stroke between 1200mm–1800mm, the length of external tube & push rod will increase by 250mm
If the stroke exceed to 1800mm, please consult with Lude Transmission' s engineers

Dimension of LAP200

With Inductive Proximity switches FCP



Stroke Code	200	400	500	600	800	1000	1500	2000
Actual Stroke	230	400	500	600	800	1000	1500	2000

Note: If the stroke between 1500mm-2200mm, the length of external tube & push rod will increase by 300mm

If the stroke exceed to 2200mm, please consult with Lude Transmission's engineers

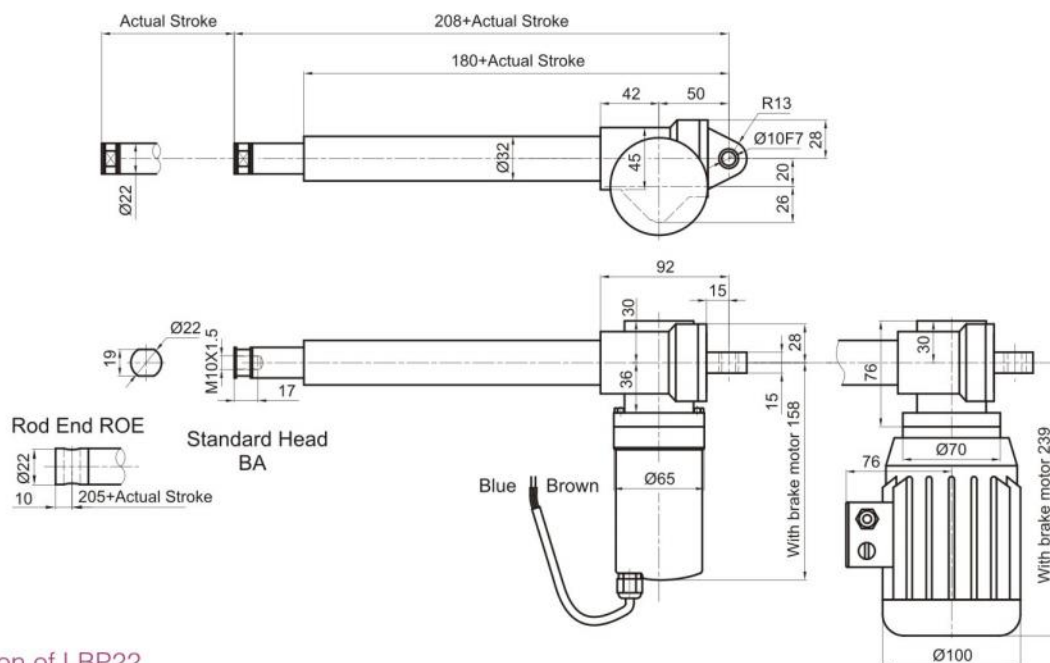


LINEAR MOTION

Overall Dimensions of LBP Series Linear Actuator

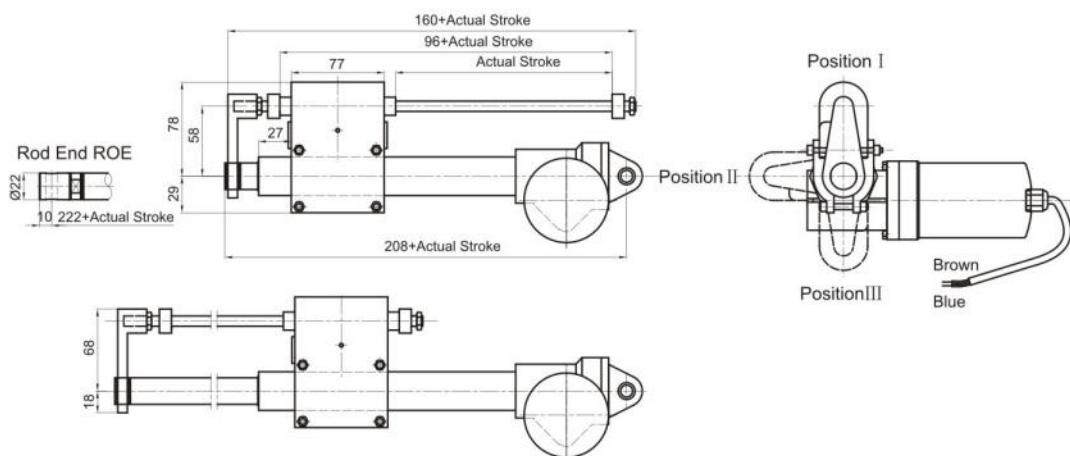
Dimension of LBP22

Without limit switches



Dimension of LBP22

With FCE external limit switches



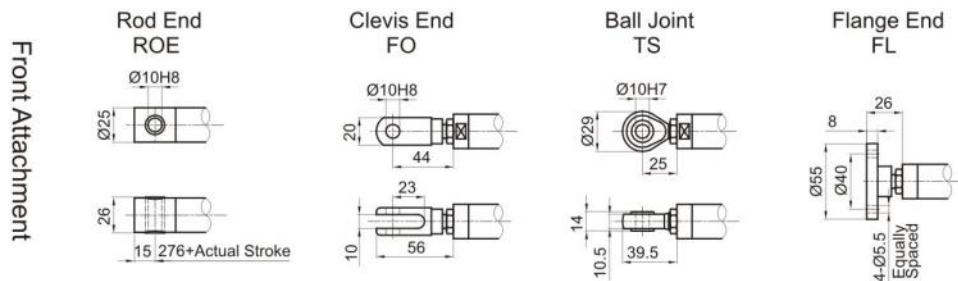
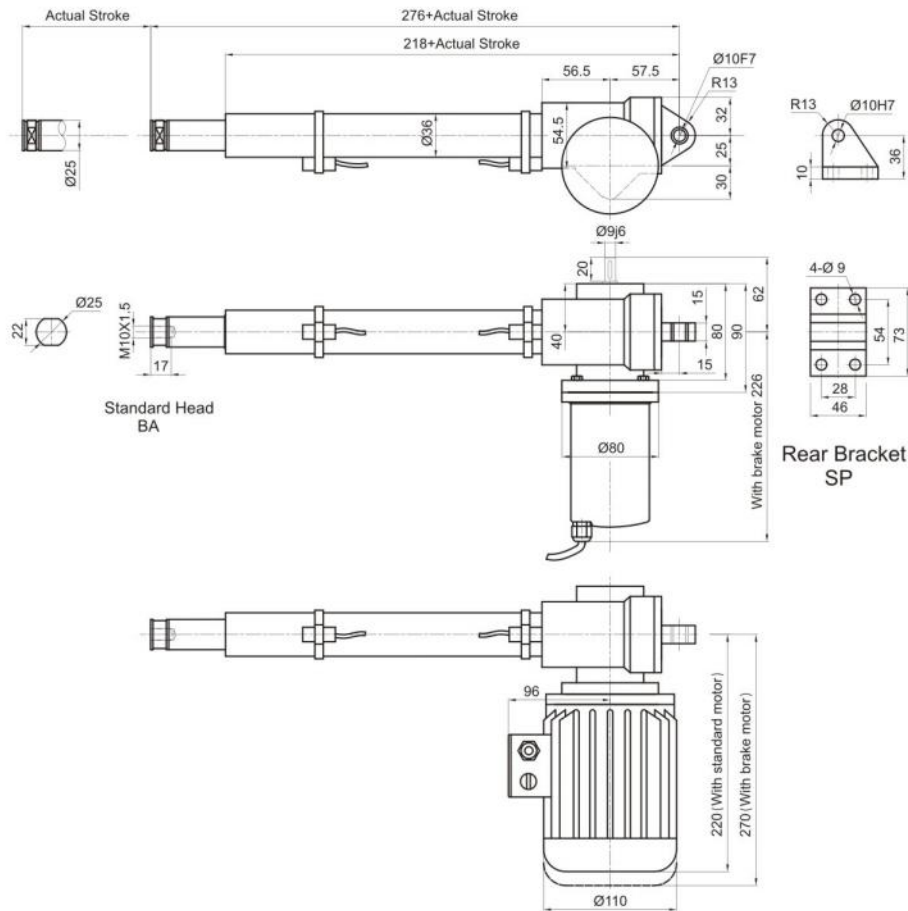
Stroke Code	100	150	200	300
Actual Stroke	100	150	200	300

Note: LBP22 Series actuator is no available for FCM limit switch



Dimension of LBP25

With magnetic reed switches FCM



Stroke Code	100	200	300	400	500
Actual Stroke	100	200	300	400	500

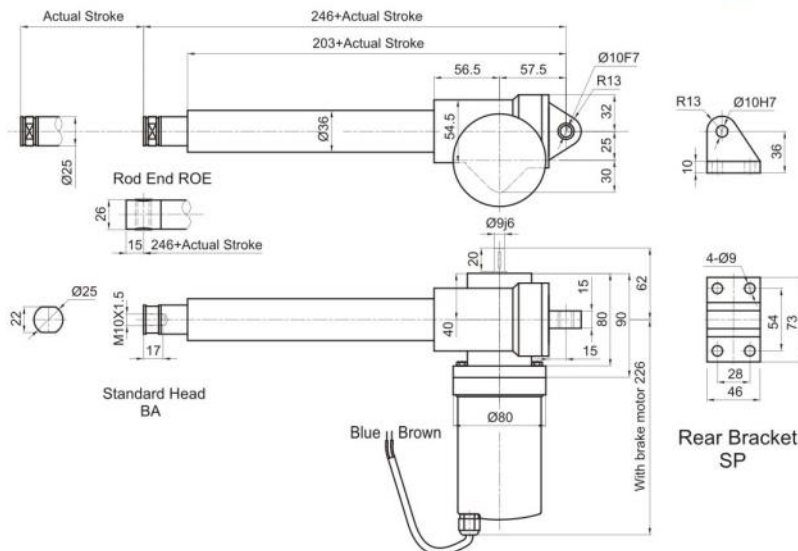


LINEAR MOTION

Overall Dimensions of LBP Series Linear Actuator

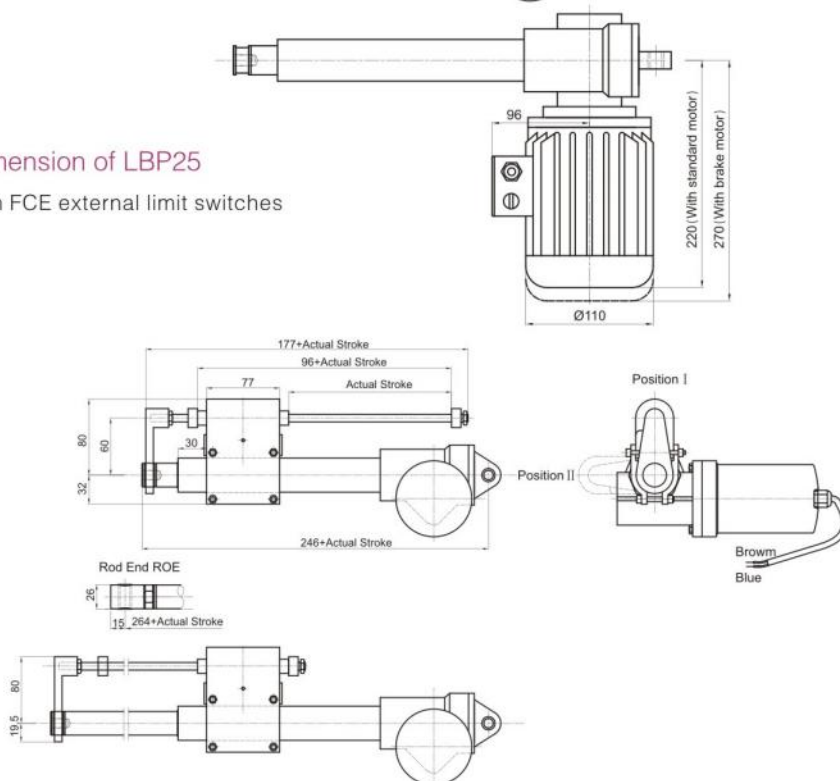
Dimension of LBP25

Without limit switches



Dimension of LBP25

With FCE external limit switches

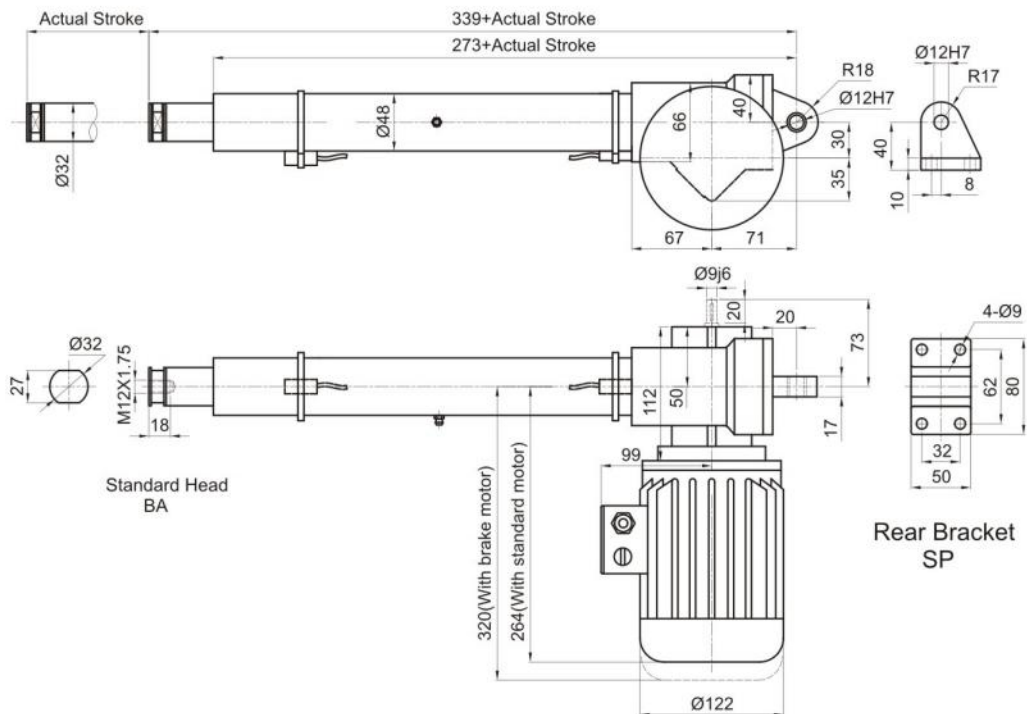


Stroke Code	100	200	300	400	500
Actual Stroke	115	215	315	415	515



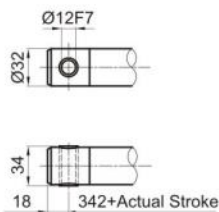
Dimension of LBP32

With magnetic reed switches FCM

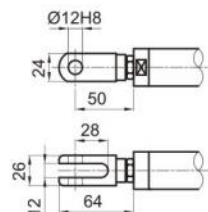


Front Attachment

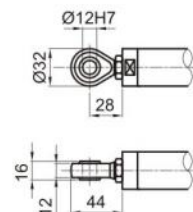
Rod End ROE



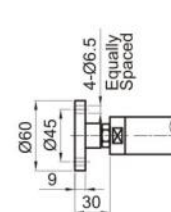
Clevis End FO



Ball Joint TS



Flange End FL



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

Note: If the stroke between 800mm~1500mm, the length of external tube & push rod will increase by 200mm
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

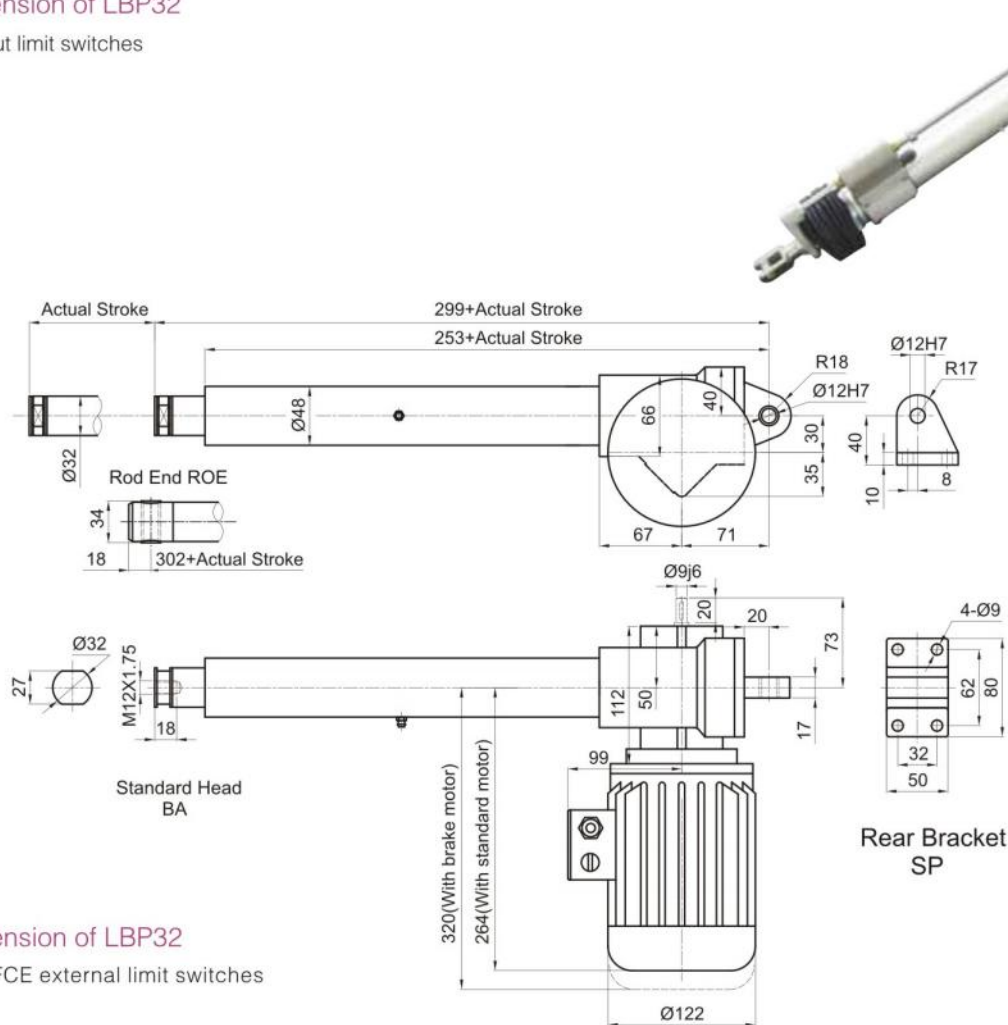


LINEAR MOTION

Overall Dimensions of LBP Series Linear Actuator

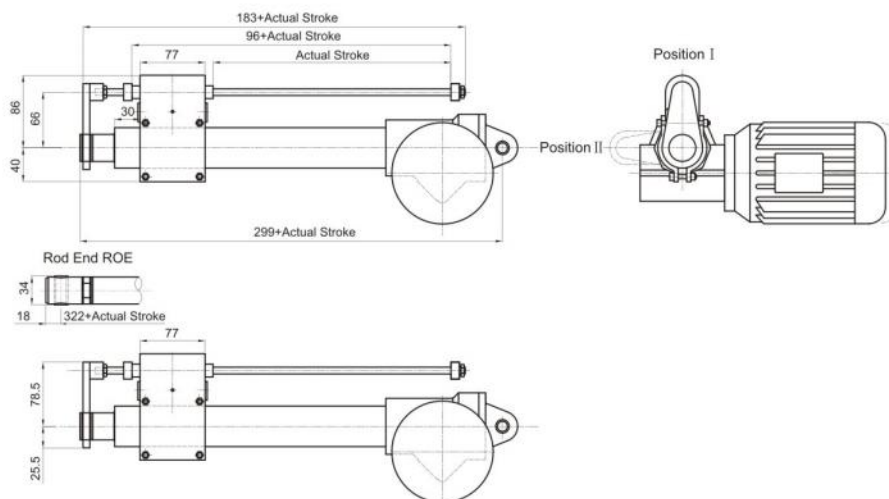
Dimension of LBP32

Without limit switches



Dimension of LBP32

With FCE external limit switches



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	120	220	320	420	520	620	720	820

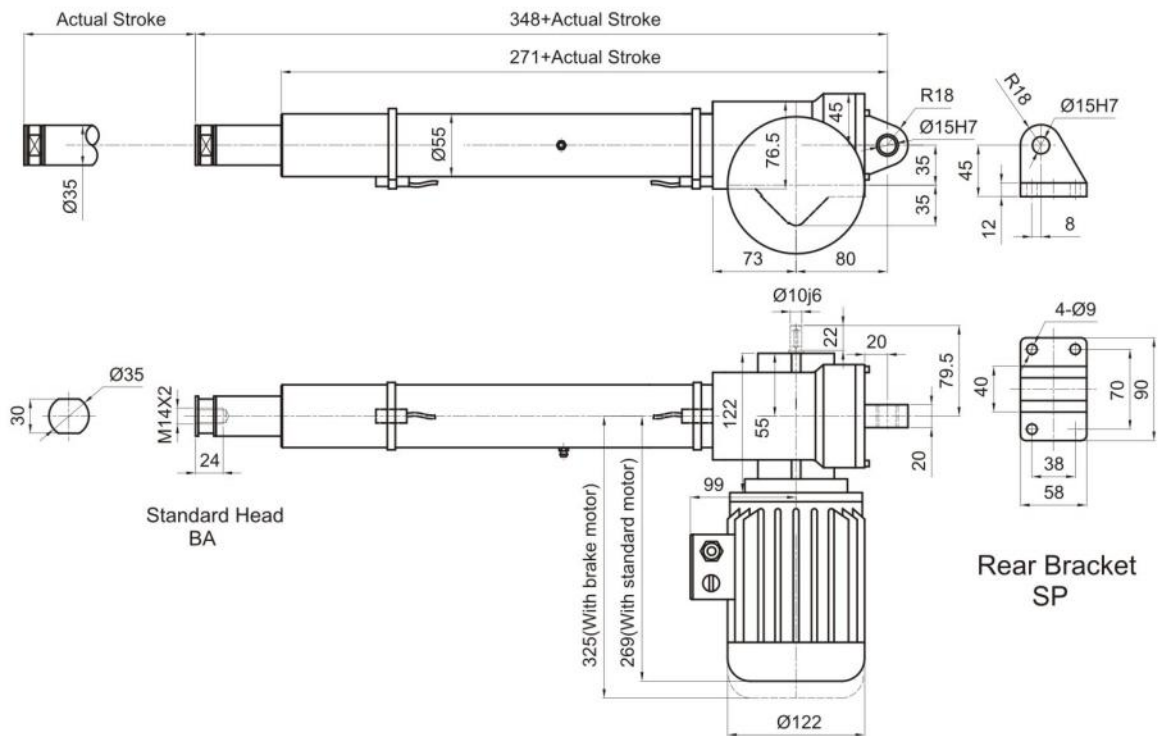
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

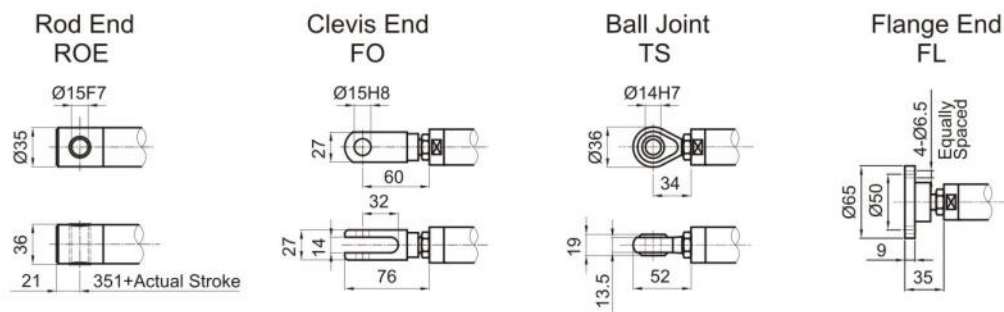


Dimension of LBP35

With magnetic reed switches FCM



Front Attachment



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

Note: If the stroke between 800mm~1500mm, the length of external tube & push rod will increase by 200mm
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

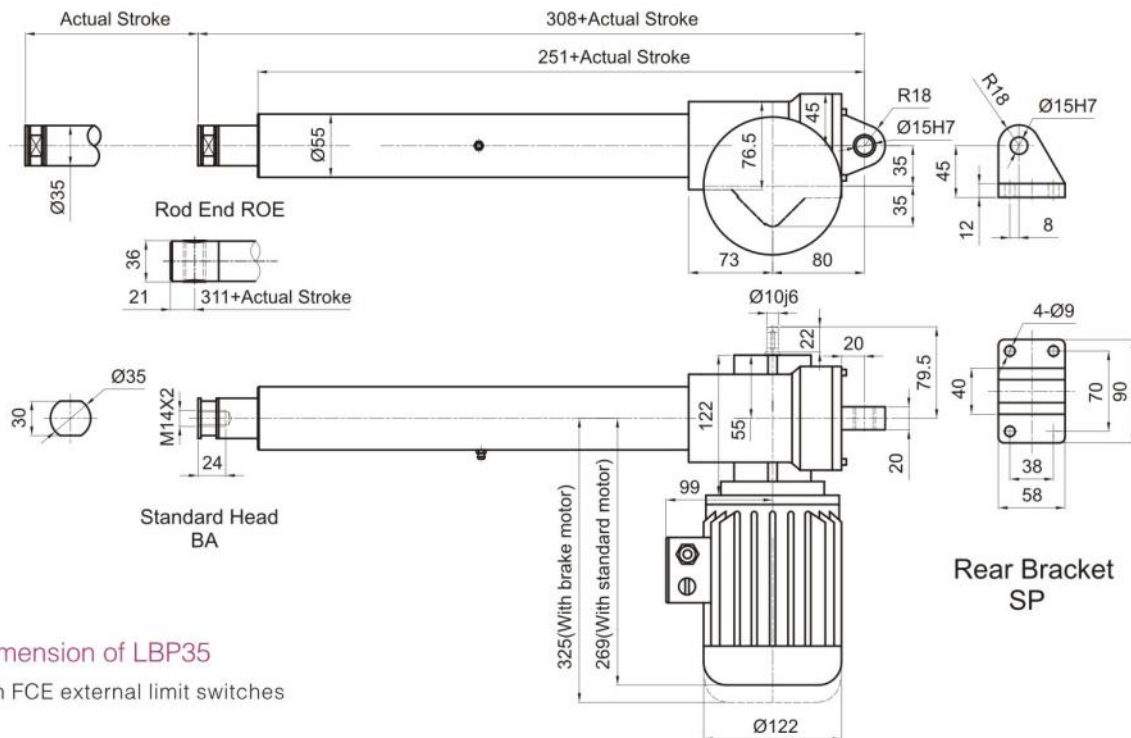


LINEAR MOTION

Overall Dimensions of LBP Series Linear Actuator

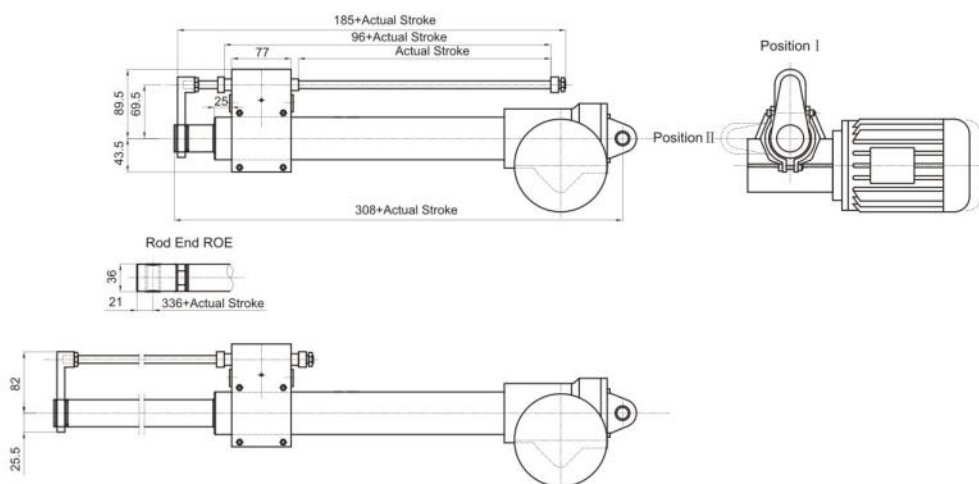
Dimension of LBP35

Without limit switches



Dimension of LBP35

With FCE external limit switches



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	120	220	320	420	520	620	720	820

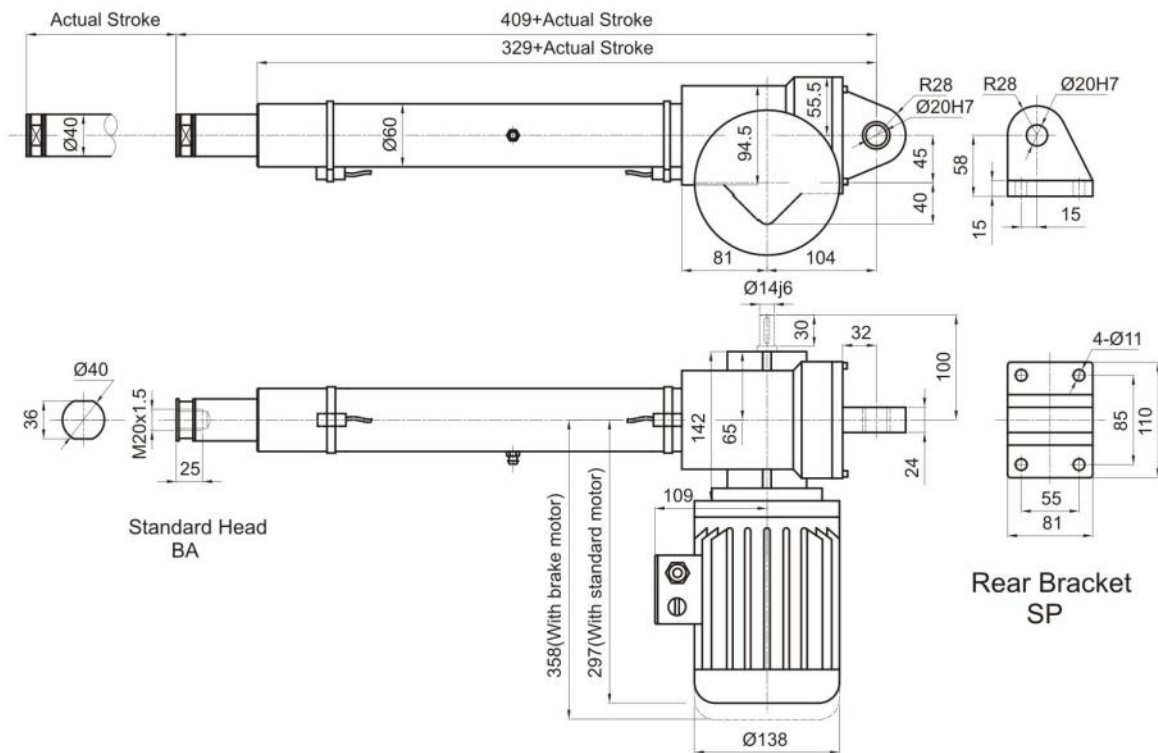
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

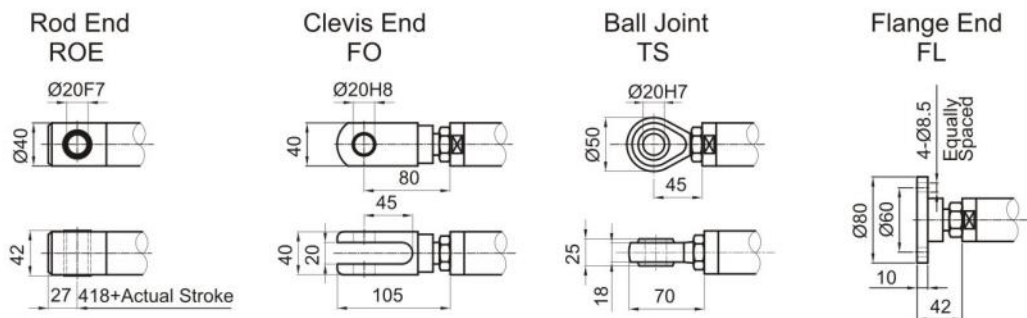


Dimension of LBP40

With magnetic reed switches FCM



Front Attachment



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission' s engineers

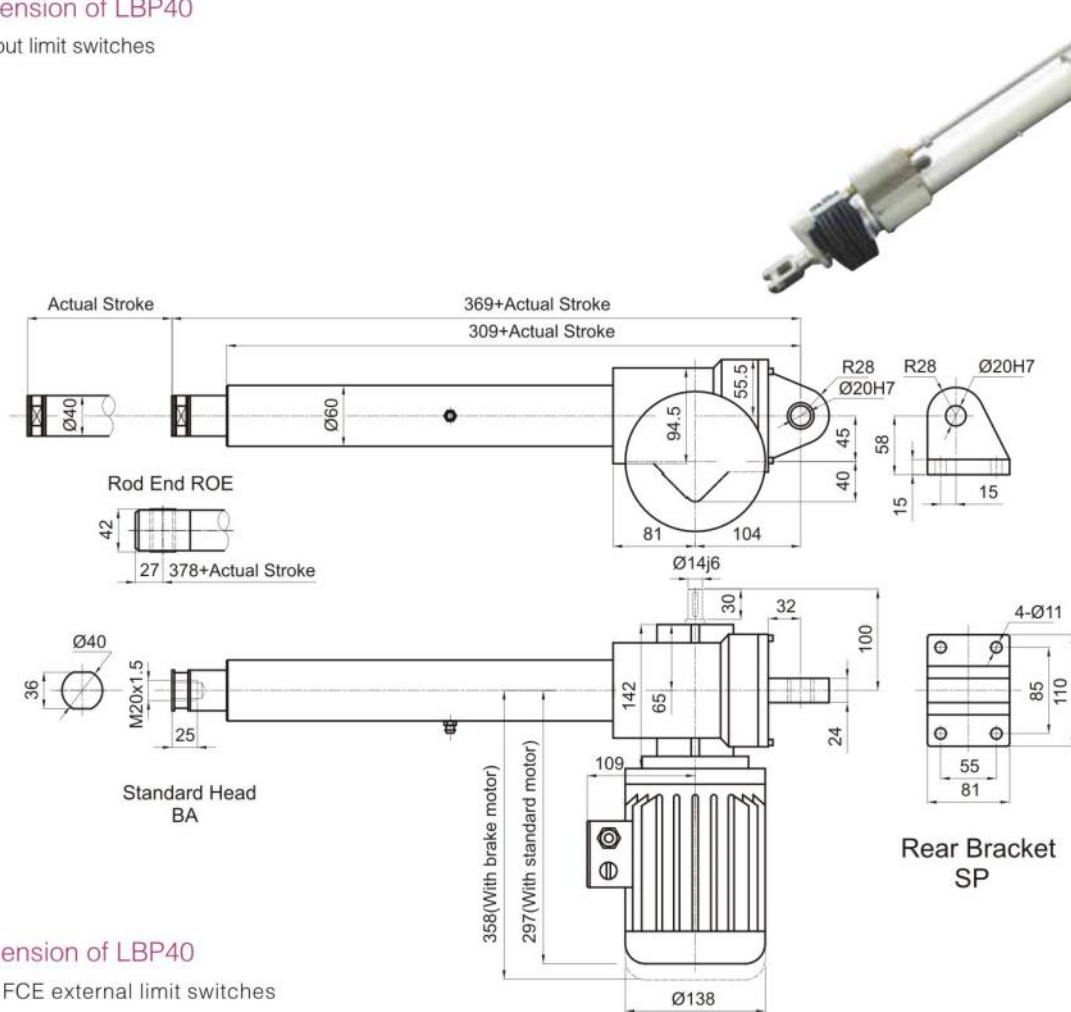


LINEAR MOTION

Overall Dimensions of LBP Series Linear Actuator

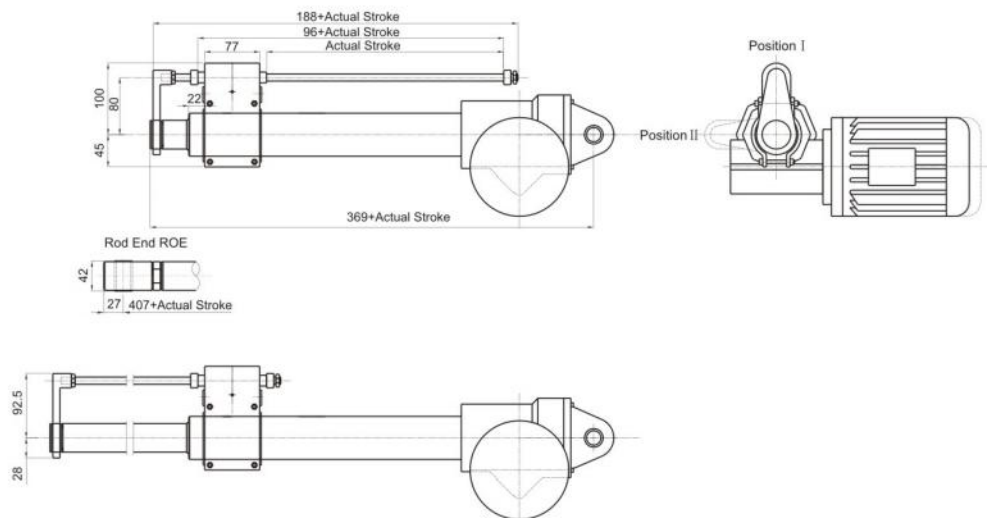
Dimension of LBP40

Without limit switches



Dimension of LBP40

With FCE external limit switches



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	120	220	320	420	520	620	720	820

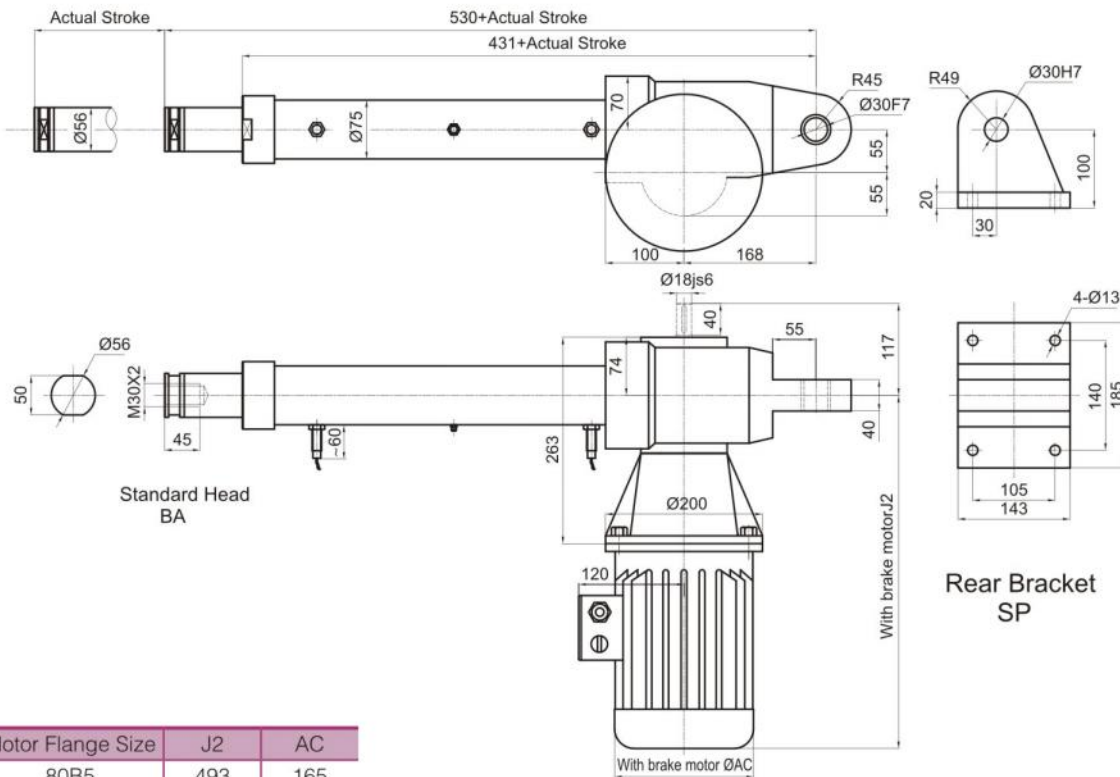
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers

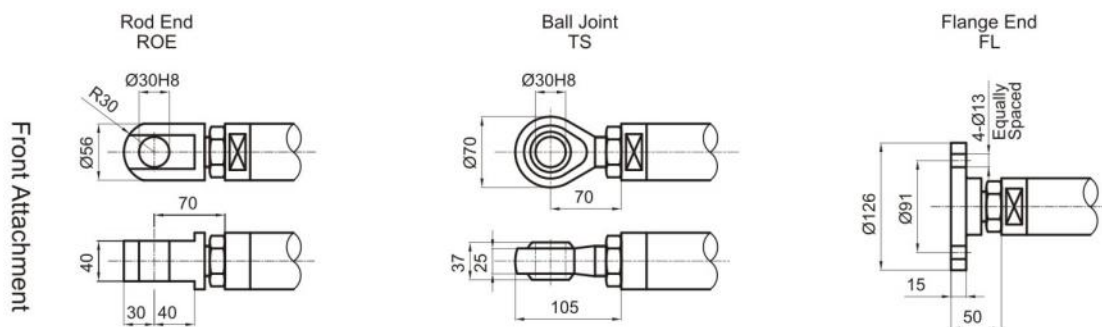


Dimension of LBP56

With Inductive Proximity switches FCP



Motor Flange Size	J2	AC
80B5	493	165
90B5	541	180



Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	100	200	300	400	500	600	700	800

Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

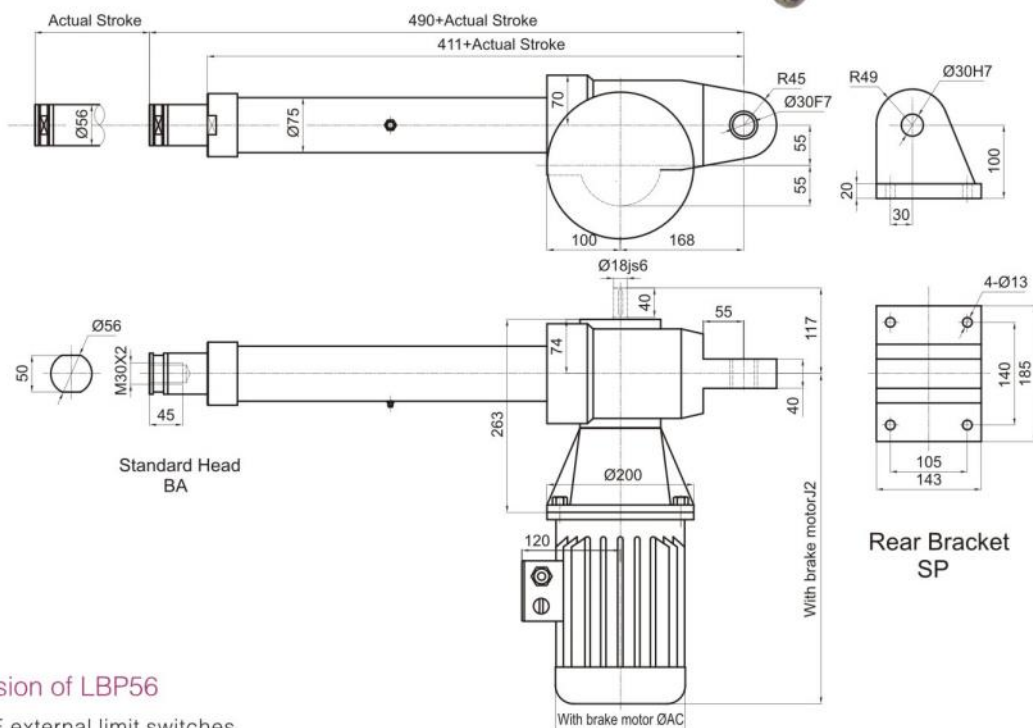
If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Overall Dimensions of LBP Series Linear Actuator

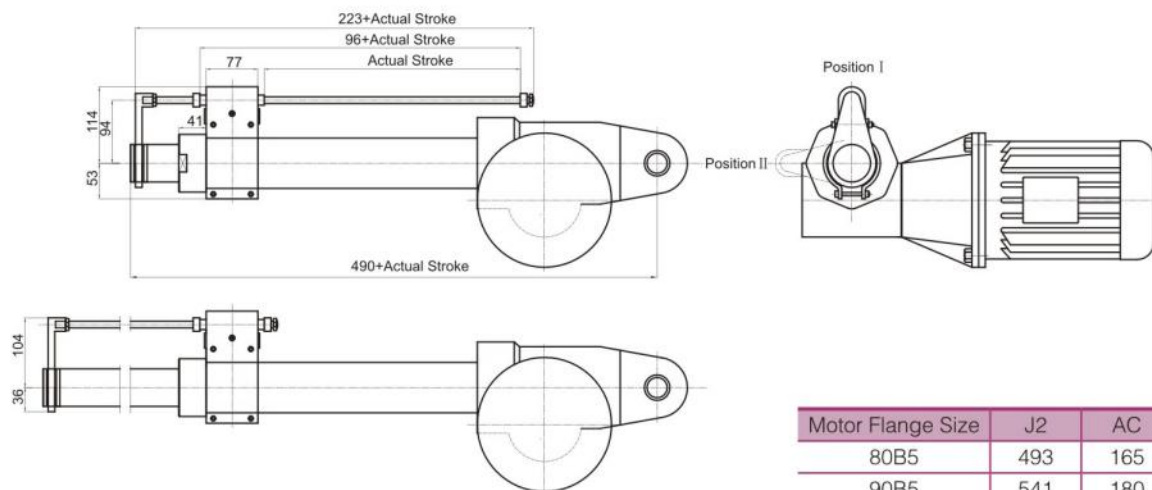
Dimension of LBP56

Without limit switches



Dimension of LBP56

With FCE external limit switches



Motor Flange Size	J2	AC
80B5	493	165
90B5	541	180

Stroke Code	100	200	300	400	500	600	700	800
Actual Stroke	120	220	320	420	520	620	720	820

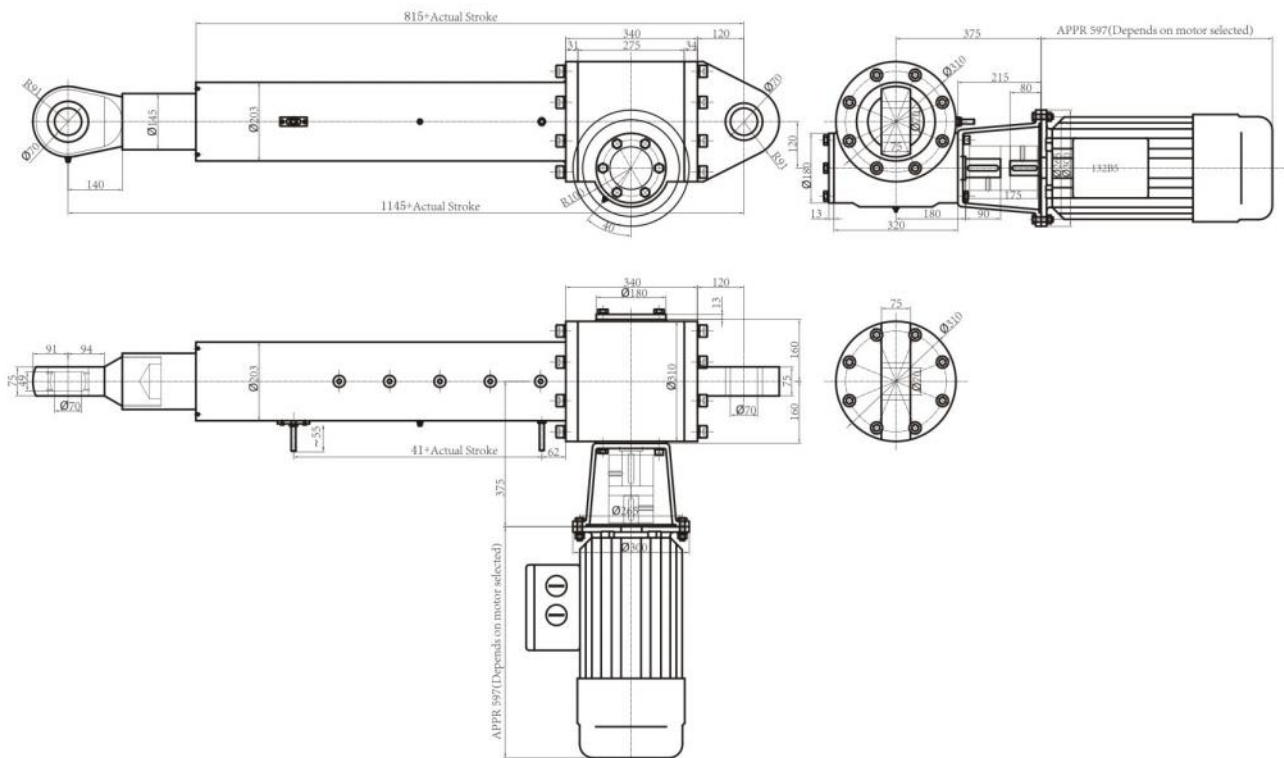
Note: If the stroke between 800mm–1500mm, the length of external tube & push rod will increase by 200mm

If the stroke exceed to 1500mm, please consult with Lude Transmission's engineers



Dimension of LBP200

With Inductive Proximity switches FCP



Stroke Code	200	400	500	600	800	1000	1500	2000
Actual Stroke	230	400	500	600	800	1000	1500	2000

Note: If the stroke between 1500mm–2200mm, the length of external tube & push rod will increase by 300mm

If the stroke exceed to 2200mm, please consult with Lude Transmission's engineers



System Accessories:

Magnetic Reed Switch (FCM)

The magnetic reed switches have two types: normally closed reed switch (standard) and the normally open limit switch.

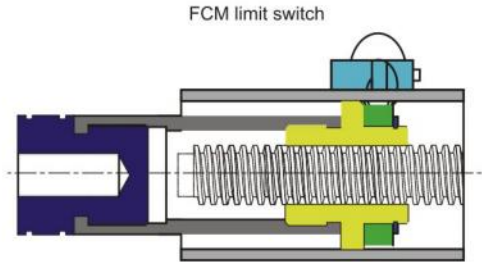
the magnetic ring at the end of the screw shaft moves along with the screw shaft, when the magnetic ring get close to the limit switch, the state of the limit switch will be changed through the magnetic field.

More reed switch can be placed along the stroke length, while the minimal distance between the two switches is 10mm and the magnetic limit switch must be connected to the control circuit. Cable length 1m

Control voltage: 3-130VDC/AC Current: 100mA

Repetitive accuracy: 0.1mm Ambient temperature: -10°C -70°C

Anti-turn device is not available when the actuator is equipped with FCM



FCE - External limit switches

In order to get the stop position of the actuator, the position of the ring have to adjust by screw. Adjust the position of the rings on steel rod which fixed by screw, we can get the stop position of actuator. Cable length 1m

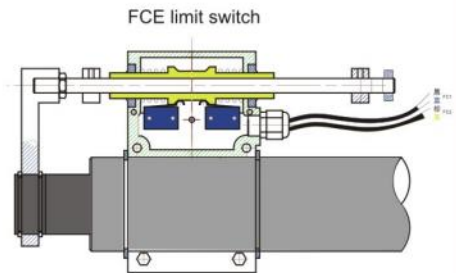
Control voltage: 3-130VDC/AC

Current: 100mA

Repetitive accuracy: 0.1mm

Ambient temperature: -30°C - 70°C

Note: The FCE device is recommended for linear speed lower than 30mm/s, for higher speed it is better to use FCM or use brake.



FCH- Limit Switch Box

Mounting in shaft of SJ Screw Jack or SC Actuator. FCH is able to control the extreme position.

Structure with planet gear reducer + cam limit switch + potentiometer. Numbers of control position depends on number of cam switch, Max. 4 position control. Potentiometer is optional, could monitor the position of actuator to achieve close loop control.

Ambient Temperature -40°C - 80°C

Volt: 380V/220V

Protection: IP55, IP67



FCP- Proximity limit switch

The thread is fixed on the required position outside the protective tube, and can not be adjusted; the normally closed limit switch is the standard.

Control voltage: 10-30VDC

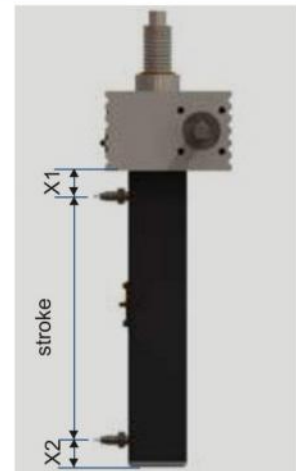
Max output current: 200mA

Repetitive accuracy: 0.04mm

Ambient temperature: -25°C -70°C

Cable length 1m

Type	X1	X2
SJA5	40	45
SJA10/SJB10	40	55
SJA20/SJB20/21/22	45	50
SJA50/SJB50/51	55	45
SJA80/SJB80/81	60	60
SJA100/SJB100/101	70	50
SJA200/SJB200/201	75	50
SJA300/SJB300	95	60





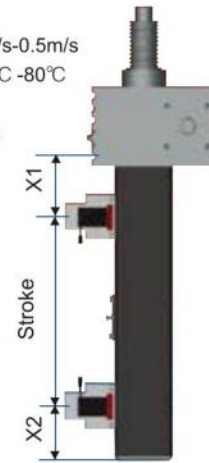
System Accessories

FCG limit switch

Fixed on the rear tube of the screw jack to control the extreme position of the screw shaft. Can be adjusted +5mm up and down when mounted. The configuration dimension of the limit switch: $80 \times 70 \times 22\text{cm}$
Control voltage: 220AC
Operation current: 10A

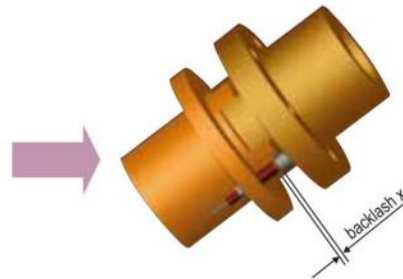
Type	X1	X2
SJA5	40	45
SJA10/SJB10	40	55
SJA20/SJB20/21/22	45	50
SJA50/SJB50/51	55	45
SJA80/SJB80/81	60	60
SJA100/SJB100/101	70	50
SJA200/SJB200/201	75	50
SJA300/SJB300	95	60

Operation speed: 0.05mm/s-0.5m/s
Ambient temperature: -10°C - 80°C
Protective class: IP67
Lifetime: 10,000,000 times
Cable length 1m



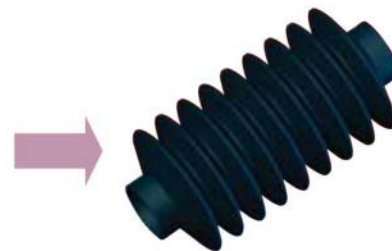
Safety nut SN

SN-S safety nut is used in the screw jack with the traveling screw model
SN-R safety nut is used in the screw jack with the traveling nut movement style.
The safety nut is mounted below / above the main nut and normally will not withstand the axial load and only works against the lateral load. The safety nut will hold the whole load if the nut screw does not function. Replacement for the nut is imperative if the wear of the screw exceeds 20% of the pitch (clearance $\times$ changing volume = wear volume). The wear degree can be checked either with eyes or through connecting the sensor to the control circuit, which can sound the alarm timely. Mounting the safety nut will increase the length of the nut, therefore change the configuration of the screw jack, for the specific dimensions please contact the sales engineer.



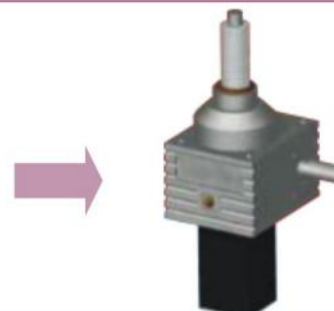
Bellow

Made of PVC polyester material with sewn construction.
Applicable temperature: -15°C - 70°C
The minimum compressed length of the bellow should be taken into account when mounting the bellow. The compress ratio of the bellow is 10:1
Bellow is preferred for the acme and ball screw jack to prevent the dust and contaminants from damaging the screw.
Both ends of the bellows need to be fixed with the clamps, the position of the bellows need to be confirmed when the order is issued. The BS bellow is also a choice to protect the screw in the harsh environment.



Anti-backlash device AB

Used to adjust the opposite clearance of the acme thread nut. The preload will eliminate the teeth clearance of the screw nut, the smaller the clearance; the higher the position accuracy, but the appropriate clearance $> 0.02\text{mm}$ must be guaranteed. Mounting the anti-backlash will decrease the transmission efficiency therefore changing the mechanical parameters of the screw jack. It is advised to lower the duty cycle accordingly.



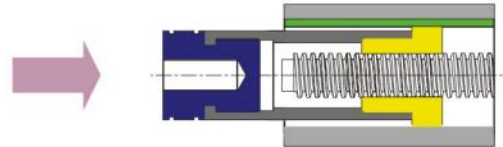


AR - Anti-turn device

Apply to the LAP series of actuators.

It's recommended that to use anti-turn device in the application which requires actuator with non-self-rotating in the process of movement. A key groove is made on the nut, which ensures the nut and the actuator move in the direction of the key thus prevent the rotating of the actuator.

Caution: due to the mounting interference, anti-turn device should not be used simultaneously in conjunction with FCM magnetic limit switch.



IRE- Incremental rotary encoder

The utility model relates to an input shaft mounted of the screw jack or screw actuator. the feedback signal forms the closed loop to control the movement of the actuator

Impulse value: 100/500 impulse per running

Voltage: 5VDC

Power supply voltage:5-30VDC

Ambient temperature: -20℃ -110℃

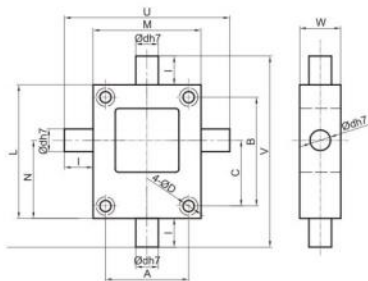
Protective class: IP65



HBP - Trunnion mounting panel

Fixed on the housing of the screw jack, enable the screw jack to rotate at a certain degree.

The specific dimensions is related to the model type of the screw jack



Model	Trunnion											
	A	B	C	D	L	M	N	U	V	W	d	I
SJA5-S...HBP	52	60	39	9	80	72	49	108	116	28	15	18
SJA10-S...HBP	63	78	49	9	100	85	60	127	142	30	17	21
SJA20-S...HBP	81	106	64	11	130	105	76	161	186	40	22	28
SJA50-S...HBP	115	150	87	13	180	145	102	225	260	50	32	40
SJA80-S...HBP	131	166	100	17	200	175	117	277	302	70	42	51
SJA100-S...HBP	155	170	100	21	220	205	125	321	336	75	48	58
SJA200-S...HBP	170	200	116.5	26	250	220	141.5	360	390	105	63	70
SJA300-S...HBP	200	235	135	30	295	270	165	420	445	115	68	75



Disk brake



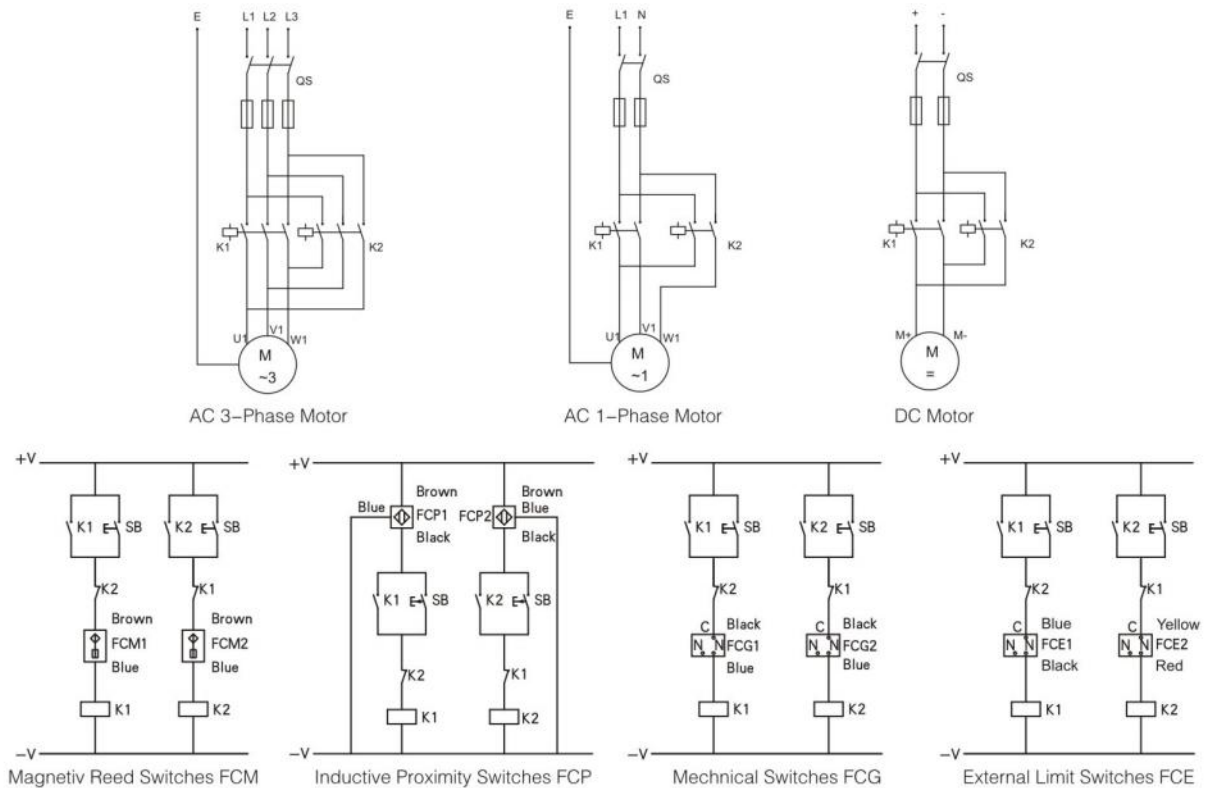
Hand Wheel



Automatic Lubricator



Wiring



Lubrication and Maintenance

LAP/LBP series of actuator

Long life lubricated, free from maintenance.

The worm gear, worm shaft, bearing and the screw has been well lubricated in the factory, unless there is some leakage of oil or damage, please lubricate the actuators according to the following table.

SJA/SJB/SCA/SCB series of screw jack

The worm gear, worm shaft, bearing and the screw has been well lubricated at the factory, the lubricating volume exceeding the volume stated in the table will impinge the mechanical efficiency of the screw jack meantime increase the possibility of the oil leakage.

Actuator	Worm gearbox		Actuating parts		Screw Jack	Worm gearbox		Actuating parts	
	Lubricant	Quantity[g]	Lubricant	Quantity Per 1m[g]		Lubricant	Quantity[g]	Lubricant	Quantity Per 1m[g]
LAP/LBP22	MOBILEP3 or equivalent	30	MOBIL XHP222 or equivalent	100	SJA5	MOBILEP3 or equivalent	80	MOBIL XHP222 or equivalent	300
LAP/LBP25		45		150	SJA/SJB10		130		400
LAP/LBP28		60		200	SJA/SJB/SCA/SCB20/21/22		170		550
LAP/LBP32		60		300	SJA/SJB/SCA/SCB50/51		430		650
LAP/LBP35		90		400	SJA/SJB/SCA/SCB80/81		850		750
LAP/LBP40		130		500	SJA/SJB/SCA/SCB100/101		1100		850
LAP/LBP56		350		700	SJA/SJB/SCA/SCB200/201		1700		1000
LAP/LBP63		700		950	SJA/SJB300		2550		1500
LAP/LBP80		1500		1200	SJA/SJB450		3570		2000
LAP/LBP120		2500		1500	SJA/SJB700		5100		2600
LAP/LBP200		3600		2000	SJA/SJB1000		7200		3300

Choose different types of grease according to different working environments (high or low temperature environment)

Special grease for the food industry is also available

For the high duty cycle screw jack, the grease will lose its lubricating function; entry of granule contaminants might deteriorate the working performance. It is advised to do a thorough cleaning and re-lubricating the screw jack.

It is recommend to use the grease can which is able to supply the continuous lubrication to the inside surface of the housing automatically.

Appropriate lubrication to the lubricating board inside the rear tube should be carried out periodically.

The nut and the screw should be lubricated appropriately every 200 working hours or according to the specific environment.



LINEAR MOTION

AC MOTOR

Actuator and Screw Jace are configured with IEC standard AC 3 Phase motor

Depends Motor RPM we supply 2 Poles , 4 Poles and 6 Poles motor for Linear Actuator

Standard Motor Flange diemsnion are IEC B14 or B5, we also supply non standard flange to meet customer requirement.

Customer can also choose AC single phase motor, DC motor , Step Motor , Servo motor or Explosion-Proof motor.

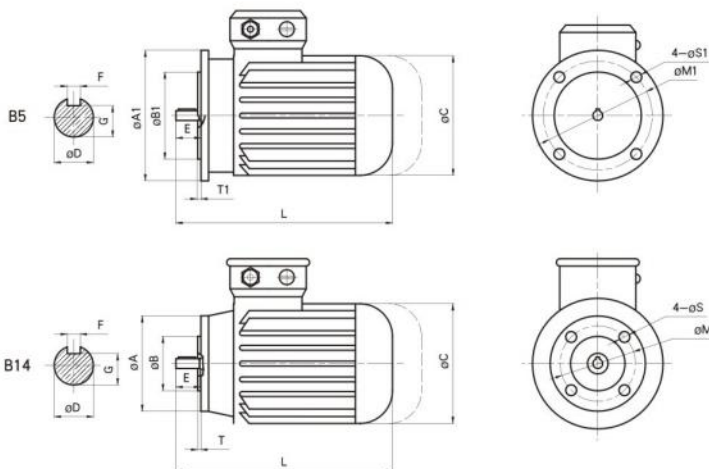
Protection Class: Standard IP54 and Optional : IP55 IP56 IP65 IP66

Insulation Class: F , Optional H

Voltage: 380/220V 50Hz, 440V/255 60Hz

Frequency range: 10-60Hz

Accessories: Brake, Temperature pretection device, Encoder



Frame Size	Power kw	Speed RPM	Rated Torque Nm	Current A/400V	Weight kg
56	0.09	1380	0.65	0.45	3.2
	0.09	2830	0.31	0.42	
	0.12	2710	0.48	0.48	
63	0.09	800	1.0	0.5	4.4
	0.12	880	1.3	0.7	
	0.18	2800	0.61	0.51	
	0.12	1370	0.92	0.68	
	0.18	1370	1.3	0.85	
	0.25	2800	0.9	0.78	
71	0.18	890	1.9	0.85	7.5
	0.25	900	2.7	1.0	
	0.25	1400	1.7	0.9	
	0.37	1380	2.5	1.2	
	0.37	2880	1.1	1.3	
	0.55	2860	1.8	2.0	
80	0.37	900	3.9	1.22	12.2
	0.55	1400	3.8	1.7	
	0.75	1410	5.0	2.0	
	0.75	2870	2.56	1.8	
90S	0.75	920	7.8	2.5	15.4
	1.1	1390	10.7	3.8	
	1.5	2800	5.2	3.7	
	1.5	1400	12.8	4.6	
	2.2	2800	7.37	4.53	
100	1.5	940	15.4	4.4	26.5
	2.2	1425	14.8	7.3	
	3.0	1430	20.2	8.9	
	3.0	2860	10.8	7.2	
112	2.2	950	22.0	7.0	36
	4.0	1440	27.0	8.9	

Frame Size	A	A1	B	B1	C	D	E	F	G	L	M	M1	S	S1	T	T1
56	80	120	50	80	110	9	20	3	7.2	189	65	100	M5	7	3.0	3.0
63	90	140	60	95	122	11	23	4	8.5	225	75	115	M5	9	3.0	3.0
71	105	160	70	110	138	14	30	5	11.0	251	85	130	M6	9	3.5	3.5
80	120	200	80	130	157	19	40	6	15.5	286	100	165	M6	12	3.5	3.5
90S	140	200	95	130	175	24	50	8	20.0	320	115	165	M8	12	3.5	3.5
90L	140	200	95	130	175	24	50	8	20.0	335	115	165	M8	12	3.5	3.5
100	160	250	110	180	196	28	60	8	24.0	377	130	215	M8	15	4.0	4.0
112	160	250	110	180	220	28	60	8	24.0	395	130	215	M8	15	4.0	4.0



LINEAR MOTION

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