

Gearbox for a Changing World

Planetary Gearbox

PL Precision Series

PL Series Compatible Motor Table

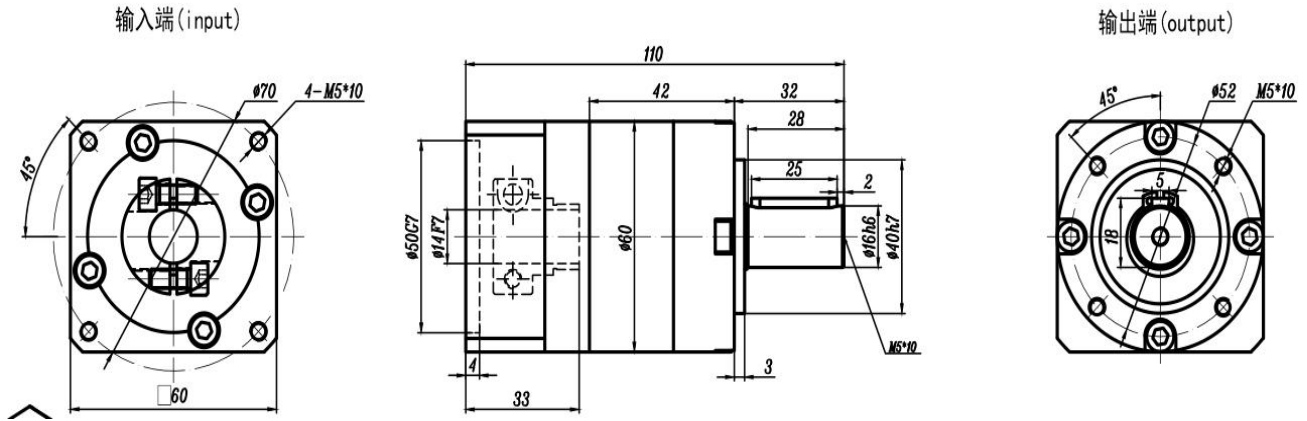
Type	Motor Frame Code	Power Rating	Output Shaft Diameter (S) & Length (LR) (mm)	Stage	Ratio	Backlash Class	Compatible Gearbox Model No.
PL060	F60	200W, 400W	Φ14 / 30	1-stage	3, 4, 5, 7, 10	10-12	PL060-C10604RS
PL090	F80	750W	Φ19 / 35	1-stage	3, 4, 5, 7, 10	10-12	PL090-C10807RS
PL090	F100	1kW, 2kW	Φ22 / 45	1-stage	3, 4, 5, 7, 10	10-12	PL090-C11010RS
PL090	F130	300W, 500W, 600W, 800W, 900W 1kW, 1.3kW, 1.5kW, 1.8kW, 2kW	Φ22 / 55	1-stage	3, 4, 5, 7, 10	10-12	PL090-E11310RS PL090-E11315RS PL090-E11320RS
PL120	F130	3kW	Φ22 / 55	1-stage	3, 4, 5, 7, 10	10-12	PL120-E11310RS PL120-E11315RS PL120-E11320RS
PX142	F160	3kW		1-stage	3, 4, 5, 7, 10	10-12	PX142-L11830RS PX142-L11845RS
PL160	F160	3kW		1-stage	3, 4, 5, 7, 10	10-12	PL160-L11830RS PL160-L11845RS
PL060	F60	200W, 400W	Φ14 / 30	2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL060-C10604RS
PL090	F80	750W	Φ19 / 35	2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL090-C10807RS
PL090	F100	1kW, 2kW	Φ22 / 45	2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL090-C11010RS
PL090	F130	300W, 500W, 600W, 800W, 900W 1kW, 1.3kW, 1.5kW, 1.8kW, 2kW	Φ22 / 55	2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL090-E11310RS PL090-E11315RS PL090-E11320RS
PL120	F130	3kW	Φ22 / 55	2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL120-E11310RS PL120-E11315RS PL120-E11320RS
PX142	F160	3kW		2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PX142-L11830RS PX142-L11845RS
PL160	F160	3kW		2-stage	12, 16, 20, 25, 35, 40,50,70,100	12-15	PL160-L11830RS PL160-L11845RS

Specifications

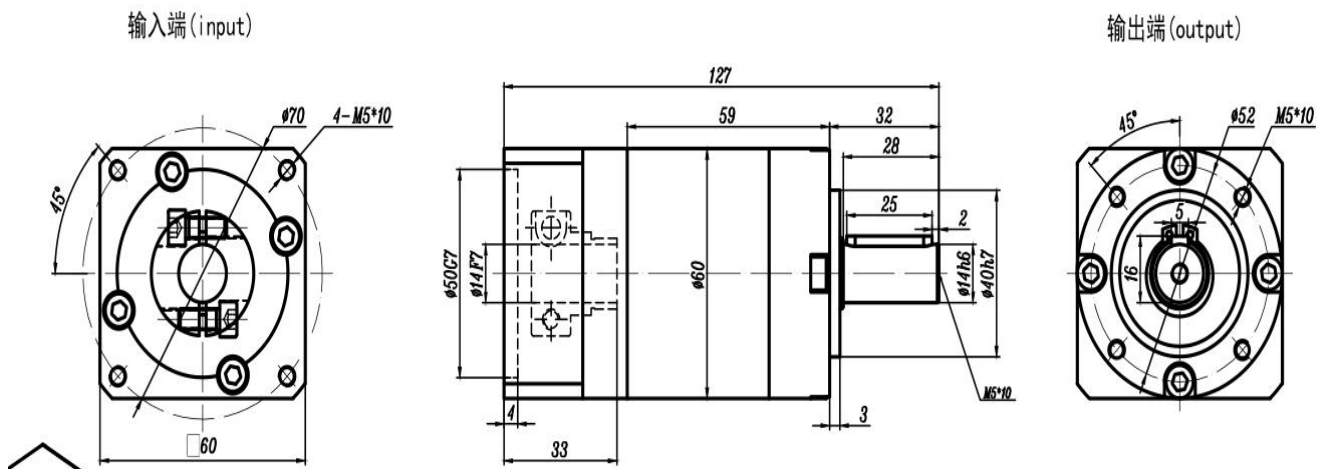
Items	Unit	Stage	Ratio	60	90	120	PX 142	160
Rated Output Torque	N-m	1	3	15	55	105	185	185
			4	30	100	230	600	600
			5	27	95	220	505	505
			7	20	80	160	325	325
			10	9	50	100	160	160
		2	16	35	106	260	675	675
			20	35	106	260	675	675
			25	30	100	245	550	550
			35	30	100	245	550	550
			40	35	106	260	675	675
			50	30	90	245	550	550
			70	22	60	195	500	500
100	10	60	110	185	185			
Max. Acceleration Torque	N-m	1,2	3 ~ 100	2 times the Rated Output Torque				
Max. Output Torque	N-m	1,2	3 ~ 100	3 times the Rated Output Torque				
Rated Input Speed	rpm	1,2	3 ~ 100	4,000	4,000	3,500	3,000	3,000
Max. Input Speed	rpm	1,2	3 ~ 100	8,000	6,000	6,000	5,000	5,000
Backlash	arcmin	1	3 ~ 10	10-12				
	arcmin	2	16 ~ 100	12-15				
Torsional Rigidity	N-m/arcmin	1,2	3 ~ 100	2.3	7.5	15	25	25
Max. Radial Force	N	1,2	3 ~ 100	320	550	1,600	4,000	4,000
Max. Axial Force	N	1,2	3 ~ 100	280	500	1,350	3,750	3,750
Service Life	hr	1,2	3 ~ 100	>20,000				
Efficiency	%	1	3 ~ 10	96	96	96	96	96
		2	16 ~ 100	94	94	94	94	94
Operating Temperature		1,2	3 ~ 100	- 20 °C ~ +90 °C				
Lubrication		1,2	3 ~ 100	Synthetic Grease				
Protection Class		1,2	3 ~ 100	IP65				
Mounting Position		1,2	3 ~ 100	Any				
Noise Level	dB	1	3 ~ 10	≤60	≤65	≤68	≤75	≤75
		2	16 ~ 100	≤60	≤65	≤68	≤75	≤75
Weight ±2%	kg	1	3 ~ 10	1.0	3.1	7.0	17.2	18
		2	16 ~ 100	1.2	4.0	9.0	23.2	24.1
Mass Moment of Inertia	kg.cm2	1	3	0.135	0.48	3.21	7.5	7.5
			4	0.093	0.38	2.64	7.4	7.4
			5	0.078	0.38	2.64	6.5	6.5
			7	0.13	0.38	2.62	6.5	6.5
			10	0.13	0.35	2.51	6.2	6.2
		2	16	0.13	0.41	2.64	5.2	5.2
			20~40	0.13	0.38	2.64	5.2	5.2
			50~100	0.13	0.38	2.51	5.2	5.2

Dimensions

PL060 1-stage: Motor: ECMA- C10604RS



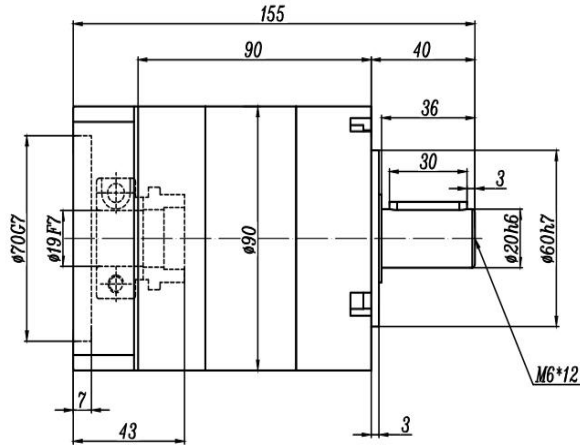
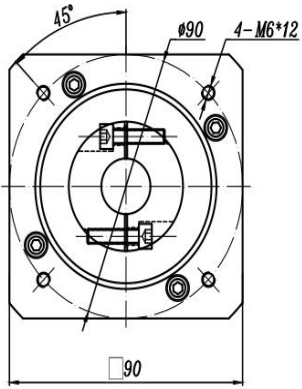
PL060 2-stage: Motor: ECMA- C10604RS



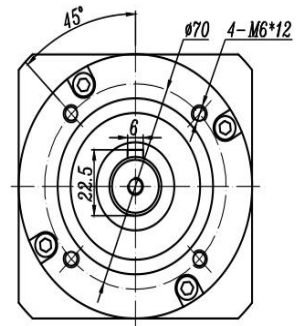
Dimensions

PL090 1-stage: Motor: ECMA-C10807RS

输入端(input)

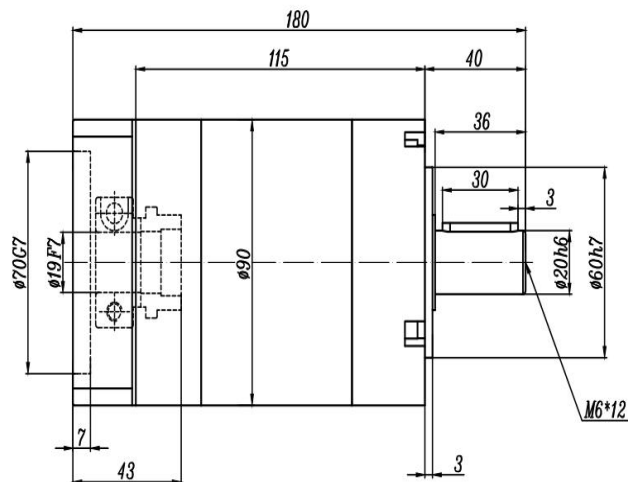
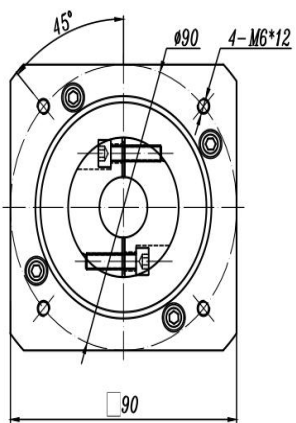


输出端(output)

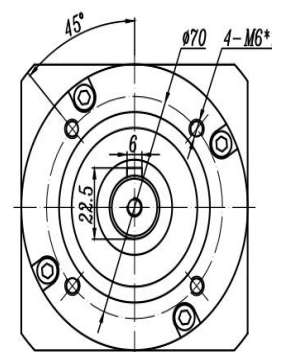


PL090 2-stage: ECMA-C10807RS

输入端(input)

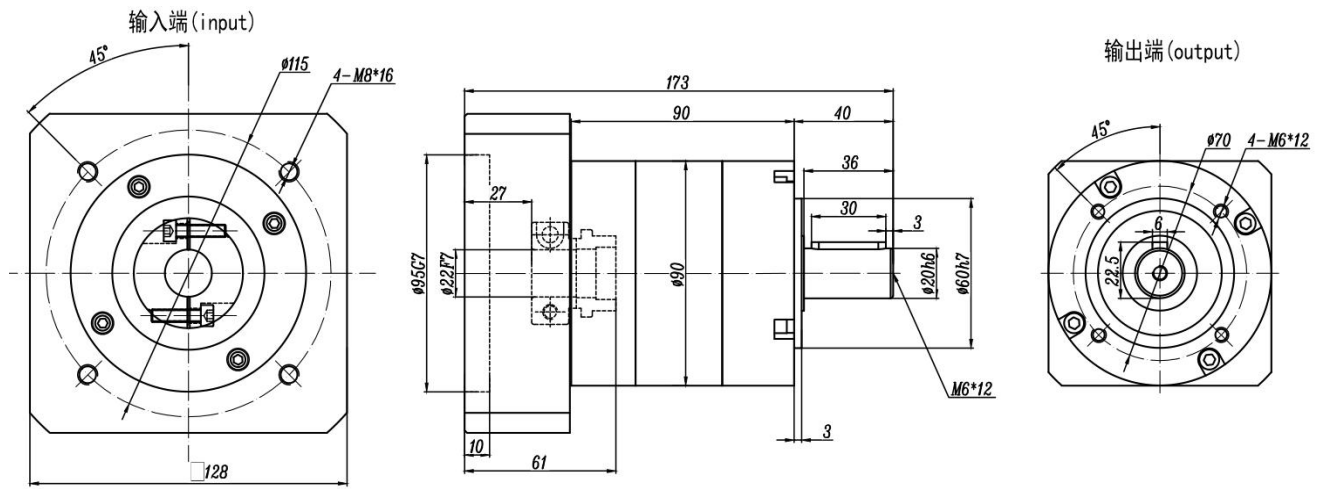


输出端(output)

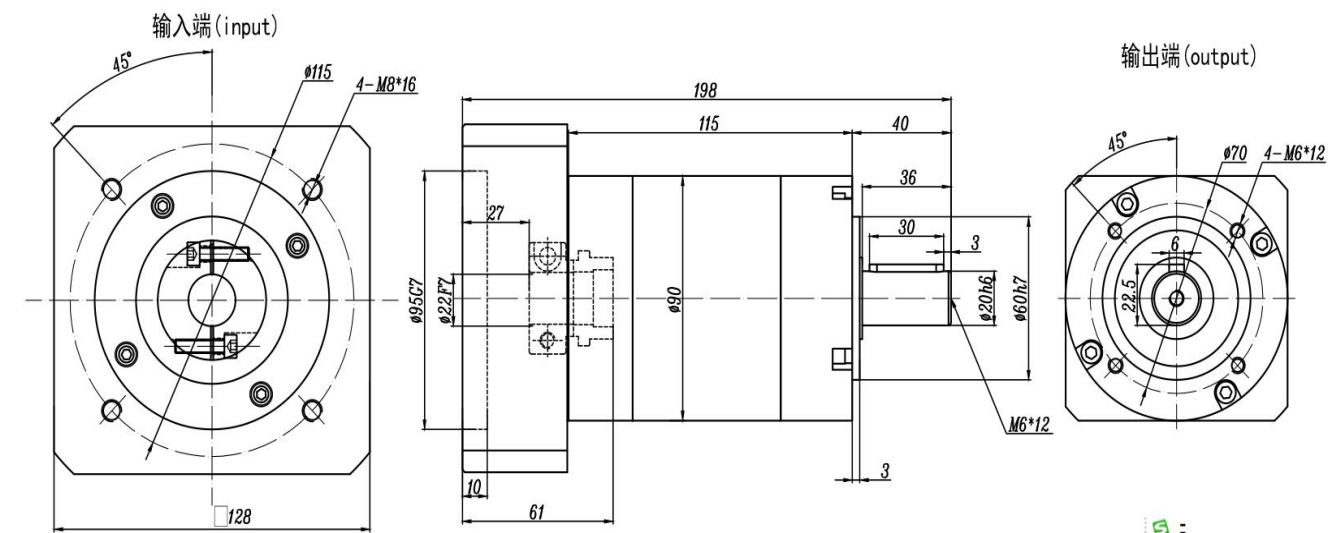


Dimensions

PL090 1-stage:ECMA-C11010RS

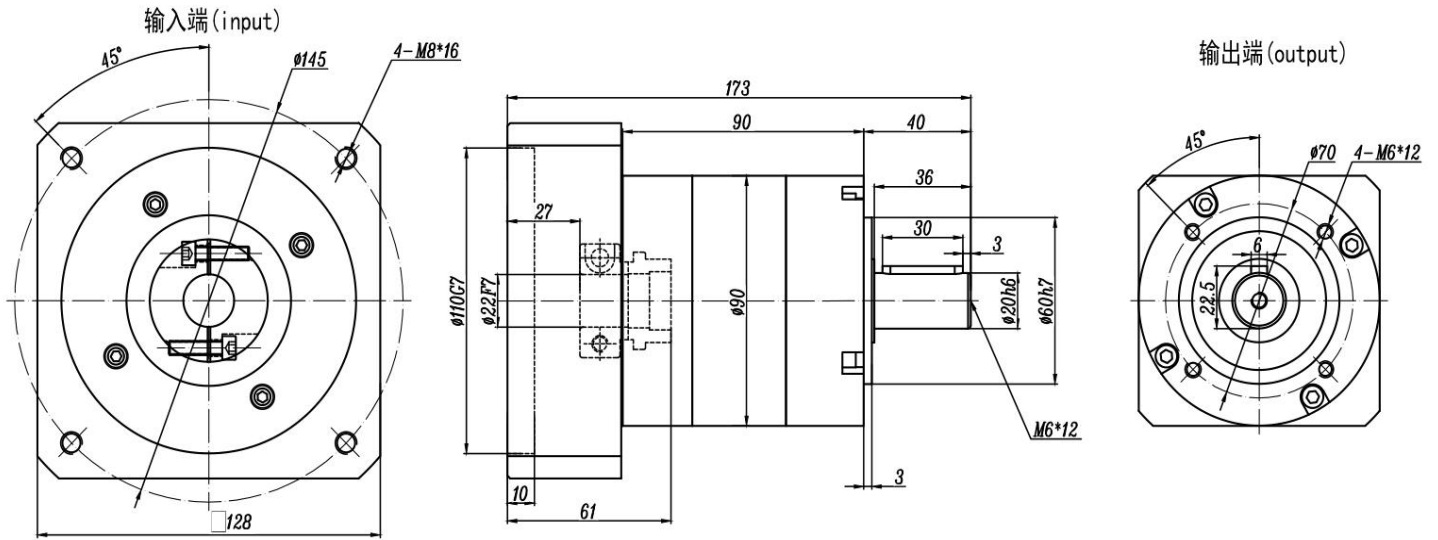


PL090 2-stage:ECMA-C11010RS

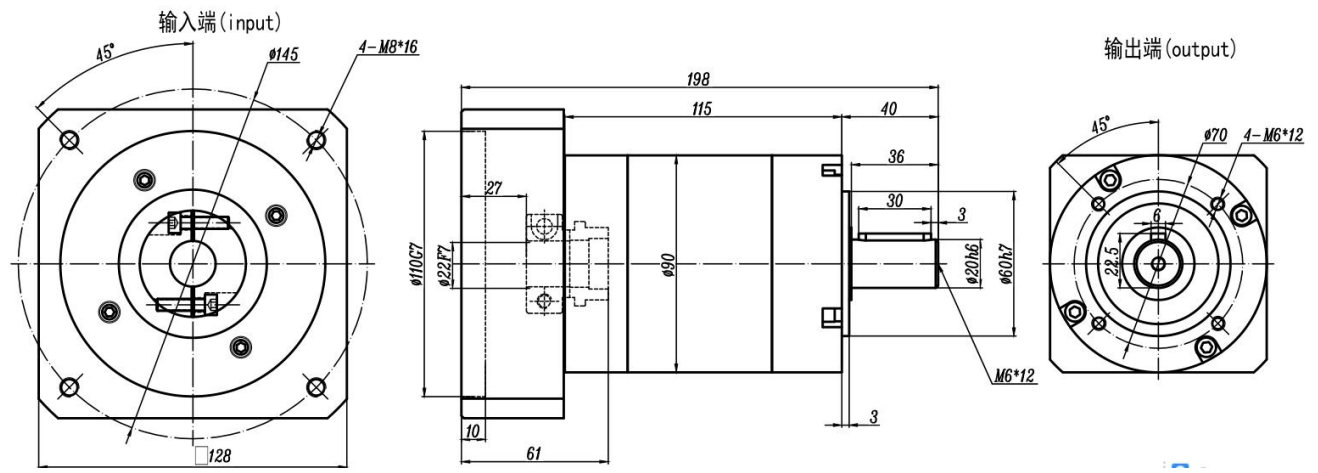


Dimensions

PL090 1-stage: Motor: ECMA-E11310RS, ECMA-E11315RS, ECMA-E11320RS



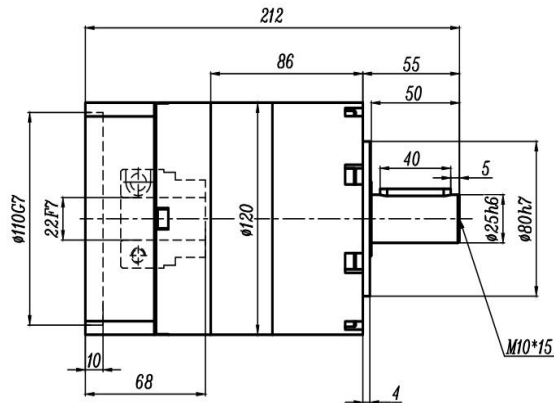
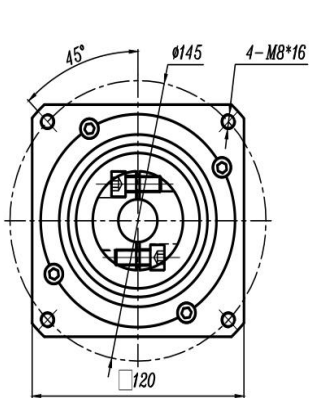
PL090 2-stage: Motor: ECMA-E11310RS, ECMA-E11315RS, ECMA-E11320RS



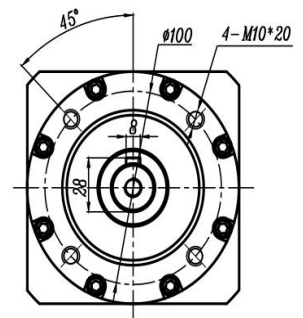
Dimensions

PL120 1-stage: Motor: ECMA-E11310RS, ECMA-E11315RS, ECMA-E11320RS

输入端(input)

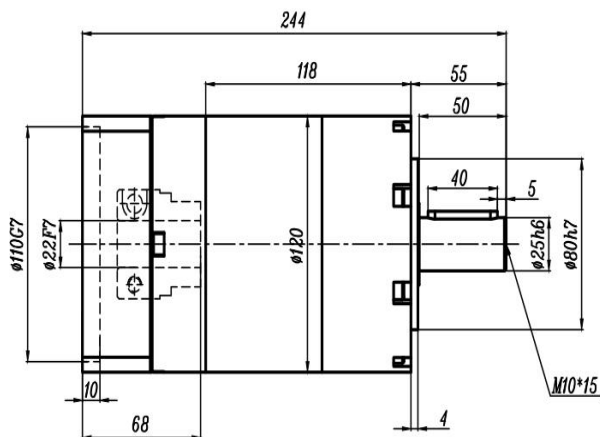
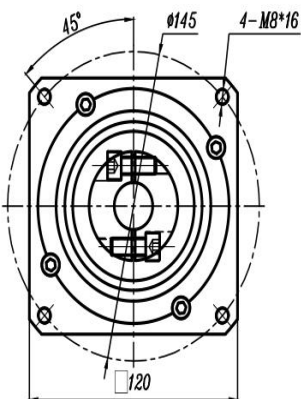


输出端(output)

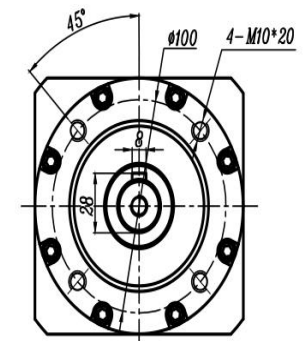


PL120 2-stage: Motor: ECMA-E11310RS, ECMA-E11315RS, ECMA-E11320RS

输入端(input)



输出端(output)

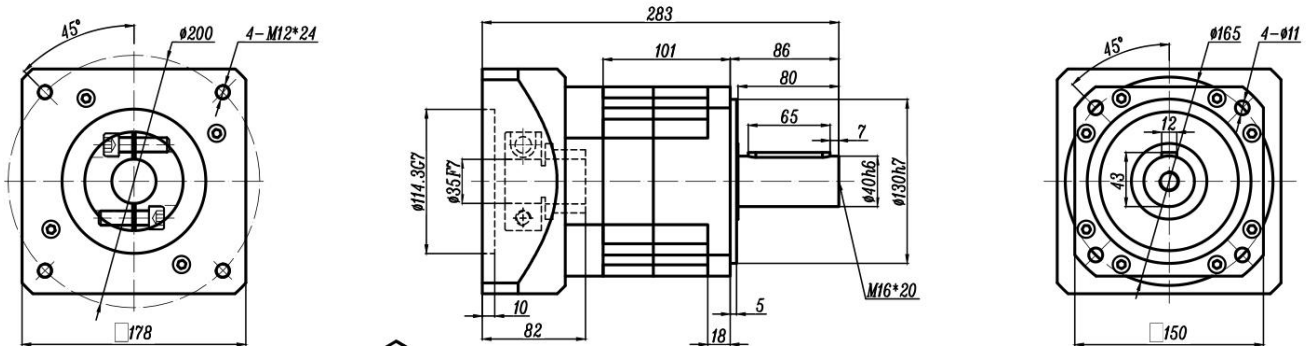


Dimensions

PX142 1-stage:Motor:ECMA-L11830RS, ECMA-L11845RS

输入端 (input)

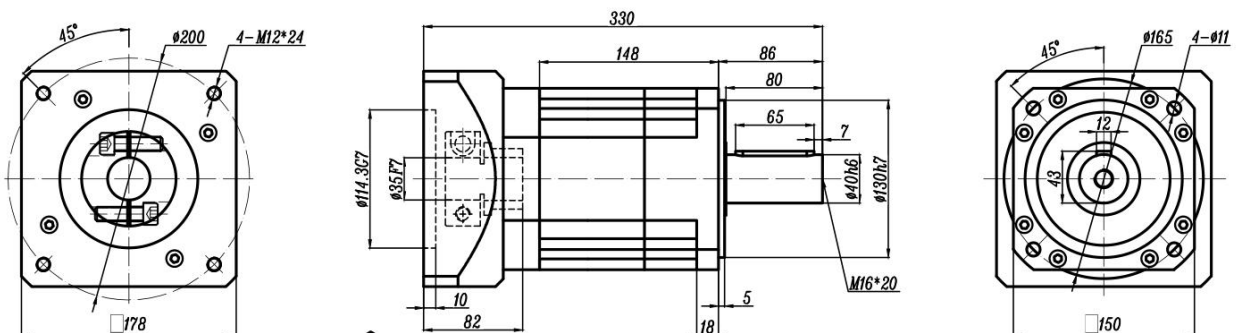
输出端 (output)



PX142 2-stage:Motor:ECMA-L11830RS, ECMA-L11845RS

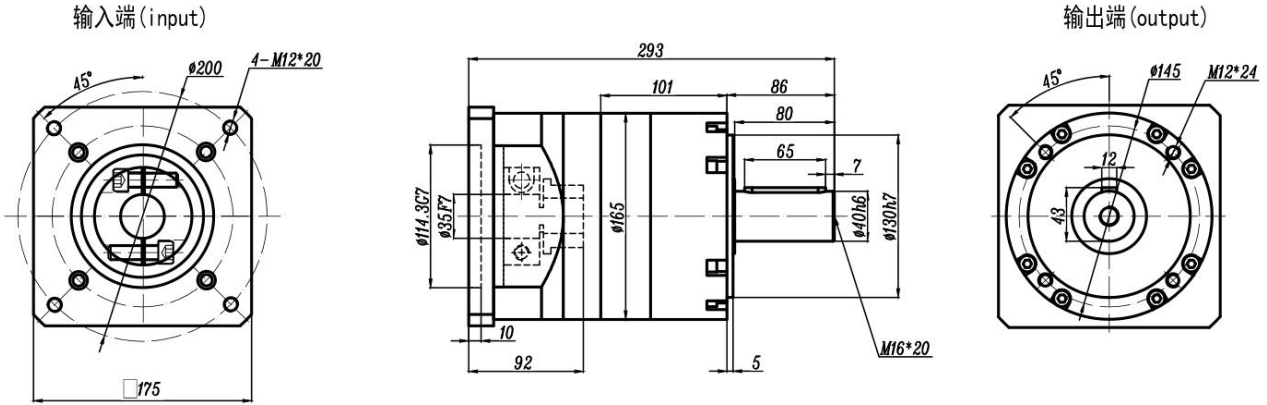
输入端 (input)

输出端 (output)

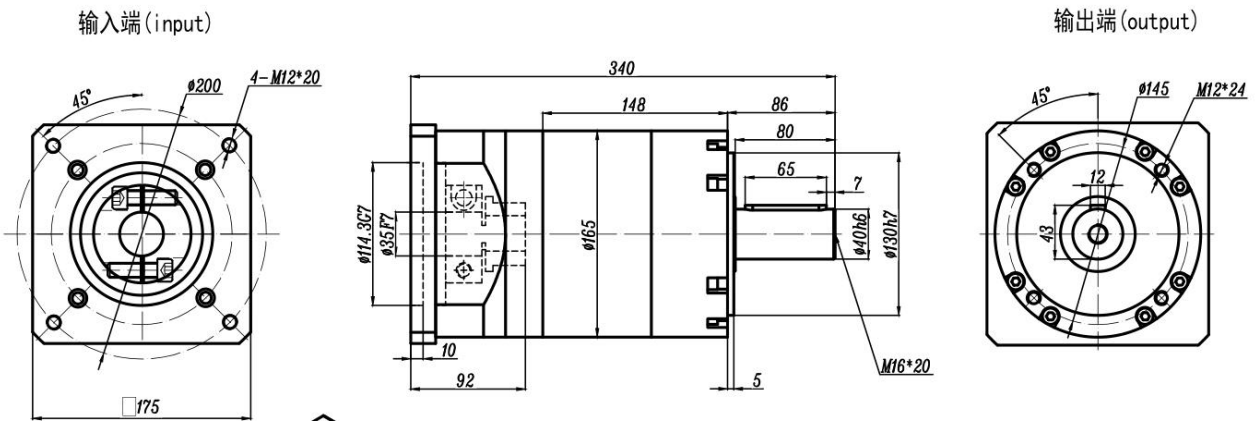


Dimensions

PL160 1-stage: Motor: ECMA-L11830RS, ECMA-L11845RS



PL160 2-stage: Motor: ECMA-L11830RS, ECMA-L11845RS



Installation Instructions

Assembling the Planetary Gearbox with Motor



01

Confirm the compatibility of motor model and gearbox spec and clean the mounting surface



02

Remove the motor key



03

Check the motor shaft size (Insert the bushing into the input bore if necessary)

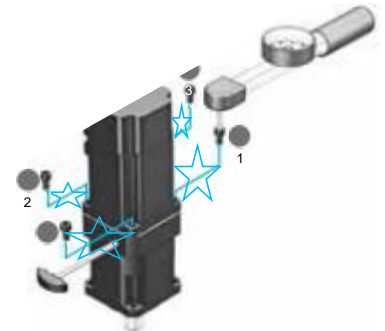


04

Remove the plug into the adapter plate. Loosen the set collar with a torque wrench and align with the bolt



05



06

Vertically insert motor from the gearbox



07

Tighten the set collar bolt with the torque wrench



08

Assemble with the screw plug