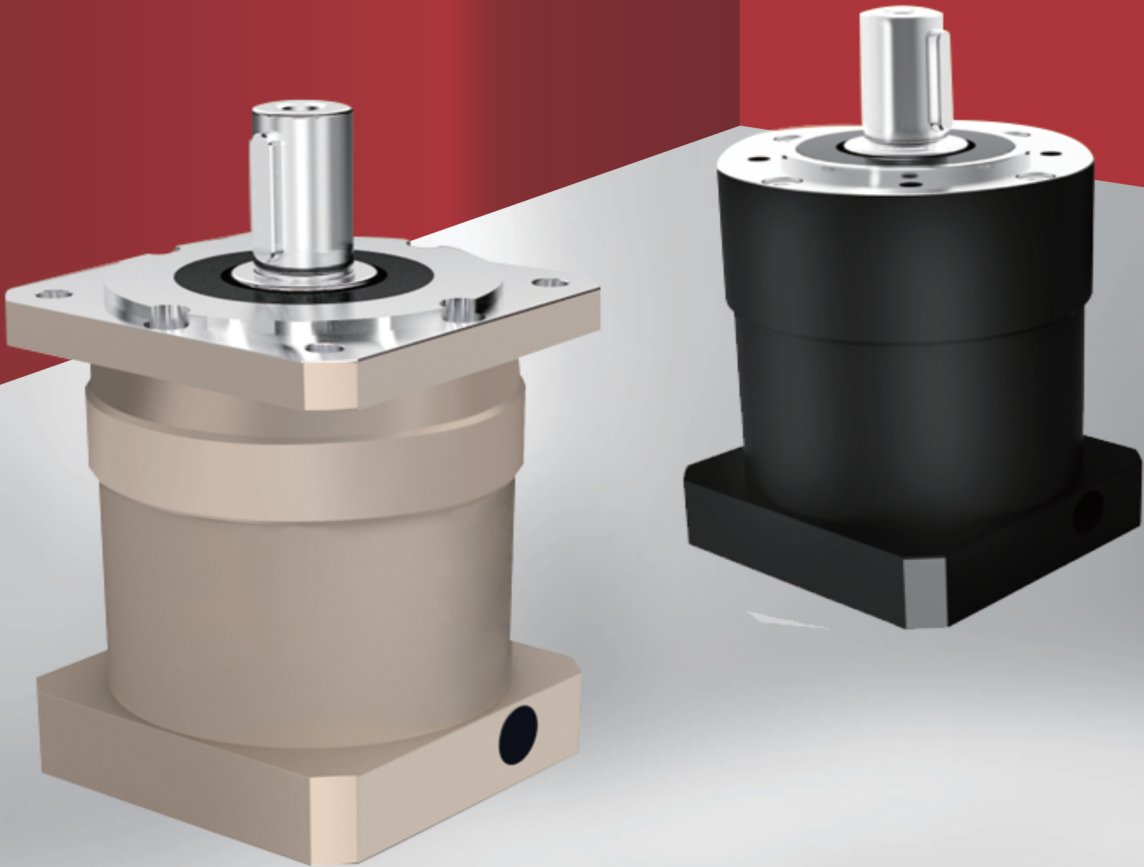


FG/FGA

High precision spur planetary reducer



GEAR BOX PERFORMANCE INFORMATION

Specification		series	Reduction ratio 1	FG 040 FGA 040	FG 060 FGA 060	FG 080 FGA 080	FG 120 FGA 120	FG 160 FGA 160
Rated output torque T2N	Nm	1	3	14	39	104	215	423
			4	12	31	85	176	364
			5	14	39	104	215	423
			7	12	33	91	195	358
			8	10	33	80	160	330
		2	10	9	23	45	110	210
			12	14	39	104	215	423
			15	14	39	104	215	423
			20	12	31	85	176	364
			25	14	39	104	215	423
			30	-	-	104	215	423
			35	14	39	104	215	423
			40	14	39	104	215	423
			50	-	-	104	215	423
			70	-	-	104	215	423
			100	9	23	45	215	210
Maximum output torque T2B	Nm	1,2	3~100	3 times rated output cabinet				
Rated input speed <i>n</i> ₁	rpm	1,2	3~100	4,500	4,000	3,600	3,000	2,500
Maximum input speed <i>n</i> _{1B}	rpm	1,2	3~100	8,000	6,000	6,000	4,800	3,600
Backlash	arcmin	1	3~10	≤8	≤8	≤6	≤6	≤6
		2	12~100	≤10	≤10	≤8	≤8	≤8
Torsional rigidity	Nm/arcmin	1,2	3~100	0.8	2.2	7.2	14.5	65.5
Permissible radial force F2rB2	N	1,2	3~100	300	680	1,750	3,080	6,520
Permissible radial force F2a2B2	N	1,2	3~100	150	340	875	1,540	3,260
Service life	hr	1,2	3~100	20,000*				
Efficiency η	%	1	3~10	≥97%				
		2	12~100	≥94%				
weight	kg	1	3~10	0.7	1.7	3.6	8.2	18.2
		2	12~100	1.0	2.4	5.0	11.4	24.9
Use temperature	°C	1,2	3~100	-10°C~+90°C				
lubricating		1,2	3~100	Synthetic Grease				
Protection level		1,2	3~100	IP64				
Installation direction		1,2	3~100	Any Direction				
Noise level (<i>n</i> ₁ =3000rpm)	dB	1,2	3~100	≤68	≤70	≤72	≤74	≤75

Reducer moment of inertia

Specification		series	Reduction ratio 1	FG 040 FGA 040	FG 060 FGA 060	FG 080 FGA 080	FG 120 FGA 120	FG 160 FGA 160
Moment of inertia J _i	kg·cm ²	1	3	0.16	0.63	3.48	12.84	36.72
			4	0.16	0.60	3.31	12.22	34.63
			5	0.16	0.59	3.28	12.10	34.24
			7	0.16	0.59	3.27	12.05	34.07
			8	0.16	0.59	3.26	12.03	34.02
			10	0.16	0.59	3.26	12.03	34.02
			12	0.16	0.59	3.28	12.10	34.24
			20	0.16	0.59	3.28	12.10	34.24
			25	0.16	0.59	3.28	12.10	34.24
			25	0.16	0.59	3.28	12.10	34.24
		2	30	-	-	3.26	12.03	34.02
			35	0.16	0.59	3.28	12.10	34.24
			40	0.16	0.59	3.26	12.03	34.02
			50	-	-	3.26	12.03	34.02
			70	-	-	3.26	12.03	34.02
			100	0.16	0.59	3.26	12.03	34.02

1. Reduction ratio ($i=N_{in}/N_{out}$)

*The service life is 20,000 hours under periodic operation (S5), while the service life is reduced by 50% under continuous operation (S1).

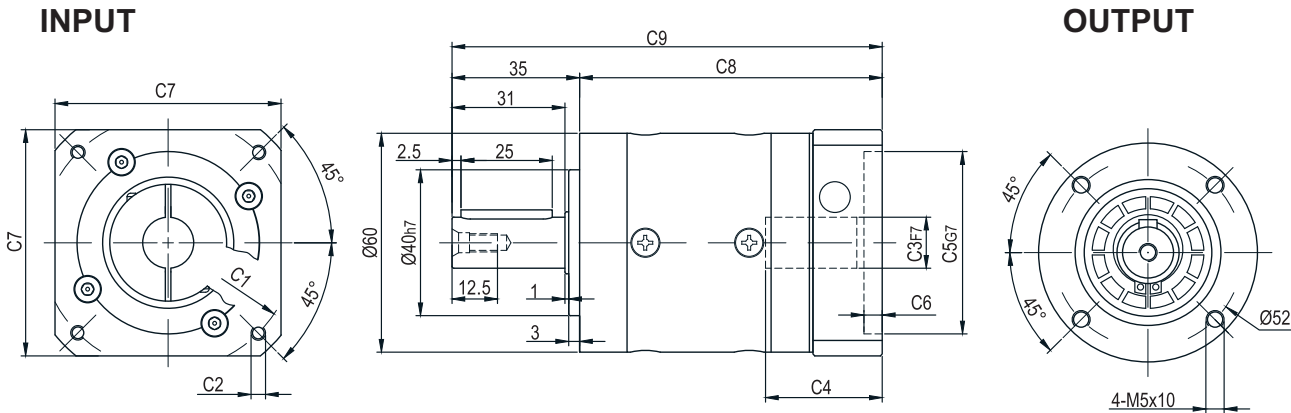
*The backlash value is measured under a torque of 2% of the rated torque T2N.

2. When the output speed is **100 rpm**, it acts on the center position of the output shaft.

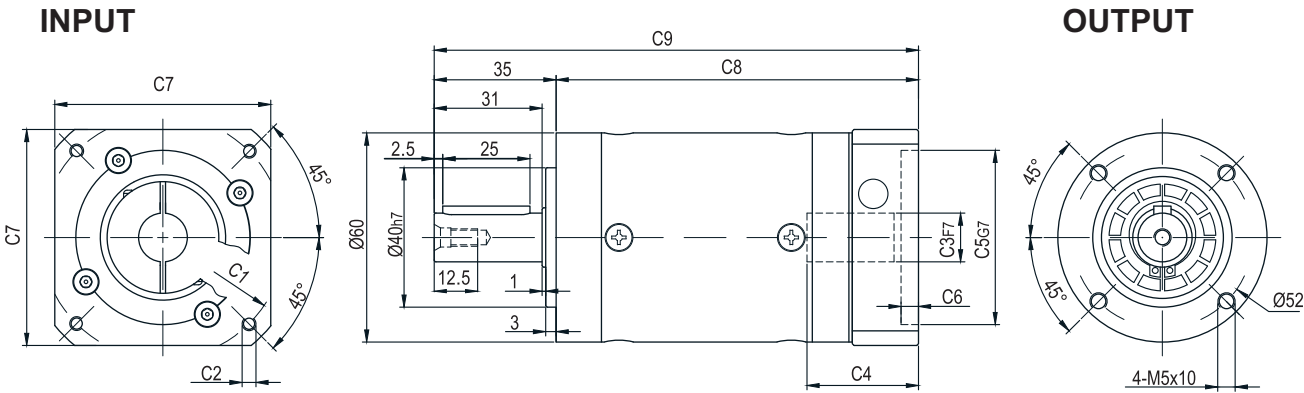
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

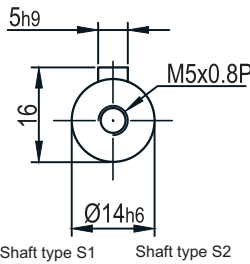
FG-060-L1



FG-060-L2



OUTPUT DIAMETER

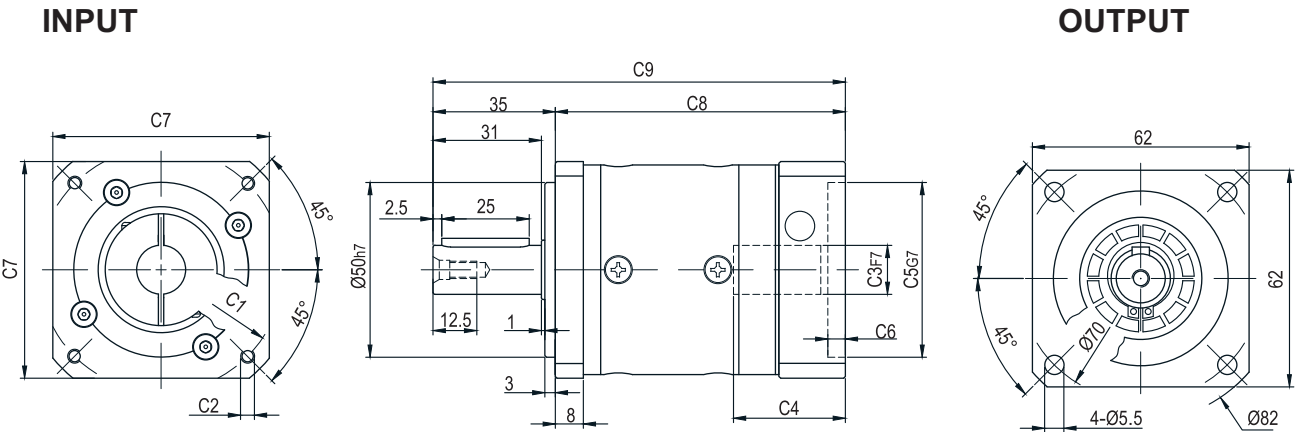


Size	C1	C2	C3	C4	C5	C6	C7	C8	C9
FG-060-L1	Ø46	4-M4x10	Ø8	31	Ø30	5	62	82	117
FG-060-L2								103	138
FG-060-L1	Ø66.7	4-M4x10	Ø8	31	Ø38.1	5	62	82	117
FG-060-L2								103	138
FG-060-L1	Ø70	4-M4x10, 4-M5x12	Ø11, Ø14	32	Ø50	5	62	83	118
FG-060-L2								104	139

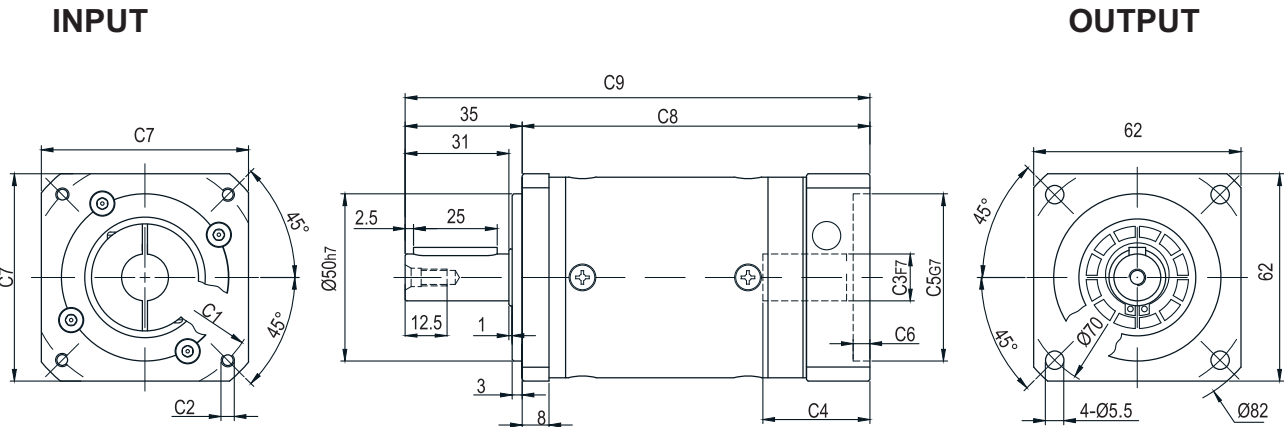
*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

OUTLINE DIMENSION SHEET

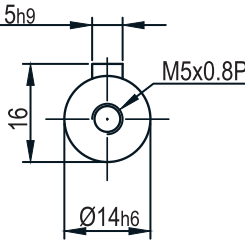
FGA-060-L1



FGA-060-L2



OUTPUT DIAMETER



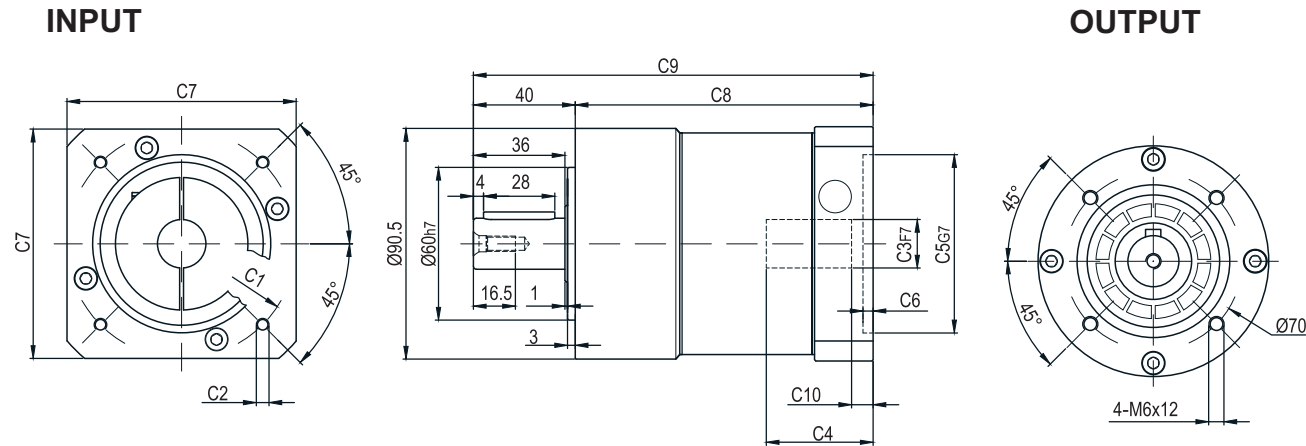
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9
FGA-060-L1	Ø46	4-M4x10	Ø8	31	Ø30	5	62	82	117
FGA-060-L2								103	138
FGA-060-L1	Ø66.7	4-M4x10	Ø8	31	Ø38.1	5	62	82	117
FGA-060-L2								103	138
FGA-060-L1	Ø70	4-M4x10, 4-M5x12	Ø11, Ø14	32	Ø50	5	62	83	118
FGA-060-L2								104	139

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

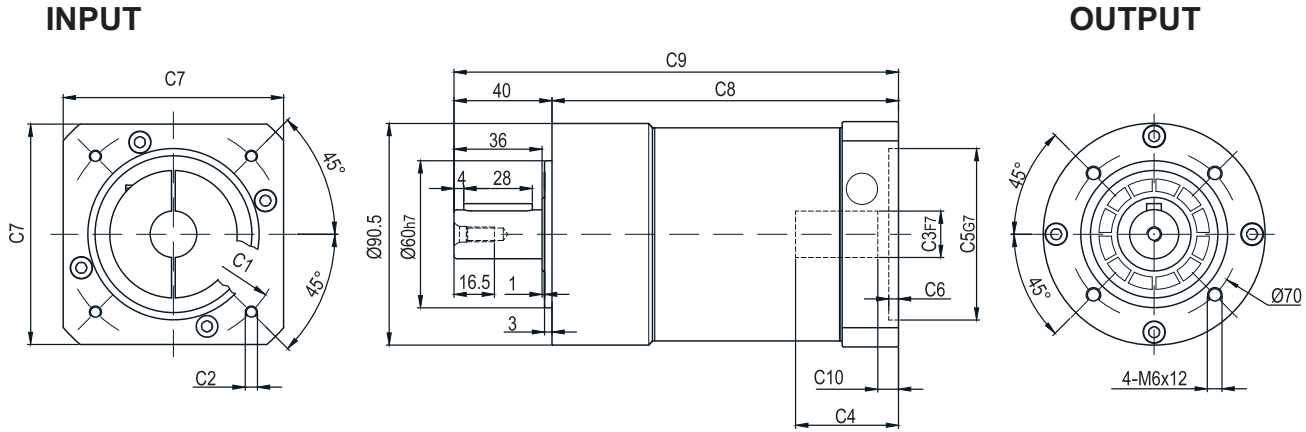
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

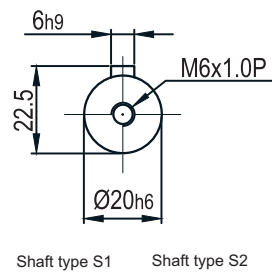
FG-080-L1



FG-080-L2



OUTPUT DIAMETER

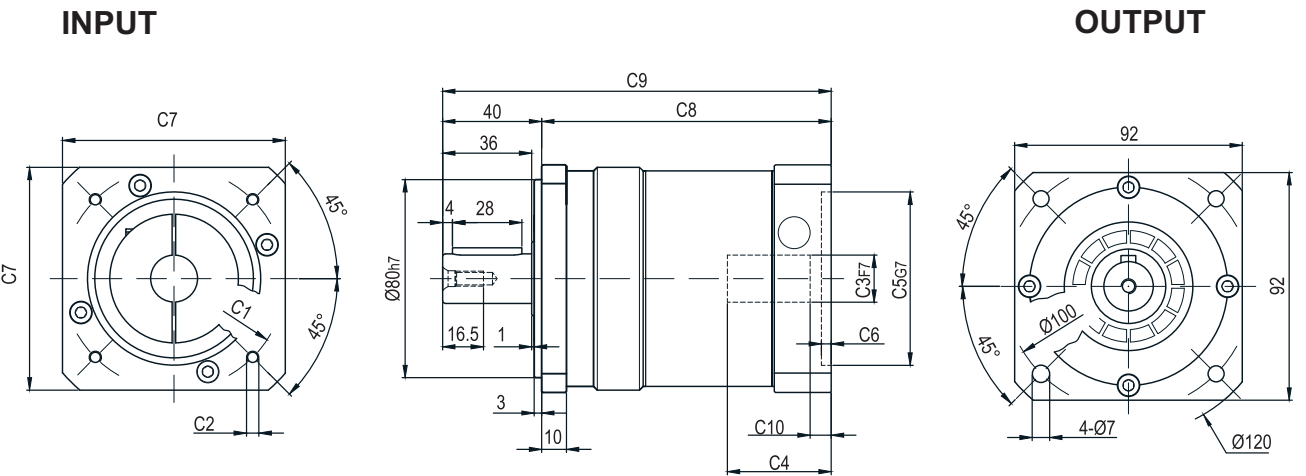


Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-080-L1	Ø70	4-M4x10, 4-M5x12	Ø11,Ø14	41	Ø50	5	90	116	156	5
FG-080-L2	Ø70	4-M4x10, 4-M5x12	Ø11,Ø14	41	Ø50	5	90	140.5	180.5	5
FG-080-L1	Ø90	4-M5x12, 4-M6x12	Ø19	42	Ø70	6	90	117	157	7
FG-080-L2	Ø90	4-M5x12, 4-M6x12	Ø19	42	Ø70	6	90	141.5	181.5	7
FG-080-L1	Ø100	4-M6x12	Ø16	42	Ø80	4	90	117	157	6
FG-080-L2	Ø100	4-M6x12	Ø16	42	Ø80	4	90	141.5	181.5	6
FG-080-L1	Ø115	4-M8x20	Ø19,Ø22	58	Ø95	6	100	133	173	22
FG-080-L2	Ø115	4-M8x20	Ø19,Ø22	58	Ø95	6	100	157.5	197.5	22
FG-080-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	61	Ø110	8	130	136	176	25
FG-080-L2	Ø145	4-M8x25	Ø19,Ø22,Ø24	61	Ø110	8	130	160.5	200.5	25

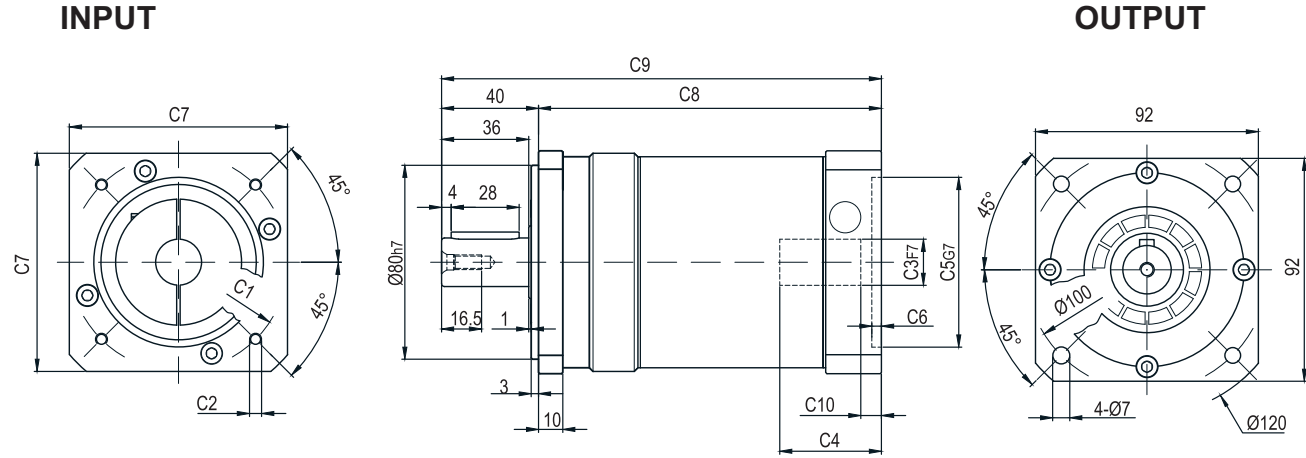
*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

OUTLINE DIMENSION SHEET

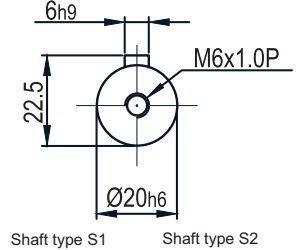
FGA-080-L1



FGA-080-L2



OUTPUT DIAMETER



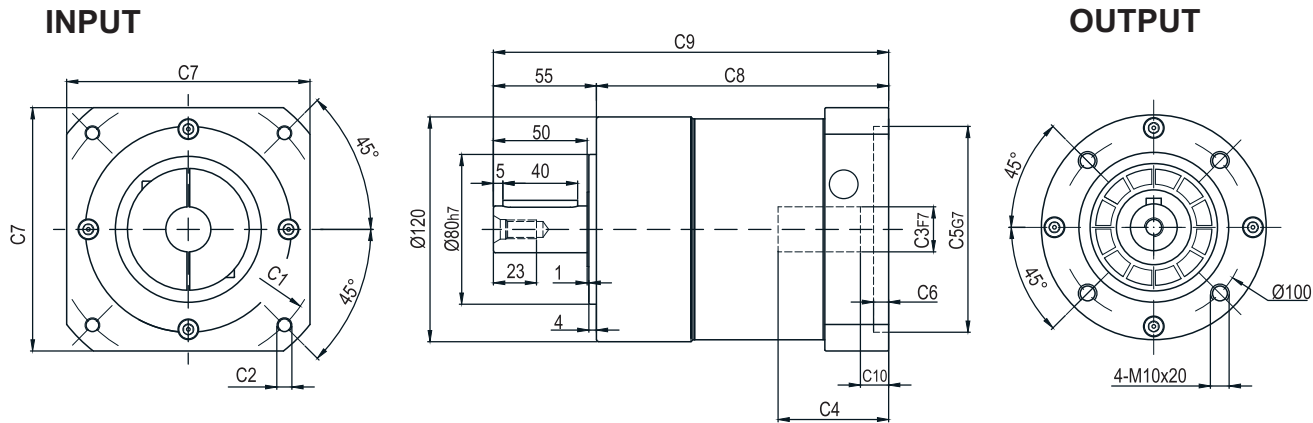
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FGA-080-L1	Ø70	4-M4x10, 4-M5x12	Ø11,Ø14	41	Ø50	5	90	116	156	5
FGA-080-L2	Ø70	4-M4x10, 4-M5x12	Ø11,Ø14	41	Ø50	5	90	140.5	180.5	5
FGA-080-L1	Ø90	4-M5x12, 4-M6x12	Ø19	42	Ø70	6	90	117	157	7
FGA-080-L2	Ø90	4-M5x12, 4-M6x12	Ø19	42	Ø70	6	90	141.5	181.5	7
FGA-080-L1	Ø100	4-M6x12	Ø16	42	Ø80	6	90	117	157	6
FGA-080-L2	Ø100	4-M6x12	Ø16	42	Ø80	6	90	141.5	181.5	6
FGA-080-L1	Ø115	4-M8x20	Ø19,Ø22	58	Ø95	6	100	133	173	22
FGA-080-L2	Ø115	4-M8x20	Ø19,Ø22	58	Ø95	6	100	157.5	197.5	22
FGA-080-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	61	Ø110	8	130	136	176	25
FGA-080-L2	Ø145	4-M8x25	Ø19,Ø22,Ø24	61	Ø110	8	130	160.5	200.5	25

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

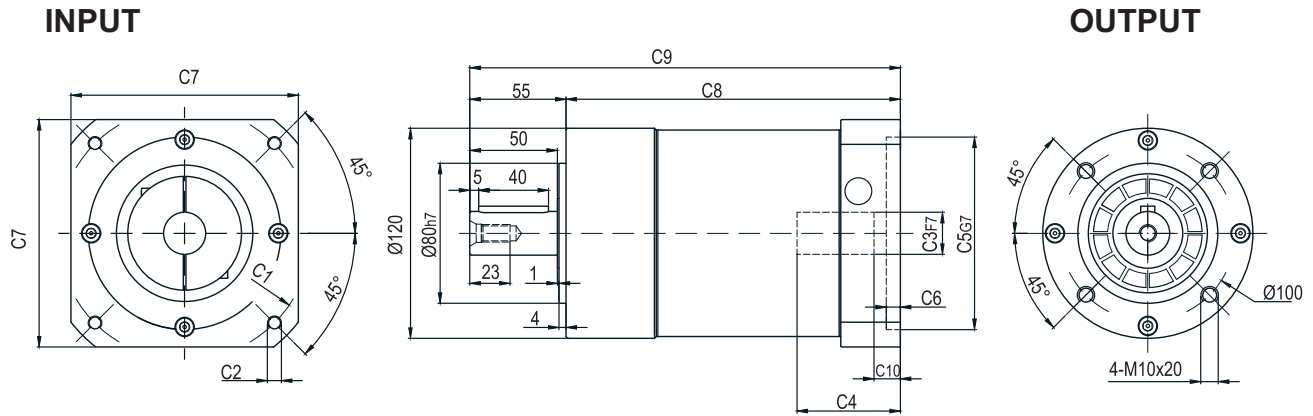
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

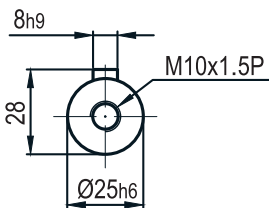
FG-120-L1



FG-120-L2



OUTPUT DIAMETER



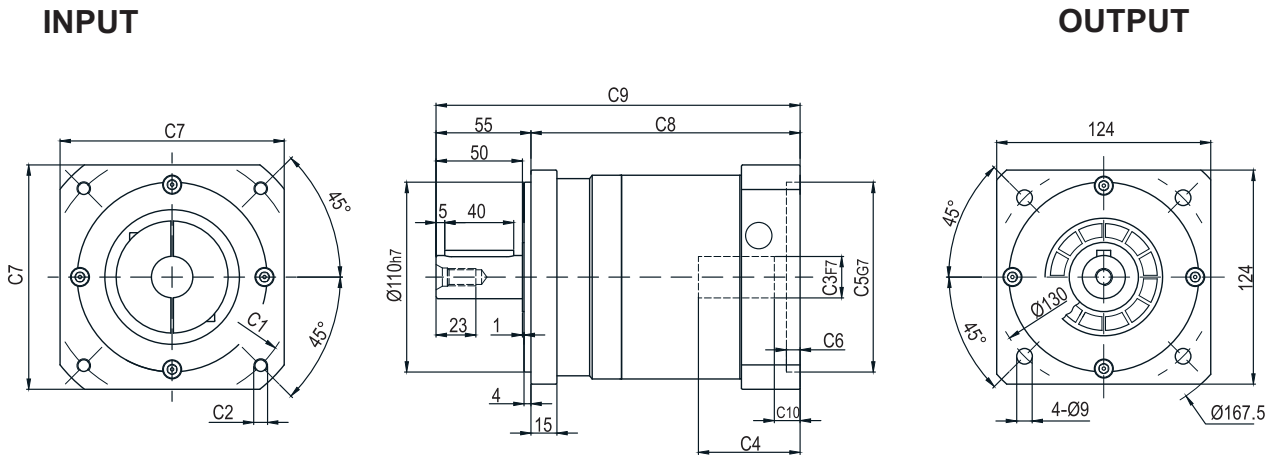
Shaft type S1 Shaft type S2

Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-120-L1	Ø90	4-M5x12, 4-M6x14	Ø19	53	Ø70	8	120	150	205	9
FG-120-L2								185	240	
FG-120-L1	Ø115	4-M8x25	Ø19,Ø22	59	Ø95	8	120	156	211	15
FG-120-L2								191	246	
FG-120-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	59	Ø110	8	130	156	211	15
FG-120-L2								191	246	
FG-120-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	64	Ø110	8	130	161	216	20
FG-120-L2								196	251	

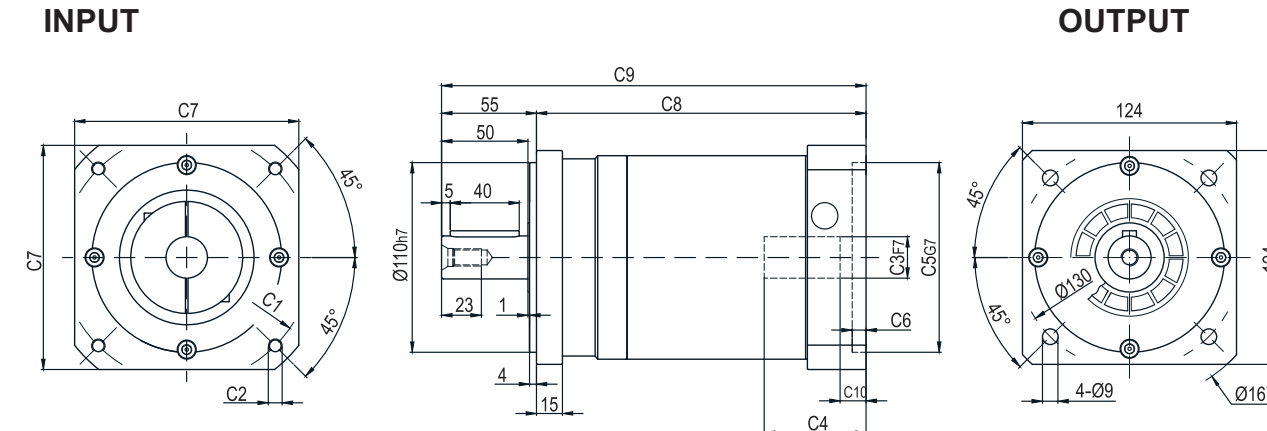
*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

OUTLINE DIMENSION SHEET

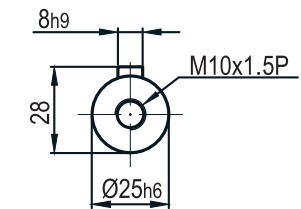
FGA-120-L1



FGA-120-L2



OUTPUT DIAMETER



Shaft type S1 Shaft type S2

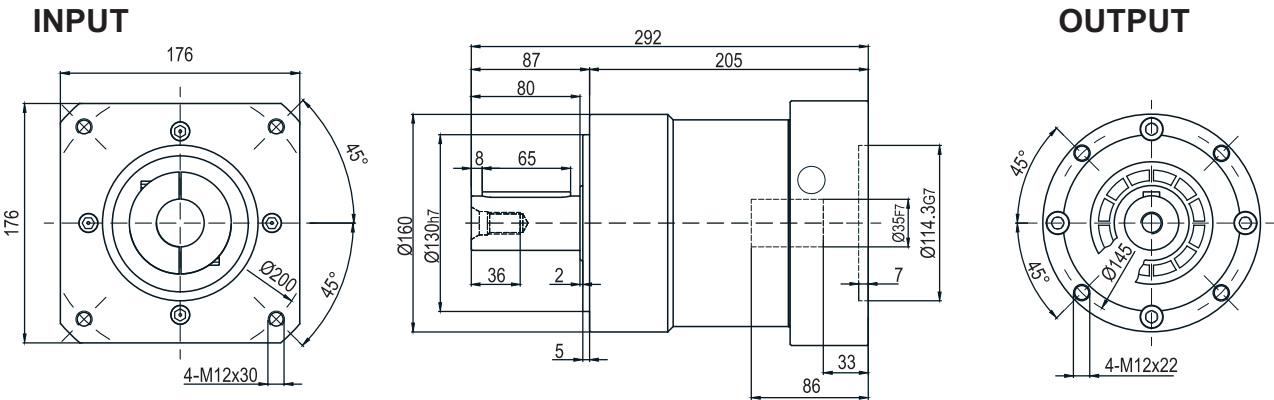
Size	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FGA-120-L1	Ø90	4-M5x12, 4-M6x14	Ø19	53	Ø70	8	120	150	205	9
FGA-120-L2								185	240	
FGA-120-L1	Ø115	4-M8x25	Ø19,Ø22	59	Ø95	8	120	156	211	15
FGA-120-L2								191	246	
FGA-120-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	59	Ø110	8	130	156	211	15
FGA-120-L2								191	246	
FGA-120-L1	Ø145	4-M8x25	Ø19,Ø22,Ø24	64	Ø110	8	130	161	216	20
FGA-120-L2								196	251	

*C1~C7 are the dimensions of the metric standard motor connection plate, which can be customized according to customer requirements.

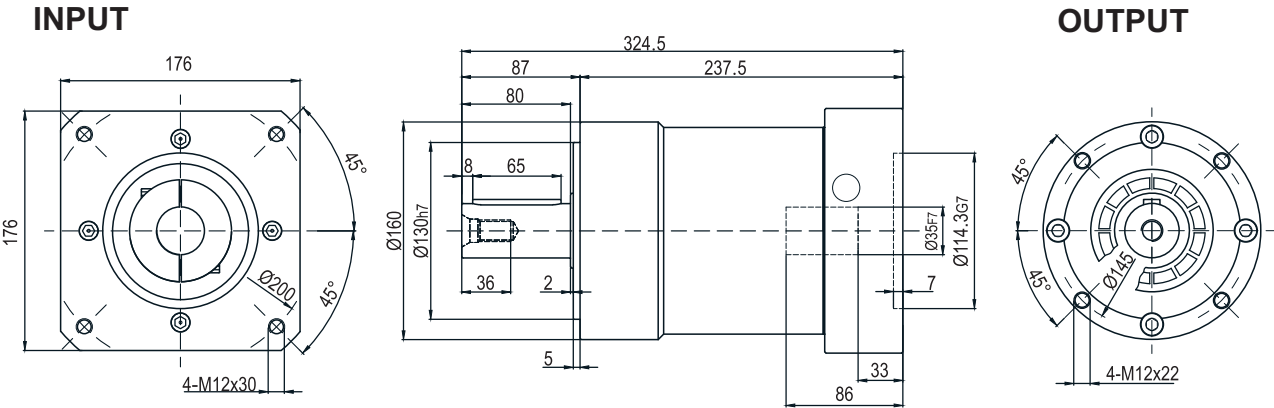
High-precision Helical Planetary Gear Reducer

OUTLINE DIMENSION SHEET

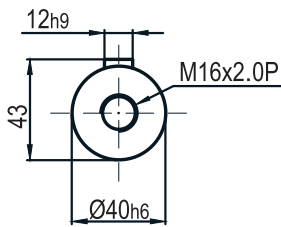
FG-160-L1



FG-160-L2



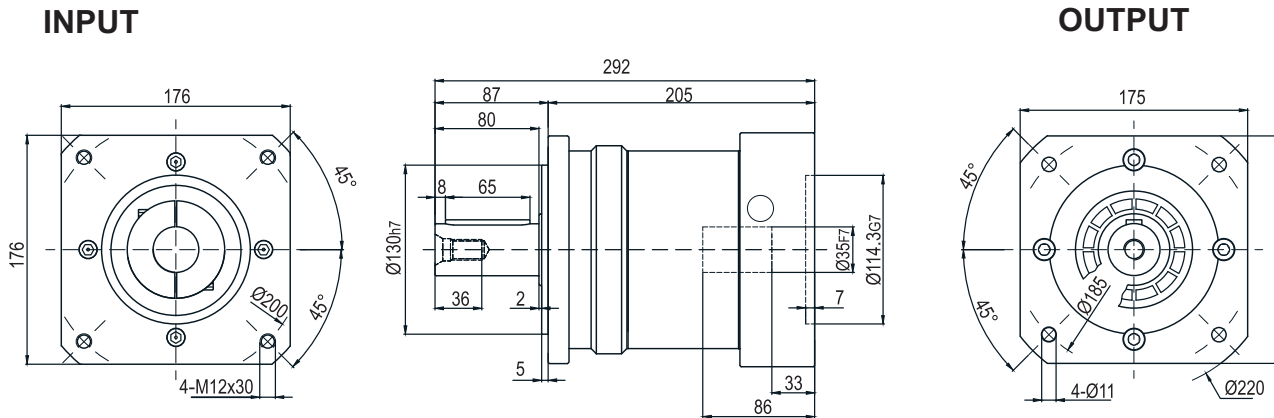
OUTPUT DIAMETER



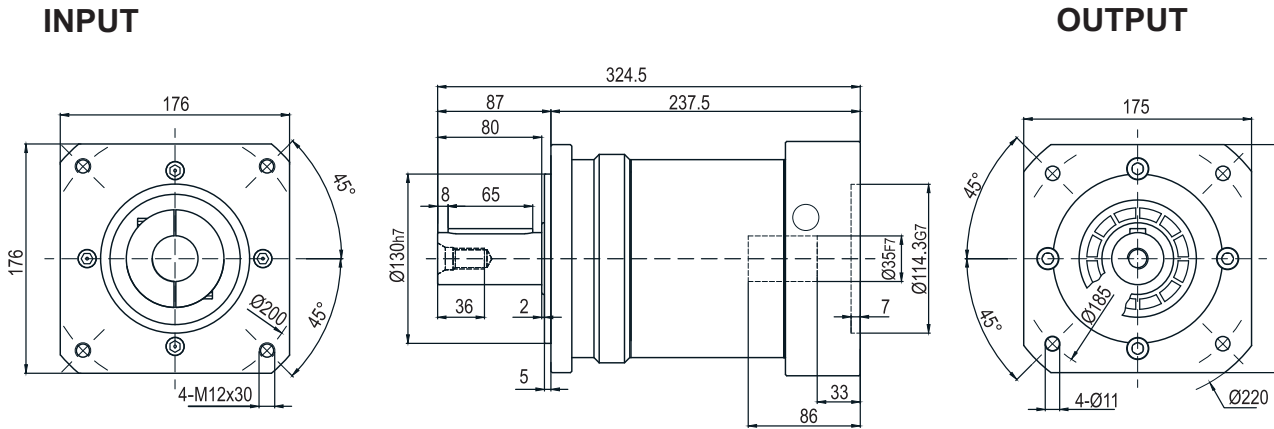
Shaft type S1 Shaft type S2

*The dimensions of the input motor connection plate can be customized according to customer requirements.

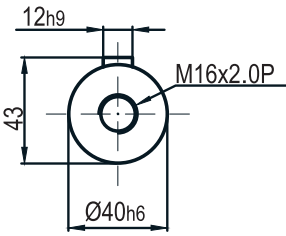
FGA-160-L1



FGA-160-L2



OUTPUT DIAMETER



Shaft type S1 Shaft type S2

*The dimensions of the input motor connection plate can be customized according to customer requirements.

FG/FGA

FG/FGA