

- FG040
- FG060
- FG080
- FG120
- FG160
- FGA040
- FGA060
- FGA080
- FGA120
- FGA160



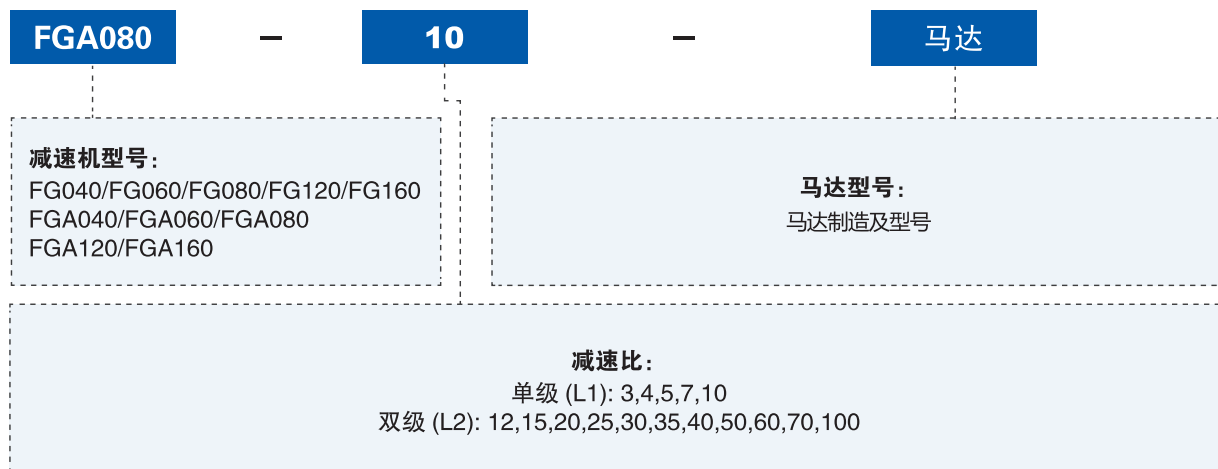
# FG[A]

Series

**SEIKO QUALITY**  
SHARED GLOBALLY

精工品质 全球共享

## 型号说明 MODEL ILLUMINATE



选用范例: FGA080-10/ MHMD-082G1U

## 性能 -FG(A) 减速机

规格	单位	节数	减速比 <sup>①</sup>	FG040 FGA040	FG060 FGA060	FG080 FGA080	FG120 FGA120	FG160 FGA160
额定输出力矩 $T_{2N}$	Nm	单级 L1	3	20	55	130	208	342
			4	19	50	140	290	542
			5	22	60	160	330	650
			6	20	55	150	310	600
			7	19	50	140	300	550
			8	17	45	120	260	500
		双级 L2	10	14	40	100	230	450
			12	20	55	130	208	342
			15	20	55	130	208	342
			20	19	50	140	290	542
			25	22	60	160	330	650
			30	22	55	150	330	342
			35	22	50	140	300	650
			40	22	45	120	260	542
			50	22	60	160	330	650
			60	20	55	150	310	600
			70	19	50	140	300	550
			80	17	45	120	260	500
100	14	40	100	230	450			
最大输出力矩 $T_{2B}$	Nm	L1.L2	3~100	3 倍额定输出力矩				
额定输入转速 $N_1$	rpm	L1.L2	3~100	5000	5000	4000	4000	3000
最大输入转速 $n_{1B}$	rpm	L1.L2	3~100	10000	10000	8000	8000	6000
背隙	arcmin	L1	3~10	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
		L2	15~100	≤ 7	≤ 7	≤ 7	≤ 7	≤ 7
扭转刚性	Nmvarcmin	L1.L2	3~100	3	7	14	25	50
容许径向力 $F_{2rB}$ <sup>②</sup>	N	L1.L2	3~100	780	1530	3250	6700	9400
容许轴向力 $F_{2aB}$ <sup>②</sup>	N	L1.L2	3~100	390	765	1625	3350	4700
使用寿命	hr	L1.L2	3~100	20000 <sup>③</sup>				
效率 $\eta$	%	L1	3~10	≥ 97%				
		L2	15~100	≥ 94%				
重量	kg	L1	3~10	0.5	1.3	3.7	7.8	14.5
		L2	15~100	0.8	1.9	4.1	9	17.5
使用温度	°C	L1.L2	3~100	-10°C ~ +90°C				
润滑		L1.L2	3~100	合成润滑油脂				
防护等级		L1.L2	3~100	IP65				
安装方式		L1.L2	3~100	任意方向				
噪音值 ( $n_1=3000\text{rpm}$ )	dB	L1.L2	3~100	≤ 56	≤ 58	≤ 60	≤ 63	≤ 65

## 惯量 -FG(A) 减速机

规格	单位	节数	减速比 <sup>①</sup>	FG040 FGA040	FG060 FGA060	FG080 FGA080	FG120 FGA120	FG160 FGA160
转动惯量 $J_1$	$\text{kg} \cdot \text{cm}^2$	L1	3	0.03	0.16	0.61	3.25	9.21
			4	0.03	0.14	0.48	2.74	7.54
			5	0.03	0.13	0.47	2.71	7.42
			6	0.03	0.13	0.45	2.65	7.25
			7	0.03	0.13	0.45	2.62	7.14
			8	0.03	0.13	0.44	2.58	7.07
			10	0.03	0.13	0.44	2.57	7.03
			12	0.03	0.03	0.13	0.47	2.71
			15	0.03	0.03	0.13	0.47	2.71
			20	0.03	0.03	0.13	0.47	2.71
		L2	25	0.03	0.03	0.13	0.47	2.71
			30	0.03	0.03	0.13	0.47	2.71
			35	0.03	0.03	0.13	0.47	2.71
			40	0.03	0.03	0.13	0.47	2.71
			50	0.03	0.03	0.13	0.47	2.71
			60	0.03	0.03	0.13	0.47	2.57
			70	0.03	0.03	0.13	0.47	2.57
			80	0.03	0.03	0.13	0.47	2.57
			100	0.03	0.03	0.13	0.47	2.57

1. 减速比 ( $i=N_1/n_{out}$ )

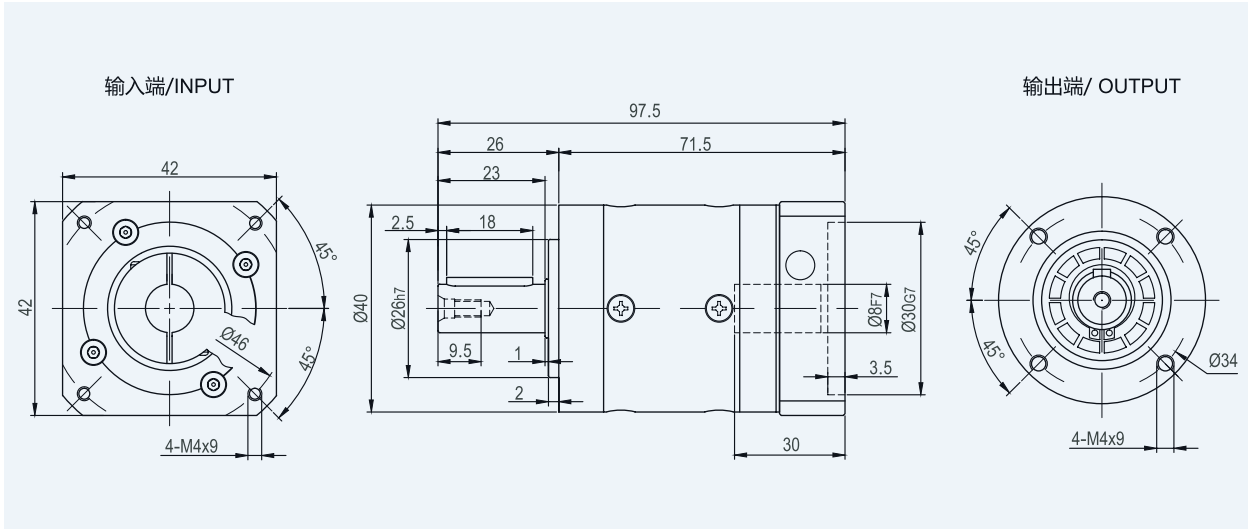
2. 输出转速 100rpm 时, 作用于输出轴中心位置

3. 连续运转降低使用寿命二分之一

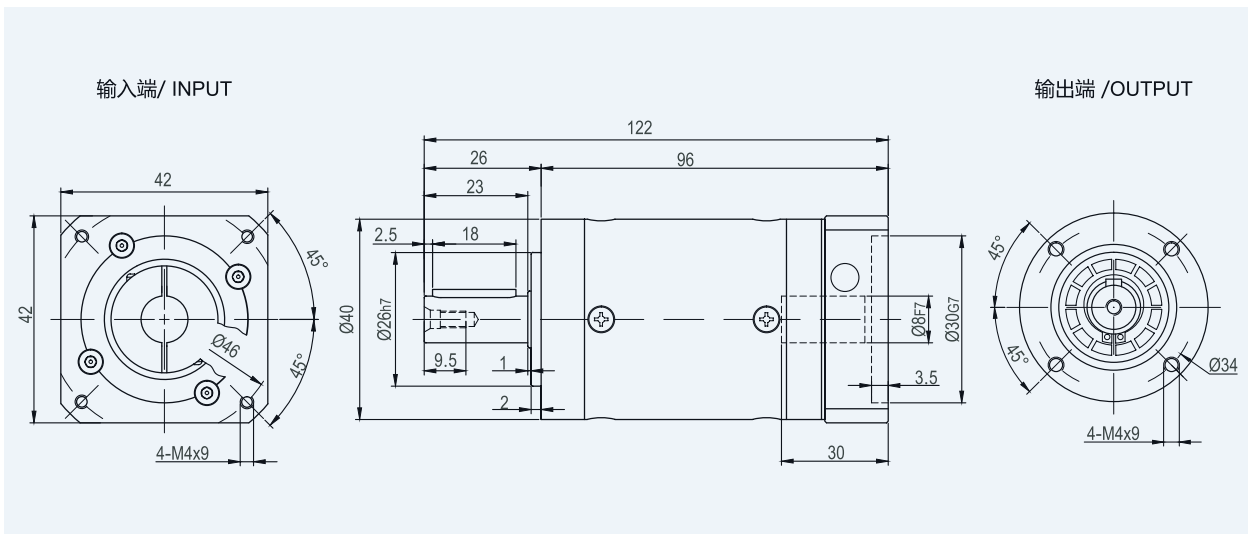
# FG[A] Series

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

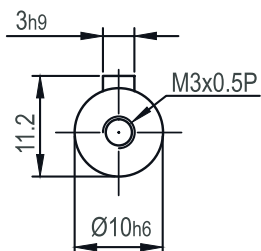
### FG-040-L1



### FG-040-L2



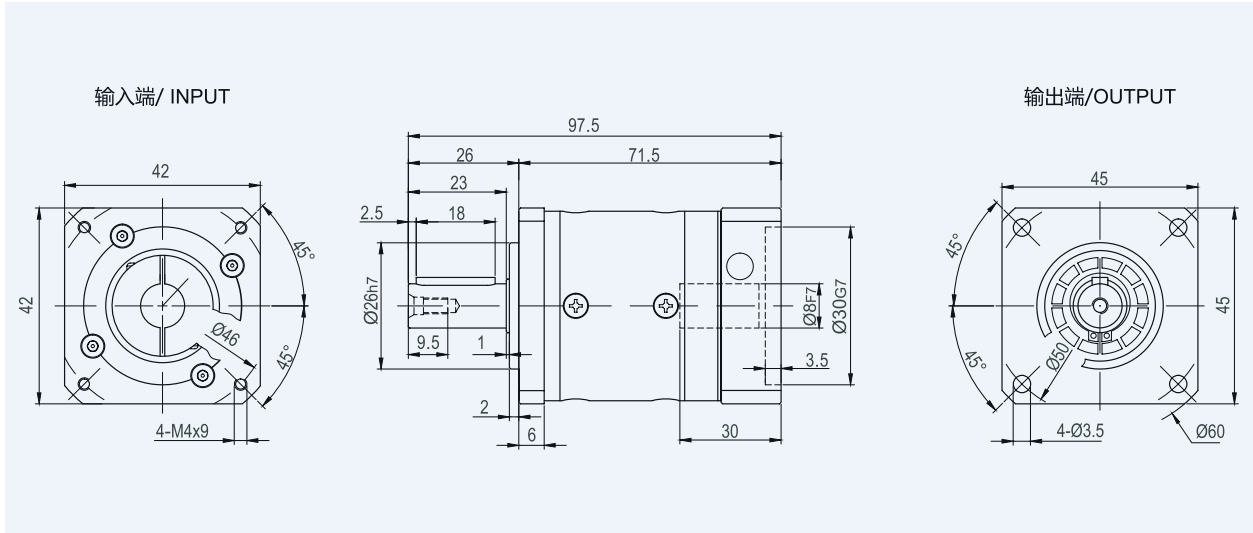
### 输出轴径



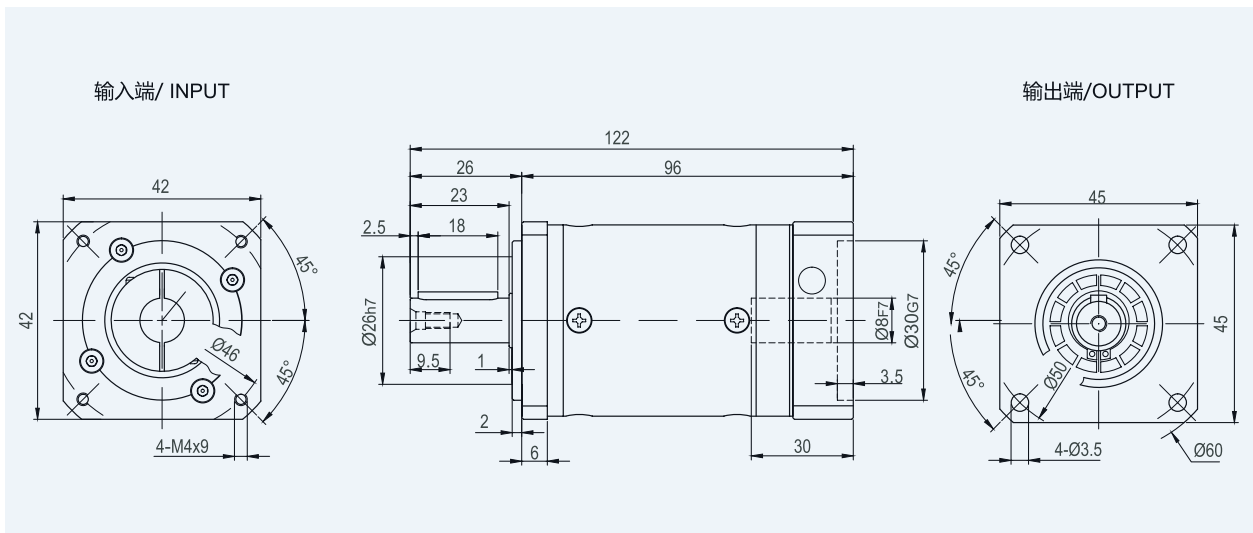
\*输入马达连接板之尺寸,可根据客户要求单独定做。  
\*The input motor specific dimensions could be customised.

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

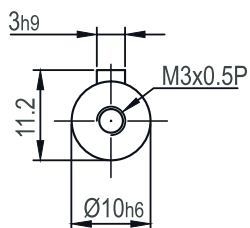
### FGA-040-L1



### FGA-040-L2



### 输出轴径

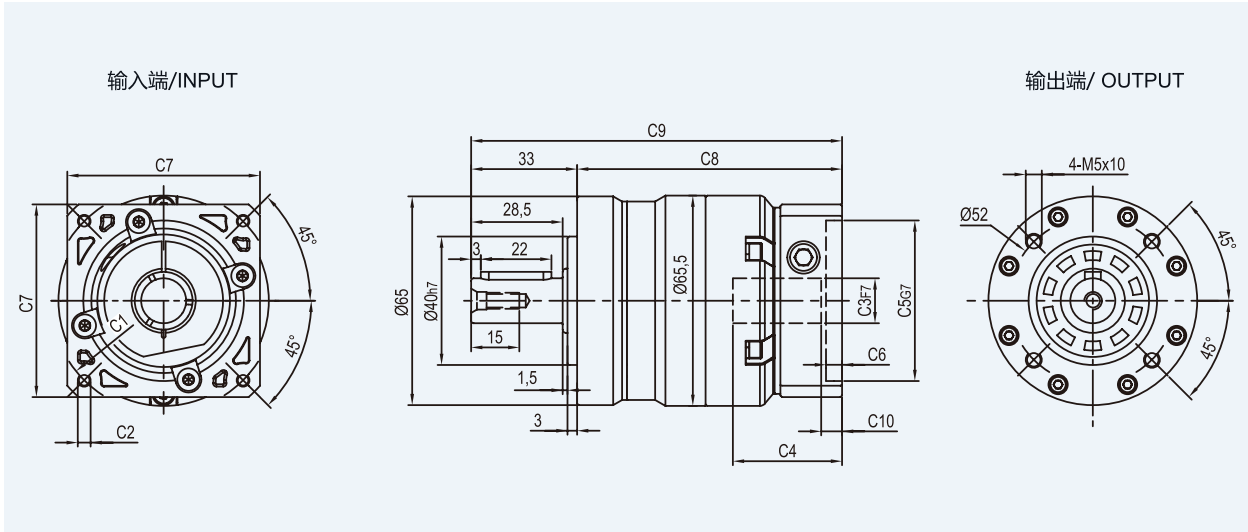


\*输入马达连接板之尺寸,可根据客户要求单独定做。  
\*The input motor specific dimensions could be customised.

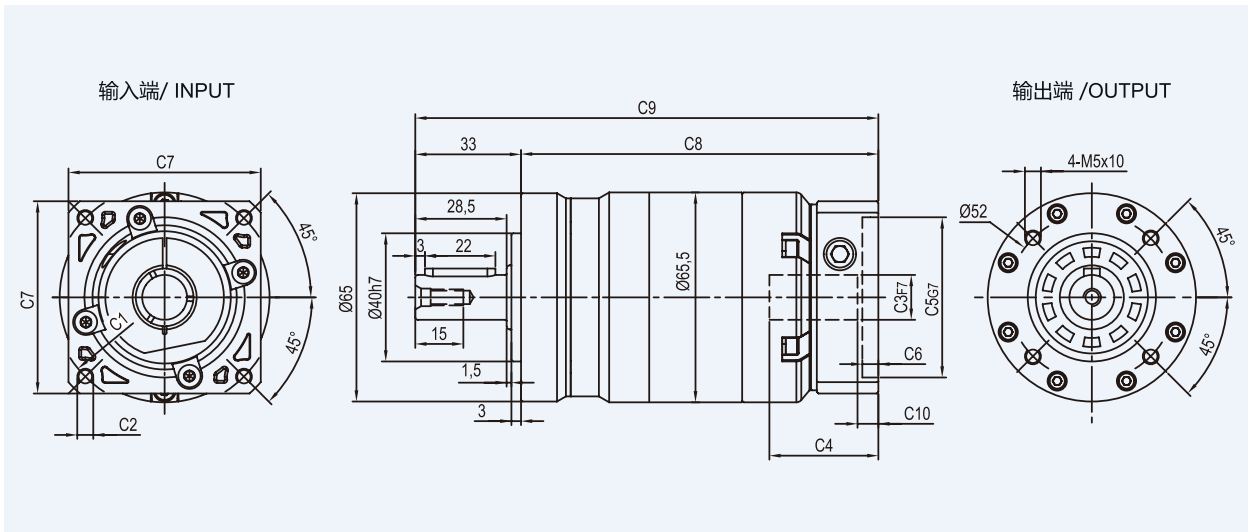
# FG[A] Series

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

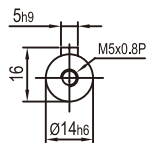
### FG-060-L1



### FG-060-L2



### 输出轴径



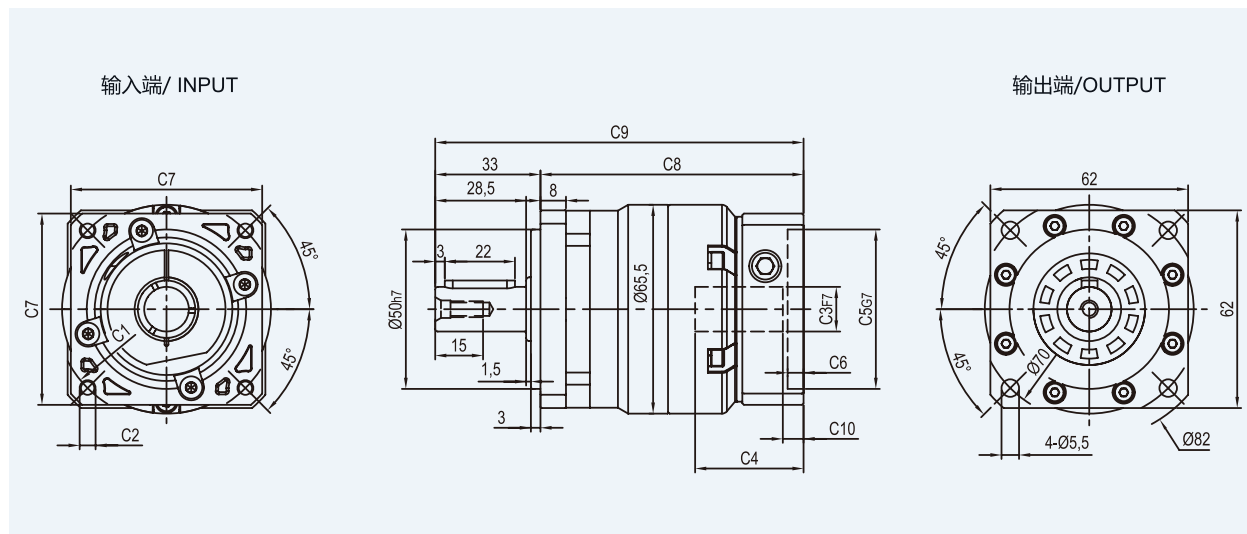
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-060-L1								82.5	115.5	5.5
FG-060-L2	Ø66.7	4-M4x10	Ø8	34	Ø38.1	5	60	111.5	144.5	5.5
FG-060-L1								82.5	115.5	5.5
FG-060-L2	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	60	111.5	144.5	5.5
FG-060-L1								89	122	12
FG-060-L2	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	118	151	12

\* C1-C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

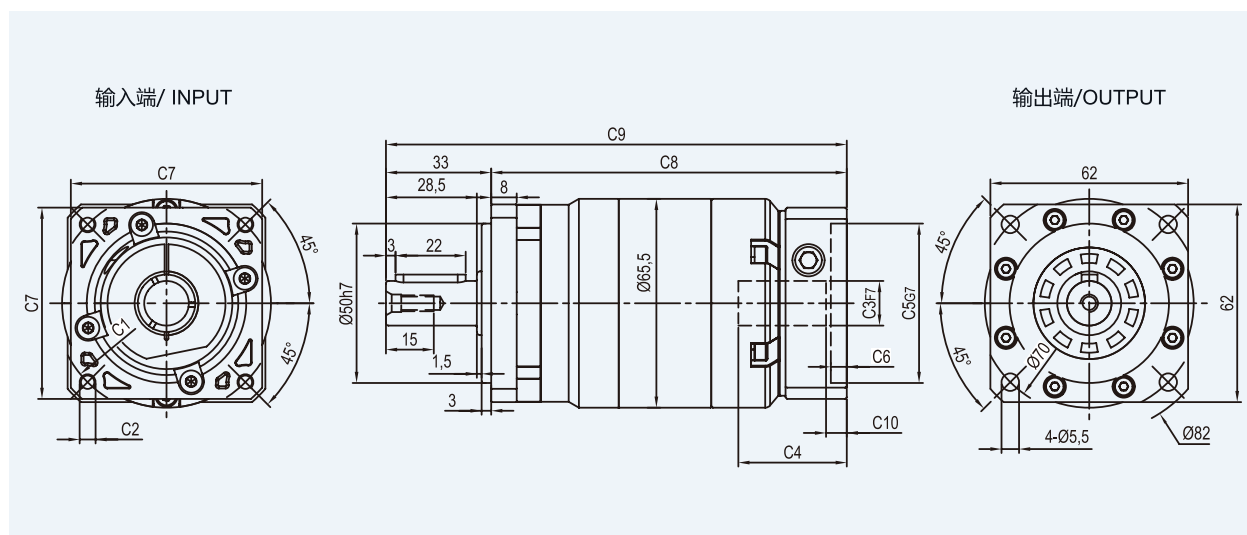
\* C1~C7are motor(metric standard) specific dimensions, which could be customised.

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

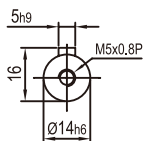
### FGA-060-L1



### FGA-060-L2



### 输出轴径



尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FGA-060-L1	Ø66.7	4-M4x10	Ø8	34	Ø38.1	5	60	82.5	115.5	5.5
FGA-060-L2								111.5	144.5	5.5
FGA-060-L1	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	60	82.5	115.5	5.5
FGA-060-L2								111.5	144.5	5.5
FGA-060-L1	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	89	122	12
FGA-060-L2								118	151	12

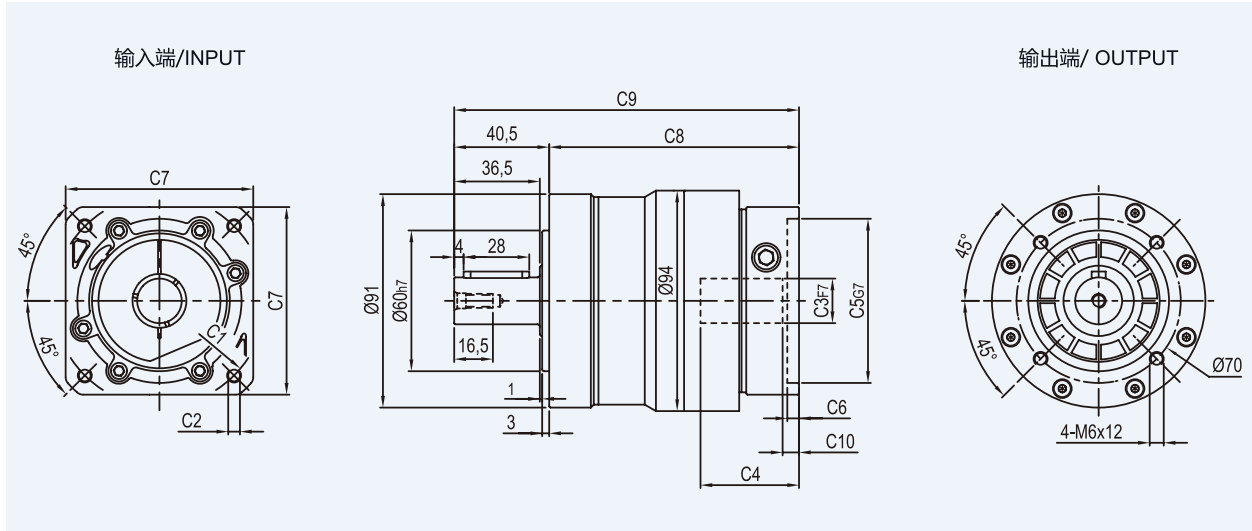
\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

\* C1~C7are motor(metric standard) specific dimensions, which could be customised.

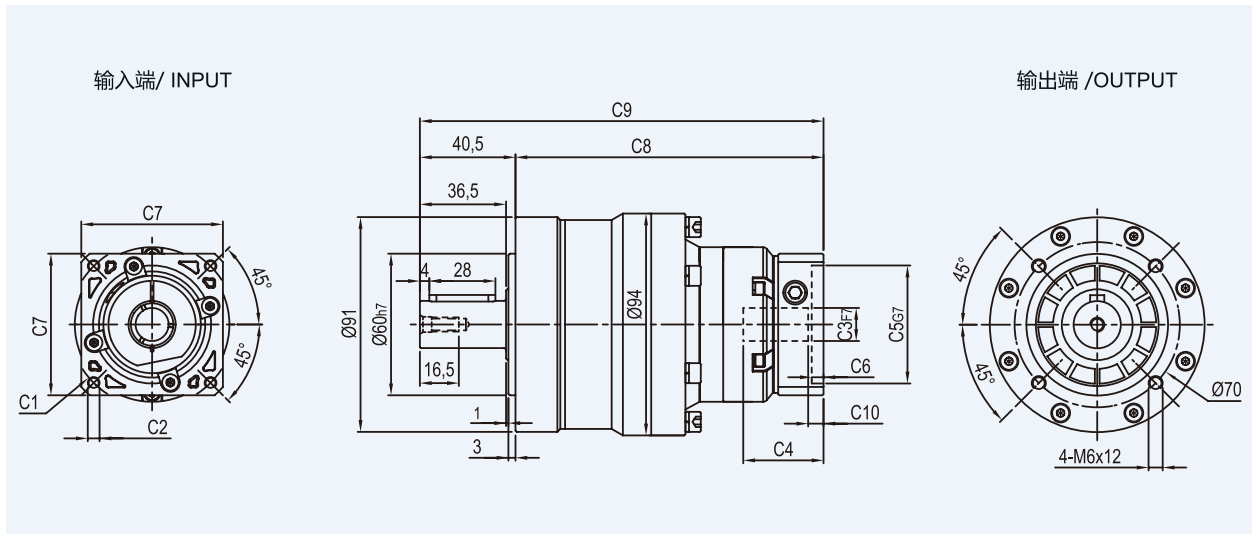
# FG[A] Series

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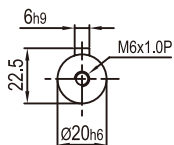
### FG-080-L1



### FG-080-L2



### 输出轴径



尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-080-L1	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	106.5	147	7
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	106.5	147	6
	Ø115	4-M8x20	Ø19,Ø22	56.5	Ø95	8	100	122	162.5	16.5
	Ø145	4-M8x20	Ø19,Ø22,Ø24	59	Ø110	11	130	124.5	165	19
FG-080-L2	Ø66.7	4-M4x10	Ø8	34	Ø38.1	5	60	130.5	171	5.5
	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	60	130.5	171	5.5
	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	137	177.5	12
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	137	177.5	11

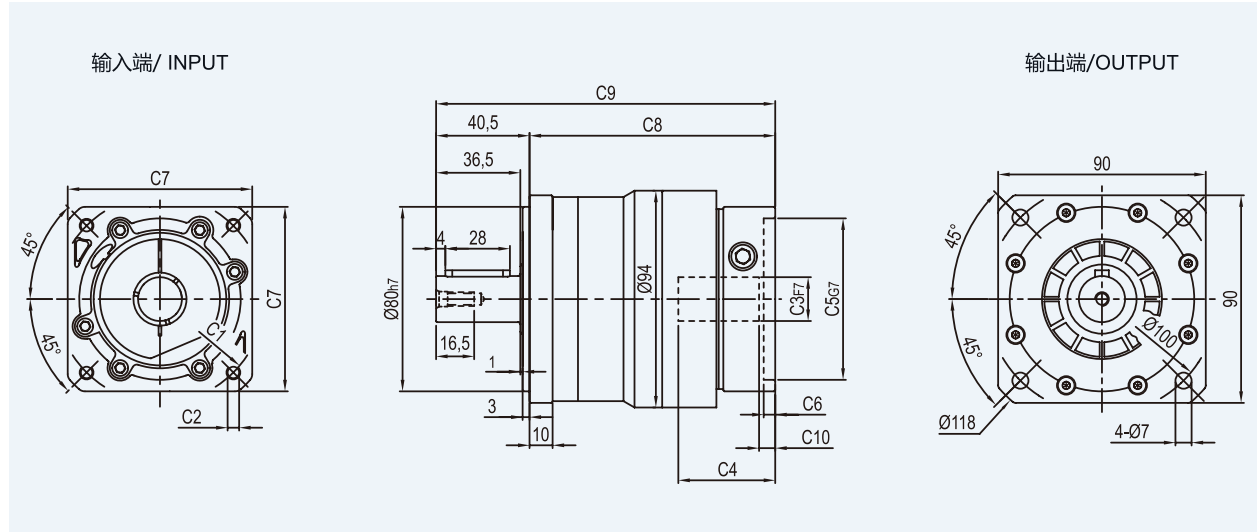
\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

\* C1~C7are motor(metric standard) specific dimensions, which could be customised.

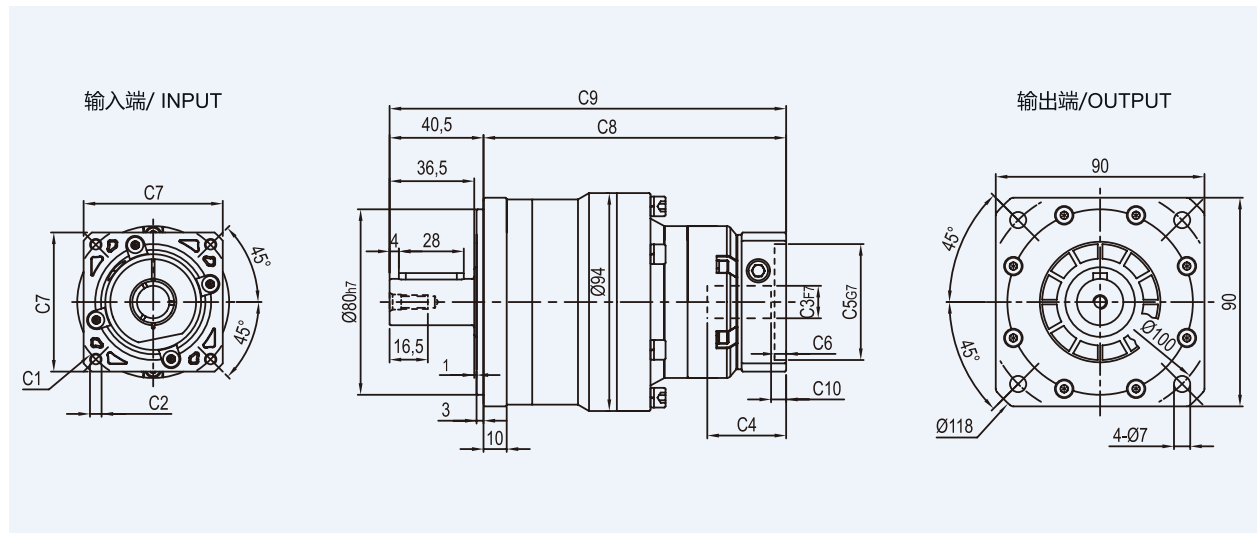


# 外形尺寸图表 / OUTLINE DIMENSION SHEET

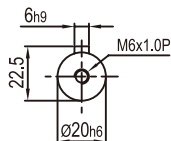
## FGA-080-L1



## FGA-080-L2



## 输出轴径



尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FGA-080-L1	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	106,5	147	7
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	106,5	147	6
	Ø115	4-M8x20	Ø19,Ø22	56.5	Ø95	8	100	122	162.5	16.5
	Ø145	4-M8x20	Ø19,Ø22,Ø24	59	Ø110	11	130	124.5	165	19
FGA-080-L2	Ø66.7	4-M4x10	Ø8	34	Ø38.1	5	60	130.5	171	5.5
	Ø70	4-M4x10,4-M5x12	Ø11,Ø14	34	Ø50	5	60	130.5	171	5.5
	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	137	177.5	12
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	137	177.5	11

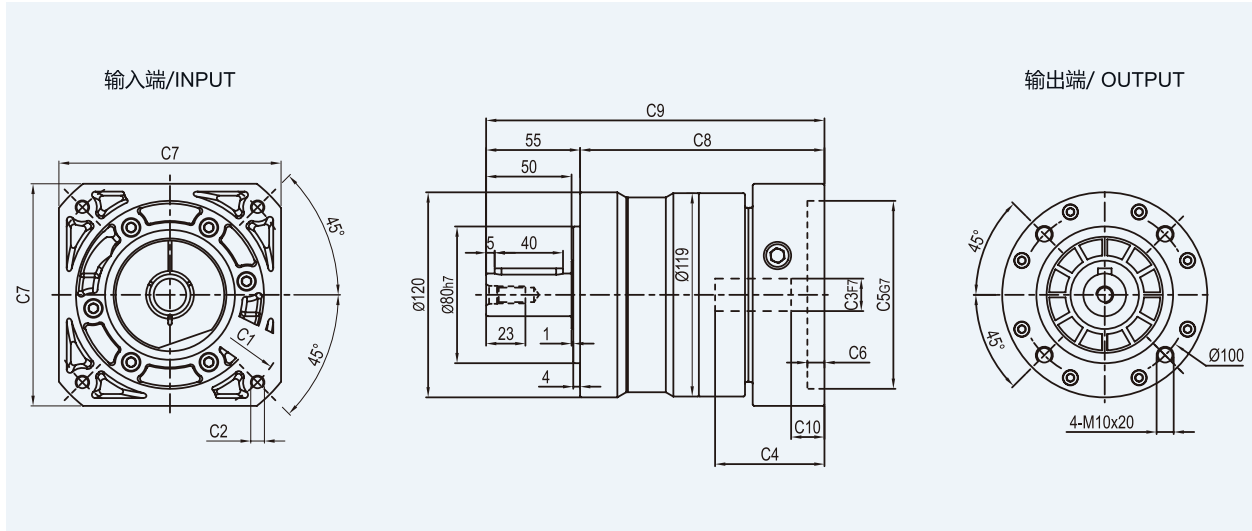
\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

\* C1~C7are motor(metric standard) specific dimensions, which could be customised.

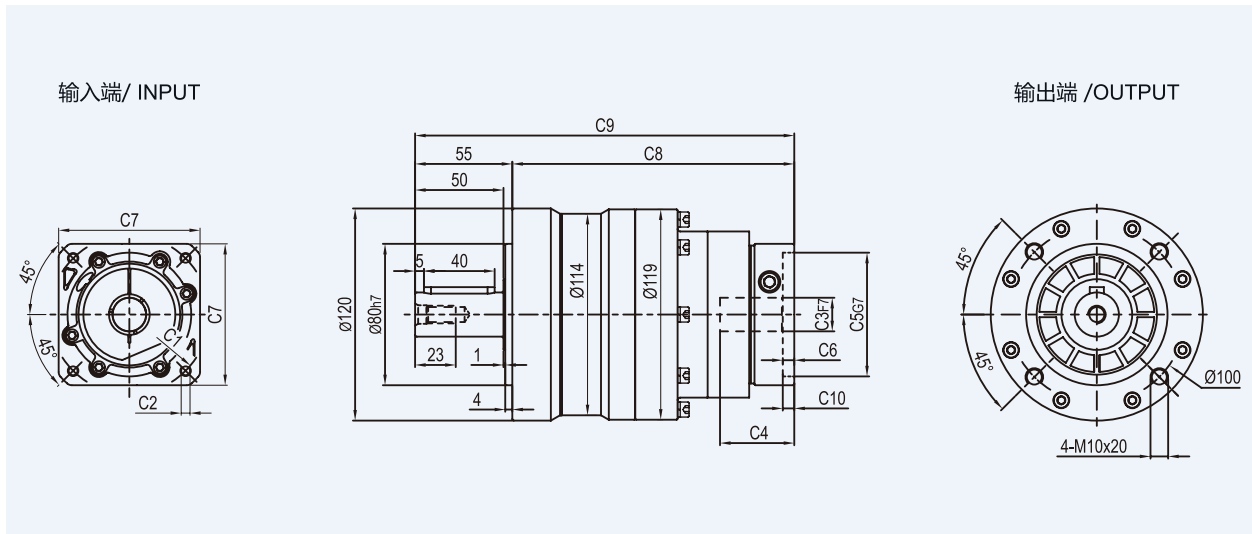
# FG[A] Series

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

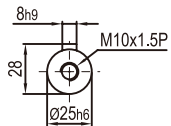
### FG-120-L1



### FG-120-L2



### 输出轴径



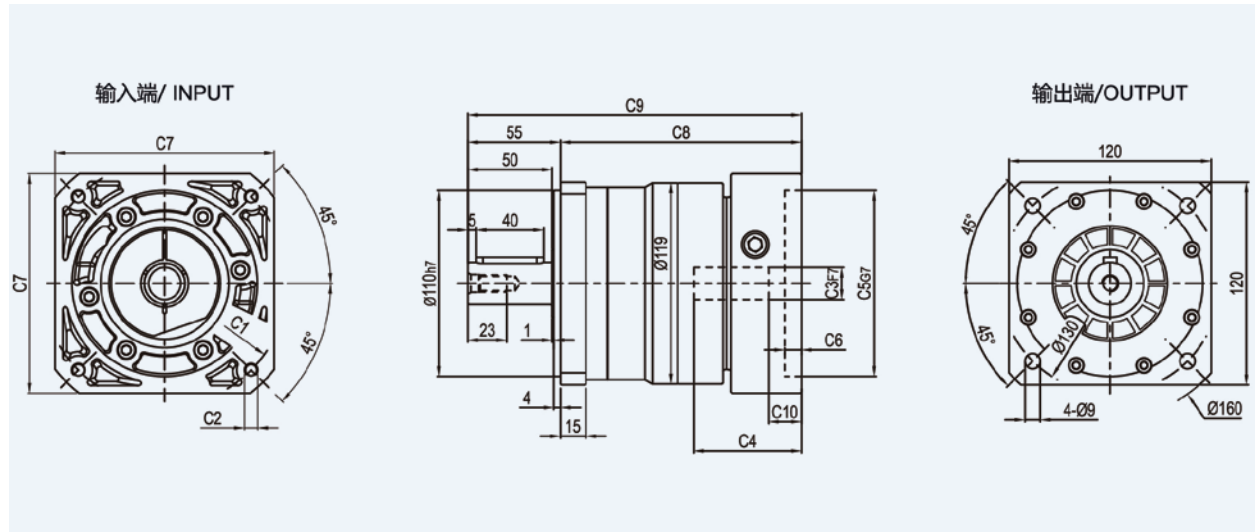
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-120-L1	Ø145	4-M8x20	Ø19,Ø22,Ø24	64	Ø110	10	130	143	198	19.5
	Ø200	4-M12x28	Ø35	81	Ø114.3	10	180	160.5	215.5	28
FG-120-L2	Ø90	4-M5x12,4-M6x14	Ø19	42	Ø70	6.5	80	159.5	214.5	7
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	159.5	214.5	6
	Ø115	4-M8x20	Ø19,Ø22	56.5	Ø95	8	100	175	230	16.5
	Ø145	4-M8x20	Ø19,Ø22,Ø24	59	Ø110	11	130	177.5	232.5	19

\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

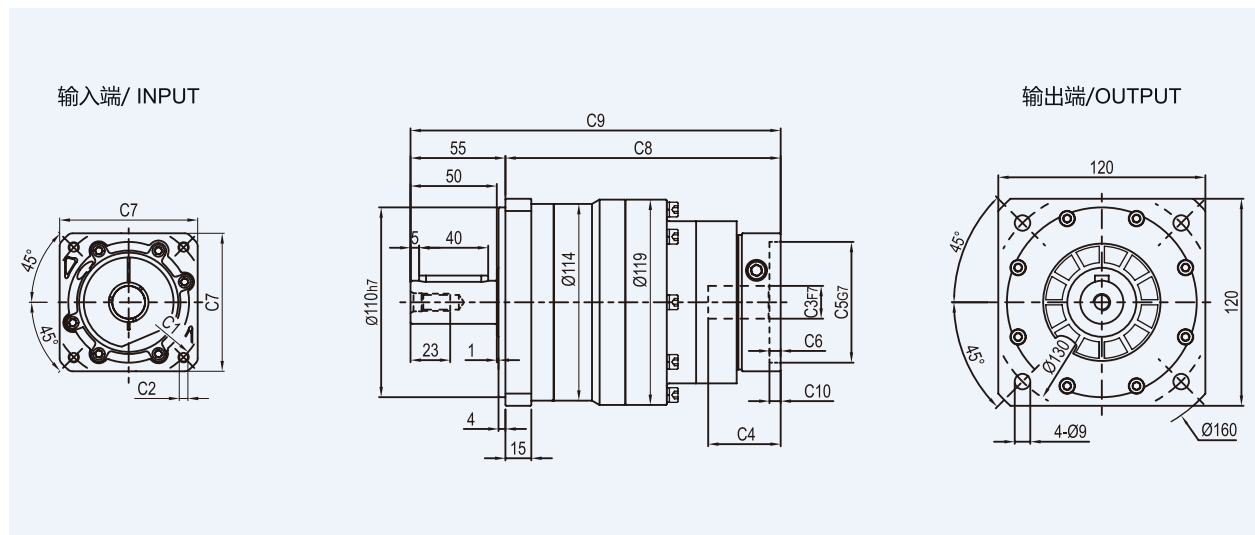
\* C1~C7are motor(metric standard) specific dimensions, which could be customised.

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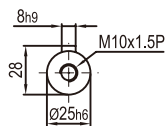
### FGA-120-L1



### FGA-120-L2



### 输出轴径



尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-120-L1	Ø145	4-M8x20	Ø19,Ø22,Ø24	64	Ø110	10	130	143	198	19.5
	Ø200	4-M12x28	Ø35	81	Ø114.3	10	180	160.5	215.5	28
FG-120-L2	Ø90	4-M5x12, 4-M6x14	Ø19	42	Ø70	6.5	80	159.5	214.5	7
	Ø100	4-M6x14	Ø16	42	Ø80	6.5	86	159.5	214.5	6
	Ø115	4-M8x20	Ø19,Ø22	56.5	Ø95	8	100	175	230	16.5
	Ø145	4-M8x20	Ø19,Ø22,Ø24	59	Ø110	11	130	177.5	232.5	19

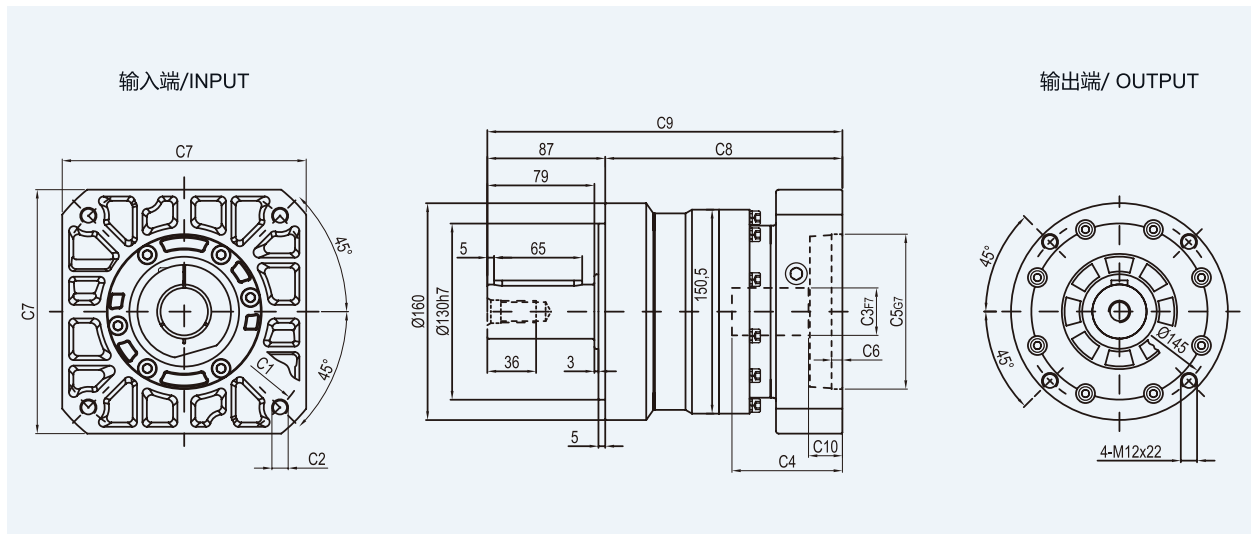
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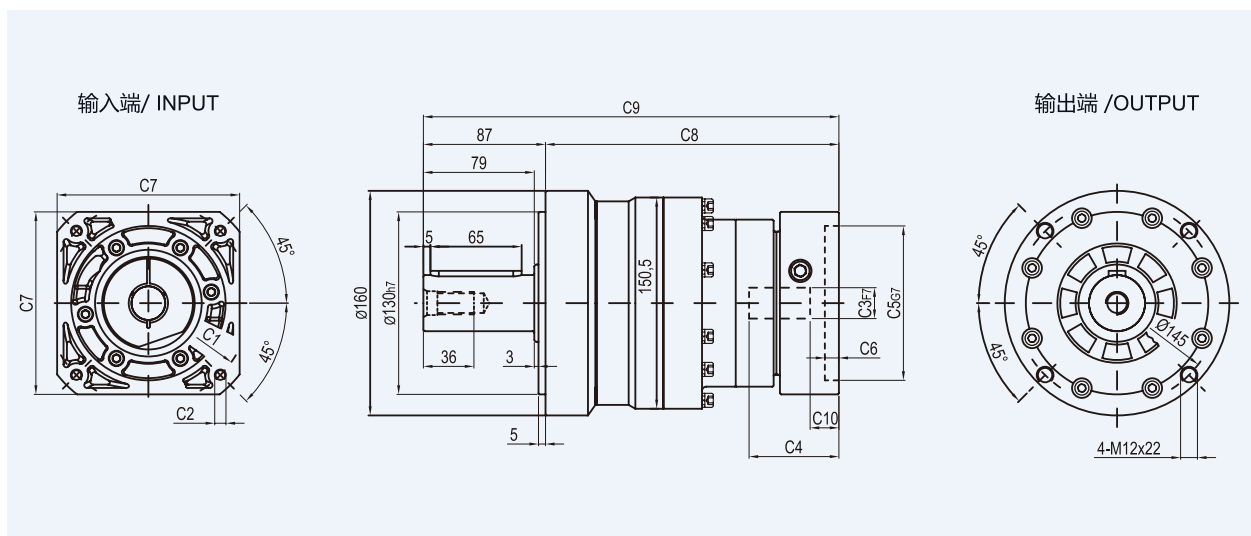
# FG[A] Series

## 外形尺寸图表 / OUTLINE DIMENSION SHEET

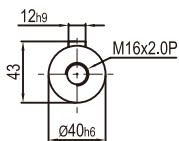
### FG-160-L1



### FG-160-L2



### 输出轴径



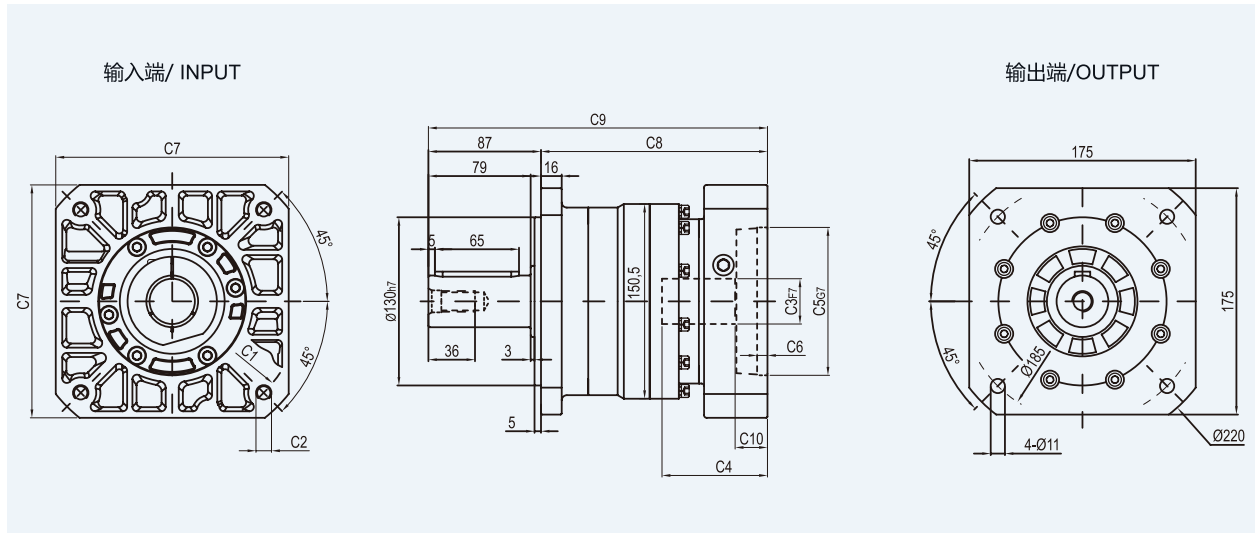
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FG-160-L1	$\varnothing 145$	4-M8x20	$\varnothing 22, \varnothing 24$	72	$\varnothing 110$	11	130	165	252	19.5
	$\varnothing 200$	4-M12x28	$\varnothing 35$	81.5	$\varnothing 114.3$	8	180	175	262	25
FG-160-L2	$\varnothing 145$	4-M8x20	$\varnothing 19, \varnothing 22, \varnothing 24$	64	$\varnothing 110$	10	130	209	296	19.5
	$\varnothing 200$	4-M12x28	$\varnothing 35$	81	$\varnothing 114.3$	10	180	226.5	313.5	28

\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

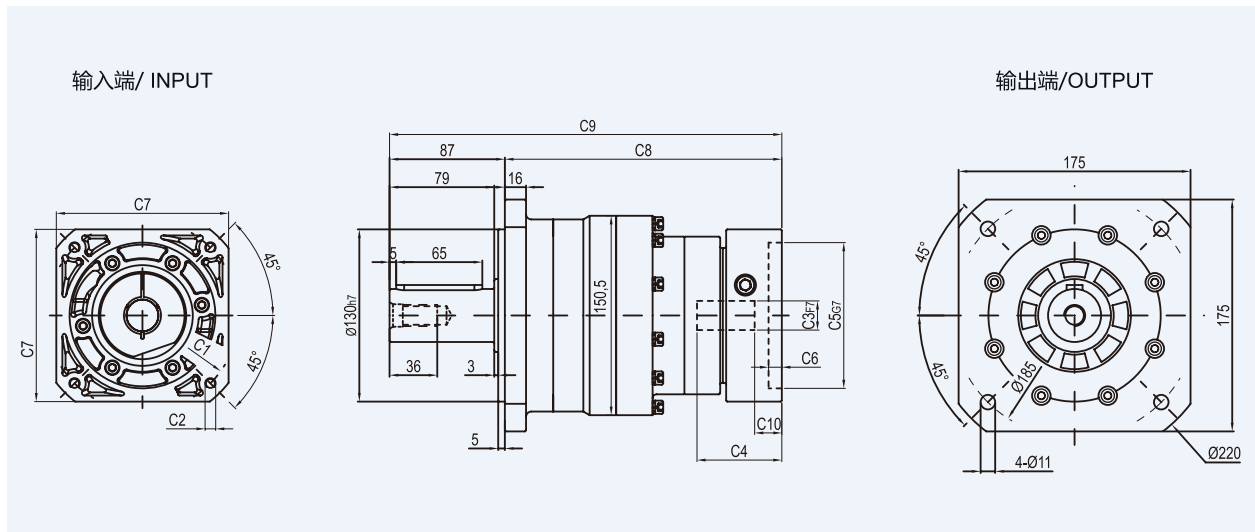
\* C1~C7 are motor (metric standard) specific dimensions, which could be customised.

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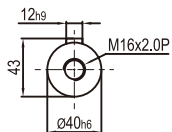
### FGA-160-L1



### FGA-160-L2



### 输出轴径



尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FGA-160-L1	Ø145	4-M8x20	Ø22,Ø24	72	Ø110	11	130	165	252	19.5
	Ø200	4-M12x28	Ø35	81.5	Ø114.3	8	180	175	262	25
FGA-160-L2	Ø145	4-M8x20	Ø19,Ø22,Ø24	64	Ø110	10	130	209	296	19.5
	Ø200	4-M12x28	Ø35	81	Ø114.3	10	180	226.5	313.5	28

\* C1~C7是公制标准马达连接板之尺寸,可根据客户要求单独定做。

\* C1~C7 are motor (metric standard) specific dimensions, which could be customised.