

目录

# CONTENTS



**PLF**  
Page 13



**PLE**  
Page 23



**PLEK**  
Page 69



**VLF**  
Page 77



**PLFS**  
Page 79



**ZPLF**  
Page 33



**ZPLE**  
Page 41



**PLFK**  
Page 56



**PLS**  
Page 86



**PLX**  
Page 93



**ZPT**  
Page 108

# ABOUT US

## 关于我们

东莞市卓蓝自动化设备有限公司坐落于有“世界工厂”之美称的广东省东莞市，是专业从事研发、生产和销售高精密行星减速机、机器人专用减速机的重要厂家。是高精行星传动领域解决方案的重要提供者。

各大高校的技术背景及卓蓝人高效务实的进取精神，构成了公司迅速成长、可持续发展的黄金结构。几年的发展，公司秉承“卓蓝”——卓尔不凡，青出于蓝而胜于蓝的理念，凝聚了一个极富行业经验及科学管理经验的领导核心。公司发展战略发展方向并将ISO9001质量管理体系的运行落实到公司的各个环节，以卓越的品质、价值和优质服务满足客户的需求。

我们相信我们追求成功的过程，就是与客户关系不断升华的过程。公司今天的成功依赖于众多客户长期的支持与帮助。面向未来，我们将为您提供更多.....

DongGuan Zhuolan Automation Equipment Co.,Ltd. is located in dongguan, guangdong province, which is known as "world factory". Zhuolan is not only engaged in R&D, production and sales of high precision planetary reducer, robot special reducer but also a great solution provider in the high precision planetary transmission field.

The technical background of universities and the high-efficiency and pragmatic enterprising spirit of zhuo blue people constitute the golden structure which provides strong motivation to company's rapid growth and sustainable development. During several years of development, the company always adheres to the "zhuo blue "spirits which is blue is better than blue and gathers a leadership core with rich industry experience and scientific management experience. Company development concept is in line with "industry 4.0" and made in China 2025 "national strategic development direction and we implement the operation of ISO9001 quality management system into every corner of the company, to meet the needs of customers with excellent quality, value and service.

We believe that our pursuit of success is the process of continuous improvement to customer relationship. Furthermore, The company's success depends on the long-term support and help of our customers. Looking to the future, We'll do more for you.....



# Development History

## 发展历程

2019

公司成功通过并获得ISO 14000 环境管理体系认证证书;

专利拥有数量达到38个; 公司获评东莞市“协同倍增企业”。

The company has successfully passed and obtained the ISO 14000 environmental management system certification. The number of patents has reached 38 items. The company was rated as "collaborative multiplier enterprise" in Dongguan city.

2018

销售额突破RMB 1个亿; 承接的大型项目敦煌追日计划一格式塔盐日光发电场项目进入了《厉害了, 我的国》专题片。

The sales volume exceeds RMB 100 million.

The large-scale project we carried on which Dunhuang sun-chasing plan-tower molten salt solar power generation mirror field project, was included in the special film "amazing my country".

2017

引进高端人才团队研发谐波减速机, 获得ISO9001: 2015质量管理体系认证。

Introduce high-end talent team to develop harmonic reducer and obtain ISO9001: 2015 quality management system certification.

2016

成功收购深圳德普自动化有限公司, 获评东莞市万江区“倍增企业”。

Successfully acquired Shenzhen Depuxin Automation Co., Ltd. and was awarded "Multiplier Enterprise" in Wanjiang District, Dongguan City.

2015

公司获评为国家高新科技企业, 拥有专利数达到9项。

The company has been rated as the national high-tech enterprise and the number of patents of the company has reached 9 items.

2014

引进高端人才团队研发精密行星减速机。

Introduce the high-end talent team to research and develop the precise helical gear planetary reducer.

2012/2013

东莞市卓蓝自动化设备有限公司正式成立, 公司拥有“卓蓝”“zhuolan”自主品牌, 发明专利1项, 实用新型专利2项, 同时拥有6个软件著作权。

Dongguan zhuolan automation equipment co., Ltd. was formally established, with its own brand of "卓蓝" and "zhuolan". In the mean time the company has one invention patent, two utility model patents and six software copyrights.

企业历程是企业所走过的历史足迹, 回首过去, 展望未来, 我们一直在不断地创新、学习、并从中成长。风雨无阻, 携手同行。

Corporate history is the historical footprint of enterprises, looking back and looking forward. We are constantly innovating, learning, and growing from it. Rain or shine, go hand in hand.

# High Precision Straight Tooth Series 高精密直齿系列

- / PLF SERIES
- / PLE SERIES
- / ZPLF SERIES
- / ZPLE SERIES
- / PLFK SERIES
- / PLEK SERIES
- / VLF SERIES
- / PLFS SERIES
- / PLES SERIES
- / PLX SERIES
- / ZPT SERIES



# Advanced Manufacturing Platform

先进的制造平台



精益化的组装制程，追求完美品质意识，已深入卓蓝人心  
中。生产效率及品质严格以高标准执行。

从技术到实力，到产业配套，再到制造规模，卓蓝始终走  
在行业的最前端，继续保持着行业领先，并不断扩大行业  
优势。

The lean assembly process and the pursuit of perfect quality  
awareness have been deeply rooted in Zhuoran people.  
Production efficiency and quality are strictly implemented to high  
standards.

From technology to strength, to industrial support, to  
manufacturing scale, Zhuo Lan has always been at the forefront  
of the industry, continues to maintain industry leadership, and  
continues to expand its industry advantages.





Provide a solid guarantee  
for innovative research and  
development

为创新研发提供坚实保障

我们有一支专业的品质管理团队，运用科学的管理标准，借助先进的检测设备，对产品各个环节的质量实行严格管控，确保为客户提供优质产品。

We have a professional quality management team, using scientific quality management standards, with advanced testing equipment, strict quality control of the quality of products in all aspects, to ensure that customers provide quality products.



# Precision Testing Center

精密的检测中心



## Product features 产品特点

精密行星齿轮减速机是我公司自主研发的新一代实用性产品，具有以下一些主要特点



**低噪音**  
Low noise  
低于65db。  
below 65db.

Precision planetary gear reducer is a new generation of practical products independently developed by our company, which has the following main characteristics



**高输入转速**  
High input speed  
可达5000RPM。  
Up to 5000RPM.



**低回隙**  
Low Backlash  
单级可达3弧分内，双级可达5弧分内。  
One stage within 3 arc minutes, Two stage with 5 arcmin.



**高扭矩**  
High torque  
比一般行星减速机扭矩高。  
Higher than conventional planetary gearbox.



**高效率**  
High efficiency  
单段式在97%以上，双段式在95%以上。  
One stage is exceed 97%, Two stage is exceed 95%.



**高稳定性**  
High stability  
采用高强度合金钢材，整个齿轮经硬化处理，非只有表面硬化，确保使用寿命及长期使用仍保持最初的精密度。  
Using high-strength steel alloy material .Not just hardening on gear surface, but hardening entire gear to insure the gear life time and maintain high accuracy.

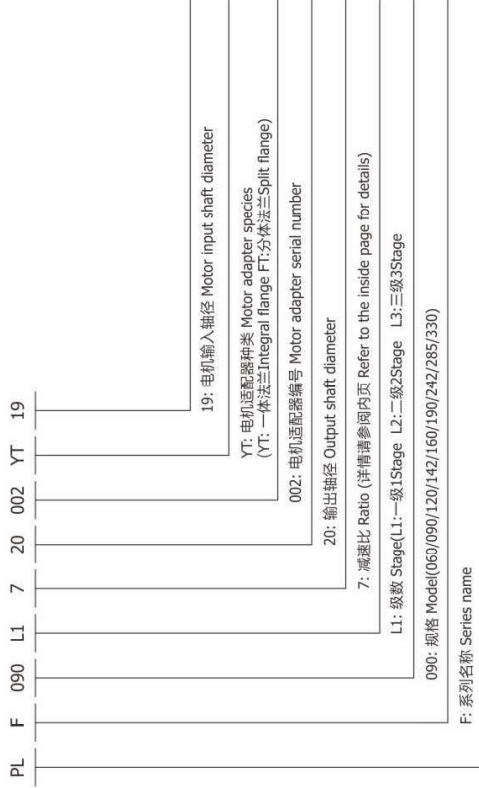
## Product application 产品用途



- 01 航空航天、军事产业。**  
Aerospace, military industries.
- 02 医疗卫生、电子信息产业。**  
Medical health care, electronic information technology industry.
- 03 工业机器人、生产自动化、数控机床制造产业。**  
Industrial robot, production automation, CNC machine tool manufacturing industry.
- 04 汽车制造、纺织、印刷、食品、冶金、环保工程、仓储物流等产业。**  
Motor, textile, printing, food, metallurgical, environmental protection engineering, warehouse and logistics industry.

## Description Reducer 减速机订货说明

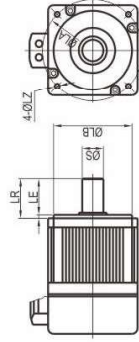
### 减速机型号说明



PL: PL减速机名称 Model name for PL reducer

### 电机输出安装尺寸说明

(ΦS×LR / ΦLB×LE / 4-ΦLZ-ΦLA)



电机“安装孔”相关尺寸  
4: 安装孔数量，一般为4个  
ΦLZ: 安装孔的直径（注意螺紋孔时为M）  
ΦLA: 安装孔分度圆（虚拟圆）直径

电机“安装凸台”相关尺寸  
ΦLB: 凸台直径 LE: 凸台深度

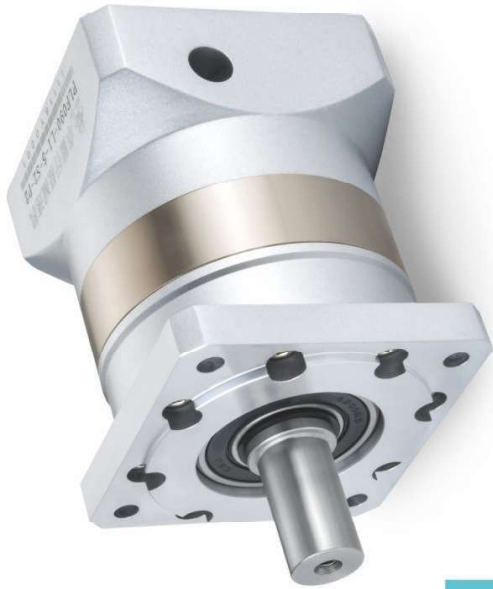
电机“输出轴”相关尺寸  
ΦS: 电机轴直径 LR: 包括凸台后的长度

# PLF Series

- PLF060
- PLF080
- PLF090
- PLF120
- PLF160

## 减速箱性能资料 Gear box performance information

型号 Model	单位 Unit	PLF060	PLF080	PLF090	PLF120	PLF160	减速比 Ratio	Stage	
额定输出扭矩 Rated output torque	N·m	16.5	60	60	148	310	3	1	
		27	86	86	222	605	4		
		27	94.5	94.5	235	420	5		
		19.5	64	158	(270)	7(6)			
		8.5	39.5	39.5	93	-	10		
			96	96	250	680	12	2	
			96	96	250	-	15		
			30	96	96	250	680		16
			30	96	96	250	680		20
			33	105.5	105.5	264	460		25
			30	96	96	250	(680)	28(32)	3
			33	105.5	105.5	364	-	35	
			33	105.5	105.5	364	(310)	50(64)	
			21.5	71.5	71.5	177	-	70	
			37.5	120	120	310	900	64	
	37.5	120	120	310	900	80			
	37.5	120	120	310	900	100			
	41.0	132.5	132.5	329	580	125			
	37.5	120	120	310	(580)	140(160)			
	41.0	132.5	132.5	329	-	175			
	37.5	120	120	310	580	200			
	41.0	132.5	132.5	329	(900)	250(256)			
	37.5	120	120	310	(580)	280(320)			
	41.0	132.5	132.5	329	(400)	350(412)			
故障停止扭矩 Emergency stop torque	N·m	2倍额定输出扭矩 2 times Rated output torque							
额定输入转速 Nominal input speed	rpm	3000	3000	3000	2000	2000			
最大输入转速 Maximum input speed	rpm	6000	6000	6000	3500	3500			
最大径向力 Maximum radial force	N	170	1020	1020	2230	2200			
最大轴向力 Maximum axial force	N	120	850	850	1550	2300			
效率 Efficiency	%	Single [97%] Double [95%]							
平均寿命 Average lifetime	h	20000							
重量 Weight	kg	1.4	3.7	8	16	19		1	
		1.6	4.2	8.9	18	25		2	
		1.8	4.7	9.8	21	31		3	



# PLF Series

## PLF系列减速箱核心特性 The Core Characteristics of PLF Series Reducer

- 1 采用直齿齿轮传动，经渗碳淬火处理，齿面圆角修形处理，确保运行平稳，噪音小；
- 2 结构简单，可大批量生产，且交货期快性价比；
- 3 减速机种类齐全，可以满足市场上绝大多数减速机的配合。

- 1 Adopt straight tooth gear transmission, through carburizing and quenching treatment, tooth profile modification treatment, ensure smooth operation, low noise.
- 2 Simple structure, mass production, and fast delivery time and high cost performance.
- 3 Reducer has a complete range, which can meet the needs of most reducer in the market.



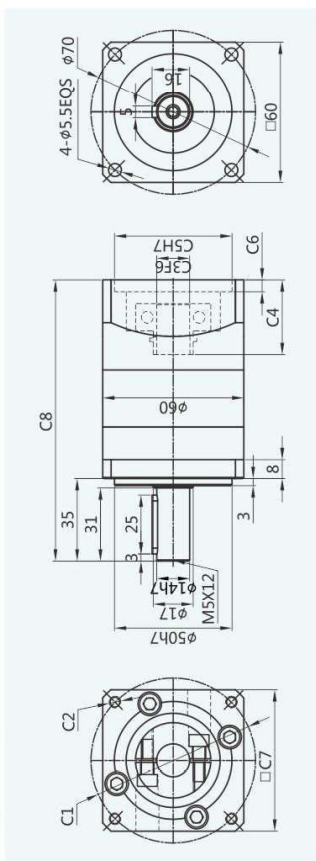
# PLF Series

减速箱性能资料  
Gear box performance information

型号 Model	单位 Unit	PLF060	PLF080	PLF090	PLF120	PLF160	减速比 Ratio	Stage	
转动惯量 Moment of inertia	kgm <sup>2</sup>	0.107	0.4	0.4	1.65	4.31	3	1	
		0.094	0.309	0.309	1.22	5.15	4		
		0.092	0.291	0.291	1.15	4.93	5		
		0.091	0.285	0.285	1.13	(4.84)	7(8)		
		0.091	0.283	0.283	1.11	-	10		
		0.4	0.4	0.4	1.65	6.31	12		2
		0.309	0.309	0.309	1.65	-	15		
		0.291	0.291	0.291	1.22	5.15	16		
		0.092	0.291	0.291	1.15	4.93	20		
		0.092	0.291	0.291	1.15	4.93	25		
		0.091	0.285	0.285	1.13	(4.84)	28(32)		
		0.091	0.285	0.285	1.13	-	35		
0.091	0.2835	0.2835	1.11	4.84	40				
0.091	0.283	0.283	1.11	(4.84)	50(64)				
0.091	0.283	0.283	1.11	-	70				
0.092	0.291	0.291	1.15	4.93	64				
0.092	0.291	0.291	1.15	4.93	80				
0.092	0.291	0.291	1.15	4.93	100				
0.092	0.291	0.291	1.15	4.84	125				
0.091	0.291	0.291	1.13	(4.84)	140(160)				
0.091	0.291	0.291	1.13	-	175				
0.091	0.283	0.283	1.11	4.84	200				
0.091	0.283	0.283	1.11	(4.84)	250(256)				
0.091	0.283	0.283	1.11	(4.84)	280(320)				
0.091	0.283	0.283	1.11	(4.84)	350(512)				
60	65	65	68	70					
噪音 Noise	dB	合成油润滑 Synthetic grease lubrication							
润滑 Lubricating		合成油润滑 Synthetic grease lubrication							
防护等级 levels of protection		IP65							

外形尺寸图表  
Outline dimensional

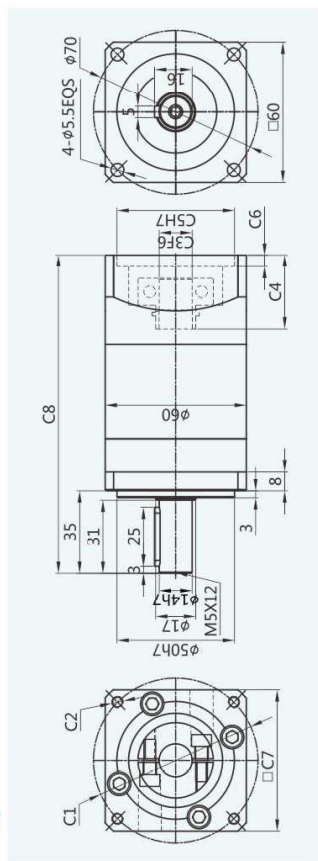
## PLF-060-L1



适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-060-L1	$\square 47.14$	4-M4	$\phi 8$	31.5	$\phi 38.1$	5.0	60	119
	$\phi 46$	4-M4	$\phi 8$	31.5	$\phi 30$	5.0	60	119
	$\phi 45$	4-M3	$\phi 8$	31.5	$\phi 30$	5.0	60	119
	$\phi 70$	4-M4/4-M5	$\phi 14$	31.5	$\phi 50$	5.0	60	119

## PLF-060-L2



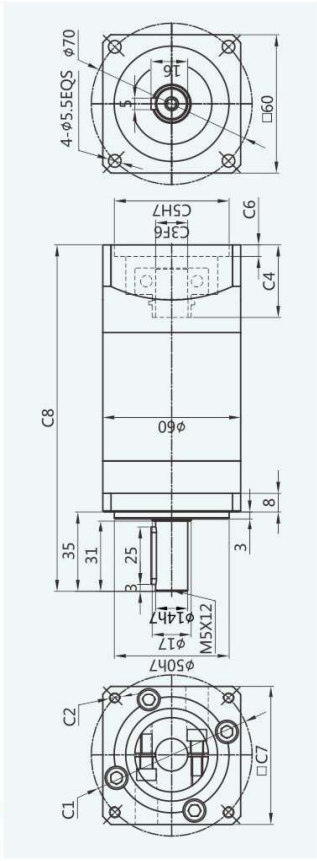
适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-060-L2	$\square 47.14$	4-M4	$\phi 8$	31.5	$\phi 38.1$	5.0	60	135
	$\phi 46$	4-M4	$\phi 8$	31.5	$\phi 30$	5.0	60	135
	$\phi 45$	4-M3	$\phi 8$	31.5	$\phi 30$	5.0	60	135
	$\phi 70$	4-M4/4-M5	$\phi 14$	31.5	$\phi 50$	5.0	60	135

# PLF Series

外形尺寸图  
Outline dimensional

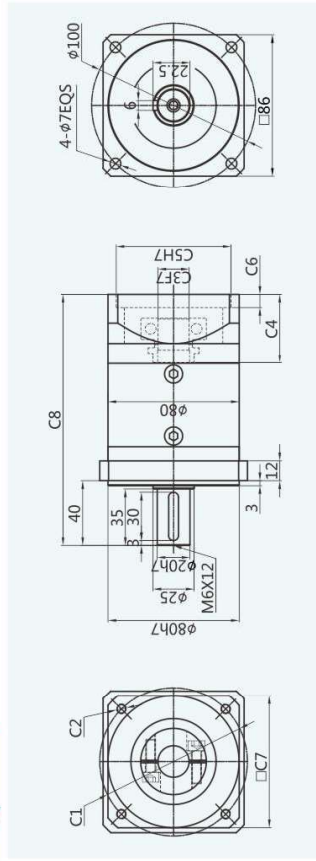
## PLF-060-L3



适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-060-L3	φ70	4-M4	08	31.5	φ38.1	5.0	60	151
	□69.6	4-M4	08	31.5	φ30	5.0	60	151
	φ90	4-M4/4-M5	φ14	31.5	φ50	5.0	60	151

## PLF-080-L1

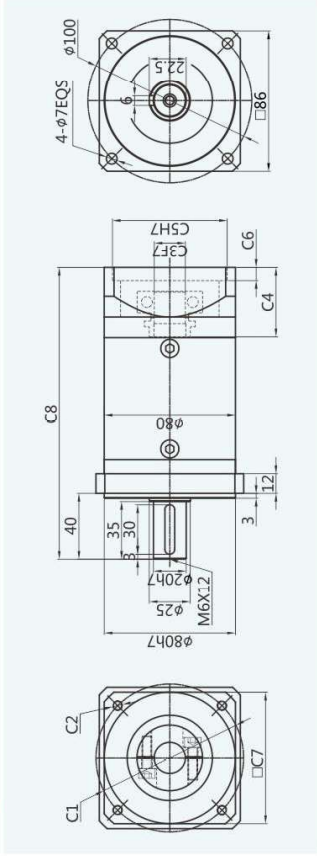


适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-080-L1	φ70	4-M4/4-M5	φ14	42	φ50	8.0	80	153
	□69.6	4-M6	φ14	42	φ73	8.0	80	153
	φ90	4-M5/4-M6	φ19	42	φ70	8.0	80	153

外形尺寸图  
Outline dimensional

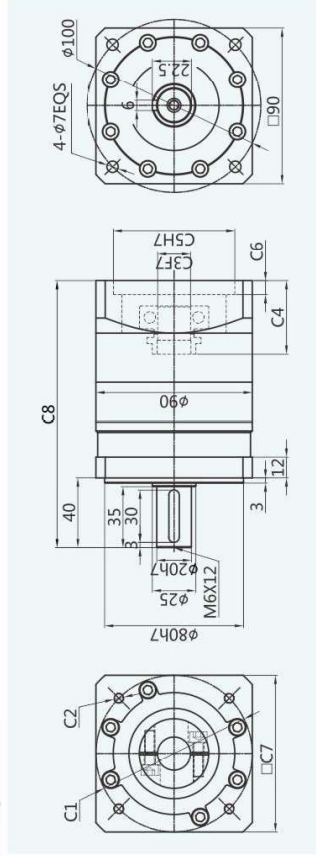
## PLF-080-L2



适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-080-L2	φ70	4-M4/4-M5	φ14	42	φ50	8.0	80	176.5
	□69.6	4-M6	φ14	42	φ73	8.0	80	176.5
	φ90	4-M5/4-M6	φ19	42	φ70	8.0	80	176.5

## PLF-090-L1



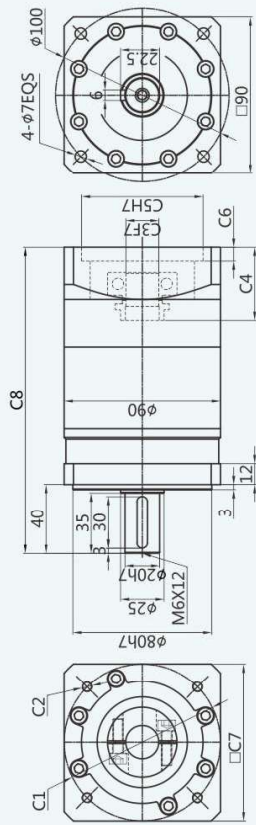
适配电机输入接口尺寸(左端为输入尺寸)  
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-090-L1	φ70	4-M4/4-M5	φ14	42	φ50	8.0	90	153
	□69.6	4-M6	φ14	42	φ73	8.0	90	153
	φ90	4-M5/4-M6	φ19	42	φ70	8.0	90	153

## PLF Series

外形尺寸图表  
Outline dimensional

## PLF-090-L2

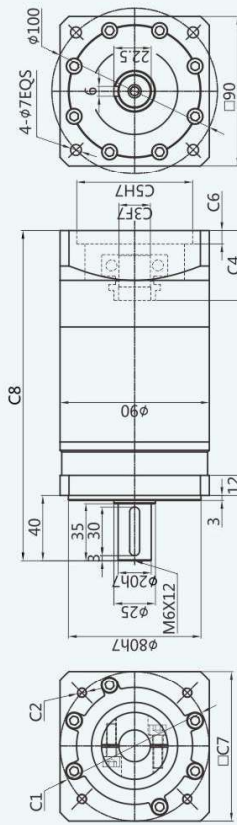


适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-090-L2	φ70	4-M4/M5	φ14	42	φ50	8.0	90	176.5
	□69.6	4-M6	φ14	42	φ73	8.0	90	176.5
	φ90	4-M5/4-M6	φ19	42	φ70	8.0	90	176.5

## PLF-090-L3



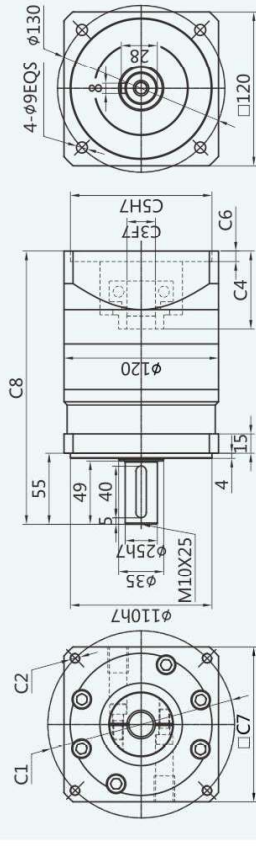
适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-090-L3	φ70	4-M4/M5	φ14	42	φ50	8.0	90	199.5
	69.6	4-M6	φ14	42	φ73	8.0	90	199.5
	φ90	4-M5/4-M6	φ19	42	φ70	8.0	90	199.5

外形尺寸图表  
Outline dimensional

## PLF-120-L1

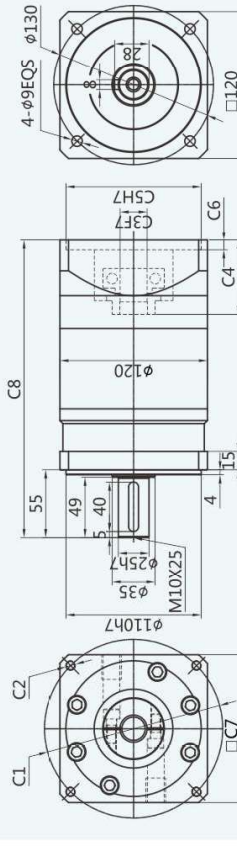


适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-120-L1	φ90	4-M5/4-M6	φ19	47	φ70	8	90	200
	φ115	4-M8	φ19/φ22	60	φ95	8	130	211
	φ130	4-M8	φ19/φ22	60	φ95	8	130	211
	φ145	4-M8	φ19/φ22/φ24	60	φ110	8	180	211

## PLF-120-L2



适配电机输入接口尺寸(左端为输入尺寸)

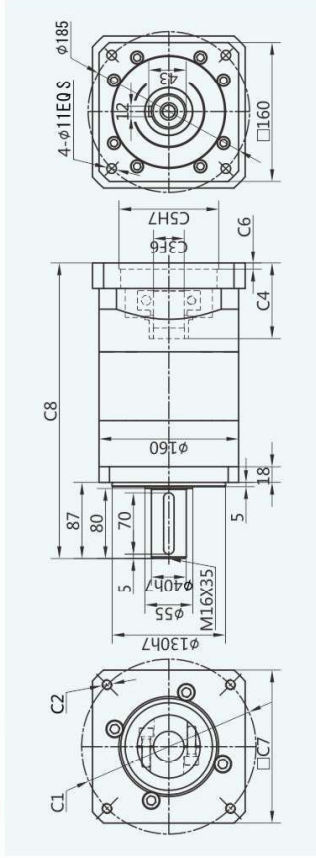
Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-120-L2	φ90	4-M5/4-M6	φ19	47	φ70	8	90	230
	φ115	4-M8	φ19/φ22	60	φ95	8	130	241
	φ130	4-M8	φ19/φ22	60	φ95	8	130	241
	φ145	4-M8	φ19/φ22/φ24	60	φ110	8	180	241

## PLF Series

外形尺寸图表  
Outline dimensional

## PLF-160-L2

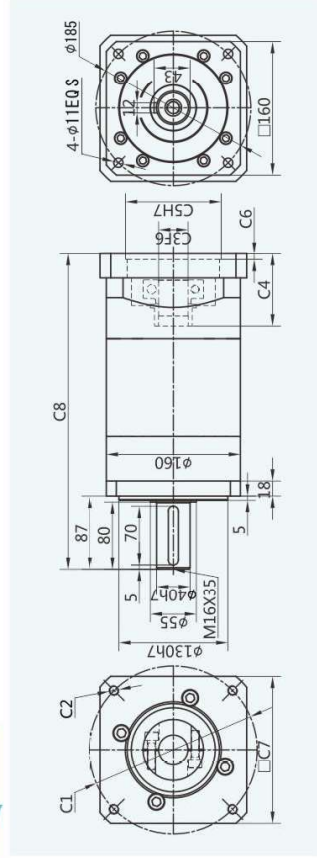


适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-160-L2	φ130	4-M8	φ22	62	φ95	7	142	313
	φ145	4-M8	φ22/φ24	62	φ110	7	142	313
	φ165	4-M10	φ32	62	φ130	7	142	313
	φ200	4-M12	φ35	86	φ114.3	7	175	337
	φ200	4-M12	φ35	117	φ114.3	7	175	368
	φ215	4-M12	φ38/φ42	86	φ180	7	190	337

## PLF-160-L3



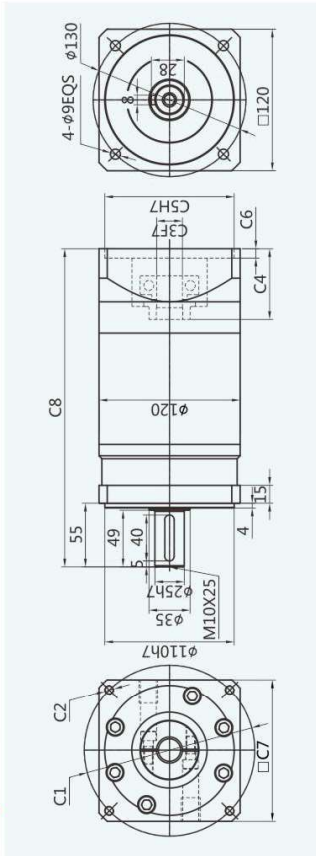
适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-160-L3	φ130	4-M8	φ22	62	φ95	7	142	351
	φ145	4-M8	φ22/φ24	62	φ110	7	142	351
	φ165	4-M10	φ32	62	φ130	7	142	351
	φ200	4-M12	φ35	86	φ114.3	7	175	375
	φ200	4-M12	φ35	117	φ114.3	7	175	406
	φ215	4-M12	φ38/φ42	86	φ180	7	190	375

外形尺寸图表  
Outline dimensional

## PLF-120-L3

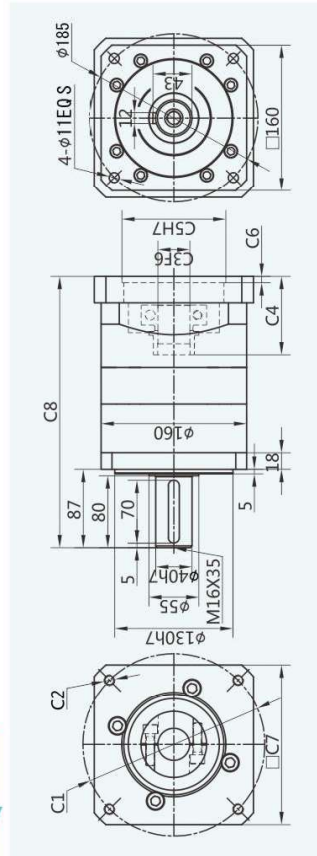


适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-120-L3	φ90	4-M5/4-M6	φ19	47	φ70	8	90	260
	φ115	4-M8	φ19/φ22	60	φ95	8	130	271
	φ130	4-M8	φ19/φ22	60	φ95	8	130	271
	φ145	4-M8	φ19/φ22/φ24	60	φ110	8	180	271

## PLF-160-L1



适配电机输入接口尺寸(左端为输入尺寸)

Adapter motor input interface size (The left end is the input size)

尺寸 Size	C1	C2	C3	C4	C5	C6	C7	C8
PLF-160-L1	φ130	4-M8	φ22	62	φ95	7	142	275
	φ145	4-M8	φ22/φ24	62	φ110	7	142	275
	φ165	4-M10	φ32	62	φ130	7	142	275
	φ200	4-M12	φ35	86	φ114.3	7	175	299
	φ200	4-M12	φ35	117	φ114.3	7	175	330
	φ215	4-M12	φ38/φ42	86	φ180	7	190	299