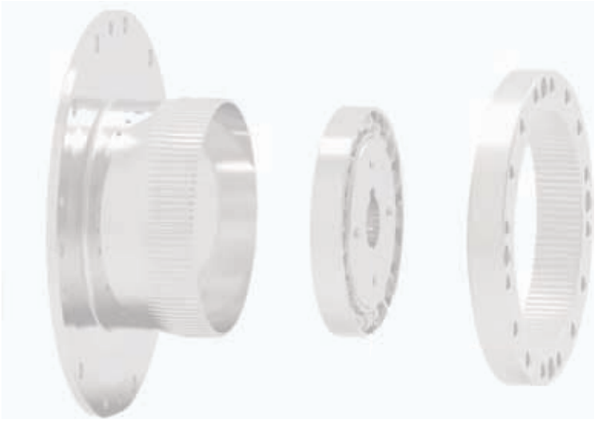
持久匠心 服务至上
LONG-TERM CARE SERVICE FIRST



LOZ GEARBOX

龙泽智能传动科技(深圳)有限公司
LONGZE INTELLIGENT TRANSMISSION TECHNOLOGY (SHENZHEN) CO., LTD
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龙泽智能传动科技(深圳)有限公司
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龙泽智能传动

LOZ INTELLIGENT TRANSMISSION

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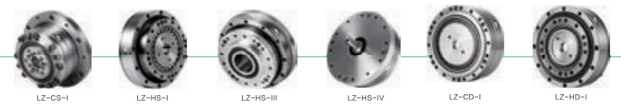


龙泽智能传动科技(深圳)有限公司
LONGZE INTELLIGENT TRANSMISSION TECHNOLOGY (SHENZHEN) CO., LTD

己欲立而立人，己欲达而达人
to achieve success; one should let others succeed as well.

企业简介：

龙泽智能传动（深圳）科技有限公司，是一家集行星减速机、谐波减速机等一系列精密传动设备研发、生产、销售的高科技企业。公司前身从事齿轮研发、加工、生产和组装减速机，并在该领域深耕10余年；为更好满足客户的定制化需求，公司已成立研发中心，完成近600款减速机规格型号的研发；可为顾客提供便捷、专业、完善的销售和售后服务。

公司自成立以来，集中了顶尖的世界级装备，联合了国内多所材料技术研究院，专注于高精密齿轮传动的技术前沿，根植于自动化设备和机器人领域，用稳定的产品质量、准确的纳期、专业高效的服务赢得了业界的普遍信赖和业务的高速增长，保证了公司稳步健康的发展态势。

公司秉承“品质为根、服务为本、诚信为先”的经营理念，以稳定可靠的产品质量，以先进科学的管理为基础，时刻牢记并遵循客户至上的工作原则，不断提升和完善我们的服务方式和工作方法，尽最大努力为每一位客户提供更满意及时的服务。

COMPANY PROFILE

LOZ intelligent transmission (Shenzhen) Technology Co. , Ltd. is a set of planet reducer, harmonic reducer and a series of precision transmission equipment R & D, production, sales of high-tech enterprises. The company's predecessor engaged in Gear R & D, processing, Production and assembly of Reducer, and in this field for more than 10 years, in order to better meet customer customization needs, the company has set up R & D Center, completed nearly 600 models of reducer specifications R & D; Can provide customers with convenient, professional, perfect sales and after-sales service. Since its establishment, the company has concentrated top-notch world-class equipment, joined with many domestic materials technology research institutes, focusing on the technical frontier of high-precision gear transmission, rooted in the field of automation equipment and robotics, with stable product quality, accurate acceptance period, professional and efficient service to win the trust of the industry and high-speed growth of business, to ensure the company's steady and healthy development. The company adheres to the business philosophy of "quality as root, service as root, honesty as first" , with stable and reliable product quality, based on advanced scientific management, always keep in mind and follow the working principle of customer first, continuously improve and improve our service methods and working methods, and make every effort to provide more satisfied and timely service for every customer.

文化和使命篇：
CORPORATE MISSION

ENTERPRISE CULTURE
企业文化

CORPORATE MISSION:
企业使命

“持久匠心 服务至上”

成为自动化传动领域最可靠的合作伙伴

服务体系：
SERVICE SYSTEM

技术服务

公司秉持为客户提供快速、高效、贴心的服务，在产品售前、售中、售后均会安排专业的技术服务人员，与客户建立长期、稳定的联系，及时取得用户对产品的各种意见和要求，专业的指导客户使用和保养产品。

售前服务

公司拥有成熟的售前技术团队和客户咨询中心，我们将7*24小时为您解答任何的关于产品使用、产品选型、价格咨询、非标定制等一系列专业性问题，确保客户在产品使用之前，最大程度上解决客户对使用产品中的疑惑。

售中服务

专业的人员为您提供顾问式服务，通过主动、热情、耐心周到的服务，更好的满足客户的差异化需求，结合真实的使用场景，可为客户提供专业的深度定制解决方案，帮助客户把产品的使用成本最优化，提升客户的市场竞争力。

售后服务

24小时迅速响应客户诉求，为客户提供准确的纳期确保最大限度的提高生产能力，通过全国的物流体系，同时还包含一系列包括产品介绍、送货、安装、调试、维修、技术培训、上门服务等，以及定期与不定期的对产品进行预防性的维护和保养服务，确保客户的生产线万无一失。

产品概要：
Product description:

行星减速机重量轻、体积小、传动比范围大、效率高、运转平稳、噪声低适应性强等特点。减速机广泛应用于冶金、矿山、起重运输、电力、能源、建筑建材、轻工、交通等工业部门。

1、行星齿轮减速机采用模块化设计，可根据客户要求进行变化组合，

2、减速机采用渐开线行星齿轮传动，合理利用内、外啮合、功率分流，

3、箱体采用球墨铸铁，大大提高了箱体的钢性及抗震性，

4、齿轮均采用渗碳淬火处理，得到高硬耐磨表面，齿轮热处理后全部磨齿，降低了噪音，提高了整机的效率和使用寿命。

5、行星减速机产品有9-34型规格，行星传动级数有2级和3级。

安装形式：

1、底脚安装
2、法兰安装
3、扭力臂安装。

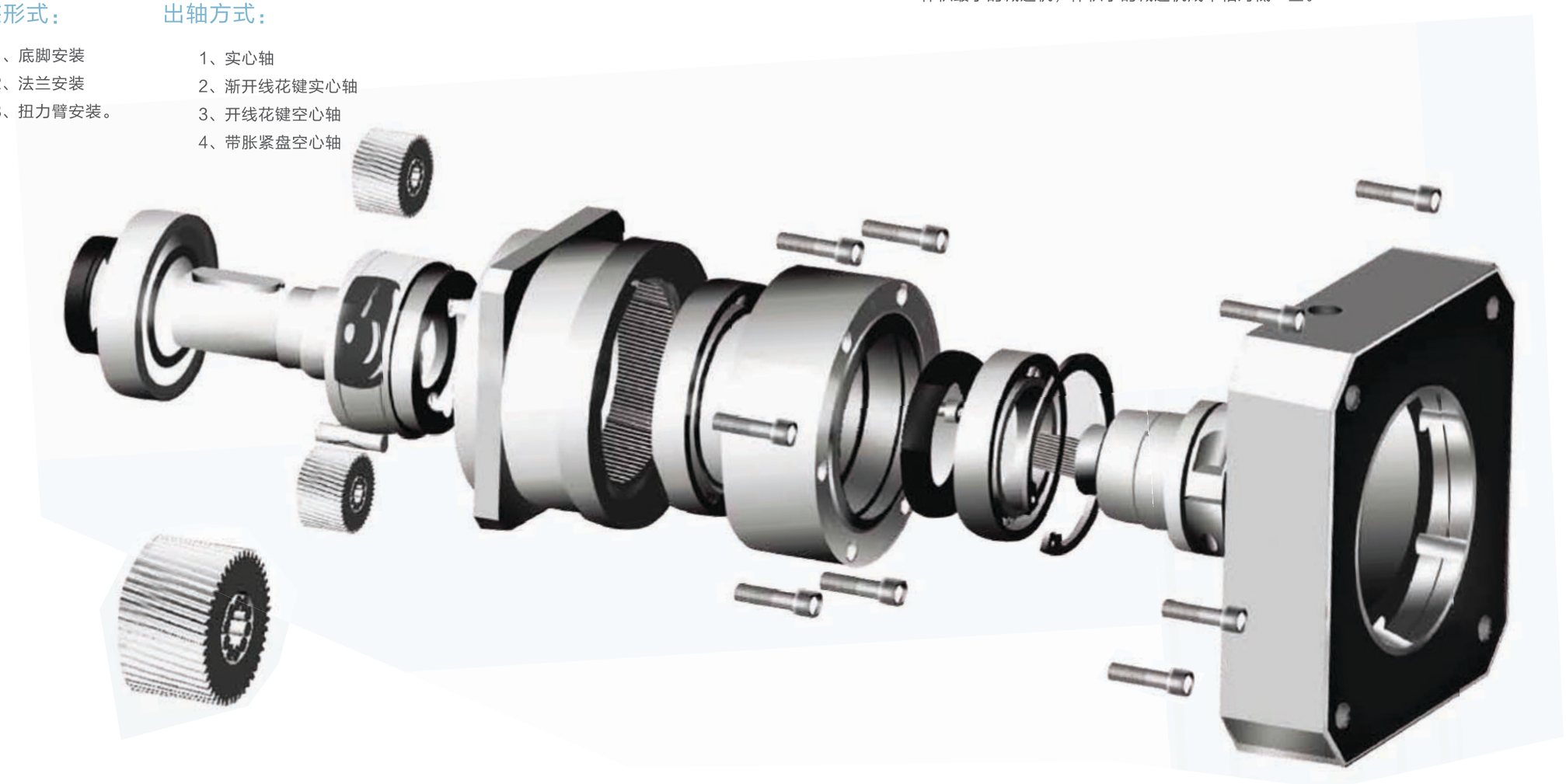
出轴方式：

1、实心轴
2、渐开线花键实心轴
3、开线花键空心轴
4、带胀紧盘空心轴

选型要点：
Key points for type selection:

行星齿轮减速机是匹配伺服电机的最主要的减速机种类，在选择行星齿轮减速器时，首先要确定减速机减速比，如果标准减速机没有您需要的减速比，请您选择接近的或者定制减速机。

确定减速比后，请将你选用的伺服电机额定扭矩乘上减速比，得到数值原则上要小于产品型录上的供的相近减速机的额定输出扭矩，同时还要考虑其驱动电机的过载能力及实际中所需要最大工作扭矩。所需最大工作扭矩要低于额定输出扭矩的2倍。满足上面条件后请选择体积最小的减速机，体积小的减速机成本相对低一些。



应用领域：

APPLICATIONS:

半导体设备
semiconductor equipment

包装设备
Packaging equipment

精密机床
Precision machine

医疗设备
Medical Equipment

机械手
Robot hand

检测设备
Detection equipment

纺织机械
Textile Machinery

汽车制造
Auto manufacturing

非标自动化
Nonstandard automation

卫星通讯
Satellite Communication

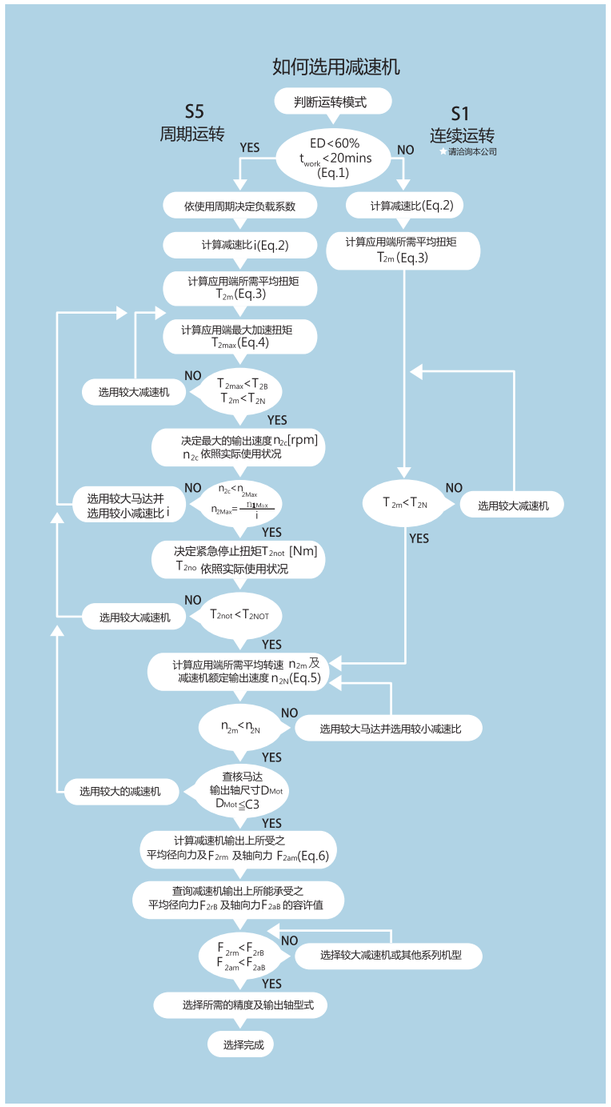
金属加工
Metal Processing

制药行业
Pharmaceutical industry

LONGZE INTELLIGENT TRANSMISSION can offer you the all the modifications requested in your field of application. Our sales and service network provides quick availability and competent support. For special requirements we bring you individual solutions. Of course, our services are always cost optimized. Thanks to our professional expertise, our specialists provide technical and market consultation for a wide variety of industrial sectors.

在您的应用领域,龙泽智能传动科技能够满足您的每一次需求。对于一些特殊要求，我们将会考虑给您提供相应的解决方案。我们的市场化网络能够确保快速有效的获取我们想要的信息。目前我们的产品已经应用于工业领域的各个行业，适用于机床，机械手，印刷设备，纺织机械，包装机械，非标自动化，医疗设备，检测设备，汽车制造，卫星通讯，金属加工，制药行业等工业领域。

减速机的选用



S5周期运转之建议事项

一般的应用惯量须符合以下公式

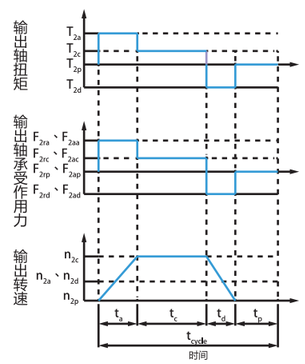
$$\frac{J_L}{i^2} \leqq 4 \times J_m$$

最适当的应用惯量须符合以下公式

$$\frac{J_L}{i^2} \leqq J_m$$

J_L 负载惯量
J_m 馬達惯量

应用端运动模式



1. $ED = \frac{t_{work}}{t_{cycle}} \times 100\%,\ t_{work} = t_a + t_c + t_d$

下标说明：a. 加速，c. 等速
d. 减速，p. 停止 (Eq.1)

2. $i \cong \frac{n_m}{n_{work}}$

n_m 马达输出速度
n_{work} 实际应用速度 (Eq.2)

3. $T_{2m} = \sqrt[3]{\frac{n_{2a} \times t_a \times T_{2a}^3 \times n_{2c} \times t_c \times T_{2c}^3 + n_{2d} \times t_d \times T_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.3)

4. $T_{2max} = T_{mB} \times i \times f_s \times \eta$

f_s 负载系数

f_s	周期次数/小时
1.0	0 ~ 1,000
1.1	1,000 ~ 1,500
1.3	1,500 ~ 2,000
1.6	2,000 ~ 3,000
1.8	3,000 ~ 5,000

T_{mB} 马达最大输出扭矩
η 减速机运转效率 (Eq.4)

5. $n_{2a} = n_{2d} = \frac{1}{2} \times n_{2c}$

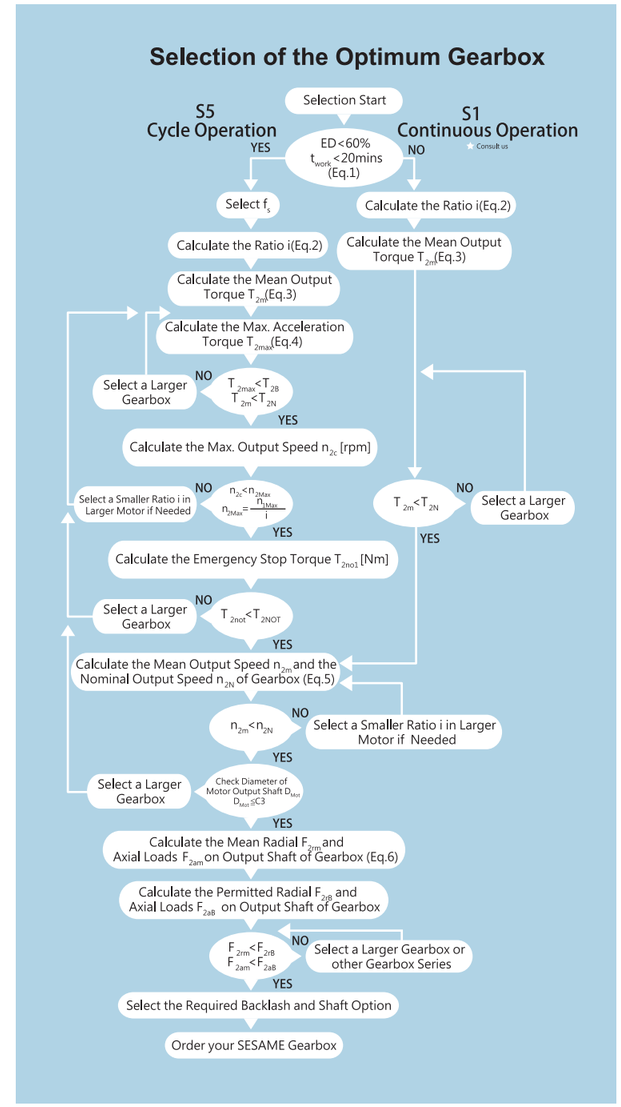
$n_{2m} = \frac{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}{t_a + t_c + t_d}$

$n_{2N} = \frac{n_{1N}}{i}$ (Eq.5)

6. $F_{2rm} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2ra}^3 \times n_{2c} \times t_c \times F_{2rc}^3 + n_{2d} \times t_d \times F_{2rd}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$

$F_{2am} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2aa}^3 \times n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.6)

SELECTION OF THE OPTIMUM GEARBOX



Recommended (for S5 Cycle Operation)

The general design is given for

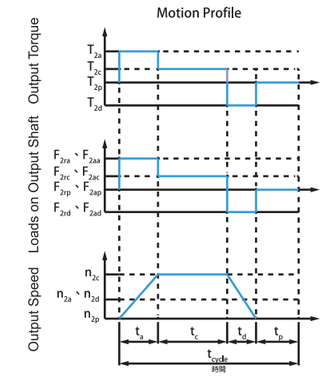
$$\frac{J_L}{i^2} \leqq 4 \times J_m$$

The optimal design is given for

$$\frac{J_L}{i^2} \leqq J_m$$

J_L Load Inertia
J_m Motor Inertia

Motion Profile



1. $ED = \frac{t_{work}}{t_{cycle}} \times 100\%,\ t_{work} = t_a + t_c + t_d$

Index：a. Acceleration, c. Constant,
d. Deceleration, p. Pause (Eq.1)

2. $i \cong \frac{n_m}{n_{work}}$

n_m Output Speed of the Motor
n_{work} Working Speed (Eq.2)

3. $T_{2m} = \sqrt[3]{\frac{n_{2a} \times t_a \times T_{2a}^3 \times n_{2c} \times t_c \times T_{2c}^3 + n_{2d} \times t_d \times T_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.3)

4. $T_{2max} = T_{mB} \times i \times f_s \times \eta$

Where f_s is

f_s	No. of Cycles / hr
1.0	0 ~ 1,000
1.1	1,000 ~ 1,500
1.3	1,500 ~ 2,000
1.6	2,000 ~ 3,000
1.8	3,000 ~ 5,000

T_{mB} Max. Output Torque of the Motor
η Efficiency of the Gearbox (Eq.4)

5. $n_{2a} = n_{2d} = \frac{1}{2} \times n_{2c}$

$n_{2m} = \frac{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}{t_a + t_c + t_d}$

$n_{2N} = \frac{n_{1N}}{i}$ (Eq.5)

6. $F_{2rm} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2ra}^3 \times n_{2c} \times t_c \times F_{2rc}^3 + n_{2d} \times t_d \times F_{2rd}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$

$F_{2am} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2aa}^3 \times n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.6)

LSF（精密直齿）系列

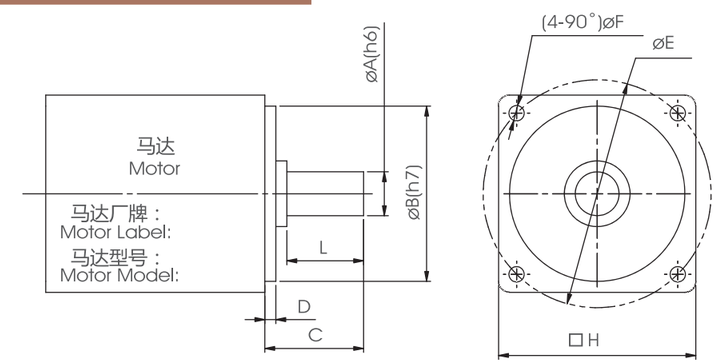
型号说明 / MODEL ILLUMINATE

LSF060 – 10 – S2 – P2 / 马达

- LSF060：减速机型式：LSF060、LSF090 LSF115
- 10：减速比：单段：3、4、5、7、9、10；双段：12、15、20、25、30、35、40、50、70、90、100
- S2：输出轴型式：S1：平滑光轴；S2：附带键轴
- P2：背隙：超精密背隙：P0；精密背隙：P1；标准背隙：P2
- 马达：马达型号：马达制造及型号

订货型号选定：LSF060-10-S2-P2/松下MSME-042GIU
或：LSF060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia. 马达轴外径	Flange Dia. 马达凸缘外径	Motor Shaft Length 马达轴长度	Flange Height 马达凸缘高度	P.C.D of Bore 螺丝孔中心距	Bore Dia. 螺丝孔直径	Motor Flange Square 马达面尺寸	Actual Length of Motor Shaft 马达轴有效长	Backlash 要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

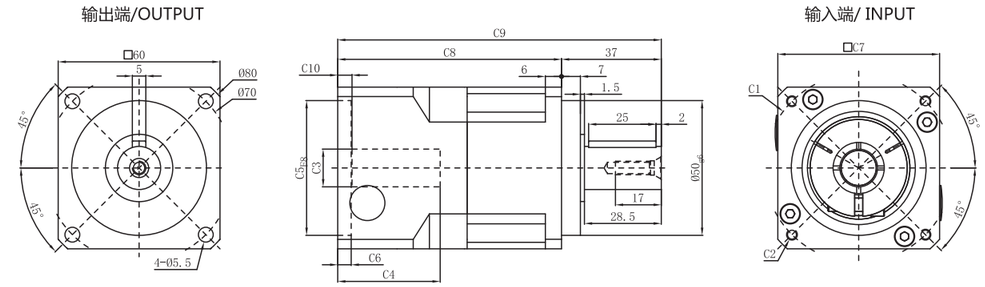
规格Specifications	单位unit	节数Stage	减速比Ratio	LSF060	LSF090	LSF115
额定输出力矩T2N Nominal Output Torque	N.m	1	3	44.2	95.2	283
			4	35.9	74.6	249
			5	43.0	95.2	238
			7	36.0	85.6	219
			9	28.7	85.0	210
			10	25.0	75.0	210
		2	12	44.2	95.2	283
			15	44.2	95.2	283
			20	35.9	74.6	249
			25	43.0	95.2	238
			30	43.0	95.2	238
			35	43.0	95.2	238
			40	43.0	95.2	238
			50	43.0	95.2	238
			70	36.0	85.6	219
			90	28.7	80.0	210
			100	25.0	75.0	210
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)		
额定输入转速n1 Nominal Input Speed	rpm	1、2	3 ~ 100	3000	3000	2500
最大输入转速n1max Max.Input Speed	rpm	1、2	3 ~ 100	6000	6000	5000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3 ~ 10	–	–	≤3
		2	12 ~ 100	–	–	≤5
精密背隙P1 Precise Blacklash	arcmin	1	3 ~ 10	≤6	≤6	≤5
		2	12 ~ 100	≤9	≤9	≤7
标准背隙P2 Standard Blacklash	arcmin	1	3 ~ 10	≤9	≤9	≤7
		2	12 ~ 100	≤12	≤12	≤9
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3 ~ 100	2.8	7.5	15.5
容许径向力F2rB Max.Radial Load	N	1、2	3 ~ 100	960	1630	3380
容许轴向力F2aB Max.Axial Load	N	1、2	3 ~ 100	900	1420	2930
使用温度 Operating Temp	° C	1、2	3 ~ 100	–10° C ~ +90° C		
使用寿命 Service Life	hr	1、2	3 ~ 100	20,000 (10,000/连续运转continiu operationg)		
效率 η Efficiency	%	1	3 ~ 10	≥96%		
		2	12 ~ 100	≥92%		
重量 Weight	kg	1	3 ~ 10	1.2	3.2	7.5
		2	12 ~ 100	1.9	5.3	12.0
安装方向 mounting Position		1、2	3 ~ 100	任意方向 Any direction		
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	62	65	65
防护等级 Protection Class		1、2	3 ~ 100	Ip65		
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant		

减速机转动惯量

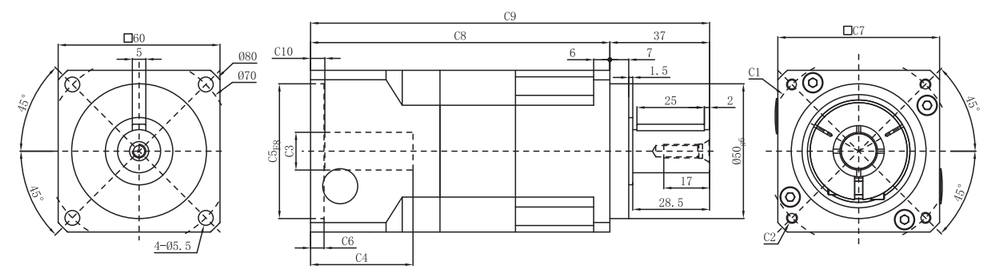
规格Specifications	单位unit	节数Stage	减速比Ratio	LSF060	LSF090	LSF115
转动惯量J1 Inertia	$kg.cm^2$	1	3	0.20	0.81	2.20
			4	0.16	0.65	1.80
			5	0.15	0.62	1.61
			7	0.14	0.60	1.55
			9	0.14	0.60	1.53
			10	0.14	0.60	1.53
		2	12	0.15	0.62	1.61
			15	0.15	0.62	1.61
			20	0.15	0.62	1.61
			25	0.15	0.62	1.61
			30	0.14	0.60	1.55
			35	0.14	0.60	1.55
			40	0.14	0.60	1.55
			50	0.14	0.60	1.53
			70	0.14	0.60	1.53
			90	0.14	0.60	1.53
			100	0.14	0.60	1.53

外形尺寸图表 / OUTLINE DIMENSION SHEET

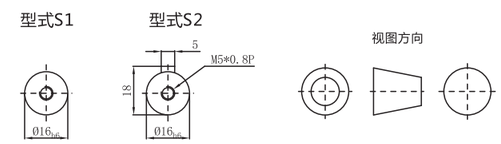
LSF060-L1



LSF060-L2



输出轴径/Output Diameter



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

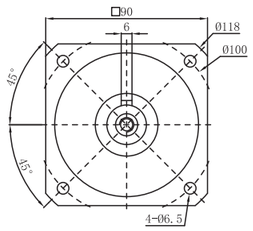
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSF060–L1	ϕ46	4–M4x12,4–M5x12	≤ϕ8	44	ϕ30	9	60	91	126	10.3
	ϕ66.7	4–M4x12	≤ϕ8	38	ϕ38.1	3	60	83	120	4.3
	ϕ70	4–M4x12,4–M5x12	≤ϕ14	38	ϕ50	5	60	83	120	5.3
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	38.5	ϕ60	5	66	83.5	120	5.5
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	44	ϕ70	7	80	89	128	11
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	89	128	11
LSF060–L2	ϕ46	4–M4x12，4–M5x12	≤ϕ8	44	ϕ30	9	60	117	154	10.3
	ϕ66.7	4–M4x12	≤ϕ8	38	ϕ38.1	3	60	111	148	4.3
	ϕ70	4–M4x12,4–M5x12	≤ϕ14	38	ϕ50	5	60	111	148	5.3
	ϕ75	4–M4x10,4–M5x12	≤ϕ14	38.5	ϕ60	5	66	111.5	148	5.5
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	44	ϕ70	7	80	117	156	11
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	117	156	11

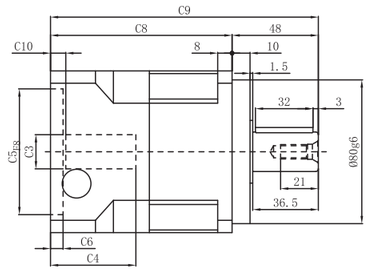
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

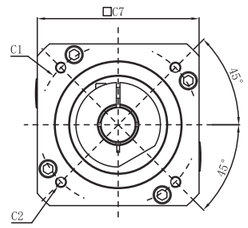
LSF090-L1

输出端/OUTPUT



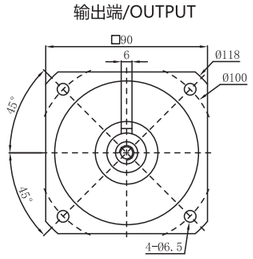


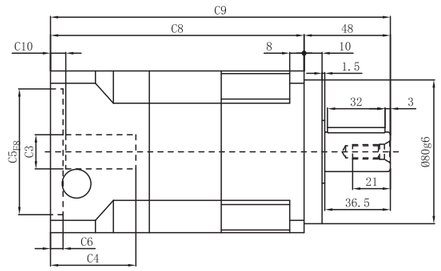
输入端/ INPUT



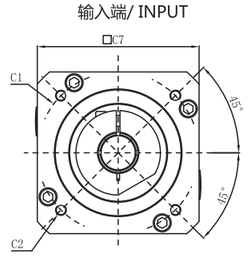
LSF090-L2

输出端/OUTPUT

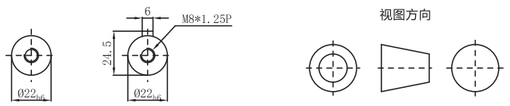




输入端/ INPUT



输出轴径/Output Diameter



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

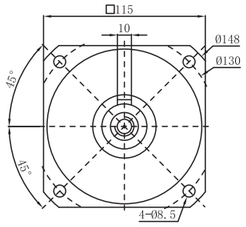
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSF090-L1	ϕ70	4-M4x12,4-M5x12	≤ϕ14	47.5	ϕ50	4	90	101	149	6
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47.5	ϕ60	5.5	90	101	149	6
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47.5	ϕ70	7	90	101	149	7
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ73	7	90	101	149	7
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	101	149	7
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	101	149	7
	ϕ115	4-M8x20	≤ϕ24	61.5	ϕ95	10	100	113	161	12.5
	ϕ130	4-M8x20	≤ϕ24	61.5	ϕ95	10	115	113	161	12.5
	ϕ145	4-M8x20	≤ϕ24	61.5	ϕ110	10	130	113	161	12.5
	ϕ145	4-M8x20	≤ϕ24	70.5	ϕ110	10	130	122	170	21.5
LSF090-L2	ϕ70	4-M4x12,4-M5x12	≤ϕ14	47.5	ϕ50	4	90	141	189	6
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47.5	ϕ60	5.5	90	141	189	6
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47.5	ϕ70	7	90	141	189	7
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ73	7	90	141	189	7
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	141	189	7
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	141	189	7
	ϕ115	4-M8x20	≤ϕ24	61.5	ϕ95	10	100	153	201	12.5
	ϕ130	4-M8x20	≤ϕ24	61.5	ϕ95	10	115	153	161	12.5
	ϕ145	4-M8x20	≤ϕ24	61.5	ϕ110	10	130	153	201	12.5
	ϕ145	4-M8x20	≤ϕ24	70.5	ϕ110	10	130	162	210	21.5

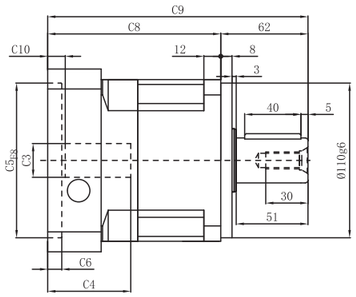
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

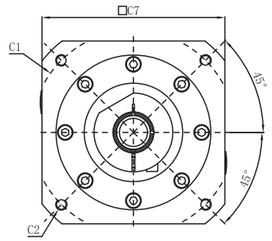
LSF115-L1

输出端/OUTPUT



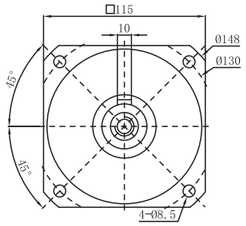


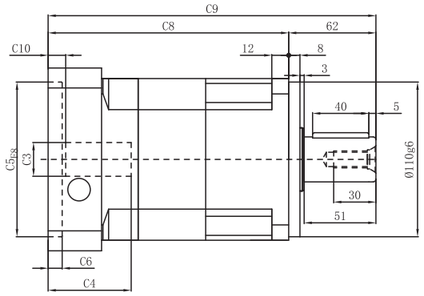
输入端/ INPUT



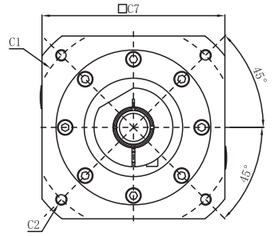
LSF115-L2

输出端/OUTPUT

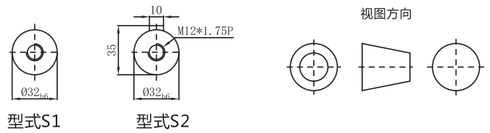




输入端/ INPUT



输出轴径/Output Diameter



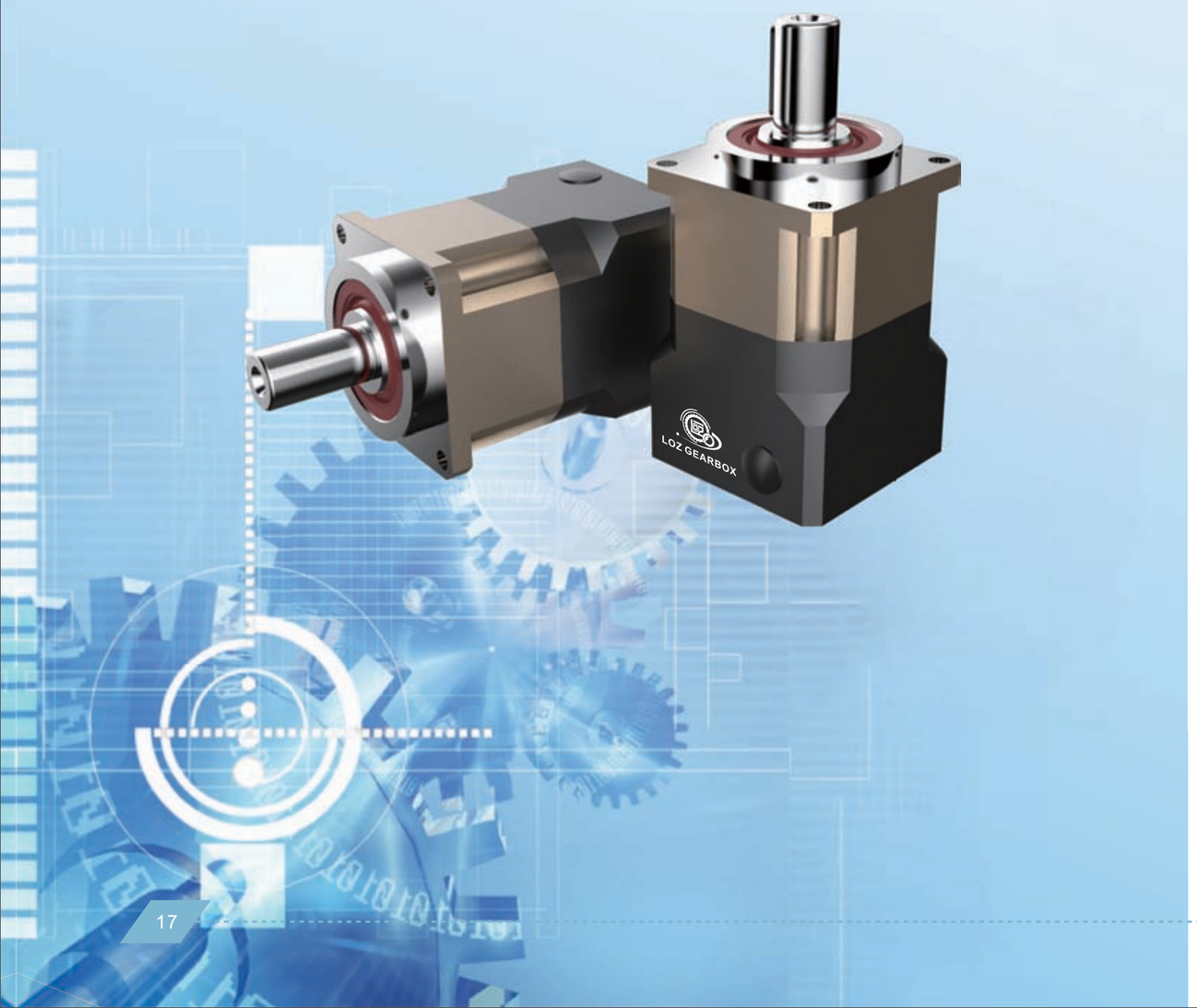
*输入马达连接板之尺寸，可根据客户要求单独定做。
*The input motor specific dimensions could be customised.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSF115-L1	ϕ90	4-M5x15,4-M6x15	≤ϕ19	48.5	ϕ70	7	115	112.5	174.5	7
	ϕ100	4-M6x15	≤ϕ19	48.5	ϕ80	7	115	112.5	174.5	7
	ϕ115	4-M8x20	≤ϕ24	58	ϕ95	10	115	122	184	11.5
	ϕ130	4 M8x20	≤ϕ24	58	ϕ95	10	115	122	184	11.5
	ϕ132	4-M8x20	≤ϕ24	58	ϕ85	10	115	122	184	11.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	123	185	12.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	132	194	21.5
	ϕ165	4-M10x30	≤ϕ32	80	ϕ130	10	142	148.5	210.5	18.5
	ϕ200	4-M12x35	≤ϕ35	82	ϕ114.3	8	180	150.5	212.5	20.5
	ϕ215	4-M14x35	≤ϕ38	82	ϕ180	8	190	150.5	212.5	20.5
LSF115-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	48.5	ϕ70	7	115	160.5	174.5	7
	ϕ100	4-M6x15	≤ϕ19	48.5	ϕ80	7	115	160.5	174.5	7
	ϕ115	4-M8x20	≤ϕ24	58	ϕ95	10	115	170	184	11.5
	ϕ130	4-M8x20	≤ϕ24	58	ϕ95	10	115	170	184	11.5
	ϕ132	4-M8x20	≤ϕ24	58	ϕ85	10	115	170	184	11.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	171	185	12.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	180	194	21.5
	ϕ165	4-M10x30	≤ϕ32	80	ϕ130	10	142	196.5	258.5	18.5
	ϕ200	4-M12x35	≤ϕ35	82	ϕ114.3	8	180	198.5	260.5	20.5
	ϕ215	4-M14x35	≤ϕ38	82	ϕ180	8	190	198.5	260.5	20.5

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

LHF（高精密斜齿）系列



型号说明 / MODEL ILLUMINATE

LHF060 – 10 – S2 – P2 / 马达

减速机型式：
LHF042、LHF060、
LHF090、LHF115、
LHF142

输出轴型式：
S1：平滑光轴
S2：附带键轴

马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：3、4、5、7、9、10
双段：12、15、20、25、30、35、40、50、70、
90、100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LHF060-10-S2-P2/松下MSME-042GIU
或：LHF060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

LHF180 – 10 – S2 – P2 / 马达

减速机型式：
LHF180、LHF220

输出轴型式：
S1：平滑光轴
S2：附带键轴

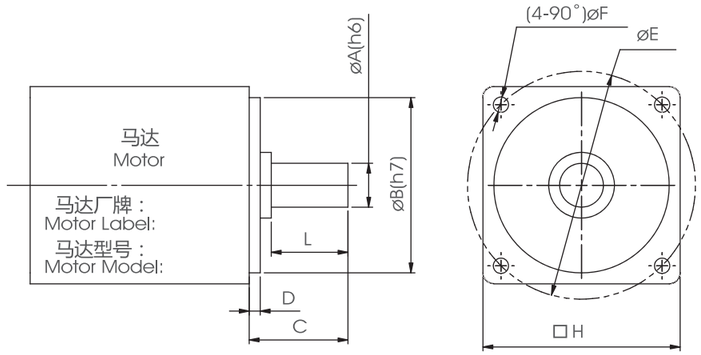
马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：3、4、5、7、10
双段：12、15、20、25、30、35、40、50、70、
100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LHF060-10-S2-P2/松下MSME-042GIU
或：LHF060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

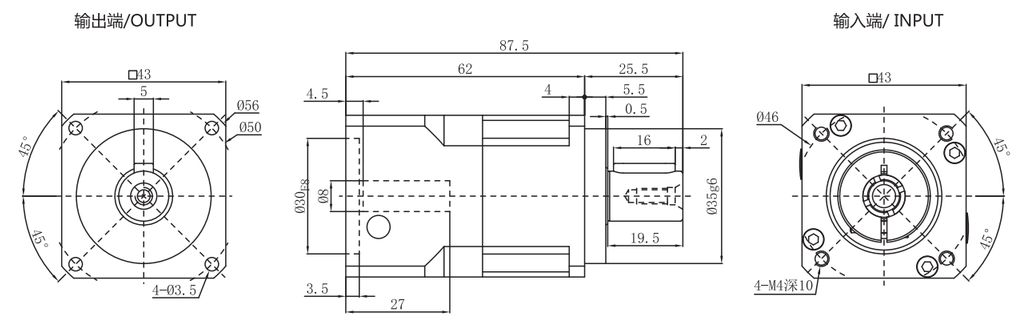
规格Specifications	单位unit	节数Stage	减速比Ratio	LHF042	LHF060	LHF090	LHF115	LHF142	LHF180	LHF220
额定输出力矩T2N Nominal Output Torque	N.m	1	3	19	53	145	290	520	950	1550
			4	20	55	150	300	550	1000	1650
			5	17	54	140	290	530	1050	1700
			7	14	44	125	270	450	960	1500
			9	11	37	95	220	360	–	–
			10	11	37	95	220	360	620	1250
		2	12	19	53	145	290	520	950	1550
			15	19	53	145	290	520	950	1550
			20	20	55	150	300	550	1000	1650
			25	17	54	140	290	530	1050	1700
			30	17	54	140	290	530	1050	1700
			35	17	54	140	290	530	1050	1700
			40	20	55	150	300	550	1000	1650
			50	17	54	140	290	530	1050	1700
			70	14	44	125	270	530	960	1500
			90	11	37	95	220	360	–	–
			100	11	37	95	220	360	800	1250
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)						
额定输入转速n1 Nominal Input Speed	rpm	1、2	3 ~ 100	5000	5000	4000	4000	3000	3000	2000
最大输入转速n1max Max.Input Speed	rpm	1、2	3 ~ 100	10000	10000	8000	8000	6000	6000	4000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3 ~ 10	≤2	≤2	≤2	≤1	≤1	≤1	≤1
		2	12 ~ 100	≤4	≤4	≤4	≤3	≤3	≤3	≤3
精密背隙P1 Precise Blacklash	arcmin	1	3 ~ 10	≤4	≤4	≤4	≤3	≤3	≤3	≤3
		2	12 ~ 100	≤6	≤6	≤6	≤5	≤5	≤5	≤5
标准背隙P2 Standard Blacklash	arcmin	1	3 ~ 10	≤6	≤6	≤6	≤5	≤5	≤5	≤5
		2	12 ~ 100	≤8	≤8	≤8	≤7	≤7	≤7	≤7
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3 ~ 100	2.5	6	12	23	45	148	220
容许径向力F2rB Max.Radial Load	N	1、2	3 ~ 100	515	1010	1780	3420	5380	8330	11120
容许轴向力F2aB Max.Axial Load	N	1、2	3 ~ 100	410	600	1500	2650	4670	6460	8560
使用温度 Operating Temp	° C	1、2	3 ~ 100	–10° C ~ +90° C						
使用寿命 Service Life	hr	1、2	3 ~ 100	20,000 (10,000/连续运转continiu operationg)						
效率 η Efficiency	%	1	3 ~ 10	≥97%						
		2	12 ~ 100	≥94%						
重量 Weight	kg	1	3 ~ 10	0.6	1.3	3.5	7.8	16.1	30.0	58.0
		2	12 ~ 100	0.9	2.0	5.6	9.5	19.0	42.0	65.0
安装方向 mounting Position	–	1、2	3 ~ 100	任意方向 Any direction						
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	56	58	60	63	65	67	70
防护等级 Protection Class	–	1、2	3 ~ 100	Ip65						
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant						

减速机转动惯量

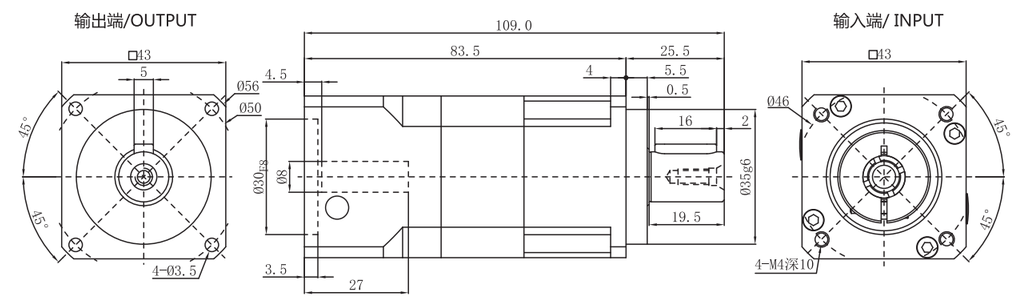
规格Specifications	单位unit	节数Stage	减速比Ratio	LHF042	LHF060	LHF090	LHF115	LHF142	LHF180	LHF220
转动惯量J1 Inertia	$kg.cm^2$	1	3	0.03	0.23	0.97	2.35	10.00	28.90	69.63
			4	0.02	0.18	0.67	1.66	7.17	24.00	54.25
			5	0.02	0.17	0.65	1.50	6.52	23.27	53.30
			7	0.02	0.14	0.60	1.45	6.17	22.42	51.00
			9	0.02	0.14	0.58	1.41	6.10	–	–
			10	0.02	0.14	0.58	1.41	6.10	22.50	50.62
		2	12	0.02	0.17	0.65	1.50	6.52	23.27	53.30
			15	0.02	0.17	0.65	1.50	6.52	24.27	54.37
			20	0.02	0.17	0.65	1.50	6.52	23.27	53.30
			25	0.02	0.17	0.65	1.50	6.52	24.27	54.37
			30	0.02	0.14	0.60	1.45	6.52	23.27	53.30
			35	0.02	0.14	0.60	1.45	6.52	24.27	54.37
			40	0.02	0.14	0.60	1.45	6.52	23.27	53.30
			50	0.02	0.14	0.58	1.41	6.10	22.50	52.45
			70	0.02	0.14	0.58	1.41	6.10	22.50	52.45
			90	0.02	0.14	0.58	1.41	6.10	–	–
			100	0.02	0.14	0.58	1.41	6.10	22.50	52.45

外形尺寸图表 / OUTLINE DIMENSION SHEET

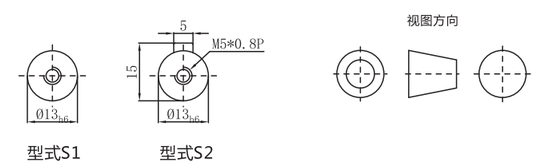
LHF042-L1



LHF042-L2



输出轴径/Output Diameter



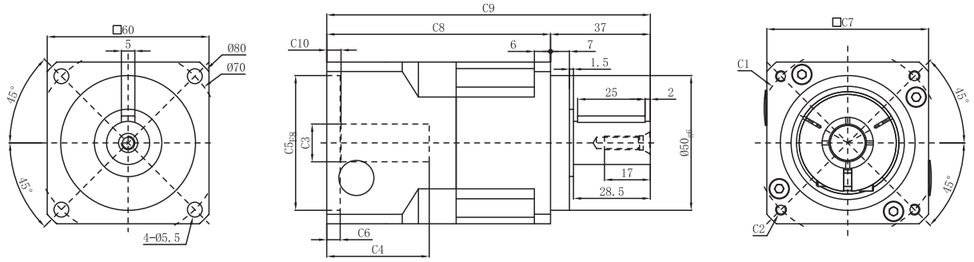
*输入马达连接板之尺寸，可根据客户要求单独定做。
*The input motor specific dimensions could be customised.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

外形尺寸图表 / OUTLINE DIMENSION SHEET

LHF060-L1

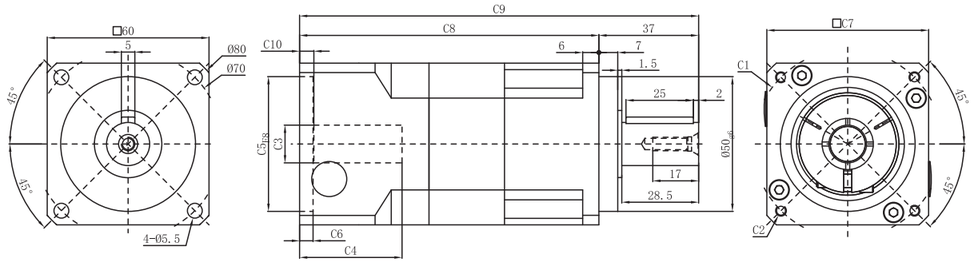
输出端/OUTPUT



输入端/ INPUT

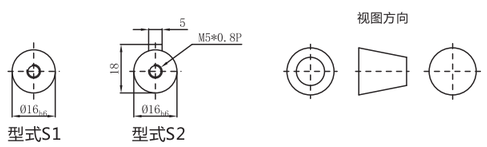
LHF060-L2

输出端/OUTPUT



输入端/ INPUT

输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

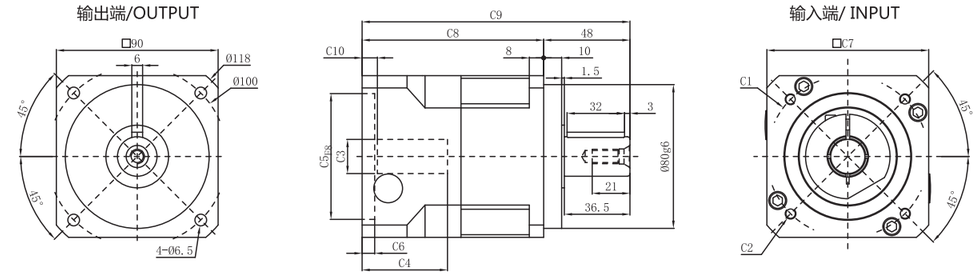
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF060–L1	ϕ46	4–M4x12,4–M5x12	≤ϕ8	44	ϕ30	9	60	91	126	10.3
	ϕ66.7	4–M4x12	≤ϕ8	38	ϕ38.1	3	60	83	120	4.3
	ϕ70	4–M4x12,4–M5x12	≤ϕ14	38	ϕ50	5	60	83	120	5.3
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	38.5	ϕ60	5	66	83.5	120	5.5
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	44	ϕ70	7	80	89	128	11
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	89	128	11
LHF060–L2	ϕ46	4–M4x12，4–M5x12	≤ϕ8	44	ϕ30	9	60	117	154	10.3
	ϕ66.7	4–M4x12	≤ϕ8	38	ϕ38.1	3	60	111	148	4.3
	ϕ70	4–M4x12,4–M5x12	≤ϕ14	38	ϕ50	5	60	111	148	5.3
	ϕ75	4–M4x10,4–M5x12	≤ϕ14	38.5	ϕ60	5	66	111.5	148	5.5
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	44	ϕ70	7	80	117	156	11
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	117	156	11

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

LHF090-L1

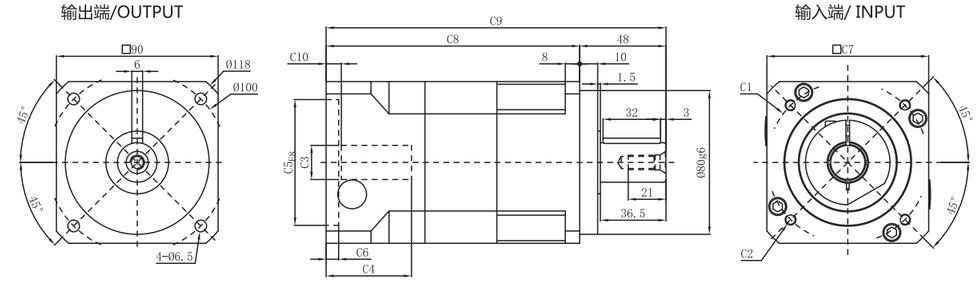
输出端/OUTPUT



输入端/ INPUT

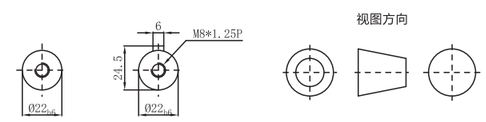
LHF090-L2

输出端/OUTPUT



输入端/ INPUT

输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

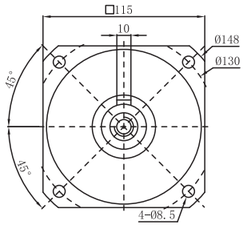
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF090–L1	ϕ70	4–M4x12,4–M5x12	≤ϕ14	47.5	ϕ50	4	90	101	149	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	47.5	ϕ60	5.5	90	101	149	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	47.5	ϕ70	7	90	101	149	7
	ϕ98.4	4–M6x15	≤ϕ14	47.5	ϕ73	7	90	101	149	7
	ϕ98.4	4–M6x15	≤ϕ14	47.5	ϕ60	7	90	101	149	7
	ϕ100	4–M6x15	≤ϕ19	47.5	ϕ80	7	90	101	149	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	113	161	12.5
	ϕ130	4–M8x20	≤ϕ24	61.5	ϕ95	10	115	113	161	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	113	161	12.5
	ϕ145	4–M8x20	≤ϕ24	70.5	ϕ110	10	130	122	170	21.5
LHF090–L2	ϕ70	4–M4x12,4–M5x12	≤ϕ14	47.5	ϕ50	4	90	141	189	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	47.5	ϕ60	5.5	90	141	189	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	47.5	ϕ70	7	90	141	189	7
	ϕ98.4	4–M6x15	≤ϕ14	47.5	ϕ73	7	90	141	189	7
	ϕ98.4	4–M6x15	≤ϕ14	47.5	ϕ60	7	90	141	189	7
	ϕ100	4–M6x15	≤ϕ19	47.5	ϕ80	7	90	141	189	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	153	201	12.5
	ϕ130	4–M8x20	≤ϕ24	61.5	ϕ95	10	115	153	161	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	153	201	12.5
	ϕ145	4–M8x20	≤ϕ24	70.5	ϕ110	10	130	162	210	21.5

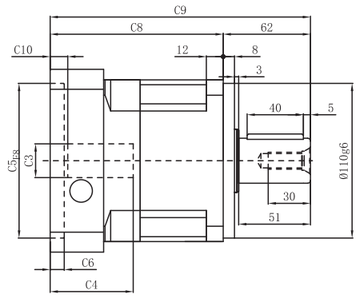
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

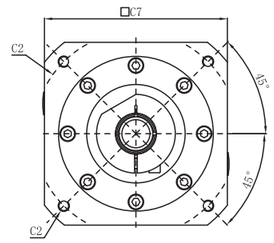
LHF115-L1

输出端/OUTPUT



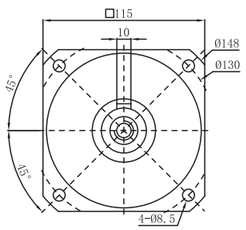


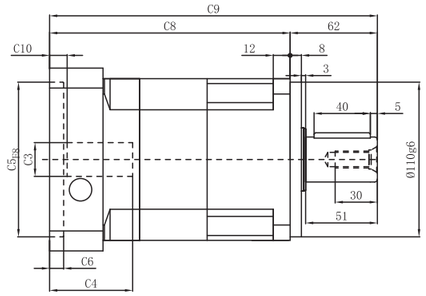
输入端/ INPUT



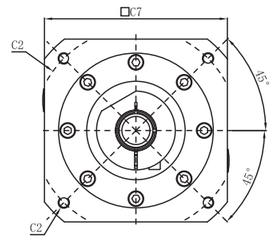
LHF115-L2

输出端/OUTPUT

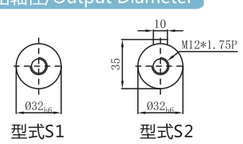




输入端/ INPUT

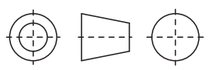


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

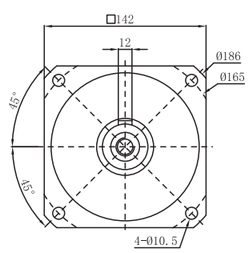
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF115-L1	ϕ90	4-M5x15,4-M6x15	≤ϕ19	48.5	ϕ70	7	115	112.5	174.5	7
	ϕ100	4-M6x15	≤ϕ19	48.5	ϕ80	7	115	112.5	174.5	7
	ϕ115	4-M8x20	≤ϕ24	58	ϕ95	10	115	122	184	11.5
	ϕ130	4-M8x20	≤ϕ24	58	ϕ95	10	115	122	184	11.5
	ϕ132	4-M8x20	≤ϕ24	58	ϕ85	10	115	122	184	11.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	123	185	12.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	132	194	21.5
	ϕ165	4-M10x30	≤ϕ32	80	ϕ130	10	142	148.5	210.5	18.5
	ϕ200	4-M12x35	≤ϕ35	82	ϕ114.3	8	180	150.5	212.5	20.5
	ϕ215	4-M14x35	≤ϕ38	82	ϕ180	8	190	150.5	212.5	20.5
LHF115-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	48.5	ϕ70	7	115	160.5	174.5	7
	ϕ100	4-M6x15	≤ϕ19	48.5	ϕ80	7	115	160.5	174.5	7
	ϕ115	4-M8x20	≤ϕ24	58	ϕ95	10	115	170	184	11.5
	ϕ130	4-M8x20	≤ϕ24	58	ϕ95	10	115	170	184	11.5
	ϕ132	4-M8x20	≤ϕ24	58	ϕ85	10	115	170	184	11.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	171	185	12.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	180	194	21.5
	ϕ165	4-M10x30	≤ϕ32	80	ϕ130	10	142	196.5	258.5	18.5
	ϕ200	4-M12x35	≤ϕ35	82	ϕ114.3	8	180	198.5	260.5	20.5
	ϕ215	4-M14x35	≤ϕ38	82	ϕ180	8	190	198.5	260.5	20.5

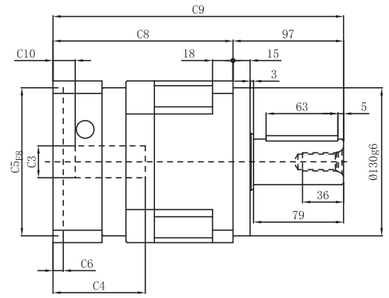
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

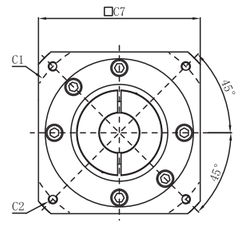
LHF142-L1

输出端/OUTPUT



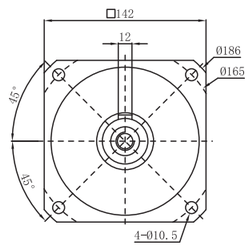


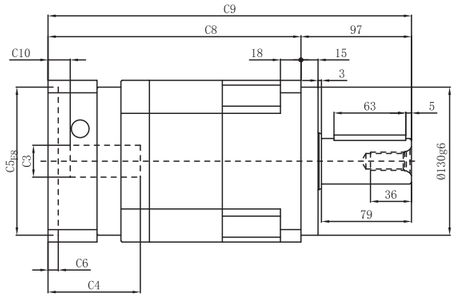
输入端/ INPUT



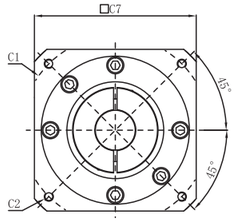
LHF142-L2

输出端/OUTPUT

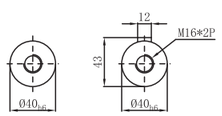




输入端/ INPUT

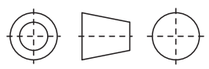


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

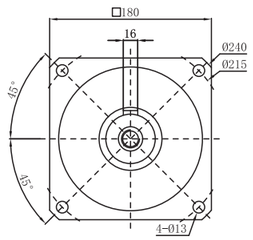
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF142-L1	ϕ130	4-M8x20	≤ϕ24	81	ϕ110	10	142	158	255	19.5
	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	158	255	19.5
	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	81	ϕ130	10	142	158	255	19.5
	ϕ175	4-M10x25	≤ϕ32	81	ϕ130	10	150	158	255	19.5
	ϕ185	4-M10x30	≤ϕ35	81	ϕ150	8	160	158	255	19.5
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	160	257	21.5
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	192	289	53.5
	ϕ215	4-M12x35 , 4-M14x35	≤ϕ42	83	ϕ180	8	190	160	257	21.5
LHF142-L2	ϕ130	4-M8x20	≤ϕ24	81	ϕ110	10	142	222	319	19.5
	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	222	319	19.5
	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	81	ϕ130	10	142	222	319	19.5
	ϕ175	4-M10x25	≤ϕ32	81	ϕ130	10	150	222	319	19.5
	ϕ185	4-M10x30	≤ϕ35	81	ϕ150	8	160	222	319	19.5
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	224	321	21.5
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	256	353	53.5
	ϕ215	4-M12x35 , 4-M14x35	≤ϕ42	83	ϕ180	8	190	224	321	21.5

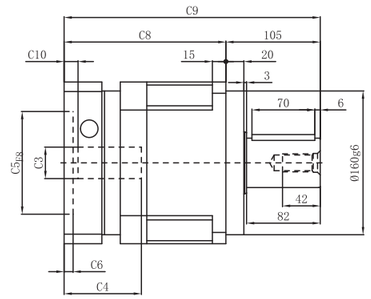
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

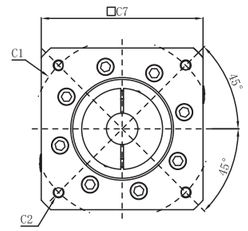
LHF180-L1

输出端/OUTPUT



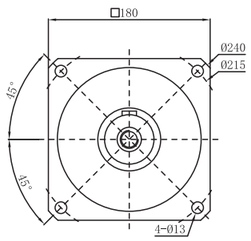


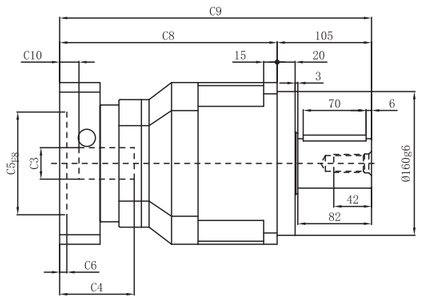
输入端/ INPUT



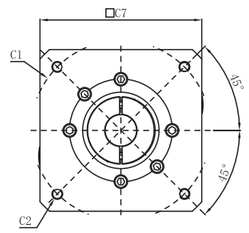
LHF180-L2

输出端/OUTPUT

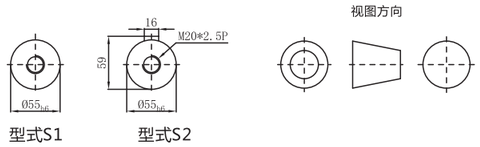




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

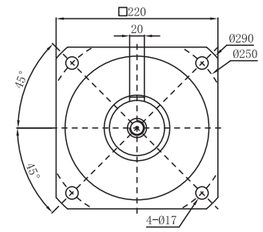
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF180–L1	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	86	ϕ130	10	180	180	285	15.5
	ϕ200	4-M12x35	≤ϕ42	86	ϕ114.3	10	180	180	285	15.5
	ϕ200	4-M12x35	≤ϕ42	118	ϕ114.3	10	180	212	317	47.5
	ϕ215	4-M14x35	≤ϕ42	86	ϕ180	10	190	180	285	15.5
	ϕ215	4-M14x35	≤ϕ42	118	ϕ180	10	190	212	317	47.5
	ϕ235	4-M10x30 , 4-M14x35	≤ϕ55	118	ϕ200	10	220	212	317	47.5
LHF180–L2	ϕ130	4-M8x20	≤ϕ24	81	ϕ110	10	142	240	345	19.5
	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	240	345	19.5
	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	86	ϕ130	8	180	242	347	21.5
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	242	347	21.5
	ϕ200	4-M10x25 , 4-M12x35	≤ϕ42	115	ϕ114.3	8	180	274	379	53.5
	ϕ215	4-M14x35	≤ϕ42	83	ϕ180	8	190	242	347	21.5
	ϕ215	4-M14x35	≤ϕ42	115	ϕ180	8	190	274	379	53.5
	ϕ235	4-M10x30 , 4-M14x35	≤ϕ55	118	ϕ200	10	220	274	379	47.5

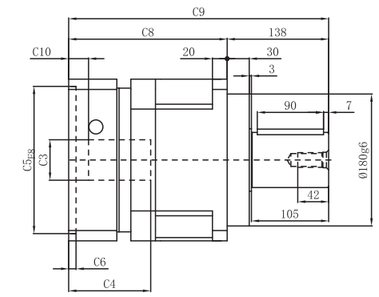
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

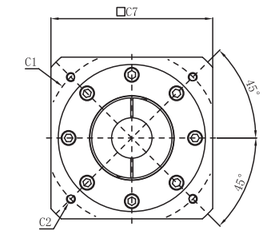
LHF220-L1

输出端/OUTPUT



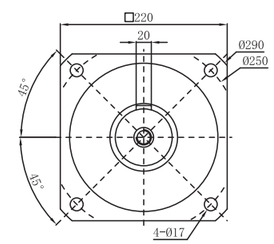


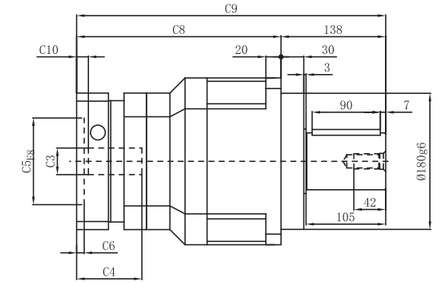
输入端/ INPUT



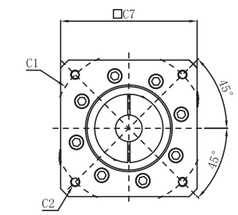
LHF220-L2

输出端/OUTPUT

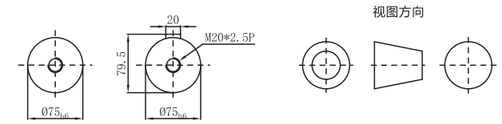




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LHF220–L1	ϕ200	4-M12x35	≤ϕ42	119	ϕ114.3	10	220	215.5	353.5	27
	ϕ215	4-M14x35	≤ϕ42	119	ϕ180	10	220	215.5	353.5	27
	ϕ235	4-M12x35 , 4-M14x35	≤ϕ55	119	ϕ200	10	220	215.5	353.5	27
LHF220–L2	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	86	ϕ130	10	180	269.5	407.5	15.5
	ϕ200	4-M12x35	≤ϕ42	86	ϕ114.3	10	180	269.5	407.5	15.5
	ϕ200	4-M12x35	≤ϕ42	118	ϕ114.3	10	180	301.5	439.5	47.5
	ϕ215	4-M12x35 , 4-M14x35	≤ϕ42	86	ϕ180	10	190	269.5	407.5	15.5
	ϕ215	4-M12x35 , 4-M14x35	≤ϕ42	118	ϕ180	10	190	301.5	439.5	47.5
	ϕ235	4-M12x35 , 4-M14x35	≤ϕ55	118	ϕ200	10	220	301.5	439.5	47.5

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

LSFZ（转角直齿）系列

型号说明 / MODEL ILLUMINATE

LSFZ060 – 10 – S2 – P2 / 马达

减速机型式：
LSFZ060、LSFZ090
LSFZ115

输出轴型式：
S1：平滑光轴
S2：附带键轴

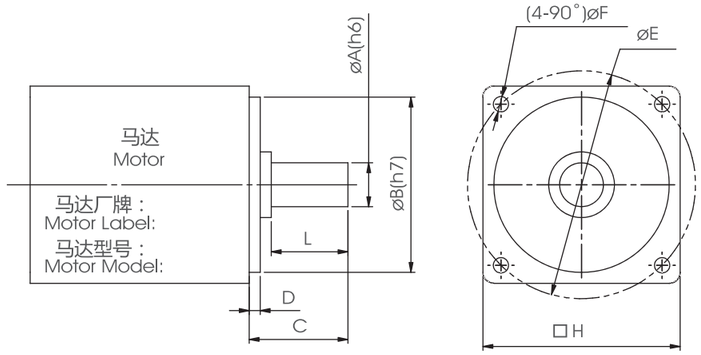
马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：3、4、5、7、9、10、20
双段：12、15、16、25、30、35、40
50、70、90、100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LSFZ060-10-S2-P2/松下MSME-042GIU
或：LSFZ060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia. 马达轴外径	Flange Dia. 马达凸缘外径	Motor Shaft Length 马达轴长度	Flange Height 马达凸缘高度	P.C.D of Bore 螺丝孔中心距	Bore Dia. 螺丝孔直径	Motor Flange Square 马达面尺寸	Actual Length of Motor Shaft 马达轴有效长	Backlash 要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

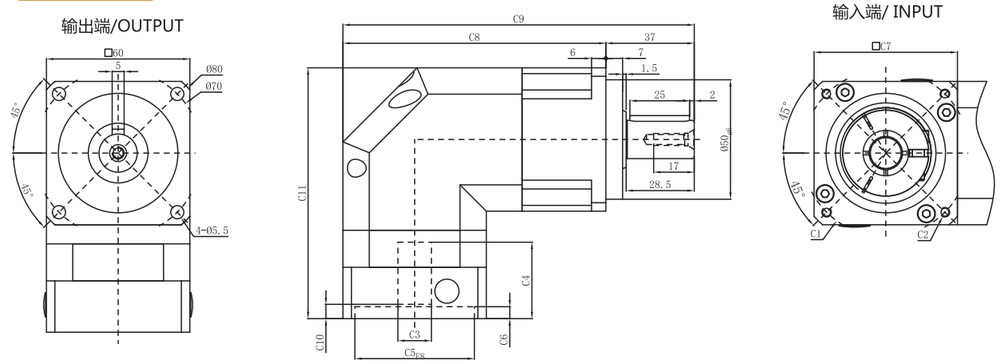
规格Specifications	单位unit	节数Stage	减速比Ratio	LSFZ060	LSFZ090	LSFZ115
额定输出力矩T2N Nominal Output Torque	N.m	1	3	44.2	95.2	283
			4	35.9	74.6	249
			5	43.0	95.2	238
			6	44.2	95.2	283
			7	36.0	85.6	219
			8	35.9	74.6	249
			9	28.7	85.0	210
			10	43.0	95.2	238
			14	36.0	85.6	219
			18	28.7	85.0	210
			20	25.0	75.0	210
		2	12	44.2	95.2	283
			15	44.2	95.2	283
			20	35.9	74.6	249
			25	43.0	95.2	238
			30	44.2	95.2	283
			35	43.0	95.2	238
			40	35.9	74.6	249
			45	43.0	95.2	238
			50	43.0	95.2	238
			70	43.0	95.2	238
			90	43.0	95.2	238
			100	43.0	95.2	238
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3～100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)		
额定输入转速n1 Nominal Input Speed	rpm	1、2	3～100	3000	3000	2500
最大输入转速n1max Max.Input Speed	rpm	1、2	3～100	6000	6000	5000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3～10	–	–	–
		2	12～100	–	–	–
精密背隙P1 Precise Blacklash	arcmin	1	3～10	≤9	≤9	≤9
		2	12～100	≤12	≤12	≤12
标准背隙P2 Standard Blacklash	arcmin	1	3～10	≤12	≤12	≤12
		2	12～100	≤15	≤15	≤15
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3～100	2.8	7.5	15.5
容许径向力F2rB Max.Radial Load	N	1、2	3～100	960	1630	3380
容许轴向力F2aB Max.Axial Load	N	1、2	3～100	900	1420	2930
使用温度 Operating Temp	°C	1、2	3～100	–10° C～+90° C		
使用寿命 Service Life	hr	1、2	3～100	20,000 (10,000/连续运转continiu operationg)		
效率 η Efficiency	%	1	3～10	≥95%		
		2	12～100	≥92%		
重量 Weight	kg	1	3～10	1.3	3.5	7.8
		2	12～100	2.0	5.6	9.5
安装方向 mounting Position		1、2	3～100	任意方向 Any direction		
噪音值 Noise Level	dBA/1m	1、2	3～100	63	65	68
防护等级 Protection Class		1、2	3～100	Ip65		
润滑 Lubrication		1、2	3～100	全合成润滑脂油 Synthetic Lubricant		

减速机转动惯量

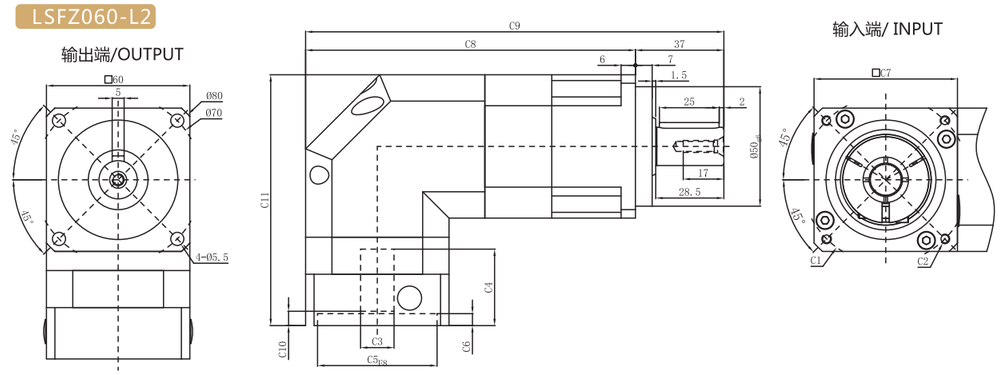
规格Specifications	单位unit	节数Stage	减速比Ratio	LSFZ060	LSFZ090	LSFZ115
转动惯量J1 Inertia	$kg.cm^2$	1	3	0.14	0.65	1.53
			4	0.18	0.68	1.68
			5	0.17	0.66	1.55
			6/7/8	0.15	0.60	1.48
			9/10/14/20	0.14	0.58	1.45
			15/18/20/25	0.18	0.68	1.61
			30/35/40	0.15	0.68	1.61
			45/50/70	0.15	0.60	1.55
			80/90/100	0.14	0.60	1.55

外形尺寸图表 / OUTLINE DIMENSION SHEET

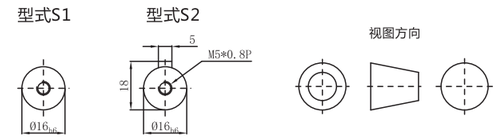
LSFZ060-L1



LSFZ060-L2



输出轴径/Output Diameter



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

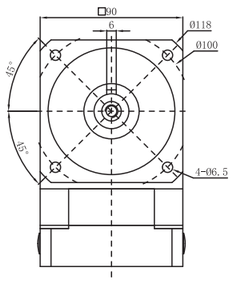
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LSFZ060–L1	ϕ46	4–M4x12,4–M5x12	≤ϕ8	37.5	ϕ30	10.5	60	110	147	11.5	110.5
	ϕ66.7	4–M4x12	≤ϕ8	32	ϕ38.1	5	60	110	147	5.5	105
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	32	ϕ50	5	60	110	147	6	105
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	32	ϕ60	5	66	113	150	6	105
	ϕ90	4–M6x15	≤ϕ19	42	ϕ70	7	80	120	160	11	117
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	120	160	11	117
LSFZ060–L2	ϕ46	4–M4x12,4–M5x12	≤ϕ8	37.5	ϕ30	10.5	60	138	175	11.5	110.5
	ϕ66.7	4–M4x12	≤ϕ8	32	ϕ38.1	5	60	138	175	5.5	105
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	32	ϕ50	5	60	138	175	6	105
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	32	ϕ60	5	66	141	178	6	105
	ϕ90	4–M6x15	≤ϕ19	42	ϕ70	7	80	148	188	11	117
	ϕ100	4–M6x15	≤ϕ19	44	ϕ80	7	90	148	188	11	117

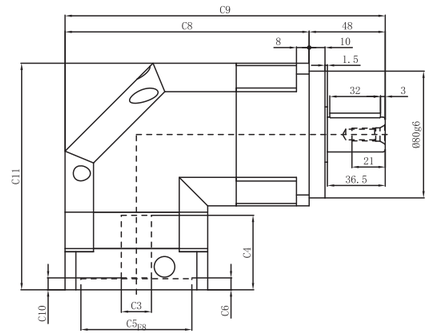
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

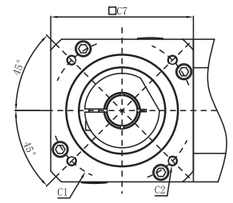
LSFZ090-L1

输出端/OUTPUT



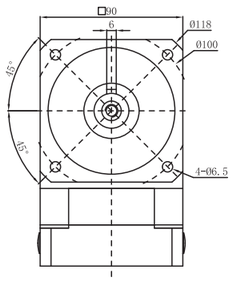


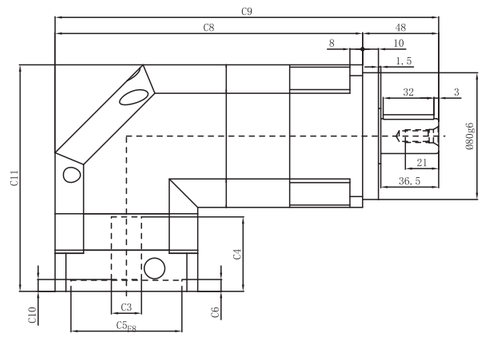
输入端/ INPUT



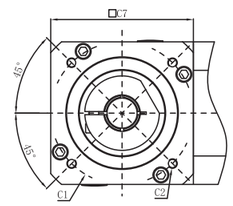
LSFZ090-L2

输出端/OUTPUT

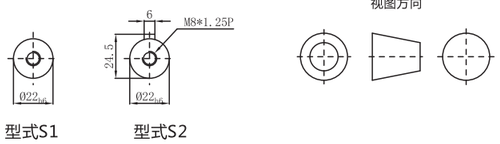




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

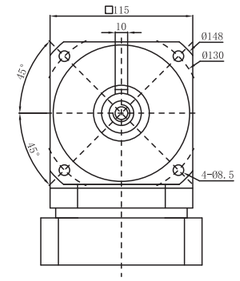
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LSFZ090-L1	ϕ70	4-M4x10,4-M5x12	≤ϕ14	47	ϕ50	4	90	154	202	6.5	143
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47	ϕ60	5.5	90	154	202	6.5	143
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	154	202	7.5	143
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	154	202	7.5	143
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	154	202	7.5	143
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	154	202	12.5	143
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	159	207	12.5	155
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	166.5	214.5	12.5	155
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	174	262	12.5	155
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	174	262	21.5	164
LSFZ090-L2	ϕ70	4-M4x10,4-M5x12	≤ϕ14	47	ϕ50	4	90	194	262	6.5	143
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47	ϕ60	5.5	90	194	262	6.5	143
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	194	262	7.5	143
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	194	262	7.5	143
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	194	262	7.5	143
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	194	262	12.5	143
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	199	267	12.5	155
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	206.5	254.5	12.5	155
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	214	272	12.5	155
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	214	272	21.5	164

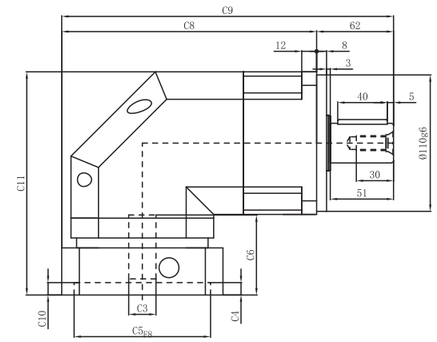
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

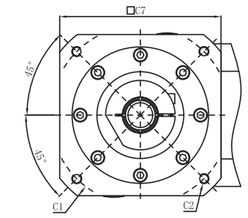
LSFZ115-L1

输出端/OUTPUT



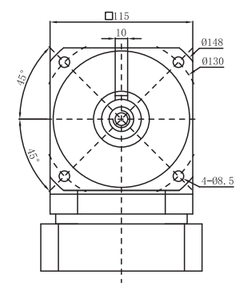


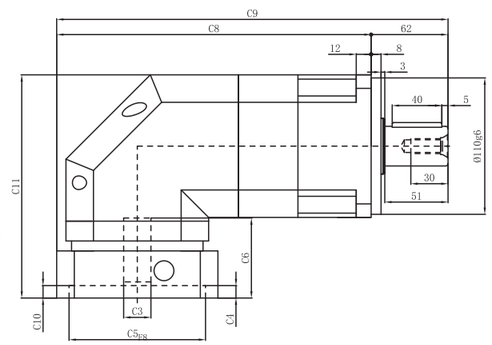
输入端/ INPUT



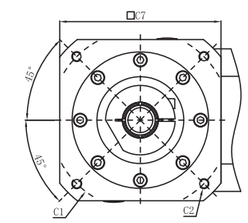
LSFZ115-L2

输出端/OUTPUT

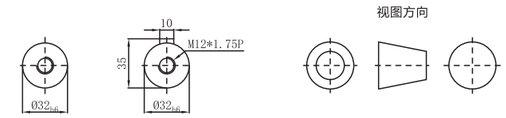




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LSFZ115-L1	ϕ90	4-M5x15,4-M6x15	≤ϕ19	62	ϕ70	7	115	198	260	12	180
	ϕ100	4-M6x15	≤ϕ19	62	ϕ80	7	115	198	260	12	180
	ϕ115	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ130	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ132	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ145	4-M8x20	≤ϕ24	62	ϕ110	10	130	205.5	267.5	13	180
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	10	130	205.5	267.5	22	189
LSFZ115-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	62	ϕ70	7	115	246	260	12	180
	ϕ100	4-M6x15	≤ϕ19	62	ϕ80	7	115	246	260	12	180
	ϕ115	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ130	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ132	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ145	4-M8x20	≤ϕ24	62	ϕ110	10	130	253.5	315.5	13	180
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	10	130	253.5	315.5	22	189

* C1~C11 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~C11 are motor (metric standard) specific dimensions, which could be customised。

LHFZ（转角斜齿）系列

型号说明 / MODEL ILLUMINATE

LHFZ060 – 10 – S2 – P2 / 马达

- LHFZ060：减速机型式：LHFZ060、LHFZ090 LHFZ115、LHFZ142
- 10：减速比：单段：3、4、5、7、9、10、20；双段：12、15、16、25、30、35、40 50、70、90、100
- S2：输出轴型式：S1：平滑光轴；S2：附带键轴
- P2：背隙：超精密背隙：P0；精密背隙：P1；标准背隙：P2
- 马达：马达型号：马达制造商及型号 马达安装尺寸

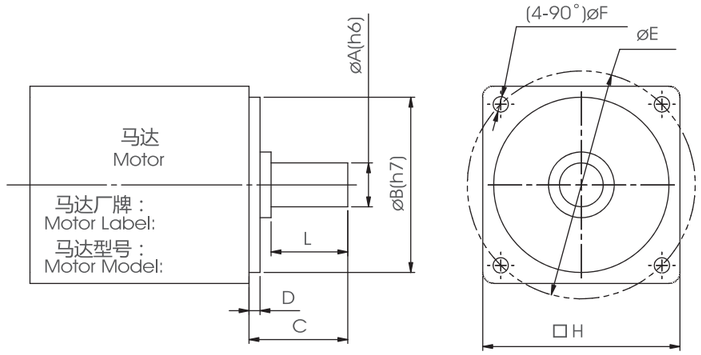
订货型号选定：LHFZ060-10-S2-P2/松下MSME-042GIU
或：LHFZ060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

LHFZ180 – 10 – S2 – P2 / 马达

- LHFZ180：减速机型式：LHFZ180、LHFZ220
- 10：减速比：单段：3、4、5、7、10、20；双段：12、15、16、25、30、35、40 50、70、100
- S2：输出轴型式：S1：平滑光轴；S2：附带键轴
- P2：背隙：超精密背隙：P0；精密背隙：P1；标准背隙：P2
- 马达：马达型号：马达制造商及型号 马达安装尺寸

订货型号选定：LHFZ060-10-S2-P2/松下MSME-042GIU
或：LHFZ060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

规格Specifications	单位unit	节数Stage	减速比Ratio	LHFZ042	LHFZ060	LHFZ090	LHFZ115	LHFZ142	LHFZ180	LHFZ220
额定输出力矩T2N Nominal Output Torque	N.m	1	3	19	53	145	290	520	950	1550
			4	20	55	150	300	550	1000	1650
			5	17	54	140	290	530	1050	1700
			6	19	53	145	290	520	950	1550
			7	14	44	125	270	450	960	1500
			8	20	55	150	300	550	1000	1650
			9	11	37	95	220	360	950	1550
			10	11	37	95	220	360	1050	1700
			14	14	44	125	270	450	960	1500
			18	11	37	95	220	360	800	1250
			20	11	37	95	220	360	800	1250
		2	12	19	53	145	290	520	950	1550
			15	19	53	145	290	520	950	1550
			20	20	55	150	300	550	1000	1650
			25	17	54	140	290	530	1050	1700
			30	19	53	145	290	520	950	1550
			35	17	54	140	290	530	1050	1700
			40	20	55	150	300	550	1000	1650
			45	17	54	140	290	530	–	–
			50	17	54	140	290	530	1050	1700
			70	17	54	140	290	530	1050	1700
			90	17	54	140	290	530	–	–
			100	17	54	140	290	530	1050	1700
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)						
额定输入转速n1 Nominal Input Speed	rpm	1、2	3 ~ 100	5000	3000	3000	3000	3000	1500	1500
最大输入转速n1max Max.Input Speed	rpm	1、2	3 ~ 100	10000	6000	6000	6000	6000	3000	3000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3 ~ 10	≤5	≤5	≤5	≤5	≤5	≤5	≤5
		2	12 ~ 100	≤8	≤8	≤8	≤8	≤8	≤8	≤8
精密背隙P1 Precise Blacklash	arcmin	1	3 ~ 10	≤7	≤7	≤7	≤7	≤7	≤7	≤7
		2	12 ~ 100	≤10	≤10	≤10	≤10	≤10	≤10	≤10
标准背隙P2 Standard Blacklash	arcmin	1	3 ~ 10	≤9	≤9	≤9	≤9	≤9	≤9	≤9
		2	12 ~ 100	≤12	≤12	≤12	≤12	≤12	≤12	≤12
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3 ~ 100	2.5	6	12	23	45	148	220
容许径向力F2rB Max.Radial Load	N	1、2	3 ~ 100	515	1010	1780	3420	5380	8330	11120
容许轴向力F2aB Max.Axial Load	N	1、2	3 ~ 100	410	600	1500	2650	4670	6460	8560
使用温度 Operating Temp	° C	1、2	3 ~ 100	–10° C ~ +90° C						
使用寿命 Service Life	hr	1、2	3 ~ 100	20,000 (10,000/连续运转continiu operationg)						
效率 η Efficiency	%	1	3 ~ 10	≥95%						
		2	12 ~ 100	≥92%						
重量 Weight	kg	1	3 ~ 10	1	1.3	3.5	7.8	16.1	30.0	58.0
		2	12 ~ 100	1.4	2.0	5.6	9.5	19.0	42.0	67.0
安装方向 mounting Position	–	1、2	3 ~ 100	任意方向 Any direction						
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	62	63	65	70	70	73	75
防护等级 Protection Class	–	1、2	3 ~ 100	Ip65						
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant						

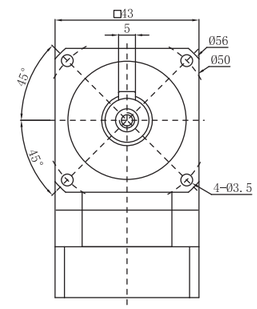
减速机转动惯量

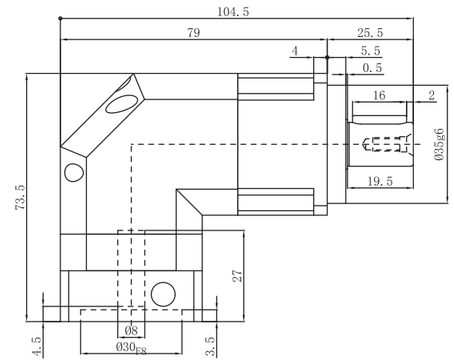
规格Specifications	单位unit	节数Stage	减速比Ratio	LHF042	LHF060	LHF090	LHF115	LHF142	LHF180	LHF220
转动惯量J1 Inertia	kg.cm2	1	3	0.06	0.23	0.98	2.36	10.10	31.00	79.63
			4	0.06	0.18	0.68	1.68	7.30	26.00	59.30
			5	0.06	0.17	0.66	1.55	6.58	23.80	54.86
			6/7/8	0.05	0.15	0.60	1.48	6.22	23.00	54.32
			9/10/14/18/20	0.06	0.14	0.58	1.45	6.15	22.90	54.00
		2	12/15/18/20/15	0.05	0.18	0.68	2.40	6.52	24.27	54.37
			30/35/40	0.05	0.15	0.68	1.68	6.52	23.82	54.37
			45/50/70	0.05	0.15	0.60	1.51	6.21	22.94	53.30
			80/90/100	0.05	0.14	0.60	1.41	6.10	22.75	52.45

外形尺寸图表 / OUTLINE DIMENSION SHEET

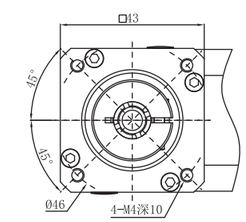
LHFZ042-L1

输出端/OUTPUT



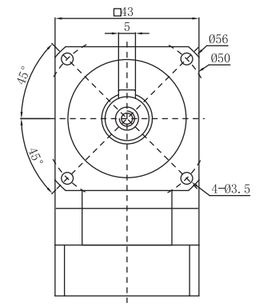


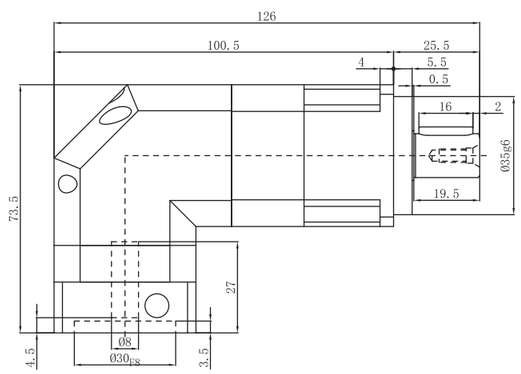
输入端/ INPUT



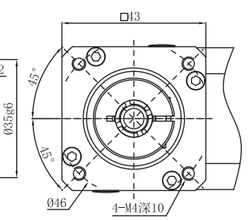
LHFZ042-L2

输出端/OUTPUT

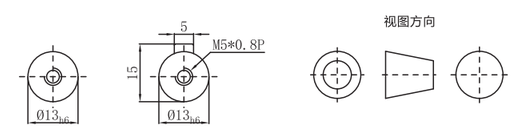




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

*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.

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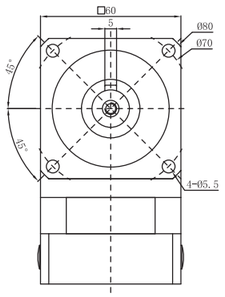
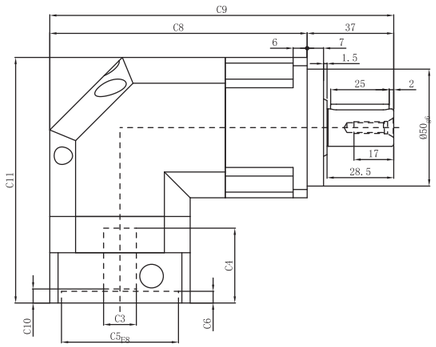
*This drawing is only for reference

外形尺寸图表 / OUTLINE DIMENSION SHEET

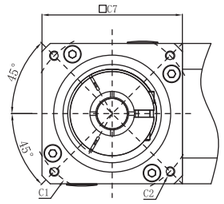
LHFZ060-L1

输出端/OUTPUT



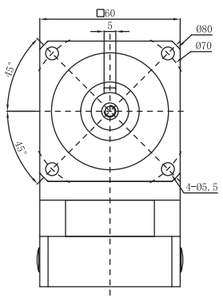


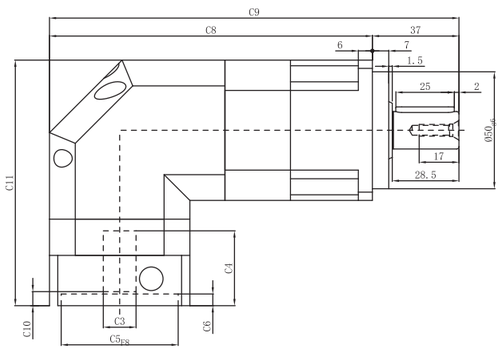
输入端/ INPUT



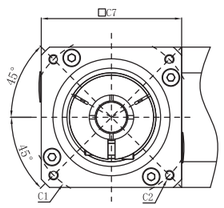
LHFZ060-L2

输出端/OUTPUT

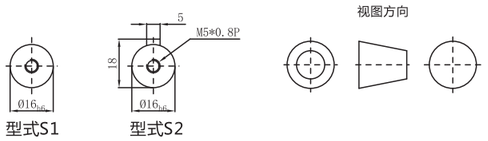




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

* 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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

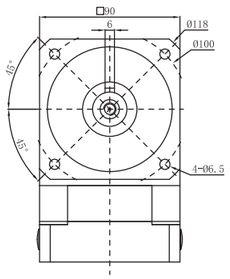
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ060-L1	ϕ46	4-M4x12,4-M5x12	≤ϕ8	37.5	ϕ30	10.5	60	110	147	11.5	110.5
	ϕ66.7	4-M4x12	≤ϕ8	32	ϕ38.1	5	60	110	147	5.5	105
	ϕ70	4-M4x10,4-M5x12	≤ϕ14	32	ϕ50	5	60	110	147	6	105
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	32	ϕ60	5	66	113	150	6	105
	ϕ90	4-M6x15	≤ϕ19	42	ϕ70	7	80	120	160	11	117
	ϕ100	4-M6x15	≤ϕ19	44	ϕ80	7	90	120	160	11	117
LHFZ060-L2	ϕ46	4-M4x12,4-M5x12	≤ϕ8	37.5	ϕ30	10.5	60	138	175	11.5	110.5
	ϕ66.7	4-M4x12	≤ϕ8	32	ϕ38.1	5	60	138	175	5.5	105
	ϕ70	4-M4x10,4-M5x12	≤ϕ14	32	ϕ50	5	60	138	175	6	105
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	32	ϕ60	5	66	141	178	6	105
	ϕ90	4-M6x15	≤ϕ19	42	ϕ70	7	80	148	188	11	117
	ϕ100	4-M6x15	≤ϕ19	44	ϕ80	7	90	148	188	11	117

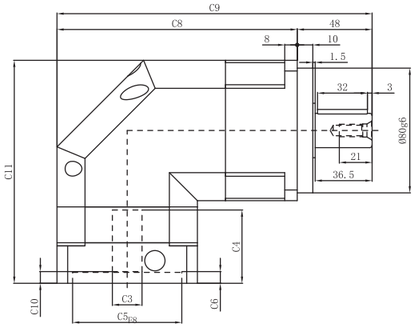
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

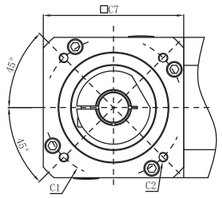
LHFZ090-L1

输出端/OUTPUT



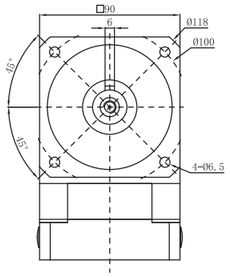


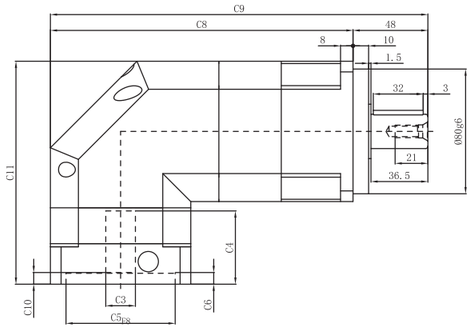
输入端/ INPUT



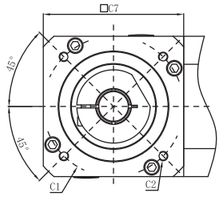
LHFZ090-L2

输出端/OUTPUT

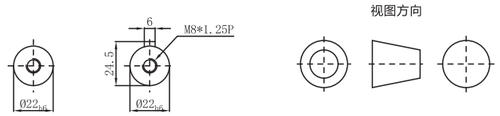




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

* 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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

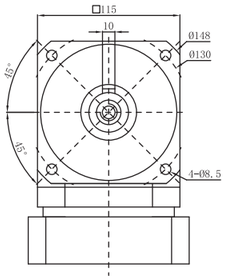
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ090-L1	ϕ70	4-M4x10,4-M5x12	≤ϕ14	47	ϕ50	4	90	154	202	6.5	143
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47	ϕ60	5.5	90	154	202	6.5	143
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	154	202	7.5	143
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	154	202	7.5	143
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	154	202	7.5	143
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	154	202	12.5	143
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	159	207	12.5	155
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	166.5	214.5	12.5	155
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	174	262	12.5	155
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	174	262	21.5	164
LHFZ090-L2	ϕ70	4-M4x10,4-M5x12	≤ϕ14	47	ϕ50	4	90	194	262	6.5	143
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47	ϕ60	5.5	90	194	262	6.5	143
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	194	262	7.5	143
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	194	262	7.5	143
	ϕ98.4	4-M6x15	≤ϕ14	47.5	ϕ60	7	90	194	262	7.5	143
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	194	262	12.5	143
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	199	267	12.5	155
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	206.5	254.5	12.5	155
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	214	272	12.5	155
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	214	272	21.5	164

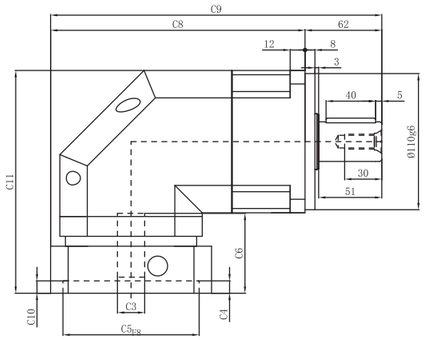
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

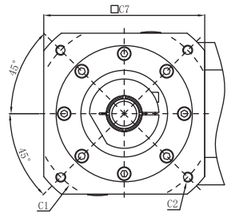
LHFZ115-L1

输出端/OUTPUT



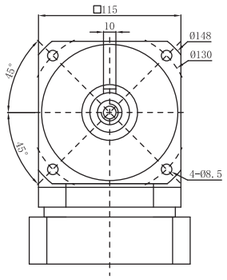


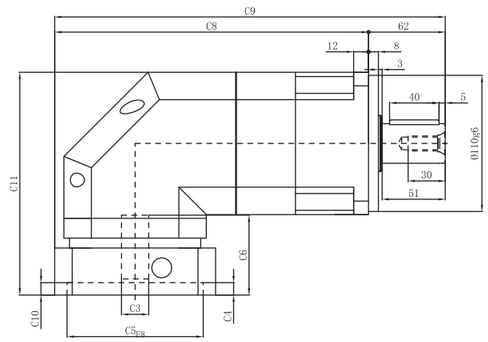
输入端/ INPUT



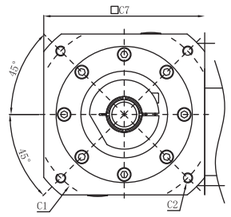
LHFZ115-L2

输出端/OUTPUT

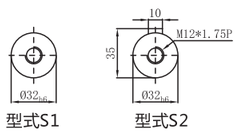




输入端/ INPUT

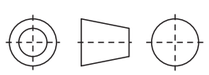


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

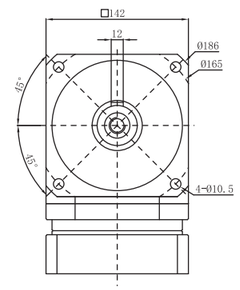
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ115-L1	ϕ90	4-M5x15,4-M6x15	≤ϕ19	62	ϕ70	7	115	198	260	12	180
	ϕ100	4-M6x15	≤ϕ19	62	ϕ80	7	115	198	260	12	180
	ϕ115	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ130	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ132	4-M8x20	≤ϕ24	62	ϕ95	10	115	198	260	13	180
	ϕ145	4-M8x20	≤ϕ24	62	ϕ110	10	130	205.5	267.5	13	180
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	10	130	205.5	267.5	22	189
LHFZ115-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	62	ϕ70	7	115	246	260	12	180
	ϕ100	4-M6x15	≤ϕ19	62	ϕ80	7	115	246	260	12	180
	ϕ115	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ130	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ132	4-M8x20	≤ϕ24	62	ϕ95	10	115	246	260	13	180
	ϕ145	4-M8x20	≤ϕ24	62	ϕ110	10	130	253.5	315.5	13	180
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	10	130	253.5	315.5	22	189

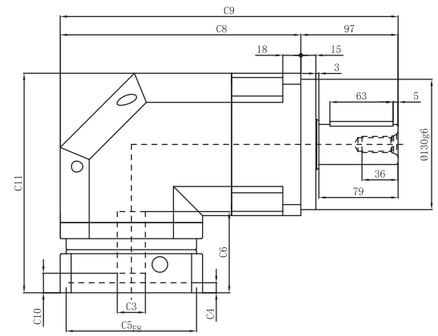
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

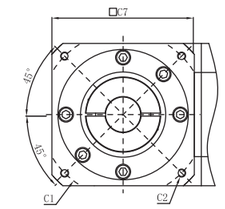
LHFZ142-L1

输出端/OUTPUT



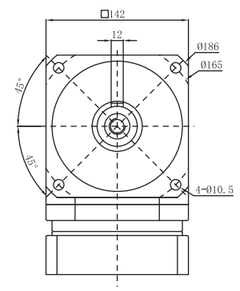


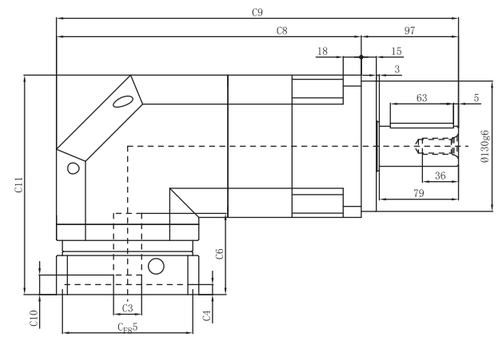
输入端/ INPUT



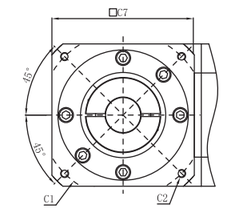
LHFZ142-L2

输出端/OUTPUT

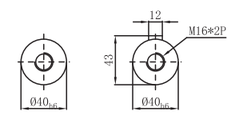




输入端/ INPUT

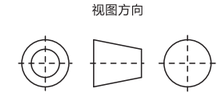


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

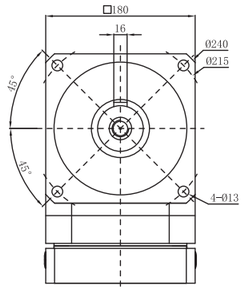
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ142-L1	ϕ130	4-M8x20	≤ϕ24	81	ϕ110	10	142	240	337	19.5	219
	ϕ145	4-M8x20	≤ϕ28	81	ϕ110	10	142	240	337	19.5	219
	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	81	ϕ130	10	142	240	337	19.5	219
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	259	356	21.5	221
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	259	356	53.5	253
	ϕ215	4-M12x35	≤ϕ42	83	ϕ180	8	190	264	361	21.5	221
LHFZ142-L2	ϕ130	4-M8x20	≤ϕ24	81	ϕ110	10	142	304	401	19.5	219
	ϕ145	4-M8x20	≤ϕ28	81	ϕ110	10	142	304	401	19.5	219
	ϕ165	4-M10x25 , 4-M12x35	≤ϕ32	81	ϕ130	10	142	304	401	19.5	219
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	323	420	21.5	221
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	323	420	53.5	253
	ϕ215	4-M12x35	≤ϕ42	83	ϕ180	8	190	328	425	21.5	221

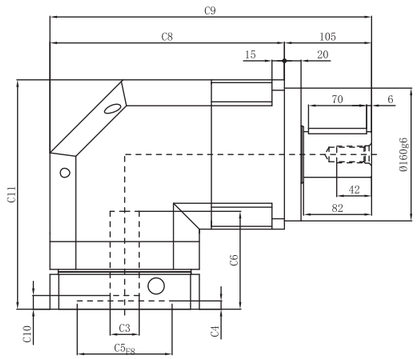
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

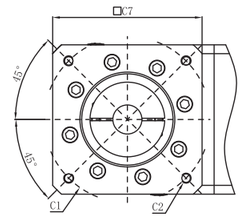
LHFZ180-L1

输出端/OUTPUT



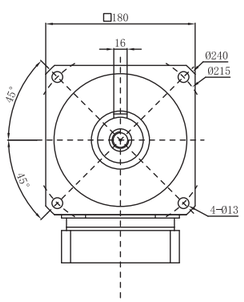


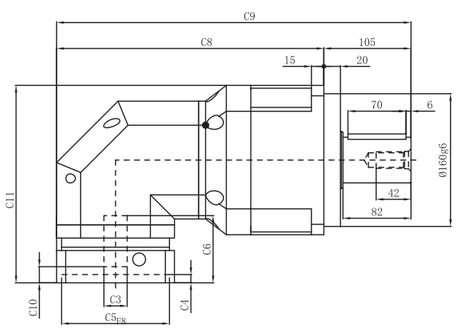
输入端/ INPUT



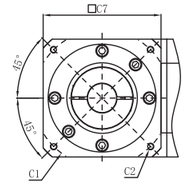
LHFZ180-L2

输出端/OUTPUT

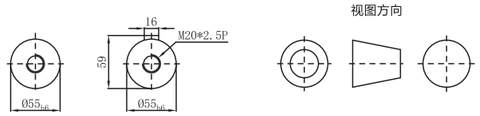




输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

视图方向

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

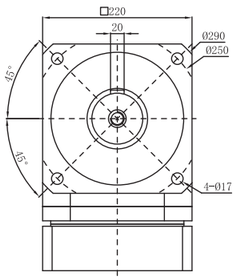
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ180-L1	ϕ165	4-M10x25 , 4-M12x35	≤ ϕ32	118	ϕ130	10	180	282.5	387.5	16.5	276.5
	ϕ200	4-M12x35	≤ ϕ42	118	ϕ114.3	10	180	282.5	387.5	16.5	276.5
	ϕ215	4-M14x35	≤ ϕ42	118	ϕ180	10	190	287.5	392.5	16.5	276.5
	ϕ235	4-M10x30 , 4-M14x35	≤ ϕ55	150	ϕ200	10	220	302.5	407.5	48.5	308.5
LHFZ180-L2	ϕ130	4-M8x20	≤ ϕ24	81	ϕ110	10	142	322	427	19.5	238
	ϕ145	4-M8x20	≤ ϕ24	81	ϕ110	10	142	322	427	19.5	238
	ϕ165	4-M10x25 , 4-M12x35	≤ ϕ32	81	ϕ130	10	142	322	427	19.5	238
	ϕ200	4-M12x35	≤ ϕ42	83	ϕ114.3	8	180	341	446	21.5	240
	ϕ200	4-M10x25 , 4-M12x35	≤ ϕ42	115	ϕ114.3	8	180	341	446	53.5	272
	ϕ215	4-M14x35	≤ ϕ42	83	ϕ180	8	190	346	451	21.5	240

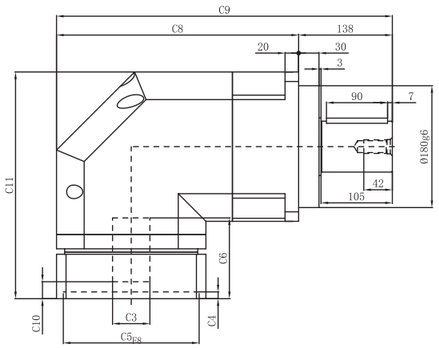
* C1~C11 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C11 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

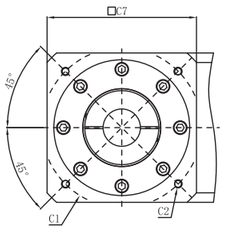
LHFZ220-L1

输出端/OUTPUT



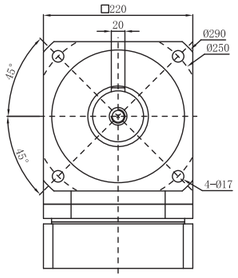


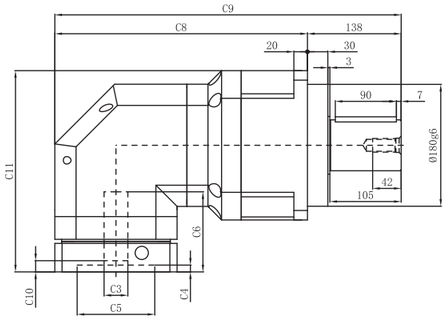
输入端/ INPUT



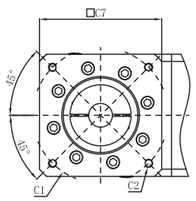
LHFZ220-L2

输出端/OUTPUT

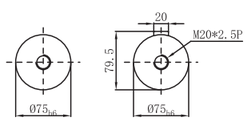




输入端/ INPUT

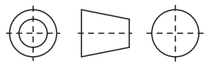


输出轴径/Output Diameter



型式S1　型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
LHFZ220-L1	ϕ200	4-M12x35	≤ ϕ42	119	ϕ114.3	10	220	356.5	494.5	25	334
	ϕ215	4-M14x35	≤ ϕ42	119	ϕ180	10	220	356.5	494.5	25	334
	ϕ235	4-M12x35 , 4-M14x35	≤ ϕ55	119	ϕ200	10	220	356.5	494.5	25	334
LHFZ220-L2	ϕ165	4-M10x25 , 4-M12x35	≤ ϕ32	118	ϕ130	10	180	372	510	16.5	296.5
	ϕ200	4-M12x35	≤ ϕ42	118	ϕ114.3	10	180	372	510	16.5	296.5
	ϕ215	4-M12x35 , 4-M14x35	≤ ϕ42	118	ϕ180	10	190	377	515	16.5	296.5
	ϕ235	4-M12x35 , 4-M14x35	≤ ϕ55	150	ϕ200	10	220	392	530	48.5	328.5

* C1~C11 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~C11 are motor (metric standard) specific dimensions, which could be customised。

LGY（高精密盘式输出）系列

型号说明 / MODEL ILLUMINATE

LGY064 – 10 – P2 / 马达

减速机型式：
LGY047、LGY064、
LGY090、LGY110、
LGY140、LGY200、
LGY255

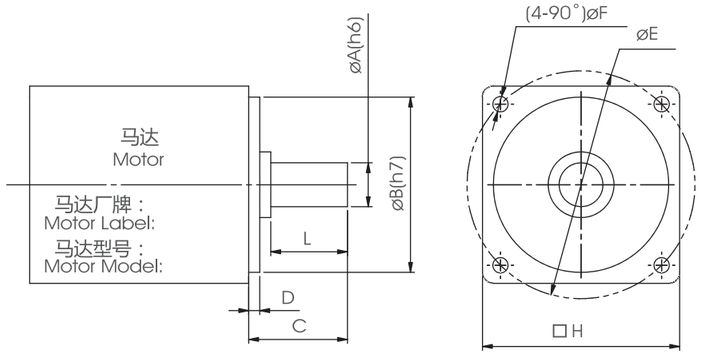
马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：4、5、7、10
双段：16、20、25、35、40、50、70、100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LGY064-10-P2/松下MSME-042GIU
或：LGY064-10-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia. 马达轴外径	Flange Dia. 马达凸缘外径	Motor Shaft Length 马达轴长度	Flange Height 马达凸缘高度	P.C.D of Bore 螺丝孔中心距	Bore Dia. 螺丝孔直径	Motor Flange Square 马达面尺寸	Actual Length of Motor Shaft 马达轴有效长	Backlash 要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

规格Specifications	单位unit	节数Stage	减速比Ratio	LGY047	LGY064	LGY090	LGY110	LGY140	LGY200	LGY255
额定输出力矩T2N Nominal Output Torque	N.m	1	4	21	50	142	285	582	1145	1650
			5	25	66	176	335	600	1220	1700
			7	21	54	145	310	540	1120	1500
			10	16	45	122	250	500	620	1250
		2	16	21	50	142	285	582	1060	1600
			20	21	50	142	285	582	1120	1700
			25	25	66	176	335	600	1220	2000
			35	25	66	176	335	600	1220	2000
			40	21	50	142	285	582	1145	1700
			50	25	66	176	335	600	1220	2000
			70	21	54	145	310	540	1120	1800
			100	16	45	122	250	500	620	1250
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	4 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)						
额定输入转速n1 Nominal Input Speed	rpm	1、2	4 ~ 100	5000	5000	5000	4000	3000	3000	2000
最大输入转速n1max Max.Input Speed	rpm	1、2	4 ~ 100	10000	10000	10000	8000	6000	6000	4000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	4 ~ 10	≤2	≤2	≤2	≤1	≤1	≤1	≤1
		2	16 ~ 100	≤4	≤4	≤4	≤3	≤3	≤3	≤3
精密背隙P1 Precise Blacklash	arcmin	1	4 ~ 10	≤4	≤4	≤4	≤3	≤3	≤3	≤3
		2	16 ~ 100	≤6	≤6	≤6	≤5	≤5	≤5	≤5
标准背隙P2 Standard Blacklash	arcmin	1	4 ~ 10	≤6	≤6	≤6	≤5	≤5	≤5	≤5
		2	16 ~ 100	≤8	≤8	≤8	≤7	≤7	≤7	≤7
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	4 ~ 100	6	11	30	84	150	435	1006
最大弯曲力矩M2kB Max.Radial Load	N	1、2	4 ~ 100	40	120	241	417	1320	3200	5900
容许轴向力F2aB Max.Axial Load	N	1、2	4 ~ 100	960	1800	2000	4550	6110	5300	10600
使用温度 Operating Temp	° C	1、2	4 ~ 100	–10° C ~ +90° C						
使用寿命 Service Life	hr	1、2	4 ~ 100	20000 (10000/连续运转)						
效率 η Efficiency	%	1	4 ~ 10	≥97%						
		2	16 ~ 100	≥94%						
重量 Weight	kg	1	4 ~ 10	0.8	1.2	3.3	7.5	14.6	32.4	
		2	16 ~ 100	1.1	1.8	4.5	9.2	18.7	37.5	
安装方向 mounting Position		1、2	3 ~ 100	任意方向 Any direction						
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	60	60	63	65	68	70	73
防护等级 Protection Class		1、2	3 ~ 100	Ip65						
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant						

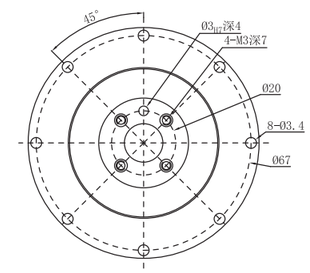
减速机转动惯量

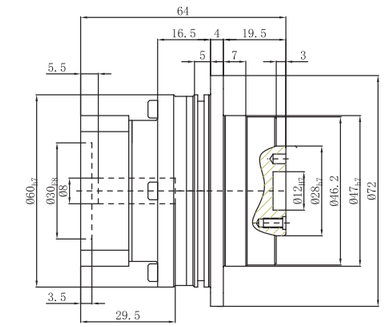
规格Specifications	单位unit	节数Stage	减速比Ratio	LGY047	LGY064	LGY090	LGY110	LGY140	LGY200	LGY255
转动惯量J1 Inertia	kg.cm2	1	4	0.04	0.18	0.67	1.66	7.17	24.92	58.30
			5	0.04	0.17	0.65	1.50	6.52	23.42	53.30
			7	0.04	0.14	0.60	1.45	6.17	22.64	51.02
			9	0.04	0.14	0.58	1.41	6.10	22.64	50.96
			10	0.04	0.14	0.58	1.41	6.10	22.72	50.55
		2	16	0.04	0.18	0.18	0.65	2.80	7.56	23.22
			20	0.04	0.17	0.17	0.65	2.80	7.56	23.22
			25	0.04	0.17	0.17	0.65	2.80	7.56	23.22
			35	0.04	0.14	0.14	0.60	2.59	7.56	23.22
			40	0.04	0.14	0.14	0.60	2.59	7.06	22.51
			50	0.04	0.14	0.14	0.58	2.54	7.06	22.51
			70	0.04	0.14	0.14	0.58	2.54	7.06	22.51
			90	0.04	0.14	0.14	0.58	2.54	7.06	22.51
			100	0.04	0.14	0.14	0.58	2.54	7.06	22.51

外形尺寸图表 / OUTLINE DIMENSION SHEET

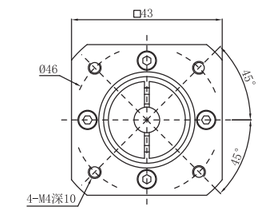
LGY047-L1

输出端/OUTPUT



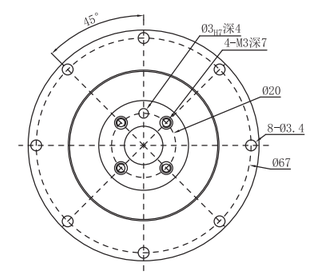


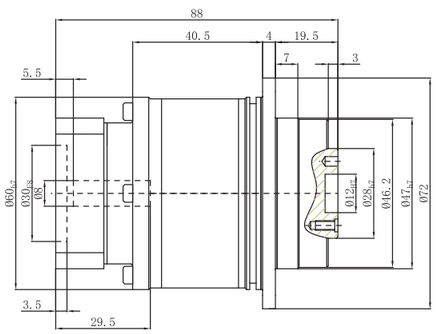
输入端/ INPUT



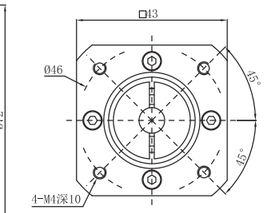
LGY047-L2

输出端/OUTPUT





输入端/ INPUT



*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.

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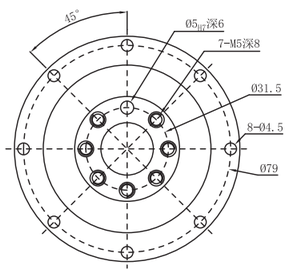
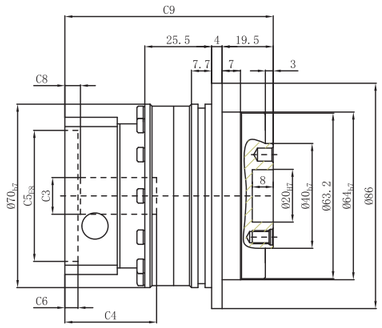
外形尺寸图表 / OUTLINE DIMENSION SHEET

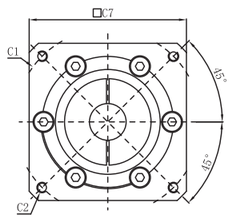
LGY064-L1

输出端/OUTPUT



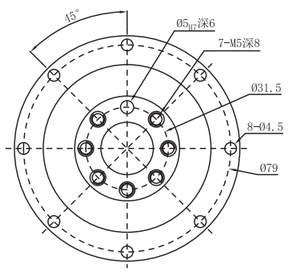


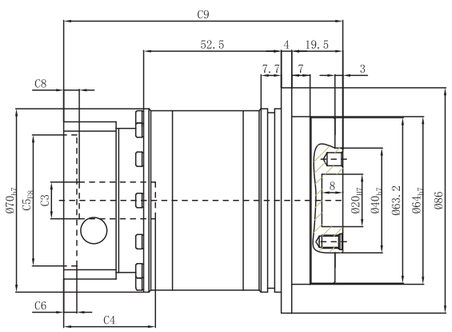
输入端/ INPUT



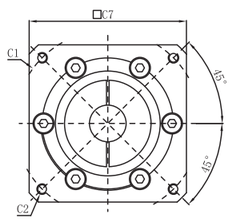
LGY064-L2

输出端/OUTPUT





输入端/ INPUT



*输入马达连接板之尺寸，可根据客户要求单独定做。
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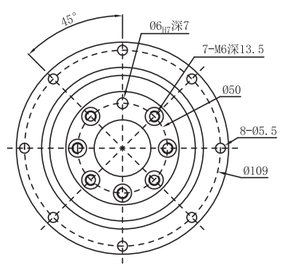
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY064–L1	ϕ46	4–M4x10	≤ϕ8	35	ϕ30	5	60	5.5	79.5
	ϕ66.7	4–M4x10	≤ϕ8	35	ϕ38.1	5	60	5.5	79.5
	ϕ70	4–M4x10,4–M5x10	≤ϕ14	35	ϕ50	5	60	5.5	79.5
	ϕ75	4–M4x10,4–M5x10	≤ϕ14	35	ϕ60	5	66	5.5	79.5
LGY064–L2	ϕ46	4–M4x10	≤ϕ8	35	ϕ30	5	60	5.5	106.5
	ϕ66.7	4–M4x10	≤ϕ8	35	ϕ38.1	5	60	5.5	106.5
	ϕ70	4–M4x10,4–M5x10	≤ϕ14	35	ϕ50	5	60	5.5	106.5
	ϕ75	4–M4x10,4–M5x10	≤ϕ14	35	ϕ60	5	66	5.5	106.5

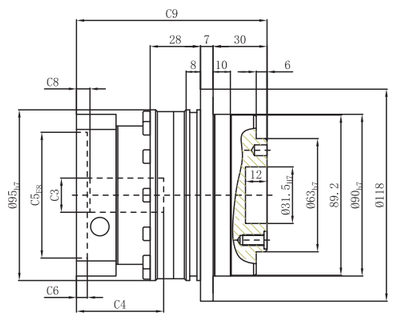
* C1~C9 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C9 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

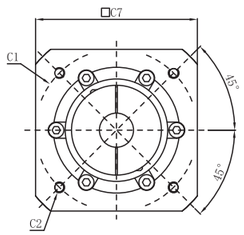
LGY090-L1

输出端/OUTPUT



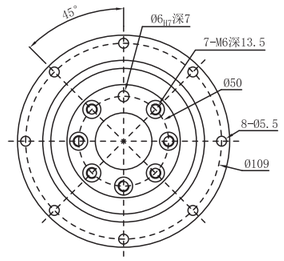


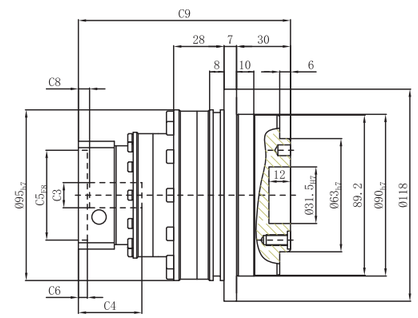
输入端/ INPUT



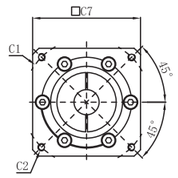
LGY090-L2

输出端/OUTPUT





输入端/ INPUT



*输入马达连接板之尺寸，可根据客户要求单独定做。
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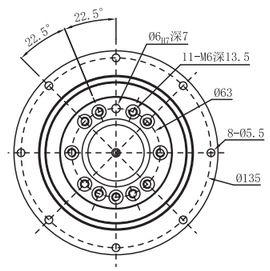
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY090–L1	ϕ90	4–M5x15,4–M6x15	≤ϕ24	47	ϕ70	6	90	7	106
	ϕ98.4	4–M5x15,4–M6x15	≤ϕ14	47	ϕ73	6	90	7	106
	ϕ100	4–M6x15	≤ϕ24	47	ϕ80	6	90	7	106
	ϕ115	4–M6x20,4–M8x20	≤ϕ24	59	ϕ95	11	100	19	118
	ϕ130	4–M8x20	≤ϕ24	59	ϕ95	11	115	19	118
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	11	130	19	118
	ϕ145	4–M8x20	≤ϕ24	70	ϕ110	11	130	30	129
LGY090–L2	ϕ70	4–M4x10,4–M5x10	≤ϕ14	35	ϕ50	5	60	5.5	118
	ϕ90	4–M5x15,4–M6x15	≤ϕ24	47	ϕ70	6	90	7	139.5
	ϕ98.4	4–M5x15,4–M6x15	≤ϕ14	47	ϕ73	6	90	7	139.5
	ϕ100	4–M6x15	≤ϕ24	47	ϕ80	6	90	7	139.5
	ϕ115	4–M6x20,4–M8x20	≤ϕ24	59	ϕ95	11	100	19	151.5
	ϕ130	4–M8x20	≤ϕ24	59	ϕ95	11	115	19	151.5
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	11	130	19	151.5
	ϕ145	4–M8x20	≤ϕ24	70	ϕ110	11	130	30	162.5

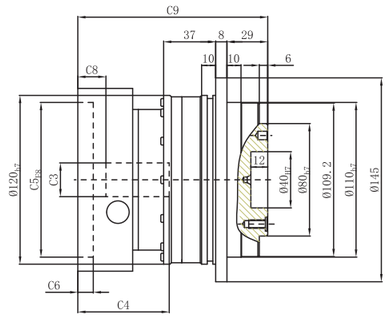
* C1~C9 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C9 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

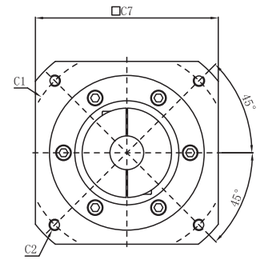
LGY110-L1

输出端/OUTPUT



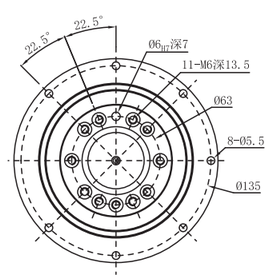


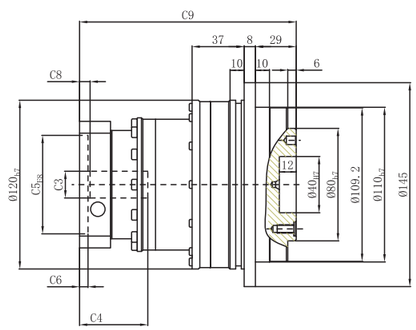
输入端/ INPUT



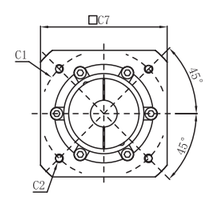
LGY110-L2

输出端/OUTPUT





输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
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尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY110-L1	ϕ115	4-M6x20,4-M8x20	≤ϕ24	61	ϕ95	11	115	17	132
	ϕ130	4-M8x20	≤ϕ24	61	ϕ95	11	115	17	132
	ϕ145	4-M8x20	≤ϕ24	64	ϕ110	11	130	19	135
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	11	130	26	142
LGY110-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	6	90	7	154
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	11	115	19	166
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	11	115	19	166
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	11	130	19	166
	ϕ145	4-M8x20	≤ϕ24	70	ϕ110	11	130	30	177

* C1~C9 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
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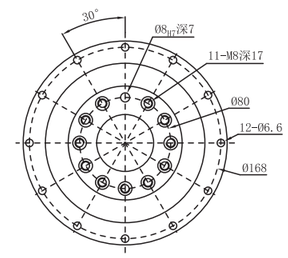
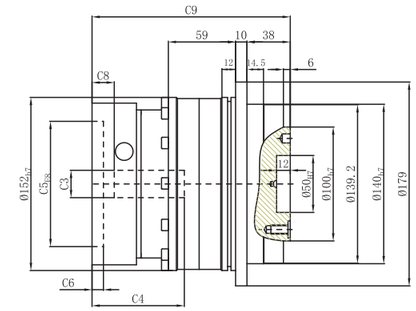
外形尺寸图表 / OUTLINE DIMENSION SHEET

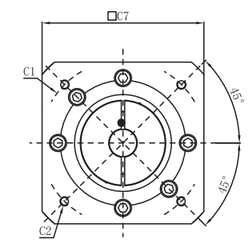
LGY140-L1

输出端/OUTPUT



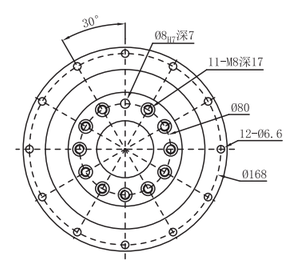


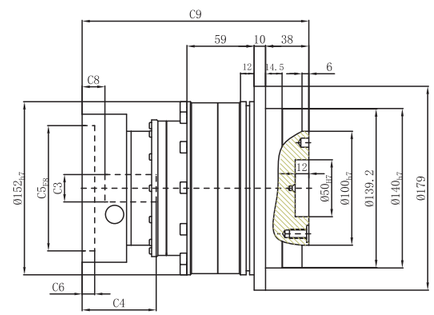
输入端/ INPUT



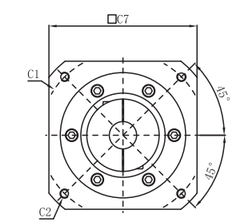
LGY140-L2

输出端/OUTPUT





输入端/ INPUT



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尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY140-L1	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	19.5	174
	ϕ165	4-M10x30	≤ϕ28	81	ϕ130	10	142	19.5	174
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	21.5	176
LGY140-L2	ϕ145	4-M8x25	≤ϕ24	65	ϕ110	11	142	20	199
	ϕ165	4-M10x30	≤ϕ28	65	ϕ130	10	142	20	199
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	21.5	239.5

* C1~C9 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
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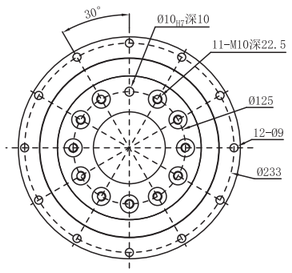
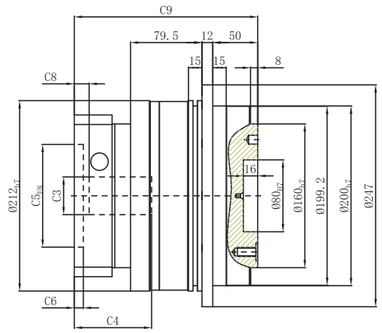
外形尺寸图表 / OUTLINE DIMENSION SHEET

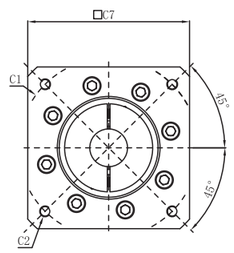
LGY200-L1

输出端/OUTPUT



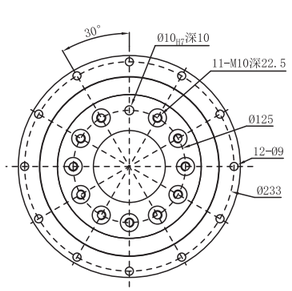


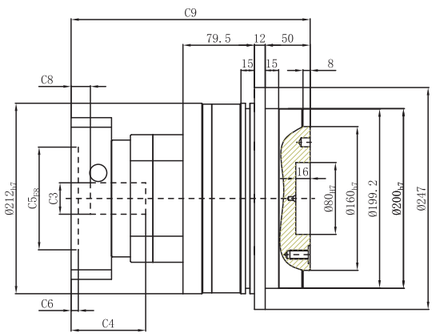
输入端/ INPUT



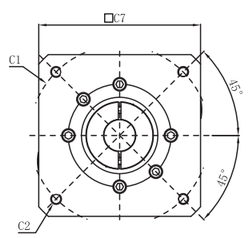
LGY200-L2

输出端/OUTPUT





输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

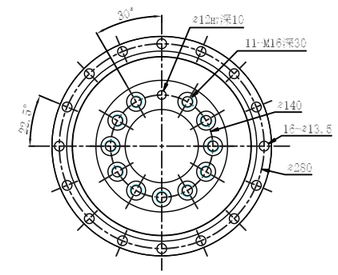
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY200-L1	ϕ165	4-M10x25	≤ϕ32	86	ϕ30	10	180	16.5	204
	ϕ200	4-M12x35	≤ϕ42	86	ϕ114.3	10	180	16.5	204
	ϕ200	4-M12x35	≤ϕ42	118	ϕ114.3	10	180	48.5	236
	ϕ215	4-M12x35,4-M14x35	≤ϕ42	86	ϕ180	10	190	16.5	204
	ϕ235	4-M10x30，4-M14x35	≤ϕ55	118	ϕ200	10	220	48.5	236
LGY200-L2	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	19.5	264
	ϕ165	4-M10x30	≤ϕ28	81	ϕ130	10	142	19.5	264
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	21.5	266
	ϕ200	4-M12x35,4-M14x35	≤ϕ42	115	ϕ114.3	8	180	53.5	298
	ϕ215	4-M14x35	≤ϕ42	83	ϕ180	8	190	21.5	266

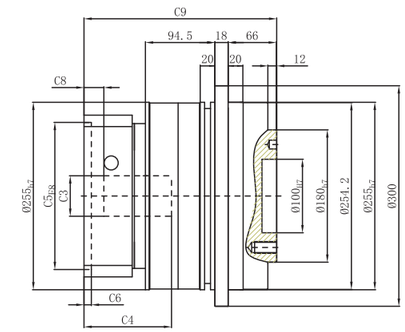
* C1~C9 是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C9 are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

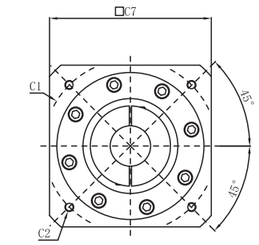
LGY255-L1

输出端/OUTPUT



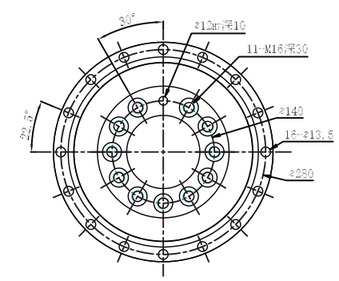


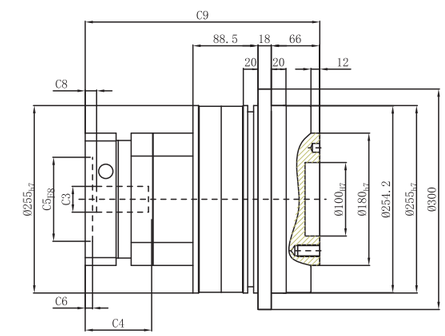
输入端/ INPUT



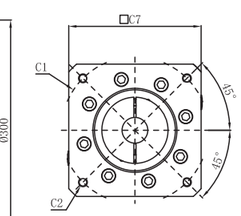
LGY255-L2

输出端/OUTPUT





输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9
LGY255-L1	ϕ200	4-M12x35	≤ϕ42	119	ϕ114.3	10	220	27	262
	ϕ215	4-M14x35	≤ϕ42	119	ϕ180	10	220	27	262
	ϕ235	4-M12x35，4-M14x35	≤ϕ55	119	ϕ200	10	220	27	262
LGY255-L2	ϕ165	4-M10x25，4-M12x35	≤ϕ32	118	ϕ130	10	180	16.5	319
	ϕ200	4-M12x35	≤ϕ42	118	ϕ114.3	10	180	16.5	319
	ϕ215	4-M12x35，4-M14x35	≤ϕ42	118	ϕ180	10	190	16.5	319
	ϕ235	4-M12x35，4-M14x35	≤ϕ55	150	ϕ200	10	220	48.5	351

* C1~C9 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~C9 are motor (metric standard) specific dimensions, which could be customised。

LGYZ（盘式输出转角）系列

型号说明 / MODEL ILLUMINATE

LGYZ064 – 10 – P2 / 马达

减速机型式：
LGYZ047、LGYZ064
LGYZ090、LGYZ110
LGYZ140、LGYZ200
LGYZ255

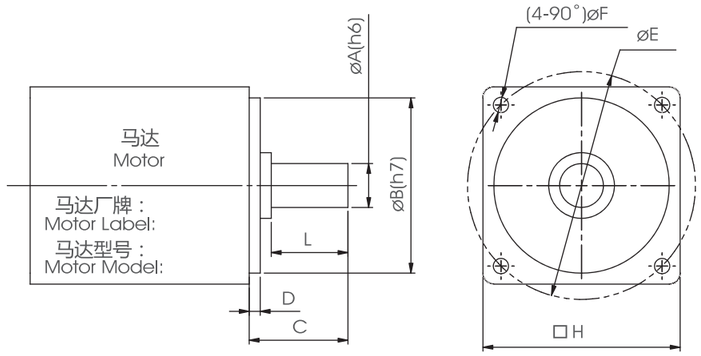
马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：4、5、7、10
双段：16、20、25、35、40、50、70、100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LGYZ064-10-P2/松下MSME-042GIU
或：LGYZ064-10-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia. 马达轴外径	Flange Dia. 马达凸缘外径	Motor Shaft Length 马达轴长度	Flange Height 马达凸缘高度	P.C.D of Bore 螺丝孔中心距	Bore Dia. 螺丝孔直径	Motor Flange Square 马达面尺寸	Actual Length of Motor Shaft 马达轴有效长	Backlash 要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

规格Specifications	单位unit	节数Stage	减速比Ratio	LGYZ047	LGYZ064	LGYZ090	LGYZ110	LGYZ140	LGYZ200	LGYZ255
额定输出力矩T2N Nominal Output Torque	N.m	1	4	21	50	142	285	582	1145	1650
			5	25	66	176	335	600	1220	1700
			7	21	54	145	310	540	1120	1500
			8	21	50	142	285	582	1145	1650
			10	25	66	176	335	600	1220	1700
			14	21	54	145	310	540	1120	1500
			20	16	45	122	250	500	620	1250
		2	16	21	50	142	285	582	1145	1650
			20	21	50	142	285	582	1145	1650
			25	25	66	176	335	600	1220	1700
			35	25	66	176	335	600	1220	1700
			40	21	50	142	285	582	1145	1650
			50	25	66	176	335	600	1220	1700
			70	25	66	176	335	600	1220	1500
			80	21	50	142	285	582	1145	1650
			100	25	66	176	335	600	620	1250
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	4 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)						
额定输入转速n1 Nominal Input Speed	rpm	1、2	4 ~ 100	5000	5000	5000	4000	3000	3000	2000
最大输入转速n1max Max.Input Speed	rpm	1、2	4 ~ 100	10000	10000	10000	8000	6000	6000	4000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	4 ~ 10	≤5	≤5	≤5	≤5	≤5	≤5	≤5
		2	16 ~ 100	≤8	≤8	≤8	≤8	≤8	≤8	≤8
精密背隙P1 Precise Blacklash	arcmin	1	4 ~ 10	≤7	≤7	≤7	≤7	≤7	≤7	≤7
		2	16 ~ 100	≤10	≤10	≤10	≤10	≤10	≤10	≤10
标准背隙P2 Standard Blacklash	arcmin	1	4 ~ 10	≤9	≤9	≤9	≤9	≤9	≤9	≤9
		2	16 ~ 100	≤12	≤12	≤12	≤12	≤12	≤12	≤12
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	4 ~ 100	6	11	30	84	150	435	1006
最大弯曲力矩M2kB Max.Radial Load	N	1、2	4 ~ 100	40	120	241	417	1320	3200	5900
容许轴向力F2aB Max.Axial Load	N	1、2	4 ~ 100	960	1800	2000	4550	6110	5300	10600
使用温度 Operating Temp	° C	1、2	4 ~ 100	–10° C ~ +90° C						
使用寿命 Service Life	hr	1、2	4 ~ 100	20000 (10000/连续运转)						
效率 η Efficiency	%	1	4 ~ 10	≥95%						
		2	16 ~ 100	≥92%						
重量 Weight	kg	1	4 ~ 10	1.0	1.6	3.5	7.8	15.0	45.5	68.7
		2	16 ~ 100	1.3	2.2	4.8	9.5	19.1	40.8	72.6
安装方向 mounting Position		1、2	3 ~ 100	任意方向 Any direction						
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	63	63	68	70	70	72	75
防护等级 Protection Class		1、2	3 ~ 100	Ip65						
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant						

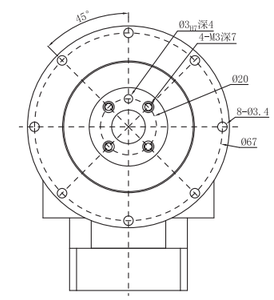
减速机转动惯量

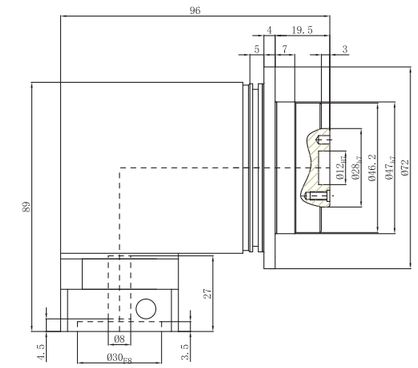
规格Specifications	单位unit	节数Stage	减速比Ratio	LGYZ047	LGYZ064	LGYZ090	LGYZ110	LGYZ140	LGYZ200	LGYZ255
转动惯量J1 Inertia	kg.cm2	1	4		0.18	0.67	1.66	7.17	24.92	58.30
			5		0.17	0.65	1.50	6.52	23.42	53.30
			7		0.14	0.60	1.45	6.17	22.64	51.02
			8/10/14/20		0.14	0.58	1.41	6.10	22.64	50.96
		2	16/20/25		0.18	0.18	0.65	2.80	7.56	23.22
			35/40		0.14	0.14	0.60	2.59	7.56	23.22
			50/70/80/100		0.14	0.14	0.58	2.54	7.06	22.51

外形尺寸图表 / OUTLINE DIMENSION SHEET

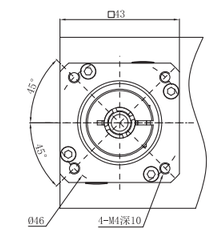
LGYZ047-L1

输出端/OUTPUT



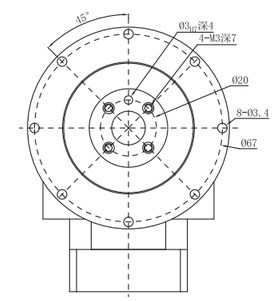


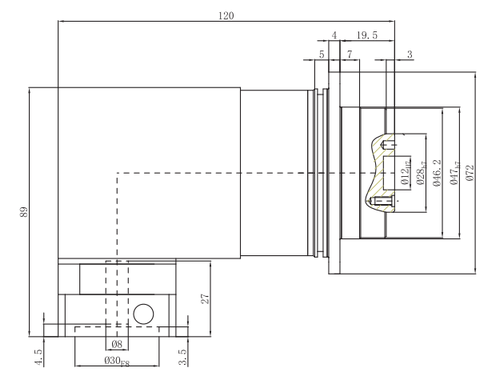
输入端/ INPUT



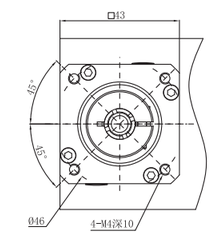
LGYZ047-L2

输出端/OUTPUT





输入端/ INPUT

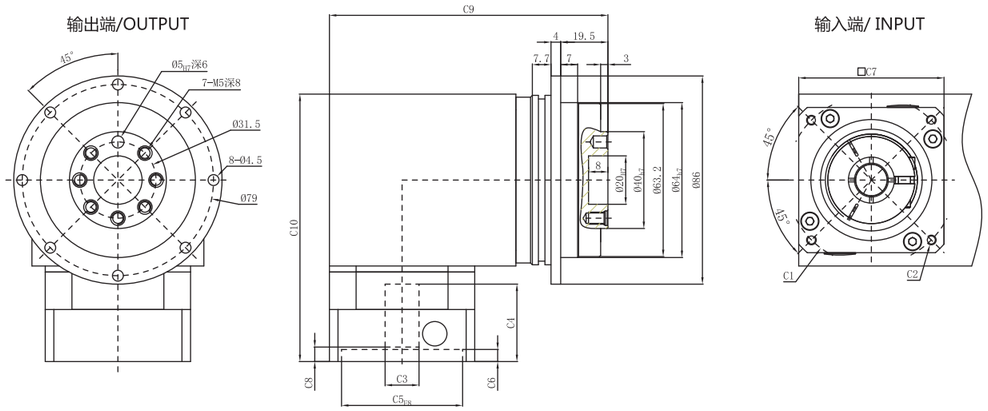


*输入马达连接板之尺寸，可根据客户要求单独定做。
*The input motor specific dimensions could be customised.

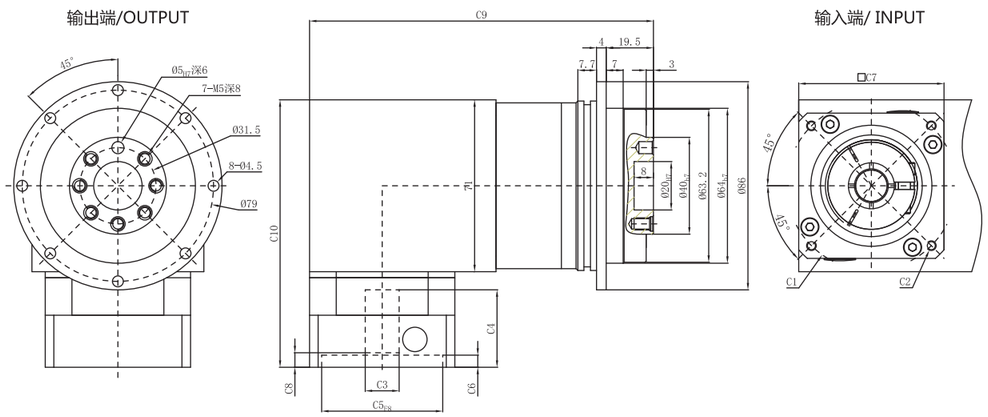
*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

外形尺寸图表 / OUTLINE DIMENSION SHEET

LGYZ064-L1



LGYZ064-L2



* 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.

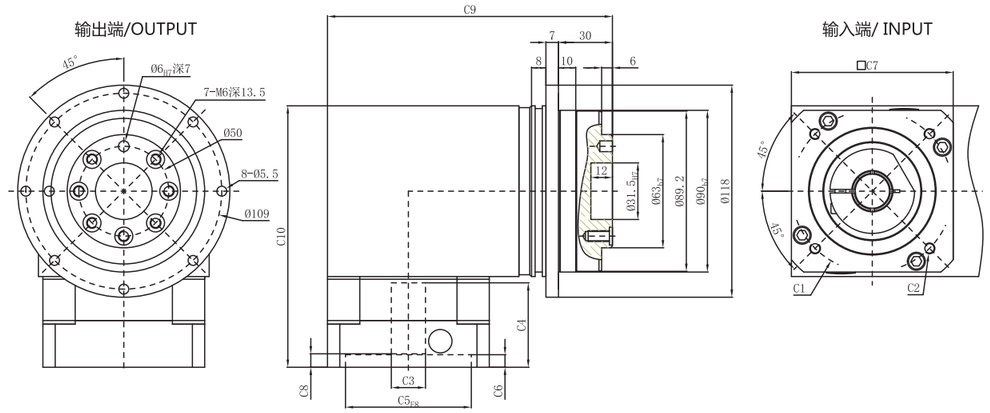
*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ064-L1	ϕ46	4-M4x12,4-M5x12	≤ϕ8	37.5	ϕ30	10.5	60	11.5	115	116
	ϕ66.7	4-M4x12	≤ϕ8	32	ϕ38.1	5	60	6	115	110.5
	ϕ70	4-M4x10,4-M5x12	≤ϕ14	32	ϕ50	5	60	6	115	110.5
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	32	ϕ60	5	66	6	118	110.5
LGYZ064-L2	ϕ46	4-M4x12,4-M5x12	≤ϕ8	37.5	ϕ30	10.5	60	11.5	142	116
	ϕ66.7	4-M4x12	≤ϕ8	32	ϕ38.1	5	60	6	142	110.5
	ϕ70	4-M4x10,4-M5x12	≤ϕ14	32	ϕ50	5	60	6	142	110.5
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	32	ϕ60	5	66	6	145	110.5

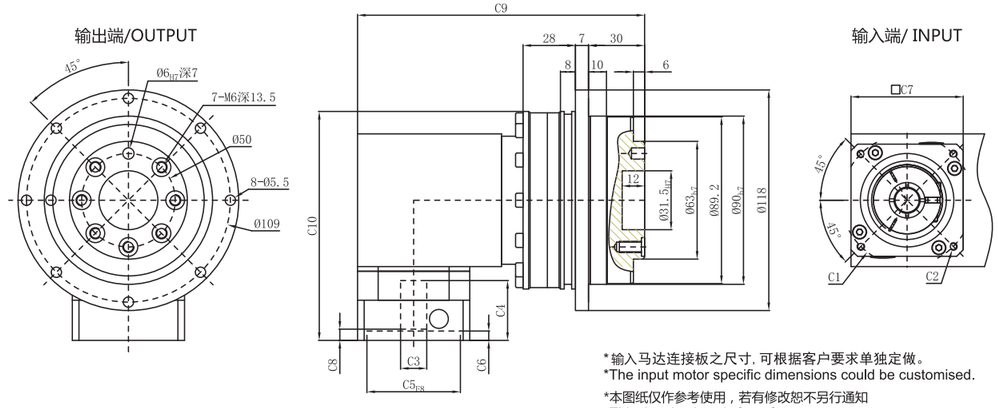
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

LGYZ090-L1



LGYZ090-L2



* 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.

*本图纸仅作参考使用，若有修改恕不另行通知
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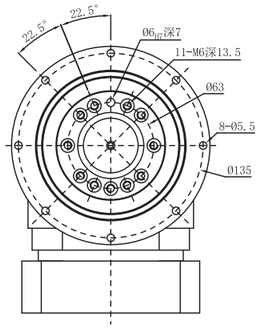
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ090-L1	ϕ70	4-M4x10,4-M5x12	≤ϕ14	47	ϕ50	4	90	6.5	158.5	145.5
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	47	ϕ60	5.5	90	6.5	158.5	145.5
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	7.5	158.5	145.5
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	7.5	158.5	145.5
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	12.5	158.5	145.5
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	12.5	163.5	157.5
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	12.5	171	157.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	12.5	178.5	157.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	21.5	178.5	166.5
LGYZ090-L2	ϕ70	4-M4x10,4-M5x12	≤ϕ14	32	ϕ50	5	60	6	153.5	122.5
	ϕ75	4-M4x12,4-M5x12	≤ϕ14	32	ϕ60	5	66	6	156.5	122.5
	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	7.5	192	145.5
	ϕ98.4	4-M5x15,4-M6x15	≤ϕ14	47.5	ϕ73	7	90	7.5	192	145.5
	ϕ100	4-M6x15	≤ϕ19	47.5	ϕ80	7	90	12.5	192	145.5
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	100	12.5	197	157.5
	ϕ130	4-M8x20	≤ϕ24	59	ϕ95	10	115	12.5	204.5	157.5
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	12.5	212	157.5
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	21.5	212	166.5

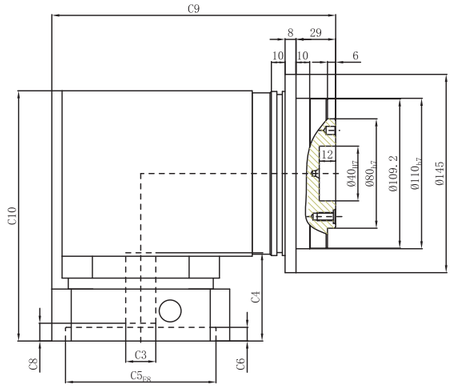
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

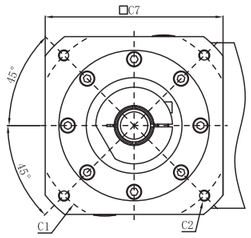
LGYZ110-L1

输出端/OUTPUT



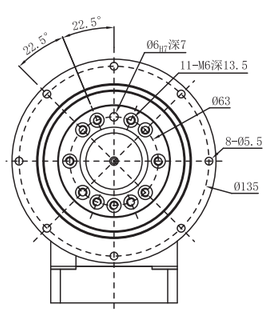


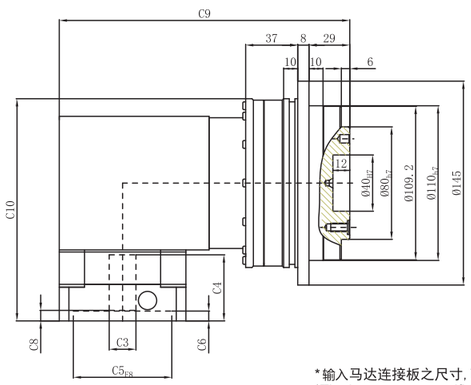
输入端/ INPUT



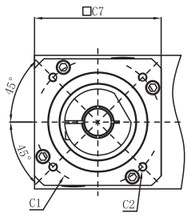
LGYZ110-L2

输出端/OUTPUT





输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

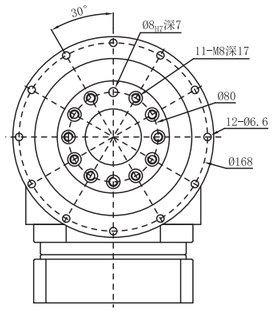
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ110-L1	ϕ90	4-M5x15,4-M6x15	≤ϕ19	62	ϕ70	7	115	12	200	183
	ϕ100	4-M6x15	≤ϕ19	62	ϕ80	7	115	12	200	183
	ϕ115	4-M8x20	≤ϕ24	62	ϕ95	10	115	13	200	183
	ϕ145	4-M8x20	≤ϕ24	62	ϕ110	10	130	13	207.5	183
	ϕ145	4-M8x20	≤ϕ24	71	ϕ110	10	130	13	207.5	192
LGYZ110-L2	ϕ90	4-M5x15,4-M6x15	≤ϕ19	47	ϕ70	7	90	7.5	206.5	158
	ϕ100	4-M6x15	≤ϕ19	47	ϕ80	7	90	7.5	206.5	158
	ϕ115	4-M8x20	≤ϕ24	59	ϕ95	10	115	12.5	219	170
	ϕ145	4-M8x20	≤ϕ24	59	ϕ110	10	130	12.5	226.5	170
	ϕ145	4-M8x20	≤ϕ24	68	ϕ110	10	130	21.5	226.5	179

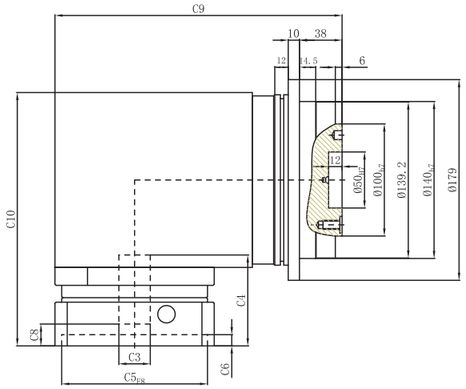
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

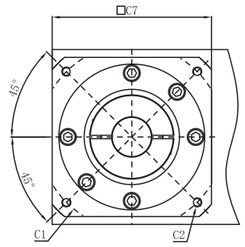
LGYZ140-L1

输出端/OUTPUT



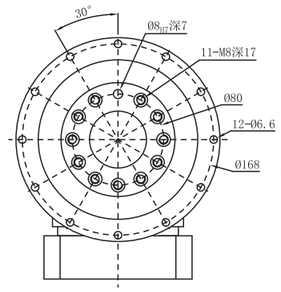


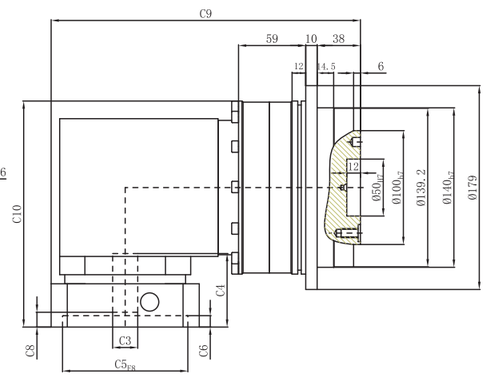
输入端/ INPUT



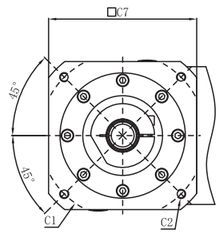
LGYZ140-L2

输出端/OUTPUT





输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

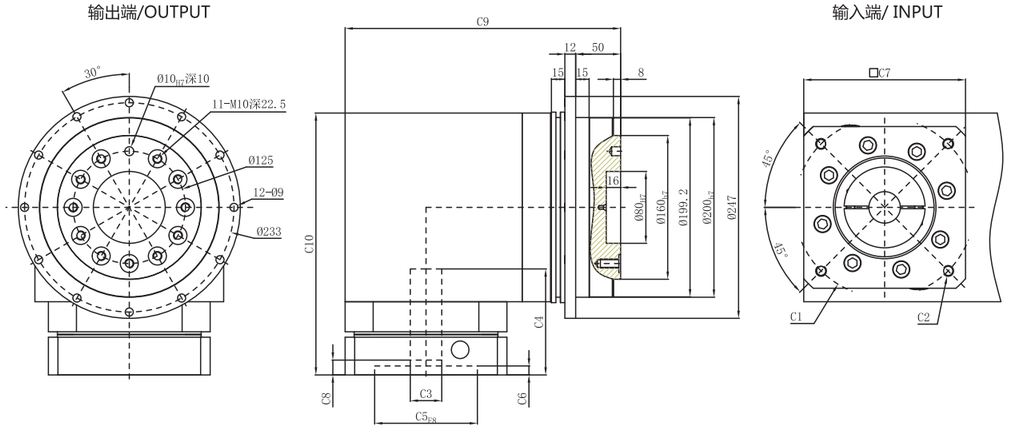
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ140-L1	ϕ145	4-M8x20	≤ϕ28	81	ϕ110	10	142	19.5	256	226
	ϕ165	4-M10x25，4-M12x35	≤ϕ32	81	ϕ130	10	142	19.5	256	226
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	21.5	275	228
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	53.5	275	260
LGYZ140-L2	ϕ145	4-M8x25	≤ϕ24	62	ϕ110	10	142	13	271.5	198.5
	ϕ165	4-M10x30	≤ϕ28	62	ϕ130	10	142	13	271.5	198.5

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

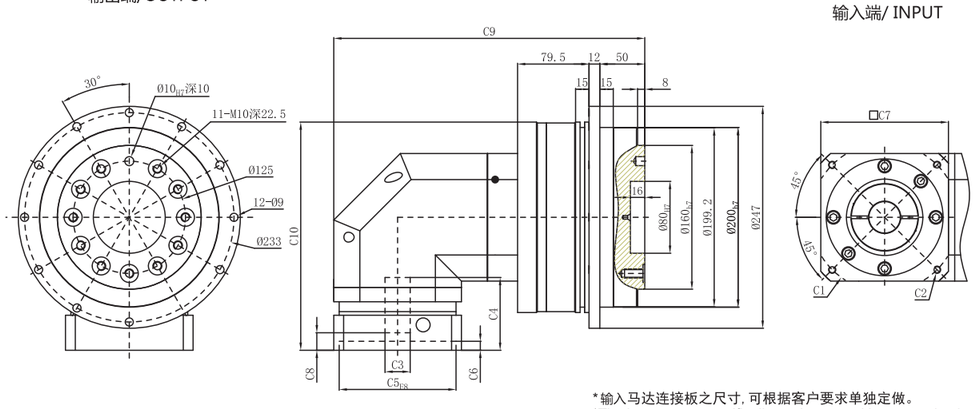
LGYZ200-L1

输出端/OUTPUT　　输入端/ INPUT



LGYZ200-L2

输出端/OUTPUT　　输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

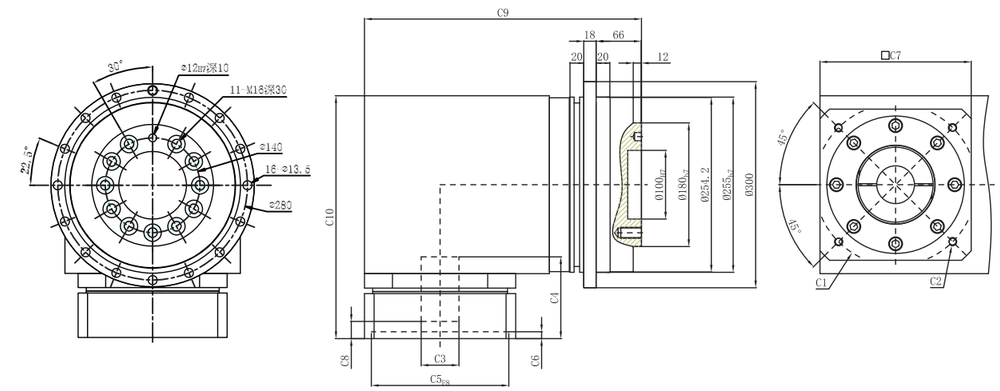
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ200-L1	ϕ165	4–M10x25，4–M12x35	≤ϕ32	118	ϕ130	10	180	16.5	306.5	291.5
	ϕ200	4–M12x35	≤ϕ42	118	ϕ114.3	10	180	16.5	306.5	291.5
	ϕ215	4–M14x35	≤ϕ42	118	ϕ180	10	190	16.5	311.5	291.5
	ϕ235	4–M10x30，4–M14x35	≤ϕ55	150	ϕ200	10	220	48.5	326.5	323.5
LGYZ200-L2	ϕ130	4–M8x20	≤ϕ24	81	ϕ110	10	142	19.5	346	254
	ϕ145	4–M8x20	≤ϕ24	81	ϕ110	10	142	19.5	346	254
	ϕ165	4–M10x25，4–M12x35	≤ϕ32	81	ϕ130	10	142	19.5	346	254
	ϕ200	4–M12x35	≤ϕ42	83	ϕ114.3	8	180	21.5	365	256
	ϕ200	4–M10x25，4–M12x35	≤ϕ42	115	ϕ114.3	8	180	53.5	365	288
	ϕ215	4–M14x35	≤ϕ42	83	ϕ180	8	190	21.5	370	256

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

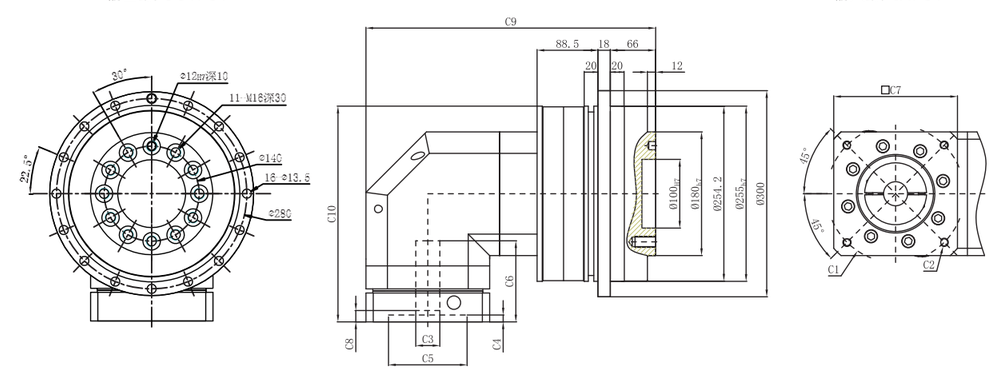
LGYZ255-L1

输出端/OUTPUT　　输入端/ INPUT



LGYZ255-L2

输出端/OUTPUT　　输入端/ INPUT



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LGYZ255–L1	ϕ200	4–M12x35	≤ϕ42	119	ϕ114.3	10	220	27	403	353.5
	ϕ215	4–M14x35	≤ϕ42	119	ϕ180	10	220	27	403	353.5
	ϕ235	4–M12x35，4–M14x35	≤ϕ55	119	ϕ200	10	220	27	403	353.5
LGYZ255–L2	ϕ165	4–M10x25，4–M12x35	≤ϕ32	118	ϕ130	10	180	16.5	421.5	314
	ϕ200	4–M12x35	≤ϕ42	118	ϕ114.3	10	180	16.5	421.5	314
	ϕ215	4–M12x35，4–M14x35	≤ϕ42	118	ϕ180	10	190	16.5	426.5	314
	ϕ235	4–M12x35，4–M14x35	≤ϕ55	150	ϕ200	10	220	48.5	441.5	346

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

LSN系列

型号说明 / MODEL ILLUMINATE

LSN060 – 10 – S2 – P2 / 马达

减速机型式：
LSN060、LSN090
LSN120、LSN160

输出轴型式：
S1：平滑光轴
S2：附带键轴

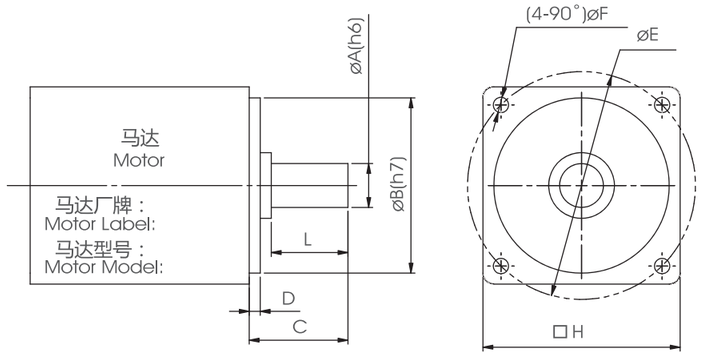
马达型号：
马达制造商及型号
马达安装尺寸

减速比：
单段：3、4、5、7、10
双段：12、15、20、25、30、35、40
50、70、100

背隙：
超精密背隙：P0
精密背隙：P1
标准背隙：P2

订货型号选定：LSN060-10-S2-P2/松下MSME-042GIU
或：LSN060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia.	Flange Dia.	Motor Shaft Length	Flange Height	P.C.D of Bore	Bore Dia.	Motor Flange Square	Actual Length of Motor Shaft	Backlash
马达轴外径	马达凸缘外径	马达轴长度	马达凸缘高度	螺丝孔中心距	螺丝孔直径	马达面尺寸	马达轴有效长	要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

规格Specifications	单位unit	节数Stage	减速比Ratio	LSN060	LSN090	LSN120	LSN160
额定输出力矩T2N Nominal Output Torque	N.m	1	3	32.6	95.2	283	482
			4	30.1	74.6	249	490
			5	32.3	95.2	283	473
			7	30.9	85.6	219	400
			10	25.0	75.0	210	320
		2	12	32.6	95.2	283	482
			15	32.6	95.2	283	482
			20	30.1	74.6	249	490
			25	32.3	95.2	283	473
			30	32.3	95.2	283	473
			35	32.3	95.2	283	473
			40	32.3	95.2	283	473
			50	32.3	95.2	283	473
			70	30.9	85.0	219	400
			100	25.0	75.0	210	320
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3 ~ 100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)			
额定输入转速n1 Nominal Input Speed	rpm	1、2	3 ~ 100	3000	3000	2500	2000
最大输入转速n1max Max.Input Speed	rpm	1、2	3 ~ 100	6000	6000	5000	4000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3 ~ 10	–	–	≤3	≤3
		2	12 ~ 100	–	–	≤5	≤5
精密背隙P1 Precise Blacklash	arcmin	1	3 ~ 10	–	≤6	≤5	≤5
		2	12 ~ 100	–	≤9	≤7	≤7
标准背隙P2 Standard Blacklash	arcmin	1	3 ~ 10	≤12	≤9	≤7	≤7
		2	12 ~ 100	≤15	≤12	≤9	≤9
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3 ~ 100	2.6	7.5	15.5	30
容许径向力F2rB Max.Radial Load	N	1、2	3 ~ 100	889	1630	3380	6450
容许轴向力F2aB Max.Axial Load	N	1、2	3 ~ 100	850	1420	2930	5510
使用温度 Operating Temp	° C	1、2	3 ~ 100	–10° C ~ +90° C			
使用寿命 Service Life	hr	1、2	3 ~ 100	20,000 (10,000/连续运转continiu operationg)			
效率 η Efficiency	%	1	3 ~ 10	≥96%			
		2	12 ~ 100	≥92%			
重量 Weight	kg	1	3 ~ 10	1.3	3.0	7.3	15.6
		2	12 ~ 100	2.0	5.0	11.5	20.7
安装方向 mounting Position	–	1、2	3 ~ 100	任意方向 Any direction			
噪音值 Noise Level	dBA/1m	1、2	3 ~ 100	60	65	65	70
防护等级 Protection Class	–	1、2	3 ~ 100	Ip65			
润滑 Lubrication		1、2	3 ~ 100	全合成润滑脂油 Synthetic Lubricant			

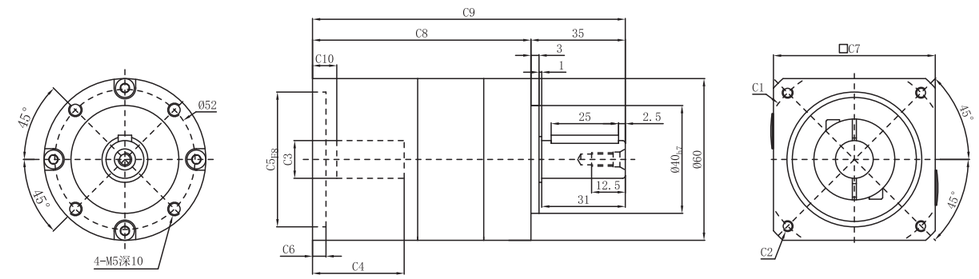
减速机转动惯量

规格Specifications	单位unit	节数Stage	减速比Ratio	LSN060	LSN090	LSN120	LSN160
转动惯量J1 Inertia	$kg.cm^2$	1	3	0.25	0.81	2.2	7.89
			4	0.18	0.65	1.8	5.83
			5	0.16	0.62	1.61	5.83
			7	0.14	0.60	1.55	5.22
			10	0.14	0.60	1.53	5.20
		2	12	0.16	0.62	1.61	5.83
			15	0.16	0.62	1.61	5.83
			20	0.16	0.62	1.61	5.83
			25	0.16	0.62	1.61	5.83
			30	0.14	0.60	1.55	5.22
			35	0.14	0.60	1.55	5.22
			40	0.14	0.60	1.55	5.22
			50	0.14	0.60	1.55	5.22
			70	0.14	0.60	1.53	5.20
			100	0.14	0.60	1.53	5.20

外形尺寸图表 / OUTLINE DIMENSION SHEET

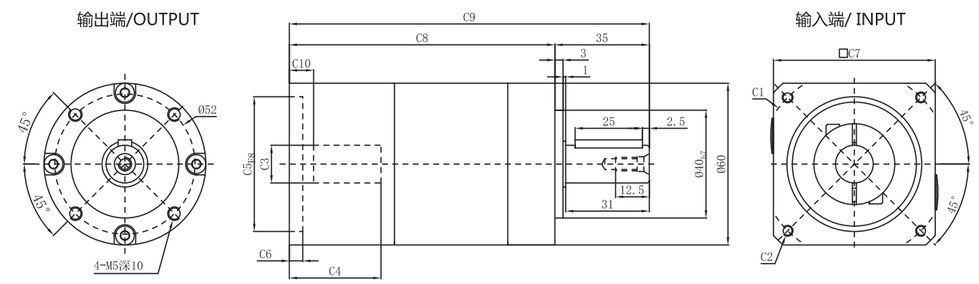
LSN060-L1

输出端/OUTPUT　　输入端/ INPUT

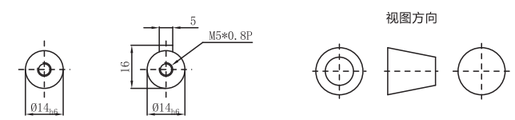


LSN060-L2

输出端/OUTPUT　　输入端/ INPUT



输出轴径/Output Diameter



* 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.

*本图纸仅作参考使用，若有修改恕不另行通知
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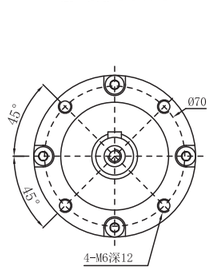
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSN060–L1	ϕ46	4–M4x10	≤ϕ8	34	ϕ30	5	60	81	116	9
	ϕ66.7	4–M4x10	≤ϕ8	34	ϕ38.1	5	60	81	116	8
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	34	ϕ50	5	60	81	116	9
LSN060–L2	ϕ46	4–M4x10	≤ϕ8	34	ϕ30	5	60	137.5	172.5	9
	ϕ66.7	4–M4x10	≤ϕ8	34	ϕ38.1	5	60	137.5	172.5	8
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	34	ϕ50	5	60	137.5	172.5	9

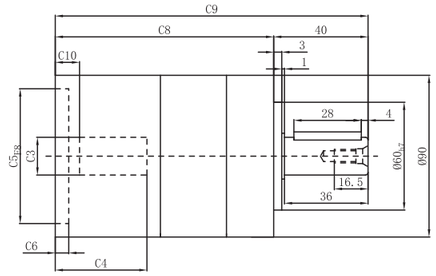
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

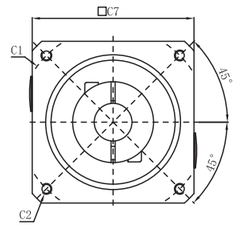
LSN090-L1

输出端/OUTPUT



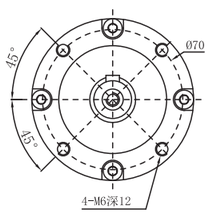


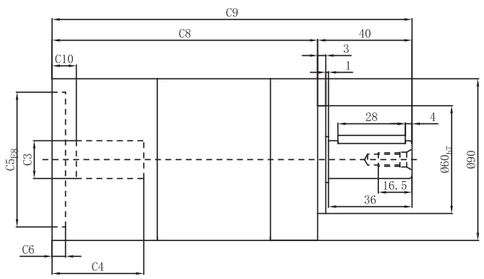
输入端/ INPUT



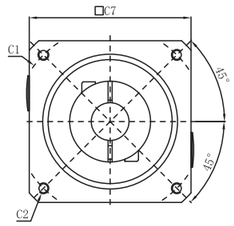
LSN090-L2

输出端/OUTPUT

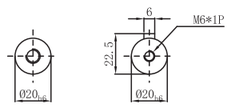




输入端/ INPUT

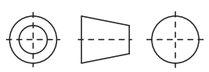


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

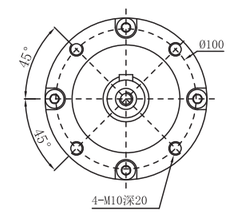
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSN090–L1	ϕ70	4–M4x12,4–M5x12	≤ϕ14	46	ϕ50	4	90	100	140	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	46	ϕ60	5.5	90	100	140	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	46	ϕ70	7	90	100	140	7
	ϕ100	4–M6x15	≤ϕ19	46	ϕ80	7	90	100	140	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	100	140	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	100	140	12.5
LSN090–L2	ϕ70	4–M4x12,4–M5x12	≤ϕ14	46	ϕ50	4	90	119	159	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	46	ϕ60	5.5	90	119	159	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	46	ϕ70	7	90	119	159	7
	ϕ100	4–M6x15	≤ϕ19	46	ϕ80	7	90	119	159	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	119	159	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	119	159	12.5

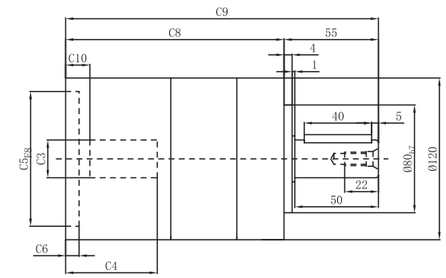
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

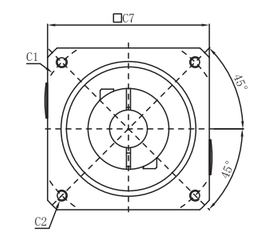
LSN120-L1

输出端/OUTPUT



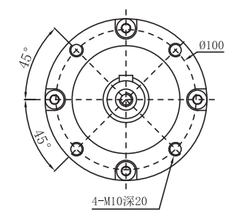


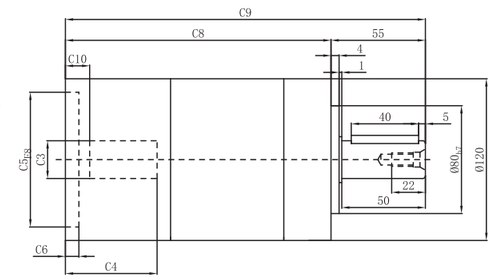
输入端/ INPUT



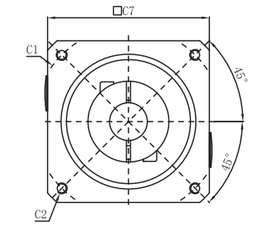
LSN120-L2

输出端/OUTPUT

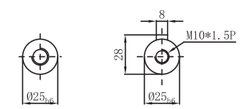




输入端/ INPUT

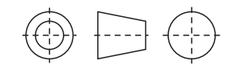


输出轴径/Output Diameter



型式S1 型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

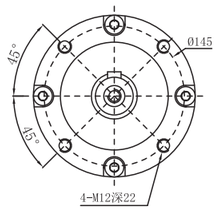
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSN120–L1	ϕ90	4–M5x15,4–M6x15	≤ϕ19	48.5	ϕ70	7	115	153	208	7
	ϕ100	4–M6x15	≤ϕ19	48.5	ϕ80	7	115	153	208	7
	ϕ115	4–M8x20	≤ϕ24	58	ϕ95	10	115	153	208	11.5
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	10	130	153	208	12.5
LSN120–L2	ϕ90	4–M5x15,4–M6x15	≤ϕ19	48.5	ϕ70	7	115	180	235	7
	ϕ100	4–M6x15	≤ϕ19	48.5	ϕ80	7	115	180	235	7
	ϕ115	4–M8x20	≤ϕ24	58	ϕ95	10	115	180	235	11.5
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	10	130	180	235	12.5

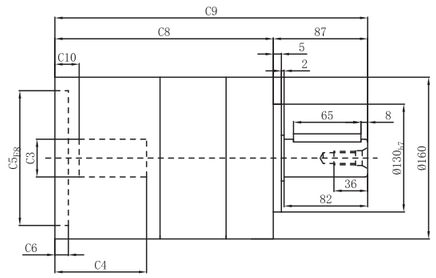
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

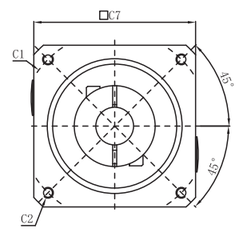
LSN160-L1

输出端/OUTPUT



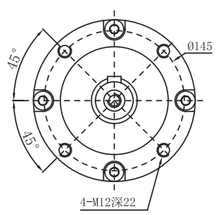


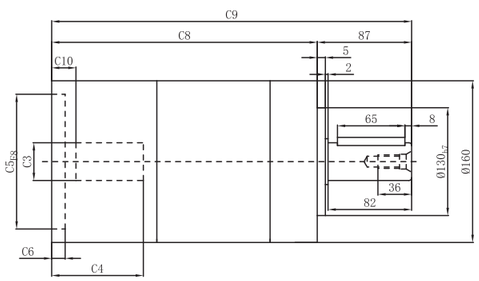
输入端/ INPUT



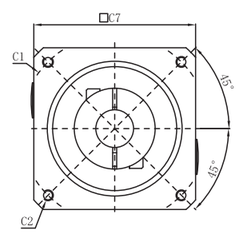
LSN160-L2

输出端/OUTPUT

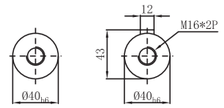




输入端/ INPUT

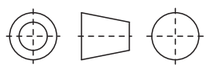


输出轴径/Output Diameter



型式S1　型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
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尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSN160–L1	ϕ145	4–M8x20	≤ϕ24	81	ϕ110	10	142	173	260	19.5
	ϕ165	4–M10x25，4–M12x35	≤ϕ32	81	ϕ130	10	142	173	260	19.5
	ϕ200	4–M12x35	≤ϕ42	83	ϕ114.3	8	180	173	260	21.5
	ϕ200	4–M12x35	≤ϕ42	115	ϕ114.3	8	180	205	292	53.5
	ϕ215	4–M12x35，4–M14x35	≤ϕ42	83	ϕ180	8	190	173	260	21.5
LSN160–L2	ϕ145	4–M8x20	≤ϕ24	81	ϕ110	10	142	243	330	19.5
	ϕ165	4–M10x25，4–M12x35	≤ϕ32	81	ϕ130	10	142	243	330	19.5
	ϕ200	4–M12x35	≤ϕ42	83	ϕ114.3	8	180	243	330	21.5
	ϕ200	4–M12x35	≤ϕ42	115	ϕ114.3	8	180	275	362	53.5
	ϕ215	4–M12x35，4–M14x35	≤ϕ42	83	ϕ180	8	190	243	330	21.5

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

LSR系列

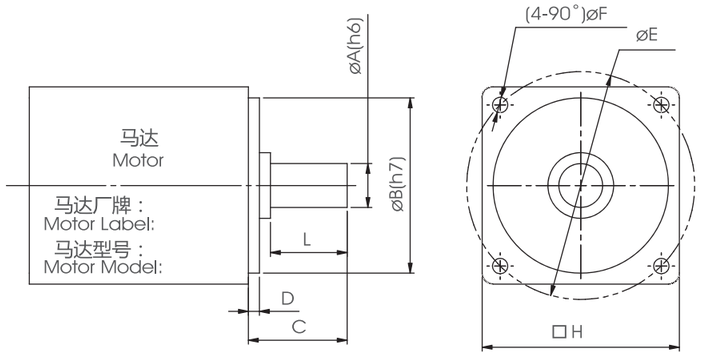
型号说明 / MODEL ILLUMINATE

LSR060 – 10 – S2 – P2 / 马达

- LSR060：减速机型式：LSR060、LSR090 LSR120、LSR160
- 10：减速比：单段：3、4、5、7、10；双段：12、15、20、25、30、35、40、50、70、100
- S2：输出轴型式：S1：平滑光轴；S2：附带键轴
- P2：背隙：超精密背隙：P0；精密背隙：P1；标准背隙：P2
- 马达：马达型号：马达制造及型号

订货型号选定：LSR060-10-S2-P2/松下MSME-042GIU
或：LSR060-10-S2-P2/φ14*30/φ50*3/4-φ4.5-φ70

FILL IN DATA OF MOTOR 客户填写资料



规格 SPECIFICATIONS

Motor Shaft Dia. 马达轴外径	Flange Dia. 马达凸缘外径	Motor Shaft Length 马达轴长度	Flange Height 马达凸缘高度	P.C.D of Bore 螺丝孔中心距	Bore Dia. 螺丝孔直径	Motor Flange Square 马达面尺寸	Actual Length of Motor Shaft 马达轴有效长	Backlash 要求背隙
øA(h6)	øB(h7)	C	D	øE	øF	□H	L	P0/P1/P2

减速机性能资料 / GEAR BOX PERFORMANCE INFORMATION

规格Specifications	单位unit	节数Stage	减速比Ratio	LSR060	LSR090	LSR120	LSR160
额定输出力矩T2N Nominal Output Torque	N.m	1	3	32.6	95.2	283	482
			4	30.1	74.6	249	490
			5	32.3	95.2	283	473
			7	30.9	85.6	219	400
			10	25.0	75.0	210	320
		2	12	32.6	95.2	283	482
			15	32.6	95.2	283	482
			20	30.1	74.6	249	490
			25	32.3	95.2	283	473
			30	32.3	95.2	283	473
			35	32.3	95.2	283	473
			40	32.3	95.2	283	473
			50	32.3	95.2	283	473
			70	30.9	85.0	219	400
			100	25.0	75.0	210	320
急停力矩T2NOT Emergency Stop Torque	N.m	1、2	3～100	3倍额定输出力矩 (3.0 times of Nominal Output Torque)			
额定输入转速n1 Nominal Input Speed	rpm	1、2	3～100	3000	3000	2500	2000
最大输入转速n1max Max.Input Speed	rpm	1、2	3～100	6000	6000	5000	4000
超精密背隙P0 Ultraprecise Blacklash	arcmin	1	3～10	–	–	≤3	≤3
		2	12～100	–	–	≤5	≤5
精密背隙P1 Precise Blacklash	arcmin	1	3～10	–	≤6	≤5	≤5
		2	12～100	–	≤9	≤7	≤7
标准背隙P2 Standard Blacklash	arcmin	1	3～10	≤12	≤9	≤7	≤7
		2	12～100	≤15	≤12	≤9	≤9
扭转刚性 Torsional Rigidity	N.m /arcmin	1、2	3～100	2.6	7.5	15.5	30
容许径向力F2rB Max.Radial Load	N	1、2	3～100	889	1630	3380	6450
容许轴向力F2aB Max.Axial Load	N	1、2	3～100	850	1420	2930	5510
使用温度 Operating Temp	° C	1、2	3～100	–10° C～+90° C			
使用寿命 Service Life	hr	1、2	3～100	20,000 (10,000/连续运转continiu operationg)			
效率 η Efficiency	%	1	3～10	≥96%			
		2	12～100	≥92%			
重量 Weight	kg	1	3～10	1.3	3.0	7.3	15.6
		2	12～100	2.0	5.0	11.5	20.7
安装方向 mounting Position	–	1、2	3～100	任意方向 Any direction			
噪音值 Noise Level	dBA/1m	1、2	3～100	60	65	65	70
防护等级 Protection Class	–	1、2	3～100	Ip65			
润滑 Lubrication		1、2	3～100	全合成润滑脂油 Synthetic Lubricant			

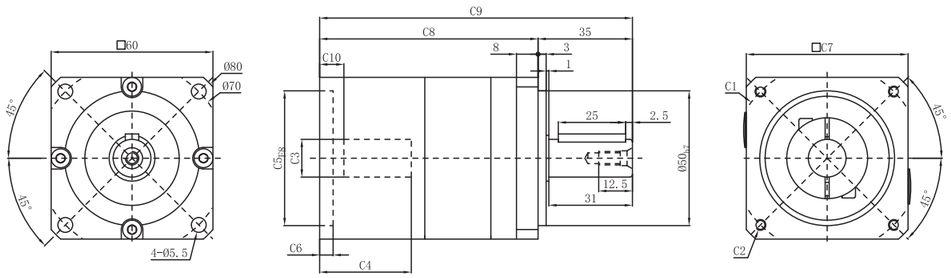
减速机转动惯量

规格Specifications	单位unit	节数Stage	减速比Ratio	LSR060	LSR090	LSR120	LSR160
转动惯量J1 Inertia	$kg.cm^2$	1	3	0.25	0.81	2.2	7.89
			4	0.18	0.65	1.8	5.83
			5	0.16	0.62	1.61	5.83
			7	0.14	0.60	1.55	5.22
			10	0.14	0.60	1.53	5.20
		2	12	0.16	0.62	1.61	5.83
			15	0.16	0.62	1.61	5.83
			20	0.16	0.62	1.61	5.83
			25	0.16	0.62	1.61	5.83
			30	0.14	0.60	1.55	5.22
			35	0.14	0.60	1.55	5.22
			40	0.14	0.60	1.55	5.22
			50	0.14	0.60	1.55	5.22
			70	0.14	0.60	1.53	5.20
			100	0.14	0.60	1.53	5.20

外形尺寸图表 / OUTLINE DIMENSION SHEET

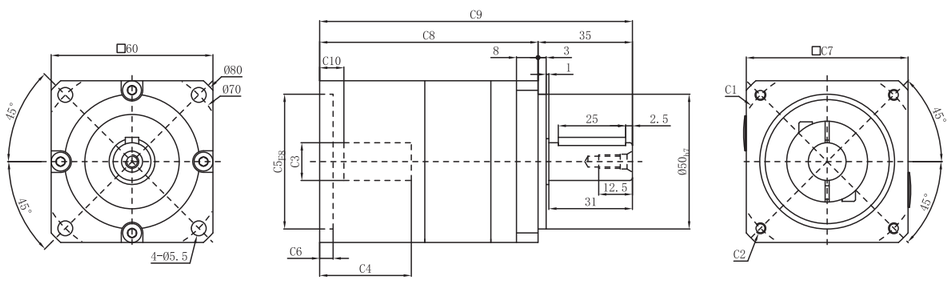
LSR060-L1

输出端/OUTPUT　　输入端/ INPUT

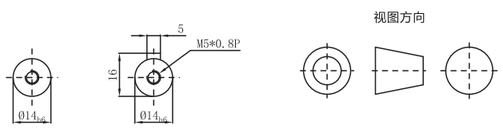


LSR060-L2

输出端/OUTPUT　　输入端/ INPUT



输出轴径/Output Diameter



型式S1　型式S2

视图方向

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
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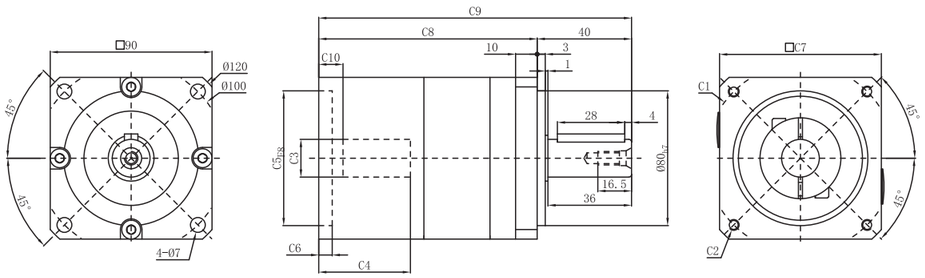
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSR060–L1	ϕ46	4–M4x10	≤ϕ8	34	ϕ30	5	60	81	116	9
	ϕ66.7	4–M4x10	≤ϕ8	34	ϕ38.1	5	60	81	116	8
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	34	ϕ50	5	60	81	116	9
LSR060–L2	ϕ46	4–M4x10	≤ϕ8	34	ϕ30	5	60	137.5	172.5	9
	ϕ66.7	4–M4x10	≤ϕ8	34	ϕ38.1	5	60	137.5	172.5	8
	ϕ70	4–M4x10,4–M5x12	≤ϕ14	34	ϕ50	5	60	137.5	172.5	9

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

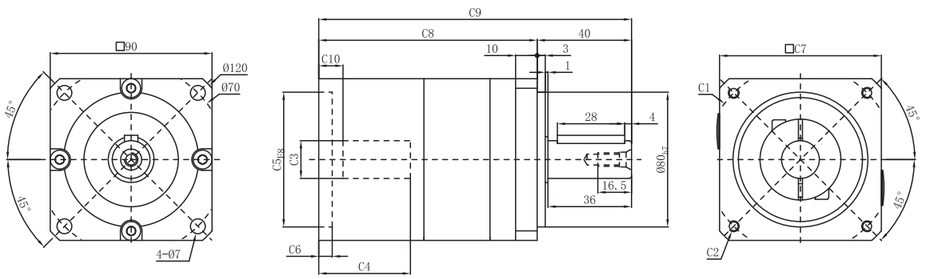
LSR090-L1

输出端/OUTPUT　　输入端/ INPUT

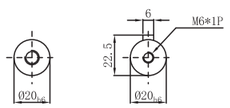


LSR090-L2

输出端/OUTPUT　　输入端/ INPUT

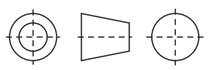


输出轴径/Output Diameter



型式S1　型式S2

视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

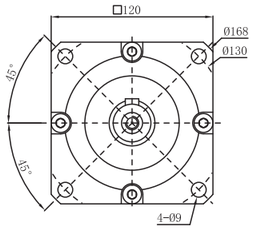
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSR090–L1	ϕ70	4–M4x12,4–M5x12	≤ϕ14	46	ϕ50	4	90	100	140	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	46	ϕ60	5.5	90	100	1	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	46	ϕ70	7	90	100	140	7
	ϕ100	4–M6x15	≤ϕ19	46	ϕ80	7	90	100	1	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	100	140	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	100	1	12.5
LSR090–L2	ϕ70	4–M4x12,4–M5x12	≤ϕ14	46	ϕ50	4	90	119	159	6
	ϕ75	4–M4x12,4–M5x12	≤ϕ14	46	ϕ60	5.5	90	119	1	6
	ϕ90	4–M5x15,4–M6x15	≤ϕ19	46	ϕ70	7	90	119	159	7
	ϕ100	4–M6x15	≤ϕ19	46	ϕ80	7	90	119	1	7
	ϕ115	4–M8x20	≤ϕ24	61.5	ϕ95	10	100	119	159	12.5
	ϕ145	4–M8x20	≤ϕ24	61.5	ϕ110	10	130	119	1	12.5

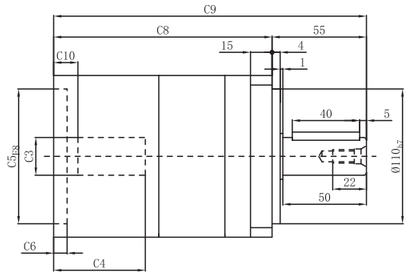
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

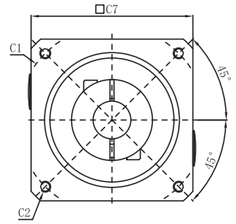
LSR120-L1

输出端/OUTPUT



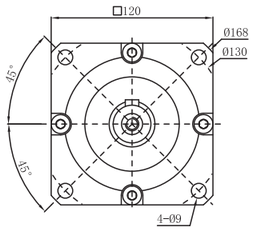


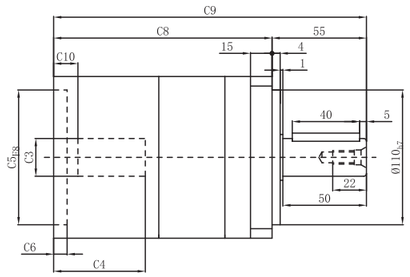
输入端/ INPUT



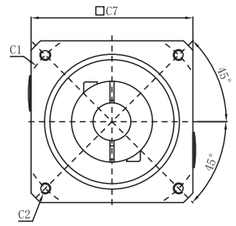
LSR120-L2

输出端/OUTPUT

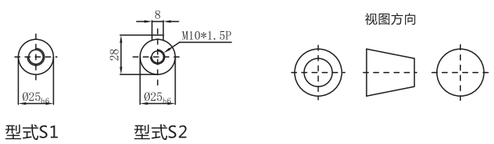




输入端/ INPUT



输出轴径/Output Diameter



视图方向

*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

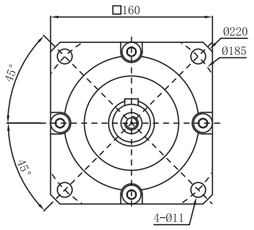
尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSR120–L1	ϕ90	4–M5x15,4–M6x15	≤ϕ19	48.5	ϕ70	7	115	153	208	7
	ϕ100	4–M6x15	≤ϕ19	48.5	ϕ80	7	115	153	2	7
	ϕ115	4–M8x20	≤ϕ24	58	ϕ95	10	115	153	208	11.5
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	10	130	153	2	12.5
	ϕ145	4–M8x20	≤ϕ24	68	ϕ110	10	130	162	217	21.5
LSR120–L2	ϕ90	4–M5x15,4–M6x15	≤ϕ19	48.5	ϕ70	7	115	180	2	7
	ϕ100	4–M6x15	≤ϕ19	48.5	ϕ80	7	115	180	235	7
	ϕ115	4–M8x20	≤ϕ24	58	ϕ95	10	115	180	235	11.5
	ϕ145	4–M8x20	≤ϕ24	59	ϕ110	10	130	180	235	12.5
	ϕ145	4–M8x20	≤ϕ24	68	ϕ110	10	130	189	244	21.5

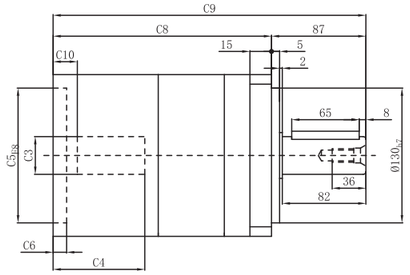
* C1~C10是公制标准马达连接板之尺寸,可根据客户要求单独定做。
* C1~C10are motor (metric standard) specific dimensions, which could be customised。

外形尺寸图表 / OUTLINE DIMENSION SHEET

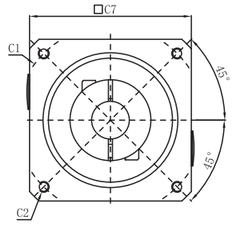
LSR160-L1

输出端/OUTPUT



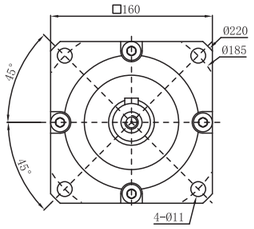


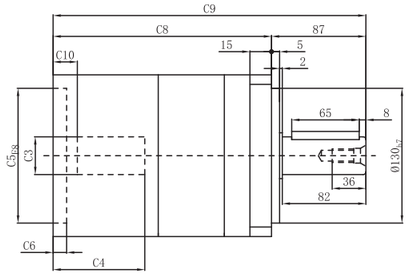
输入端/ INPUT



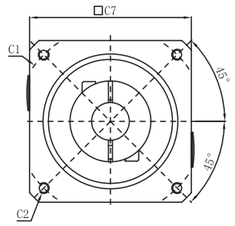
LSR160-L2

输出端/OUTPUT

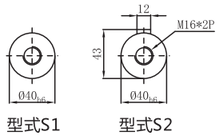




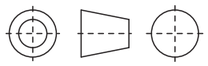
输入端/ INPUT



输出轴径/Output Diameter



视图方向



*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.

*本图纸仅作参考使用，若有修改恕不另行通知
*This drawing is only for reference

尺寸	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
LSR160–L1	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	173	260	19.5
	ϕ165	4-M10x25，4-M12x35	≤ϕ32	81	ϕ130	10	142	173	260	19.5
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	173	260	21.5
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	205	292	53.5
	ϕ215	4-M12x35，4-M14x35	≤ϕ42	83	ϕ180	8	190	173	260	21.5
LSR160–L2	ϕ145	4-M8x20	≤ϕ24	81	ϕ110	10	142	243	330	19.5
	ϕ165	4-M10x25，4-M12x35	≤ϕ32	81	ϕ130	10	142	243	330	19.5
	ϕ200	4-M12x35	≤ϕ42	83	ϕ114.3	8	180	243	330	21.5
	ϕ200	4-M12x35	≤ϕ42	115	ϕ114.3	8	180	275	362	53.5
	ϕ215	4-M12x35，4-M14x35	≤ϕ42	83	ϕ180	8	190	243	330	21.5

* C1~C10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~C10are motor (metric standard) specific dimensions, which could be customised。

行星减速机马达安装说明书 / PLANETARY GEARBOX WITH MOTOR MOUNTING INSTRUCTIONS

For General Type

1

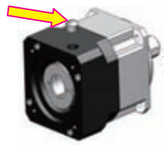
先确认马达减速机规格是否正确，并将马达与减速机安装面擦试干净。

Check the motor and gearbox size. Clean the mounting surface.

2

将连接板上扣式塞头取下，转动马达锁紧环，直到锁紧环螺丝对准塞头孔。

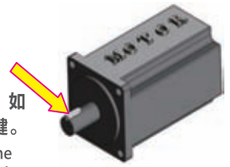
Take off the plug from the bracket. Revolve the set collar until the bolt is aligned with the hole.



3

取下马达上原先的键，如有必要，请安装平衡键。

Remove the key from the motor shaft. Mounting the balance key if necessary.



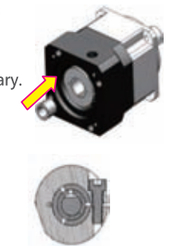
4

确认马达轴心尺寸，轴心太小选用适当衬套。

Make sure the motor shaft size. Choose the right bushing if necessary.

当马达为平轴状，对准衬套夹缝在平轴中心线，使锁紧环螺丝与平轴面呈垂直。

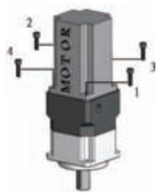
As installing on flatted shaft, be sure to align the collet gap over the flat and the set collar bolt perpendicular to the flat.



5

以锁紧扭力表建议扭力值5%，依照1至4顺序，将螺丝轻轻锁上。

Tighten the mounting bolts in 1~4 order with torque wrench to 5% specified torque.



6

将马达与减速机直立摆设，参照锁紧扭力表建议之扭力值，以扭力扳手将马达锁紧环螺丝锁紧。

Install gearbox and motor vertically. Tighten the set collar bolt with torque wrench to specified toeque.

7

以锁紧扭力表建议之扭力值，依照1至4顺序，用扭力板手将螺丝锁紧。

Tighten the mounting bolts in 1~4 order with torque wrench to specified torque.

8

将扣式塞头装回。

Put the plug back.

锁紧扭力表 / Tightening Torque Table

螺丝尺寸 Screw size	六角头尺寸 Six hexagon head size	强度8.8螺丝之锁紧扭力 Strength of 8.8 screw locking torque		强度10.9螺丝之锁紧扭力 Strength of 10.9 screw locking torque		强度12.9螺丝之锁紧扭力 Strength of 12.9 screw locking torque	
	(mm)	(N.m)	(In–Ids)	(N.m)	(In–Ids)	(N.m)	(In–Ids)
M3*0.5P	2.5	1.3	12	1.8	16	2.1	19
M4*0.7P	3	3	27	4.1	37	4.9	44
M5*0.8P	4	6.1	55	8.2	73	9.8	87
M6*1.0P	5	11	98	14	124	17	151
M8*1.25P	6	25	222	34	302	41	364
M10*1.25P	8	49	434	67	594	80	709
M12*1.75P	10	85	753	116	1028	139	1232
M14*2.0P	12	137	1214	186	1648	223	1976
M16*2.0P	14	210	1860	286	2534	343	3038

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LHF060	≤14	M5*0.8P	4	9.8	87
	≤19	M6*1.0P	5	17	151
LHF090	≤19	M6*1.0P	5	17	151
	≤24	M8*1.25P	6	25	222
LHF115	≤19	M6*1.0P	5	17	151
	≤35	M8*1.25P	6	25	222
LHF142	≤35	M8*1.25P	6	25	222
LHF180	≤55	M10*1.5P	8	85	753
LHF220	≤55	M10*1.5P	8	85	753

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LSF060	≤14	M5*0.8P	4	9.8	87
	≤19	M6*1.0P	5	17	151
LSF090	≤19	M6*1.0P	5	17	151
	≤24	M8*1.25P	6	25	222
LSF115	≤19	M6*1.0P	5	17	151
	≤35	M8*1.25P	6	25	222

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LGY064	≤14	M4*0.7P	3	4.9	44
LGY090	≤14	M4*0.7P	3	4.9	44
	≤24	M6*1.0P	5	17	151
LGY110	≤24	M8*1.25P	6	25	222
LGY140	≤35	M8*1.25P	6	41	360
LGY200	≤42	M10*1.5P	8	85	753
LGY255	≤55	M10*1.5P	8	85	753

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LSN060	≤14	M4*0.7P	3	4.9	44
LSN090	≤24	M6*1.0P	5	17	151
LSN120	≤32	M8*1.25P	6	41	360
LSN160	≤38	M8*1.25P	6	41	360

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LHFZ060	≤14	M5*0.8P	4	9.8	87
	≤19	M6*1.0P	5	17	151
LHFZ090	≤19	M6*1.0P	5	17	151
	≤24	M8*1.25P	6	25	222
LHFZ115	≤19	M6*1.0P	5	17	151
	≤35	M8*1.25P	6	25	222
LHFZ142	≤35	M8*1.25P	6	25	222
LHFZ180	≤55	M10*1.5P	8	85	753
LHFZ220	≤55	M10*1.5P	8	85	753

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LSFZ060	≤14	M5*0.8P	4	9.8	87
	≤19	M6*1.0P	5	17	151
LSFZ090	≤19	M6*1.0P	5	17	151
	≤24	M8*1.25P	6	25	222
LSFZ115	≤19	M6*1.0P	5	17	151
	≤35	M8*1.25P	6	25	222

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LGYZ064	≤14	M4*0.7P	3	4.9	44
LGYZ090	≤14	M4*0.7P	3	4.9	44
	≤24	M6*1.0P	5	17	151
LGYZ110	≤24	M8*1.25P	6	25	222
LGYZ140	≤35	M8*1.25P	6	41	360
LGYZ200	≤42	M10*1.5P	8	85	753
LGYZ255	≤55	M10*1.5P	8	85	753

减速机型号 Reducer type	马达轴径 The motor shafe diameter	螺丝尺寸规格 Screw size	六角头尺寸 Six hexagon head size	锁紧扭力 Tightening torque	
	(mm)	(mm)	(mm)	(N.m)	(In–Ids)
LSR060	≤14	M4*0.7P	3	4.9	44
LSR090	≤24	M6*1.0P	5	17	151
LSR120	≤32	M8*1.25P	6	41	360
LSR160	≤38	M8*1.25P	6	41	360

谐波减速机系列
LOZ DRIVER SERIES

LZ-CS-I

LZ-HS-I

LZ-HS-III

LZ-HS-IV

LZ-CD-I

LZ-HD-I

LZ-CS-I
杯形标准筒结构谐波减速器
LZ-CS-I 型谐波减速器

LZ-CS-I 型谐波减速器简介

LZ-CS-I 型系列柔轮为杯形标准筒结构，输入轴直接与波发生器内孔配合，通过平键或螺丝连接。一般采用刚轮端固定，柔轮端输出的连接方式使用。

LZ-CS-I 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	5.4	18	6.9	35	7500	3500	≤30	>10000
	80	7.8	23	11	47			≤30	>10000
	100	7.8	28	11	54			≤30	>10000
17	50	16	34	26	70	7000	3500	≤30	>10000
	80	22	43	27	87			≤30	>10000
	100	24	54	39	110			≤30	>10000
20	50	25	56	34	98	6000	3500	≤30	>10000
	80	34	74	47	127			≤30	>10000
	100	40	82	49	147			≤30	>10000
	120	40	87	49	147			≤30	>10000
25	50	39	98	55	186	5500	3500	≤30	>10000
	80	63	137	87	355			≤30	>10000
	100	67	157	108	284			≤30	>10000
	120	67	167	108	304			≤30	>10000
32	50	76	216	108	382	5000	3500	≤30	>10000
	80	118	304	167	568			≤30	>10000
	100	137	333	216	647			≤30	>10000
	120	137	353	216	686			≤30	>10000

LZ-CS-I 型谐波减速器型号说明

1. 龙泽杯形标准筒结构谐波减速器型号表示: LZ-CS-型号（例如-14）- 减速比（例如-50）-连接方式（例如-1），例如LZ-CS-14-50-I.
2. 连接方式: 组件型；通过平键或螺丝连接。

LZ-HS-I
中空翻边形标准筒结构谐波减速器
LZ-HS-I 型谐波减速器

LZ-HS-I 型谐波减速器简介

LZ-HS-I 系列柔轮为中空翻边形标准筒结构，整机结构紧凑，输入轴直接与波发生器内孔配合，通过平键连接。既可采用刚轮端固定，柔轮端输出的连接方式使用；也可采用柔轮端固定，刚轮端输出的连接方式使用。

LZ-HS-I 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	5.4	18	6.9	35	7500	3500	≤30	>10000
	80	7.8	23	11	47			≤30	>10000
	100	7.8	28	11	54			≤30	>10000
17	50	16	34	26	70	7000	3500	≤30	>10000
	80	22	43	27	87			≤30	>10000
	100	24	54	39	110			≤30	>10000
20	50	25	56	34	98	6000	3500	≤30	>10000
	80	34	74	47	127			≤30	>10000
	100	40	82	49	147			≤30	>10000
	120	40	87	49	147			≤30	>10000
25	50	39	98	55	186	5500	3500	≤30	>10000
	80	63	137	87	355			≤30	>10000
	100	67	157	108	284			≤30	>10000
	120	67	167	108	304			≤30	>10000
32	50	76	216	108	382	5000	3500	≤30	>10000
	80	118	304	167	568			≤30	>10000
	100	137	333	216	647			≤30	>10000
	120	137	353	216	686			≤30	>10000

LZ-HS-I 型谐波减速器型号说明

1. 龙泽中空翻边形标准筒结构谐波减速器型号表示: LZ-HS - 型号（例如-14）- 减速比（例如-50）-连接方式（例如-1），例如 LZ-HS-14-50-I.
2. 连接方式: 组件型；通过平键连接。

LZ-HS
中空翻边形标准筒结构谐波减速器
LZ-HS-III 型谐波减速器

LZ-HS-III 型谐波减速器简介

LZ-HS-III 型系列柔轮为中空翻边形标准筒结构，波发生器凸轮中部有大口径中空轴孔，减速器内部设计有支撑轴承，全密封结构，安装简便，非常适合于需从减速器中心穿线的场合使用。

LZ-HS-III 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	5.4	18	6.9	35	7500	3500	≤30	>10000
	80	7.8	23	11	47			≤30	>10000
	100	7.8	28	11	54			≤30	>10000
17	50	16	34	26	70	7000	3500	≤30	>10000
	80	22	43	27	87			≤30	>10000
	100	24	54	39	110			≤30	>10000
20	50	25	56	34	98	6000	3500	≤30	>10000
	80	34	74	47	127			≤30	>10000
	100	40	82	49	147			≤30	>10000
	120	40	87	49	147			≤30	>10000
25	50	39	98	55	186	5500	3500	≤30	>10000
	80	63	137	87	355			≤30	>10000
	100	67	157	108	284			≤30	>10000
	120	67	167	108	304			≤30	>10000
32	50	76	216	108	382	5000	3500	≤30	>10000
	80	118	304	167	568			≤30	>10000
	100	137	333	216	647			≤30	>10000
	120	137	353	216	686			≤30	>10000

LZ-HS-III 型谐波减速器型号说明

1. 龙泽中空翻边形标准筒结构谐波减速器型号表示: LZ-HS - 型号（例如-14）- 减速比（例如-50）-连接方式（例如-3），例如 LZ-HS-14-50-III。
2. 连接方式: 组合型；波发生器凸轮中部有大口径中空轴孔。

LZ-HS
中空翻边形标准筒结构谐波减速器
LZ-HS-IV 型谐波减速器

LZ-HS-IV 型谐波减速器简介

LZ-HS-IV 型系列柔轮为中空翻边形标准筒结构，波发生器凸轮自带输入轴，减速器内部设计有支撑轴承，全密封结构，安装简便，非常适合于需要在输入端安装伞齿轮或同步带传动的场合使用。

LZ-HS-IV 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	5.4	18	6.9	35	7500	3500	≤30	>10000
	80	7.8	23	11	47			≤30	>10000
	100	7.8	28	11	54			≤30	>10000
17	50	16	34	26	70	7000	3500	≤30	>10000
	80	22	43	27	87			≤30	>10000
	100	24	54	39	110			≤30	>10000
20	50	25	56	34	98	6000	3500	≤30	>10000
	80	34	74	47	127			≤30	>10000
	100	40	82	49	147			≤30	>10000
	120	40	87	49	147			≤30	>10000
25	50	39	98	55	186	5500	3500	≤30	>10000
	80	63	137	87	355			≤30	>10000
	100	67	157	108	284			≤30	>10000
	120	67	167	108	304			≤30	>10000
32	50	76	216	108	382	5000	3500	≤30	>10000
	80	118	304	167	568			≤30	>10000
	100	137	333	216	647			≤30	>10000
	120	137	353	216	686			≤30	>10000

LZ-HS-IV 型谐波减速器型号说明

1. 龙泽中空翻边形标准筒结构谐波减速器型号表示: LZ-HS - 型号（例如-14）- 减速比（例如-50）-连接方式（例如-4），例如 LZ-HS-14-50-IV。
2. 连接方式: 组合型；波发生器凸轮自带输入轴。

LZ-CD
杯形短筒结构谐波减速器
LZ-CD-I 型谐波减速器

LZ-CD-I 型谐波减速器简介

LZ-CD-I 型系列柔轮为杯形短筒结构输入轴直接与波发生器内孔配合，通过平键或螺丝连接。一般采用刚轮端固定，柔轮端输出的连接方式使用。

LZ-CD-I 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	3.6	11.5	4.7	23	8000	3500	≤30	>10000
	80	5.2	15	6.2	30			≤30	>10000
	100	5.4	18	7.7	35			≤30	>10000
17	50	11	23	18	48	7000	3500	≤30	>10000
	80	14	29	21	54			≤30	>10000
	100	16	37	27	70			≤30	>10000
20	50	17	38	24	68	6000	3500	≤30	>10000
	80	23	50	29	79			≤30	>10000
	100	28	57	34	95			≤30	>10000
25	50	26	66	36	121	5500	3500	≤30	>10000
	80	42	91	62	157			≤30	>10000
	100	47	108	72	175			≤30	>10000
	120	47	111	72	187			≤30	>10000
32	50	50	145	70	256	4500	3500	≤30	>10000
	80	80	203	126	350			≤30	>10000
	100	91	220	145	400			≤30	>10000
	120	92	235	145	425			≤30	>10000

LZ-CD-I 型谐波减速器型号说明

1. 龙泽杯形短筒结构谐波减速器型号表示: LZ-CD - 型号（例如-14）- 减速比（例如-50）-连接方式（例如-4），例如 LZ-CD-14-50-I。
2. 连接方式: 组件型；通过平键或螺丝连接。

LZ-HD
中空翻边形短筒结构谐波减速器
LZ-HD-I 型谐波减速器

LZ-HD-I 型谐波减速器简介

LZ-HD-I 型系列柔轮为超薄中空翻边结构，整机结构紧凑，输入轴直接与波发生器内孔配合，通过平键或螺丝连接。既可采用刚轮端固定，柔轮端输出的连接方式使用；也可采用柔轮端固定，刚轮端输出的连接方式使用。

LZ-HD-I 型谐波减速器性能参数表

型号\项目	加速比	2000rpm 输入时的额定扭矩	启动、停止时允许最大扭矩	平均负载时允许最大扭矩	瞬间允许最大扭矩	允许最高输入转速(润滑脂)	允许平均输入转速(润滑脂)	背隙	设计寿命
		NM	NM	NM	NM	RPM	RPM	Arc Sec	Hours
14	50	3.6	11.5	4.7	23	8000	3500	≤30	>10000
	80	5.2	15	6.2	30			≤30	>10000
	100	5.4	18	7.7	35			≤30	>10000
17	50	11	23	18	48	7000	3500	≤30	>10000
	80	14	29	21	54			≤30	>10000
	100	16	37	27	70			≤30	>10000
20	50	17	38	24	68	6000	3500	≤30	>10000
	80	23	50	29	79			≤30	>10000
	100	28	57	34	95			≤30	>10000
25	50	26	66	36	121	5500	3500	≤30	>10000
	80	42	91	62	157			≤30	>10000
	100	47	108	72	175			≤30	>10000
	120	47	111	72	187			≤30	>10000
32	50	50	145	70	256	4500	3500	≤30	>10000
	80	80	203	126	350			≤30	>10000
	100	91	220	145	400			≤30	>10000
	120	92	235	145	425			≤30	>10000

LZ-HD-I 型谐波减速器型号说明

1. 龙泽中空翻边形短筒结构谐波减速器型号表示: LZ-HD -型号（例如-14）- 减速比（例如-50）-连接方式（例如-1），例如 LZ-HD-14-50-I。
2. 连接方式: 组件型；通过螺丝连接。

HARMONIC DRIVE TERMINOLOGY
谐波传动术语 ▸▸▸

启动转矩

空载启动时，所需施加的力矩。

额定转矩

输入转速为2000r/min时所允许输出端的连续负载转矩。

平均负载允许最大值

根据输入转速和转矩变化而计算出的负载平均值，该负载平均值不可超过额定表值。

瞬间允许最大转矩

在通常负载转矩、启动停止时的负载转矩以外，存在的无法预估的来自外部的冲击转矩的最大允许值。

空程

在工作状态下，当输入轴由正向改为反向旋转时，输出轴在转角上的滞后量。

背隙

将输出端与减速器壳体均固定，在输入端施加±2%额定转矩顺时针和逆时针方向旋转时，减速器输入端产生的一个微小角位移。

传动误差

在工作状态下，当输入轴单向旋转时，输出轴的实际转角与理论转角之差。

设计寿命

在输入转速为2000r/min时，输出转矩为额定转矩的情况下，减速器的寿命。

棘爪扭矩

减速器在运转过程中，如受到过度的冲击转矩，在柔轮未发生破损的情况下，柔轮与刚轮齿的啮合会发生一定偏移，这种现象称为棘爪。此时的转矩称为棘爪转矩。如发生棘爪转矩会出现柔轮齿单侧偏移的状态，齿轮啮合不正常，继续运转减速器会发生振动，导致柔轮破损。

龙泽智能传动科技(深圳)有限公司
LONGZE INTELLIGENT TRANSMISSION TECHNOLOGY (SHENZHEN) CO., LTD