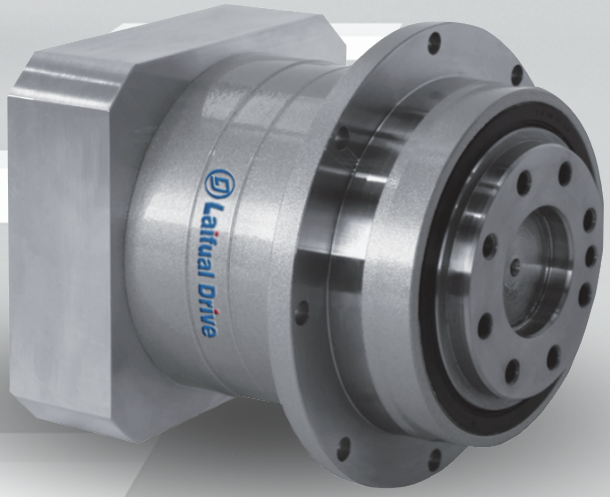
行星减速机LFT系列

LFT series planetary gear reducer

Laifual Drive



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公司简介
company presentation

浙江来福谐波传动股份有限公司是一家从事高精密谐波减速器，行星减速器的研发，制造的国家高新技术企业。公司拥有30,000平方米标准厂房，在职员工300人左右，其中研发工程师30左右，拥有十几年的研发生产经验。

公司使用世界顶级的生产、检验设备，从原材料到成品的所有环节经过严格的质量把控，关注每一个生产细节，从而保证产品的优良品质。所有产品完全自主开发，公司的研发中心被认定为“省级高新技术企业研发中心”。

经过多年的勤劳耕耘，我司在谐波传动领域取得专利30项，其中重大科技专利1项，自主知识产权专利29项。并被认定为国家高新技术企业，浙江省科技型中小企业，并成功通过ISO9001质量管理体系认证。

得益于多年的研发经验，我司生产的精密谐波减速器在多方面特殊性能取得重大突破。具有低温升、低启动扭矩、高可靠性、高精度、高扭矩、高寿命、大速比、小体积等特性。产品批量运用在工业机器人、服务机器人、医疗器械、高精密自动化设备等领域。并竭诚为国内外客户提供满意的多元化定制设计服务。

来福谐波将继续砥砺前行，以品质，创新，服务客户为己任。为国内外客户提供满意的产品，让中国制造拥抱世界，共创美好未来。

Zhejiang Laifual Drive Co., Ltd is a national high-tech enterprise, mainly engaged in research and manufacture of high-precision harmonic reducers and planetary gear reducers. Total factory is 30,000 square meters. About 300 employees, including around 30 R&D Personnel, with more than 10 years experience in research and development.

Laifual uses the world's first class production and inspection equipment. Pay attention to every production details, we have very strict quality control from raw materials to the finished products, to make sure the excellent quality of all products. All products are completely developed by ourselves, Laifual's R&D center is recognized as "High-tech enterprise R&D center in Zhejiang province".

After years of hard working, Laifual has obtained 30 patents in the field of drive area. Including 1 major scientific and technological patent and 29 independent intellectual property rights patents. Laifual was recognized as a national high-tech enterprise, medium-sized enterprise in Zhejiang province, and successfully passed the ISO9001 quality management system certification.

Thanks to years of research and development experience, Laifual has made breakthroughs in many special performance. Our high precision harmonic reducer have the characteristics of low temperature rise, low starting torque, high reliability, big torque, long life time, big speed ratio, small size, etc. Which can be widely used in industrial robots, service robots, medical equipment, high precision automation equipment, etc. And we sincerely provide satisfactory and diversified custom design services for all our valued customers.

Taking professionalization, internationalization as standard, to build Laifual into the most respectable harmonic reducer brand.

企业愿景 /Enterprise

要以好的产品，好的服务，好的信誉，
使公司成为客户可信赖的长期合作伙伴。
With good products, good service and good reputation, makes laifual to be a long-term partner for all customers.

质量方针/Quality Policy

科技管理，精心制造，不断改进，满足
用户需求。
Technological management,meticulous manufacturing, continuous improvement,to meet customer needs.

企业精神 /Enterprise Spirit

百年来福，精益求精。
Century Laifual, keep improving

核心价值/Core Value

在未来一百年里，来福贯彻“以人为本”的经营
理念，为打造“减速器好品牌”而努力。
In the next 100 years, Laifu will implement the management concept of "people-oriented" and strive to build a "good brand of reducer".

服务理念 /Service Concept

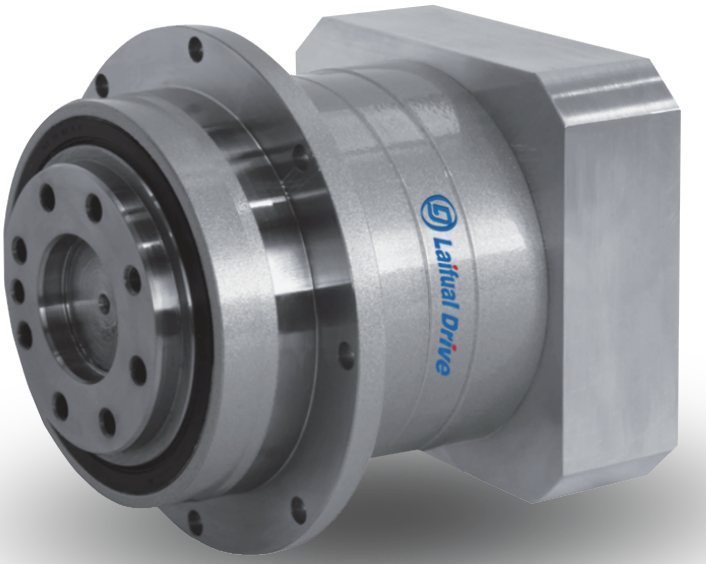
立足中国，面向全球市场，平衡国与国际市场，
满足客户需求，和谐稳步发展。
Based in China, facing the global market, balancing the national and international markets, meeting customer needs, and developing harmoniously and steadily.

服务宗旨/Service Tenet

严格把控产品品质优化管理生产细节与您在世界
各地携手共创未来。
Strictly control product quality, optimize management and production details to create our bright future with customers all over the world.

CONTENTS

目 录



LFT SERIES

行星减速机LFT系列

LFT SERIES FEATURES

产品特点

高精度 / High Precision

背隙低于3分、定位精确

Standard backlash is 3 arc-min, ideal for precision control.

高刚性 高扭矩 / High Rigidity & Torque

使用整体式滚子轴承，大大提高了刚性和扭矩

High rigidity & high torque were achived by uncaged needle roller bearings

高负载容量 / High Load Capacity

主轴承采用锥形滚针轴承，实现高负载容量。
*尺寸064・090采用滚子轴承

Adopting taper roller bearing for the main output shaft to increase radial & axial load.
*Frame size 064·090 adopt ball bearing.

法兰 连接器方式 / Adapter-bushing Connection

可以安装到世界上任何一台马达上

Can be attached to any motor all over the world

无润滑脂泄漏 / No Grease Leakage

使用高粘度、不易分离的润滑脂，有效防止润滑脂泄漏

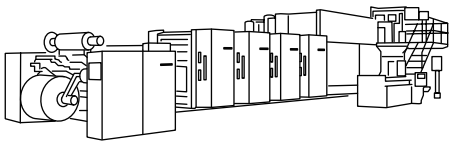
Perfect solution using high viscosity anti-separation grease

维护方便 / Maintenance-free

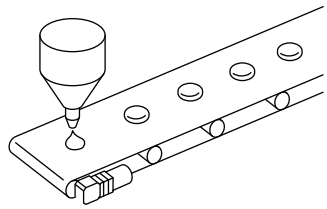
在产品寿命期内无需更换润滑脂，安装更便捷

No need to replace the grease for the life of the unit.
Can be attached in any position.

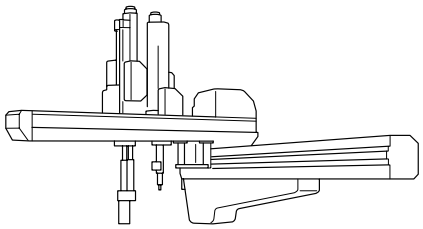
APPLICATION AREA /应用领域



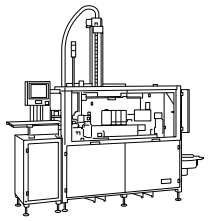
印刷机 / Printer



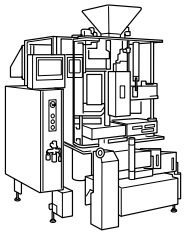
传送带 / Conveyer belt



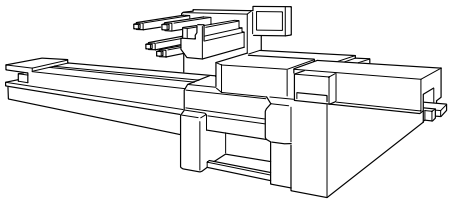
龙门机器人 / Gantry robot



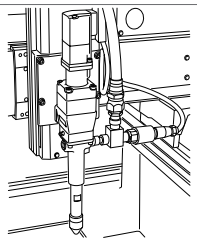
自动装箱机 /Auto packing sealing machine



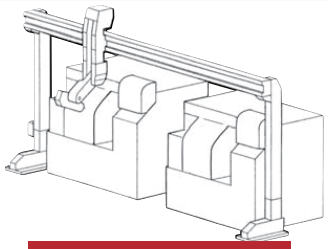
包装机(纵型轴衬) / Packing machine(vertical pillow)



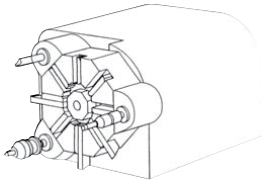
包装机(横型轴衬) /Packing machine(horizontal pillow)



分配机器人 / Dispenser robot



装料机器人 / Loader robot



回转头 / Turret head

设备有各种实例
可在各种装置上安装

Attachable and applicable to a range of applications and devices

MODEL NUMBER

机种、型号代码

LF T - 090 - 7 - F 3 - 19HB16

- 19HB16：连接器编号 Mount Code
- 3：背隙 Backlash
  - 3 · · · 3分 3arc-min
- F：输出方式 Output Style
  - F · · · 法兰输出 Flange Output
- 7：减速比 Ratio
  - 1段 Single：4、5、6、7、8、9、10
  - 2段 Double：16、20、25、28、35、40、45、50、60、70、80、90、100
- 090：尺寸 Frame Size：047、064、090、110、140、200
- T：系列名称 Series Name：LFT 系列 LFT Series
- LF：LF 减速机的名称 Model name for LF reducer

LFT-047

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
047	1段 Single	4	9	18	35	4000	8000	270	300
		5	9	18	35	4000	8000	300	330
		6	9	18	35	4000	8000	310	360
		7	9	18	35	4000	8000	330	390
		8	9	18	35	4000	8000	350	410
		9	6	12	30	4000	8000	360	430
		10	6	12	30	4000	8000	370	450
	2段 Double	16	9	18	35	4000	8000	440	550
		20	9	18	35	4000	8000	470	550
		25	9	18	35	4000	8000	510	550
		28	9	18	35	4000	8000	530	550
		35	9	18	35	4000	8000	570	550
		40	9	18	35	4000	8000	590	550
		45	6	12	30	4000	8000	620	550
		50	9	18	35	4000	8000	640	550
		60	9	18	35	4000	8000	680	550
		70	9	18	35	4000	8000	710	550
		80	9	18	35	4000	8000	750	550
		90	6	12	30	4000	8000	780	550
		100	6	12	30	4000	8000	800	550

尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ8) [Kgcm²]	惯性力矩 Moment of inertia (≤φ14) [Kgcm²]
047	1段 Single	4	1100	550	0.7	0.052	0.090
		5	1100	550		0.043	0.081
		6	1100	550		0.038	0.077
		7	1100	550		0.036	0.074
		8	1100	550		0.034	0.072
		9	1100	550		0.033	0.071
		10	1100	550		0.032	0.071
	2段 Double	16	1100	550	0.8	0.039	-
		20	1100	550		0.035	-
		25	1100	550		0.034	-
		28	1100	550		0.038	-
		35	1100	550		0.034	-
		40	1100	550		0.030	-
		45	1100	550		0.034	-
		50	1100	550		0.030	-
		60	1100	550		0.030	-
		70	1100	550		0.030	-
		80	1100	550		0.030	-
		90	1100	550		0.030	-
		100	1100	550		0.030	-

1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

1 With nominal input speed,service life is 20,000 hours.
2 The maximum torque when starting and stopping.
3 The maximum torque when it receives shock(up to 1,000times)
4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

LFT-064

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
064	1段 Single	4	27	50	100	3000	6000	370	360
		5	27	50	100	3000	6000	400	390
		6	27	50	100	3000	6000	420	430
		7	27	50	100	3000	6000	440	460
		8	27	50	100	3000	6000	460	480
		9	18	35	80	3000	6000	480	510
		10	18	35	80	3000	6000	500	530
	2段 Double	16	27	50	100	3000	6000	580	650
		20	27	50	100	3000	6000	630	720
		25	27	50	100	3000	6000	680	750
		28	27	50	100	3000	6000	700	750
		35	27	50	100	3000	6000	760	750
		40	27	50	100	3000	6000	790	750
		45	18	35	80	3000	6000	820	750
		50	27	50	100	3000	6000	850	750
		60	27	50	100	3000	6000	910	750
		70	27	50	100	3000	6000	950	750
		80	27	50	100	3000	6000	1000	750
		90	18	35	80	3000	6000	1000	750
		100	18	35	80	3000	6000	1100	750

尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ8) [Kgcm²]	惯性力矩 Moment of inertia (≤φ14) [Kgcm²]	惯性力矩 Moment of inertia (≤φ19) [Kgcm²]
064	1段 Single	4	1500	750	1.4	0.130	0.21	0.4
		5	1500	750		0.100	0.18	0.4
		6	1500	750		0.085	0.17	0.4
		7	1500	750		0.075	0.15	0.4
		8	1500	750		0.068	0.15	0.4
		9	1500	750		0.064	0.14	0.4
		10	1500	750		0.062	0.14	0.4
	2段 Double	16	1500	750	1.6	0.059	0.14	-
		20	1500	750		0.055	0.14	-
		25	1500	750		0.054	0.13	-
		28	1500	750		0.056	0.14	-
		35	1500	750		0.053	0.13	-
		40	1500	750		0.049	0.13	-
		45	1500	750		0.053	0.13	-
		50	1500	750		0.049	0.13	-
		60	1500	750		0.049	0.13	-
		70	1500	750		0.049	0.13	-
		80	1500	750		0.049	0.13	-
		90	1500	750		0.049	0.13	-
		100	1500	750		0.049	0.13	-

1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

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4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

LFT-090

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
090	1段 Single	4	75	125	250	3000	6000	720	620
		5	75	125	250	3000	6000	780	680
		6	75	125	250	3000	6000	830	740
		7	75	125	250	3000	6000	870	790
		8	75	125	250	3000	6000	910	830
		9	50	80	200	3000	6000	950	880
		10	50	80	200	3000	6000	980	920
	2段 Double	16	75	125	250	3000	6000	1200	1100
		20	75	125	250	3000	6000	1200	1200
		25	75	125	250	3000	6000	1300	1400
		28	75	125	250	3000	6000	1400	1400
		35	75	125	250	3000	6000	1500	1600
		40	75	125	250	3000	6000	1600	1700
		45	50	80	200	3000	6000	1600	1700
		50	75	125	250	3000	6000	1700	1700
		60	75	125	250	3000	6000	1800	1700
		70	75	125	250	3000	6000	1900	1700
		80	75	125	250	3000	6000	2000	1700
		90	50	80	200	3000	6000	2000	1700
		100	50	80	200	3000	6000	2100	1700

尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ8) [Kgcm²]	惯性力矩 Moment of inertia (≤φ14) [Kgcm²]	惯性力矩 Moment of inertia (≤φ19) [Kgcm²]	惯性力矩 Moment of inertia (≤φ28) [Kgcm²]
090	1段 Single	4	3300	1700	3.6	-	0.77	1.20	2.9
		5	3300	1700		-	0.58	1.00	2.9
		6	3300	1700		-	0.48	0.94	2.8
		7	3300	1700		-	0.41	0.88	2.8
		8	3300	1700		-	0.37	0.84	2.8
		9	3300	1700		-	0.35	0.81	2.8
		10	3300	1700		-	0.33	0.80	2.8
	2段 Double	16	3300	1700	4.0	0.16	0.31	0.75	-
		20	3300	1700		0.14	0.29	0.73	-
		25	3300	1700		0.13	0.28	0.72	-
		28	3300	1700		0.14	0.30	0.73	-
		35	3300	1700		0.13	0.28	0.72	-
		40	3300	1700		0.10	0.25	0.70	-
		45	3300	1700		0.12	0.27	0.71	-
		50	3300	1700		0.10	0.25	0.70	-
		60	3300	1700		0.099	0.25	0.70	-
		70	3300	1700		0.098	0.25	0.69	-
		80	3300	1700		0.098	0.25	0.69	-
		90	3300	1700		0.098	0.25	0.69	-
		100	3300	1700		0.098	0.25	0.69	-

1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

1 With nominal input speed,service life is 20,000 hours.
2 The maximum torque when starting and stopping.
3 The maximum torque when it receives shock(up to 1,000times)
4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

LFT-110

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
110	1段 Single	4	120	330	625	3000	6000	4100	3500
		5	180	330	625	3000	6000	4400	3800
		6	180	330	625	3000	6000	4600	4000
		7	180	330	625	3000	6000	4800	4200
		8	180	330	625	3000	6000	5000	4300
		9	120	225	500	3000	6000	5200	4300
		10	120	225	500	3000	6000	5400	4300
	2段 Double	16	180	330	625	3000	6000	6200	4300
		20	180	330	625	3000	6000	6600	4300
		25	180	330	625	3000	6000	7100	4300
		28	180	330	625	3000	6000	7300	4300
		35	180	330	625	3000	6000	7800	4300
		40	180	330	625	3000	6000	8200	4300
		45	120	225	500	3000	6000	8400	4300
		50	180	330	625	3000	6000	8500	4300
		60	180	330	625	3000	6000	8500	4300
		70	180	330	625	3000	6000	8500	4300
		80	180	330	625	3000	6000	8500	4300
		90	120	225	500	3000	6000	8500	4300
		100	120	225	500	3000	6000	8500	4300

尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ14) [Kgcm²]	惯性力矩 Moment of inertia (≤φ19) [Kgcm²]	惯性力矩 Moment of inertia (≤φ28) [Kgcm²]	惯性力矩 Moment of inertia (≤φ38) [Kgcm²]
110	1段 Single	4	8500	4300	7.0	-	2.5	4.6	12
		5	8500	4300		-	1.9	3.9	12
		6	8500	4300		-	1.5	3.6	11
		7	8500	4300		-	1.3	3.3	11
		8	8500	4300		-	1.2	3.2	11
		9	8500	4300		-	1.1	3.1	11
		10	8500	4300		-	1.0	3.0	11
	2段 Double	16	8500	4300	7.7	0.51	0.95	2.9	-
		20	8500	4300		0.42	0.85	2.8	-
		25	8500	4300		0.40	0.83	2.8	-
		28	8500	4300		0.45	0.89	2.8	-
		35	8500	4300		0.38	0.81	2.8	-
		40	8500	4300		0.29	0.74	2.7	-
		45	8500	4300		0.37	0.81	2.7	-
		50	8500	4300		0.28	0.73	2.7	-
		60	8500	4300		0.28	0.73	2.7	-
		70	8500	4300		0.28	0.73	2.7	-
		80	8500	4300		0.28	0.73	2.7	-
		90	8500	4300		0.28	0.73	2.7	-
		100	8500	4300		0.28	0.73	2.7	-

1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

1 With nominal input speed,service life is 20,000 hours.
2 The maximum torque when starting and stopping.
3 The maximum torque when it receives shock(up to 1,000times)
4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

LFT-140

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
140	1段 Single	4	240	700	1250	2000	4000	8000	5600
		5	360	700	1250	2000	4000	8500	6000
		7	360	700	1250	2000	4000	9400	6700
		10	240	470	1000	2000	4000	10000	7400
	2段 Double	16	360	700	1250	2000	4000	12000	8500
		20	360	700	1250	2000	4000	13000	9100
		25	360	700	1250	2000	4000	14000	9800
		28	360	700	1250	2000	4000	14000	10000
		35	360	700	1250	2000	4000	15000	11000
		40	360	700	1250	2000	4000	16000	11000
		50	360	700	1250	2000	4000	17000	12000
		70	360	700	1250	2000	4000	19000	13000
		100	240	470	1000	2000	4000	19000	14000

尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ19) [Kgcm²]	惯性力矩 Moment of inertia (≤φ28) [Kgcm²]	惯性力矩 Moment of inertia (≤φ38) [Kgcm²]	惯性力矩 Moment of inertia (≤φ48) [Kgcm²]
140	1段 Single	4	19000	14000	15	-	11.0	19.0	41
		5	19000	14000		-	8.4	16.0	38
		7	19000	14000		-	5.4	13.0	35
		10	19000	14000		-	4.1	12.0	34
	2段 Double	16	19000	14000	17	3.80	5.80	13.0	-
		20	19000	14000		2.60	4.60	12.0	-
		25	19000	14000		2.50	4.50	12.0	-
		28	19000	14000		3.40	5.40	13.0	-
		35	19000	14000		2.40	4.40	12.0	-
		40	19000	14000		1.20	3.10	11.0	-
		50	19000	14000		1.10	3.10	11.0	-
		70	19000	14000		1.10	3.10	11.0	-
		100	19000	14000		1.10	3.10	11.0	-

1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

1 With nominal input speed,service life is 20,000 hours.
2 The maximum torque when starting and stopping.
3 The maximum torque when it receives shock(up to 1,000times)
4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

LFT-200

尺寸 Frame Size	段位 Stage	减速比 Ratio	1 容许平均扭矩 Nominal output torque [Nm]	2 容许最大扭矩 Maximum output torque [Nm]	3 紧急时最大扭矩 Emergency stop torque [Nm]	4 容许平均输入转速 Nominal input speed [rpm]	5 容许最高输入转速 Maximum input speed [rpm]	6 容许径向负荷 Permitted radial load [N]	7 容许轴向负荷 Permitted axial load [N]
200	1段 Single	4	750	1400	2750	1500	3000	18000	12000
		5	750	1400	2750	1500	3000	19000	13000
		7	750	1400	2750	1500	3000	21000	14000
		10	500	970	2200	1500	3000	23000	16000
	2段 Double	16	750	1400	2750	1500	3000	27000	18000
		20	750	1400	2750	1500	3000	28000	19000
		25	750	1400	2750	1500	3000	30000	21000
		28	750	1400	2750	1500	3000	31000	21000
		35	750	1400	2750	1500	3000	34000	23000
		40	750	1400	2750	1500	3000	35000	24000
		50	750	1400	2750	1500	3000	37000	25000
		70	750	1400	2750	1500	3000	40000	28000
		100	500	970	2200	1500	3000	40000	30000

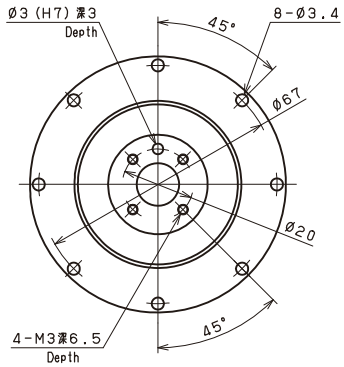
尺寸 Frame Size	段位 Stage	减速比 Ratio	8 容许最大径向负荷 Maximum radial load [N]	9 容许最大轴向负荷 Maximum axial load [N]	10 重量 Weight [Kg]	惯性力矩 Moment of inertia (≤φ28) [Kgcm²]	惯性力矩 Moment of inertia (≤φ38) [Kgcm²]	惯性力矩 Moment of inertia (≤φ48) [Kgcm²]	惯性力矩 Moment of inertia (≤φ65) [Kgcm²]
200	1段 Single	4	40000	30000	42	-	54	76	140
		5	40000	30000		-	39	61	120
		7	40000	30000		-	25	47	110
		10	40000	30000		-	18	40	100
	2段 Double	16	40000	30000	43	13	21	43	-
		20	40000	30000		9.4	17	39	-
		25	40000	30000		8.8	16	38	-
		28	40000	30000		11	19	41	-
		35	40000	30000		8.2	16	38	-
		40	40000	30000		4.4	12	34	-
		50	40000	30000		4.2	12	34	-
		70	40000	30000		4.1	12	34	-
		100	40000	30000		4	12	34	-

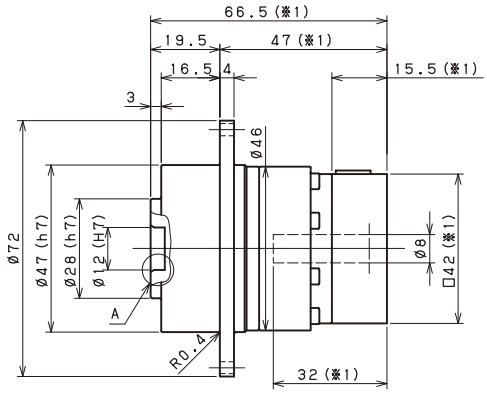
1 输入容许转速时使用寿命为20000小时
2 启动、停止时容许的最大值
3 发生撞击时容许的最大值（频率最高为1000次）
4 运转过程中，平均输入转速的容许最大值
5 在非连续运转条件下容许的最高输入转速
6 输入容许转速时使用寿命为20000小时（作用于轴中央，轴向负荷为0）
7 输入容许转速时使用寿命为20000小时（作用于轴芯，径向负荷为0）
8 径向负荷的容许最大值
9 轴向负荷的容许最大值
10 因减速比和输入轴尺寸的不同而有所不同

1 With nominal input speed,service life is 20,000 hours.
2 The maximum torque when starting and stopping.
3 The maximum torque when it receives shock(up to 1,000times)
4 The maximum average input speed.
5 The maximum momentary input speed.
6 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output shaft center ,at axial load 0)
7 With this load and nominal input speed,service life will be 20,000 hours. (Applied to the output side bearing ,at radial load 0)
8 The maximum radial load the reducer can accept.
9 The maximum axial load the reducer can accept.
10 The weight may vary slightly model to model.

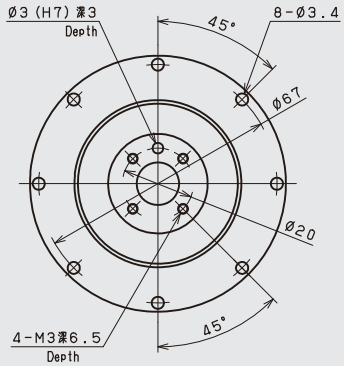
LFT-047 1段 | 1 Stage

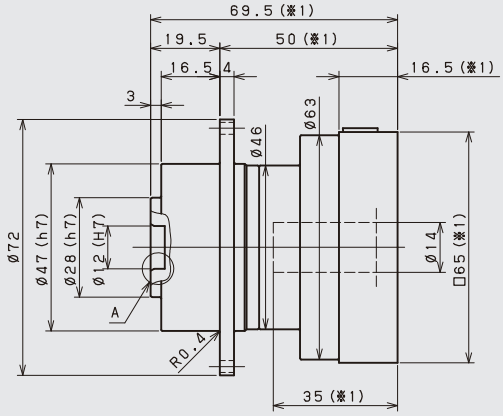
输入轴内径 Input shaft bore ≤ φ8





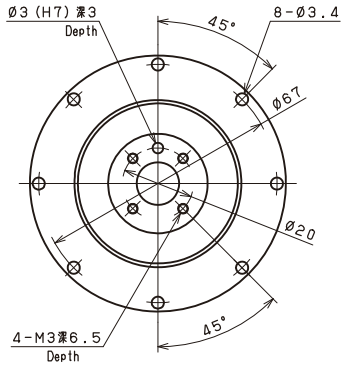
输入轴内径 Input shaft bore ≤ φ14

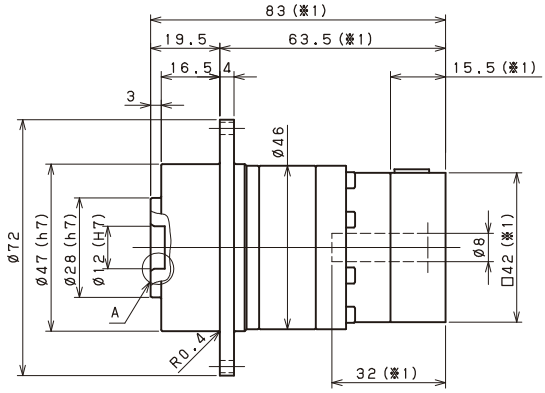


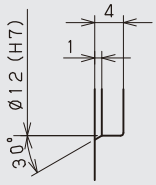


LFT-047 2段 | 2 Stage

输入轴内径 Input shaft bore ≤ φ 8







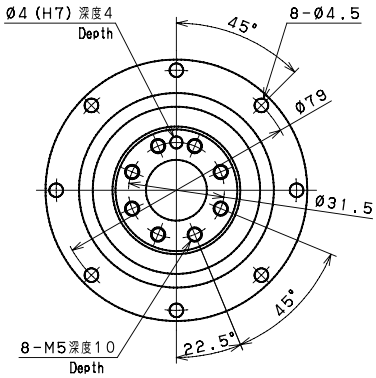
A 部详细图
Enlarged detail A

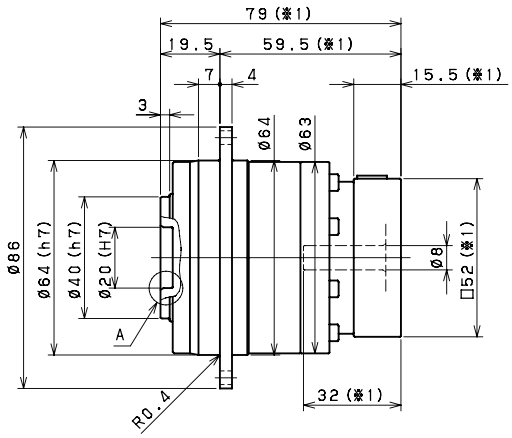
- 随安装马达的不同而有所差异。
- 马达轴径与输入轴径不同时，可插入轴套。

- Length will vary depending on motor.
- Bushing will be inserted to adapt to motor shaft.

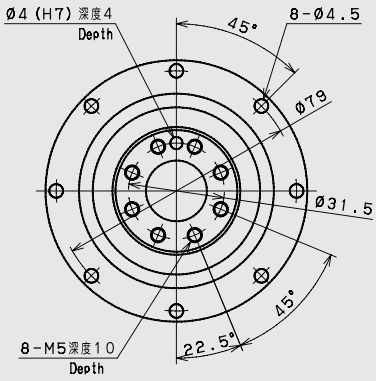
LFT-064 1段 | 1 Stage

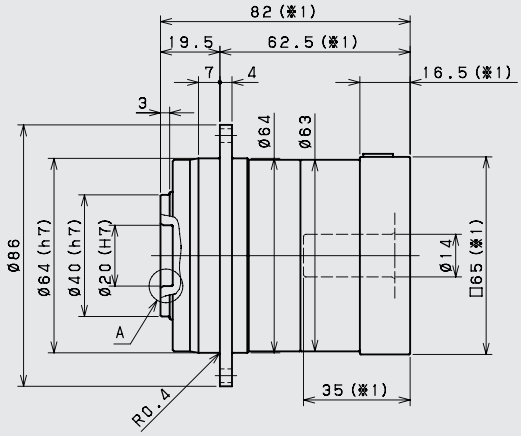
输入轴内径 Input shaft bore ≤ φ8



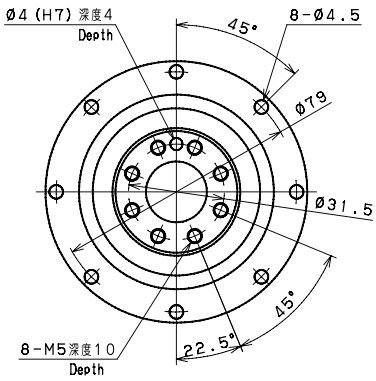


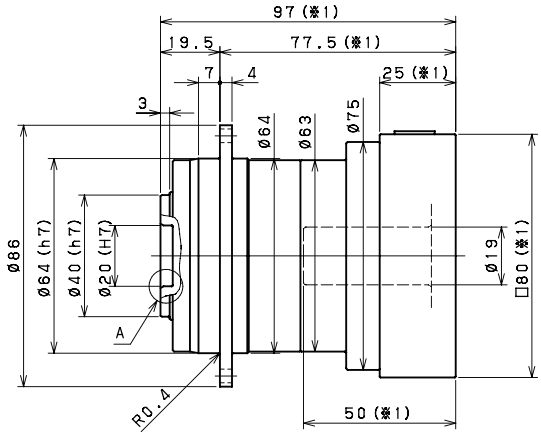
输入轴内径 Input shaft bore ≤ φ14

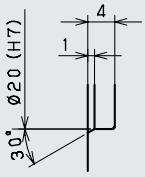




输入轴内径 Input shaft bore ≤ φ19







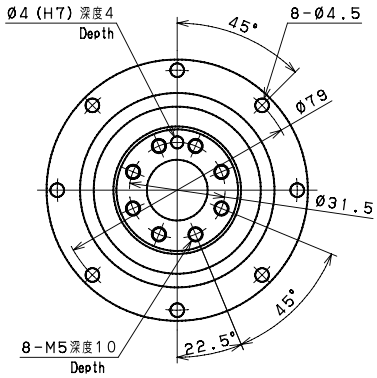
A 部详细图
Enlarged detail A

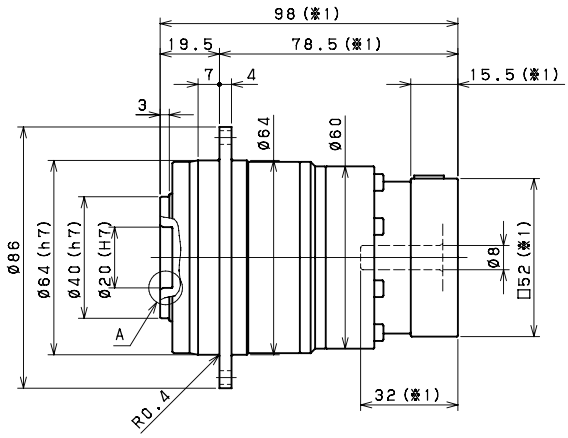
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

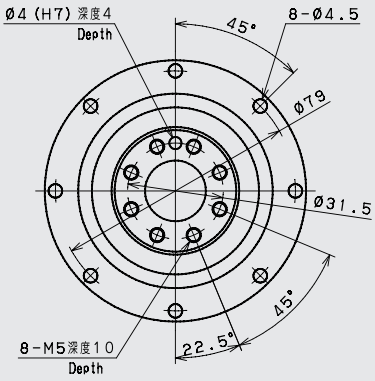
LFT–064 2段 | 2 Stage

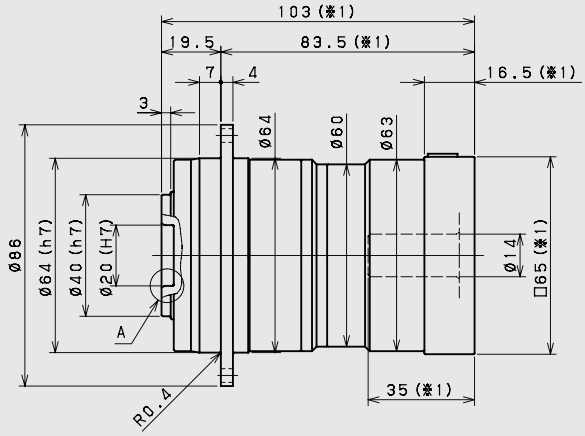
输入轴内径 Input shaft bore ≤ φ8

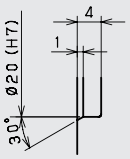




输入轴内径 Input shaft bore ≤ φ14







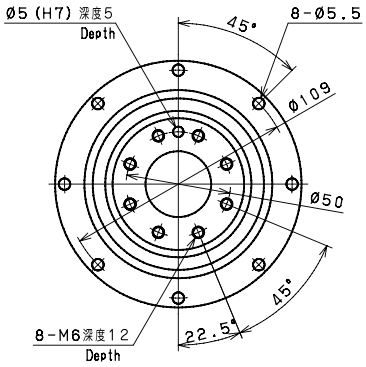
A 部详细图
Enlarged detail A

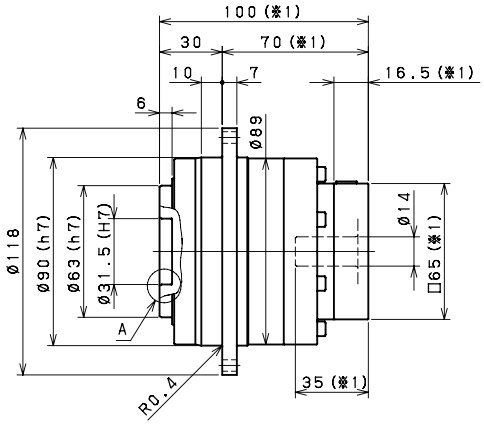
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

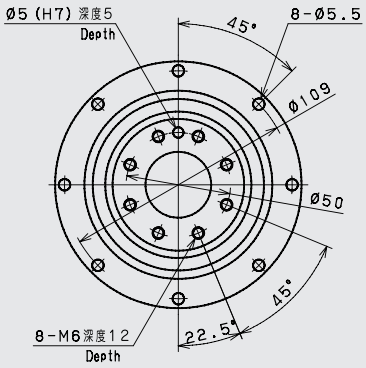
LFT-090 1段 | 1 Stage

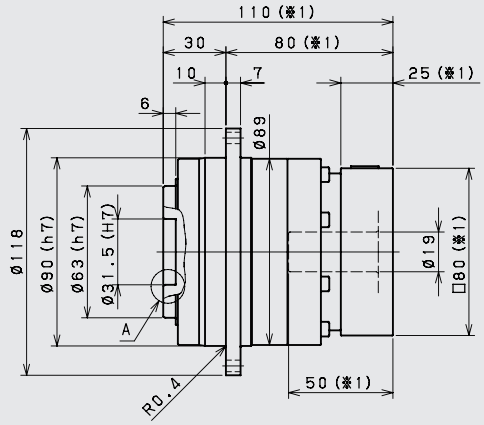
输入轴内径 Input shaft bore ≤ φ14



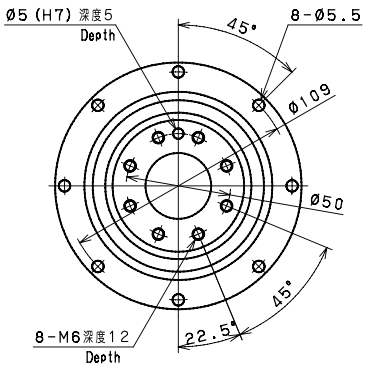


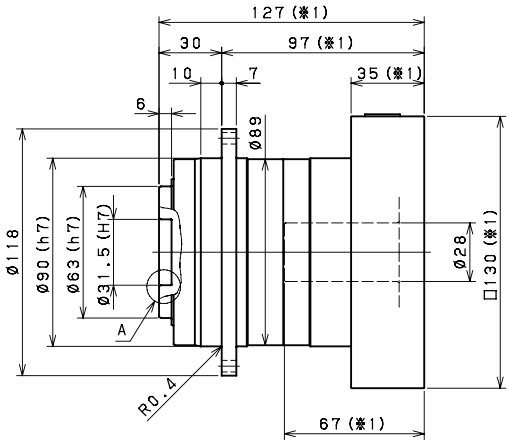
输入轴内径 Input shaft bore ≤ φ19

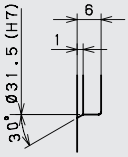




输入轴内径 Input shaft bore ≤ φ28







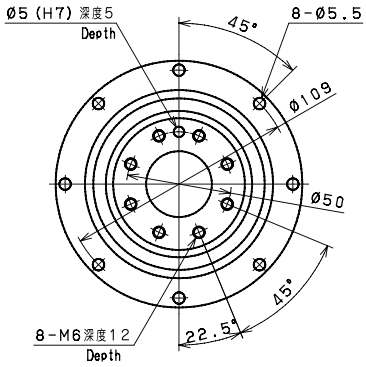
A 部详细图
Enlarged detail A

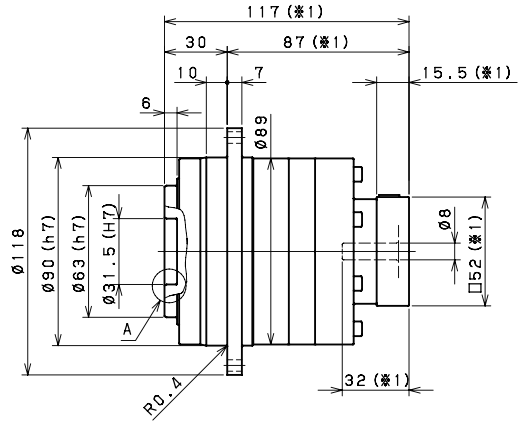
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

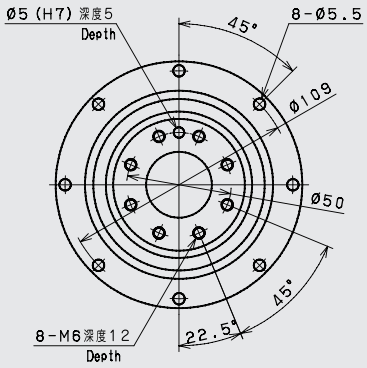
LFT-090 2段 | 2 Stage

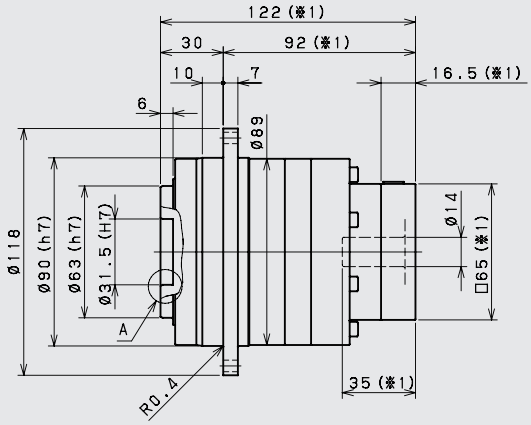
输入轴内径 Input shaft bore ≤ φ8



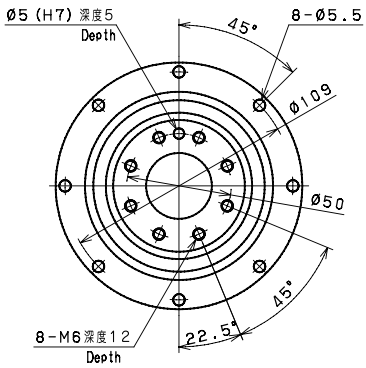


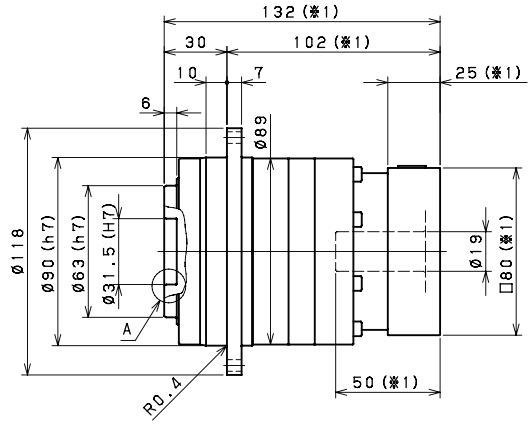
输入轴内径 Input shaft bore ≤ φ14

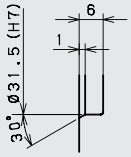




输入轴内径 Input shaft bore ≤ φ19







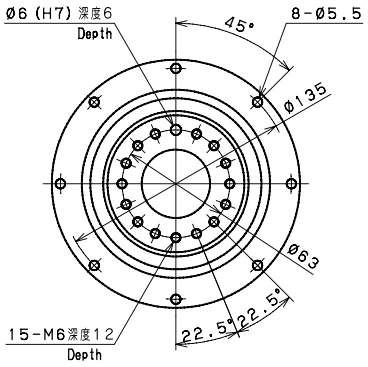
A 部详细图
Enlarged detail A

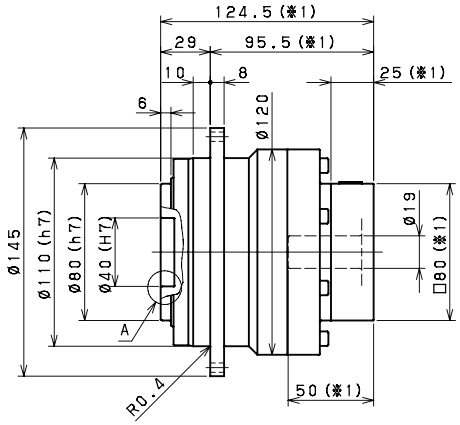
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

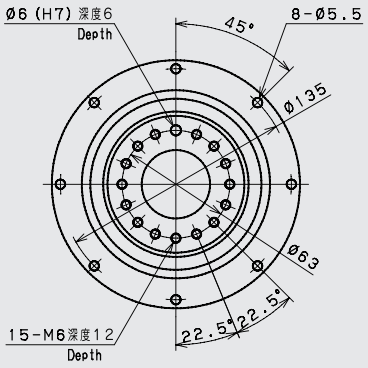
LFT-110 1段 | 1 Stage

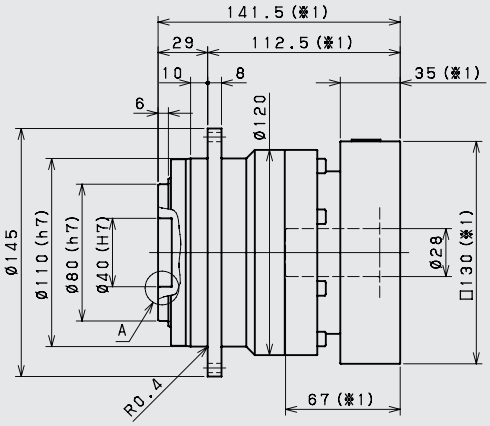
输入轴内径 Input shaft bore ≤ φ19



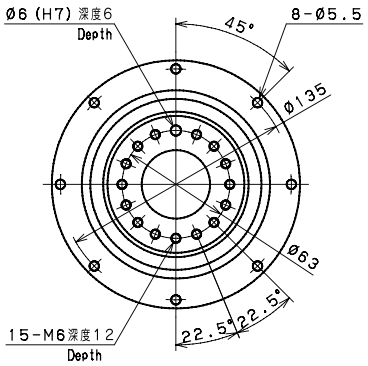


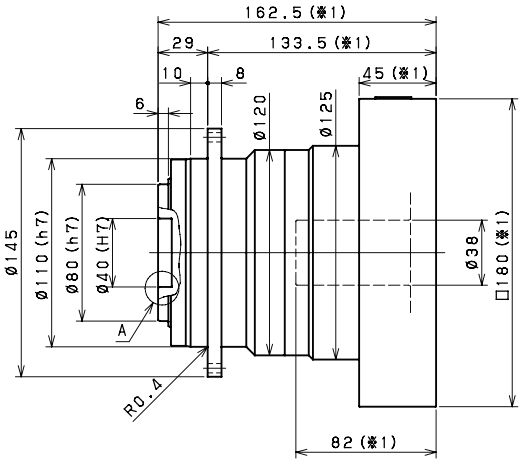
输入轴内径 Input shaft bore ≤ φ28

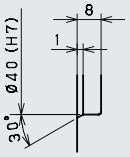




输入轴内径 Input shaft bore ≤ φ38







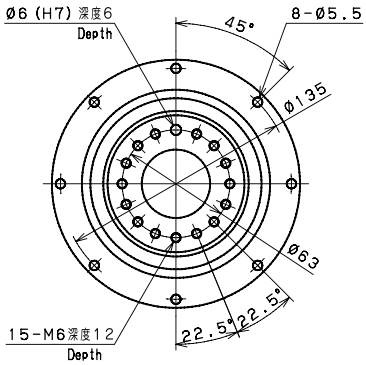
A 部详细图
Enlarged detail A

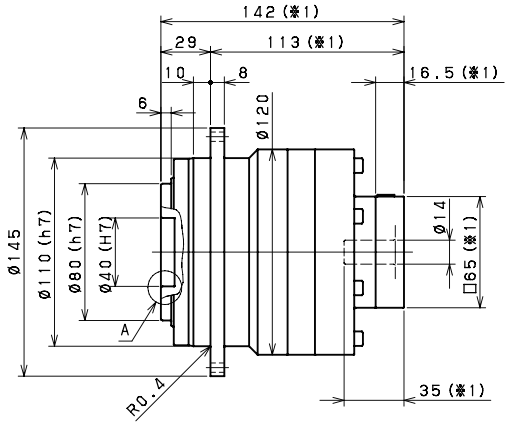
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

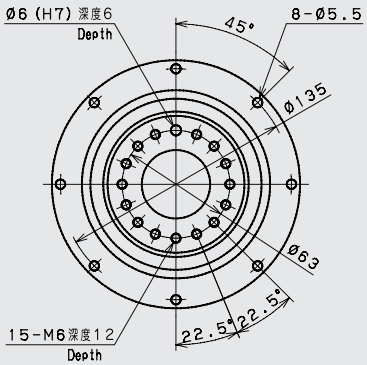
LFT-110 2段 | 2 Stage

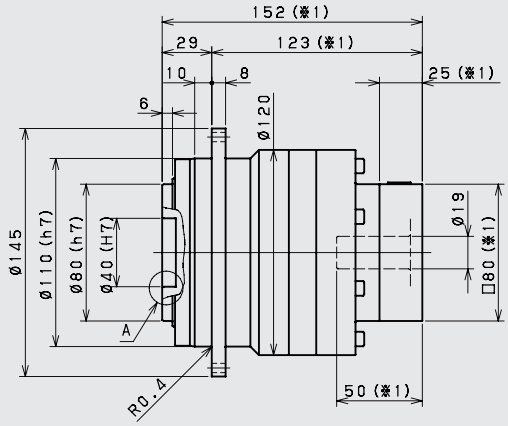
输入轴内径 Input shaft bore ≤ φ14



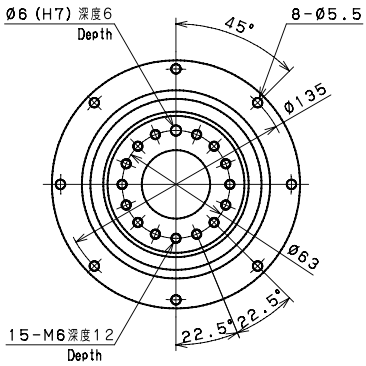


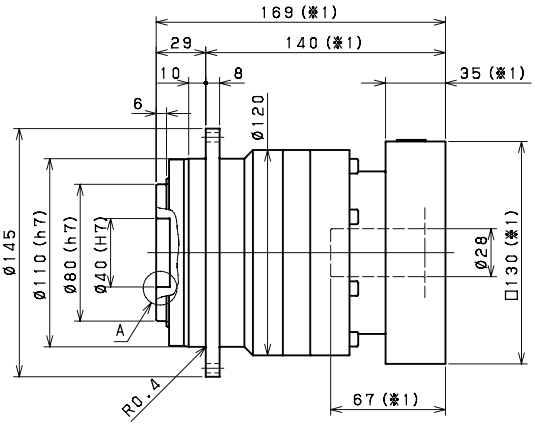
输入轴内径 Input shaft bore ≤ φ19

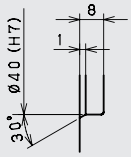




输入轴内径 Input shaft bore ≤ φ28







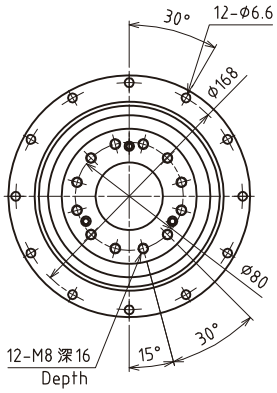
A 部详细图
Enlarged detail A

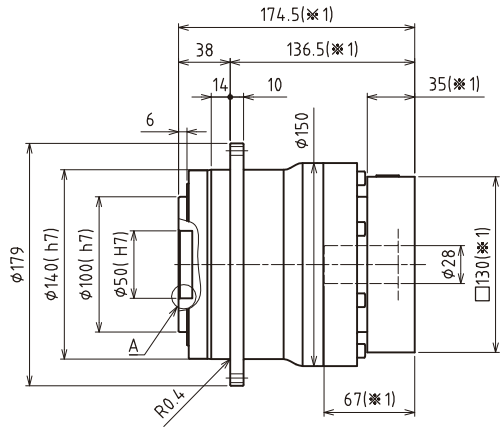
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

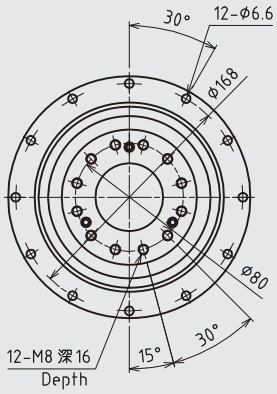
LFT-140 1段 | 1 Stage

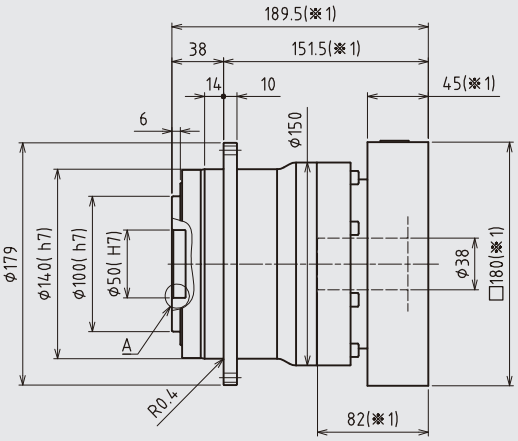
输入轴内径 Input shaft bore ≤ φ28



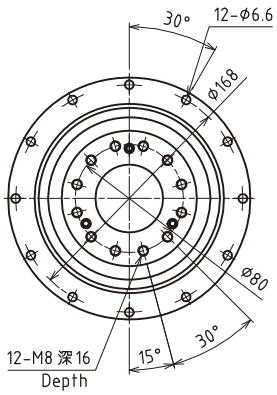


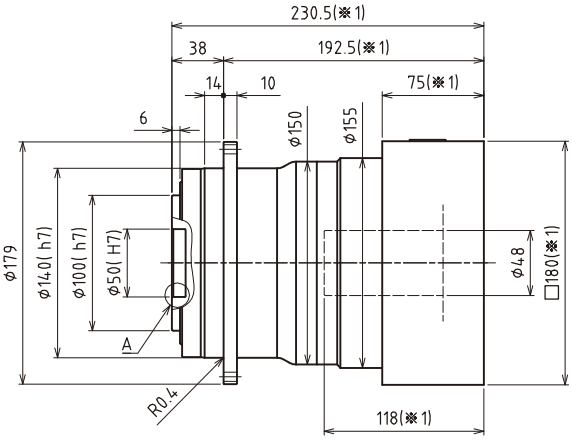
输入轴内径 Input shaft bore ≤ φ38

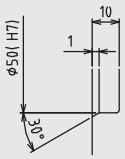




输入轴内径 Input shaft bore ≤ φ48







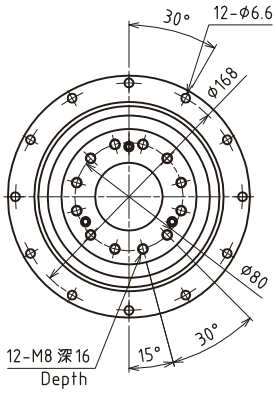
A 部详细图
Enlarged detail A

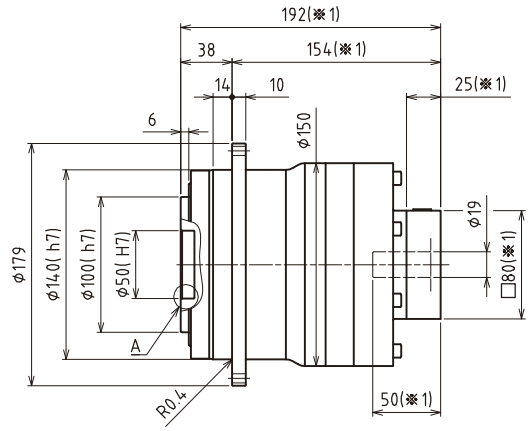
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

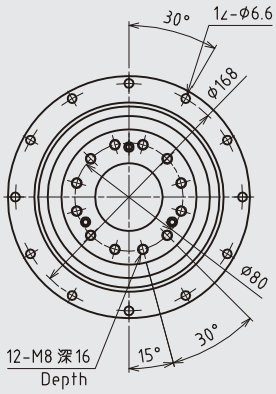
LFT-140 2段 | 2 Stage

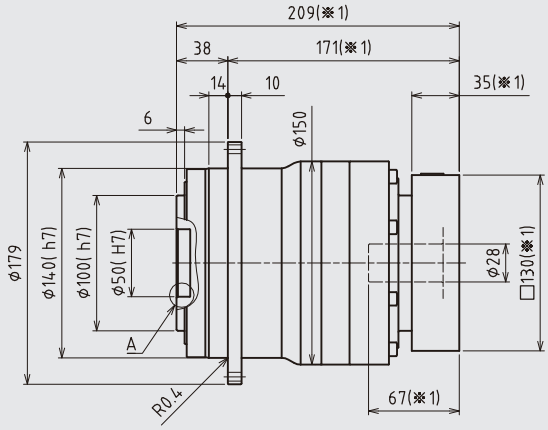
输入轴内径 Input shaft bore ≤ φ19



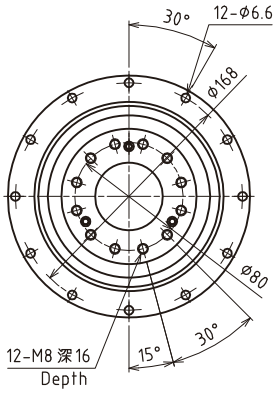


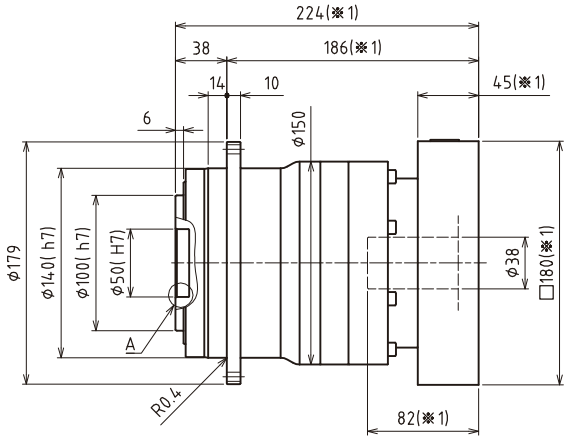
输入轴内径 Input shaft bore ≤ φ28

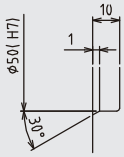




输入轴内径 Input shaft bore ≤ φ38







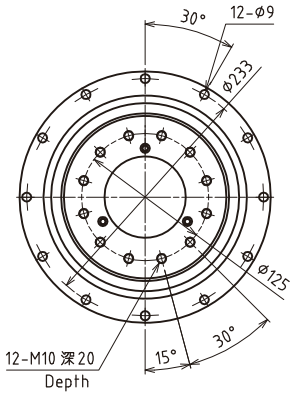
A 部详细图
Enlarged detail A

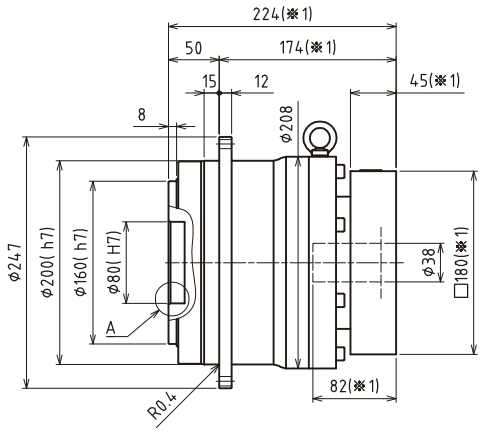
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

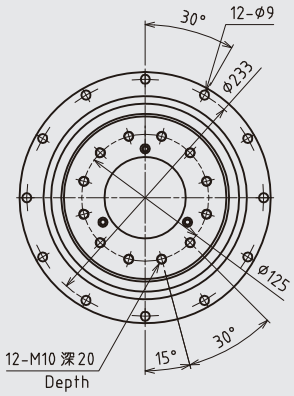
LFT-200 1段 | 1 Stage

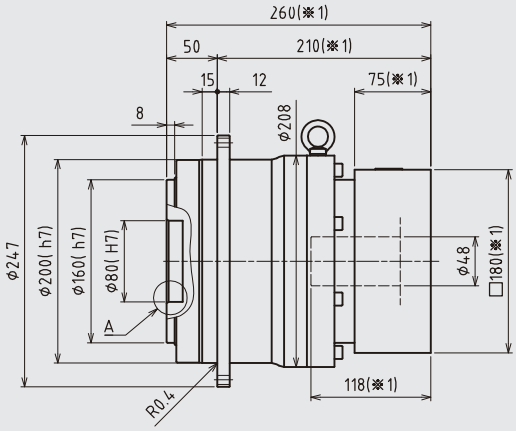
输入轴内径 Input shaft bore ≤ φ38



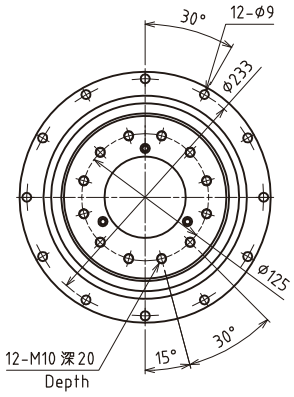


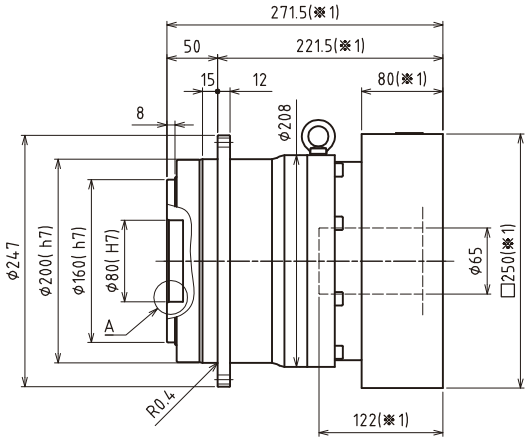
输入轴内径 Input shaft bore ≤ φ48

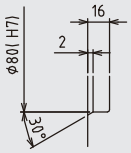




输入轴内径 Input shaft bore ≤ φ65







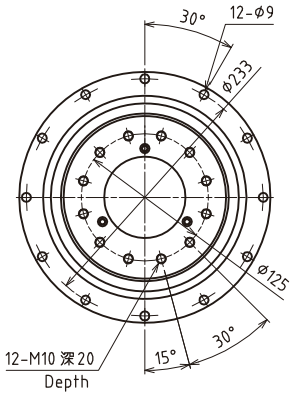
A 部详细图
Enlarged detail A

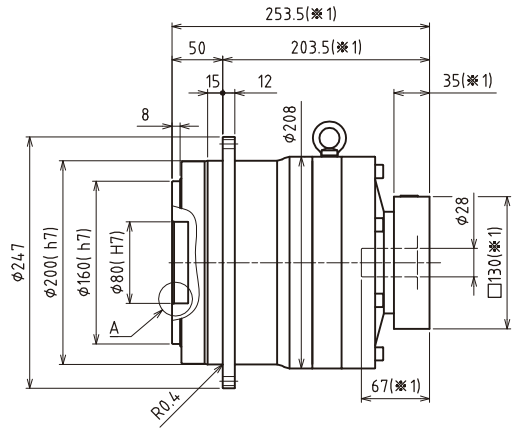
※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

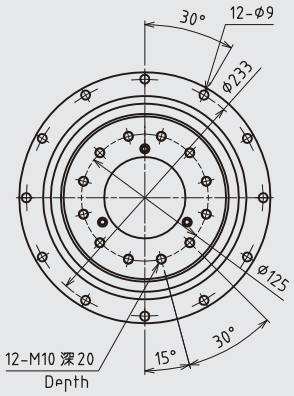
LFT-200 2段 | 2 Stage

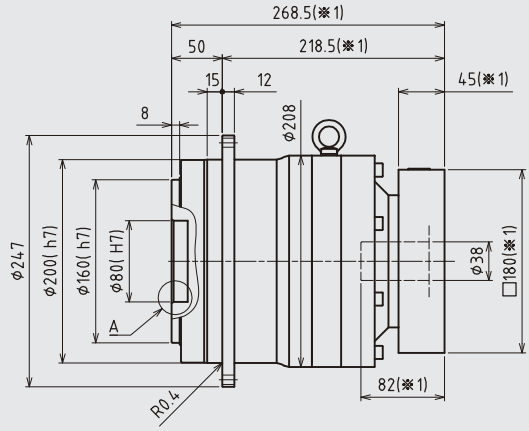
输入轴内径 Input shaft bore ≤ φ28



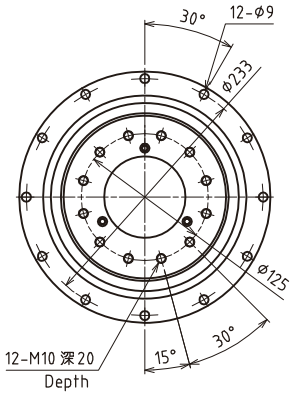


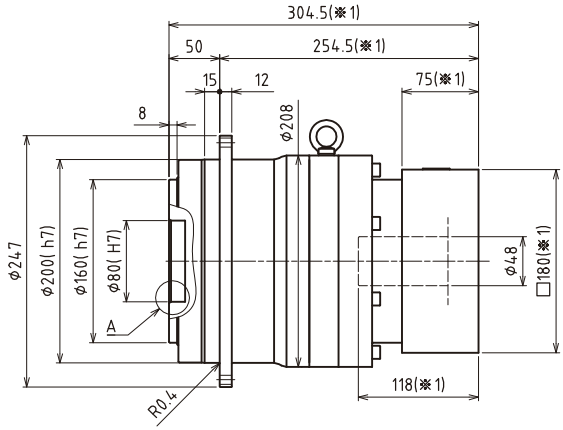
输入轴内径 Input shaft bore ≤ φ38

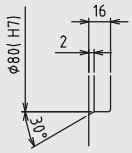




输入轴内径 Input shaft bore ≤ φ48





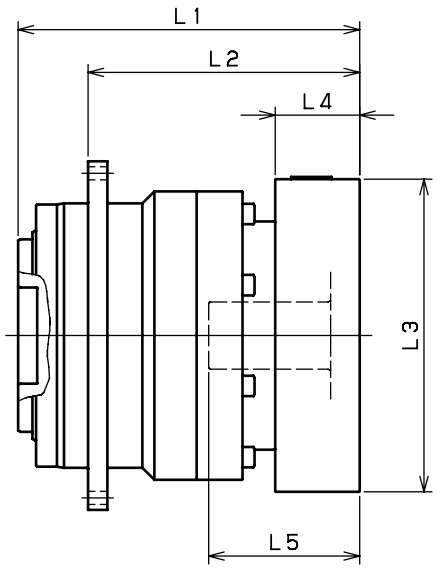


A 部详细图
Enlarged detail A

※1 随安装马达的不同而有所差异。
※2 马达轴径与输入轴径不同时，可插入轴套。

※1 Length will vary depending on motor.
※2 Bushing will be inserted to adapt to motor shaft.

LFT-064

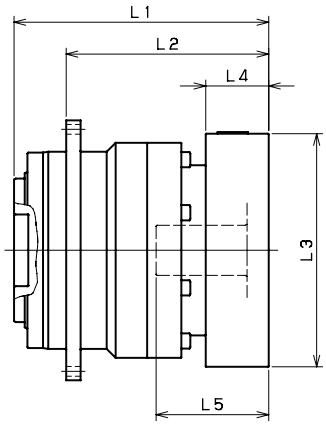


型 号 Model number	**：连接器编号 **：Adapter code	1段 Single					2段 Double				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
LFT-064-□-□-8** 输入轴内径 Input shaft bore ≤φ8	AA·AC·AD·AF·AG	79	59.5	□52	15.5	32	98	78.5	□52	15.5	32
	AB·AE·AH·AJ·AK	84	64.5	□52	20.5	37	103	83.5	□52	20.5	37
	BA·BB·BD·BE	79	59.5	□60	15.5	32	98	78.5	□60	15.5	32
	BC·BF	84	64.5	□60	20.5	37	103	83.5	□60	20.5	37
	CA	84	64.5	□70	20.5	37	103	83.5	□70	20.5	37
LFT-064-□-□-14** 输入轴内径 Input shaft bore ≤φ14	BA·BB·BD·BE·BF·BG·BJ·BK	82	62.5	□65	16.5	35	103	83.5	□65	16.5	35
	BC·BH·BM	87	67.5	□65	21.5	40	108	88.5	□65	21.5	40
	BL	92	72.5	□65	26.5	45	113	93.5	□65	26.5	45
	CA	82	62.5	□70	16.5	35	103	83.5	□70	16.5	35
	CB	87	67.5	□70	21.5	40	108	88.5	□70	21.5	40
	DA·DB·DC·DD·DF·DH	82	62.5	□80	16.5	35	103	83.5	□80	16.5	35
	DE	87	67.5	□80	21.5	40	108	88.5	□80	21.5	40
	DG	92	72.5	□80	26.5	45	113	93.5	□80	26.5	45
	EA·EB.EC	82	62.5	□90	16.5	35	103	83.5	□90	16.5	35
	ED	92	72.5	□90	26.5	45	113	93.5	□90	26.5	45
	FA	82	62.5	□100	16.5	35	103	83.5	□100	16.5	35
	GA	82	62.5	□115	16.5	35	103	83.5	□115	16.5	35
LFT-064-□-□-19** 输入轴内径 Input shaft bore ≤φ19	DA·DB·DC	97	77.5	□80	25	50	-	-	-	-	-
	DD	107	87.5	□80	35	60	-	-	-	-	-
	DE	102	82.5	□80	30	55	-	-	-	-	-
	EA	102	82.5	□90	30	55	-	-	-	-	-
	EB	97	77.5	□90	25	50	-	-	-	-	-
	EC	107	87.5	□90	35	60	-	-	-	-	-
	FA	97	77.5	□100	25	50	-	-	-	-	-
	FB	107	87.5	□100	35	60	-	-	-	-	-
	GA·GC	102	82.5	□115	30	55	-	-	-	-	-
	GB·GD	97	77.5	□115	25	50	-	-	-	-	-
	HA	97	77.5	□130	25	50	-	-	-	-	-
	HB	112	92.5	□130	40	65	-	-	-	-	-
	HC·HD·HE	102	82.5	□130	30	55	-	-	-	-	-

- 1段减速：1/4 ~ 1/10；2段减速：1/16 ~ 1/100
- 马达轴径与输入轴径不同时，可插入连接器。

- Single reductiong：1/4 ~ 1/10，Double reductiong：1/16 ~ 1/100
- Bushing will be inserted to adapt to motor shaft.

LFT-090

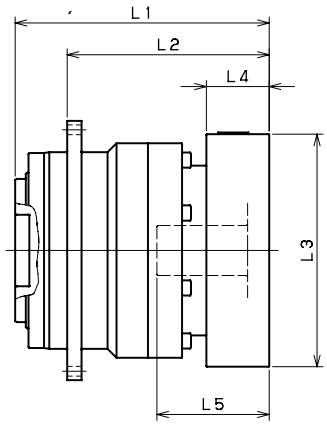


型 号 Model number	**：连接器编号 **：Adapter code	1段 Single					2段 Double				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
LFT-090-□-□-8** 输入轴内径 Input shaft bore ≤φ8	AA·AC·AD·AF·AG	-	-	-	-	-	117	87	□52	15.5	32
	AB·AE·AH·AJ·AK	-	-	-	-	-	122	92	□52	20.5	37
	BA·BB·BD·BE	-	-	-	-	-	117	87	□60	15.5	32
	BC·BF	-	-	-	-	-	122	92	□60	20.5	37
	CA	-	-	-	-	-	122	92	□70	20.5	37
LFT-090-□-□-14** 输入轴内径 Input shaft bore ≤φ14	BA·BB·BD·BE·BF·BG·BJ·BK	100	70	□65	16.5	35	122	92	□65	16.5	35
	BC·BH·BM	105	75	□65	21.5	40	127	97	□65	21.5	40
	BL	110	80	□65	26.5	45	132	102	□65	26.5	45
	CA	100	70	□70	16.5	35	122	92	□70	16.5	35
	CB	105	75	□70	21.5	40	127	97	□70	21.5	40
	DA·DB·DC·DD·DF·DH	100	70	□80	16.5	35	122	92	□80	16.5	35
	DE	105	75	□80	21.5	40	127	97	□80	21.5	40
	DG	110	80	□80	26.5	45	132	102	□80	26.5	45
	EA·EB·EC	100	70	□90	16.5	35	122	92	□90	16.5	35
	ED	110	80	□90	26.5	45	132	102	□90	26.5	45
	FA	100	70	□100	16.5	35	122	92	□100	16.5	35
	GA	100	70	□115	16.5	35	122	92	□115	16.5	35
LFT-090-□-□-19** 输入轴内径 Input shaft bore ≤φ19	DA·DB·DC	110	80	□80	25	50	132	102	□80	25	50
	DD	120	90	□80	35	60	142	112	□80	35	60
	DE	115	85	□80	30	55	137	107	□80	30	55
	EA	115	85	□90	30	55	137	107	□90	30	55
	EB	110	80	□90	25	50	132	102	□90	25	50
	EC	120	90	□90	35	60	142	112	□90	35	60
	FA	110	80	□100	25	50	132	102	□100	25	50
	FB	120	90	□100	35	60	142	112	□100	35	60
	GA·GC	115	85	□115	30	55	137	107	□115	30	55
	GB·GD	110	80	□115	25	50	132	102	□115	25	50
	HA	110	80	□130	25	50	132	102	□130	25	50
	HB	125	95	□130	40	65	147	117	□130	40	65
	HC·HD·HE	115	85	□130	30	55	137	107	□130	30	55
LFT-090-□-□-28** 输入轴内径 Input shaft bore ≤φ28	FA·FB·FC	127	97	□100	35	67	-	-	-	-	-
	GA·GB·GC·GD·GE·GF·GG	127	97	□115	35	67	-	-	-	-	-
	HA·HC·HD	127	97	□130	35	67	-	-	-	-	-
	HB	137	107	□130	45	77	-	-	-	-	-
	JA·JB·JC	127	97	□150	35	67	-	-	-	-	-
	KA·KB	127	97	□180	35	67	-	-	-	-	-
	KD	137	107	□180	45	77	-	-	-	-	-
	LA	127	97	□200	35	67	-	-	-	-	-
	MA	127	97	□220	35	67	-	-	-	-	-

- 1段减速：1/4 ~ 1/10；2段减速：1/16 ~ 1/100
- 马达轴径与输入轴径不同时，可插入连接器。

- Single reductiong：1/4 ~ 1/10，Double reductiong：1/16 ~ 1/100
- Bushing will be inserted to adapt to motor shaft.

LFT-110

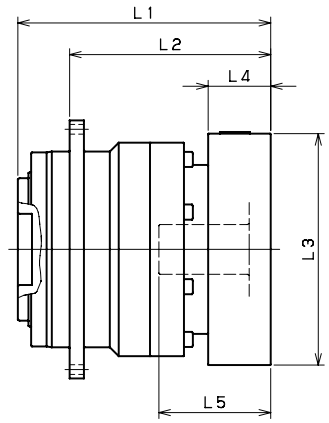


型 号 Model number	**：连接器编号 **：Adapter code	1段 Single					2段 Double				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
LFT-110-□-□-14** (输入轴内径 Input shaft bore ≤φ14)	BA·BB·BD·BE·BF·BG·BJ·BK	-	-	-	-	-	142	113	□65	16.5	35
	BC·BH·BM	-	-	-	-	-	147	118	□65	21.5	40
	BL	-	-	-	-	-	152	123	□65	26.5	45
	CA	-	-	-	-	-	142	113	□70	16.5	35
	CB	-	-	-	-	-	147	118	□70	21.5	40
	DA·DB·DC.DD·DF·DH	-	-	-	-	-	142	113	□80	16.5	35
	DE	-	-	-	-	-	147	118	□80	21.5	40
	DG	-	-	-	-	-	152	123	□80	26.5	45
	EA·EB.EC	-	-	-	-	-	142	113	□90	16.5	35
	ED	-	-	-	-	-	152	123	□90	26.5	45
	FA	-	-	-	-	-	142	113	□100	16.5	35
	GA	-	-	-	-	-	142	113	□115	16.5	35
LFT-110-□-□-19** (输入轴内径 Input shaft bore ≤φ19)	DA·DB·DC	124.5	95.5	□80	25	50	152	123	□80	25	50
	DD	134.5	105.5	□80	35	60	162	133	□80	35	60
	DE	129.5	100.5	□80	30	55	157	128	□80	30	55
	EA	129.5	100.5	□90	30	55	157	128	□90	30	55
	EB	124.5	95.5	□90	25	50	152	123	□90	25	50
	EC	134.5	105.5	□90	35	60	162	133	□90	35	60
	FA	124.5	95.5	□100	25	50	152	123	□100	25	50
	FB	134.5	105.5	□100	35	60	162	133	□100	35	60
	GA·GC	129.5	100.5	□115	30	55	157	128	□115	30	55
	GB·GD	124.5	95.5	□115	25	50	152	123	□115	25	50
	HA	124.5	95.5	□130	25	50	152	123	□130	25	50
	HB	139.5	110.5	□130	40	65	167	138	□130	40	65
	HC·HD·HE	129.5	100.5	□130	30	55	157	128	□130	30	55
LFT-110-□-□-28** (输入轴内径 Input shaft bore ≤φ28)	FA·FB·FC	141.5	112.5	□100	35	67	169	140	□100	35	67
	GA·GB·GC·GD·GE·GF·GG	141.5	112.5	□115	35	67	169	140	□115	35	67
	HA·HC·HD	141.5	112.5	□130	35	67	169	140	□130	35	67
	HB	151.5	122.5	□130	45	77	179	150	□130	45	77
	JA·JB·JC	141.5	112.5	□150	35	67	169	140	□150	35	67
	KA·KB	141.5	112.5	□180	35	67	169	140	□180	35	67
	KD	151.5	122.5	□180	45	77	179	150	□180	45	77
	LA	141.5	112.5	□200	35	67	169	140	□200	35	67
	MA	141.5	112.5	□220	35	67	169	140	□220	35	67
LFT-110-□-□-38** (输入轴内径 Input shaft bore ≤φ38)	HA	162.5	133.5	□130	45	82	-	-	-	-	-
	HB	157.5	128.5	□130	40	77	-	-	-	-	-
	JA	162.5	133.5	□150	45	82	-	-	-	-	-
	KA·KB·KC	162.5	133.5	□180	45	82	-	-	-	-	-
	LA	162.5	133.5	□200	45	82	-	-	-	-	-
	LB	172.5	143.5	□200	55	92	-	-	-	-	-
	MA·MB	162.5	133.5	□220	45	82	-	-	-	-	-
	NA	162.5	133.5	□250	45	82	-	-	-	-	-

- 1段减速：1/4 ~ 1/10；2段减速：1/16 ~ 1/100
- 马达轴径与输入轴径不同时，可插入连接器。

- Single reductiong：1/4 ~ 1/10，Double reductiong：1/16 ~ 1/100
- Bushing will be inserted to adapt to motor shaft.

LFT-140

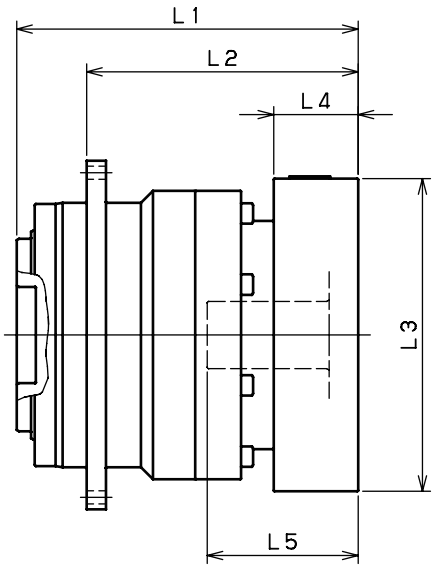


型 号 Model number	**：连接器编号 **：Adapter code	1段 Single					2段 Double				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
LFT-140-□-□-19** (输入轴内径 Input shaft bore ≤φ19)	DA·DB·DC	-	-	-	-	-	192	154	□80	25	50
	DD	-	-	-	-	-	202	164	□80	35	60
	DE	-	-	-	-	-	197	159	□80	30	55
	EA	-	-	-	-	-	197	159	□90	30	55
	EB	-	-	-	-	-	192	154	□90	25	50
	EC	-	-	-	-	-	202	164	□90	35	60
	FA	-	-	-	-	-	192	154	□100	25	50
	FB	-	-	-	-	-	202	164	□100	35	60
	GA·GC	-	-	-	-	-	197	159	□115	30	55
	GB·GD	-	-	-	-	-	192	154	□115	25	50
	HA	-	-	-	-	-	192	154	□130	25	50
	HB	-	-	-	-	-	207	169	□130	40	65
	HC·HD·HE	-	-	-	-	-	197	159	□130	30	55
LFT-140-□-□-28** (输入轴内径 Input shaft bore ≤φ28)	FA·FB·FC	174.5	136.5	□100	35	67	209	171	□100	35	67
	GA·GB·GC·GD·GE·GF·GG	174.5	136.5	□115	35	67	209	171	□115	35	67
	HA·HC·HD	174.5	136.5	□130	35	67	209	171	□130	35	67
	HB	184.5	146.5	□130	45	77	219	181	□130	45	77
	JA·JB·JC	174.5	136.5	□150	35	67	209	171	□150	35	67
	KA·KB	174.5	136.5	□180	35	67	209	171	□180	35	67
	KD	184.5	146.5	□180	45	77	219	181	□180	45	77
	LA	174.5	136.5	□200	35	67	209	171	□200	35	67
	MA	174.5	136.5	□220	35	67	209	171	□220	35	67
LFT-140-□-□-38** (输入轴内径 Input shaft bore ≤φ38)	HA	189.5	151.5	□130	45	82	224	186	□130	45	82
	HB	184.5	146.5	□130	40	77	219	181	□130	40	77
	JA	189.5	151.5	□150	45	82	224	186	□150	45	82
	KA·KB·KC	189.5	151.5	□180	45	82	224	186	□180	45	82
	LA	189.5	151.5	□200	45	82	224	186	□200	45	82
	LB	199.5	161.5	□200	55	92	234	196	□200	55	92
	MA·MB	189.5	151.5	□220	45	82	224	186	□220	45	82
	NA	189.5	151.5	□250	45	82	224	186	□250	45	82
LFT-140-□-□-48** (输入轴内径 Input shaft bore ≤φ48)	KB·KC	210.5	172.5	□180	55	98	-	-	-	-	-
	KA	230.5	192.5	□180	75	118	-	-	-	-	-
	LA	210.5	172.5	□200	55	98	-	-	-	-	-
	MA	210.5	172.5	□220	55	98	-	-	-	-	-
	MB	230.5	192.5	□220	75	118	-	-	-	-	-
	NA	230.5	192.5	□250	75	118	-	-	-	-	-
	PA	230.5	192.5	□280	75	118	-	-	-	-	-

- 1段减速：1/4 ~ 1/10；2段减速：1/16 ~ 1/100
- 马达轴径与输入轴径不同时，可插入连接器。

- Single reductiong：1/4 ~ 1/10，Double reductiong：1/16 ~ 1/100
- Bushing will be inserted to adapt to motor shaft.

LFT-200



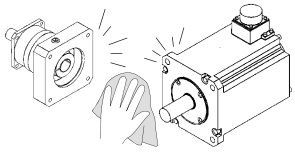
型 号 Model number	**：连接器编号 **：Adapter code	1段 Single					2段 Double				
		L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
LFT-200-□-□-28** 输入轴内径 Input shaft bore ≤φ28	FA·FB·FC	-	-	-	-	-	253.5	203.5	□100	35	67
	GA·GB·GC·GD·GE·GF·GG	-	-	-	-	-	253.5	203.5	□115	35	67
	HA·HC·HD	-	-	-	-	-	253.5	203.5	□130	35	67
	HB	-	-	-	-	-	263.5	213.5	□130	45	77
	JA·JB·JC	-	-	-	-	-	253.5	203.5	□150	35	67
	KA·KB	-	-	-	-	-	253.5	203.5	□180	35	67
	KD	-	-	-	-	-	263.5	213.5	□180	45	77
	LA	-	-	-	-	-	253.5	203.5	□200	35	67
	MA	-	-	-	-	-	253.5	203.5	□220	35	67
LFT-200-□-□-38** 输入轴内径 Input shaft bore ≤φ38	HA	224	174	□130	45	82	268.5	218.5	□130	45	82
	HB	219	169	□130	40	77	263.5	213.5	□130	40	77
	JA	224	174	□150	45	82	268.5	218.5	□150	45	82
	KA·KB·KC	224	174	□180	45	82	268.5	218.5	□180	45	82
	LA	224	174	□200	45	82	268.5	218.5	□200	45	82
	LB	234	184	□200	55	92	278.5	228.5	□200	55	92
	MA·MB	224	174	□220	45	82	268.5	218.5	□220	45	82
	NA	224	174	□250	45	82	268.5	218.5	□250	45	82
LFT-200-□-□-48** 输入轴内径 Input shaft bore ≤φ48	KB·KC	240	190	□180	55	98	284.5	234.5	□180	55	98
	KA	260	210	□180	75	118	304.5	254.5	□180	75	118
	LA	240	190	□200	55	98	284.5	234.5	□200	55	98
	MA	240	190	□220	55	98	284.5	234.5	□220	55	98
	MB	260	210	□220	75	118	304.5	254.5	□220	75	118
	NA	260	210	□250	75	118	304.5	254.5	□250	75	118
	PA	260	210	□280	75	118	304.5	254.5	□280	75	118
LFT-200-□-□-65** 输入轴内径 Input shaft bore ≤φ65	MA·MB·MC·MD	271.5	221.5	□220	80	122	-	-	-	-	-
	NA	271.5	221.5	□250	80	122	-	-	-	-	-
	PA	291.5	241.5	□280	100	142	-	-	-	-	-
	PB	301.5	251.5	□280	110	152	-	-	-	-	-
	QA	291.5	241.5	□320	100	142	-	-	-	-	-

- 1段减速：1/4 ~ 1/10；2段减速：1/16 ~ 1/100
- 马达轴径与输入轴径不同时，可插入连接器。

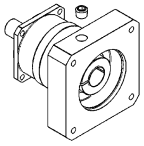
- Single reductiong：1/4 ~ 1/10，Double reductiong：1/16 ~ 1/100
- Bushing will be inserted to adapt to motor shaft.

第一部分：马达安装步骤 Mounting procedure to the motor

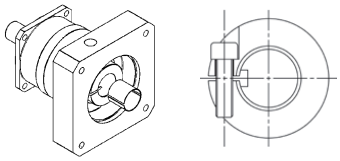
1 擦拭马达轴上的防锈剂、润滑脂等。
Wipe off anti-rust agent and oil on the motor shaft.



2 取下橡皮栓
Remove the plug

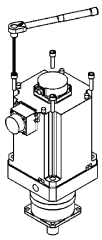


3 旋转输入轴使紧固螺栓的头对准塞孔，此时，请确认紧固螺栓是松动的。
Turn the input shaft until the cap screw is seen,Make sure the cap screw is loosened.

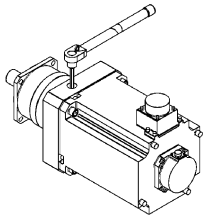


如带有轴套，安装方法如图所示。
In case the bushing has been attached ,Please fix it to the reducer as the drawing below.

4 将减速机垂直放置在平坦的地方，使减速机的马达安装面朝上侧。将马达轴慢慢地插入输入轴，注意避免撞击到输入轴，请确认马达的法兰面紧靠减速机的法兰面。按指定的紧固扭矩拧紧马达安装螺栓。（参考表1）
Please place reducer vertically on the flat surface, so the motor mounting part faces up. Carefully insert the motor shaft into the input shaft.(It should be inserted smoothly) Make sure the motor flange is perfectly fit to the reducer's flange.Tighten the motor installing bolts to the proper torque. (See table 1)



5 使用转矩扳手等按照指定的紧固扭矩拧紧紧固螺栓。(参考表1)
Tighten the clamping bolt of the input shaft with torque wrench to the proper torque.(See table 1)



6 安装上橡皮栓，安装完成。
Reinstall the plug,The procedure is done.

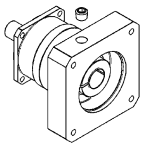


表1 Table 1

螺栓尺寸 Bolt size	马达安装螺栓 Motor installing bolts		紧固螺栓 Clamping bolt	
	Nm	kgfm	Nm	kgfm
M3	1.1	0.11	1.9	0.18
M4	2.5	0.26	4.3	0.44
M5	5.1	0.52	8.7	0.89
M6	8.7	0.89	15	1.5
M8	21	2.1	36	3.7
M10	42	4.3	71	7.2
M12	72	7.3	125	13
M16	134	14	–	–

第二部分：减速机的安装 Reducer installation

要将减速机安装到设备上时，请先确认安装面平坦且没有毛刺等，然后使用转矩扳手按照指定的紧固扭矩拧紧螺栓。（参考表2）
After confirming the installation surface is flat and clean,tighten the bolt using a torque wrench to the proper torque.(See table 2)

表2 Table 2

螺栓尺寸 Bolt size	紧固扭矩 Tightening torque	
	Nm	kgfm
M3	1.9	0.18
M4	4.3	0.44
M5	8.7	0.89
M6	15	1.5
M8	36	3.7
M10	71	7.2
M12	125	13
M16	310	32
M20	603	62

※推荐螺栓： 强度12.9以上
※Recommended bolt：Strength 12.9

保管时的注意事项

需要暂时保管本产品时
请遵照下列要领进行

① 放在清洁干燥的场所进行保管。
② 若放在室外或有潮气的场所保管时，应装入箱内并用塑料等严密包裹，以避免受雨淋或外气的侵蚀（采取防结露、生锈措施）。

运行时的注意事项

减速机到厂后…

- 减速机到货后请确认减速机型号是否与订购的型号相同。
- 减速机输出轴、输入轴上涂有防锈剂，请擦拭后使用。
- 取下输入轴的橡胶栓，擦拭防锈剂。
- 减速机上已充填完润滑油（油脂）。

本机到厂后即可使用

安装、设置

- 请勿在会直接接触到雨或水的场所使用。
- 需要在室外或受粉尘、水滴影响的场所使用时，请事先与本公司联系。
- 温度设置为0℃-40℃ 。
- 如在上述温度范围外使用本机时， 必须与本公司联系。
- 将本机设置在不会振动且坚固的安装台上. 并用螺栓紧固。
- 设置时应考虑到保养维修的便利性。

运行开始前的注意事项

- 本公司产品出货时已填充了规定量的润滑脂，到货后可直接使用。
- 初次运行时，应先确认输出轴的旋转方向后，再慢慢地增加负荷

运行中的注意事项

- 请注意不要超负荷。
- 输入转速不得越过规定以上的转速。
- 发生下列情况时，请暂停运行立即进行检查。
  1. 温度突然上升
  2. 突然出现很大的异常声
  3. 转速突然变得不稳定
- 如果这些原因是由下列事项造成，应马上采取应对措施或与本公司联系。
  1. 是否处于超负荷状态？
  2. 是否润滑油不足、老化或使用不同品种的润滑油？
  3. 轴承、齿轮、传动面有无损伤？
  4. 是否与关联机械连接等的条件不良？

分 解

- LF减速机为不能分解的结构。

保 修

- 保修期间为交付产品后起1年。

润滑油管理

- LF减速机的全部机种均采用润滑脂润滑密封方式。出厂前已填充了定量的润滑油，到厂后即可使用。
- 不能更换润滑脂。
- 在周围温度常时0℃~40℃以外的环境使用时，请先咨询本公司。

每天检查

- 运行中的减速机的外壳温度有无异常增高。
  （如果周围温度在±50℃以内的话，没有大问题）
- 轴承、齿部等有无异常。
- 减速机有无异常振动。
  *如果发生这些现象时，请立即停机并与本公司联系。
- 润滑油有无泄漏
  *发生油脂泄漏时，请与本公司联系。

定期检查

- 有无超负荷或异常旋转。
  滑轮、链轮、减速机安装螺栓等有无松动。
- 电气系统有无异常。
- 主要部件的检查和维护
  *发生异常现象时，请立即停机并与本公司联系。
  润滑油的问题
  *发生油脂泄露时，请与本公司联系。

废弃方法

废弃LF减速机时，应根据法令和各自治体的条例等，将部件按材料分类，作为产业废弃物进行处理。

部件材料分成以下4种。

① 橡胶制部件：油封、密封垫圈、橡胶盖、马达法兰侧的轴承上使用的密封部件。
② 铝制部件：马达法兰、输出轴座。
③ 润滑脂：用干布等擦拭附在部件上的润滑脂，作为油类废弃。
④ 铁质部件：上述以外的部件。

保修规定

保修范围只限交付产品单体。
以下费用和损害不在保修范围内。
1) 本产品的运输费。
2) 本产品与其他装置等连接或装入后从该装置等上拆下、安装或其他附带施工的费用。
3) 因本产品的故障，发生了使利用者失去使用机会或业务中断等造成的间接损害。
4) 其他所有派生的或伴随的损害

Cautions for storage

Whenever temporarily keeping the product Keep the following directions:

① Keep in a clean and dry place.
② Whenever storingoutdoors or in a humid place,put in a box so that it does not directly contact rain or external air and cover with a vinyl sheet(Take a measure to prevent rust).

Cautions for operation

When the reducer is delivered to you···

- When the product delivered,please confirm that you received the exact same model you have ordered.
- Please wipe out the input and output shaft of the reducer which is covered by anti-corrosive oil.
- Please remove the rubber cap on the input shaft before you wipe the shafts.
- Lubricant(grease) is already filled in the reducer.
  It is available as it is.

Fixatuion & installation

- Avoid use in a place where rain or water drops directly.
  * In case of use outdoors or in a place where dust and water drops, consult in advance.
- Install at 0℃-40℃ of surrounding temperature.
  * In case of use at temperature out of the above-mentioned range,contact the headquarters and consult on this.
- Firmly fix with a bolt onto a solid stand without vibration.
- Install in consideration of convenience in repair and inspection.

Cautions prior to starting the operation

- Reducer can be used soon after arrival,since it has already been filled out with lubrication.
- At initial operation,check the rotating direction of the output shaft and then gradually apply load.

Cautions during operation

- Avoid overload.
- Ensure that input speed shall not be the number of revolutions beyond the specification.
- In the following cases,stop the operation and check the following points:
  - If temperature sharply increases
  - If an abnormal noise appears sharply
  - If the number of revolutions becomes unstable sharply
- These may be caused by the following matters, so rapidly respond to it or contact us.
  - Is it under overload condition?
  - Is lubricant insufficient or deteriorated, or is lubricant of other type used?
  - Is the axis, gear, and motor side damaged?
  - Is jointing with other machines poor?

Disassembly

- LF REDUCER is designed not to allow disassembly.

Warranty

- A warranty period is one year after the product is delivered to you.

Lubricant use

- The LF REDUCER is of grease-seal type in all models. A specified amount of grease is filled at factory release, so you can use as soon as it is delivered to you.
- It is impossible to exchange grease.
- In case of use at 0℃-40℃ of surrounding temperature at usual times, consider this in advance.

Daily check points

- Is reducer case temperature excessively high during operation? (Up to + 50℃ is not significant.)
- Is there an abnormal noise in the bearing, gear, etc?
- Is there abnormal vibration in the reducer?
  * Upon an abnormal phenomenon,immediately stop the operation and contact us.
- Is there a lubricant leak?
  *Upon an oil leak, contact us.

Periodic check points

- Are there overload and abnormal rotation?
- Are free, sprocket, and reducer assembling bolts loose?
- Is there an abnormal condition in the electric system?
- Checkup and repair of major parts
  *Upon an abnormal condition, immediately stop the operation and contact us.
- Oil leak
  *Upon an oil leak, contact us.

Scrapping

Whenever scrapping the LF REDUCER, classify the parts by material into industrial wastes as specified in the laws and regulations of self-governing bodies. Material of parts can be divided into four:

① Rubber parts: Oil seal, seat packing, rubber cap, seal used For bearing on the motor flang, etc.
② Aluminum parts: Motor flange, output shaft holder
③ Grease: Wipe off grease attached to parts with dry cloth And scrap into oils.
④ Iron parts: Parts other than those mentioned in the above.

WARRANTY PROVISION

·Warranty scope is the delivered product only.

THE EXPENSES AND LOSSES THAT MENTIONED BELOW ARE NOT INCLUDED IN WARRANTY

1) The transport charges for repairing of our products.
2) The fee for the removal operation,reinstallation and other related operation in case our product is installed to other machine.
3) The loss of the chances of use and indirect damages caused by the interruption of the services caused by our product 's defects.
4) All other secondary expenses and losses.