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来福谐波®
Laifual Drive



LAIFUAL
HARMONIC GEARBOX
产品介绍

浙江来福谐波传动股份有限公司
Zhejiang Laifual Drive Co., Ltd.

来福谐波®
Laifual Drive

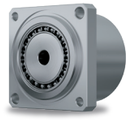
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Zhejiang Laifual Drive Co., Ltd.

LS系列产品图 | LS SERIES PRODUCT PICTURE







LSS/LSN/LSG



LFS-I



LSD

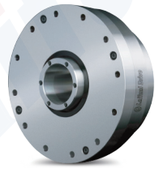
LH系列产品图 | LH SERIES PRODUCT PICTURE



LHT/LHG-Ⅰ



LHT/LHG-Ⅱ



LHT/LHN/LHG-Ⅲ



LHT/LHN/LHG-Ⅳ



LHT/LHG-Ⅴ



LHD-Ⅰ



LHD-Ⅲ

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谐波传动是由美国发明家C.Walt Musser马瑟于上世纪50年代发明创造的

一、谐波传动装置的组成

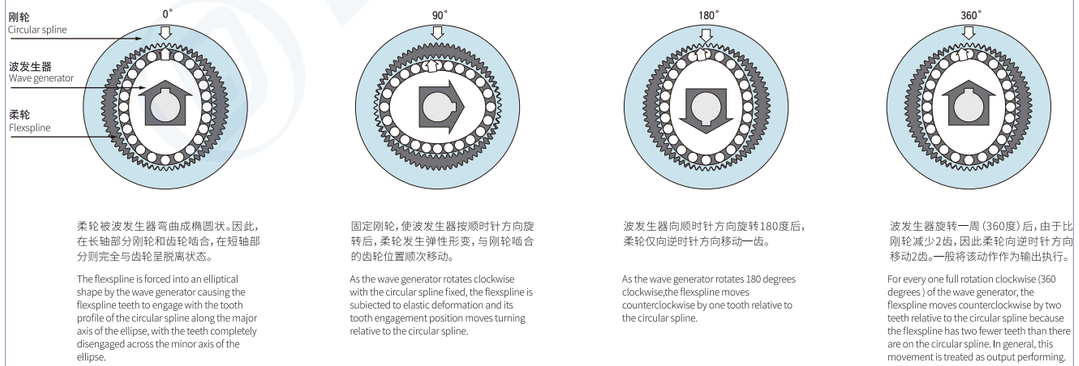
谐波传动装置主要由三个基本零部件构成，即波发生器、柔轮和钢轮。
波发生器：由柔性轴承与椭圆形凸轮组成，波发生器通常安装在减速器输入端，柔性轴承内圈固定在凸轮上，
外圈通过滚珠实成弹性变形成椭圆形。
柔轮：带有外齿圈的柔性薄壁弹性体零件，通常安装在减速器输出端。
刚轮：带有内齿圈的刚性圆环状零件，一般比柔轮多两个齿轮，通常固定在减速器机体上。

二、谐波减速原理

谐波作为减速器使用，通常采用波发生器主动、刚轮固定、柔轮输出形式。
当波发生器装入柔轮内圆时，迫使柔轮产生弹性变形而呈椭圆状，使其长轴处柔轮轮齿插入刚轮的轮齿槽内，成为完全啮合状态；而其短轴处两轮轮齿完全不接触，处于脱开状态。有啮合到脱开的过程之间则处于啮出或啮入状态。当波发生器连续转动时，迫使柔轮不断产生变形，使两轮轮齿在进行啮入、啮合、啮出、脱出的过程中不断改变各自的工作状态，产生了所谓的错齿运动，从而实现了主动波发生器与柔轮的运动传递。

三、谐波传动特点

1、精度高：多齿在两个180度对称位置同时啮合，因此齿轮齿距误差和积累齿距误差对旋转精度的影响较为平均，
可得到极高的位置精度和旋转精度。
2、传动比大：单级谐波齿轮传动的传动比可达i=30~500，且结构简单，三个在同轴上的基本零部件就可实现高减速比。
3、承载能力高：谐波传动中，齿与齿的啮合是面接触，加上同时啮合齿数比较多，因而单位面积载荷小，承载能力较其他传动形式高。
4、体积小、重量轻：相比普通的齿轮装置，体积和重量可以大幅降低，实现小型化、轻量化。
5、传动效率高、寿命长。
6、传动平稳、无冲击、噪音小。



柔轮被波发生器弯曲成椭圆状。因此，在长轴部分刚轮和齿轮啮合，在短轴部分则完全与齿轮呈脱离状态。

The flexspline is forced into an elliptical shape by the wave generator causing the flexspline teeth to engage with the tooth profile of the circular spline along the major axis of the ellipse, with the teeth completely disengaged across the minor axis of the ellipse.

固定刚轮，使波发生器按顺时针方向旋转后，柔轮发生弹性形变，与刚轮啮合的齿轮位置顺次移动。

As the wave generator rotates clockwise with the circular spline fixed, the flexspline is subiected to elastic deformation and its tooth engagement position moves turning relative to the circular spline.

波发生器向顺时针方向旋转180度后，柔轮仅向逆时针方向移动一齿。

As the wave generator rotates 180 degrees clockwise,the flexspline moves counterclockwise by one tooth relative to the circular spline.

波发生器旋转一周（360度）后，由于比刚轮减少2齿，因此柔轮向逆时针方向移动2齿。一般将该动作作为输出执行。

For every one full rotation clockwise (360 degrees) of the wave generator, the flexspline moves counterclockwise by two teeth relative to the circular spline because the flexspline has two fewer teeth than there are on the circular spline. In general, this movement is treated as output performing.

Harmonic drive was invented by American inventor C. Walt Musser in mid-1950s

1. Composition of harmonic gearbox

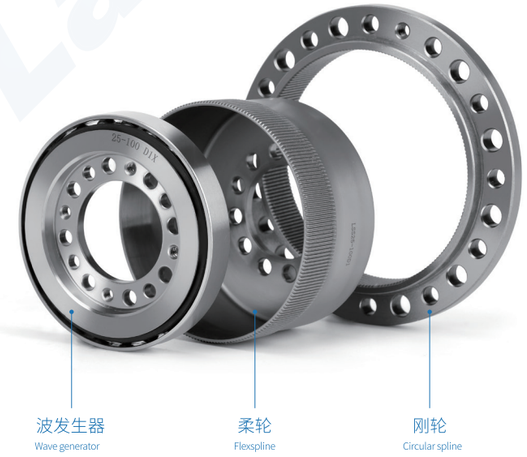
harmonic gearbox has three basic components: a wave generator, a flexspline and a circular spline.
Wave generator: it is made up of a ball bearing and an elliptical cam. The wave generator is usually attached to the input end, the inner ring of the bearing is fixed around the cam causing the outer ring of the bearing deforms to an elliptical shape.
Fexspline: it is an elastic thin-walled component with gear teeth on outer surface. It is usually fitted to output end.
Circular spline: it is a rigid steel ring with internal teeth. It usually has two more teeth than the flexspline, and generally mounted onto a housing.

2. Principle of harmonic gearbox

As a reducer, the harmonic gearbox is often in a status as: the wave generator drives, the circular spline is fixed, the flexspline is output end.
When the wave generator is put inside of the flexspline, the flexspline is forced into an elliptical shape causing the flexspline teeth to engage with the tooth profile of the circular spline along the major axis of the ellipse, with the teeth completely disengaged across the minor axis of the ellipse.
The rotation of the wave generator makes the flexspline deform continuously, the teeth change operating state in the process of engagement and disengagement, thus the motion transmission between wave generator and flexspline is realized.

3. Characteristics of harmonic gearbox

1. High accuracy: a good percentage of its teeth are meshed at all times, and are engaged at two zones 180 degrees apart. This means influences of tooth pitch errors and accumulated pitch errors on rotational accuracy are neutralized, which assures high positional and rotational accuracy.
2. High speed reduction ratio: a harmonic gearbox has high single-stage reduction ratios of 1/30-1/500. Three basic components along same axle without complex structures can provide high reduction ratios.
3. High torque capacity: each tooth is subjected to a negligible amount of force yet provides a high torque capacity because of the way the teeth come into contact with each other and because a good percentage of the teeth in the flexspline are engaged at all times.
4. Small-sized and light weight: while being less the size of conventional gearing mechanisms and less the weight, the harmonic gearbox provides the same levels of torque and speed reduction ratios as its conventional counterparts enabling machinery and equipment to be made smaller and lighter.
5. Superior efficiency and long life time.
6. Quiet and minimal vibration operation.





关于来福谐波 About Laifual Drive

浙江来福谐波传动股份有限公司（以下简称：来福），致力于成为一家精密传动解决方案的提供商。公司自研自产谐波减速器、力矩电机、编码器、驱动器、精密轴承、行星减速器等精密传动产品，形成谐波减速器、关节模组及精密零部件三大业务版块。深耕行业超十年，来福已成为从单一零部件到精密传动解决方案的综合服务型企业。

在谐波减速器版块，来福谐波已实现四大系列11-40型号全系列覆盖，自主全流程产品生产加工实力，可支持轴承及结构各种非标产品的开发与生产。企业拥有30000平方米的高标准厂房，使用进口的生产、检验设备，从原材料至成品的所有环节都有严格的质量把控。

公司拥有多个谐波减速器研发中心并与多所高校成立联合实验室，超100人的研发团队。凭借强劲的技术研发能力和先进的生产制造能力，公司有效降低谐波减速器的生产成本，大大缩短交货周期。目前，来福谐波的产品广泛应用于机器人、航空航天设备、数控机床、半导体制造设备、精密机械自动化控制等领域。

Zhejiang Laifual Drive Co., Ltd. Is committed to becoming a supplier of precision motion control solutions. We have developed harmonic gearbox, frameless motors, encoders, drives, precision bearings and planetary gearbox etc., forming three major business segments: harmonic gearbox, rotary actuators and precision components. After more than 10 years of deep cultivation in the industry, Laifual has become a comprehensive service-oriented enterprise from single parts to precision motion control solutions.

At present, Laifual harmonic gearbox has four series covering models from 11 to 40, the whole process is independently produced and processed, and can provide various non-standard customized services for bearings and structures. The company has 30,000 square meters of standard plant, using the world's top production and inspection equipment, and has strict quality control in all links from raw materials to finished products, so as to ensure the quality of products.

Laifual has several R&D centers of harmonic gearbox and establish joint laboratories with many well-known domestic universities, more than 100 employees R&D team. Relying on strong technical R&D capabilities and advanced manufacturing capabilities, the company effectively reduces the production cost of harmonic gearbox and shortens the delivery time. At present, Laifual' s products are widely used in the fields of robots, aerospace equipment, CNC machine tools, semiconductor manufacturing equipment, precision machinery automation controland other fields.

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齿齿啮合 步步精进 Mesh tooth by tooth progress step by step

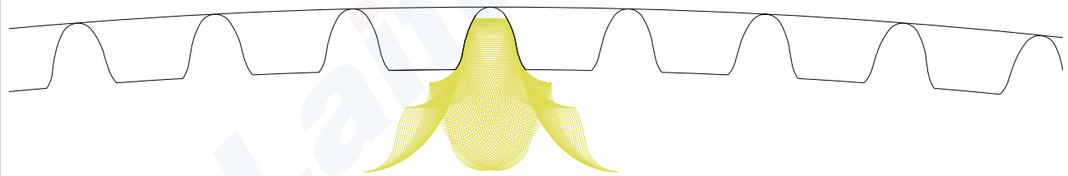
- 承载能力提高15%
- 温升降低8-10°C
- 减小齿轮疲劳点蚀接触面积
- 寿命超过15000小时

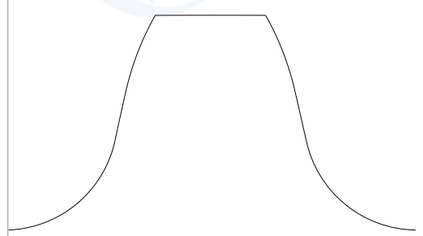
Gear toothing capacity increased by 15%
Temperature rise decreased by 8-10 degrees
Reduced gear fatigue pitting contact area
Service time exceeded 15000 hours

关于LS齿形 About LS tooth profile

将传统理论上的双圆弧齿形进一步优化，由原有的两段曲率连续的圆弧曲线所形成的齿形优化为多段曲率连续的圆弧曲线，保证减速器齿轮的正确啮合同时通过降低相对滑动摩擦来保护润滑脂极压后油脂失效的风险。基于δ齿形的产品，承载能力提高15%，温升降低8-10°C，齿轮疲劳点蚀接触面积减小30%以上，连续跑合使用寿命超过15000小时，提高了谐波减速器的综合性能。

We have made some upgrades based on the traditional theoretical double arc profile. The tooth profile formed by the original twocurve continuous arc curve is optimized as a continuous arc curve with multiple segments of curvature. To ensure that the gears of reducer are properly meshed, while protecting the risk of grease failure after grease is squeezed by reducing relative sliding friction. Based on the δ tooth shape, the load capacity is increased by 15%, the temperature rise is reduced by 8-10 degrees, the gear fatigue pitting contact area is reduced by more than 30%, continuous running and service life is over 15000 hours, which improves the overall performance of the harmonic gearbox.

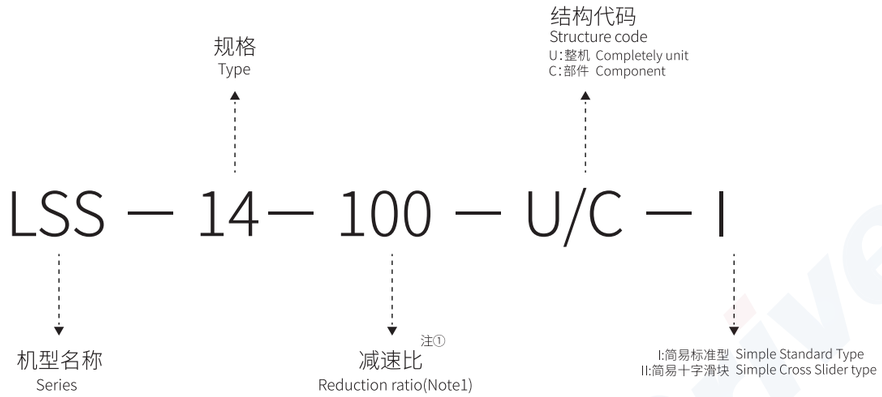




在开发过程当中，柔轮齿型的形成可根据发生器的径向位移量来确定，不同的减速比可拟合出多种的齿型配合，同时可以方便的根据实际情况调整啮合背隙，使减速器始终处于最佳的工作状态。

During development, the formation of the soft tooth profile can be determined by the radial displacement of the genera tor. Different gear reduction ratios can be fitted with various tooth profiles And the mesh backlash can be conveniently adjusted according to actual conditions. Keep the gearbox in the best working condition.

命名规则 NAMING RULES



机型名称 Series	规格 Type	减速比 Reduction ratio (Note 1)						结构代码 Structure code	类型 Style
LSS LSN LSG LSD LFS	11	50	80	100	-	-	-	U:整机 C:部件 Completely unit Component	I:简易标准型 II:简易十字滑块 Simple Standard Type Simple Cross Slider type
	14	50	80	100	120	-	-		
	17	50	80	100	120	-	-		
	20	50	80	100	120	160	-		
	25	50	80	100	120	-	-		
	32	50	80	100	120	-	-		
	40	50	80	100	120	-	-		

注①：减速比表示的是输入：波发生器，固定：刚轮，输出：柔轮时的情况。
Note 1: Reduction ratio indicates of wave generator as inputting, fixing circular spline, and flexspline as outputting.

额定用语表 | TERMS AND DEFINITIONS

术语和定义

启动扭矩
能使用谐波减速器空载启动时，输入端需施加的最小力矩

输出额定转矩
谐波减速器在保持其正常的性能指标下，能长时间运行的输出扭矩

启动停止时的容许峰值转矩
启动停止时的容许峰值转矩指的是谐波减速器在启动或停止时的最大冲击转矩

容许最大平均负载转矩
容许最大平均负载转矩指的是谐波减速器能长时间工作的最大转矩

容许最大瞬时转矩
容许最大瞬时转矩指的是谐波减速器短时能承受的最大转矩

容许最大输入转速
容许最大输入转速指的是谐波减速器容许输入转速的最大值

容许平均输入转速
容许平均输入转速指的是谐波减速器输入转速的平均值

Terms And Definitions

Starting torque
It is the minimum torque value applied to the input end at which the harmonic gearbox first starts to rotate with no load

Backlash
The clearance between flexspline tooth profile and circular spline tooth profile

Rated torque
It indicates allowable continuous output torque at rated input speed

Permissible peak torque at start and stop
It's the maximum torque as a result of the moment of inertia of the output load during acceleration and deceleration

Permissible maximum value for average load torque
It's the maximum torque when the harmonic gearbox keeps continuous operation

Permissible maximum momentary torque
It is the momentary peak torque the harmonic gearbox may be subjected to the event of a collision or emergency stop

Permissible maximum input rotational speed
Don't exceed the permissible rating

Permissible average input rotational speed
It's the average value of input speed

角度传达精度 Transmission accuracy

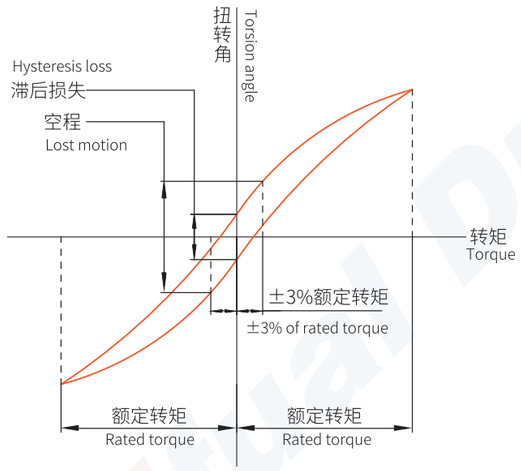
角度传达精度是指将任意的旋转角传递至输入时，理论上旋转输出的旋转角度与实际旋转输出的旋转角度之间的差值，即角度传达误差。

The transmission accuracy of the gear represents a linearity error between input and output angle. The transmission ac curacy is measured for one complete output revolution using a high resolution measurement system. The measurements are carried out without direction reversal. The transmission accuracy is defined as the sum of the maximum positive and negative differences between theoretical and actual output rotation angle.

刚度曲线 Stiffness curve

从刚度曲线中可以获得背隙、刚性、滞后损失、空程等参数。

From the stiffness curve, parameters such as backlash, stiffness, hysteresis loss, and lost motion can be obtained.



背隙

将减速器刚轮、输入端(波发生器)固定，在输出端(柔轮)施加±2%额定转矩时，输出端会有一个微小的角位移量，该量即表述为背隙。

刚性(弹簧常数)

将减速器刚轮、输入端(波发生器)固定，在输出端(柔轮)施加转矩，施加的转矩从0开始，在正负侧分别增减到额定转矩，输出端的扭转角变化可绘制成“刚度曲线”，“刚度曲线”的倾斜程度即表述为弹簧常数。(单位：Nm/rad)。

K1……转矩从“0”至“T1”的弹簧常数

K2……转矩从“T1”至“T2”的弹簧常数

K3……转矩在“T2”至“额定转矩”的弹簧常数

滞后损失

将减速器刚轮、输入端(波发生器)固定，在输出端(柔轮)施加转矩直至达到额定转矩后，转矩恢复为“0”时，扭转角将不会完全变为“0”，会留有细微的间隙量。这个间隙量被称为滞后损失。

空程

在±3%额定转矩时，“刚度曲线”中的扭转角表述为空程。

Backlash

Fix the circular spline and input end(wave generator) of the harmonic reducer, and when ±2% rated torque is applied to the output end(flexspline), there will be a small amount of angular displacement at the output end, which is expressed as backlash.

Torsional stiffness

Fix the circular spline and input end(wave generator) of the harmonic reducer, and apply torque to the output end (flexspline). The applied torque starts from 0 and increases or decreases to the rated torque on the positive and negative sides respectively. The change of the torsion angle at the output side can be slotted as "stiffness curve", and the inclination of the stiffness curve can be expressed as the spring constant. (unit: Nm/rad)

K1... the spring constant for the torque from "0" to "T1"

K2... the spring constant for the torque from "T1" to "T2"

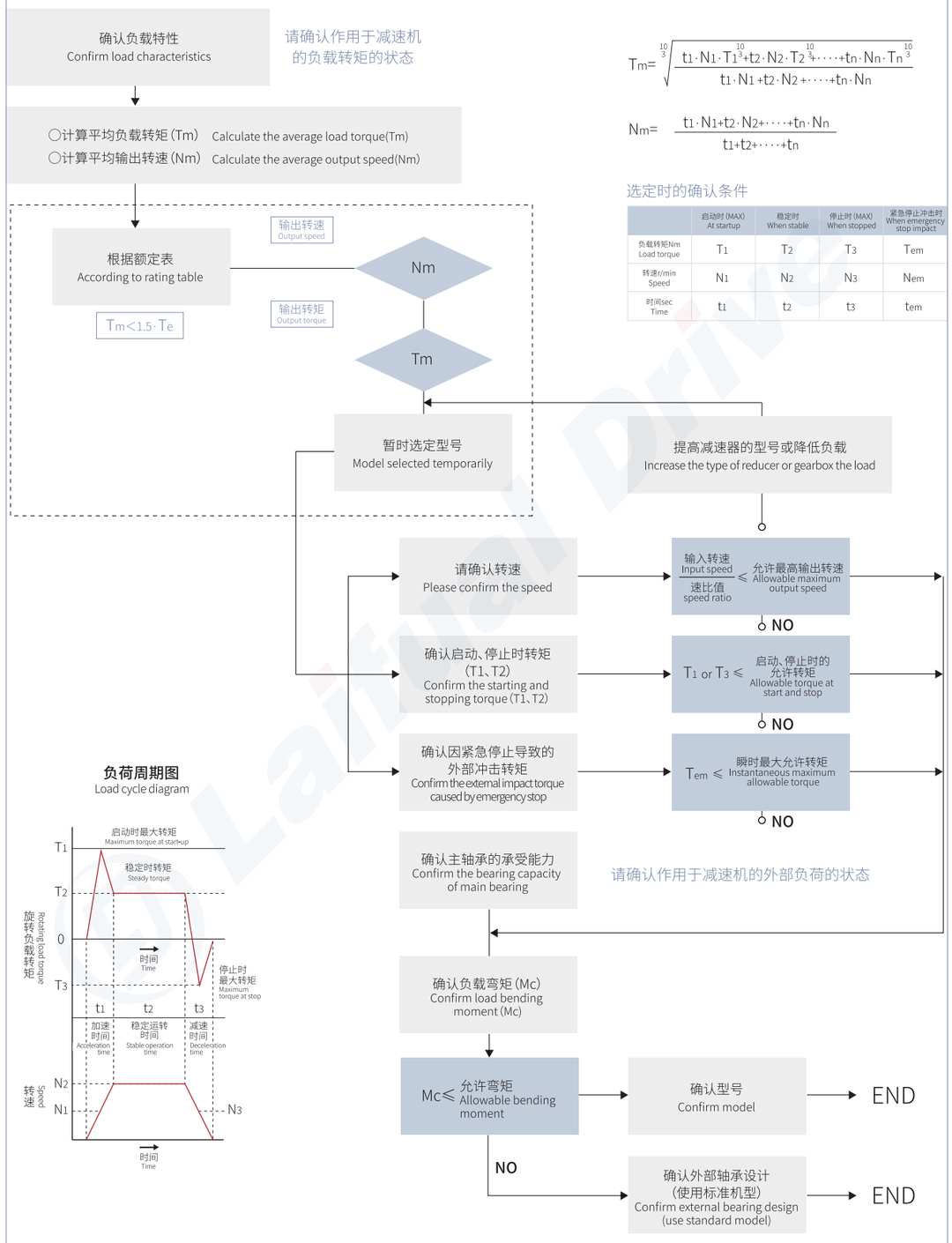
K3... the spring constant for the torque from "T2" to rated torque

Hysteresis loss

Fix the circular spline and input end(wave generator) of the harmonic reducer,and apply torque to the output end(flexspline) until the rated torque. when the torque returns to "0", the torsion angle does not become "0“ completely, there will be a slight amount of clearance is left. This amount of clearance is called hysteresis loss.

Lost motion

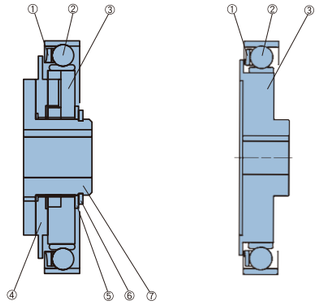
At ±3% of rated torque, the torsion angle in the "stiffness curve" is expressed as a lost motion.



波发生器 | WAVE GENERATOR

波发生器包括带自调心结构的欧式联轴节的结构和不带自动调心结构的一体型两种类型，根据各系列的不同也有所差异。
详情请参照各系列的外形图。
The wave generator includes a structure of a European-style coupling with a self-aligning structure and an integrated type without an automatic self-aligning structure, and varies depending on the series. For details, please refer to the outline drawing of each series.

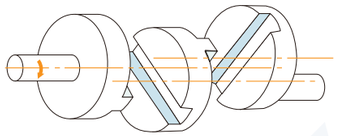
波发生器的基本结构及形状如下所示：
Basic structure and shape of wave generator shown as below



十字滑块型
Cross sliding block type

一体式
Unibody

十字滑块型结构——采用欧式联轴节的结构：
Structure of cross sliding block type-using European coupling structure



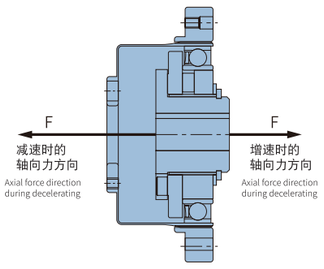
①柔性轴承保持架 Holder of flexible bearing
②柔性轴承 Flexible baring
③波发生器 Wave generator
④十字滑块 Cross sliding block
⑤垫圈 Gasket
⑥轴用挡圈 Ring-shield
⑦动力输入轴 Power input shaft

波发生器的轴向力与轴的固定
Axial force and axial fixation of wave generator

由于柔轮的弹性形变，运转中波发生器上的轴向力发生运动。
作为减速器使用时的轴向力向柔轮内部方向运动。
作为增速器使用时的轴向力与减速时的方向相反。
无论在何种使用条件下，都需要采用阻止波发生器轴向力的设计。
※在波发生器上设置止动螺钉并与输入轴固定时，请务必咨询授权代理商。

The axial force on wave generator begins to work due to elastic deformation of flexspline.
When used as a reducer. the axial force moves towards to the inside of the flexspline.
When used as a speed increaser, the axial forces movement is opposite to the direction of the deceleration. The design of prevent axial force of wave generator shall be adopted under any conditions of usage.
＊Please make sure to consult with the authorized distributor when setting the stop screw and fixing it to the input axial on the wave generator.

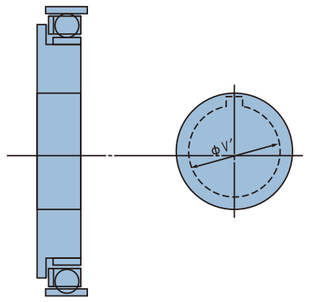
波发生器的轴向力方向
Axial force direction of the wave generator



一体式波发生器的最大孔径尺寸
Maximum aperture size of the unibody wave generator

波发生器的标准孔径如各外形尺寸图所示，但可以在表上所示的最大尺寸范围内进行变更。此时的键槽尺寸推荐使用GB规格。键的有效长度尺寸，请设计成可以完全承受传达转矩的值。

The standard aperture of the wave generator has shown in the outline drawing, the alteration can be made within maximum size range shown in the table.
We suggest to use GB standard for keyway size. The key's effective length dimension should be designed to fully withstand the value of the transmitted torque.



波发生器的孔径 Wave generator aperture 单位unit：mm

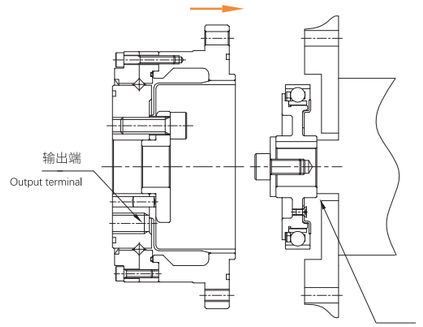
型号 Model	11	14	17	20	25	32	40
标准尺寸 (H7) Standards size(H7)	5	6	8	9	11	14	14
最小尺寸 Minimum size	—	3	4	5	6	6	10
最大尺寸 Maximum size	—	8	10	13	15	15	20

※波发生器的孔径可根据客户要求来进行定制，需要变更请与授权经销商提前沟通。
The aperture of the wave generator can be customized according to customer requirements. Please contact with the authorized distributor in case of any changes in the table.

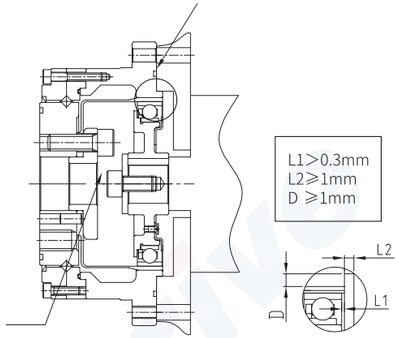
安装步骤 | INSTALLATION PROCEDURE

LSS系列安装方式 Installation of LSS series

减速器按箭头方向装入
Install the reducer as the arrow shows



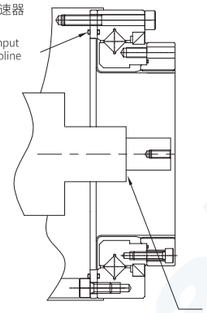
输入固定端面与刚轮之间需密封
Seal between the input fixed end and circular



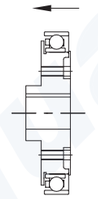
此处需填充油脂
Fill grease here

LHT-Ⅰ/Ⅱ系列安装方一 The first method of installation for LHT-Ⅰ/Ⅱ series

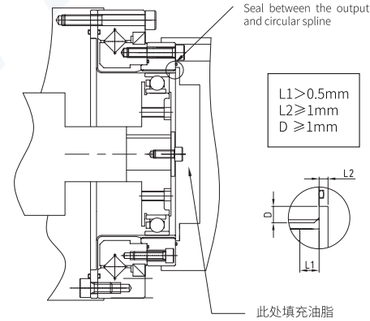
输入固定端与减速器柔轮之间需密封
Seal between the input fixed end and flexspline



波发生器按箭头方向装入
Install wave generator as arrow shows



输出端与刚轮之间需密封
Seal between the output end and circular spline

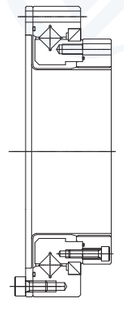


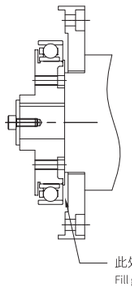
柔轮腔体内填充油脂
Fill grease in the flexspline cavity

此处填充油脂
Fill grease here

LHT-Ⅰ/Ⅱ系列安装方式二 The second method of installation for LHT-Ⅰ/Ⅱ series

减速器按箭头方向装入
Install the reducer as the arrow shows

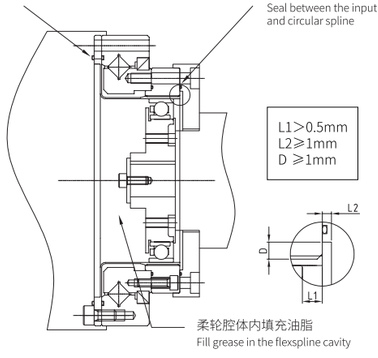




此处填充油脂
Fill grease here

输出端与减速器柔轮之间需密封
Seal between the output end and flexspline

输入固定端与减速器刚轮之间需密封
Seal between the input fixed end and circular spline



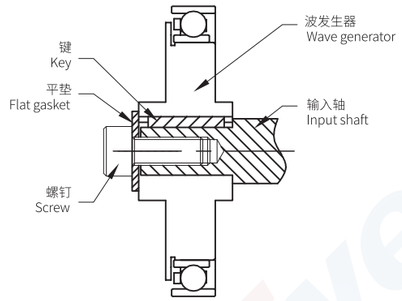
柔轮腔体内填充油脂
Fill grease in the flexspline cavity

安装步骤 | INSTALLATION PROCEDURE

波发生器常用连接固定方式 The connecting and fixing method of wave generator

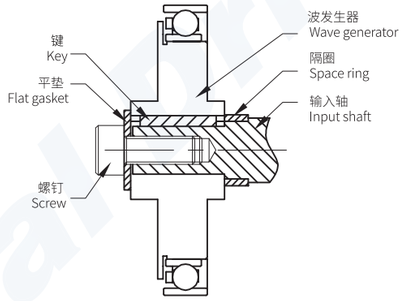
1.输入轴与波发生器直接连接输入轴有轴肩，可以与波发生器直接连接固定。如图

Input shaft has a shaft shoulder, it can be connected with wave generator directly. As shown in the fiqure.



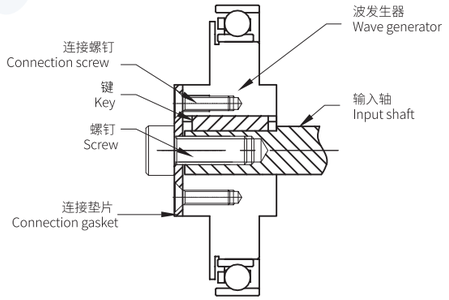
2.输入轴加隔圈后与波发生器连接输入轴有轴肩，但长度过长，可以在轴上加一个隔圈（该隔圈两面平行度需在0.01mm以内）后再与波发生器连接固定。如图

Input shaft has a shaft shoulder, but it 's too long. You can add a space ring on the shaft(the parallelism of space ring should be within 0.01mm), then connect and fix with the wave generator. As shown in the figure.



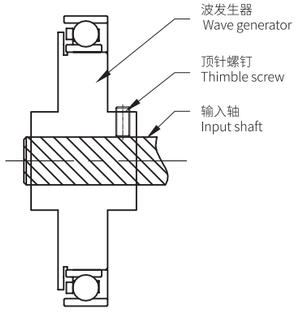
3.用连接垫片固定在波发生器上后与输入轴连接输入轴无轴肩，需用一个连接垫片先固定在波发生器上后再与输入轴连接固定。如图

Input shaft has no shaft shoulder. Fix a connection gasket on the wave generator, then connect and fix with the input shaft. As shown in the fiqure.



4.此固定方式适用于小机型，光轴输入，输入轴插入波发生器后，通过波发生器上的顶针螺钉将输入轴连接固定。如图

This fixing method is suitable for small models, optical axis input. Input shaft inserted into the wave generator, then connect and fix it through the thimble screw on wave generator. As shown in the figure.



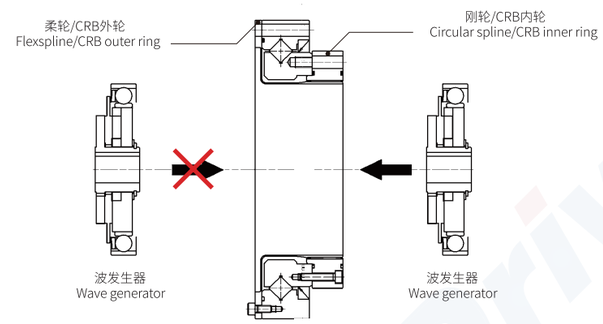
组装注意事项 | ASSEMBLY CONSIDERATIONS

组装步骤 Assembly procedure

将刚轮和柔轮组合安装到装置上后，再组装上波发生器。若使用其他方法进行组装，可能出现齿轮偏移状态下实施组装或损伤面等情况。请充分注意。

Install the circular spline and flexspline on the device, and then install the wave generator. Otherwise it may cause stuffing damage to the gear teeth or improper eccentric gear mesh. Please pay close attention to it.

正确组装步骤:
Correct assembly steps



CRB:交叉滚子轴承
cross roller Bearing

组装注意事项:
Precautions on installation

由于组时的错误，在运转时可能发生震动、异响等。请遵守下述注意事项实施组装。

The improper assembly may cause vibration and noise during operation.Please assembly base on the following precautions.

波发生器的注意事项:
Precautions on wave generator

1.请在组装时避免向波发生器轴承部位施加过度的力。可通过使波发生器旋转顺畅地实施插入。
2.使用无欧氏联轴节结构的波发生器时，请特别注意把中心偏移、歪斜的影响控制在推荐值内。

1.Please avoid applying undue force to the bearing on wave generator during assembly. We suggest to rotate the wave generator while inserting, it will ease the process.
2.If the wave generator does not have an oldham coupling, extra care must be given to ensure that concentricity and inclination are within the specified limits.

刚轮的注意事项:
Precautions on circular spline

1.确认安装面的平坦度是否良好、是否有歪斜。
2.确认螺钉孔部是否隆起、有残余毛边或有异物啮入。
3.确认是否对体组装部实施了倒角加工以及避让加工，以避免与刚轮干涉。
4.当刚轮组装至外壳后，确认其是否能够旋转，是否有些部位存在干涉，卡紧。
5.朝安装用螺栓孔插入螺栓时，确认螺栓孔的位置是否正确、是否由于螺栓孔歪斜加工等原因致使螺栓与刚轮发生接触，使螺栓旋转变沉重。
6.请不要一次性按照规定转矩拧紧螺栓。请先使用约为规定转矩1/2的力实施暂时拧紧，然后再按照规定转矩拧紧。此外，通常请按照对角线顺序依次拧紧螺栓。
7.向刚轮打销子可能造成旋转精度低下，因此请尽可能避免。

1.Mounting surfaces need to have adequate flatness, smoothness, and no distortion.
2.Especially in the area of the screw holes, burrs or foreign matter should not be present.
3.Please make sure the chamfering and avoidance machining are performed on the housing assembly, to avoid the interference with the circular spline .
4.The circular spline should be rotatable within the housing. Be sure there is no interference and it does not catch on anything.
5. When mounting the bolt, make sure the bolt hole is correct and aligned Bolts should rotate freely when tightening and should not have any irregularity due to the bolt hole being misaligned or oblique.
6. Don't tighten the bolts with the specified torque all at once. Tighten the bolts temporarily with about half the specified torque, and then tighten them with the specified torque. Tighten them in an even, crisscross pattern.
7. Avoid pinning the circular spline if possible as it can reduce the rotational precision and smoothness of operation.

柔轮的注意事项:
Precautions on flexspline

1.确认安装面的平坦度是否良好、有否有歪斜。
2.确认螺钉孔部是否隆起、有残余毛边或有异物啮入。
3.确认是否对体组装部实施了倒角加工以及避让加工，以避免与柔轮干涉。
4.朝安装用螺栓孔插入螺栓时，确认螺栓孔的位置是否正确、是由于螺栓孔斜加工等原因致使螺栓与柔轮发生接触，使螺栓旋转变沉重。
5.请不要一次性按照规定转矩拧紧螺栓。请先使用约为规定转矩1/2的力实施暂时拧紧，然后再按照规定转矩拧紧。此外，通时，可能是由于两个部件发生中心偏移或歪斜。
6.确认与刚轮组合时，是否存在极端的单侧啮合。发生单偏移。

1.Mounting surfaces need to have adequate flatness, smoothness, and no distortion.
2.Especially in the area of the screw holes, burrs or foreign matter should not be present.
3.Please make sure the chamfering and avoidance machining are performed on the housing assembly, to avoid the interference with the circular splin.
4.When mounting the bolt, make sure the bolt hole is correct and aligned. Bolts should rotate freely when tightening and should not have any irregularity due to the bolt hole being misaligned or oblique.
5.Dont tighten the bolts with the specified torque all at once. Tighten the bolts temporarily with about half the specified torque, and then tighten them with the specified torque. Tighten them in an even, crisscross pattern.
6.Avoid unilateral meshing and deviation when assembling with circular spline.

关于防锈措施:
Rust prevention

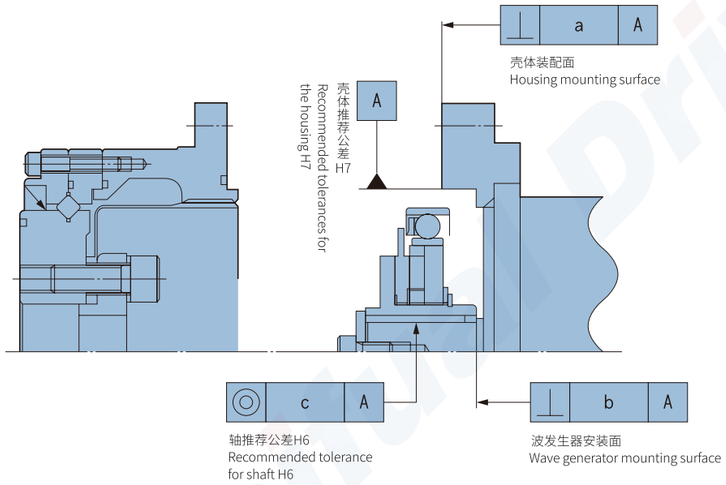
组合型的表面没有实施防锈处理。
需要实施防锈时请向表面涂抹防锈剂。
此外，需要本公司实施表面防锈处理时，请咨询授权代理商。

The complete assembly unit has no rust prevention on surface.
Please daub anti-rust if needed Besides, if an anti-rust product is needed, please contact with the authorized distributor.

LSS系列组装精度 Assembly accuracy of LSS series

在安装设计时，为充分发挥组合型所具备的优良性能，请确保使用如下图表精度。

To make sure LSS series play its excellent performance when assemble, please make sure to use the following accuracy.



组装壳体的推荐精度 Recommended accuracy of the assembled housing

单位unit：mm

型号 Model / 符号 Symbol	14	17	20	25	32	40
a	0.011	0.015	0.017	0.024	0.026	0.026
b	0.017	0.020	0.020	0.024	0.024	0.032
	(0.008)	(0.010)	(0.010)	(0.012)	(0.012)	(0.012)
c	0.030	0.034	0.044	0.047	0.050	0.063
	(0.016)	(0.018)	(0.019)	(0.022)	(0.022)	(0.024)

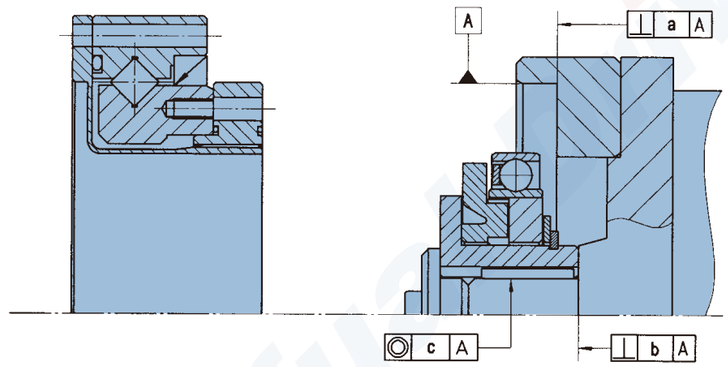
※b、c 为盘式发生器 (I型) 与十字滑块波发生器 (II型) 的数值。其中 ( ) 内的数值是为盘式发生器 (I型) 的数值。

b.c is the value of the unibody generator(I series)and the cross slider generator(II series). The value in ( ) is the value of the unibody generator(I series).

LHT简易组合型组装精度 Assembly accuracy of LHT series

为了充分发挥LHT-I/II型的优良性能，请确保如下图表所示的推荐精度。

To make sure LHT-I/IIseries play its excellent performance when assemble, please make sure to use the following accuracy.



组装壳体的推荐精度 Recommended accuracy of the assembled housing

单位unit：mm

型号 Model / 符号 Symbol	14	17	20	25	32	40
a	0.011	0.015	0.017	0.024	0.026	0.026
b	0.017	0.020	0.020	0.024	0.024	0.032
	(0.008)	(0.010)	(0.010)	(0.012)	(0.012)	(0.012)
c	0.030	0.034	0.044	0.047	0.047	0.050
	(0.016)	(0.018)	(0.019)	(0.022)	(0.022)	(0.024)

※b、c 为盘式发生器 (I型) 与十字滑块波发生器 (II型) 的数值。其中 ( ) 内的数值是为盘式发生器 (I型) 的数值。

b.c is the value of the unibody generator(I series)and the cross slider generator(II series). The value in ( ) is the value of the unibody generator(I series).

密封圈尺寸说明 | SEAL RING'S SIZE DESCRIPTION

单位unit：mm

型号 Series	规格 Model	刚轮侧 Circular spline		柔轮侧 Flexspline	
		密封圈尺寸 Seal ring size	开槽尺寸 Slot size	密封圈尺寸 Seal ring size	开槽尺寸 Slot size
LHT-Ⅰ	14	36.5 * 0.6	$\phi36.5_{-0.1}^{0}$ * $\phi38^{+0.1}_{0}$ * $0.45^{+0.1}_{0}$	53 * 1.5	$\phi53_{-0.1}^{0}$ * $\phi56.8^{+0.1}_{0}$ * $1.15^{+0.1}_{0}$
	17	45 * 1	$\phi45.5_{-0.1}^{0}$ * $\phi48^{+0.1}_{0}$ * $0.75^{+0.1}_{0}$	64 * 1	$\phi64_{-0.1}^{0}$ * $\phi66.6^{+0.1}_{0}$ * $0.75^{+0.1}_{0}$
	20	54 * 1	$\phi53.8_{-0.1}^{0}$ * $\phi56.2^{+0.1}_{0}$ * $0.75^{+0.1}_{0}$	73 * 1.5	$\phi73_{-0.1}^{0}$ * $\phi76.8^{+0.1}_{0}$ * $1.15^{+0.1}_{0}$
LHT-Ⅱ	25	68 * 1	$\phi68_{-0.1}^{0}$ * $\phi70.6^{+0.1}_{0}$ * $0.75^{+0.1}_{0}$	90 * 1.5	$\phi90_{-0.1}^{0}$ * $\phi94.2^{+0.1}_{0}$ * $1.15^{+0.1}_{0}$
	32	88 * 1.5	$\phi88_{-0.1}^{0}$ * $\phi92^{+0.1}_{0}$ * $1.15^{+0.1}_{0}$	119 * 1.5	$\phi119_{-0.1}^{0}$ * $\phi123.1^{+0.1}_{0}$ * $1.15^{+0.1}_{0}$
	40	108 * 1.75	$\phi108_{-0.1}^{0}$ * $\phi113^{+0.1}_{0}$ * $1.5^{+0.1}_{0}$	143 * 2	$\phi142.6_{-0.1}^{0}$ * $\phi148^{+0.1}_{0}$ * $1.5^{+0.1}_{0}$

※为了充分发挥LHT-I/II型的优良性能，请确保如图表所示的推荐精度。
In order to give full play to the excellent performance of LHT-I/II, please ensure the recommended accuracy as shown in the figure.

螺钉安装要求 SCREW INSTALLATION REQUIREMENTS

所有连接固定的螺钉需为12.9级,并需涂上螺纹胶，以防止螺钉失效或工作中松脱,螺钉锁紧力大小参照下表。
All connecting and fixing screws shall be of grade 12.9 and coated with thread locker to prevent screw failure or looseness during operation. Refer to the table below for the screw locking force.

螺钉规格 Specification	M3	M4	M5	M6	M8	M10	M12
锁紧扭力值（Nm） Locking torque value(Nm)	2.4	5.4	10.8	18.5	45	89	154

主轴承的规格 | PRECAUTIONS ON INSTALLATION

LSS系列规格表 Specification of LSS series

每个产品都组装有精密交叉滚子轴承用于直接支撑外部负载（输出法兰部）。
Each product is assembled with precise cross roller bearing for supporting external loading(Output flange).

型号 Type	基本额定负载 Basic rated load				容许静力矩Mc Allowable static moment Mc		重量 Weight
	基本额定动负载Cr Basic rated dynamic load Cr		基本额定静负载Cr Basic rated static load Cr				
	KN	kgf	KN	kgf	Nm	kgfm	kg
14	4.7	480	6.07	620	41	4.2	0.22
17	5.3	540	7.55	770	64	6.5	0.3
20	5.8	590	9.0	920	91	9.3	0.38
25	9.6	980	15.1	1540	156	16	0.6
32	15	1530	25.0	2550	313	32	1.1
40	21	2170	36.5	3720	450	46	1.4

LSD系列规格表 Specification of LSD series

型号 Type	基本额定负载 Basic rated load				容许静力矩Mc Allowable static moment Mc		重量 Weight
	基本额定动负载Cr Basic rated dynamic load Cr		基本额定静负载Cr Basic rated static load Cr				
	KN	kgf	KN	kgf	Nm	kgfm	kg
14	4.7	480	6.07	620	41	4.2	0.23
17	5.3	540	7.55	770	64	6.5	0.28
20	5.8	590	9.0	920	91	9.3	0.39
25	9.6	980	15.1	1540	156	16	0.73
32	15	1530	25	2550	313	32	1.4

LFS系列规格表 Specification of LFS series

型号 Type	基本额定负载 Basic rated load				容许静力矩Mc Allowable static moment Mc		重量 Weight
	基本额定动负载Cr Basic rated dynamic load Cr		基本额定静负载Cr Basic rated static load Cr				
	KN	kgf	KN	kgf	Nm	kgfm	kg
11	6.5	663	9.9	1010	40	4.1	0.22
14	7.4	755	12.8	1306	75	7.7	0.37

※基本额定动负载是指，使轴承的基本动态额定寿命达到100万转的一定的静止径向负载。
※基本额定静负载是指，在承受最大负载的转动体和轨道的接触部中央位置，施加一定水平的接触应力（4kN/mm²）的静态负载。
※容许静力矩是指，对输出轴承可能施加最大的力矩载荷，如在此范围内，能够保持基本性能并可工作的数值。

Basic rated dynamic load refers to static radial load that makes dynamic rated life of bearing reach up to 1 million rotations.
Basic rated static load refers to static load that exerts a certain level of contact stress(4K/mm)on the central location between rotor of bearing maximum load and contact part of pathway.
Allowable static moment refers to the value of the maximum torque exerting on output bearing, within the scope of which, it's workable and the basic performance is possible.

主轴承的规格 | PRECAUTIONS ON INSTALLATION

LHT系列规格表 Specification of LHT series

每个产品都组装有精密交叉滚子轴承用于直接支撑外部负载(输出法兰部)。
Each product is assembled with precise cross roller bearing for supporting external loading(Output flange).

型号 Type	基本额定负载 Basic rated load				容许静力矩Mc Allowable static moment Mc		重量 Weight
	基本额定动负载Cr Basic rated dynamic load Cr		基本额定静负载Cr Basic rated static load Cr				
	KN	kgf	KN	kgf	Nm	kgfm	kg
14	5.8	590	8.6	880	74	7.6	0.39
17	10.4	1060	16.3	1670	124	12.6	0.56
20	14.6	1490	22	2250	187	19.1	0.73
25	21.8	2230	35.8	3660	258	26.3	1.23
32	38.2	3900	65.4	6680	580	59.1	2.54
40	43.3	4410	81.6	8330	849	86.6	7.2

LHD系列规格表 Specification of LHD series

型号 Type	基本额定负载 Basic rated load				容许静力矩Mc Allowable static moment Mc		重量 Weight
	基本额定动负载Cr Basic rated dynamic load Cr		基本额定静负载Cr Basic rated static load Cr				
	KN	kgf	KN	kgf	Nm	kgfm	kg
14	2.9	296	4.3	438	37	3.8	0.2
17	5.2	530	8.1	826	62	6.3	0.24
20	7.3	744	11	1122	93	9.5	0.29
25	10.9	1111	17.9	1825	129	13.2	0.55
32	19.1	1948	32.7	3334	290	29.6	1.2

※基本额定动负载是指，使轴承的基本动态额定寿命达到100万转的一定的静止径向负载。
※基本额定静负载是指，在承受最大负载的转动体和轨道的接触部中央位置，施加一定水平的接触应力(4kN/mm²)的静态负载。
※容许静力矩是指，对输出轴承可能施加最大的力矩载荷，如在此范围内，能够保持基本性能并可工作的数值。

Basic rated dynamic load refers to static radial load that makes dynamic rated life of bearing reach up to 1 million rotations.
Basic rated static load refers to static load that exerts a certain level of contact stress(4K/mm²)on the central location between rotor of bearing maximum load and contact part of pathway.
Allowable static moment refers to the value of the maximum torque exerting on output bearing, within the scope of which, it's workable and the basic performance is possible.

启动转矩 | STARTING TORQUE

LSS系列启动转矩 Starting torgue of LSS series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	2.0	4.1	6.1	7.8	15	31	55
80	1.8	2.8	4.0	4.9	9.2	19	35
100	1.5	2.5	3.4	4.3	8.0	18	31
120	–	2.3	3.1	3.8	7.3	15	28
160	–	–	–	3.3	7.3	14	24

LSG系列启动转矩 Starting torgue of LSG series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	–	4.5	6.7	8.6	17	34	61
80	–	3.1	4.4	5.4	10	21	39
100	–	2.8	3.7	4.7	8.8	20	34
120	–	–	3.4	4.2	8	17	31
160	–	–	–	3.6	6.9	15	26

LSD系列启动转矩 Starting torgue of LSD series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	14	17	20	25	32
50	4.4	6.7	8.9	16	32
80	3.2	4.4	5.7	10	22
100	2.8	3.8	5.1	9.1	20

LHT系列I/II/V型启动转矩 Starting torgue of LHT series (LHT-I/II/V)

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	2.0	4.1	6.1	7.8	15	31	55
80	1.8	2.8	4.0	4.9	9.2	19	35
100	1.5	2.5	3.4	4.3	8.0	18	31
120	–	2.3	3.1	3.8	7.3	15	28
160	–	–	–	3.3	7.3	14	24

LHT/LHG系列III型启动转矩 Starting torgue of LHT series (LHT/LHG-III)

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	_	8.8	27	36	56	85	136
80	_	7.5	25	33	50	74	117
100	_	6.9	24	32	49	72	112
120	_	6.9	24	31	48	68	110
160	–	–	–	31	47	67	105

启动转矩 | STARTING TORQUE

LHT/LHG系列IV型启动转矩 Starting torque of LHT series (LHT/LHG-IV)

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	_	5.7	9.7	14	22	41	72
80	_	4.4	7.2	11	15	29	52
100	_	3.7	6.5	9.9	14	27	47
120	_	3.4	6.2	9.3	13	24	44
160	–	–	–	8.6	12	23	39

LHG系列(LHG-I/II/V)启动转矩 Starting torgue of LHG series (LHG-I/II/V)

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14	17	20	25	32	40
50	—	4.5	6.7	8.6	17	34	61
80	—	3.1	4.4	5.4	10	21	39
100	—	2.8	3.7	4.7	8.8	20	34
120	—	—	3.4	4.2	8	17	31
160	—	—	—	3.6	6.9	15	26

LHD-I系列启动转矩 Starting torgue of LHD-I series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	14	17	20	25	32
50	6.2	19	25	39	60
80	5	16	23	36	55
100	4.8	17	22	34	50

LHD-III系列启动转矩 Starting torgue of LHD-III series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	14	17	20	25	32
50	11	39	53	79	114
80	9	34	44	66	108
100	8.7	37	49	73	101

LFS系列启动转矩 Starting torgue of LFS series

单位 unit:cNm

减速比 Reduction ratio \ 型号 Type	11	14
50	2	4.1
80	2	2.8
100	1.5	2.5

弯矩负载表 | PRECAUTIONS ON INSTALLATION

LSS(LSG)系列谐波减速器弯矩负载表 Moment load table of LSS(LSG) series

型号 Model	设计值 Design value	瞬间允许值 Instant permissible value
LSS(LSG)-14	M b di 20Nm	M b max 40Nm
	F t di 180N	F t max 320N
	F a di 180N	F a max 320N
LSS(LSG)-17	M b di 30Nm	M b max 60Nm
	F t di 230N	F t max 400N
	F a di 230N	F a max 400N
LSS(LSG)-20	M b di 42Nm	M b max 80Nm
	F t di 270N	F t max 480N
	F a di 270N	F a max 480N
LSS(LSG)-25	M b di 80Nm	M b max 160Nm
	F t di 440N	F t max 770N
	F a di 440N	F a max 770N
LSS(LSG)-32	M b di 220Nm	M b max 440Nm
	F t di 900N	F t max 1600N
	F a di 900N	F a max 1600N
LSS(LSG)-40	M b di 320Nm	M b max 650Nm
	F t di 1000N	F t max 1750N
	F a di 1000N	F a max 1750N

LHT(LHG)系列谐波减速器弯矩负载表 Moment load table of LHT(LHG) series

型号 Model	设计值 Design value	瞬间允许值 Instant permissible value
LHT(LHG)-14	M b di 41Nm	M b max 80Nm
	F t di 270N	F t max 490N
	F a di 270N	F a max 490N
LHT(LHG)-17	M b di 72Nm	M b max 140Nm
	F t di 400N	F t max 700N
	F a di 400N	F a max 700N
LHT(LHG)-20	M b di 140Nm	M b max 280Nm
	F t di 650N	F t max 1150N
	F a di 650N	F a max 1150N
LHT(LHG)-25	M b di 243Nm	M b max 480Nm
	F t di 900N	F t max 1600N
	F a di 900N	F a max 1600N
LHT(LHG)-32	M b di 460Nm	M b max 900Nm
	F t di 1350N	F t max 2300N
	F a di 1350N	F a max 2300N
LHT(LHG)-40	M b di 600Nm	M b max 1200Nm
	F t di 2000N	F t max 3500N
	F a di 2000N	F a max 3500N

备注:输出端负载 M b——弯矩, F t——径向力, F a——轴向力
Note: Output load Mb-bending moment, Ft-radial force, Fa-axial force

弯矩负载表 | MOMENT LOAD TABLE

LSD系列谐波减速器弯矩负载表 Moment load table of LSD series

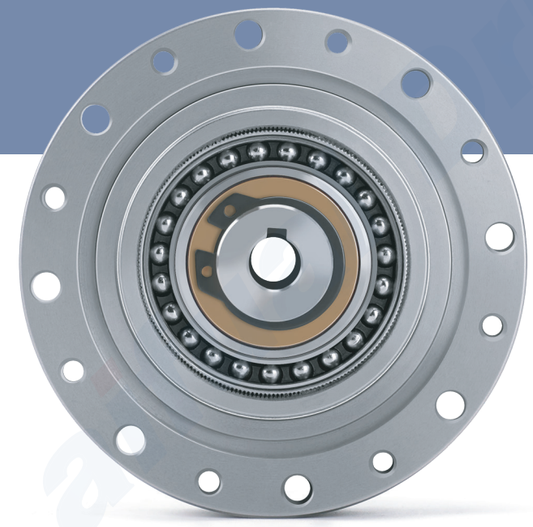
型号 Model	设计值 Value	瞬间允许值 Instant permissible value
LSD-14	M b di 20Nm	M b max 40Nm
	F t di 180N	F t max 320N
	F a di 180N	F a max 320N
LSD-17	M b di 30Nm	M b max 60Nm
	F t di 230N	F t max 400N
	F a di 230N	F a max 400N
LSD-20	M b di 42Nm	M b max 80Nm
	F t di 270N	F t max 480N
	F a di 270N	F a max 480N
LSD-25	M b di 80Nm	M b max 160Nm
	F t di 440N	F t max 770N
	F a di 440N	F a max 770N
LSD-32	M b di 220Nm	M b max 440Nm
	F t di 900N	F t max 1600N
	F a di 900N	F a max 1600N

LHD系列谐波减速器弯矩负载表 Moment load table of LHD series

型号 Model	设计值 Value	瞬间允许值 Instant permissible value
LHD-14	M b di 41Nm	M b max 80Nm
	F t di 270N	F t max 490N
	F a di 270N	F a max 490N
LHD-17	M b di 59Nm	M b max 140Nm
	F t di 330N	F t max 570N
	F a di 330N	F a max 570N
LHD-20	M b di 117Nm	M b max 230Nm
	F t di 550N	F t max 975N
	F a di 550N	F a max 975N
LHD-25	M b di 213Nm	M b max 420Nm
	F t di 790N	F t max 1400N
	F a di 790N	F a max 1400N
LHD-32	M b di 400Nm	M b max 800Nm
	F t di 1240N	F t max 2100N
	F a di 1240N	F a max 2100N

备注：输出端负载 M b——弯矩，F t——径向力，F a——轴向力
Note: Output load Mb-bending moment, Ft-radial force, Fa-axial force

LS 系列 SERIES





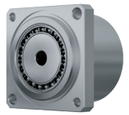












LSS /LSN/ LSG

LSS系列 LSS SERIES

LSS/LSSF系列
易于操作的组合化产品。每个型号都有用于支撑外部负载，具有高刚性的交叉滚子轴承

LSN系列
轻量型产品，在不改变性能的前提下，相比标准品，重量减少了30%

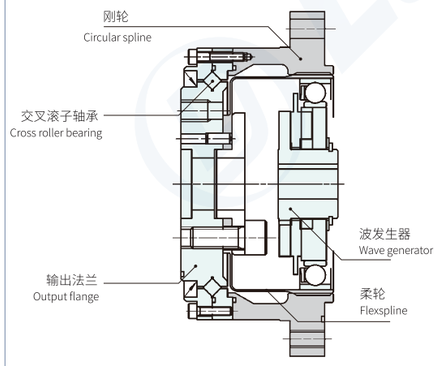
LSG系列
高转矩用，转矩容量比标准产品提升30%，使用寿命提高43%，追求高负载容量，高可靠性

LSS series
A combination product which is easy to operate.
Each model has a cross-roller bearing that with high rigidity to support external loads

LSN series
A light weight product. Compare with standard product that with the same performance, LSN series is 30% lighter

LSG series
High torque. Compare with standard products, LSG series' torque capacity is 30% higher.And the service life is increased by 43%, with high load capacity and high reliability

LSS系列组合型结构
Combinative structure of LSS series



标准型（LSS-I/II）
Standard Type

应用领域 Application

工业机器人 Industrial robot	服务机器人 Service Robots
金属机床 Metal Machine Tools	医疗器械 Medical Devices
测定、分析、试验设备 Analysis, Test Equipmen	能源相关 Energy Related equipment
造纸设备 Papermaking Equipment	

LSS/LSSF/LSN额定参数表 Rated parameter table of LSS/LSSF/LSN series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
8	50	1.8	0.18	3.3	0.34	2.3	0.23	6.6	0.67	8500	3500	⩽40	LSN-I:0.08	10000
	100	2.4	0.24	4.8	0.49	3.3	0.34	9.0	0.92					10000
11	50	3.5	0.36	8.3	0.85	5.5	0.56	17	1.73	8500	3500	⩽30	LSS-I:0.25 LSN-I:0.17	10000
	80	4.5	0.46	9.9	1.01	8.0	0.82	22.5	2.30					10000
	100	5.0	0.51	11	1.12	8.9	0.91	25.0	2.55					10000
14	50	5.4	0.55	18	1.8	6.9	0.7	35	3.6	8500	3500	⩽20	LSS-I/II:0.51 LSS-C:0.09 LSN-I/II:0.39 LSSF-I:0.51	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LSS-I/II:0.67 LSS-C:0.15 LSN-I/II:0.52 LSSF-I:0.67	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	108	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LSS-I/II:0.96 LSS-C:0.28 LSN-I/II:0.73 LSSF-I:0.96	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LSS-I/II:1.46 LSS-C:0.42 LSN-I/II:1.14 LSSF-I:1.46	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LSS-I/II:3.11 LSS-C:0.89 LSN-I/II:2.47	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LSS-I/II:4.60 LSS-C:1.70 LSN-I/II:3.64 LSSF-I:4.60	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

LSG额定参数表 Rated parameter table of LSG series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LSG-**I**/**II**:0.51	10000
	80	10	1.0	30	3.1	14	1.4	58[1]	5.9[1]					15000
	100	10	1.0	36	3.7	14	1.4	58[1]	5.9[1]					15000
	120	10	1.0	36	3.7	14	1.4	58[1]	5.9[1]					15000
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LSG-**I**/**II**:0.67	10000
	80	29	2.9	56	5.7	35	3.6	109[1]	11[1]					15000
	100	31	3.2	70	7.2	51	5.2	109[1]	11[1]					15000
	120	31	3.2	70	7.2	51	5.2	109[1]	11[1]					15000
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LSG-**I**/**II**:0.96	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LSG-**I**/**II**:1.46	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LSG-**I**/**II**:3.11	15000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000
40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LSG-**I**:4.60	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1510[1]	154[1]					15000

[1]瞬间容许最大转矩值受到输出端连接螺钉的传动转矩限制
The permissible maximum torque is limited by the driving torque of the coupling screw at the output end

角度传达精度 Transmission accuracy

单位 unit:arc min

减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	2	2	1.5	1.5	1	1	1	1
50以上 above 50	2	2	1.5	1.5	1	1	1	1

滞后损失 Hysteresis loss

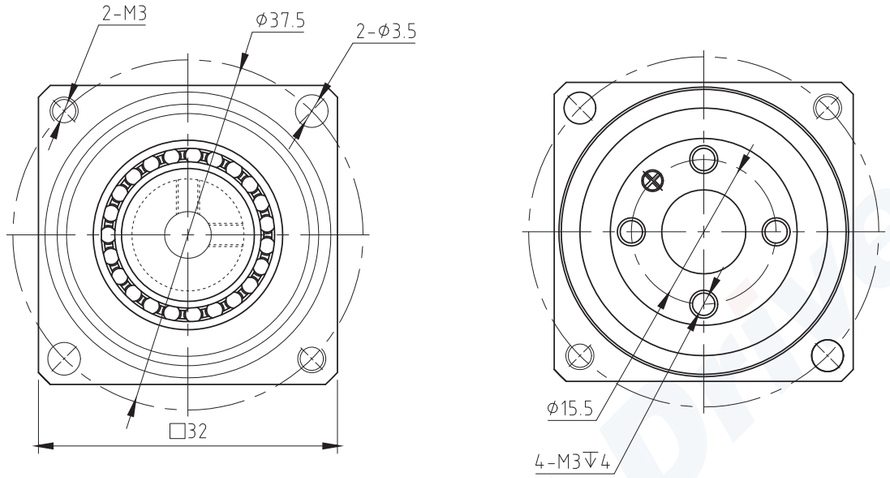
单位 unit:arc min

减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	3	2	2	2	2	2	2	2
50以上 above 50	2	2	1	1	1	1	1	1

刚性（弹簧常数）Torsional stiffness

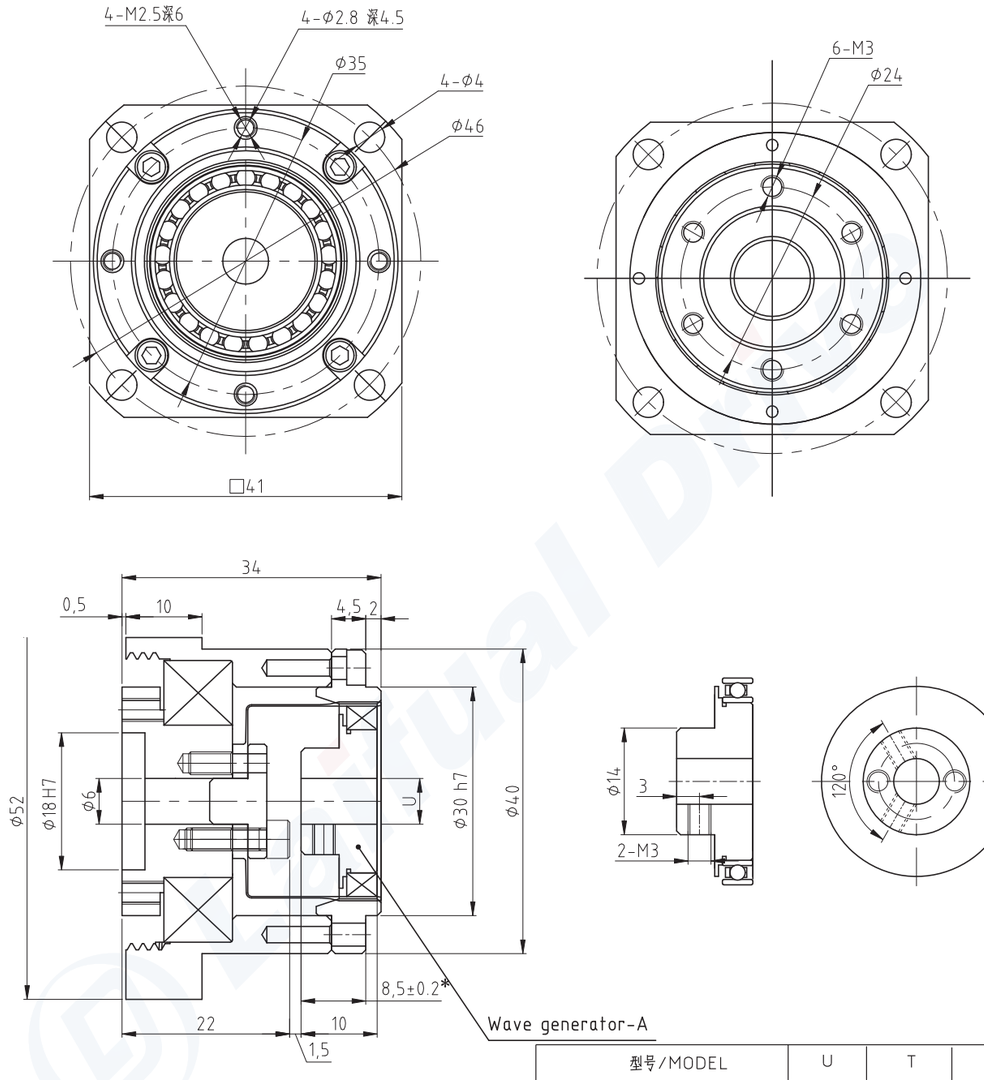
项目project		单位 Unit \ 型号 Type	8	11	14	17	20	25	32	40
T1		Nm	0.29	0.8	2	3.9	7	14	29	54
T2		Nm	0.75	2	6.9	12	25	48	108	196
减速比50 Reduction ratio 50	K1	×104 Nm/rad	0.044	0.221	0.34	0.81	1.3	2.5	5.4	10
	K2	×104 Nm/rad	0.067	0.3	0.47	1.1	1.8	3.4	7.8	14
	K3	×104 Nm/rad	0.084	0.32	0.57	1.3	2.3	4.4	9.8	18
减速比50以上 Reduction ratio above 50	K1	×104 Nm/rad	0.09	0.267	0.47	1	1.6	3.1	6.7	13
	K2	×104 Nm/rad	0.104	0.333	0.61	1.4	2.5	5	11	20
	K3	×104 Nm/rad	0.12	0.432	0.71	1.6	2.9	5.7	12	23

结构图 | STRUCTURE CHART　LSN-8-XX-U-I



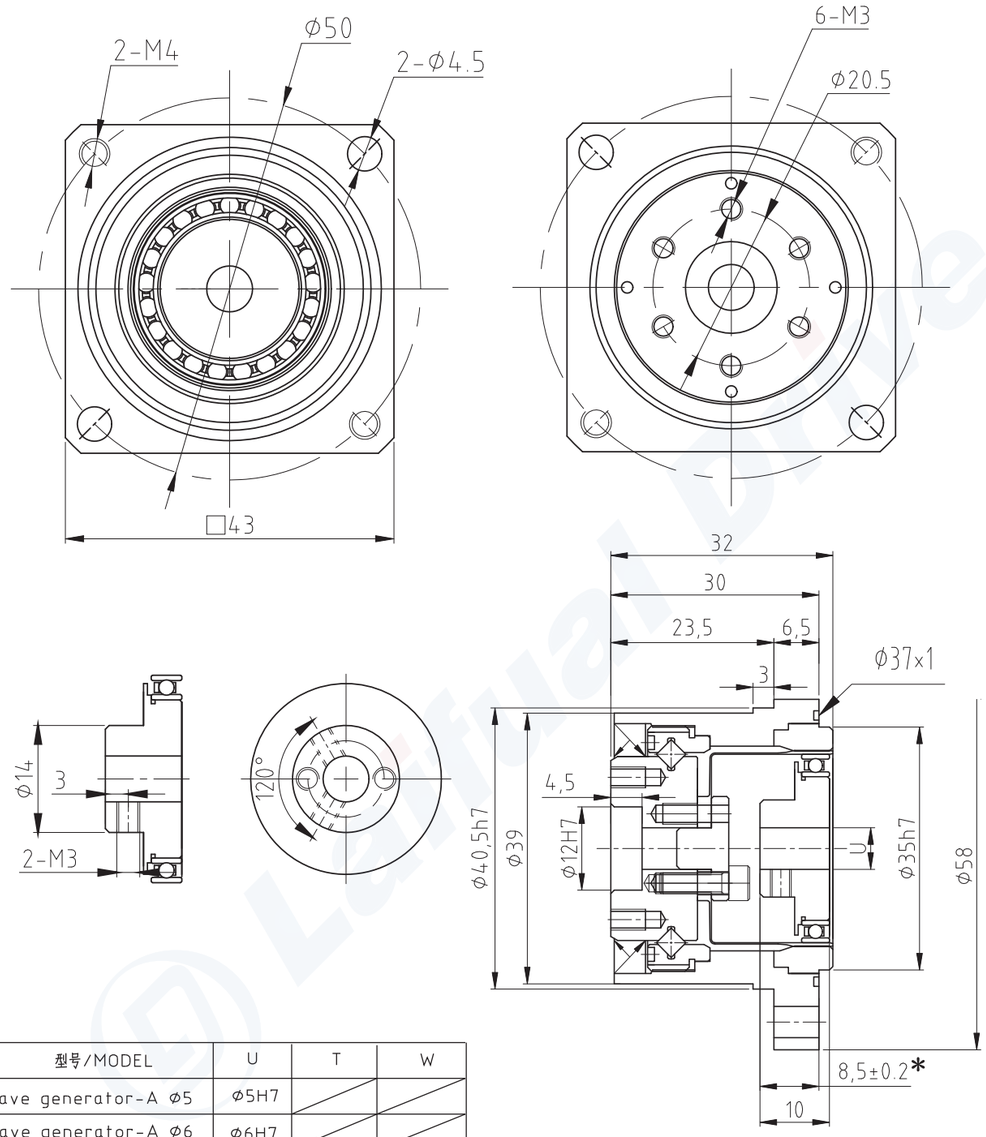
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
8	50	1.8	0.18	3.3	0.34	2.3	0.23	6.6	0.67	8500	3500	⩽40	LSN-I:0.08	10000
	100	2.4	0.24	4.8	0.49	3.3	0.34	9.0	0.92					10000

结构图 | STRUCTURE CHART　LSS-11-XX-U-I



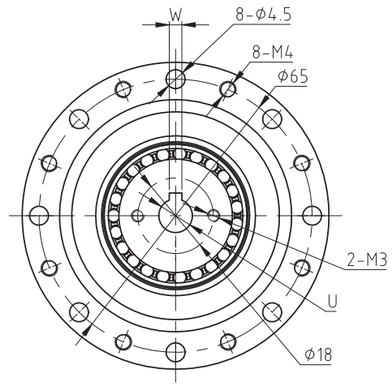
型号/MODEL	U	T	W
Wave generator-A φ5	φ5H7		
Wave generator-A φ6	φ6H7		

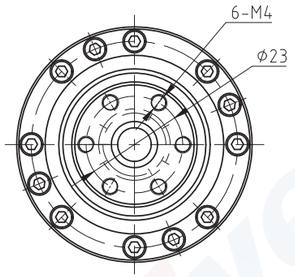
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
11	50	3.5	0.36	8.3	0.85	5.5	0.56	17.0	1.73	8500	3500	⩽30	LSS-I:0.25	10000
	80	4.5	0.46	9.9	1.01	8.0	0.82	22.5	2.30					10000
	100	5.0	0.51	11.0	1.12	8.9	0.91	25.0	2.55					10000

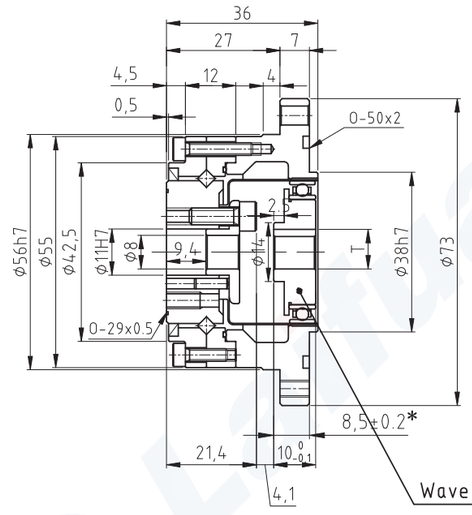


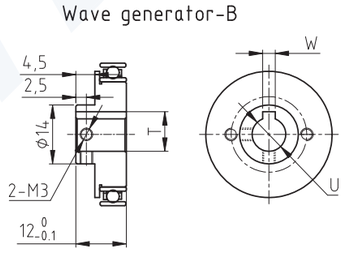
型号/MODEL	U	T	W
Wave generator-A φ5	φ5H7		
Wave generator-A φ6	φ6H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
11	50	3.5	0.36	8.3	0.85	5.5	0.56	17.0	1.73	8500	3500	⩽30	LSN-I:0.17	10000
	80	4.5	0.46	9.9	1.01	8.0	0.82	22.5	2.30					10000
	100	5.0	0.51	11.0	1.12	8.9	0.91	25.0	2.55					10000



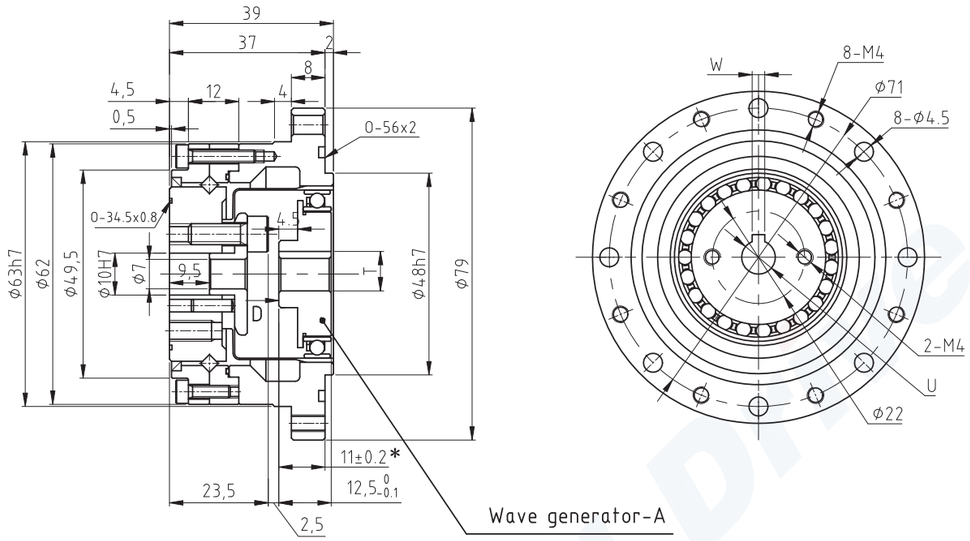




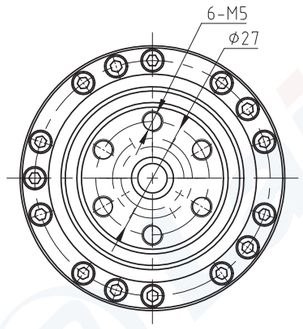


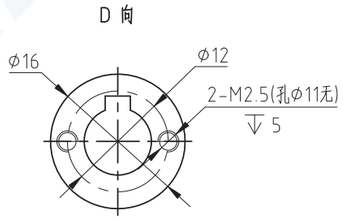
型号/MODEL	U	T	W
Wave generator-A φ6	φ6H7	7 0 +0.1	2JS9/P9
Wave generator-A φ8	φ8H7	9.4 0 +0.1	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LSS-I:0.51 LSN-I:0.39	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000



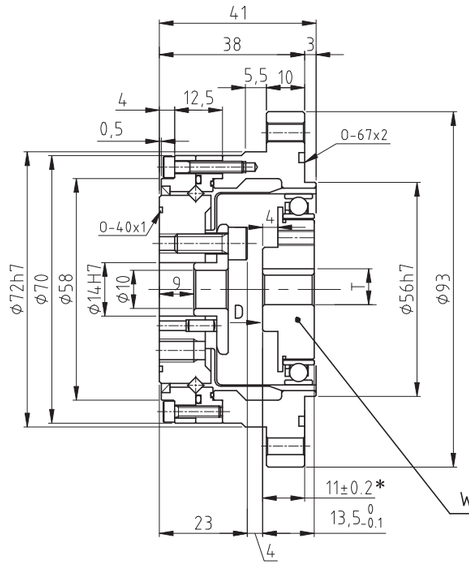
D 向

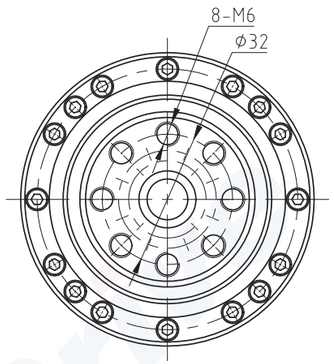




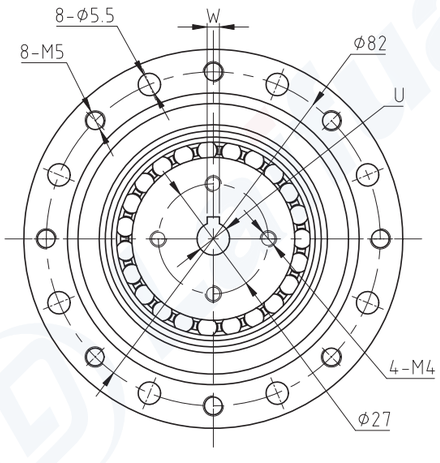
型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9

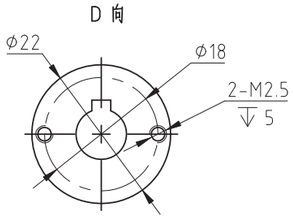
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LSS-I:0.67 LSN-I:0.52	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	108	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000





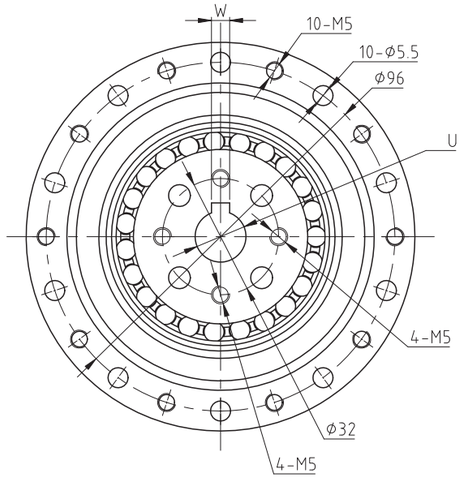
D 向

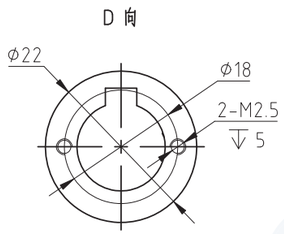


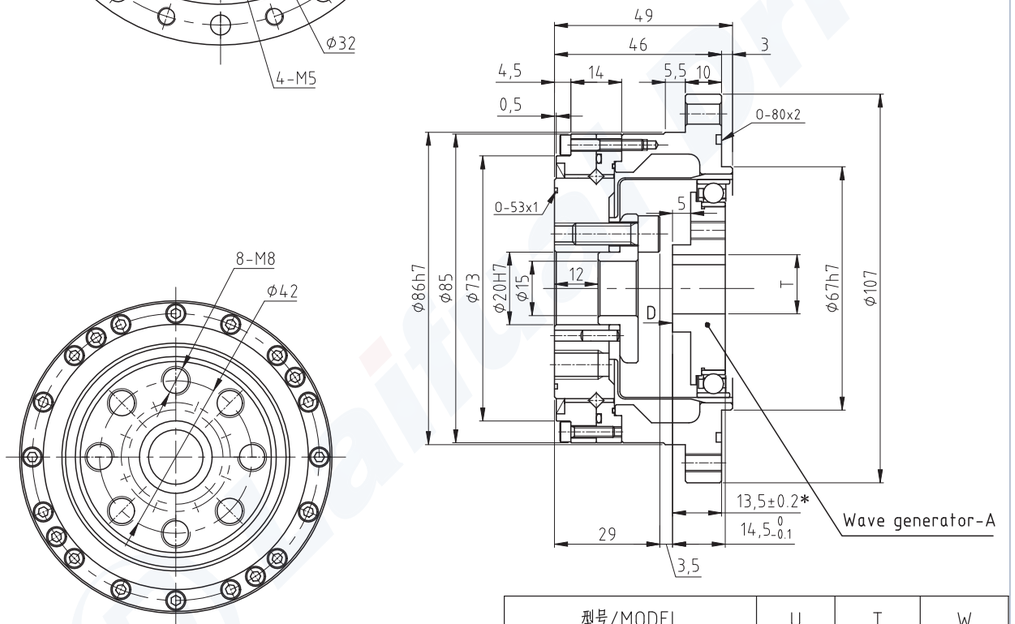


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LSS-I:0.96 LSN-I:0.73	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000

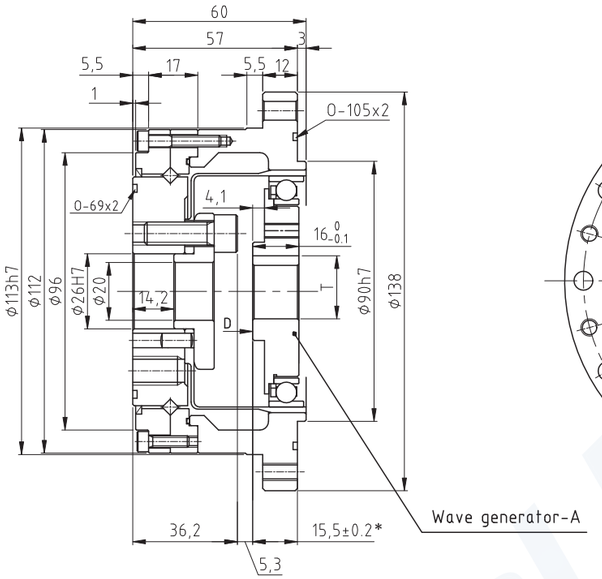


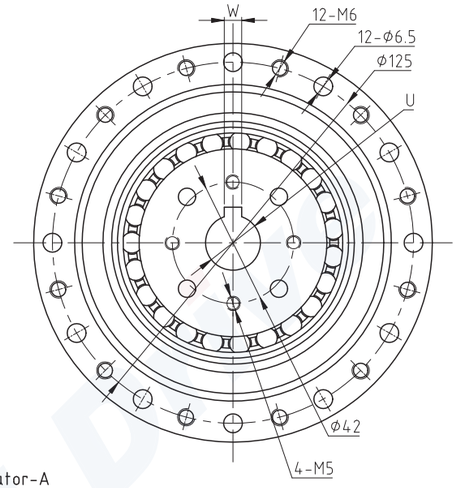


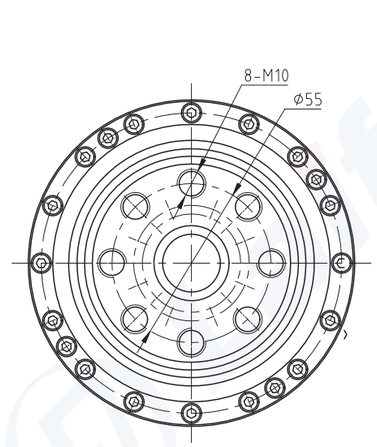


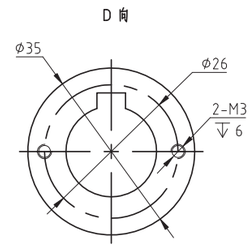
型号/MODEL	U	T	W
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LSS-I:1.46 LSN-I:1.14	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000





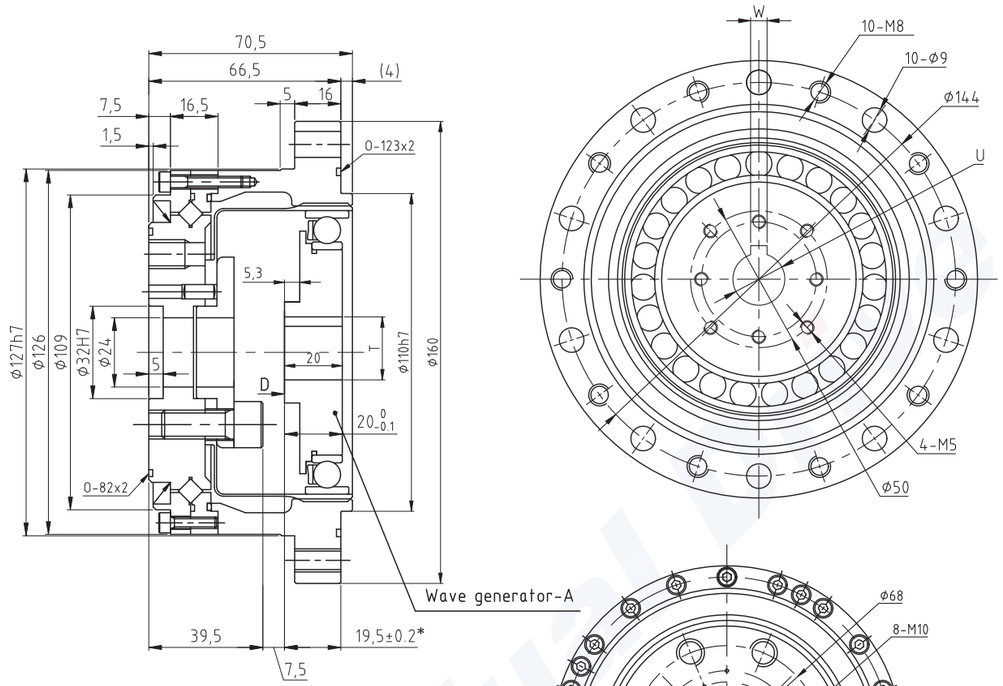


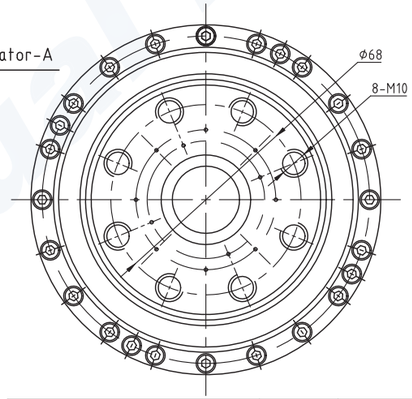


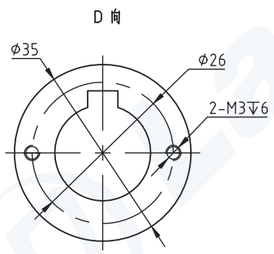
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8 +0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8 +0.1 0	6JS9/P9
		25.3 +0.1 0	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LSS-I:3.11 LSN-I:2.47	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000

结构图 | STRUCTURE CHART　LSS/LSN-40-XX-U-I



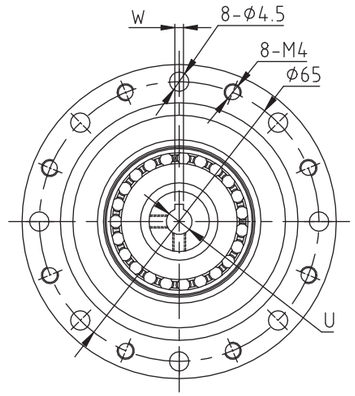


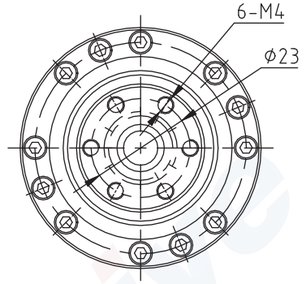


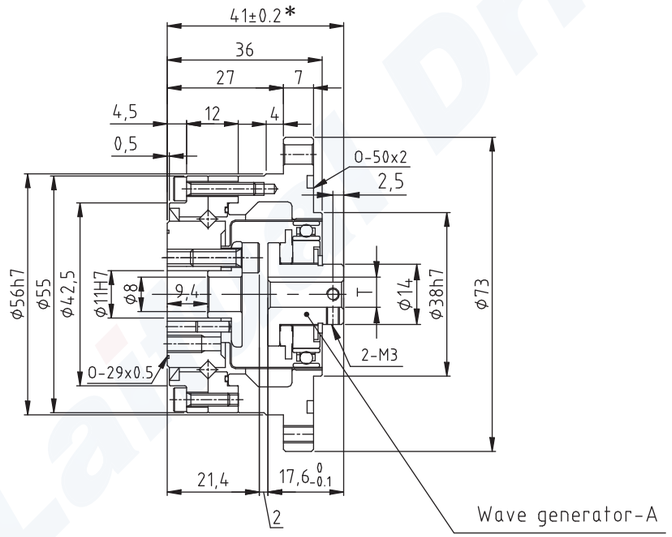
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8 +0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8 +0.1 0	6JS9/P9
		25.3 +0.1 0	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LSS-I:4.60 LSN-I:3.64	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

结构图 | STRUCTURE CHART　LSS/LSN-14-XX-U-II

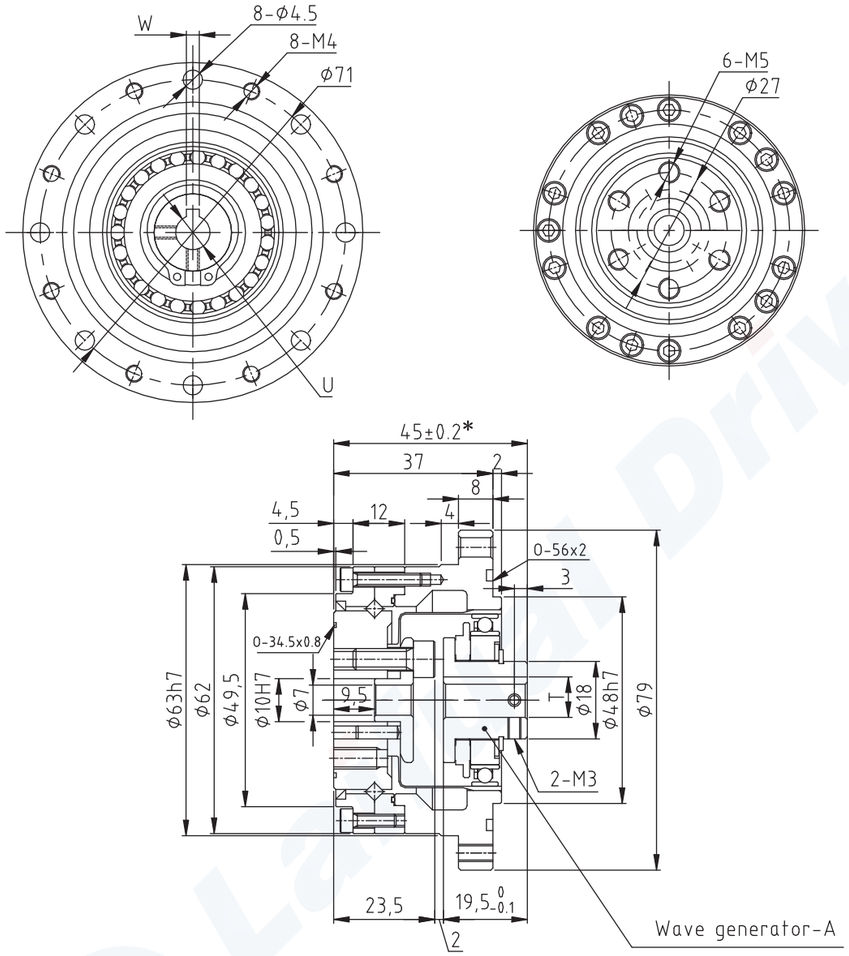






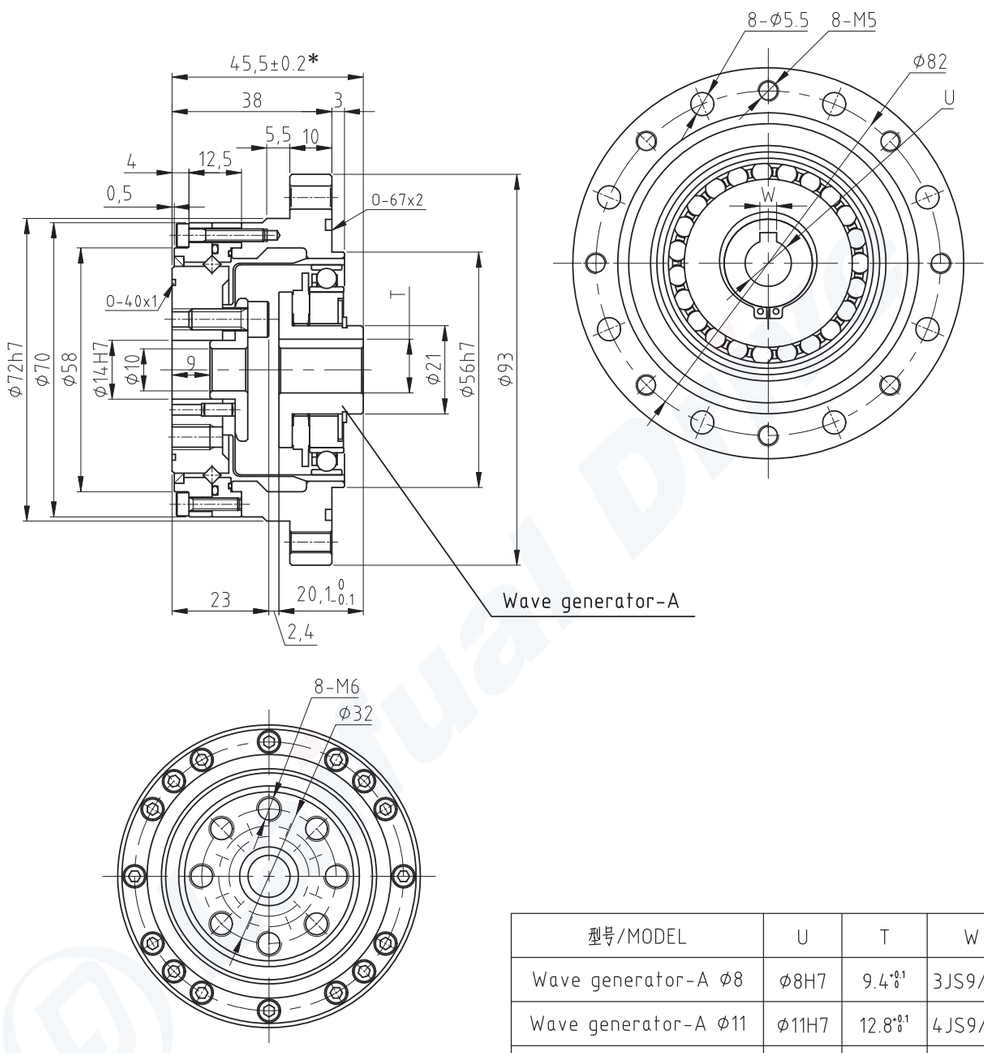
型号/MODEL	U	T	W
Wave generator-A/B φ6	φ6H7		
Wave generator-A/B φ6	φ6H7	7 +0.1 0	2JS9/P9
Wave generator-A/B φ8	φ8H7	9.4 +0.1 0	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LSS-II:0.51 LSN-II:0.39	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000



型号/MODEL	U	T	W
Wave generator-A/B φ8	φ8H7		
Wave generator-A/B φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A/B φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

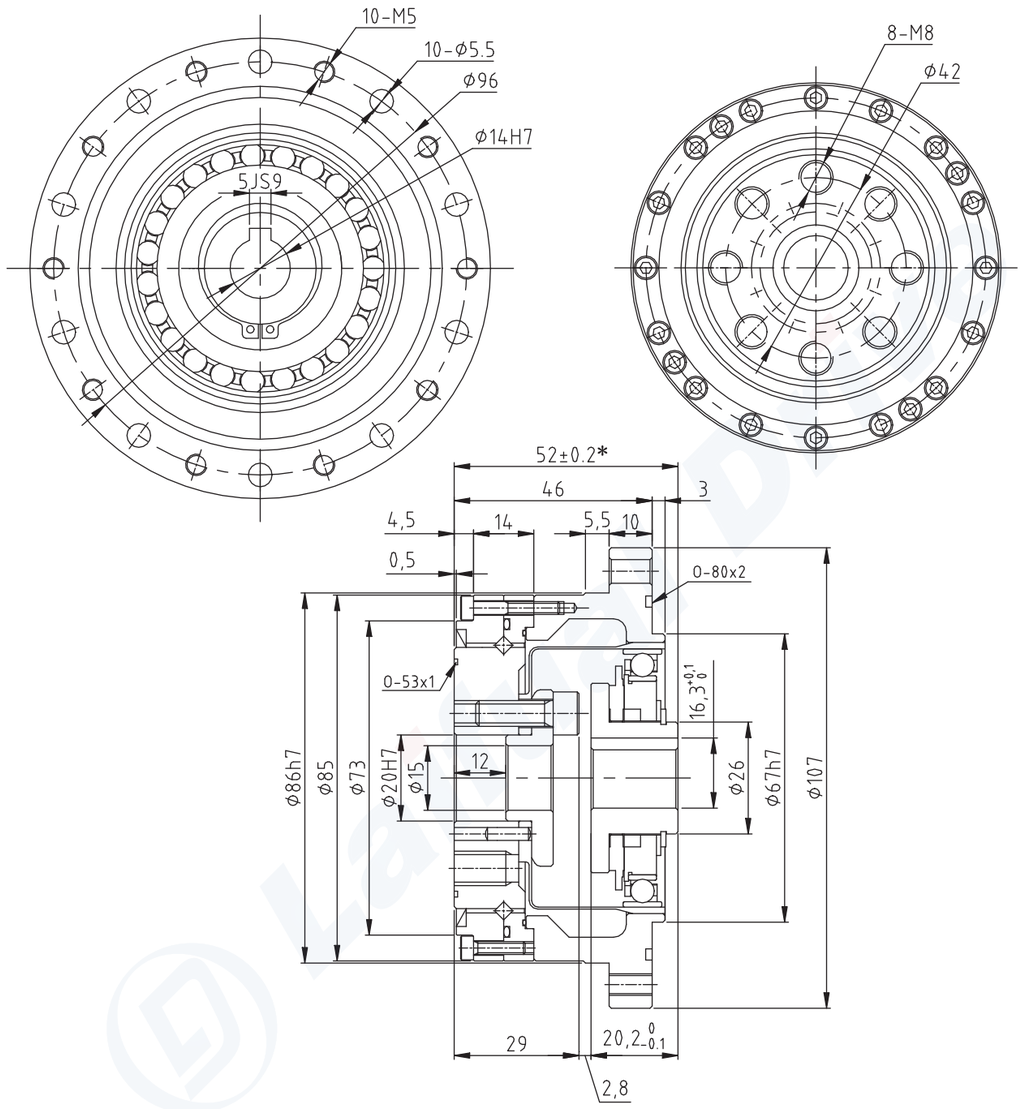
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LSS-Ⅱ:0.67 LSN-Ⅱ:0.52	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	108	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000



型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

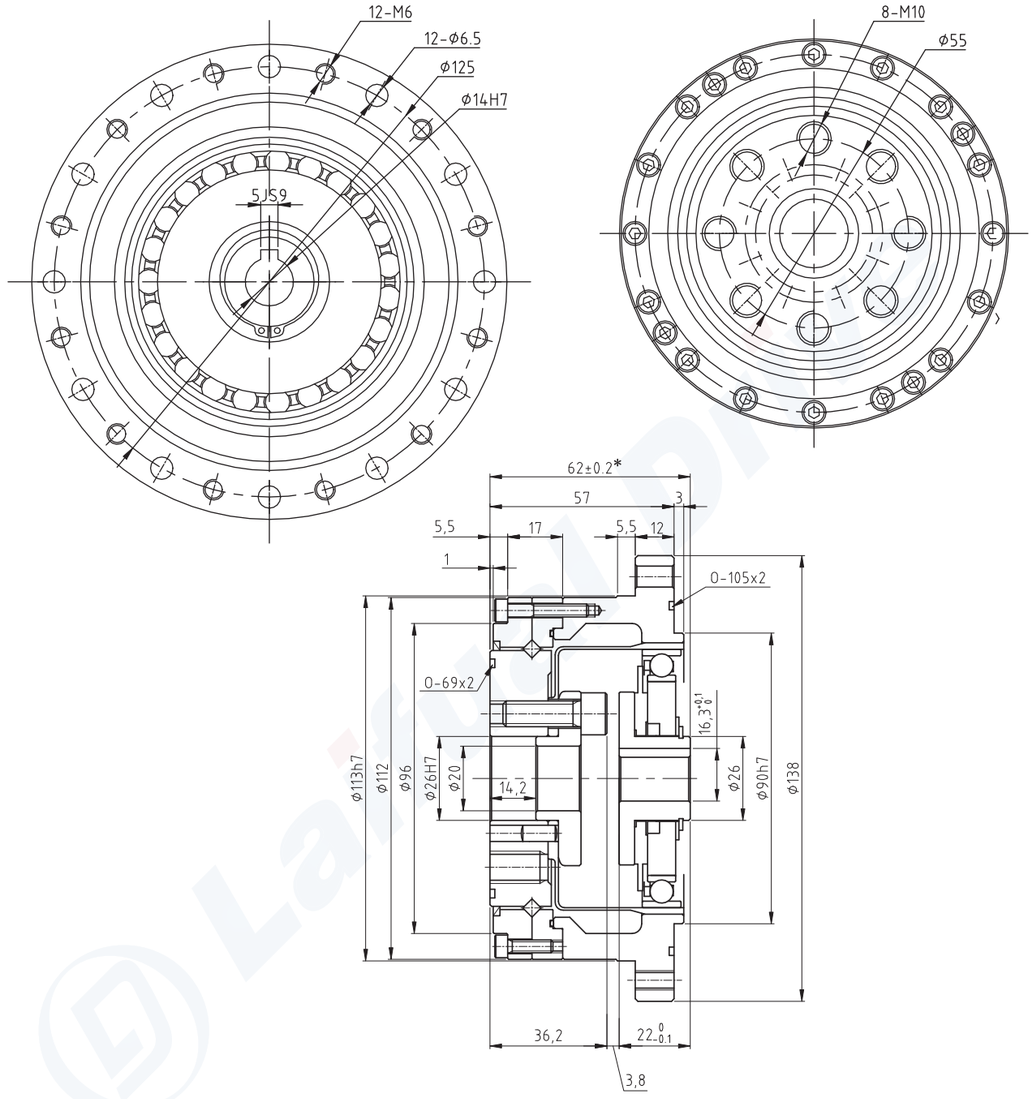
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LSS-Ⅱ:0.96 LSN-Ⅱ:0.73	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000

结构图 | STRUCTURE CHART　LSS/LSN-25-XX-U-II

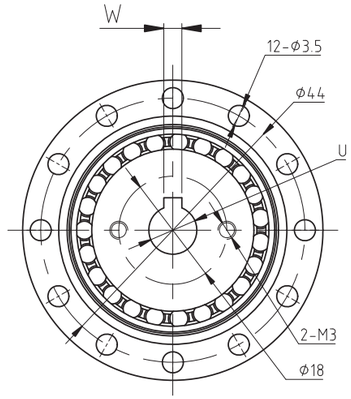


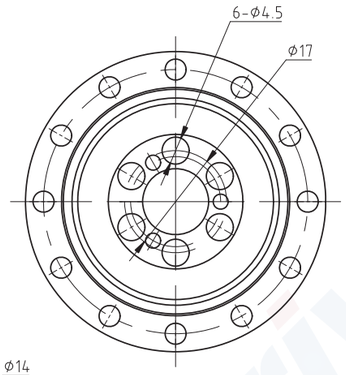
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LSS-II:1.46 LSN-II:1.14	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000

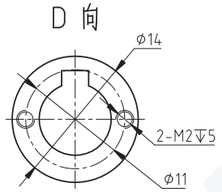
结构图 | STRUCTURE CHART　LSS/LSN-32-XX-U-II

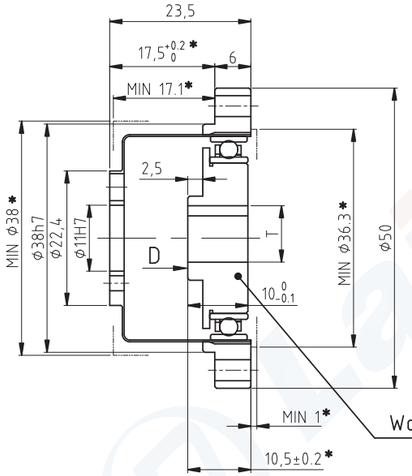


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LSS-II:3.11 LSN-II:2.47	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000

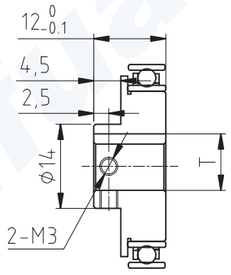


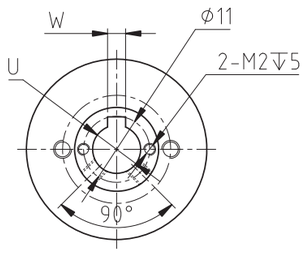






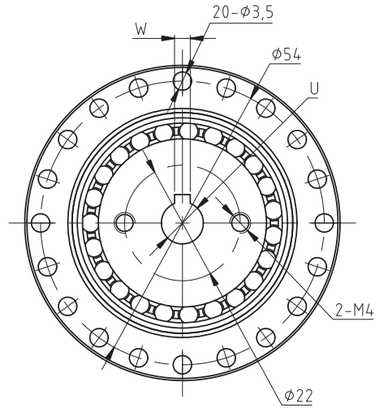
Wave generator-B

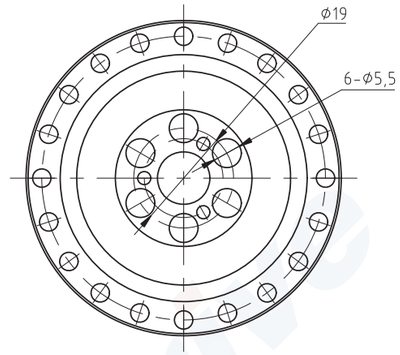


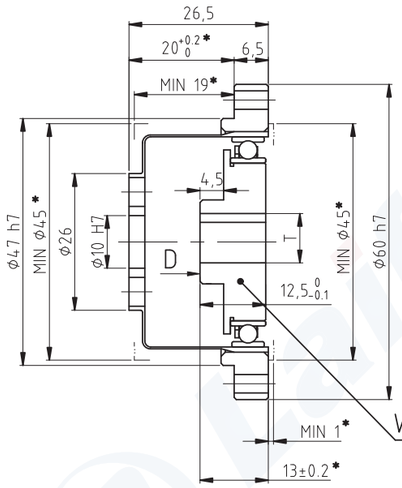


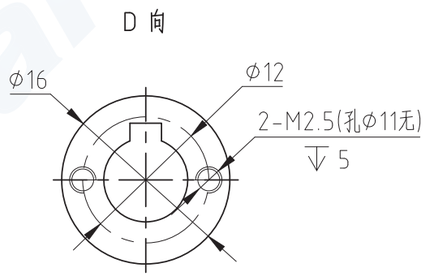
型号/MODEL	U	T	W
Wave generator-A Φ6	Φ6H7	7+0.1 0	2JS9/P9
Wave generator-A Φ8	Φ8H7	9.4+0.1 0	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LSS-C:0.09	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000



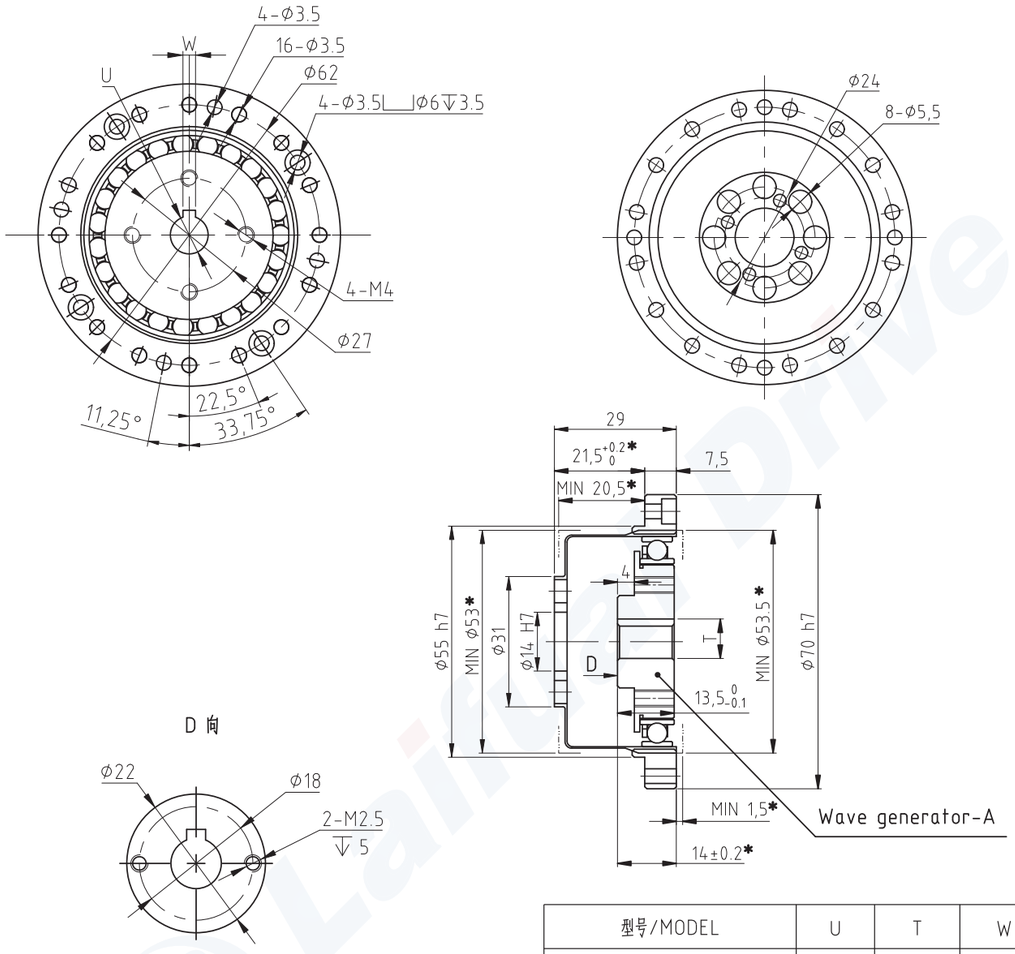






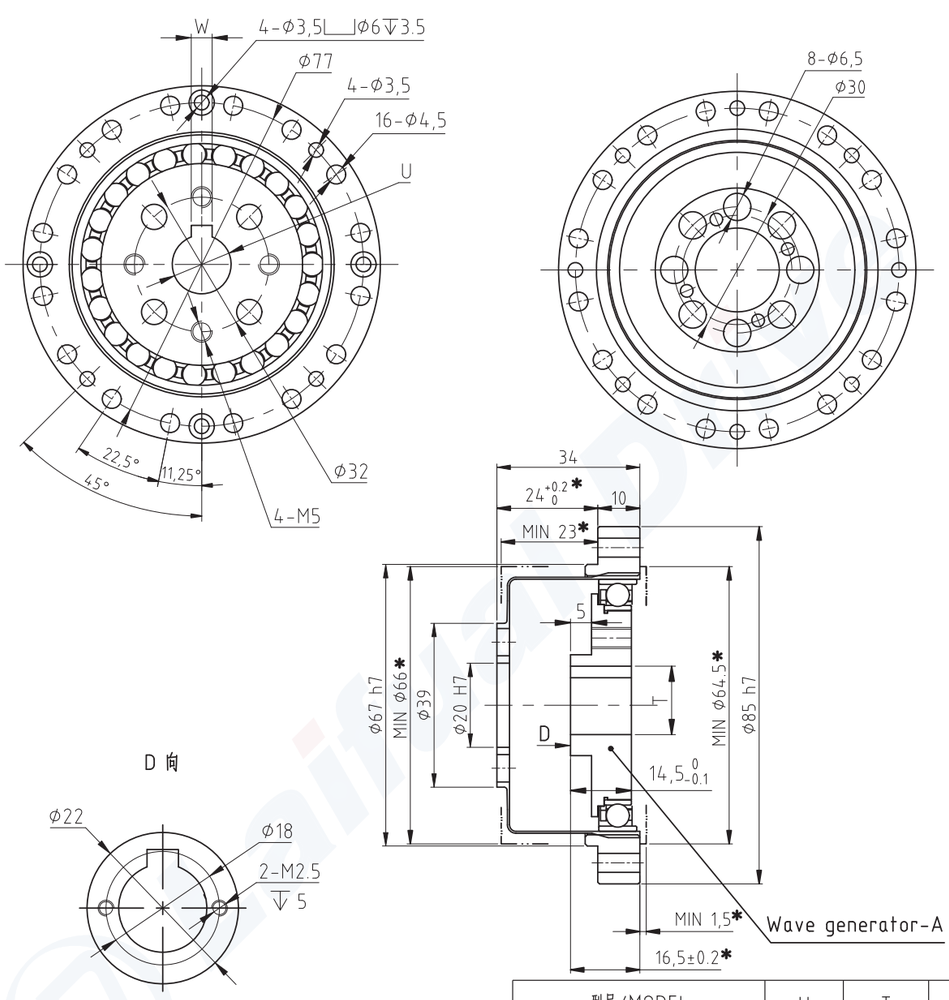
型号/MODEL	U	T	W
Wave generator-A Φ8	Φ8H7	9.4+0.1 0	3JS9/P9
Wave generator-A Φ11	Φ11H7	12.8+0.1 0	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LSS-C:0.15	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	108	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000



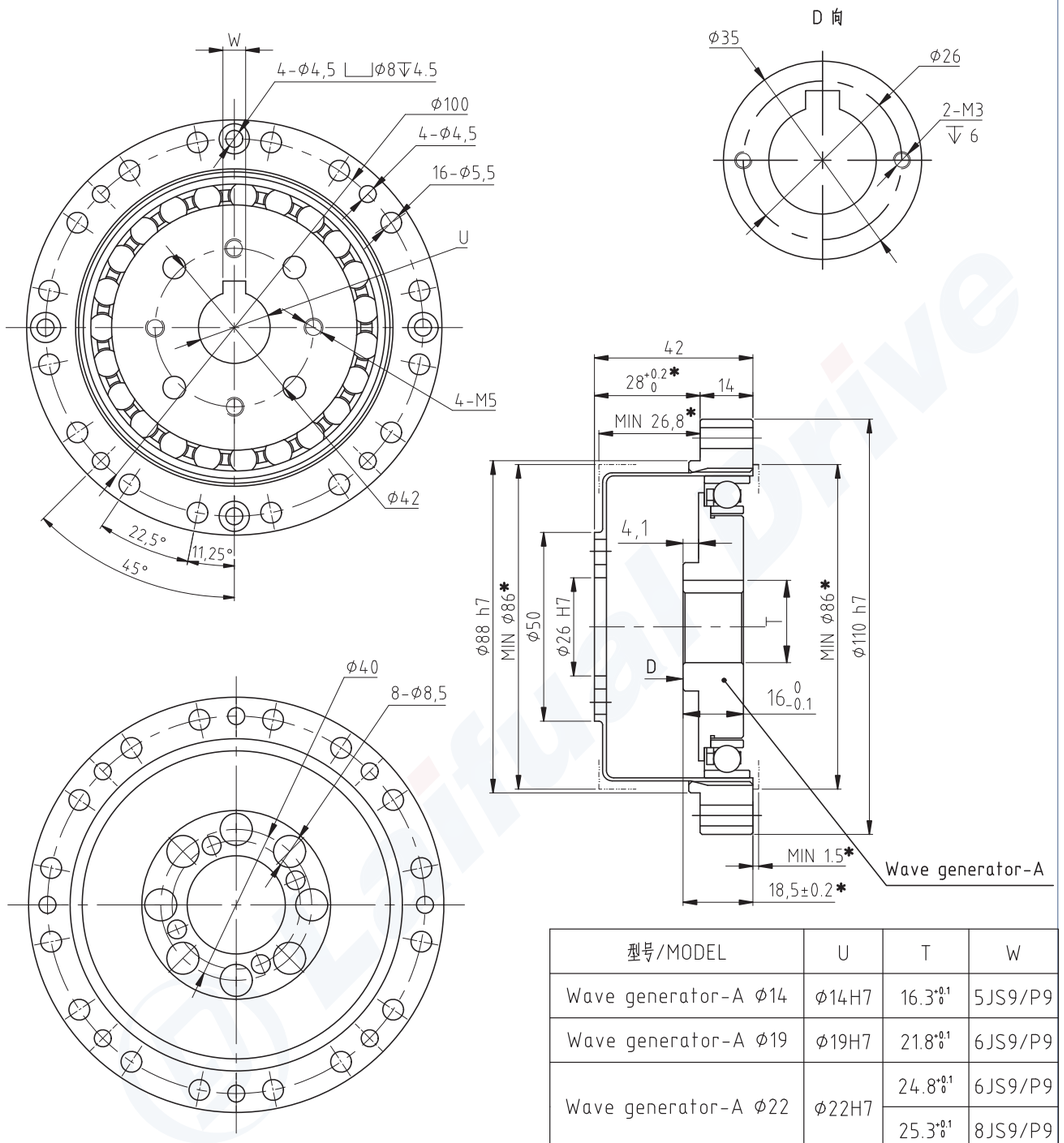
型号/MODEL	U	T	W
Wave generator-A Φ8	Φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A Φ11	Φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A Φ14	Φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LSS-C:0.28	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000



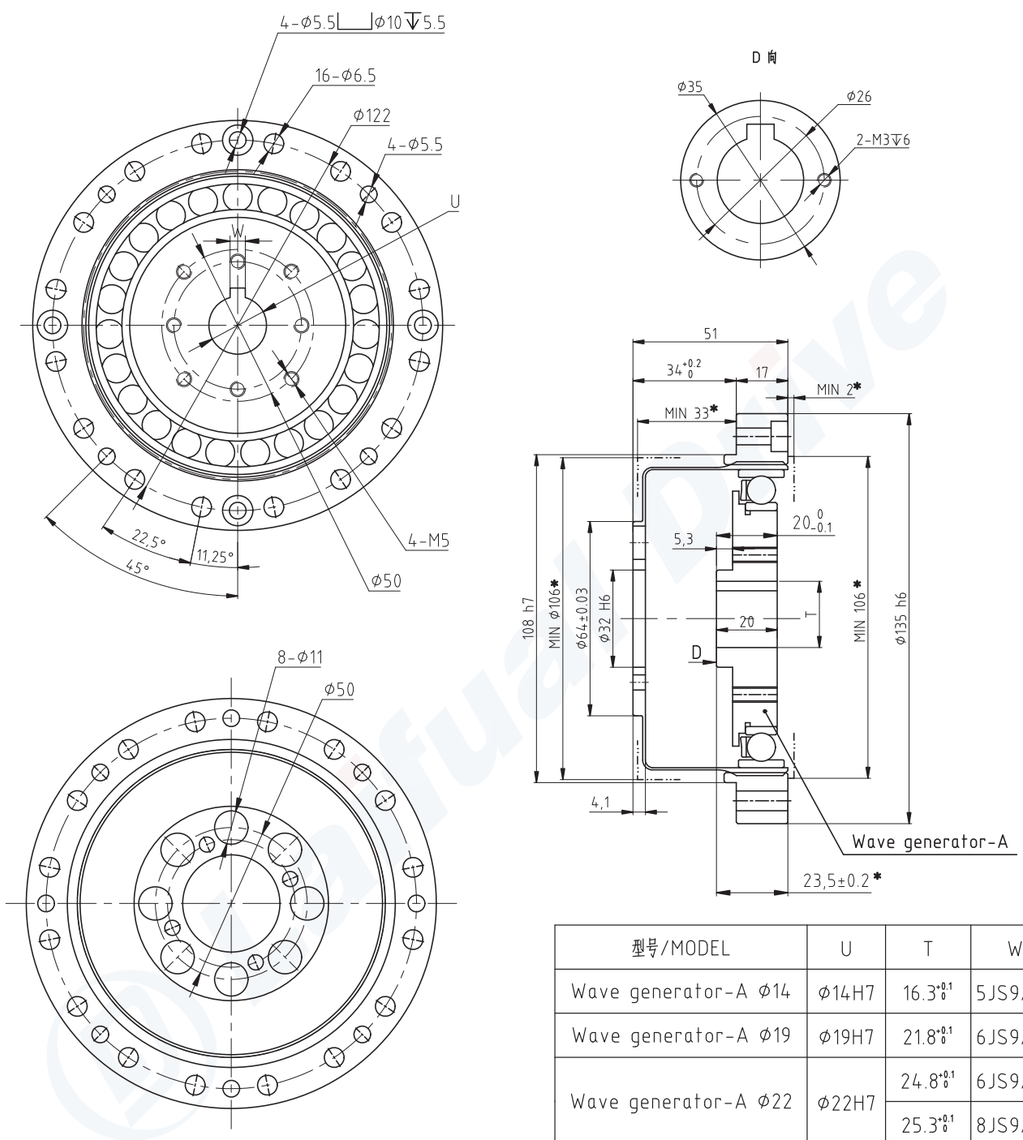
型号/MODEL	U	T	W
Wave generator-A Φ11	Φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A Φ14	Φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LSS-C:0.42	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000



型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3+0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8+0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8+0.1 0	6JS9/P9
		25.3+0.1 0	8JS9/P9

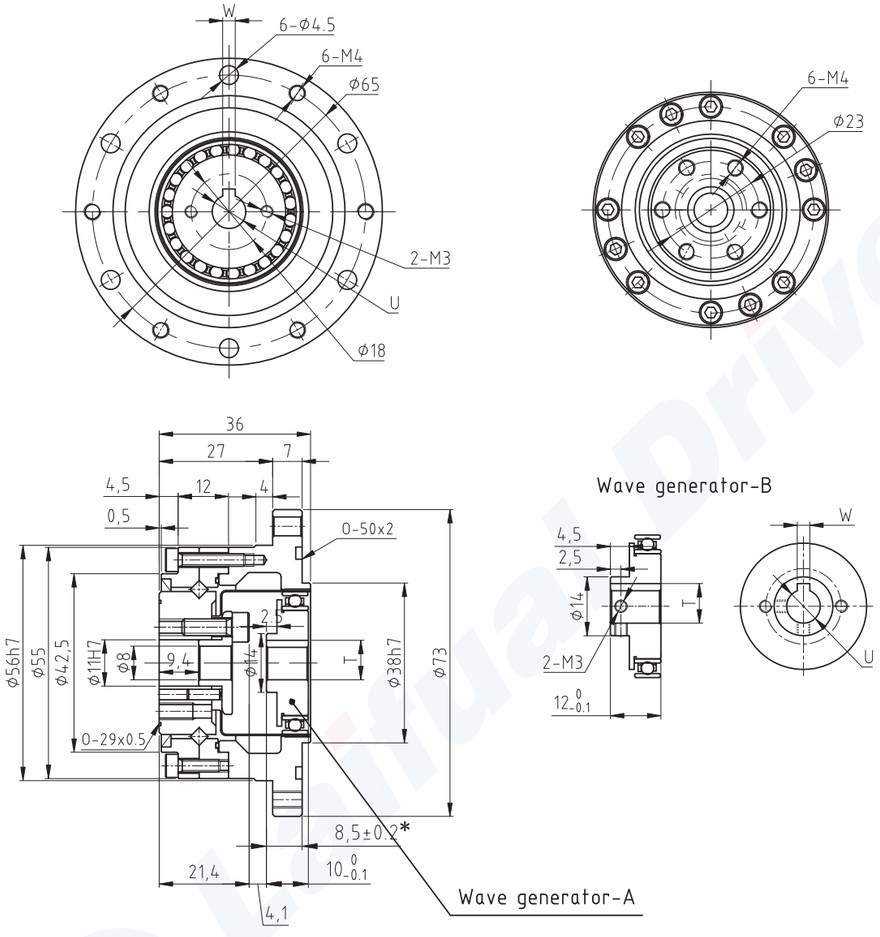
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LSS-C:0.87	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000



型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3+0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8+0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8+0.1 0	6JS9/P9
		25.3+0.1 0	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LSS-C:1.7	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

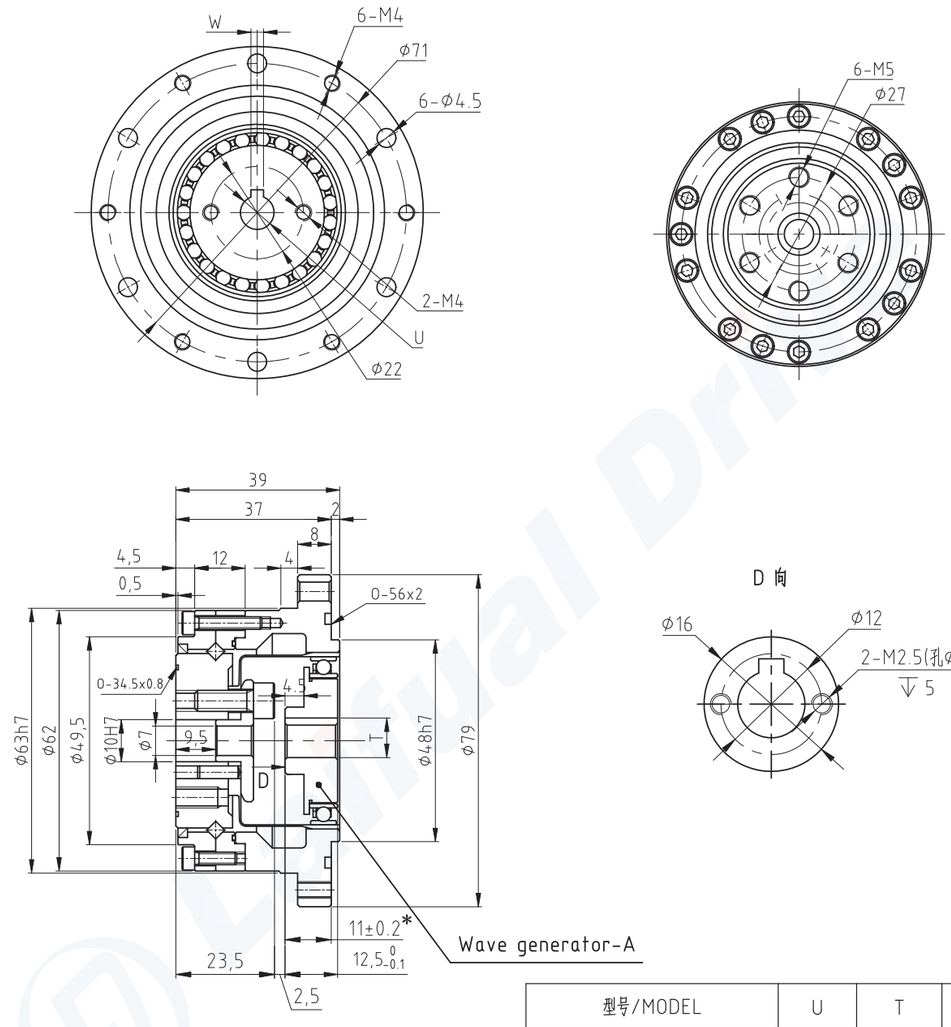
结构图 | STRUCTURE CHART　LSSF-14-XX-U-I



型号/MODEL	U	T	W
Wave generator-A/B φ6	φ6H7	7 +0.1 0	2JS9/P9
Wave generator-A/B φ8	φ8H7	9.4 +0.1 0	3JS9/P9

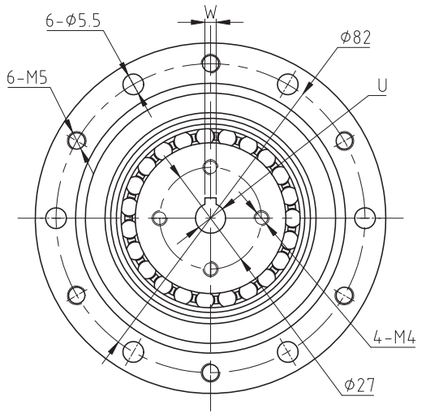
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LSSF-I:0.51	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000

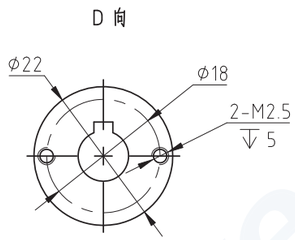
结构图 | STRUCTURE CHART　LSSF-17-XX-U-I

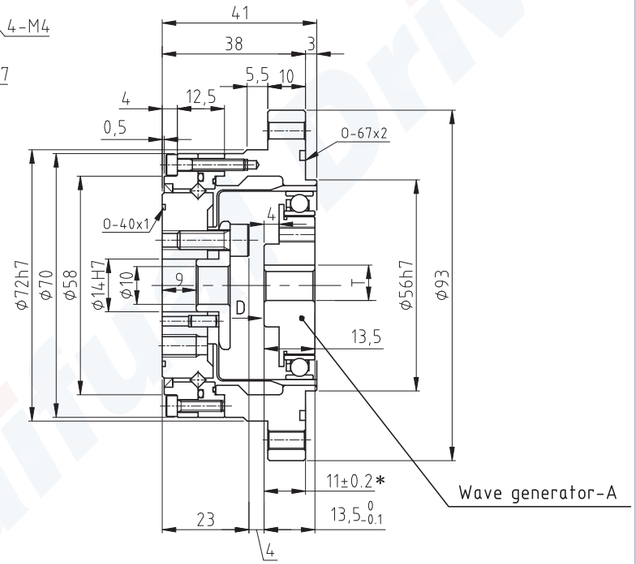


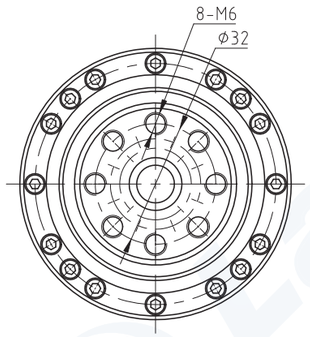
型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LSSF-I:0.68	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	108	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000



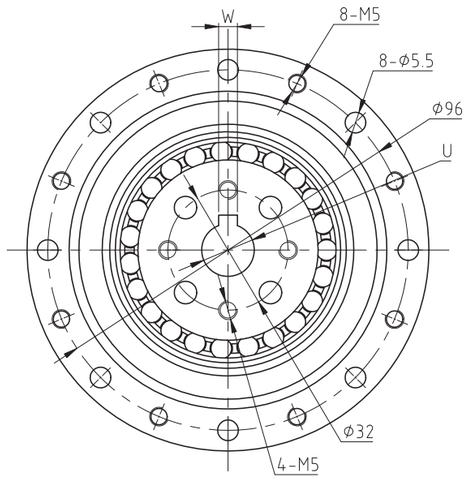


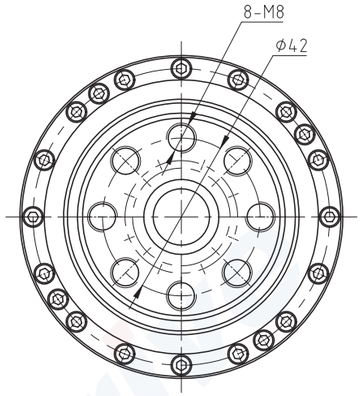


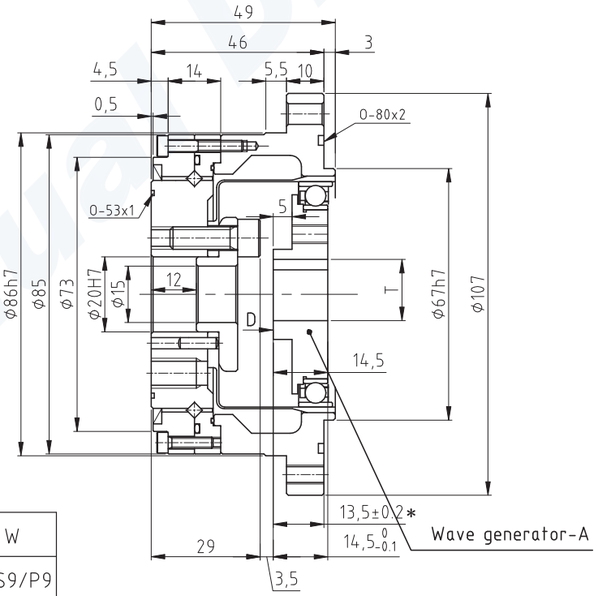


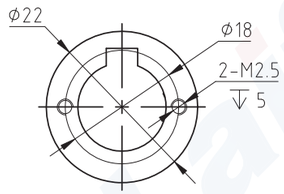
型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LSSF-I:0.96	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000



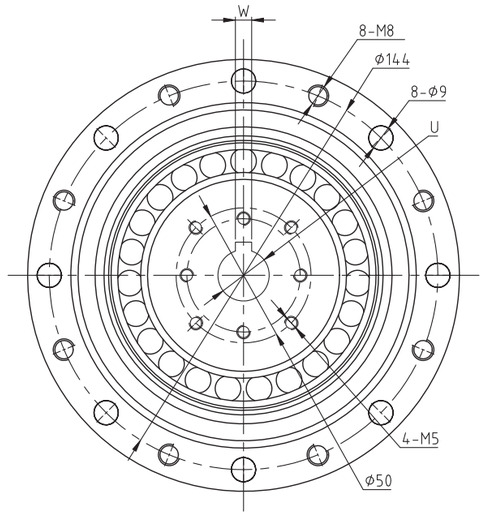


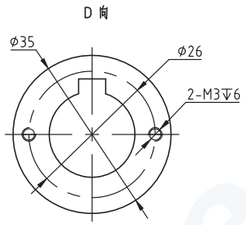


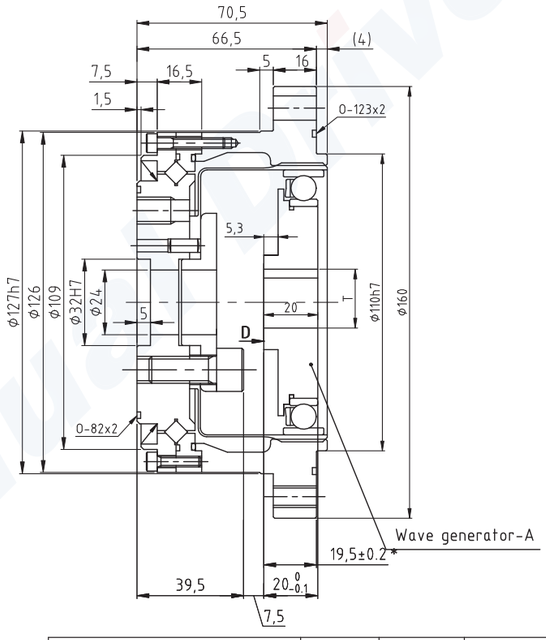


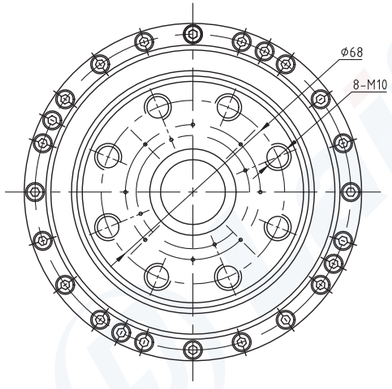
型号/MODEL	U	T	W
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LSSF-I:1.46	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000



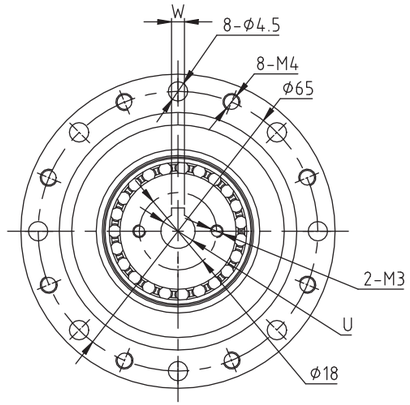


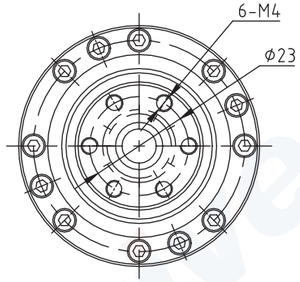


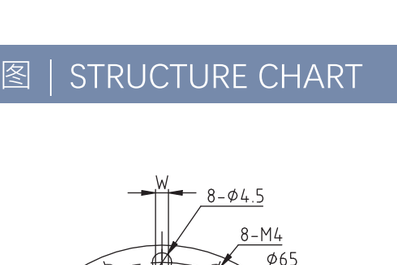


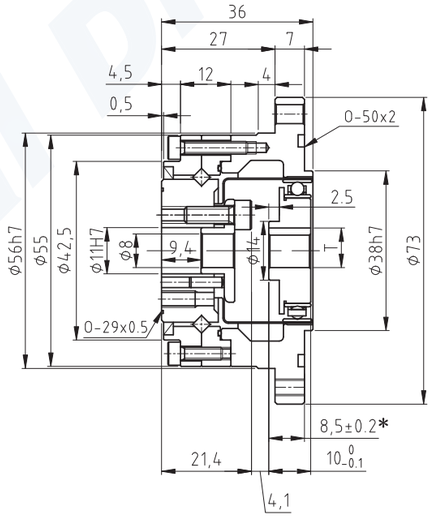
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8 +0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8 +0.1 0	6JS9/P9
		25.3 +0.1 0	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LSSF-I:4.60	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000





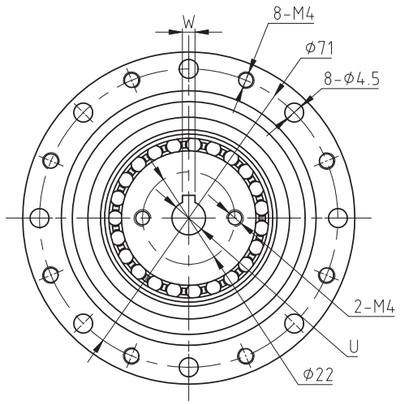


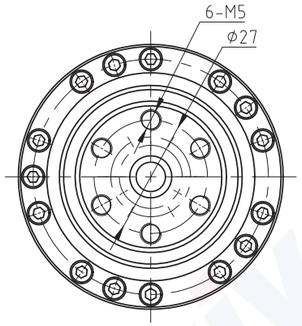


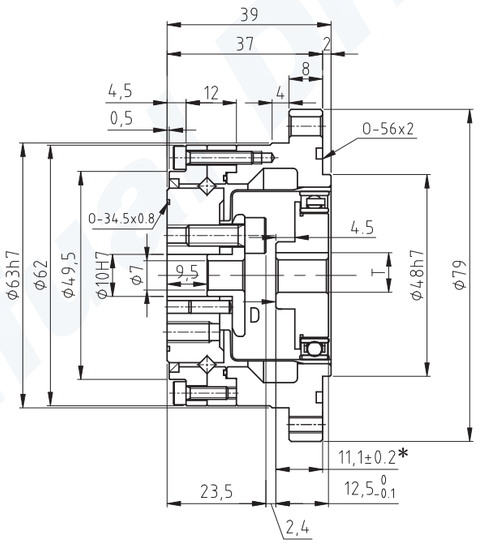
型号/MODEL	U	T	W
Wave generator-A/B φ6	φ6H7	7 +0.1 0	2JS9/P9
Wave generator-A/B φ8	φ8H7	9.4 +0.1 0	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LSG-I:0.51	10000
	80	10	1.0	30	3.1	14	1.4	58	5.9					15000
	100	10	1.0	36	3.7	14	1.4	58	5.9					15000
	120	10	1.0	36	3.7	14	1.4	58	5.9					15000

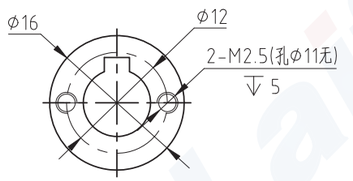
结构图 | STRUCTURE CHART　LSG-17-XX-U-I







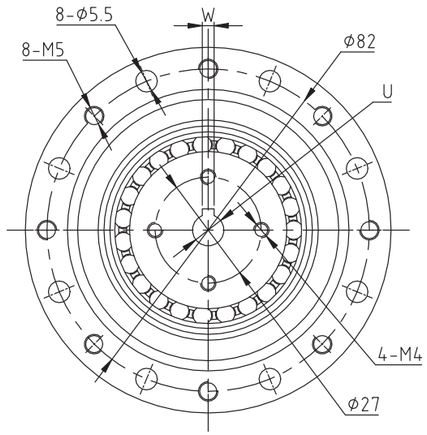
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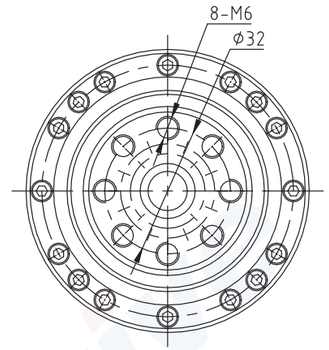


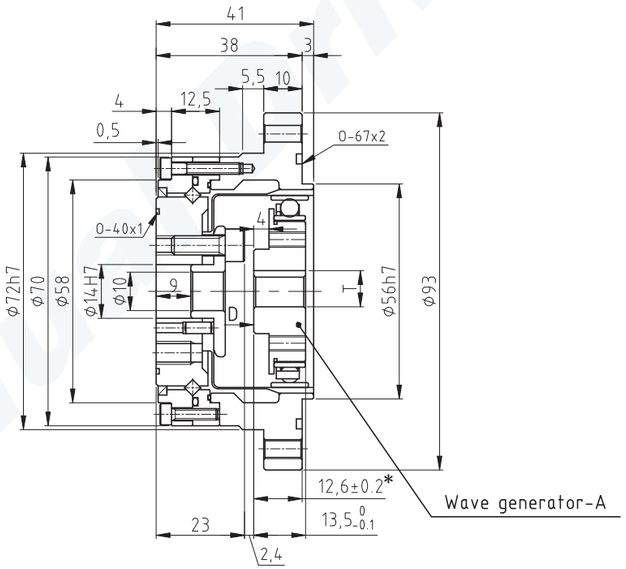
型号/MODEL	U	T	W
Wave generator-A ϕ8	ϕ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A ϕ11	ϕ11H7	12.8 +0.1 0	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LSG-I:0.67	10000
	80	29	2.9	56	5.7	35	3.6	109	11					15000
	100	31	3.2	70	7.2	51	5.2	109	11					15000
	120	31	3.2	70	7.2	51	5.2	109	11					15000

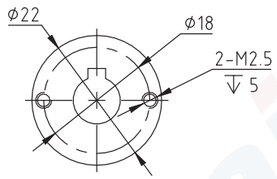
结构图 | STRUCTURE CHART　LSG-20-XX-U-I





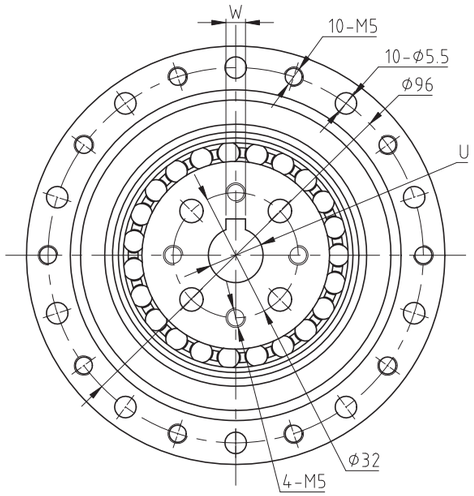


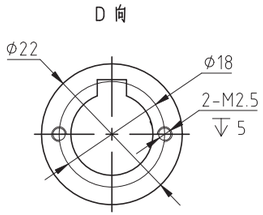
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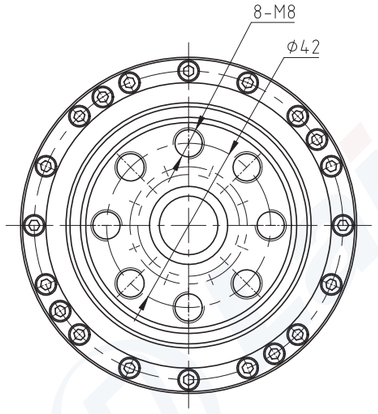


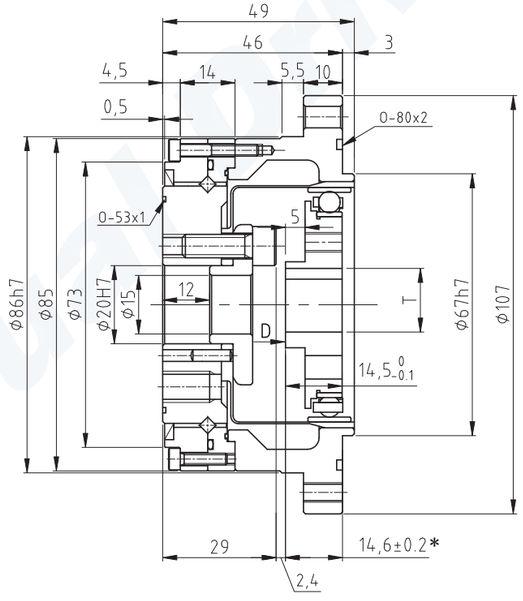
型号/MODEL	U	T	W
Wave generator-A ϕ8	ϕ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A ϕ11	ϕ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A ϕ14	ϕ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LSG-I:0.96	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000



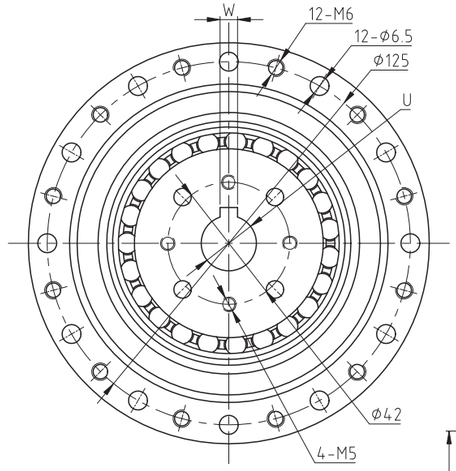


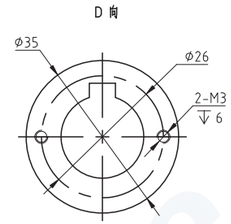


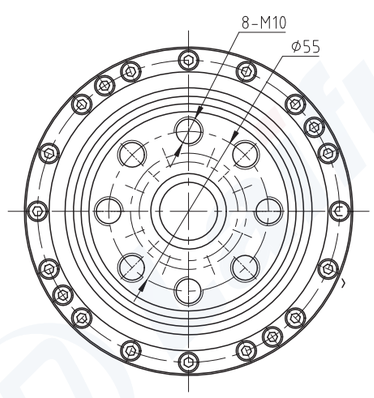


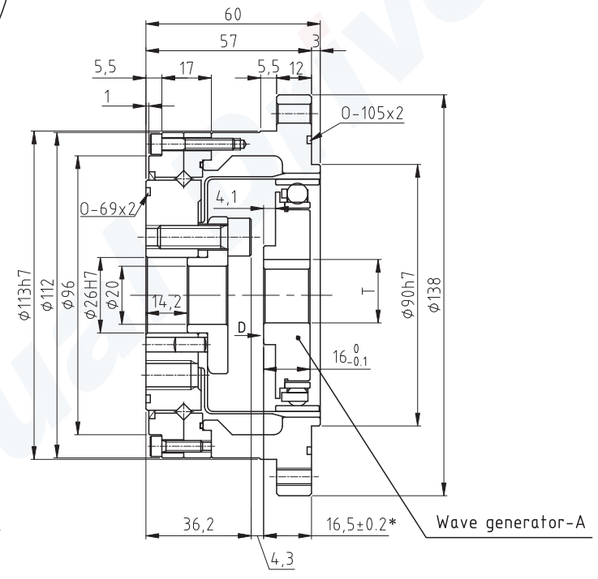
型号/MODEL	U	T	W
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LSG-I:1.46	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000





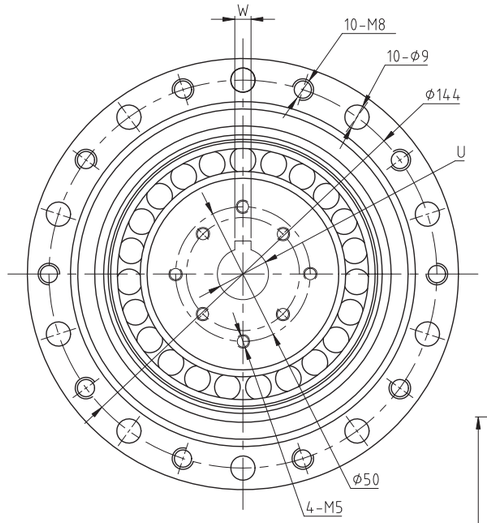


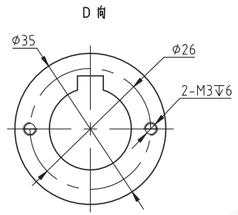


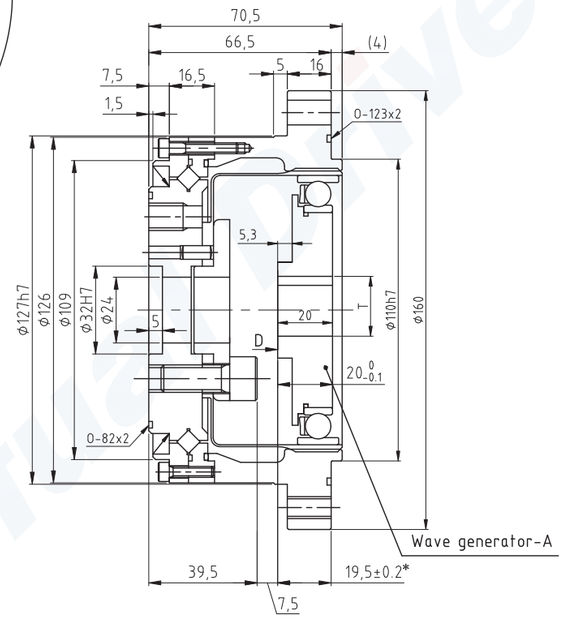
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9
Wave generator-A φ19	φ19H7	21.8 +0.1 0	6JS9/P9
Wave generator-A φ22	φ22H7	24.8 +0.1 0	6JS9/P9
		25.3 +0.1 0	8JS9/P9

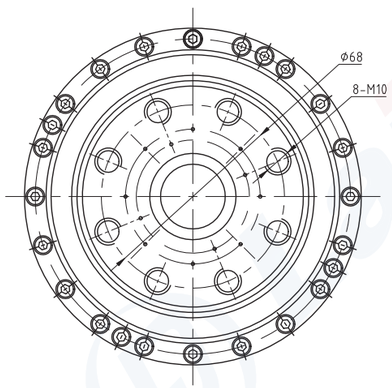
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LSG-I:3.11	15000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000

结构图 | STRUCTURE CHART　LSG-40-XX-U-I





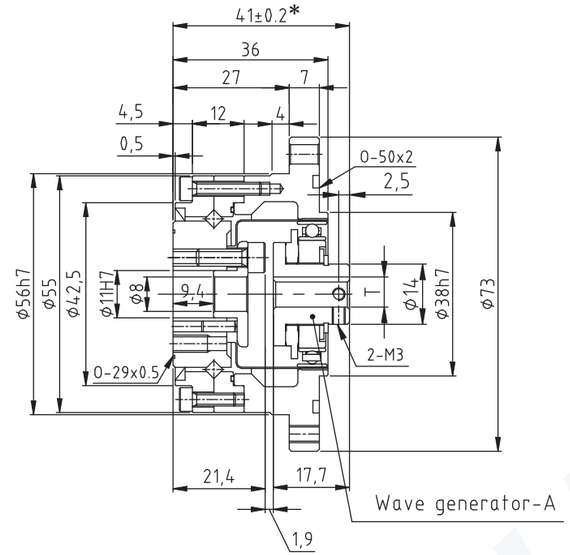


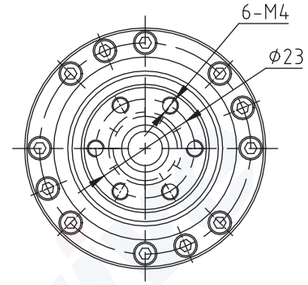


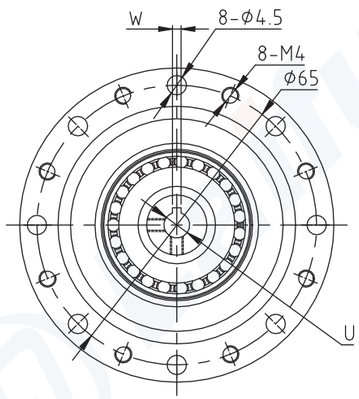
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9
Wave generator-A φ19	φ19H7	$21.8^{+0.1}_{0}$	6JS9/P9
Wave generator-A φ22	φ22H7	$24.8^{+0.1}_{0}$	6JS9/P9
		$25.3^{+0.1}_{0}$	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LSG-I:4.60	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1510	154					15000

结构图 | STRUCTURE CHART　LSG-14-XX-U-II



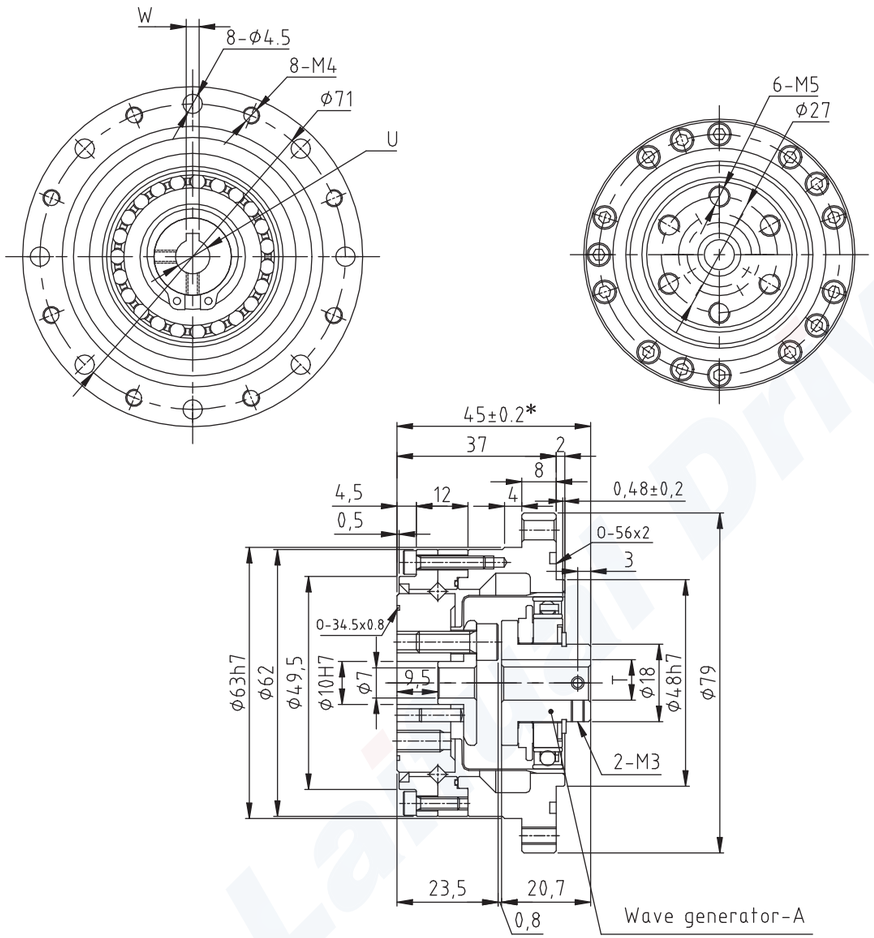




型号/MODEL	U	T	W
Wave generator-A/B φ6	φ6H7		
Wave generator-A/B φ6	φ6H7	$7^{+0.1}_{0}$	2JS9/P9
Wave generator-A/B φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LSG-II:0.51	10000
	80	10	1.0	30	3.1	14	1.4	58	5.9					15000
	100	10	1.0	36	3.7	14	1.4	58	5.9					15000
	120	10	1.0	36	3.7	14	1.4	58	5.9					15000

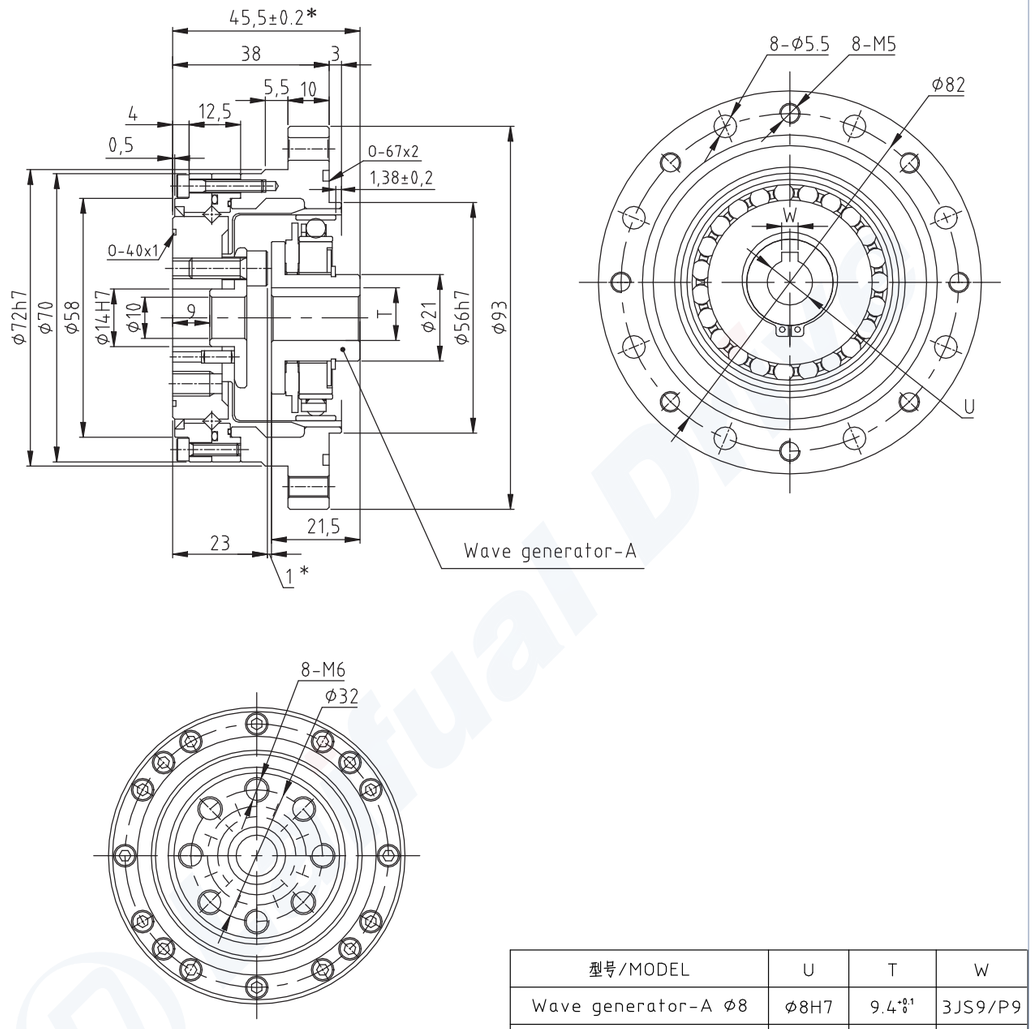
结构图 | STRUCTURE CHART　LSG-17-XX-U-II



型号/MODEL	U	T	W
Wave generator-A/B φ8	φ8H7		
Wave generator-A/B φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A/B φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LSG-**II**:0.67	10000
	80	29	2.9	56	5.7	35	3.6	109	11					15000
	100	31	3.2	70	7.2	51	5.2	109	11					15000
	120	31	3.2	70	7.2	51	5.2	109	11					15000

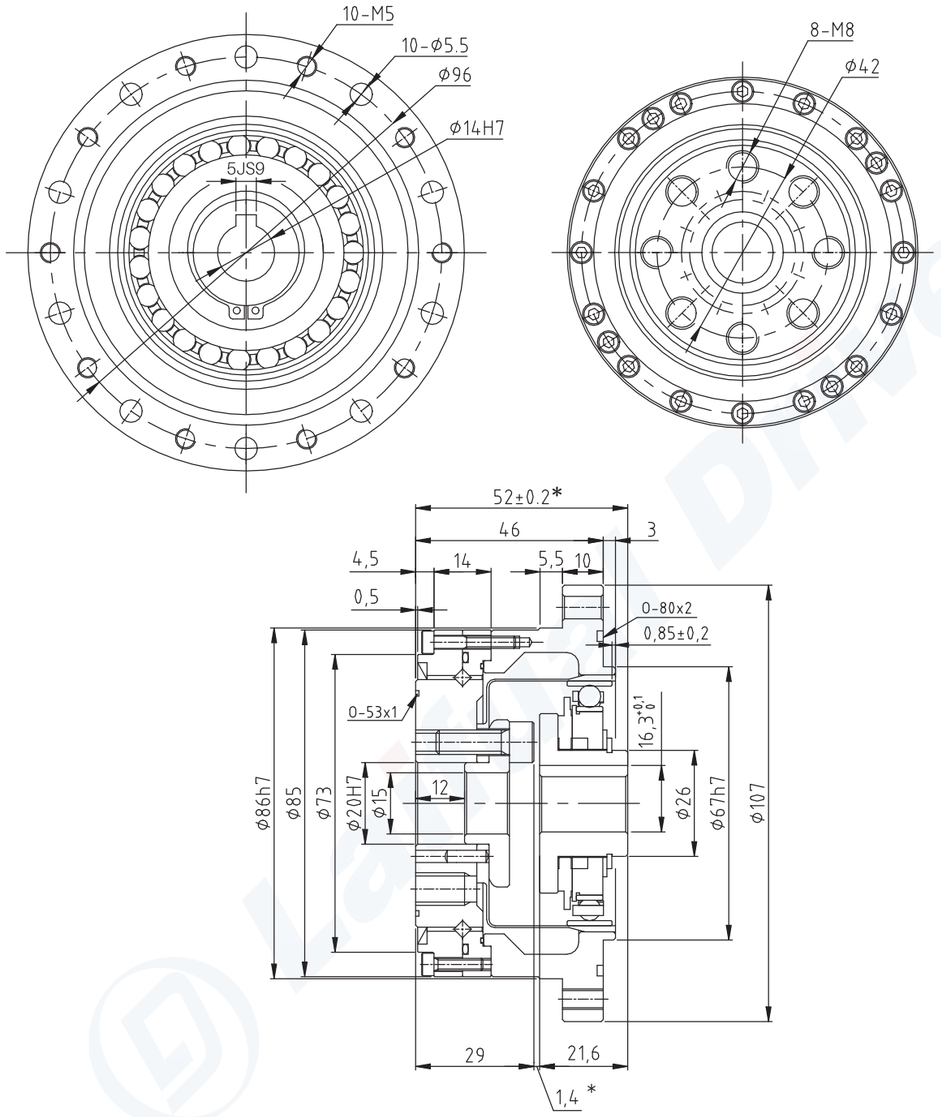
结构图 | STRUCTURE CHART　LSG-20-XX-U-II



型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ12	φ12H7	$13.8^{+0.1}_{0}$	4JS9/P9

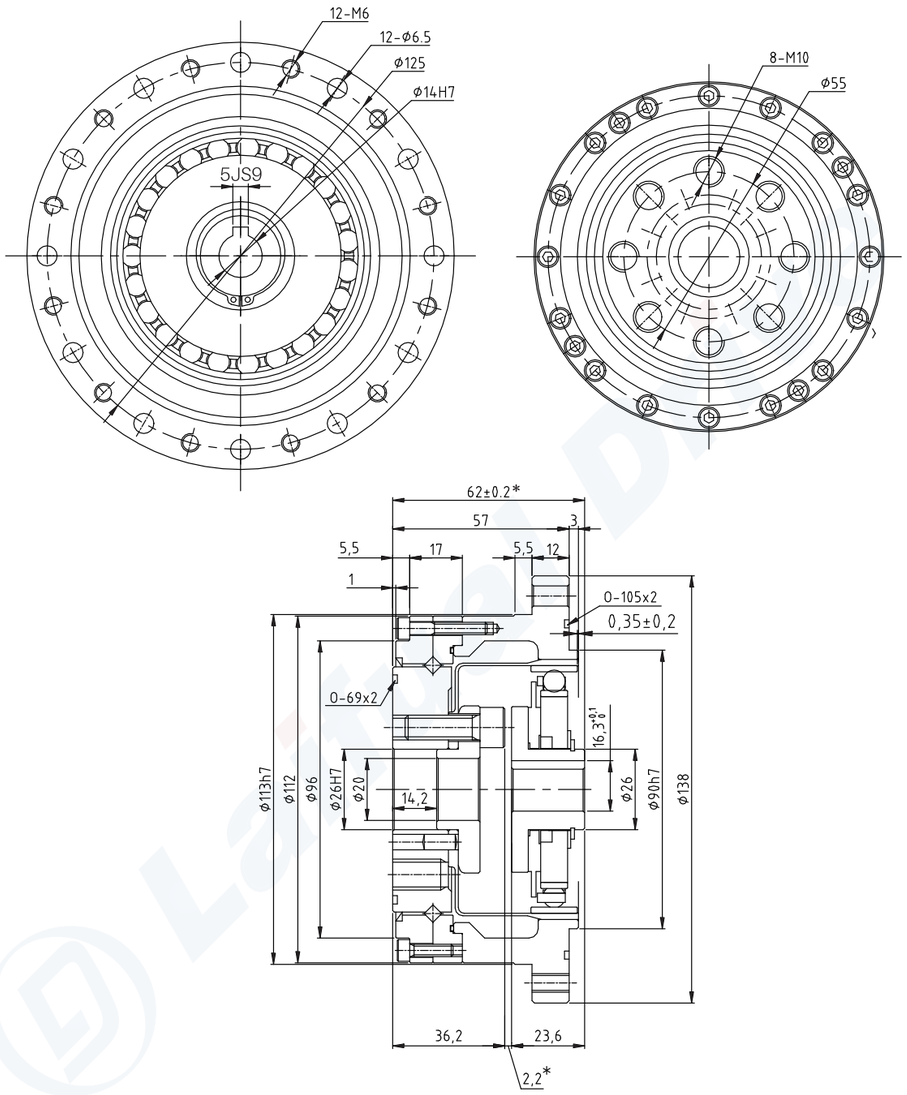
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LSG-**II**:0.96	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

结构图 | STRUCTURE CHART　LSG-25-XX-U-II



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LSG-II:1.46	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

结构图 | STRUCTURE CHART　LSG-32-XX-U-II



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LSG-II:3.11	15000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000



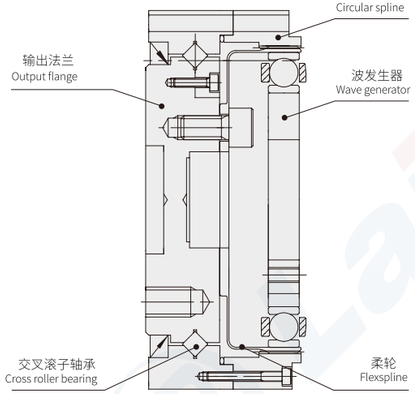
LSD-I

LSD系列 LSD SERIES

根据市场化需求而研发的小型化产品，LSD系列相比转矩容量相同的LSS系列，更为紧凑，薄壁结构，在不改变性能的状态下，追求小型号，并把“小而美”发挥的淋漓尽致。

This miniaturized product was developed according to the marketing demand. Compare with LSS series that with the same torque capacity, LSD series is more compact and thin-walled. smaller size.

LSD系列组合型结构
Combinative structure of LSD series



LSD-I

应用领域 Application

工业机器人 Industrial robot	服务机器人 Service Robots
金属机床 Metal Machine Tools	印刷电路制造设备 Printed circuit manufacturing equipment
木材、轻金属、塑料机床 Wood light metal, plastic machine tools	

LSD额定参数表 Rated parameter table of LSD series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	0.38	12	1.2	4.8	0.49	24	2.4	8500	3500	⩽20	LSD-I:0.37 LSD-P:0.56	9000
	80	5.4	0.55	16	1.6	7.7	0.79	35	3.6					10000
	100	5.4	0.55	19	1.9	7.7	0.79	35	3.6					10000
17	50	11	1.1	23	2.3	18	1.9	48	4.9	7300	3500	⩽20	LSD-I:0.49 LSD-P:0.65	9000
	80	15	1.5	29	3.0	19	1.9	61	6.2					10000
	100	16	1.6	37	3.8	27	2.8	71	7.2					10000
20	50	17	1.7	39	4	24	2.4	69	7	6500	3500	⩽20	LSD-I:0.68 LSD-P:0.96	9000
	80	24	2.4	51	5.2	33	3.4	89	9.1					10000
	100	28	2.9	57	5.8	34	3.5	95	9.7					10000
25	50	27	2.8	69	7.0	38	3.9	127	13	5600	3500	⩽20	LSD-I:1.25 LSD-P:1.72	9000
	80	44	4.5	96	9.8	60	6.1	179	18					10000
	100	47	4.8	110	11	75	7.6	184	19					10000
32	50	53	5.4	151	15	75	7.6	268	27	4800	3500	⩽20	LSD-I:2.48 LSD-P:3.35	9000
	80	83	8.5	213	22	117	12	398	41					10000
	100	96	10	233	24	151	15	420	43					10000

角度传达精度 Transmission accuracy

单位 unit:arc min

减速比 Reduction ratio \ 型号 Type	14	17	20	25	32
50	1.5	1.5	1.5	1	1
50以上 above 50	1.5	1.5	1.5	1	1

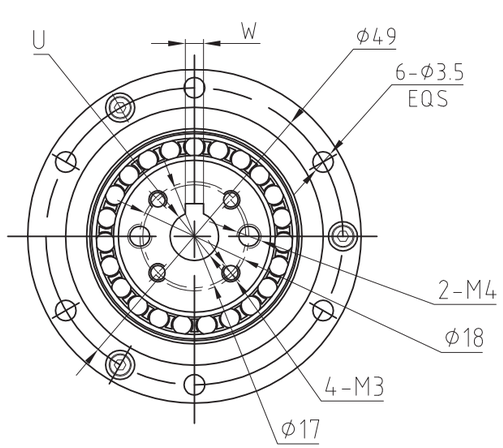
滞后损失 Hysteresis loss

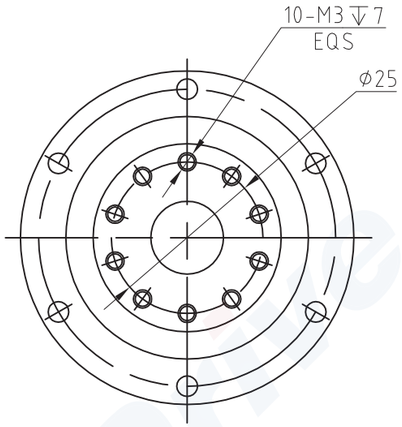
单位 unit:arc min

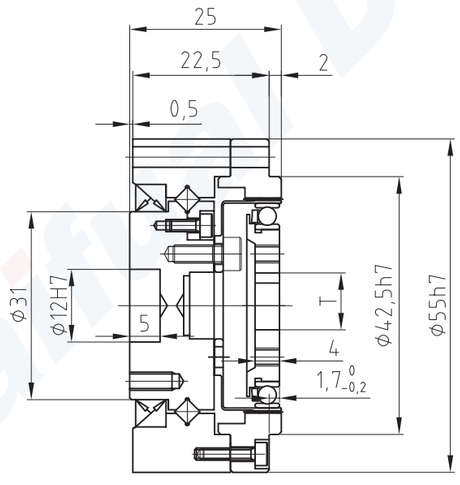
减速比 Reduction ratio \ 型号 Type	14	17	20	125	32
50	2.5	2	2	2	2
50以上 above 50	2	1	1	1	1

刚性（弹簧常数）Torsional stiffness

项目project		单位 Unit \ 型号 Type	14	17	20	25	32
T1		Nm	2	3.9	7	14	29
T2		Nm	6.9	12	25	48	108
减速比50 Reduction ratio 50	K1	×104 Nm/rad	0.29	0.67	1.1	2	4.7
	K2	×104 Nm/rad	0.37	0.88	1.3	2.7	6.1
	K3	×104 Nm/rad	0.47	1.2	2	3.7	8.4
减速比50以上 Reduction ratio above 50	K1	×104 Nm/rad	0.4	0.84	1.3	2.7	6.1
	K2	×104 Nm/rad	0.44	0.94	1.7	3.7	7.8
	K3	×104 Nm/rad	0.61	1.3	2.5	4.7	11

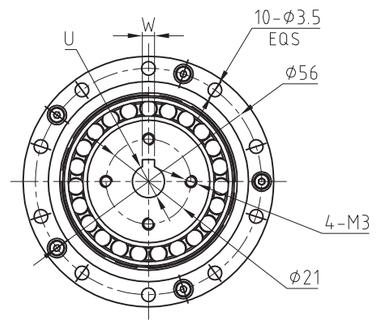


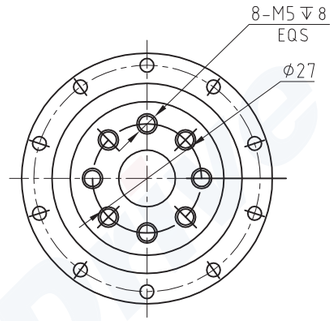


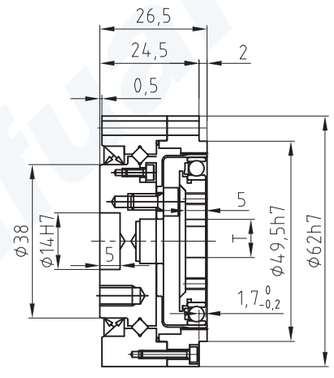


型号/MODEL	U	T	W
Wave generator-A φ6	φ6H7	$7^{+0.1}_{0}$	2P9/JS9
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ11	φ11H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	0.38	12	1.2	4.8	0.49	24	2.4	8500	3500	⩽20	LSD-I:0.37	9000
	80	5.4	0.55	16	1.6	7.7	0.79	35	3.6					10000
	100	5.4	0.55	19	1.9	7.7	0.79	35	3.6					10000

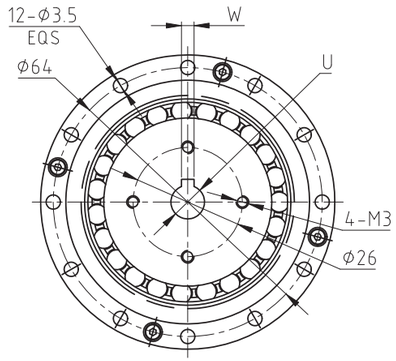


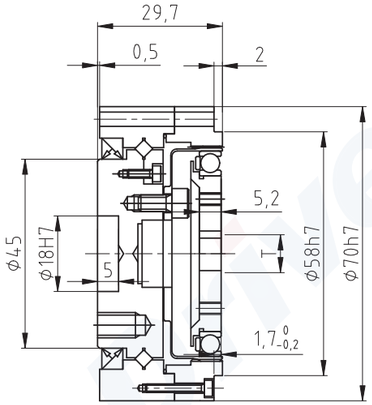


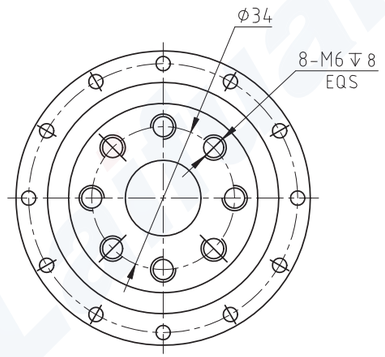


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ15	φ15H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
17	50	11	1.1	23	2.3	18	1.9	48	4.9	7300	3500	⩽20	LSD-I:0.49	9000
	80	15	1.5	29	3.0	19	1.9	61	6.2					10000
	100	16	1.6	37	3.8	27	2.8	71	7.2					10000

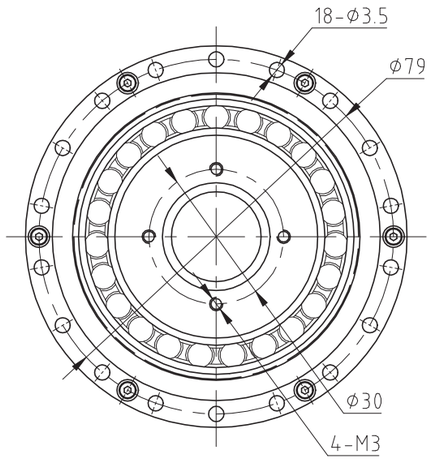


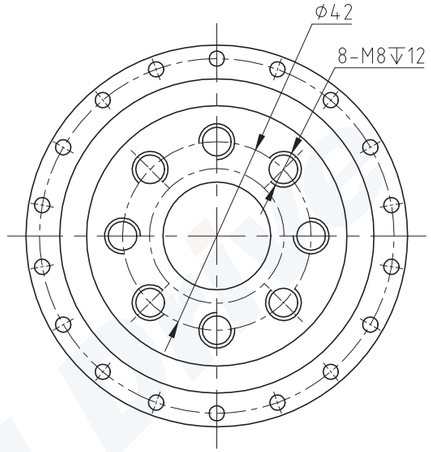


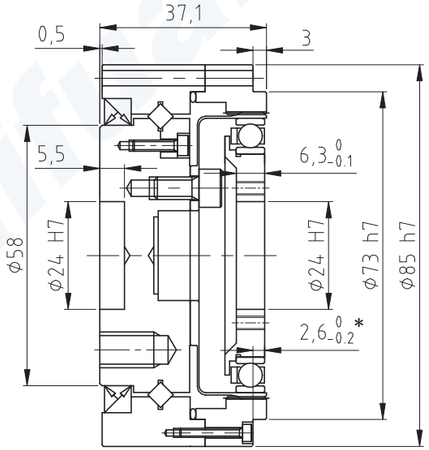


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3P9/JS9
Wave generator-A φ20	φ20H7		

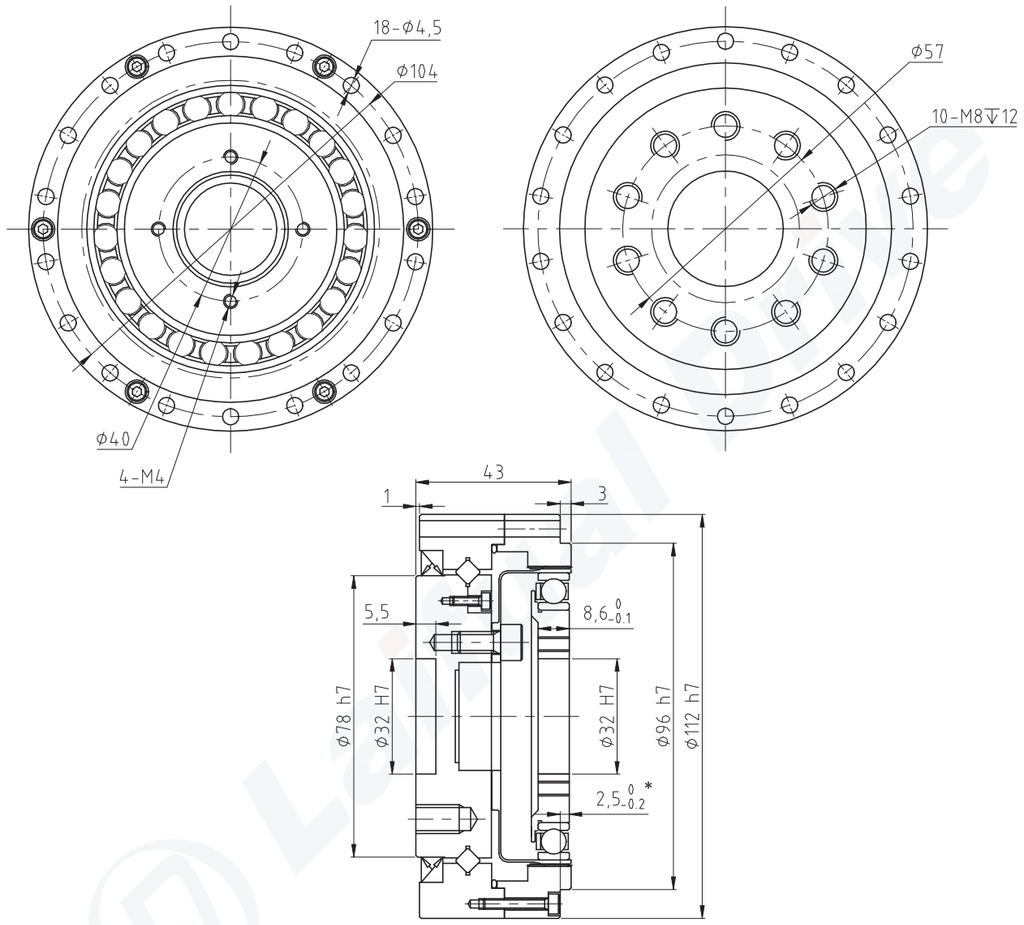
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
20	50	17	1.7	39	4	24	2.4	69	7	6500	3500	⩽20	LSD-I:0.68	9000
	80	24	2.4	51	5.2	33	3.4	89	9.1					10000
	100	28	2.9	57	5.8	34	3.5	95	9.7					10000



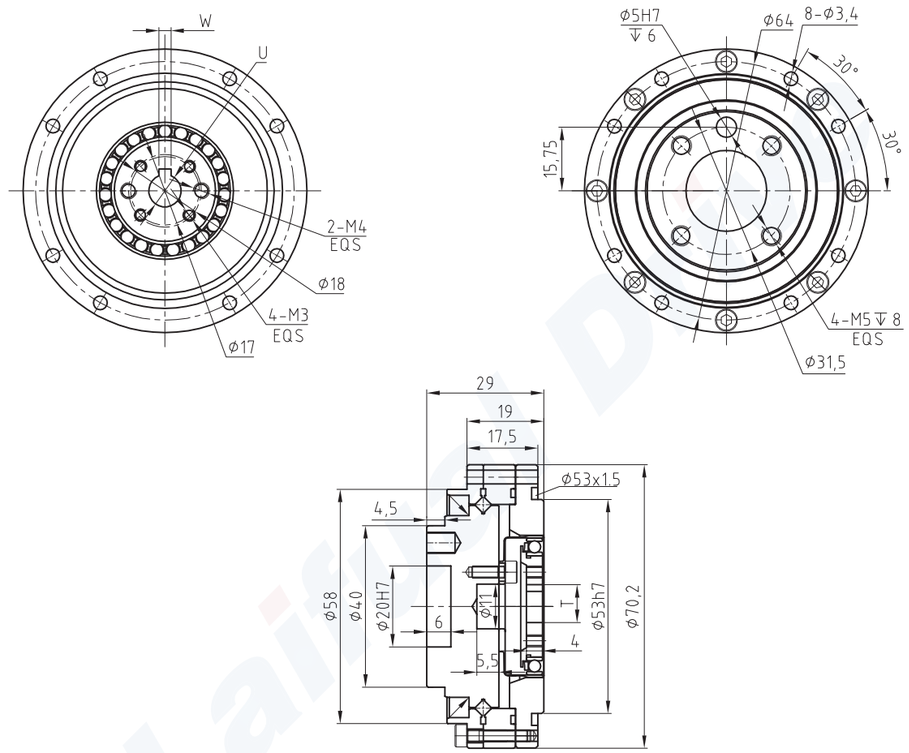




型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
25	50	27	2.8	69	7.0	38	3.9	127	13	5600	3500	⩽20	LSD-I:1.25	9000
	80	44	4.5	96	9.8	60	6.1	179	18					10000
	100	47	4.8	110	11	75	7.6	184	19					10000



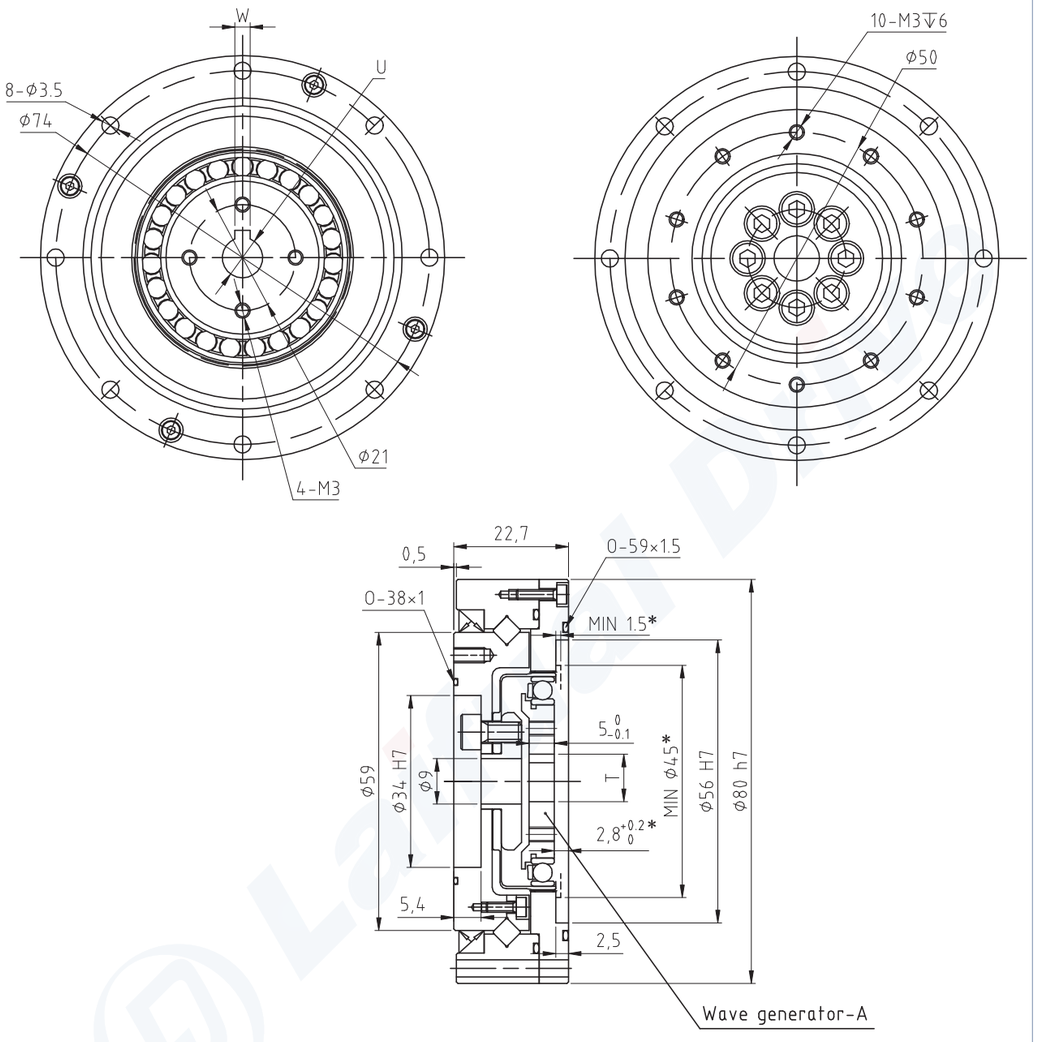
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
32	50	53	5.4	151	15	75	7.6	268	27	4800	3500	⩽20	LSD-I:2.48	9000
	80	83	8.5	213	22	117	12	398	41					10000
	100	96	10	233	24	151	15	420	43					10000



型号/MODEL	U	T	W
Wave generator-A φ6	φ6H7	$7^{+0.1}_{0}$	2P9/JS9
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ11	φ11H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	0.38	12	1.2	4.8	0.49	24	2.4	8500	3500	⩽20	LSD-P:0.56	9000
	80	5.4	0.55	16	1.6	7.7	0.79	35	3.6					10000
	100	5.4	0.55	19	1.9	7.7	0.79	35	3.6					10000

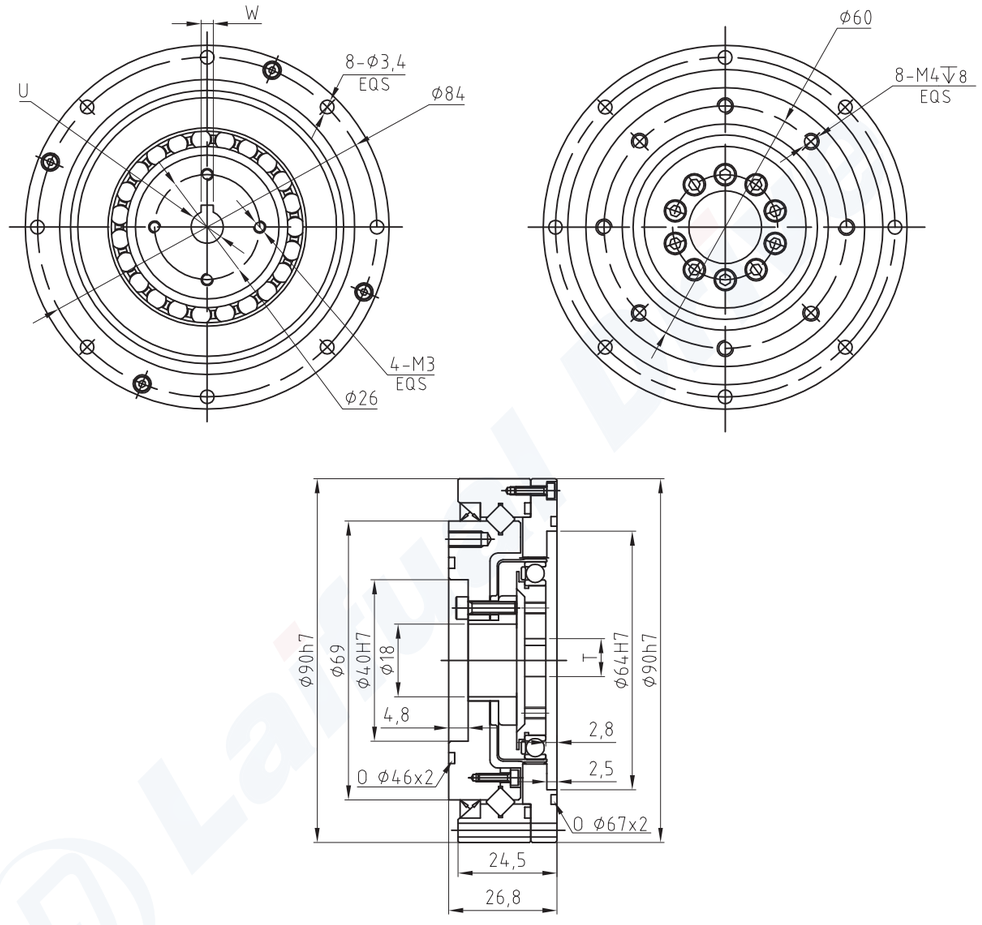
结构图 | STRUCTURE CHART　LSD-17-P-XX-U-I



型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ15	φ15H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
17	50	11	1.1	23	2.3	18	1.9	48	4.9	7300	3500	⩽20	LSD-P:0.65	9000
	80	15	1.5	29	3.0	19	1.9	61	6.2					10000
	100	16	1.6	37	3.8	27	2.8	71	7.2					10000

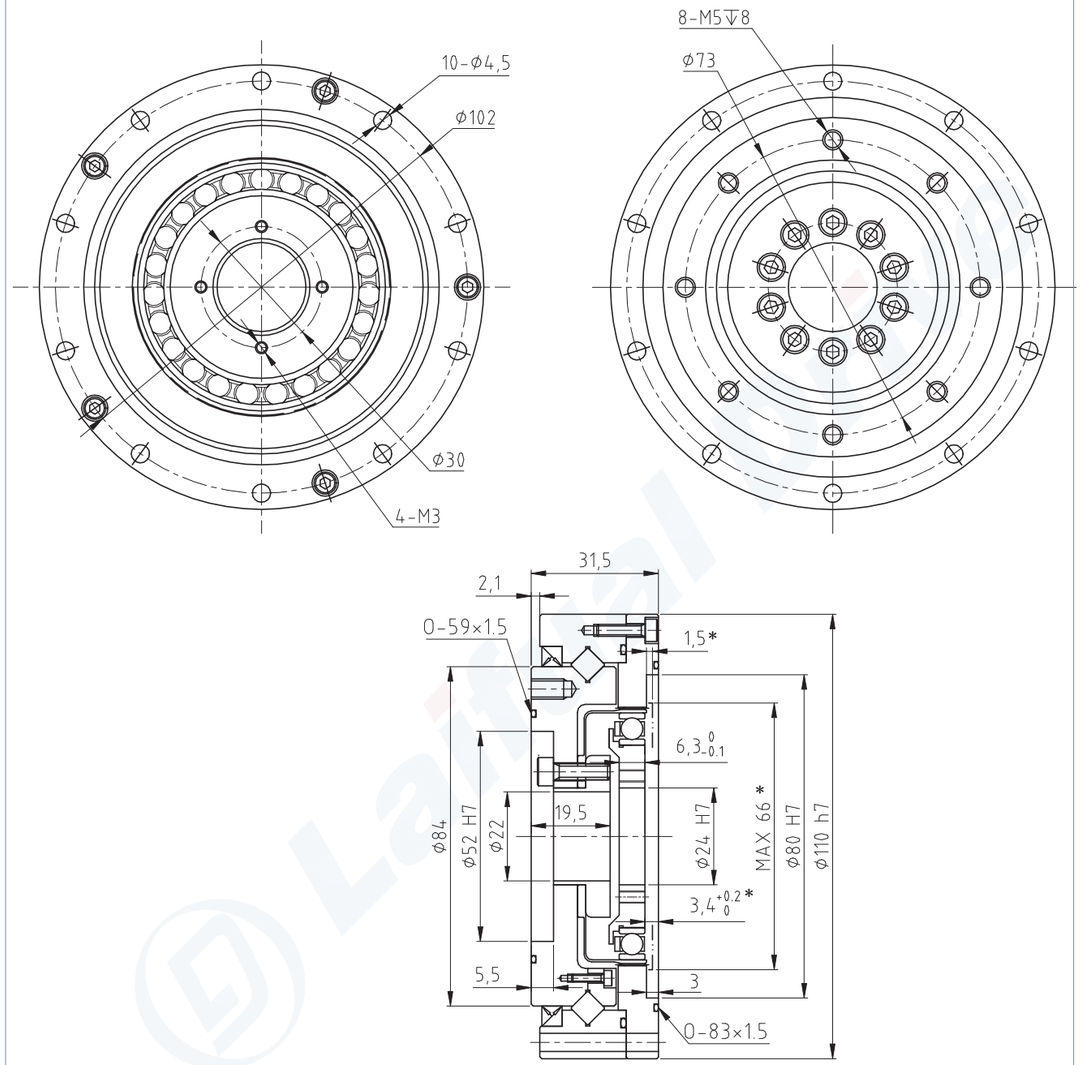
结构图 | STRUCTURE CHART　LSD-20-P-XX-U-I



型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ20	φ20H7		

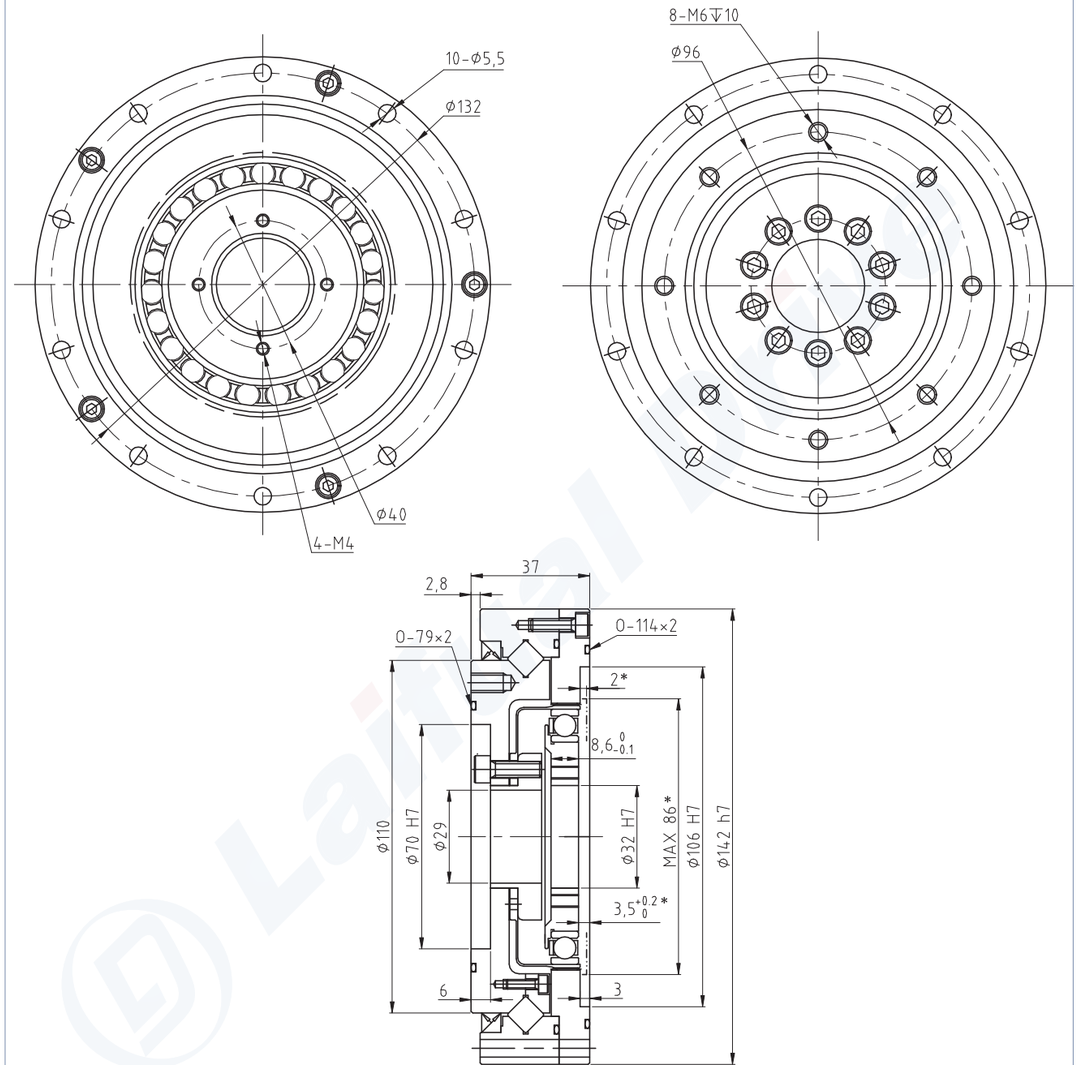
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
20	50	17	1.7	39	4	24	2.4	69	7	6500	3500	⩽20	LSD-P:0.96	9000
	80	24	2.4	51	5.2	33	3.4	89	9.1					10000
	100	28	2.9	57	5.8	34	3.5	95	9.7					10000

结构图 | STRUCTURE CHART　LSD-25-P-XX-U-I



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
25	50	27	2.8	69	7.0	38	3.9	127	13	5600	3500	⩽20	LSD-P:1.72	9000
	80	44	4.5	96	9.8	60	6.1	179	18					10000
	100	47	4.8	110	11	75	7.6	184	19					10000

结构图 | STRUCTURE CHART　LSD-32-P-XX-U-I



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	Kg	Hour
32	50	53	5.4	151	15	75	7.6	268	27	4800	3500	⩽20	LSD-P:3.35	9000
	80	83	8.5	213	22	117	12	398	41					10000
	100	96	10	233	24	151	15	420	43					10000



LFS-I



LFS安装示例
LFS Installation example

LFS 系列 LFS SERIES

LFS-I

LFS系列是根据市场需求，研发的一款超扁平的小型产品，本产品负载轴承采用的十字交叉滚子轴承，同时刚轮应用了钢铝复合工艺，相较于已有的小型产品，具有体积小、重量轻、高刚性等特点，应用领域更加广泛。

LFS Integrated series

The LFS series is an ultra-flat small product developed according to the market demand. The load bearing of this product adopts the cross roller bearing, and the steel-aluminum composite process is applied to the circular spline. Compared with the existing small products, it has the characteristics of small size, light weight, high rigidity, etc., and has wider range of applications.

应用领域 Application

工业机器人 Industrial robot	服务机器人 Service Robots
医疗器械设备 Medical Devices	自动化及特种设备 Automation and special equipment

LFS 额定参数表
Rated parameter table of LFS series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
11	50	3.5	8.3	5.5	17	8500	3500	⩽20	LFS:0.35	7000
	80	4.5	9.9	8	22.5					7000
	100	5	11	8.9	25					7000
14	50	5.4	18	6.9	35	8500	3500	⩽20	LFS:0.63	10000
	80	7.8	23	11	47					10000
	100	7.8	28	11	54					10000

角度传达精度 Transmission accuracy

单位 unit：arc min

减速比 Reduction ratio / 型号 Type	11	14
50	2	1.5
50以上 above 50	2	1.5

滞后损失 Hysteresis loss

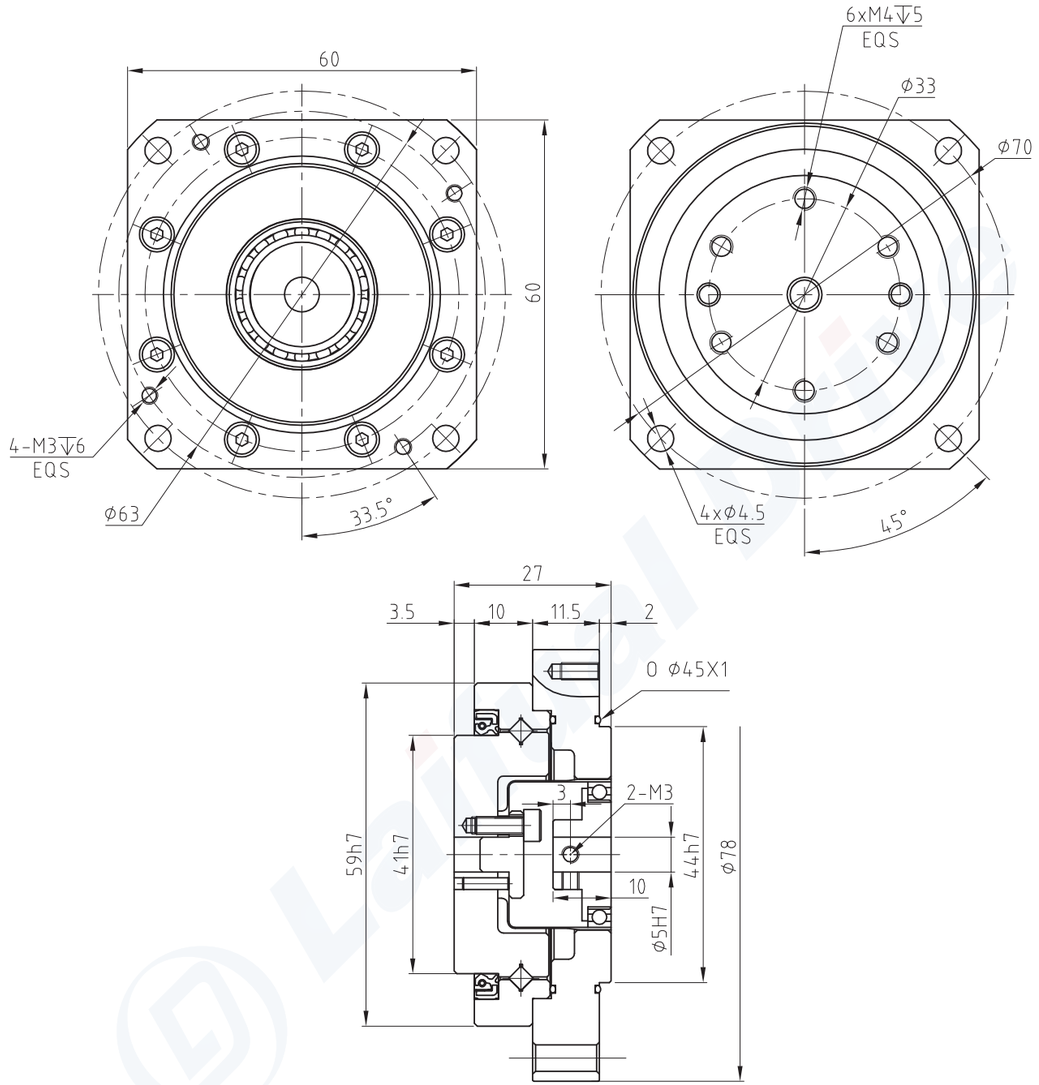
单位 unit：arc min

减速比 Reduction ratio / 型号 Type	11	14
50	2	2
50以上 above 50	2	1

刚性（弹簧常数）Torsional stiffness

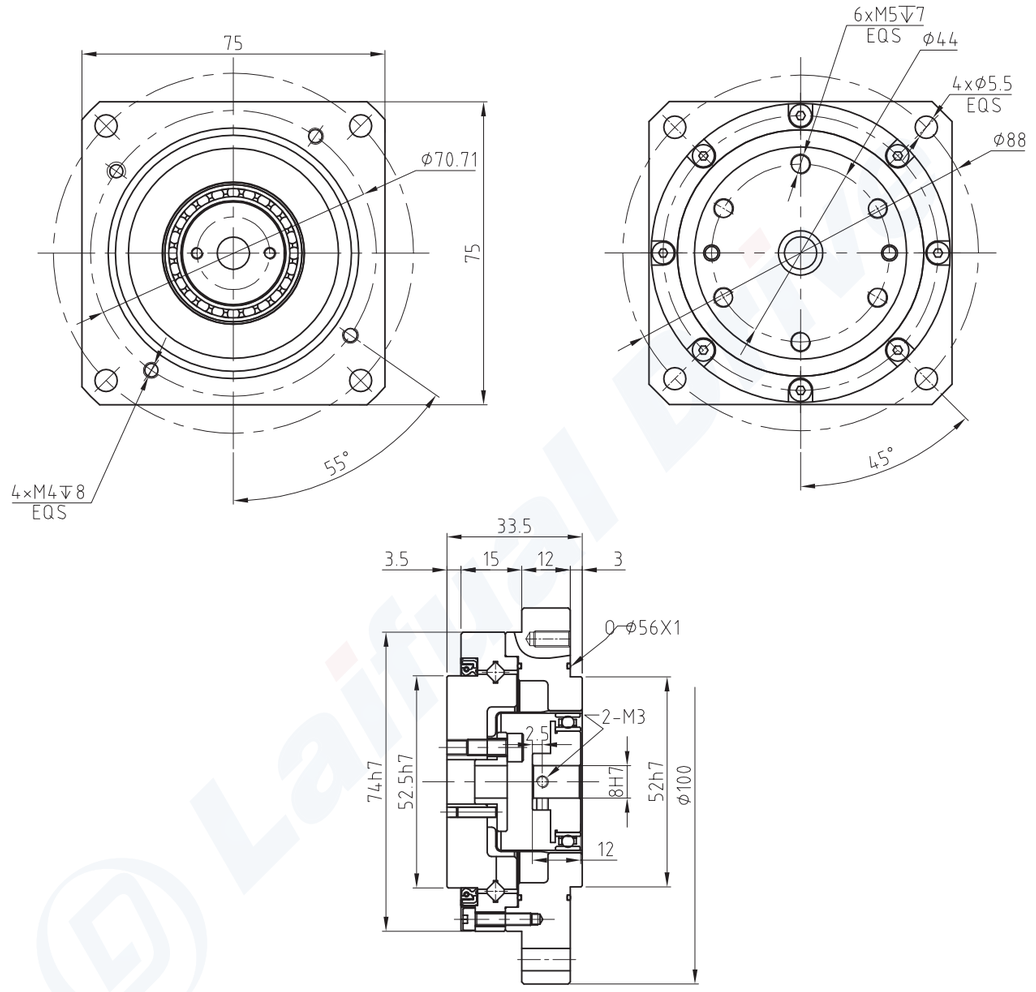
项目project	单位 Unit / 型号 Type		11	14
T1		Nm	0.8	2
T2		Nm	2	6.9
减速比50 Reduction ratio 50	K1	×104 Nm/rad	0.221	0.34
	K2	×104 Nm/rad	0.3	0.47
	K3	×104 Nm/rad	0.32	0.57
减速比50以上 Reduction ratio above 50	K1	×104 Nm/rad	0.267	0.47
	K2	×104 Nm/rad	0.333	0.61
	K3	×104 Nm/rad	0.432	0.71

结构图 | STRUCTURE CHART　LFS-11-XX-U-I



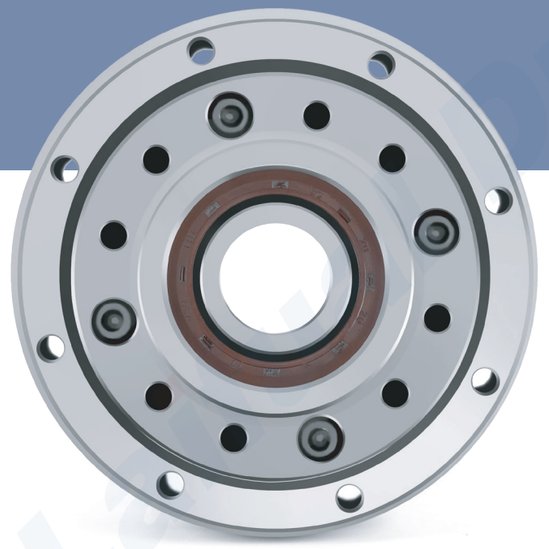
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
11	50	3.5	8.3	5.5	17	8500	3500	⩽20	LFS:0.35	7000
	80	4.5	9.9	8.0	22.5					7000
	100	5.0	11	8.9	25					7000

结构图 | STRUCTURE CHART　LFS-14-XX-U-I



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
14	50	5.4	18	6.9	35	8500	3500	⩽20	LFS:0.63	10000
	80	7.8	23	11	47					10000
	100	7.8	28	11	54					10000

LH 系列
SERIES













中空型（LHT-III）
Hollow type LHT-III



简易型（LHT-I/LHT-II）
Simple type LHT-I/LHT-II



输入轴型（LHT-IV）
Input axial type LHT-IV



简易组合型（LHT-V）
simple combinative type LHT-V

LHT系列 LHT SERIES

LHT系列
大口径中空孔扁平形状，易于操作的组合化产品。

LHN系列
轻量型产品，相比标准品，重量减少了20%。

LHG系列
高转矩用，转矩容量比标准产品提升30%，使用寿命提高43%，追求高负载容量，高可靠性。

LHT series
A combination product that with large diameter hollow hole, flat shape, which is easy to operate.

LHN series
Light weight product, 20% lighter than standard products.

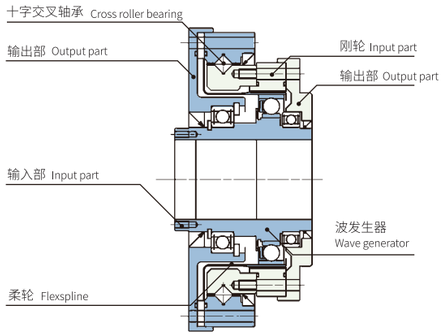
LHG series
High torque. Compare with standard products, LHG series torque capacity is 30% higher And the service life is increased by 43%, with high load capacity and high reliability.

应用领域 Application

工业机器人 Industrial robot	服务机器人 Service Robots
医疗器械设备 Medical Devices	自动化及特种设备 Automation and special equipment
印刷电路制造设备 Printed circuit manufacturing equipment	

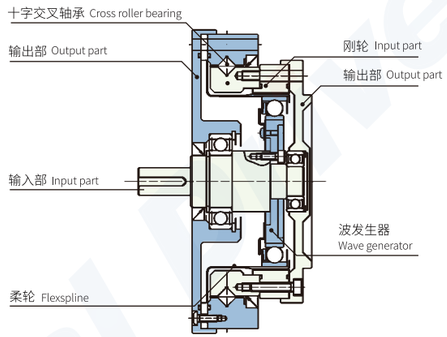
LHT系列组合型结构
Combinative structure of LHT series

中空型
Hollow type



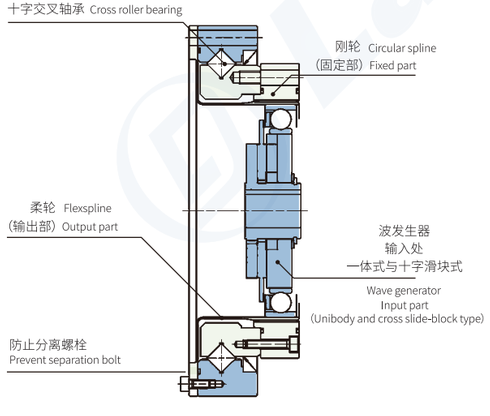
LHT/LHN/LHG-III

输入轴型
Input axial type



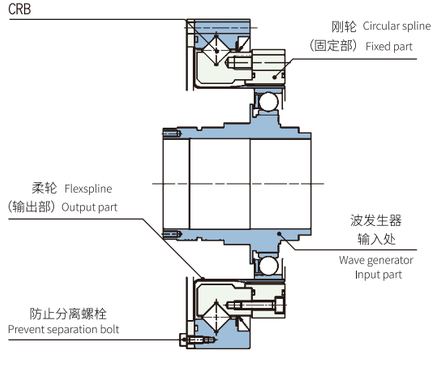
LHT/LHN/LHG-IV

简易型
Simple type



LHT/LHG-I/II

简易组合型
Simple combinative type



LHT/LHG-V

LHT/LHN额定参数表 Rated parameter table of LHT/LHN series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
8	50	1.8	0.18	3.3	0.34	2.3	0.23	6.6	0.67	8500	3500	⩽40	LHT-I:0.06	10000
	100	2.4	0.24	4.8	0.49	3.3	0.34	9.0	0.92					10000
11	50	3.5	0.36	8.3	0.85	5.5	0.56	17.0	1.73	8500	3500	⩽30	LHT-I:0.27	10000
	80	4.5	0.46	9.9	1.01	8.0	0.82	22.5	2.30					10000
	100	5.0	0.51	11.0	1.12	8.9	0.91	25.0	2.55					10000
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-I/II:0.4 LHT-III:0.70 LHT-IV:0.66 LHT-V:0.40 LHT-C:0.14 LHN-III:0.56 LHN-IV:0.50	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-I/II:0.54 LHT-III:0.99 LHT-IV:0.90 LHT-V:0.62 LHT-C:0.19 LHN-III:0.79 LHN-IV:0.69	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-I/II:0.72 LHT-III:1.32 LHT-IV:1.29 LHT-V:0.82 LHT-C:0.27 LHN-III:1.04 LHN-IV:0.98	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-I/II:1.22 LHT-III:2.02 LHT-IV:1.99 LHT-V:1.40 LHT-C:0.46 LHN-III:1.65 LHN-IV:1.43	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-I/II:2.54 LHT-III:4.20 LHT-IV:4.00 LHT-V:2.70 LHT-C:1.00 LHN-III:3.19 LHN-IV:3.17	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-I/II:4.40 LHT-III:7.20 LHT-IV:7.00 LHT-V:4.06 LHT-C:1.87 LHN-III:5.95	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

LHG额定参数表 Rated parameter table of LHG series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	≤20	LHG-I/II:0.40 LHG-III:0.7 LHG-IV:0.66 LHG-V:0.40	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	≤20	LHG-I/II:0.54 LHG-III:0.99 LHG-IV:0.90 LHG-V:0.62	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	≤20	LHG-I/II:0.72 LHG-III:1.32 LHG-IV:1.29 LHG-V:0.82	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	≤20	LHG-I/II:1.22 LHG-III:2.02 LHG-IV:1.99 LHG-V:1.40	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000
32	50	99	10	281	29	140	14	497	51	4800	3500	≤20	LHG-I/II:2.54 LHG-III:4.20 LHG-IV:4.00 LHG-V:2.70	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000
40	50	178	18	523	53	255	26	892	91	4000	3000	≤20	LHG-I/II:4.40 LHG-III:7.20 LHG-IV:7.00 LHG-V:4.06	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1530	156					15000

角度传达精度 Transmission accuracy

单位 unit:arc min

减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	2	2	1.5	1.5	1	1	1	1
50以上 above 50	2	2	1.5	1.5	1	1	1	1

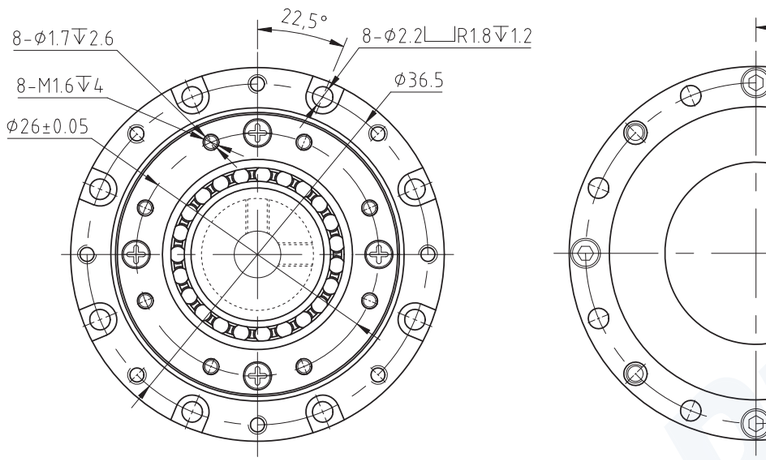
滞后损失 Hysteresis loss

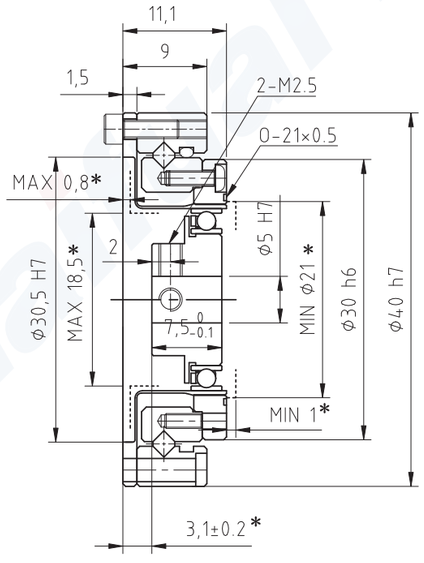
单位 unit:arc min

减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	3	2	2	2	2	2	2	2
50以上 above 50	2	2	1	1	1	1	1	1

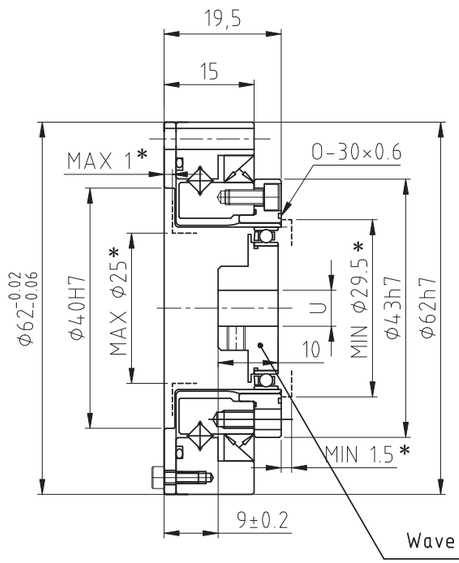
刚性（弹簧常数）Torsional stiffness

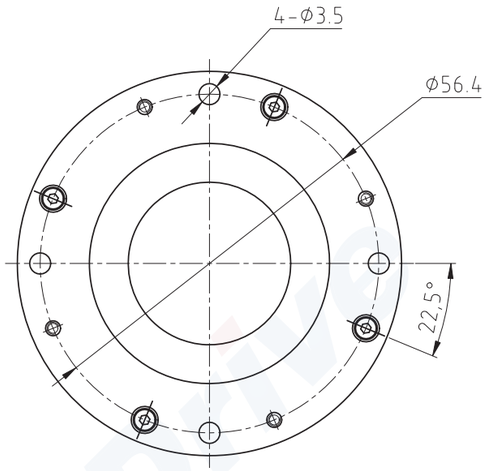
项目project	单位 Unit \ 型号 Type		8	11	14	17	20	25	32	40
T1		Nm	0.29	0.8	2	3.9	7	14	29	54
T2		Nm	0.75	2	6.9	12	25	48	108	196
减速比50 Reduction ratio 50	K1	×104 Nm/rad	0.044	0.221	0.34	0.81	1.3	2.5	5.4	10
	K2	×104 Nm/rad	0.067	0.3	0.47	1.1	1.8	3.4	7.8	14
	K3	×104 Nm/rad	0.084	0.32	0.57	1.3	2.3	4.4	9.8	18
减速比50以上 Reduction ratio above 50	K1	×104 Nm/rad	0.09	0.267	0.47	1	1.6	3.1	6.7	13
	K2	×104 Nm/rad	0.104	0.333	0.61	1.4	2.5	5	11	20
	K3	×104 Nm/rad	0.12	0.432	0.71	1.6	2.9	5.7	12	23

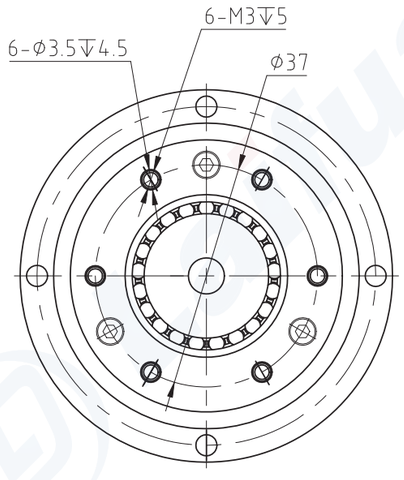


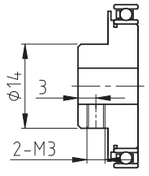


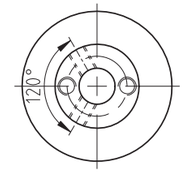
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
8	50	1.8	0.18	3.3	0.34	2.3	0.23	6.6	0.67	8500	3500	⩽40	LHT-I:0.06	10000
	100	2.4	0.24	4.8	0.49	3.3	0.34	9.0	0.92					10000





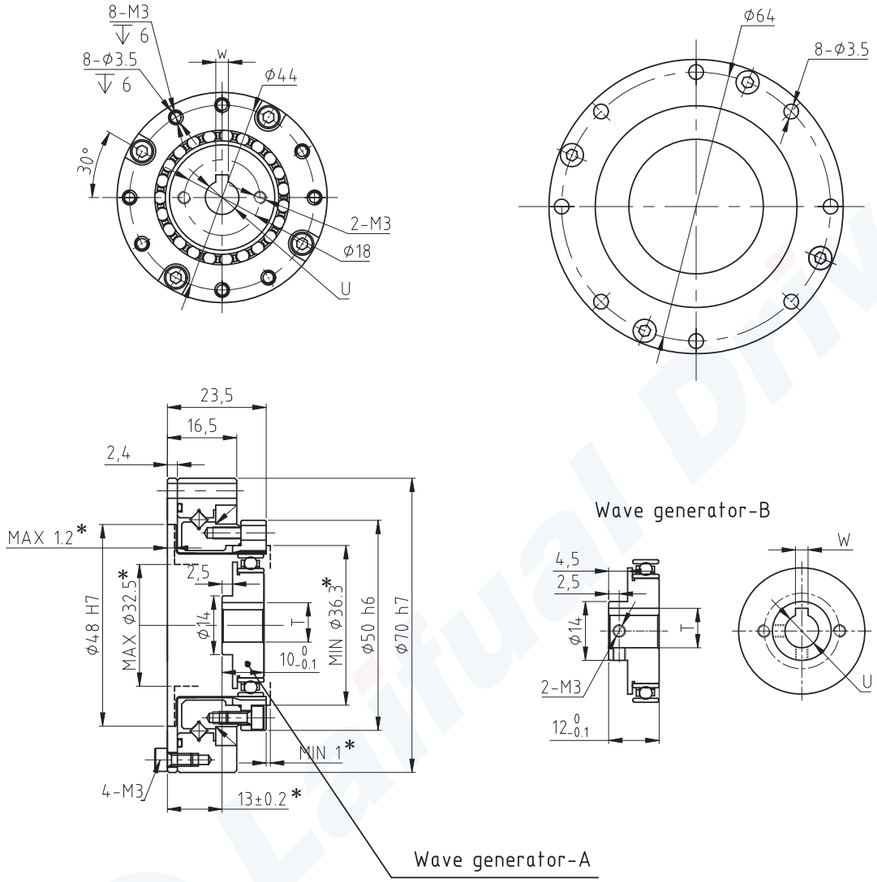






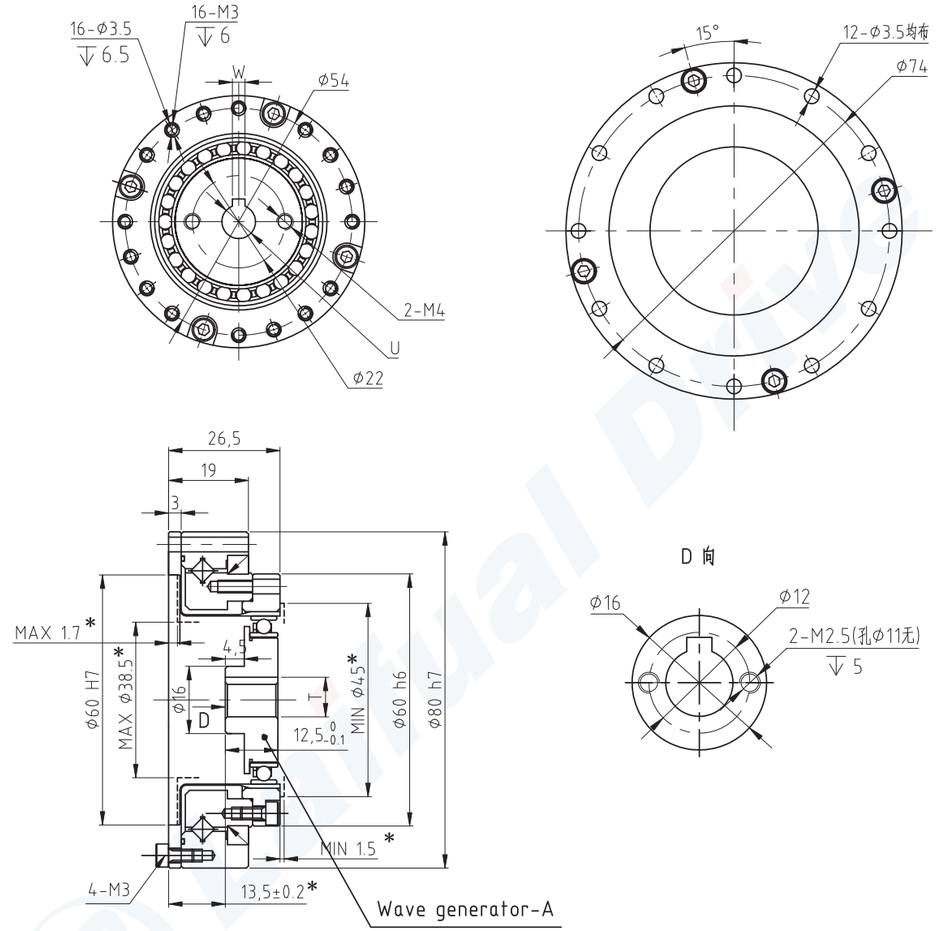
型号/MODEL	U	T	W
Wave generator-A φ5	φ5H7		
Wave generator-A φ6	φ6H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
11	50	3.5	0.36	8.3	0.85	5.5	0.56	17.0	1.73	8500	3500	⩽30	LHT-I:0.27	10000
	80	4.5	0.46	9.9	1.01	8.0	0.82	22.5	2.30					10000
	100	5.0	0.51	11.0	1.12	8.9	0.91	25.0	2.55					10000



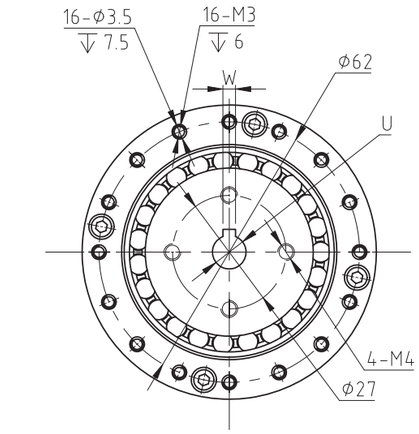
型号/MODEL	U	T	W
Wave generator-A/B Φ6	Φ6H7	$7^{+0.1}_{0}$	2JS9/P9
Wave generator-A/B Φ8	Φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9

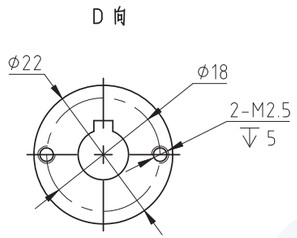
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-I:0.4	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000

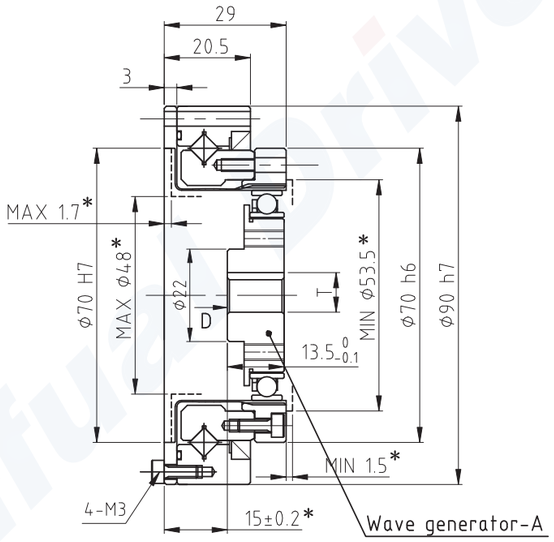


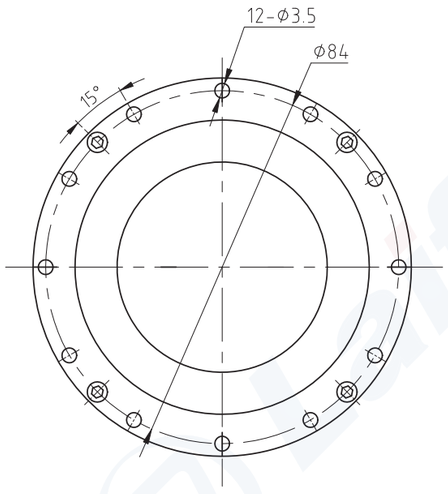
型号/MODEL	U	T	W
Wave generator-A Φ8	Φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A Φ11	Φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-I:0.54	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000



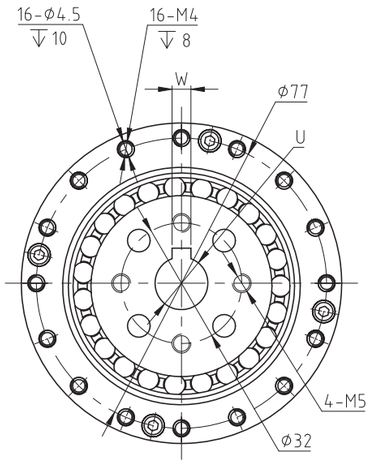


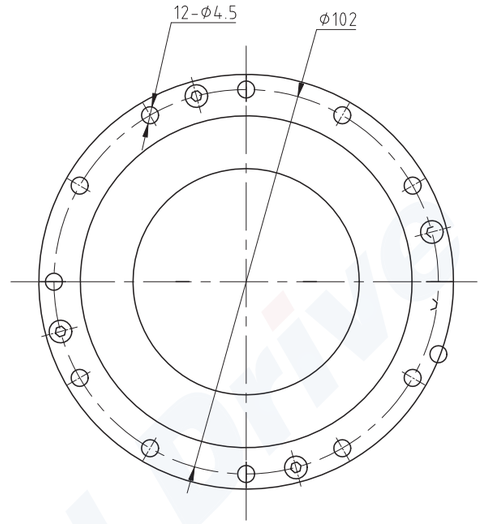


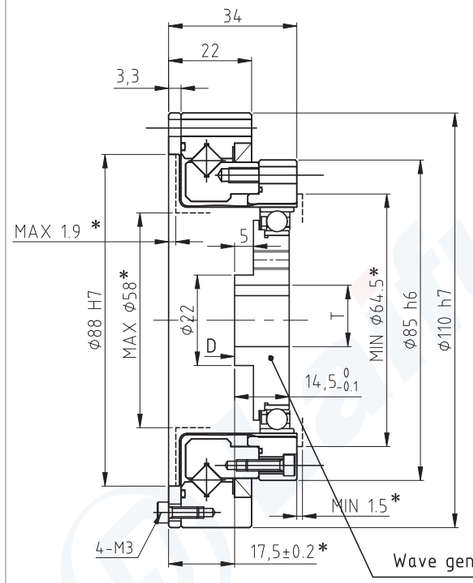


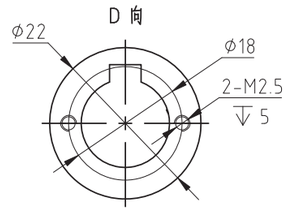
型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-I:0.72	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000



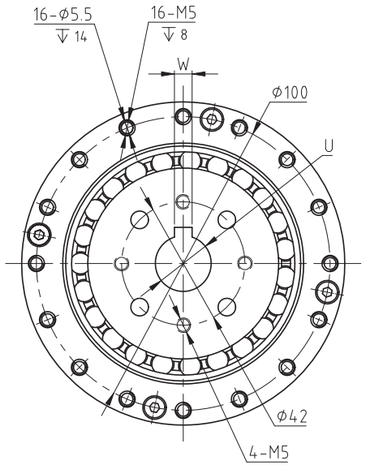


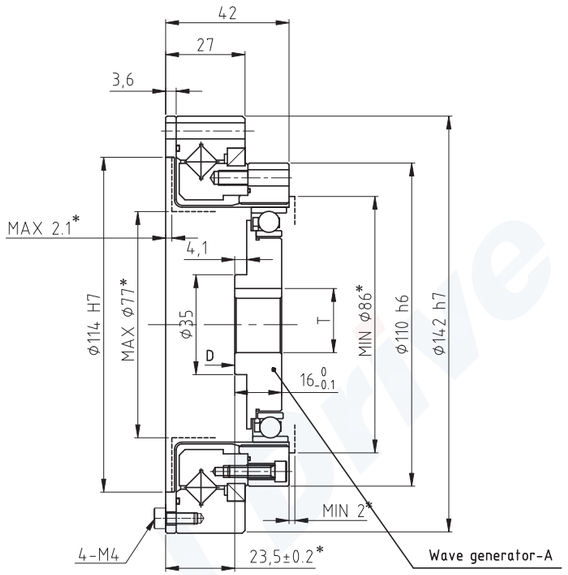


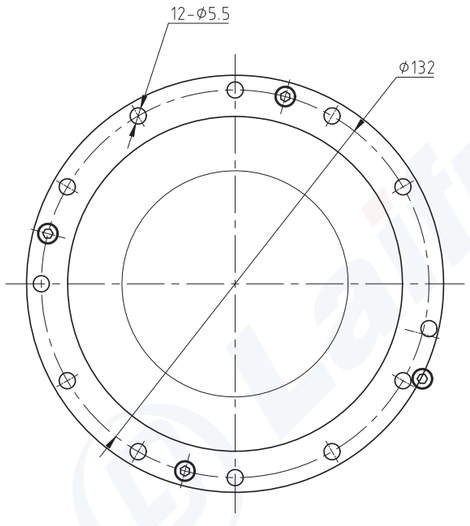


型号/MODEL	U	T	W
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

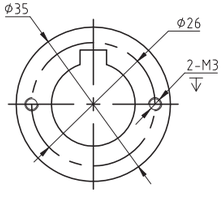
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-I:1.22	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000





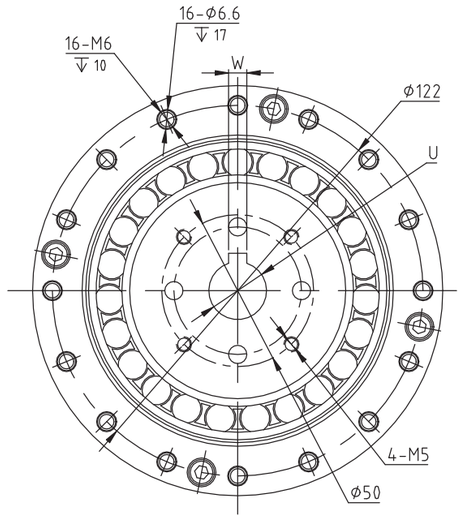


D 向

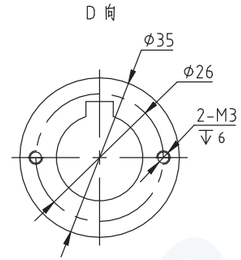


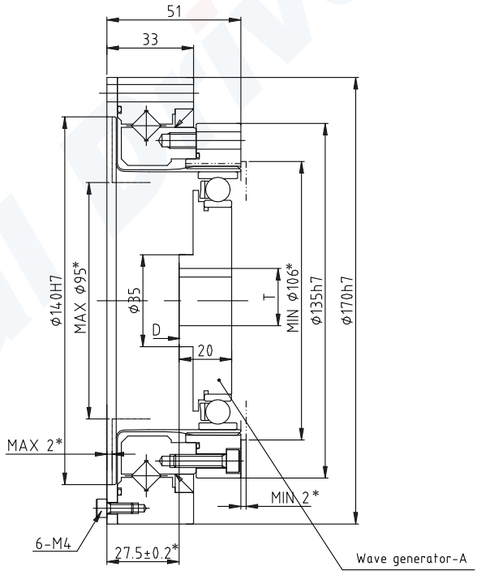
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9
Wave generator-A φ19	φ19H7	$21.8^{+0.1}_{0}$	6JS9/P9
Wave generator-A φ22	φ22H7	$24.8^{+0.1}_{0}$	6JS9/P9
		$25.3^{+0.1}_{0}$	8JS9/P9

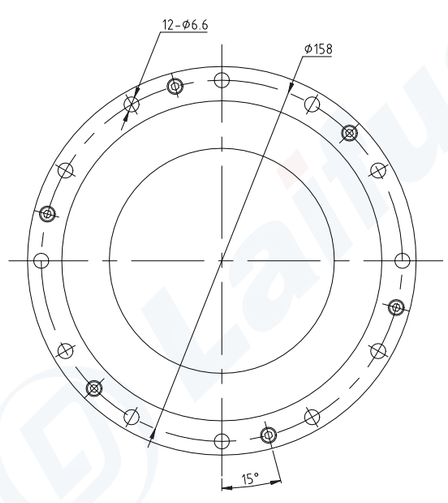
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-I:2.54	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000



D 向



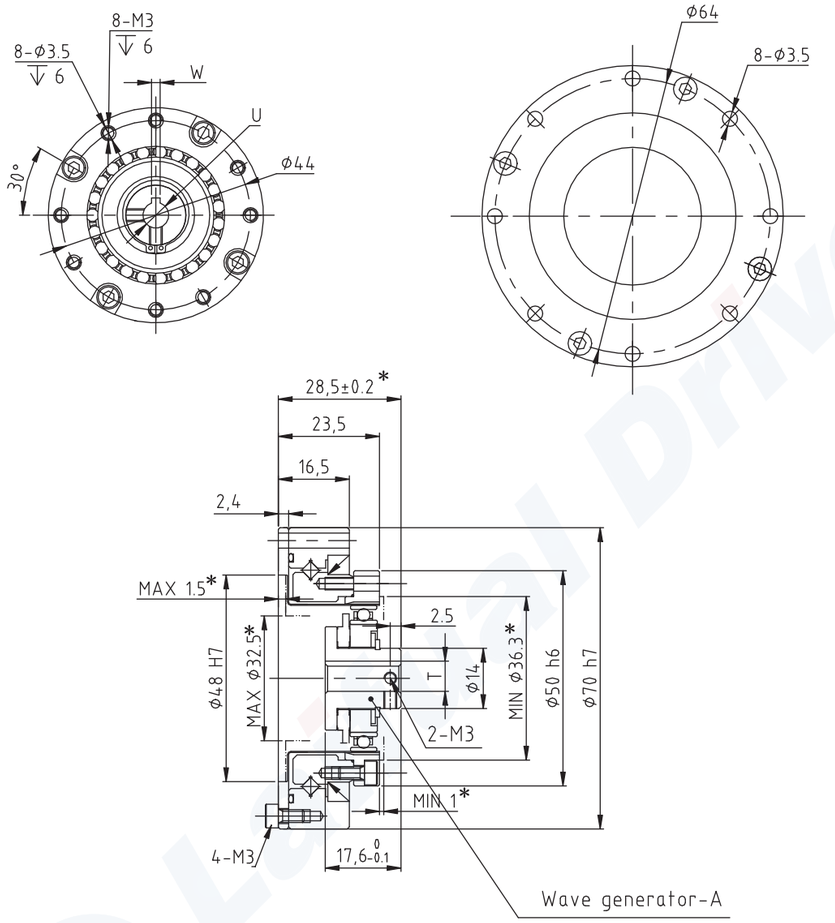




型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9
Wave generator-A φ19	φ19H7	$21.8^{+0.1}_{0}$	6JS9/P9
Wave generator-A φ22	φ22H7	$24.8^{+0.1}_{0}$	6JS9/P9
		$25.3^{+0.1}_{0}$	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-I:4.40	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

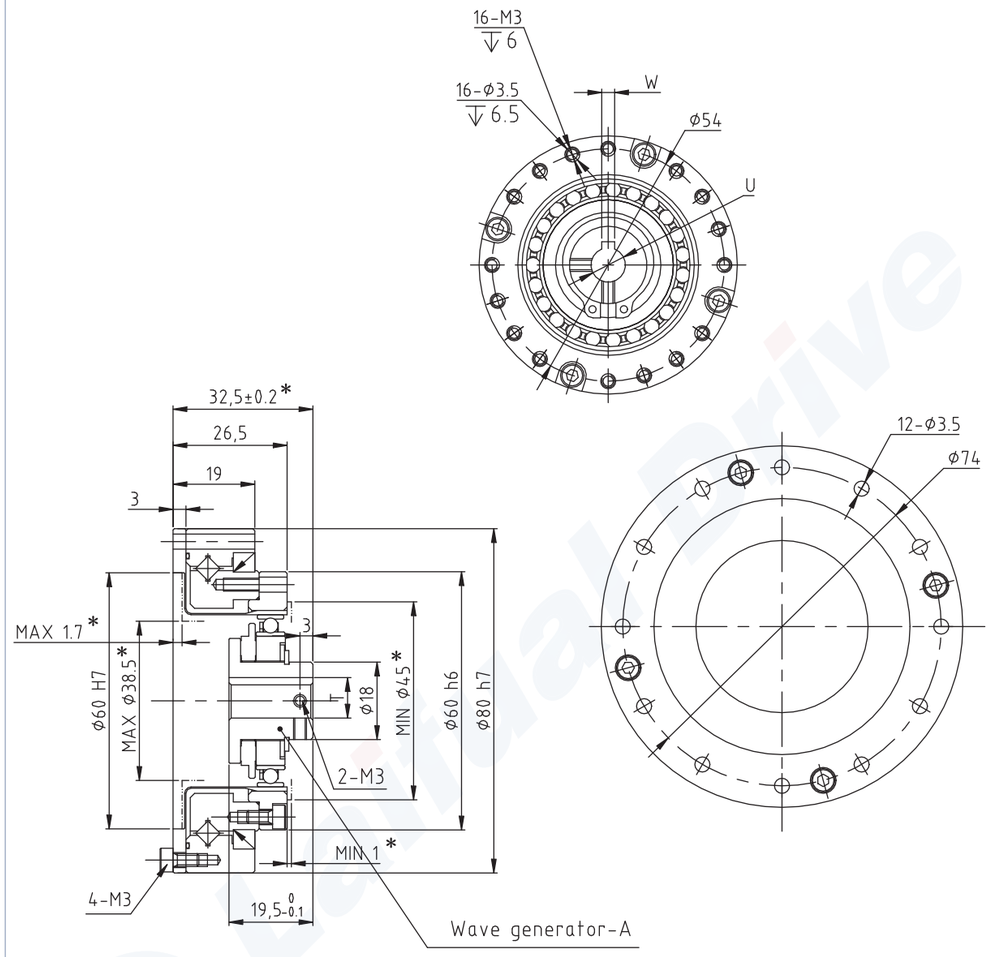
结构图 | STRUCTURE CHART　LHT-14-XX-U-II



型号/MODEL	U	T	W
Wave generator-A/B Φ6	Φ6H7		
Wave generator-A/B Φ6	Φ6H7	$7^{+0.1}_{0}$	2JS9/P9
Wave generator-A/B Φ8	Φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9

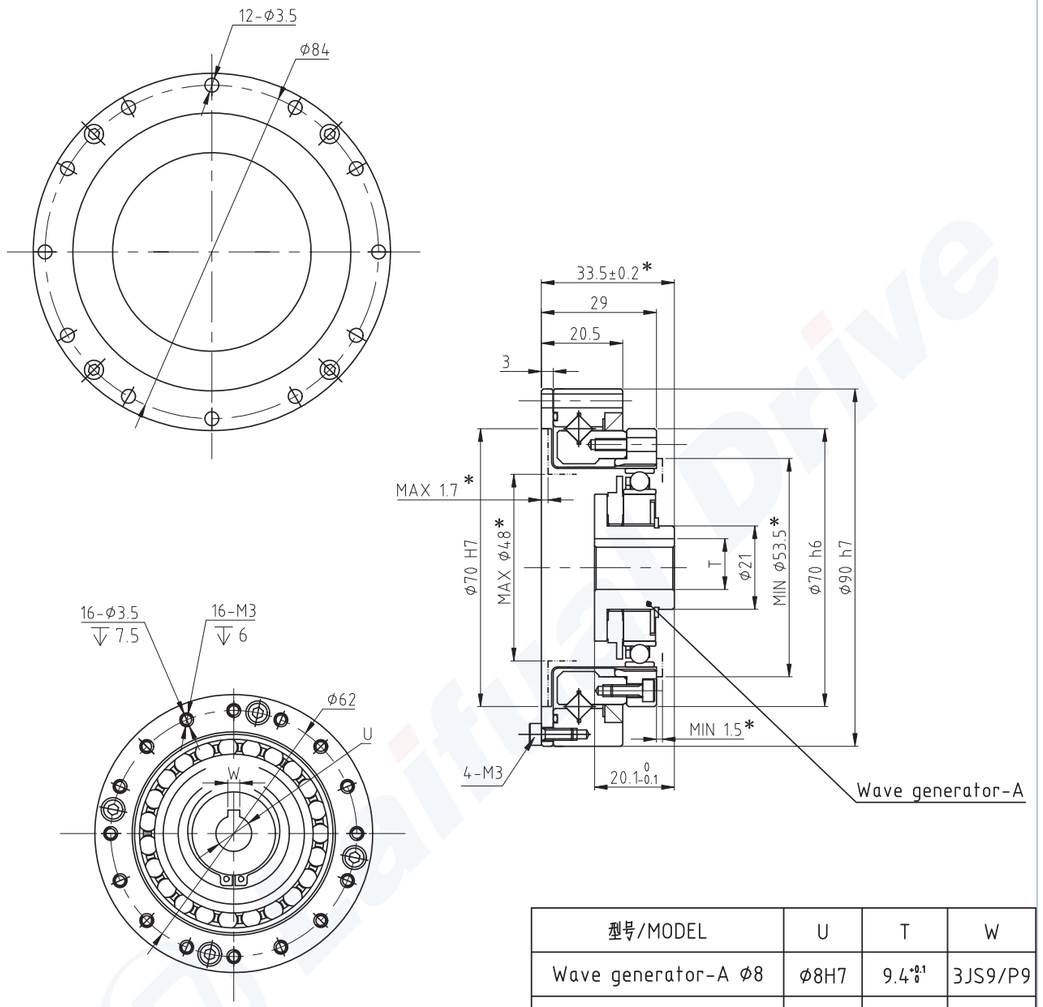
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-II:0.4	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000

结构图 | STRUCTURE CHART　LHT-17-XX-U-II



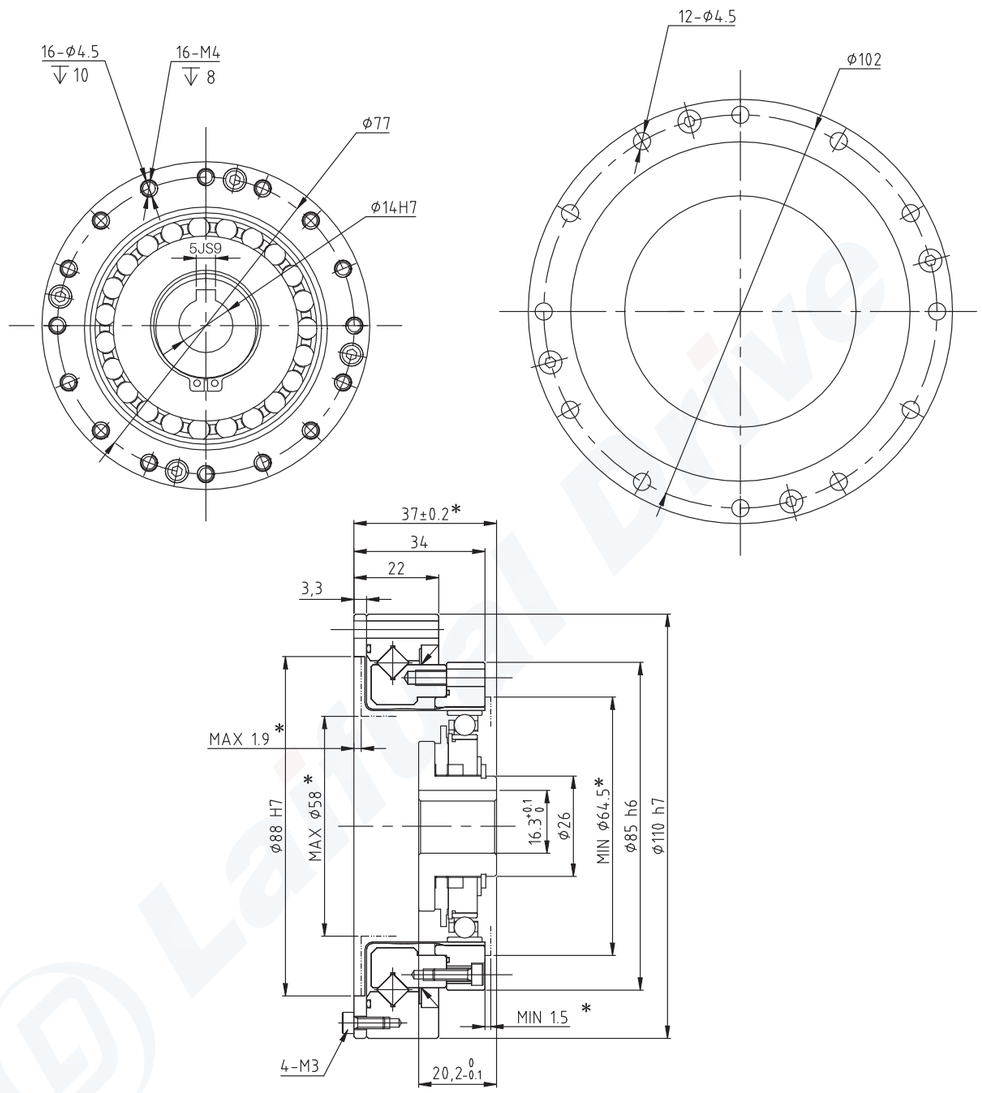
型号/MODEL	U	T	W
Wave generator-A/B Φ8	Φ8 H7		
Wave generator-A/B Φ8	Φ8 H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A/B Φ11	Φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-II:0.54	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000

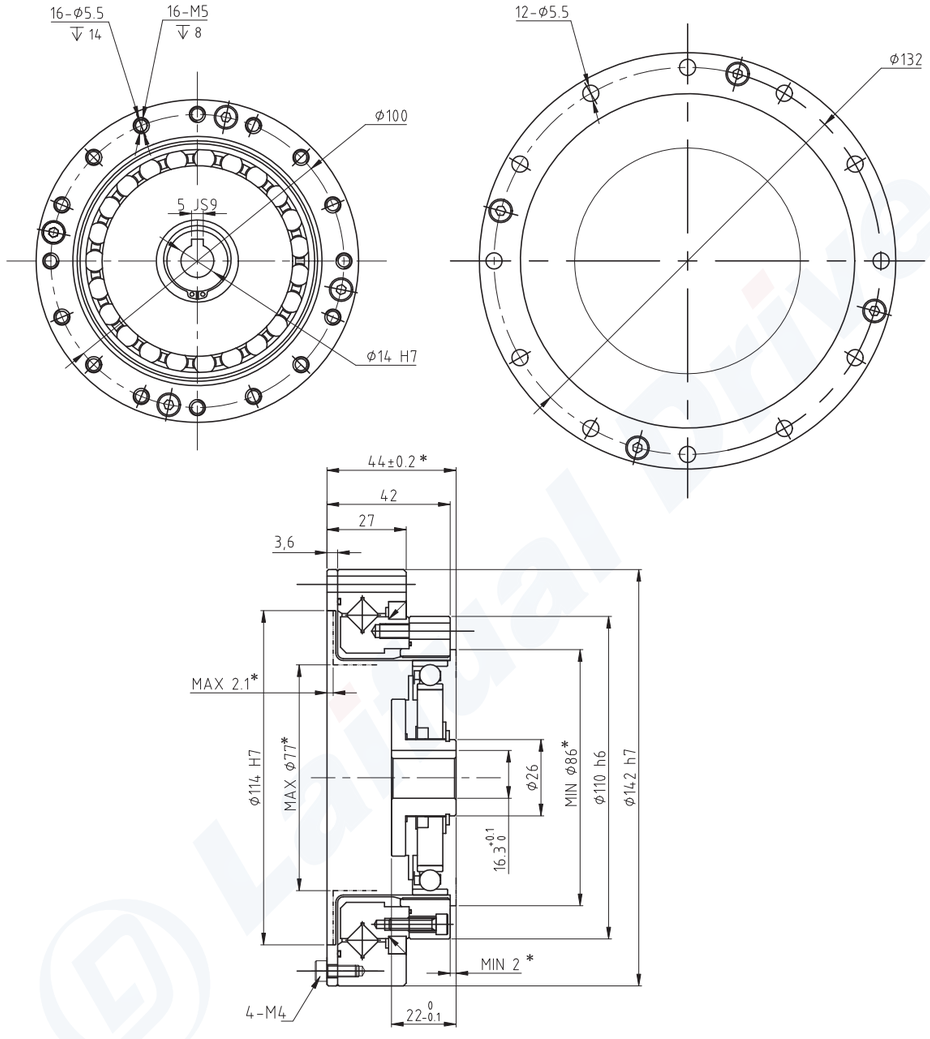


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

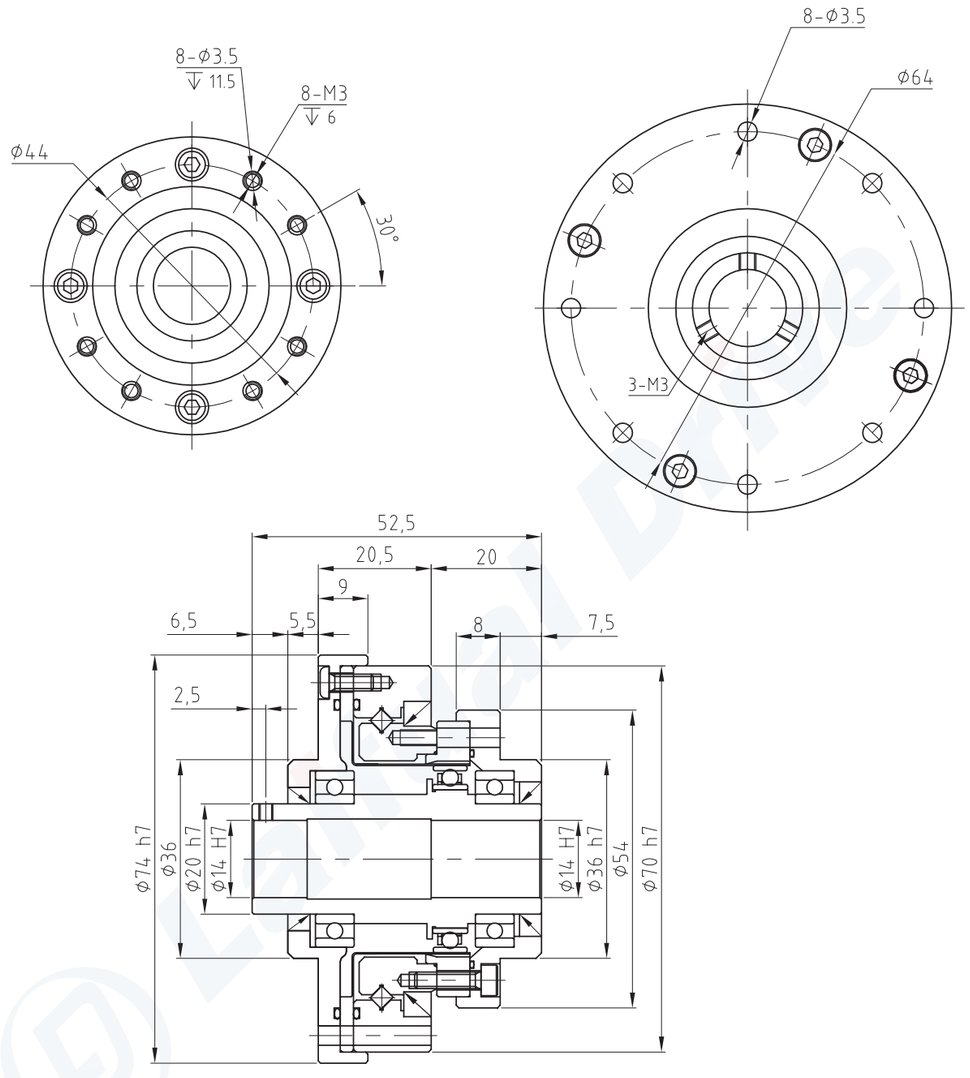
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-II:0.72	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000



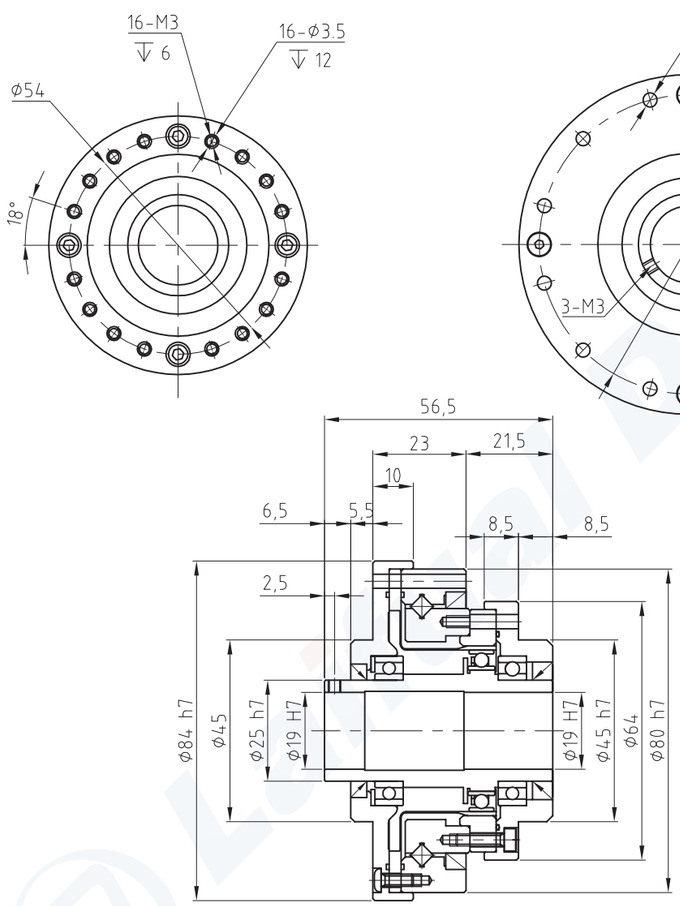
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-II:1.22	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000



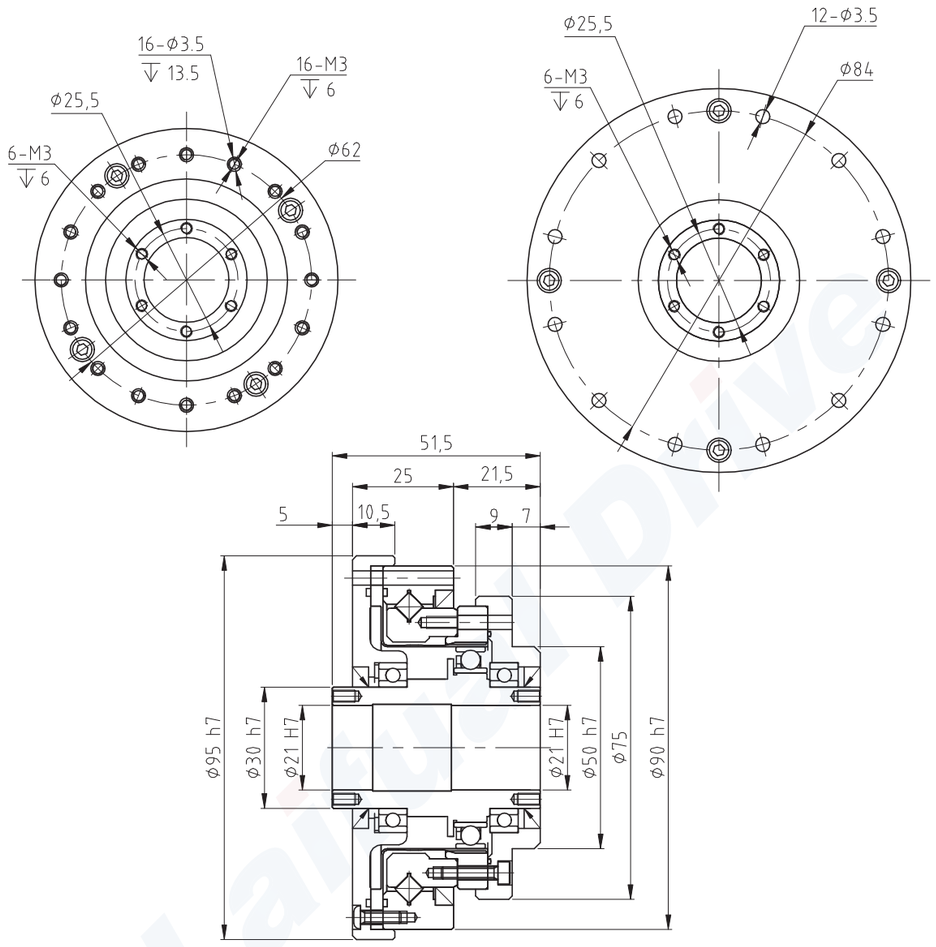
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-II:2.54	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-III:0.7 LHN-III:0.56	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
LHG 14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-III:0.7	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000

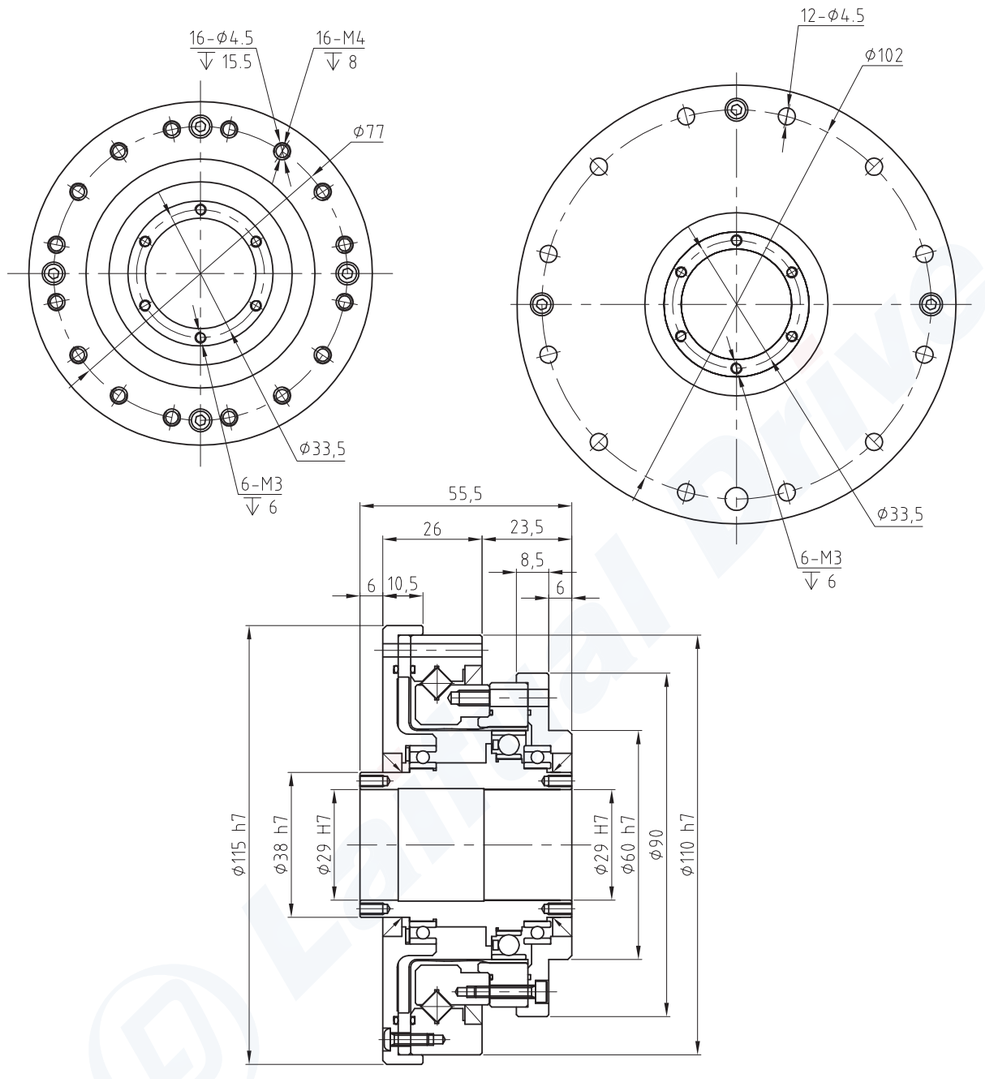


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-III:0.99 LHN-III:0.79	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000
LHG 17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-III:0.99	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000



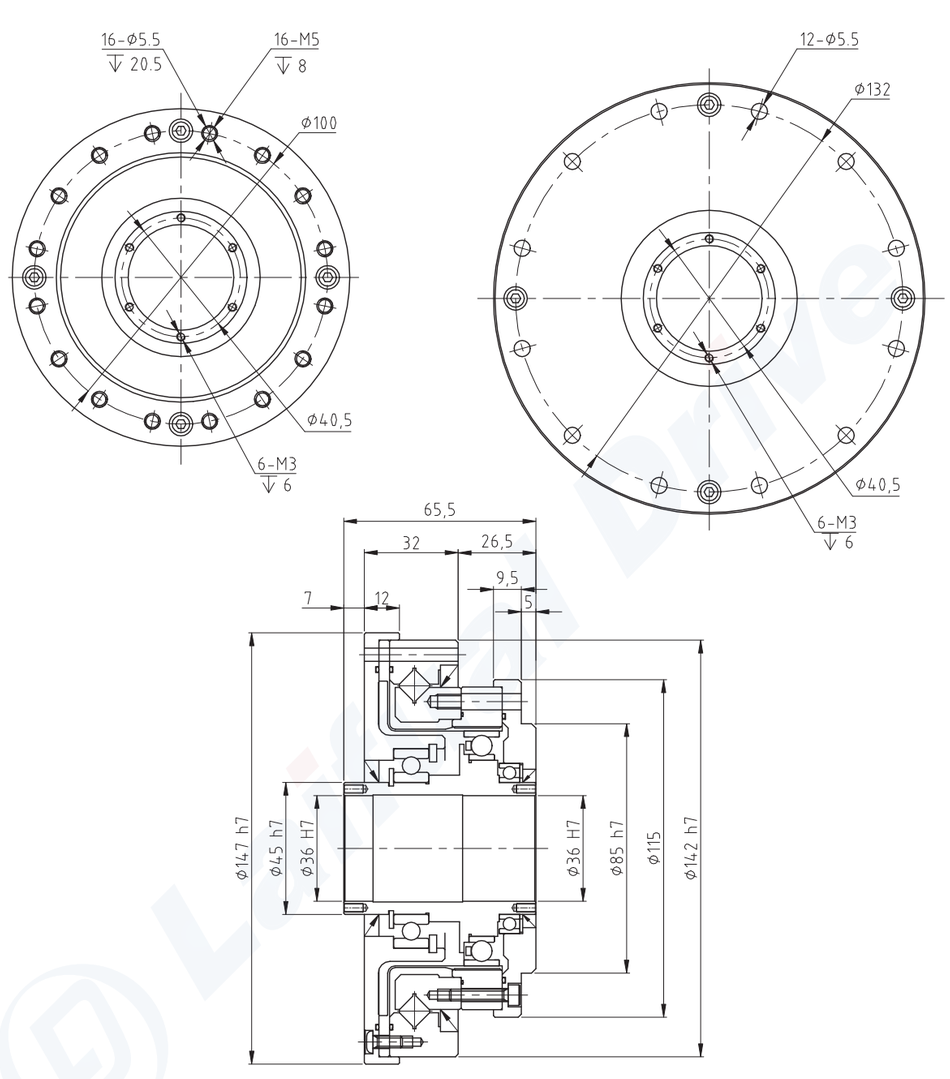
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-III:1.32 LHN-III:1.04	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000
LHG 20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LHG-III:1.32	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

结构图 | STRUCTURE CHART　LHT/LHN/LHG-25-XX-U-III

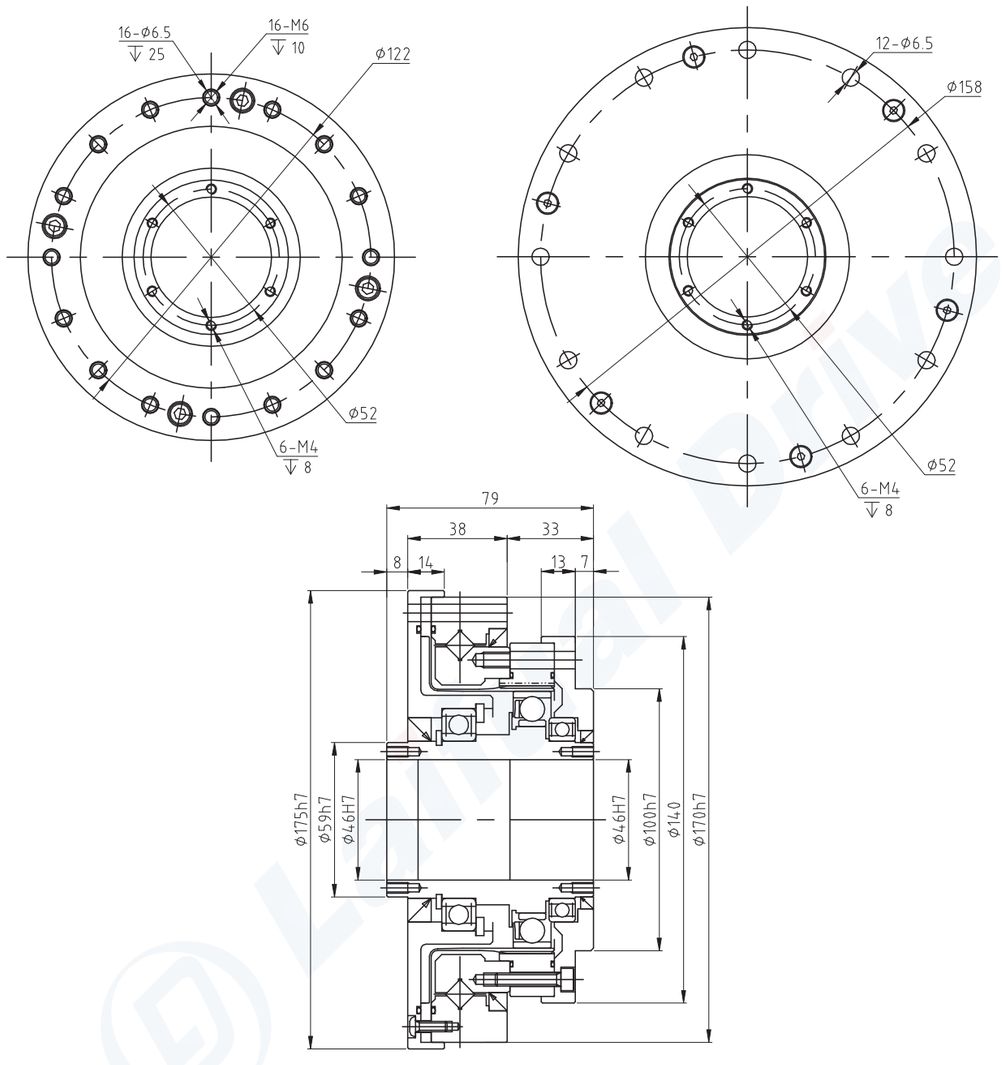


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-III:2.02 LHN-III:1.65	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000
LHG 25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LHG-III:2.02	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

结构图 | STRUCTURE CHART　LHT/LHN/LHG-32-XX-U-III

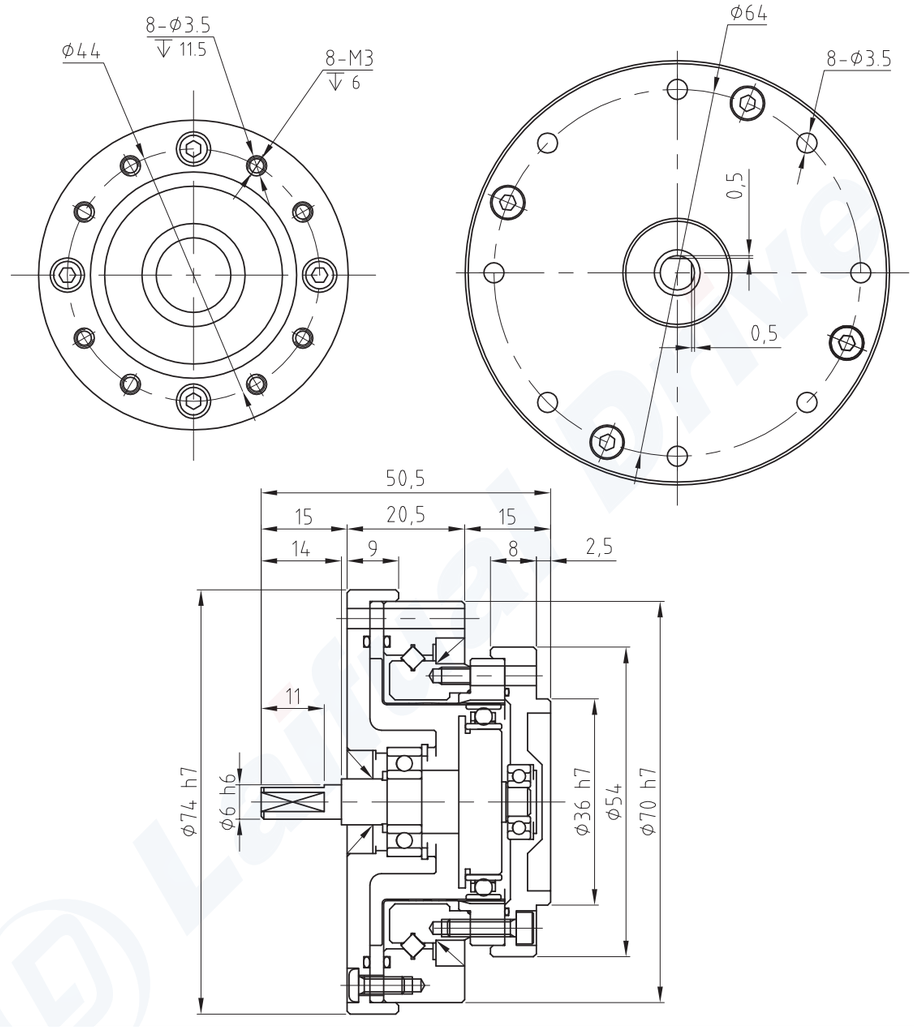


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-III:4.20 LHN-III:3.19	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000
LHG 32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LHG-III:4.20	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000



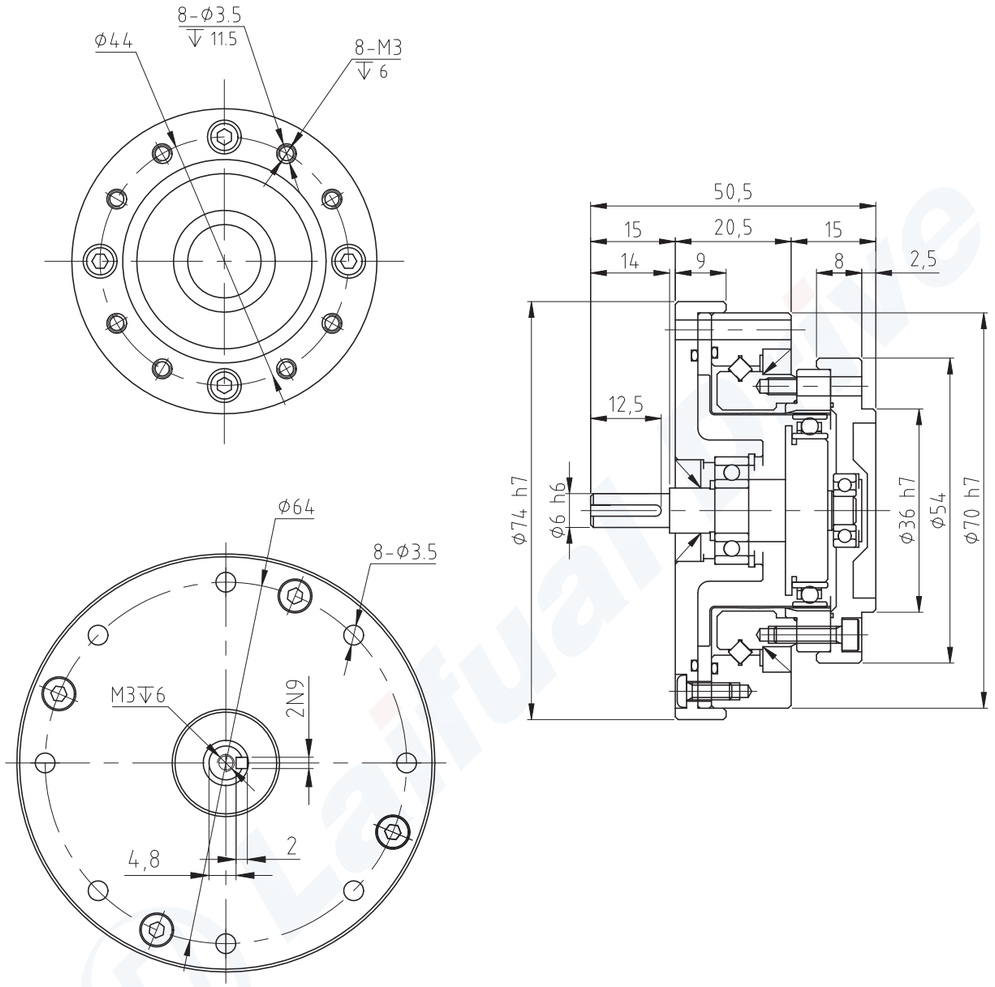
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-III:7.20 LHN-III:5.95	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000
LHG 40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LHG-III:7.20	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1530	156					15000

无键槽(No keyway)



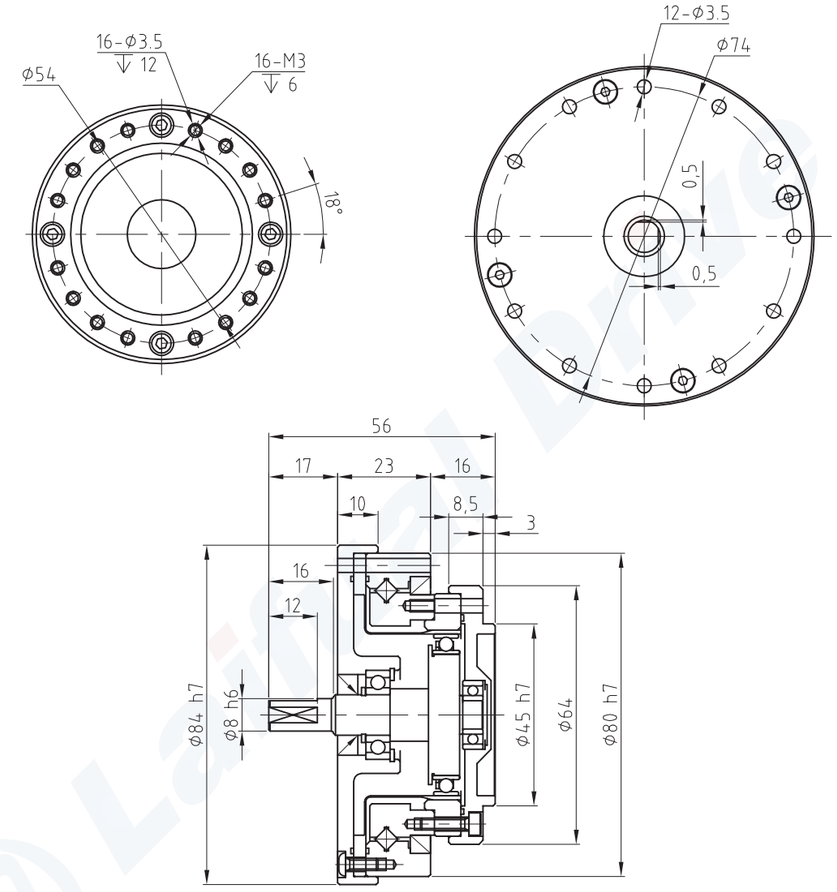
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-IV:0.66 LHN-IV:0.50	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
LHG 14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-IV:0.66	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000

有键槽 (Keyway)



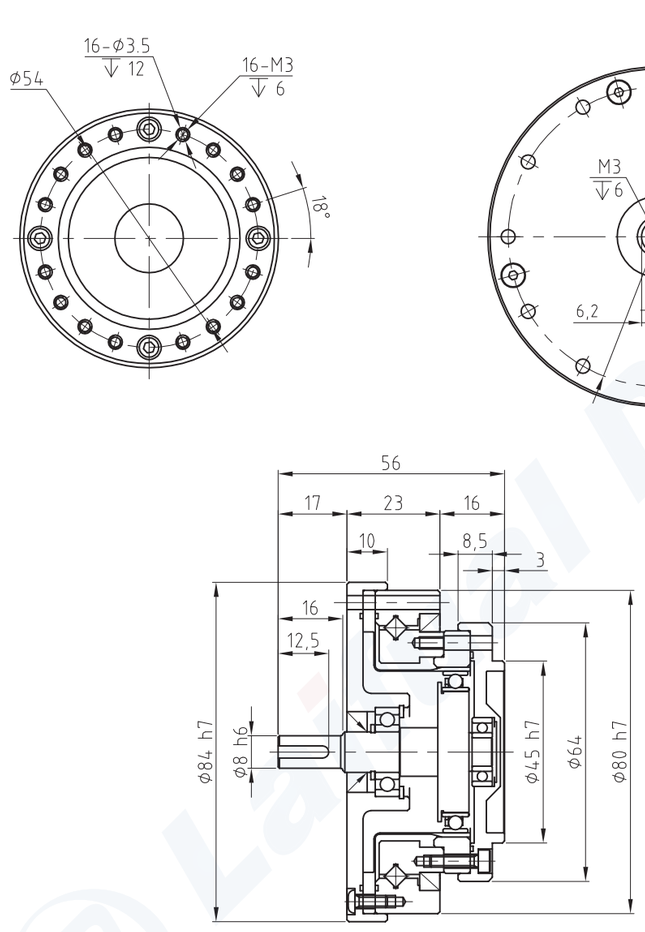
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-Ⅳ:0.66 LHN-Ⅳ:0.50	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
LHG 14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-Ⅳ:0.66	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000

无键槽(No keyway)

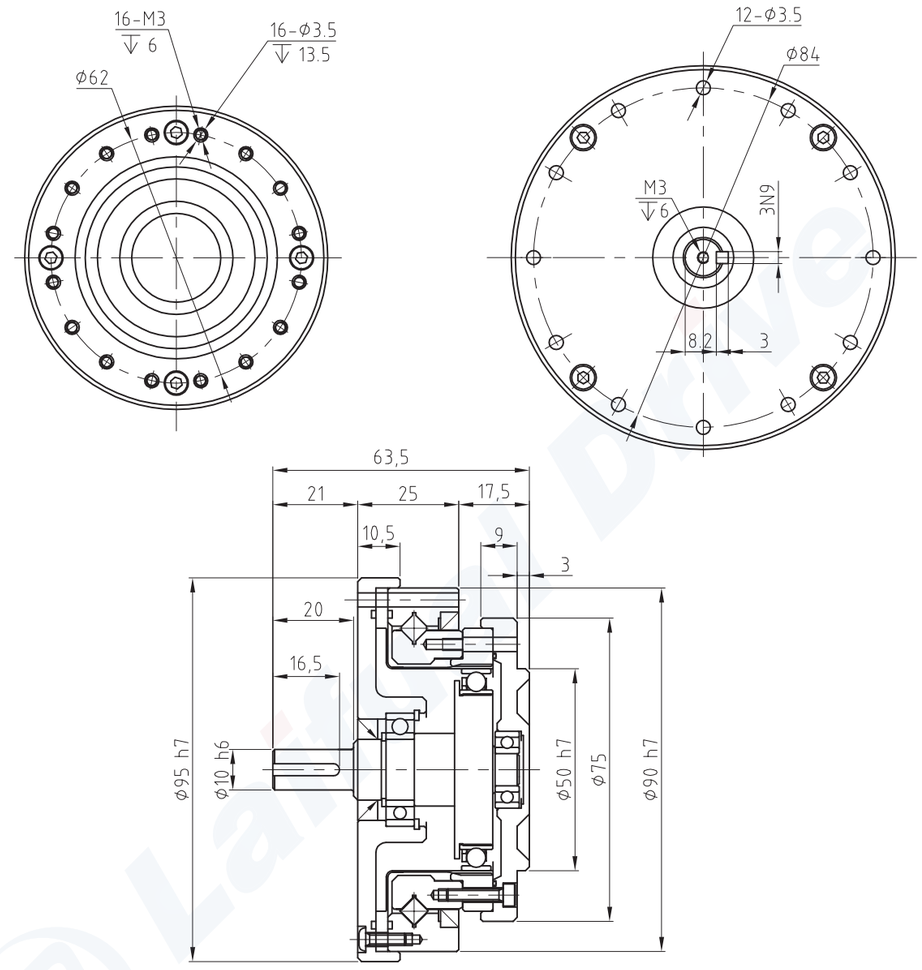


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-Ⅳ:0.90 LHN-Ⅳ:0.69	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000
LHG 17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-Ⅳ:0.90	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000

有键槽 (Keyway)

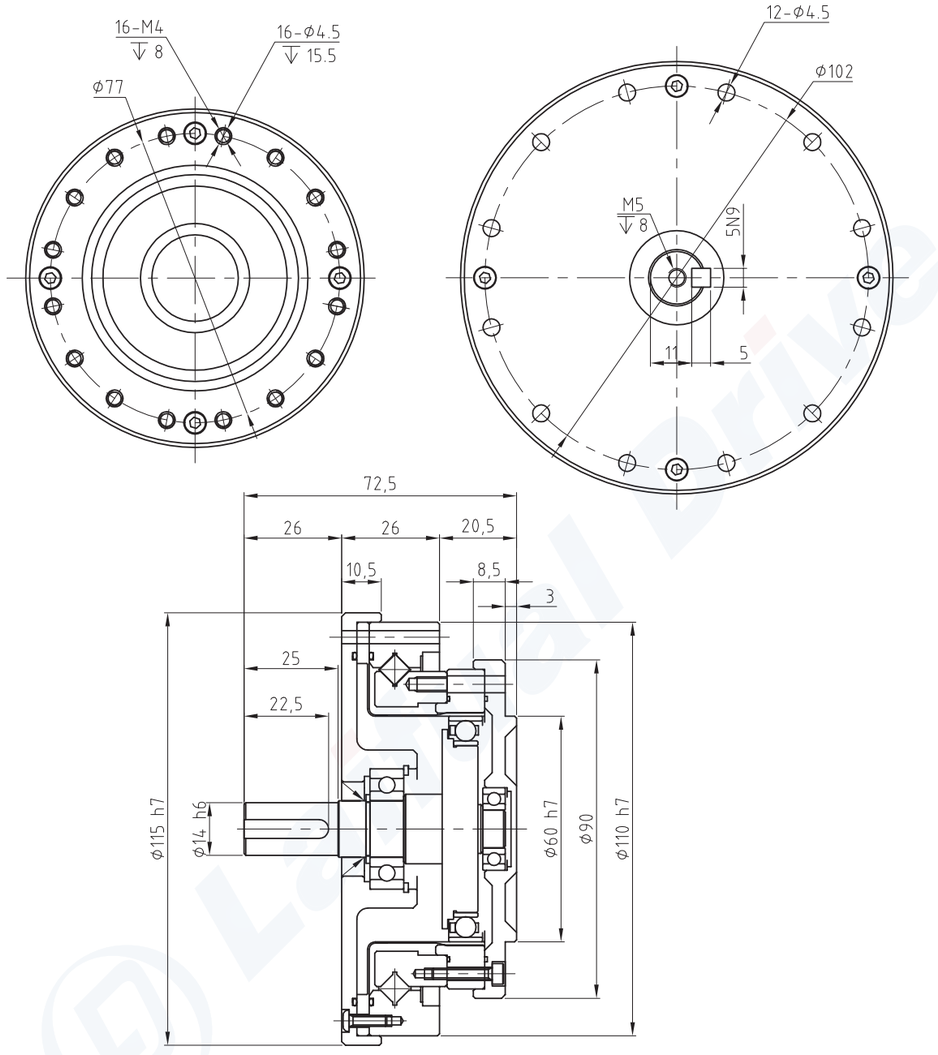


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-Ⅳ:0.90 LHN-Ⅳ:0.69	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000
LHG 17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-Ⅳ:0.90	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000



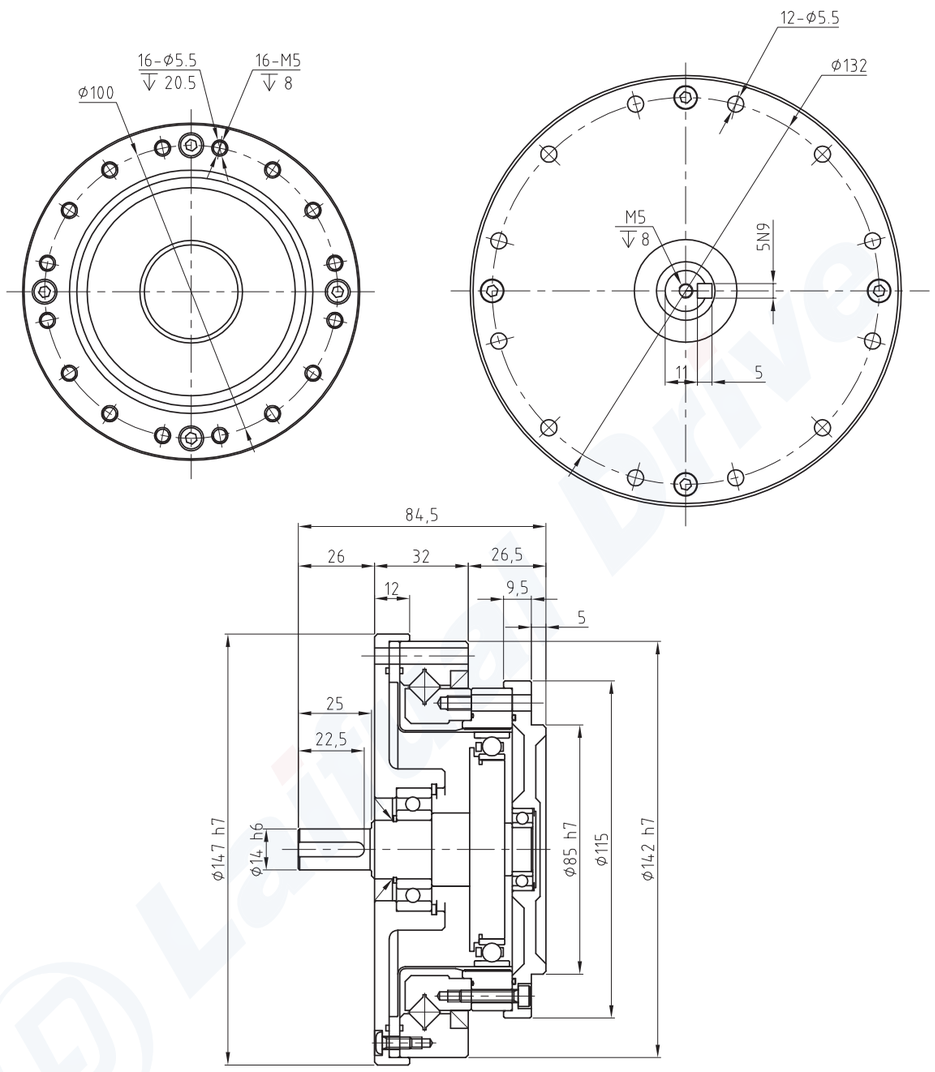
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-Ⅳ:1.29 LHN-Ⅳ:0.98	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000
LHG 20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LHG-Ⅳ:1.29	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

结构图 | STRUCTURE CHART　LHT/LHN/LHG-25-XX-U-IV

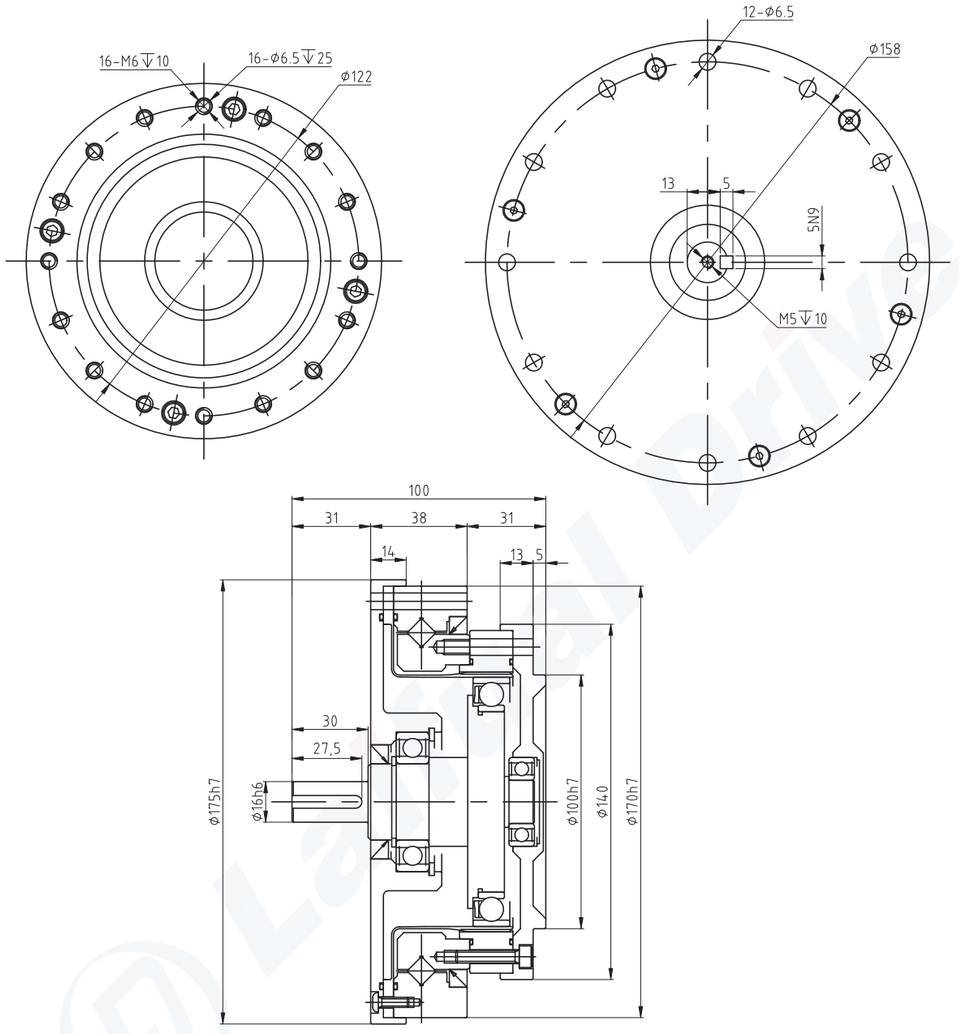


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-Ⅳ:1.99 LHN-Ⅳ:1.43	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000
LHG 25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LHG-Ⅳ:1.99	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

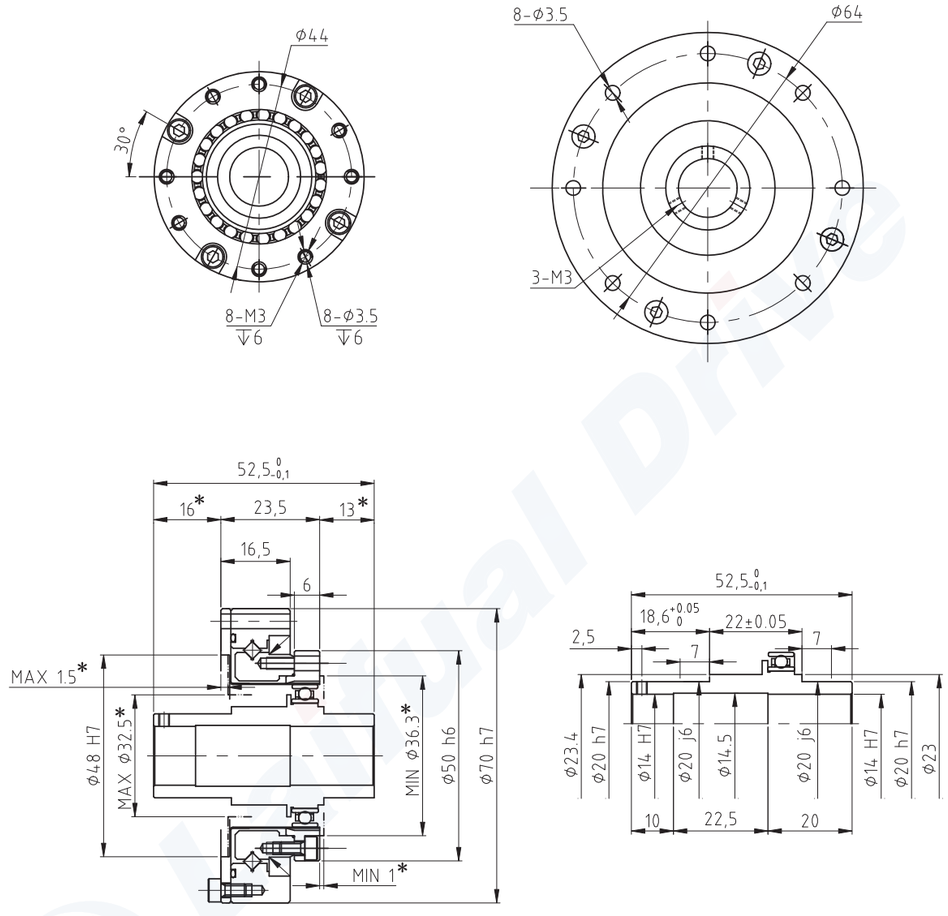
结构图 | STRUCTURE CHART　LHT/LHN/LHG-32-XX-U-IV



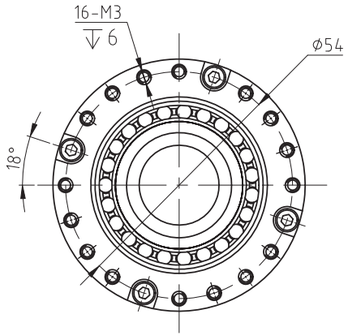
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-Ⅳ:4.00 LHN-Ⅳ:3.17	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000
LHG 32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LHG-Ⅳ:4.00	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000

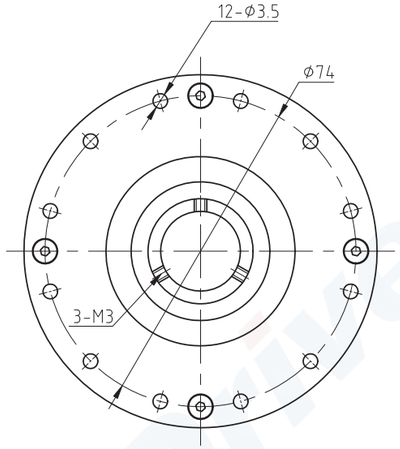


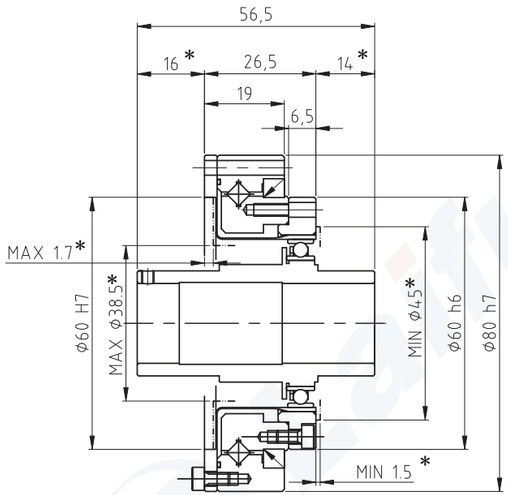
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
LHT LHN 40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-Ⅳ:7.00	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000
LHG 40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LHG-Ⅳ:7.00	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1530	156					15000

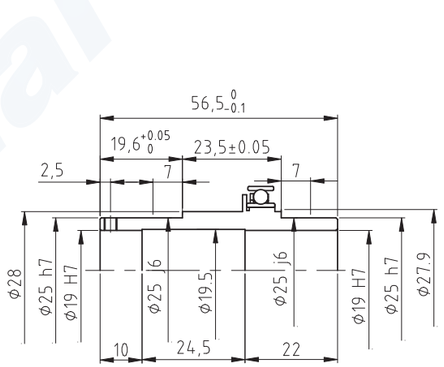


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-V:0.4	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000

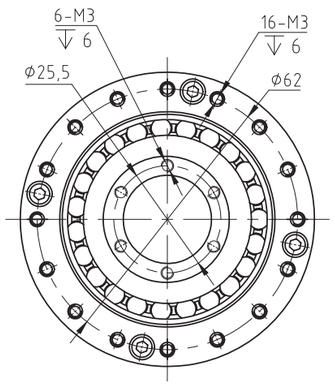


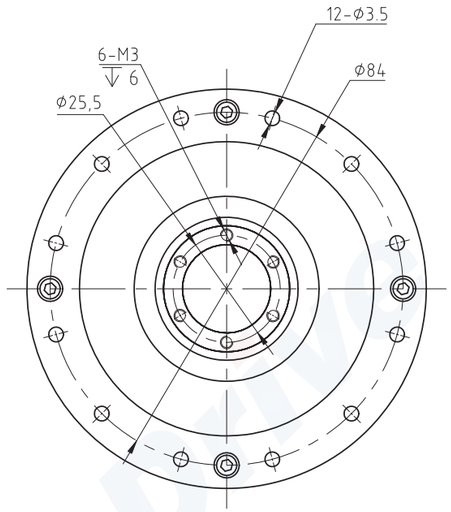


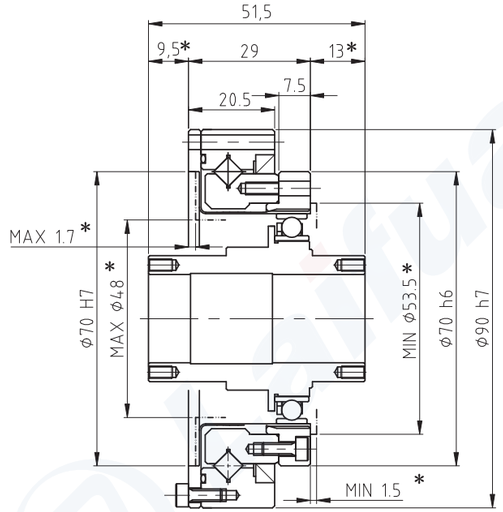


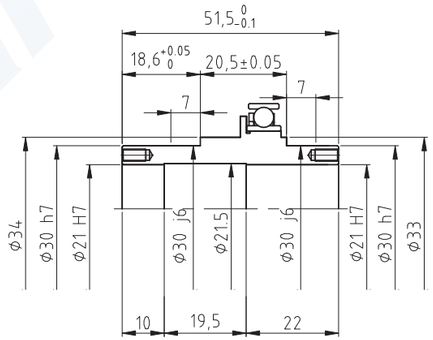


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-V:0.62	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000



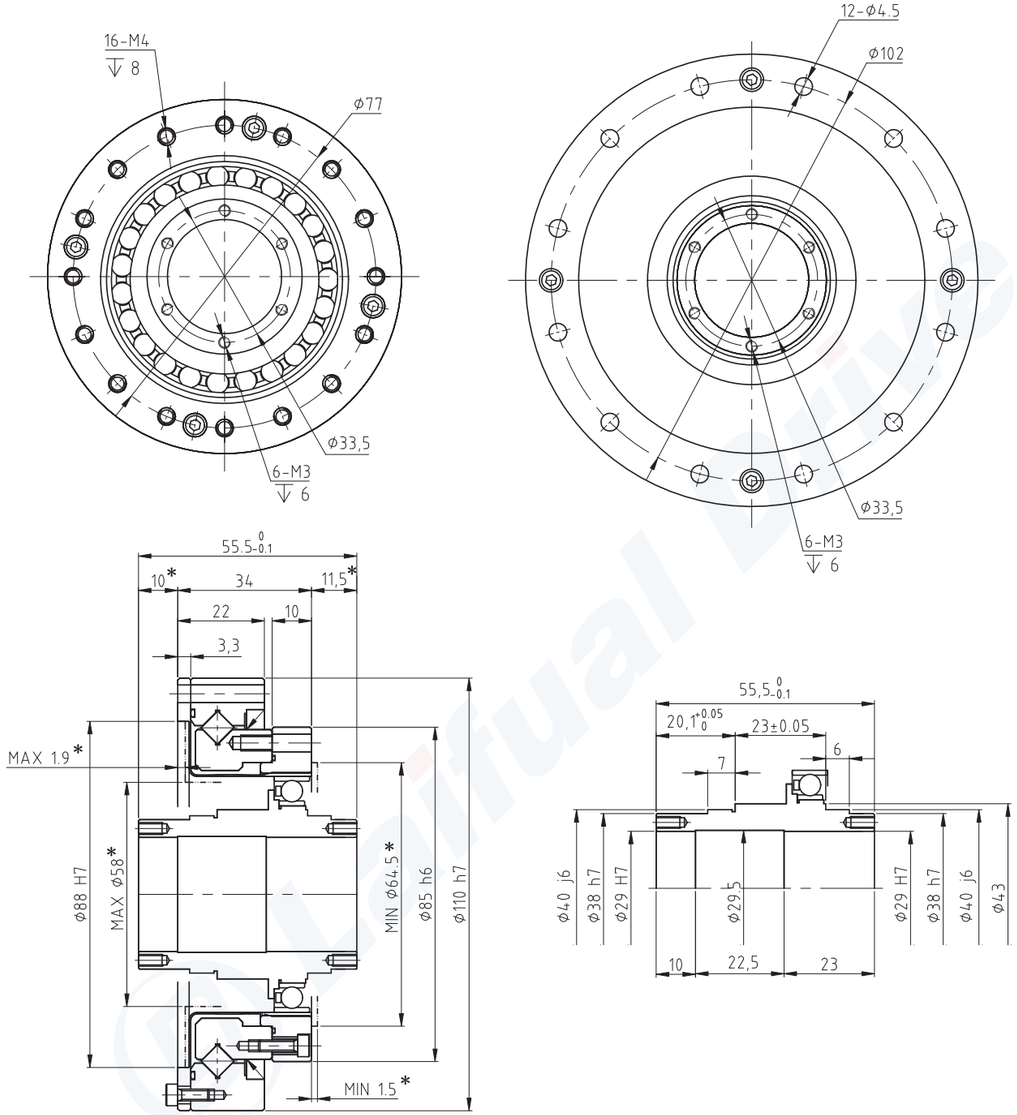






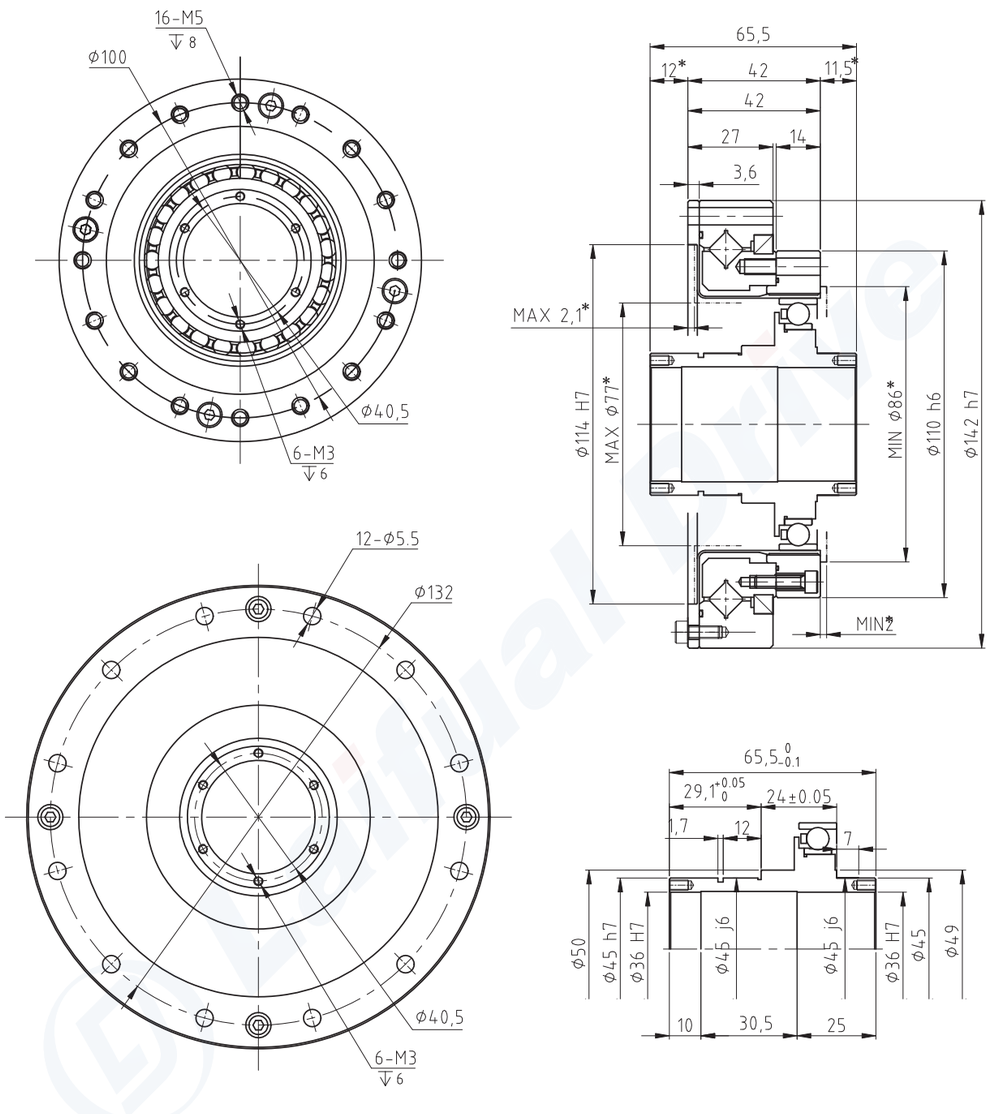
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-V:0.82	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000

结构图 | STRUCTURE CHART　LHT-25-XX-U-V



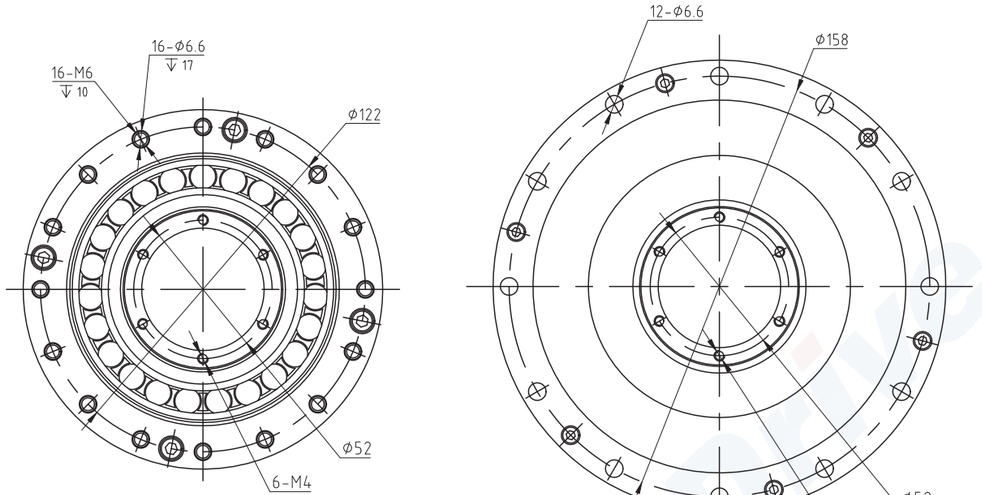
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-V:1.40	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000

结构图 | STRUCTURE CHART　LHT-32-XX-U-V



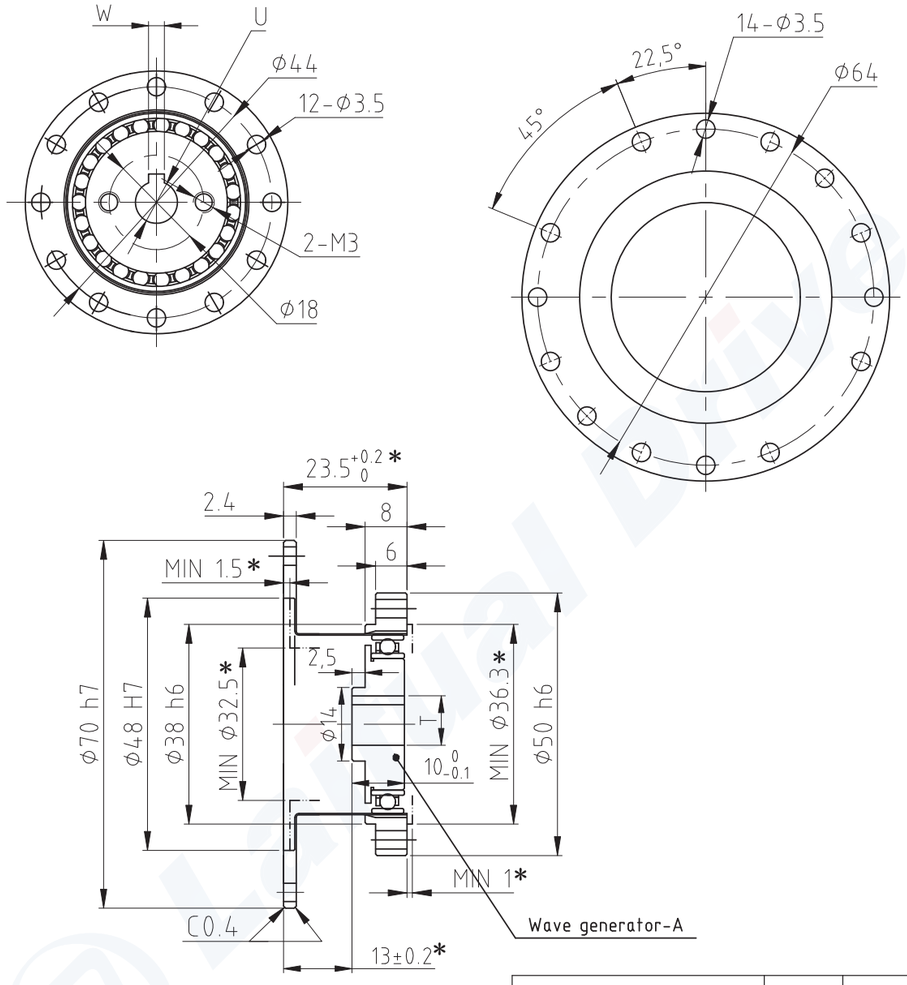
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-V:2.70	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000

结构图 | STRUCTURE CHART　LHT-40-XX-U-V



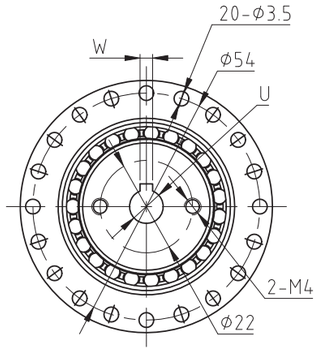
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-V:4.06	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000

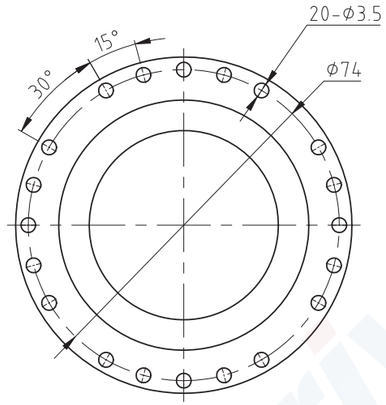
结构图 | STRUCTURE CHART　LHT-14-XX-C-I

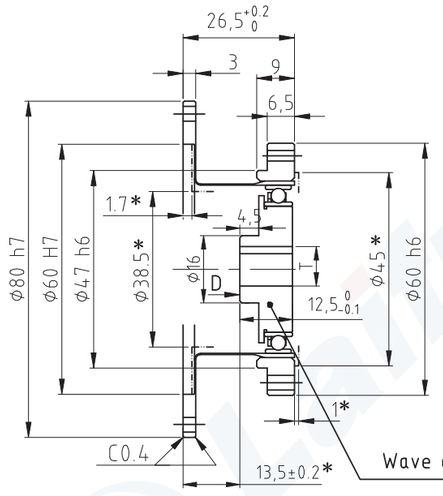


型号/MODEL	U	T	W
Wave generator-A Φ6	Φ6H7	7+0.1 0	2JS9/P9
Wave generator-A Φ8	Φ8H7	9.4+0.1 0	3JS9/P9

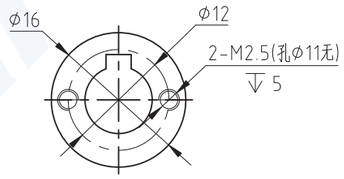
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	5.4	0.55	18	1.8	6.9	0.70	35	3.6	8500	3500	⩽20	LHT-C:0.14	10000
	80	7.8	0.80	23	2.4	11	1.1	47	4.8					15000
	100	7.8	0.80	28	2.9	11	1.1	54	5.5					15000
	120	7.8	0.80	28	2.9	11	1.1	54	5.5					15000





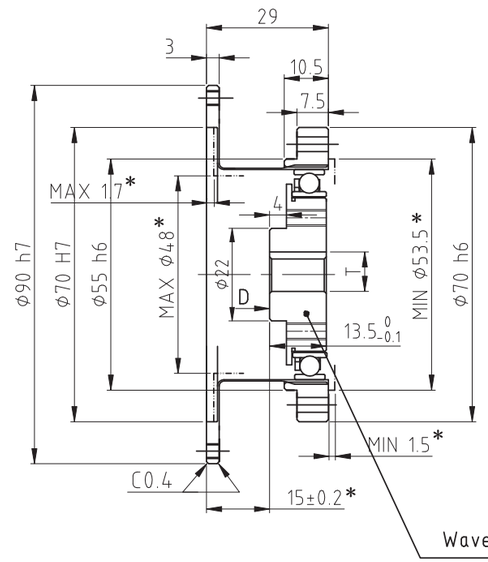


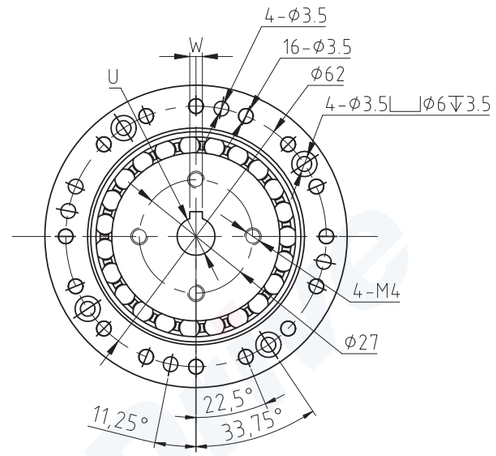
D 向

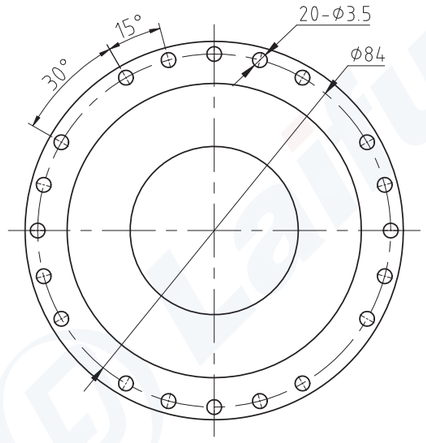


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9

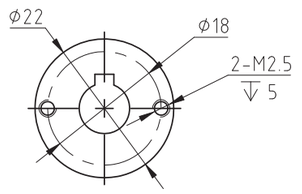
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	16	1.6	34	3.5	26	2.6	70	7.1	7300	3500	⩽20	LHT-C:0.19	10000
	80	22	2.2	43	4.4	27	2.7	87	8.9					15000
	100	24	2.4	54	5.5	39	4.0	110	11					15000
	120	24	2.4	54	5.5	39	4.0	86	8.8					15000





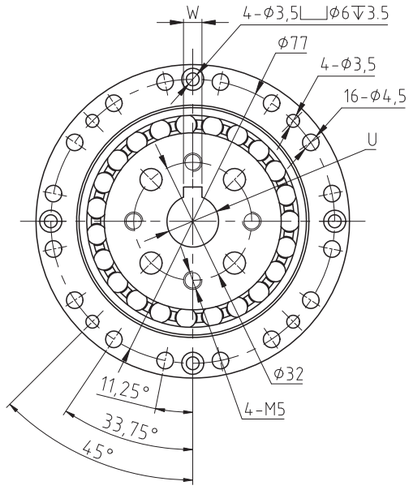


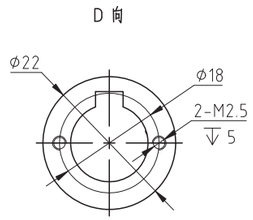
D 向

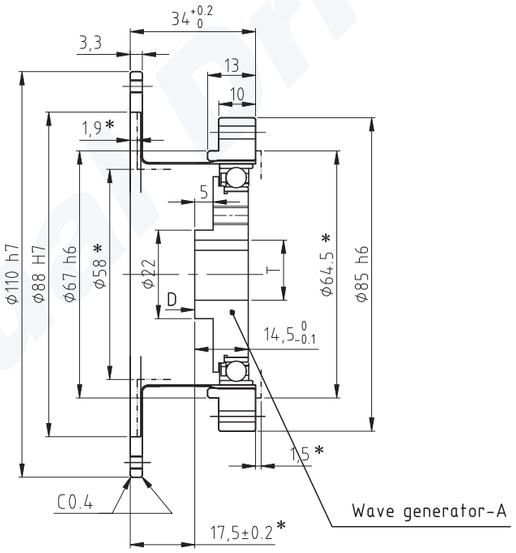


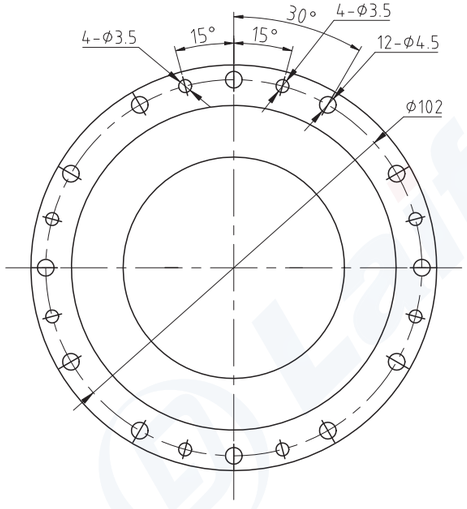
型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	9.4 +0.1 0	3JS9/P9
Wave generator-A φ11	φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A φ14	φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	25	2.5	56	5.7	34	3.5	98	10	6500	3500	⩽20	LHT-C:0.27	10000
	80	34	3.5	74	7.5	47	4.8	127	13					15000
	100	40	4.1	82	8.4	49	5.0	147	15					15000
	120	40	4.1	87	8.9	49	5.0	147	15					15000
	160	40	4.1	92	9.4	49	5.0	147	15					15000



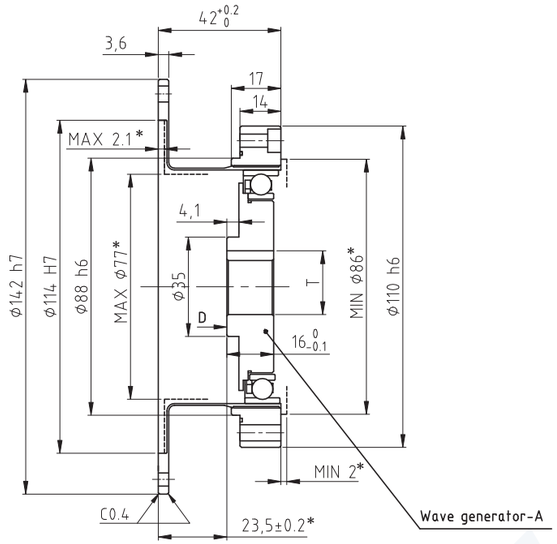


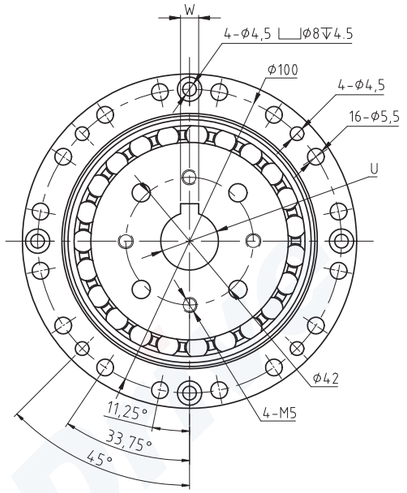


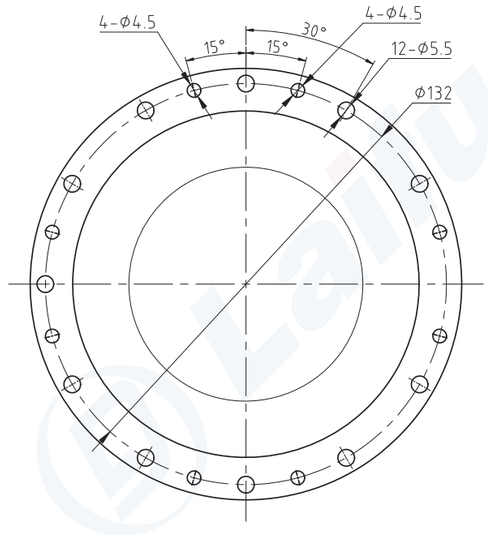


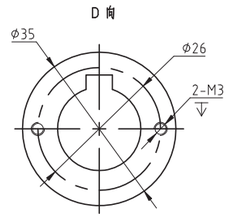
型号/MODEL	U	T	W
Wave generator-A Φ11	Φ11H7	12.8 +0.1 0	4JS9/P9
Wave generator-A Φ14	Φ14H7	16.3 +0.1 0	5JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	39	4.0	98	10	55	5.6	186	19	5600	3500	⩽20	LHT-C:0.41	10000
	80	63	6.4	137	14	87	8.9	255	26					15000
	100	67	6.8	157	16	108	11	284	29					15000
	120	67	6.8	167	17	108	11	304	31					15000



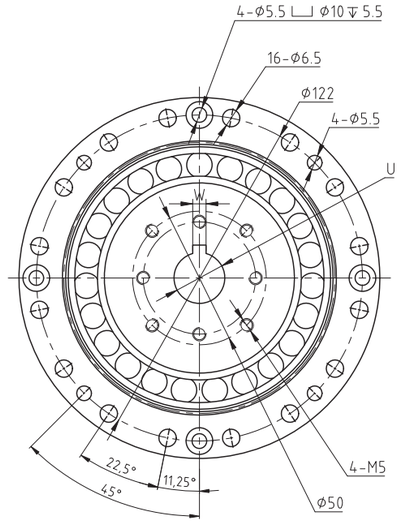


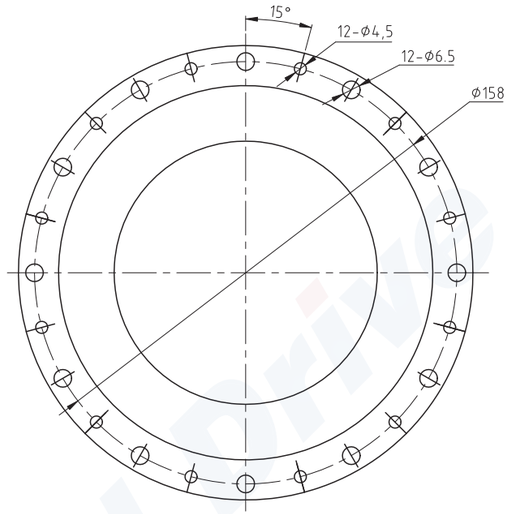


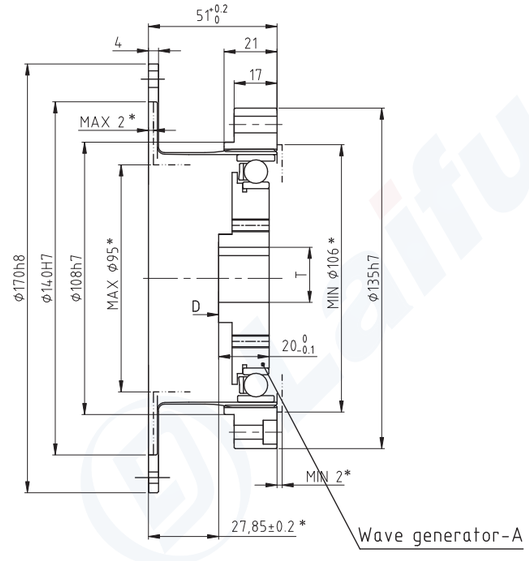


型号/MODEL	U	T	W
Wave generator-A Φ14	Φ14H7	16.3 +0.1 0	5JS9/P9
Wave generator-A Φ19	Φ19H7	21.8 +0.1 0	6JS9/P9
Wave generator-A Φ22	Φ22H7	24.8 +0.1 0	6JS9/P9
		25.3 +0.1 0	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	76	7.8	216	22	108	11	382	39	4800	3500	⩽20	LHT-C:1.00	10000
	80	118	12	304	31	167	17	568	58					15000
	100	137	14	333	34	216	22	647	66					15000
	120	137	14	353	36	216	22	686	70					15000

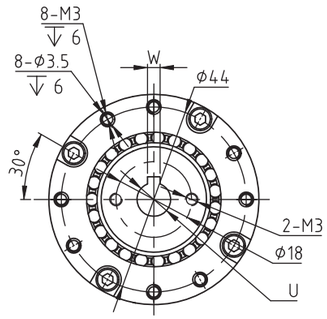


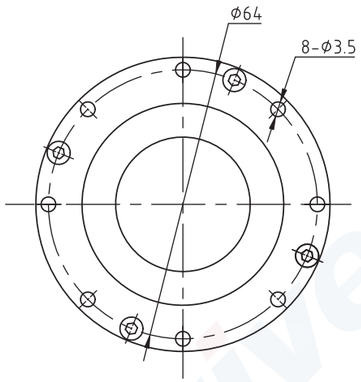


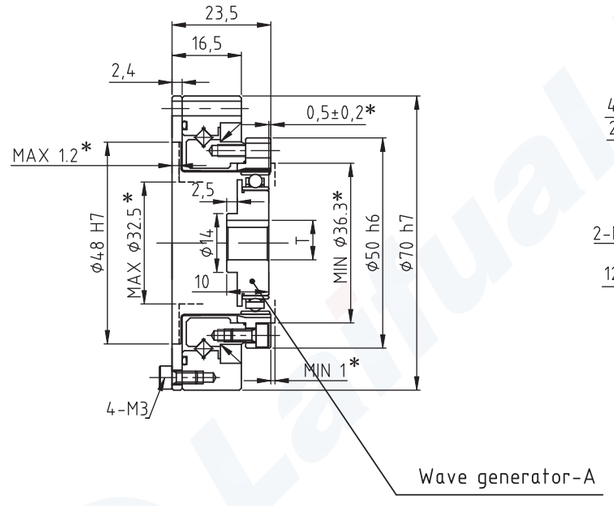


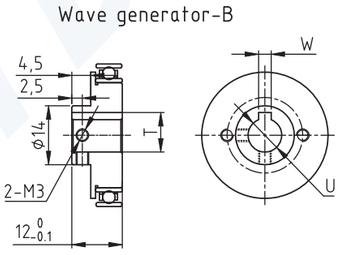
型号/MODEL	U	T	W
Wave generator-A Φ14	Φ14H7	16.3 0 +0.1	5JS9/P9
Wave generator-A Φ19	Φ19H7	21.8 0 +0.1	6JS9/P9
Wave generator-A Φ22	Φ22H7	24.8 0 +0.1	6JS9/P9
		25.3 0 +0.1	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	137	14	402	41	196	20	686	70	4000	3000	⩽20	LHT-C:1.87	10000
	80	206	21	519	53	284	29	980	100					15000
	100	265	27	568	58	372	38	1080	110					15000
	120	294	30	617	63	451	46	1180	120					15000



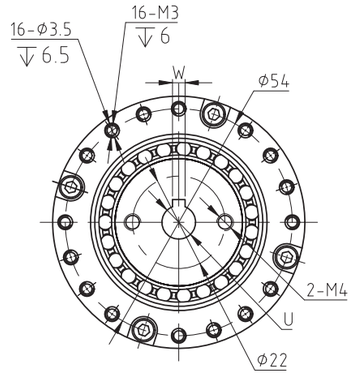


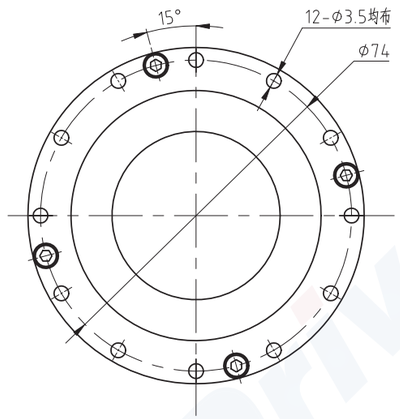


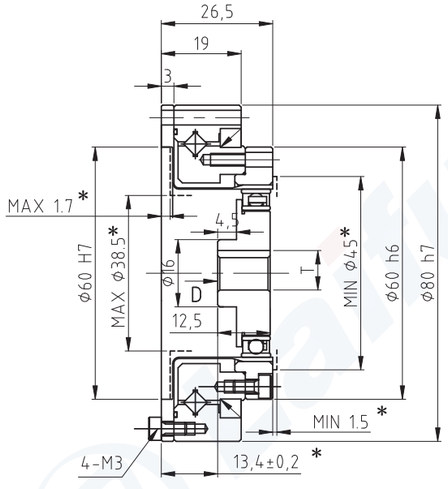


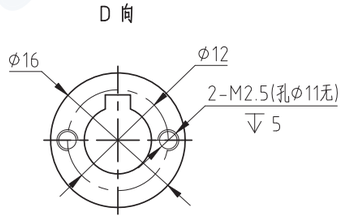
型号/MODEL	U	T	W
Wave generator-A Φ6	Φ6H7	7 0 +0.1	2JS9/P9
Wave generator-A Φ8	Φ8H7	9.4 0 +0.1	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-I:0.40	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000



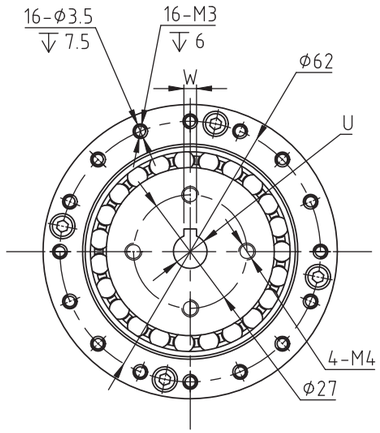


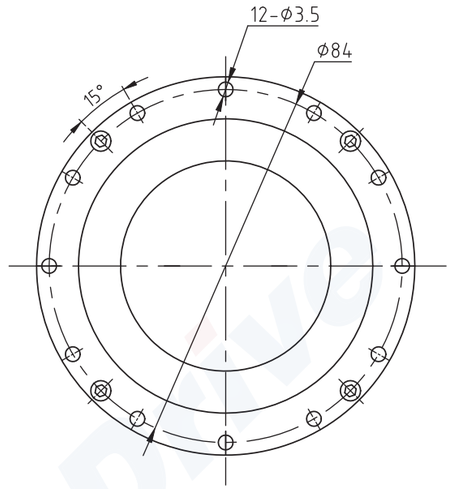


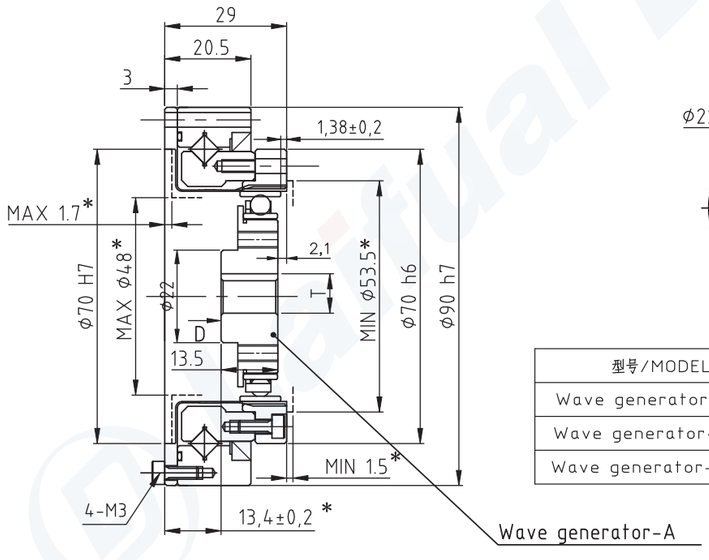


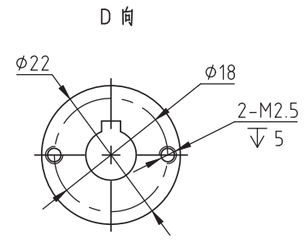
型号/MODEL	U	T	W
Wave generator-A Φ8	Φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A Φ11	Φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-I:0.54	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000





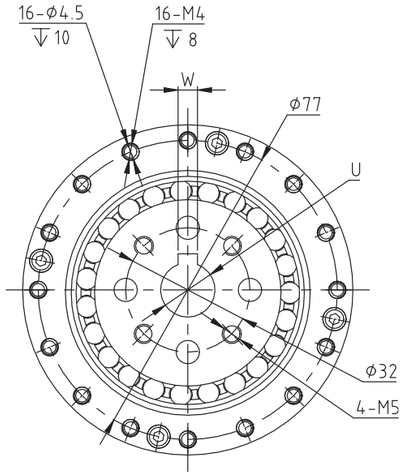


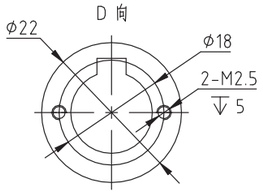


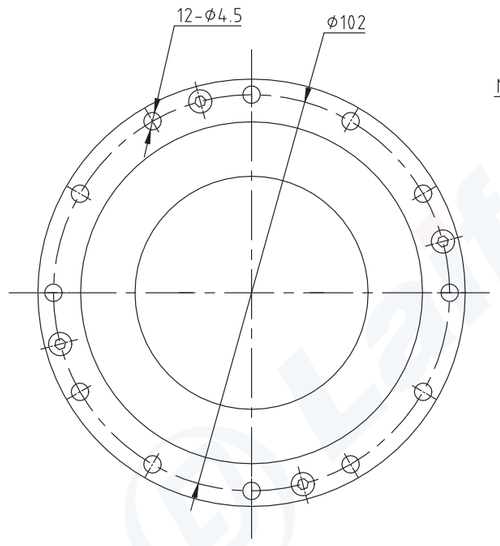
型号/MODEL	U	T	W
Wave generator-A Φ8	Φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A Φ11	Φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A Φ14	Φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

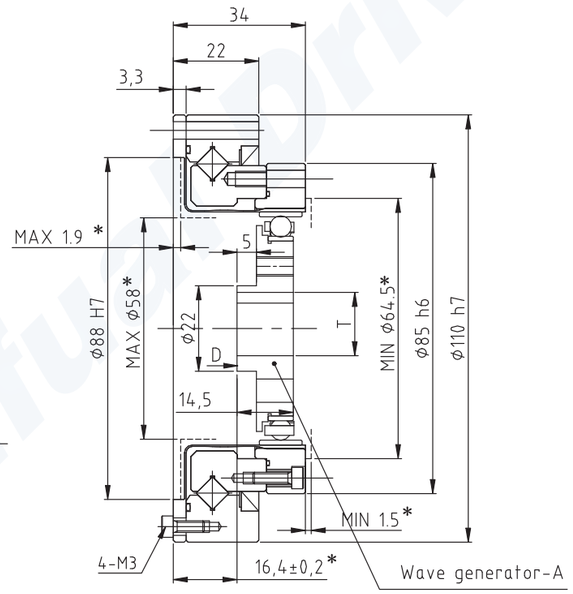
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LHG-I:0.72	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

结构图 | STRUCTURE CHART　LHG-25-XX-U-I





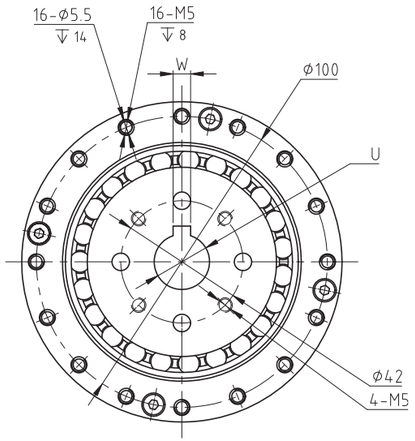


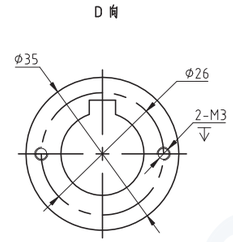


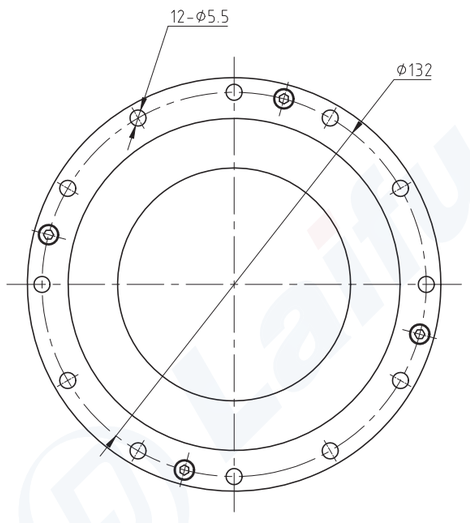
型号/MODEL	U	T	W
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9

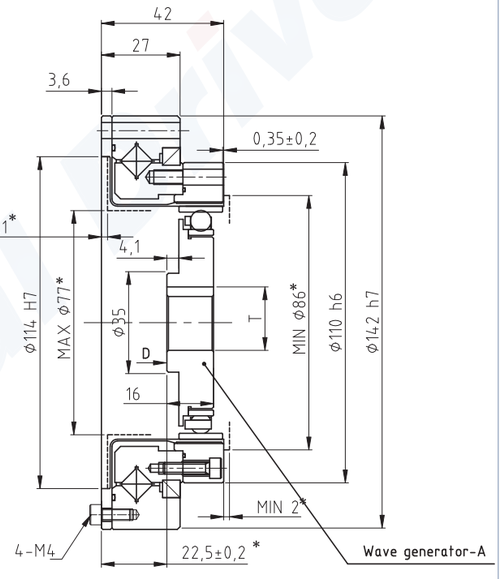
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LHG-I:1.22	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

结构图 | STRUCTURE CHART　LHG-32-XX-U-I





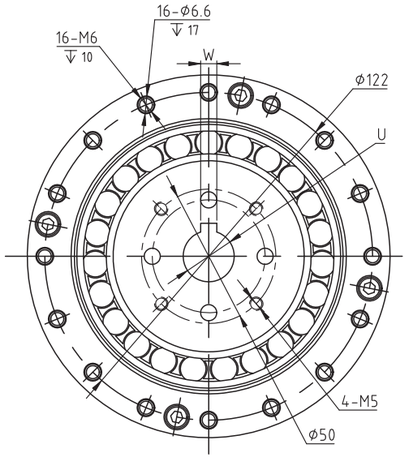


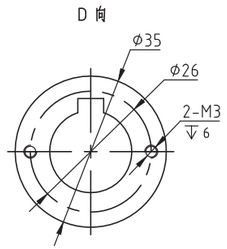


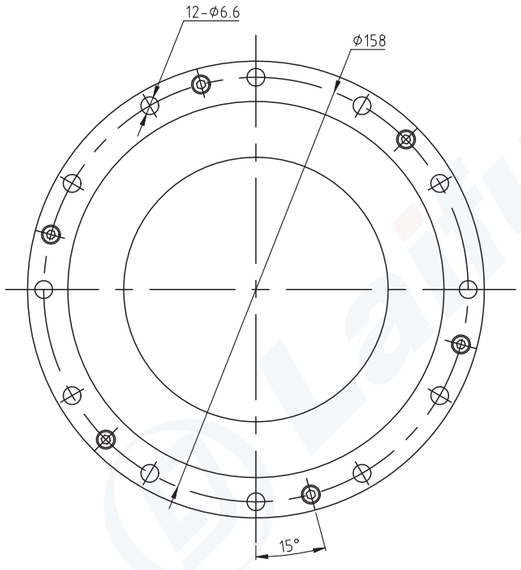
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9
Wave generator-A φ19	φ19H7	$21.8^{+0.1}_{0}$	6JS9/P9
Wave generator-A φ22	φ22H7	$24.8^{+0.1}_{0}$	6JS9/P9
		$25.3^{+0.1}_{0}$	8JS9/P9

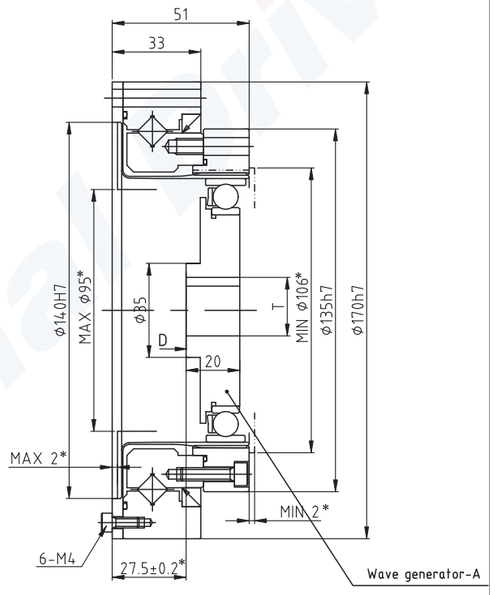
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LHG-I:2.54	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000

结构图 | STRUCTURE CHART　LHG-40-XX-U-I





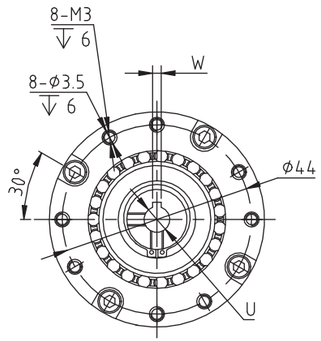


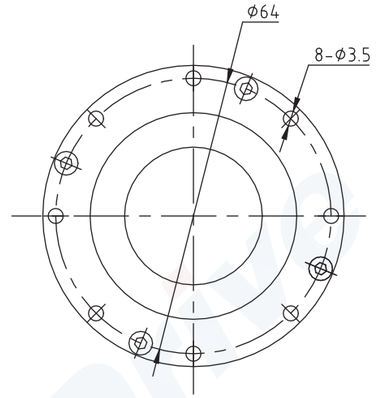


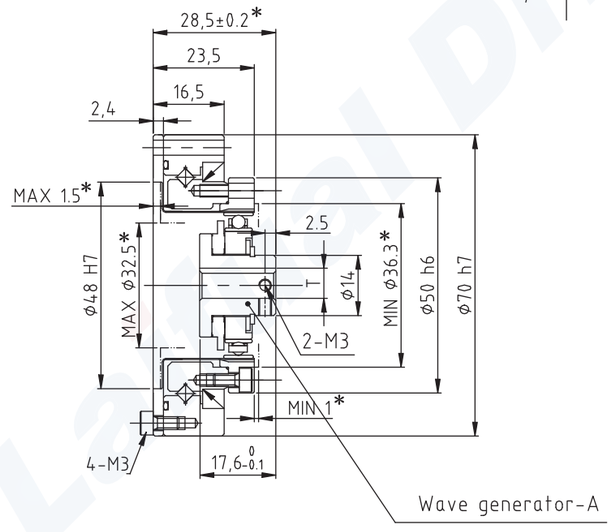
型号/MODEL	U	T	W
Wave generator-A φ14	φ14H7	$16.3^{+0.1}_{0}$	5JS9/P9
Wave generator-A φ19	φ19H7	$21.8^{+0.1}_{0}$	6JS9/P9
Wave generator-A φ22	φ22H7	$24.8^{+0.1}_{0}$	6JS9/P9
		$25.3^{+0.1}_{0}$	8JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LHG-**I**:4.40	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1530	156					15000

结构图 | STRUCTURE CHART　LHG-14-XX-U-II

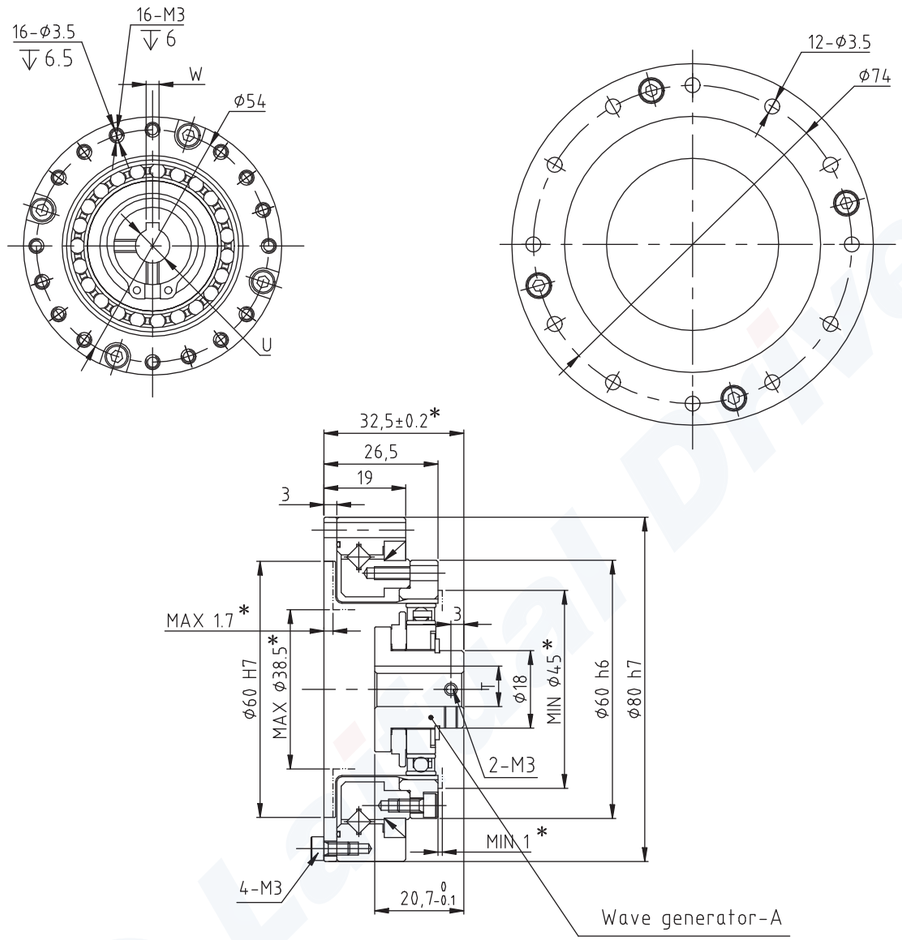






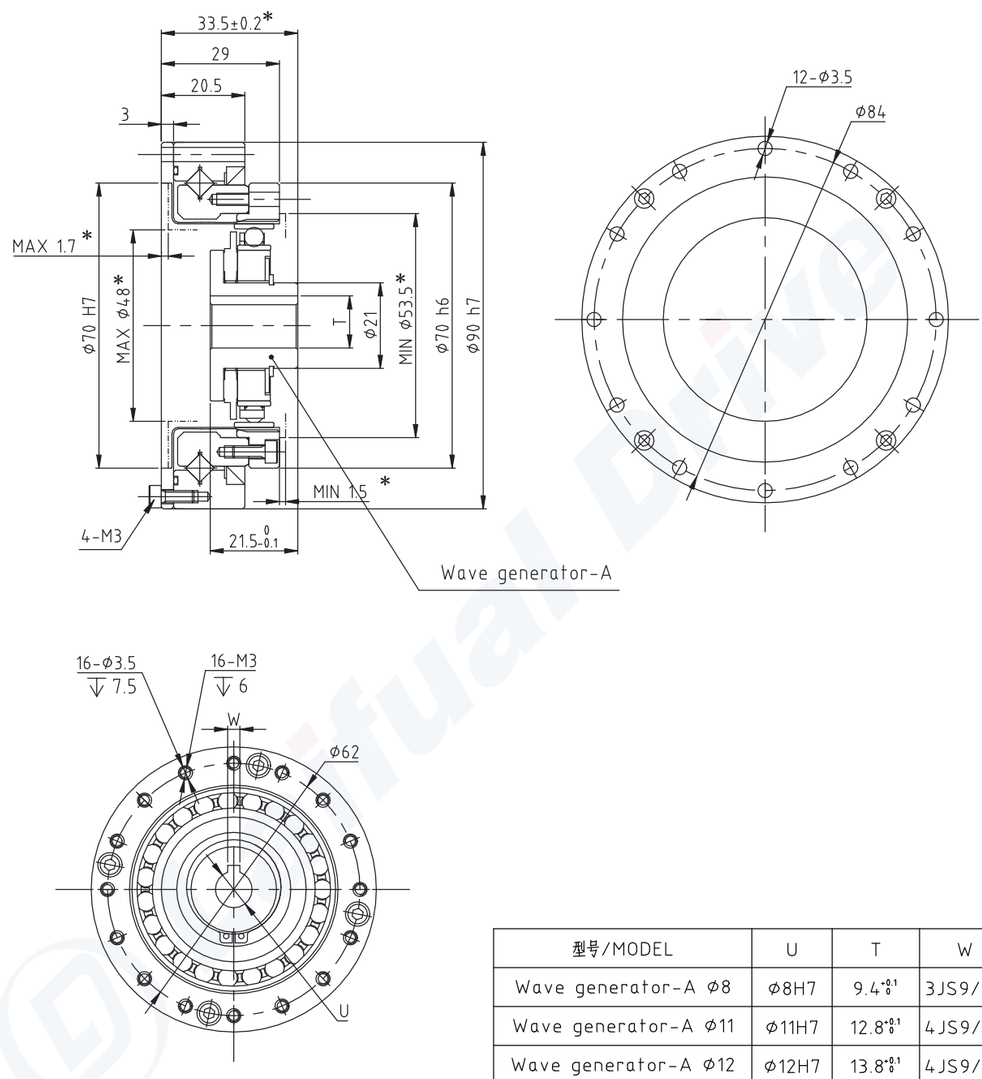
型号/MODEL	U	T	W
Wave generator-A/B φ6	φ6H7		
Wave generator-A/B φ6	φ6H7	$7^{+0.1}_{0}$	2JS9/P9
Wave generator-A/B φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-**II**:0.40	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000



型号/MODEL	U	T	W
Wave generator-A/B φ8	φ8H7		
Wave generator-A/B φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A/B φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9

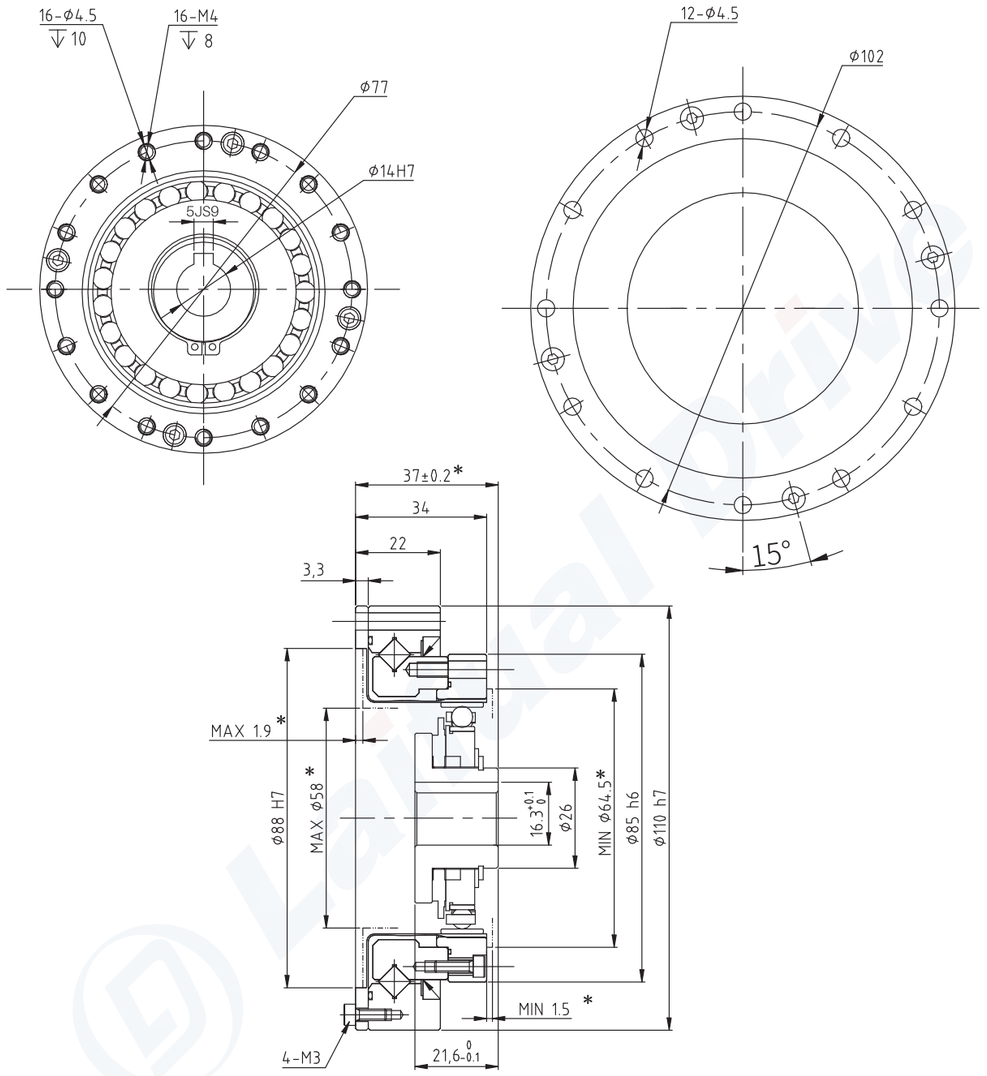
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-II:0.54	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000



型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3JS9/P9
Wave generator-A φ11	φ11H7	$12.8^{+0.1}_{0}$	4JS9/P9
Wave generator-A φ12	φ12H7	$13.8^{+0.1}_{0}$	4JS9/P9

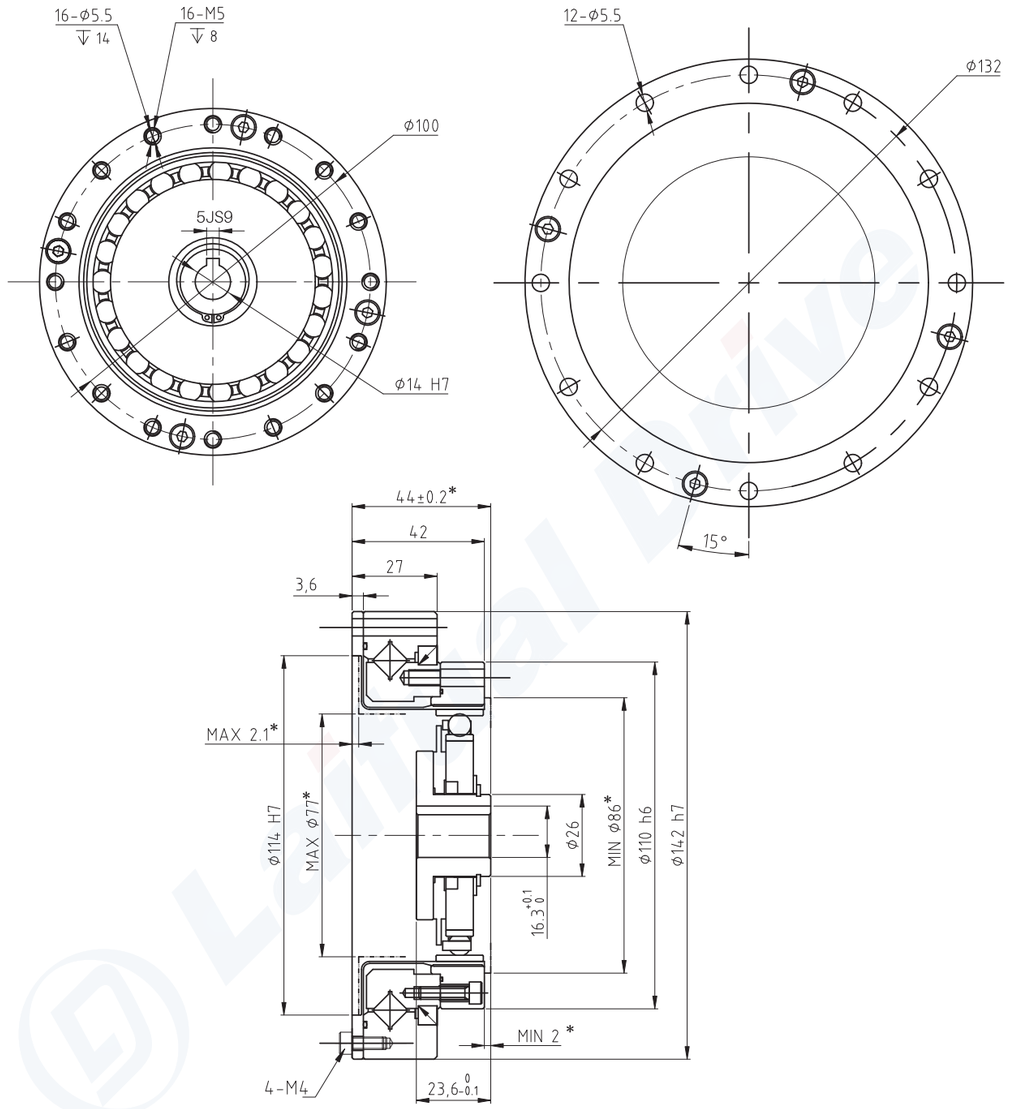
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LHG-II:0.72	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

结构图 | STRUCTURE CHART　LHG-25-XX-U-II

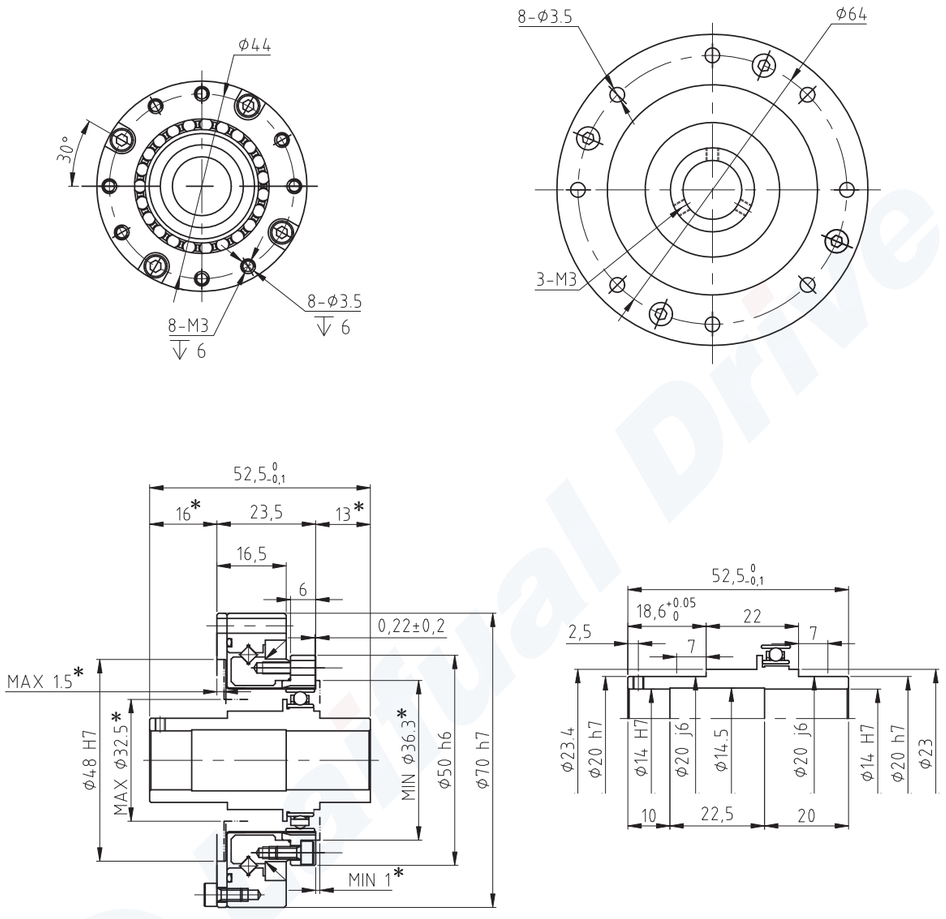


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LHG-II:1.22	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

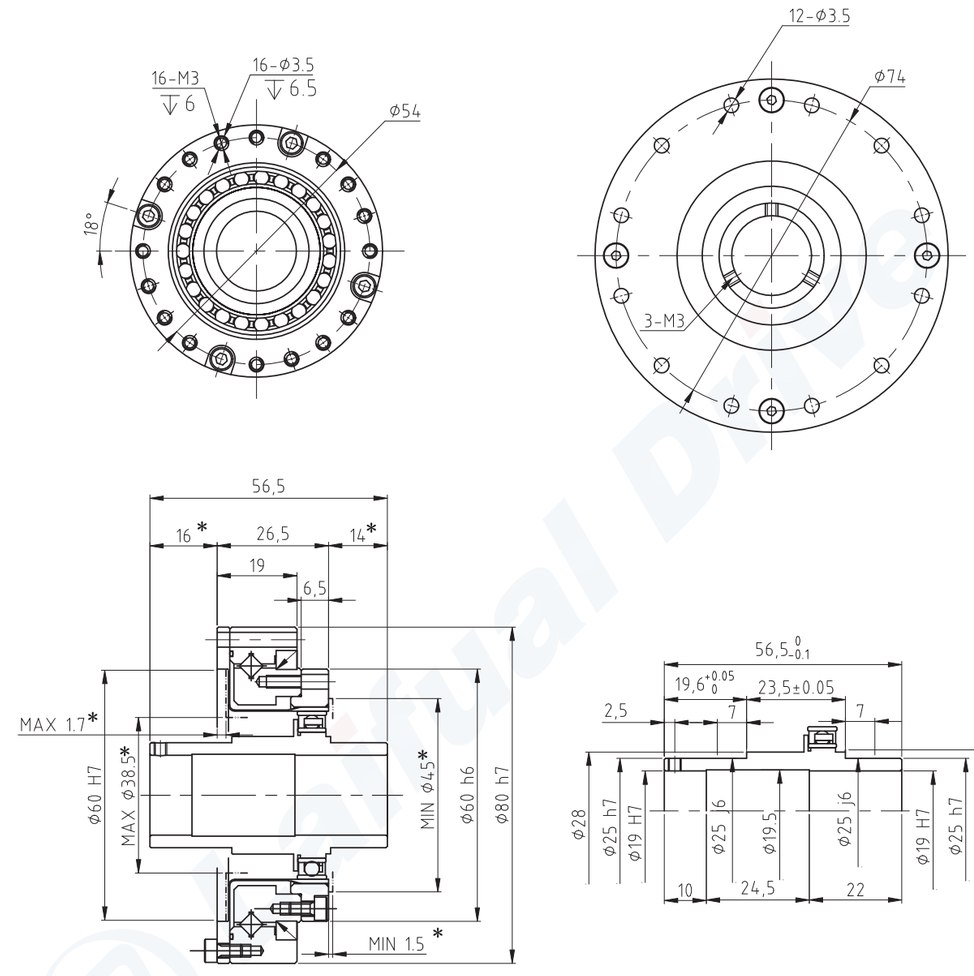
结构图 | STRUCTURE CHART　LHG-32-XX-U-II



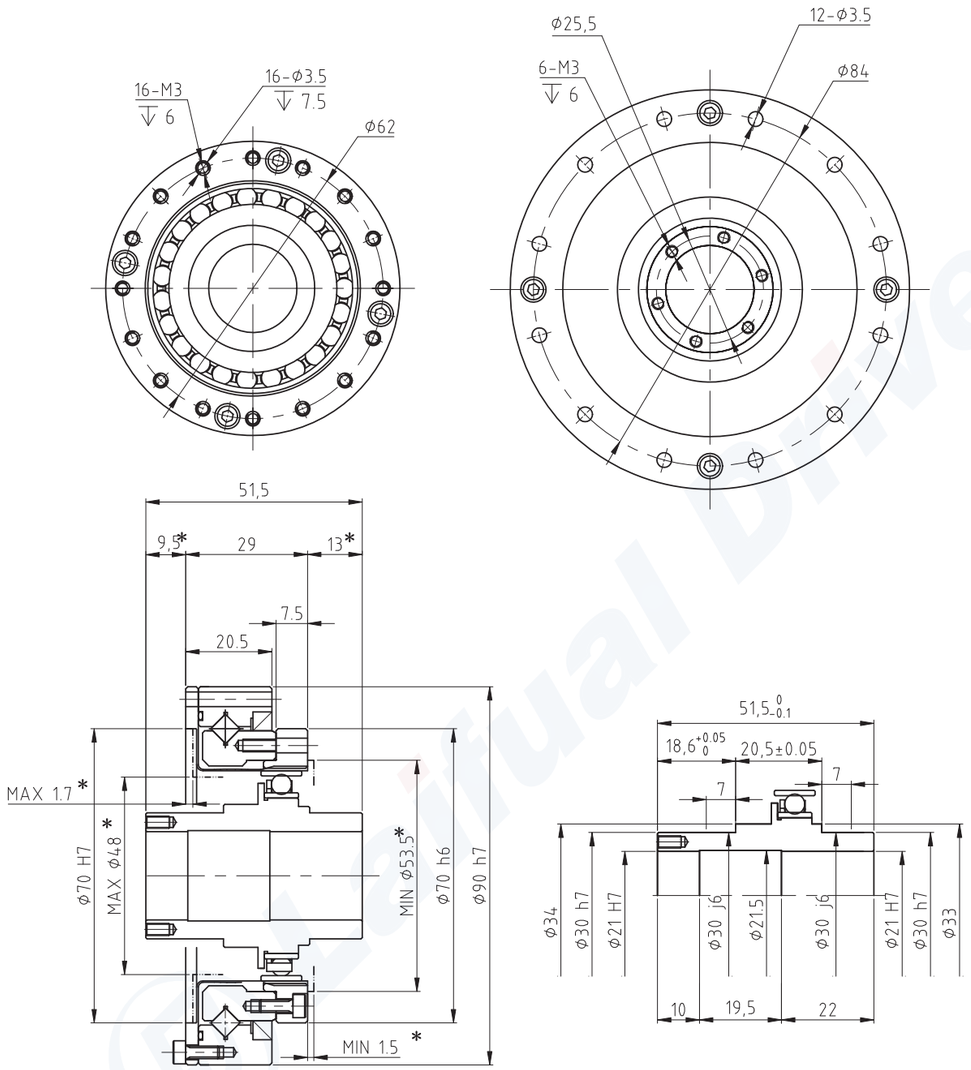
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LHG-II:2.54	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000



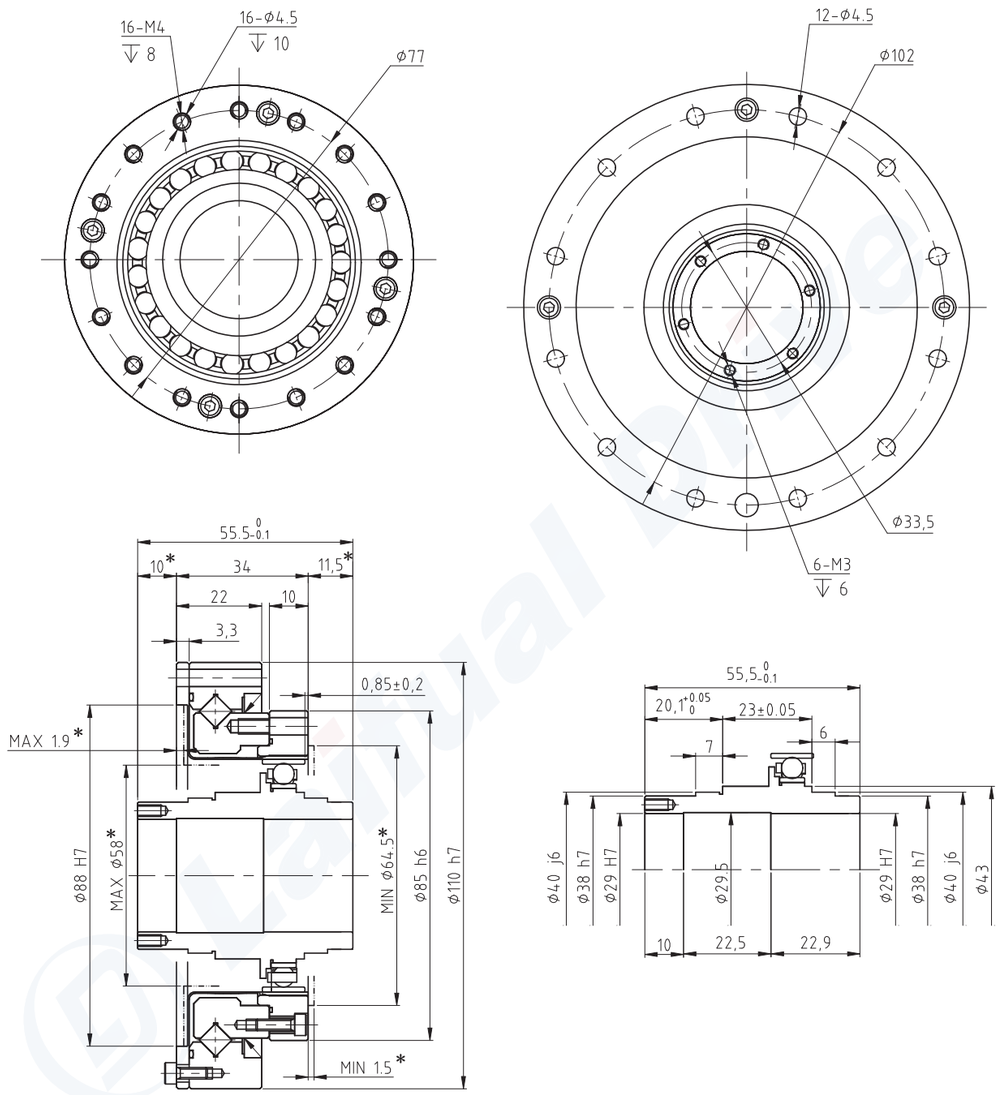
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
14	50	7	0.7	23	2.3	9	0.9	46	4.7	8500	3500	⩽20	LHG-V:0.40	10000
	80	10	1.0	30	3.1	14	1.4	61	6.2					15000
	100	10	1.0	36	3.7	14	1.4	70	7.2					15000
	120	10	1.0	36	3.7	14	1.4	70	7.2					15000



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
17	50	21	2.1	44	4.5	34	3.4	91	9	7300	3500	⩽20	LHG-V:0.62	10000
	80	29	2.9	56	5.7	35	3.6	113	12					15000
	100	31	3.2	70	7.2	51	5.2	143	15					15000
	120	31	3.2	70	7.2	51	5.2	112	11					15000

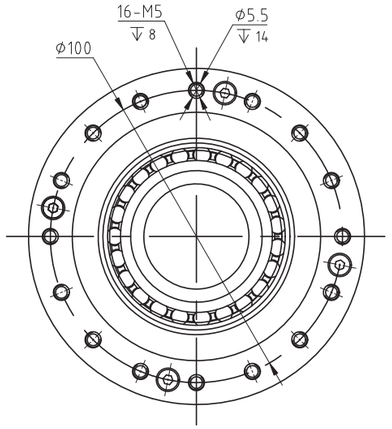


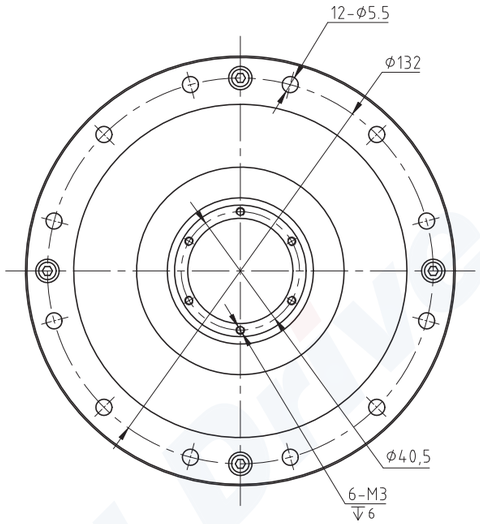
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
20	50	33	3.3	73	7.4	44	4.5	127	13	6500	3500	⩽20	LHG-V:0.82	10000
	80	44	4.5	96	9.8	61	6.2	165	17					15000
	100	52	5.3	107	10.9	64	6.5	191	20					15000
	120	52	5.3	113	11.5	64	6.5	191	20					15000
	160	52	5.3	120	12.2	64	6.5	191	20					15000

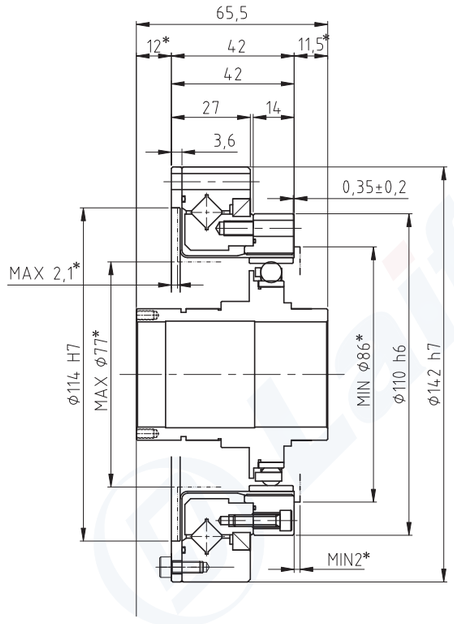


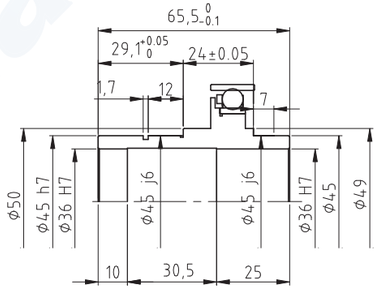
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
25	50	51	5.2	127	13	72	7.3	242	25	5600	3500	⩽20	LHG-V:1.4	10000
	80	82	8.4	178	18	113	12	332	34					15000
	100	87	8.9	204	21	140	14	369	38					15000
	120	87	8.9	217	22	140	14	395	40					15000

结构图 | STRUCTURE CHART　LHG-32-XX-U-V



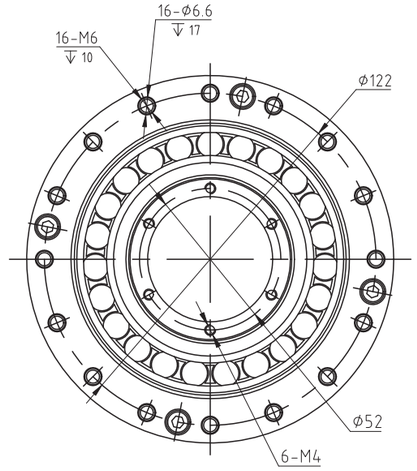


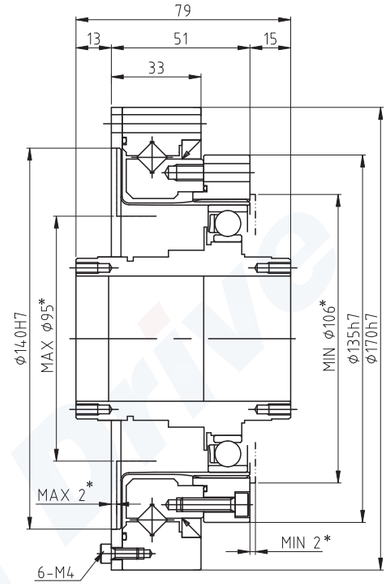


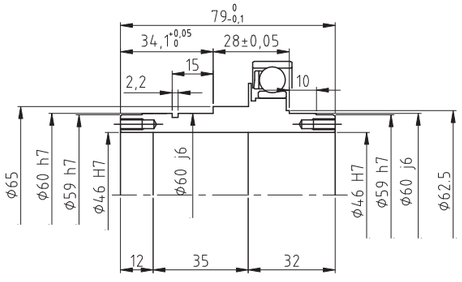


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
32	50	99	10	281	29	140	14	497	51	4800	3500	⩽20	LHG-V:2.7	10000
	80	153	16	395	40	217	22	738	75					15000
	100	178	18	433	44	281	29	841	86					15000
	120	178	18	459	47	281	29	892	91					15000

结构图 | STRUCTURE CHART　LHG-40-XX-U-V







型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input		起动停止时的容许峰值转矩 Permissible peak torque at start and stop		平均负载转矩的容许最大值 Permissible maximum value for average load torque		瞬间容许最大转矩 Permissible maximum momentary torque		容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 weight	设计寿命 Desian life
		Nm	kgfm	Nm	kgfm	Nm	kgfm	Nm	kgfm	r/min	r/min	Arc Sec	kg	Hour
40	50	178	18	523	53	255	26	892	91	4000	3000	⩽20	LHG-V:4.06	10000
	80	268	27	675	69	369	38	1270	130					15000
	100	345	35	738	75	484	49	1400	143					15000
	120	382	39	802	82	586	60	1530	156					15000



LHD- I



LHD- III

LHD系列 LHD SERIES

LHD系列柔轮为翻边型超短筒结构，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。在不改变产品性能状态下，LHD-I轴向长度约缩短了50%，LHD-III轴向长度缩短了15%。

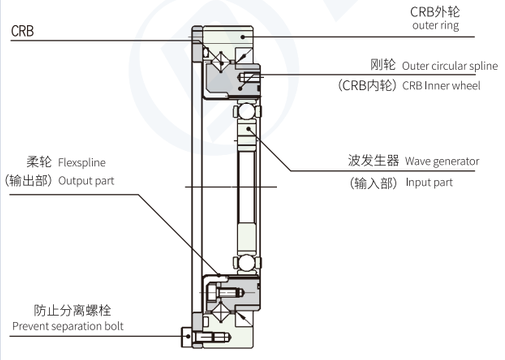
LHD serie LHD series flexspline with flanging ultra short tube structure. Which can be used when circular spline fixed, and the flexspline as end output. It can also used to fix the flexspline, and the circular spline as end output. The axial length of LHD- I is shortened by 50%, LHD-III is shortened by 15% without changing product performance.

应用领域
Application

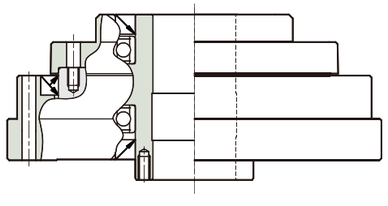
人型机器人 Humanoid robot	半导体制造设备 Semiconductor manufacturing equipment	FPD制造设备 FPD manufacturing equipment
工业机器人 Industrial robot	宇宙用设备 Space equipment	

LHD系列组合型结构 Combinative structure of LHD series

LHD-I



LHD-III



LHD额定参数表 Rated parameter table of LHD series

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	12	4.8	23	8500	3500	⩽20	LHD-I:0.34 LHD-III:0.64	9000
	80	5.4	16	7.7	35					10000
	100	5.4	19	7.7	35					10000
17	50	11	23	18	48	7300	3500	⩽20	LHD-I:0.42 LHD-III:0.87	9000
	80	15	29	19	61					10000
	100	16	37	27	71					10000
20	50	17	39	24	69	6500	3500	⩽20	LHD-I:0.54 LHD-III:1.14	9000
	80	24	51	33	89					10000
	100	28	57	34	95					10000
25	50	27	69	38	127	5600	3500	⩽20	LHD-I:0.95 LHD-III:1.75	9000
	80	44	96	60	179					10000
	100	47	110	75	184					10000
32	50	53	151	75	268	4800	3500	⩽20	LHD-I:1.90 LHD-III:3.56	9000
	80	83	213	117	398					10000
	100	96	233	151	420					10000

角度传达精度 Transmission accuracy

单位 unit：arc min

减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	2	2	1.5	1.5	1	1	1	1
50以上 above 50	2	2	1.5	1.5	1	1	1	1

滞后损失 Hysteresis loss

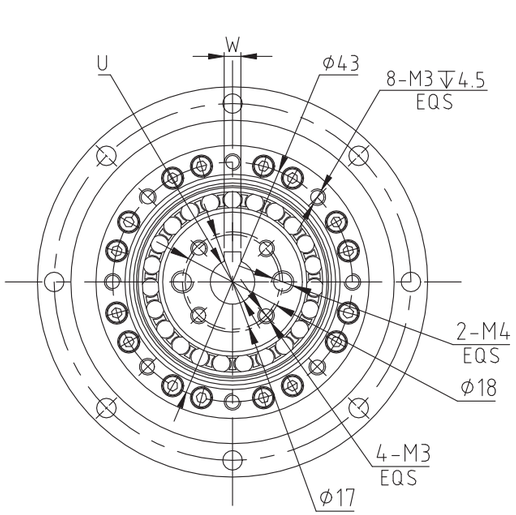
单位 unit：arc min

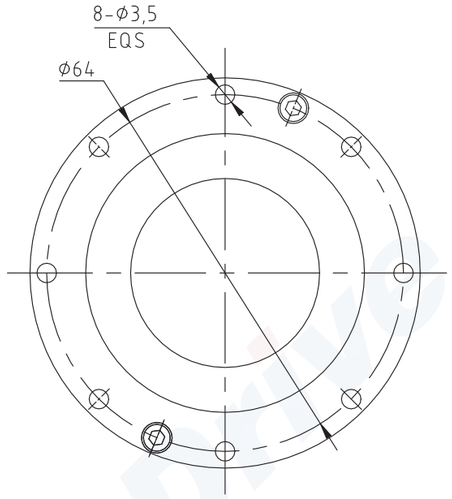
减速比 Reduction ratio \ 型号 Type	8	11	14	17	20	25	32	40
50	3	2	2	2	2	2	2	2
50以上 above 50	2	2	1	1	1	1	1	1

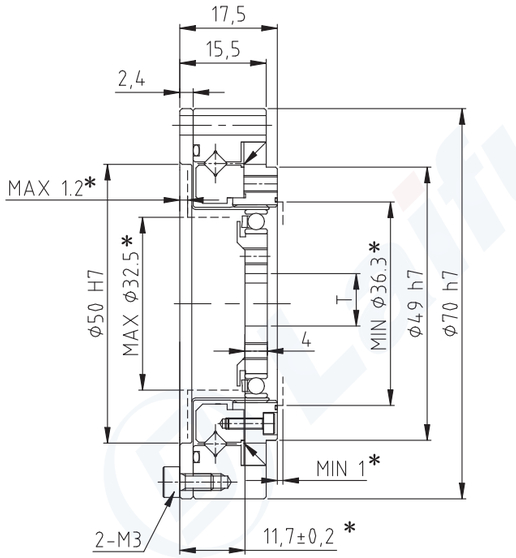
刚性（弹簧常数）Torsional stiffness

项目project		单位 Unit \ 型号 Type	8	11	14	17	20	25	32	40
T1		Nm	0.29	0.8	2	3.9	7	14	29	54
T2		Nm	0.75	2	6.9	12	25	48	108	196
减速比50 Reduction ratio 50	K1	×104 Nm/rad	0.044	0.221	0.34	0.81	1.3	2.5	5.4	10
	K2	×104 Nm/rad	0.067	0.3	0.47	1.1	1.8	3.4	7.8	14
	K3	×104 Nm/rad	0.084	0.32	0.57	1.3	2.3	4.4	9.8	18
减速比50以上 Reduction ratio above 50	K1	×104 Nm/rad	0.09	0.267	0.47	1	1.6	3.1	6.7	13
	K2	×104 Nm/rad	0.104	0.333	0.61	1.4	2.5	5	11	20
	K3	×104 Nm/rad	0.12	0.432	0.71	1.6	2.9	5.7	12	23

结构图 | STRUCTURE CHART　LHD-14-XX-U-I



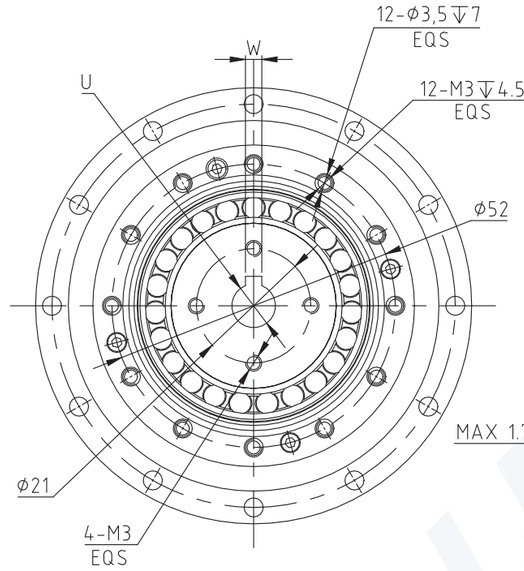


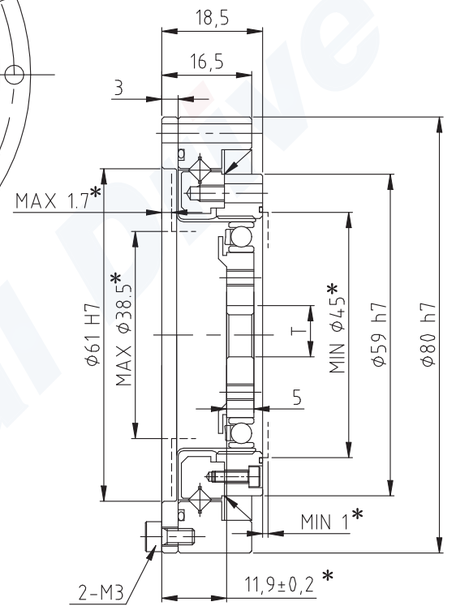


型号/MODEL	U	T	W
Wave generator-A φ6	φ6H7	$7^{+0.1}_{0}$	2P9/JS9
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ11	φ11H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	12	4.8	23	8500	3500	⩽20	LHD-I:0.34	9000
	80	5.4	16	7.7	35					10000
	100	5.4	19	7.7	35					10000

结构图 | STRUCTURE CHART　LHD-17-XX-U-I

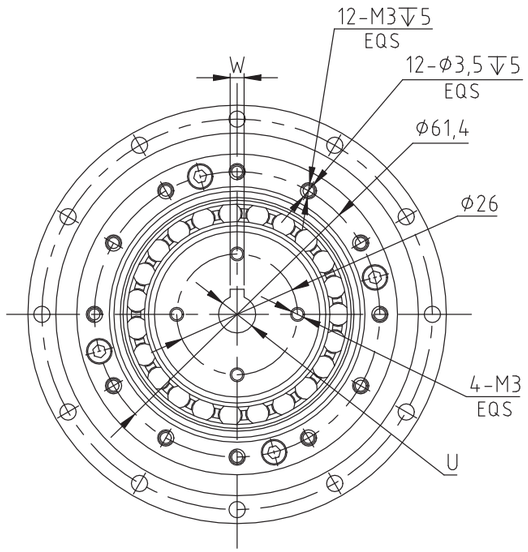


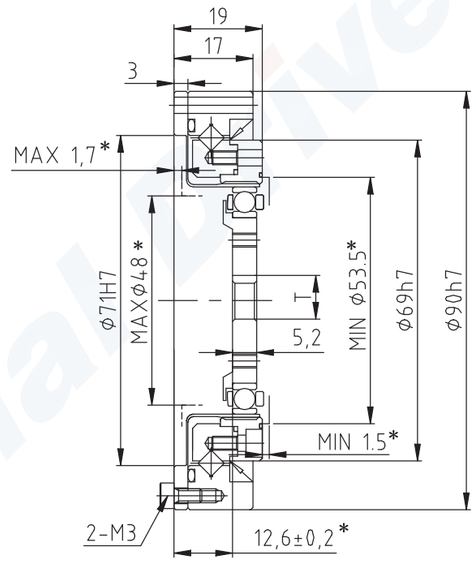


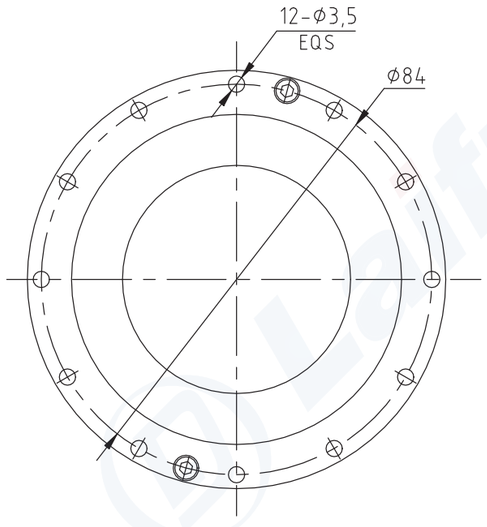


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ15	φ15H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
17	50	11	23	18	48	7300	3500	⩽20	LHD-I:0.42	9000
	80	15	29	19	61					10000
	100	16	37	27	71					10000

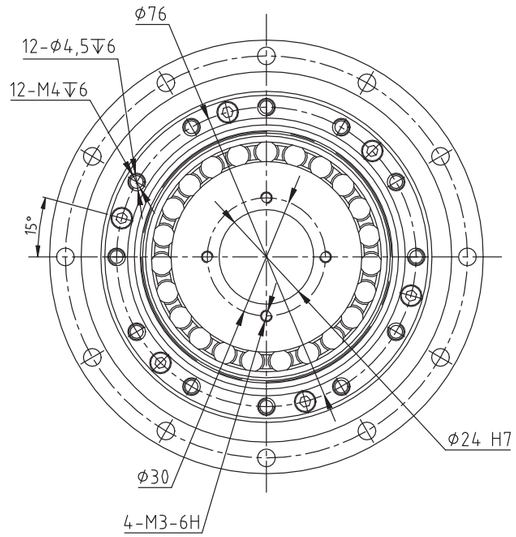


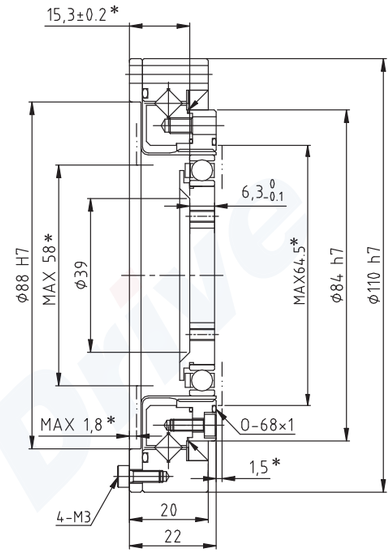


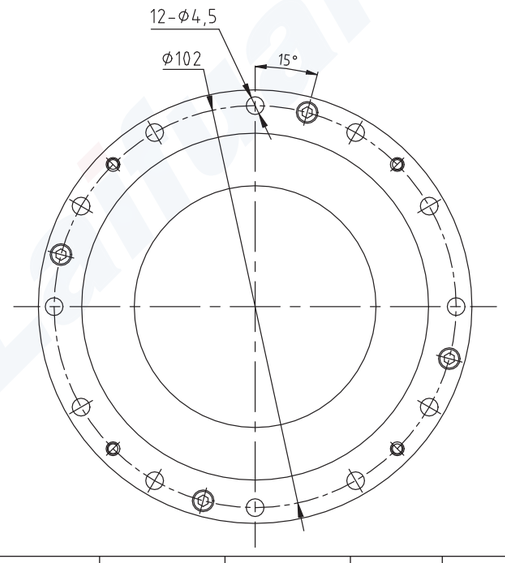


型号/MODEL	U	T	W
Wave generator-A φ8	φ8H7	$9.4^{+0.1}_{0}$	3P9/JS9
Wave generator-A φ20	φ20H7		

型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
20	50	17	39	24	69	6500	3500	⩽20	LHD-I:0.54	9000
	80	24	51	33	89					10000
	100	28	57	34	95					10000

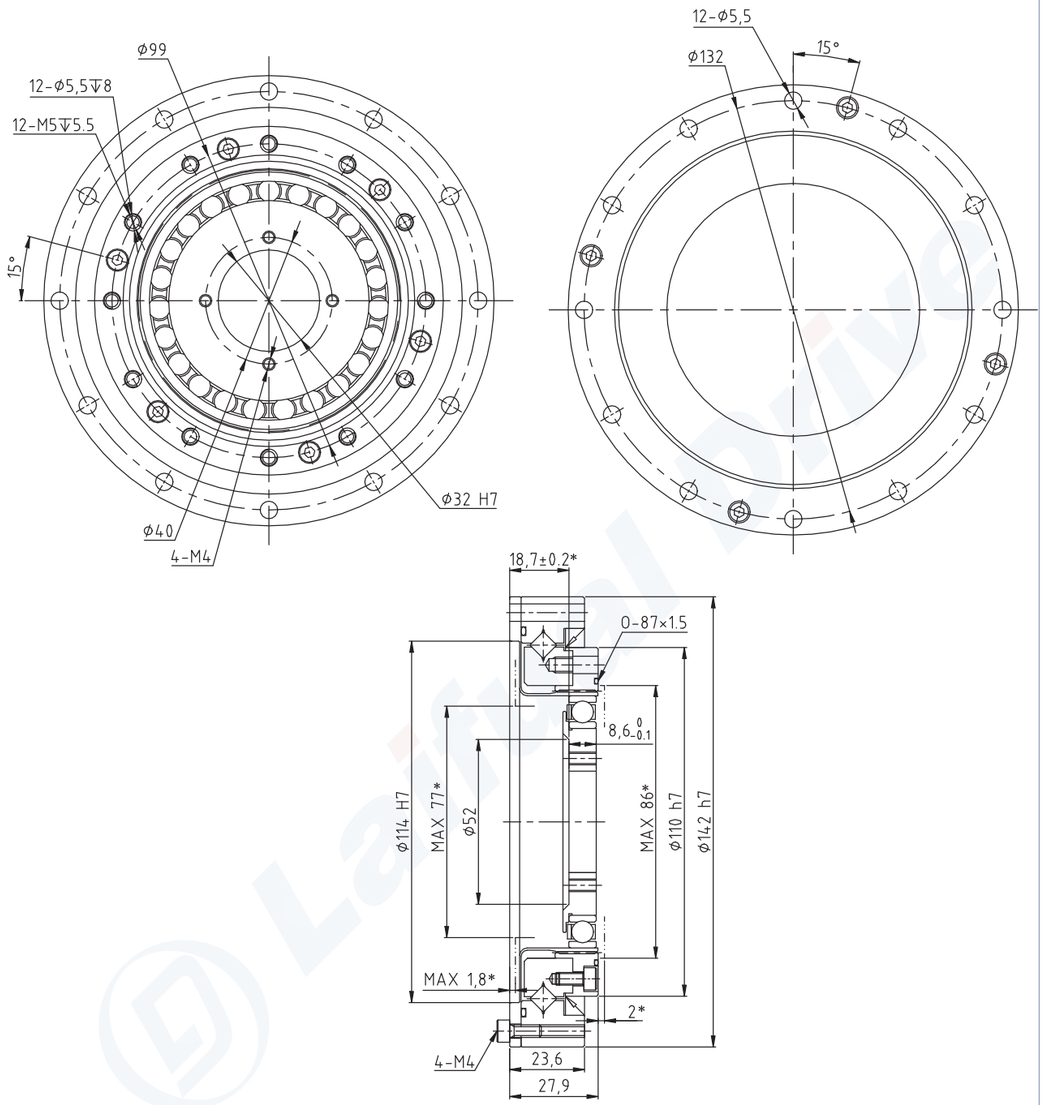






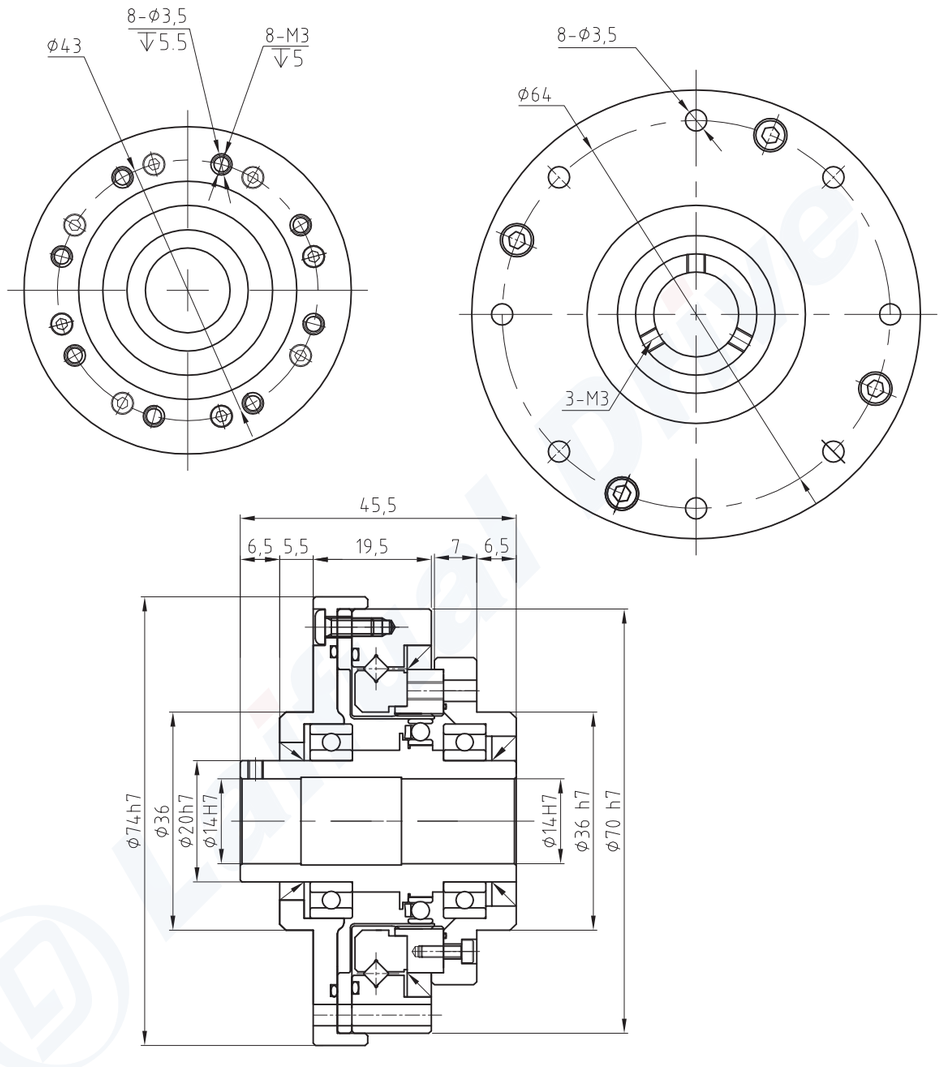
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
25	50	27	69	38	127	5600	3500	⩽20	LHD-I:0.95	9000
	80	44	96	60	179					10000
	100	47	110	75	184					10000

结构图 | STRUCTURE CHART　LHD-32-XX-U-I

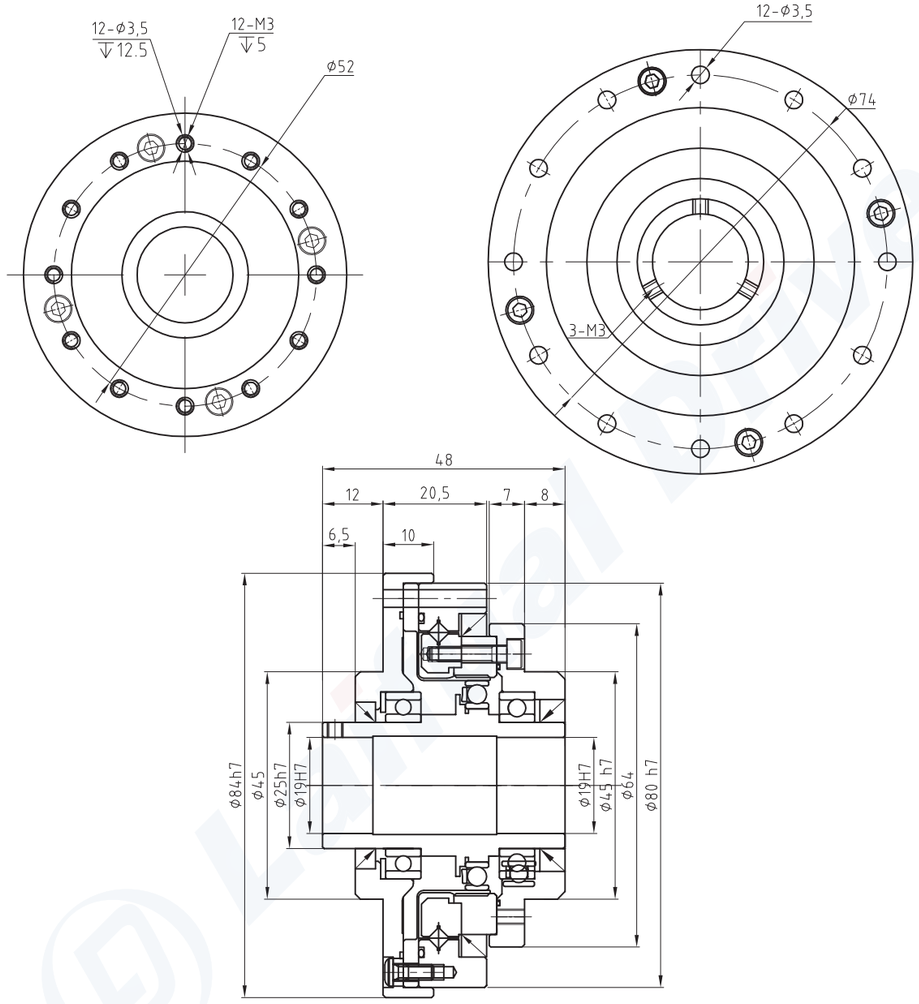


型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
32	50	53	151	75	268	4800	3500	⩽20	LHD-I:1.90	9000
	80	83	213	117	398					10000
	100	96	233	151	420					10000

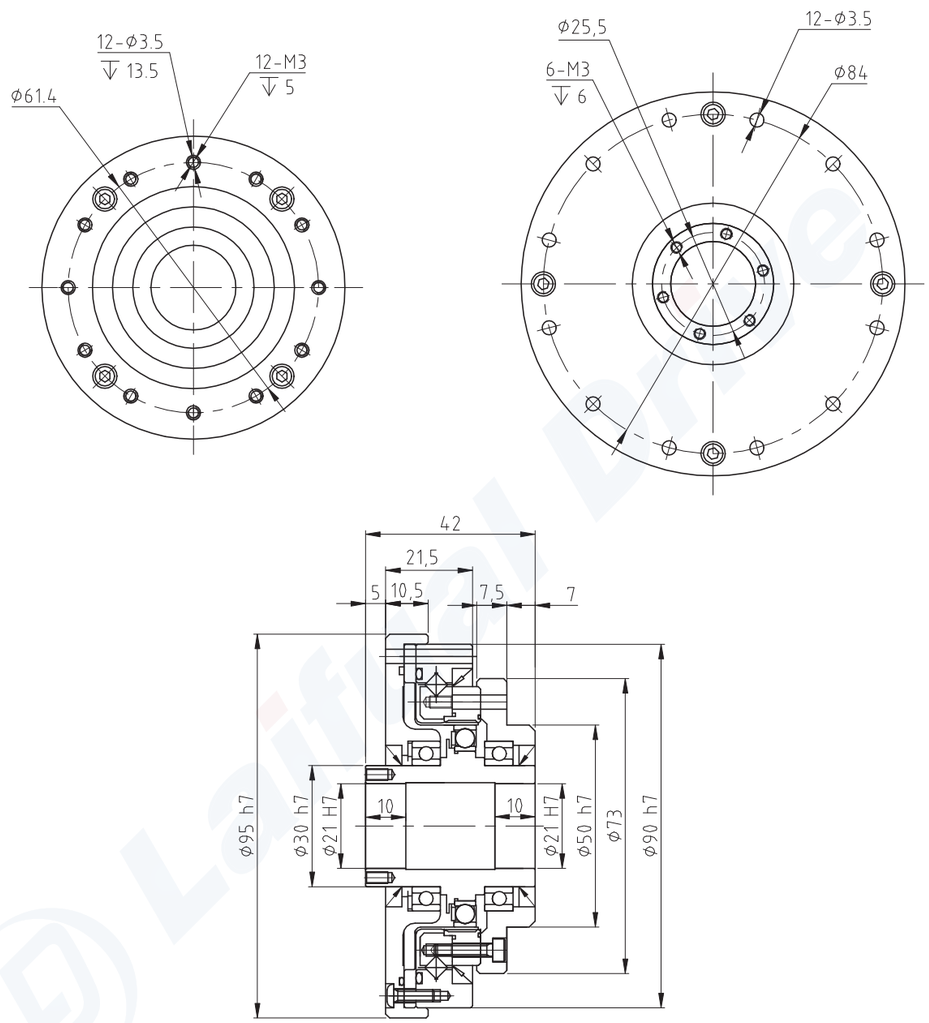
结构图 | STRUCTURE CHART　LHD-14-XX-U-III



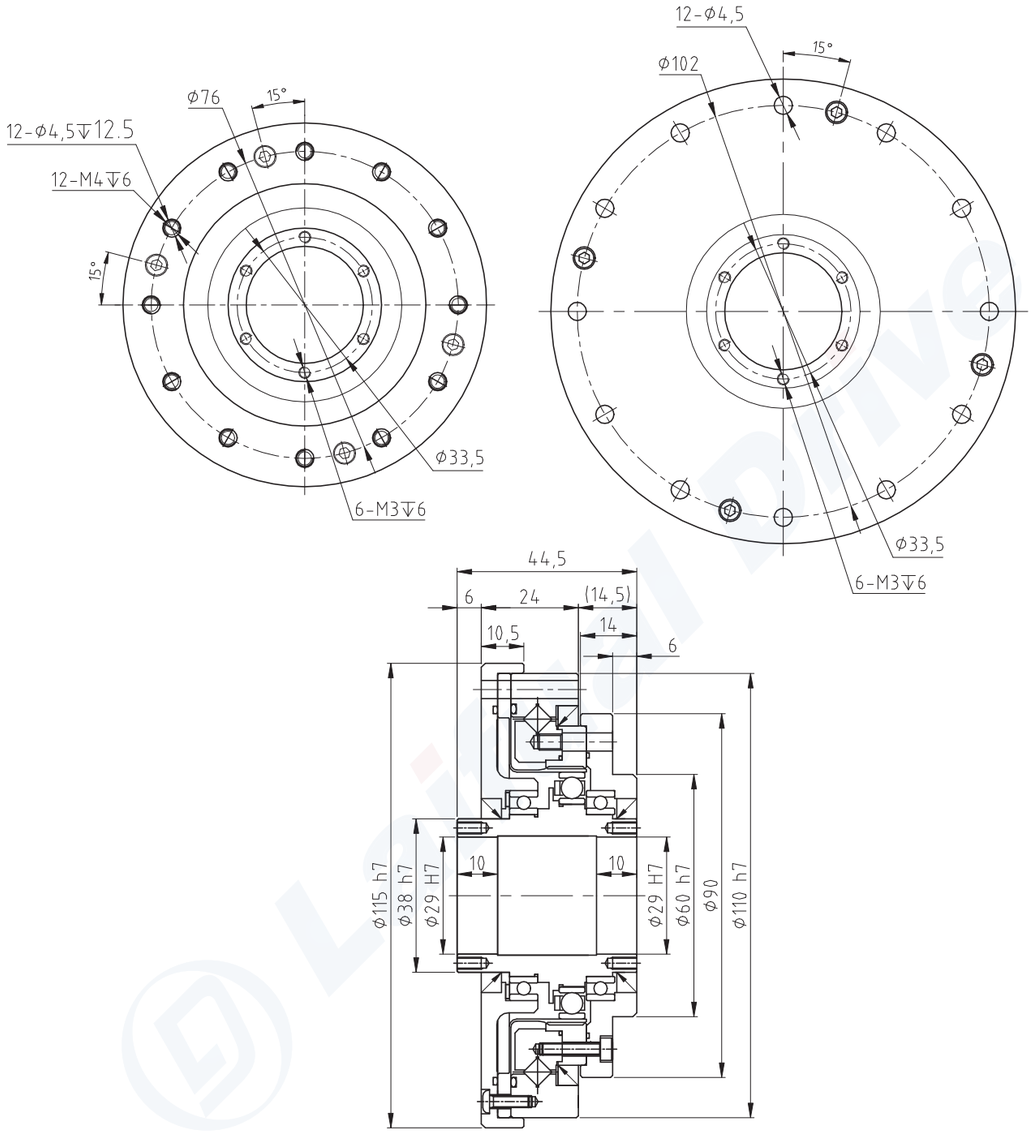
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
14	50	3.7	12	4.8	23	8500	3500	⩽20	LHD-III:0.64	9000
	80	5.4	16	7.7	35					10000
	100	5.4	19	7.7	35					10000



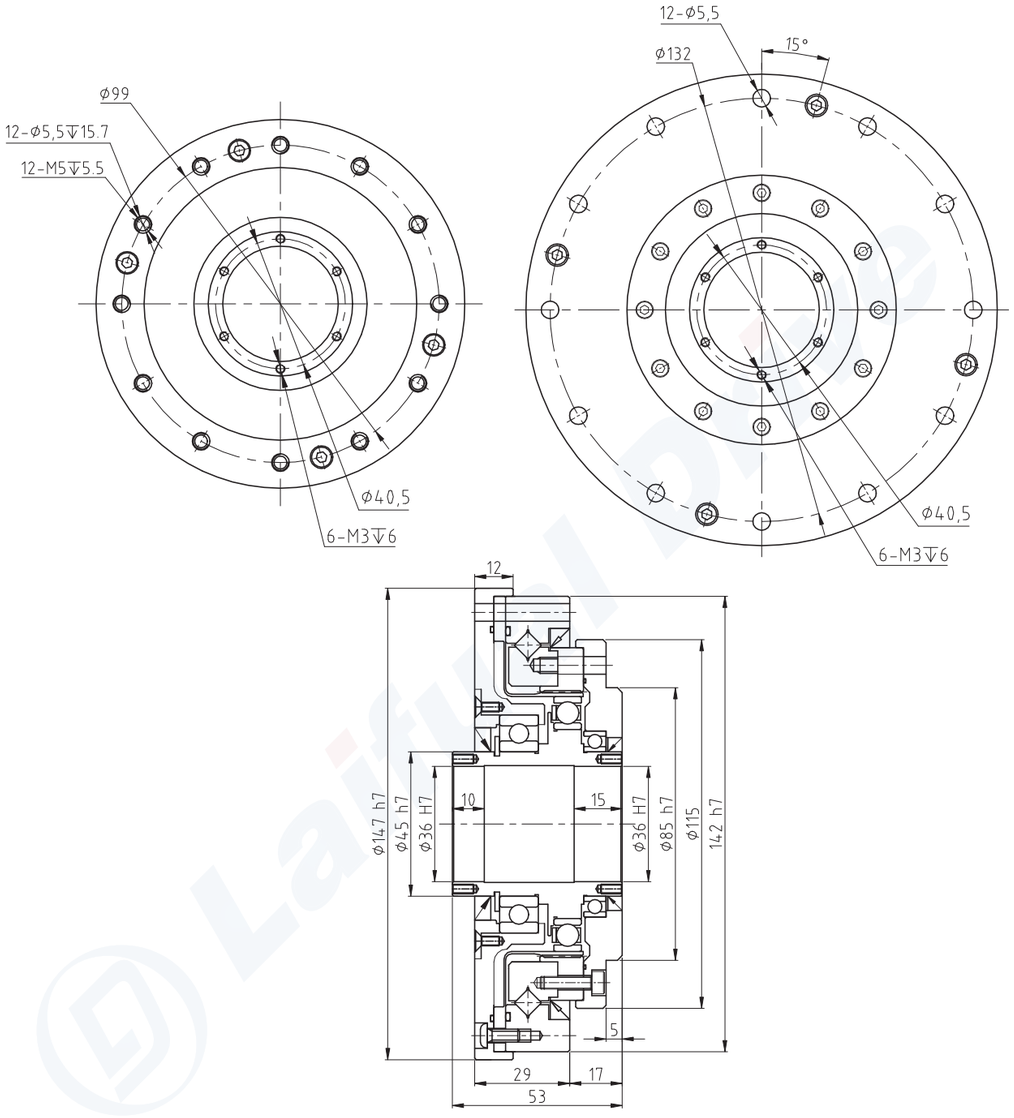
型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
17	50	11	23	18	48	7300	3500	⩽20	LHD-III:0.87	9000
	80	15	29	19	61					10000
	100	16	37	27	71					10000



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
20	50	17	39	24	69	6500	3500	⩽20	LHD-III:1.14	9000
	80	24	51	33	89					10000
	100	28	57	34	95					10000



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
25	50	27	69	38	127	5600	3500	⩽20	LHD-Ⅲ:1.75	9000
	80	44	96	60	179					10000
	100	47	110	75	184					10000



型号 Model	速比 Reduction ratio	输入2000r/min时的额定转矩 Rated torque at 2000r/min input	起动停止时的容许峰值转矩 Permissible peak torque at start and stop	平均负载转矩的容许最大值 Permissible maximum value for average load torque	瞬间容许最大转矩 Permissible maximum momentary torque	容许最高输入转速(脂润滑) Permissible maximum input rotational speed(Grease)	容许平均输入转速(脂润滑) Permissible average input rotational speed(Greaae)	背隙 Backlash	重量 Weight	设计寿命 Desian life
		Nm	Nm	Nm	Nm	r/min	r/min	Arc Sec	Kg	Hour
32	50	53	151	75	268	4800	3500	⩽20	LHD-Ⅲ:3.56	9000
	80	83	213	117	398					10000
	100	96	233	151	420					10000

关于保修 | WARRANTY

Laifual Drive的保修期及保修范围规定如下:

保修期

以产品目录记载的正常组装状态及润滑状态下使用为前提，保修期为交货后的一年时间或该产品运行时间达到2000小时两者中最先达到的时间。

保修范围

在上述保修期内，因本公司制造缺陷导致故障时，由本公司负责对本产品进行维修或更换。但以下情况不在保修范围内。
①因客户不当操作或违规使用导致故障的。
②非本公司实施的改造或修理导致故障的。
③非本产品原因导致故障的。
④天灾等非本公司责任导致故障的。
而且，这里所说的保修是指对本产品的保修。
对于因本产品故障引发的其它损失、与在设备上进行拆装相关的工时、费用等，不在本公司负责范围内。

Regulations of warranty period and warranty scope of Laifual Drive as follows:

Warranty period
Warranty period is the earlier time between one year after delivery or working time of 2,000 hours on condition that it is used in normal assembly state and lubrication condition recorded in product content.

Warranty scope
Our company is responsible for maintenance or replacement of the product when malfunction resulting from manufacturing defect under warranty period However, following situations are out of warranty scope.

① Damage results from unsuitable operation or illegal use by clients.
② Damage results from modification or repair that is not carried out by our company.
③ Damage not caused by the product.
④ Damage results from natural disaster and the like but not the responsibility of our company What's more, the warranty mentioned here is only for our product.
Other loss caused by damage of the product and related man-hour and cost of assembly and disassembly of equipment is out of the scope of our companys responsibilities.

关于商标 | TRADEMARK

以下商标在中国大陆内注册
The following trademarks have been registered in China

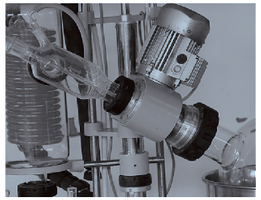
Laifual Drive

来福谐波®
LAIFUXIEBO

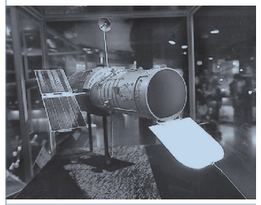
主要采用市场 | APPLICATION

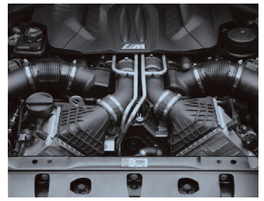

金属机床
Metal Working Machine

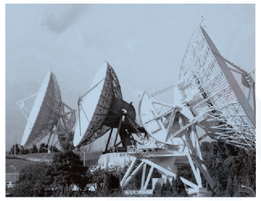

金属加工机械
Processing Machines


测定·分析·试验设备
Measurement, Analytical and Test Systems


医疗机械
Medical Equipment

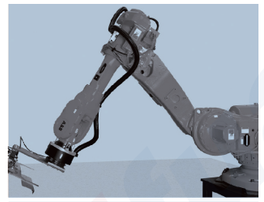

望远镜
Telescopes


能量相关
Energy


通信设备
Communication Equipment


包装·装箱设备
Crating and Packaging Machines

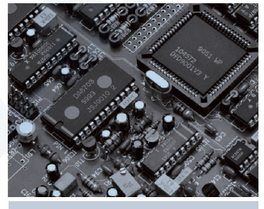

航天设备
Space Equipment


机器人
Robots

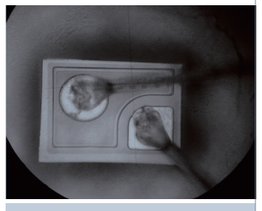

人型机器人
Humanoid Robots


玻璃·陶瓷制造装置
Glass and Ceramic Manufacturing Systems

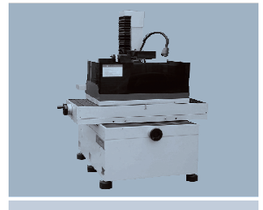

印刷·装订·纸品加工机械
Printing, Bookbinding and Paper

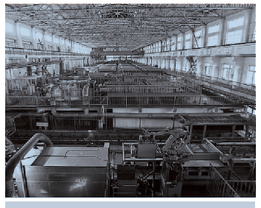

印刷电路制造装置
Printed Circuit Board Manufacturing Machines


航空器相关
Aircraft


半导体制造装置
Semiconductor Manufacturing Systems


FPD制造装置
Flat Panel Display Manufacturing Systems


木材·轻金属·塑料加工机床
Wood, Light Metal and Plastic Machine Tools


制造机械
Paper-making Machines


光学相关机械
Optical Machines

安全使用注意

⚠ 警告 表示操作错误可能会导致人员死亡或重伤

⚠ 注意 表示操作错误可能会导致人员受伤及财产损失

用途限制: 本产品不能用于以下用途:

*航天设施 *航空设施 *原子能设施 *家庭电器、设备
*真空设备 *汽车设备 *游戏设施 *直接作用于人体的设备
*以运送人为目的的设备 *特殊环境用设备

- 用于以上用途时,请预先咨询授权代理商。
- 将本产品用于与人的生命相关的设备及可能会产生重大损失的设备时,请安装即使因破坏而导致不能控制输出端,也不会发生事故的安全装置。

设计注意事项:进行设计时,请务必阅读产品目录

⚠ 注意
请在规定环境下使用。
使用时,请遵守以下条件:
• 环境温度:0~40℃;
• 不溅到水、油等;
• 无腐蚀性、爆炸性气体;
• 无金属粉等灰尘。

⚠ 注意
请使用规定的方法进行安装:
• 组装方法、顺序,请按产品目录正确实施;
• 拧紧方法(使用螺栓等),请遵守本公司建议;
• 如未正确组装,运转时可能会导致振动、缩短使用寿命、精度下降、损坏等故障。

⚠ 注意
请根据规定精度实施安装:
• 请正确设计、组装各种部件,确保其能够达到产品目录中的推荐安装精度;
• 达不到规定精度可能会导致振动、缩短使用寿命、精度下降、损坏等故障。

⚠ 注意
请使用规定的润滑剂。
• 不使用本公司推荐的润滑剂,可能会缩短产品的使用寿命。
此外,请按规定的条件更换润滑剂。
• 组合型产品已预先封入润滑脂,请不要混入其它润滑脂。

使用注意事项:执行运转时,请务必阅读产品目录

⚠ 注意
请小心取用产品及部件。
• 请勿使用锤子等用力敲打各部件及组合单元。
此外,请确保不会因坠落等原因导致裂纹、瘪痕等,否则会导致产品破损。
• 在破损状态下使用时,无法保证其性能,还可能会导致损坏等故障。

⚠ 注意
使用时,请勿超出容许转矩。
• 施加转矩请不要超出瞬间容许最大转矩,否则可能会出现拧紧部螺栓松动、产生晃动、破坏等,导致产品故障。
• 如果输出轴直接连接关节臂等,有可能因关节臂碰撞而导致破损,输出轴不能控制。

⚠ 注意
请勿变更部件配套。
• 本产品的各部件是配套加工而成。
混同其它套件使用时,无法保证其能够发挥特定性能。

⚠ 注意
请勿拆解组合型产品。
• 严禁对组合型产品实施拆解、重新组装。否则,将无法恢复其原有性能。

润滑剂的使用

⚠ z注意
安装注意事项:
• 溅入眼睛可能会引起炎症。操作时,请佩戴防护眼镜等,逢免溅入眼睛。
• 接触皮肤可能会引起炎症。操作时,请佩戴防护手套等,避免接触到皮肤。
• 请勿吞食(会引起腹泻、呕吐等)。
• 打开容器时,请注意不要划伤手指。请戴好防护手套。
• 请放在儿童够不到的地方。

应急处理:
• 万一溅入眼睛,请立即使用清水冲洗15分钟,并接受医生的治疗。
• 万一接触到皮肤,请使用水及肥皂充分清洗。
• 万一发生吞食,请不要用力让其呕吐,应立即接受医生的治疗。

⚠ 注意
废油、废容器的处理:
• 法令规定了使用者有义务实施的处理方法,请按照相关法律法规进行正确处理。不清楚时,请先咨询授权代理商,然后再做处理。
• 请勿对空的容器施加压力。施加压力可能会导致其破裂。
• 请勿对容器进行焊接、加热、开孔或裁切。否则,可能会发生里面的残留物会起火燃烧。

⚠ 注意
保管方法:
• 使用后,请将其密封好,防止灰尘、水分等混入。请在背阴处避免阳光直射。
• 对于长期库存的产品,建议确认性能及防锈是否做好。
• 表面处理的详情请参阅交货图。

关于报废

⚠ 注意
请按工业废弃物标准进行处理。
• 报废时,请按工业废弃物进行处理。

SAFETY PRECAUTIONS

⚠ Warning Means that improper use or handling could result in a risk of death or serious injury

⚠ Caution Means that improper use or handling could result in personal injury or loss of property.

Application restriction

This product cannot be used for the following applications:

- Space flight facility
- Aircraft equipment
- Nuclear power equipment
- Equipment and apparatus used in domestic homes
- Vacuum equipment
- Automotive equipment
- Personal recreation equipment
- Equipment that directly works on human bodies
- Equipment for transport of humans
- Equipment for use in a special environment

- Please consult with our authorized distributor in advance for applications mentioned above
- Fail-safe devices that prevent an accident must be designed into the equipment when the products are used in any equipment that could result in personal injury or damage to property in the event of product failure.

Design Precaution

Be certain to read the catalog when designing the equipment

⚠ Caution
Use only in the proper environment
Please ensure to comply with the following environmental conditions:
- Ambient temperature 0-40°C.
- No splashing of water or oil.
- Do not expose to corrosive or explosive gas.
- No dust such as metal powder.

⚠ Caution
Install the equipment properly
- Carry out the assembly and installation precisely as specified in the catalog.
- Observe our recommended fastening methods (including bolts used and tightening torques).
Improper assembly may cause problems such as vibration,reduction in life,deterioration of precision and product failure in operation.

⚠ Caution
Install the equipment with the required precision
- Please design and assemble parts correctly, to ensure the recommended installation accuracy in the catalog.
- Failure to hold the recommended tolerances may cause problems such as vibration, reduction in life, deterioration of precision and product failure.

⚠ Caution
Use the specified lubricant
- Do not use the lubricant recommended by the company, can reduce the life of the product. Replace the lubricant as recommended.
- The complete units are factory lubricated. Do not mix with other kinds of grease.

Precautions for use: Be sure to read the catalog when operating

⚠ Caution
Please take the product and parts carefully
- Please do not use a hammer etc to strike all parts and assembly units forcefully. In addition, please make sure fissure and scars won't be taken place because of falling down etc. Otherwise it will lead to damage.
- The performance cannot be guaranteed when is used under the condition of damage. It might lead to failures like damage etc.

⚠ Caution
Please do not exceed its allowable torgue when used
- Please do not exceed allowable maximum torque of first moment when exerting torque. Otherwise untight bolt, waggle and damage of buck-up part might be occurred which will lead to malfunction.
- If output shaft is directly linked to articulated arm etc, theres 's a chance that it might be damaged because of collision of articulated arm, which the output shaft cannot not be controlled.

⚠ Caution
Please do not alter matching components
- All components of the product is made out of processing a complete set.
- Specified properties cannot be guaranteed when using it with other sets.

⚠ Caution
Please do not disassemble combo products
- Disassembling and reassembling the combo product are strictly prohibited. Otherwise, there is no way to regain its original performance.

SAFETY PRECAUTIONS

Usage of lubricating grease

Caution

Installation notes

- An inflammation may be caused if it splashes into eyes. Please wear protective glasses etc when operation in order to keep it from the eyes.
- An inflammation may be caused if it touches the skin. Please wear protective gloves etc when operation in order to keep it from the skin.
- Please do not devour(diarrhea and vomit etc will be caused)
- Please note do not cut your finger when opening the container. Please wear protective gloves well.
- Please keep it away from children.

Caution

Emergency management

- Once it splashes into eyes, please wash it for 15 minutes with clean water immediately and receive treatment.
- Once it touches the skin, please use the water and soap to wash it fully.
- Once it's being swallowed, please do not try hard vomiting but immediately receive the doctor's treatment.

Caution

Treatment of waste oil and container

- Regulations require the user is in duty bound to carry out treatment method. Please handle it properly according to relevant laws and regulations.When in doubt, please consult the authorized agent first, then handle it correctly.
- Please do not exert pressure to an empty container. By doing this may cause it fracture.
- Please do not weld, heat, trepan or trim to the container. Otherwise, it may burn up the residue inside.

Caution

Storage methods

- Please seal it tight after used, in order to prevent dusts and moisture etc from mixing in. Avoid direct sunlight.
- As to products with long-term inventory, make sure performance and rust protection.
- For surface treatment, please refer to the delivery figure.

About scrapping

Caution

Disposal should be carried out in accordance with the industrial waste standard.

- Please process it in accordance with industrial waste when scrapping.

Laifual Drive