

FHS系列减速器性能参数
THE PERFORMANCE PARAMETER OF FHS SERIES REDUCER

项目 Item	减速比 Reduction ratio	输入 2000r/min 时的额定 转矩 rated torque under 2000r/min input	起动、停止 时的容许 最大转矩 the biggest admissible- torque when start and stop	平均负载 矩的容许 最大值 the admissible maximum value of average load torque	瞬间容许 最大转矩 the instant admissible maximum torque	容许最高 输入转速 the admissible highest input rev	容许平均 输入转速 the admissible average input rev	启动转矩 Starting torque	背隙 back lash	重量 weight	设计寿命 design lifespan
型号 Model		Nm	Nm	Nm	Nm	rpm	rpm	cNm	Arc sec	Kg	Hour
14	50	5.3	17.5	6.8	34	8500	3500	9	≤20	0.72	10000
	80	7.6	22.5	10.8	46			8	≤10		15000
	100	7.6	27	10.8	53			7	≤10		15000
17	50	15.7	33	25.5	69	7200	3500	28	≤20	1.1	10000
	80	21.6	42	26.5	85			26	≤10		15000
	100	23.5	53	38	106			25	≤10		15000
	120	23.5	53	38	84			25	≤10		15000
20	50	24.5	55	33	96	6500	3500	38	≤20	1.4	10000
	80	33	73	46	124			35	≤10		15000
	100	39.2	80	48	144			34	≤10		15000
	120	39.2	85	48	144			33	≤10		15000
25	50	38	96	54	182	5500	3500	59	≤20	2.2	10000
	80	62	134	85	250			53	≤10		15000
	100	66	154	106	278			51	≤10		15000
	120	66	164	106	298			50	≤10		15000
32	50	74.5	212	106	374	4800	3500	89	≤20	4.5	10000
	80	116	298	164	557			78	≤10		15000
	100	134	326	212	634			76	≤10		15000
	120	134	346	212	672			71	≤10		15000



FHS-S-S

帽型分体凸轮简易组合(含交叉轴承)

SIMPLE COMBINATION OF CAP-TYPE SPLIT CAM (INCLUDING CROSS BEARING)

柔轮为中空翻边形标准结构, 整机结构紧凑, 输入轴通过十字滑块联轴器和波发生器内孔连接。

The flexspline is a hollow flanged standard structure, the whole machine is compact in structure, and the input shaft is connected with the inner hole of the wave generator through the cross slide coupling.

FHS-S-H

帽型空心凸轮简易组合(含交叉轴承)

CAP TYPE HOLLOW CAM SIMPLE COMBINATION (INCLUDING CROSS BEARING)

柔轮为中空翻边形标准结构, 整机结构紧凑, 大口径中空凸轮, 方便过线。

Flexible wheels are hollow flanged standard structure with compact structure. Large caliber hollow cam, easy to cross the line.

产品特点/Product characteristics

- 扁平形状·标准结构
- 紧凑简洁的设计
- 无齿隙
- 波发生器自动调心
- Flat shape · Standard structure
- Compact and simple design
- No backlash
- Wave generator automatic alignment

产品特点/Product characteristics

- 简易型, 安装使用便捷
- 无齿隙
- 输入输出同轴
- 优良的定位精度和旋转精度
- Compact and simple design
- No backlash
- Input and output coaxial
- Excellent positioning accuracy and rotation accuracy



FHS-C-H

帽型空心凸轮整机

CAP TYPE HOLLOW CAM INTEGRAL MACHINE

柔轮为中空翻边形标准结构, 整机结构紧凑, 含外盖整机, 易于安装使用。

The flexspline is a hollow flanged standard structure, and the whole machine is compact. It is equipped with a cover and is easy to install and use.

FHS-C-J

帽型实心凸轮整机

CAP SOLID CAM INTEGRAL MACHINE

柔轮为中空翻边形标准结构, 整机结构紧凑, 输入轴连接方式, 可对应多种输入形态。

The flexspline is a hollow flanged standard structure. The whole machine has a compact structure and the input shaft connection mode can correspond to a variety of input forms.

产品特点/Product characteristics

- 大口径·中空轴结构
 - 紧凑简洁的设计
 - 无齿隙
 - 输入输出同轴
 - 优良的定位精度和旋转精度
- Large diameter · hollow shaft structure
 - Compact and simple design
 - No backlash
 - Input and output coaxial
 - Excellent positioning accuracy and rotation accuracy

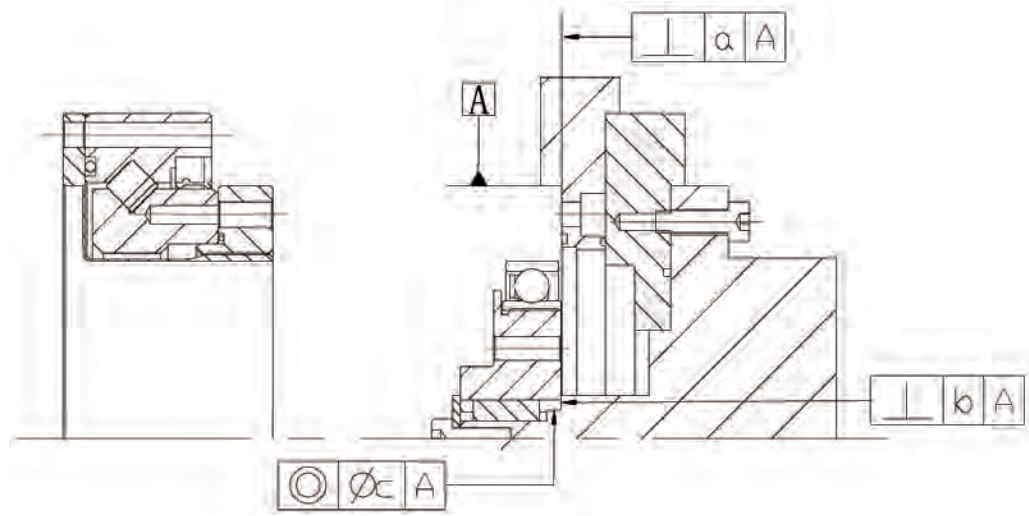
产品特点/Product characteristics

- 可对应多种输入形态
 - 紧凑简洁的设计
 - 无齿隙
 - 输入输出同轴
 - 优良的定位精度和旋转精度
- Can be used for a variety of input forms
 - Compact and simple design
 - No backlash
 - Excellent positioning
 - Excellent positioning accuracy and rotation accuracy

装配精度 ASSEMBLY ACCURACY REQUIREMENTS

组装设计时, 如果存在安装面变形等异常和勉强组装, 会降低产品性能甚至损坏。如下图所示, 以下表格为组装壳体的推荐精度。

When the assembled product, if there is an abnormality such as As shown in the figure below, the following table shows the recommended accuracy of the assembled housing



尺寸/ Size	14	17	20	25	32
a	0.011	0.015	0.017	0.024	0.026
b	0.017	0.020	0.020	0.024	0.024
	(0.008)	(0.010)	(0.010)	(0.012)	(0.012)
c	0.030	0.034	0.044	0.047	0.047
	(0.016)	(0.018)	(0.019)	(0.022)	(0.022)

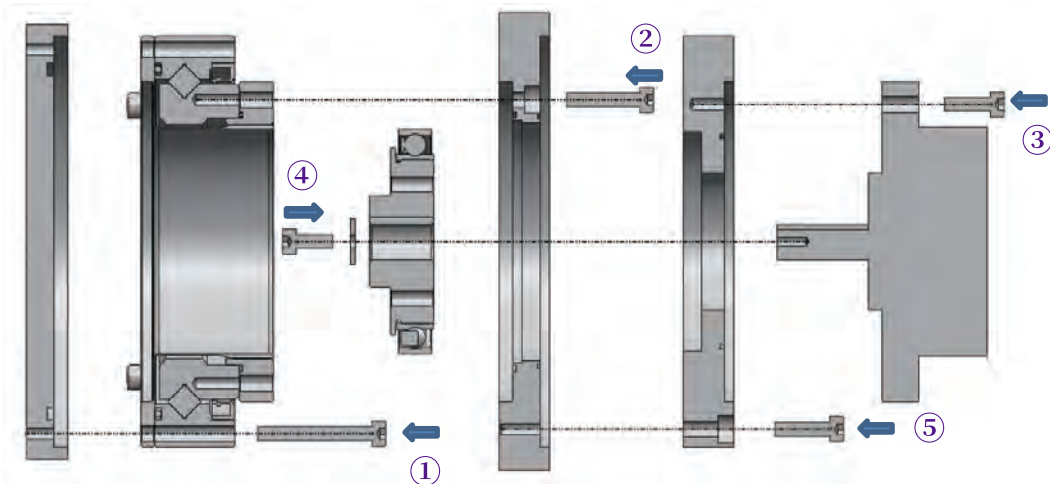
()内的数值为一体式波发生器时的数值

The value in () is the value of the monolithic wave generator.

安装方式及步骤 INSTALLATION METHOD AND STEPS

安装方式-1及步骤: (刚轮固定、柔轮输出, 减速比为标示减速比)

Installation method-1 and steps: (circular spline fixed, flexspline output, reduction ratio is the indicated reduction ratio)



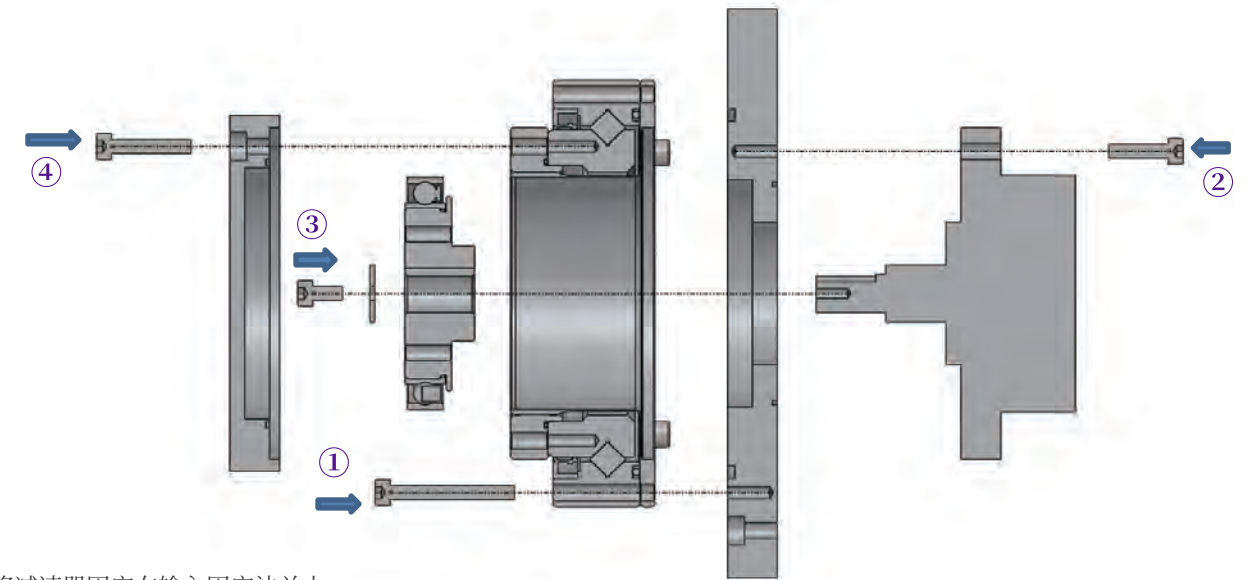
安装方式及步骤 INSTALLATION METHOD AND STEPS

- ① 将减速器固定在输出法兰上
- ② 将输入固定法兰与刚轮固定连接
- ③ 在电动机安装面上安装电机安装法兰
- ④ 将波发生器装在输入端电机轴或连接轴上
- ⑤ 将电机安装法兰与输入固定法兰连接
- ⑥ 将电机转速设定在100r/min左右, 启动电机, 螺钉以十字交叉的方式锁紧, 以四至五次均等递增至螺钉对应的锁紧力。所有连接固定的螺钉需为12.9级并需涂上乐泰242螺纹胶, 以防止螺钉失效或工作中松脱。

- ① Fix the reducer on the output flange
- ② Fix the input fixing flange to the circular spline
- ③ Install the motor mounting flange on the motor mounting surface
- ④ Install the wave generator on the input motor shaft or connecting shaft.
- ⑤ Connect the motor mounting flange to the input fixing flange.
- ⑥ Set the motor speed to about 100r/min, start the motor, and the screws are locked in a crisscross manner, and increase the locking force corresponding to the screw by four to five times. All screws with fixed connections must be grade 12.9 and need to be coated with Loctite 242 thread glue to prevent screw failure or loose work.

安装方式-2及步骤: (柔轮固定, 刚轮输出, 减速比为标示减速比+1)

Installation method-2 and steps: (flexspline fixed, circular spline output, reduction ratio is marked reduction ratio +1)



- ① 将减速器固定在输入固定法兰上
- ② 在电动机安装面上安装输入固定法兰
- ③ 将波发生器装在输入端电机轴或连接轴上
- ④ 将输出法兰与刚轮固定连接
- ⑤ 将电机转速设定在100r/min左右, 启动电机, 螺钉以十字交叉的方式锁紧, 以四至五次均等递增至螺钉对应的锁紧力。所有连接固定的螺钉需为12.9级并需涂上乐泰242螺纹胶, 以防止螺钉失效或工作中松脱。

- ① Fix the reducer on the input flange
- ② Install the input fixing flange on the motor mounting surface
- ③ Mount the wave generator on the input motor shaft or connecting shaft
- ④ and connect the output flange to the rigid wheel.
- ⑤ Set the motor speed to about 100r/min, start the motor, and the screws are locked in a crisscross manner, and increase the locking force corresponding to the screw by four to five times. All screws with fixed connections must be grade 12.9 and need to be coated with Loctite 242 thread glue to prevent screw failure or loose work.

注 Note:

1. 简易组合型出厂时交叉滚子轴承外圈和柔轮呈暂时固定状态。
2. 波发生器朝上或朝下使用时, 请用润滑脂填满波发生器和电机安装法兰之间的间隙。
3. 在波发生器处于朝上的状态, 且朝单方向以固定负载低速旋转(输入转速: 1000r/min以下)使用减速器, 可能引起润滑不良。

安装注意事项 INSTALLATION PRECAUTIONS

由于组装时的错误, 减速器在运转时可能发生振动、异响等。请遵守下述注意事项实施组装。

Due to an error in assembly, the reducer may vibrate, abnormally sound, etc. during operation. Please follow the precautions below to implement the assembly.

波发生器的注意事项

Precautions for wave generator:

- 请在组装时避免向波发生器轴承部位施加过度的力。可通过旋转使波发生器顺畅地实施插入。
- 使用一体式波发生器时, 请注意把中心偏移、歪斜的影响控制在推荐值内。

- Please avoid applying excessive force to the bearing part of the wave generator during assembly. The wave generator can be smoothly inserted by rotation.
- When using the integrated wave generator, be careful to control the influence of the center offset and skew within the recommended values.

刚轮、柔轮的注意事项

Precautions for Circular spline and Flexspline:

- 确认安装面的平坦度是否良好、是否歪斜。
- 确认螺丝孔部是否隆起、有残余毛边或异物啮入。
- 确认是否对壳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。
- 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。
- 朝安装用螺栓孔插入螺栓时, 确认螺丝孔的位置是否正确、是否有由于螺栓歪斜加工等原因致使螺栓与刚轮/柔轮发生接触, 使螺栓旋转变沉重。
- 请不要一次性按照规定转矩扭紧螺栓。请先使用约为规定转矩1/2的力实施临时拧紧, 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。
- 确认柔轮与刚轮组合时, 是否存在极端的单侧啮合。发生单侧偏移时, 可能是由于两个部件发生中心偏移或歪斜。
- 向刚轮打销子可能造成旋转精度低下, 因此请尽可能避免。
- 柔轮组装时, 请不要叩击开口部的齿轮前端或以过度力实施按压。
- 确认与刚轮组合时, 是否存在极端的单侧啮合。发生单侧偏移时, 可能是由于两个部件发生中心偏移或歪斜。

- Confirm that the flatness of the mounting surface is good,skewed or not
- Check if the screw hole is raised, has residual burrs or foreign objects.
- Confirm whether chamfering and avoidance machining are performed on the housing assembly to avoid interference with the rigid wheel.
- When the Circular spline is assembled to the outer casing, confirm whether it can rotate, whether there is interference or jam in some parts.
- When inserting the bolt into the mounting bolt hole, check if the screw hole is in the correct position, if there is any contact between the bolt and the Circular spline/flexspline due to the skewing of the bolt, etc., and the bolt will become heavy.
- Please do not tighten the bolts at the specified torque at one time First perform the temporary tightening with a force of approximately 1/2 of the specified torque, and then tighten according to the specified torque. In addition, usually tighten the bolts in the diagonal order.
- Confirm that there is extreme one-sided engagement when the flexspline is combined with the Circularspline. When a one-sided offset occurs, it may be due to a center offset or skew of the two components.
- Pinning to the wheel may result in low rotation accuracy, so avoid it as much as possible.
- When assembling the flexible wheel, do not hit the front end of the gear at the opening or press it with excessive force.
- Confirm that there is extreme one-sided engagement when combined with the circular spline. When a one-sided offset occurs, it may be due to a center offset or skew of the two components.

润滑脂的注意事项

Precautions for Grease:

- 柔性轴承上需要均匀涂抹润滑脂, 电机与安装用法兰连接形成的腔体需注入80%润滑脂。
- 柔轮内壁上需均匀涂抹一层润滑脂, 柔轮与法兰连接形成的腔体需注入80%的润滑脂。
- 简易组合型的减速器除齿根以外其他部位均没有涂抹润滑脂, 因此请根据具体情况对其余部位进行涂抹。
- 润滑脂的性能会随温度产生变化, 温度越高劣化越快。为了保证润滑脂始终处于良好状态, 减速器高温段的热平衡温度应低于70°C, 温升小于40°C。
- 减速器各运动部位的磨损主要受到润滑脂性能的影响, 在具备条件的情况下, 谐波减速器每运行3000小时应更换润滑脂。

- The grease should be evenly applied on the flexible bearing. The cavity formed by connecting the motor to the mounting flange should be filled with 50% grease.
- Apply a layer of grease evenly on the inner wall of the flexible wheel. The cavity formed by the connection between the flexible wheel and the flange should be filled with 50% grease.
- The simple combination type reducer does not apply grease except for the root of the tooth, so apply the remaining parts according to the specific conditions.
- The performance of the grease changes with temperature, and the higher the temperature, the faster the deterioration. In order to ensure that the grease is always in good condition, the heat balance temperature of the high temperature section of the reducer should be lower than 70 °C, and the temperature rise should be less than 40 °C.
- The wear of each moving part of the reducer is mainly affected by the performance of the grease. When the condition is met, the harmonic reducer should be replaced every 3,000 hours of operation.

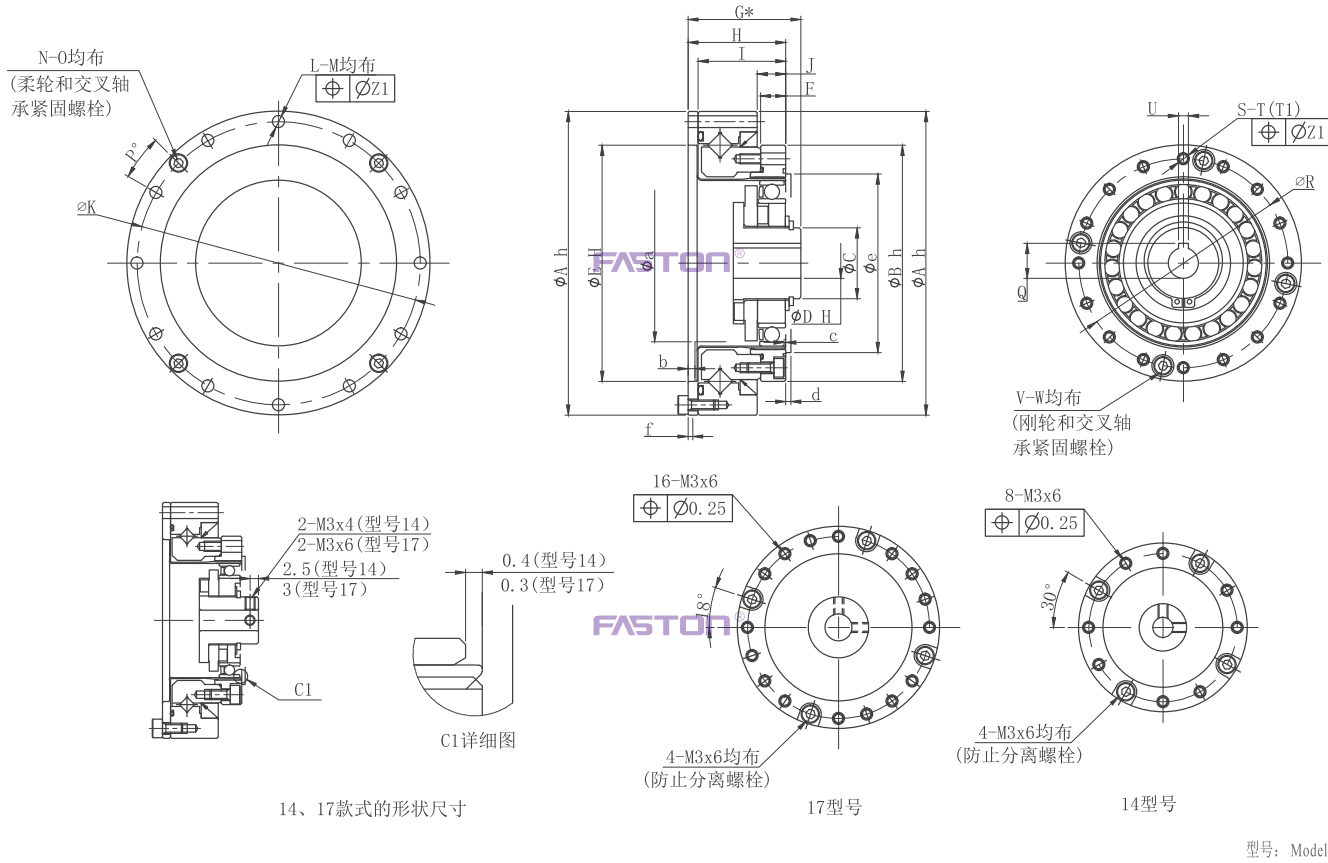
安装注意事项 INSTALLATION PRECAUTIONS

其他注意事项

Other considerations

- 谐波减速器必须在足够清洁的环境下安装, 安装过程不能有任何异物进入减速器内部, 以免使用过程中造成损坏。
- 请确认减速器齿面及柔性轴承部分始终保持充分润滑。不建议齿面始终朝上使用, 会影响润滑效果。
- 组装时, 需先将刚轮和柔轮组合安装到装置上后, 再组装上波发生器。
- 装机时, 波发生器长轴对准减速器柔轮的长轴方向, 到位后用对应的螺钉将减速器固定, 螺钉稍微带紧。
- 安装波发生器后, 请确认柔轮与刚轮啮合是180°对称。
- 安装完成后请先低速(100rpm)运行, 如有异常振动或异常响声, 请立即停止, 重新检查安装是否正确或与我司联系, 避免因安装不正确造成减速器的损坏。
- 与减速器连接固定的安装平面加工要求: 平面度0.01mm, 与轴线垂直度0.01mm, 螺纹孔或通孔与轴线同心度0.1mm。
- 为防止润滑油泄露, 以及维持减速机的耐久性, 必须针对不同的位置使用相应的密封机构, 例如: 旋转运动处使用油封、各零件配合面使用O型圈、螺孔使用螺丝胶。
- 请严格按照图纸中减速器的避空尺寸来确定法兰和波发生器的设计尺寸, 如果超过避空尺寸, 会造成柔轮和法兰或者波发生器干涉, 影响减速器的使用寿命。
- 请按照波发生器的安装深度要求设计减速器的安装, 减速器安装深度不同会影响到减速器的启动转矩和精度等参数。
- 减速器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。

- The harmonic reducer must be installed in a sufficiently clean environment. During the installation process, no foreign matter can enter the inside of the reducer to avoid damage during use.
- Please confirm that the gear face and flexible bearing parts of the reducer are always fully lubricated. It is not recommended that the tooth surface be always facing up, which will affect the lubrication effect.
- When assembling, the circular spline and the flexspline must be assembled on the device before assembling the upper wave generator.
- When installed, the major axis aligned with the major axis direction of the wave generator flexspline gear unit, in place with the corresponding gear unit fixing screws, screws with a slightly tight.
- After installing the wave generator, make sure that the flexspline and the circular spline are 180° symmetrical.
- Please run at low speed (100 rpm) after installation. If there is abnormal vibration or abnormal noise, please stop immediately.re-check whether the installation is correct or contact us to avoid damage to the reducer due to incorrect installation.
- Mounting plane machining requirements fixed with the reducer: flatness 0.01mm, perpendicular to the axis 0.01mm, threaded hole or through hole and axis concentricity 0.1mm.
- In order to prevent grease leakage and maintain the durability of the reducer, the corresponding sealing mechanism must be used for different positions. For example, the oil seal is used for the rotary motion, the O-ring is used for the mating surface of each part, and the screw rubber is used for the screw hole.
- Please strictly follow the dimensions of the reducer in the drawing to determine the design dimensions of the flange and wave generator. If it exceeds the size of the avoidance, it will cause interference between the flexspline and the flange or wave generator, affecting the service life of the reducer.
- Please design the reducer according to the installation depth requirement of the wave generator.The installation depth of the reducer will affect the starting torque and accuracy of the reducer.
- The surface of the reducer is not rust-proofed. When rust prevention is required, apply a rust preventive to the surface.



14、17款式的形状尺寸

FHS-S-S尺寸表 (The dimension form of FHS-S-S)

FHS-S-S尺寸表 (Dimension form of FHS-S-S) Unit/单位: mm

Model	14	17	20	25	32
ΦA h7	70	80	90	110	142
ΦB h7	50	60	70	85	110
ΦC h7	14	18	21	26	26
ΦD H7	6	8	9	11	14
ΦE H7	48	60	70	88	114
F	6	6.5	7.5	10	14
G*	28.5 ⁰ _{-0.8}	32.5 ⁰ _{-0.9}	33.5 ⁰ _{-1.0}	37 ⁰ _{-1.1}	44 ⁰ _{-1.1}
H	23.5	26.5	29	34	42
I	21.1	23.5	26	30.7	38.4
J	7	7.5	8.5	12	15
ΦK	64	74	84	102	132
L	8	12	12	12	12
ΦM	3.5	3.5	3.5	4.5	5.5
N	2	4	4	4	4
O	M3X6	M3x6	M3x8	M3x8	M4x8
P	22.5	15	15	15	15
Q	-	-	10.4	12.8	16.3
U	-	-	3	4	5
ΦR	44	54	62	77	100
S	12均布取8	20均布取16	16	16	16
T	M3x5	M3x6	M3x6	M4x7	M5x8
Γ	Φ3.5x6	Φ3.5x6.5	Φ3.5x7.5	Φ4.5x10	Φ5.5x14
V	4	4	4	4	4
W	M3x5	M3x6	M3x8	M3x10	M4x16
Φa	31	38	45	56	73
b	2.4	3	3	3.3	3.6
c	0.4	0.3	0.1	2.1	2.5
d	1	1	1.5	1.5	1.5
Φe	38	45	53	66	86
f(可用配合深度)	1.7	2.1	2	2	2
ΦZ1	0.25	0.25	0.25	0.25	0.25
Weight/kg	0.41	0.57	0.81	1.31	2.95

FHS-S-S



注: 1. G*, c 发生器与机体连接的位置尺寸和容许值, 波发生器位置安装不当会导致减速机运转寿命减短和精度降低等问题。
2. 为了避免减速机与配合的壳体发生干涉, 需要考虑小于 a, b, c, d 尺寸, 大于 G* 的壳体尺寸。
3. 如有不清楚的尺寸公差, 请咨询我司技术。详情请以交货图纸为准。

Remark:

1. G*, c is the location dimension and admissible value between wave generator and body connection. The assemble location of the wave generator will not shorten the lifespan of the reducer and lower the precision.
2. In order to avoid the interference of the reducer and the coordinated shell, you should consider the dimension smaller than a, b, c, d and larger than the G* shell.
3. If there is anything unclear about the dimension tolerance, please contact our engineer. The details are subject to drawing of delivery.

FHS-S-H



注: 1. 尺寸*为刚轮、柔轮、波发生器三个部件轴向连接位置, 为了保证减速器的精度和稳定性需要尺寸保持在要求范围内。
2. 减速机在工作过程中, 柔轮会发生弹性变形, 所以要保证 Φa, b, c 小于安装的凹圆的尺寸。
3. 由于各个型号的零部件的尺寸会有所不同, 公差也会存在差异, 没有注明的尺寸或者不清楚的尺寸请咨询我司技术, 详细尺寸已交货图纸为准。

Remark:

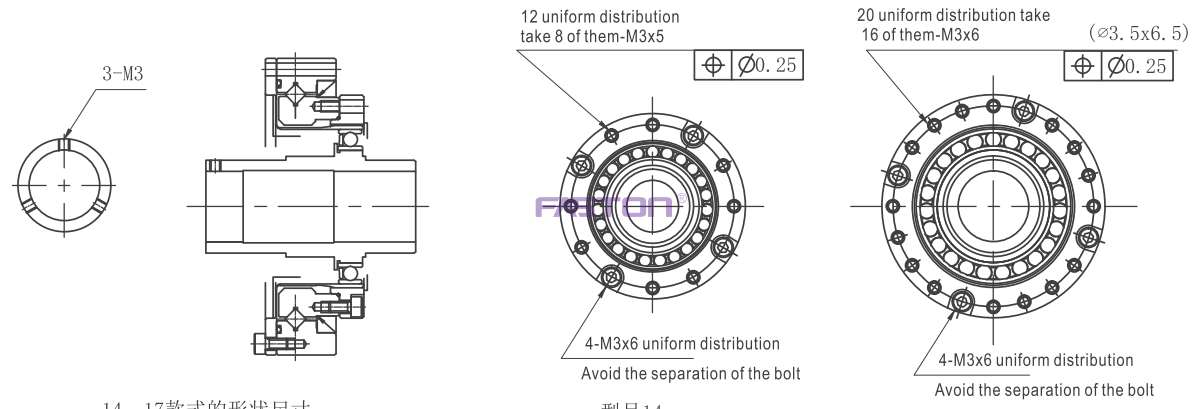
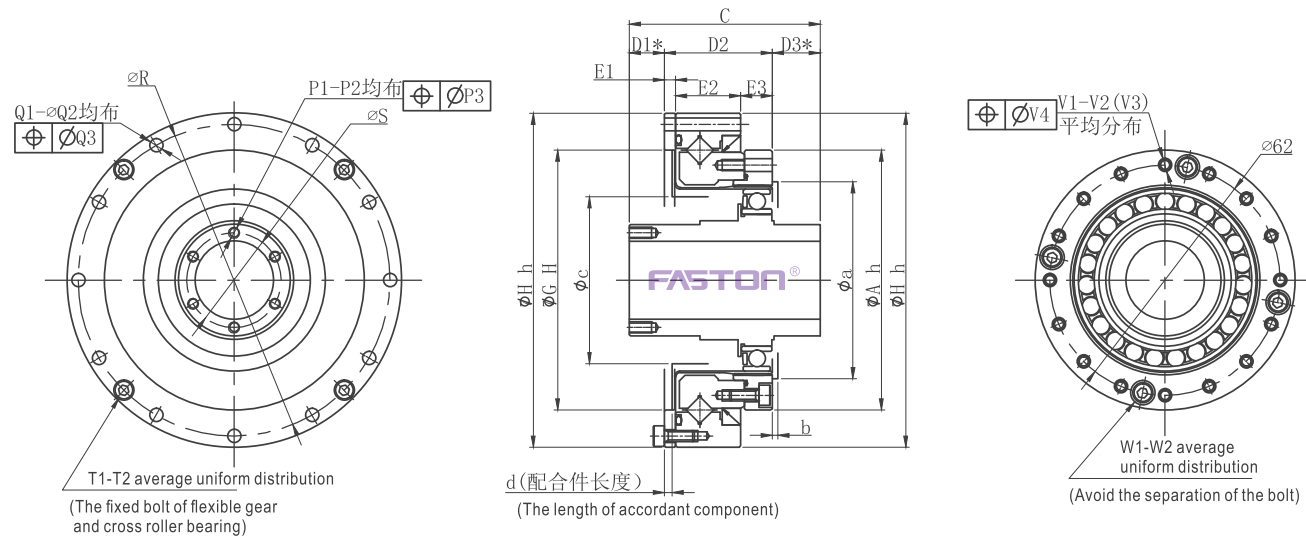
1. Dimension* is the connection location of rigid gear, flexible gear and wave generator. Please make sure the dimension is within the required range in order to guarantee the precision and stability of the reducer.
2. During the working process of reducer, the flexible gear will appear elastic deformation. So it should ensure the dimension of a, b, c is smaller than the installed round cove.
3. Due to the different component dimension of each model, there will be differences for tolerance as well. If there is any unspecified and unclear dimension, please kindly contact our engineer. The details are subject to drawing of delivery.

FHS-S-H尺寸表 (The dimension form of FHS-S-H)

Unit/单位: mm

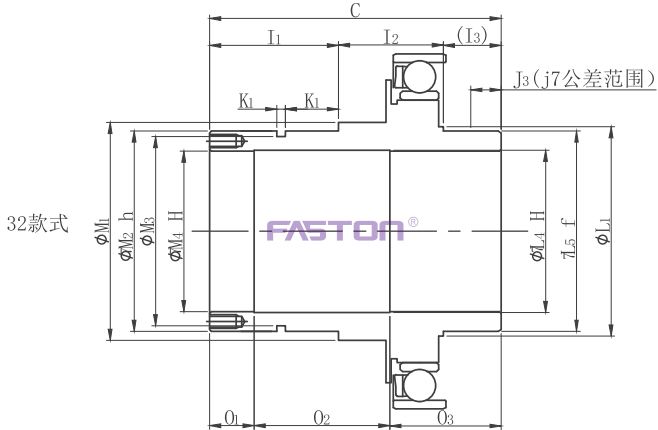
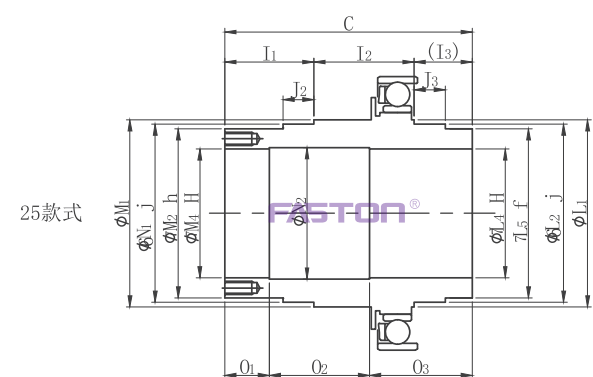
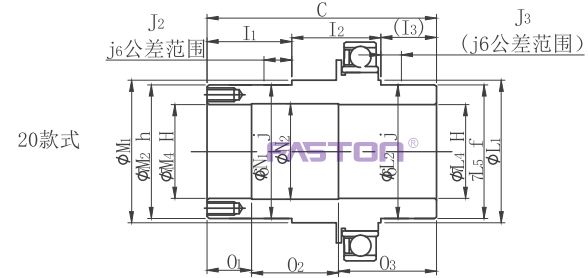
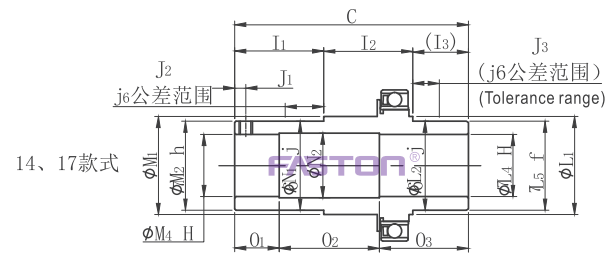
Model	14	17	20	25	32
ΦA h6	50	60	70	85	110
C	52.2 ⁰ _{-0.1}	56.5 ⁰ _{-0.1}	51.5 ⁰ _{-0.1}	55.5 ⁰ _{-0.1}	65.5 ⁰ _{-0.1}
D1*	16 ^{+0.8} ₀	16 ^{+0.9} ₀	9.5 ^{+1.0} ₀	10 ^{+1.1} ₀	12 ^{+1.1} ₀
D2	23.5	26.5	29	34	42
D3*	13	14	13	11.5	11.5
E1	2.4	3	3	3.3	3.6
E2	14.1	16	17.5	18.7	23.4
E3	7	7.5	8.5	12	15
F	6	6.5	7.5	10	14
ΦG H7	48	60	70	88	114
ΦG h6	70	80	90	110	142
I1	20.5±0.1	21.5±0.1	19±0.1	20±0.1	29±0.1
I2	20.5±0.1	21.5±0.1	20±0.1	22.5±0.1	23.5±0.1
I3	12.5	13.5	12.5	13	13
J1	2.5	2.5	-	-	-
J2	7	7	7	6.5	-
J2	7	7	7	6.5	-
K1	-	-	-	-	13.9
K2	-	-	-	-	1.9
ΦL1j6	22	27	32	42	47
ΦL2h9	-	-	25	-	-
ΦL3h9	-	-	-	38	-
ΦL4H7	14	19	21	29	36
ΦL5f7	20	25	30	-	45
ΦM1	22	27	32	42	49
ΦM2 h7	20	25	30	38	45
ΦM3	-	-	-	-	42.5
ΦM4 H7	14	19	21	29	36
ΦN1 j6	20	25	30	40	45
ΦN2	14.5	19.5	21.5	29.5	36.5
O1	10	10	10	10	10
O2	22.5	24.5	(19.5)	22.5	(30.5)
O3	20	22	22	23	25
P1	3	3	6	6	6
P2	M3	M3	M3x6	M3x6	M3x6
ΦP3	-	-	0.25	0.25	0.25
Q1	8	12	12	12	12
ΦQ2	3.5	3.5	3.5	4.5	5.5
ΦQ3	0.25	0.25	0.25	0.25	0.25
ΦR	64	74	84	102	132
ΦS	-	-	25.5	33.5	40.5
T1	2	4	4	4	4
T2	M3x6	M3x6	M3x8	M3x8	M4x8
T3	22.5	15	15	15	15
ΦU	44	54	62	77	100
V1	12均布取8	12均布取16	16	16	16
V2	M3x5	M3x6	M3x6	M4x7	M5x8
V3	Φ3.5x6	Φ3.5x6.5	Φ3.5x7.5	Φ4.5x10	Φ5.5x14
V4	0.25	0.25	0.25	0.25	0.25
W1	4	4	4	4	4
W2	M3x6	M3x6	M3x8	M3x10	M4x16
Φa	38	45	53	66	86
b	1	1	1.5	1.5	1.5
Φc	31	38	45	56	73
D	1.7	2.1	2	2	2

Weight/kg	0.45	0.63	0.9	1.45	3.2
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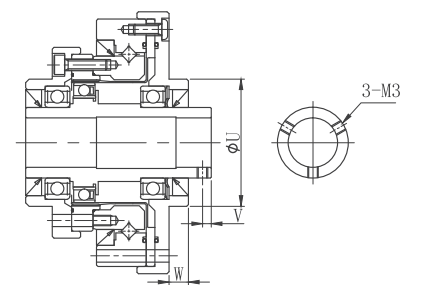
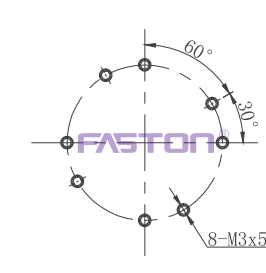
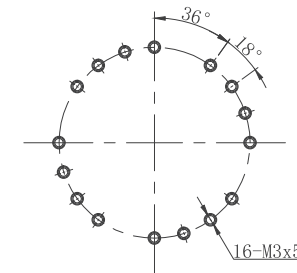
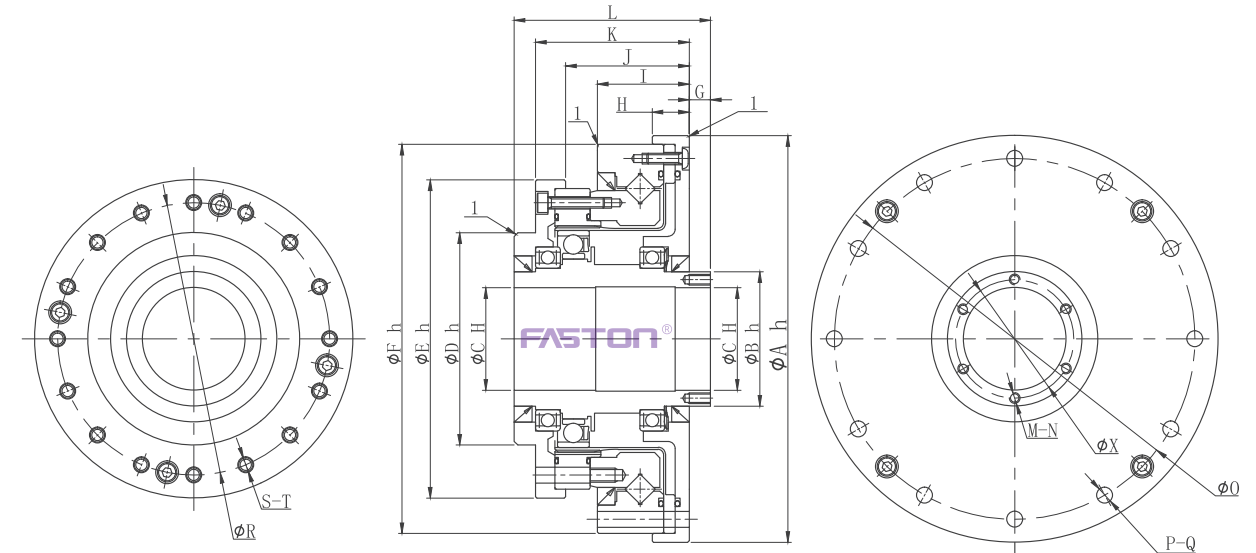


14、17款式的形状尺寸
(The dimension and shape of model 14,17)

各型号波发生器的形状 (The wave generator shape of each model)



公差范围:(Tolerance range)
款式:(style)



型号: Model

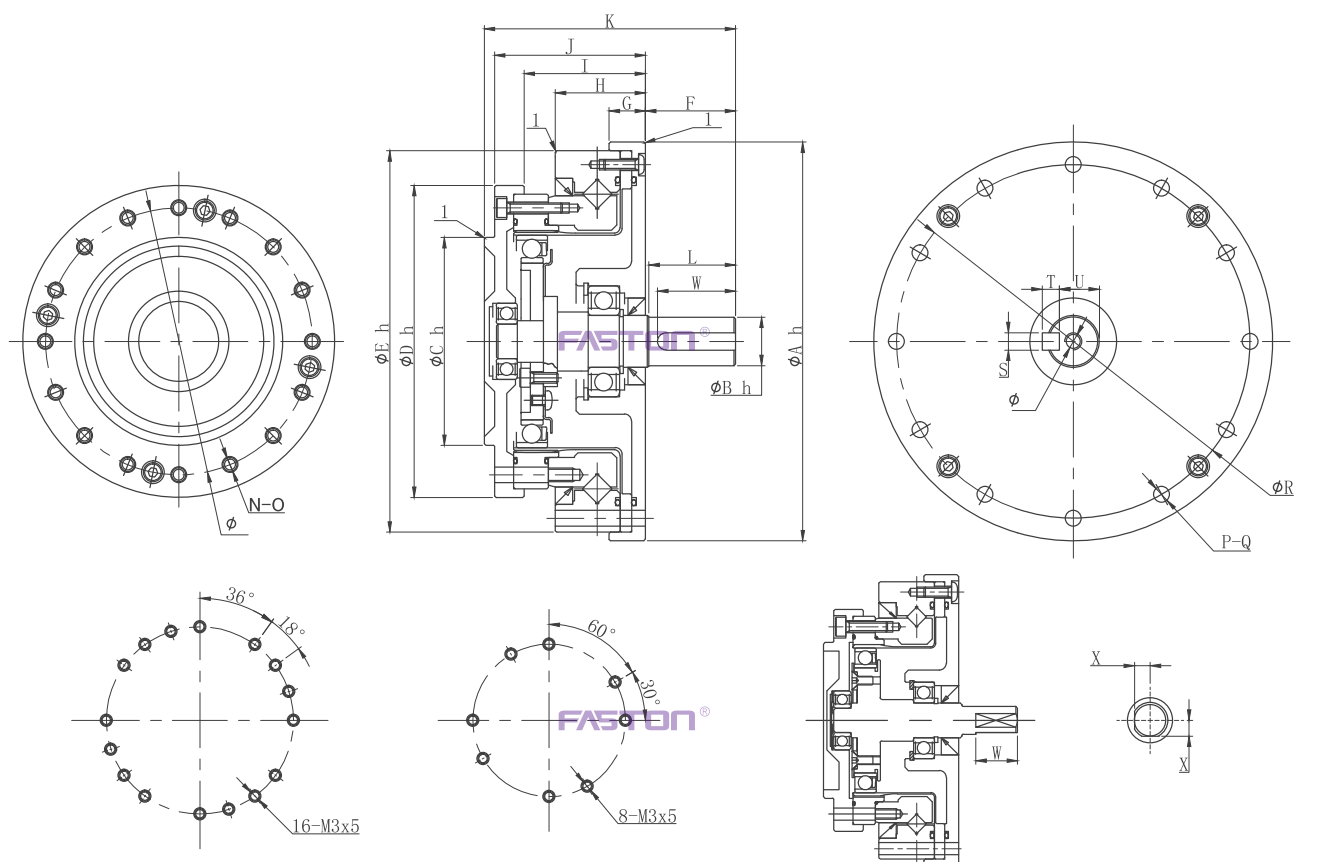


如有不清楚的尺寸公差, 请咨询我司技术。详情请以交货图纸为准
If there is anything unclear about the dimension tolerance, please contact our engineer. The details are subject to drawing of delivery.

FHS-C-H尺寸表 (Dimension form of FHS-C-H)

Unit/单位: mm

Model	14	17	20	25	32
Dimension					
ΦA h7	74	84	95	115	147
ΦB h7	20	25	30	38	45
ΦC h7	14	19	21	29	36
ΦD h7	36	45	50	60	85
ΦE h7	54	64	75	90	115
ΦF h7	70	80	90	110	142
G	12	12	5	6	7
H	9	10	10.5	10.5	12
I	20.5	23	25	26	32
J	25	27.5	30.5	35	44
K	33	36	39.5	43.5	53.5
L	52.5	56.5	51.5	55.5	65.5
ΦX	2.5	2.5	25.5	33.5	40.5
M	3	3	6	6	6
N	M3	M3	M3x6	M3x6	M3x6
ΦO	64	74	84	102	132
P	8	12	12	12	12
Q	3.5	3.5	3.5	4.5	5.5
R	44	54	62	77	100
S	12均布取8	20均布取16	16	16	16
T	M3x6	M3x6	M3x6	M4x7	M5x8
	$\Phi 3.5 \times 11.5$	$\Phi 3.5 \times 12$	$\Phi 3.5 \times 13.5$	$\Phi 4.5 \times 15.5$	$\Phi 5.5 \times 20.5$
ΦU	36	45	-	-	-
V	2.5	2.5	-	-	-
W	5.5	5.5	-	-	-
Weight/kg	0.17	1	1.38	2.1	4.5



17型号

14型号

14、17款式的形状尺寸

型号: Model



如有不清楚的尺寸公差, 请咨询我司技术。详情请以交货图纸为准

If there is anything unclear about the dimension tolerance, please contact our engineer. The details are subject to drawing of delivery.

FHS-C-J尺寸表 (The dimension form of FHS-C-J) Unit/单位: mm

Model	14	17	20	25	32
Dimension					
ΦA h7	74	84	95	115	147
ΦB h6	6	8	10	14	14
ΦC h7	36	45	50	60	85
ΦD h7	54	65	75	90	115
ΦE h7	70	80	90	110	142
F	15	17	21	26	26
L	14	16	20	25	25
G	9	10	10.5	10.5	12
H	20.5	23	25	26	32
I	25	27.5	30.5	35	44
J	33	36	39.5	43.5	53.5
K	50.5	56	63.5	72.5	84.5
ΦM	44	54	32	77	100
N	12均布取8	20均布取16	16	16	16
O	M3x5	M3x6	M3x6	M4x7	M5x8
	Φ3.5x11.5	Φ3.5x12	Φ3.5x13.5	Φ4.5x15.5	Φ5.5x20.5
ΦR	64	74	84	102	132
P	8	12	12	12	12
ΦQ	3.5	3.5	3.5	4.5	5.5
S	-	-	3	5	5
T	0.5	0.5	3 ⁰ _{-0.025}	5 ⁰ _{-0.030}	5 ⁰ _{-0.030}
U	-	-	8.2 ⁰ _{-0.1}	11 ⁰ _{-0.1}	11 ⁰ _{-0.1}
ΦV	-	-	M3x6	M5x10	M5x10
W	11	12	16.5	22.5	27.5
X	2.5	3.5	-	-	-

Weight/kg	0.66	0.94	1.38	2.2	4.5
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