



# RV CYCLOIDAL PIN WHEEL REDUCER

摆线针轮RV减速器

## 术语和定义 TERMS AND DEFINITIONS

GB/T10107.1摆线针轮行星传动基本术语和JB/T10419摆线针轮行星传动、摆线齿轮和针轮、精度中确定的和下列术语和定义适用于本标准。

GB/T10107.1 the basic planetary transmission terms of cycloidal-pin wheel and JB/T10419 cycloidal-pin wheel planetary transmission, cycloid gear, pin wheel, and accuracy terms all suitable for this standard.

### 迟滞曲线 Hysteresis Curve

固定输入齿轮，向输出端施加转矩，得到转矩同扭转角的对应关系，绘出迟滞曲线。(图1)

The fixed input gear is applied to the output to obtain the corresponding relationship between the torque and the torsion angle, and the hysteresis curve is drawn. (Figure 1)

### 传动精度 Transmission Accuracy

传动精度( $\theta$ ): 指输入任意旋转角时的理论旋转角度( $\theta_{in}$ )和实际输出旋转角度( $\theta_{out}$ )之间的差，公式表示:  $\theta = \theta_{in}/k - \theta_{out}$  ( $k$ ---速比值)。

Transmission accuracy ( $\theta$ ): refers to the input with arbitrary rotation angle when the theory of rotation angle ( $\theta_{in}$ ) and the actual output rotation angle ( $\theta_{out}$ ) between poor and formula:  $\theta = \theta_{in}/k - \theta_{out}$  ( $k$ --Ratio values).

### 回差 Backlash

指在额定转矩的 $\pm 3\%$ 处的迟滞曲线宽度的中间点的扭转角。(图1)

The intermediate point of the hysteresis curve of the nominal torque of 3%. (Figure 1)

### 齿隙 Backlash

指在额定转矩为“零”处的扭转角。(图1)

Torsion angle at the rated torque of zero, (Figure 1)

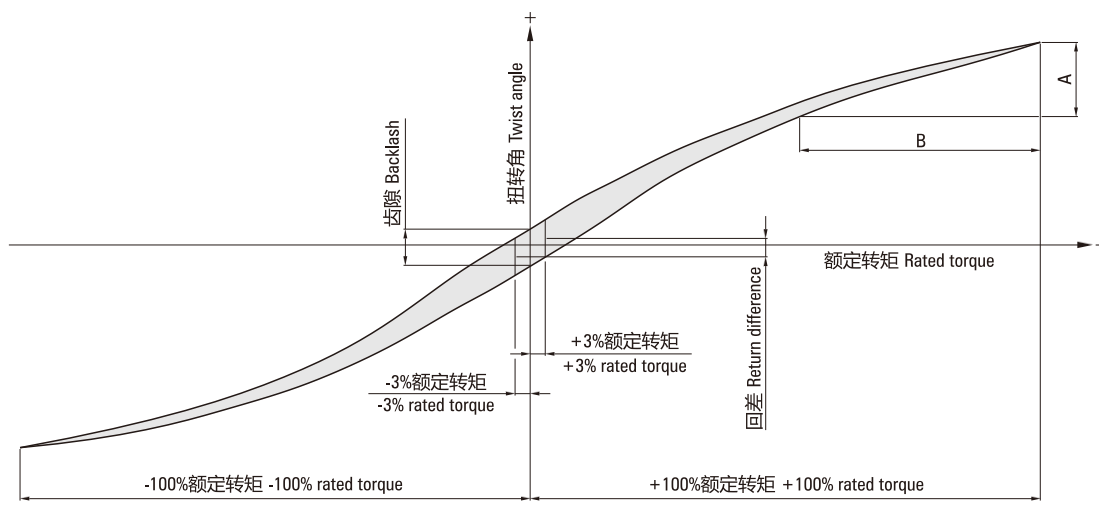
### 扭转刚度 Torsional Stiffness

扭转刚度 =  $B/A$ 。(图1)

Torsional stiffness =  $B/A$ . (Figure 1)

● 图1—迟滞曲线 Figure 1 — Hysteresis curve

单位 Unit: (Nm/arc min)



# 术语和定义 TERMS AND DEFINITIONS

## ■ 新增主轴承刚性定义 New Main Bearing Rigid Definition:

弯曲刚度 (Moment rigidity)

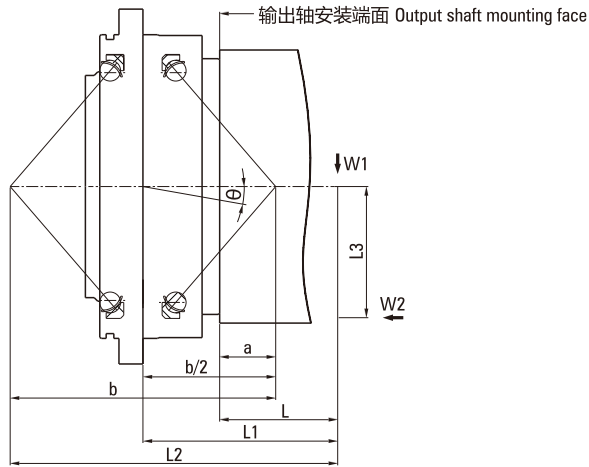
受到外部负载弯矩时，输出轴与负载弯矩成正比倾斜，产生 $\theta$ 角 ( $N \cdot m / \text{arc.min}$ )。

When subjected to an external load moment, the output shaft is tilted in proportion to the load moment, resulting in an angle  $\theta$  ( $N \cdot m / \text{arc.min}$ ).

$$\theta = (W1l1 + W2l3) / (Mt \times 103) \quad Mt \text{即为弯曲刚度 (如图所示)。} \quad Mt \text{ is the bending stiffness (As shown).}$$

弯曲刚度表示主轴承的刚度，用倾斜单位角度 (1arc.min) 所需要的载荷转矩值来表示。

Bending stiffness represents the stiffness of the main bearing, expressed in terms of the load torque required for a unit angle of inclination (1arc.min).



型号 Model	力矩刚性 Moment Of Rigidity (Nm/Arc.min)	a (mm)	b (mm)	型号 Model	力矩刚性 Moment Of Rigidity (Nm/Arc.min)	a (mm)	b (mm)
150BX	372	20.1	113.3	10CBX	421	28.0	119.2
190BX	931	29.6	143.7	27CBX	1068	38.2	150.3
220BX	1176	33.4	166.0	50CBX	1960	50.4	187.1
250BX	1470	32.2	176.6	100CBX	2813	58.7	207.6
280BX	2940	47.8	210.9	200CBX	9800	76.0	280.4
320BX	4900	56.4	251.4	320CBX	12740	114.5	360.5

## ■ 术语概念解释 Explanation Of Terms Concept:

名词 Noun	解释 Explanation	作用 Effect	备注 Remarks
速比值 Speed ratio	这里指输出与输入的比值。 This refers to the output and input ratio.		RV-C的区别 RV-C difference
额定转速 Rated speed	在额定寿命实验时的转速。 Speed at rated life test.	寿命计算 Life calculation	
额定转矩 Rated torque	在额定寿命实验时的转矩。 Torque at rated life test.	寿命计算 Life calculation	
额定寿命 Rated life	指额定转速和额定力矩条件下，减速器的寿命。 Torque at rated life test.	寿命计算 Life calculation	
容许最大输出转矩 Allowable maximum output torque	是指允许的最高转速。 Refers to the maximum allowable speed.	转速校核 Speed check	主要使用时，壳体的温度不能超过60°C。 The main use, the shell temperature can not exceed 60°C.
启动、停止时的容许转矩 Permissible torque at start and stop	启动（停止）时，有惯性转矩引起，远高于减速机稳定时间转矩。 When starting (stop), there is inertia torque, which is much higher than the gearbox stable time torque.	启动，停止时力矩校核。 Start, stop when the torque check.	

名词 Noun	解释 Explanation	作用 Effect	备注 Remarks
瞬间最大容许转矩 Instantaneous maximum allowable torque	由于紧急停止或外部的冲击，可能会使减速机承受较大转矩。 Due to an emergency stop or an external shock, the gear unit may be subjected to a large torque.	冲击寿命计算 Impact life calculation	
力矩刚性 Moment of rigidity	当减速机输出轴的偏斜1arc min时，减速机承受的弯矩。 When the reducer output shaft deflection 1arc min, the reducer to withstand the bending moment.		
扭转刚性 Torsion rigidity	当减速机输出轴的转动1arc min时，减速机承受的转矩。 When the reducer output shaft rotation 1arc min, the reducer to withstand the torque.		
容许力矩 Allowable moment	指减速机能承受的外部弯矩。 Refers to the reducer can bear external bending moment.		
瞬时容许力矩 Instantaneous allowable moment	由于紧急停止等，特殊情况引起的瞬时最大弯矩。 Due to emergency stop, etc., caused by special circumstances instantaneous maximum moment.	弯矩校核 Bending moment check	
容许推力 Allow thrust	减速机能承受的最大负载力。 Reducer can withstand the maximum load force.	推力校核 Thrust check	
空程 Empty trip	在额定转矩 $\pm 3\%$ 处的迟滞曲线宽度的重点的扭转角。 Hysteresis curve at the rated torque $\pm 3\%$ of the width of the focus of the torsion angle.	精度 Accuracy	
齿隙 Backlash	迟滞曲线的转矩“零”处的转角。 Hysteresis Curve Torque at "zero".	精度 Accuracy	
角度传动误差 Angle of transmission error	角度传递误差是指输入任意角度时，理论输出选择角度与实际输出旋转角之间的误差。 Angle of transmission error refers to the input of any angle, the theoretical output choice angle and the actual output angle between the error.	精度 Accuracy	
无负载运行转矩 No load running torque	无负载运转减速机所需要输入转矩。 No load operation reducer input torque required.		
增速启动转矩 Increase speed start torque	使减速器反转的最小输出端加载转矩。 The minimum output torque that reverses the gear unit is applied.		

## 产品构造、型号和尺寸 PRODUCT STRUCTURE, MODEL AND DIMENSION

减速器由输出法兰、支撑法兰、针齿壳、摆线齿轮、曲柄轴、行星齿轮、针齿、输入齿轮（选件）、主轴承、圆锥滚子轴承、滚针轴承连保持架、油封等组成。

The reducer is composed by output flange, supporting flange, needle gear housing, cycloid gear, crank shaft, planetary gear, gear pin, input gear (optional), main bearing, cone roller bearings, needle roller bearings to keep frame and oil seal.

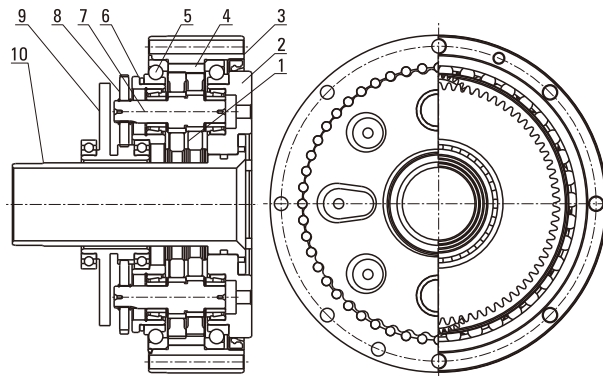
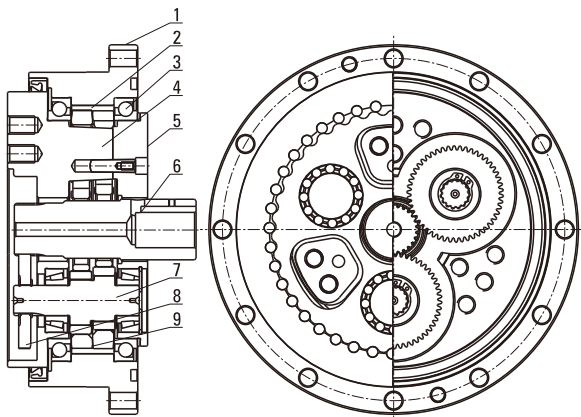
### 减速器构造 Reducer Structure

● 图2-E系列减速器构造 Figure 2-E series reducer structure

- |                          |                       |
|--------------------------|-----------------------|
| 1-针齿壳 Needle tooth shell | 2-针齿 Pin gear         |
| 3-主轴承 Main bearing       | 4-输出法兰 Output flange  |
| 5-支撑法兰 Supporting flange | 6-输入轴 Input shaft     |
| 7-曲轴 Crankshaft          | 8-行星齿轮 Planetary gear |
| 9-摆线齿轮 Cycloidal gear    |                       |

● 图3-C系列减速器构造 Figure 3-C series reducer structure

- |                          |                          |
|--------------------------|--------------------------|
| 1-摆线齿轮 Cycloidal gear    | 2-输出法兰 Output flange     |
| 3-针齿壳 Needle tooth shell | 4-针齿 Pin gear            |
| 5-主轴承 Main bearing       | 6-支撑法兰 Supporting flange |
| 7-曲轴 Crankshaft          | 8-行星齿轮 Planetary gear    |
| 9-中心齿轮 Central gear      | 10-低速管 Low speed tube    |



### 减速器外形尺寸 Reducer Outline Dimension

- E系列减速器外形尺寸参见P11~P21。 E series reducer outline dimensions see P11~P21.
- C系列减速器外形尺寸参见P22~P30。 C series reducer outline dimensions see P22~P30.

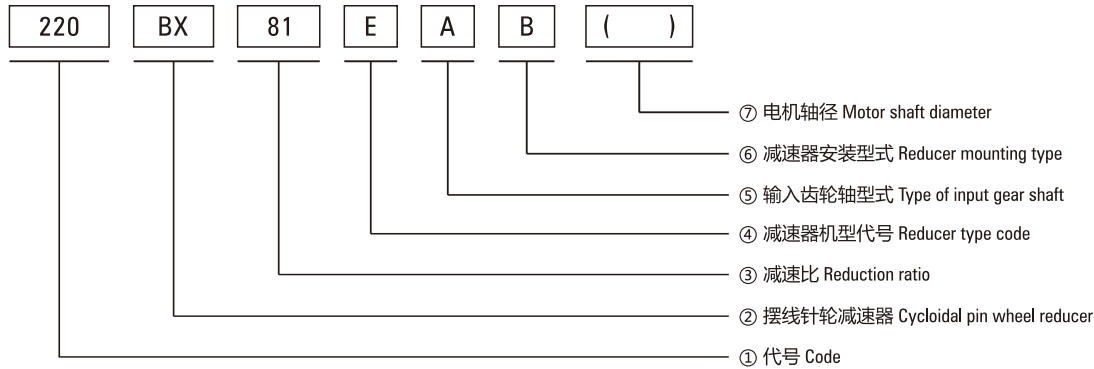
### 使用环境 Using Environment

- 在下列的环境条件下，减速器应能正常运行 In the following environmental conditions, the reducer should be able to operate normally:

——环境空气最高温度随季节而变化，但不超过40°C。 The highest ambient temperature is changed by seasons and less than 40°C.

——环境空气最低温度为-10°C。 The lowest ambient temperature is -10°C.

## 型号命名 Model Number



- ① 代号，具体见表1 Code, specific see table 1

### 减速机代号 Reducer Code

E 系列 E Series			C 系列 C Series		
代号 Code	外形尺寸(mm) Outline dimension (mm)	通用型号 General model	代号 Code	外形尺寸(mm) Outline dimension (mm)	原代号 The original code
120	Φ122	6E	10C	Φ145	150
150	Φ145	20E	27C	Φ181	180
190	Φ190	40E	50C	Φ222	220
220	Φ222	80E	100C	Φ250	250
250	Φ244	110E	200C	Φ345	350
280	Φ280	160E	320C	Φ440	440
320	Φ325	320E	500C	Φ520	520
370	Φ370	450E	/	/	/

- ② BX: 摆线针轮减速机 BX: Cycloidal pin wheel reducer

- ③ 81: 减速比，具体见表2 81: Gear ratio, specific see table 2

### 减速比 Reduction Ratio

E 系列 E Series		C 系列 C Series	
代号 Code	减速比 (输出法兰输出) Reduction ratio (output flange output)	新代号 New code	单体减速比 Monomer reduction ratio
120	43, 53.5, 59, 79, 103	10CBX	27.00
150	81, 105, 121, 141, 161	27CBX	36.57
190	81, 105, 121, 153	50CBX	32.54
220	81, 101, 121, 153	100CBX	36.75
250	81, 111, 161, 175.28	200CBX	34.86
280	81, 101, 129, 145, 171	320CBX	35.61
320	81, 101, 118.5, 129, 141, 171, 185	500CBX	37.34
370	81, 101, 118.5, 129, 154.8, 171, 192.4	/	/

注1: E系列如由外壳(针齿壳)输出, 减速比相应减1。 Note 1: E series, such as by the shell (pin shell) output, the corresponding reduction ratio by 1.

注2: C系列减速比是指电机安装在外壳的减速比, 如安装在输出法兰侧, 减速比相应减1。 Note 2: C series gear ratio refers to the motor installed in the casing of the reduction ratio, if installed on the output flange side, the corresponding reduction ratio by 1.

- ④ 减速机机型代号 Reducer type code

RVE: 主轴内置E型 Main bearing built-in E type

RVC: 中空型 Hollow type

REA: 带输入法兰E型 With input flange E type

RCA: 带输入法兰中空型 With input flange hollow type

- ⑥ 减速机安装型式 Reducer mounting type

B: 输出轴螺栓紧固连接 Output shaft bolt fastening connection

P: 输出轴螺栓及定位销并用型式

Output shaft bolts and locating pins with the type

- ⑤ 输入齿轮轴型式及电机轴径

Enter the gear shaft type and motor shaft diameter

A: 标准型式A, E系列输入齿轮A轴 (P19)。

Standard Type A, E Series Input Gear A-axis (P19).

C系列代表标准中心齿轮。 C Series represents the standard sun gear.

B: 标准型式B, E系列输入齿轮B轴 (P19)。

Standard Type B, E Series Input Gear B-axis (P19).

Z: 特配型式。 Special matching type.

W: 无。 Nothing.

TB: C系列 同步带轮输入型式 C series synchronous pulley input type.

- ⑦ 电机轴径 Motor shaft diameter



# 技术要求 TECHNICAL REQUIREMENT

## 外观质量、标志：减速机外观应整洁、美观，标志清晰、正确

Appearance Quality, Marks: Reducer Appearance Should Be Neat, Beautiful, Clear, Correct

- 减速机表面不应有碰伤、划痕、毛刺、凹坑和锈蚀等明显缺陷。Reducer's appearance should not be bumps, scratches, burrs, pits and coeession etc.
- 紧固件连接应牢靠，锁紧，密封应可靠。Fastener connection should be firm, lock, seal should be reliable.
- 标志的字迹应清晰、正确，经规定的环境条件试验后，标记和字迹仍应清晰可见。Mark should be clear and correct after the testing, the mark should be clearly.
- 减速器应有可靠的防锈措施。Reducer should have reliable anti rust measures.

## 基本尺寸 Basic Dimensions

- 减速器的外形尺寸、安装尺寸应符合P11~P21和P22~P30的图纸或客户要求并得到客户确认的图纸要求。  
Deceleration device installation size, size should be consistent with the P11~P21 and P22~P30 of the drawing or customer requirements and customer confirmation drawings.
- 输入齿轮轴、安装法兰等可依客户要求生产，生产前相关图纸应得到客户的确认。  
Input shaft and installation flange can be produced as customer's requirements, before the producing, it should get customer's confirmation drawing.

## 噪声 Noise

- 减速器在输入转速 $\leq 3000$ r/min下空载运行，其噪声应小于 $70^{+3}$ dB(A)。  
The reducer running in no-load input speed is less than or equal to 3000r/min, the noise should be less than  $70^{+3}$ dB(A).

## 空转试验 Idle Test

- 空转运行试验：减速器在输入转速 $\leq 3000$ r/min下空载运行10min，减速器运转应平稳正常，无异常或冲击性噪声。  
Noload operating test: After reducers work under noload for 10min with input speed  $\leq 3000$ r/min, reducer can run steadily, no abnormal or impacting noise.
- 速比试验：减速器速比应符合标定值。  
Ratio test: The speed ratio of the reducer should be in accordance with the calibration value.

## 转矩 Torque

- 减速器在额定输出转矩条件下连续运转2小时以上，减速器能正常运转，无异音。  
Reducers work continuously for over 2 hours at rated torque, no abnormal noise.
- 减速器在工作环境温度、额定负载下连续工作，减速器壳温升应小于 $45^{\circ}\text{C}$ ，轴承温度小于 $95^{\circ}\text{C}$ 。  
After reducers work continuously, reducer's temperature should less than  $45^{\circ}\text{C}$ , bearing temperature is  $< 95^{\circ}\text{C}$ .
- 减速器传动效率应符合表3、表4的要求。  
Gear reducer transmission efficiency should meet the requirements of table 3, table 4.
- E系列减速器输出转矩符合表3的规定。  
E series reducer output torque in accordance with the provisions of table 3.
- C系列减速器输出转矩符合表4的规定。  
C series reducer output torque in accordance with the provisions of table 4.

● 表3-E系列输出转矩及效率 Table 3-E series output torque and efficiency

输出转速项目 Output Speed Project 型号 Model	5 r/min		18 r/min			25 r/min		30 r/min		容许最高输出转速 Maximum Allowable Loss Out Speed r/min
	输出转矩 Output Torque	输入功率 Input Power	输出转矩 Output Torque	输入功率 Input Power	效率 Efficiency	输出转矩 Output Torque	输入功率 Input Power	输出转矩 Output Torque	输入功率 Input Power	
	N.m	Kw	N.m	Kw	%	N.m	Kw	N.m	Kw	
120BX	115	0.075	64	0.15	80	62	0.2	64	0.25	100
150BX	245	0.160	170	0.40	80	153	0.5	153	0.60	75
190BX	612	0.400	425	1.00	80	367	1.2	382	1.50	70
220BX	1146	0.750	743	1.75	80	673	2.2	637	2.50	70
250BX	1528	1.000	934	2.20	80	978	3.2	892	3.50	50
280BX	2292	1.500	1571	3.70	80	1437	4.7	1274	5.00	45
320BX	4584	3.000	2972	7.00	80	2903	9.5	2802	11.0	35
370BX	6112	4.000	3905	9.20	80	/	/	/	/	25

注1: 额定转矩是指输出转速为18 r/min时的输出转矩。输入功率考虑了减速器的效率。

Note 1: The rated torque is the output torque of the output speed of 18 r/min. The input power considers the efficiency of the reducer.

注2: 转矩计算公式 Note 2: Torque calculation formula:

$T=9549PX\eta/N$  ( T: 转矩Nm, P: 功率Kw, N: 转速r/min,  $\eta$ : 效率%)。  $T=9549PX\eta/N$  (T: Torque Nm, P: Power Kw, N: Speed r/min,  $\eta$ : Efficiency %).

● 表4-C系列输出转矩及效率 Table 4-C output series torque and efficiency

输出转速项目 Output Speed Project 型号 Model	5 r/min		18 r/min			25 r/min		30 r/min		容许最高输出转速 Maximum Allowable Loss Out Speed r/min
	输出转矩 Output Torque	输入功率 Input Power	输出转矩 Output Torque	输入功率 Input Power	效率 Efficiency	输出转矩 Output Torque	输入功率 Input Power	输出转矩 Output Torque	输入功率 Input Power	
	N.m	Kw	N.m	Kw	%	N.m	Kw	N.m	Kw	
10CBX	134	0.09	99	0.24	78	89	0.3	87	0.35	80
27CBX	372	0.25	269	0.65	78	239	0.8	223	0.90	60
50CBX	745	0.50	455	1.10	78	447	1.5	434	1.75	50
100CBX	1490	1.00	994	2.40	78	894	3.0	819	3.30	40
200CBX	2235	2.00	1986	4.80	78	1788	6.0	1638	6.60	30
320CBX	4470	3.00	3103	7.50	78	2830	9.5	/	/	25
500CBX	7003	4.70	4966	12.0	78	/	/	/	/	20

注1: 额定转矩是指输出转速为18rpm时的输出转矩。输入功率考虑了减速器的效率。  
Note 1: The rated torque is the output torque of the output speed of 18rpm. The input power considers the efficiency of the reducer.

注2: 转矩计算公式 Note 2: Torque calculation formula:  
T=9549PX $\eta$ /N ( T: 转矩Nm, P: 功率Kw, N: 转速RPM,  $\eta$ : 效率% )。 T=9549PX $\eta$ /N ( T: Torque Nm, P: Power Kw, N: Speed RPM,  $\eta$ : Efficiency %).

## 传动精度、扭转刚度、齿隙与回差 Transmission Precision, Torsional Stiffness, Backlash And Backlash

- 减速器扭转刚度、齿隙和回差应符合表5及表6的要求。  
The torsional stiffness, backlash and backlash of the gear reducer shall meet the requirements of table 5 and table 6.
- 减速器传动精度应符合表5及表6的要求。  
The transmission accuracy of gear reducer shall conform to the requirements of table 5 and table 6.

## 容许力矩 Allowable Torque

- 减速器容许力矩应符合表5、表6的要求。  
The allowable torque of the gear reducer shall meet to the requirements of table 5 and table 6.

## 寿命 Life

- 减速器在额定转速和额定负载下运转，减速器工作寿命应为6000小时以上。  
When the reducer is working on rated speed and on-loading, reducer's lift time is more than 6000 hours.

## 过载 Overload

- 减速机在额定扭矩的125%进行过载试验运行5min，运行期间不得有异常噪声和损坏等现象。  
After reducer working under over-load for 5min with 125% rated torque, during the running, it have no noise and other damage.

## 减速器技术参数参见表5及表6 Reducer Technical Parameters See Table 5 And Table 6

● 表5-C系列技术参数 Table 5-C series of technical parameters

项目 Project 型号 Model	减速器 单体减速比 Retarder Monomer Reduction Ratio	容许力矩 Allowable Moment N.m	扭转刚度 Torsional Rigidity N.m/(Arc.min)	瞬时容许最大转矩 Instantaneous Maximum Torque N.m	传动精度 Transmission Accuracy Arc.min	齿隙回差 Backlash Of Backlash Arc.min	寿命 Life h	减速器单体 惯性力矩 Retarder Inertia Moment Kg.m <sup>2</sup>	重量 Weight kg
10CBX	27.00	686	47	490	1.0	1.0	6000	1.380X10 <sup>-5</sup>	4.60
27CBX	36.57	980	147	1323	1.0	1.0	6000	0.550X10 <sup>-4</sup>	8.50
50CBX	32.54	1764	255	2450	1.0	1.0	6000	1.820X10 <sup>-4</sup>	14.6
100CBX	36.75	2450	510	4900	1.0	1.0	6000	0.475X10 <sup>-3</sup>	19.5
200CBX	34.86	8820	980	9800	1.0	1.0	6000	1.390X10 <sup>-3</sup>	55.6
320CBX	35.61	20580	1960	15680	1.0	1.0	6000	0.518X10 <sup>-2</sup>	79.5
500CBX	37.34	34300	3430	24500	1.0	1.0	6000	0.996X10 <sup>-2</sup>	154



● 表6-E系列技术参数 Table 6-E series of technical parameters

项目 Project 型号 Model	速比值 Ratio Value		容许力矩 Allowable Moment N.m	扭转刚度 Torsional Rigidity N.m/(Arc.min)	瞬时容许最大转矩 Instantaneous Maximum Torque N.m	传动精度 Transmission Accuracy Arc.min	齿隙回差 Backlash Of Backlash Arc.min	寿命 Life h	重量 Weight kg
	轴输出 Axis Output	壳输出 Shell Output							
120BX	53.50	52.50	196	20	294	1.5	1.5	6000	2.50
	59.00	58.00							
	79.00	78.00							
	103.0	102.0							
150BX	81.00	80.00	880	49	820	1.0	1.0	6000	4.70
	105.0	104.0							
	121.0	120.0							
	141.0	140.0							
	161.0	160.0							
190BX	81.00	80.00	1600	108	2000	1.0	1.0	6000	9.30
	105.0	104.0							
	121.0	120.0							
	153.0	152.0							
220BX	81.00	80.00	2000	196	3600	1.0	1.0	6000	13.1
	101.0	100.0							
	121.0	120.0							
	153.0	152.0							
250BX	81.00	80.00	2900	294	5380	1.0	1.0	6000	17.4
	111.0	110.0							
	161.0	160.0							
	175.28	174.28							
280BX	81.00	80.00	3900	392	7800	1.0	1.0	6000	26.4
	101.0	100.0							
	129.0	128.0							
	145.0	144.0							
	171.0	170.0							
320BX	81.00	80.00	7000	980	15600	1.0	1.0	6000	44.3
	101.0	100.0							
	118.5	117.5							
	129.0	128.0							
	141.0	140.0							
	171.0	170.0							
370BX	81.00	80.00	8820	1176	22000	1.0	1.0	6000	66.4
	101.0	100.0							
	118.5	117.5							
	129.0	128.0							
	154.8	153.8							
	171.0	170.0							
	192.4	191.4							

## 润滑 LUBRICATION

- 减速器使用润滑油脂：Molywhite RE-00 或 VIGO-grease REO 其它相同品级精密减速器专用润滑脂

Reducer using lubricating oil: Molywhite RE-00 or VIGO-grease REO other similar grade precision reducer special grease

- 减速器出厂时未填充润滑油脂，在安装时填充建议的润滑油脂，充填量约为减速器内部空腔体积的90%

The lubrication grease is not filled before gearbox leave factory. Please fill in the suggested lubrication grease during assembly, the amount is roughly 90% of the gearbox inside cavity volume

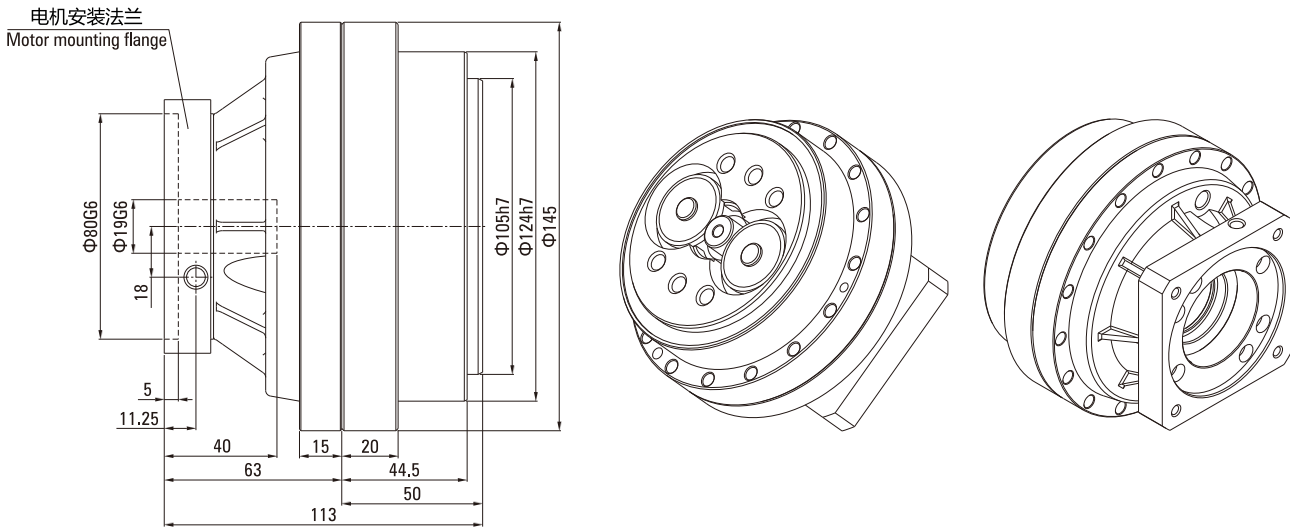
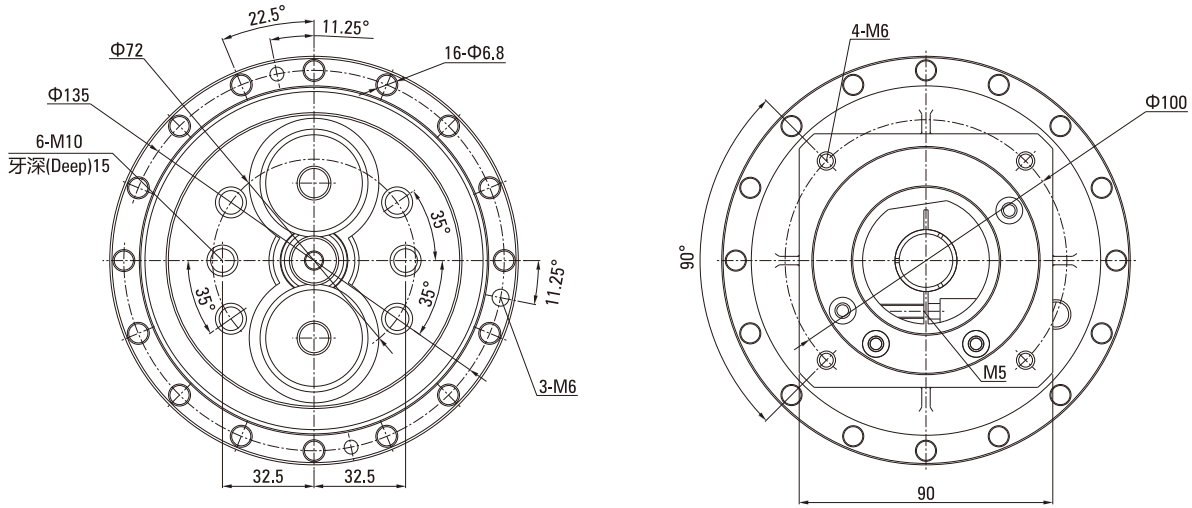
- 润滑油脂标准更换时间为20,000小时。润滑油脂被污染或在恶劣的环境下使用时，需检查润滑油脂老化、被污染的情况，并规定更换时间

Lubricating grease standard replacement time is 20000 hours. When the grease is contaminated or is used in harsh environment, it is necessary to check the condition of aging and pollution, and to change the time

# REA系列外形尺寸图

## REA SERIES OUTLINE DIMENSION DRAWING

150BX-REA-19 外形图 150BX-REA-19 Outline Drawing

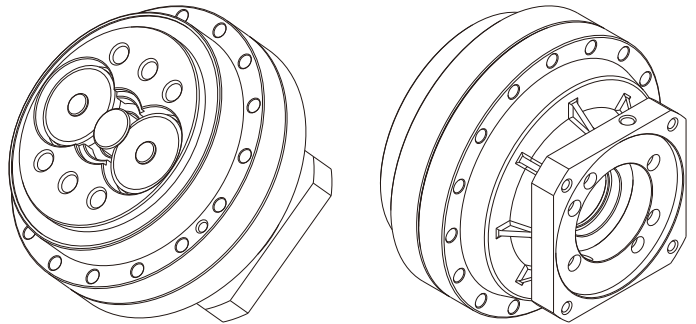
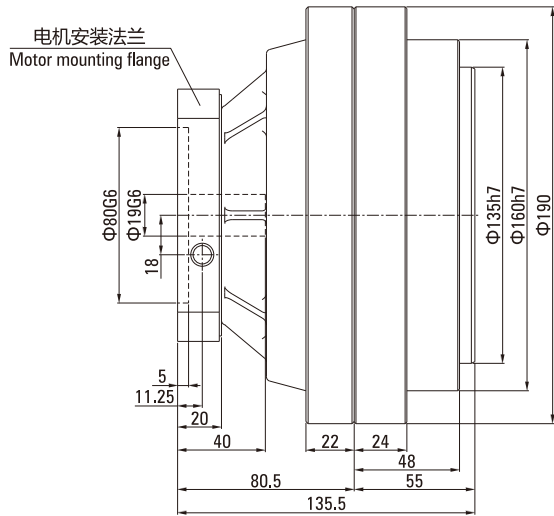
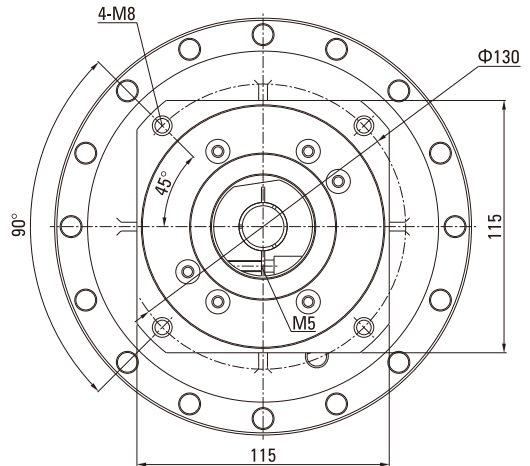
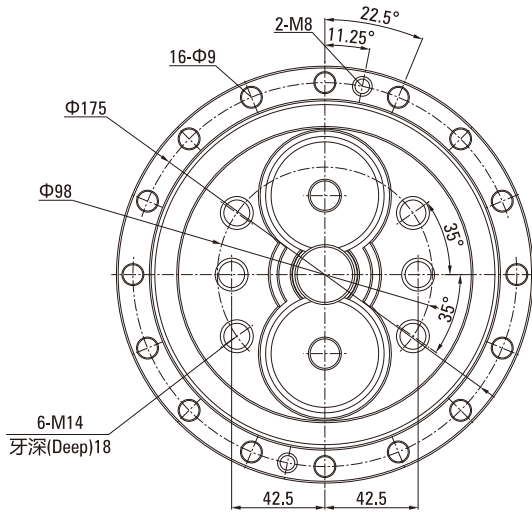


● 说明 Note:

1. 本图适用电机轴:  $\leq 19 \times 40L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 19 \times 40L$ ; motor shaft lock use locker.
2. 电机安装法兰依电机型号提供。Motor mounting flange according to motor model.

# REA系列外形尺寸图 REA SERIES OUTLINE DIMENSION DRAWING

190BX-REA-19 外形图 190BX-REA-19 Outline Drawing

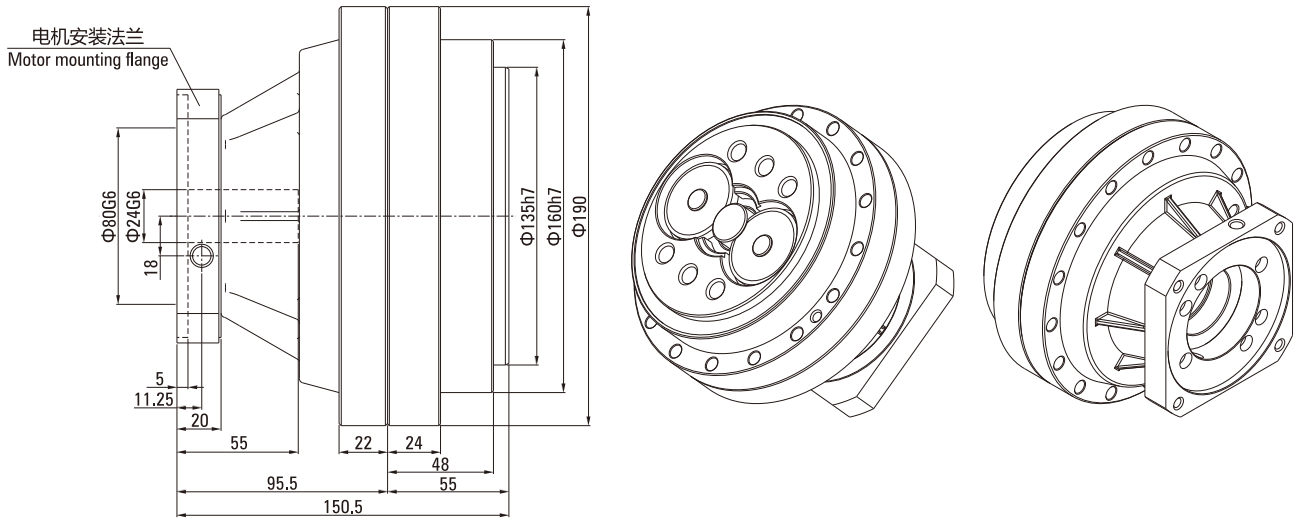
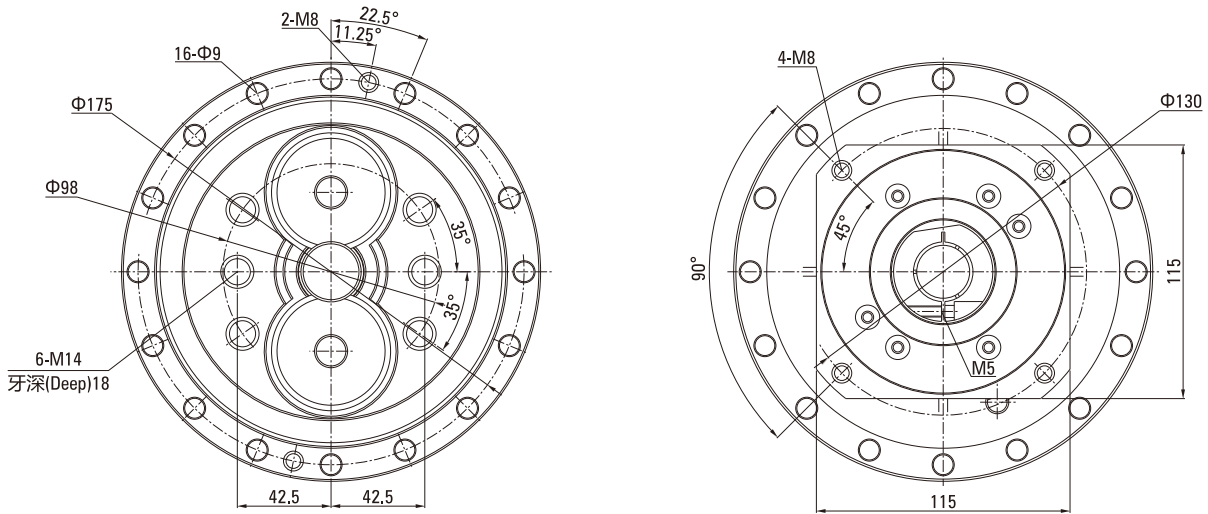


● 说明 Note:

1. 本图适用电机轴:  $\leq 19 \times 40L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 19 \times 40L$ ; motor shaft lock use locker.
2. 电机安装法兰依电机型号提供。Motor mounting flange according to motor model.

# REA系列外形尺寸图 REA SERIES OUTLINE DIMENSION DRAWING

190BX-REA-24 外形图 190BX-REA-24 Outline Drawing



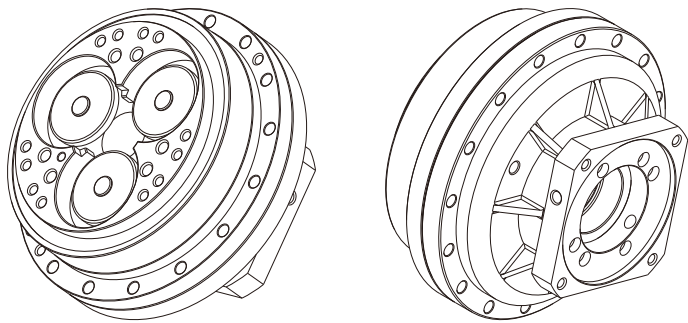
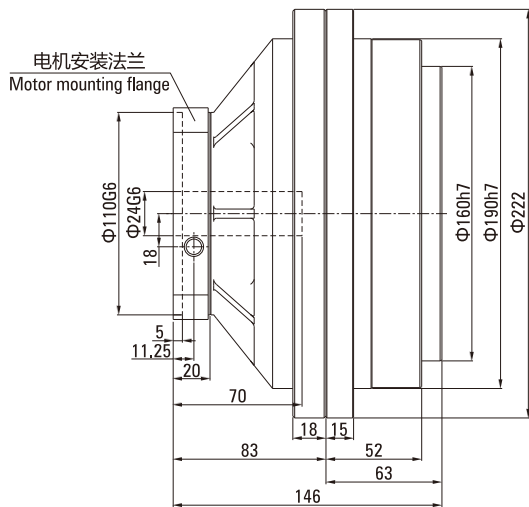
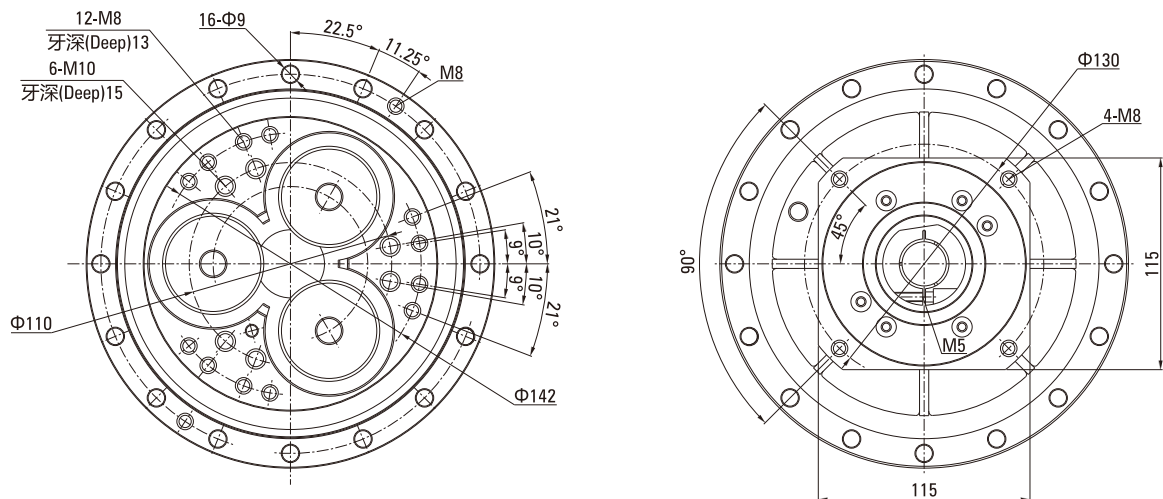
● 说明 Note:

1. 本图适用电机轴:  $\leq 24 \times 55L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 24 \times 55L$ ; motor shaft lock use locker.
2. 电机安装法兰依电机型号提供。Motor mounting flange according to motor model.

# REA系列外形尺寸图

## REA SERIES OUTLINE DIMENSION DRAWING

### 220BX-REA-24 外形图 220BX-REA-24 Outline Drawing



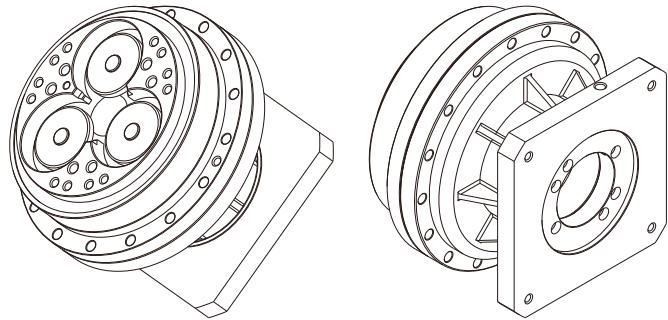
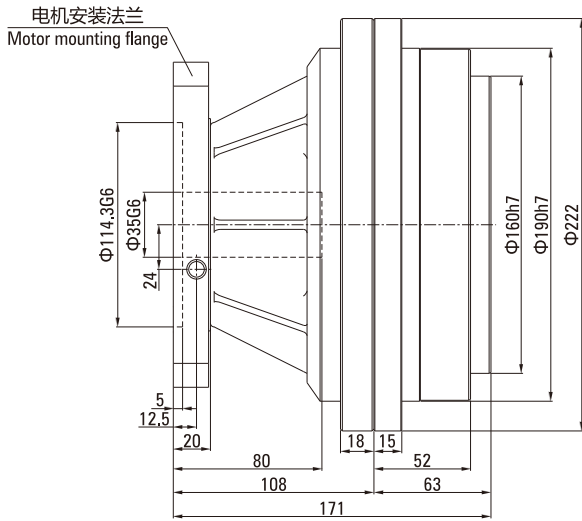
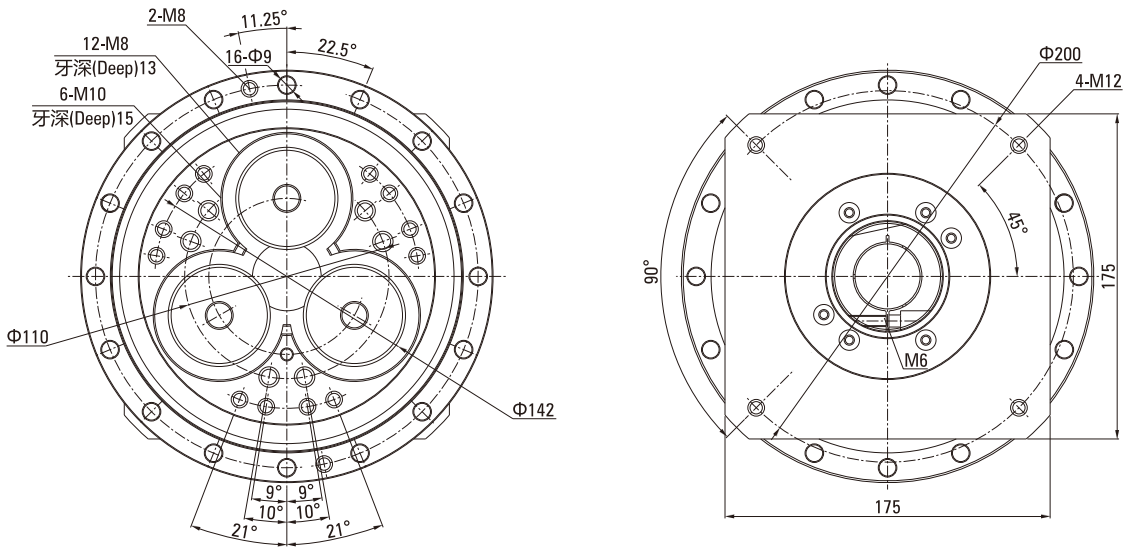
● 说明 Note:

1. 本图适用电机轴:  $\leq 24 \times 70L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 24 \times 70L$ ; motor shaft lock use locker.
2. 电机安装法兰依电机型号提供。Motor mounting flange according to motor model.

# REA系列外形尺寸图

## REA SERIES OUTLINE DIMENSION DRAWING

### 220BX-REA-35 外形图 220BX-REA-35 Outline Drawing



● 说明 Note:

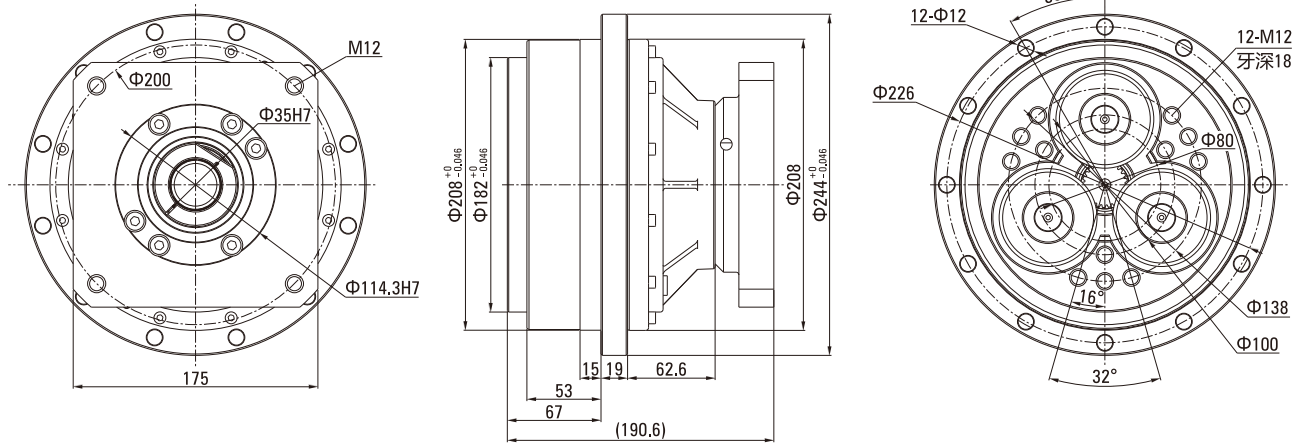
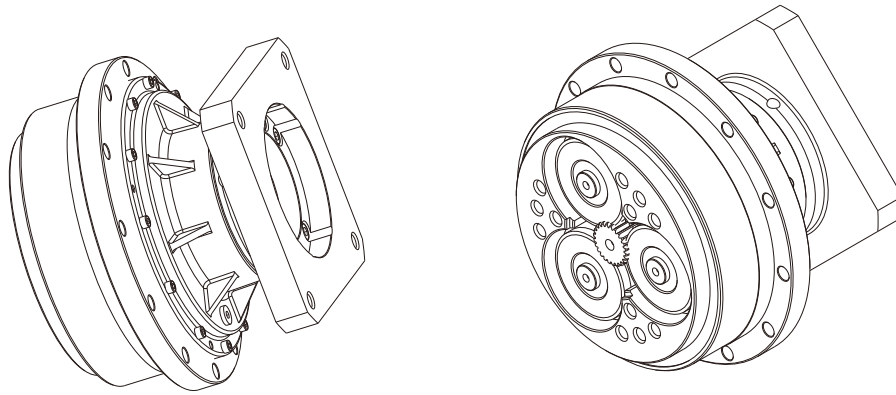
1. 本图适用电机轴:  $\leq 35 \times 80L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 35 \times 80L$ ; motor shaft lock use locker.
2. 电机安装法兰依电机型号提供。Motor mounting flange according to motor model.



# REA系列外形尺寸图

## REA SERIES OUTLINE DIMENSION DRAWING

### 250BX-REA 外形图 250BX-REA Outline Drawing

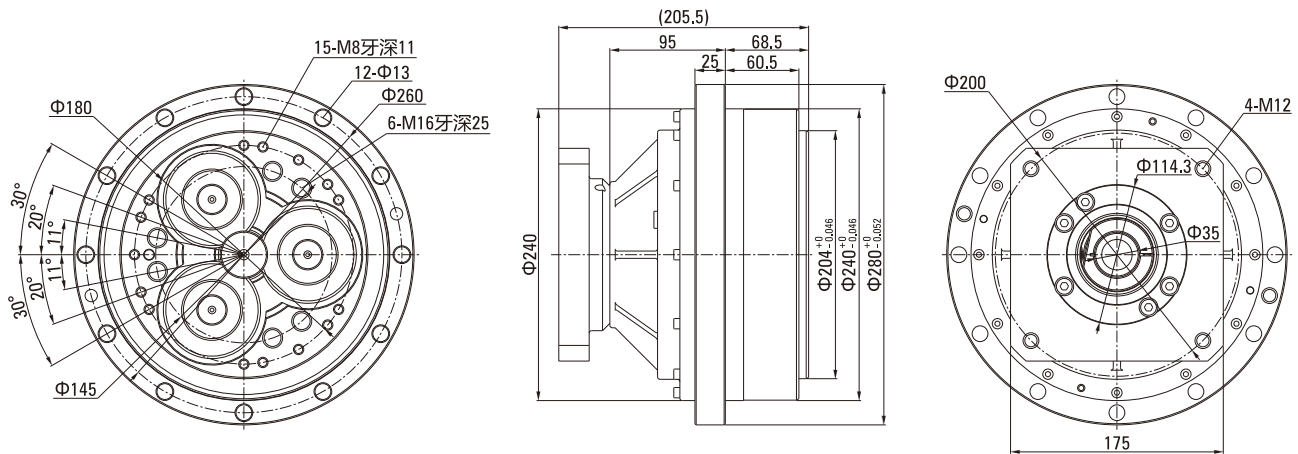
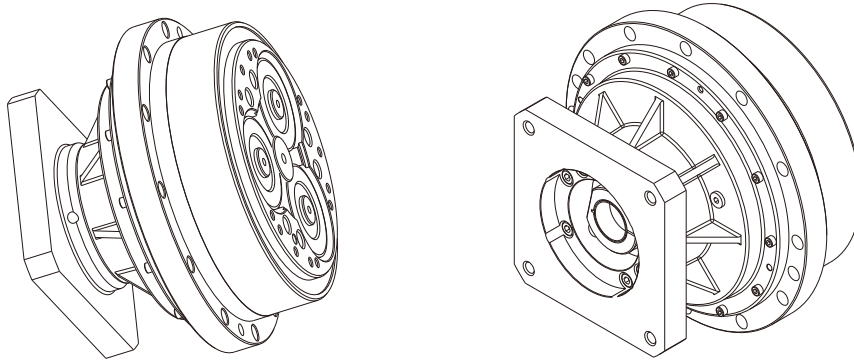


#### ● 说明 Note:

1. 本图适用电机轴:  $\leq 35x70L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 35x70L$ ; Motor shaft is locked by locker.
2. 减速机速比: (81, 111, 161): 1 (轴输出)。Speed reduction ratio: (81, 111, 161): 1 (shaft output).
3. 润滑油脂: VIGO GREASE RE0或RE-00 (MOLYWHITE)。Lubricants: VIGO GREASE RE0 or RE-00 (MOLYWHITE).
4. 额定输出扭矩: 1100N.m (输出转速: 15R/Min)。Rated output torque: 1100N.m (output speed: 15R/Min).
5. 电机安装法兰依电机型号提供。The motor mounting flange is supplied according to the motor type.
6. 输出端应做密封, 安装时注意密封及同心度定位。The output terminal must be sealed, please pay attention to the seal and concentricity position during the installation.

# REA系列外形尺寸图 REA SERIES OUTLINE DIMENSION DRAWING

## 280BX-REA 外形图 280BX-REA Outline Drawing

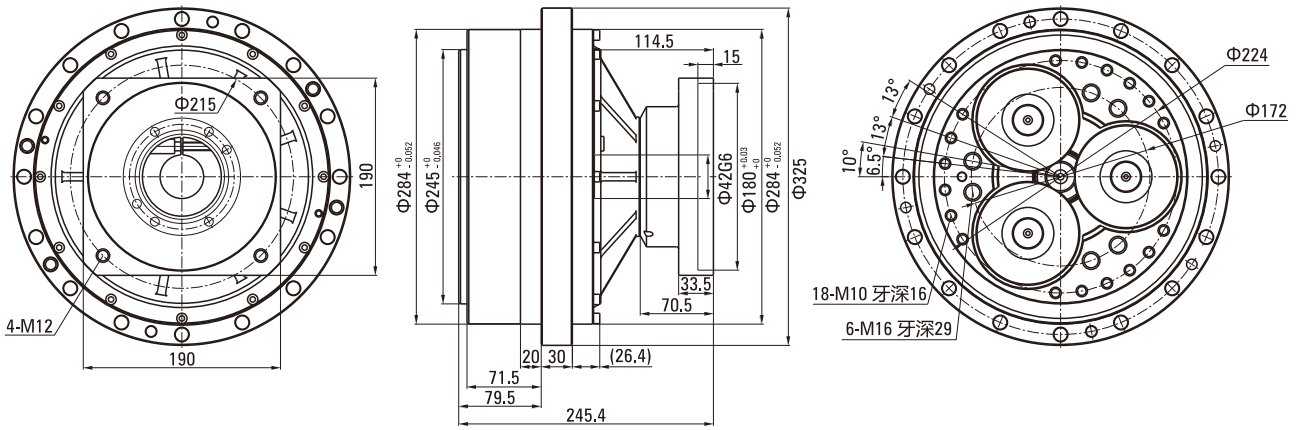
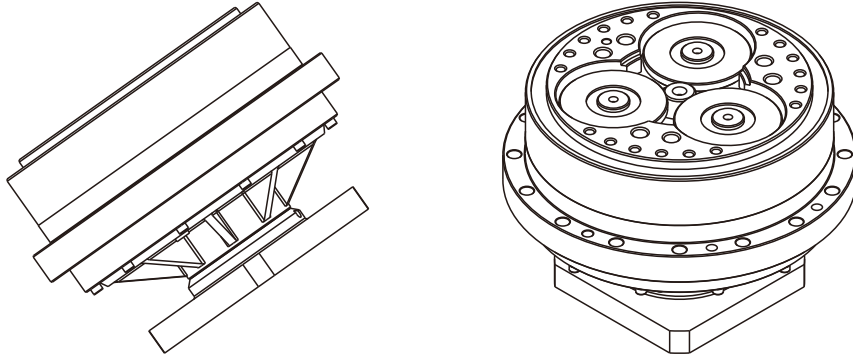


### ● 说明 Note:

1. 本图适用电机轴:  $\leq 35 \times 70L$ ; 电机轴用锁紧器锁紧。This figure applies to the motor shaft:  $\leq 35 \times 70L$ ; Motor shaft is locked by locker.
2. 减速机速比: (81, 129, 171): 1 (轴输出)。Speed reduction ratio: (81, 129, 171): 1 (shaft output).
3. 润滑油脂: VIGO GREASE RE0或RE-00 (MOLYWHITE)。Lubricants: VIGO GREASE RE0 or RE-00 (MOLYWHITE).
4. 额定输出扭矩: 1570N.m (输出转速: 15R/Min)。Rated output torque: 1570N.m (output speed: 15R/Min).
5. 电机安装法兰依电机型号提供。The motor mounting flange is supplied according to the motor type.
6. 输出端应做密封, 安装时注意密封及同心度定位。The output terminal must be sealed, please pay attention to the seal and concentricity position during the installation.

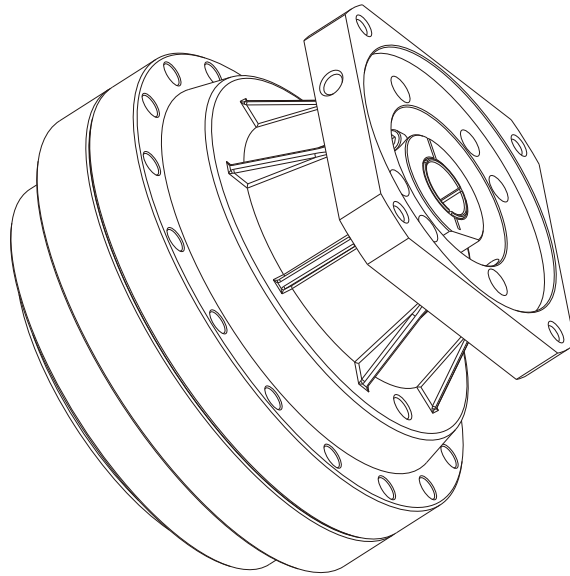
# REA系列外形尺寸图 REA SERIES OUTLINE DIMENSION DRAWING

320BX-REA 外形图 320BX-REA Outline Drawing

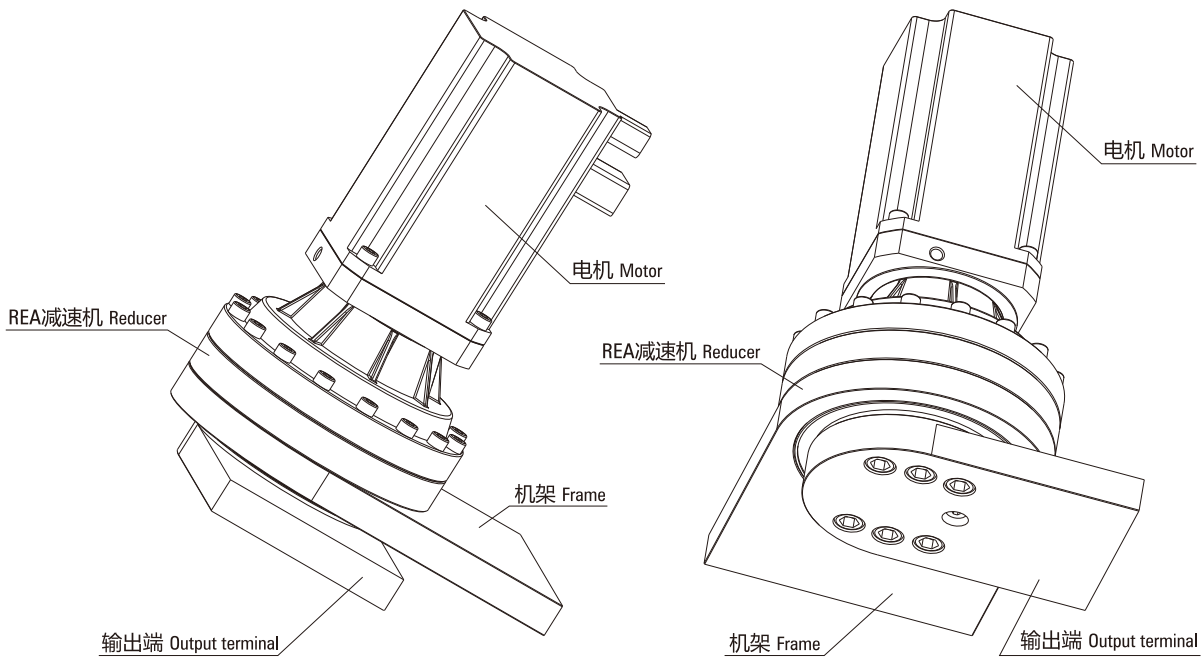


# REA系列减速机安装图 RVA SERIES INSTALLATION DRAWING

## REA系列减速机 REA Series Reducer



## REA系列减速机安装示例 REA Series Reducer Installation Example



# REA系列减速机安装图 REA SERIES INSTALLATION DRAWING

REA系列减速机安装拆解示意图 REA Series Mounting Schematic Diagram (Disassemble Diagram)

