

E型减速器安装要领

E TYPE REDUCER INSTALLATION ESSENTIALS

为了充分发挥RVE减速器的性能，需要对减速器安装精度、安装方法、润滑以及密封进行最佳设计。

In order to make fully use of RVC type reducer, it is need to make a best design of the assembly precision, installation method, lubrication and seal.

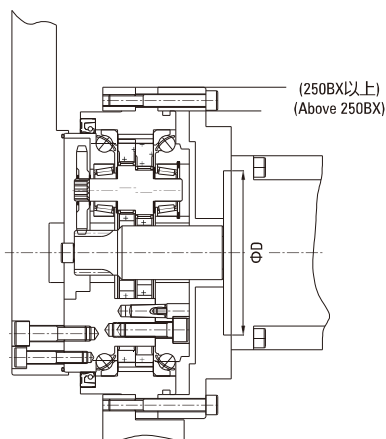
装配精度 Assembly Precision

电机轴同减速器的同轴度误差 a 小于0.03mm (280BX以上机型小于0.05)。Coaxiality tolerance (a) of motor shaft and reducer is lower than 0.03mm (for models above 280BX, lower than 0.05).

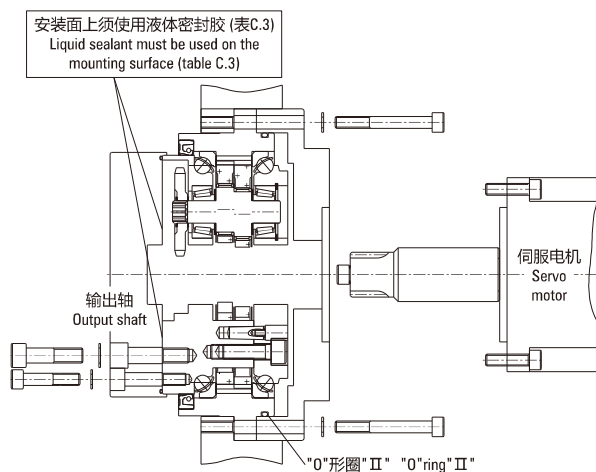
如安装精度不良，特别容易造成振动及噪音。

Because of the poor assembly accuracy, especially easy to cause vibration and noise.

● 图C.1: 装配精度 Figure C.1: Assembly precision

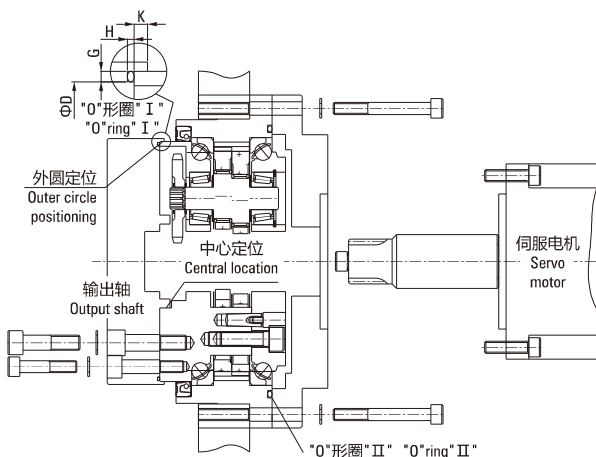


● 图C.2: 装配密封 Figure C.2: Assembly seal



250BX、280BX、320BX:

● 图C.4: 装配示例 Figure C.4: Assembly example



装配要领 Assembly Method

- 装配时须按指定用量封入指定润滑油脂。

The assembly according to the specified dosage specified sealed grease.

- 减速器装配在配套部件时的标准图示，图C.2所示，图C.2中的“O”形圈位置需进行密封。

Reducer assembly in the supporting parts of the standard icon, shown in figure C.2, figure C.2 in the "O" ring position to be sealed.

- 如结构上不允许使用“O”形圈，请使用表C.3的液体密封胶。

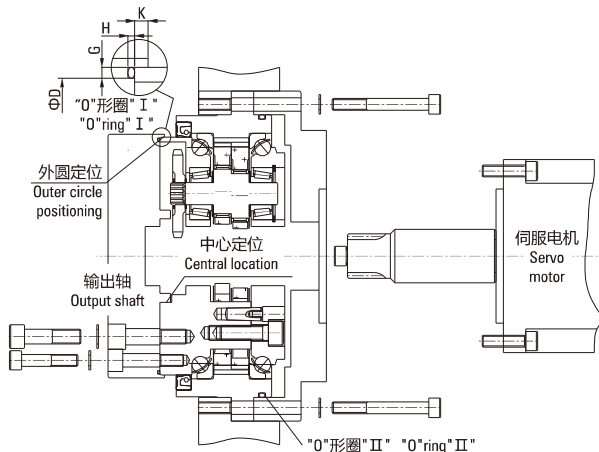
If the structure is not allowed to use the "O" - shaped ring, please use the table C.3 liquid sealant.

- 装配图示及“O”形圈密封尺寸，见图C.2, 图C.3, 图C.4, 及表C.1, 表C.2。

Assembly diagram and "O" - shaped ring seal size, see figure C.2, figure C.3, figure C.4, and table C.1, table C.2.

150BX、190BX、220BX:

● 图C.3: 装配示例 Figure C.3: Assembly example



● 表C.1: “O”形圈 (II): Table C.1: "O" - shaped ring (II)

机型 Model	适用“O”形圈 Apply The "O" Shape Ring
150BX	S120
190BX	AS568-258
220BX	AS568-263
240BX	G190 (B2401)
280BX	G220 (B2401)
320BX	G270 (B2401)

◀ 图C.3注: 中心定位和外圆定位选其一。

Figure C.3 note: Center positioning or outer circle positioning.

● 表C.2: “O”型圈(I)密封尺寸表(mm): Table C.2: "O" - shaped ring (I) sealing size table (mm)

代号 Code		机型 Model	150BX (A)	150BX (B)	190BX	220BX	240BX	280BX	320BX
参数 Parameter	0形圈 O ring	代号 Code	AS568-045	S100	S132	AS568-163	AS568-167	AS568-265	AS568-271
		线径 Wire diameter	Φ1.78±0.07	Φ2±0.1	Φ2±0.1	Φ2.62±0.07	Φ2.62±0.07	Φ3.53±0.1	Φ3.53±0.1
		内径 Internal diameter	Φ101.32±0.38	Φ99.5±0.4	Φ131.5±0.6	Φ152.07±0.58	Φ177.47±0.58	Φ196.44±0.76	Φ234.54±0.76
	凹槽 尺寸	外径D Outside diameter D	Φ105	Φ105	Φ135	Φ160	Φ182	Φ204	Φ243
		深度H Depth H	1.27±0.05	1.5 ⁰ _{0.1}	1.5 ⁰ _{0.1}	2.06±0.05	2.06±0.05	2.82±0.05	2.82±0.05
	Groove size	宽度G Width G	2.39 ^{+0.25} ₀	2.70 ^{+0.25} ₀	2.70 ^{+0.25} ₀	3.58 ^{+0.25} ₀	3.58 ^{+0.25} ₀	4.78 ^{+0.25} ₀	4.78 ^{+0.25} ₀
	高度K Height K	3	3	3	3	3	4	4	

注: 上表中“O”形圈A, B任选一个。Note: On the table of "O" - ring, from A, B option one.

● 表C.3: 推荐液体密封胶 Table C.3: Recommended liquid sealant

名称 (制造商) Name (Manufacturer)	性质及用途 Properties And Uses
Three Bond 1211 (Three Bond)	<ul style="list-style-type: none"> ■ 硅系无溶剂型 Silicone based non solvent type ■ 半干性充填 Half dry filling
HERME SERL SS-60F (Nihon-Hermetic)	<ul style="list-style-type: none"> ■ 无溶剂弹性密封 Solvent free elastic seal ■ 金属接触面适用 Metal contact surface

■ 注: 螺栓和销并用型装配请咨询本公司技术人员
Note: Bolt and pin and assembly please ask the company's technical staff

■ 螺钉的紧固转矩 Fastening Torque Of The Screw

E型减速机, 使用内六角螺钉 (GB/T 70.1 12.9级), 请按表C.4紧固转矩进行紧固。输出轴螺钉及销并用型 (P型), 请用圆锥销 (GB/T 118-2000)。为了防止内六角螺栓松动, 建议使用碟形弹簧垫圈。

E type gear reducer, using allen screw (GB/T 70.1 12.9 level), Pls. fasten follow the table C.4 fastening torque. The output shaft screw and pin (P type), Pls. use the the taper pin (GB/T 118-2000). To keep the allen screw from moving, recommend use the disc spring washers.

● 表C.4: 螺钉紧固转矩 Table C.4: Fastening torque of the screw

内六角螺钉 Allen Screw	紧固转矩(Nm) Fastening Torque (Nm)	螺钉参数 Screw Parameters
M5X0.8	9±0.5	1- GB/T 70.1
M6X1.0	16±0.8	2- 12.9级 12.9 level
M8X1.25	37±1.8	3- 发黑处理 Blackening
M10X1.5	73±3.5	4- 圆柱头 Cylinder head
M12X1.75	129±6.5	5- 螺纹精度: 6g或2级
M14X2.0	205±10	Thread precision: 6g or 2 class
M16X2.0	318±16	

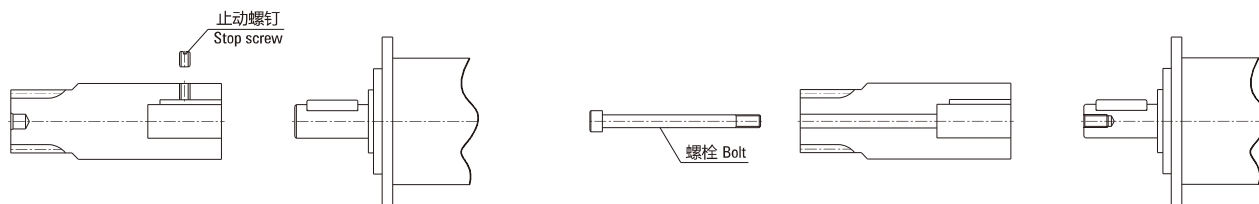
■ 输入齿轮 Input Gear

- 标准输入齿轮是未进行电机轴安装孔加工的产品。
Standard input gear is without any machine mouting hole of the motor.
- 安装示例如图C.5: (共三种)
Install sample as shown in picutre C.5: (Three way)

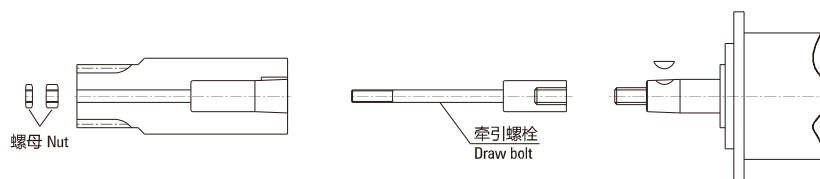
● 图C.5: 输入齿轮装配 Figure C.5: Input gear assembly

(直轴: 伺服马达轴没螺孔, Direct-axis: Servo motor shaft without thread)

(直轴: 伺服马达轴有螺孔, Direct-axis: Servo motor shaft with thread)



(锥轴: 伺服马达轴有螺栓, Cone axis: Servo motor shaft with bolt)



● 表C.5: 输入齿轮轴A型 Table C.5: A type of input gear shaft

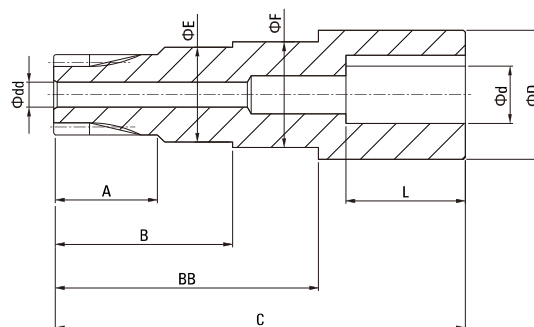
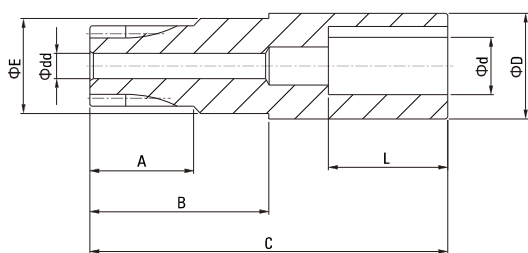
尺寸代号 Size Code	A	B	C	D	d	dd	E	L	NOTE
150BX-E	25	46	95	23.5	11,14	5.5	21.5	-	-
190BX-E	29	53	100	29.5	14,19	6.5	29.5	-	-
220BX-E	29	-	100	36.0	19,22	7.0	-	-	-
250BX-E	34	70	120	40.0	19,22,24	9.0	38.0	-	-
280BX-E	35	-	120	42.0	22,24,28	7.0	-	-	-
320BX-E	35	-	140	46.0	24,28	11	-	-	-
370BX-E	38	-	155	56.0	28,35	11	-	-	-

● 表C.6: 输入齿轮轴B型 Table C.6 : B type of input gear shaft

尺寸代号 Size Code	A	B	BB	C	D	E	F	d	dd	L	NOTE
150BX-E	25	50	66	100	30	23.5	21.5	11,14	5.5	-	-
190BX-E	29	33	76	115	36	29.5	26.5	14,19	6.5	-	-
220BX-E	29	80	-	130	42	36.0	-	19,22,24	7.0	-	-
280BX-E	35	105	-	170	50	42.0	-	24,28,35	9.0	-	-
320BX-E	35	122	-	185	50	46.0	-	24,28,35	11	-	-
370BX-E	38	139	-	215	58	56.0	-	35	11	-	-

(输入齿轮轴A型 A type of input gear shaft)

(输入齿轮轴B型 B type of input gear shaft)



● 输入齿轮定制服务 Input gear customized service

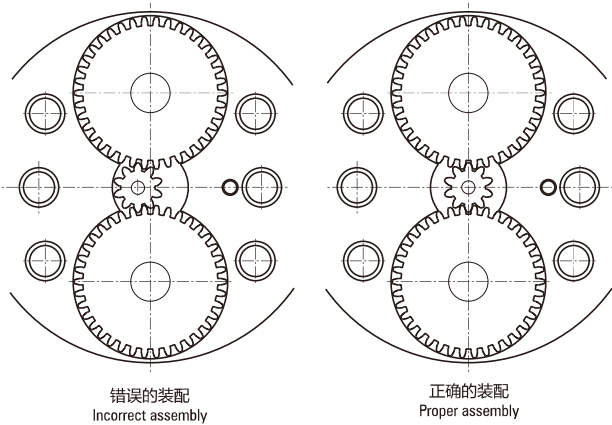
本公司可提供依所选电机型式进行输入齿轮的定制、加工服务。

Our company can provide input gear customized service according to motor.

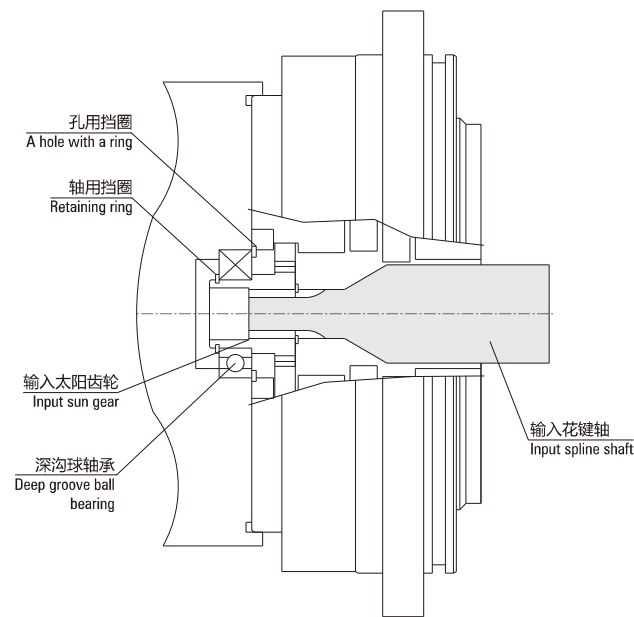
150BX、190BX的行星齿轮是二个，装配输入齿轮时需特别注意输入齿轮要径直插入，位置正确，插入时要轻轻旋入，不可强制插入，也不可倾斜插入。（图C.6）

150BX, 190BX have 2 planetary gears. Please pay attention to put gear directly, correctly, and lightly when mounting gear. Do not use force, do not be incline when mounting. (Figure C.6)

● 图C.6: 装配位置 Figure C.6: Assembly position



● 图C.8: 不能贯通减速器内部的速比安装示例 Figure C.8: To be unable to hole-through ratio of gearbox intall shown



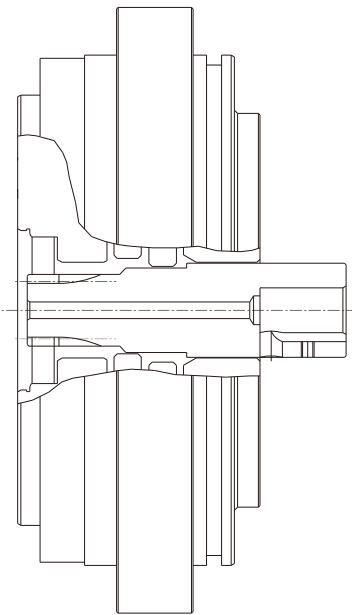
- 能贯通减速器内部的速比和不能贯通的速比。
To be able to hole-through ratio of gearbox and can't hole-through ratio.
不能贯通的速比如表C7.，安装示例见图C.8。
To be unable to hole-through ratio as table C7, install sample as shown in picutre C.8.

● 表C.7: 不能贯通的速比 Table C.7: Speed ratio can not be through

	150BX	190BX	220BX
输出轴输出 From output shaft	57	57	57
外壳输出 Housing output	56	56	56

注: 表2中速比为能贯通的速比。能贯通减速器内部的速比安装示例图C.7:
Note: Table 2 is shown hole-through ratio. To be able to hole-through ratio of gearbox is C.7:

● 图C.7: 能贯通减速器内部的速比安装示例 Figure C.7: To be able to hole-through ratio of gearbox intall shown



润滑 Lubrication

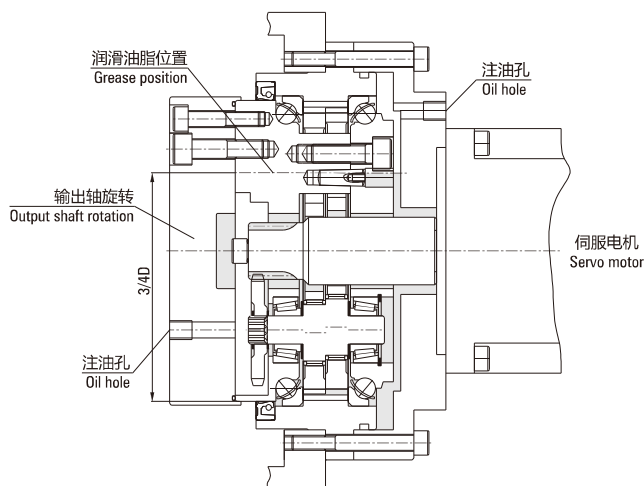
- 减速机使用润滑油脂: Molywhite RE-00或VIGO-Grease RE0其它相同品级精密减速机专用润滑脂。
Reducer using lubricating oil: Molywhite RE-00 or VIGO-Grease RE0 other similar grade precision reducer special grease.
- 减速机出厂时未填充润滑油脂, 在安装时填充建议的润滑油脂, 填充量约为减速机内部空腔体积的90%。
When the gear reducer is not filled with grease, it is recommended to fill the grease at the time of installation, and the filling amount is about 90% of the internal cavity volume of the reducer.
- 润滑油脂标准更换时间为20000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 changed within the allotted time.
- 减速机润滑油脂建议用量如表C.8:
Reducer lubrication grease recommended dosage as shown in table C.8:
- 润滑油脂填充位置如图C.9, 图C.10:
Grease filling position as shown in figure C.9, figure C.10:

● 表C.8: 润滑油脂注入量 Table C.8: Lubricating oil injection

型号 Model	填充量 Filling Amount	水平安装 Horizontal Installation	垂直安装 Vertical Installation
		(cc)	(cc)
150BX-RVE		87	100
190BX-RVE		195	224
220BX-RVE		383	439
240BX-RVE		432	495
280BX-RVE		630	694
320BX-RVE		1040	1193

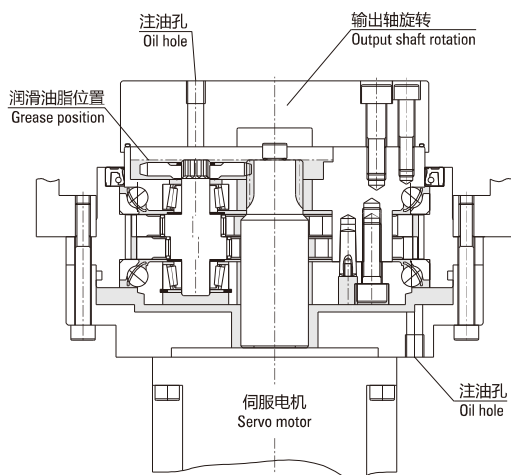
● 图C.9: 润滑油脂注入位置(水平) Figure C.9: Lubricating oil injection position (horizontal)

(安装水平轴 Install horizontal axis)



● 图C.10: 润滑油脂注入位置(垂直) Figure C.10: Lubricating oil injection position (vertical)

(安装垂直轴-1 Install vertical axis-1)



(安装垂直轴-2 Install vertical axis-2)

